



- Facility Planning & Design
- Cost Estimating & Feasibility Studies
- Site Analysis & Acquisition
- Construction Management
- Facility Management

ADDENDUM 2

June 5, 2026

ADDENDUM NUMBER 2 to CONTRACT DOCUMENTS for

A NEW PUBLIC WORK FACILITY

810 Northwoods Blvd
Vandalia, Ohio 45377

Documents prepared by WDC Group LLC, Springfield, Ohio, dated May 18, 2026

PART I - TO ALL CONTRACTORS:

- A. This Addendum is part of the contract documents. Changes shall be taken into account in preparing the proposal. Contractors shall verify this by indicating receipt of addendum in their proposals.

PART II - INTENT AND SCOPE:

- A. Attached to this Addendum is a current list of known planholders.
- B. The Architect's Estimate for this project is \$17,462,853.00.
- C. CLARIFICATION: Bidders are permitted to provide combination bids for bid packages in any combination they choose.
- D. CLARIFICATION: If multiple prime contracts are selected, WDC Group will provide contract administration services for the Owner and will coordinate MEP openings between the Pre-Engineered Metal Building contractor and the other trades.
- E. CLARIFICATION: Substitution requests must include the same information for Parts I, II, and III of the specification section for the material for which they are proposed.
- F. CLARIFICATION: GW&L stands for "General Work and Labor" and is identified with the 1A Bid Package designation.
- G. CLARIFICATION: The Owner is providing powerwash equipment. The 15A and 16A Contractors to provide connection points for hook-up of the powerwash equipment.
- H. CLARIFICATION: Data cabling is by the Owner's vendor.
- I. CLARIFICATION: Access Control and Camera System is by the Owner's vendor.

- J. CLARIFICATION: The Exterior Sign including foundations and electric shall be provided by the Owner.
- K. CLARIFICATION: Spoils can be left onsite to the extent needed to create the site design shown with new contours on the C drawings. All other spoils need to be removed from the site by the contractor creating the spoils.
- L. CLARIFICATION: The building permit is by the Owner. Trade permits will be required by the 15A, 15B, 16A, Fire Alarm, and Fire Sprinkler contractors. The Fire Alarm and Fire Sprinkler must submit drawings by licensed designers as part of the permitting process. There are no fees for those permits except for the 15A permit. The 15A Bid Package must include fee for the application to the County in their Base Bid. Bidders must include in their Base Bid fees for the special permit for the above ground tank and all other work not permitted through the City of Vandalia.
- M. CLARIFICATION: The Owner will pay utility tap fees.
- N. CLARIFICATION: The Owner will pay aid-to-construction costs.
- O. CLARIFICATION: The underground water and underground sanitary to the building are included in the 2A - Site Work scope of work for the project.
- P. CLARIFICATION: The Fire Alarm and Fire Sprinkler are delegated design items and are included in the 1A - GW&L Scope of Work. All items required by code and based on designs produced by the licensed designers for the sprinkler and fire alarm systems are to be provided by the 1A - GW&L Contractor.
- Q. CLARIFICATION: The 2A – Site Work Contractor is responsible for all sanitary work outside the building and for extending sanitary up to 5’ from the building perimeter. At that point the 15A – Plumbing Contractor shall take over and will be responsible for all remaining sanitary work required inside the building, including final connections, distribution, and all related installations necessary to complete the interior system.
- R. CLARIFICATION: The 1A – GW&L Contractor shall install the concrete underneath the generator. The 1A - GW&L Contractor shall provide the required foundation, including all excavation, forming, reinforcement, and finishing as specified. Coordination with the electrical contractor is required to confirm final generator location, pad

dimensions, and all necessary conduit and connection points prior to installation.

- S. CLARIFICATION: The 1A – GW&L Contractor shall provide, install, and paint the plywood backer board for the electrical equipment.
- T. CLARIFICATION: The 1A – GW&L Contractor shall provide blocking for the 15A – Plumbing/15B – Mechanical and 16A – Electrical scopes of work.
- U. CLARIFICATION: The 1A – GW&L Contractor shall provide and install stone underneath the concrete.
- V. CLARIFICATION: The 1A – GW&L Contractor shall provide and install grating for washout pit.
- W. CLARIFICATION: The Fire Alarm is to be included in the 15C – Sprinkler Contractor’s scope of work.
- X. CLARIFICATION: The contractor that installs an item with finishes that need protection will be responsible for providing protection for that item.
- Y. CLARIFICATION: If a contractor damages the existing asphalt road/curbs they will be required to repair/replace it in like/kind manner.
- Z. CLARIFICATION: The Owner has provided the following contact information and details for the ID card reader/vendor: Midwest Security, Brad Carter, Account Manager, Toll Free : 888-408-0188, www.MWSecurityServices.com, Email : BCarter@mwsecurityservices.com, Proximity System: Kantech with IOProx Cards P20DYE

PART III - SPECIFICATIONS

- A. CHANGE: Section 00400 - Bid Form. Delete the "Allowance #4 - \$40,000 for Exterior Signage" from Bid Package 1A on the Bid Chart.
- B. CLARIFICATION: Section 00900 – Subsoil Investigations. The 1A – GW&L and 2A – Site Work shall include the over excavation and compacted fill requirement method as listed in the Bowser Morner soil report in their Base Bid. Bidders may provide a voluntary alternate on their Bid Form for using geopiers.
- C. CHANGE: Section 01210 - Allowances. Delete Part III, B, 5 - Allowance No. 4 from the project.

