ADDENDUM NO. 3

September 18, 2023

LOWELL HIGH SCHOOL SITE, BLEACHERS, AND TURF/DRAINAGE
Lowell, IN 46356

TO: ALL BIDDERS OF RECORD

This Addendum forms a part of and modifies the Bidding Requirements, Contract Forms, Contract Conditions, the Specifications, and the Drawings dated August 7, 2023 by Gibraltar Design. Acknowledge receipt of the Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of Pages ADD 3-1 through 3-2, 01 32 00 - revised Phasing Plan, and attached Addendum No. 3 from Gibraltar Design dated September 8, 2023 and consisting of 5 pages, Specification Section 27 10 00 - Communication Distribution, revised Specification Section 32 18 12 - Synthetic Turf, and 23 drawings.

A. SPECIFICATION SECTION 00 00 20 - TABLE OF CONTENTS

1. **Add:**

   Specification Section 27 10 00 - Communication Distribution

B. SPECIFICATION SECTION 01 12 00 - MULTIPLE CONTRACT SUMMARY

A. BID CATEGORY NO. 1 - SITEWORK/UTILITIES

1. **Add:**

Clarification No. 14:
Regarding Specification Section 01 32 00c - Phasing Plan; the **Bid Category No. 1 Contractor** is responsible to provide sewer and water utilities to the Construction Manager's Construction Project Office. This shall be located southeast of the proposed Grass Softball Field; see Phasing Plan for specific location. The **Bid Category No. 1 Contractor** shall provide a ¾" water line feed and 4" sanitary waste line to the Construction Manager's Project Office. All work shall be coordinated with local utility companies to locate the nearest taps. Final disconnection of these utilities shall occur at the end of the project as indicated on the Guideline Schedule.

H. BID CATEGORY NO. 2 - ELECTRICAL

1. **Add:**

Clarification No. 5:
The **Bid Category No. 2 Contractor** is responsible for the relocation of existing scoreboards along with providing the concrete foundation of the scoreboards.

2. **Add:**

Specification Section 27 10 00 - Communication Distribution

C. SPECIFICATION SECTION 01 32 00 - SCHEDULES AND REPORTS

1. **Replace:**

Phasing Plan with the attached revised Phasing Plan

Staging Area
12/23 to 7/24

Start Construction
11/23 to 7/24

Skillman
trailer

Start Construction
5/24 to 8/14

Start Construction
5/24 to 11/24

NEW ENTRANCE DRIVE

NEW SIGN

HOLTZ ROAD

COMMERCIAL AVENUE (IN ROUTE 41)

NEW BASEBALL COMPOSITE TURF FIELD

NEW ATHLETIC EVENT PARKING

NEW SOFBALL COMPOSITE TURF FIELD

NEW GRASS SOFTBALL FIELD

NORTHSTAR CONCESSION AND LOCKER ROOM

COMPOSITE TURF FIELD

COMPOSITE TURF PLAY AREA

COMMUNITY

NEW GRASS BASEBALL FIELD

TENNIS COURTS WITH PICKLEBALL PAINT

TENNIS COURTS

SOCCER PRACTICE FIELD TURF FIELD

SHOT PUT & DISCUS AREA

MAINTENANCE BUILDING

EXISTING PARKING

EXISTING BUILDING

NEW PARKING

NEW MEDIA/FACADE ADDITION

EXISTING LOWELL HIGH SCHOOL BUILDING

FUTURE NATATORIUM BUILDING ADDITION

EXISTING PARKING

NEW LOWELL HIGH SCHOOL BRICK SIGN

LEGEND:

PROPOSED

- (A) TYPICAL ASPHALT PAVEMENT SECTION
- (HD) HEAVY DUTY ASPHALT PAVEMENT SECTION
- (Am) TYPICAL ASPHALT PAVEMENT SECTION TO BE MILLED AND RE-SURFACED
- (Aw) ASPHALT SIDEWALK PAVEMENT SECTION
- (B) DECORATIVE BRICKS
- (W) CONCRETE SIDEWALK & COMBINED CURB/WALK
- (CW) CONCRETE PAVEMENT SECTION
- (Bs) SPECIAL BARRIER CURB SECTION AROUND FOOTBALL & SOCCER FIELDS
- (Bq) BARRIER CURB SECTION
- (Hc) HANDICAP ACCESS RAMP
- HC HANDICAP SIGN
- CONTINENTAL CROSSWALK
- CHAINLINK FENCE & GATE
- DECORATIVE COLUMN & FENCE
- LIGHT POLE (SEE ELETRICAL PLAN)

Bid Package No.1 Scope of Work

- Demolition and Removals
- Mass Excavation
- Site Utilities
- Establishing Compacted Sub-grade elevation
- Bleachers, Bleacher Concrete Pads, & Press Box
- Natural & Synthetic Turfs
- Electrical
- Asphalt Paving
- Sporting Fields/Courts
-

Bid Package No.2 Scope of Work

- Northstar Building
- Community Building
- Dugouts
- Stadium Complex Enhancements
- Maintenance Building
- Concrete Walkways
- Lowell High School New Administrative Center & Media Center Renovation

NORTH

GRAPHIC SCALE

80 0 40 80 160 320

(IN FEET)
1 inch = 80 ft.

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GIBRALTAR DESIGN
ARCHITECTURE • ENGINEERING • INTERIOR DESIGN

PROJECT:
LOWELL HIGH SCHOOL SITE BLEACHERS, & TURF/DRAINAGE
TRI-CREEK SCHOOL CORPORATION

The SKILLMAN Corporation
Project Administration
Construction Management

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PROJECT 23-112
DATE 08/04/23
COORDINATED BY DCT/AM
DRAWN BY EM
CHECKED BY DCT/AM

DONALD C. TORRENGA REGISTERED No. 19868 STATE OF INDIANA PROFESSIONAL ENGINEER

REVISIONS

MARK	DATE	ISSUED FOR

DRAWING
MASTER SITE PLAN
Phasing Plan 8/15/23

PROJECT
LOWELL HIGH SCHOOL SITE BLEACHERS, & TURF/DRAINAGE

SHEET C-2.0

ADDENDUM THREE

Addendum Three (AD.03) to the drawings and specifications prepared by Gibraltar Design for **Lowell High School Site, Bleachers and Turf/Drainage** for Tri-Creek School Corporation, Lowell, Indiana.

All Contractors bidding on this project shall read all of the items covered below and shall comply with all of the requirements as set forth, including any necessary refinements or additions generated by this Addendum and required by the intent of the original contract documents. All Contractors shall acknowledge on their bid form that they have received this Addendum, Addendum One and Addendum Two and include the appropriate content of same within their bid proposal.

SPECIFICATIONS

1. **Specification Section 00 01 00 Table of Contents**

   A. Add new Specification Section 27 10 00, Communication Distribution, to Division 27 on the Table of Contents.

2. **Specification Section 27 10 00 Communication Distribution**

   A. Add new Specification Section 27 10 00, Communication Distribution, included in this Addendum, to Project Manual

3. **Specification Section 11 68 33 Athletic Field Equipment**

   A. Add new Paragraph Section 2.3 as follows:

   "**2.3 Baseball and Softball Batting Cages**

   1. Batting Cage System: As manufactured by Aluminum Athletic Equipment, Royersford, PA, or approved equal, Models #BT-141455 and #BT-121470, with all accessories for a complete system.
      a. Contractor is to provide the Concrete Slab as detailed on the project drawings in conjunction with the concrete in-ground pole bases with sleeves.
         1) Provide and Install stainless steel eye-bolts imbedded in concrete slab per the manufacturers requirements.
      b. Provide all poles, netting, cables, and all accessories to make a complete system.
      c. Provide and install inside each batting cage, artificial batting cage turf, BCT – Batting Cage Turf as supplied by On Deck Sports, Braintree, Massachusetts.
         1) Color: Solid Green.
         2) Face Weight: 18 oz.
         3) Yarn Type: Mono.
         4) Height: 3/8-inch.
         5) Backing: Drainable, Latex.

6) Size: approximately 15-feet by 55 for Softball and 75 feet for Baseball respectively, covering the concrete of both batting cages."

4. Specification Section 32 18 12 Synthetic Turf System

A. Please refer to updated and revised Specification Section 32 18 12, Synthetic Turf System, included in this Addendum.

B. Note Manufacturers List has been Updated, one manufacturer deleted and a couple of others included.

C. Clarifications on Turf Criteria and Equipment being provided.

5. Specification Section 32 18 25 All Weather Urethane Track Surface

A. Add to Acceptable Manufacturers, Paragraph 2.1.C. as follows and adjust the last paragraph to the Letter D:

"C. Hellas Construction Inc., epiQ Tracks; Z5000."

6. Specification Section 32 18 30 Tennis Court Surface

A. Add to Acceptable Manufacturers, Paragraph 2.1.E. as follows:

"E. Hellas Construction Inc., TPS Court Surfaces, TPS 5000."

DRAWINGS

For each sheet listed in this Addendum, refer to attached full size drawing sheet(s) for revisions, unless noted otherwise.

1. Sheet C-1.1

A. The concrete median in the entrance to Holtz Road has been removed.

B. The area to be removed between the school and the existing building where the cul-de-sac is proposed has been increased.

C. A part of the existing sidewalk along the eastern roadway has been added to be removed.

2. Sheet C-2.0

A. The tennis courts and soccer field have been modified to allow for widened curb around the perimeter of the tennis courts and concrete bleacher pads, barrier curb location and wind screens around both.

B. Wind screens have ben added to the soccer field.

C. Signage in accordance with INDOT Standards has been added to the parking lot in various locations.

D. Paint stripes, stop bar and arrows have been added.

E. Modifications to the entrance in front of the new Media Center Addition have been made. The roadway has been widened and curbing has been changed to allow for bus traffic to make the turns.

F. Some radius modifications have been made to the main entrance roadway to allow for a semi-truck to be able to access the loading dock.

3. Sheet C-2.1

A. The same modifications mentioned on the MASTER SITE PLAN have been enlarged on this sheet.

4. Sheet C-2.2

A. The same modifications mentioned on the MASTER SITE PLAN have been enlarged on this sheet.

5. Sheet C-3.0

A. The concrete median in the entrance from Holtz Road is to be filled with heavy duty asphalt mix.

B. The entrance road in front of the new Media Center and some radiuses along curbing have been modified to allow for better bus traffic.

C. The main entrance road has been changed to heavy duty asphalt all through the parking lot to allow for semi-truck traffic to access the loading docks.

D. A new well has been added for irrigation of the JV softball field.

E. The radius in the new parking lot has been increased along the curb line.

F. Traffic control speed humps have been added along the northern road.

G. A new well has been added to service the JV baseball and practice field area. Lines (size to be determined by design) have been added to service all fields.

H. The asphalt drive to the JV baseball field has been removed.

I. New water main to service the Maintenance Building.

J. The storm sewer system servicing the tennis courts has been moved and slightly modified.

6. Sheet C-3.1

A. The same modifications mentioned on the MASTER SITE PLAN have been enlarged on this sheet.

7. Sheet C-3.2

A. The same modifications mentioned on the MASTER SITE PLAN have been enlarged on this sheet.

8. Sheet C-3.3

A. The same modifications mentioned on the MASTER SITE PLAN have been enlarged on this sheet.

B. Revised grading along the northern road to allow for the construction of speed humps and revised storm sewer locations have been modified.

9. Sheet C-4.1

A. A 1 inch diameter water line and faucet have been added to allow for a water line to the football field.

10. Sheet C-4.2

A. The water main has been extended east to service the Maintenance Building and a new fire hydrant has been added. A 1" water service line has been extended to the west wall of the Maintenance Building with a wall faucet.

11. Sheet C-5.1

A. Added "Wall Faucet" Detail.

B. Added "Faucet Box" Detail.

12. Sheet C-5.2

A. Added "TENNIS COURT SAW JOINT LAYOUT DETAILS."

B. Updated "TENNIS COURT PAVING" Detail.

C. Added fence post to trench drain detail and renamed to "TENNIS COURT/DUGOUT TRENCH DRAIN AND TENNIS COURT FENCE POST FOUNDATION."

D. Changed track surface to "urethane" on "ATHLETIC SURFACE" Detail.

E. Added dimensions to inner layers on "ATHLETIC SURFACE" Detail.

F. Added "20.0' per spec" to the left side of the "FOUL BALL POLE MARKER" Detail covering original dimensions.

13. Sheet C-5.4

A. Added "TAKE-OFF BOARD" Detail.

B. Added "SHOT PUT THROWING PIT" Detail.

C. Added "SPEED TABLE" Detail.

D. Added "DISCUS CIRCLE" Detail.

E. Added "DISCUS CAGE" Detail.

F. Added "SHOT PUT CIRCLE" Detail.

G. Added "SHOT PUT CURB" Detail.

H. Added "LANDING AREA" Detail.

I. Added "VAULT BOX" Detail.

J. Added "PRECAST CONCRETE PARKING CHOCKS/WHEEL STOPS" Detail.

K. Removed wording "TO FIT SIZE OF DOWNSPOUT J.R. HOE OR EQUAL" from "(DOWN SPOUT) ROOF DRAINPIPE CONNECTION" Detail.

L. Added "40'-0" @ BASEBALL" and "20'-0" @ SOFTBALL" to the top of the "SOFTBALL/BASEBALL BACKSTOP" Detail.

M. Updated fence dimension to 20'-0" on the right side of the "SOFTBALL/BASEBALL BACKSTOP" Detail.

14. Sheet C-5.5

A. Added sheet in this addendum for Batting Cage Details.

15. Sheet C-6.0

A. Modified to match storm water plan sheets.

16. Sheet ES102

A. Change Panel "MSH1" to Main Disconnect at the Maintenance Storage Building. **A Sheet is not attached to this Addendum**.

17. Sheet E-101

A. Revisions to the Electrical Equipment in Athletic Storage building #1.

18. Sheet E-104

A. Delete Panel "2NSL2" that is shown in Mechanical A-211. **A Sheet is not attached to this Addendum**.

19. Sheet E-603

A. Modified Panel Schedule for the new Panels "DPHS1" and "SDP".

20. Sheet E-605

A. Modifications to some of the Panel Schedules.

B. Deleted Panel Schedule "2NSL1". Moved to Sheet E-606.

21. Sheet E-606

A. Added panel schedules for two section Panel "2NSL1".

B. Modified Panel Schedules "CBL1" and "CBL2".

22. Sheet E-702

A. Modified some of the panelboards and feeders.

B. Changed Panel "MSBH1" to a Main Disconnect to serve the Maintenance Storage Building.

23. Sheet T-000

A. New technology detail sheet added.

24. Sheet T-100

A. New overall technology demolition sheet and design added.

25. Sheet T-101

A. New overall technology sheet and design added.

Pages 1 through 5, inclusive, Spec Sections 27 10 00, 32 18 12, and twenty-three (23) full-size drawings, constitute the total makeup of **Addendum Three**.

GIBRALTAR DESIGN

Joseph P. Briggs

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DIVISION 27 - COMMUNICATIONS
Section 27 10 00 – Communication Distribution

1.00 PART 1 - GENERAL

1.01 SCOPE:

A. The General Provisions of the Contract, including Conditions of the Contract and Division 1 of the Contract Documents, apply to the work in this section.

B. Section 26 00 00 – Electrical Work General Provisions shall apply to the work specified in this section.

1.02 SCOPE OF WORK:

A. The contractor shall furnish equipment and labor necessary for and reasonably incidental to the complete installation of the communications systems as outlined in the following contract documents including, but not limited to:

1. Data and fiber optic wiring systems.

B. Installation of the systems shall be as outlined in the following contract documents, including but not limited to:

1. Submission of shop drawings, catalog sheets and samples for approval.

2. Verification of dimensions and conditions at project site.

3. Installation in accordance with contract documents, manufacturer's recommendations, and applicable code requirements.

4. Initial test and adjustments, written report, demonstration of systems for approval, participation in acceptance tests, final adjustments as required, and submission of final diagrams and Owner's manuals. Demonstration must be videotaped and two (2) copies provided to the Owner's Representative.

5. Instruction of operating personnel.

6. Maintenance services for one (1) year following acceptance of systems.

C. The above equipment shall be installed in the conduit systems as indicated on the contract documents and hereinafter specified. The manufacturer's distributor shall guarantee the entire system for two (2) years against defects in material and workmanship.

D. Individual panels, housings and the entire system shall bear the label of Underwriters' Laboratories. Provide a complete set of operating instructions including circuit diagrams and other information necessary for proper installation, operation, and service maintenance.

1.03 STANDARDS:

A. ICEA S-83-596 - Indoor Optical Fiber Cable 2021.

B. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

C. TIA-455-21 - FOTP-21 - Mating Durability of Fiber Optic Interconnecting Devices 1988a (Reaffirmed 2012).

D. TIA-492AAAC - Detail Specification for 850-nm Laser-Optimized, 50-um Core Diameter/125-um Cladding Diameter Class Ia Graded-Index Multimode Optical Fibers 2009b.

E. TIA-492CAAB - Detail Specification for Class IVa Dispersion-Unshifted Single-Mode Optical Fibers with Low Water Peak 2000 (Reaffirmed 2005).

F. TIA-526-7 - Measurement of Optical Power Loss of Installed Single-Mode Fiber Cable Plant, Adoption of IEC 61280-4-2 Edition 2: Fibre-Optic Communications Subsystem Test Procedures – Part 4-2: Installed Cable Plant – Single-Mode Attenuation and Optical Return Loss Measurement 2015a (Reaffirmed 2022).

G. TIA-526-14 - Optical Power Loss Measurement of Installed Multimode Fiber Cable Plant; IEC 61280-4.1 Edition 3.1, Fiber Optic Communications Subsystem Test Procedures- Part 4-1: Installed Cable Plant- Multimode Attenuation Measurement 2023d.

H. TIA-568.3 - Optical Fiber Cabling and Components Standard 2022e.

I. TIA-598 - Optical Fiber Cable Color Coding 2014d, with Addendum (2018).

J. TIA-606 - Administration Standard for Telecommunications Infrastructure 2021d.

K. TIA-607 - Generic Telecommunications Bonding and Grounding (Earthing) for Customer Premises 2019d.

L. UL 444 - Communications Cables Current Edition, Including All Revisions.

M. UL 1651 - Fiber Optic Cable Current Edition, Including All Revisions.

1.04 FIELD QUALITY CONTROL:

A. The manufacturer's authorized representative shall perform a quality observation of final installation of systems herein specified and, in presence of contractor and Owner's Representative, perform a functional test of each system.

B. A written system certification verifying proper system operation shall be required prior to acceptance.

C. Show satisfactory evidence of maintaining a service organization capable of furnishing adequate observation and service to equipment and be prepared to offer service contract for maintenance of system after guarantee period.

2.00 PART 2 - DATA AND FIBER OPTIC WIRING SYSTEMS:

2.01 DESCRIPTION:

A. Provide devices and wiring for installation of the computer/data/telephone wiring system as described herein and as shown on the contract documents.

B. Cabling, risers, station wiring, cross connects, outlets, patch panels and necessary devices shall conform to Category 6/Level 7 standards as defined in EIA/TIA-568B, TSB-36 and TSB-40.

C. Contract documents are written for a Panduit/Panduit connectivity solution. Connectivity solutions manufactured by Leviton/Berk-Tek and Superior Essex/Ortronics shall be considered equal if the equipment submitted is equal in each respect.

2.02 WORK BY OTHERS:

A. The Owner shall furnish and install the LAN file servers and network electronics.

2.03 QUALITY ASSURANCES:

A. Items including wiring and required accessories for the data and telephone wiring system shall be designed to operate as a complete integrated system.

B. The system shall meet or exceed applicable state and local codes.

C. The data and telephone network wiring system shall meet U.L. standards.

D. Provide information indicating a minimum of five (5) years experience and a minimum of twenty (20) installations of this size and scope.

2.04 REQUIRED BID DOCUMENTS:

A. Submit with their bid the following additional information to determine the most responsive proposal to these contract documents:

1. Documentation to support the experience requirements listed above. This documentation shall include the name of the project, contact person with telephone number, contract dollar amount, total data outlets, total telephone outlets, category of cable and project completion date. Failure to submit this required information may result in rejection of bid.

B. Submit with their bid the name and registration number of the RCDD on staff.

C. Submit proper documentation to prove manufacturer's certification for installation of products herein.

2.05 CONDITIONS OF AWARD:

A. The contract shall be awarded on the basis of the lowest and most responsive bid proposal complying with the contract documents and the following criteria:

1. References.

2. Experience with similar projects.

3. Compliance with contract documents.

4. Financial strength.

2.06 SUBMITTALS:

A. Furnish complete shop drawings on the various components of the system. These submittals shall include but not be limited to the following:

1. Marked catalog sheets indicating part numbers and manufacturer.

2. Riser diagram for entire data/telephone wiring system.

3. Each drawing shall have a descriptive title and subparts of each drawing shall be completely described. Drawings shall have the name of the project and electronics contractor in the title block.

4. Prior to final acceptance, submit three complete copies of an operating and maintenance manual for the systems.

2.07 DATA AND TELEPHONE STATION OUTLETS:

A. Provide a flush mounted modular data or telephone RJ45 jack to fit in a single gang box or in surface raceway for an 8-position/8-conductor configuration. The outlets shall meet transmission performance contract documents for category 6 as presented in EIA/TIA TSB-36 and TSB-40. The RJ45 jacks shall be keyed T568B.

1. Data and telephone jacks shall be of one (1) manufacturer.

2. The final installation shall be tested to meet the installed system overhead as published in literature from Panduit Corporation. Installation not meeting this requirement shall be completely removed and reinstalled with new product until these variables are met at frequencies.

B. Data and telephone frames shall contain 1-4 modular openings. These units to be the same manufacturer as the jacks.

2.08 DEVICE COLOR SELECTION

A. Determination of colors of devices provided within this section shall be made during the shop drawing process.

2.09 PATCH PANELS:

A. Provide 48 port 110 patch panels that meet transmission performance for category 6/level 7 as outlined in EIA/TIA TSB-36 and TSB-40. The RJ45 jacks shall be keyed T568B (WECO). Provide 40% expansion capability.

1. Standard: Panduit.

B. Provide both horizontal and vertical wire management devices to properly restrain and organize cables prior to installation. Provide one (1) for each patch panel.

1. Standard: Panduit.

2. Provide sufficient patch panels plus 40% expansion required to distinctly separate the computer labs and main office administration areas on their own patch panels. Teacher workstation and classroom outlets cannot be terminated on panels designated for computer labs and/or administration outlets. Computer labs and main office administration outlets shall have individual dedicated patch panels within the MDF or IDFs.

2.10 DATA CABLE:

A. Twisted pair (UTP) extended distance plenum rated Lan cable ISOC 24 AWG category 6/level 7, solid bare CU, FEP insulation, Flamarrest KJT, 4 pair, UL type CMP with transmission characteristics that exceed those in EIA/TIA TSB-36 and TSB-40 (category 6) and NEMA loss extended frequency 2.

1. The data and telephone cables shall be terminated at each outlet and on rack mounted patch panels in each cabinet.

2. The final installation shall be tested to meet the installed system overhead as published in literature from Panduit Corporation. Installation not meeting this requirement shall be completely removed and reinstalled with new product until these variables are met at frequencies.

2.11 FIBER OPTIC CABLE (Single-Mode):

A. Provide fiber optic indoor/outdoor, interlocking armored, plenum rated cable existing high school ER to Northstar Building terminated in fiber optic patch panels as specified herein.

1. Description: Tight buffered, non-conductive fiber optic cable complying with TIA-568.3, TIA-598, ICEA S-83-596 and listed as complying with UL 444 and UL 1651.

2. Cable Type: Single-mode, 8.3/125 um (OS2) complying with TIA-492CAAB.

3. Cable Capacity: Quantity of fibers as indicated on drawings.

4. Cable Applications:

a. Plenum Applications: Use listed NFPA 70 Type OFNP plenum cable.

5. Cable Jacket Color:

a. Single-Mode Fiber (OS1/OS2): Yellow.

6. Product(s):

a. Standard: Lucent LightGuide

b. Approved equal: General or BerkTek

2.12 FIBER OPTIC CABLE (Multi-Mode):

A. Provide fiber optic indoor/outdoor, interlocking armored, plenum rated cable from each site building to the Northstar Building terminated in fiber optic patch panels as specified herein.

1. Description: Tight buffered, non-conductive fiber optic cable complying with TIA-568.3, ICEA S-83-596 and listed as complying with UL 444 and UL 1651.

2. Cable Type: Multimode, laser-optimized 50/125 um (OM3) complying with TIA-492AAAC.

3. Cable Capacity: Quantity of fibers as indicated on drawings.

4. Cable Applications: Use listed NFPA 70 Type OFNP plenum cable unless otherwise indicated.

5. Cable Jacket Color:

a. Laser-Optimized Multimode Fiber (OM3/OM4): Aqua.

6. Product(s):

a. Standard: Lucent LightGuide

b. Approved equal: General or BerkTek

2.13 PATCH CORDS:

A. Provide patch cords as described below and as required prior to submittals.

1. Provide (2) Category 6 patch cords per data outlet plus 20% spare, gray color with molded boots. Exact lengths to be determined prior to order, minimum 6'-0".

2. Standard: Panduit

3. Provide RJ45 to 110 patch cords as required in each MDF and IDF compliant with the transmission contract documents.

4. Provide fiber patch cords in lengths required. One for each pair of patch panel ports.

5. Standard: Panduit.

2.14 DATA AND TELEPHONE CABINETS:

A. Provide necessary wall mounted racks for mounting and installing equipment in the press boxes including sufficient rack space plus 40% expansion. Include necessary mounting hardware required to provide a complete system.

1. Northstar Building: See separate bid package for requirements.

2. Community Building: See separate bid package for requirements.

3. Press Boxes: Provide Middle Atlantic DWR series wall mounted cabinet or equal.
    a. Two piece, wall mount, sectional cabinet.
    b. Field configurable reversible swing.
    c. Finish: back textured powder coat
    d. Usable depth: 20"
    e. Width: 24"
    f. Rack RU: 24
    g. Front door: Vented steel door with locking handle
    h. Rack UPS and PDU: Furnished by owner, installed by contractor.
4. Provide as necessary to accommodate patch panels and network electronics.

2.15 FIBER OPTIC CONNECTOR PANELS:

A. The fiber optic connector panels shall utilize field installable connectors and shall be mounted in 19" equipment racks.

B. The fiber optic connector panels shall accept LC type interconnect sleeves in quantities required for number of incoming fibers.
    1. Standard: Panduit.

2.16 FIBER OPTIC TERMINATION:

A. Terminate fiber optic cables at each end utilizing epoxy type connectors.

B. Connections shall utilize an LC type stainless steel with ceramic ferrule and bend limiting strain relief. Plastic or composite interior construction is not acceptable.

2.17 INSTALLATION:

A. Conduit and raceways required for the computer data/telephone wiring system shall be provided and installed.

B. Conduits for the station outlets shall be installed from the outlet box and terminate above ceilings, with insulated bushings.

C. Verify that the computer data wiring runs do not exceed 90 meters prior to installation

2.18 LABELS:

A. Computer data and telephone outlets shall be clearly machine labeled.

B. Prior to installation of cabling, obtain approved room numbering legend. Do not terminate cable prior to receiving written instructions as to labeling sequence. Cable terminated prior to receiving these written instructions shall be reterminated at no additional cost.

2.19 DATA AND TELEPHONE STATION OUTLETS:

A. Each RJ45 jack shall have one (1) 4 pair cable terminated at the outlet and the termination cabinet.

B. Four (4) pair UTP shall be terminated on a patch panel in the IDF or MDF.

C. Provide quantity of RJ45 jacks as shown on the contract documents.

2.20 TESTING:

A. UTP plenum rated cable shall be tested utilizing a Microtest Omniscanner or equivalent test instrument. Test results shall be provided in print and PDF for review.

B. Fiber Optic Cabling:

1. Backbone: Perform optical fiber end-to-end attenuation test using an optical time domain reflectometer (OTDR) and manufacturer's recommended test procedures; perform verification acceptance tests and factory reel tests.

2. Multimode Backbone: Perform tests in accordance with TIA-526-14.

3. Single Mode Backbone: Perform tests in accordance with TIA-526-7.

4. Links: Perform optical fiber end-to-end attenuation tests and field reel tests.

C. Final Testing: After all work is complete, including installation of telecommunications outlets, and telephone dial tone service is active, test each voice jack for dial tone.

D. Cable found defective or not in compliance with contract documents shall be replaced at no expense within 7 days of determination.

2.21 WARRANTY

A. Warrant that the system complies to contract documents and shall issue equipment certification stating that the equipment and connected wiring which form the specified system have a Category 6, 25 year application assurance and extended product warranty certified by the manufacturer and in compliance with EIA/TIA 568, 569 and BICCSI standards.

1. Approved manufacturers: Panduit.

3.00 PART 3 - EXECUTION:

3.01 GENERAL:

A. Furnish equipment, accessories and material required for installation of the systems in accordance with these contract documents.

B. Components and system shall meet or exceed minimal standards issued by EIA. Work in conjunction with this installation shall meet provisions of National Electric Code and applicable local codes.

3.02 INSTALLATION:

A. Cabling:

1. Do not bend cable at radius less than manufacturer's recommended bend radius; for unshielded twisted pair use bend radius of not less than 4 times cable diameter.

2. Do not over-cinch or crush cables.

3. Do not exceed manufacturer's recommended cable pull tension.

4. When installing in conduit, use only lubricants approved by cable manufacturer and do not chafe or damage outer jacket.

B. Service Loops (Slack or Excess Length): Provide the following minimum extra length of cable, looped neatly:

1. At Distribution Frames: 120 inches (3000 mm).

2. At Outlets - Copper: 12 inches (305 mm).

3. At Outlets - Optical Fiber: 39 inches (1000 mm).

C. Copper Cabling:

1. For 4-pair cables in conduit, do not exceed 25 pounds (110 N) pull tension.

2. Use T568B wiring configuration.

D. Fiber Optic Cabling:

1. Prepare for pulling by cutting outer jacket for 10 inches (250 mm) from end, leaving strength members exposed. Twist strength members together and attach to pulling eye.

2. Support vertical cable at intervals as recommended by manufacturer.

E. Wall-Mounted Racks and Enclosures:

1. Install to plywood backboards only, unless otherwise indicated.

2. Mount so height of topmost panel does not exceed 78 inches (1980 mm) above floor.

F. Identification:

1. Use wire and cable markers to identify cables at each end.

3.03 ADJUSTMENT AND CLEANING:

A. Clean system equipment and cabinets of dirt and debris.

END OF SECTION 27 10 00

SECTION 32 18 12
SYNTHETIC TURF SYSTEM

PART 1 - GENERAL

1.1 Summary

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

B. This Section includes a complete filled synthetic artificial turf system, to extent indicated on plans and as specified in the section, including all components and accessories required for a complete installation.

C. Provide all labor, materials, tools, and equipment necessary for the complete installation of the synthetic grass infill system, including design and engineering of drainage system for a 100 year storm event, as indicated on the Drawings and as specified herein.

1. The installation of all new materials shall be performed in strict accordance with the manufacturer's installation instructions and in accordance with all approved shop drawings.

D. Perimeter edge details required for the system shall be as recommended by the Manufacturer, and as reviewed by the Architect.

1. Providing of these details, as well as the perimeter collector drains, underdrains, and tie-ins are the responsibility of this Contractor.

E. Baseball and Softball equipment.

1.2 Related Sections

A. Section 31 10 00, "Site Clearing" – For removal of the existing artificial turf system.

B. Section 31 20 00 – Earthwork.

C. Section 32 13 80 – Exterior Concrete and Site Equipment.

D. Section 32 18 11, "Synthetic Turf Subsurface and Drainage System" – for sub-drain system under field.

1.3 Reference Standards

A. FM Factory Mutual.

1. P7825 – Approval Guide; Factory Mutual Research Corporation, current edition.

B. ASTM – American Society for Testing and Materials

1. 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.
11. BS7044, Section 2.2 Methods for Determination of Person/Surface Interaction Method 1: Determination of Traction (Rotational Resistance)
12. F1551-03 Suffix: DIN 18-035, Part 6: Water Permeability of Synthetic Turf Systems.
13. D1557- Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort.
14. E648- Flooring Critical Radiant Panel Test (Flame Spread).

1.4 Action Submittals

A. Product Data: For each product specified.

B. Shop Drawings: Indicate field layout, field marking plan, hash marks, and include seaming plan, elevations, sections, edge and insert details, and details of installation. Also, provide all text and logo's detailing and location with the layout plan.

1. In addition to submittal, provide a color version of entire field, including all lettering, numbers and logo's.

C. Samples:

1. Synthetic Turf: 12 inches by 12 inches.
2. Infill Mix: One pound.

1.5 Informational Submittals

A. Product Certificate: Signed by qualified representatives of material manufacturer certifying that the Contract Documents have been reviewed and found to be in agreement with proposed materials and systems to be used for synthetic turf system, that they are proper and adequate for the application indicated, and that the system is fully covered by the manufacturer's warranty.

1. Submit a certified statement issued by the manufacturer of the synthetic surface materials and countersigned by the Installer, attesting that all areas and surfaces designated to receive synthetic turf have been inspected and found satisfactory, and are not in conflict with Warranty requirements.

B. **Qualification Data: For Installer and manufacturer, including list of at least five (5) similar High School/NCAA Football and Baseball/Softball Fields, each, completed, with names, addresses and contact information for each associated Architect and Owner. This requirement is in addition to qualifications required in Quality Assurance Article.**

C. Maintenance Data: To be included in maintenance manuals at end of project.

D. Warranties: Submit warranty and endure that forms have been completed in Owner's name and registered with the approved manufacturer.

E. Testing Certification: Submit certified copies of independent (third-party) laboratory reports on ASTM testing:
   1. Pile Height, Face Weight & Total Fabric Weight, ASTM D5848.
   2. Primary & Secondary Backing Weights, ASTM D5848.
   3. Tuft Bind, ASTM D1335.
   4. Grab Tear Strength, ASTM D1682 or D5034.
   5. Shock Attenuation, ASTM F355/F1936.
   6. Water Permeability, ASTM F2898 and EN1216.

F. **The Turf Vendor shall submit a document holding the Owner and it's representatives harmless** as to any liability and or costs of any type, including but not limited to legal costs, royalties, replacement costs, etc. associated with any claim by the Turf Vendor or others associated and with any patents or infringements of any current or future patent issued for the synthetic turf product, infill materials, installation methods or drainage characteristics. It is not the intent of these documents to promote or induce the use of intellectual property belonging to others or promote infringement of any known or currently not known patents, licenses or rights of others.

G. The Turf Contractor and the Turf Manufacturer (if different from the company) shall provide a sample copy of insured, non-prorated warranty, and insurance policy information

H. Prior to ordering materials:

   1. Submit Shop Drawings indicating:

      a. Field Layout color image including dimensions of all project specific field measurements.

      b. Field Marking Plan and details for the specified sports color image to scale for baseball and softball.

      c. Roll/Seaming Layout.

      d. Methods of attachment, field openings, and perimeter conditions.

      e. Base cross-sectional plan.

      f. The Turf Manufacturer shall submit the fiber manufacturer's name, type of fiber, and composition of fiber.

I. Prior to Acceptance, Submit to the Owner:

   1. One (1) hard and one (1) electronic copies of Maintenance Manuals, which will include all necessary instructions for the proper care and preventative maintenance of the synthetic grass infill system, including painting and permanent markings.

   2. Project Record Documents: Record actual locations of seams, drains, or other pertinent information.

      a. Submit final 10 foot grid field survey.

3. Warranty: Submit Manufacturer's Warranty and ensure that forms have been completed in Owner's name and registered with Manufacturer.

   a. Submit copy of warranty insurance coverage with warranty.

4. **Testing:** Submit independent testing agency certified report providing compliance of the installed turf and sub-drainage system:

   a. Pile Height, Face Weight & Total Fabric Weight, ASTM D5848.

   b. Grab Tear Strength, ASTM D1682 or D5034.

   c. Shock Attenuation, ASTM F355/F1936.

   d. Water Permeability, ASTM F2898 and EN1216.

1.6 Quality Assurance

A. Manufacturer and Installer Qualifications: A qualified manufacturer and installer under current ownerships for **at least ten (10) years** with a record of successful in-service performance for synthetic turf identical (or as reasonably similar) to that used for this Project within the last five (5) years – submit **a certified** list of these existing installations to the Owner and Architect. The Manufacturer and Installer are to provide a full comprehensive list, categorized per field type, for all installations, naming location and Owner. In addition, Turf Manufacturer is to provide a comprehensive list of at least five (5) similar fields that have been installed in the State of Indiana, or neighboring State, that are at least eight (8) years old or older, along with appropriate contact information.

   1. No subcontractors shall be utilized for the Turf System, subcontractors for the stone subbase is acceptable, and only manufacturer certified Turf Installers.
   2. All Installer personnel shall have a minimum of two (2) years employment with the company and a minimum of four (4) years in the synthetic turf industry.
   3. Provide documentation, that the Installer's Supervisor for the project has a minimum of five (5) years' experience as a construction manager or a supervisor of synthetic turf installations.

B. Prior to the beginning of installation, inspect the sub-base and accept in writing the sub-base surface planarity (tolerance to grade and quality of stone fill).

C. Source Limitations: Obtain synthetic turf through one source from a single manufacturer. Installer shall also obtain the required sand and rubber infill materials from a Manufacturer approved provider.

D. Fire-Test-Response Characteristics: Provide synthetic turf with the following fire-test-response characteristics as determined by testing identical products per test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction.

   1. Surface-Burning Characteristics: As follows, per ASTM E 84:

      a. Flame-Spread Index: 25 or less.
      b. Smoke-Developed Index: 450 or less.

1.7 Pre-installation Meeting

A. Conduct conference at Project site, Installer and manufacturer are to thoroughly review site conditions and installation methods and notify the architect of any discrepancy.

1.8 Coordination

A. Coordinate installation of synthetic turf surface and surrounding surfaces, including subbase, base fill and drainage system for field as required based on construction activity.

1.9 Delivery, Storage, and Protection

A. Coordinate Deliver products to project site in wrapped condition.

B. Store products under cover and elevated above grade.

1.10 Warranty

A. Special Warranty: **Written insured warranty, signed by General Contractor, Synthetic Turf Contractor, manufacturer, and Sub-Surface System Contractor (as applicable), agreeing to repair or replace synthetic turf and/or sub-surface drainage (as applicable) that fails in materials and workmanship within eight (8) years from date of Substantial Completion.** Warranty shall expressly cover, but not be limited to, premature decrease in fiber height greater than 20% during the warranty period, fading of turf fiber color and integrity, the ability of backing to hold fibers fast, the integrity of seaming, and sufficient drainage of water from field based on 100-year rain-event. 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.

1. Warranty does not include deterioration or failure due to vandalism or abuse.
2. Installer/Manufacturer defect response to be within 24-hours of request.
3. Defects shall be corrected at no additional cost to the Owner within 2-calendar days of receipt of written notice, or on an agreed timeframe with the Owner due to extent of defect.
4. Warranty shall include full removal and full replacement of defective materials as required to restore synthetic turf and sub-surface drainage system to its original condition at no additional cost to Owner. In addition, must include complete removal of original system.
5. Warranty shall not be pro-rated and shall provide for full replacement value for defective components of installation throughout the life of the warranty.
6. Insured Warranty Coverage must be provided in the form of **one (1) single policy**.
7. Maximum per claim coverage amount of $15,000,000.
8. Minimum of fifteen-million dollars ($15,000,000) annual aggregate.
9. Policy cannot include self-insurance or self-retention clauses, nor include any deductible amount.
10. The Synthetic turf must be able to be maintained at a G-Max between 125 and 175 for the life of the Warranty.

1.11 Maintenance Service

A. **Initial Maintenance Service:** Beginning at Substantial Completion, provide two (2) follow up visits at six-month intervals. Owner will schedule visits to inspect the condition of the synthetic turf, infill materials and seams. Items found to require repair, amendment, or replacement shall be the responsibility of the Contractor. Repairs, except those required due to vandalism, shall take place immediately upon notification by the Owner's Representative.

B. Train the Owner's facility maintenance staff in maintenacne of the fields and use of the Turf Manufacturer's recommended groomer.

1. The Turf Contractor/Manufacturer shall supply the recommended groomer as part of the Bid.
2. Training sessions shall be video recorded and three (3) electronic copies provided.

PART 2 - PRODUCTS

2.1 Manufacturers

A. Acceptable Manufacturers and Installers: Base Bid System Properties.

1. FieldTurf, A Tarkett Sports Company, Calhoun, Georgia.
2. A-Turf, a Division of Surface America, Cheektowago, New York.
3. Shaw Sports Turf, Shaw Industries, a Berkshire Hathaway, Inc. Company, Dalton, GA.
4. The Motz Group, LLC, Cincinnati, Ohio.
5. AstroTurf, AstroTurf, LLC, Textile Associates, Inc., Dalton, GA.
6. Hellas Construction Inc., Austin, Texas.
7. Act Global Americas Inc., Austin, Texas.

2.2 Materials – Football Field

A. Synthetic Turf – Football Field: Synthetic turf carpet consisting of slit-film polyethylene fibers and polyethylene monofilament fibers, tufted into a perforated, permeable double-layered primary urethane backing with a secondary backing, or a perforated triple-layered primary backing with a secondary backing.

1. Fiber/Pile Height: Two and one-half-inches (2 1/2").
2. Fiber/Pile Weight: Range of 44 to 50 oz./sq. yd.
3. Main Field Color: **One-Tone** Green - to be selected by Owner from Manufacturers standard multiple green colors. Intent is for minor color variation between greens.
4. Endzone Turf Color: Black Turf Color.
5. Perimeter Border: **6-inch wide White Color border around field with Custom Color Red, 6'-0" wide border outside of that** – Pantone Color Number TBD.
6. Line Markings Color: 4-inch White, with 6-inch White on ends and sidelines.
7. Yard-line Numbers: 6'-0" high solid white with white directional arrows/triangles. Font to be verified/determined with Owner.
8. Coaches/Team Sideline Boxes: White Color for Coaches Box and Custom Red Color (TBD) for Team Box, with divider lines of light grey turf for both visiting team sideline and for School Home Team sideline – Size to comply with ISHAA Standards.
9. End-zone Text: **Custom Red with 4-inch White border Letters, Font as indicated below, Twenty-Six (26) foot high, and closely spaced with adjacent letter – Owner to provide graphic preference.**

a. Font: **Agrinder Heavy Bold.**
b. North End-zone Text: "LOWELL".
c. South End-zone Text: "LOWELL".

10. Lowell High School Center Field Logo Colors: Custom Logo – Owner will provide graphics and assume in addition to standard white and black turf colors, provide custom red color as required by Logo. NOTE: Size of Logo is approximately 56'-0" wide, height is proportional for logo – provide neutral grey colored turf at overlapped field lines so as to comply with ISHAA Standards – verify color with Owner.
11. All field Text and Logo markings are to be turf - no painting of turf is allowed, unless Owner approved, prior to bid.
12. Owner will provide artwork/electronic format of Logo for successful bidder.
13. Turf Requirements include compliance with ISHAA Standards.
14. **Pre-Fabrication: Manufacturer is to 'pre-manufacturer', to the greatest degree possible, all inset hash marks, numbers, arrows, and logos. Manufacturer is to provide the precision cutting, gluing in-place, and appropriate cure-time for all inlay conditions prior to re-rolling the turf panels for shipment.**

B. Infill: Controlled mixture of monocrystalline quartz sand, 88% or higher uniform in shape and size dressing, and Rubber crumb infill mix:

1. Ratio of sand to rubber mix for turf: Range of 60/40 to 70/30 – by weight.

C. Wood Nailer: 2x4 or 2x6 nominal Treated Wood nailer on perimeter of field installation – turf backing is to lay over nailer – comply with manufacturer's standards and recommendations. Align nailer so top of turf is slightly higher than perimeter concrete curbing.

D. Cushion Panel: Provide expanded polypropylene sheets, 0.9 inches thick, Powerbase by Brock, or approved equal. **To be installed per details of inlaid Utility boxes only, not for under field.**

E. Glue, thread, seaming fabric and all other materials used to install and mark the synthetic turf system beyond integrated linework.

F. The Base Bid artificial grass Turf shall have the following general properties:

Standard	Property	Specification
ASTM D1577	Fiber Denier	10,000+
ASTM D5823	**Pile Height**	**2.5-inches**
	Yarn Thickness	**Slit – 130+ /Mono - 330+ microns**
ASTM D5793	**Stitch Gauge**	**Per Manufact. Stdrd.**
ASTM D5848	**Pile Weight**	**44 to 50 oz./sq. yard**
ASTM D5848	Primary Backing	>8+ oz/sq. yard
ASTM D5848	Secondary Backing	> 14+oz./sq. yard
ASTM D5848	Total Weight	> 64+ oz./sq. 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)**	**< 125 initial and <125 to 175 for life**
Total Infill Weight		**> 6 to 10.0 lbs./sq. ft.**

G. System Functional Criteria:

1.	Width of Roll:		15 feet wide.
2.	Roll Length:		Minimum width of playing field to existing track
3.	Relative Abrasive Index:	ASTM F1015	<20
4.	G-max:	ASTM F355/F1936	150 max. Initial
5.	Shoe Traction (Dry or Wet):	ASTM F1551	Initiate 1.4 / Slide 0.9.
6.	Infiltration Rate:	ASTM F2898 and EN1216	> 40 inches/hour.
7.	Vertical Rebound	ASTM F2117	> 0.6 inches.

2.3 Materials – Baseball/Softball Fields

A. The component materials of the synthetic grass infill system consist of:

1. Carpet made of slit-film polyethylene fibers and polyethylene monofilament fibers tufted into a perforated backing.

   a. Fiber pigments shall be UV stable and heavy metal free.

   b. Outfield of Baseball, Softball and Flex-Field, Yarn 1 (Primary) Type/Size: 50% slit film at 120 microns thick and 50% monofilament at 260 microns thick.

   c. Infield of Baseball and Softball, Yarn 2 (Thatch) Type/Size: Texturized UB DFE at minimum of 175 microns thick.

2. Infill: Controlled, layered mixture of graded sand and ground SBR rubber that partially covers the carpet.

3. Adhesive, thread, paint, seaming fabric, and materials used to install/mark the artificial grass as approved by the manufacturer.

4. Wood Nailer: 2x4 or 2x6 nominal Treated Wood nailer on perimeter of field installation – turf backing is to lay over nailer – comply with manufacturer's standards and recommendations.

