

DATE: September 16, 2026

Mehlville R-IX School District
2900 Lemay Ferry Road
St. Louis, Missouri 63125

BLDD ARCHITECTS, INC.
103 West Lockwood Ave., Suite 218
St. Louis, MO 63119
(844) 784-4440

TO: Prospective Bidders

SUBJECT: Addendum No. 2 to the Bidding Documents for:

Mehlville School District – Bus Transportation Facility Project

This addendum forms a part of the bidding and contract documents and modifies the original bidding documents, dated September 1, 2026. Acknowledge receipt of this addendum in space provided on Bid Form. FAILURE TO DO SO MAY SUBJECT THE BIDDER TO DISQUALIFICATION.

A. CLARIFICATIONS

1. Industrial Fans
 - a. Industrial fans shall be manufactured by Big Ass Fans. No substitutions.
2. Plumbing
 - a. Pro Press/Mega Press is acceptable for domestic water piping
3. Mechanical
 - a. Pro Press/Mega Press is acceptable for compressed air and natural gas piping.

B. SPECIFICATIONS

1. Section 01 1000 – Project Summary
 - a. Article 1.6.A - **ADD** 3. Football field and track maintenance work.
2. Section 01 4000 - Quality Requirements
 - a. Article 1.1.C: **CLARIFICATION:** All construction testing is by the Owner
3. Section 07 7200 - Roof Accessories
 - a. **REVISE** Paragraph 2.1.B to be 36" x 36" size.

4. Section 08 3613 - Sectional Overhead Doors
 - a. **ADD** to Paragraph 4.1.A., "5. Haas Door / 2400 Series"
 - b. **ADD** to Paragraph 4.2.A., "5, Hass Door / 2000 Series"
5. Section 08 4113 - Aluminum Entrances and Storefront
 - a. **ADD** to Paragraph 2.1.B, "4. Manko Window Systems"
6. Section 10 1419 - Dimensional Letter Signage
 - a. **REVISE** section 2.3.B.5 to say "Mounting: Adhesive mounted, per manufacturer's recommendations."
7. Section 10 1423 - Panel Signage
 - a. **ADD** "3. Type 17a material: cast aluminum" to section 2.2.B
8. Section 21 1313 - Wet-Pipe Fire-Suppression Sprinklers
 - a. **ADD** section in its entirety
9. Section 23 3600 – Air Terminal Units
 - a. **ADD** the attached specification section 233600 – Air Terminal Units to the project.
10. Section 23 7425 – Compressed-Air Piping
 - a. Aluminum shall be an acceptable product for compressed air piping. Requirements below:
 - i. Pipe: Rigid extruded aluminum alloy EN AW-6060-T5/T6 or EN AW-6063-T5, manufactured to ASTM B241 / EN 755-2 and EN 573-3. Calibrated OD, powder-coated exterior (QUALICOAT; compressed-air identification color RAL 5012 blue per ASME A13.1). Chrome-free internal conversion treatment. Compatible with dry, wet, and lubricated compressed air, vacuum, and inert gases.
 - ii. System: Modular quick-connect aluminum (or aluminum/stainless) fittings with elastomeric seals. No plastic fitting bodies on mains. Full-bore where manufacturer standard allows.
 - iii. Design / compliance:
 1. ASME B31.1 and ASME B31.3 (B31.9 acceptable for building-services portions)
 2. PED 2014/68/EU / TÜV as applicable
 3. ISO 8573-1 Class 1.1.1 (piping shall not degrade air quality)
 4. ISO 9001
 - iv. Ratings:

Max working pressure 232 psig (16 bar) through 4 in / 100 mm; 188 psig (13 bar) for 6–8 in.
Working temperature –4 °F to 140 °F (–20 °C to 60 °C), or manufacturer-published envelope.
Vacuum to ~29 in Hg.
 - v. Equals: Parker Transair, Atlas Copco AIRnet, Prevost PPS, AIRpipe, UnipipeAIR, or approved equal meeting the material, pressure, and standard list above.
 - vi. Install, support, label, and pressure-test per manufacturer instructions and the governing ASME B31 code.

11. Section 32 3113 - CHAIN LINK FENCES AND GATES

- a. See attached sheet

C. DRAWINGS

1. CIVIL Sheets

- a. **SEE** attached sheets for revisions and additions

2. Sheet AS101 - ARCHITECTURAL SITE PLAN AND DEMOLITION SITE PLAN

- a. **REVISE** Demolition Keynote D3 to read: "RELOCATE EXISTING PORTABLE BUILDING, AND ASSOCIATED ENTRANCE RAMP/STAIRS ASSEMBLY, TO OFF-SITE LOCATION. DISCONNECT ALL UTILITIES PRIOR TO RELOCATION. COORDINATE WITH MEP SHEETS."

3. Sheet A101 - FLOOR PLANS

- a. **REVISE** tire racks in Tire Storage 140.
- b. **ADD** Floor Plan Keynote 34.

4. Sheet A202 - BUILDING ELEVATIONS AND SECTIONS - TIRE STORAGE

- a. **ADD** notes, tags, and dimensions in Detail 6.
- b. **REVISE** tire racks in Tire Storage 140, in Detail 6.

5. Sheet A700 - FINISH SCHEDULES AND KEYNOTES

- a. **REVISE** Flooring Legend RF-1 verbiage to "Resinous Epoxy Flooring"

6. Sheet A900 - FIRST FLOOR FINISH PLAN

- a. **REVISE** Flooring Legend RF-1 verbiage to "Resinous Epoxy Flooring"

7. Sheet M101 – Floor Plans – Mechanical – General Notes

- a. All exposed supply air ductwork in shop space shall be double wall construction.
- b. All exposed ductwork shall be paint grip type to be painted with color by Architect.
- c. Stainless steel ductwork for wash bay shall start on other side of wall and shall be welded within wash bay.

8. Sheet M002 – Mechanical Schedules – Exhaust Fan Schedule

- a. EF-7 and 8 shall be furnished to owner only, not installed. Model shall be corrected to Mahle EV-1, Part #435 80001 00.

Sealed Bids will be received by Mr. Mike Gegg, at the District Central Office, 2900 Lemay Ferry Road, St. Louis, Missouri 63125 before 2:00 p.m. local prevailing time on September 29, 2026. Bids will be publicly opened and read aloud at that time.

END 00 9102

This Addendum consists of 4 pages with Attachments.

21 1313 - Wet-Pipe Fire-Suppression Sprinklers
23 3600 - Air Terminal Units
32 3113 - CHAIN LINK FENCES AND GATES

CIVIL Sheets
A101 - FLOOR PLANS
A202 - BUILDING ELEVATIONS AND SECTIONS - TIRE STORAGE

1. GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Pipes, fittings, and specialties.
 - 2. Fire-protection valves.
 - 3. Sprinklers.

1.3 DEFINITIONS

- A. Standard-Pressure Sprinkler Piping: Wet-pipe sprinkler system piping designed to operate at working pressure of 175 psig (1200 kPa) maximum.

1.4 SYSTEM DESCRIPTIONS

- A. Wet-Pipe Sprinkler System: Automatic sprinklers are attached to piping containing water and that is connected to water supply through alarm valve. Water discharges immediately from sprinklers when they are opened. Sprinklers open when heat melts fusible link or destroys frangible device. Hose connections are included if indicated.

1.5 PERFORMANCE REQUIREMENTS

- A. Standard-Pressure Piping System Component: Listed for 175-psig minimum working pressure.
- B. Delegated Design: Design sprinkler system(s), including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
- C. Sprinkler system design shall be approved by authorities having jurisdiction.
 - 1. Margin of Safety for Available Water Flow and Pressure: 20 percent, including losses through water-service piping, valves, and backflow preventers.
 - 2. Sprinkler Occupancy Hazard Classifications: Ordinary Hazard, Group 1.
 - 3. Maximum Protection Area per Sprinkler: Per UL listing.
- D. Seismic Performance: Sprinkler piping shall withstand the effects of earthquake motions determined according to NFPA 13 and ASCE/SEI 7.

1.6 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For wet-pipe sprinkler systems. Include plans, elevations, sections, details, and attachments to other work.
- C. Delegated-Design Submittal: For sprinkler systems indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
- D. Coordination Drawings: Sprinkler systems, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:
 - 1. Domestic water piping.
 - 2. HVAC hydronic piping.
 - 3. Items penetrating finished ceiling include the following:
 - a. Lighting fixtures.
 - b. Air outlets and inlets.
- E. Approved Sprinkler Piping Drawings: Working plans, prepared according to NFPA 13, that have been approved by authorities having jurisdiction, including hydraulic calculations if applicable.
- F. Field Test Reports and Certificates: Indicate and interpret test results for compliance with performance requirements and as described in NFPA 13. Include "Contractor's Material and Test Certificate for Aboveground Piping."

1.7 QUALITY ASSURANCE

- A. Installer Qualifications:
 - 1. Installer's responsibilities include designing, fabricating, and installing sprinkler systems and providing professional engineering services needed to assume engineering responsibility. Base calculations on results of fire-hydrant flow test.
 - a. Engineering Responsibility: Preparation of working plans, calculations, and field test reports by a qualified professional engineer.
- B. Welding Qualifications: Qualify procedures and operators according to ASME Boiler and Pressure Vessel Code.
- C. NFPA Standards: Sprinkler system equipment, specialties, accessories, installation, and testing shall comply with the following:
 - 1. NFPA 13, "Installation of Sprinkler Systems."
 - 2. NFPA 24, "Installation of Private Fire Service Mains and Their Appurtenances."

1.8 PROJECT CONDITIONS

- A. Interruption of Existing Sprinkler Service: Do not interrupt sprinkler service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary sprinkler service according to requirements indicated:
 - 1. Notify Architect no fewer than two days in advance of proposed interruption of sprinkler service.
 - 2. Do not proceed with interruption of sprinkler service without Architect's written permission.

1.9 COORDINATION

- A. Coordinate layout and installation of sprinklers with other construction that penetrates ceilings, including light fixtures, HVAC equipment, and partition assemblies.

1.10 EXTRA MATERIALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Sprinkler Cabinets: Finished, wall-mounted, steel cabinet with hinged cover, and with space for minimum of six spare sprinklers plus sprinkler wrench. Include number of sprinklers required by NFPA 13 and sprinkler wrench. Include separate cabinet with sprinklers and wrench for each type of sprinkler used on Project.

2. PRODUCTS

2.1 PIPING MATERIALS

- A. Comply with requirements in "Piping Schedule" Article for applications of pipe, tube, and fitting materials, and for joining methods for specific services, service locations, and pipe sizes.

2.2 STEEL PIPE AND FITTINGS

- A. Thinwall Galvanized - and Black-Steel Pipe: ASTM A 135 or ASTM A 795/A 795M, threadable, with wall thickness less than Schedule 30 and equal to or greater than Schedule 10. Pipe ends may be factory or field formed to match joining method.
- B. Schedule 10, Black-Steel Pipe: ASTM A 135 or ASTM A 795/A 795M, Schedule 10 in NPS 5 (DN 125) and smaller; and NFPA 13-specified wall thickness in NPS 6 to NPS 10 (DN 150 to DN 250), plain end.
- C. Black-Steel Pipe Nipples: ASTM A 733, made of ASTM A 53/A 53M, standard-weight, seamless steel pipe with threaded ends.
- D. Steel Couplings: ASTM A 865, threaded.
- E. Gray-Iron Threaded Fittings: ASME B16.4, Class 125, standard pattern.

- F. Malleable- or Ductile-Iron Unions: UL 860.
- G. Cast-Iron Flanges: ASME 16.1, Class 125.
- H. Steel Flanges and Flanged Fittings: ASME B16.5, Class 150.
- I. Steel Welding Fittings: ASTM A 234/A 234M and ASME B16.9.
- J. Grooved-Joint, Steel-Pipe Appurtenances:
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Anvil International, Inc.
 - b. Tyco Fire & Building Products LP.
 - c. Victaulic Company.
 - 2. Pressure Rating: 175 psig minimum.
 - 3. Grooved-End Fittings for Steel Piping: ASTM A 47/A 47M, malleable-iron casting or ASTM A 536, ductile-iron casting; with dimensions matching steel pipe.
 - 4. Grooved-End-Pipe Couplings for Steel Piping: AWWA C606 and UL 213, rigid pattern, unless otherwise indicated, for steel-pipe dimensions. Include ferrous housing sections, EPDM-rubber gasket, and bolts and nuts.

2.3 CPVC PIPE AND FITTINGS

- A. CPVC Pipe: ASTM F 442/F 442M and UL 1821, SDR 13.5, for 175-psig rated pressure at 150 deg F, with plain ends. Include "LISTED" and "CPVC SPRINKLER PIPE" markings.
- B. CPVC Fittings: UL listed, for 175-psig rated pressure at 150 deg F, socket type. Include "LISTED" and "CPVC SPRINKLER FITTING" markings.
 - 1. NPS ¾ to NPS 1-1/2: ASTM F 438 and UL 1821, Schedule 40, socket type.
 - 2. NPS 2 to NPS 3: ASTM F 439 and UL 1821, Schedule 80, socket type.
 - 3. CPVC-to-Metal Transition Fittings: CPVC, one piece, with dimensions equivalent to pipe; one end with threaded brass insert, and one socket end.
 - 4. CPVC-to-Metal Transition Unions: CPVC, with dimensions equivalent to pipe; one end with threaded brass insert, and one socket end.
 - 5. Flanges: CPVC, one or two pieces.

2.4 LISTED FIRE-PROTECTION VALVES

- A. General Requirements:
 - 1. Valves shall be UL listed or FM approved.
 - 2. Minimum Pressure Rating for Standard-Pressure Piping: 175 psig.
- B. Ball Valves:
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Anvil International, Inc.

b. Victaulic Company.

2. Standard: UL 1091 except with ball instead of disc.
3. Valves NPS 1-1/2 and Smaller: Bronze body with threaded ends.
4. Valves NPS 2 and NPS 2-1/2: Bronze body with threaded ends or ductile-iron body with grooved ends.

2.5 SPRINKLERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Reliable Automatic Sprinkler Co., Inc.
2. Tyco Fire & Building Products LP.
3. Venus Fire Protection Ltd.
4. Victaulic Company.
5. Viking Corporation.

B. General Requirements:

1. Standard: UL's "Fire Protection Equipment Directory" listing or "Approval Guide," published by FM Global, listing.
2. Pressure Rating for Automatic Sprinklers: 175 psig minimum.

C. Sprinkler Finishes:

1. Chrome plated.
2. Bronze.
3. Painted.

D. Sprinkler Escutcheons: Materials, types, and finishes for the following sprinkler mounting applications. Escutcheons for concealed, flush, and recessed-type sprinklers are specified with sprinklers.

1. Ceiling Mounting Plastic, white finish, one piece, flat.
2. Sidewall Mounting: Chrome-plated steel, one piece, flat.

E. Sprinkler Guards:

1. Manufacturers: Subject to compliance with requirements available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- a. Reliable Automatic Sprinkler Co., Inc.
- b. Tyco Fire & Building Products LP.
- c. Victaulic Company.
- d. Viking Corporation.

2. Standard: UL 199.
3. Type: Wire cage with fastening device for attaching to sprinkler.

3. EXECUTION

3.1 PREPARATION

- A. Perform fire-hydrant flow test according to NFPA 13 and NFPA 291. Use results for system design calculations required in "Quality Assurance" Article.
- B. Report test results promptly and in writing.