- D. CLARIFICATION: Section 01230 – Alternates. Alternate #2 – Flush Mount Vertical Lift. The lift will be provided by the 1A – GW&L Contractor. The 16A – Electrical Contractor will be required to provide electrical power for the lift.
- E. CLARIFICATION: Section 01310 – Project Meetings. Per Section 01310, WDC Group will coordinate all construction meetings and provide meeting minutes.
- F. ADD: Section 01311 - Project Management and Coordination. Add the attached Section 01311 to the specifications.
- G. CLARIFICATION: Section 01500 - Temporary Facilities. Per Part I, B, c, the 16A - Electrical Contractor shall provide temporary electric for the job trailer. The preferred location for the job trailer will be near the new transformer.
- H. CLARIFICATION: Section 01710 – Cleaning. Per Part III, C the 1A – GW&L Contractor is responsible for final cleaning of the project.
- I. CHANGE: Section 01770 – Project Closeout. Contractors are required to submit two binders of all closeout documents as well as an electronic copy of all closeout documents.
- J. CLARIFICATION: Section 02511 – Hot-Mixed Asphalt Paving. The 2A – Site Work Contractor will not be doing the finish layer of pavement in 2026. The finish layer of pavement is to be done at the conclusion of the project.
- K. CLARIFICATION: Section 02820 – Chain Link Fence and Gates.
1. Post size is to be based off the selected manufacturer's guidelines for chain link fence of the specified height and gauge.
 2. Polymer coating is required. ASTM F 1043 DQ40 will be required for materials in Section 02820 that require Polymer Coating.
 3. Top and bottom railing size is to be based off the selected manufacturer's guidelines for chain link fence of the specified height and gauge.
 4. End and corner post size is to be based off the selected manufacturer's guidelines for chain link fence of the specified height and gauge.

5. Double drive gate posts are to be based off of the selected manufacturer's guidelines for chain link fence of the specified height and gauge.
- L. REPLACE: Section 03300 -Cast-In-Place Concrete. Use the attached Section 03300 in lieu of the section previously provided.
- M. ADD: Section 07262 – Below Grade Vapor and Gas Barrier. Add the attached Section 07262 to the 1A – GW&L Scope of Work for the project.
- N. CLARIFICATION: Section 08110 – Standard Steel Doors and Frames. Welded frames are required for this project.
- O. CHANGE: Section 08520 – Aluminum Windows. Add Wausau Windows as an Architect Approved Equal. Product must meet all of the specifications for the basis of design product.
- P. CHANGE: Section 08801 – Safety and Security Film. Part II, A, 2. Add LLumar as an Architect Approved Equal. Product must meet all of the specifications for the basis of design product.
- Q. ADD: Section 08360 - Insulated Metal Sectional Overhead Doors. Add the attached Section 08360 - Insulated Metal Sectional Overhead Doors to the 1A - GW&L Scope for this project.
- R. DELETE: Section 08362 - Aluminum Sectional Overhead Doors.
- S. CHANGE: Section 10511 - Lockers. Part II, A, 2 Add Lockers Manufacturing as an Architect Approved Equal. Product must meet all of the specifications for the basis of design product.
- T. CHANGE: Section 10520 - Fire Extinguishers and Cabinets. Part II, A Extinguishers will be provided by the Owner.
- U. CHANGE: Section 10171 - Solid Surface Toilet Partitions. Part II, A, 1, a, (2) Add Scranton Products and Meridian Privacy Cubicles as an Architect Approved Equal. Product must meet all of the specifications for the basis of design product.
- V. CHANGE: Section 10350 - Flagpoles.
 1. Add Part I, B, 3, c to read, "Foundation system to include all concrete, rebar, materials, labor, excavation, lightning protection as recommended by the flagpole manufacturer and according to shop drawings as prepared by the flagpole manufacturer."