B. The installed synthetic grass infill system shall have the following properties:

Standard	Property	Specification
ASTM D1577	Fiber Denier	8000 Slit 12,000 Mono nominal 5,000 nominal for Thatch
ASTM D418/D5848	Pile Height (Baseball/Softball Green Areas)	2" to 2-1/4" nominal
ASTM D418/D5848	Pile Height (Baseball/Softball Clay-Red Areas)	1-3/4" to 2" nominal
ASTM D418/D5848	Pile Weight	Minimum 52 oz./sq. yd.

Standard	Property	Specification
	(Baseball/Softball Green Areas)	
ASTM D418/D5848	Pile Weight (Baseball/Softball Clay-Red Areas)	Minimum 52 oz./sq. yd.
ASTM D1335	Tuft Bind	8 lbs. (without infill)
ASTM D1335	Tuft Bind	Min. 10 lbs. (with infill)
ASTM D1682/D5034	Grab Tear (width)	>250 lbs force
ASTM D1682/D5034	Grab Tear (length)	>300 lbs force
ASTM F1015	Relative Abrasiveness Index	20.2
ASTM D4491	Carpet Permeability	>40 inches/hour
ASTM D2859	Flammability (Pill Burn)	Pass
ASTM E648	Critical Radiant Flux (Flame Spread)	0.2 g/sq. cm. (Class B Rating)
ASTM F355/F1936	Impact Attenuation, G-max	<125 at installation and <175 over field life

C. The carpet shall consist of polyethylene fibers tufted into a primary backing with a secondary coating. Alternating green turf colors in direction of home plate to outfield, refer to drawings.

1. The carpet shall be furnished in 15 feet wide rolls.

   a. Rolls shall be long enough to go from side to side of field without splicing.

   b. Perimeter lines shall be tufted into the individual sideline rolls.

      1) Color 1: 100% Field Green – alternating with Color 2.

      2) Color 2: 100% Field Rye – alternating with Color 1.

      3) Color 3: Brickdust Red Clay.

2. Turf Seaming: Seaming shall utilize sewn method.

   a. All seams are to be sewn utilizing a machine approved by the synthetic grass infill system manufacturer. The thread shall be treated to ensure it will maintain its tensile strength for a minimum of eight (8) years under heavy sports field use and while subjected to exterior elements as recommended by the synthetic grass infill system manufacturer.

   b. Head seams will not be acceptable**.**

3. The carpet's primary backing shall be a composite fabric treated with UV inhibitors, consisting of one layer of woven polypropylene and one layer of non-woven polypropylene needle punched together so as to function as a single unit.

a. The secondary backing shall consist of a 24 ounce coating application of heat-activated urethane to permanently lock the fiber tufts in place.

b. Drainage shall be accomplished by means of uncoated fabric valleys between the coated fiber stitches or 1/4 inch holes every 4 inches in both directions.

c. Complete system shall drain in excess of 40 inches of rain water per hour.

4. The fiber shall be minimum 8,000 denier (slit) and 12,000 denier (mono), low friction, and UV-resistant fiber measuring nominal 1-3/4 inches to 2-1/2 inches in height.

a. The fibers shall be fanned/unfolded prior to installation.

D. The Infill materials shall be approved by the Manufacturer.

1. The Infill shall consist of a resilient layered granular system, comprising selected and graded dust-free silica sand and SBR rubber granules.

a. Baseball/Softball Infield: Minimum of 1-3/4 inches - 60 percent rubber, 40 percent sand.

b. Baseball/Softball/Flex-Field Outfield: Minimum of 2 inches - 70 Percent rubber, 30 percent sand.

2. Rubber Sieve Specification: 10 – 20 Mesh.

3. Sand Sieve Specification: 20 – 40 Mesh.

4. Metal pieces, cord, glass, and other debris shall not be allowed to contaminate the fill.

E. Non-tufted or inlaid lines and markings shall be painted with paint approved by the synthetic grass infill system manufacturer.

1. Provide inserts with plugs at all corners.

F. Inlaid Lines and Markings:

1. All other lines, markings, are to be inlaid and adhered utilizing an approved seaming tape. The seaming tape utilized is to be approved by both the synthetic grass infill system manufacturer and the adhesive manufacturer.

2. All adhered inlaid lines, markings, numbers and logos shall be cut-in through the entire thickness of the completed turf material, including the primary and secondary backing.

3. The adhesive utilized shall be approved by the synthetic grass infill system manufacturer for use with the turf material proposed.

4. The approved adhesive shall be applied at the rate specified by the adhesive manufacture, utilizing their recommended application method.

G. Logos:

1. Provide Lowell High School Logo: Provide two (2) Custom Logo – Owner will provide graphics and assume in addition to standard white and black turf colors, provide custom red color as required by Logo. NOTE: Size of Logo at Baseball Field is approximately 38'-0" wide, height is proportional for logo. Size of Logo at Softball Field is approximately 25'-0" wide, height is proportional for logo. Locations of Logos as shown on Drawings.

2. Provide additional Logo at Batters Practice Circles, owner will provide graphic to successful contractor.

H. Replacement Turf Panels:

1. Provide for replacement sections of turf at Practice Mounds, Pitchers Mounds, First, Second, Third Bases, Short Stop, Catchers/Home Plate area, and center locations of each Outfield (Left, Center, and Right).

2.4 Material: Soccer Field

A. Synthetic Turf – Soccer Field: Synthetic turf carpet consisting of slit-film polyethylene fibers and polyethylene monofilament fibers, tufted into a perforated, permeable double-layered primary urethane backing with a secondary backing, or a perforated triple-layered primary backing with a secondary backing.

1. Fiber/Pile Height: Two and one-half-inches (2" to 2 1/4").
2. Fiber/Pile Weight: Range of 44 to 50 oz./sq. yd.
3. Main Field Color: One-Tone Green - to be selected by Owner from Manufacturers standard multiple green colors.
4. Perimeter Border: 4-inch wide White Color border around field with Custom Color Red, the full width border outside of that – Pantone Color Number TBD.
5. Line Markings Color: 4-inch White, with 6-inch White on ends and sidelines.
6. Lowell High School Field Logo Colors: Provide two (2) Custom Logo – Owner will provide graphics and assume in addition to standard white and black turf colors, provide custom red color as required by Logo. NOTE: Size of Logo is approximately 38'-0" wide, height is proportional for logo.
7. All field Text and Logo markings are to be turf - no painting of turf is allowed, unless Owner approved, prior to bid.
8. Owner will provide artwork/electronic format of Logo for successful bidder.
9. Turf Requirements include compliance with ISHAA Standards.
10. **Pre-Fabrication: Manufacturer is to 'pre-manufacturer', to the greatest degree possible, all inset hash marks, numbers, arrows, and logos. Manufacturer is to provide the precision cutting, gluing in-place, and appropriate cure-time for all inlay conditions prior to re-rolling the turf panels for shipment.**

B. Infill: Controlled mixture of monocrystalline quartz sand, 88% or higher uniform in shape and size dressing, and Rubber crumb infill mix:

1. Ratio of sand to rubber mix for turf: Range of 60/40 to 70/30 – by weight.

C. Wood Nailer: 2x4 or 2x6 nominal Treated Wood nailer on perimeter of field installation – turf backing is to lay over nailer – comply with manufacturer's standards and recommendations. Align nailer so top of turf is slightly higher than perimeter concrete curbing.

D. Glue, thread, seaming fabric and all other materials used to install and mark the synthetic turf system beyond integrated linework.

E. The Base Bid artificial grass Turf shall have the following general properties:

Standard	Property	Specification
ASTM D1577	Fiber Denier	10,000+
ASTM D5823	**Pile Height**	**2.0 to 2.25-inches**
	Yarn Thickness	**Slit – 130+ /Mono - 330+ microns**
ASTM D5793	**Stitch Gauge**	**Per Manufact. Stdrd.**
ASTM D5848	**Pile Weight**	**44 to 50 oz./sq. yard**
ASTM D5848	Primary Backing	>8+ oz/sq. yard
ASTM D5848	Secondary Backing	> 14+oz./sq. yard
ASTM D5848	Total Weight	> 64+ oz./sq. 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)**	**< 125 initial and <125 to 175 for life**
Total Infill Weight		**> 6 to 8.0 lbs./sq. ft.**

F. System Functional Criteria:

1. Width of Roll:		15 feet wide.
2. Roll Length:		Minimum width of playing field to existing track
3. Relative Abrasive Index:	ASTM F1015	<20
4. G-max:	ASTM F355/F1936	150 max. Initial
5. Shoe Traction (Dry or Wet):	ASTM F1551	Initiate 1.4 / Slide 0.9.
6. Infiltration Rate:	ASTM F2898 and EN1216	> 40 inches/hour.
7. Vertical Rebound	ASTM F2117	> 0.6 inches.

G. Replacement Turf Panels:

1. Provide for replacement sections of turf at both Goals, Corner Kicks, and Center.

2.5 Quality Control In Manufacturing

A. The manufacturer shall own and operate its own manufacturing plant in North America. Both tufting of the field fibers into the backing materials and coating of the turf system must be done in-house by the turf manufacturer.

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.

2.6 Minimum Quality Control In Fiber Manufacturing

A. Synthetic turf fiber must perform in a uniform manner or manufacturer quality control issues in the extrusion processes will be suspected. Linear Low Density Polyethylene Polymer ("LLDPE") and batch additives obtained from a reputable manufacturer are required to manufacture superior quality monofilament yarn. The master batch formula must include a UV stabilizer package added to its polymer base.

B. The LLDPE used to make the artificial grass fiber needs to be a "C6" LLDPE which contains 6 carbon atoms and 13 hydrogen atoms; A C6-based LLDPE produces strong and resilient artificial grass fibers over prolonged periods and thus should provide the basis for long term performance of the system.

C. Adequate UV protection is essential to the long-term durability of any artificial grass fiber. Typically, stabilizer packages for polyethylene fibers have three components that protect the fibers from degradation: (1) primary antioxidants; (2) secondary antioxidants; and (3) UV stabilizers (i.e., hindered amine light stabilizers ("HALS")). HALS are a particularly important aspect of the stabilizer package. A typical HALS concentration is 10,000 ppm. More developed HALS molecules are methyl stabilized to prevent from degradation.

D. Streaking refers to color variation in a field due to different degrees of fiber relaxation. Fiber in one row stands up, while fiber in an adjacent row lies flat. The inconsistent relaxation causes differences in the reflection of light off of the fiber, and results in the field having a streaked or striped appearance. Adequate UV protection minimizes the appearance of streaking and other visual flaws during the warranty period.

E. If manufactured with ridges, then each finished fiber should have at least 6 inner face support ridges and 10 outer face support ridges.

2.7 Field Groomer And Sweepers

A. Provide two (2) manufacturers field groomer and two (2) sweeper/groomer units as part of the work to be left with the Owner for the four fields.

1. Field Groomer equals HPX-615E 4x4 gas powered vehicle, as manufactured by John Deere, or approved equal.

2. Sweeper/Groomer: Sweeper which features a mesh hopper designed to allow the infill to be redistributed back into the field as the unit sweeps other loose items off the field, combined with turf groomer that utilizes components individually or in tandem, one consisting of a reel equipped with rotating tines and the other comprising rakes (Similar to TurfCare TCA 1400) and includes all accessories.

2.8 Accessories – Baseball and Softball

A. Baseball/Softball Equipment: Provide and install the following equipment as manufactured by Schutt Sports, distributed by BSNSports, or of equal MacGregor Major League Series or Adams Bolco 175 MLB Major League Series, also distributed by BSNSports, or Champro Sports Pro Style series or equal to original Schutt specified equipment.

1. Ground Anchor Mounts and 2-sets of Base Plug Indicators for Softball.
2. Mushroom Plugs for Baseball.
3. Four Sided Professional Pitching Rubber at each pitching location.
4. Jack Corbett MLB Hollywood Bases – Two (2) Sets.
5. Two (2) Sets of Pro Home Plates with Ground Anchors.

B. Four (4) inch diameter, 20' Foul Pole with Wing and Flag, as manufactured or supplied by Sportsfield Specialties, Inc., or approved equal, with minimum 42" ground sleeve.

PART 3 - EXECUTION

3.1 Examination

A. Examine substrates, areas, and conditions, with Installer present, for compliance with the following requirements and other conditions affecting performance of synthetic turf:

1. Verify that soil sub-grade has been compacted in all directions and is deemed suitable for stone subbase.
2. Verify that all areas and surfaces designated to receive synthetic turf have been inspected and found satisfactory to Installer/manufacturer.
3. Verify permeable concrete base on exterior of the facility is satisfactory for installation of cushion pad and turf. Confirm all elevations for transitions to interior field and exterior fields.
4. Install aggregate subbase and base in accordance with the specifications, and then synthetic turf only after excavation and construction activities are complete which might damage it. If requested, provide test results certifying capability of aggregate base to meet stability requirements before construction. Repair damage caused during construction before acceptance.
5. Installation of synthetic turf surface materials constitutes acceptance of finished aggregate base.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 Installation

A. Install synthetic turf system in accordance with manufacturer's written instructions and requirements for standard system installation, unless otherwise indicated.

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.

D. Repair and properly compact any disturbed areas of the aggregate base as recommended by manufacturer.

E. Installation of the Fabric:

1. Install the carpet rolls directly over the properly prepared aggregate base.

    a. Take extreme care to avoid disturbing the aggregate base, both in regard to compaction and planarity.

    b. It is suggested that a 2-5 ton static roller is on site and available to repair and properly compact any disturbed areas of the aggregate base.

2. Lay out the full width rolls across the field.

    a. Provide turf of sufficient length to permit full cross-field installation from sideline to sideline.

    b. Provide alternating colors green colors to simulate mowing patterns.

        1) Football and Outfields: 15 foot wide alternating pattern.

        2) Baseball Infield: 3 foot wide alternating pattern.

F. No head or cross seams will be allowed in the main playing area between the sidelines.

G. Utilizing state of the art sewing or adhering procedures, attach each roll to the next

H. When all of the rolls of the playing surface have been installed, install the sideline areas at right angles to the playing field turf.

I. Synthetic 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.

J. Infill Materials:

1. Infill materials shall be applied in numerous thin lifts. The turf shall be brushed as the mixture is applied. The infill material shall be installed to a depth determined by the manufacturer.
2. Three-layered infill shall be installed in a systematic order.
3. Infill materials shall be installed to fill the voids between the fibers and allow the fibers to remain vertical and non-directional. The Infill installation consists of a base layer of sand followed by a homogenous mixture of the sand and the processed rubber. A final application of specifically sized rubber crumb infill completes the system. The Infill shall be installed to the depth of 1 3/4", and not more than 1.9". Infill density shall consist per manufacturer's standard and in accordance with the design criteria above. The Infill shall be placed so that there is a void of approximately 5/8" to 3/4" to the top of the fibers.
4. **NOTE: The Turf Installer is responsible for dust generated from both stone during installation of turf and infill material during installation and is responsible for mitigating any over-flow of dust to adjacent structures and surfaces.**

K. Synthetic turf shall be attached to the perimeter edge detail in accordance with the manufacturer's standard procedures.

L. Install all inserts with plugs at all corners.

M. Upon completion of installation, the finished field shall be inspected by the installation crew and an installation supervisor.

3.3 Field Markings And Logos

A. Field markings shall be installed in accordance with approved shop drawings. Football is designated as the primary sport, all five-yard lines will be tufted-in.

B. All hash marks, numbers, goal line are to be tufted-in and installed per the Pre-Fabrication Process as delineated above.

C. Field logo's shall be inlaid according to artwork for each and as indicated on Drawings with custom color palette of turf colors required by Owner, and all are to be tufted-in to turf field and installed per the Pre-Fabrication Process as delineated above. Note that field markings are required to comply with ISHAA standards.

D. Football Field End-zone letters shall be inlaid according to artwork and fonts indicated or approved by Owner, with the White color turf into the endzone color turf field required, and are to be tufted-in to turf field and installed per the Pre-Fabrication Process as delineated above.

E. Baseball and Softball, colors shall be white turf:

1. Foul Lines.
2. Catcher and Batter Boxes.
3. On-Deck Circle.
4. Coaches Box.
5. Bullpen home plates.

F. Soccer, all line colors shall be white turf.

3.4 Field Quality Control

A. Testing Agency: The Owner may, at their discretion, engage a qualified independent testing and inspecting agency to perform field tests and inspections and prepare test reports.

B. Testing Services: Testing and inspecting of completed applications of synthetic turf system shall take place in suggestive states, in areas of extent and using methods that are industry standard. Do not proceed with application of next stages until test results for previously completed applications show compliance.

C. The Contractor shall remove and replace items where test results indicate non-compliance with specified requirements.

D. Tests indicated are the Minimum required, and are to be provided by the Turf System and Subsurface Drainage System Contractors/Suppliers, together, as both are responsible for achieving the drainage requirements for the Project, and is to be provided by an Independent, Industry authorized, testing agency. For Drainage, the requirement is to comply with the minimum drainage per hour and tested per the standards of ASTM F2898 and EN1216.

1. Compaction testing of the subbase prior to beginning installation of turf system.

2. Ten (10) permeability tests of completed turf system to confirm installed field drainage complies with the specifications.

3. G-Max performance testing of completed turf system, per ASTM F355-01 standards.

3.5 Cleaning And Protection

A. Protect installed synthetic grass infill system from subsequent construction operations.

B. Clean synthetic turf and adjacent surfaces by installation operation. Comply with manufacturer's written instructions for cleaning and repair of minor damage. Remove and replace synthetic turf that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

C. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and installer, that ensure synthetic turf is without damage or deterioration at the time of Substantial Completion.

D. Prohibit foot and wheel traffic from synthetic turf after Work is completed.

E. All usable remnants of new material shall become the property of the Owner.

1. In addition, the Owner shall be provided with the following attic stock:

a. One strip of each green color turf, 15 feet by 15 feet, one set of the same dye lot as each of the football fields, and the Baseball and Softball Fields.

b. Provide the following for the baseball and softball fields seaming material affixed in place to each panel:

1) Homeplate areas: Two each for Baseball and Softball - 26 foot diameter.

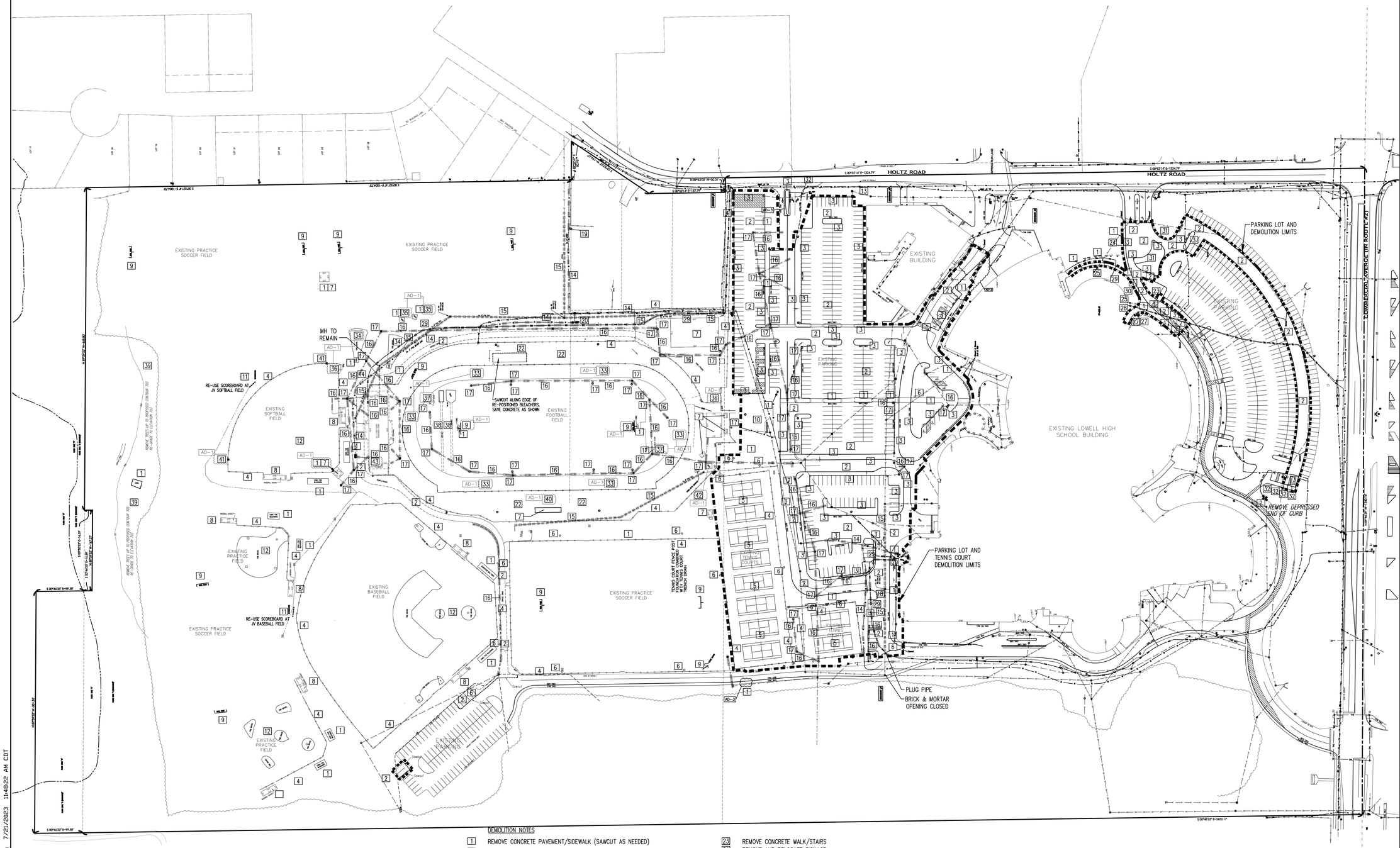
2) Four (4) Baseball Pitchers mound area: 5 feet by 15 feet.

3) Four (4) First base sliding areas: 5 feet by 15 feet.

4) Four (4) Second base sliding areas: 5 feet by 15 feet.
5) Four (4) Third base sliding areas: 5 feet by 15 feet.
6) Four (4) Short Stop area: 5 feet by 15 feet.
7) Three (3) Softball Pitcher's mound area: 5 feet by 15 feet.
8) Four (4) Softball Bull pen mound areas: 5 feet by 15 feet.
9) Six (6) Baseball Bullpen mound areas: 5 feet by 15 feet.
10) Two (2) Each, both Baseball and Softball Out Fields: 15 feet by 15 feet.

c. Provide the following for the Soccer field seaming material affixed in place to each panel:
1) Goal areas: Two (2) for each goal area: 5 feet by 24 feet.
2) Corner Kicks: Eight (8) Corner areas: 5 feet by 15 feet.
3) Center of Field: Two (2) panels, 24 foot diameter.

END OF SECTION 32 18 12



DEMOLITION NOTES

1. REMOVE CONCRETE PAVEMENT/SIDEWALK (SAWCUT AS NEEDED)
2. REMOVE ASPHALT PAVEMENT
3. REMOVE CURB
4. REMOVE FENCE
5. REMOVE TENNIS COURT
6. REMOVE & SALVAGE LIGHT POLE (SEE ELECTRICAL PLANS)
7. REMOVE BUILDING
8. REMOVE BASEBALL/SOFTBALL DUGOUT
9. REMOVE SOCCER/FOOTBALL GOAL/SCOREBOARD
10. REMOVE TREE
11. REMOVE SCOREBOARD SALVAGE AND REUSE IF SPECIFIED
12. REMOVE INFIELD
13. REMOVE & RELOCATE POWER POLE (SEE ELECTRICAL PLANS)
14. REMOVE WATER MAIN
15. REMOVE SANITARY SEWER
16. REMOVE STORM SEWER/PERFORATED PIPE
17. REMOVE STORM STRUCTURE
18. REMOVE SANITARY STRUCTURE
19. REMOVE & RELOCATE FIRE HYDRANT
20. REMOVE FIRE HYDRANT
21. REMOVE CONCRETE PAD AND GOAL POST
22. REMOVE CONCRETE, FOOTINGS & PIERS UNDER EXISTING BLEACHERS
23. REMOVE CONCRETE WALK/STAIRS
24. REMOVE AND RELOCATE SIGNAGE
25. REMOVE AND RELOCATE CLEANOUT MAINTAIN EXISTING STORM SEWER LINE
26. REMOVE CLEAN OUT
27. REMOVE AND RELOCATE CLEAN OUT
28. REMOVE AND RELOCATE FIBER OPTIC MANHOLE
29. REMOVE AND RELOCATE GAS LINE
30. REMOVE AND RELOCATE ELECTRIC LINES
31. REMOVE BOOM GATE, CONCRETE PAD & CARD READER, STORE FOR FUTURE USE TO BE DETERMINED BY OWNER.
32. REMOVE SIGNAGE, STORE FOR FUTURE USE TO BE DETERMINED BY OWNER.
33. REMOVE TRACK SURFACE ASPHALT BASE TO REMAIN
34. REMOVE SAND PIT
35. REMOVE DISC FENCE
36. REMOVE WELL
37. REMOVE PLAY CLOCK
38. REMOVE LONG JUMP AND POLE VAULT
39. REMOVE TREES TO PROPOSED CONTOUR 703
40. REMOVE & SALVAGE BLEACHERS
41. REMOVE & SALVAGE FOUL POLE
42. REMOVE TRANSFORMER & CONCRETE PAD (SEE ELECTRICAL PLAN) AD-1
43. REMOVE WATER SERVICE LINE

NOTES:

1) THE CONTRACTOR SHALL DETERMINE IF DAMAGE TO THE RUNNING TRACK WILL BE CAUSED BY REMOVING THE EXISTING STRUCTURES AROUND THE PERIMETER OF THE FOOTBALL FIELD. IF IT IS DETERMINED THAT DAMAGE WILL OCCUR, THE CONTRACTOR SHALL REMOVE THE TOP PORTION OF THE STRUCTURE A MINIMUM OF 2 FEET BELOW THE FINAL PROPOSED ELEVATION OF THE TURF FIELD AND REPLACE THE EXISTING COVER WITH A SOLID COVER.

2) THE CONTRACTOR SHALL REFER TO THE ELECTRICAL PLANS FOR LINE REMOVAL AND RELOCATION. THE ELECTRIC LINES AND LIGHT POLE LOCATION SHOWN ON THIS DRAWING ARE TAKEN FROM THE ELECTRICAL PLAN SET.

3) EXISTING WELLS SHALL BE REMOVED AND CUT-OFF AT A DEPTH OF 2 FEET BELOW GROUND LEVEL. THE WELL SHALL BE FILLED WITH FLOWABLE CONCRETE TO ALLOW FOR PERMANENT CAPPING. AD-3

NORTH

GRAPHIC SCALE

80 0 40 80 160 320

(IN FEET)
1 inch = 80 ft.

GIBRALTAR DESIGN
ARCHITECTURE • ENGINEERING • INTERIOR DESIGN

PROJECT:
LOWELL HIGH SCHOOL SITE BLEACHERS, & TURF/DRAINAGE
TRI-CREEK SCHOOL CORPORATION

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PROJECT 23-112
DATE 08/04/23
COORDINATED BY DCT/AM
DRAWN BY EM
CHECKED BY DCT/AM

DONALD C. TORRENGA REGISTERED No. 19868 STATE OF INDIANA PROFESSIONAL ENGINEER

REVISIONS

MARK	DATE	ISSUED FOR
AD-1	08/18/23	ADDENDUM NO. 1
AD-3	09/07/23	ADDENDUM NO. 3

DRAWING
DEMOLITION PLAN

PROJECT
LOWELL HIGH SCHOOL SITE BLEACHERS, & TURF/DRAINAGE

SHEET C-1.1

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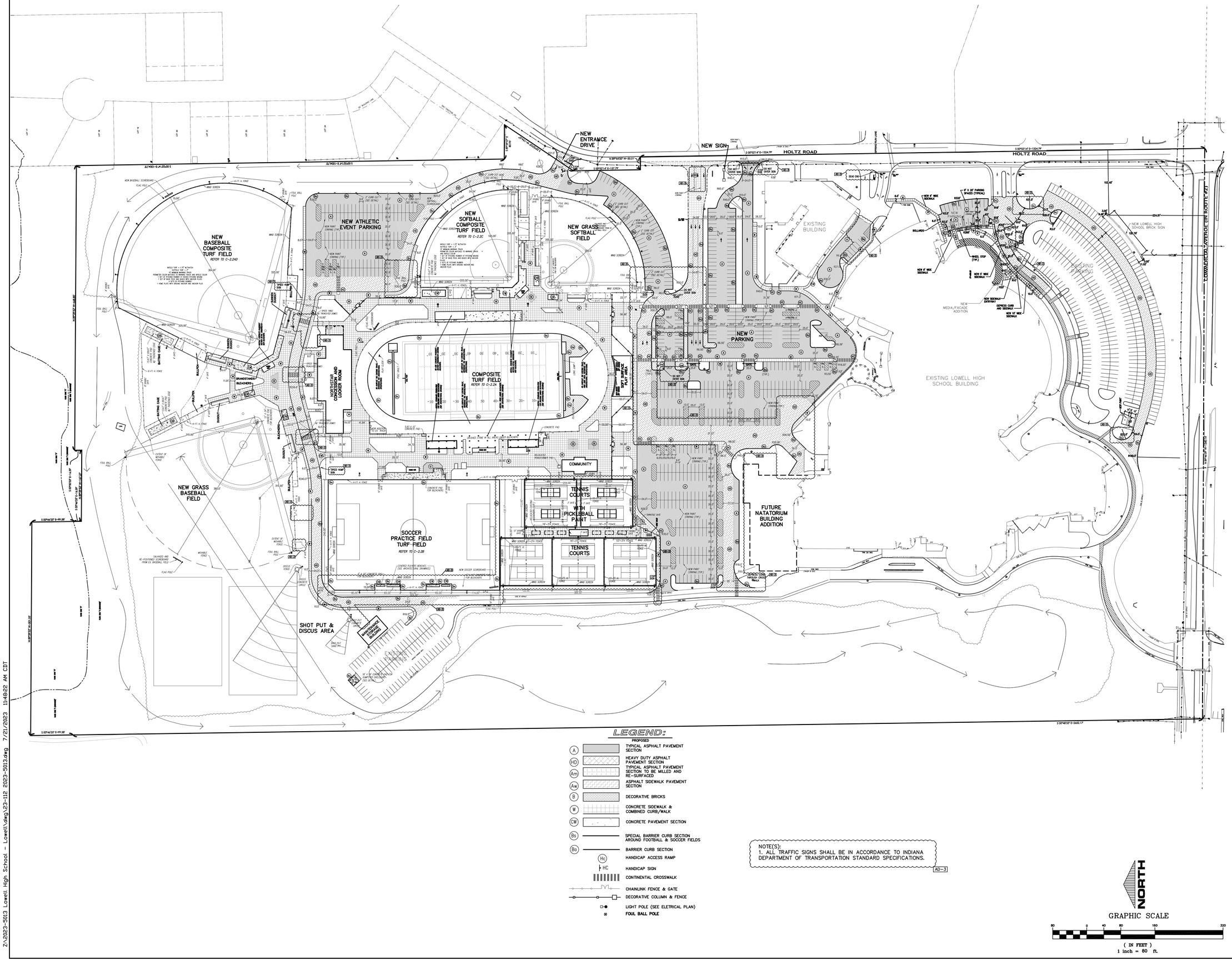

LEGEND:

PROPOSED

- (A) TYPICAL ASPHALT PAVEMENT SECTION
- (HD) HEAVY DUTY ASPHALT PAVEMENT SECTION
- (Am) TYPICAL ASPHALT PAVEMENT SECTION TO BE MILLED AND RE-SURFACED
- (Aw) ASPHALT SIDEWALK PAVEMENT SECTION
- (B) DECORATIVE BRICKS
- (W) CONCRETE SIDEWALK & COMBINED CURB/WALK
- (CW) CONCRETE PAVEMENT SECTION
- (Bs) SPECIAL BARRIER CURB SECTION AROUND FOOTBALL & SOCCER FIELDS
- (Bc) BARRIER CURB SECTION
- (Hc) HANDICAP ACCESS RAMP
- HC HANDICAP SIGN
- CONTINENTAL CROSSWALK
- CHAINLINK FENCE & GATE
- DECORATIVE COLUMN & FENCE
- LIGHT POLE (SEE ELETRICAL PLAN)
- FOUL BALL POLE

NOTE(S):
1. ALL TRAFFIC SIGNS SHALL BE IN ACCORDANCE TO INDIANA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.

AD-3

NORTH

GRAPHIC SCALE

80 0 40 80 160 320

(IN FEET)
1 inch = 80 ft.

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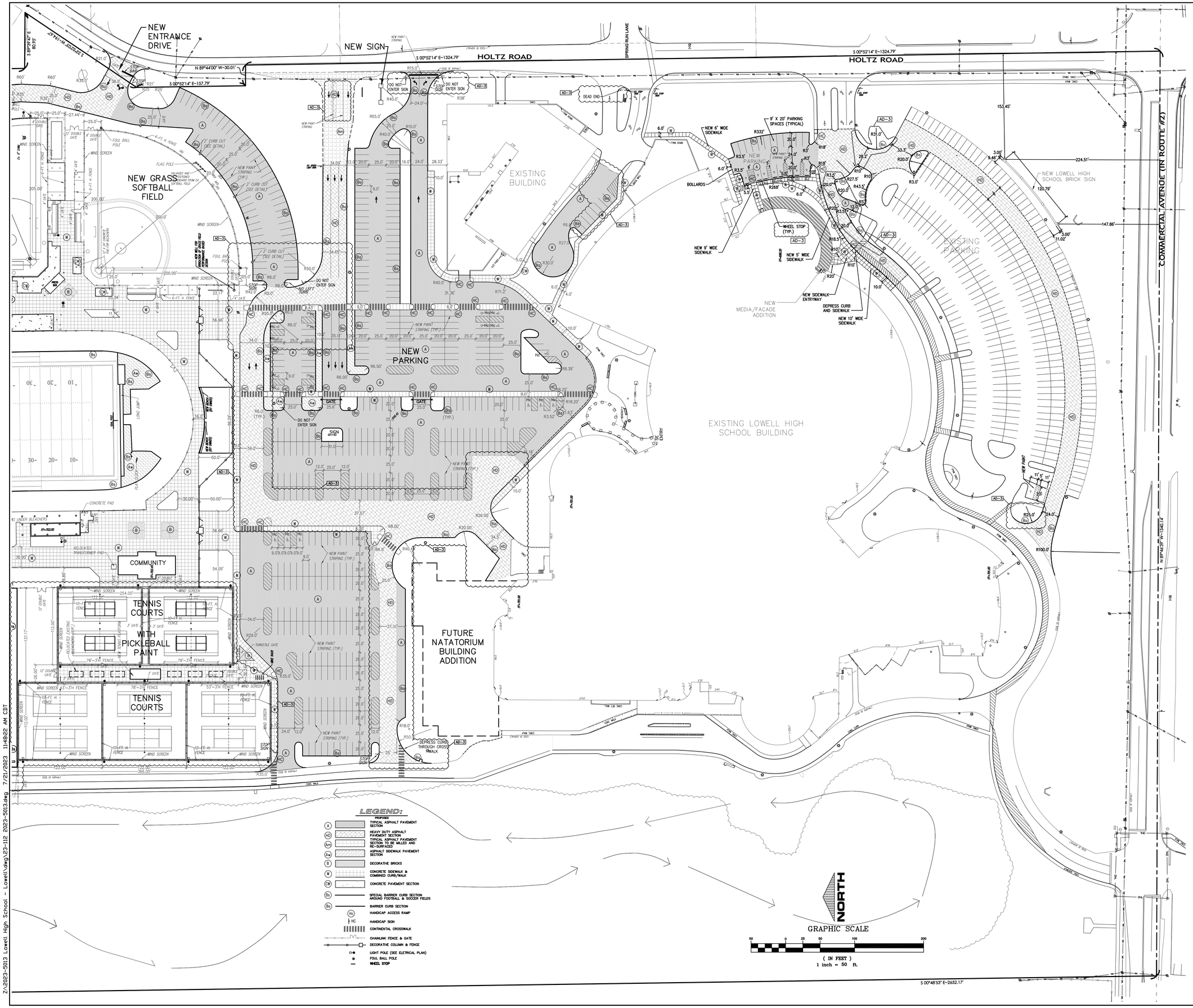
AD-3	09/07/23	ADDENDUM NO. 3

DRAWING
MASTER SITE PLAN

PROJECT
LOWELL HIGH SCHOOL SITE BLEACHERS, & TURF/DRAINAGE

SHEET
C-2.0



LEGEND:

PROPOSED

- (A) TYPICAL ASPHALT PAVEMENT SECTION
- (HD) HEAVY DUTY ASPHALT PAVEMENT SECTION
- (Am) TYPICAL ASPHALT PAVEMENT SECTION TO BE MILLED AND RE-SURFACED
- (As) ASPHALT SIDEWALK PAVEMENT SECTION
- (B) DECORATIVE BRICKS
- (W) CONCRETE SIDEWALK & COMBINED CURB/WALK
- (C#) CONCRETE PAVEMENT SECTION
- (Bs) SPECIAL BARRIER CURB SECTION AROUND FOOTBALL & SOCCER FIELDS
- (Bs) BARRIER CURB SECTION
- (Hc) HANDICAP ACCESS RAMP
- HC HANDICAP SIGN
- CONTINENTAL CROSSWALK
- CHAINLINK FENCE & GATE
- DECORATIVE COLUMN & FENCE
- LIGHT POLE (SEE ELETRICAL PLAN)
- FOUL BALL POLE
- WHEEL STOP

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GIBRALTAR DESIGN
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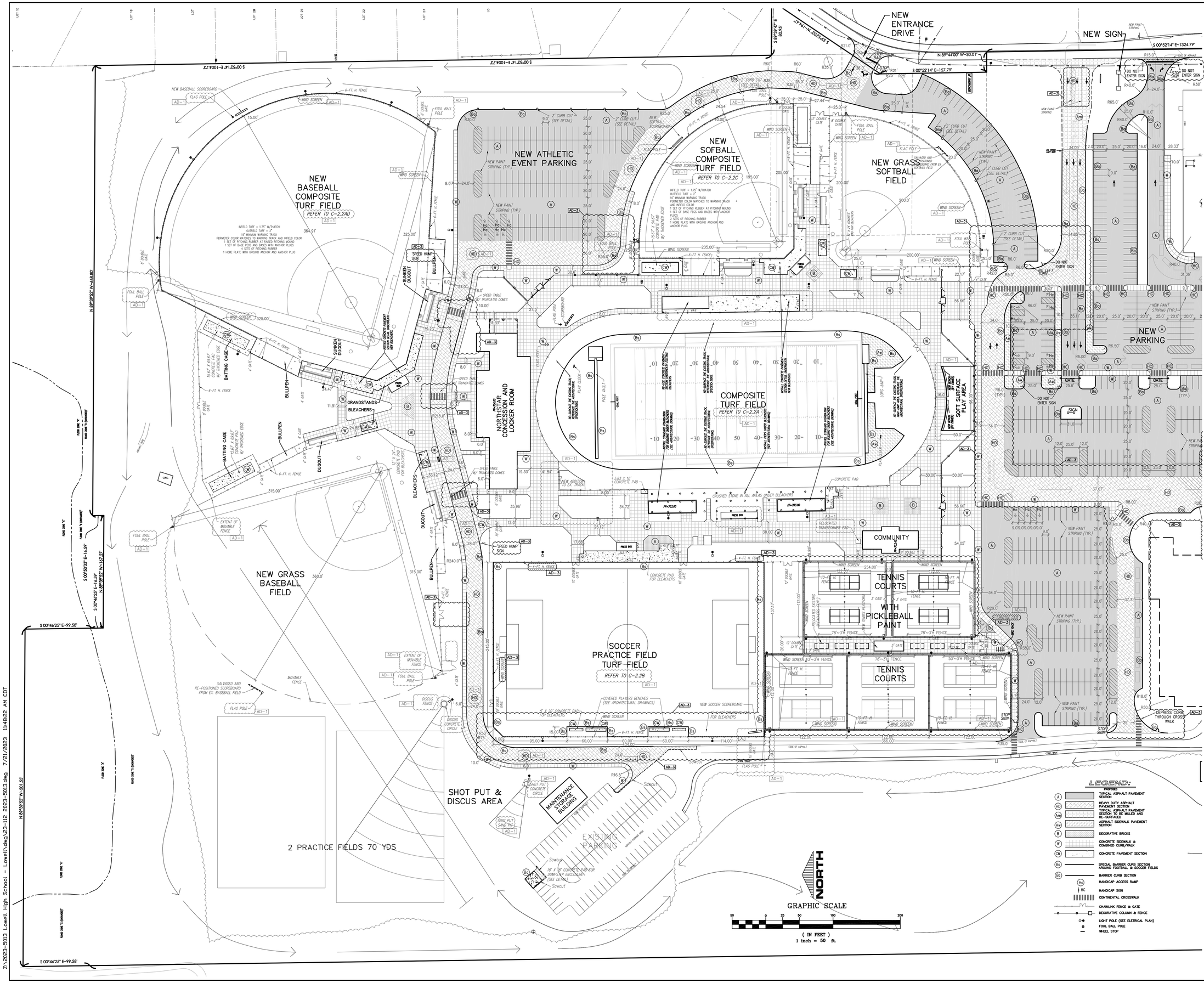
MARK	DATE	ISSUED FOR
AD-3	09/07/23	ADDENDUM NO. 3

DRAWING
SITE PLAN - SOUTH

PROJECT
LOWELL HIGH SCHOOL SITE BLEACHERS, & TURF/DRAINAGE

SHEET
C-2.1



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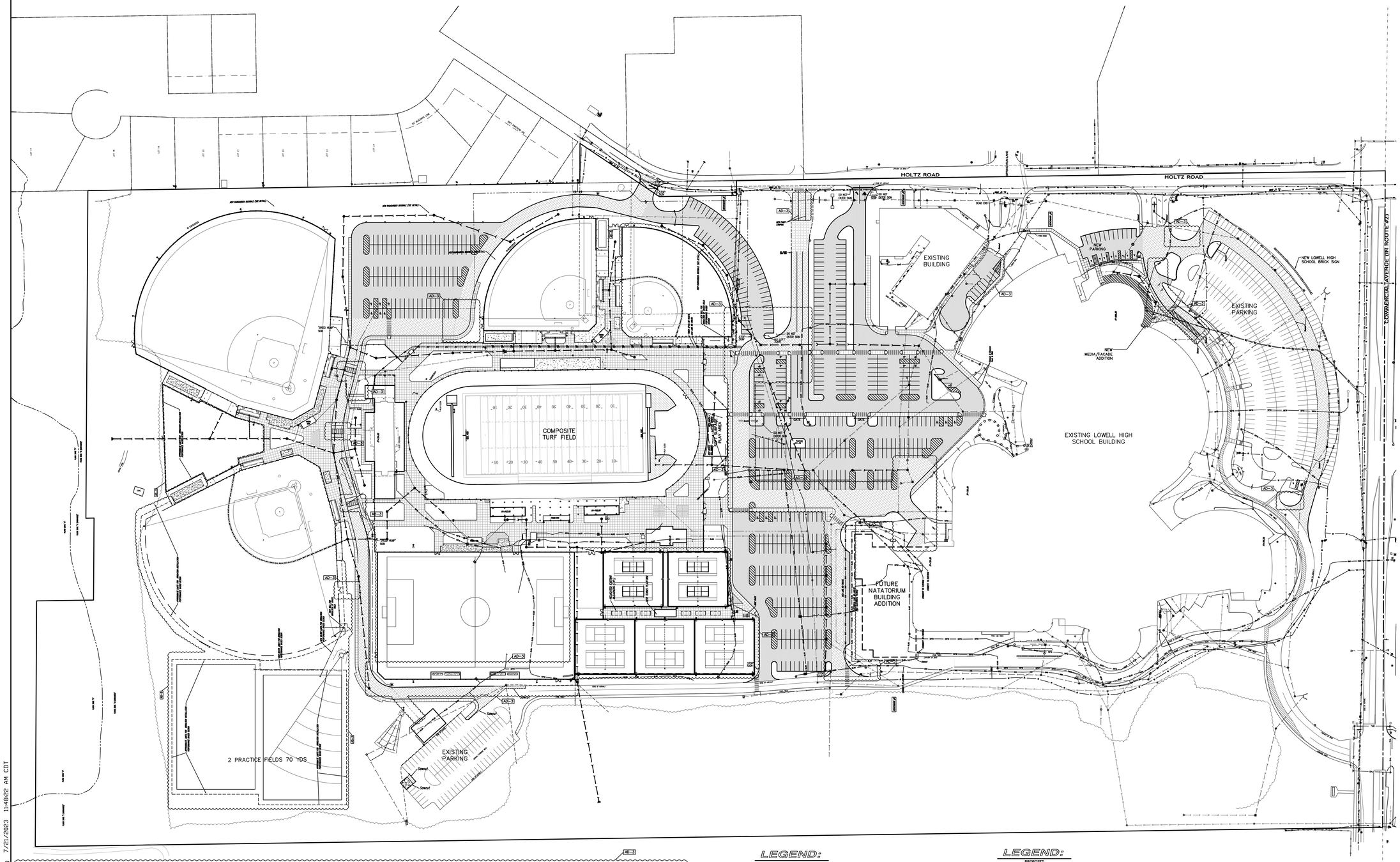
AD-1	08/18/23	ADDENDUM NO. 1
AD-3	09/07/23	ADDENDUM NO. 3

DRAWING
SITE PLAN - NORTH

PROJECT
LOWELL HIGH SCHOOL SITE BLEACHERS, & TURF/DRAINAGE

SHEET AD-1
C-2.2



NOTES:

The sequence for the construction of the natural turf softball field:

1) The existing topsoil is to be stripped off of the site and stockpiled nearby.

2) Proposed rough grading of the site shall be performed to a depth of 6 inches less than the final grades as shown on the grading plan for the playing fields. Prior to final grading, allow adequate time for the soil to settle to avoid uneven turf later.

3) The final 6 inches consisting of topsoil free from impurities and debris shall be placed to the elevations as shown on the plans.

4) A final shallow raking of disturbed area shall be done immediately before seeding for the preparation of a good seedbed.

5) Apply a starter fertilizer (high in PH) at the rate of 1.5 lbs per 1000sf.

6) The entire area of the softball field outside of the infield and warning track, shall be seeded with "Healthy Grass Technology" 80% Kentucky Bluegrass (HGT) + 20% Regenerating Perennial Ryegrass (RPR) at the rate of 6 to 8 lbs/1000 sf, or a mixture as specified by the Owner/Architect.

7) The infield area and the warning track shall be constructed using aglime, a minimum depth of 6 inches. The contractor shall submit the shop drwaings depicting the type of aglime to be used prior to installation.

8) The infield area shall be graded to the elevations shown on the plan set.