3.2 PIPING INSTALLATION

- A. Locations and Arrangements: Drawing plans, schematics, and diagrams indicate general location and arrangement of piping. Install piping as indicated, as far as practical.
 - 1. Deviations from approved working plans for piping require written approval from authorities having jurisdiction. File written approval with Architect before deviating from approved working plans.
- B. Piping Standard: Comply with requirements for installation of sprinkler piping in NFPA 13.
- C. Install seismic restraints on piping. Comply with requirements for seismic-restraint device materials and installation in NFPA 13.
- D. Use listed fittings to make changes in direction, branch takeoffs from mains, and reductions in pipe sizes.
- E. Install unions adjacent to each valve in pipes NPS 2 and smaller.
- F. Install flanges, flange adapters, or couplings for grooved-end piping on valves, apparatus, and equipment having NPS 2-1/2 and larger end connections.
- G. Install "Inspector's Test Connections" in sprinkler system piping, complete with shutoff valve, and sized and located according to NFPA 13.
- H. Install sprinkler piping with drains for complete system drainage.
- I. Install hangers and supports for sprinkler system piping according to NFPA 13. Comply with requirements for hanger materials in NFPA 13.
- J. Install pressure gages on riser or feed main, at each sprinkler test connection, and at top of each standpipe. Include pressure gages with connection not less than NPS 1/4 and with soft metal seated globe valve, arranged for draining pipe between gage and valve. Install gages to permit removal, and install where they will not be subject to freezing.
- K. Fill sprinkler system piping with water.
- L. Install sleeves for piping penetrations of walls, ceilings, and floors. Comply with requirements for sleeves specified in Division 21 "Sleeves and Sleeve Seals for Fire-Suppression Piping."
- M. Install sleeve seals for piping penetrations of concrete walls and slabs. Comply with requirements for sleeve seals specified in Division 21 "Sleeves and Sleeve Seals for Fire-Suppression Piping."

- N. Install escutcheons for piping penetrations of walls, ceilings, and floors. Comply with requirements for escutcheons specified in Division 21 "Escutcheons for Fire-Suppression Piping."

3.3 JOINT CONSTRUCTION

- A. Install couplings, flanges, flanged fittings, unions, nipples, and transition and special fittings that have finish and pressure ratings same as or higher than system's pressure rating for aboveground applications unless otherwise indicated.
- B. Install unions adjacent to each valve in pipes NPS 2 and smaller.
- C. Install flanges, flange adapters, or couplings for grooved-end piping on valves, apparatus, and equipment having NPS 2-1/2 and larger end connections.
- D. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.
- E. Remove scale, slag, dirt, and debris from inside and outside of pipes, tubes, and fittings before assembly.
- F. Flanged Joints: Select appropriate gasket material in size, type, and thickness suitable for water service. Join flanges with gasket and bolts according to ASME B31.9.
- G. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:
 - 1. Apply appropriate tape or thread compound to external pipe threads.
 - 2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged.
- H. Twist-Locked Joints: Insert plain end of steel pipe into plain-end-pipe fitting. Rotate retainer lugs one-quarter turn or tighten retainer pin.
- I. Steel-Piping, Pressure-Sealed Joints: Join lightwall steel pipe and steel pressure-seal fittings with tools recommended by fitting manufacturer.
- J. Welded Joints: Construct joints according to AWS D10.12M/D10.12, using qualified processes and welding operators according to "Quality Assurance" Article.
 - 1. Shop weld pipe joints where welded piping is indicated. Do not use welded joints for galvanized-steel pipe.
- K. Steel-Piping, Cut-Grooved Joints: Cut square-edge groove in end of pipe according to AWWA C606. Assemble coupling with housing, gasket, lubricant, and bolts. Join steel pipe and grooved-end fittings according to AWWA C606 for steel-pipe joints.
- L. Steel-Piping, Roll-Grooved Joints: Roll rounded-edge groove in end of pipe according to AWWA C606. Assemble coupling with housing, gasket, lubricant, and bolts. Join steel pipe and grooved-end fittings according to AWWA C606 for steel-pipe grooved joints.

3.4 SPRINKLER INSTALLATION

- A. Install sprinklers in suspended ceilings in center of narrow dimension of acoustical ceiling panels.
- B. Install sprinklers into flexible, sprinkler hose fittings and install hose into bracket on ceiling grid.

3.5 IDENTIFICATION

- A. Install labeling and pipe markers on equipment and piping according to requirements in NFPA 13.

3.6 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
- B. Tests and Inspections:
 - 1. Leak Test: After installation, charge systems and test for leaks. Repair leaks and retest until no leaks exist.
 - 2. Flush, test, and inspect sprinkler systems according to NFPA 13, "Systems Acceptance" Chapter.
 - 3. Coordinate with fire-alarm tests. Operate as required.
- C. Sprinkler piping system will be considered defective if it does not pass tests and inspections.
- D. Prepare test and inspection reports.

3.7 CLEANING

- A. Clean dirt and debris from sprinklers.
- B. Remove and replace sprinklers with paint other than factory finish.

3.8 SPRINKLER SCHEDULE

- A. Use sprinkler types in subparagraphs below for the following applications:
 - 1. Rooms without Ceilings: Upright sprinklers.
 - 2. Rooms with Suspended Ceilings: Concealed sprinklers.
 - 3. Wall Mounting: Sidewall sprinklers.
- B. Provide sprinkler types in subparagraphs below with finishes indicated.
 - 1. Concealed Sprinklers: Rough brass, with factory-painted white cover plate unless otherwise noted.
 - 2. Upright and Pendent Sprinklers: Chrome plated in finished spaces exposed to view; rough bronze in unfinished spaces not exposed to view.

END OF 21 1313

DIVISION 23 – MECHANICAL

Section 23 3600 – Air Terminal Units

1. GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Shutoff, single-duct air terminal units.

1.3 SUBMITTALS

- A. Product Data: For each type of the following products, including rated capacities, furnished specialties, sound-power ratings, and accessories.
 - 1. Air terminal units.
- B. Shop Drawings: For air terminal units. Include plans, elevations, sections, details, and attachments to other work.
 - 1. Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
 - 2. Wiring Diagrams: For power, signal, and control wiring.
 - 3. Hangers and supports, including methods for duct and building attachment and vibration isolation.
- C. Delegated-Design Submittal:
 - 1. Materials, fabrication, assembly, and spacing of hangers and supports.
 - 2. Design Calculations: Calculations, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation for selecting hangers and supports.
- D. Coordination Drawings: Reflected ceiling plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from Installers of the items involved:
 - 1. Ceiling suspension assembly members.
 - 2. Size and location of initial access modules for acoustic tile.
 - 3. Ceiling-mounted items including lighting fixtures, diffusers, grilles, speakers, sprinklers, access panels, and special moldings.
- E. Field quality-control reports.

- F. Operation and Maintenance Data: For air terminal units to include in emergency, operation, and maintenance manuals. In addition to items specified in Section 017823 "Operation and Maintenance Data," include the following:

1. Instructions for resetting minimum and maximum air volumes.
2. Instructions for adjusting software set points.

1.4 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. ASHRAE Compliance: Applicable requirements in ASHRAE 62.1, Section 5 - "Systems and Equipment" and Section 7 - "Construction and System Start-Up."

2.PRODUCTS

2.1 SHUTOFF, SINGLE-DUCT AIR TERMINAL UNITS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
- B. Basis-of-Design Product: Subject to compliance with requirements, provide Titus or comparable product by one of the following:
1. Price Industries.
 2. Trane
- C. Configuration: Volume-damper assembly inside unit casing with control components inside a protective metal shroud.
- D. Casing: 0.034-inch steel, single wall.
1. Casing Lining: Adhesive attached, 1/2-inch-thick, coated, fibrous-glass duct liner complying with ASTM C 1071, and having a maximum flame-spread index of 25 and a maximum smoke-developed index of 50, for both insulation and adhesive, when tested according to ASTM E 84.
 - a. Cover liner with nonporous foil.
 - b. Cover liner with nonporous foil and perforated metal.
 2. Casing Lining: Adhesive attached, 1/2-inch-thick, polyurethane foam insulation complying with UL 181 erosion requirements, and having a maximum flame-spread index of 25 and a maximum smoke-developed index of 50, for both insulation and adhesive, when tested according to ASTM E 84.
 3. Air Inlet: Round stub connection or S-slip and drive connections for duct attachment.
 4. Air Outlet: S-slip and drive connections, size matching inlet size.
 5. Access: Removable panels for access to parts requiring service, adjustment, or maintenance; with airtight gasket.
 6. Airstream Surfaces: Surfaces in contact with the airstream shall comply with requirements in ASHRAE 62.1.

- E. Regulator Assembly: System-air-powered bellows section incorporating polypropylene bellows for volume regulation and thermostatic control. Bellows shall operate at temperatures from 0 to 140 deg F, shall be impervious to moisture and fungus, shall be suitable for 10-inch wg static pressure, and shall be factory tested for leaks.
- F. Volume Damper: Galvanized steel with peripheral gasket and self-lubricating bearings.
 - 1. Maximum Damper Leakage: ARI 880 rated, 2 percent of nominal airflow at 3-inch wg inlet static pressure.
- G. Hydronic Coils: Copper tube, with mechanically bonded aluminum fins spaced no closer than 0.1 inch, and rated for a minimum working pressure of 200 psig and a maximum entering-water temperature of 220 deg F (104 deg C). Include manual air vent and drain valve.
- H. Direct Digital Controls: Provided by District DDC Control Provider. Coordinate controls installation with Automatic Controls Equipment Systems (ACES), Justin Vogt.
- I. Control Sequence:
 - 1. Suitable for operation with duct pressures between 0.25- and 3.0-inch wg inlet static pressure.
 - 2. System-powered, wall-mounted thermostat.

2.2 HANGERS AND SUPPORTS

- A. Hanger Rods for Noncorrosive Environments: Cadmium-plated steel rods and nuts.
- B. Hanger Rods for Corrosive Environments: Electrogalvanized, all-thread rods or galvanized rods with threads painted with zinc-chromate primer after installation.
- C. Steel Cable End Connections: Cadmium-plated steel assemblies with brackets, swivel, and bolts designed for duct hanger service; with an automatic-locking and clamping device.
- D. Air Terminal Unit Attachments: Sheet metal screws, blind rivets, or self-tapping metal screws; compatible with duct materials.
- E. Trapeze and Riser Supports: Steel shapes and plates for units with steel casings; aluminum for units with aluminum casings.

2.3 SOURCE QUALITY CONTROL

- A. Factory Tests: Test assembled air terminal units according to ARI 880.
 - 1. Label each air terminal unit with plan number, nominal airflow, maximum and minimum factory-set airflows, and ARI certification seal.

3.EXECUTION

3.1 INSTALLATION

- A. Install air terminal units according to NFPA 90A, "Standard for the Installation of Air Conditioning and Ventilating Systems."
- B. Install air terminal units level and plumb. Maintain sufficient clearance for normal service and maintenance.
- C. Install wall-mounted thermostats.

3.2 HANGER AND SUPPORT INSTALLATION

- A. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Chapter 5, "Hangers and Supports."
- B. Building Attachments: Concrete inserts, powder-actuated fasteners, or structural-steel fasteners appropriate for construction materials to which hangers are being attached.
 - 1. Where practical, install concrete inserts before placing concrete.
 - 2. Install powder-actuated concrete fasteners after concrete is placed and completely cured.
 - 3. Use powder-actuated concrete fasteners for standard-weight aggregate concretes and for slabs more than 4 inches (100 mm) thick.
 - 4. Do not use powder-actuated concrete fasteners for lightweight-aggregate concretes and for slabs less than 4 inches (100 mm) thick.
 - 5. Do not use powder-actuated concrete fasteners for seismic restraints.
- C. Hangers Exposed to View: Threaded rod and angle or channel supports.
- D. Install upper attachments to structures. Select and size upper attachments with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.

3.3 CONNECTIONS

- A. Install piping adjacent to air terminal unit to allow service and maintenance.
- B. Hot-Water Piping: In addition to requirements in Section 232113 "Hydronic Piping," connect heating coils to supply with shutoff valve, strainer, control valve, and union or flange; and to return with balancing valve and union or flange.
- C. Connect ducts to air terminal units according to Section 233113 "Metal Ducts."
- D. Make connections to air terminal units with flexible connectors complying with requirements in Section 233300 "Air Duct Accessories."

3.4 IDENTIFICATION

- A. Label each air terminal unit with plan number, nominal airflow, and maximum and minimum factory-set airflows. Comply with requirements in Section 230553 "Identification for HVAC Piping and Equipment" for equipment labels and warning signs and labels.

END OF SECTION 233600

SECTION 323113
CHAIN LINK FENCES AND GATES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Chain-link fences.
 - 2. Swing gates.
 - 3. Horizontal-slide gates.
 - 4. Privacy slats.
 - 5. Horizontal-slide gate operator.

1.2 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.3 QUALITY ASSURANCE

- A. Installer Qualifications: Firm specializing in installation of horizontal-slide gate operators, with minimum 2 years' experience.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For each type of fence and gate assembly.
 - 1. Include plans, elevations, sections, details, and attachments to other work.
- C. Samples: For each exposed product and for each color and texture specified.
- D. Delegated-Design Submittal: For structural performance of chain-link fence and gate frameworks, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.5 INFORMATIONAL SUBMITTALS

- A. Product certificates.
- B. Product test reports.
- C. Sample warranty.

1.6 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For horizontal-slide gate operator.

1.7 WARRANTY

- A. Special Warranty: Installer agrees to repair or replace components of chain-link fences and gates that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: 1 year from date of Substantial Completion.
- B. Manufacturer's Warranty: Horizontal-slide gate operator manufacturer's warranty against defects in materials and manufacturing for a period of 2 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 CHAIN-LINK FENCE FABRIC

- A. General: Provide fabric in one-piece heights measured between top and bottom of outer edge of selvage knuckle or twist according to "CLFMI Product Manual" and requirements indicated below:
 - 1. Fabric Height: 6 feet or as indicated on Drawings.
 - 2. Steel Wire for Fabric: Wire diameter of 0.148 inch.
 - a. Mesh Size: 2 inches.

- b. Zinc-Coated Fabric: ASTM A392, Type II, Class 1, 1.2 oz./sq. ft. with zinc coating applied after weaving.
- c. Polymer-Coated Fabric: ASTM F668, Class 1 over zinc coated steel wire.
 - 1) Color: Black according to ASTM F934.
 - 2) Refer to plans for location
- d. Coat selvage ends of metallic-coated fabric before the weaving process with manufacturer's standard clear protective coating.

2.2 FENCE FRAMEWORK

- A. Posts and Rails: ASTM F1043 for framework, including rails, braces, and line; terminal; and corner posts. Provide members with minimum dimensions and wall thickness according to ASTM F1043 or ASTM F1083 based on the following:
 - 1. Fence Height: 72 inches or as indicated on Drawings.
 - 2. Pipe: Schedule 40 steel pipe having minimum nominal pipe size (NPS) and weight per lineal foot as given in the table on the plans.
 - 3. Brace Rails: ASTM F1043.
 - 4. Metallic Coating for Steel Framework:
 - a. Type A zinc Galvanize Coating: 1.8 oz. per square foot of total coated surface.
 - 5. Polymer coating over metallic coating.
 - a. Color: **Black** according to ASTM F934.
 - b. Refer to plans for location

2.3 TENSION WIRE

- A. Metallic-Coated Steel Wire: 0.177-inch diameter, tension wire according to ASTM A817 or ASTM A824, with the following metallic coating:
 - 1. Type II: Zinc coated (galvanized) with minimum coating weight matching chain-link fabric coating weight.
- B. Polymer-Coated Steel Wire: 0.177-inch- diameter, tension wire according to ASTM F1664, Class 1 over zinc-coated steel wire.
 - 1. Color: Black, according to ASTM F934.
 - 2. Refer plans for location.

2.4 SWING GATES

- A. General: ASTM F900 for gate posts and **single and double** swing gate types.
 - 1. Gate Leaf Width: As indicated on the plans.
 - 2. Framework Member Sizes and Strength: Based on gate fabric height and as indicated on the plans.
- B. Pipe and Tubing:
 - 1. Zinc-Coated Steel: ASTM F1043 and ASTM F1083; protective coating and finish to match fence framework.
 - 2. Gate Posts: Round tubular steel
 - 3. Gate Frames and Bracing: Round tubular steel.
- C. Frame Corner Construction: assembled with corner fittings.
- D. Hardware:
 - 1. Hinges: 180-degree swing.
 - 2. Latch: Permitting operation from both sides of gate with provision for padlocking accessible from both sides of gate.
 - 3. Lock: By Owner

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Do not begin installation before final grading is completed unless otherwise permitted by Architect.