2. Part II, B, 1, d shall read, "Height: 30"
 3. Delete Part II, B, 2 from the specification.
- W. CLARIFICATION: Section 13120 – Pre-Engineered Metal Building System. Metal siding and roofing colors will be selected from manufacturer's standard colors.
- X. CLARIFICATION: Section 13554 – Pre-Engineered Wood Frame Building.
1. Typical Pre-engineered wood building space columns at 8' apart and typically provide 2x4 girts and purlins to attach wood sheathing for roofs and walls. Details of the pre-engineered wood building for this project will be required to be detailed in the shop drawings submitted for review during the submittal process.
 2. Metal siding and roofing colors to match the PEMB manufacturer's specifications. Colors will be selected from manufacturer's standard colors.
- Y. CHANGE: Section 17260 – Fire Alarm System.
1. Delete EST from Part II, A, 1, a.
 2. Add Potter and Kidde to Part II, A, 1, a.
- Z. CLARIFICATION: Section 17260 – Fire Alarm System.
1. No proprietary product system will be accepted.
 2. Siemens is NOT an Architect Approved Equal.
 3. Honeywell / Silent Knight is the "preferred" manufacturer, but the Owner has no "preferred" contractor. The Owner utilizes the following monitoring companies at other city buildings: VRC Fire Monitoring: EMERgency24 Acct# OD8869 1 800 877 3624; Justice Center and Senior Center Fire Monitoring: 1866 662 7470

PART IV - DRAWINGS

- A. CLARIFICATION: Sheet C2 – Dimensioning Plan.
1. There is a 30' rolling manual gate required in the southeast corner of the project. Rollers at the top and bottom of the 30' slide gates are required.
 2. The outdoor tank storage area shall have 8" concrete per Sheet S3.1.
- B. CLARIFICATION: Sheet A1.2 - Floor Plan,
1. Coded Note #4. The metal wrapping the column shall match the main building's exterior metal siding in material, color, and

- finish to ensure a consistent and coordinated architectural appearance.
2. The boxes shown on the west wall of Room 102 locate Owner-provided equipment.
- C. CLARIFICATION: Sheet A1.4 – Floor Plan, Coded Note #9. There is a combination fire/water service located in the building. The 2A – Site Work contractor is to bring the service into the building and turn it up 12” above the slab.
- D. CLARIFICATION: Sheet A3.1 – Building Sections. Coded Note #16 is correct.
- E. CLARIFICATION: Sheet A8.2 – Door, Window, and Room Finish Schedules. The 16’ opening gate shown on Sheet A8.2 is a man gate leading to the retention area.
- F. CLARIFICATION: Sheet A20 - Fuel Canopy Storage Floor Plan. The Fuel Canopy and Storage is a delegated design. Information, design, and elevation views will have to be provided for review and approval during the submittal process by the 1A - GW&L Contractor. The fuel storage system shall be one 8,000 gallon split compartment tank with one compartment for gas and one compartment for diesel. The Owner is open to a design that utilizes a submerged pump in each tank or a design that utilizes suction pumps with pumping units in the fuel dispenser for this delegated design item. There shall be one dispenser for gas and one dispenser for diesel on each side of the fuel island. Contractor will need to provide tank gauge and leak detection as required by code. The use of 4 columns for the canopy design instead of 6 is permitted as long as the spread of the canopy remains the same.
- G. CLARIFICATION: Sheet P1.4 - Enlarged Plumbing Plan 'D'.
1. Coded Notes #23, #26, and #27. The oil, transmission fluid, and hydraulic fluid systems are delegated design items and are to be included in the 1A - GW&L Scope of Work. The vendor will be hired by the 1A - GW&L Contractor and approved by the Owner.
 2. Coded Note #20. The Owner is providing the compressor. The 15A – Plumbing Contractor provides the required piping as shown on the plans, the connection and hookup of the piping.
- H. CLARIFICATION: Sheet P4.1 – Plumbing Specifications. PVC is acceptable as stated in Note 15A – C.

- I. CHANGE: Sheet E3.2 – Electrical Specifications, Part 4, B.1 – Device plates in finish spaces shall be stainless steel as noted in the project manual and specifications.
- J. CLARIFICATION: Sheets E4.1, E4.2, E4.3, E4.4, and E4.5. The work identified as 17A, 17B, and 17C Scopes of Work will be completed the Owner’s vendor. Bidders are to review these sheets for scope of work items identified for other bid packages.
- K. ADD: Sheet ES1.1 – Electrical Site Plan. Transformer to be adjacent to pavement. The 1A – GW&L Contractor to provide concrete pad and two 4” painted pipe bollards in front of the transformer.

END OF ADDENDUM 2

SECTION 01311 – PROJECT MANAGEMENT AND COORDINATION

PART I - GENERAL

- A. The Contractor shall utilize Microsoft SharePoint as the designated project management and communication platform for the duration of the Project. All construction administrative activities, including but not limited to correspondence, submittals, requests for information (RFIs), meeting minutes, schedules, drawings, and document control, shall be conducted and maintained within the SharePoint environment as directed by the Architect.
- B. Use of alternative platforms for official project communication or document management will not be permitted unless expressly approved in writing by the Architect.