9) The warning track shall be graded to match the slope of the outfield grass up to the fence line.

NOTES:

The sequence for the construction of the new natural turf baseball field;

1) The existing infield and areas up to the limits of re-grading is to be stripped off of the site, stockpiled. All excess material shall be removed.

2) Proposed rough grading of the infield, and re-grade areas shall be performed to a depth of 6 inches less than the final grades as shown on the grading plan. Prior to final grading, allow adequate time for the soil to settle to avoid uneven turf later.

3) The final 6 inches consisting of topsoil free from impurities and debris shall be placed to the elevations as shown on the plans in the areas marked as re-grade outside of the infield.

3) The final 6 inches consisting of Turface Diamond Select Material shall be placed to the elevations as shown on the plans.

4) A final shallow raking of disturbed area along the edge of the infield shall be done immediately before seeding for the preparation of a good seedbed.

5) Apply a starter fertilizer (high in PH) at the rate of 1.5 lbs/1000sf over the disturbed area of the outfield.

6) The entire area of the JV Baseball Infield and warning track shall be shall be seeded with "Healthy Grass Technology" 80% Kentucky Bluegrass (HGT) + 20% Regenerating Perennial Ryegrass (RPR) at the rate of 6 to 8 lbs/1000 sf, or a mixture as specified by the Owner/Architect.

7) The infield dirt area and the warning track shall be constructed using aglime, a minimum depth of 6 inches. The contractor shall submit the shop drwaings depicting the type of aglime to be used prior to installation.

8) The infield area shall be graded to the elevations shown on the plan set.

LEGEND:

EXISTING

- MANHOLE
- CATCH BASIN/INLET
- REARYARD DRAIN
- CURB DRAIN
- FIBER OPTIC MANHOLE
- TRAFFIC LIGHT POLE
- TRAFFIC MANHOLE
- LIGHT POLE
- POWER POLE
- GUY WIRE/GUY POLE
- TELEPHONE PEDESTAL
- CABLE TV PEDESTAL
- WATER VALVE
- FIRE HYDRANT
- B-BOX
- SIGN or BILLBOARD
- STOP SIGN
- CLEAN OUT
- STEEL BOLLARD
- PIPE INLET/OUTLET
- DRAIN
- ELECTRIC TRANSFORMER
- ELECTRIC OUTLET
- ELECTRIC PANEL/BOX
- ELECTRIC MANHOLE
- FOUND ROW MARKER
- SUPPORT COLUMN
- INTERCOM
- FOUND IRON BAR
- FOUND IRON PIPE
- I BEAM

- FOUL POLE
- UP — UTILITY STUB
- B-14 — SOIL BORING W/NUMBER
- PIPELINE MARKER
- TELEPHONE MANHOLE
- GROUND LIGHT
- GAS VALVE
- LIGHTING MANHOLE
- MONITORING WELL

OVERHEAD LINES

- WATER LINE PAINTED/FLAGGED (BLUE)
- ELEC. LINE PAINTED/FLAGGED (RED) — OHE
- COMMUNICATION/FIBER OPTIC LINE PAINTED/FLAGGED (ORANGE) — FOL
- GAS LINE PAINTED/FLAGGED (YELLOW) — GAS
- SEWER LINE PAINTED/FLAGGED (GREEN)
- WOOD FENCE
- CHAINLINK FENCE
- HAND/GUARD RAIL
- SANITARY SEWER
- STORM SEWER
- WATER MAIN

LEGEND:

PROPOSED

- MANHOLE, CATCH BASIN/INLET
- FLARED END SECTION
- STORM SEWER
- SANITARY SEWER
- WATER MAIN

NOTES FOR TRENCH DRAIN CONSTRUCTION:

1) USE NDS Spee-D Channel 4" TRENCH DRAIN IN 10 FOOT LENGTHS.

2) PROVIDE A MINIMUM OF 6" COMPACTED AGGREGATE BASE BELOW THE CHANNEL.

3) CONNECT TO THE NEW MANHOLE WITH A 4" OFFSET END OUTLET INTO A 4" DIAMETER PVC PIPE. INSTALL A 45° PVC BEND AT CONNECTION BEFORE CONNECTING TO MANHOLE.

NORTH

GRAPHIC SCALE

80 0 40 80 160 320

(IN FEET)
1 inch = 80 ft.

Z:\2023-5013 Lowell High School - Lowell\dwg\23-112 2023-5013.dwg 7/21/2023 11:48:22 AM CDT

GIBRALTAR DESIGN
ARCHITECTURE • ENGINEERING • INTERIOR DESIGN

PROJECT:
LOWELL HIGH SCHOOL SITE BLEACHERS, & TURF/DRAINAGE

TRI-CREEK SCHOOL CORPORATION

TORRENGA ENGINEERING, INC.
CONSULTING ENGINEERS & LAND SURVEYORS
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PROJECT 23-112
DATE 08/04/23
COORDINATED BY DCT/AM
DRAWN BY EM
CHECKED BY DCT/AM

DONALD C. TORRENGA REGISTERED No. 19868 STATE OF INDIANA PROFESSIONAL ENGINEER

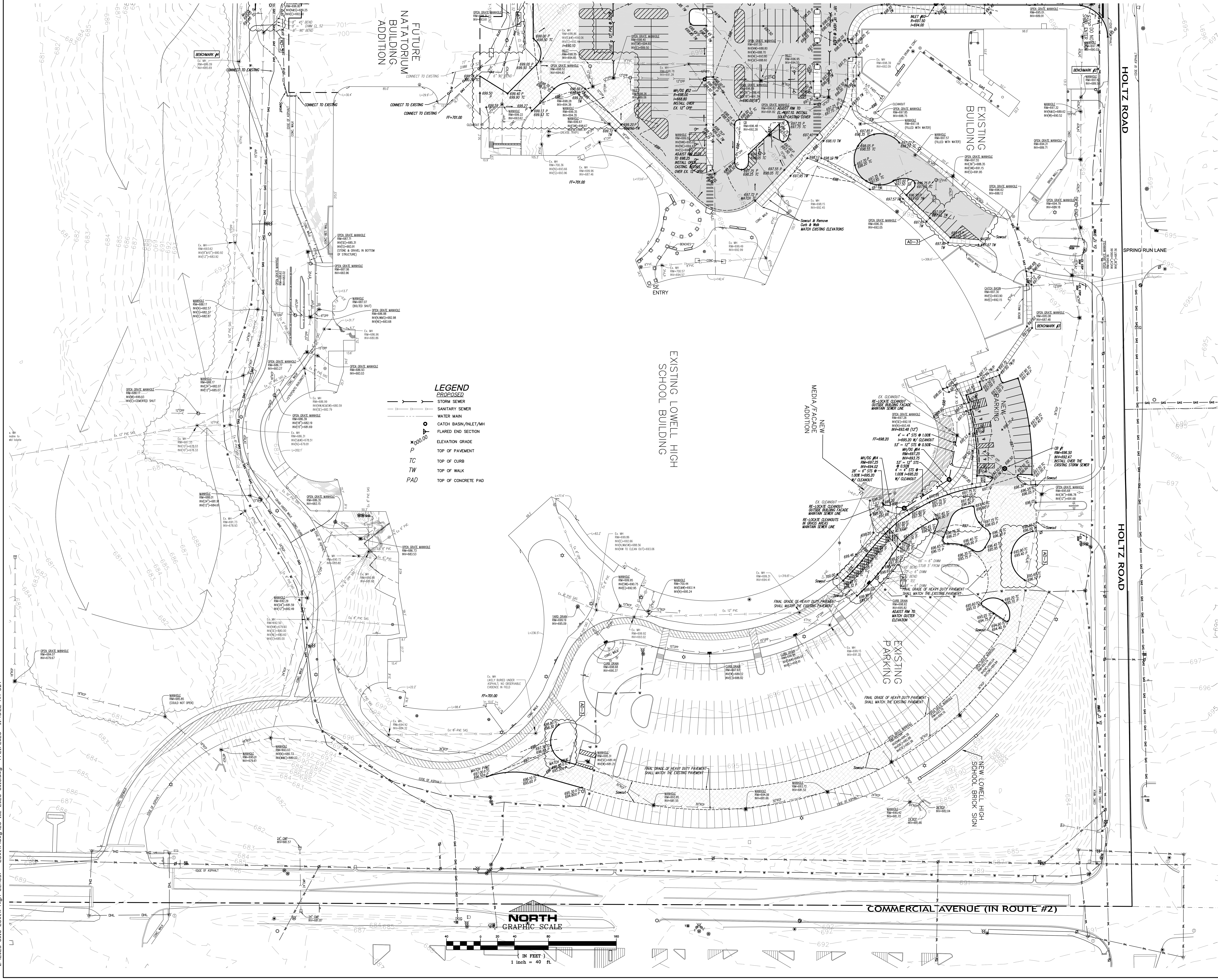
REVISIONS

MARK	DATE	ISSUED FOR
AD-3	09/07/23	ADDENDUM NO. 3

DRAWING
MASTER UTILITIES PLAN

PROJECT
LOWELL HIGH SCHOOL SITE BLEACHERS, & TURF/DRAINAGE

SHEET
C-3.0



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DRAWING
STORM SEWERS AND GRADING PLAN - SOUTH

PROJECT
LOWELL HIGH SCHOOL SITE BLEACHERS, & TURF/DRAINAGE

SHEET
C-3.1

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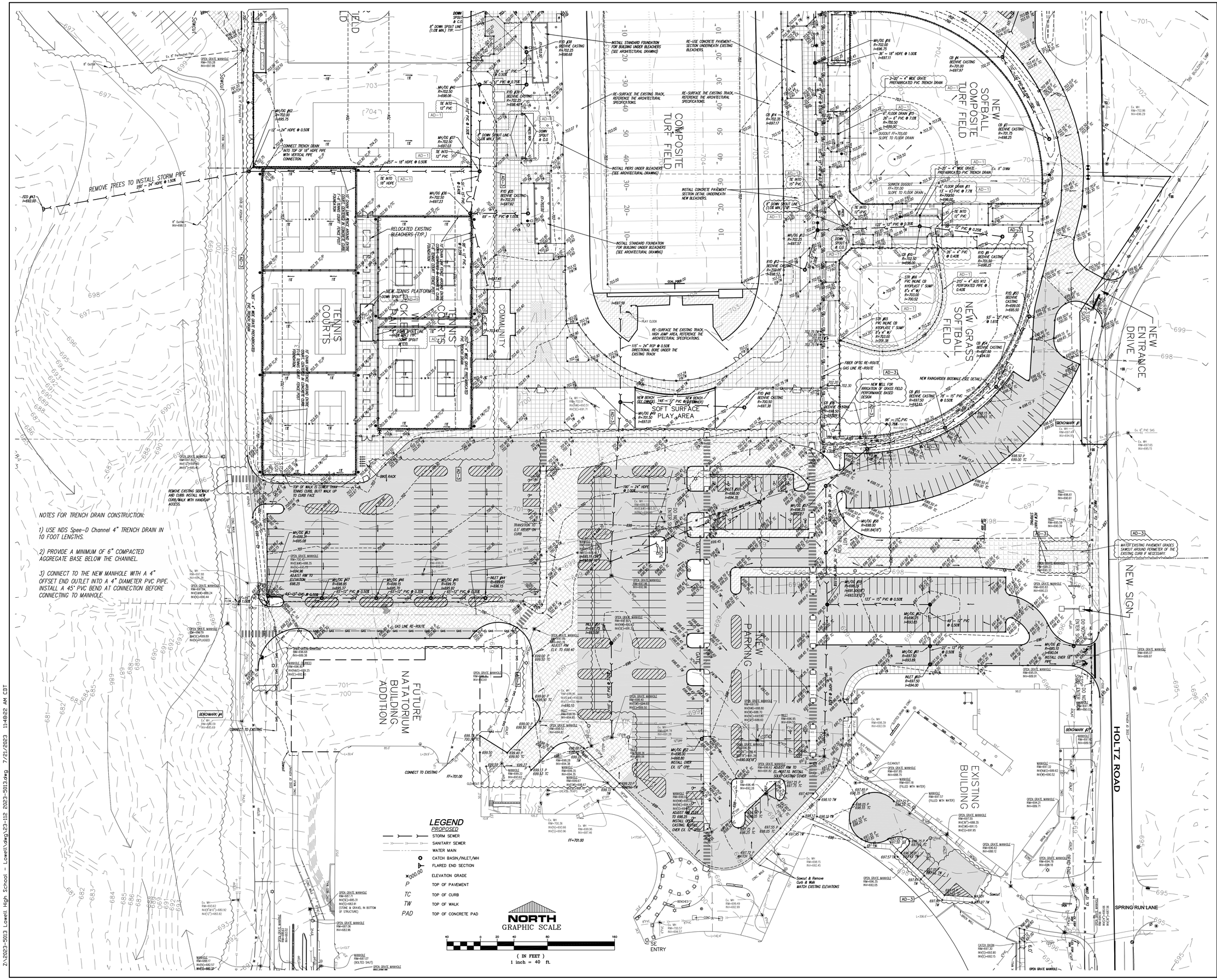

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1) USE NDS Spee-D Channel 4" TRENCH DRAIN IN 10 FOOT LENGTHS.

2) PROVIDE A MINIMUM OF 6" COMPACTED AGGREGATE BASE BELOW THE CHANNEL.

3) CONNECT TO THE NEW MANHOLE WITH A 4" OFFSET END OUTLET INTO A 4" DIAMETER PVC PIPE. INSTALL A 45° PVC BEND AT CONNECTION BEFORE CONNECTING TO MANHOLE.

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PROJECT:
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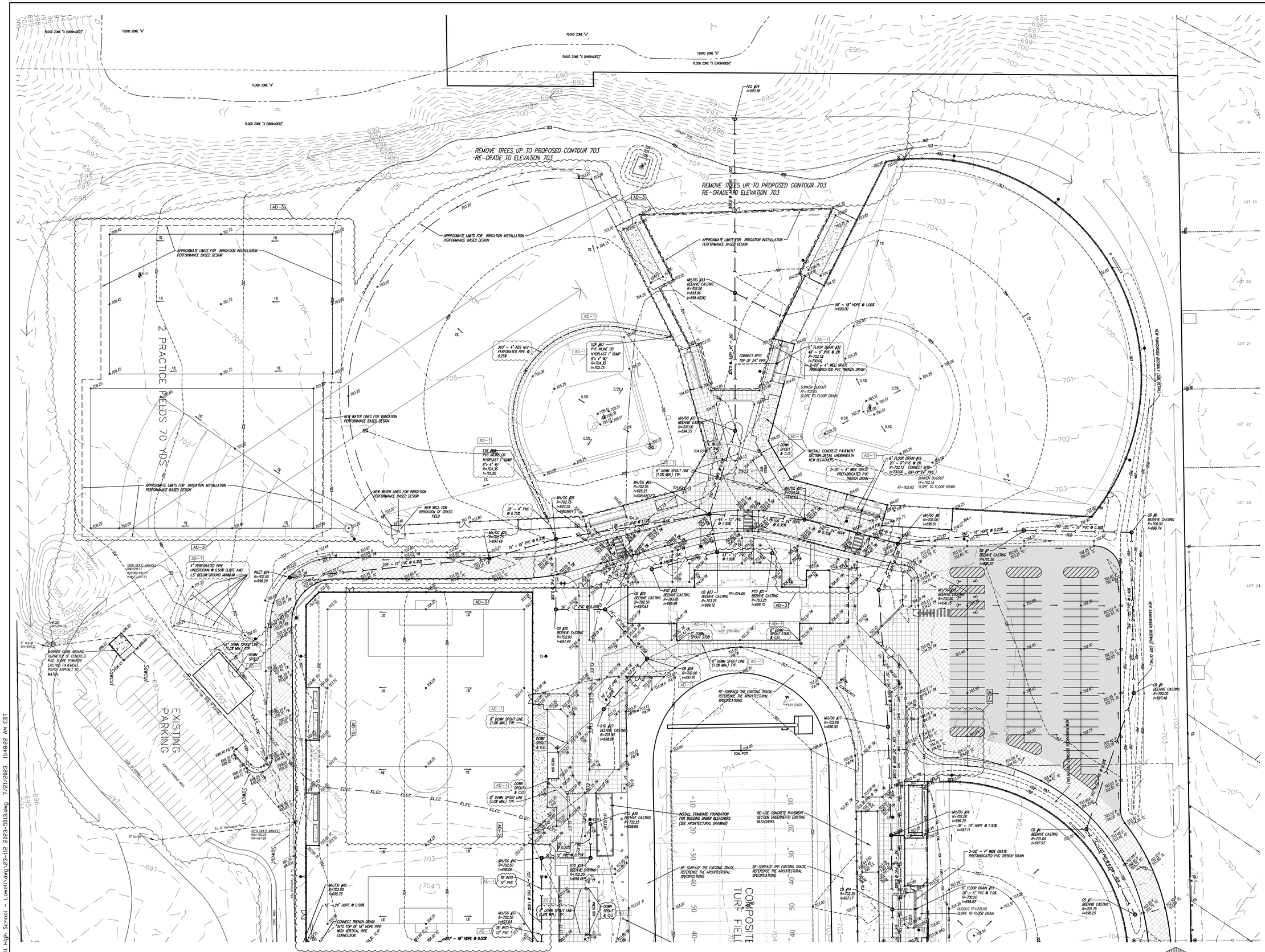
AD-3	09/07/23	ADDENDUM NO. 3

DRAWING
STORM SEWERS AND GRADING PLAN - SOUTH

PROJECT
LOWELL HIGH SCHOOL SITE BLEACHERS, & TURF/DRAINAGE

SHEET
C-3.2



NORTH
GRAPHIC SCALE

40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

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DESIGN
ARCHITECTURE • ENGINEERING • INTERIOR DESIGN

PROJECT:
LOWELL HIGH SCHOOL SITE BLEACHERS, & TURF/DRAINAGE

TRI-CREEK SCHOOL CORPORATION

LEGEND
PROPOSED

- STORM SEWER
- SANITARY SEWER
- WATER MAIN
- CATCH BASIN/INLET/MH
- FLARED END SECTION
- ×000.00 ELEVATION GRADE
- P TOP OF PAVEMENT
- TC TOP OF CURB
- TW TOP OF WALK
- PAD TOP OF CONCRETE PAD

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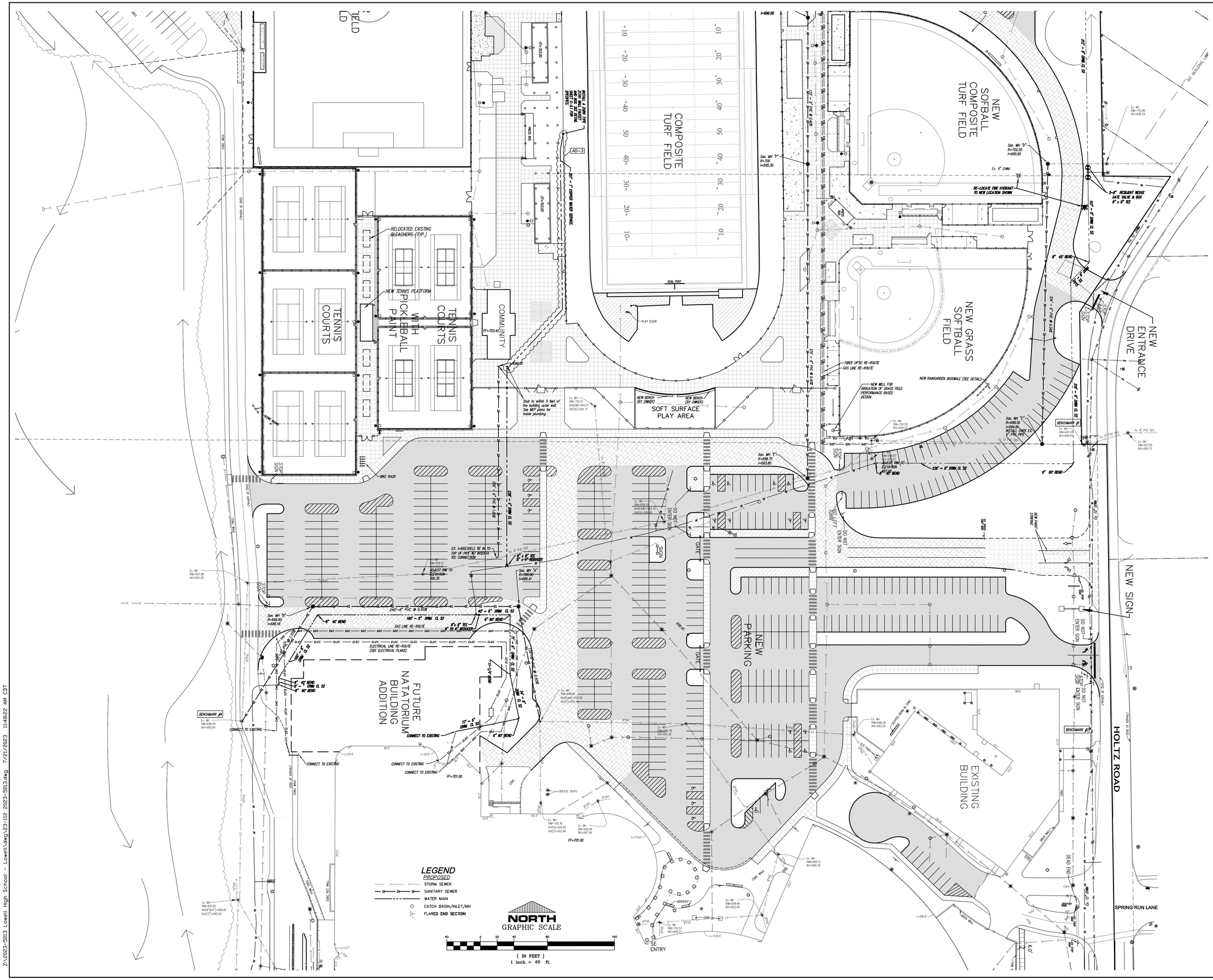
DRAWING
STORM SEWERS AND GRADING PLAN - NORTH

PROJECT
LOWELL HIGH SCHOOL SITE BLEACHERS, & TURF/DRAINAGE

SHEET
C-3.3



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DONALD C. TORRENGA REGISTERED No. 19868 STATE OF (NO) MAP PROFESSIONAL ENGINEER

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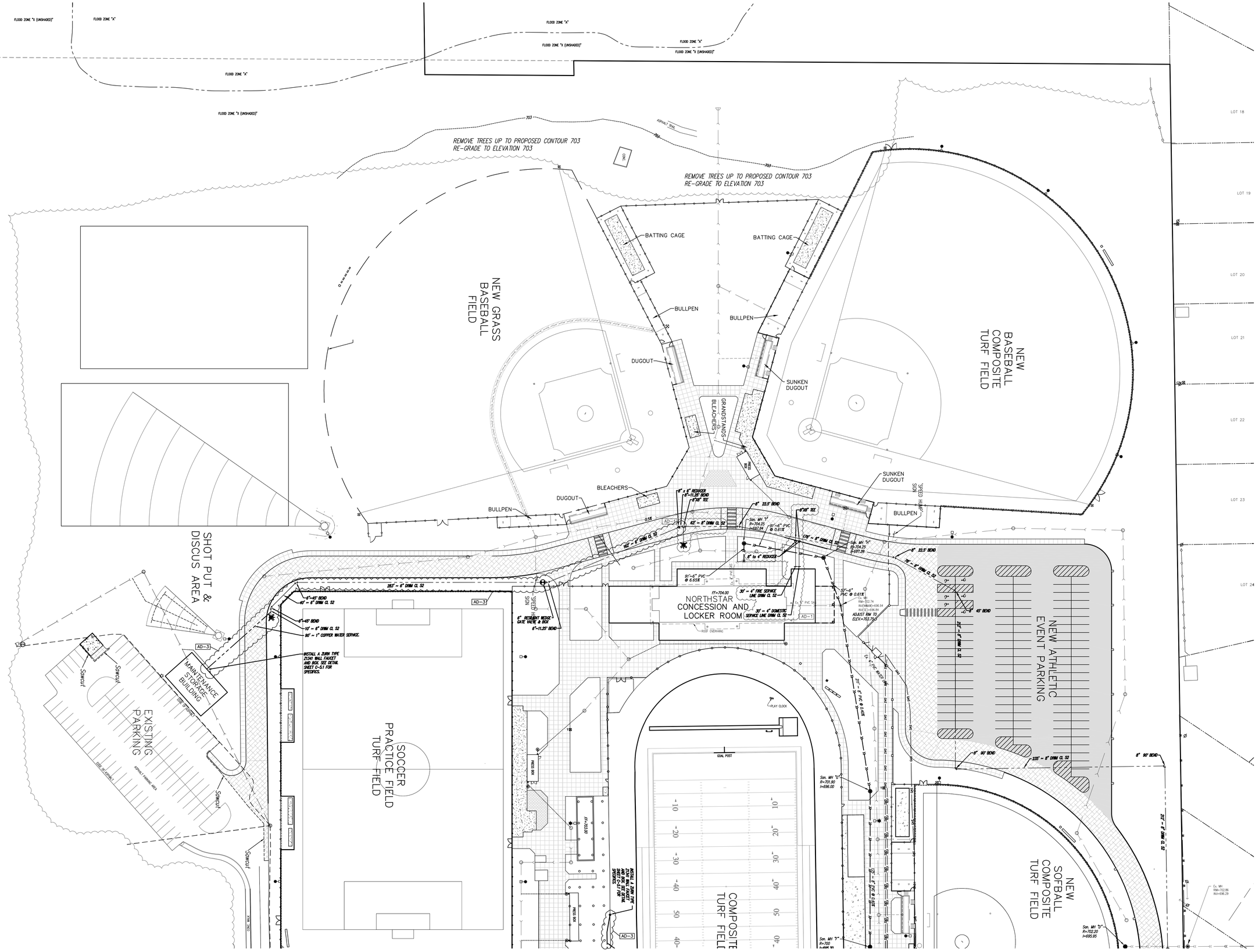
AD-3	09/07/23	ADDENDUM NO. 3

DRAWING
SANITARY SEWERS AND WATER MAIN PLAN - SOUTH

PROJECT
LOWELL HIGH SCHOOL SITE BLEACHERS, & TURF/DRAINAGE

SHEET
C-4.1



NORTH
GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

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DESIGN
ARCHITECTURE • ENGINEERING • INTERIOR DESIGN

PROJECT:
LOWELL HIGH SCHOOL SITE BLEACHERS, & TURF/DRAINAGE

TRI-CREEK SCHOOL CORPORATION

LEGEND
PROPOSED
- STORM SEWER
- SANITARY SEWER
- WATER MAIN
- CATCH BASIN/INLET/MH
- FLARED END SECTION

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DONALD C. TORRENGA — REGISTERED — No. 19868 — STATE OF INDIANA — PROFESSIONAL ENGINEER

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AD–3	09/07/23	ADDENDUM NO. 3

DRAWING
SANITARY SEWERS AND WATER MAIN PLAN - NORTH

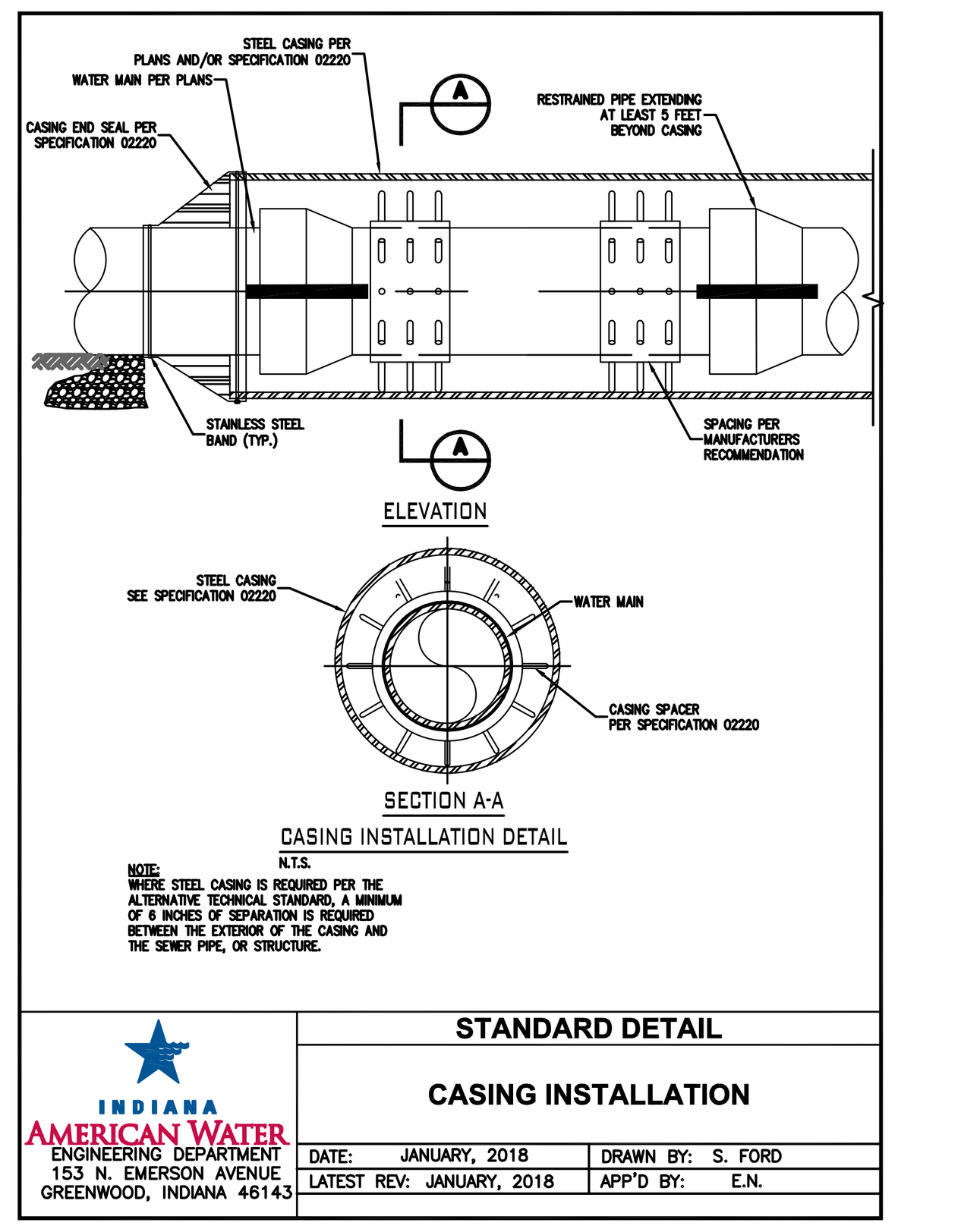
PROJECT
LOWELL HIGH SCHOOL SITE BLEACHERS, & TURF/DRAINAGE

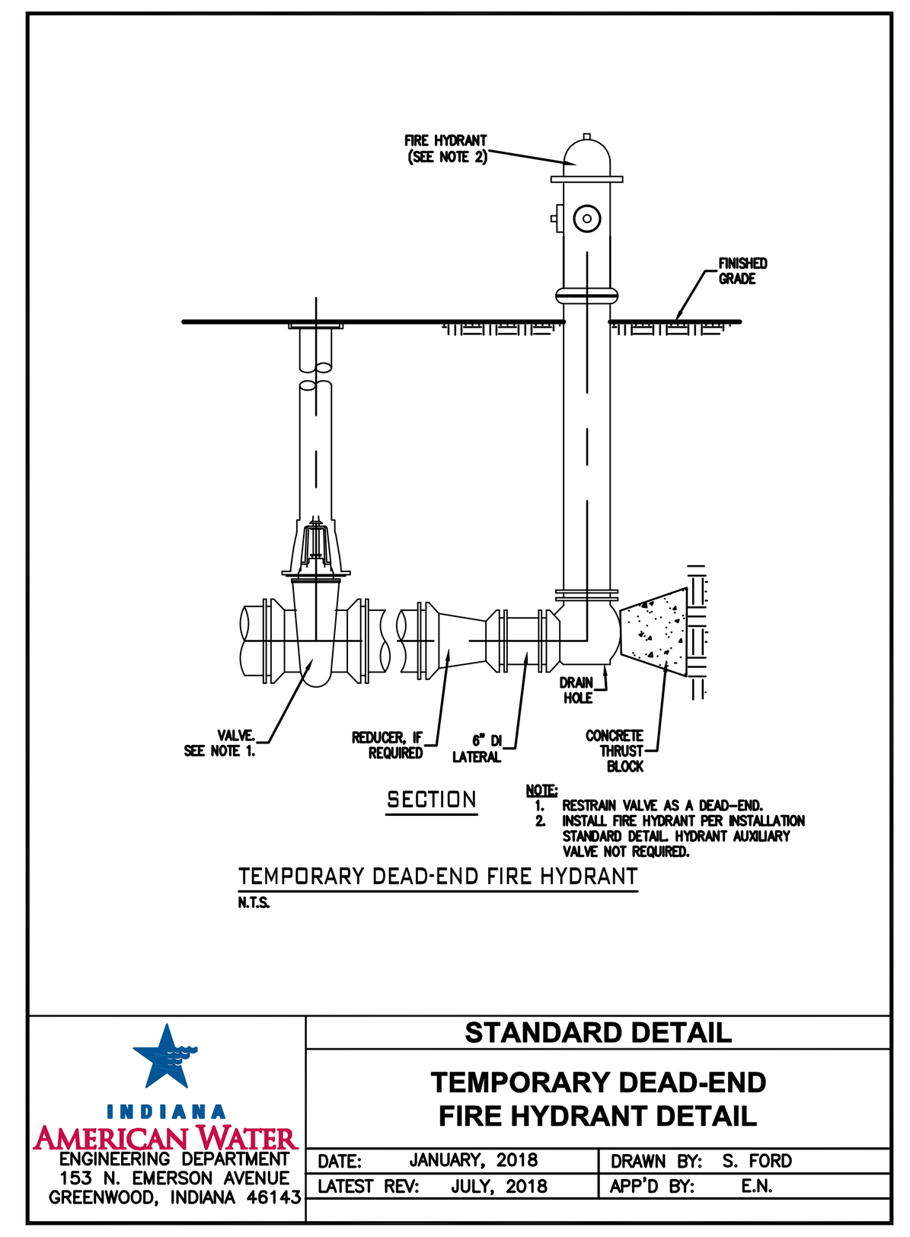
SHEET C-4.2

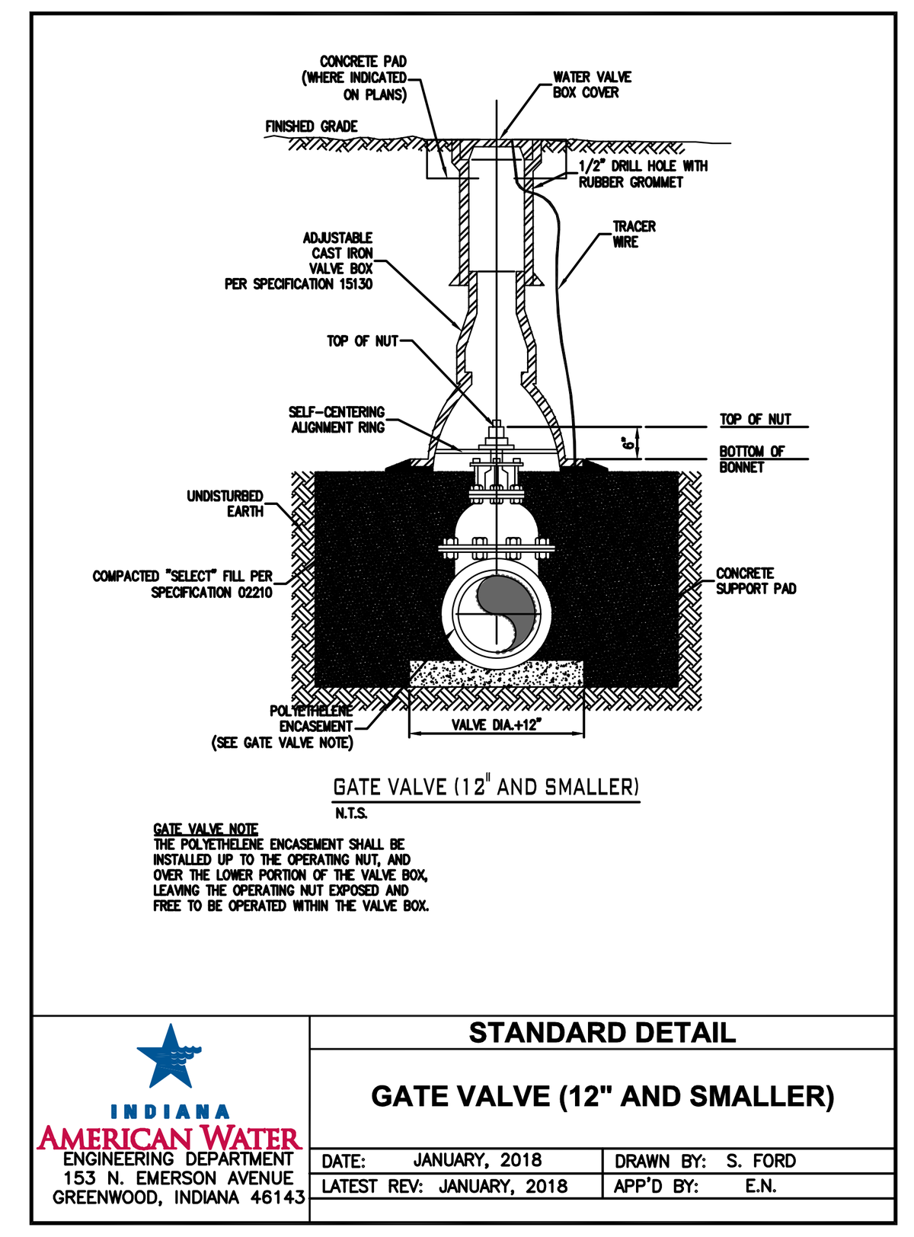
Z:\2023-5013 Lowell High School - Lowell\dwg\23-112 2023-5013.dwg 7/21/2023 11:48:22 AM CDT

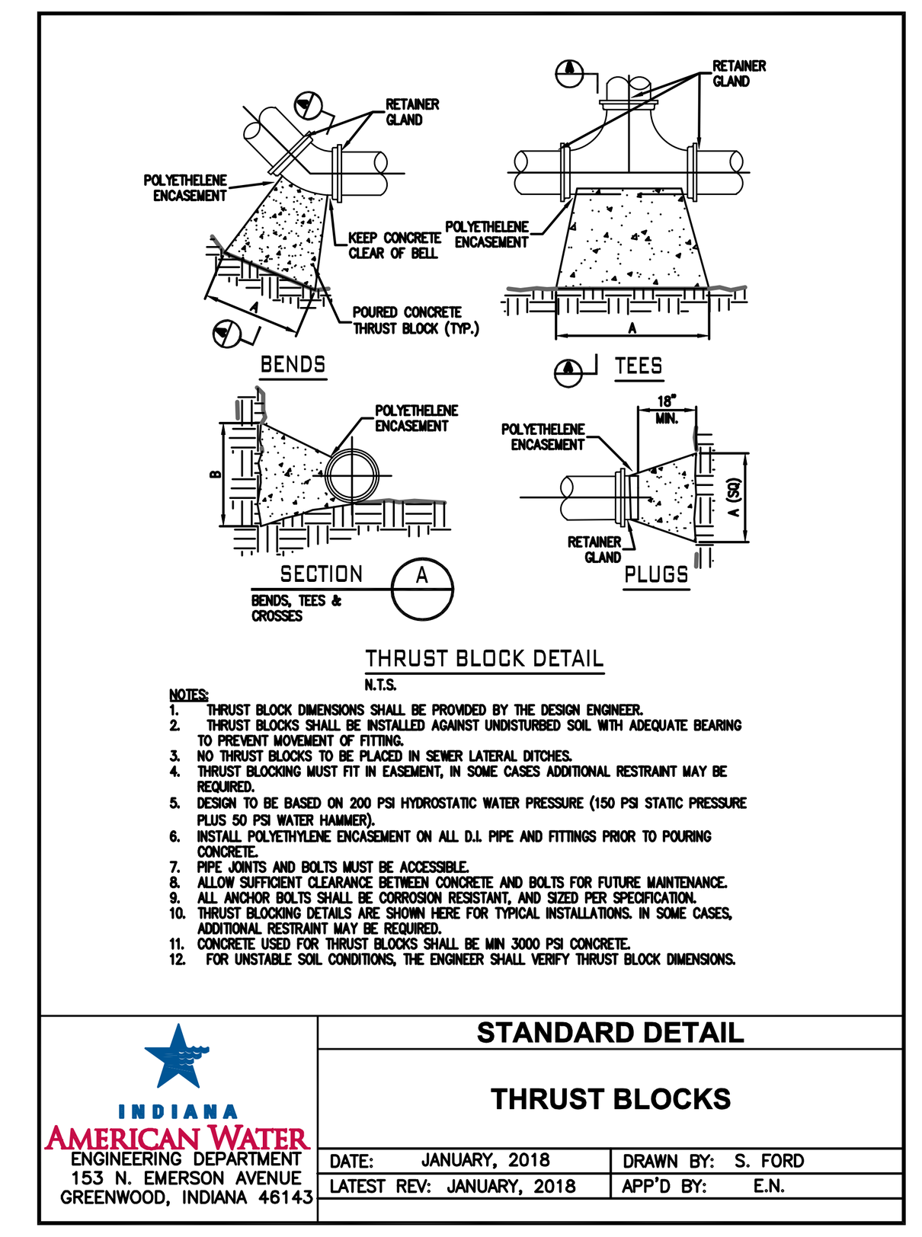
GENERAL SPECIFICATIONS FOR SANITARY SEWER:

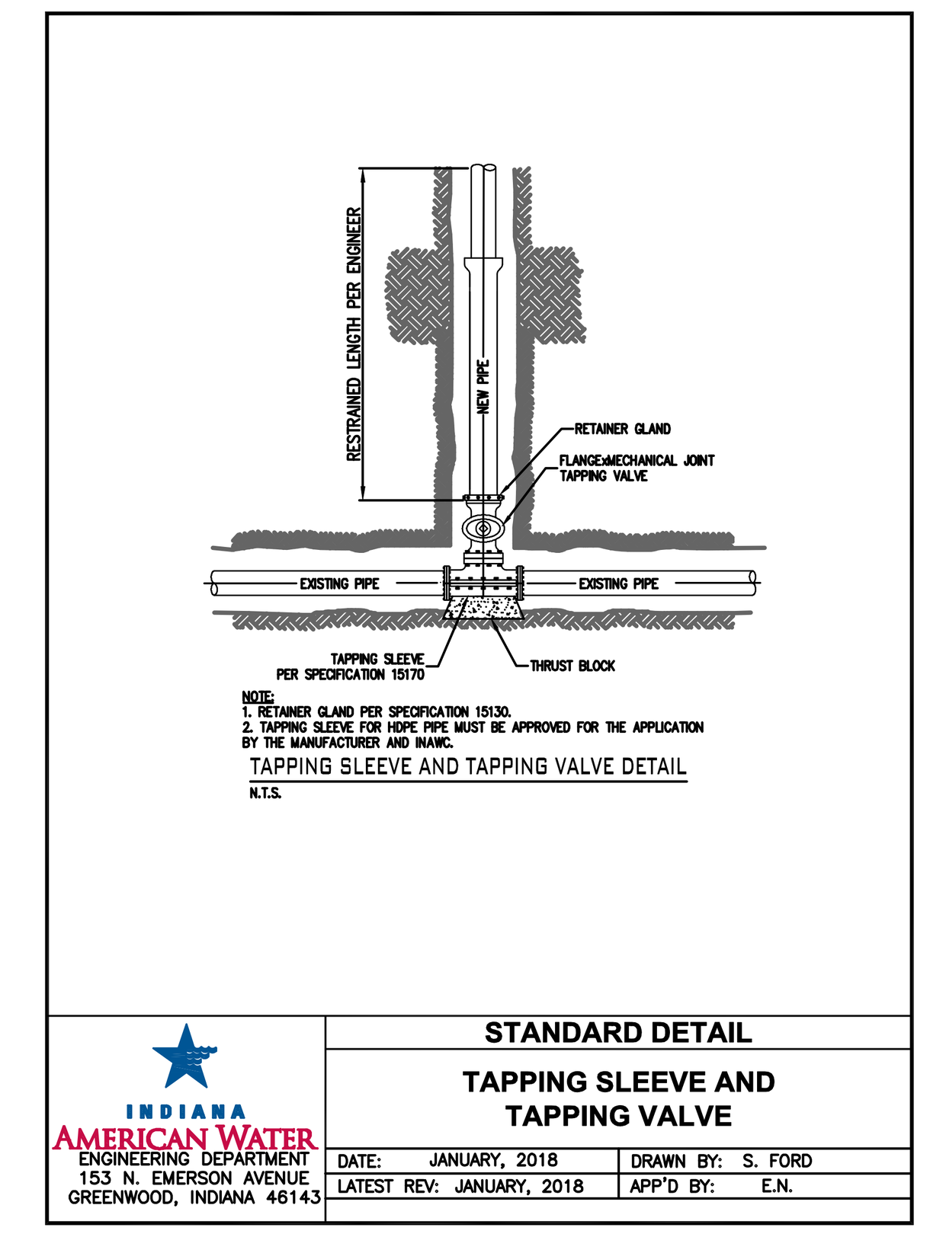
1. All work shall be performed in accordance with the codes, ordinances and standards of the Town of Lowell. In the event of a conflict between the two standards and the project plans, the project plans are to take precedence.
2. Each individual home in this development shall tie into the provided 6 inch diameter sanitary service line.
3. Pipe and fittings for the gravity sanitary sewers shall be one of the following types: interior lined ductile iron pipe, PVC (poly vinyl chloride) pipe. Pipes, fittings and joints shall meet the following specifications and shall be supplied in the classes or strengths specified unless greater strengths are recommended by the pipe manufacturer for conditions to be encountered on the project.
   a. The ductile iron pipe shall conform to the latest revisions of ANSI/ASTM A746, ANSI/AWWA C150/A21.50 and ANSI/AWWA C151/A21.51. The minimum for ductile iron pipe and fittings shall be Pressure Class 350. Ductile iron fittings shall conform to the latest revisions of ANSI/SWWA C110/A21.10. All joints shall be rubber gasket push-on joints conforming to the latest revisions of ANSI/AWWA C111/A21.11.
      Ductile Iron Pipe shall be lined with either "Protecto 401" ceramic epoxy interior lining or a composite lining system.
   b. Polyvinyl Chloride Pipe (PVC)
      1. PVC pipe shall conform to the following specifications:
         (a) PSM PVC sewer pipe and fittings shall conform to the latest revision of ANSI/ASTM Specification D3034, SDR 35. PSM PVC pipe shall have a minimum pipe stiffness of 46 psi at 5% deflection when tested in accordance with ASTM D2412. Pipe shall be SDR 26 PVC in locations where pipe is 15 feet deep or deeper than proposed grade.
      2. Joints shall be elastomeric gasket joints. The elastomeric gasket joints shall conform to the latest revisions of ASTM F477 and ASTM D3212.
         (c) Other types of pipes and fittings may only be used after approval by the Town of Lowell
4. The pipe shall be furnished in the longest manufactured lengths. Shorter or cut lengths shall be used only where necessary to make closure. Branches, bends or other specials shall be made to standard dimensions. All pipes shall be straight, true in form, full diameter throughout, and shall have deep and wide socket joints. The interior of all pipe and accessories shall be kept free from dirt and foreign matter at all times.
5. Joints shall conform to the specifications listed above and shall be of a design that will permit flexibility and ensure watertight construction of the sewer line. All pipe joints shall be made in accordance with the instructions of the manufacturer of the joint material and/or the pipe. In all jointing operations, the trench must be dewatered when joints are made and kept dewatered until sufficient time has elapsed to assure efficient hardening or bonding of the joint material. Bell and spigot ends of the pipe shall first be wiped clean before actual jointing operations are started.
6. When jointing pipe of dissimilar material or similar material, a watertight flexible coupling between the two shall be used. This coupling shall be constructed of flexible PVC and shall be clamped to each pipe end using one or more stainless steel bands. The coupling shall be installed in accordance with the manufacturers recommendations. Couplings shall be as manufactured by Fernco of Davison, Michigan; Indiana Seal of Indianapolis, Indiana; or equal.
7. The connection between the building drain and the building sewer shall be made with a suitable adaptor.
8. The size and slope of the building sewer shall be subject to the approval of the inspector, but in no event shall the diameter be less than 6 inches. The slope of such 6 inch pipe shall not be less than 1/8 inch per foot.
9. Whenever possible, the building sewer shall be brought to the building at an elevation below the basement floor.
10. No building sewer shall be laid parallel to, or within three feet (3') of any bearing wall which might thereby be weakened. The depth shall be sufficient to afford protection from frost.
11. The building sewer shall be laid at a uniform grade and in straight alignment in so far as possible. Changes in directions shall be made only with manholes.
12. In all buildings which any building drain is too low to permit gravity flow to the public sewer, sanitary sewage carried by such drains shall be lifted by approved artificial means and discharged to the building sewer. No water operated sewage ejector shall be used.
13. All sanitary sewer manholes shall be standard 48" diameter precast concrete units (ASTM C-478) conforming with the Standard Details sheet of these plans
14. The completed sanitary sewer system shall be tested for infiltration and shall have a maximum infiltration of 50 GPD-inch diameter/mile of sewer pipe. The Town of Lowell shall be notified when the system (or portion thereof) is ready for testing.
15. Air pressure test shall be performed on all completed Sanitary Manholes in accordance with ASTM C 1244-93, Standard Test Method for Concrete Sewer Manholes by Negative Air Pressure (Vacuum) Test. The tests shall be conducted prior to backfill to demonstrate the integrity of the installed materials. The manhole shall pass if the test time meets or exceeds the required minimum test times as specified in ASTM C 1244-93 for the vacuum reading to drop from 10 inches of mercury to 9 inches of mercury. If the manhole fails the initial test, necessary repairs shall be made, and the test shall be repeated. The contractor shall be responsible for supplying all testing materials and appurtenances. The Town of Lowell shall be notified when the manholes (or portion thereof) are ready for testing.
16. The Contractor is responsible for the preparation of "As Built" construction drawings showing actual sizes and lengths of pipe installed (i.e. from manhole to manhole or tee to valve, etc.), location of service taps and any structures added or omitted in comparison with these engineering plans. The Contractor shall supply the Town of Lowell with one reproducible drawing and 2 copies thereof, prior to and as a condition of final acceptance.
17. Deflection tests shall be performed on all flexible pipe materials placed in accordance with 327 IAC 3-6-19 of the Indiana Administrative Code. The contractor shall be responsible for supplying testing materials and appurtenances. The tests shall be conducted after the final backfill has been in place at least 30 days. No pipe shall exceed a deflection of 5%. If the deflection test is to be run using a rigid ball or mandrel, it shall have a diameter equal to 95% of the inside diameter of the pipe. The test shall be performed without mechanical pulling devices. The Town of Lowell shall be notified when the system (or portion thereof) is ready for testing.
18. All sewers shall be laid at least 10 feet (3.0m) horizontally from any existing or proposed water main. The distance shall be measured edge to edge. All sewers crossing water mains shall be laid to provide a minimum vertical distance of 18 inches (46 cm) between the outside of the water main and the outside of the sewer. This shall be the case where the water main is either above or below the sewer. The crossing shall be arranged so that the sewer joints will be equidistant and as far as possible from the water main joints. Where a water main crosses under a sewer, adequate structural support shall be provided for the sewer to prevent damage to the water main. When it is impossible to obtain proper horizontal and vertical separation as stipulated above, the sewer shall be designed and constructed equal to water pipe.