3.2 CHAIN-LINK FENCE INSTALLATION

- A. Install chain-link fencing according to ASTM F567 and more stringent requirements specified.
- B. Post Excavation: Drill or hand-excavate holes for posts to diameters and spacings indicated, in firm, undisturbed soil.
- C. Post Setting: Set posts in concrete at indicated spacing into firm, undisturbed soil.
 - 1. Verify that posts are set plumb, aligned, and at correct height and spacing, and hold in position during setting with concrete or mechanical devices.
 - 2. Concrete Fill: Place concrete around posts to dimensions indicated and vibrate or tamp for consolidation. Protect aboveground portion of posts from concrete splatter.
 - a. Exposed Concrete: Extend 1-1/2 inches above grade; shape and smooth to shed water.
 - b. Concealed Concrete: Place top of concrete 2 inches below grade to allow covering with surface material.
 - c. Posts Set into Holes in Concrete: Form or core drill holes not less than 5 inches deep and 3/4 inch larger than OD of post. Clean holes of loose material, insert posts, and fill annular space between post and concrete with nonshrink, nonmetallic grout or anchoring cement, mixed and placed according to anchoring material manufacturer's written instructions. Finish anchorage joint to slope away from post to drain water.
- D. Terminal Posts: Install terminal end, corner, and gate posts according to ASTM F567 and terminal pull posts at changes in horizontal or vertical alignment of 30 degrees or more. For runs exceeding 500 feet, space pull posts an equal distance between corner or end posts.
- E. Line Posts: Space line posts uniformly at 10 feet o.c.
- F. Tension Wire: Install according to ASTM F567, maintaining plumb position and alignment of fence posts. Pull wire taut, without sags. Fasten fabric to tension wire with 0.120-inch diameter hog rings of same material and finish as fabric wire, spaced a maximum of 24 inches o.c. Install tension wire in locations indicated before stretching fabric. Provide horizontal tension wire at the following locations:
 - 1. Extended along top and bottom of fence fabric.
 - 2. As indicated on Drawings.
- G. Chain-Link Fabric: Apply fabric to inside of enclosing framework. Leave 1-inch bottom clearance between finish grade or surface and bottom selvage unless otherwise indicated. Pull fabric taut and tie to posts, rails, and tension wires. Anchor to framework so fabric remains under tension after pulling force is released.
- H. Privacy Slats: Install slats in direction indicated, securely locked in place.
 - 1. Diagonally for privacy factor of 80 to 85.

3.3 ADJUSTING

- A. Gates: Adjust gates to operate smoothly, easily, and quietly, free of binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Confirm that latches and locks engage accurately and securely without forcing or binding.
- B. Lubricate hardware and other moving parts.

3.4 GATE OPERATOR INSTALLATION

- A. Install gate operator in accordance with manufacturer's instructions.

3.5 FIELD QUALITY CONTROL

- A. Test and adjust gate operator for proper operation.

3.6 DEMONSTRATION

- A. Demonstrate operation and programming of gate operator to Owner.

PART 4 - EXECUTION

4.1 EXAMINATION

- A. Do not begin installation before final grading is completed unless otherwise permitted by Architect.

4.2 CHAIN-LINK FENCE INSTALLATION

- A. Install chain-link fencing according to ASTM F567 and more stringent requirements specified.
- B. Post Excavation: Drill or hand-excavate holes for posts to diameters and spacings indicated, in firm, undisturbed soil.
- C. Post Setting: Set posts in concrete at indicated spacing into firm, undisturbed soil.
 - 1. Verify that posts are set plumb, aligned, and at correct height and spacing, and hold in position during setting with concrete or mechanical devices.
 - 2. Concrete Fill: Place concrete around posts to dimensions indicated and vibrate or tamp for consolidation. Protect aboveground portion of posts from concrete splatter.
 - a. Exposed Concrete: Extend 1-1/2 inches above grade; shape and smooth to shed water.
 - b. Concealed Concrete: Place top of concrete 2 inches below grade to allow covering with surface material.
 - c. Posts Set into Holes in Concrete: Form or core drill holes not less than 5 inches deep and 3/4 inch larger than OD of post. Clean holes of loose material, insert posts, and fill annular space between post and concrete with nonshrink, nonmetallic grout or anchoring cement, mixed and placed according to anchoring material manufacturer's written instructions. Finish anchorage joint to slope away from post to drain water.
- D. Terminal Posts: Install terminal end, corner, and gate posts according to ASTM F567 and terminal pull posts at changes in horizontal or vertical alignment of 30 degrees or more. For runs exceeding 500 feet, space pull posts an equal distance between corner or end posts.
- E. Line Posts: Space line posts uniformly at 10 feet o.c.
- F. Tension Wire: Install according to ASTM F567, maintaining plumb position and alignment of fence posts. Pull wire taut, without sags. Fasten fabric to tension wire with 0.120-inch diameter hog rings of same material and finish as fabric wire, spaced a maximum of 24 inches o.c. Install tension wire in locations indicated before stretching fabric. Provide horizontal tension wire at the following locations:
 - 1. Extended along top and bottom of fence fabric.
 - 2. As indicated on Drawings.
- G. Chain-Link Fabric: Apply fabric to inside of enclosing framework. Leave 1-inch bottom clearance between finish grade or surface and bottom selvage unless otherwise indicated. Pull fabric taut and tie to posts, rails, and tension wires. Anchor to framework so fabric remains under tension after pulling force is released.
- H. Privacy Slats: Install slats in direction indicated, securely locked in place.
 - 1. Diagonally for privacy factor of 80 to 85.

4.3 ADJUSTING

- A. Gates: Adjust gates to operate smoothly, easily, and quietly, free of binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Confirm that latches and locks engage accurately and securely without forcing or binding.
- B. Lubricate hardware and other moving parts.

4.4 GATE OPERATOR INSTALLATION

- A. Install gate operator in accordance with manufacturer's instructions.

4.5 FIELD QUALITY CONTROL

- A. Test and adjust gate operator for proper operation.

4.6 DEMONSTRATION

- A. Demonstrate operation and programming of gate operator to Owner.

HORIZONTAL-SLIDE GATES

SEE FOLLOWING SPEC BY MANUFACTURER

PART 1 GENERAL

1.01 SECTION INCLUDES:

- A. This section shall include furnishing all labor, materials, and equipment necessary to complete all SurTrac II Aluminum Cantilever Slide Gates required for this project in strict accordance with this specification section and drawings. The gate and operator, if equipped, shall be specifically designed to complement each other as a system.

1.02 SUBMITTALS

- A. Product Data: Manufacturer's catalog cuts indicating material compliance and specified options.
- B. Shop drawings: Layout of gates with dimensions, details, and finishes of components, accessories, and post spacing and post foundations.
- C. Changes in specifications may not be made after the bid date.
- D. Samples: Samples of materials (e.g. fabric, wires, and accessories).

1.03 SPECIAL WARRANTY

- A. Provide manufacturer's standard limited warranty covering cantilever slide gate and truck assembly against failure resulting from normal use for a period of 5 years from the date of purchase. Failure is defined as any defect in manufacturing that prevents the gate from operating in a normal manner.

PART 2 PRODUCTS

2.01 MANUFACTURER

- A. Approved Manufacturer: SurTrac® II Aluminum Cantilever Slide Gate by Master Halco, Inc., Dallas, TX 75234 Phone: (888) 643-3623
- B. Obtain chain link fences and gates, including accessories, fittings, and fastenings from a single source.
- C. Approved substitution – All other systems must be submitted to the design team in accordance with

substitution requirements as set forth in the general provisions of the specification manual for approval prior to the bid date. Products submitted after the bid date will not be approved.

- D.** Gate manufacturer shall certify gates are manufactured in compliance with ATM F 2200, Standard Specification for Automated Vehicular Gate Construction.

2.02 MANUAL OR OPERATED CHAIN LINK CANTILEVER SLIDE GATE

Single Track Gate Layouts

Opening (ft.)	Counterbalance (ft. in.)	Total Gate Length (ft. in.)
10'	5'	15'
11'	9'	20'
12'	8'	20'
13'	7'	20'
14'	6'	20'
15'	10'	25'
16'	9'	25'
17'	8'	25'
18'	12'	30'
19'	11'	30'
20'	10'	30'
21'	9'	30'
22'	13'	35'
23'	12'	35'
24'	11'	35'
25'	10'	35'
26'	14'	40'
27'	13'	40'
28'	12'	40'
29'	16'	45'
30'	15'	45'

Dual Track Gate Layouts

Opening (ft.)	Counterbalance (ft. in.)	Total Gate Length (ft. in.)
10'	10'	20'
11'	9'	20'
12'	8'	20'
13'	7'	20'
14'	6'	20'

15'	8'4"	23'4"
16'	7'4"	23'4"
17'	9'8"	26'8"
18'	8'8"	26'8"
19'	7'8"	26'8"
20'	13'4"	33'4"
21'	12'4"	33'4"
Opening (ft.)	Counterbalance (ft. in.)	Total Gate Length (ft. in.)
22'	11'4"	33'4"
23'	10'4"	33'4"
24'	12'8"	36'8"
25'	11'8"	36'8"
26'	10'8"	36'8"
27'	13'	40'
28'	12'	40'
29'	14'4"	43'4"
30'	13'4"	43'4"
31'	15'8"	46'8"
32'	14'8"	46'8"
33'	13'8"	46'8"
34'	16'	50'
35'	15'	50'
36'	17'4"	53'4"
37'	16'4"	53'4"
38'	15'4"	53'4"
39'	17'8"	56'8"
40'	16'8"	56'8"
41'	19'	60'
42'	18'	60'
43'	20'4"	63'4"
44'	19'4"	63'4"
45'	18'4"	63'4"
46'	20'8"	66'8"
47'	19'8"	66'8"
48'	22'	70'
49'	21'	70'
50'	20'	70'
51'	22'4"	73'4"
52'	21'4"	73'4"
53'	23'8"	76'8"
54'	22'8"	76'8"
55'	25'	80'

56'	24'	80'
57'	23'	80'
58'	25'4"	83'4"
59'	24'4"	83'4"
60'	26'8"	86'8"

- A. Gate frames:** Frame only and/or fabricated chain link cantilever slide gates in accordance with ASTM F-1184, Type II, Class 2, using aluminum members conforming to ASTM B 221, alloy and temper 6061-T6. Vertical members shall be 2-inch (50mm) square aluminum, weighing 1.13 lb./ft., a 2-inch x 5-inch aluminum bottom frame member weighing 1.99 lb./ft., and a one-piece aluminum track/frame member weighing a minimum of 5.4 lb./ft. for Single Track and 8.05 lb./ft. for Dual Track. The 2-inch square frame member of said track/ frame shall have a wall thickness of not less than .250 inches on all four sides. Aluminum alloy used shall be 6061-T6 for vertical uprights, splice kits and truck assemblies. Aluminum alloy used shall be 6005A-T5 for top and bottom track/extrusions. Internal uprights shall be 2-inch square aluminum spaced equally at no more than 6 feet on center subdividing the gate frame into panels. Weld or splice, using splice kits, all members together forming a rigid one-piece frame integral with top track. Provide 2 truck assemblies for each gate leaf, except as indicated for gates larger than 30' (9144mm). Frame sizes over 45' (8230 mm) in total length shall be shipped in 2 parts and field spliced with special attachments provided by the manufacturer.
- B.** For gate opening sizes 31' (9449 mm) to 60' (18,288 mm), a single extruded member forming a dual enclosed track/frame without welding shall be employed. An integral 2.41" x 9.11" dimensional top frame, shall be integral to the aluminum track/frame profile. All thicknesses to be 0.25" (6.35 mm). Dual top track/frame profile to weigh 8.05 lbs./ft.
- C.** Provide 2 truck assemblies for each track for each gate leaf, for a total 4 truck assemblies on a Dual Track. Bottom rail shall consist of 2" x 5" (51mm x 127 mm) aluminum member weighing 1.99 lb./ft. (2.96 kg/m).
- D. Gate Frame Finish:** Natural Aluminum or Powder Coat to Specification
Chain Link Filler Finish: 2" x 2" 9ga Galvanized After Weaving with 1.2oz/ft² zinc coating.
* All Operated Chain-Link Cantilever slide gates will be filled across the entire length of the panel (including the back frame counterbalance) to satisfy UL325 and ASTM F-2200 safe gate design guidelines.
- E. Trussing:** Each bay shall be cross-trussed by means of 1/4" cable with adjustable turnbuckles. Trusses will maintain the structural integrity of the gate while allowing for expansion and contraction of aluminum in varying weather conditions.
- F. Truck assembly:** Ball-bearing, zinc die-coated steel, with 4 sealed lubricant ball bearing rollers, and 2 side rolling wheels to ensure truck alignment in track. Truck assembly shall withstand same reaction load as track 2,000 lb. (907.2 kg.).
- G. Gate hangers, brackets, guide assemblies, receivers, and latches:** Malleable iron or steel, galvanized after fabrication. Operated cantilever gates are shipped without standard latching/locking hardware per ASTM F-2200. If positive locking is required, a suitable electronic or manual locking device should be employed.
- H. Bottom guide wheel assemblies:** Each assembly shall consist of two, 3" (75 mm) diameter wheels, straddling bottom horizontal gate rail, allowing adjustment to maintain gate frame plumb and in proper alignment. Wheel covers shall be included with bottom guides to comply with UL325. Attach one assembly to each support post, two in total for a Single and/or Dual Track gate.
- I. End Cap/Plug:** After gate has been installed, both ends of the combination track/frame member shall be closed off with the end cap assembly which consists of a through bolt and bolt-on end cap.

- J. Gate posts:** For gate openings under 31'-0" (9449 mm): galvanized steel 4" (101.6 mm) OD schedule 40 pipe, ASTM F-1083, weighing 9.1 lb./ft. (13.6 kg/m). Provide 1 latch post and 2 support posts for single slide gates and 4 support posts for double slide gates. For gates 31'-0" (9449 mm) or larger: 2 pairs of support posts for each leaf (dual) 4" (100 mm) OD schedule 40 pipe, ASTM F-1083, weighing 9.1 lb./ft. (13.6 kg/m) each. Posts connected by a double post spacing bracket or a welded cross member between posts as shown on drawings. Finish: to match fence or specification.
- K. Gap Protectors:** Gap Protectors shall be installed to comply with ASTM F-2200.

2.03 SETTING MATERIALS

- A. Concrete:** Minimum 28-day compressive strength of 3,000 psi (20 MPa).

PART 3 EXECUTION

3.01 EXAMINATION

- A.** Verify areas to receive fencing are completed to final grades and elevations.
- B.** Verify areas to assure sufficient space to receive gate in open position (gate and overhang).
- C.** Ensure property lines and legal boundaries of work are clearly established.

3.02 INSTALLATION

- A.** All equipment must be installed per the installation instructions provided by Master Halco, Inc.
- B.** When splicing of two or more panels is required, the following hardware requirements must be met.
- C. Single Track:** Upper main splice bar to be machined from 6061 billet aluminum with final dimensions measuring 305mm x 63.5mm x 31.75mm. Upper main splice bar to be installed with a total of ten 3/8" countersunk head fasteners. **Dual Track:** Upper main splice bar to be machined from 6061 billet aluminum with final dimensions measuring 419mm x 63.5mm x 31.75mm. Upper main splice bar to be installed with a total of ten 3/8" countersunk head fasteners.
- D. Single Track:** Upper track alignment brace to be machined from 6061 billet aluminum with final dimensions measuring 152mm x 25.4mm x 25.4mm and secured in place with four 1/4" countersink fasteners. **Dual Track:** Upper track top alignment braces to be machined from 6061 billet aluminum with final dimensions measuring 203.2mm x 28.7mm x 32.48mm, secured in place with 16 1/4" countersink fasteners. Upper track bottom alignment braces to be machined from 6061 billet aluminum with final dimensions measuring 152.4mm x 25.4mm x 30.48mm, secured in place with 8 1/4" countersink fasteners.
- E.** Lower splice bar to be machined from 6061 billet aluminum dimensions measuring 203mm x 51mm x 12.7mm and be secured in place with four 1/4" button head fasteners.