PART II - PRODUCTS – N/A

PART III - EXECUTION

- A. PLATFORM REQUIREMENT:
 - 1. The Contractor shall use Microsoft SharePoint as the exclusive electronic project management system for communication, document sharing, and coordination with the Architect and Owner throughout the Project.
- B. SCOPE OF USE
 - 1. The SharePoint system shall be used for all construction administrative functions, including, but not limited to:
 - a. Requests for Information (RFIs)
 - b. Submittals and shop drawings
 - c. Architect’s Supplemental Instructions (ASI) and clarifications
 - d. Change documentation
 - e. Meeting agendas and minutes
 - f. Construction schedules and updates
 - g. Project correspondence and record-keeping
- C. RESPONSIBILITIES
 - 1. The Contractor is responsible for:
 - a. Ensuring all project personnel and subcontractors comply with this requirement.
 - b. Maintaining current and accurate records within SharePoint.
 - c. Monitoring and responding to communications within the system in a timely manner.
- D. EXCLUSIVITY
 - 1. The Contractor is responsible for: Document transmissions occurring outside of Microsoft SharePoint shall not be considered official project record unless subsequently uploaded and documented within the system.

END OF SECTION 01311

SECTION 03300 - CAST-IN-PLACE CONCRETE

PART I - GENERAL

- A. RELATED DOCUMENTS: Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- B. SUMMARY: This Section specifies cast-in place concrete, including formwork, reinforcing, mix design, placement procedures, and finishes; and rigid foundation insulation. The extent of the concrete paving, including walkways, is shown on the drawings.
- C. QUALITY ASSURANCE
 - 1. Codes and Standards: Comply with provisions of following codes, specifications, and standards, except where more stringent requirements are shown or specified:
 - a. ACI 318, "Building Code Requirements for Reinforced Concrete."
 - b. Concrete Reinforcing Steel Institute (CRSI), "Manual of Standard Practice."
- D. SUBMITTALS
 - 1. Provide samples, manufacturer's product data, test reports, and materials' certifications as required in referenced sections for concrete and joint fillers and sealers.
- E. QUALITY ASSURANCE
 - 1. Codes and Standards: Comply with local governing regulations if more stringent than herein specified.
- F. JOB CONDITIONS
 - 1. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities.
 - 2. Coordinate with requirements for "Temporary Facilities" specified in Section 01500.

PART II - PRODUCTS

- A. REINFORCING MATERIALS
 - 1. Reinforcing Bars: ASTM A 615, Grade 60, deformed.
 - 2. Welded Wire Fabric: ASTM A 185, welded steel wire fabric.
 - 3. Supports for Reinforcement: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire fabric in place. Use wire-bar-type supports complying with CRSI specifications.
 - 4. "Fibermesh"
- B. CONCRETE MATERIALS
 - 1. Portland Cement: ASTM C 150, Type I.
 - a. Use one brand of cement throughout project unless otherwise acceptable to Architect.
 - 2. Fly Ash: ASTM C 618, Type C or Type F.
 - 3. Normal Weight Aggregates: ASTM C 33 and as herein specified. Provide aggregates from a single source for exposed concrete.
 - 4. Water: Drinkable.
 - 5. Admixtures, General: Provide admixtures for concrete that contain not more than 0.1 percent chloride ions.
 - 6. Air-Entraining Admixture: ASTM C 260, certified by manufacturer to be compatible with other required admixtures.
 - a. Products: Subject to compliance with requirements, provide one of the following:
 - (1) "Air-Tite," Cormix.

- (2) "Air-Mix" or "Perma-Air," Euclid Chemical Co.
 - (3) "Darex AEA" or "Daravair," W.R. Grace & Co.
 - (4) Or equal.
7. Water-Reducing Admixture: ASTM C 494, Type A.
- a. Products: Subject to compliance with requirements, provide one of the following:
 - (1) "Chemtard," ChemMasters Corp.
 - (2) "PSI N," Cormix.
 - (3) "Eucon WR-75," Euclid Chemical Co.
 - (4) Or equal.

C. RELATED MATERIALS

- 1. Granular Base: Evenly graded mixture of fine and coarse aggregates to provide, when compacted, a smooth and even surface below slabs on grade.
- 2. Sand Cushion: Clean, manufactured or natural sand.
- 3. Vapor Retarder: Polyethylene sheet not less than 8 mils thick.
- 4. Moisture-Retaining Cover: One of the following, complying with ASTM C 171.
 - a. Polyethylene film.
- 5. Liquid Membrane-Forming Curing Compound: Liquid-type membrane- forming curing compound complying with ASTM C 309, Type I, Class A. Moisture loss not more than 0.055 gr./sq. cm. when applied at 200 sq. ft./gal.
- 6. Products: Subject to compliance with requirements, provide one of the following:
 - a. "A-H 3 Way Sealer," Anti-Hydro Co., Inc.
 - b. "Day-Chem Cure and Seal," Dayton Superior Corp.
 - c. "Eucocure," Euclid Chemical Co.
 - d. Or equal.