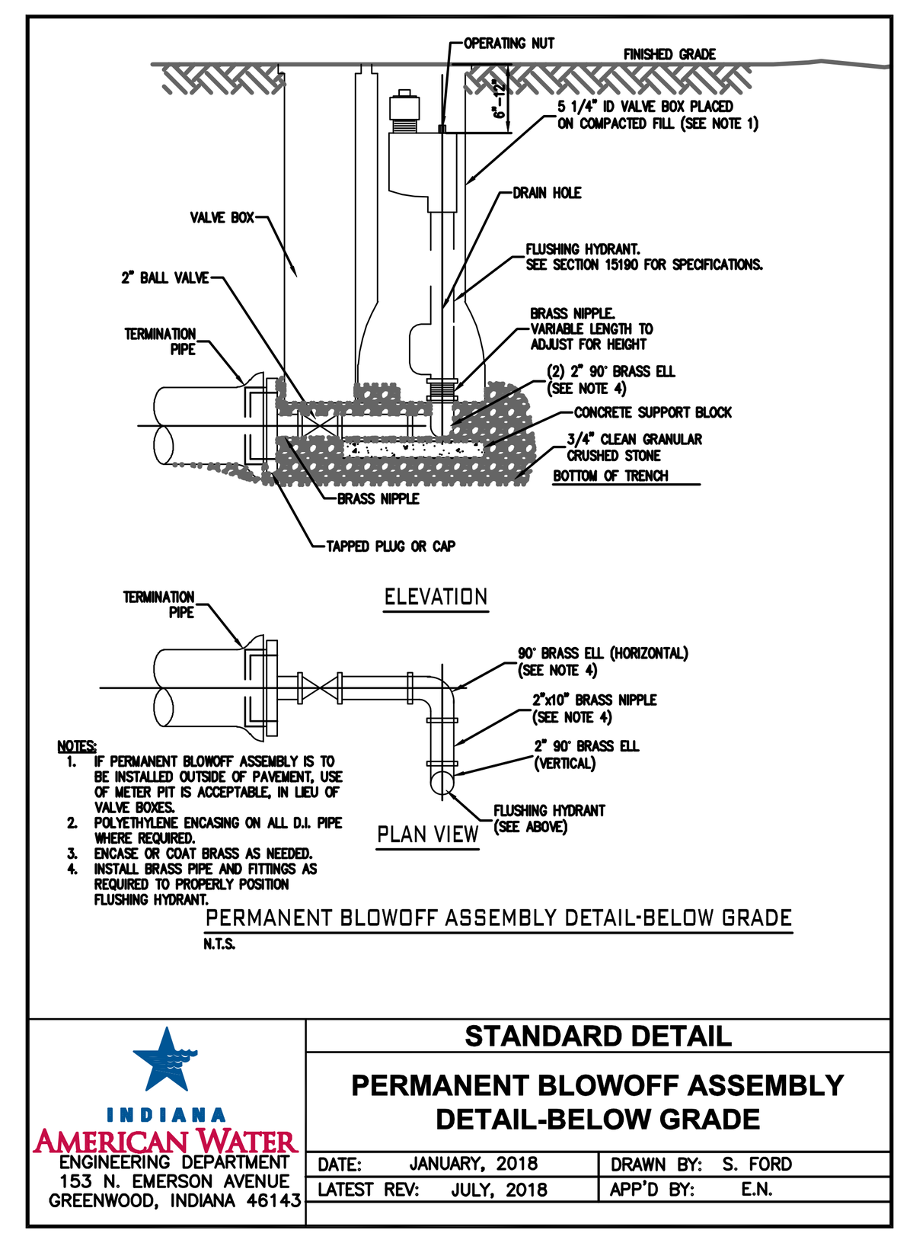
WATER MAIN RESTRAINED PIPE LENGTH (FEET)

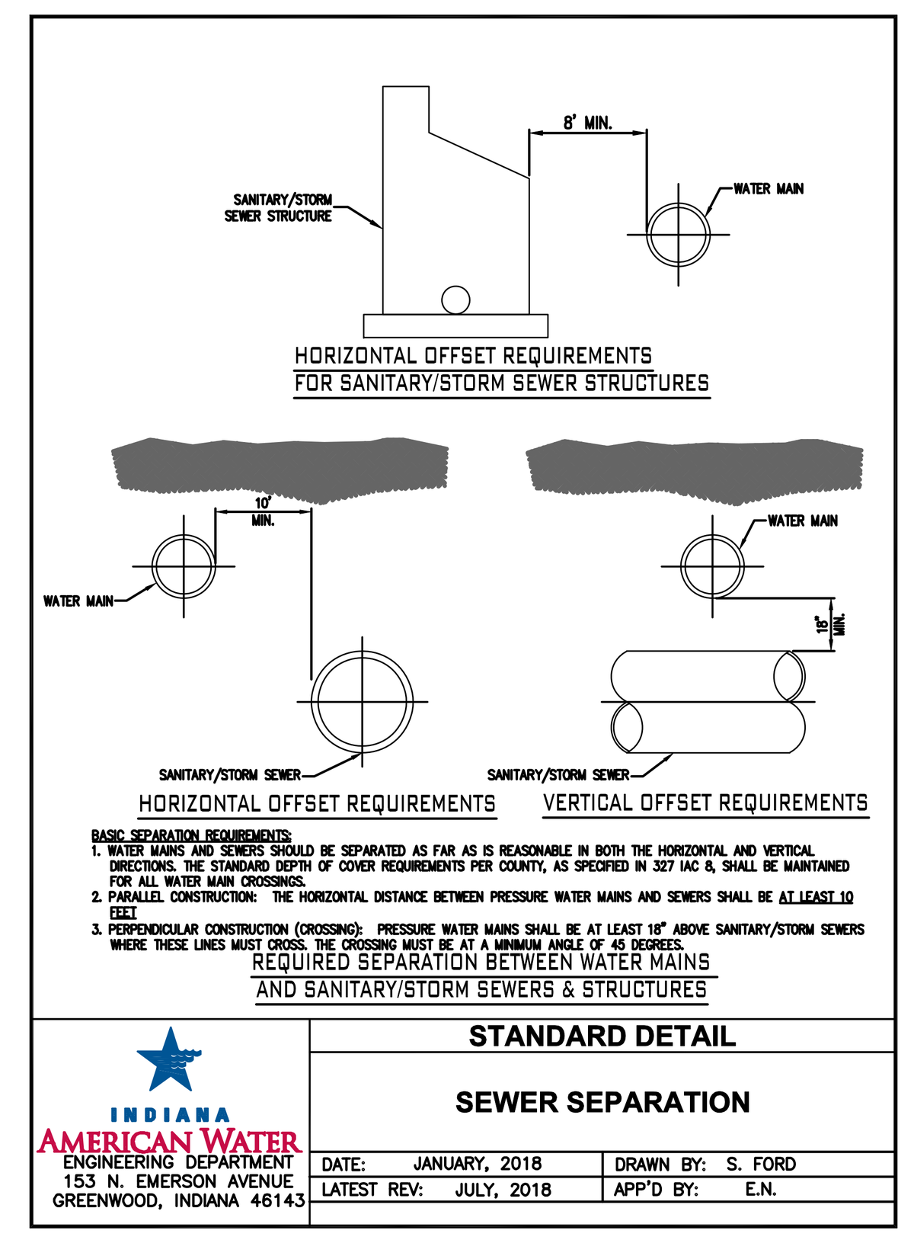
PIPE SIZE (INCHES)	TEE* BRANCH	90 ELBOW	45 ELBOW	22 ½ ELBOW	11 ¼ ELBOW	DEAD ENDS
4	0	15	6	3	2	20
6	9	22	9	4	2	28
8	18	27	11	5	3	37
10	25	33	14	7	3	44
12	33	39	16	8	4	52
14	41	44	18	9	4	60
16	48	50	21	10	5	68
18	56	55	23	11	5	75
20	63	61	25	12	6	82
24	77	71	29	14	7	96
30	97	86	36	17	8	116
36	116	100	41	20	10	135

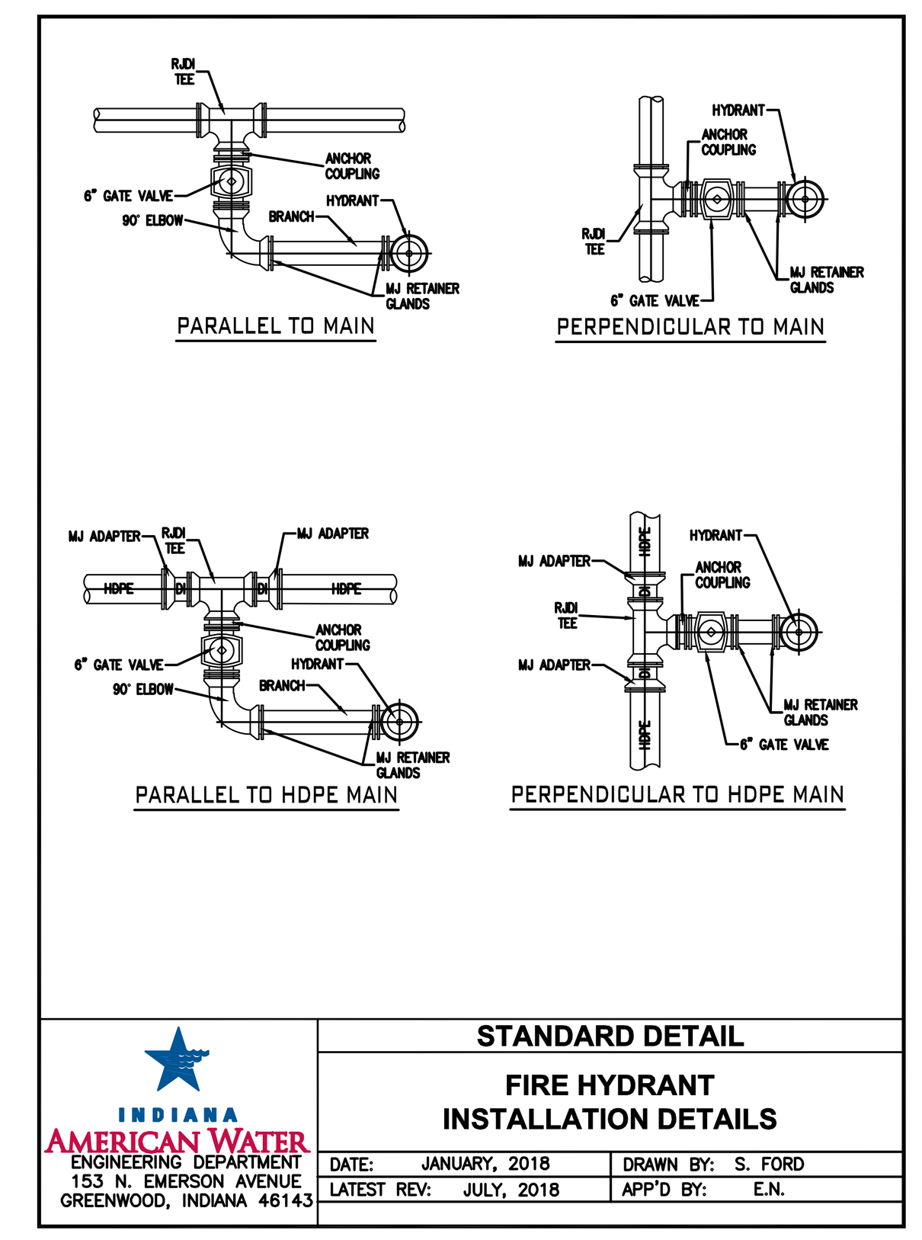
* One full length (18') of pipe on both sides of branch shall be restrained.

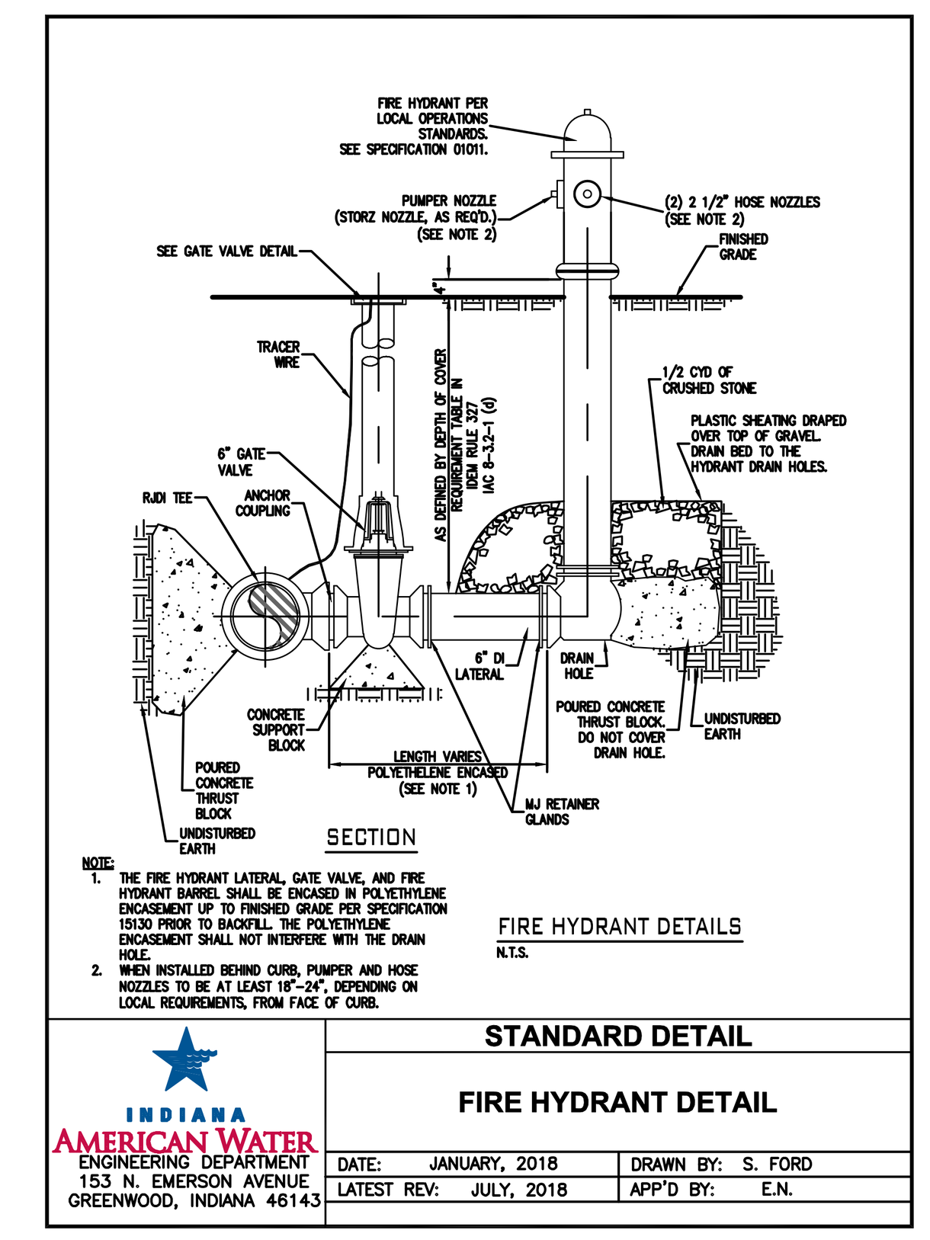
Increase all lengths in table by 75% for use on polyethylene wrapped ductile iron pipe.

Note: Pipe shall be suitable harnessed and restrained with mechanically restrained joints Mega-a-Lug field Lock gasket.









NOTE: ADDITIONAL SANITARY SEWER TESTING

1. A CD/DVD video format showing the condition of the interior of the new sanitary sewer after completion of construction is required.
2. The completed sanitary sewer system shall be air tested with 4 lbs. of pressure for 4 minutes. The testing shall conform to the procedure described in ASTM C-838-86 for clay pipe, ASTM C 924 for concrete pipe, ASTM F-1417 for poly-vinyl chloride pipe, and for other materials test procedures approved by the regulatory agency. The contractor shall be responsible for supplying all testing materials and appurtenances.
3. Deflection tests shall be performed on all flexible pipe materials placed. The contractor shall be responsible for supplying testing materials and appurtenances. The tests shall be conducted after the final backfill has been in place at least 30 days. No pipe shall exceed a deflection of 5 %. If the deflection test is to be run using a rigid ball or mandrel, it shall have a diameter equal to 95% of the inside diameter of the pipe. The test shall be performed without mechanical pulling devices.

GENERAL SPECIFICATIONS FOR STORM SEWERS

1. All work shall be performed in accordance with the Codes, Ordinances and Standards of the Town of Lowell, Lake County, Indiana.
2. All storm sewer pipe, branches and fittings shall conform to either of the following:
   (A) Polyvinyl Chloride Pipe (PVC)
   PVC sewer pipe and fittings shall conform to the latest revision of ANSI/ASTM Specification D3034, SDR 35. PSM PVC pipe shall have a minimum pipe stiffness of 46 psi at 5% deflection when tested in accordance with ASTM D2412.
   or:
   (B) Reinforced concrete pipe (ASTM C-76 with bell and spigot or tongue and groove push on mastic joints. Class V reinforced concrete pipe shall be used for lines 15" in diameter or under and Class III shall be used for lines 18" and over.
   or:
   (C) HDPE High Density Polyethelene Pipe with a minimum of 40% recycled content, conforming to ASTM F2648.
3. All storm sewer manholes shall be standard precast concrete units (ASTM C-478) conforming with the standard details sheet of these plans.
4. All improvements installed across paved or future paved areas shall be backfilled with sand or graded stone aggregate to the subgrade line.
5. The Contractor is responsible for the preparation of "As Built" construction drawings showing actual sizes and lengths of pipe installed (i.e. from manhole to manhole or tee to valve, etc.), with these engineering plans. The Contractor shall supply the Town of Lowell with one reproducible drawing and 2 copies thereof prior to and as a condition of final acceptance.
6. Gasketed joints shall be used on all storm sewers.
7. Storm sewers 18" to 27" with less than 3" cover shall be Class IV pipe.

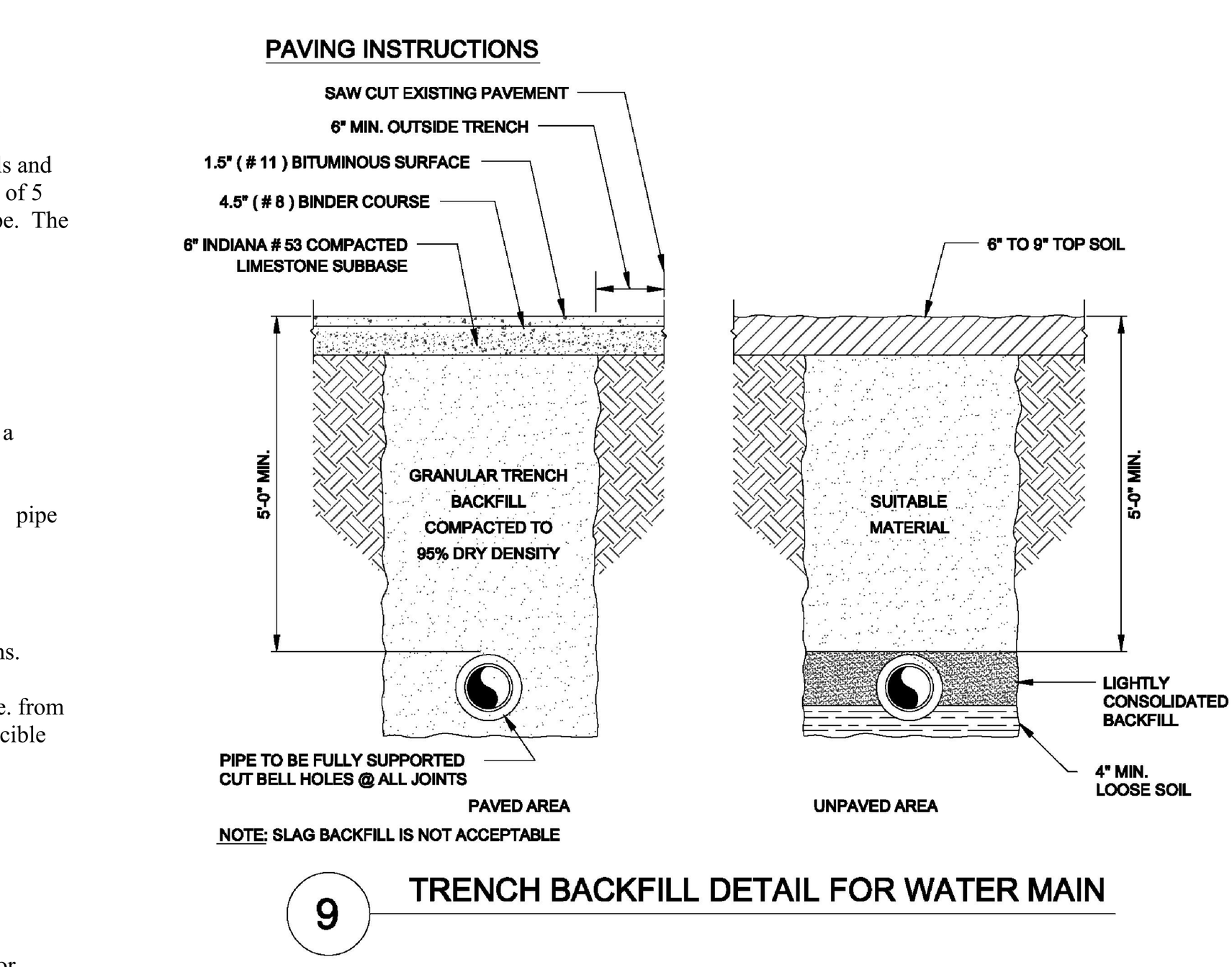
GENERAL SPECIFICATIONS FOR EXCAVATION

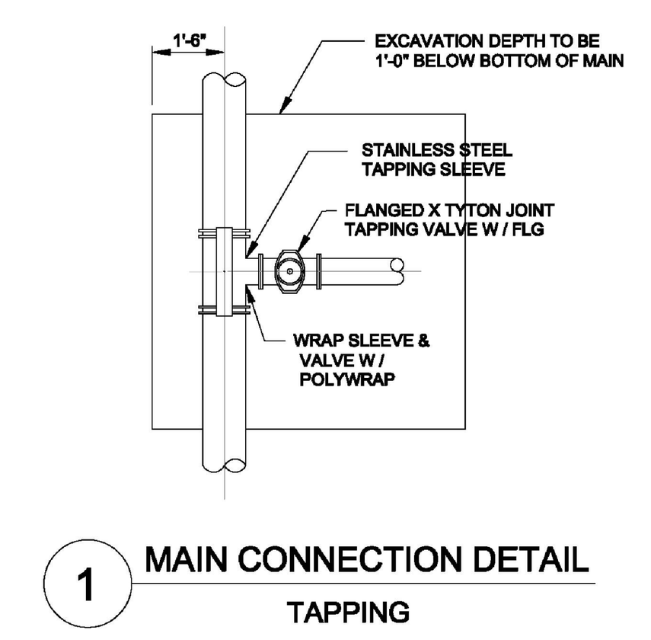
1. All excavations required for the installations of the building sewers shall be open trench work unless otherwise approved by the inspector. Pipe laying and backfill shall be performed in accordance with ASTM Specifications except that no backfill shall be placed until the work has been inspected by the inspector or his representative.
2. Since the supporting strength of pipe is directly dependent on the foundation it is given on the trench bottom, the bottom quadrant of the pipe shall be fully and uniformly supported for Class B bedding. The hole shall be carefully excavated at proper intervals so that no part of the load is supported by the bells. The full load should rest on the barrel of the pipe. For all sizes of sanitary sewer, gravity or force main, and House Services, Class B bedding shall be used. See Standard Detail.
3. Since the load on the pipe, for most trenches, increases approximately with the square of the width, it follows that the trenches should be as narrow as is practically possible, at least from the bottom to the level of the top of the pipe.
4. Pipe laid in rock trenches shall require supplementary foundation to provide uniform support for the barrel of the pipe. A satisfactory foundation in such cases is small size broken stone or gravel, at least 4" thick minimum and 6" thick maximum under the pipe to support the bottom quadrant. Proper tamping is necessary to prevent lateral displacement of the pipe especially during backfilling and to assure loading on the pipe is uniformly distributed. Best results are obtained by placing selected backfill in successive layers of not more than 6" each. Backfill should be placed completely under the pipe barrel with adequate tamping to offset any shrinkage caused by subsequent consolidation of the earth envelope. Tamping should continue until backfill is 12" over the pipe. The remainder of the backfill should then be placed using a reasonably uniform material, free from large stone, frozen chunks or other debris that could cause an unbalanced loading.
   NOTE: For any pipe having a corrosion protection outer coating or encasement, the bedding material must be free of material or material characteristics which could damage the protective coating or encasement.
5. If the soil or other material at the bottom of the trench is determined by the inspector to provide unsatisfactory foundation for the pipe, the unsuitable soil or other material shall be excavated and replaced with compacted granular material acceptable to the District.
6. All backfilling under public streets and sidewalks shall be with the use of granular material, uniformly compacted to 95% of maximum density to provide for a sufficient base for immediate repaving of the street or sidewalk in question.
7. Sewers laid under pavement at a depth of less than five (5) feet, shall be of ductile iron or PVC pipe. If depth is less than three (3) feet, the sewer pipe shall be of ductile iron.

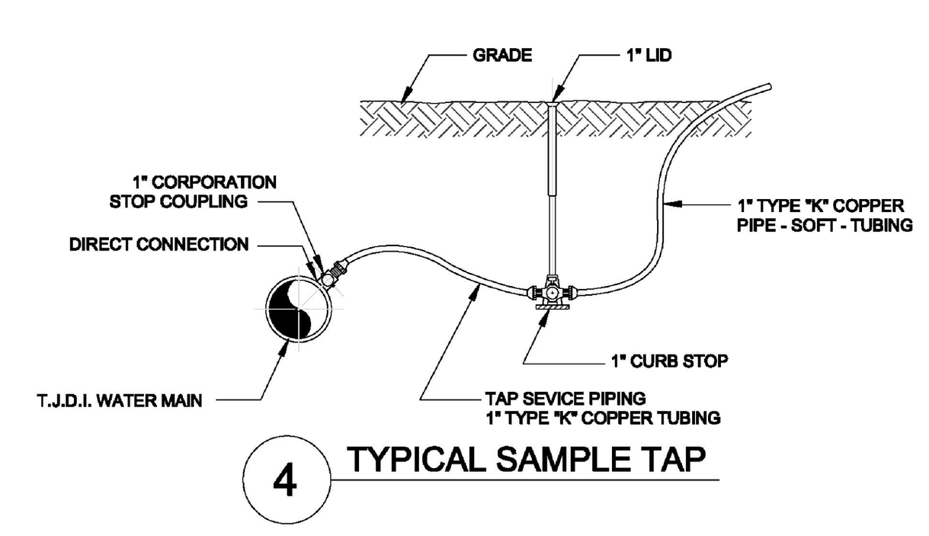
WATER UTILITY INSTALLATION NOTES

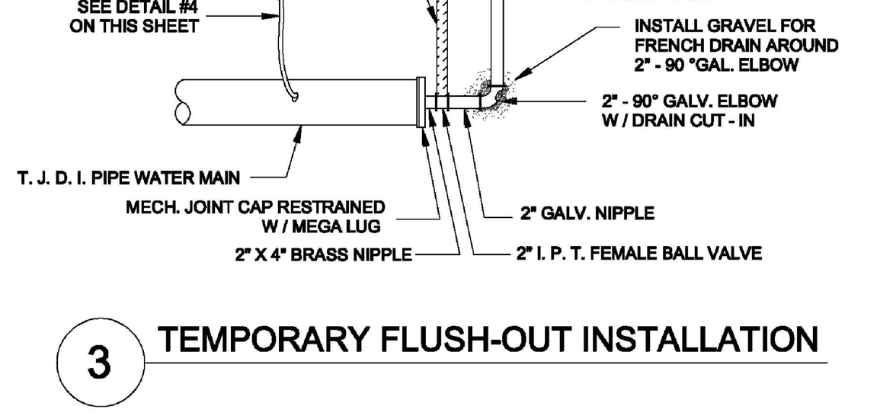
1. Installation of water main, fittings, valves, fire hydrants, and appurtenances shall be in accordance with Indiana American Water Standards and Specifications, latest revision.
2. It is the contractor's responsibility to field verify the location, size and material of the existing water main prior to construction.
3. At the point of connection to existing water mains, a tapping sleeve and valve may be required to be installed if the existing water main cannot be shut down without impacting customers, to be determined at the pre-construction meeting.
4. For PVC C900 pipe installation: DR14 pipe is required. Deflection of pipe joints and bending of pipes are not permitted. All angles shall be made with proper fittings. When restraint of pipe-to-pipe joints are required, all joints shall be restrained with external split serrated restraint harnesses. Select fill material required for bedding and embedment regardless of pipe's proximity to pavement. PVC C900 pipe is not allowed for pipes larger than 12-inch.
5. For Ductile Iron pipe installation: Thickness Class 52 for typical distribution mains 12-inch nominal size and smaller. When restraint of pipe-to-pipe joints are required, push-on restraining gaskets with integral stainless steel locking segments are permitted on pipe-to-pipe connections 12-inch nominal size and smaller only. Pipe-to-pipe connections greater than 12-inch nominal size shall be restrained per specification section 15105.
6. For HDPE pipe installation: DIPS DR11 for sizes 4 inch and larger, IPS DR9 for 3 inch, and CTS DR9 for sizes smaller than 3 inch. HDPE bends, tees, and crosses are not acceptable. Pressure testing of HDPE pipe differs from ductile iron and PVC pipe, see specification section 15030-3.03. Pipe fusion must be completed by certified technician; certification to be submitted prior to pre-construction meeting.
7. Encase all ductile iron piping, ductile iron fittings, valves, hydrants, restraint harnesses, and all other metallic appurtenances in 12mil blue polyethylene.
8. All fire hydrant laterals shall be ductile iron pipe.
9. All MJ T-bolts and flange bolts shall have Xylan or FluoroKote #1 corrosion resistant coating.
10. All fittings shall be restrained using MJ retainer glands.
11. Thrust restraint to be achieved through the restraint of pipe joints and fittings. Thrust blocks are not an acceptable means of thrust restraint, except when required in connecting to existing water main and for installation of fire hydrants. See specification sections 15105 and 15120 for pipe joint restraint requirements for ductile iron and PVC pipe.
12. Copper-clad steel tracer wire required on installation of all pipe. Tracer wire shall be taped to pipe or polyethylene encasement at a minimum spacing of 10-feet. Splices shall be encased in waterproof connectors. Wire and connectors are to be compatible and from the same manufacturer. Detectable tape is required one foot above pipe. Continuity shall be tested after completion of backfill.
13. Select fill material required for final backfill when within 5-feet of pavement per specification section 02210.
14. Maintain the required 10-feet of horizontal separation and 18-inches of vertical separation from sanitary and storm sewers. Maintain 8-feet of horizontal separation from sanitary and storm structures. See 327 IAC 8-3.2-9 of the Indiana Administrative Code for more information.
15. Maintain minimum cover depth of X" and a maximum of X"+24".

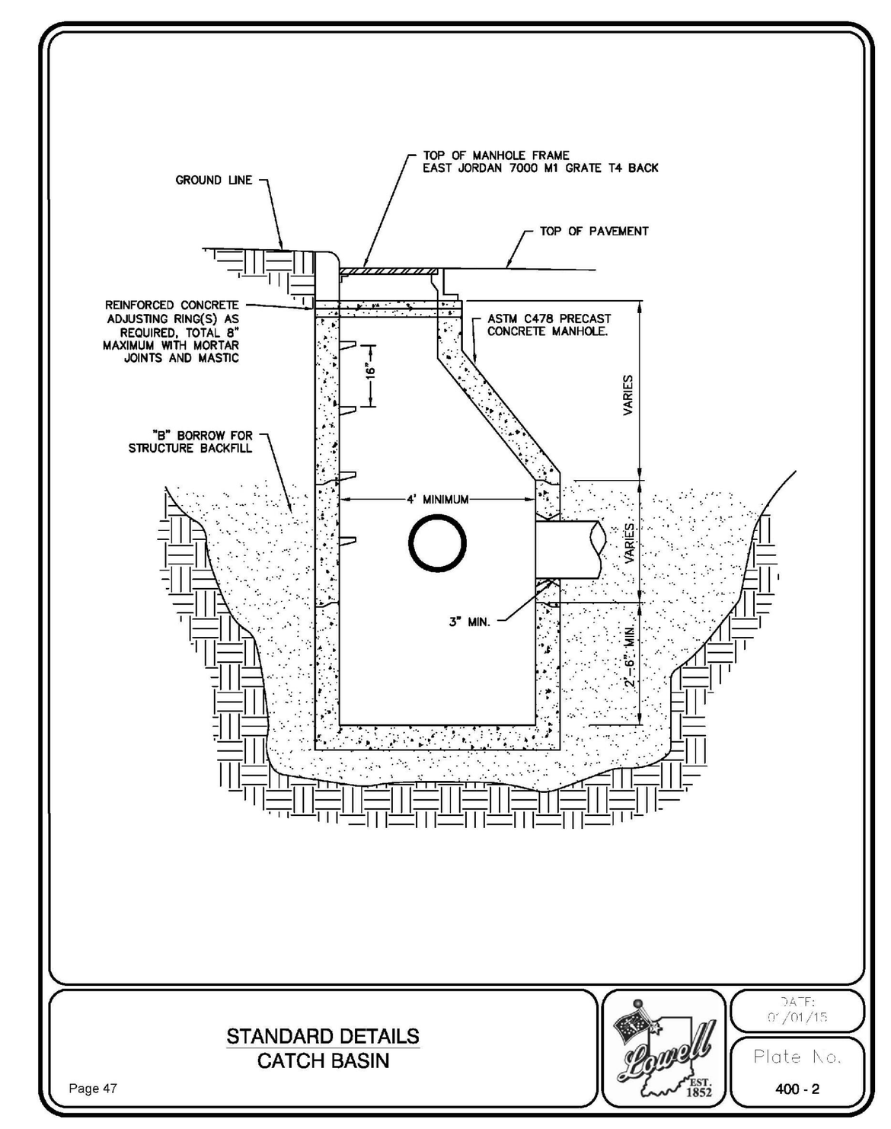
USER NOTES:
- o Depending on water main pipe material, choose between note #3 or #4.
- o X" per 327 IAC 8-3.2-17(d)
  - o 42" min. for SIO