3.03 MANUAL OR OPERATED CHAIN LINK CANTILEVER SLIDE GATE FRAMING INSTALLATION

- A.** Install gate posts in accordance with manufacturers' instructions, and in accordance with ASTM F-567.
- B.** Install "Fall-over" posts per ASTM F-1184 and ASTM F-2200 (Section 4.2) to prevent fall of more than 45 degrees from the vertical plane if gate should disengage from mounting hardware.
- C.** Concrete set gate posts: Drill holes in firm, undisturbed or compacted soil. Holes shall have diameter 4 times greater than outside dimension of post with a minimum diameter of 12" (304 mm), and depths approximately 6" (152 mm) inches deeper than post bottom with a minimum depth of 42" (1066 mm) per ASTM F-567 (Section 5.13.1). Excavate deeper as required for adequate support in soft and loose soils, and for posts with heavy lateral loads. Set post bottom 42" (1066 mm)

below surface when in firm, undisturbed soil. Place concrete around posts in a continuous pour, tamp for consolidation. Trowel finish around post and slope to direct water away from posts. Check each post for vertical and top alignment and maintain in position during placement and finishing operations.

- D. Install gates plumb, level, and secure for full opening without interference. Gate movement shall not be initiated by gravity.
- E. Attach hardware by means that will prevent unauthorized removal.
- F. Adjust gate and hardware for smooth operation.
- G. All gate installations to conform to all applicable federal, state, and local codes and: (if automated, UL325, ASTM F-2200), ASTM F-567 and ASTM F-1184.

3.04 OPERATED GATE INSTALLATION

- A. Install gates plumb, level, and secure for full opening without interference. Gate movement shall not be initiated by gravity when an automated gate operator is disengaged/disconnected per ASTM F-2220 (Section 4.9)
- B. There shall be a maximum gap of 2 ¼" (57 mm) between the horizontal plane of the moving gate panel and any fixed obstacle (support posts, "fall-over" posts, hardware, pilaster, etc.) Except that said obstacle be more than 16" from the moving horizontal plane of the gate panel per ASTM F-2200 (Section 6.1.4.).
- C. Gate Receiver Guides shall be recessed behind the leading edge of the receiver post or any other fixed object per ASTM F- 2200 (Section 6.1.6).
- D. No device designed to provide activation for the automated gate operator is to be installed within 6' of the horizontal plane of the gate panel per UL-325.
- E. All Operated Chain-Link Cantilever slide gates are required to have Gate Warning Placards fully visible to the approach on both sides of the gate per UL-325.
- F. Attach hardware by means that will prevent unauthorized removal.
- G. Adjust hardware for smooth operation.
- H. All operated gate installations must conform to all applicable federal, state, and local codes as well as: ASTM F-567, ASTM F- 1184, ASTM F-2200, and Underwriters Laboratory UL-325 safety standards.

3.05 CLEANING

- A. Clean up debris and unused material and remove from site.

PART 4 – POWDER COAT

4.7 PRIVACY SLATS

- A. Fiber-Glass-Reinforced Plastic Slats: UV-light-stabilized fiber-glass-reinforced plastic, not less than 0.06 inch thick, sized to fit mesh specified for direction indicated, with vandal-resistant fasteners and lock strips.
- B. Color: As selected by Architect from manufacturer's full range.

4.8 GROUT AND ANCHORING CEMENT

- A. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C1107/C1107M. Provide grout, recommended in writing by manufacturer, for exterior applications.

- B. Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic-controlled expansion cement formulation for mixing with water at Project site to create pourable anchoring, patching, and grouting compound. Provide formulation that is resistant to erosion from water exposure without needing protection by a sealer or waterproof coating, and that is recommended in writing by manufacturer for exterior applications.

4.9 HORIZONTAL-SLIDE GATE OPERATOR

- A. Manufacturers:
 - 1. Basis-of-Design Product: LiftMaster CSL24UL slide gate operator.
 - 2. Approved Equal: Subject to compliance with requirements, provide a comparable product by another manufacturer, submitted to Architect for review and approval prior to installation.
- B. General: Contractor shall provide and install, per manufacturer's requirements, the horizontal-slide gate operator as selected by Owner. Contractor shall provide all labor, material, and equipment for installation.
- C. Operation: Gear driven.
- D. Standards Compliance: UL 325, UL 991, ASTM F2200, and CSA C22.2 No. 247.
- E. Motor: 24-V dc, continuous-duty type, sized to gate conditions.
- F. Traveling Speed: 12 inches per second.
- G. Battery Backup: 7 Ah.
- H. Monitoring and Controls:
 - 1. Internet Connectivity: MyQ technology with 50-channel FHSS.
 - 2. Radio Receiver: Security+ 2.0 technology; provide 10 remote controls to Owner.
 - 3. Keypads: 2 wireless commercial keypads per gate, controlling open and close operation.
 - 4. Gates will not automatically close; to remain open until closed via keypad or remote.
- I. Accessories:
 - 1. Internet gateway.
 - 2. Heater kit.

END OF SECTION 323113

GENERAL NOTES

EXISTING CONDITIONS
UNDERGROUND UTILITIES AND STRUCTURES HAVE BEEN SHOWN BASED OFF OF AVAILABLE SURVEYS AND RECORDS. THEREFORE, THEIR LOCATIONS ARE CONSIDERED APPROXIMATE. THERE MAY BE OTHER UNKNOWN FEATURES WHICH AT PRESENT UNKNOWN. VERIFICATION OF THE LOCATIONS OF UNDERGROUND UTILITIES KNOWN OR NOT KNOWN ARE BE THE RESPONSIBILITY OF THE CONTRACTOR.

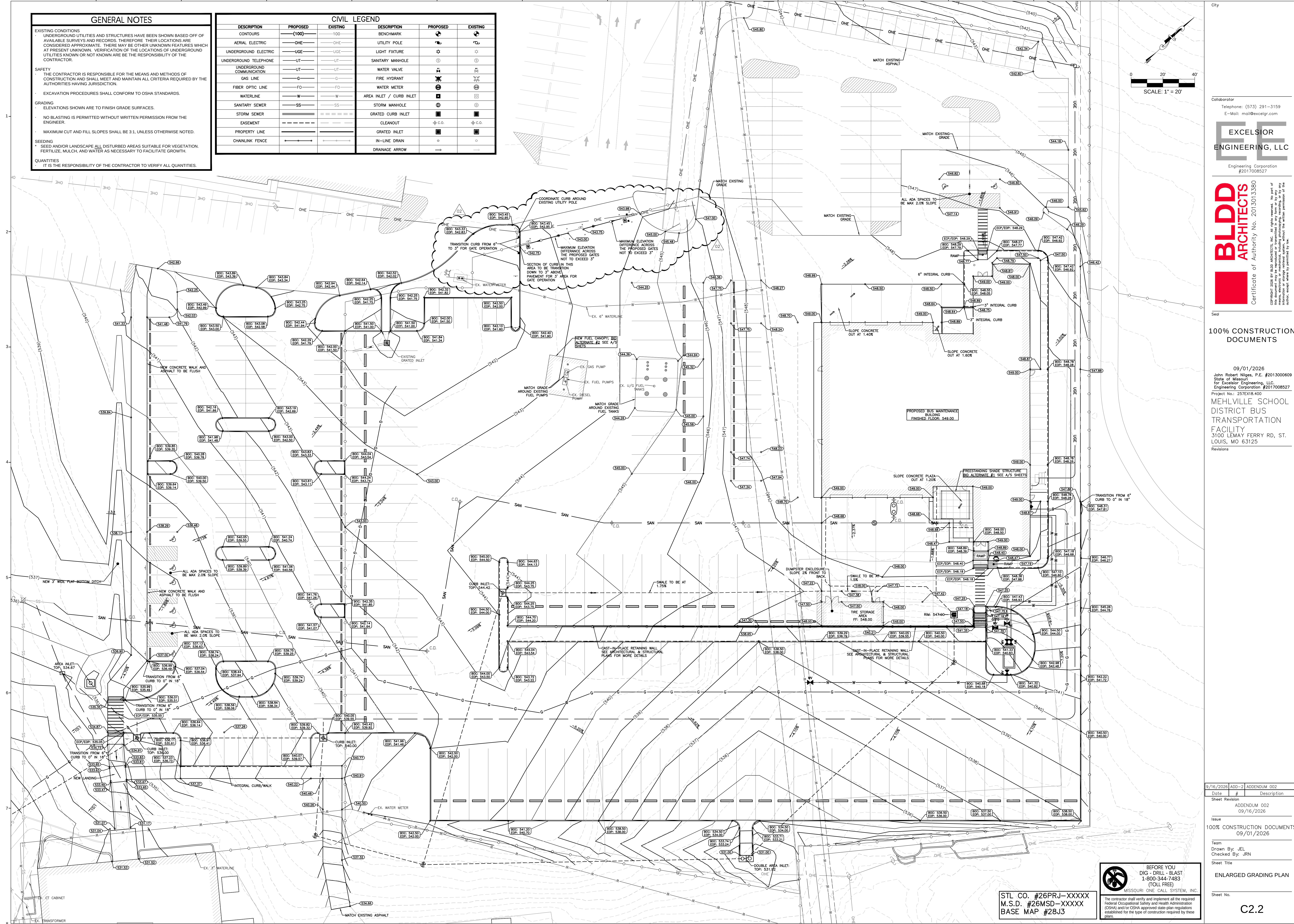
SAFETY
THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND SHALL MEET AND MAINTAIN ALL CRITERIA REQUIRED BY THE AUTHORITIES HAVING JURISDICTION.
EXCAVATION PROCEDURES SHALL CONFORM TO OSHA STANDARDS.

GRADING
ELEVATIONS SHOWN ARE TO FINISH GRADE SURFACES.
NO BLASTING IS PERMITTED WITHOUT WRITTEN PERMISSION FROM THE ENGINEER.
MAXIMUM CUT AND FILL SLOPES SHALL BE 3:1, UNLESS OTHERWISE NOTED.

SEEDING
SEED AND/OR LANDSCAPE ALL DISTURBED AREAS SUITABLE FOR VEGETATION. FERTILIZE, MULCH, AND WATER AS NECESSARY TO FACILITATE GROWTH.

QUANTITIES
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL QUANTITIES.

CIVIL LEGEND					
DESCRIPTION	PROPOSED	EXISTING	DESCRIPTION	PROPOSED	EXISTING
CONTOURS	(100)	100	BENCHMARK		
AERIAL ELECTRIC	OHE	OHE	UTILITY POLE		
UNDERGROUND ELECTRIC	UGE	UGE	LIGHT FIXTURE		
UNDERGROUND TELEPHONE	UT	UT	SANITARY MANHOLE		
UNDERGROUND COMMUNICATION	UC	UC	WATER VALVE		
GAS LINE	G	G	FIRE HYDRANT		
FIBER OPTIC LINE	FO	FO	WATER METER		
WATERLINE	W	W	AREA INLET / CURB INLET		
SANITARY SEWER	SS	SS	STORM MANHOLE		
STORM SEWER	SS	SS	GRATED CURB INLET		
EASEMENT	---	---	CLEANOUT		
PROPERTY LINE	---	---	GRATED INLET		
CHAINLINK FENCE	---	---	IN-LINE DRAIN		
			DRAINAGE ARROW		



Collaborator
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EXCELSIOR
ENGINEERING, LLC

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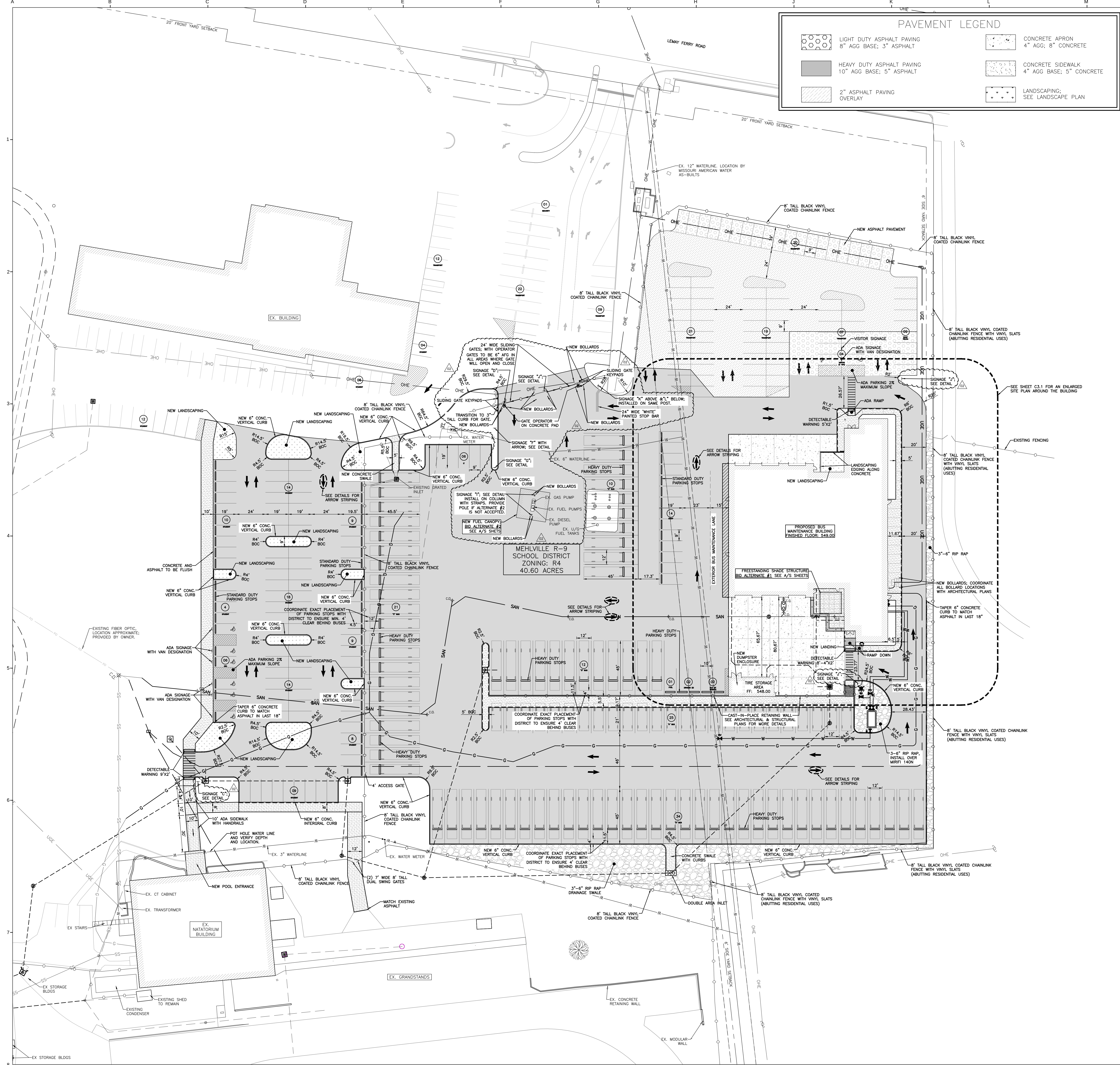
09/01/2026
John Robert Niles, P.E. #201300609
State of Missouri
for Excelsior Engineering, LLC
Engineering Corporation #2017008527
Project No.: 257E18.400
**MEHLVILLE SCHOOL
DISTRICT BUS
TRANSPORTATION
FACILITY**
3100 LEWY FERRY RD, ST.
LOUIS, MO 63125
Revisions

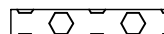
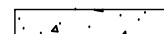
9/16/2026	ADD-2	ADDENDUM 002
Date	#	Description
Sheet Revision		
	ADDENDUM 002	09/16/2026
Issue		
100% CONSTRUCTION DOCUMENTS		09/01/2026
Team		
Drawn By: JEL		
Checked By: JRN		
Sheet Title		
ENLARGED GRADING PLAN		
Sheet No.		