D. PROPORTIONING AND DESIGN OF MIXES

- 1. Prepare design mixes for each type and strength of concrete by experience methods as specified in ACI 301.
 - a. Limit use of fly ash to not exceed 25 percent of cement content by weight.
- 2. Design mixes to provide normal weight concrete with the following properties, as indicated on drawings and schedules:
 - a. Class III, Exterior slabs on grade and all exterior concrete not otherwise identified: 4500-psi, 28-day compressive strength; W/C ratio, 4.5% to 7.5% entrained air.
 - b. Class II, interior slabs on grade, and all interior concrete not otherwise identified: 4000-psi, 28-day compressive strength; W/C ratio, 0.51 maximum (non-air-entrained), 0.40 maximum (air-entrained).
 - c. Class I, footings, 3500-psi, 28-day compressive strength.
- 3. Adjustment to Concrete Mixes: Mix design adjustments may be requested by Contractor when characteristics of materials, job conditions, weather, test results, or other circumstances warrant, as accepted by Architect. Laboratory test data for revised mix design and strength results must be submitted to and accepted by Architect before using in work.

E. ADMIXTURES

- 1. Use water-reducing admixture or high-range water-reducing admixture (Superplasticizer) in concrete as required for placement and workability.
- 2. Use nonchloride accelerating admixture in concrete slabs placed at ambient temperatures below 50 deg F (10 deg C).
- 3. Use air-entraining admixture in exterior exposed concrete unless otherwise indicated. Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having total air content with a tolerance of plus or minus 1-1/2 percent within following limits:
- 4. Other concrete (not exposed to freezing, thawing, or hydraulic pressure) or receive a surface hardener: 2 percent to 4 percent air.
- 5. Use admixtures for water reduction and set control in strict compliance with manufacturer's directions.

6. Water-Cement Ratio: Provide concrete for following conditions with maximum water-cement (W/C) ratios as follows:
 - a. Subjected to freezing and thawing; W/C 0.45.
 - b. Subjected to deicers/watertight; W/C 0.40.
 - c. Subjected to brackish water, salt spray, or deicers; W/C 0.40.
7. Slump Limits: Proportion and design mixes to result in concrete slump at point of placement as follows:
 - a. Ramps, slabs, and sloping surfaces: Not more than 3 inches.
 - b. Reinforced foundation systems: Not less than 1 inch and not more than 3 inches.
 - c. Concrete containing HRWR admixture (Superplasticizer): Not more than 8 inches after addition of HRWR to site-verified 2-inch to 3-inch slump concrete.
 - d. Other concrete: Not more than 4 inches.

F. CONCRETE MIXING

1. Ready-Mix Concrete: Comply with requirements of ASTM C 94, and as specified.
 - a. When air temperature is between 85 deg F (30 deg C) and 90 deg F (32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes, and when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

G. FOUNDATION INSULATION

1. Extruded Polystyrene Board Insulation: Rigid, cellular polystyrene thermal insulation with closed-cells and integral high density skin, formed by the expansion of polystyrene base resin in an extrusion process to comply with ASTM C 578 for type indicated; with 5-year aged r-values of 5.4 and 5 at 40 and 75 deg F (4.4 and 23.9 deg C), respectively; and as follows:
 - a. Type IV, 1.6 pcf min. density, unless otherwise indicated.

PART III - EXECUTION

A. GENERAL

1. Coordinate the installation of joint materials and vapor retarders with placement of forms and reinforcing steel.

B. DEWATERING

1. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
2. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
 - a. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated utility trenches as temporary drainage ditches.
 - b. Install a dewatering system to keep subgrades dry and convey ground water away from excavations. Maintain until dewatering is no longer required.

C. FORMS

1. General: Design, erect, support, brace, and maintain formwork to support vertical and lateral, static and dynamic loads that might be applied until concrete structure can support such loads. Construct formwork so concrete members and structures are of correct size, shape, alignment, elevation, and position. Maintain formwork construction tolerances complying with ACI 347.
2. Provisions for Other Trades: Provide openings in concrete formwork to accommodate work of other trades. Determine size and location of openings, recesses, and chases from trades providing such items. Accurately place and securely support items built into forms.