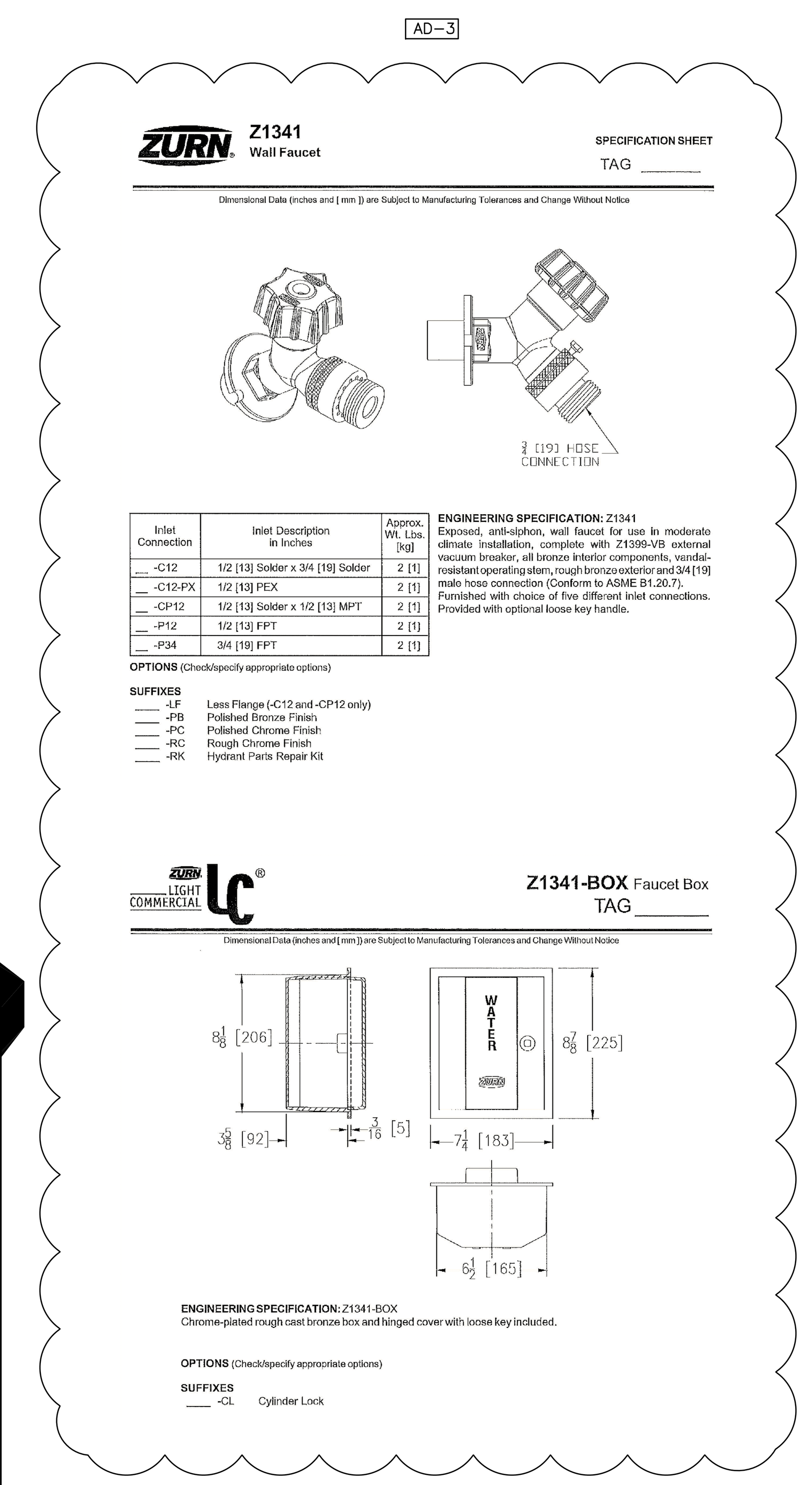


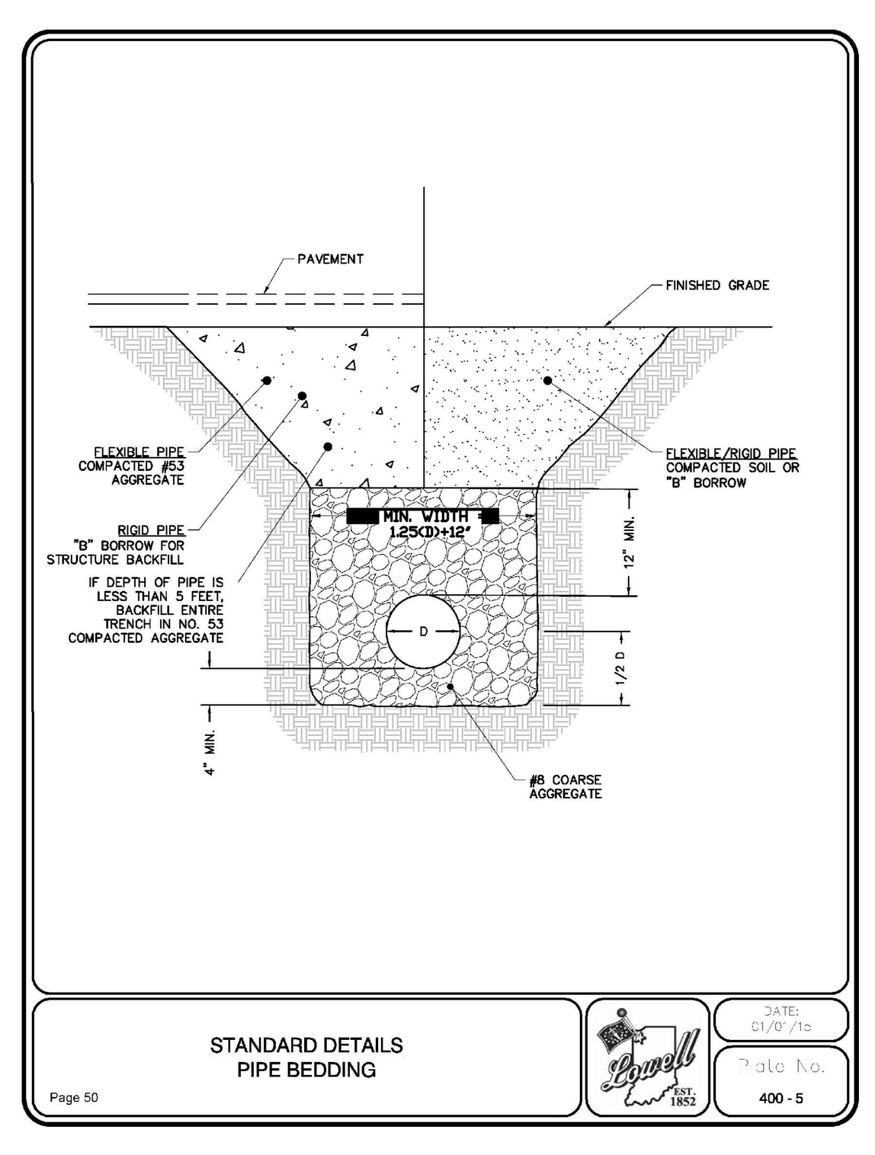


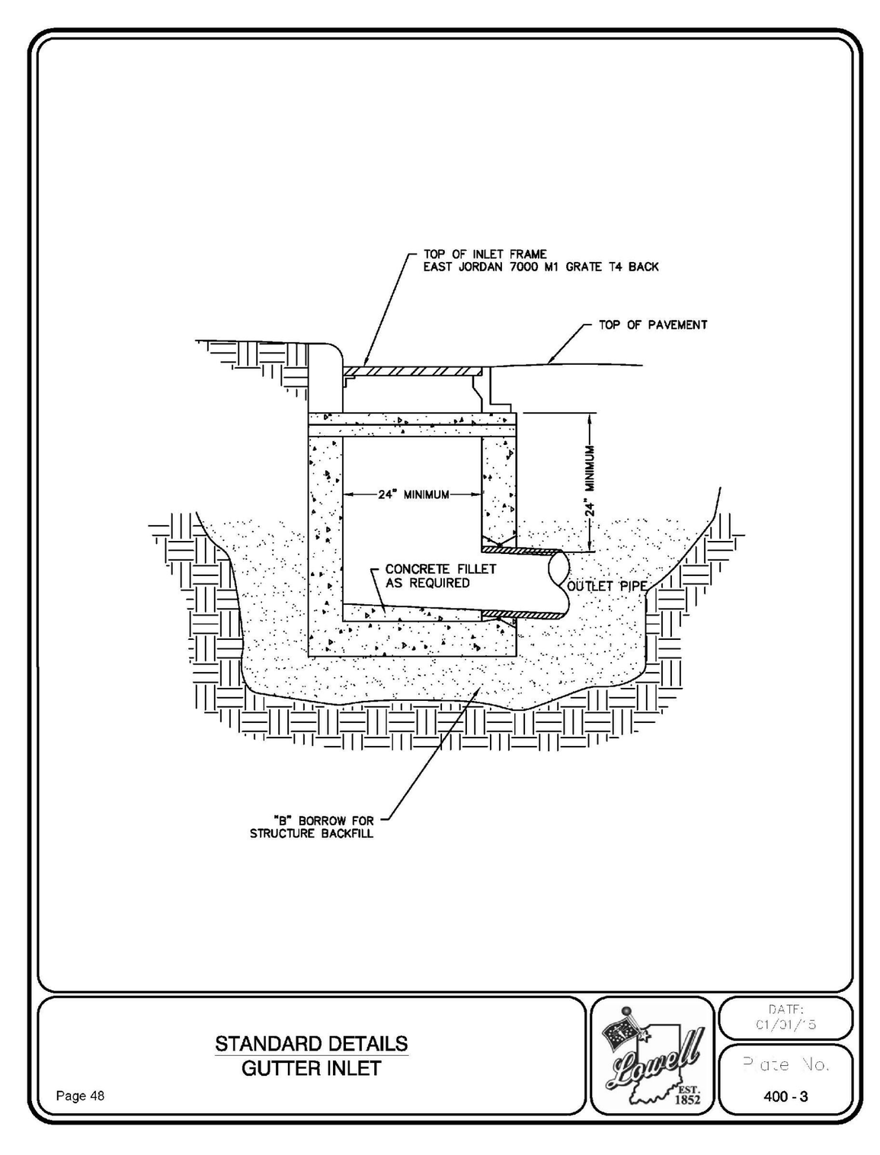


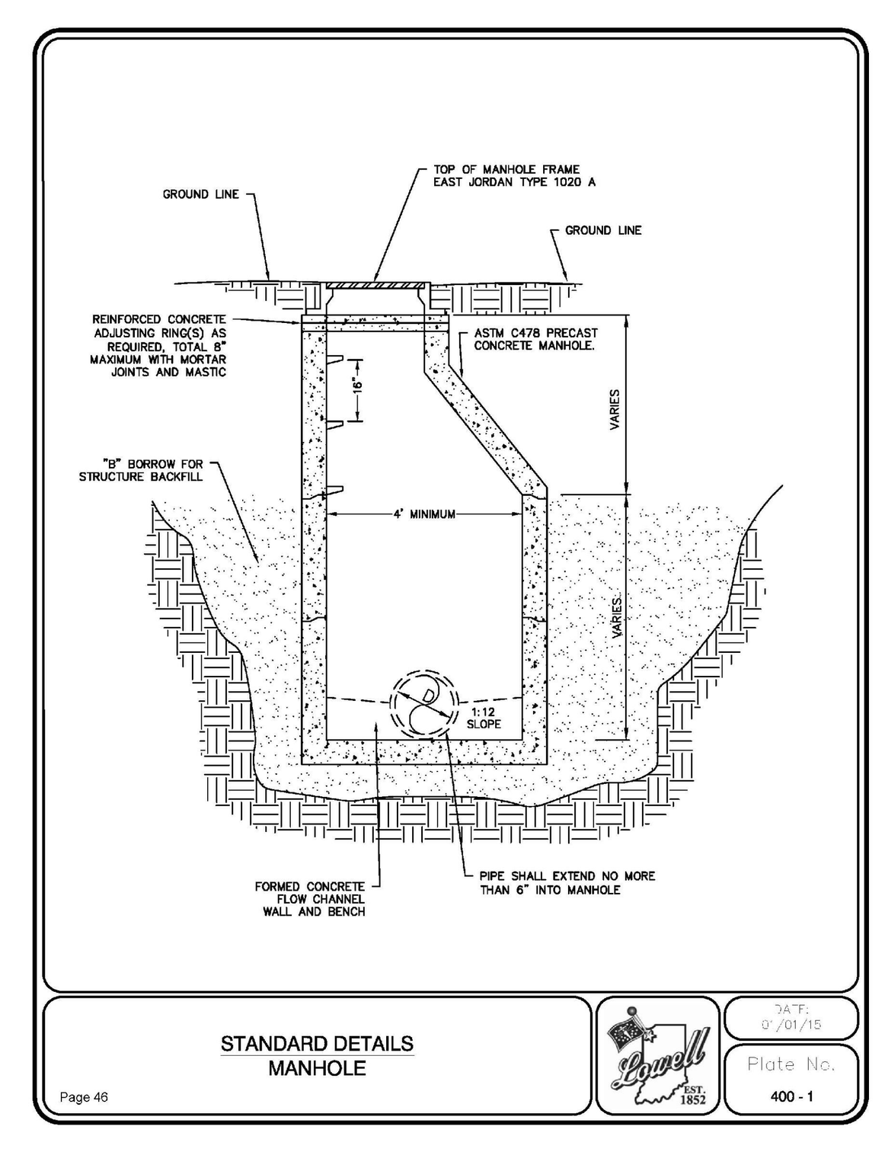


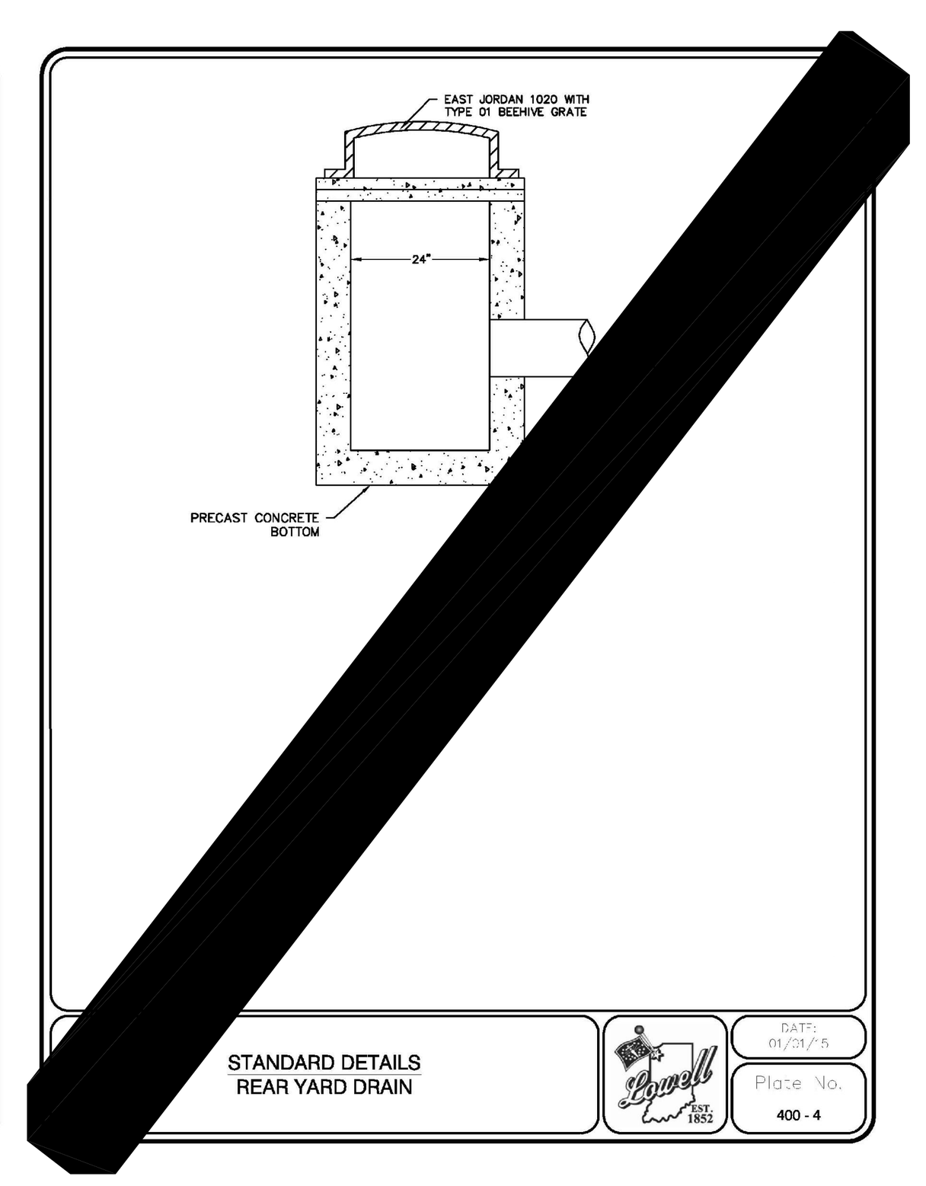












GIBRALTAR
DESIGN
ARCHITECTURE • ENGINEERING • INTERIOR DESIGN

PROJECT:
LOWELL HIGH SCHOOL SITE BLEACHERS, & TURF/DRAINAGE

TRI-CREEK SCHOOL CORPORATION

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PROJECT 23-112
DATE 08/04/23
COORDINATED BY DCT/AM
DRAWN BY EM
CHECKED BY DCT/AM

DONALD C. TORRENGA REGISTERED No. 19868 STATE OF INDIANA PROFESSIONAL ENGINEER

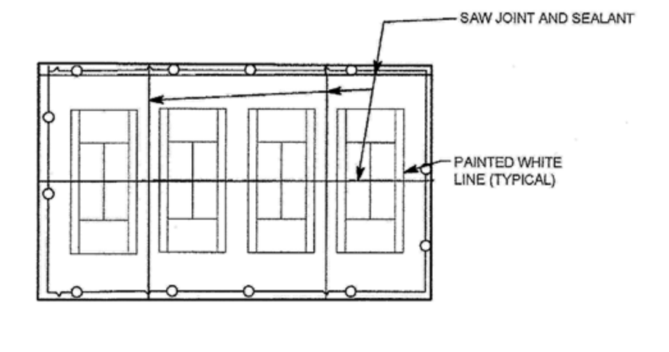
REVISIONS

MARK	DATE	ISSUED FOR
AD-3	09/07/23	ADDENDUM NO. 3

DRAWING
DETAILS AND SPECIFCATIONS

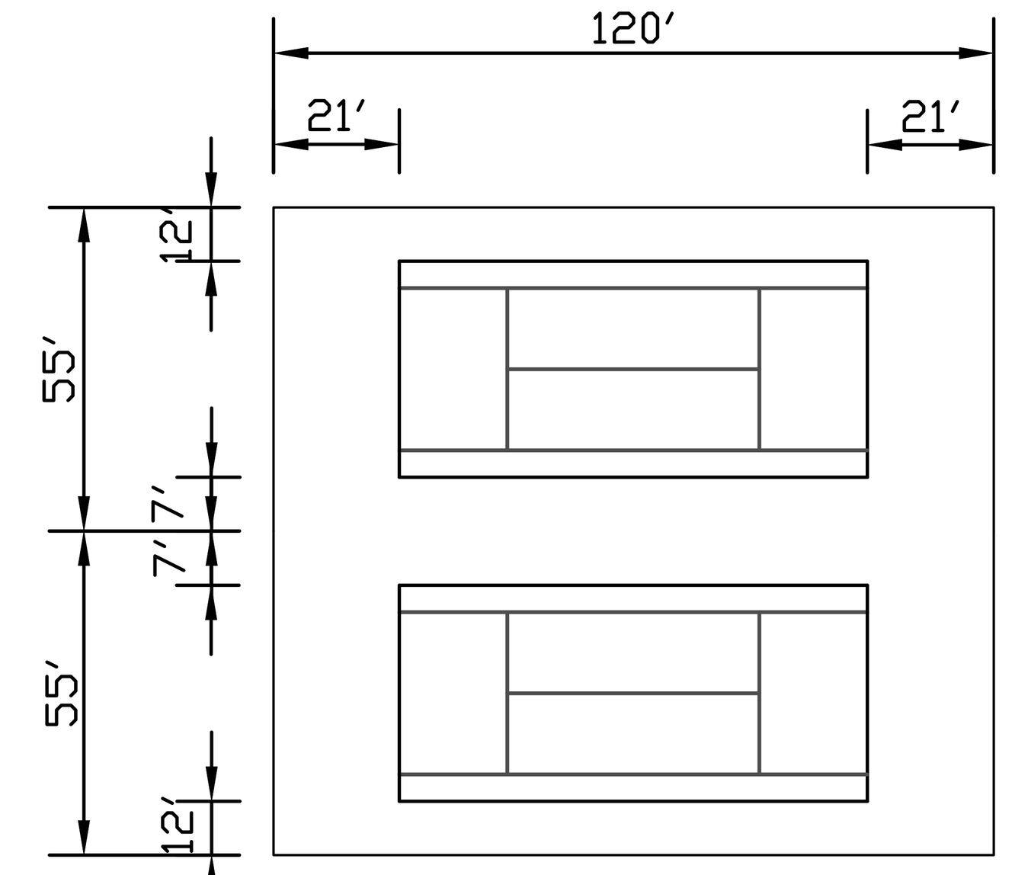
PROJECT
LOWELL HIGH SCHOOL SITE BLEACHERS, & TURF/DRAINAGE

SHEET C-5.1



TENNIS COURT SAW JOINT LAYOUT DETAILS

NOT TO SCALE



TENNIS COURT LAYOUT

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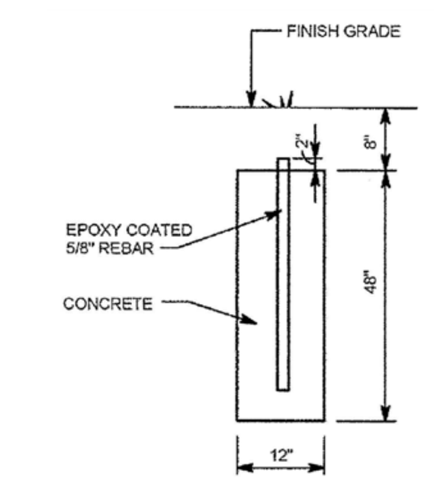

BURIED FIELD CORNER MARKER

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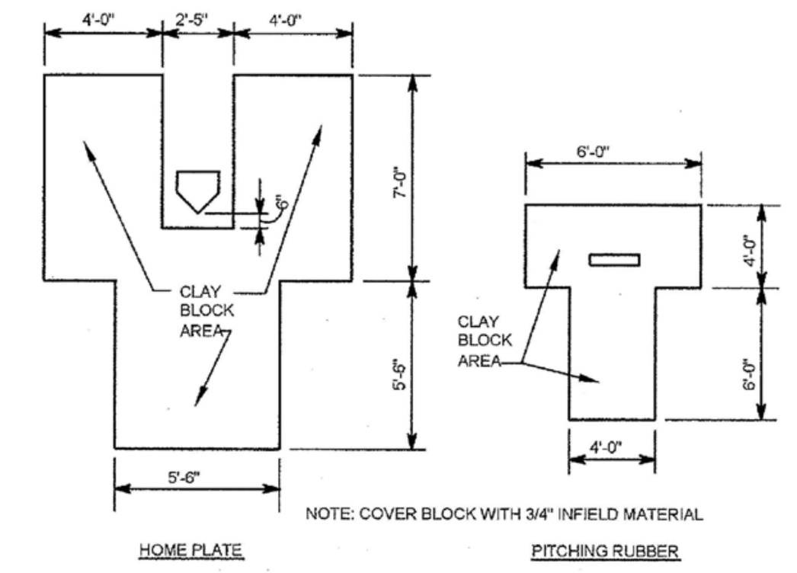
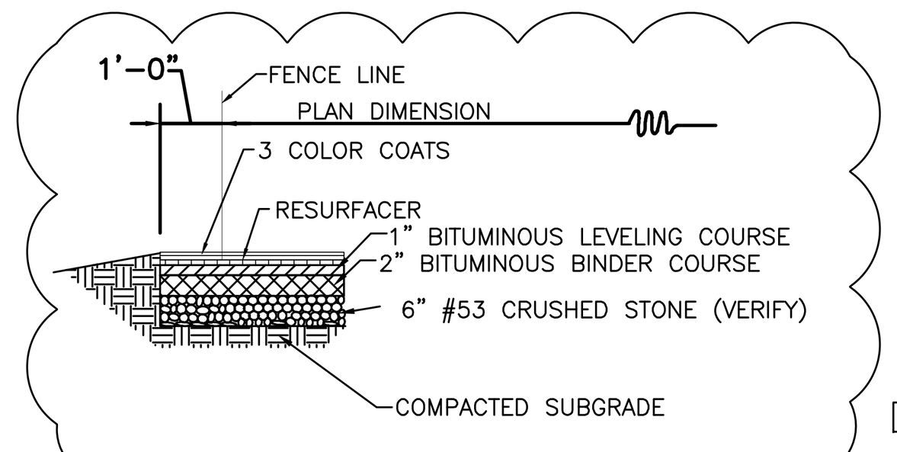


HOME PLATE

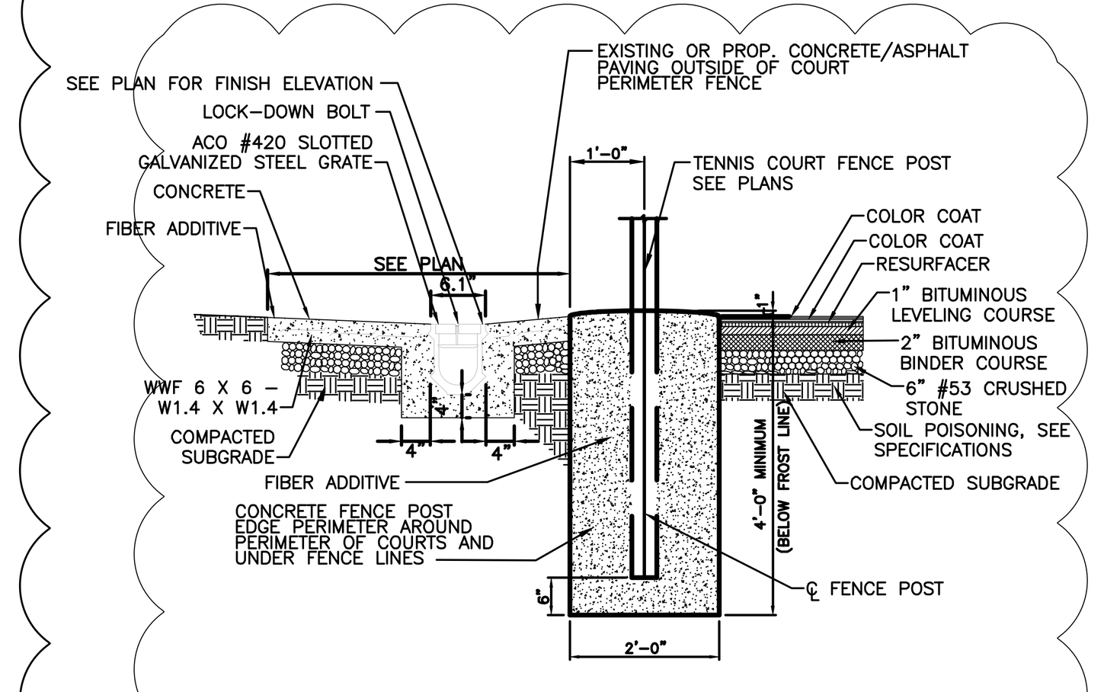
NOT TO SCALE



TENNIS COURT PAVING

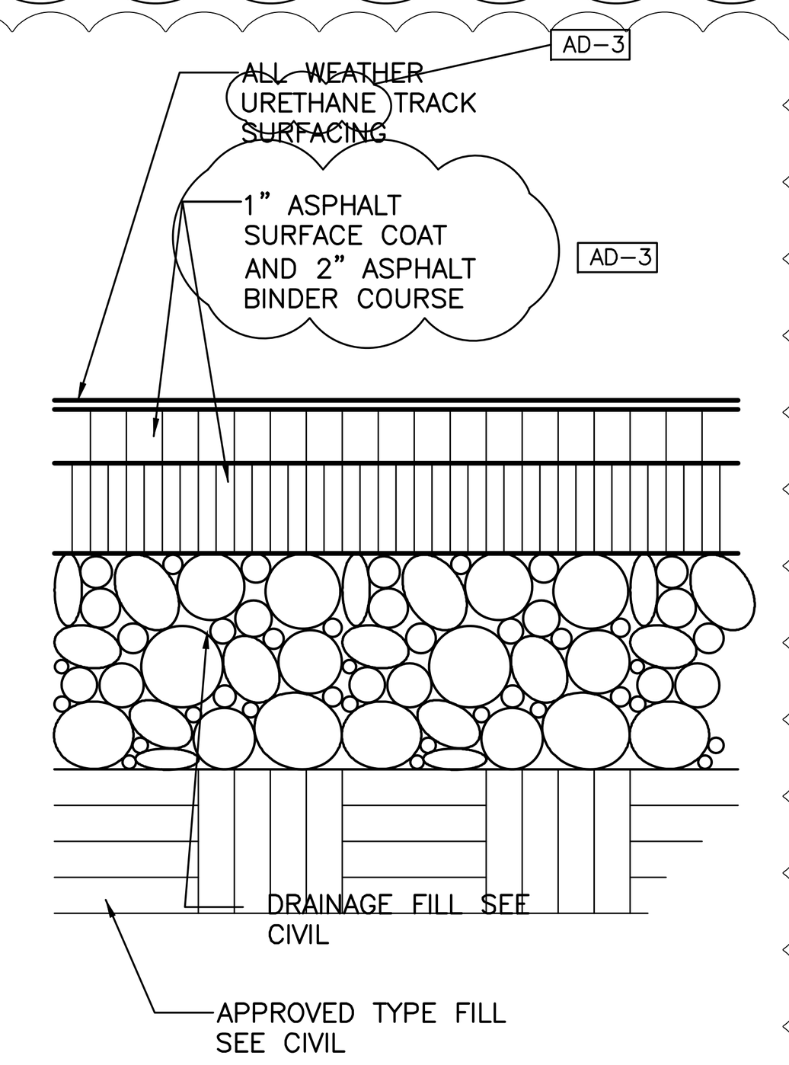
NOT TO SCALE

NOTE: NO SLAG OR FERROUS MATERIAL SHALL BE ALLOWED IN THE ASPHALT MIXTURE FOR THE TENNIS COURTS OR THE RUNNING TRACK SURFACE.



TENNIS COURT/DUGOUT TRENCH DRAIN AND TENNIS COURT FENCE POST FOUNDATION

NO SCALE



ATHLETIC SURFACE

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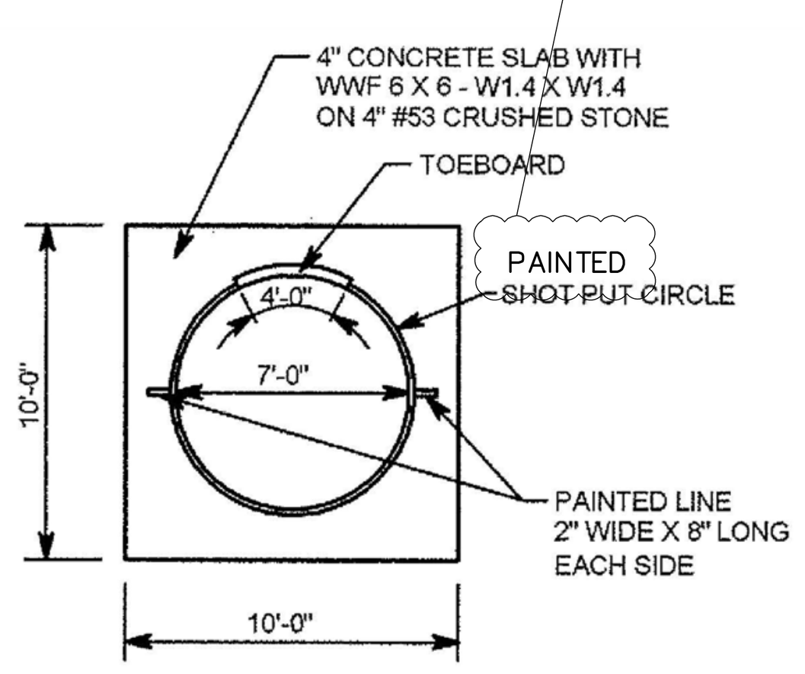

SHOT PUT PAD

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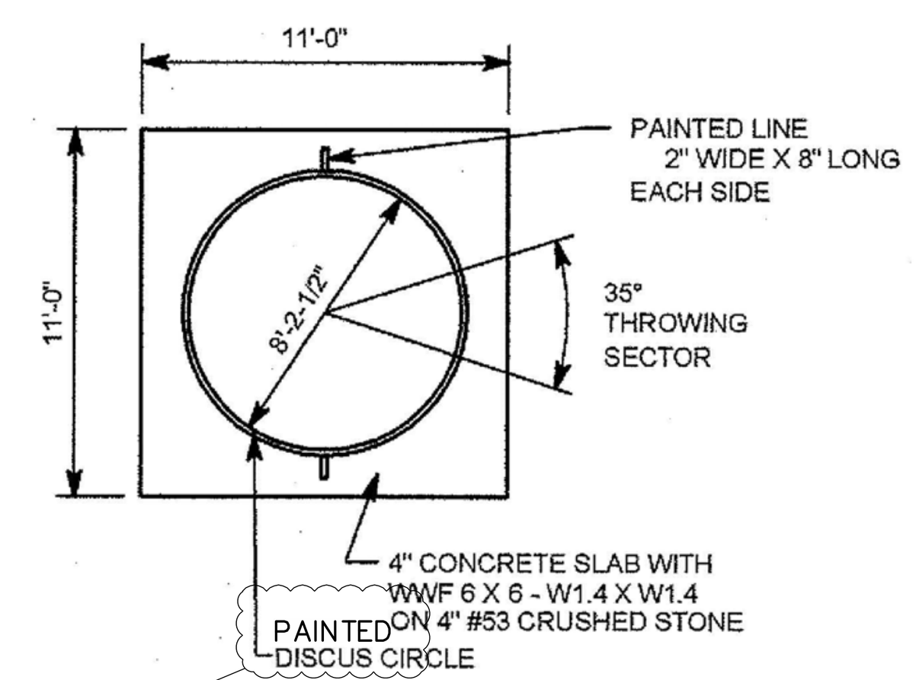

DISCUSS THROW PAD

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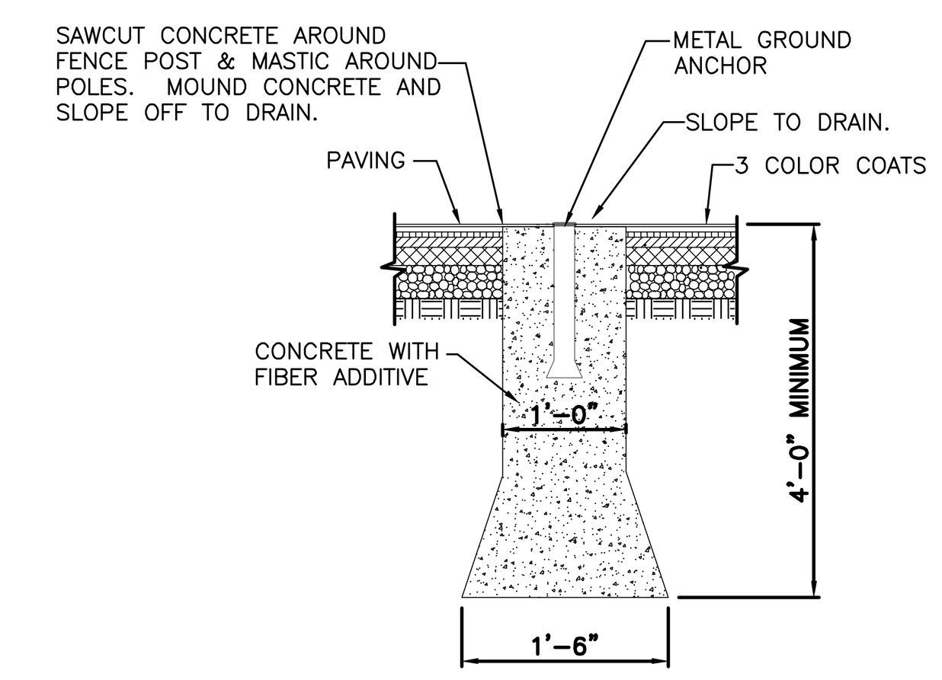
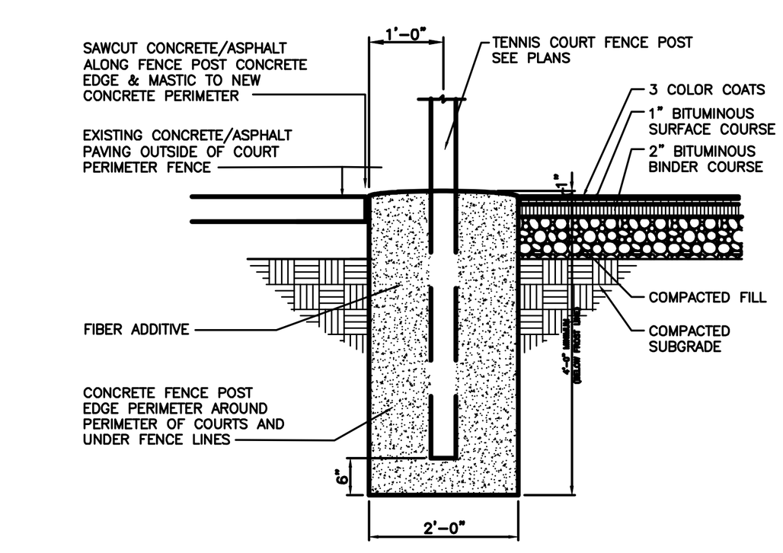


TENNIS NET TIE DOWN

NOT TO SCALE



TENNIS COURT FENCE POST FOUNDATION

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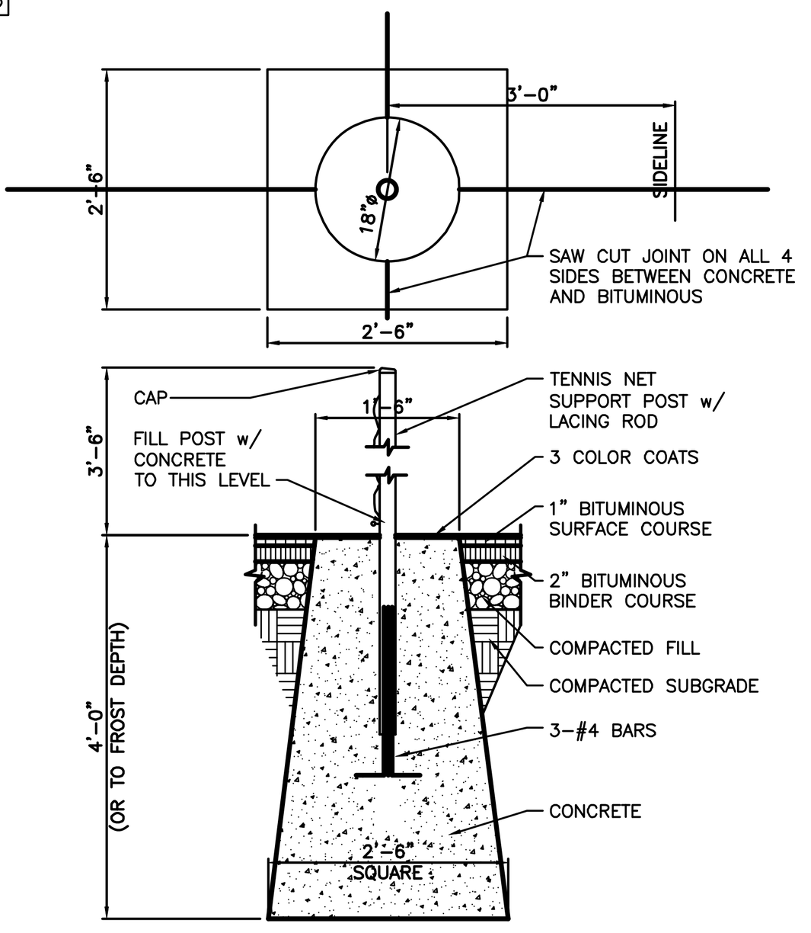
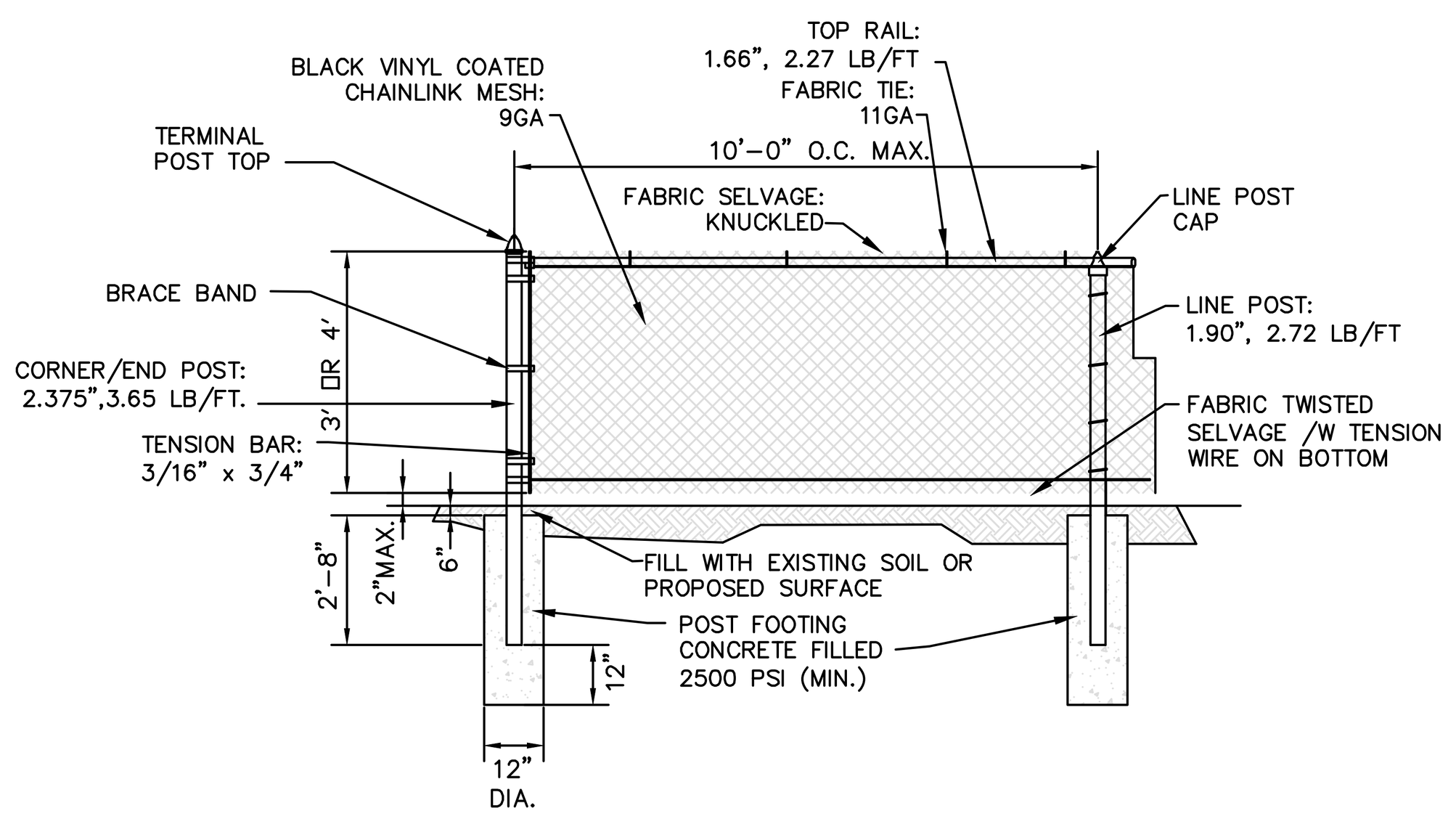
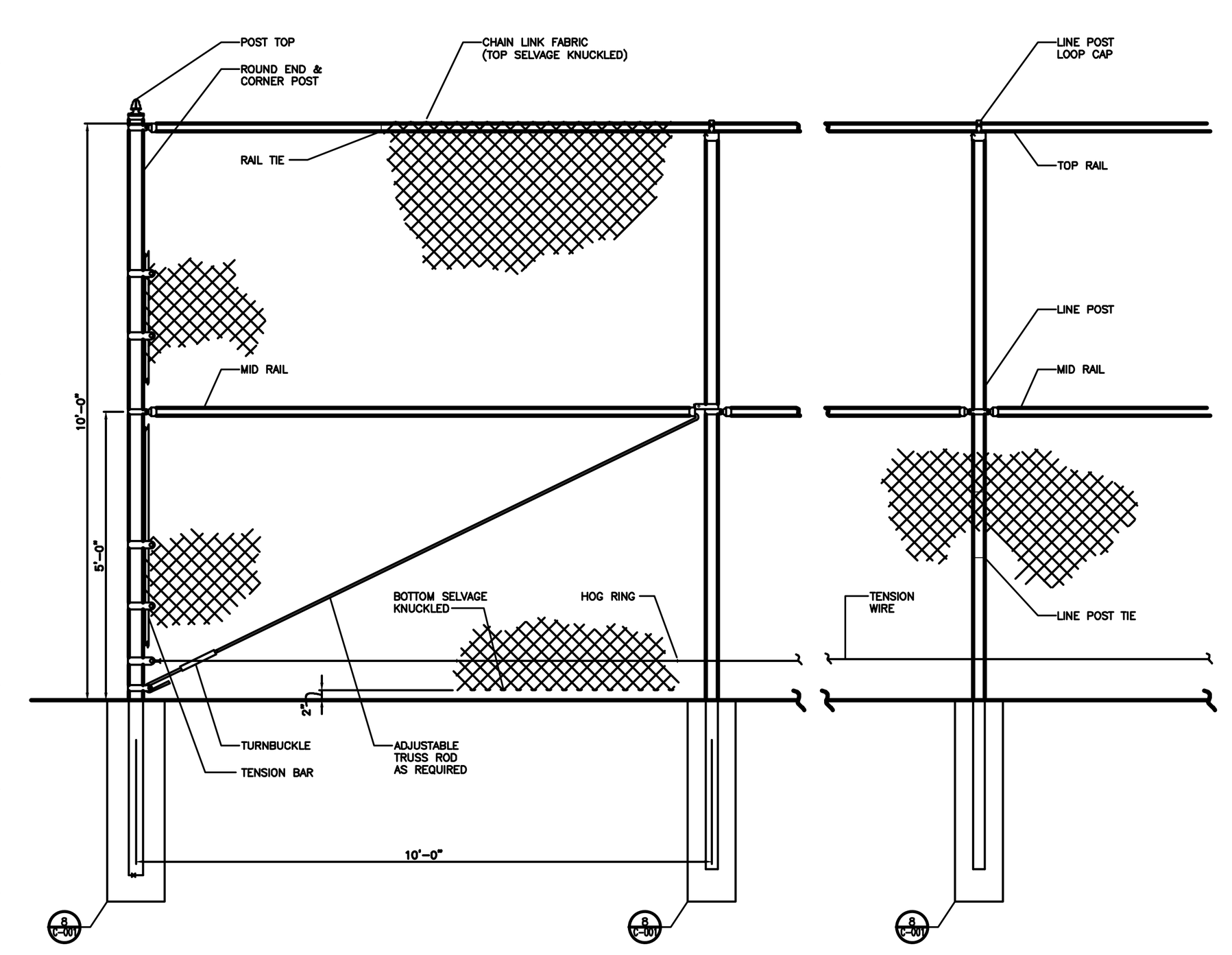


TENNIS NET SUPPORT POST DETAIL

NOT TO SCALE





TENNIS FENCE SECTION/ELEVATION

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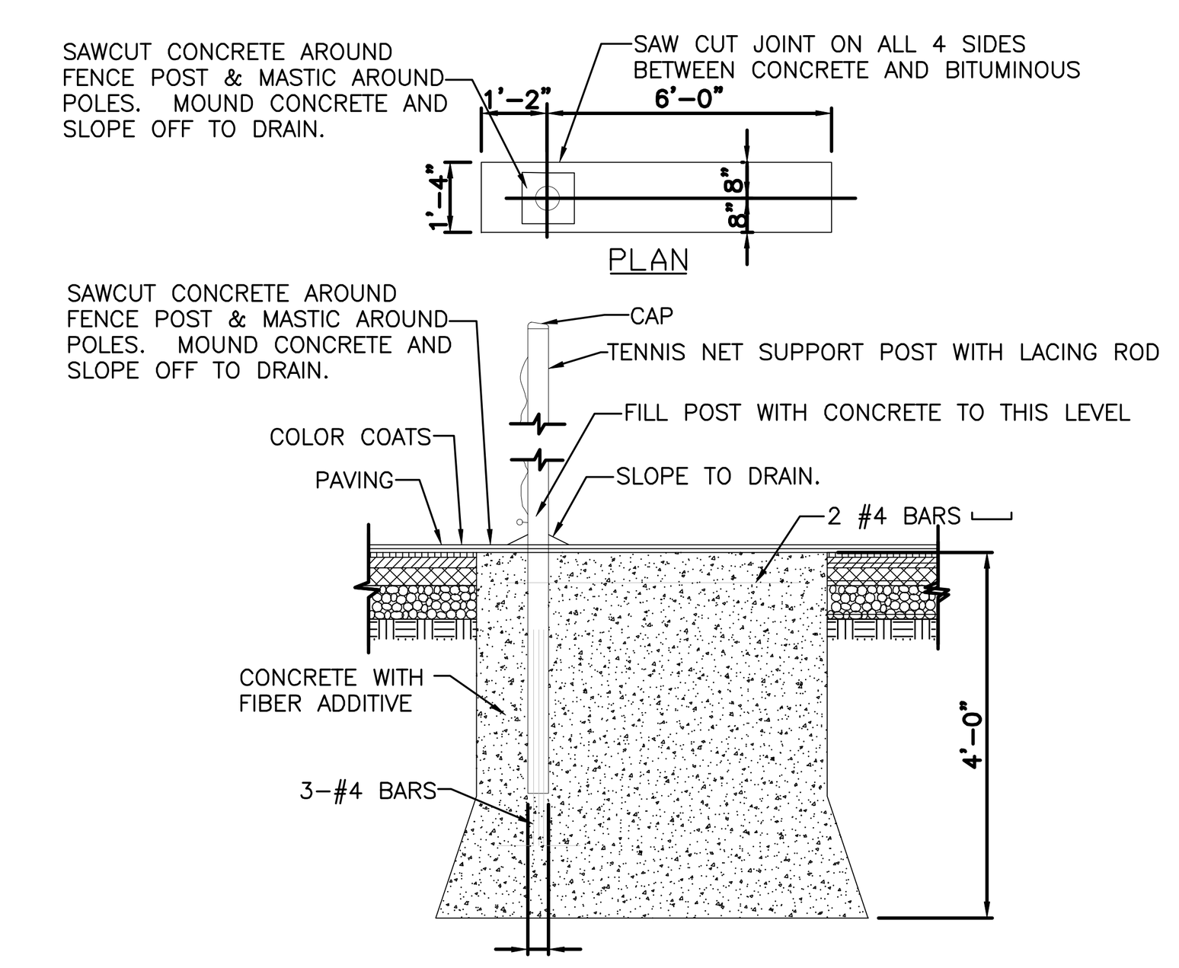
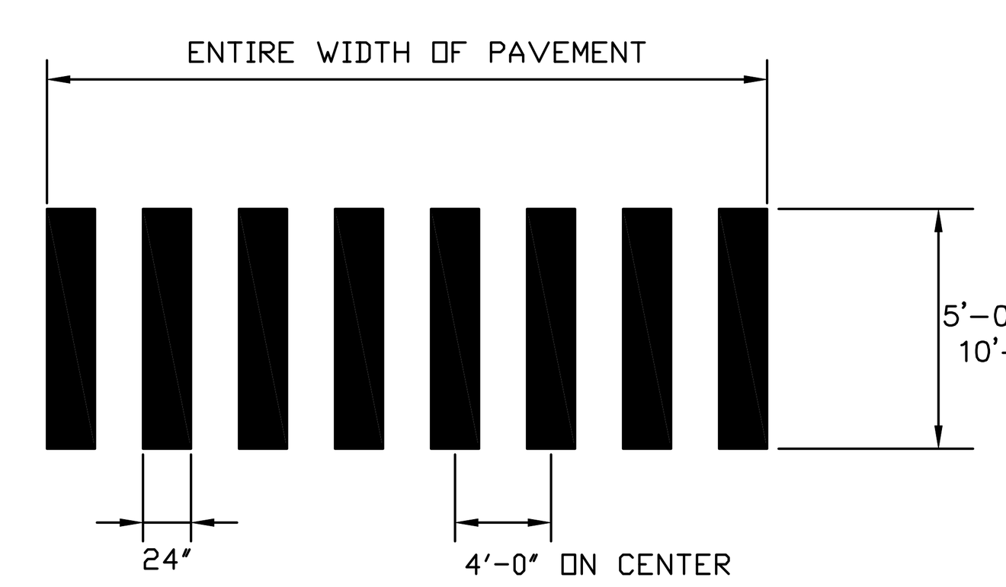


EXTERIOR TENNIS NET SUPPORT POST

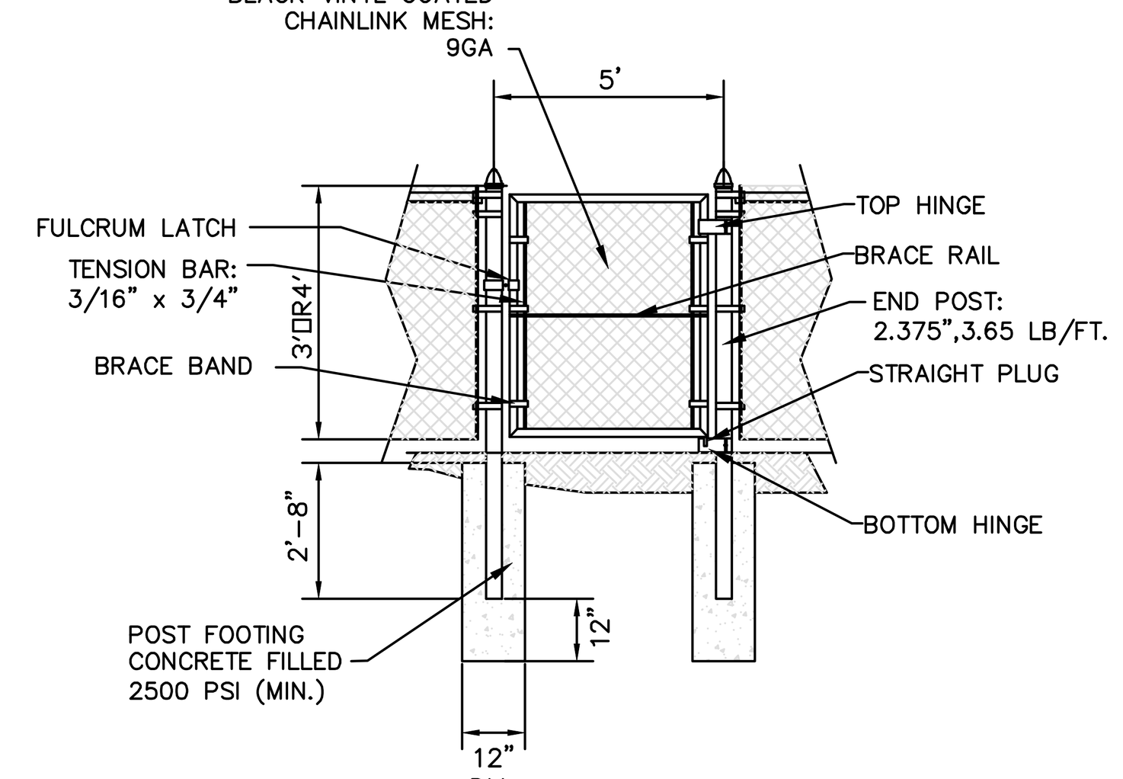
NOT TO SCALE



NOTE:
1. ALL REGULATOARY SIGNS SHALL BE HIGH INTENSITY AND IN ACCORDANCE WITH THE INDIANA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, MOST RECENT EDITION.
2. ALL PAVEMENT MARKINGS SHALL BE WHITE THERMOPLASTIC AND SPAN ACROSS APPROACH LANES.