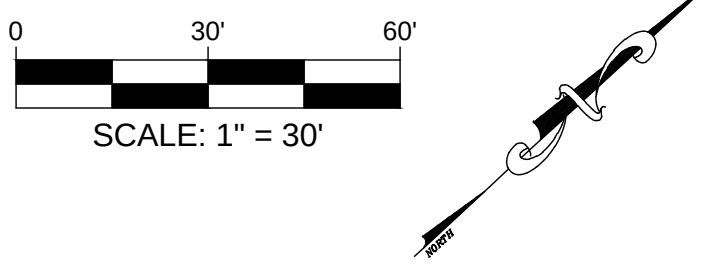
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STL CO. #26PRJ-XXXXX
M.S.D. #26MSD-XXXXX
BASE MAP #28J3



PAVEMENT LEGEND			
	LIGHT DUTY ASPHALT PAVING 8" AGG BASE; 3" ASPHALT		CONCRETE APRON 4" AGG; 8" CONCRETE
	HEAVY DUTY ASPHALT PAVING 10" AGG BASE; 5" ASPHALT		CONCRETE SIDEWALK 4" AGG BASE; 5" CONCRETE



GENERAL NOTES	
EXISTING CONDITIONS UNDERGROUND UTILITIES AND STRUCTURES HAVE BEEN SHOWN BASED OFF OF AVAILABLE SURVEYS AND RECORDS. THEREFORE, THEIR LOCATIONS ARE CONSIDERED APPROXIMATE. THERE MAY BE OTHER UNKNOWN FEATURES WHICH AT PRESENT UNKNOWN. VERIFICATION OF THE LOCATIONS OF UNDERGROUND UTILITIES KNOWN OR NOT KNOWN ARE BE THE RESPONSIBILITY OF THE CONTRACTOR.	
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GRADING ELEVATIONS SHOWN ARE TO FINISH GRADE SURFACES. NO BLASTING IS PERMITTED WITHOUT WRITTEN PERMISSION FROM THE ENGINEER. MAXIMUM CUT AND FILL SLOPES SHALL BE 3:1, UNLESS OTHERWISE NOTED.	
SEEDING SEED AND/OR LANDSCAPE ALL DISTURBED AREAS SUITABLE FOR VEGETATION. FERTILIZE, MULCH, AND WATER AS NECESSARY TO FACILITATE GROWTH.	
QUANTITIES IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL QUANTITIES.	

CIVIL LEGEND		
DESCRIPTION	PROPOSED	EXISTING
CONTOURS	(100)	100
AERIAL ELECTRIC	OHE	OHE
UNDERGROUND ELECTRIC	UGE	UGE
UNDERGROUND TELEPHONE	UT	UT
UNDERGROUND COMMUNICATION	UT	UT
GAS LINE	G	G
FIBER OPTIC LINE	FO	FO
WATERLINE	W	W
SANITARY SEWER	SS	SS
STORM SEWER	SS	SS
EASEMENT	---	---
PROPERTY LINE	---	---
CHAINLINK FENCE	---	---
BENCHMARK	BM	BM
UTILITY POLE	UT	UT
LIGHT FIXTURE	LF	LF
SANITARY MANHOLE	SM	SM
WATER VALVE	WV	WV
FIRE HYDRANT	FH	FH
WATER METER	WM	WM
AREA INLET / CURB INLET	AI	AI
STORM MANHOLE	SM	SM
GRADED CURB INLET	GC	GC
CLEANOUT	CO	CO
GRADED INLET	GI	GI
IN-LINE DRAIN	ID	ID
DRAINAGE ARROW	DA	DA

PARKING COUNT (WITHIN AREAS MODIFIED)

PARKING REQUIRED

TYPE A	- 25 SPACES	TOTAL BUS = 102
TYPE C	- 31 SPACES	
TYPE D	- 46 SPACES	
TRANSPORT	- 110 SPACES	
STAFF	- 14 SPACES	
VISITOR	- 4 SPACES	
STUDENT	- 120 SPACES	
ALT	- 12 SPACES	

PARKING PROVIDED

TYPE A	- 25 SPACES	TOTAL BUS = 102
TYPE C	- 31 SPACES	
TYPE D	- 46 SPACES	
TRANSPORT	- 110 SPACES	
STAFF	- 14 SPACES	
VISITOR	- 2 SPACES + 2 ADA	
STUDENT	- 115 SPACES + 6 ADA (+1)	

OTHER

ALT	- 0 SPACES (-12)
OUT OF SERV	- 2 SPACES
SHOP TRUCK	- 9 SPACES
IT	- 6 SPACES
DRIVER ED	- 2 SPACES
FUEL TRUCK	- 1 SPACE

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M.S.D. #26MSD-XXXXX
BASE MAP #28J3



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9/16/2026	ADD-2	ADDENDUM 002
Date	#	Description

ADDENDUM 002	09/16/2026
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Issue
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09/01/2026

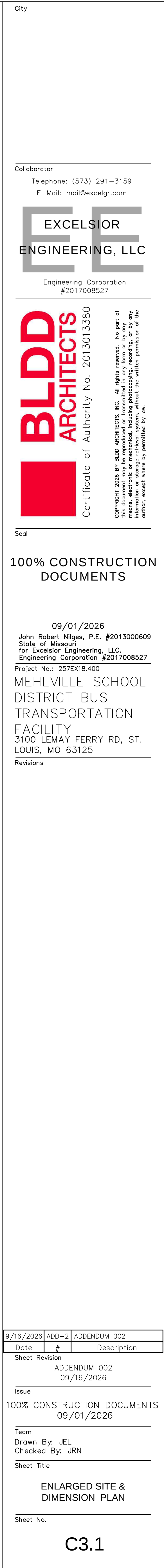
Team
Drawn By: JEL
Checked By: JRN

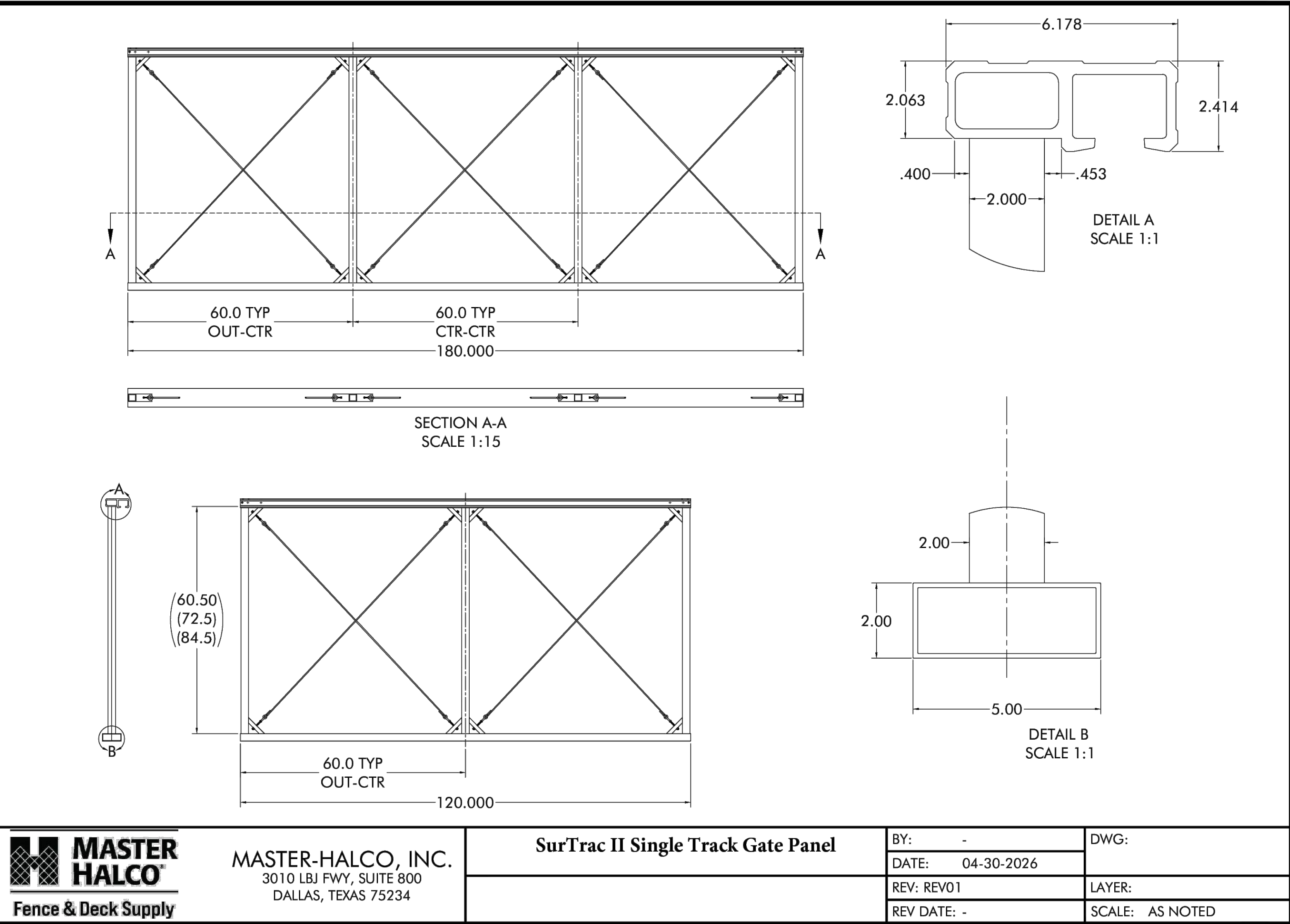
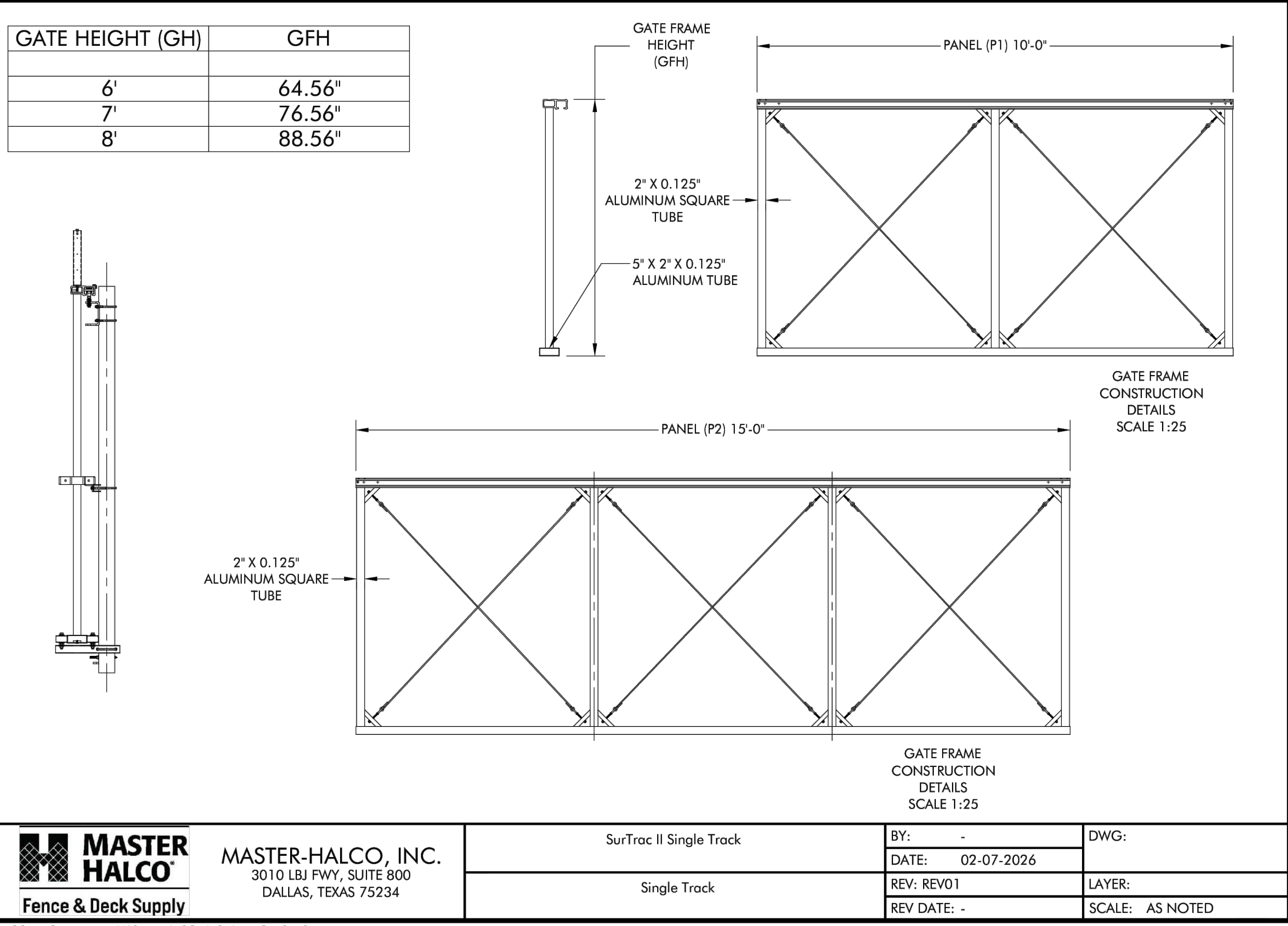
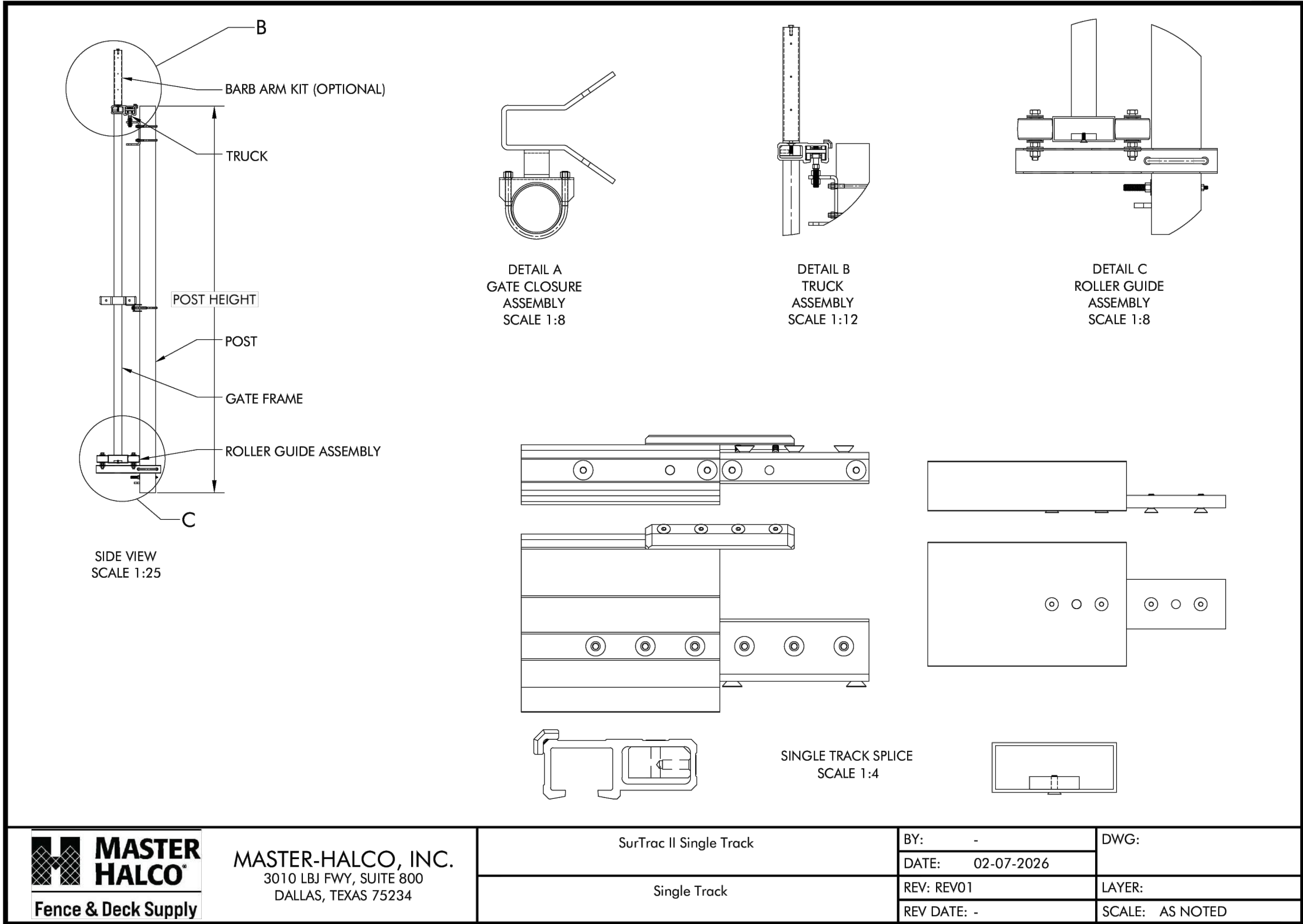
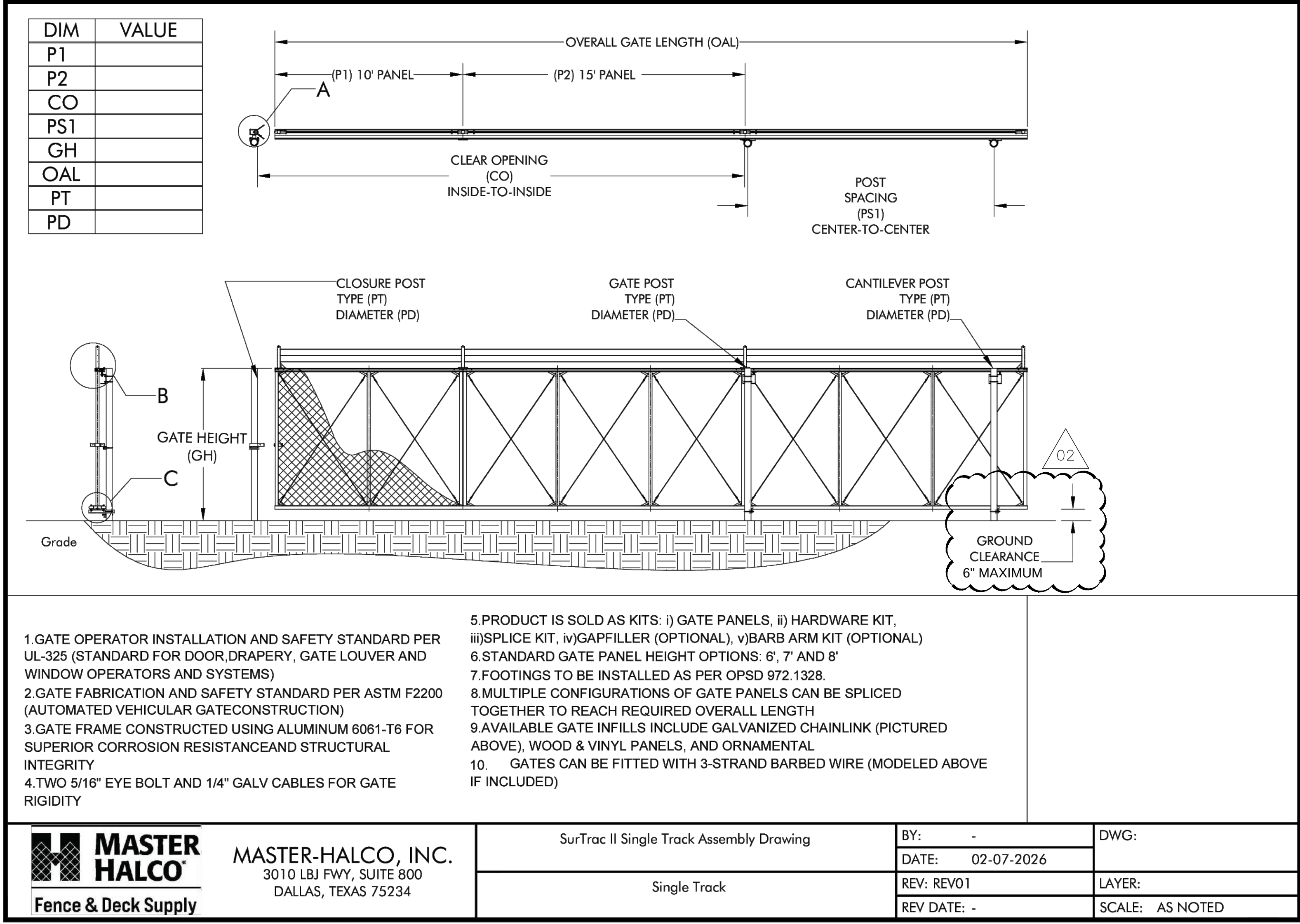
Sheet Title