D. VAPOR RETARDER/BARRIER INSTALLATION

1. General: Following leveling and tamping of granular base for slabs on grade, place vapor retarder/barrier sheeting with longest dimension parallel with direction of pour.
 2. Lap joints 6 inches and seal vapor barrier joints with manufacturers' recommended mastic and pressure-sensitive tape.
 3. After placement of vapor retarder/barrier, cover with sand cushion and compact to depth as shown on drawings.
- E. PLACING REINFORCEMENT
1. General: Comply with Concrete Reinforcing Steel Institute's recommended practice for "Placing Reinforcing Bars," for details and methods of reinforcement placement and supports and as herein specified.
 - a. Avoiding cutting or puncturing vapor retarder during reinforcement placement and concreting operations.
 2. Clean reinforcement of loose rust and mill scale, earth, ice, and other materials that reduce or destroy bond with concrete.
 3. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcing by metal chairs, runners, bolsters, spacers, and hangers, as approved by Architect.
 4. Place reinforcement to obtain at least minimum coverages for concrete protection. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement operations. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces.
 5. Install welded wire fabric in as long lengths as practicable. Lap adjoining pieces at least one full mesh and lace splices with wire. Offset laps of adjoining widths to prevent continuous laps in either direction.
- F. JOINTS
1. Interior slabs on Grade:
 - a. Locate control and construction joints openings, walls, inside corners and at 15 feet on center generally. Review with Architect proposed location of joints prior to execution of. Schedule slab placements and sawcutting operations such that sawing is completed prior to onset of shrinkage cracking.
 - b. Where joints are exposed to view in the finished building, provide joint sealant.
 2. Exterior slabs on Grade: Locate joints as follows:
 - a. Control Joints: Review with Architect proposed location of joints prior to execution of. Tooled, 7/8" deep, 4'-0" to 6'-0" on center between expansion joints.
- G. PREPARATION OF FORM SURFACES
1. General: Coat contact surfaces of forms with an approved, nonresidual, low-VOC, form-coating compound before reinforcement is placed.
- H. CONCRETE PLACEMENT
1. Inspection: Before placing concrete, inspect and complete formwork installation, reinforcing steel, and items to be embedded or cast in. Notify other crafts to permit installation of their work; cooperate with other trades in setting such work.
 2. General: Comply with ACI 304, "Recommended Practice for Measuring, Mixing, Transporting, and Placing Concrete," and as herein specified.
 3. Placing Concrete in Forms: Deposit concrete in forms in horizontal layers not deeper than 24 inches and in a manner to avoid inclined construction joints. Where placement consists of several layers, place each layer while preceding layer is still plastic to avoid cold joints.
 - a. Consolidate placed concrete by mechanical vibrating equipment supplemented by hand-spading, rodding, or tamping. Use equipment and procedures for consolidation of concrete in accordance with ACI 309.
 4. Placing Concrete Slabs: Deposit and consolidate concrete slabs in a continuous operation, within limits of construction joints, until the placing of a panel or section is completed.
 - a. Consolidate concrete around reinforcement and other embedded items and into corners.

- b. Bring slab surfaces to correct level with straightedge and strike off.
- c. Maintain reinforcing in proper position during concrete placement.
- 5. Cold-Weather Placing: Comply with provisions of ACI 306 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
- 6. Hot-Weather Placing: When hot weather conditions exist that would seriously impair quality and strength of concrete, place concrete in compliance with ACI 305.

I. FINISH OF FORMED SURFACES

- 1. Schedule of finishes of flatwork is as follows:
 - a. Typical interior floor areas to receive adhesive-applied finishes or carpet: troweled finish, Class B tolerance.
 - b. Typical interior floor areas to remain exposed: troweled finish, Class A tolerance.
 - c. Any exposed concrete foundation wall: hand trowel finish, Class A tolerance
 - d. Exterior slabs: hand trowel finish, Class C tolerance.

J. DISPOSAL AND WASH OUT OF CONCRETE

- 1. General Work & Labor Contractor shall select a location to be used for duration of project by all contractors for wash out of delivery truck, equipment, etc.
- 2. Absolutely no concrete is to be discarded or placed in the dumpster, as a result of post-wash out, excess materials, tear out of existing placed material, etc! Contractor shall dispose of by another means than the dumpsters included in the allowance.

END OF SECTION 03300

SECTION 07262 – BELOW-GRADE VAPOR AND GAS BARRIER

PART I - GENERAL

A. SUMMARY

1. This section includes insulated under-slab gas and water vapor barrier consisting of membrane that forms an integral bond to poured concrete for the following application:
 - a. Membrane applied on rigid insulation prior to placement of concrete slabs.
2. Related Work
 - a. Division 3 Section “Cast-In-Place Concrete”. Concrete slab to be poured above gas and water vapor barrier.
 - b. Division 31 Section “Earthwork”: Compacted gravel sub-base.

B. SUBMITTALS

1. Submit, in accordance with Division 1 Section “Submittal Procedures”, manufacturer’s product data, installation instructions and membrane and insulation samples for approval.

C. REFERENCE STANDARDS

1. The following standards and publications are applicable to the extent referenced in the text.
2. American Society for Testing and Materials (ASTM):
 - a. D 412: Standard Test Methods for Rubber Properties in Tension
 - b. D 903: Standard Test Method for Peel or Stripping Strength of Adhesive Bonds
 - c. D 3767: Standard Practice for Rubber - Measurements of Dimensions
 - d. E 96: Standard Test Methods for Water Vapor Transmission of Materials
 - e. E 154: Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover
 - f. F1249 - Standard Test Method for Water Vapor Transmission Rate Through Plastic Film and Sheeting Using a Modulated Infrared Sensor
 - g. E 1643: Standard Practice for Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs.
3. American Concrete Institute (ACI)
 - a. ACI 302.1R-96 Addendum Vapor Retarder Location: For slabs with vapor-sensitive floor coverings, locate barrier in direct contact with the slab, not beneath a layer of granular fill or beneath insulation layer.