CONTINENTAL CROSS WALK DETAIL

NOT TO SCALE



FENCE/GATE DETAIL

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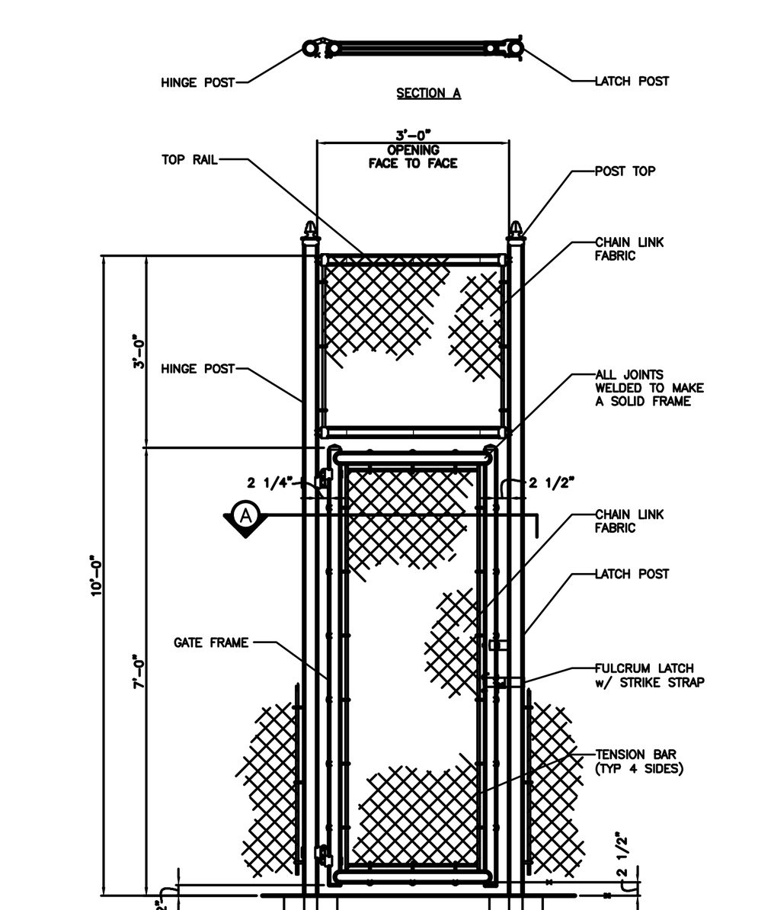
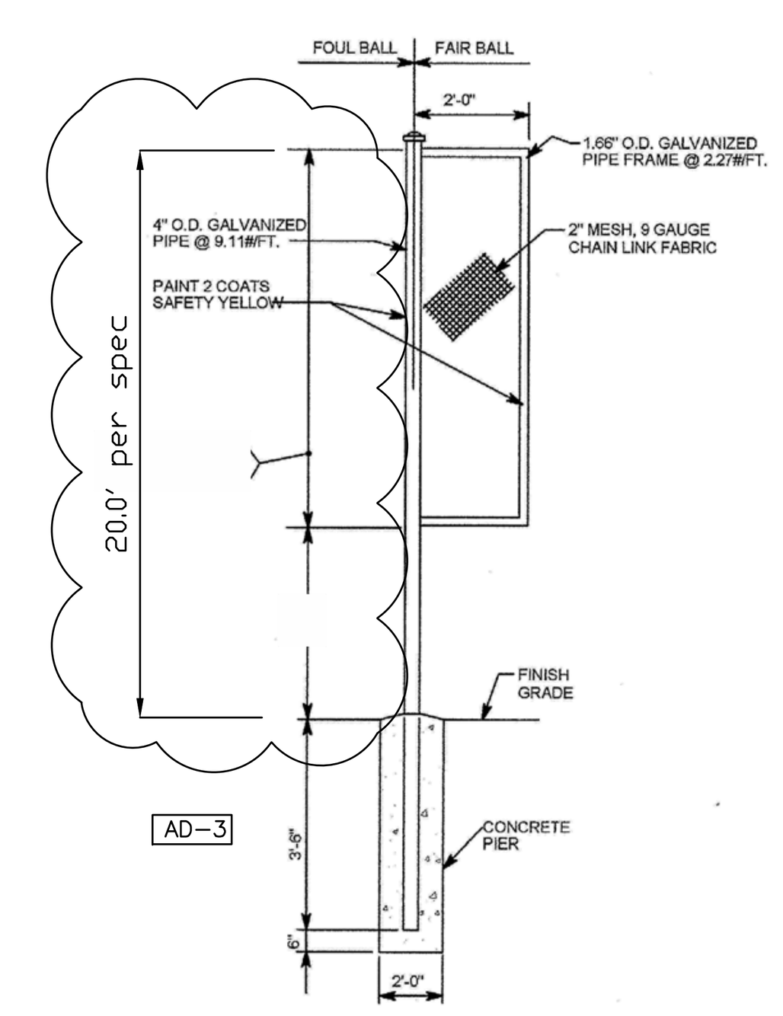


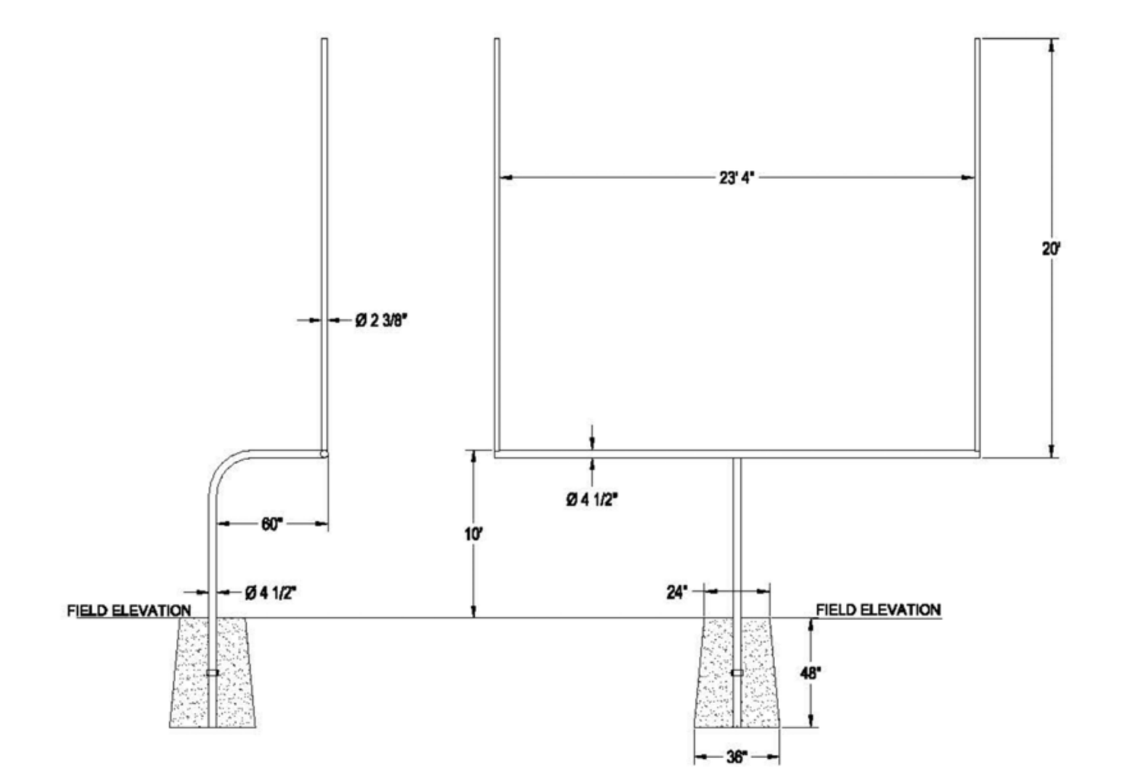
TENNIS GATE ELEVATION

NOT TO SCALE



FOUL BALL POLE MARKER

NOT TO SCALE

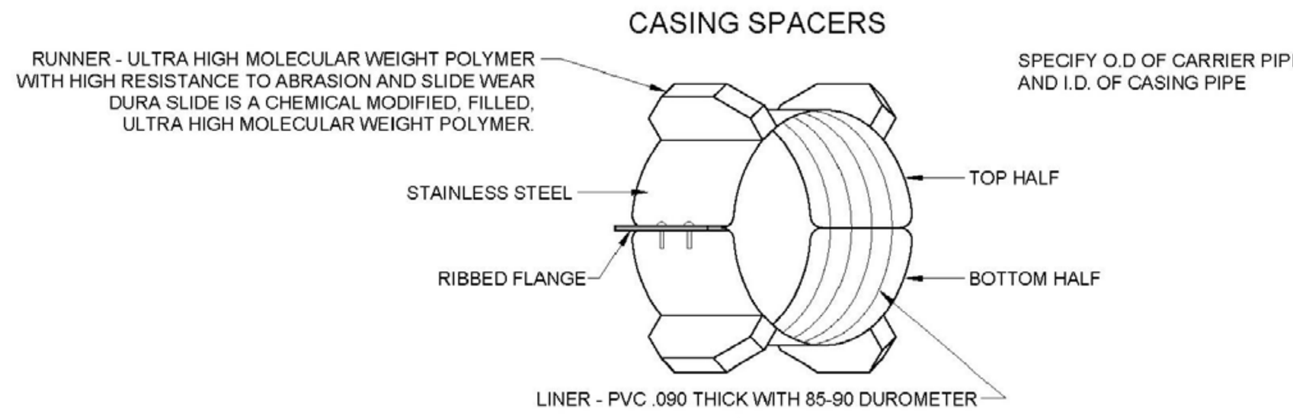


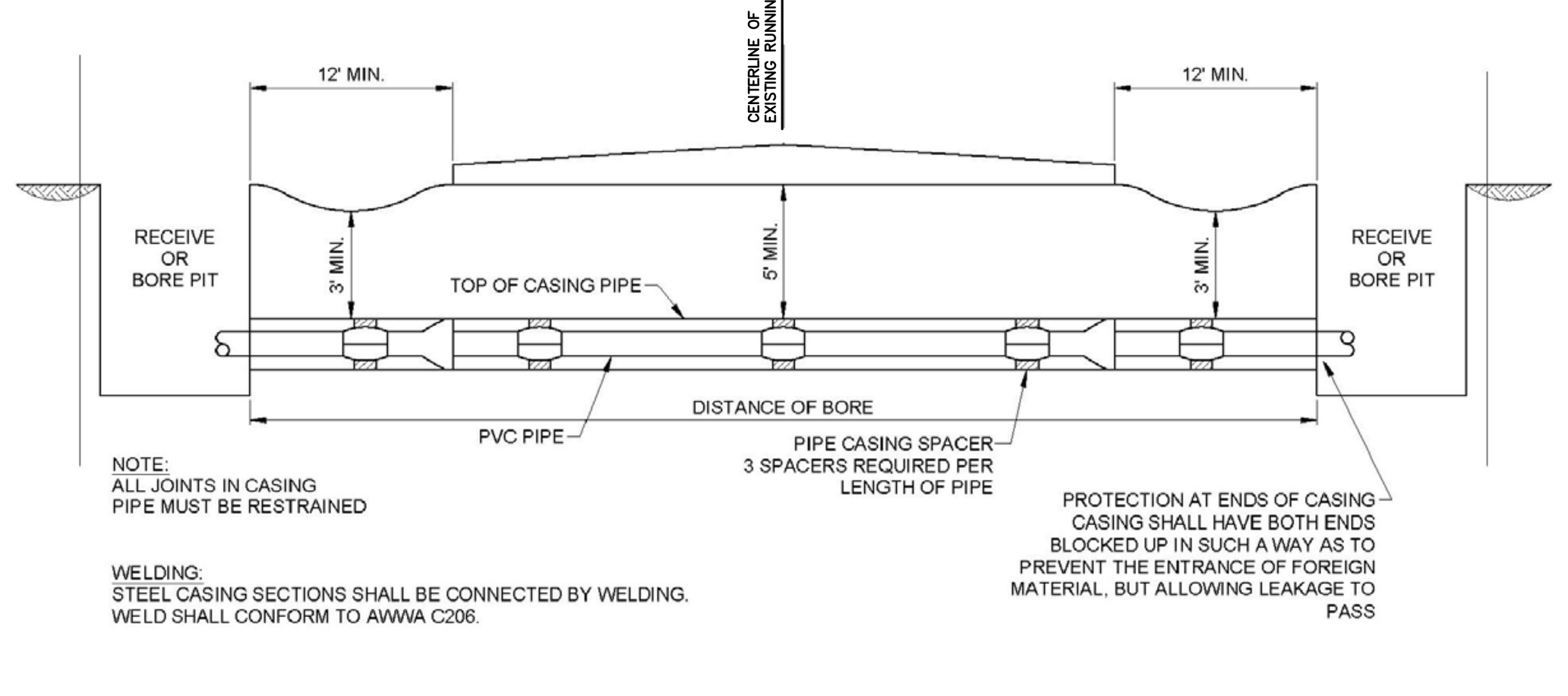
Goalposts shall meet all National High School Federation rules. Goalposts shall be of the single bent post design and provide a minimum of 60" of setback from the front of the post to the front of the horizontal crossbar. The bent post shall be a minimum of 4" schedule 40 (4 1/2" outside diameter) ASTM A500 grade C structural pipe and provide for no less than 48" bury into the ground. A band clamp shall be attached to each pole to eliminate rotation in the concrete footing. Horizontal crossbars shall be no less than 4 1/2" OD flow coated steel tubing with a 7 gauge wall thickness and be of a length to allow uprights to extend upward with official high school 23'4" between the upright members. Two vertical uprights shall rise a minimum of 20' above the top of the crossbar. Uprights shall be constructed of 2 3/8" diameter 6063-T6 aluminum with a minimum 0.154" wall thickness. Uprights shall be connected to each end of the crossbar by means of a machined aluminum insert that allows the angle of the uprights to be adjusted at the time of field installation. The insert design shall allow rain to escape through the insert from the top of the uprights. The crossbar shall be attached to the bent post by means of an adjustable "T" adapter that allows field adjustment of the horizontal crossbar for ease and accuracy of installation. Installation to be completed in accordance to manufacturer's instructions. Do not scale drawings. All steel and aluminum members shall have a polyester powder coated finish (white-WT or safety yellow-SY). All hardware shall be zinc plated grade 5 minimum. Optional features include ground sleeves, safety padding and wind direction flags. Shipping weight approximately 1050#/pair.

FOOTBALL GOAL

NOT TO SCALE

CASING SPACERS

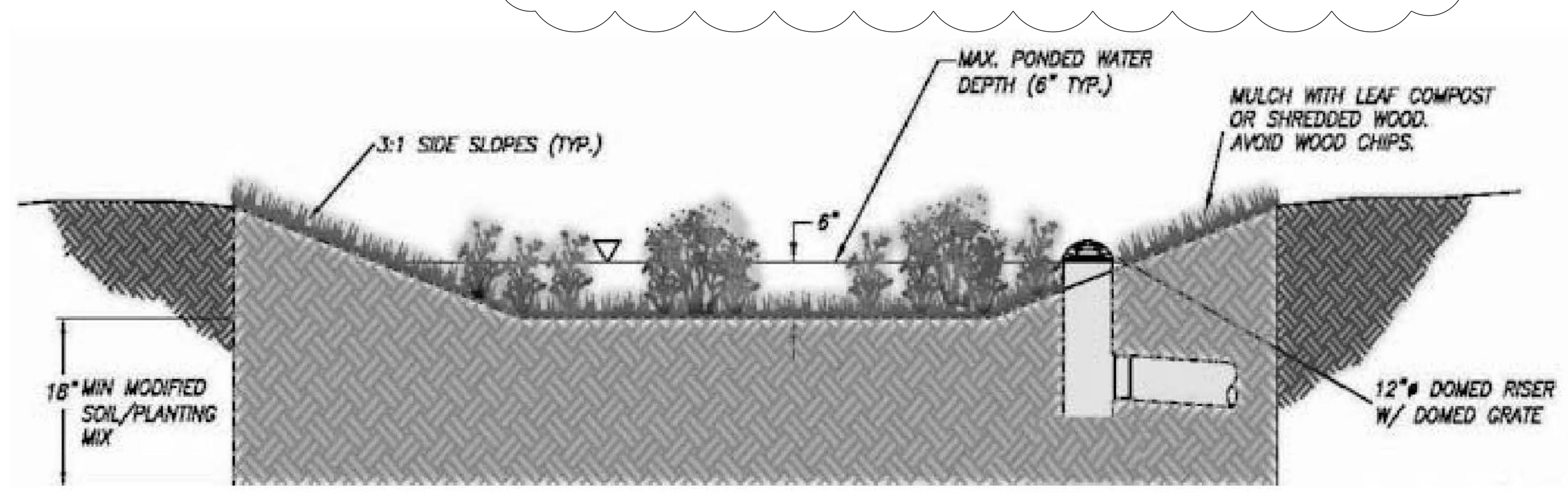




TYPICAL BORING & JACKING CASING PIPE

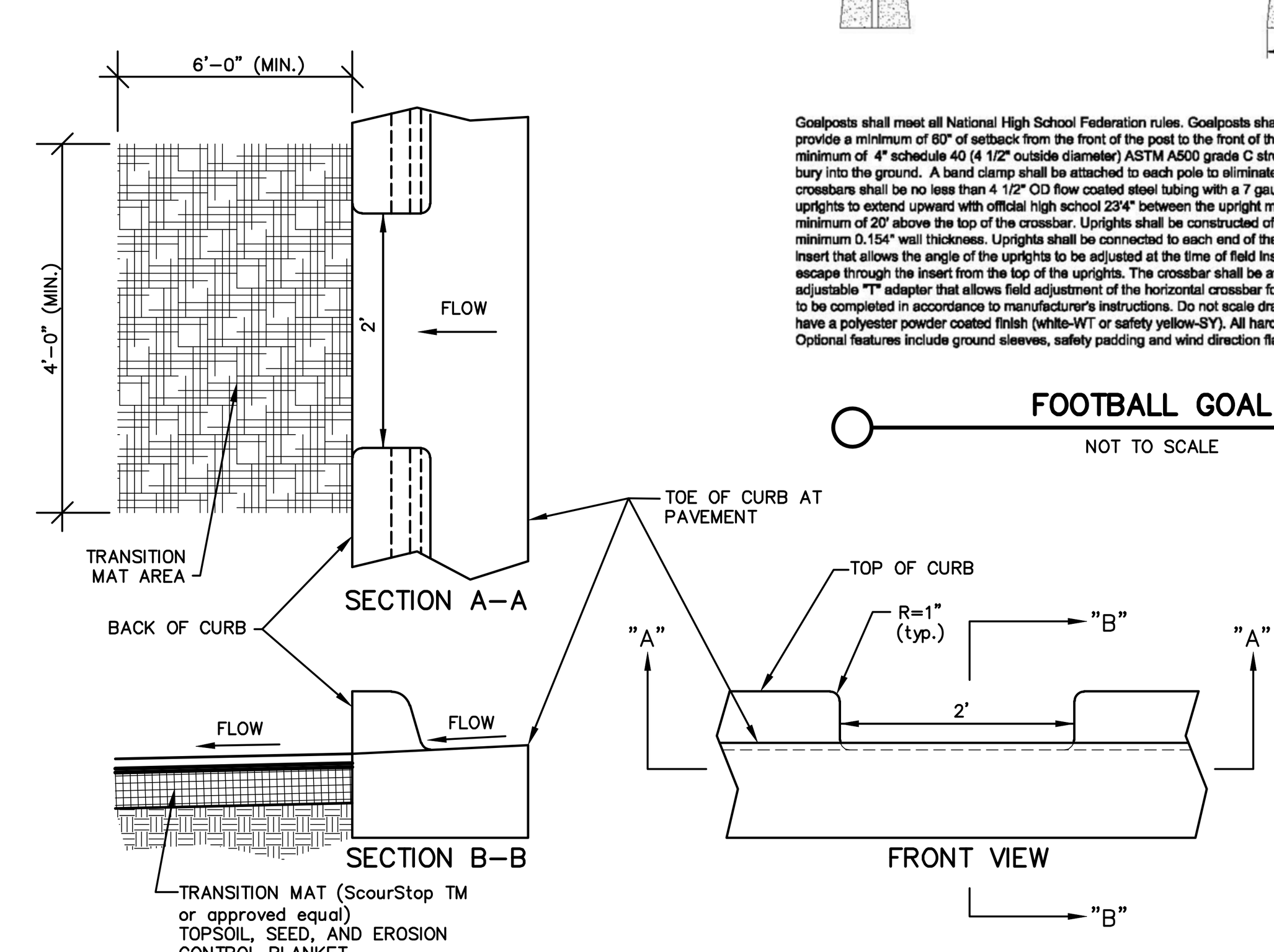
NOT TO SCALE

NOTE: THE STEEL CASING PIPE SHALL BE SIZED BY THE CONTRACTOR



RAIN GARDEN/BIOSWALE DETAIL

NOT TO SCALE



2' CURB CUT

NOT TO SCALE

GIBRALTAR DESIGN

ARCHITECTURE • ENGINEERING • INTERIOR DESIGN

PROJECT:

LOWELL HIGH SCHOOL SITE BLEACHERS, & TURF/DRAINAGE

TRI-CREEK SCHOOL CORPORATION

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PROJECT 23-112

DATE 08/04/23

COORDINATED BY DCT/AM

DRAWN BY EM

CHECKED BY DCT/AM

DONALD C. TORRENGA REGISTERED No. 19868 STATE OF INDIANA PROFESSIONAL ENGINEER

REVISIONS

MARK	DATE	ISSUED FOR
AD-1	08/18/23	ADDENDUM NO. 1
AD-3	09/07/23	ADDENDUM NO. 3

DRAWING

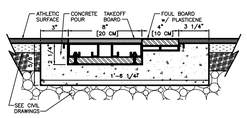
DETAILS AND SPECIFCATIONS

PROJECT

LOWELL HIGH SCHOOL SITE BLEACHERS, & TURF/DRAINAGE

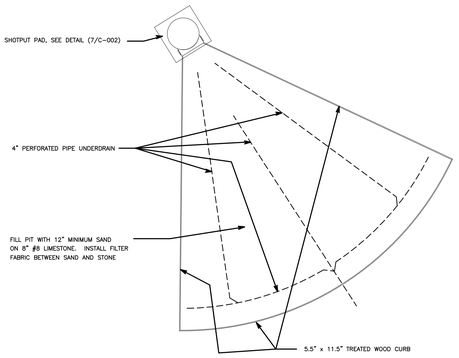
SHEET C-5.2

Z:\2023-5013 Lowell High School - Lowell\dwg\2023-5013 Details.dwg 5/25/2023 1:16:48 PM CDT



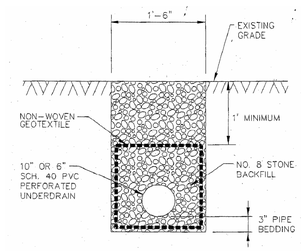
TAKE-OFF BOARD
NOT TO SCALE

AD-3



SHOT PUT THROWNG PIT
NOT TO SCALE

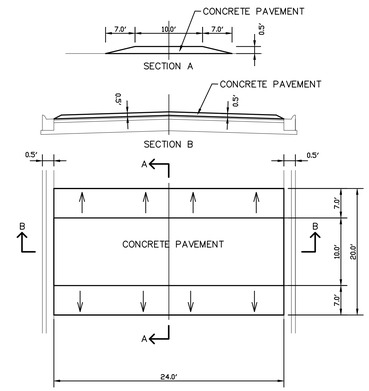
AD-1



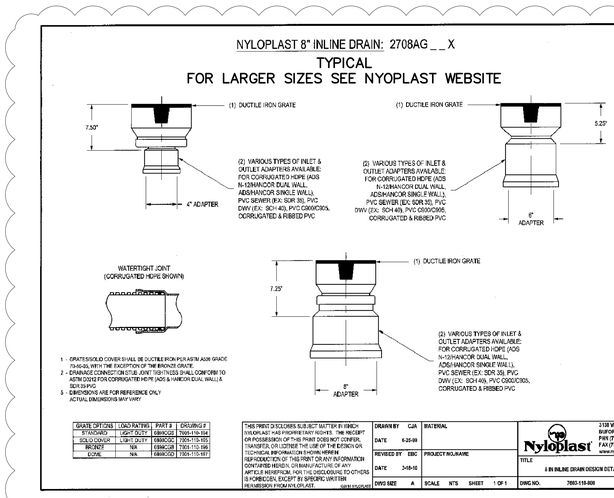
(INFILTRATION TRENCH UNDERDRAIN)
PERFORATED PIPE TRENCH DETAIL
NOT TO SCALE

AD-3

AD-3



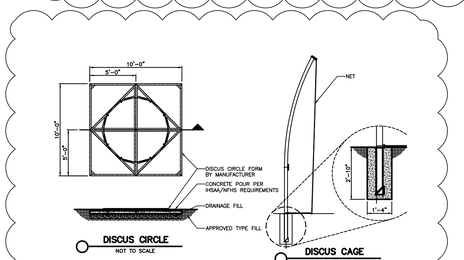
SPEED TABLE
(NO SCALE)



NYOPLAST INLINE DRAIN
NOT TO SCALE

AD-1

AD-3

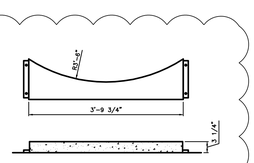


DISCUS CIRCLE
NOT TO SCALE

DISCUS CAGE
NOT TO SCALE

AD-3

AD-3



SHOT PUT CURB
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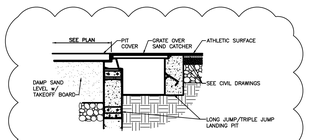
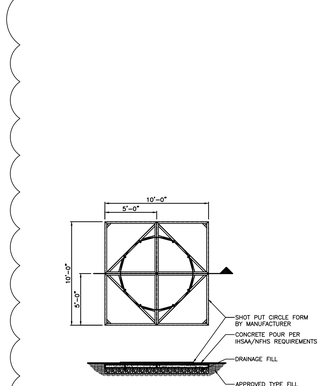


LANDING AREA
NOT TO SCALE

AD-3

AD-3



SHOT PUT CIRCLE FORM
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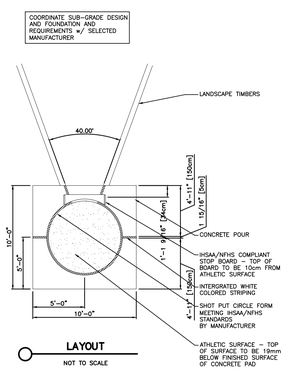
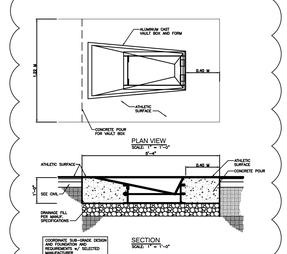


LAYOUT
NOT TO SCALE

SHOT PUT CIRCLE
NOT TO SCALE

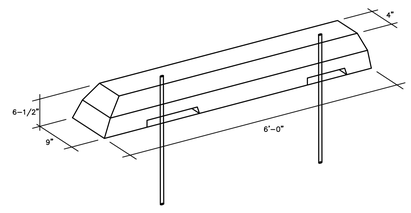
AD-3



VAULT BOX
NOT TO SCALE

AD-3

AD-1

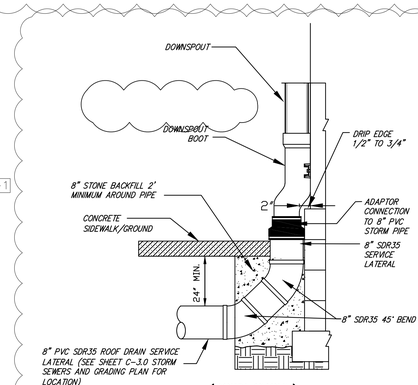


PRECAST CONCRETE PARKING CHOCKS/WHEEL STOPS
NOT TO SCALE

ALL PARKING STOPS SHALL BE PINNED TO THE ASPHALT WITH #4 REBAR ANCHORED 18" INTO THE GROUND. PARKING STOPS PLACED OVER THE PAVERS SHALL BE UNPINNED.

AD-3

AD-1



(DOWN SPOUT)
ROOF DRAIN PIPE CONNECTION
NOT TO SCALE

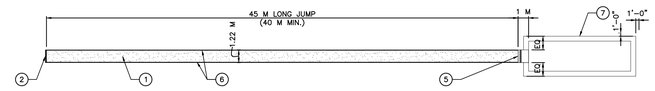
AD-3

6 5cm WHITE STRIPES BORDERING ATHLETIC SURFACE.
7 LANDING AREA – OFCI. SEE CIVIL DRAWINGS FOR UNDERDRAINAGE.
8 LIMIT OF ASPHALT SURFACING

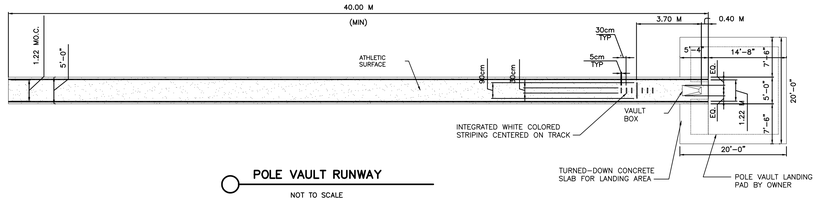
COORDINATE SUB-GRADE DESIGN AND FOUNDATION AND REQUIREMENTS w/ SELECTED MANUFACTURER

LONG JUMP/TRIPLE JUMP PLAN NOTES:

1. ATHLETIC SURFACE.
2. LONG JUMP START LINE INDICATED WITH 10cm WHITE PAINT STRIPE.
3. MENS TRIPLE JUMP FOUL LINE INDICATED WITH 10cm PAINT WHITE STRIPE.
4. WOMENS TRIPLE JUMP FOUL LINE INDICATED WITH 10cm WHITE PAINT STRIPE.
5. TAKEOFF BOARD.

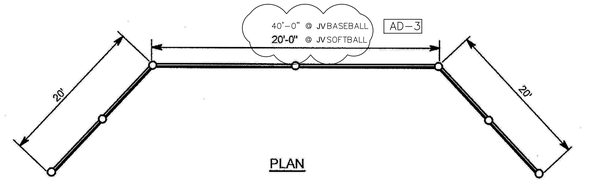


LONG JUMP
NOT TO SCALE



POLE VAULT RUNWAY
NOT TO SCALE

AD-1



ELEVATION

JV SOFTBALL/BASEBALL BACKSTOP
NOT TO SCALE

AD-3

GIBRALTAR DESIGN
ARCHITECTURE • ENGINEERING • INTERIOR DESIGN

PROJECT:
LOWELL HIGH SCHOOL SITE BLEACHERS, & TURF/DRAINAGE

TRI-CREEK SCHOOL CORPORATION

TORRENGA ENGINEERING, INC.
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PROJECT
23-112
DATE
08/04/23
COORDINATED BY
DCT/AM
DRAWN BY
EM
CHECKED BY
DCT/AM

DONALD C. TORRENGA REGISTERED No. 19868 STATE OF INDIANA PROFESSIONAL ENGINEER

REVISIONS

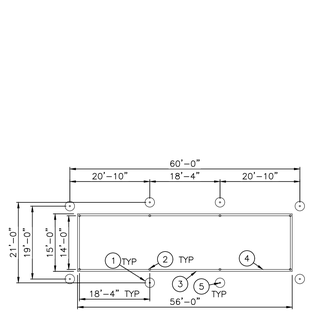
MARK	DATE	ISSUED FOR
AD-1	08/18/23	ADDENDUM NO. 1
AD-3	09/07/23	ADDENDUM NO. 3

DRAWING
DETAILS AND SPECIFCATIONS

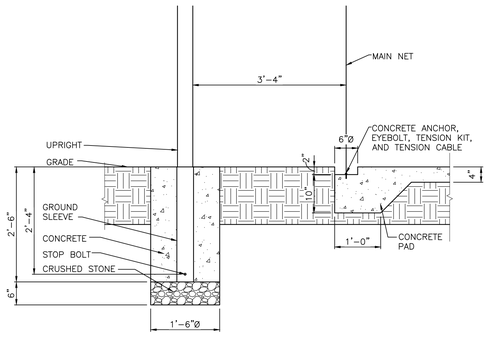
PROJECT
LOWELL HIGH SCHOOL SITE BLEACHERS, & TURF/DRAINAGE

SHEET
C-5.4
AD-3

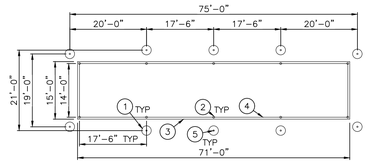
Z:\2023-5013 Lowell High School - Lowell\dwg\2023-5013 Details.dwg 5/25/2023 11:48 PM CDT



SOFTBALL BATTING CAGE
SCALE: 1/16" = 1'-0"



DETAIL 1
SCALE: 3/4" = 1'-0"



BASEBALL BATTING CAGE
SCALE: 1/16" = 1'-0"

1. GROUND SLEEVE AND STOP BOLT – 4.35" O.D. X .100 X 30" 6061T6 ALUMINUM TUBE, WITH CAST ALUMINUM CAP; 1/2" – 13 X 5" STEEL HEX BOLT, PLATED; 1/2" – 13 HEX NUT PLATED — 1
2. CONCRETE ANCHOR – 3/8" – 16 TAMPIN INSERT, P35T WITH THREADED 3/8" – 16 EYEBOLT AND ATTACHED PEAR CLIP — 1
3. CONCRETE PAD
4. MAIN NET – 1-3/4" SQUARE X 14' HIGH X 14' WIDE X 55' LONG POLLY NET
5. UPRIGHT – 4.00 O.D. X .125 X 17'6" ALUMINUM TUBE, 24" ARC OFFSET, 6061T6 BY OWNER

BATTING CAGE DETAILS

1
C-5.5

GIBRALTAR DESIGN
ARCHITECTURE • ENGINEERING • INTERIOR DESIGN

PROJECT
LOWELL HIGH SCHOOL SITE, BLEACHERS, & TURF/DRAINAGE
TRI-CREEK SCHOOL CORPORATION

ADDED THIS SHEET IN THIS ADDENDUM — AD-3

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PROJECT 23-112
DATE 08/04/23
COORDINATED BY DTB JPB
DRAWN BY DTB
CHECKED BY DTB JPB

JOSEPH P. BRIGGS REGISTERED NO. 11600109 STATE OF INDIANA ARCHITECT

REVISIONS

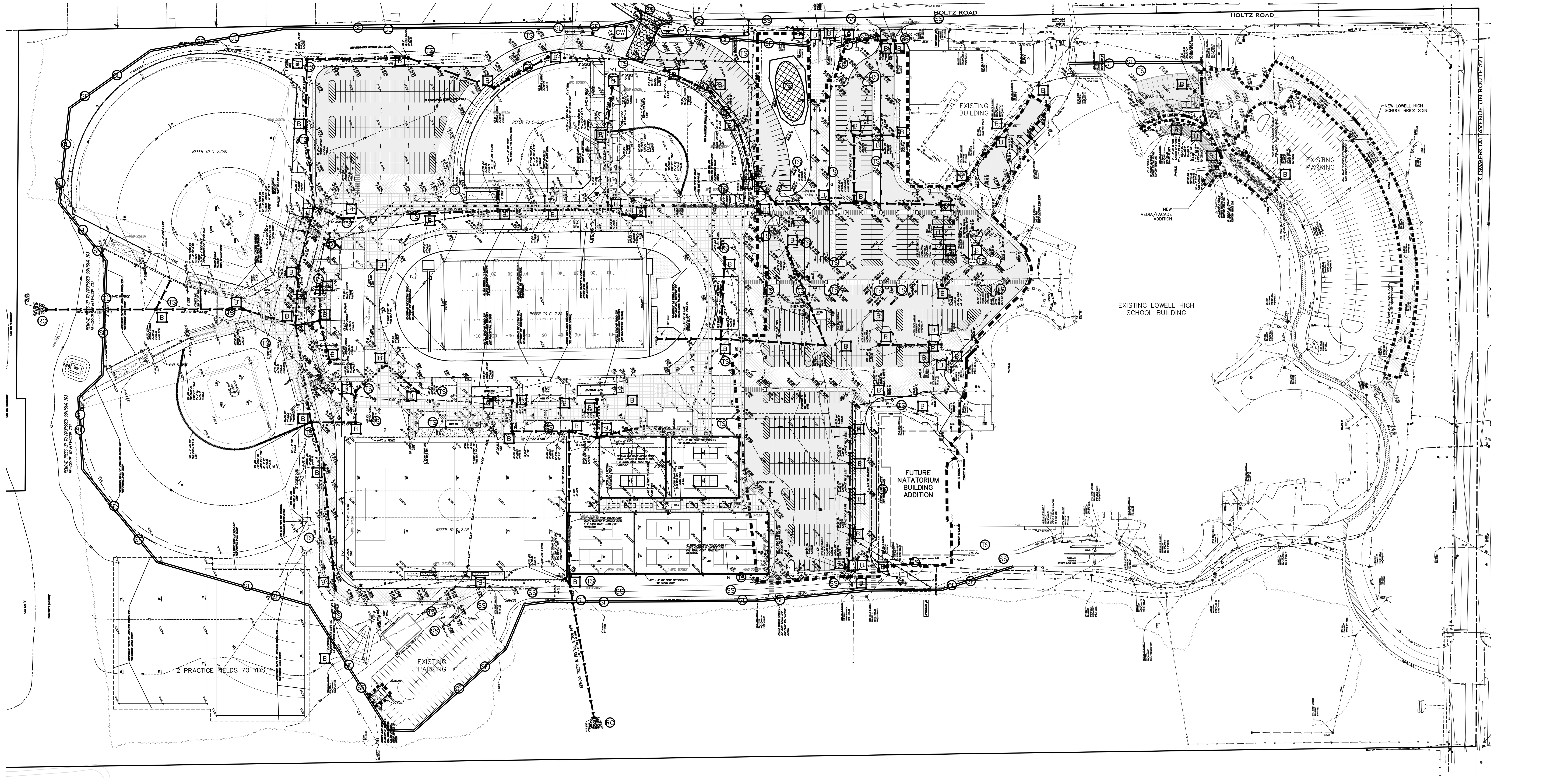
MARK	DATE	ISSUED FOR
AD-3	09/08/23	ADDENDUM NO. 3

DRAWING
DETAILS AND SPECIFICATIONS

PROJECT
LOWELL HIGH SCHOOL - SITE AND STADIUM IMPROVEMENTS

SHEET
C-5.5

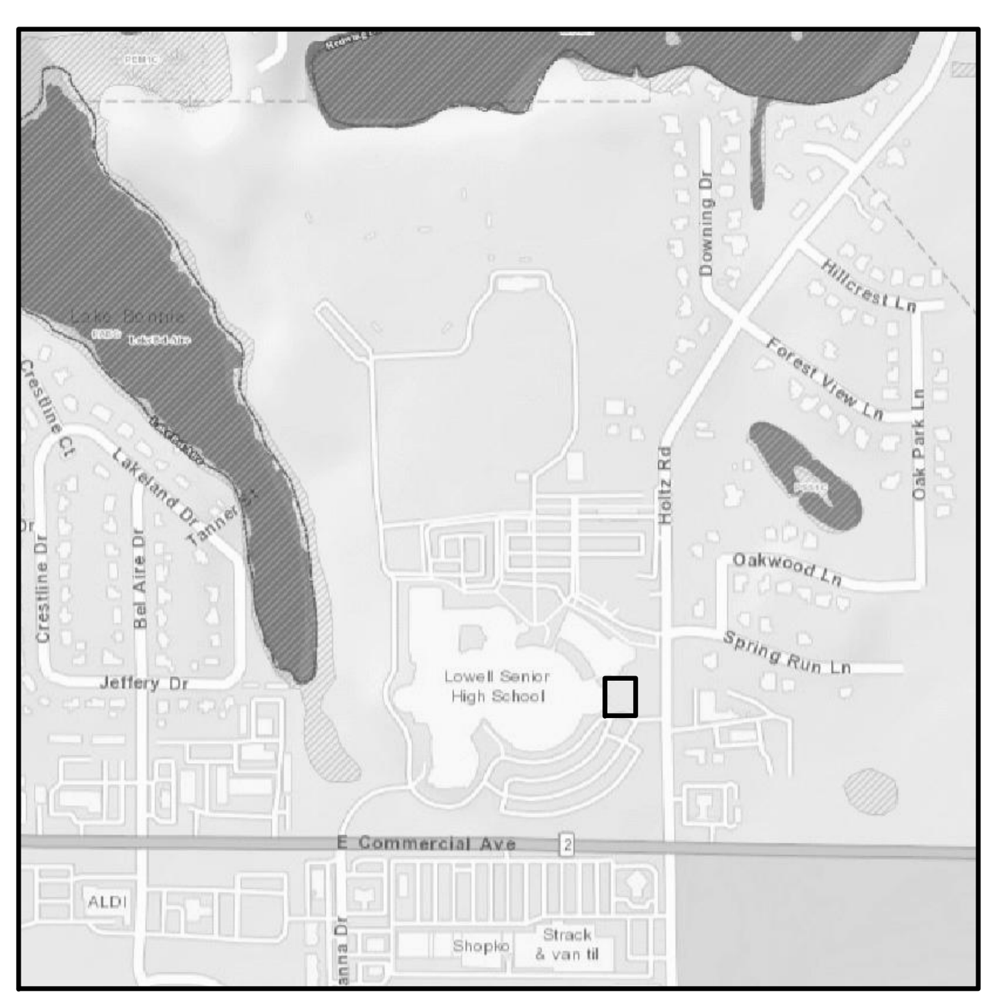
Monday, 9/11/2023 - 2:49 PM - LAST SAVED BY:DBURNS
Y:\23-112 TRI-CREEK SC - LOWELL HS SITE IMPROVEMENTS\2X-XXX DRAWINGS\03 SITE\C-5.4.DWG



VICINITY MAP

NOT TO SCALE

NORTH



WETLANDS MAP

NOT TO SCALE

NORTH

SOIL MAP

NOT TO SCALE

NORTH

Soil Type Legend

- BIA – Blount silt loam, Lake Michigan Lobe, 0 to 2 percent slopes
- El – Elliott silt loam, 0 to 2 percent slopes
- OzlC3 – Ozaukee silty clay loam, 6 to 12 percent slopes, severely eroded
- OzaB – Ozaukee silt loam, 2 to 6 percent slopes
- Pc – Pewamo silty clay loam

GENERAL NOTES:

1. THIS PROPERTY IS LOCATED IN FLOOD ZONE(S) "A" & "X (UNSHADED)" AS DETERMINED BY USING SCALE MEASUREMENT FOR LOCATION UPON THE APPLICABLE FLOOD INSURANCE RATE MAP FOR THE TOWN OF LOWELL AND UNINCORPORATED AREAS , LAKE COUNTY), INDIANA AS SHOWN IN COMMUNITY PANEL(S) 18089C0342E EFFECTIVE JANUARY 18, 2012 . TRACTS OF LAND LOCATED IN FLOOD ZONE "A" ARE IN A SPECIAL FLOOD HAZARD AREA SUBJECT TO INUNATION BY THE 1% ANNUAL CHANCE FLOOD. THE 1% ANNUAL CHANCE FLOOD (100 YEAR FLOOD), ALSO KNOWN AS THE BASE FLOOD, IS THE FLOOD THAT HAS A 1% CHANCE OF BEING EQUALED OR EXCEEDED IN ANY GIVE YEAR. THIS SPECIAL FLOOD HAZARD AREA IS THE AREA SUBJECT TO FLOODING BY THE 1% ANNUAL CHANCE FLOOD. THE BASE FLOOD ELEVATION IS THE WATER-SURFACE ELEVATION OF THE 1% ANNUAL CHANCE FLOOD. IN A FLOOD ZONE "A", THE BASE FLOOD ELEVATIONS HAVE NOT BEEN DETERMINED. TRACTS OF LAND LOCATED IN FLOOD ZONE X (UNSHADED) ARE AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOOD HAZARD.
2. HYDROLOGIC UNIT CODE (HUC) – 07120001130040 SPRING RUN
3. AN IDEM CONSTRUCTION STORMWATER GENERAL PERMIT (CSGP) IS REQUIRED.
4. AT PRESENT THE SITE IS AN EXISTING SCHOOL WITH SURROUNDING PARKING AREAS, PONDS AND SPORTS FIELDS.
5. THERE IS PRESENCE OF HYDRIC SOILS ON THIS PROPERTY, (PC) PEWAMO SILTY CLAY LOAM.
6. THERE ARE NO EXISTING WETLAND AREAS ON THIS PROPERTY BUT DO EXIST ON ADJACENT PROPERTY AS CLASSIFIED BY THE U.S. FISH AND WILDLIFE SERVICE, NATIONAL WETLANDS INVENTORY, AND THE UNITED STATES DEPARTMENT OF THE INTERIOR. THERE ARE NO LAKES OR WATER COURSES BUT A DETENTION POND DOES EXIST ON THIS PROPERTY. SPRING RUN IS THE WATER COURSE WHICH THE STORMWATER FROM THE REST OF THE PROPOSED SITE WILL ULTIMATELY DISCHARGE INTO; A TRIBUTARY IS LOCATED ON THE PROJECT SITE.
7. POTENTIAL SOURCE OF STORM WATER DISCHARGE ENTERING THE GROUNDWATER FROM THIS DEVELOPMENT WILL BE THROUGH NATURAL GROUND ABSORPTION ONLY. THERE ARE NO ABANDONED WELLS OR SINKHOLES ON THE PROPERTY.
8. THERE ARE NO SENSITIVE AREAS ASSOCIATED WITH THIS PROPERTY.
9. THERE ARE NO REGULATED DRAINS WITHIN THIS PROPERTY, OR ON ADJACENT PROPERTIES. THERE IS RECORD OR KNOWLEDGE OF EXISTING FARM DRAINS OR FIELD TILE, INLETS AND OUTFALLS LOCATED WITHIN THE EXISTING PROPERTY LIMITS.
10. SOIL STOCKPILES, BORROW AND DISPOSAL AREAS ARE LOCATED WITHIN THE PROJECT SITE. SOIL STOCKPILES SHALL BE SURROUNDED WITH SILT FENCING AT ALL TIMES TO PREVENT EXCESSIVE EROSION, AND IF LEFT UNDISTURBED FOR A PERIOD OF MORE THAN 7 DAYS, IT SHALL BE TEMPORARY SEEDED WITHIN 14 DAYS. UPON SITE COMPLETION THE TOPSOIL STOCKPILE SHALL BE RESPREAD, GRADED, AND PERMANENTLY SEEDED. SOIL STOCKPILES SHALL NOT BE LEFT ON THE SITE FOR GREATER THAN 6 MONTHS AFTER CONSTRUCTION IS COMPLETED. NO SOIL FROM THE STOCKPILES SHALL BE REMOVED FROM THE SITE. ALL EXTRA STOCKPILE MATERIAL SHALL BE RESPREAD IN AREAS DESIGNATED BY THE CONSTRUCTION MANAGER.
11. AREAS WHERE THE PROPOSED ATHLETIC FIELDS, BUILDING, AND SIDEWALKS AS WELL AS AREAS WHERE PROPOSED UTILITIES ARE LOCATED WILL BE DISTURBED DURING CONSTRUCTION. IN ALL OTHER AREAS, EXISTING VEGETATIVE COVER WILL BE PRESERVED.
12. FUEL STORAGE AREA IF REQUIRED SHALL BE WITHIN THE CONSTRUCTION STAGING AREA, FUEL SHALL BE STORED IN APPROVED MOBILE REFUELING TANK LOCATED AWAY FROM DRAINAGE STRUCTURES AND CHANNELS. FIRE EXTINGUISHERS SHALL BE LOCATED NEAR FUEL STORAGE AREA AND BE OF SUITABLE TYPE, POSTED, AND BE MAINTAINED IN GOOD CONDITION.
13. TEMPORARY SEED ALL AREAS OF BARE SOIL (WITH THE ADDITION OF A BLANKET WHERE SLOPES ARE 4:1 OR GREATER) THAT WILL REMAIN UNDISTURBED FOR A PERIOD OF MORE THAN 7 DAYS, WITHIN 14 DAYS. SEEDING: OPTIMUM SEEDING DATED ARE MARCH 1 – MAY 10 AND AUGUST 10 – SEPTEMBER 30. SEEDING DATES BETWEEN MAY 10 AND AUGUST 10, MAY NEED TO BE IRRIGATED. FOR SEEDING RECOMMENDATIONS SEE PRACTICE 3.12, INDIANA STORM WATER QUALITY MANUAL.
14. ALL SOIL STOCKPILES, AREAS THAT ARE DISTURBED DURING CONSTRUCTION, AND DRAINAGE SWALES WHICH ARE SCHEDULED OR LIKELY TO BE LEFT INACTIVE FOR SEVEN (7) CALENDAR DAYS OR MORE MUST BE TEMPORARILY OR PERMANENTLY SEEDED WITH MEASURES APPROPRIATE FOR THE SEASON WITHIN FOURTEEN (14) DAYS.
15. SITE ELEVATIONS ARE BASED ON NAVD 88, AND HORIZONTAL DATUM IS BASED ON INDIANA STATE PLANE COORDINATES NAD 83.