OVERALL SITE &
DIMENSION PLAN

Sheet No.

C3.0





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Checked By: JRN		
Sheet Title		
DETAILS SHEET		
Sheet No.		

C6.6

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CONTOURS	(100)	100
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UNDERGROUND ELECTRIC	UGE	UGE
UNDERGROUND TELEPHONE	UT	UT
UNDERGROUND COMMUNICATION	UT	UT
GAS LINE	G	G
FIBER OPTIC LINE	FO	FO
WATERLINE	W	W
SANITARY SEWER	SS	SS
STORM SEWER	SS	SS
EASEMENT	---	---
PROPERTY LINE	---	---
CHAINLINK FENCE	+	+
BENCHMARK	⊕	⊕
UTILITY POLE	⊕	⊕
LIGHT FIXTURE	☆	☆
SANITARY MANHOLE	⊙	⊙
WATER VALVE	⊕	⊕
FIRE HYDRANT	⊕	⊕
WATER METER	⊕	⊕
AREA INLET / CURB INLET	⊕	⊕
STORM MANHOLE	⊕	⊕
GRADED CURB INLET	⊕	⊕
CLEANOUT	⊕	⊕
GRADED INLET	⊕	⊕
IN-LINE DRAIN	⊕	⊕
DRAINAGE ARROW	→	→

PHASE 1: March 1, 2027 - May (End of School)

The purpose of Phase 1 is to get access to the building pad as quickly as possible.

The existing buildings and fueling station however will need to remain in operation.

THESE PHASING PLANS ARE GUIDELINES; THE AWARDED CONTRACTOR SHALL PREPARE DETAILED PHASING PLANS WITH MILESTONE DATES FOR OWNER REVIEW; PRIOR TO WORK BEGINNING; IN ACCORDANCE WITH THE CONTRACTORS MEANS AND METHODS OF CONSTRUCTION.

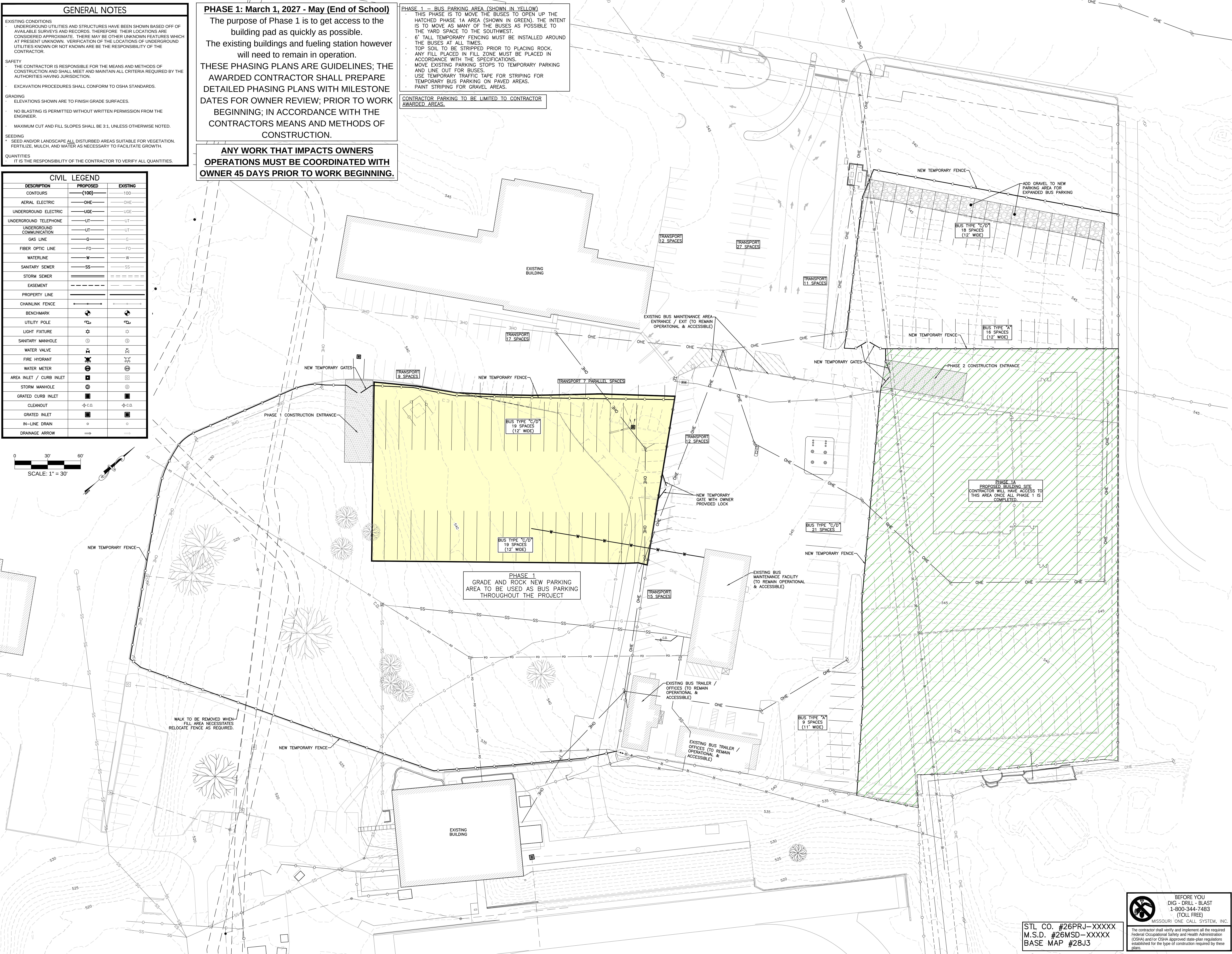
ANY WORK THAT IMPACTS OWNERS OPERATIONS MUST BE COORDINATED WITH OWNER 45 DAYS PRIOR TO WORK BEGINNING.

PHASE 1 -- BUS PARKING AREA (SHOWN IN YELLOW)

THIS PHASE IS TO MOVE THE BUSES TO OPEN UP THE HATCHED PHASE 1A AREA (SHOWN IN GREEN). THE INTENT IS TO MOVE AS MANY OF THE BUSES AS POSSIBLE TO THE YARD SPACE TO THE SOUTHWEST.

- 6' TALL TEMPORARY FENCING MUST BE INSTALLED AROUND THE BUSES AT ALL TIMES.
- TOP SOIL TO BE STRIPPED PRIOR TO PLACING ROCK.
- ANY FILL PLACED IN FILL ZONE MUST BE PLACED IN ACCORDANCE WITH THE SPECIFICATIONS.
- MOVE EXISTING PARKING STOPS TO TEMPORARY PARKING AND LINE OUT FOR BUSES.
- USE TEMPORARY TRAFFIC TAPE FOR STRIPING FOR TEMPORARY BUS PARKING ON PAVED AREAS.
- PAINT STRIPING FOR GRAVEL AREAS.

CONTRACTOR PARKING TO BE LIMITED TO CONTRACTOR AWARDED AREAS.



City

Collaborator

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Project No.: 257EX18.400

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3100 LEMAY FERRY RD. ST. LOUIS, MO 63125

Revisions

9/16/2026	ADD-2	ADDENDUM 002
Date	#	Description
Sheet Revision		
ADDENDUM 002		
09/16/2026		
Issue		
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Team		
Drawn By: JEL		
Checked By: JRN		
Sheet Title		
PHASE 1 CIVIL PLANS		
Sheet No.		

PH1.0

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BASE MAP #28J3

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MISSOURI ONE CALL SYSTEM, INC.

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UNDERGROUND COMMUNICATION	UT	UT
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FIBER OPTIC LINE	FO	FO
WATERLINE	W	W
SANITARY SEWER	SS	SS
STORM SEWER	SS	SS
EASEMENT	---	---
PROPERTY LINE	---	---
CHAINLINK FENCE	+	+
BENCHMARK	BM	BM
UTILITY POLE	UP	UP
LIGHT FIXTURE	LF	LF
SANITARY MANHOLE	SM	SM
WATER VALVE	WV	WV
FIRE HYDRANT	FH	FH
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AREA INLET / CURB INLET	AI	AI
STORM MANHOLE	SM	SM
GRATED CURB INLET	GC	GC
CLEANOUT	CO	CO
GRATED INLET	GI	GI
IN-LINE DRAIN	ID	ID
DRAINAGE ARROW	DA	DA

PHASE 2: May 2027- January 2028

The existing buildings and fueling station will need to remain in operation.