D. QUALITY ASSURANCE

1. Manufacturer: Sheet membrane system used as gas and water vapor barrier shall be manufactured and marketed by a firm with a minimum of 20 years experience in the production and sales of sheet membrane waterproofing. Manufacturers proposed for use but not named in these specifications shall submit evidence of ability to meet all requirements specified, and include a list of projects of similar design and complexity completed within the past 5 years.
2. Installer: A firm which has at least 3 years experience in sheet membrane water vapor barrier of the type required by this section.
3. Materials: For each type of material required for the work of this section, provide primary materials which are the products of one manufacturer.
4. Pre-Installation Conference: A pre-installation conference shall be held prior to commencement of field operations to establish procedures to maintain optimum working conditions and to coordinate this work with related and adjacent work. Agenda for meeting shall include review of special details and flashing.
5. Schedule Coordination: Schedule work such that membrane will not be left exposed to weather for longer than that recommended by the manufacturer.

- E. DELIVERY, STORAGE AND HANDLING
 - 1. Deliver materials in labeled packages. Store and handle in strict compliance with manufacturer's instructions. Protect from damage from weather, excessive temperature and construction operations. Remove and dispose of damaged material in accordance with applicable regulations.

- F. PROJECT CONDITIONS
 - 1. Perform work only when existing and forecasted weather conditions are within the limits established by the manufacturer of the materials used. Proceed with installation only when the substrate construction and preparation work is complete and in condition to receive sheet membrane waterproofing.

- G. WARRANTY
 - 1. Sheet Membrane Waterproofing used as under-slab gas and water vapor barrier: Provide written five (5) year material warranty issued by the membrane manufacturer upon completion of work. The membrane shall form an integral and permanent bond to poured concrete and shall prevent vapor migration at the interface between the membrane and structural concrete.

PART II - PRODUCTS

- A. MANUFACTURERS
 - 1. Manufacturers: Subject to compliance with requirements, provide products manufactured by one of the following or equal:
 - a. Under-Slab Gas and Water Vapor Barrier System
 - (1) Reef Industries, Inc.
 - (2) Stego Industries, LLC.

- B. UNDER-SLAB GAS AND WATER VAPOR BARRIER SYSTEM
 - 1. Description: Complete system including membrane and accessory materials as required to form continuous vapor barrier below concrete slabs on grade.
 - a. Polyolefin Membrane with Pre-Applied Adhesive:
 - (1) Seams double-sealed using pre-applied adhesive and manufacturer's seam tape.
 - (2) Penetrations sealed using manufacturer's trowel-applied detailing liquid.

- C. MEMBRANE
 - 1. Polyolefin Vapor Barrier Membrane with Pre-Applied Adhesive: High performance sheet membrane, comprising polyolefin film bonded to layers of specially formulated synthetic adhesive, engineered for use below slabs on grade.
 - a. Classification: Exceeds ASTM E 1745, Class A.
 - b. Physical Properties of Membrane
 - (1) Color: Black or Yellow
 - (2) Total membrane thickness: 15 mils
 - (3) Tensile Strength: ~~68~~ 45 lb./in, per ASTM E154*
 - (4) Puncture Resistance: 2200 grams, per ASTM D1709*
 - (5) Water Vapor Permeance: 0.01 US perms after mandatory conditioning, per ASTM E96 Method B*
 - c. Available Products:
 - (1) Reef Industries, Inc.; Vapor Guard
 - (2) Stego Industries, LLC; Stego 15 mil

D. ACCESSORY MATERIALS

1. Tape: Self-adhering, reinforced, pressure-sensitive tape as recommended by membrane manufacturer for covering cut edges, roll ends, and penetrations:
 - a. Tape for Polyolefin Membrane with Pre-Applied Adhesive: Thin flexible film with a layer of pressure-sensitive adhesive on each surface and a protective coating on the top surface.
 - (1) Available Products:
 - (a) Reef Industries, Inc.; Reef Tape
 - (b) Stego Industries, LLC.; Stego Tape
2. Adhesive: As recommended by manufacturer for each substrate.
3. Penetration Sealant: Trowel-applied sealant for sealing around penetrations,
 - a. Available Products:
 - (1) Stego Industries, LLC.; Stego Tape and/or Stego Mastic

PART III - EXECUTION

A. EXAMINATION AND PREPARATION

1. The installer shall examine conditions of substrates and other conditions under which this work is to be performed and notify the Contractor, in writing, of circumstances detrimental to the proper completion of the work. Do not proceed with work until unsatisfactory conditions are corrected.
2. Earth and stone substrates shall be well compacted to produce an even, solid substrate. Remove loose aggregate or sharp protrusions. Concrete substrates shall be smooth or broom finished and monolithic. Remove standing water prior to application.
3. Schedule installation of insulation and vapor barrier 30 days or less before concrete slab is poured, to minimize exposure to weather.

B. INSTALLATION OF INSULATION

1. Lay boards on surface of compacted substrate, in parallel rows with staggered joints. Butt boards tightly together and against foundations.