SWPPP LEGEND:

- TEMPORARY ENTRANCE/EXIT (GRAVEL OR MAT)
- SOIL STOCK PILE
- B – BASKET INSERT INLET PROTECTION
- GL – GRADE LIMITS
- SF – SILT FENCE
- CW – CONCRETE WASH OUT AREA
- TS – TEMPORARY SEEDING
- SS – STREET SWEEPING
- XXX.XX – GRADES (PROPOSED)
- RC – ROCK CHUTE
- P – POSTING CSGP NOI & NOS LETTERS AND LOCAL SWPPP PERMIT

NORTH

GRAPHIC SCALE

80 0 40 80 160 320

(IN FEET)
1 inch = 80 ft.

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GIBRALTAR DESIGN
ARCHITECTURE • ENGINEERING • INTERIOR DESIGN

PROJECT:
LOWELL HIGH SCHOOL SITE BLEACHERS, & TURF/DRAINAGE

TRI-CREEK SCHOOL CORPORATION

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PROJECT 23-112
DATE 08/04/23
COORDINATED BY DCT/AM
DRAWN BY EM
CHECKED BY DCT/AM

DONALD C. TORRENGA REGISTERED No. 19868 STATE OF INDIANA PROFESSIONAL ENGINEER

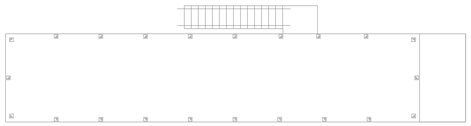
REVISIONS

MARK	DATE	ISSUED FOR
AD-3	09/07/23	ADDENDUM NO. 3

DRAWING
STORM WATER POLLUTION PREVENTION PLAN

PROJECT
LOWELL HIGH SCHOOL SITE BLEACHERS, & TURF/DRAINAGE

SHEET C-6.0



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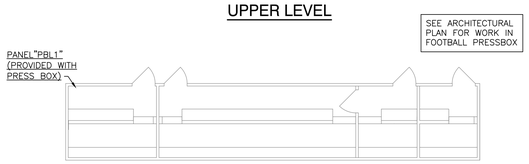
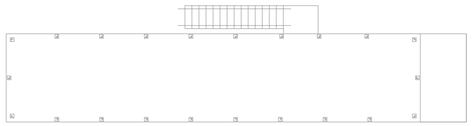


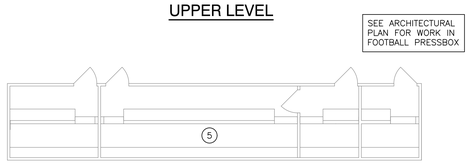
LOWER LEVEL

FOOTBALL PRESSBOX ELECTRICAL LIGHTING PLANS

SCALE: 1/8" = 1'-0"



UPPER LEVEL



LOWER LEVEL

FOOTBALL PRESSBOX ELECTRICAL POWER PLANS

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. FOR ADDITIONAL GENERAL ELECTRICAL NOTES, SEE GENERAL ELECTRICAL PROJECT NOTES ON SHEET E-001.
2. SEE E-600 SHEETS FOR ELECTRICAL DETAILS AND SCHEDULES.
3. SEE E-700 SHEETS FOR ELECTRICAL DISTRIBUTION DIAGRAMS.
4. CONNECT NIGHT LIGHTS/EMERGENCY LIGHTS AND EXIT SIGNS TO EXISTING EMERGENCY LIGHTING CIRCUITS SERVING THE EXISTING EMERGENCY LIGHTING FIXTURES AND EXIT SIGNS ON THIS SHEET, AHEAD OF ANY CONTROLS.

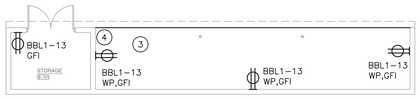
ELECTRICAL PLAN NOTES:

(THESE NOTES APPLY TO THIS SHEET ONLY)

1. TORK DZS200BP TWO CHANNEL DIGITAL TIMECLOCK SBTC-1 CHANNEL ONE CONTROLS EXTERIOR BUILDING LIGHTS.
2. TORK DZS200BP TWO CHANNEL DIGITAL TIMECLOCK SBTC-2 CHANNEL ONE CONTROLS EXTERIOR BUILDING LIGHTS.
3. ONLY THE ELECTRICAL EQUIPMENT (PANELBOARDS, TRANSFORMERS, RELAYS, SPORTS LIGHTING RELAY CABINETS, TIMECLOCKS, DISCONNECTS, ETC ARE BEING PROVIDED AS PART OF THIS PROJECT. LIGHTING FIXTURES, RECEPTACLES, SWITCHES, ETC ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY AND WILL NOT BE INCLUDED IN THIS PROJECT.
4. PROVIDE A JUNCTION BOX AND CABLING FOR SCOREBOARD CONTROLS. VERIFY EXACT WITH LOCATION WITH CONSTRUCTION MANAGER AND OWNER PRIOR TO ROUGHING-IN. VERIFY TYPE OF CABLE AND ELECTRICAL REQUIREMENTS REQUIRED WITH SCOREBOARD MANUFACTURER AND OWNER.
5. INTERCEPT EXISTING EMERGENCY CIRCUIT SERVING THE EXISTING EMERGENCY LIGHTS IN THE PRESSBOX BEING REPLACED AND EXTEND TO THE NEW EMERGENCY LIGHTS IN THE NEW PRESSBOX.

HOME

HOME



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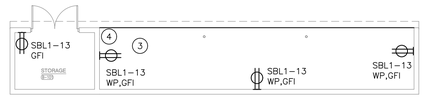

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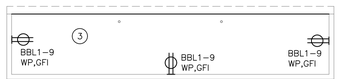
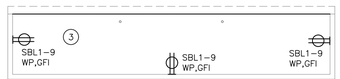


VISITOR

VARSITY BASEBALL DUGOUT ELECTRICAL PLANS

SCALE: 1/8" = 1'-0"



VISITOR

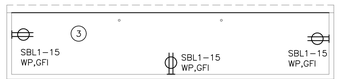
VARSITY SOFTBALL DUGOUT ELECTRICAL PLANS

SCALE: 1/8" = 1'-0"

VISITOR

JUNIOR VARSITY BASEBALL DUGOUT ELECTRICAL PLANS

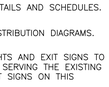
SCALE: 1/8" = 1'-0"

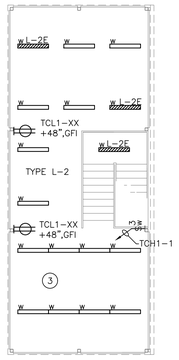


VISITOR

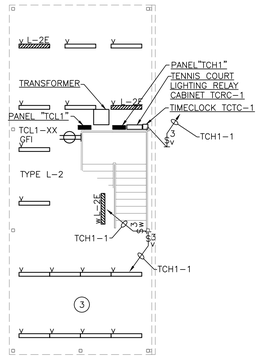
JUNIOR VARSITY SOFTBALL DUGOUT ELECTRICAL PLANS

SCALE: 1/8" = 1'-0"





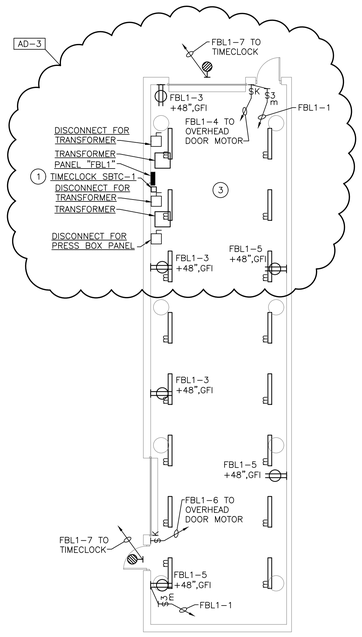
UPPER LEVEL



LOWER LEVEL

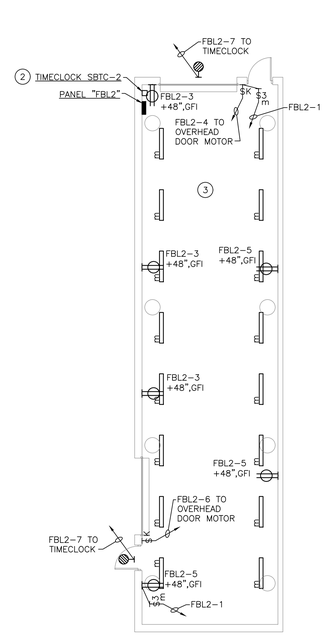
TENNIS PLTAFORM ELECTRICAL PLANS

SCALE: 1/8" = 1'-0"



ATHLETIC STORAGE #1 ELECTRICAL PLAN

SCALE: 1/8" = 1'-0"



ATHLETIC STORAGE #2 ELECTRICAL PLAN

SCALE: 1/8" = 1'-0"

GIBRALTAR DESIGN
ARCHITECTURE • ENGINEERING • INTERIOR DESIGN

PROJECT

LOWELL HIGH SCHOOL SITE, BLEACHERS, & TURF/DRAINAGE

TRI-CREEK SCHOOL CORPORATION

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PROJECT 23-112
DATE 08/04/23
COORDINATED BY PCB
DRAWN BY PCB/JVC
CHECKED BY JPB

JOSEPH P. BRIGGS REGISTERED NO. 11600109 STATE OF INDIANA ARCHITECT

REVISIONS

MARK	DATE	ISSUED FOR
AD-3	09/08/23	ADDENDUM NO. 3

DRAWING
SITE BUILDING ELECTRICAL PLANS

PROJECT
LOWELL HIGH SCHOOL - SITE AND STADIUM IMPROVEMENTS

SHEET
E-101

LOWELL HIGH SCHOOL ATHLETIC FIELDS PANELBOARD SCHEDULE

MARK & TYPE
"DPHS1"
TYPE: EXISTING
277/480V, 3 PH, 4W
800 AMP MAIN BREAKER
NEMA 3R
SURFACE MOUNTED

REMARKS
EXISTING
MODIFY AND PROVIDE THE CIRCUIT BREAKERS AND SPACES SHOWN BELOW AS WELL AS RELOCATING THE 3P-125 AMP CIRCUIT BREAKER SERVING THE EXISTING TRANSFORMER XFMR T-S1.

DESCRIPTION	CIR	POLE	TRIP	LTS	REC	EQUIP	A	B	C	HEAT	A/C	FUTR	POLE	TRIP	CIR	DESCRIPTION
PANEL "NSH1" (NORTH STAR BLDG)	1	3	600	8.00	12.42	73.03	93.45									
													3	600	2	SPACE
				8.00	12.83	73.64		94.47								
				8.00	10.94	74.94			93.88							
PANEL "BBH1"	3	3	200	21.93	2.76	4.00	28.69									
				21.93	2.58	3.00		27.51					3	200	4	SPACE
				21.68	3.90	2.00			27.58							
SPACE	5	3	100													
													3	200	6	SPACE
SPACE	7	3	100													
													3	125	8	EXISTING TRANSFORMER T-S1
SPACE	9	3	200													
													3	200	10	SPACE
TOTAL CONNECTED LOAD (kVA)				89.54	45.43	230.61	122.14	121.98	121.46							
TOTAL DEMAND LOAD (kVA)				89.54	27.72	230.61										

LOWELL HIGH SCHOOL ATHLETIC FIELDS PANELBOARD SCHEDULE

MARK & TYPE
"SDP"
TYPE: SQ D I-LINE OF APPROVED EQ
277/480V, 3 PH, 4W
1200 AMP MAIN BREAKER
NEMA 4X
SURFACE MOUNTED

REMARKS
BRANCH CIRCUITS SHALL BE CIRCUIT BREAKERS.
PANELBOARD AND CIRCUITS SHALL HAVE MINIMUM 100,000 AMP INTERRUPTING CAPACITY.
PANEL SHALL BE RATED FOR SERVIC ENTRANCE.

DESCRIPTION	CIR	POLE	TRIP	LTS	REC	EQUIP	A	B	C	HEAT	A/C	FUTR	POLE	TRIP	CIR	DESCRIPTION
TRANSFORMER (PANEL "PBL1")	1	3	70													
													3	100	2	SPARE (COMMUNITY BUILDING)
	3															
															4	
	5															
															6	
PANEL "SBH1"	7	3	200													
													4	200	8	PANEL "TCLH1"
	9															
															10	
	11															
															12	
PANEL "SFH1"	13	3	200													
													3	200	14	PANEL "SLH1"
	15															
															16	
	17															
															18	
PANEL "FFLDP"	19	3	400													
													3	400	20	SPACE
	21															
															22	
	23															
															24	
SPACE	25	3	400													
													3	20	26	SPACE
	27															
															28	
	29															
															30	
TOTAL CONNECTED LOAD (kVA)																
TOTAL DEMAND LOAD (kVA)																

LOWELL HIGH SCHOOL ATHLETIC FIELDS PANELBOARD SCHEDULE

MARK & TYPE
"BBH1"
TYPE: SQ D I-LINE OR APPROVED EQ
277/480V, 3 PH, 4W
225 AMP MAIN BREAKER
NEMA 1
SURFACE MOUNTED

REMARKS
BRANCH CIRCUITS SHALL BE CIRCUIT BREAKERS.
CIRCUITS SHALL HAVE MINIMUM 35,000 AMP INTERRUPTING CAPACITY.
PANEL SHALL BE RATED FOR SERVICE ENTRANCE.
LOCATED IN LOWER LEVEL OF PRESSBOX.

DESCRIPTION	CIR	POLE	TRIP	LTS	REC	EQUIP	A	B	C	HEAT	A/C	FUTR	POLE	TRIP	CIR	DESCRIPTION
BASEBALL FIELD LIGHTS POLE (BBL1-9/A2) (RELAY BBR-9/C2)	1	3	20	2.70			2.70									
													3	20	2	BASEBALL FIELD LIGHTS POLE (BBL1/A1) (RELAY BBR-1/C1)
	3			2.70			2.70									
				2.70				2.70							4	
	5			2.70					2.70							
BASEBALL FIELD LIGHTS POLE (BBL-7/B2) (RELAY BBR-7/C4)	7	3	20	2.58			2.58									
				2.58				2.58								
	9			2.58					2.58							
				2.58											10	
	11			2.58					2.58							
													3	20	8	BASEBALL FIELD LIGHTS POLE (BBL2/B1) (RELAY BBR-2/C3)
															12	
BASEBALL FIELD LIGHTS POLE (BBL-4/C2) (RELAY BBR-6/C6)	13	3	20	2.38			2.38									
				2.38				2.38								
	15			2.38					2.38							
				2.38											16	
	17			2.38					2.38							
				2.38											18	
BASEBALL FIELD LIGHTS POLE (BBL-5/D2) (RELAY BBR-5/C8)	19	3	25	2.38			2.38									
													3	20	20	BASEBALL FIELD LIGHTS POLE (BBL4/D1) (RELAY BBR-4/C7)
	21			2.38				2.38								
				2.38					2.38						22	
	23			2.38												
				2.38					2.38						24	
EAST BASEBALL FIELD PARKING LOT (RELAY SR-9)	25	3	20													
				0.24	2.76	3.00	6.00									TRANSFORMER (PANEL "BBL1")
	27												3	70	26	
				1.00	2.58	2.00		5.58							28	
	29															
					3.90	2.50			6.40						30	
NORTHEAST BASEBALL FIELD PARKING LOT LIGHTS (RELAY BBR-11)	31	2	20	0.85			0.85									
													1	20	32	BASEBALL PRESSBOX EXTERIOR LIGHT/ RELAY BBR-9 FLAG POLE LIGHTS/ RELAY RBB-10/ TIMECLOCK
	33			0.85					0.85							
													1	20	34	RELAYS BBR-11 AND BS-12 CONTROLS/ TIMECLOCK
NORTH DRIVE LIGHTS (RELAY BBR-12)	35	2	20	0.60					0.60							
													1	20	36	SPARE
	37			0.60					0.60							
													1	20	38	SPARE
SPARE	39	1	20													
													1	20	40	SPARE
SPARE	41	1	20													
													1	20	42	SPARE
TOTAL CONNECTED LOAD (kVA)				64.54	9.24	9.50	38.69	27.51	27.58							
TOTAL DEMAND LOAD (kVA)				64.54	9.24	9.50										

LOWELL HIGH SCHOOL ATHLETIC FIELDS PANELBOARD SCHEDULE

MARK & TYPE
"BBL1"
TYPE: SQ D NQ OR APPROVED EQUAL
120/208V, 3 PH, 4W
100 AMP MAIN BREAKER
NEMA 1
SURFACE MOUNTED

REMARKS
BRANCH CIRCUITS SHALL BE CIRCUIT BREAKERS.
CIRCUIT BREAKERS SHALL HAVE MINIMUM 22,000 AMP INTERRUPTING CAPACITY - TYPE QOB-BH.

DESCRIPTION	CIR	POLE	TRIP	LTS	REC	EQUIP	A	B	C	HEAT	A/C	FUTR	POLE	TRIP	CIR	DESCRIPTION
PRESSBOX STORAGE LIGHTS	1	1	20	0.24			0.24									
					0.72			0.72								
SPARE	3	1	20										1	20	2	PRESSBOX RECPS
					0.54				0.54							
SOUND EQUIPMENT	5	1	20		1.50								1	20	4	PRESSBOX RECPS
					0.72				0.72							
DUGOUT RECPS	7	1	20		0.54			0.54					1	20	6	PRESSBOX RECPS
						1.00	1.00									
DUGOUT RECPS	9	1	20		0.54			0.54					1	20	8	RELAYS BBR-1 THRU BBR-4
STORAGE RECPS	11	1	20		0.18			1.00					1	20	10	RELAYS BBR-5 THRU BBR-8
						1.50			1.50							
RELAYS BBR-1 THRU BBR-4	13	1	20			1.00	1.00						1	20	12	SCOREBOARD
						1.50	1.50									
RELAYS BBR-5 THRU BBR-8	15	1	20			1.00		1.00					1	20	14	BATTING CAGE RECEPTACLE
						1.50		1.50								
SPARE	17	1	20										1	20	16	BATTING CAGE RECEPTACLE
						0.36			0.36							
ECH-1 (3 KW)	19	2	20			1.50			1.50				1	20	18	RECP NEAR VARSITY AND JV SCOREBOARD
	21	1	20				1.00	2.50		1.50						
							1.00	1.00					1	20	20	SPARE
SPARE	23	1	20				1.00		1.00							
													2	20	22	MOTORIZED GATE
SPARE	25	1	20				1.00	1.00								
													2	20	24	PTAC-1
SPARE	27	1	20			1.00	1.00									
													2	60	26	
SPARE	29	1	20					1.00								PANEL "TBL3"
						1.50			1.50						30	
TOTAL CONNECTED LOAD (kVA)				1.24	9.60	9.50	7.50	9.08	6.76	3.00						
TOTAL DEMAND LOAD (kVA)				1.24	9.60	9.50				3.00						

LOWELL HIGH SCHOOL ATHLETIC FIELDS PANELBOARD SCHEDULE

MARK & TYPE
"SBH1"
TYPE: SQ D NF OR APPROVED EQ
277/480V, 3 PH, 4W
225 AMP MAIN BREAKER
NEMA 1
SURFACE MOUNTED

REMARKS
BRANCH CIRCUITS SHALL BE CIRCUIT BREAKERS.
CIRCUITS SHALL HAVE MINIMUM 35,000 AMP INTERRUPTING CAPACITY.
PANEL SHALL BE RATED FOR SERVICE ENTRANCE.
LOCATED IN LOWER LEVEL OF SOFTBALL FIELD PRESS BOX.

DESCRIPTION	CIR	POLE	TRIP	LTS	REC	EQUIP	A	B	C	HEAT	A/C	FUTR	POLE	TRIP	CIR	DESCRIPTION
PRESS BOX EXTERIOR LIGHTS/ RELAY SBR-5 FLAG POLE LIGHT/ RELAY SBR-6	1	1	20	1.00			1.00									
													1	20	2	SPARE
SPARE	3	1	20													
													1	20	4	SPARE
SPARE	5	1	20													
													1	20	6	SPARE
SOFTBALL FIELD LIGHTS POLE (SBL-4/A4) (RELAY SBR-4/C4)	7	3	20	1.17			1.17									
													3	20	8	SOFTBALL FIELD LIGHTS POLE (SBL-1/A3) (RELAY SBR-1/C1)
	9			1.17				1.17								
				1.17					1.17						10	
	11			1.17					1.17							
				1.17											12	
SOFTBALL FIELD LIGHTS POLE (SBL-3/B4) (RELAY SBR-3/C3)	13	3	20	2.39			2.39									
													3	20	14	SOFTBALL FIELD LIGHTS POLE (SBL-2/B3) (RELAY SBR-2/C2)
	15			2.39				2.39								
				2.39					2.39						16	
	17			2.39					2.39							
				2.39											18	
SPARE	19	1	20													
													1	20	20	SPARE
SPARE	21	1	20													
													1	20	22	SPARE
SPARE	23	1	20													
													1	20	24	SPARE
SPACE	25	1														
													1		26	SPACE
SPACE	27	1														
													1		28	SPACE
SPACE	29	1														
													1		30	SPACE
SPACE	31	1														
																30 KVA XFMR (PANEL "SFL1")
SPACE	33	1					6.29	6.29					3	70	32	
															34	SPACE
SPACE	35	1					6.29		6.29							
															36	SPACE
SPACE	37	1					7.29									
									7.29				1		38	SPACE
SPACE	39	1														
													1		40	SPACE
SPACE	41	1														
													1		42	SPACE
TOTAL CONNECTED LOAD (kVA)				22.36			19.87	14.41	13.41	14.41						
TOTAL DEMAND LOAD (kVA)				22.36			19.87									

LOWELL HIGH SCHOOL ATHLETIC FIELDS PANELBOARD SCHEDULE

MARK & TYPE
"SBL1"
TYPE: SQ D NQ OR APPROVED EQUAL
120/208V, 3 PH, 4W
100 AMP MAIN BREAKER
NEMA 1
SURFACE MOUNTED

REMARKS
BRANCH CIRCUITS SHALL BE CIRCUIT BREAKERS.
CIRCUIT BREAKERS SHALL HAVE MINIMUM 22,000 AMP INTERRUPTING CAPACITY - TYPE QOB-BH.

DESCRIPTION	CIR	POLE	TRIP	LTS	REC	EQUIP	A	B	C	HEAT	A/C	FUTR	POLE	TRIP	CIR	DESCRIPTION
PRESSBOX STORAGE LIGHTS	1	1	20	0.24			0.24									
					0.72			0.72								
RELAYS SBR-1 THRU SBR-4	3	1	20			1.00		1.00					1	20	2	PRESSBOX RECPS
					0.54			0.54								
SOUND EQUIPMENT	5	1	20		1.50				1.50				1	20	4	PRESSBOX RECPS
					0.72				0.72							
HOME DUGOUT RECPS	7	1	20		0.54			0.54					1	20	6	PRESSBOX RECPS
VISITOR DUGOUT RECPS	9	1	20		0.54			0.54					1	20	8	SPARE
STORAGE RECPS	11	1	20		0.18				0.18				1	20	10	SPARE
						1.50			1.50							
SPARE	13	1	20										1	20	12	VARSITY SCOREBOARD
					1.50			1.50								
SPARE	15	1	20										1	20	14	BATTING CAGE RECEPTACLE
					1.50				1.50							
SPARE	17	1	20										1	20	16	BATTING CAGE RECEPTACLE
						0.18			0.18							
ECH-3 (3 KW)	19	2	20			1.50			1.50				1	20	18	RECP AT SCOREBOARD
	21						1.50	1.50		1.50						
								1.50					1	20	20	JV SCOREBOARD
SPARE	23	1	20						2.00	2.00						
						1.00			1.00				2	20	22	SPARE
SPARE	25	1	20													
						1.00	1.00								24	PTAC-1
SPARE	27	1	20												26	
													1	20	28	SPARE
SPARE	29	1	20													
													1	20	30	SPARE
TOTAL CONNECTED LOAD (kVA)				0.24	7.92	6.00	7.00	5.08	7.08	5.00						
TOTAL DEMAND LOAD (kVA)				0.24	7.92	6.00				5.00						

AD–3

GIBRALTAR
DESIGN
ARCHITECTURE • ENGINEERING • INTERIOR DESIGN

PROJECT
LOWELL HIGH SCHOOL SITE, BLEACHERS, & TURF/DRAINAGE
TRI-CREEK SCHOOL CORPORATION

GIBRALTAR DESIGN
9102 N. Meridian St., Ste. 300
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PROJECT 23–112
DATE 08/04/23
COORDINATED BY PCB
DRAWN BY PCB/JVC
CHECKED BY JPB

JOSEPH P. BRIGGS REGISTERED NO. 11600109 STATE OF INDIANA ARCHITECT

REVISIONS

MARK	DATE	ISSUED FOR
AD–2	08/31/23	ADDENDUM NO. 2
AD–3	09/08/23	ADDENDUM NO. 3

DRAWING
ELECTRICAL SCHEDULES

PROJECT
LOWELL HIGH SCHOOL - SITE AND STADIUM IMPROVEMENTS

SHEET
E-603

LOWELL HIGH SCHOOL NORTH STAR BUILDING PANELBOARD SCHEDULE

MARK & TYPE: "1NSH1" — TYPE: SQ D NF OR APPROVED EQUAL — 277/480V, 3 PH, 4W — 100 AMP MAIN LUGS — NEMA 1 — SURFACE MOUNTED

REMARKS: BRANCH CIRCUITS SHALL BE CIRCUIT BREAKERS. CIRCUIT BREAKERS SHALL HAVE MINIMUM 35,000 AMP INTERRUPTING CAPACITY.

DESCRIPTION	CIR	POLE	TRIP	LTS	REC	EQUIP	A	B	C	HEAT	A/C	FUTR	POLE	TRIP	CIR	DESCRIPTION
A115,116,117,118,119, 120,121,122,1223,124, 131,132,133,134 LIGHTS	1	1	20	2.11			2.11									A125,126,127,128,129, 130,131,135,136,137, 138 LIGHTS
				1.60			1.60						1	20	2	
A109,110,111,112,113, 114 LIGHTS	3	1	20	2.68				2.68								A-148,149,150,151,152, 153,154 LIGHTS
				1.77				1.77					1	20	4	
A101,102,103,104,105, 106,107,108 LIGHTS	5	1	20	2.00					2.00							A201,202,203,204,205, 206 LIGHTS
				1.48					1.48				1	20	6	
BUILDING SECURITY LIGHTS (RELAY NSR-1)	7	1	20	1.05			1.05									A207,208,209,210,211 LIGHTS
				1.41			1.41						1	20	8	
RELAY NSR-1 CONTROL	9	1	20			1.00		1.00					1	20	10	SPARE
SPARE	11	1	20										1	20	12	SPARE
SPARE	13	1	20										1	20	14	SPARE
SPARE	15	1	20										1	20	16	SPARE
SPARE	17	1	20										1	20	18	SPARE
SPARE	19	1	20										1	20	20	SPARE
SPARE	21	1	20										1	20	22	SPARE
SPARE	23	1	20										1	20	24	SPARE
AHU-NS4 (1 HP)	25	3	15			0.58	0.58						3	15	26	AHU-NS3 (5 HP)
						2.10	2.10									
	27					0.58		0.58							28	
						2.10		2.10								
	29					0.58			0.58						30	
						2.10			2.10							
TOTAL CONNECTED LOAD (kVA)				14.10		9.04	8.85	8.13	6.16							
TOTAL DEMAND LOAD (kVA)				14.10		9.04										

LOWELL HIGH SCHOOL NORTH STAR BUILDING PANELBOARD SCHEDULE

MARK & TYPE: "1NSH2" — TYPE: SQ D NF OR APPROVED EQUAL — 277/480V, 3 PH, 4W — 225 AMP MAIN LUGS — NEMA 1 — SURFACE MOUNTED

REMARKS: BRANCH CIRCUITS SHALL BE CIRCUIT BREAKERS. CIRCUIT BREAKERS SHALL HAVE MINIMUM 35,000 AMP INTERRUPTING CAPACITY.

DESCRIPTION	CIR	POLE	TRIP	LTS	REC	EQUIP	A	B	C	HEAT	A/C	FUTR	POLE	TRIP	CIR	DESCRIPTION
CHILLED WATER CIRCULATING PUMPCHP-NS1 (5 HP)	1	3	20			2.10	2.10									CHILLED WATER CIRCULATING PUMP CHP-NS2 (5 HP)
						2.10	2.10						3	20	2	
	3					2.10		2.10							4	
	5					2.10		2.10							6	
						2.10										
HEATING SYSTEM CIRCULATING PUMP CP-NS1 (5 HP)	7	3	20			2.10	2.10									HEATING SYSTEM CIRCULATING PUMP CP-NS2 (5 HP)
						2.10	2.10						3	20	8	
	9					2.10		2.10							10	
	11					2.10		2.10							12	
AHU-NS1 (7 1/2 HP)	13	3	20			3.05	3.05									AHU-NS2 (3 HP)
	15					1.32	1.32						3	20	14	
						3.05		3.05							16	
	17					1.32		1.32							18	
						3.05			3.05							
SPARE	19	3	20			1.32			1.32							
	21												1	20	20	SPARE
	23												1	20	22	SPARE
SPARE	25	1	20										1	20	24	SPARE
							3.00		3.00				1	20	26	EH-NS1 (3 KW)
SPARE	27	1	20													
								3.00					1	20	28	EH-NS2 (3 KW)
SPARE	29	1	20													
									3.00				1	20	30	EH-NS3 (3 KW)
SPARE	31	1	20													
													1	20	32	SPARE
SPARE	33	1	20													
													1	20	34	SPARE
SPARE	35	1	20													
													1	20	36	SPARE
SPARE	37	1	20													
													1	20	38	SPARE
SPARE	39	1	20													
													1	20	40	SPARE
SPARE	41	1	20													
													1	20	42	SPARE
TOTAL CONNECTED LOAD (kVA)								38.31	15.77	15.77	15.77	9.00				
TOTAL DEMAND LOAD (kVA)								38.31				9.00				

LOWELL HIGH SCHOOL NORTH STAR BUILDING PANELBOARD SCHEDULE

MARK & TYPE: "2NSLDP" — TYPE: SQ D I-LINE OR APPROVED EQ — 120/208V, 3 PH, 4W — 600 AMP MAIN BREAKER — NEMA 1 — SURFACE MOUNTED

REMARKS: BRANCH CIRCUITS SHALL BE CIRCUIT BREAKERS. CIRCUIT BREAKERS SHALL HAVE MINIMUM 22,000 AMP INTERRUPTING CAPACITY - TYPE QOB-BH.

DESCRIPTION	CIR	POLE	TRIP	LTS	REC	EQUIP	A	B	C	HEAT	A/C	FUTR	POLE	TRIP	CIR	DESCRIPTION
PANEL "1NSL2"	1	3	200		19.80	4.40	24.20									
				0.10	10.38	6.80	17.28						3	200	2	PANEL "2NSL1"
					18.24	6.23		24.47								
					8.58	4.05		12.63								
					12.30	5.20			17.50							
					7.02	5.81			12.83							
PANEL "1NSL1"	3	3	200		4.38	7.40	11.78									
													3	200	4	SPARE
					3.96	4.40		8.36								
					4.56	3.80			8.36							
SPACE	5	3	200													
													3	200	6	SPACE
STACKED WASHER	7	3	20			2.00	2.00									
						2.00	2.00						3	20	8	STACKED WASHER
						2.00		2.00								
						2.00			2.00							
STACKED DRYER	9	3	20			2.00	2.00									
						2.00	2.00						3	20	10	STACKED DRYER
						2.00		2.00								
						2.00			2.00							
TOTAL CONNECTED LOAD (kVA)				0.10	89.22	72.09	61.26	53.46	46.69							
TOTAL DEMAND LOAD (kVA)				0.10	49.61	72.09										

LOWELL HIGH SCHOOL NORTH STAR BUILDING PANELBOARD SCHEDULE

MARK & TYPE: "1NSL1" — TYPE: SQ D NQ OR APPROVED EQUAL — 120/208V, 3 PH, 4W — 225 AMP MAIN LUGS — NEMA 1 — SURFACE MOUNT

REMARKS: BRANCH CIRCUITS SHALL BE CIRCUIT BREAKERS. CIRCUIT BREAKERS SHALL HAVE MINIMUM 22,000 AMP INTERRUPTING CAPACITY - TYPE QOB-VH.

DESCRIPTION	CKT	P	TRIP	LTS	REC	EQUIP	A	B	C	HEAT	A/C	MOTOR	P	TRIP	CKT	DESCRIPTION
A110,111 RECPS	1	1	20		0.72		0.72									
					0.90		0.90						1	20	2	A112,114 RECPS
A108 RECPS	3	1	20		0.72			0.72								
					0.90			0.90					1	20	4	A118 RECPS
A107 RECPS	5	1	20		0.72				0.72							
					0.90				0.90				1	20	6	A120 RECPS
A102,106 RECPS	7	1	20		0.36		0.36									
					0.54		0.54						1	20	8	A119,123,124 RECPS
A104 RECPS	9	1	20		0.72			0.72								
					1.26			1.26					1	20	10	A123 RECP (REFRIGERATOR)
A103 RECPS	11	1	20		0.72				0.72							
					1.50				1.50				1	20	12	A133 (OZONE)
A109 RECPS	13	1	20		0.36		0.36									
					1.50		1.50						1	20	14	A133 (OZONE)
A131 RECPS	15	1	20		0.36			0.36								
													1	20	16	SPARE
A133,134 RECPS	17	1	20		0.72				0.72							
													1	20	18	SPARE
SPARE	19	1	20													
													1	20	20	SPARE
SPARE	21	1	20													
													1	20	22	SPARE
SPARE	23	1	20													
													1	20	24	SPARE
SPARE	25	1	20													
													1	20	26	SPARE
SPARE	27	1	20													
													1	20	28	SPARE
SPARE	29	1	20													
													1	20	30	SPARE
A110 HAND DRYER	31	1	20			1.50	1.50									
						1.50	1.50						1	20	32	A117 HAND DRYER
A110 HAND DRYER	33	1	20			1.50		1.50								
						1.50		1.50					1	20	34	A117 HAND DRYER
A111 HAND DRYER	35	1	20			1.50			1.50							
						1.50			1.50				1	20	36	A115 HAND DRYER
A111 HAND DRYER	37	1	20			1.50	1.50									
						1.50	1.50						1	20	38	A115 HAND DRYER
SPARE	39	1	20													
													1	20	40	SPARE
SPARE	41	1	20													
													1	20	42	SPARE
FCU-NS13	43	1	20			0.70	0.70									
						0.70	0.70						1	20	44	FCU-NS12
FCU-NS14	45	1	20			0.70		0.70								
						0.70		0.70					1	20	46	FCU-NS4
FCU-NS15	47	1	20			0.70			0.70							
						0.10			0.10				1	20	48	FCU-NS2
CONNECTED LOAD (KVA)					12.90	15.60	11.78	8.36	8.36							
DEMAND LOAD (KVA)					11.45	15.60	11.26	8.05	7.75							
DEMAND AMPS							93.8	67.1	64.6							
TOTAL DEMAND KVA: 27.05							TOTAL DEMAND AMPS: 94									

LOWELL HIGH SCHOOL NORTH STAR BUILDING PANELBOARD SCHEDULE

MARK & TYPE: "1NSL2" — TYPE: SQ D NQ OR APPROVED EQUAL — 120/208V, 3 PH, 4W — 225 AMP MAIN LUGS — NEMA 1 — SURFACE MOUNT

REMARKS: BRANCH CIRCUITS SHALL BE CIRCUIT BREAKERS. CIRCUIT BREAKERS SHALL HAVE MINIMUM 22,000 AMP INTERRUPTING CAPACITY - TYPE QOB-VH.

DESCRIPTION	CKT	P	TRIP	LTS	REC	EQUIP	A	B	C	HEAT	A/C	MOTOR	P	TRIP	CKT	DESCRIPTION
A152 RECP	1	1	1		0.18		0.18									
													1	20	2	A151 RECPS
EXTERIOR RECPS	3	1	20		0.36			0.36								
						0.83		0.83					1	20	4	UH-NS1, CP-1 (1/6 HP), CUH-NS1
FIRE ALARM CONTROL PANEL	5	1	20			1.00			1.00							
					0.72				0.72				1	20	6	A138,148 RECPS
WATER SOFTENER	7	1	20		1.50		1.50									
					0.54		0.54						1	20	8	A149,150,152 RECPS
A127 RECP	9	1	20		1.50			1.50								
													1	20	10	DWH-1 (5 AMPS) DWH-2 (5 AMPS)
					1.50		1.50									
A127 RECP	11	1	20		1.50				1.50							
													1	20	12	EF-NS4
A127 RECP	13	1	20		1.50		1.50									
					1.50		1.50						1	20	14	A149 HAND DRYER
A127 RECPS	15	1	20		0.90			0.90								
					1.50			1.50					1	20	16	A149 HAND DRYER
A127 RECP (WHIRLPOOL)	17	1	20		1.50				1.50							
					1.50				1.50				1	20	18	A150 HAND DRYER
A127 RECPS (WHIRLPOOL)	19	1	20		1.50		1.50									
					1.50		1.50						1	20	20	A150 HAND DRYER
A128 RECPS	21	1	20		0.90			0.90								
					1.50			1.50					1	20	22	A149 HAND DRYER
SPARE	23	1	20													
					1.50				1.50				1	20	24	A149 HAND DRYER
A139,140,143,145 RECPS	25	1	20		1.08		1.08									
					1.50		1.50						1	20	26	A143 HAND DRYER
A141,146 RECPS	27	1	20		1.08			1.08								
					1.50			1.50					1	20	28	A143 HAND DRYER
A142,147 RECPS	29	1	20		0.36				0.36							
						1.50			1.50				1	20	30	BLR-BS1
A139 HAND DRYER	31	1	20			1.50	1.50									
						1.50	1.50						1	20	32	BLR-NS2
A139 HAND DRYER	33	1	20			1.50		1.50								
																CHILLER PIPING HEAT TRACE
						1.50			1.50				1	20	34	
A143 HAND DRYER	35	1	20			1.50			1.50							
													1	20	36	SPARE
A143 HAND DRYER	37	1	20			1.50	1.50									
													1	20	38	SPARE
SPARE	39	1	20													
													1	20	40	SPARE
SPARE	41	1	20													
													1	20	42	SPARE
FCU-NS6	43	1	20			0.70	0.70									
						0.70	0.70						1	20	44	FCU-NS5
FCU-NS7	45	1	20			0.70		0.70								
						0.70		0.70					1	20	46	FCU-NS1
SPARE	47	1	20			0.70			0.70							
													1	20	48	FCU-NS3
SPARE	49	1	20													
					9.00			9.00					3	100	50	PANEL "1NSL3"
MS-NS1	51	2	30			1.00			1.00							
					7.50	1.00			8.50						52	
	53					1.00										
					5.22	2.00			7.22						54	
CONNECTED LOAD (KVA)					50.34	20.83	25.70	25.47	20.00							
DEMAND LOAD (KVA)					30.17	20.83	17.47	18.02	15.52							
DEMAND AMPS							145.6	150.2	129.3							
TOTAL DEMAND KVA: 51.00							TOTAL DEMAND AMPS: 151									

LOWELL HIGH SCHOOL COMMUNITY BUILDING PANELBOARD SCHEDULE

MARK & TYPE: "1NSL3" — TYPE: SQ D NQ OR APPROVED EQUAL — 120/208V, 3 PH, 4W — 100 AMP MAIN LUGS — NEMA 1 — SURFACE MOUNTED

REMARKS: BRANCH CIRCUITS SHALL BE CIRCUIT BREAKERS. CIRCUIT BREAKERS SHALL HAVE MINIMUM 22,000 AMP INTERRUPTING CAPACITY - TYPE QOB-BH.