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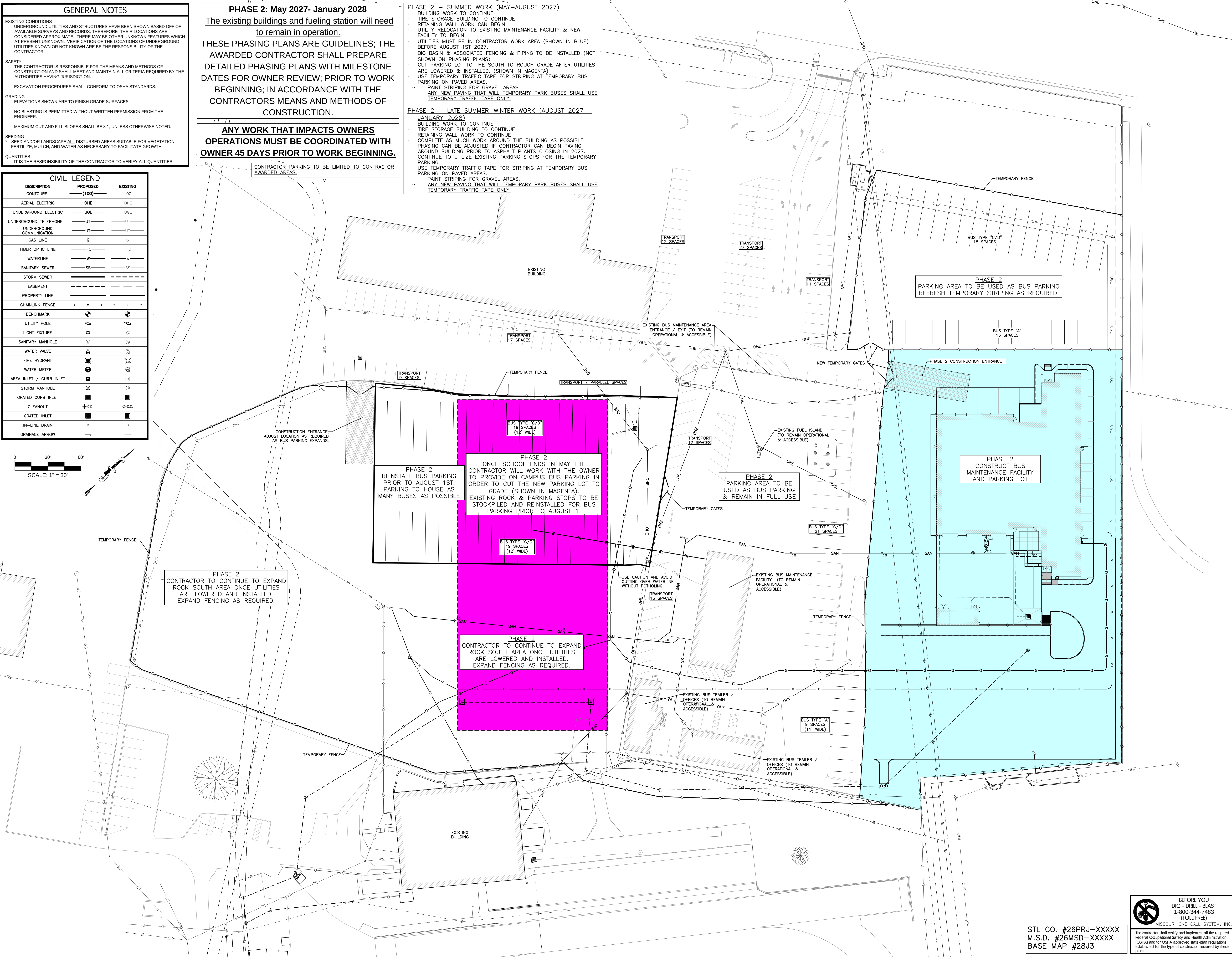
PHASE 2 - SUMMER WORK (MAY-AUGUST 2027)

- BUILDING WORK TO CONTINUE
- TIRE STORAGE BUILDING TO CONTINUE
- RETAINING WALL WORK CAN BEGIN
- UTILITY RELOCATION TO EXISTING MAINTENANCE FACILITY & NEW FACILITY TO BEGIN
- UTILITIES MUST BE IN CONTRACTOR WORK AREA (SHOWN IN BLUE) BEFORE AUGUST 1ST 2027.
- BIO BASIN & ASSOCIATED FENCING & PIPING TO BE INSTALLED (NOT SHOWN ON PHASING PLANS)
- CUT PARKING LOT TO THE SOUTH TO ROUGH GRADE AFTER UTILITIES ARE LOWERED & INSTALLED. (SHOWN IN MAGENTA)
- USE TEMPORARY TRAFFIC TAPE FOR STRIPING AT TEMPORARY BUS PARKING ON PAVED AREAS.
- PAINT STRIPING FOR GRAVEL AREAS.
- ANY NEW PAVING THAT WILL TEMPORARY PARK BUSES SHALL USE TEMPORARY TRAFFIC TAPE ONLY.

PHASE 2 - LATE SUMMER-WINTER WORK (AUGUST 2027 - JANUARY 2028)

- BUILDING WORK TO CONTINUE
- TIRE STORAGE BUILDING TO CONTINUE
- RETAINING WALL WORK TO CONTINUE
- COMPLETE AS MUCH WORK AROUND THE BUILDING AS POSSIBLE
- PHASING CAN BE ADJUSTED IF CONTRACTOR CAN BEGIN PAVING AROUND BUILDING PRIOR TO ASPHALT PLANTS CLOSING IN 2027.
- CONTINUE TO UTILIZE EXISTING PARKING STOPS FOR THE TEMPORARY PARKING.
- USE TEMPORARY TRAFFIC TAPE FOR STRIPING AT TEMPORARY BUS PARKING ON PAVED AREAS.
- PAINT STRIPING FOR GRAVEL AREAS.
- ANY NEW PAVING THAT WILL TEMPORARY PARK BUSES SHALL USE TEMPORARY TRAFFIC TAPE ONLY.

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City

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PHASE 2 CIVIL PLANS		
Sheet No.		

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BASE MAP #28J3

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PH2.0

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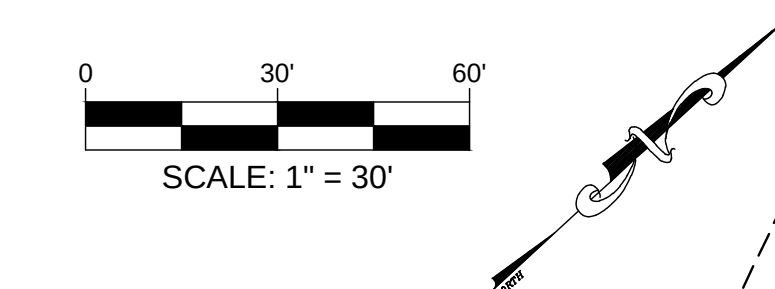
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SANITARY SEWER	SS	SS
STORM SEWER	SS	SS
EASEMENT	---	---
PROPERTY LINE	---	---
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UTILITY POLE	UP	UP
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GRATED CURB INLET	GC	GC
CLEANOUT	CO	CO
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PHASE 3: February 2028 - May 2028

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PHASE 3A - BEGINNING OF FEBRUARY 2028

- JANUARY 28, 2028 BUILDING SUBSTANTIAL COMPLETION
- FEBRUARY & MARCH: PUNCHLIST AND FURNITURE INSTALLATION / MOVE EQUIPMENT FROM OLD BUILDINGS.
- REFER TO PLANS AND SPECIFICATIONS FOR EXACT DATES & SCHEDULE.

PHASE 3B - LATE MARCH - MAY 2028

- DEMO EXISTING BUILDING AND DEMO ALL UTILITY CONNECTIONS TO THE BUILDINGS. CONTRACTOR RESPONSIBLE FOR COORDINATING WITH UTILITY COMPANIES.
- RELOCATE EXISTING 'NEWER' TRAILER TO JOHN CARY SITE AS INDICATED ON THE PLANS.
- CONTINUE WORK ON CURBS & RETAINING WALL TO PREPARE FOR PAVING.
- COORDINATE PAVING AROUND NEW BUILDING WHILE MAINTAINING OWNER OPERATIONS. THIS IS CRITICAL.
- CONTINUE EARTHWORK OPERATIONS AND REMOVE SPOILS FROM PHASE 3 AREA AND PLACE THEM IN FILL AREA. CONTINUE TO EXPAND BUS PARKING.
- IF AREA TO THE NORTH WEST OF NEW BUILDING IS FREE OF BUSES THIS CAN BE PAVED AS SOON AS WEATHER AND SCHEDULE PERMITS.
- MOVE EXISTING PARKING STOPS TO TEMPORARY PARKING AND LINE OUT FOR BUSES.
- USE TEMPORARY TRAFFIC TAPE FOR STRIPING AT TEMPORARY BUS PARKING ON PAVED AREAS.
- PAINT STRIPING FOR GRAVEL AREAS.
- ANY NEW PAVING THAT WILL TEMPORARY PARK BUSES SHALL USE TEMPORARY TRAFFIC TAPE ONLY.
- CONTRACTOR RESPONSIBLE FOR FRESHENING UP STRIPING FOR ALL TEMPORARY PARKING AREAS.

CONTRACTOR PARKING TO BE LIMITED TO CONTRACTOR AWARDED AREAS.

CONSTRUCTION ENTRANCE. ADJUST LOCATION AS REQUIRED AS BUS PARKING EXPANDS.

PHASE 3
ONCE EXISTING BUILDING & TRAILERS ARE REMOVED, ALL MATERIAL FROM ROUGH GRADING PHASE 3 TO BE PLACED IN THIS AREA & MILLINGS USED FOR BUS PARKING

PHASE 3
CONTINUE TO EXPAND BUS PARKING. AS MANY BUSES NEED TO BE PARKED IN THE ROCK AS POSSIBLE.

BUS TYPE "A" 3 SPACES (12' WIDE)

BUS TYPE "C/D" 28 SPACES (12' WIDE)

BUS TYPE "C/D" 24 SPACES (12' WIDE)

DISASSEMBLE TRAILER AND ASSOCIATED ITEMS REMOVE FROM SITE & DISPOSE

PHASE 3B
DEMO EXISTING BUS MAINTENANCE FACILITY AND CONSTRUCT NEW PARKING LOT

EXISTING FUEL ISLAND (TO REMAIN OPERATIONAL & ACCESSIBLE)
CONTRACTOR TO STAGE WORK TO KEEP ONE SIDE OF THIS FUEL STATION OPEN AT ALL TIMES.

PHASE 3A
BUILDING COMPLETE AND HANDED OVER TO THE OWNER. INCLUDES TIRE STORAGE AND ASSOCIATED FLATWORK AROUND THE BUILDING.

PROVIDE TEMPORARY GATES AS PROJECT PROGRESSES AND REQUIRES.

BUS TYPE "A" OR "C/D" 18 SPACES (12' WIDE)

BUS TYPE "A" 17 SPACES (12' WIDE)

STL CO. #26PRJ-XXXXX
M.S.D. #26MSD-XXXXX
BASE MAP #28J3

BEFORE YOU DIG - DRILL - BLAST
1-800-344-7483
(TOLL FREE)
MISSOURI ONE CALL SYSTEM, INC.

The contractor shall verify and implement all the required Federal Occupational Safety and Health Administration (OSHA) and/or OSHA approved state-plan regulations established for the type of construction required by these plans.

City

Collaborator
Telephone: (573) 291-3159
E-Mail: mail@excelgr.com

EXCELSIOR ENGINEERING, LLC

Engineering Corporation
#2017008527

BLDD ARCHITECTS
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100% CONSTRUCTION DOCUMENTS

09/01/2026
John Robert Nilges, P.E. #2013000609
State of Missouri
for Excelsior Engineering, LLC
Engineering Corporation #2017008527
Project No.: 257EX18.400

MEHLVILLE SCHOOL DISTRICT BUS TRANSPORTATION FACILITY
3100 LEMAY FERRY RD. ST. LOUIS, MO 63125

Revisions

9/16/2026	ADD-2	ADDENDUM 002
Date	#	Description
Sheet Revision		
ADDENDUM 002		
09/16/2026		
Issue		
100% CONSTRUCTION DOCUMENTS		
09/01/2026		
Team		
Drawn By: JEL		
Checked By: JRN		
Sheet Title		
PHASE 3 CIVIL PLANS		
Sheet No.		
PH3.0		

GENERAL NOTES

EXISTING CONDITIONS
UNDERGROUND UTILITIES AND STRUCTURES HAVE BEEN SHOWN BASED OFF OF AVAILABLE SURVEYS AND RECORDS. THEREFORE THEIR LOCATIONS ARE CONSIDERED APPROXIMATE. THERE MAY BE OTHER UNKNOWN FEATURES WHICH AT PRESENT UNKNOWN. VERIFICATION OF THE LOCATIONS OF UNDERGROUND UTILITIES KNOWN OR NOT KNOWN ARE BE THE RESPONSIBILITY OF THE CONTRACTOR.

SAFETY
THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND SHALL MEET AND MAINTAIN ALL CRITERIA REQUIRED BY THE AUTHORITIES HAVING JURISDICTION.

EXCAVATION PROCEDURES SHALL CONFORM TO OSHA STANDARDS.

GRADING
ELEVATIONS SHOWN ARE TO FINISH GRADE SURFACES.

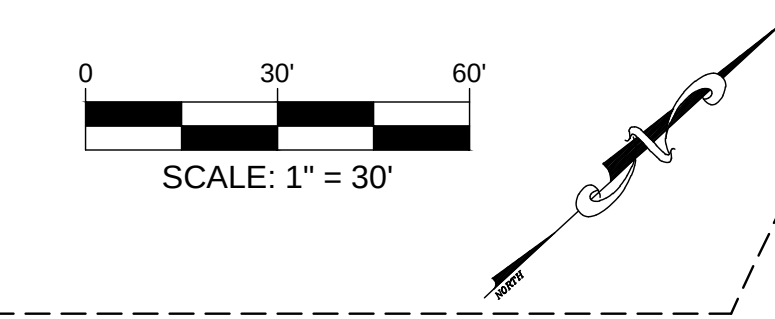
NO BLASTING IS PERMITTED WITHOUT WRITTEN PERMISSION FROM THE ENGINEER.

MAXIMUM CUT AND FILL SLOPES SHALL BE 3:1, UNLESS OTHERWISE NOTED.

SEEDING
SEED AND/OR LANDSCAPE ALL DISTURBED AREAS SUITABLE FOR VEGETATION. FERTILIZE, MULCH, AND WATER AS NECESSARY TO FACILITATE GROWTH.

QUANTITIES
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL QUANTITIES.

CIVIL LEGEND		
DESCRIPTION	PROPOSED	EXISTING
CONTOURS	(100)	100
AERIAL ELECTRIC	OHE	OHE
UNDERGROUND ELECTRIC	UGE	UGE
UNDERGROUND TELEPHONE	UT	UT
UNDERGROUND COMMUNICATION	UT	UT
GAS LINE	G	G
FIBER OPTIC LINE	FO	FO
WATERLINE	W	W
SANITARY SEWER	SS	SS
STORM SEWER	SS	SS
EASEMENT	---	---
PROPERTY LINE	---	---
CHAINLINK FENCE	---	---
BENCHMARK	BM	BM
UTILITY POLE	UP	UP
LIGHT FIXTURE	LF	LF
SANITARY MANHOLE	SM	SM
WATER VALVE	WV	WV
FIRE HYDRANT	FH	FH
WATER METER	WM	WM
AREA INLET / CURB INLET	AI	AI
STORM MANHOLE	SM	SM
GRADED CURB INLET	CI	CI
CLEANOUT	CO	CO
GRADED INLET	GI	GI
IN-LINE DRAIN	ID	ID
DRAINAGE ARROW	DA	DA



PHASE 4: May 2028 - June 2028

THESE PHASING PLANS ARE GUIDELINES; THE AWARDED CONTRACTOR SHALL PREPARE DETAILED PHASING PLANS WITH MILESTONE DATES FOR OWNER REVIEW; PRIOR TO WORK BEGINNING; IN ACCORDANCE WITH THE CONTRACTORS MEANS AND METHODS OF CONSTRUCTION.

ANY WORK THAT IMPACTS OWNERS OPERATIONS MUST BE COORDINATED WITH OWNER 45 DAYS PRIOR TO WORK BEGINNING.

- PHASE 4 - MAY 2028 - JUNE 2028
- BEGIN PAVING FROM THE NORTHEAST AND PAVE OUT TO THE SOUTHWEST.
- CONTINUE TO INSTALL CURBS.
- PAVING THE SOUTHWESTERN LOT SHALL BE COMPLETED LAST.
- STRIP NEW BUS PARKING AND INSTALL PARKING STOPS, FENCES, AND SIGNS.
- INSTALL LANDSCAPING & SEED/STRAW MAT ALL AREAS.

PHASE 4
STAGE BUSES AS REQUIRED IN THE FILL AREA TO COORDINATE PAVING THE SITE.

ANY ADDITIONAL MILLINGS/ROCK MUST BE HAULED OFF SITE.

ONCE COMPLETE SEED AND INSTALL STRAW MATS ON ALL EXPOSED GROUND.

MAINTAIN AND PHASE THE ENTRANCE CONSTRUCTION TO ALLOW INGRESS/EGRESS

EXISTING FUEL ISLAND (ONE SIDE TO REMAIN OPEN AT ALL TIMES)

PHASE 4
NEW TRANSPORTATION FACILITY & DUMPSTER/TIRE STORAGE BUILDING OPERATIONS TO REMAIN UNINTERRUPTED.

PHASE 4
PAVE FROM THE NORTH EAST SIDE OF THE SITE TO THE SOUTHWEST PART OF THE SITE AND ADD NEW BUS PARKING AS PAVING PROGRESSES

STL CO. #26PRJ-XXXXX
M.S.D. #26MSD-XXXXX
BASE MAP #28J3



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09/16/2026

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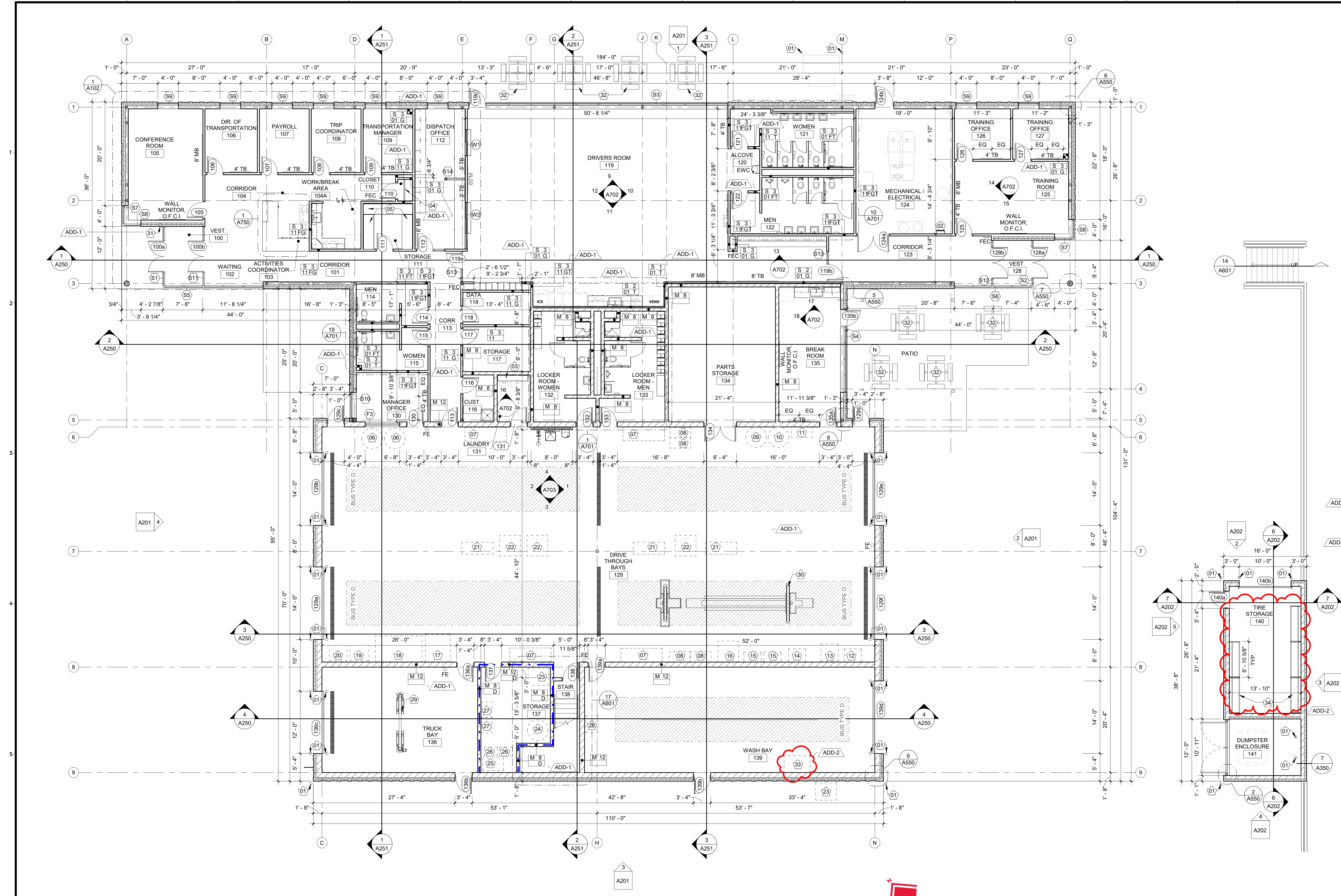
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Sheet Title

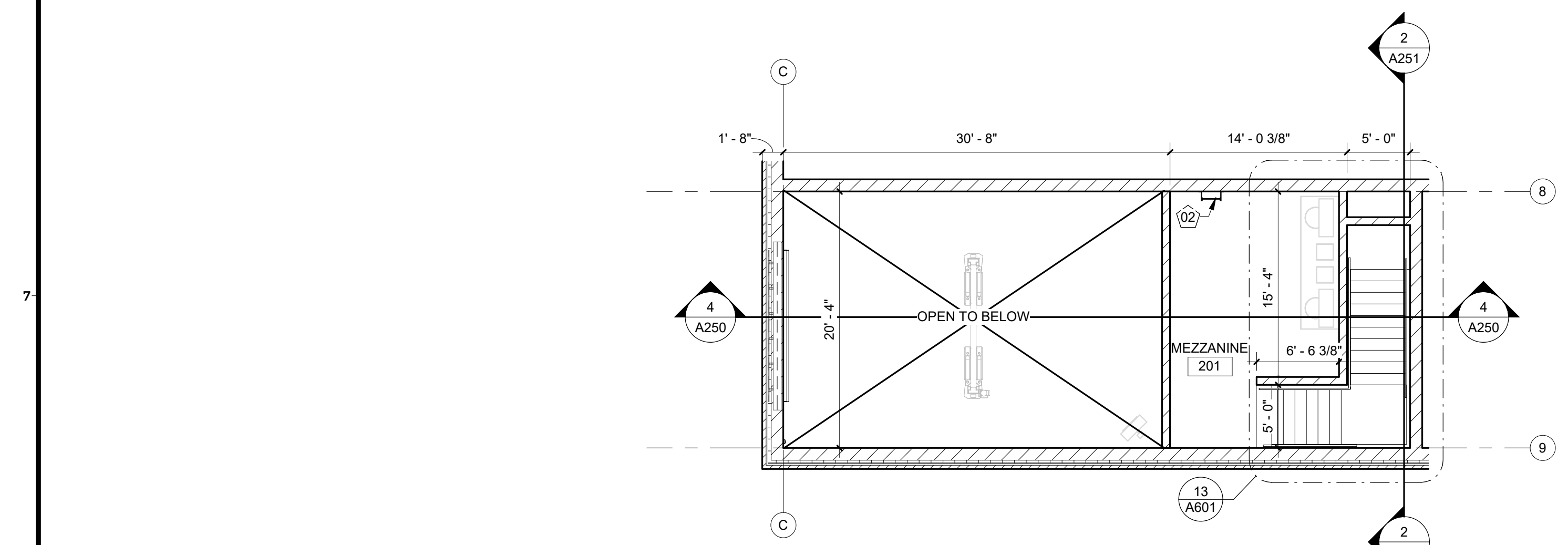
PHASE 4
CIVIL PLANS

Sheet No.

PH4.0



1 FIRST FLOOR PLAN
1/8" = 1'-0"



2 EQUIPMENT PLATFORM PLAN
1/8" = 1'-0"

- GENERAL NOTES**
- A. TOP OF FIRST FLOOR SLAB = 549.00 UNLESS NOTED OTHERWISE.
 - B. THE LOCATION OF DIMENSION TICK MARKS ARE AS FOLLOWS:
GYPSUM BOARD PARTITION/FURRING: FACE OF STUD/FURRING.
CONCRETE/MASONRY: FACE OF CONCRETE/MASONRY.
EXISTING WALL: FACE OF EXISTING FINISH SURFACE.
DIMENSIONS NOTED AS "CLEAR" OR "CLR.": DIMENSION IS TO FACE OF FINISH SURFACES.
DIMENSIONS NOTED AS "FINISH" OR "FIN.": DIMENSION IS TO FACE OF FINISH SURFACES.
ITEMS NOTED AS "ALIGN": FINISH SURFACES SHALL BE IN THE SAME PLANE.
 - C. ALL DOOR FRAMES ARE TO BE SET 2" FROM CORNER OF STUD WALL OR 8" FROM CORNER OF MASONRY WALL UNLESS NOTED OTHERWISE.
 - D. ALL PARTITIONS ARE TO BE TYPE S-3/11FG UNLESS NOTED OTHERWISE.
 - E. ALL PARTITIONS SHALL EXTEND TO UNDERSIDE OF STRUCTURE (DECK OR BEAM) UNLESS NOTED OTHERWISE. AT NON-FIRE RATED PARTITIONS INFILL VOIDS OF METAL DECK AT CONCEALED LOCATIONS WITH BATT INSULATION. AT FIRE-RATED PARTITIONS USE FIRE-RESISTIVE JOINT SYSTEMS.
 - F. FOR MASONRY OPENINGS, REFER TO LINTEL SCHEDULE ON STRUCTURAL SHEETS.
 - G. GROUT ALL HOLLOW METAL FRAMES SOLID AT MASONRY WALLS.
 - H. ALL CMU EXPOSED AT INTERIOR SHALL HAVE BULLNOSED EDGES AT CORNERS AND JAMBS OF OPENINGS.

- FLOOR PLAN KEYNOTES**
- 01 PIPE BOLLARD - PAINT YELLOW
 - 02 ROOF ACCESS LADDER - SEE DETAIL 5/A601
 - 03 12" DEEP METAL SHELVING ON HEAVY-DUTY BRACKETS AND STANDARDS - SEE DETAIL 7/A750
 - 04 18" DEEP PLAM SHELVING ON HEAVY-DUTY BRACKETS AND STANDARDS - SEE DETAIL 7/A750
 - 05 24" DEEP PLAM SHELVING ON HEAVY-DUTY BRACKETS AND STANDARDS - SEE DETAIL 7/A750
 - 06 ANTI-FREEZE (O.F.C.I.)
 - 07 WORK BENCH (O.F.C.I.)
 - 08 FLOOR JACK (O.F.C.I.)
 - 09 BUS SOAP (O.F.C.I.)
 - 10 WINDSHIELD WASHER FLUID (O.F.C.I.)
 - 11 GRINDER (O.F.C.I.)
 - 12 WASTE OIL TANK (O.F.C.I.)
 - 13 FILTER CRUSHER (O.F.C.I.)
 - 14 SAFETY CLEAN MACHINE (O.F.C.I.)
 - 15 LADDER (O.F.C.I.)
 - 16 CUTTING TORCH (O.F.C.I.)
 - 17 TIRE MACHINE (O.F.C.I.)
 - 18 BALANCER (O.F.C.I.)
 - 19 TIRE GAGE (O.F.C.I.)
 - 20 FLOOR OIL PAN (O.F.C.I.)
 - 21 TOOL BOX (O.F.C.I.)
 - 22 BUMPER JACK (O.F.C.I.)
 - 23 OIL TANK (O.F.C.I.)
 - 24 GEAR OIL (O.F.C.I.)
 - 25 WELDER (O.F.C.I.)
 - 26 A/C (O.F.C.I.)
 - 27 CHEMICAL STORAGE (O.F.C.I.)
 - 28 PRESSURE WASHER (O.F.C.I.)
 - 29 2-POST SYMMETRIC VEHICLE LIFT
 - 30 2-POST SYMMETRIC INGROUND LIFT
 - 31 KNOX BOX
 - 32 ALTERNATE #1 - PATIO FURNITURE: GLOBAL INDUSTRIAL, MODEL # 405945
 - 33 BUS WASHERS: VERSA WASH WASH DOCKEY, MODEL M11
 - 34 MARTINS INDUSTRIES WALL-MOUNTED TIRE RACKS - MODEL # MWM-80, BOTTOM OF RACK TO BE 50" AFF.

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09/16/2026	ADD-2	ADDENDUM 002
09/09/2026	ADD-1	ADDENDUM 001

Sheet Revision

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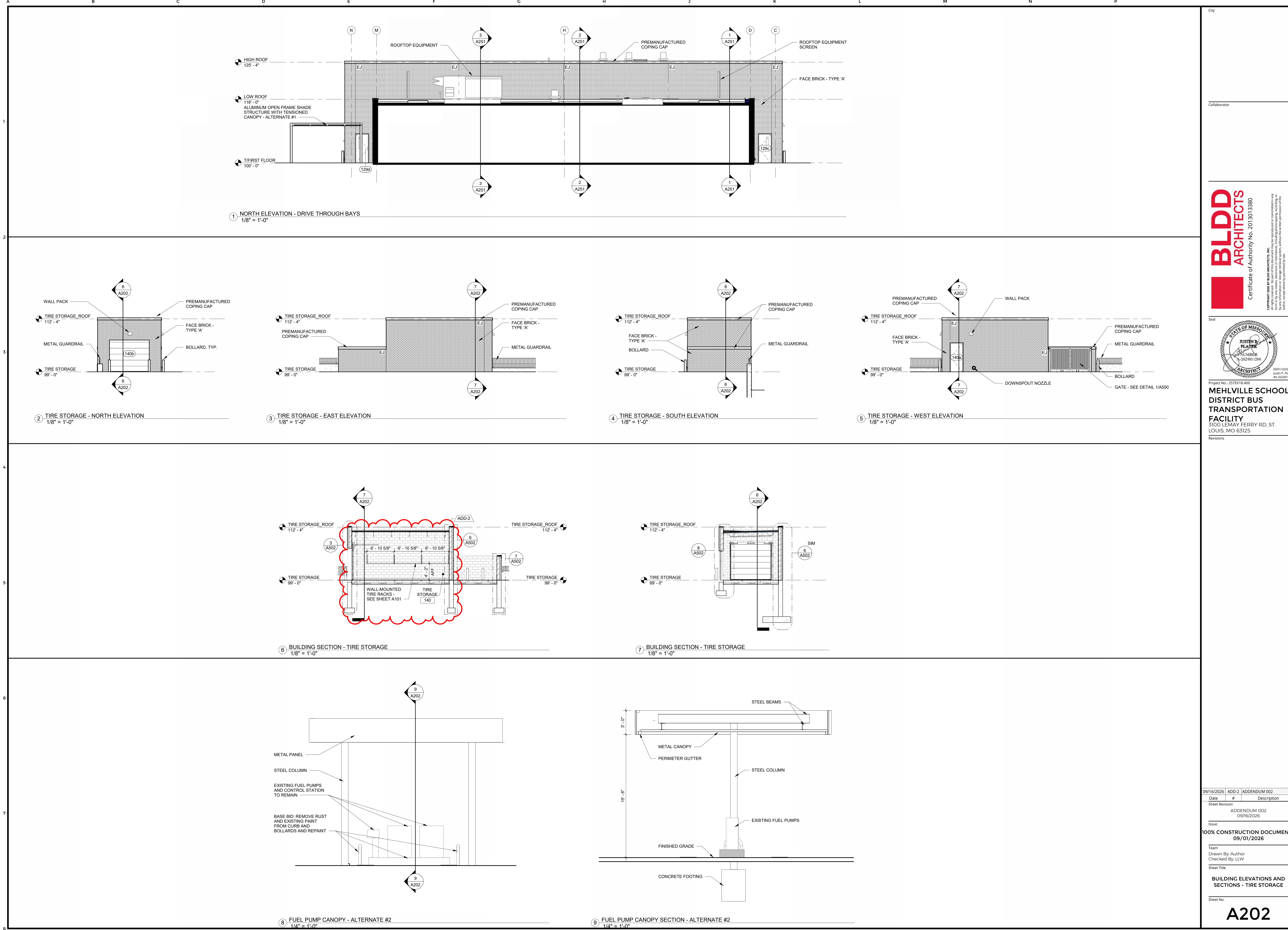
Drawn By: NMM
Checked By: LLW

Sheet Title

FLOOR PLANS

Sheet No.

A101



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09/01/2026

JUSTIN P. PLACER

ARCHITECT

NUMBER

2024011268

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Sheet Title		
BUILDING ELEVATIONS AND SECTIONS - TIRE STORAGE		
Sheet No.		

A202