DESCRIPTION	CIR	POLE	TRIP	LTS	REC	EQUIP	A	B	C	HEAT	A/C	FUTR	POLE	TRIP	CIR	DESCRIPTION
A154 RECPS	1	1	20		1.50		1.50									
					1.50		1.50						1	20	2	A153 RECPS
A153 RECP (FREEZER)	3	1	20		1.50			1.50								
					1.50								1	20	4	A153 RECP (MICROWAVE)
A153 RECP (REFRIGERATOR)	5	1	20		1.50			1.50								
					1.50				1.50							
					1.50				1.50				1	20	6	A153 RECP (GRIDDLE)
A153 RECP	7	1	20		1.50		1.50									
					1.50		1.50						1	20	8	A153 RECP (GRIDDLE)
A153 RECP (POP COOLER)	9	1	20		1.50			1.50								
					1.50			1.50					1	20	10	A153 RECP
A153 RECPS	11	1	20		0.72				0.72							
					1.50				1.50				1	20	12	A153 RECP (MICROWAVE)
A153 RECP (WARMER)	13	1	20		1.50		1.50									
					1.50		1.50						1	20	14	A153 RECP
SPARE	15	1	20													
					1.50			1.50					1	20	16	A153 RECP (POP COOLER)
SPARE	17	1	20													
						1.00			1.00				1	20	18	A153 CEILING FANS
SPARE	19	1	20													
													1	20	20	SPARE
SPARE	21	1	20													
													1	20	22	SPARE
SPARE	23	1	20													
													1	20	24	SPARE
SPARE	25	1	20													
													1	20	26	SPARE
SPARE	27	1	20													
							1.00		1.00				2	20	28	A153 208V RECP (POP CORN POPPER)
SPARE	29	1	20													
							1.00								30	
TOTAL CONNECTED LOAD (kVA)							21.72	3.00	9.00	8.50	7.22					
TOTAL DEMAND LOAD (kVA)							15.86	3.00								

AD-3

GIBRALTAR DESIGN
ARCHITECTURE • ENGINEERING • INTERIOR DESIGN

PROJECT

LOWELL HIGH SCHOOL SITE, BLEACHERS, & TURF/DRAINAGE

TRI-CREEK SCHOOL CORPORATION

GIBRALTAR DESIGN
9102 N. Meridian St., Ste. 300
Indianapolis, IN 46260
Homepage www.GibraltarDesign.com
Email info@GibraltarDesign.com
Phone 317.580.5777 Fax 317.580.5778

PROJECT 23-112
DATE 08/04/23
COORDINATED BY PCB
DRAWN BY PCB/JVC
CHECKED BY JPB

JOSEPH P. BRIGGS REGISTERED NO. 11600109 STATE OF INDIANA ARCHITECT

REVISIONS

MARK	DATE	ISSUED FOR
AD-2	08/31/23	ADDENDUM NO. 2
		(ENTIRE SHEET)
AD-3	09/08/23	ADDENDUM NO. 3

DRAWING
ELECTRICAL SCHEDULES

PROJECT
LOWELL HIGH SCHOOL - SITE AND STADIUM IMPROVEMENTS

SHEET
E-605

Monday, 9/11/2023 - 12:16 PM - LAST SAVED BY:JCHAMBERS
Y:\23-112 TRI-CREEK SC - LOWELL HS SITE IMPROVEMENTS\24-XXX DRAWINGS\09 ELEC\E-605.DWG

LOWELL HIGH SCHOOL NORTH STAR BUILDING PANELBOARD SCHEDULE

MARK & TYPE
"2NSL1" - SECTION 1
TYPE: SQ D NF OR APPROVED EQ
120/208V, 3 PH, 4W
225 AMP MAIN LUGS
NEMA 1
SURFACE MOUNTED

REMARKS
BRANCH CIRCUITS SHALL BE CIRCUIT BREAKERS.
CIRCUIT BREAKERS SHALL HAVE MINIMUM 22,000 AMP INTERRUPTING CAPACITY - TYPE QOB-VH.
TWO SECTION PANEL - BOTH SECTIONS SAME HEIGHT - SECTION 1 OF 2.

DESCRIPTION	CIR	POLE	TRIP	LTS	REC	EQUIP	A	B	C	HEAT	A/C	FUTR	POLE	TRIP	CIR	DESCRIPTION
A202 RECPS	1	1	20		0.72		0.72									
					0.90		0.90						1	20	2	A201 RECPS
A203 RECP	3	1	20		0.18			0.18								
					0.90			0.90					1	20	4	A201 RECP
A203 RECP (ICE MAKER)	5	1	20		1.50				1.50							
					0.90				0.90				1	20	6	A201 RECP
A201 RECP (DATA EQUIPMENT)	7	1	20		1.50		1.50									
					1.50		1.50						1	20	8	A201 RECP
A205 RECP (REFRIGERATOR)	9	1	20		1.50			1.50								
													1	20	10	A201 RECP
A205 RECP (PORTABLE OVEN)	11	1	20		1.50				1.50							
													1	20	12	A201 RECP
A205 RECP	13	1	20		1.50		1.50									
													1	20	14	BALCONY RECP
A205 RECP	15	1	20		1.50			1.50								
													1	20	16	BALCONY RECP
A205,206,207 RECPS	17	1	20		0.54				0.54							
													1	20	18	BALCONY RECP
A201 RECP (POP COOLER)	19	1	20		1.50		1.50									
					0.72		0.72						1	20	20	A211 RECPS
A201 RECP (POP COOLER)	21	1	20		1.50			1.50								
					1.50			1.50					1	20	22	A201 RECP
A208 RECP (WC)	23	1	20		0.18				0.18							
					1.50				1.50				1	20	24	A201 RECP
A208,210 RECPS	25	1	20		0.54		0.54									
					1.50		1.50						1	20	26	A201 RECP
ELEVATOR CAB LIGHTS	27	1	20	0.10				0.10								
					1.50			1.50					1	20	28	A201 RECP
ELEVATOR SHAFT RECP	29	1	20		0.18				0.18							
					0.72				0.72				1	20	30	A211 RECPS
A201 PROJECTION SCREEN MOTOR	31	1	20			1.12	1.12									
						1.00	1.00						1	20	32	BBR-NS2
A201 PROJECTION SCREEN MOTOR	33	1	20			1.12		1.12								
						1.00		1.00					1	20	34	BBR-NS1
EF-NS2 (1/6 HP) EF-NS3 (1/12 HP)	35	1	20			0.83			0.83							
						1.40			1.40				1	20	36	PHC-NS1 (1/4 HP) PHC-NS2 (1/4 HP)
UH-NS2 (1/8 HP) UH-NS3 (1/8 HP)	37	1	20			0.70	0.70									
						1.40	1.40						1	20	38	PHC-NS3 (1/4 HP) PHC-NS4 (1/4 HP)
EF-NS1 (1/8 HP)	39	1	20			0.35		0.35								
													1	20	40	SPARE
SPARE	41	1	20													
													1	20	42	SPARE
TOTAL CONNECTED LOAD (kVA)				0.10	25.98	16.66	17.18	12.73	12.83							
TOTAL DEMAND LOAD (kVA)				0.10	17.99	16.66										

AD – 3

LOWELL HIGH SCHOOL NORTH STAR BUILDING PANELBOARD SCHEDULE

MARK & TYPE
"2NSL1" - SECTION 2
TYPE NQOD
120/208V, 3 PH, 4W
225 AMP MAIN LUGS
NEMA 1
SURFACE MOUNTED

REMARKS
BRANCH CIRCUITS SHALL BE CIRCUIT BREAKERS.
CIRCUIT BREAKERS SHALL HAVE MINIMUM 22,000 AMP INTERRUPTING CAPACITY - TYPE QOB-VH.
TWO SECTION PANEL - BOTH SECTIONS SAME HEIGHT - SECTION 2 OF 2.

DESCRIPTION	CIR	POLE	TRIP	LTS	REC	EQUIP	A	B	C	HEAT	A/C	FUTR	POLE	TRIP	CIR	DESCRIPTION
SPARE	43	1	20													
													1	20	44	SPARE
SPARE	45	1	20													
													1	20	46	SPARE
SPARE	47	1	20													
													1	20	48	SPARE
SPARE	49	1	20													
													1	20	50	SPARE
SPARE	51	1	20													
													1	20	52	SPARE
SPARE	53	1	20													
													1	20	54	SPARE
SPARE	55	1	20													
													1	20	56	SPARE
SPARE	57	1	20													
													1	20	58	SPARE
SPARE	59	1	20													
													1	20	60	SPARE
SPARE	61	1	20													
													1	20	62	SPARE
SPARE	63	1	20													
													1	20	64	SPARE
SPARE	65	1	20													
													1	20	66	SPARE
SPARE	67	1	20													
													1	20	68	SPARE
SPARE	69	1	20													
													1	20	70	SPARE
SPARE	71	1	20													
													1	20	72	SPARE
SPARE	73	1	20													
													1	20	74	SPARE
SPARE	75	1	20													
													1	20	76	SPARE
A202 208V RECP	77	2	30			2.00			2.00							
													1	20	78	SPARE
	79					2.00	2.00									
																A201 FOLDING PARTITION MOTOR
ACCU-NS1	81	2	30			1.00		1.00								
						0.58	0.58								82	
	83					1.00			1.00							
						0.58			0.58						84	

LOWELL HIGH SCHOOL COMMUNITY BUILDING PANELBOARD SCHEDULE

MARK & TYPE
"CBH"
TYPE: SQ D NF OR APPROVED EQ
277/480V, 3 PH, 4W
400 AMP MAIN BREAKER
NEMA 1
SURFACE MOUNTED

REMARKS
BRANCH CIRCUITS SHALL BE CIRCUIT BREAKERS.
CIRCUITS SHALL HAVE MINIMUM 35,000 AMP INTERRUPTING CAPACITY.
PANEL SHALL BE RATED FOR SERVICE ENTRANCE.

DESCRIPTION	CIR	POLE	TRIP	LTS	REC	EQUIP	A	B	C	HEAT	A/C	FUTR	POLE	TRIP	CIR	DESCRIPTION
A108,109,110,111,112, 113,114 LIGHTS	1	1	20	1.03			1.03									
						1.00	1.00						1	20	2	RELAY CBR-1 AND TIMECLOCK
A101,102,103,104,105, 106,107 LIGHTS	3	1	20	1.06				1.06								
													1	20	4	SPARE
EXTERIOR LIGHTS	5	1	20	0.90					0.90							
													1	20	6	SPARE
EWH-CB6 (3 KW)	7	1	20				3.00									
							3.00						1	20	8	EH-CB7 (3 KW)
EWH-CB4 (3 KW)	9	1	20					3.00								
								3.00					1	20	10	EH-CB9 (3 KW)
EH-CB6 (3 KW)	11	1	20						3.00							
									3.00				1	20	12	EH-CB10 (3 KW)
EWH-CB3 (3 KW)	13	1	20				3.00									
							3.00						1	20	14	EH-CB8 (3 KW)
EH-CB4 (3 KW)	15	1	20					3.00								
								3.00					1	20	16	EH-WB5 (3 KW)
EWH-CB2 (3 KW)	17	1	20						3.00							
									3.00				1	20	18	EH-CB5 (3 KW)
EH-CB1 (3 KW)	19	1	20				3.00									
							3.00						1	20	20	EWH-CB1 (3 KW)
EH-CB2 (3 KW)	21	1	20					3.00								
								3.00					1	20	22	EH-WB8 (3 KW)
EH-CB3 (3 KW)	23	1	20						3.00							
									3.00				1	20	24	EH-WB7 (3 KW)
SPARE	25	1					3.00									
													1	20	26	EH-WB9 (3 KW)
SPARE	27	1														
													1	20	28	SPARE
SPARE	29	1														
													1	20	30	SPARE
SPARE	31	1														
							10.00						3	50	32	DWH-2 (30 KW)
SPARE	33	1														
								10.00							34	
SPARE	35	1														
									10.00						36	
PANEL "SLH1"	37	3	100	4.25			4.25									
																45 KVA XFMR (PANEL "CBL1")
	39			5.25	11.70		11.70						3	80	38	
				1.00	12.34	3.17		5.25								
	41			3.70				16.51							40	
					9.40	0.50			3.70							
									9.90						42	
TOTAL CONNECTED LOAD (kVA)				17.19	33.44	4.67	48.98	50.82	42.50	87.00						
TOTAL DEMAND LOAD (kVA)				17.19	21.72	4.67				87.00						

LOWELL HIGH SCHOOL COMMUNITY BUILDING PANELBOARD SCHEDULE

MARK & TYPE
"CBL1"
TYPE: SQ D NQ OR APPROVED EQUAL
120/208V, 3 PH, 4W
150 AMP MAIN BREAKER
NEMA 1
SURFACE MOUNTED

REMARKS
BRANCH CIRCUITS SHALL BE CIRCUIT BREAKERS.
CIRCUIT BREAKERS SHALL HAVE MINIMUM 22,000 AMP INTERRUPTING CAPACITY - TYPE QOB-BH.

DESCRIPTION	CIR	POLE	TRIP	LTS	REC	EQUIP	A	B	C	HEAT	A/C	FUTR	POLE	TRIP	CIR	DESCRIPTION
A114 RECPS	1	1	20		0.72		0.72									
					0.36		0.36						1	20	2	A112,113 RECPS
A114 RECPS	3	1	20		1.08			1.08								
					0.54			0.54					1	20	4	A108,109 RECPS
A111,115 RECPS	5	1	20		0.36				0.36							
					0.54				0.54				1	20	6	A103,105 RECPS
A108 HAND DRYER	7	1	20		1.50		1.50									
					1.50		1.50						1	20	8	A105 HAND DRYER
A108 HAND DRYER	9	1	20		1.50			1.50								
						0.70		0.70					1	20	10	EF-CB1 (1/4 HP)
A105 HAND DRYER	11	1	20		1.50				1.50							
						0.10			0.10				1	20	12	A114 CEILING FAN
SPARE	13	1	20													CP-2 (1/6 HP)
						0.83	0.83						1	20	14	CP-3 (1/12 HP)
SPARE	15	1	20													
													1	20	16	SPARE
SPARE	17	1	20													
													1	20	18	SPARE
SPARE	19	1	20													
													1	20	20	SPARE
SPARE	21	1	20													
													1	20	22	SPARE
SPARE	23	1	20													
													1	20	24	SPARE
PANEL "CBL2"	25	3	100		7.62			7.62								
													1	20	26	SPARE
	27				8.50	1.00		9.50								
				1.00	0.72	2.62		4.54					2	100	28	PANEL "TBL1"
	29				6.28	1.00			7.28							
					0.72	0.50			1.22						30	
TOTAL CONNECTED LOAD (kVA)				1.00	33.44	6.95	12.53	17.86	11.00							
TOTAL DEMAND LOAD (kVA)				1.00	21.72	6.95										

AD – 3

LOWELL HIGH SCHOOL COMMUNITY BUILDING PANELBOARD SCHEDULE

MARK & TYPE
"CBL2"
TYPE: SQ D NQ OR APPROVED EQUAL
120/208V, 3 PH, 4W
100 AMP MAIN LUGS
NEMA 1
SURFACE MOUNTED

REMARKS
BRANCH CIRCUITS SHALL BE CIRCUIT BREAKERS.
CIRCUIT BREAKERS SHALL HAVE MINIMUM 22,000 AMP INTERRUPTING CAPACITY - TYPE QOB-BH.

DESCRIPTION	CIR	POLE	TRIP	LTS	REC	EQUIP	A	B	C	HEAT	A/C	FUTR	POLE	TRIP	CIR	DESCRIPTION
A101 RECPS	1	1	20		1.50		1.50									
					0.54		0.54						1	20	2	A101 RECPS
A101 RECP (GRIDDLE)	3	1	20		1.50			1.50								
					1.50			1.50					1	20	4	A101 RECP (MICROWAVE)
A101 RECP (GRIDDLE)	5	1	20		1.50				1.50							
					1.08				1.08				1	20	6	A101 RECPS
A101 RECP (MICROWAVE)	7	1	20		1.50		1.50									
					1.50		1.50						1	20	8	A101 RECP (FOOD WARMER)
A101 RECP (FOOD WARMER)	9	1	20		1.50			1.50								
					1.50			1.50					1	20	10	A101 RECP (POP COOLER)
A101 RECPS (INTERIOR TELEVISION MONITORS)	11	1	20		1.08				1.08							
					1.50				1.50				1	20	12	A101 RECP (POP COOLER)
RECPS (EXTERIOR TELEVISION MONITORS)	13	1	20		1.08		1.08									
					1.50		1.50						1	20	14	A101 RECP (UPRIGHT REFRIGERATOR)
SPARE	15	1	20													
													1	20	16	A101 RECP (UPRIGHT FREEZER)
SPARE	17	1	20		0.12				0.12							
													1	20	18	A101 CEILING FANS
SPARE	19	1	20													
													1	20	20	SPARE
SPARE	21	1	20													
													1	20	22	SPARE
SPARE	23	1	20													
													1	20	24	SPARE
SPARE	25	1	20													
													1	20	26	SPARE
RECP (TALL FOOD WARMER)	27	2	20			1.00		1.00								
					1.00			1.00					2	20	28	A101 208 VOLT RECP (POPCORN POPPER)
	29					1.00			1.00							
					1.00				1.00						30	
TOTAL CONNECTED LOAD (kVA)					22.40	2.00	7.62	9.50	7.28							
TOTAL DEMAND LOAD (kVA)					16.20	2.00										

LOWELL HIGH SCHOOL MAINTENANCE STORAGE BUILDING PANELBOARD SCHEDULE

MARK & TYPE
"MSBL1"
TYPE: SQ D NQ OR APPROVED EQUAL
120/208V, 3 PH, 4W
60 AMP MAIN BREAKER
NEMA 1
SURFACE MOUNTED

REMARKS
BRANCH CIRCUITS SHALL BE CIRCUIT BREAKERS.
CIRCUIT BREAKERS SHALL HAVE MINIMUM 22,000 AMP INTERRUPTING CAPACITY - TYPE QOB-BH.

DESCRIPTION	CIR	POLE	TRIP	LTS	REC	EQUIP	A	B	C	HEAT	A/C	FUTR	POLE	TRIP	CIR	DESCRIPTION
SPARE	1	1	20													
					0.36		0.36						1	20	2	RECPS
SPARE	3	1	20													
					0.36			0.36					1	20	4	RECPS
SPARE	5	1	20													
					0.36				0.36				1	20	6	RECPS
SPARE	7	1	20													
													1	20	8	SPARE
SPARE	9	1	20													
													1	20	10	SPARE
SPARE	11	1	20													
													1	20	12	SPARE
SPARE	13	1	20													
													1	20	14	SPARE
SPARE	15	1	20													
													1	20	16	SPARE
SPARE	17	1	20													
													1	20	18	SPARE
TOTAL CONNECTED LOAD (kVA)					1.08		0.36	0.36	0.36							
TOTAL DEMAND LOAD (kVA)					1.08											

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PROJECT

LOWELL HIGH SCHOOL SITE, BLEACHERS, & TURF/DRAINAGE

TRI-CREEK SCHOOL CORPORATION

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PROJECT
23–112
DATE
08/04/23
COORDINATED BY
PCB
DRAWN BY
PCB/JVC
CHECKED BY
JPB

JOSEPH P. BRIGGS REGISTERED NO. 11600109 STATE OF INDIANA ARCHITECT

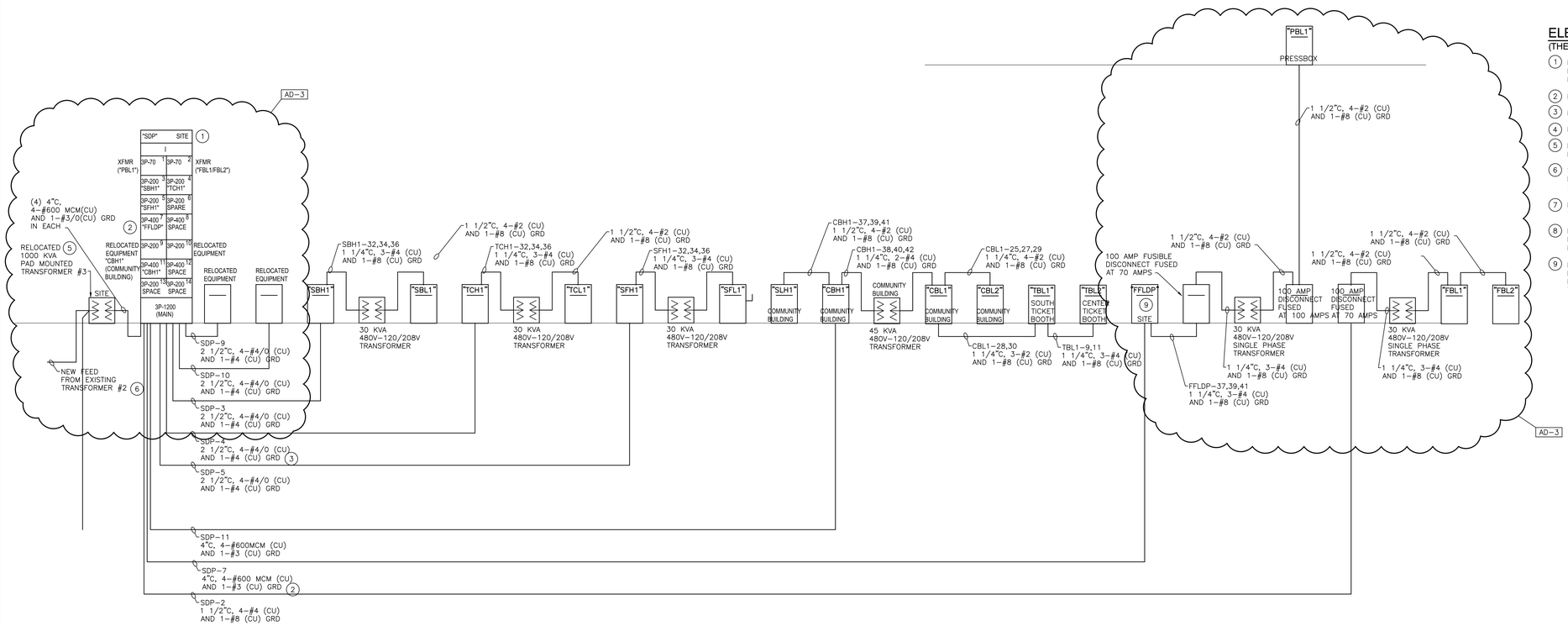
REVISIONS

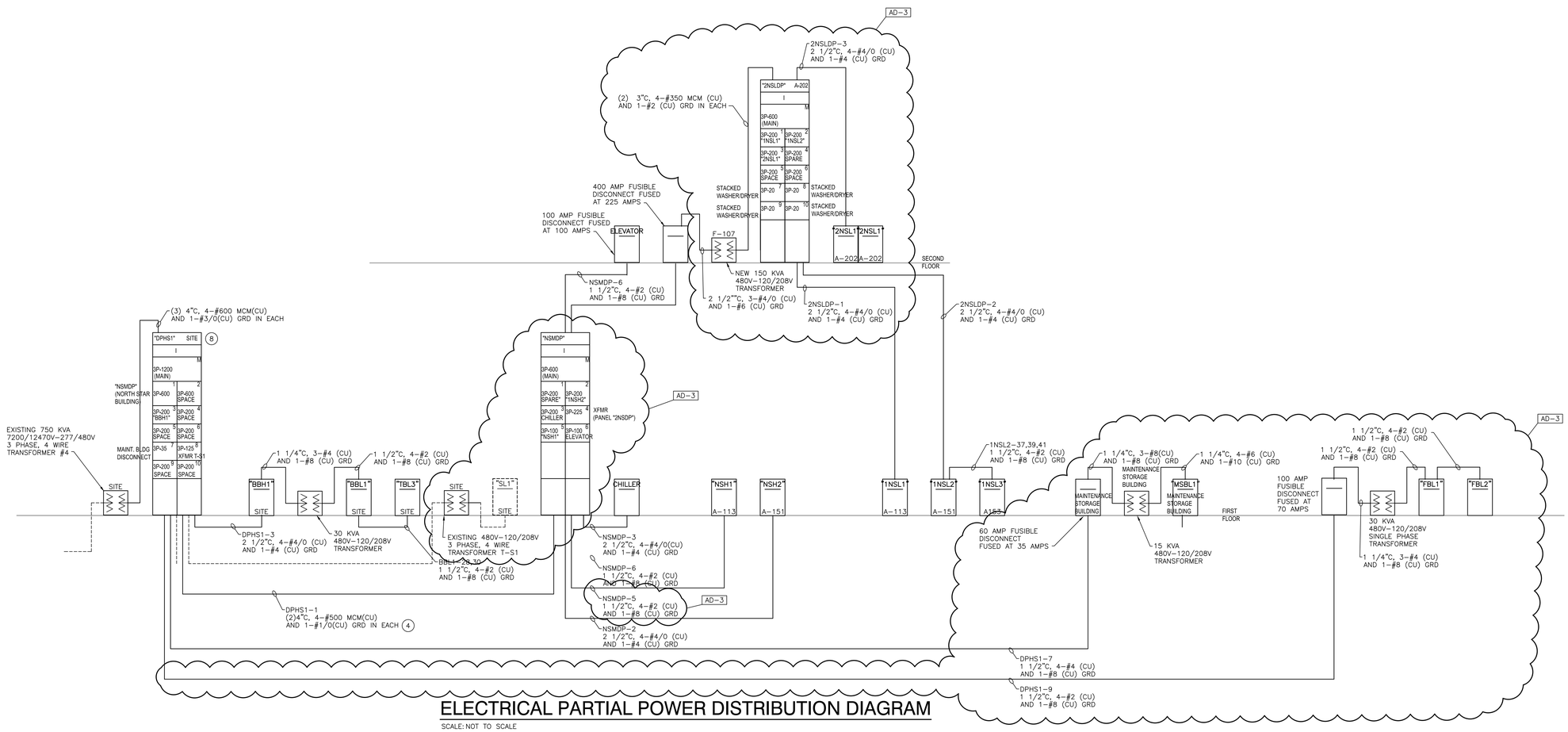
MARK	DATE	ISSUED FOR
AD–2	08/31/23	ADDENDUM NO. 2
		(ENTIRE SHEET)
AD–3	09/08/23	ADDENDUM NO. 3

DRAWING
ELECTRICAL SCHEDULES

PROJECT
LOWELL HIGH SCHOOL - SITE AND STADIUM IMPROVEMENTS

SHEET
E-606





ELECTRICAL PARTIAL POWER DISTRIBUTION DIAGRAM

SCALE: NOT TO SCALE

---------- EXISTING TO REMAIN

———— NEW

ELECTRICAL PLAN NOTES:

(THESE NOTES APPLY TO THIS SHEET ONLY)

1. NEW DISTRIBUTION PANEL "SDP". INTERCEPT ANY EXISTING FEEDERS SERVING EQUIPMENT, THAT REMAINS, AND EXTEND TO THE NEW DISTRIBUTION PANEL "SDP", UNLESS OTHERWISE NOTED.
2. NEW FEEDER TO NEW FOOTBALL FIELD PANEL "FFLDP".
3. NEW FEEDER TO THE TENNIS COURT LIGHTING PANEL
4. NEW FEEDER TO THE NORTH STAR BUILDING.
5. RELOCATED PAD MOUNTED TRANSFORMER #3. SEE SHEETS ES101, ES102 AND ES108.
6. SEE SHEETS ES101, ES102 ANS ES108 FOR INFORMATION ON THE FEEDER FROM EXISTING TRANSFORMER #2 TO RELOCATED TRANSFORMER #3.
7. NEW FEEDER FROM RELOCATED TRANSFORMER #3 TO EXISTING TRANSFORMER #4. SEE SHEETS ES101, ES102 AND ES108.
8. NEW DISTRIBUTION PANEL "DPHS1". INTERCEPT ANY EXISTING FEEDERS SERVING EQUIPMENT, THAT REMAINS, AND EXTEND TO THE NEW DISTRIBUTION PANEL "SDP", UNLESS OTHERWISE NOTED.
9. REPLACE EXISTING PANEL "FFLDP" WITH NEW PANEL "FFLDP". INTERCEPT EXISTING CIRCUITS SERVING LIGHTING FIXTURES, EQUIPMENT, ETC. THAT REMAIN AND EXTEND TO NEW PANEL "FFLDP".

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PROJECT 23-112
DATE 08/04/23
COORDINATED BY PCB
DRAWN BY PCB/JVC
CHECKED BY JPB

JOSEPH P. BRIGGS REGISTERED NO. 11600109 STATE OF INDIANA ARCHITECT

REVISIONS

MARK	DATE	ISSUED FOR
AD-2	08/31/23	ADDENDUM NO. 2
AD-3	09/08/23	ADDENDUM NO. 3

DRAWING

ELECTRICAL PARTIAL POWER DISTRIBUTION DIAGRAM

PROJECT

LOWELL HIGH SCHOOL - SITE AND STADIUM IMPROVEMENTS

SHEET E-702

TECHNOLOGY SYMBOL LIST

COMMUNICATIONS

▽ DUPLEX DATA OUTLET - WITH [" CONDUIT STUBBED INTO ACCESSIBLE CEILING SPACE WITH INSULATED BUSHING - MOUNTED 18" A.F.F. WHEN MOUNTED ADJACENT TO AN ELECTRICAL RECEPTACLE OR AS NOTED. PROVIDE CAT-6 PLENUM CABLE, FROM EACH JACK, TO NEAREST IDF OR MDF LOCATION INDICATED ON PLANS. TERMINATE WITH RJ-45 JACK. TEST AND LEAVE 10' SLACK LENGTH.

WT ▽ DUPLEX DATA OUTLET FOR WIRELESS ACCESS POINTS - LOCATED ABOVE ACCESSIBLE CEILING SPACE AND 6" ABOVE THE GRID OR TIGHT TO THE ROOF DECK WHERE NO CEILINGS EXIST. PROVIDE [" CONDUIT STUBBED INTO ACCESSIBLE CEILING SPACE WITH INSULATED BUSHING. PROVIDE CAT-6 PLENUM CABLE, FROM EACH JACK, TO NEAREST MDF OR IDF LOCATION INDICATED ON PLANS. TERMINATE WITH RJ-45 CAT-6 JACK, TEST AND LEAVE 10' SLACK LENGTH.

SHEET SYMBOLS

(X) HEXAGON TAG REFERENCE TO EQUIPMENT CONNECTION SCHEDULE

(1) ELLIPSE TAG REFERENCE TO SHEET NOTES

[1] SQUARE TAG REFERENCE

TWO DEVICE MOUNTED UNDER COMMON COVER. WHERE LOW VOLTAGE DEVICES ARE MOUNTED UNDER COMMON COVER, COMBINE CONDUIT STUBS MAINTAINING THE EQUIVALENT FREE AREA FOR THE LOW VOLTAGE CABLING.

RN / NI REMOVE EXISTING DEVICE AND PROVIDE NEW AS INDICATED IN EXISTING BACK BOX, JUNCTION BOX, ETC. VERIFY EXACT LOCATION AND CONDITIONS IN FIELD. MODIFY EXISTING BACK BOX, JUNCTION BOX, ETC. PROVIDE TRIM PLATES, EXTENSION RINGS, ETC. AS REQUIRED TO MOUNT NEW DEVICE AS INDICATED.

F&I NEW DEVICE AS INDICATED.

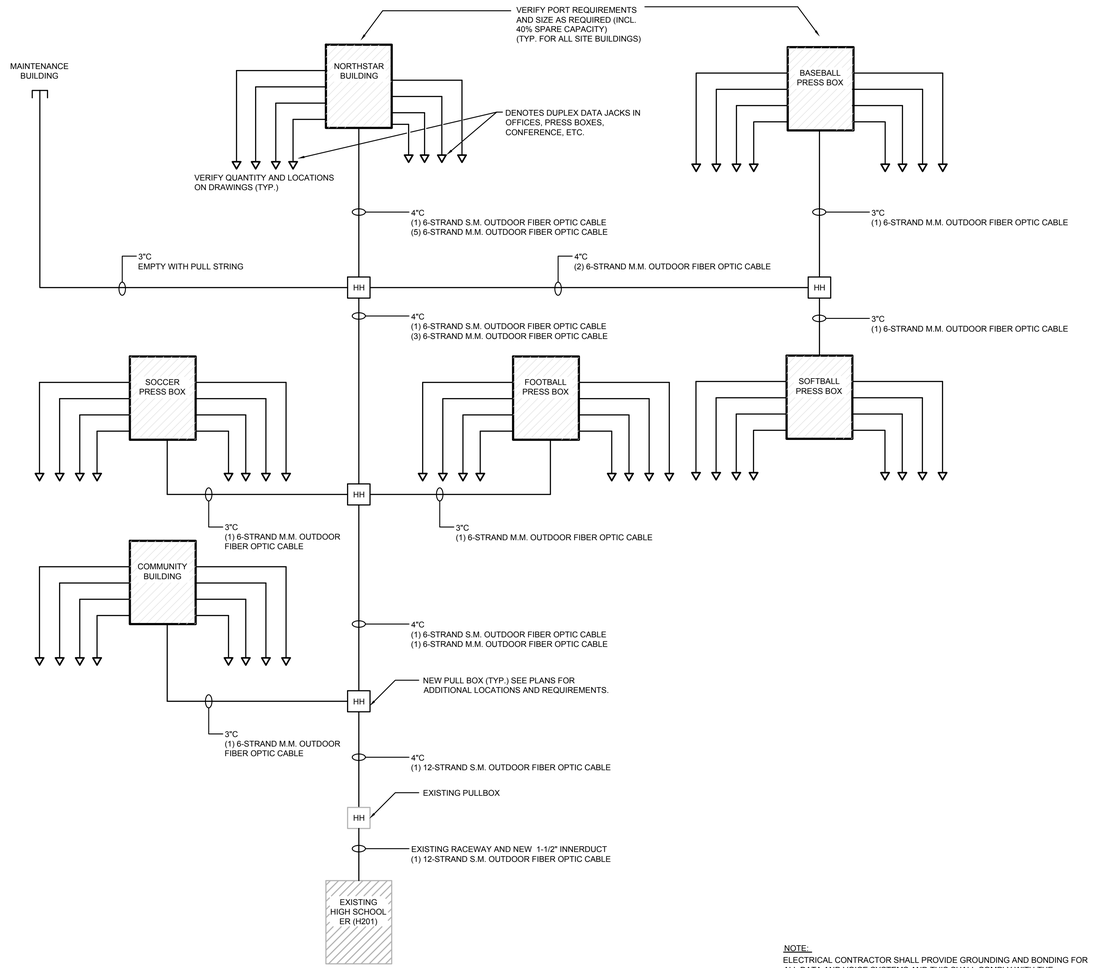
EX EXISTING LIGHTS, RECEPTACLES, SPECIAL SYSTEMS, DEVICE, ETC. TO REMAIN.

ER EXISTING LIGHTS, RECEPTACLES, SPECIAL SYSTEMS, DEVICE, ETC. TO BE REMOVED COMPLETE IN ITS ENTIRETY. REMOVE ALL ASSOCIATED SURFACE MOUNTED CONDUIT, OUTLETS, ETC. AND BLANK-OFF FLUSH WITH NEW OR EXISTING CONSTRUCTION. SEE GENERAL NOTES AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.

RR REMOVE EXISTING LIGHTS, RECEPTACLES, SPECIAL SYSTEMS, DEVICES, ETC. AND RELOCATE TO NEW LOCATION COMPLETE AS REQUIRED.

NE NEW LOCATION OF EXISTING RELOCATED LIGHTS, RECEPTACLES, SPECIAL SYSTEMS, DEVICE, ETC. EXTEND CONDUIT, WIRE, CABLE, ETC. COMPLETE AS REQUIRED TO NEW LOCATION FOR A COMPLETE AND PROPER INSTALLATION.

NETWORK CABLING DIAGRAM



NOTE:
ELECTRICAL CONTRACTOR SHALL PROVIDE GROUNDING AND BONDING FOR ALL DATA AND VOICE SYSTEMS AND THIS SHALL COMPLY WITH THE GROUNDING AND BONDING REQUIREMENTS OF EIA/TIA 607. ALL BONDING CONDUCTORS SHALL BE MINIMUM #4 AWG. INSULATED COPPER. PROVIDE A GROUNDING BUS BAR AT EACH CLOSET LOCATION.

AD-3

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PROJECT

LOWELL HIGH SCHOOL SITE, BLEACHERS, & TURF/DRAINAGE

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PROJECT 23-112
DATE 08/04/23
COORDINATED BY DJ
DRAWN BY JC,AG
CHECKED BY SM

DAVID G. JANNEY REGISTERED NO. 10302590 STATE OF INDIANA PROFESSIONAL ENGINEER

REVISIONS

MARK	DATE	ISSUED FOR
AD-3	09/08/23	ADDENDUM NO. 03

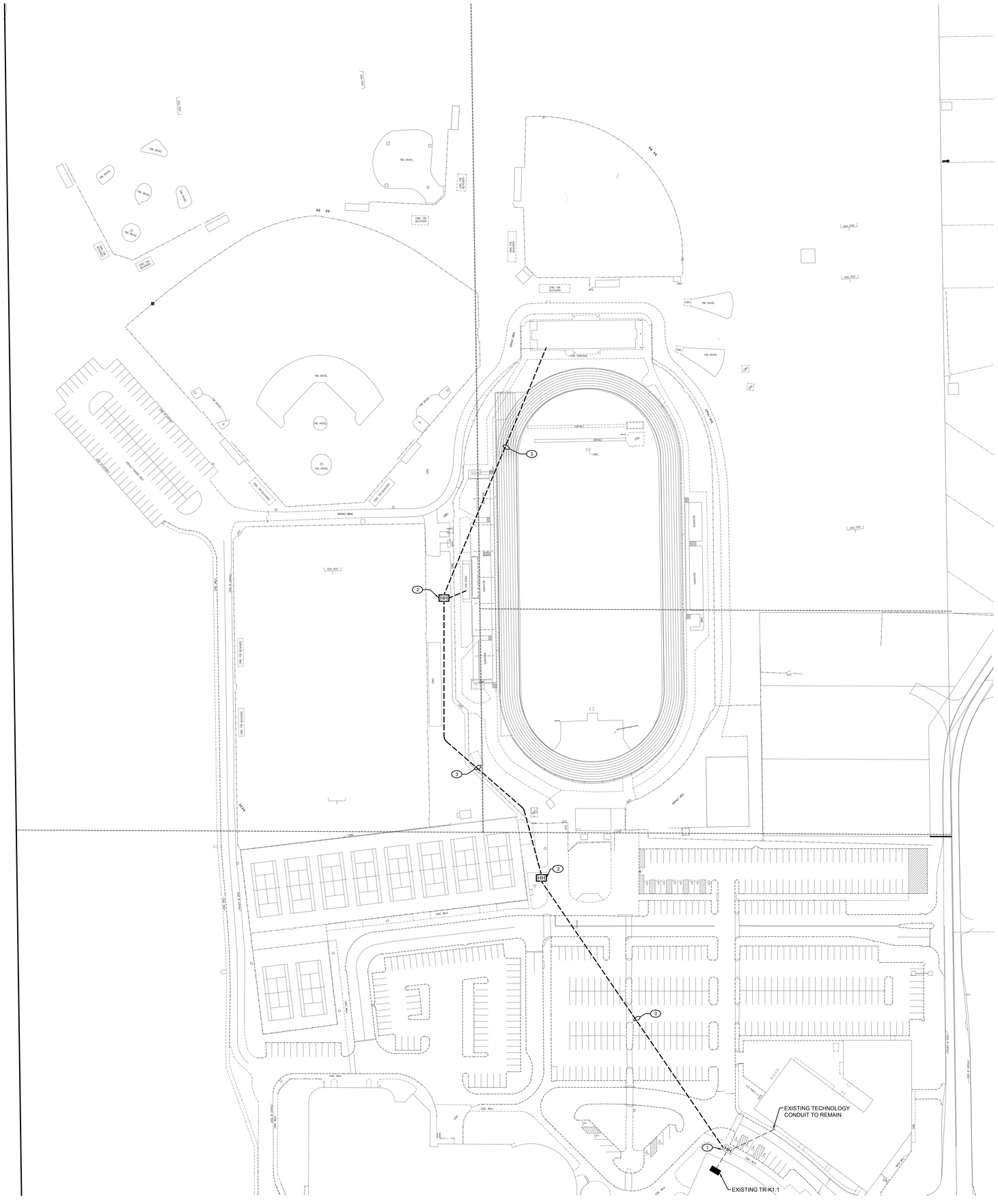
DRAWING
TECHNOLOGY DETAILS

PROJECT
LOWELL HIGH SCHOOL SITE, BLEACHERS, & TURF/DRAINAGE

SHEET T-000

SHEET NOTES

1. APPROXIMATE LOCATION OF EXISTING TECHNOLOGY PULL BOX TO REMAIN.
2. EXISTING TECHNOLOGY PULL BOX TO BE REMOVED. REMOVE ABANDONED LOW VOLTAGE CONNECTIONS BACK TO SOURCE, COMPLETE AS REQUIRED. VERIFY EXACT CONDITIONS AND REQUIREMENTS IN FIELD.
3. EXISTING TECHNOLOGY CONDUITS TO BE ABANDONED. REMOVE WHERE REQUIRED TO ACCOMMODATE DEMOLITION AND NEW SITE CONSTRUCTION.



TECHNOLOGY DEMOLITION SITE PLAN - OVERALL

1" = 60'-0"

NORTH

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REGISTERED PROFESSIONAL ENGINEER — DAVID G. JANVEY — NO. 10302590 — STATE OF INDIANA

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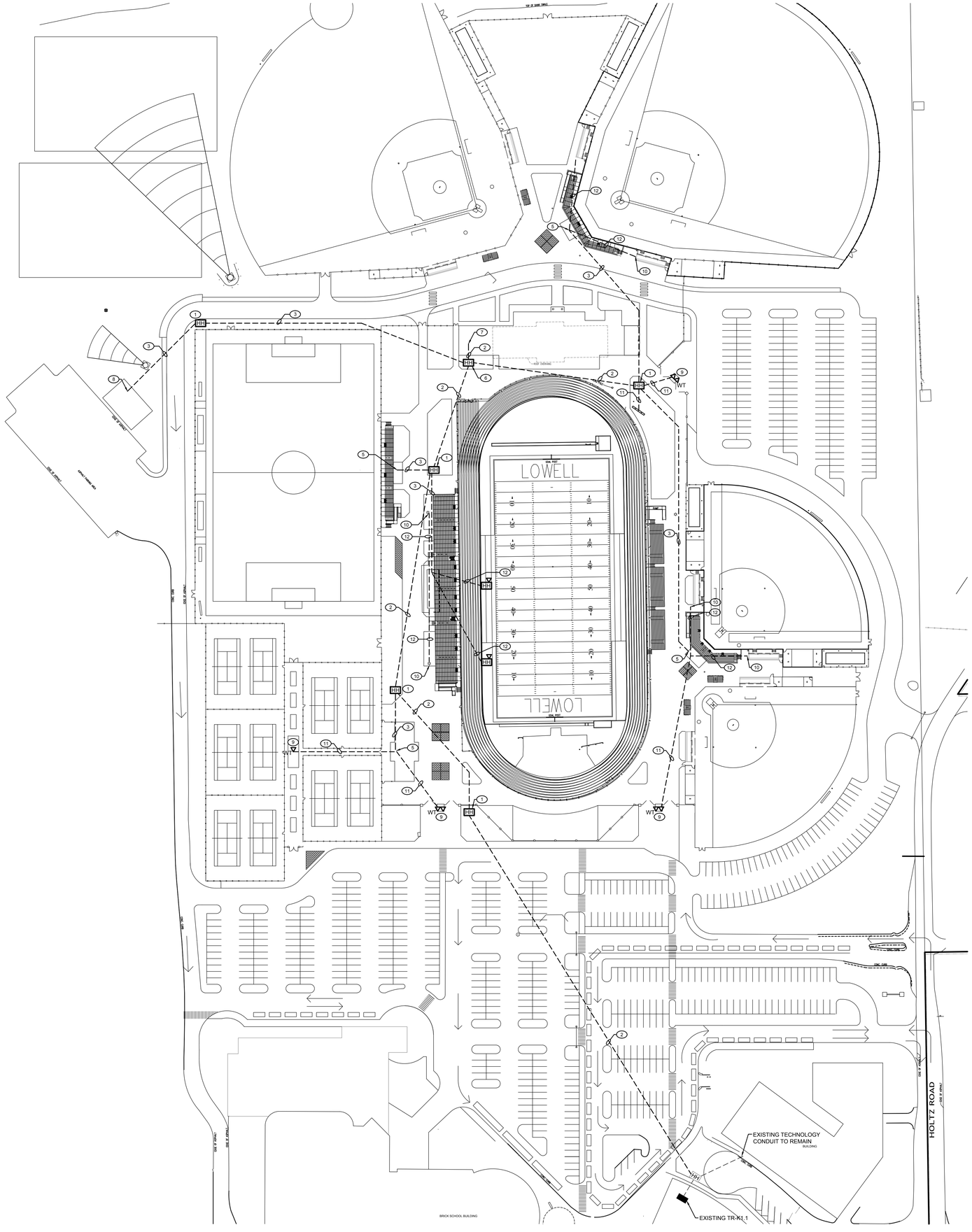
DRAWING
TECHNOLOGY DEMOLITION SITE PLAN - OVERALL

PROJECT
LOWELL HIGH SCHOOL SITE, BLEACHERS, & TURF/DRAINAGE

AD-3

SHEET T100



SHEET NOTES

1. NEW 3' X 3' IN-GROUND OPEN BOTTOM HAND HOLE.
2. NEW (1) 4"C.
3. NEW (1) 3"C.
4. SWEEP UP TO PRESS BOX. SECURELY ATTACH VERTICAL RUN TO STRUCTURE AND PENETRATE FLOOR AND CONTINUE TO WALL MOUNTED CABINET. SEAL ALL PENETRATIONS WEATHERTIGHT. COORDINATE EXACT REQUIREMENTS WITH PRESS BOX MANUFACTURER PRIOR TO ROUGH-IN.
5. 3" C. SWEEP UP TO PENETRATE FLOOR IN CORNER OF FIRST FLOOR AND EXTEND TO CABINET LOCATION.
6. NEW 4' X 4' IN-GROUND OPEN BOTTOM HAND HOLE.
7. 4"C. SWEEP UP TO PENETRATE FLOOR IN CORNER OF FIRST FLOOR STORAGE CLOSET AND EXTEND TO CABINET LOCATION ON SECOND FLOOR.
8. 3"C. SWEEP UP TO PENETRATE FLOOR IN CORNER OF MAINTENANCE BUILDING. CAP AND PROVIDE PULL STRING BACK TO NORTHSTAR BUILDING.
9. SWEEP UP TO SURFACE MOUNTED 12"X12"X4" MINIMUM NEMA-4X BOX AT 18" ABOVE GRADE. PENENTRATE (1) 1"C. THRUOGH THE REAR ON THE BOX TO A RECESSED OUTLET BOX.
10. SWEEP UP TO SURFACE MOUNTED 12"X12"X4" MINUMUM NEMA-4X BOX AT 18" ABOVE GRADE MOUNTED TO NEW SPORTS FIELD LIGHTING POLE FOR FUTURE SOUND EQUIPMENT.
11. NEW (1) 2"C.
12. NEW (1) 1-1/2"C.

TECHNOLOGY
SITE PLAN - OVERALL

1" = 60'-0"

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DRAWING
TECHNOLOGY SITE PLAN - OVERALL

PROJECT
LOWELL HIGH SCHOOL SITE, BLEACHERS, & TURF/DRAINAGE

AD-3

SHEET T101