C. INSTALLATION OF MEMBRANE

1. Membrane Installation, General: Install membrane in accordance with manufacturer's instructions. Comply with ASTM E 1643-98, except as follows:
 - a. Do not place sand layer above vapor barrier.
 - b. Follow manufacturer's recommendations that exceed ASTM requirements.
2. Polyolefin Vapor Barrier Membrane with Pre-Applied Adhesive
 - a. Apply membrane with the HDPE film facing the prepared substrate. Remove the release liner during application.
 - b. Apply succeeding sheets by overlapping the previous sheet 50-mm (2 in.) along the marked lap line. End Laps should be staggered to avoid a build up of layers.
 - c. Taped Lap Method: For additional security use membrane manufacturer's recommended tape to secure and seal the overlaps. Overband the lap with the 100mm (4in) wide tape using the lap line for alignment. Remove plastic release liner to ensure bond to concrete.
 - d. Perimeter: Bring membrane up at slab perimeters against vertical surfaces to the full thickness of the slab.
 - e. Prepare interior and exterior corners of vertical membrane at slab perimeters, and detail all penetrations using manufacturer's recommended liquid detailing compound, in accordance with the manufacturer's recommended details.
 - f. Penetrations: Mix and apply liquid detailing compound to seal around penetrations such as drainage pipes.

D. PROTECTION

1. Protect membrane in accordance with manufacturer's recommendations until placement of concrete. Inspect for damage just prior to placement of concrete and make repairs in accordance with manufacturer's recommendations.

END OF SECTION 07262

SECTION 08360 - SECTIONAL OVERHEAD DOORS

PART I - GENERAL

- A. RELATED DOCUMENTS
 - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

- B. SUMMARY
 - 1. This section includes electrically operated solid insulated metal sectional overhead doors with aluminum sectional vision panels.
 - 2. Related work specified elsewhere:
 - a. Division 16 - Electrical

- C. SUBMITTALS
 - 1. Product Data: Submit door manufacturer's product data, specifications, and installation instructions for each type overhead door.
 - 2. Shop drawings shall show elevations of each door type, door construction details, and methods of assembling sections, hardware locations and installation methods, dimensions and shapes of materials, anchorage and fastening methods, door frame types and details, wall opening construction details, weather-stripping, and finish requirements.
 - 3. Provide samples of metal skin colors, labeled. No less than 4 different colors shall be provided for selection by Owner. Samples shall be 2" x 2".

- D. DEFINITIONS
 - 1. Operation Cycle: One cycle of a door is complete when it is moved from the closed position to the fully open position and returned to the closed position.

- E. PERFORMANCE REQUIREMENTS
 - 1. Structural Performance: Provide sectional overhead doors capable of withstanding the effects of gravity loads and the following loads and stresses without evidencing permanent deformation of door components:
 - a. Wind Loads: Determine loads based on the following minimum design wind pressures:
 - b. Uniform pressure (velocity pressure) of 20 lbf/sq. ft., acting inward and outward.
 - c. Deflection: Deflection of door in horizontal position shall be a maximum of 1/120th of door width.
 - 2. Air Infiltration: Maximum rate not more than indicated when tested according to ASTM E 283.
 - a. Maximum Rate: 0.08 cfm at 15 mph .
 - b. Operation-Cycle Requirements: Provide sectional overhead door components and operators capable of operating for not less than 100,000 cycles.

- F. QUALITY ASSURANCE
 - 1. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for both installation and maintenance of units required for this Project.
 - 2. Source Limitations: Obtain sectional overhead doors through one source from a single manufacturer. Obtain operators and controls from sectional overhead door manufacturer.
 - 3. Electrical Components, Devices and Accessories: Listed and labeled as defined in NFPA, Article 100.

G. WARRANTY

1. Warranty: Manufacturer's limited door and operators system warranty for 10 years against delamination of polyurethane foam from steel face and all other components for 3 years or 20,000 cycles, whichever comes first.

PART I - PRODUCTS

A. MANUFACTURERS

1. Products of the following manufacturers will be considered, providing their products equal or exceed the quality specified; and they can provide the type, size, function, and arrangement required:
 - a. Haas Door
 - b. Clopay Overhead Door Co.
 - c. Raynor Garage Door Co.
 - d. Overhead Door Corp.
 - e. Or Architect Approved Equal

B. STEEL DOOR SECTIONS

1. Flush steel sectional upward acting door; equal to Haas Model #716 series.
2. Construct door sections including face sheets and frames from zinc-coated (galvanized), cold-rolled, commercial steel (CS) sheet, complying with ASTM A 653/A 653M, G60 coating designation.
 - a. Minimum Base-Metal (Uncoated) Thickness for Section Faces: 20 gauge.
 - b. Exterior-Section Face: Flush, textured.
3. Fabricate door panels from a steel sheet to provide sections not more than 24 inches high and nominally 2 inches deep. Door panel sections shall be steel sandwich construction 2" thick, roll-formed from commercial quality, hot-dipped galvanized steel in accordance with ASTM A-924 and A-653. Exterior skin shall be 20 gauge (0.040" minimum) smooth material mechanically interlocked and pressure bonded to a CFC-free and HCFC-free polyurethane, fully encapsulated core. Interior skin shall be 26 gauge (0.020") smooth texture. Provide door sections with continuous thermal-break construction, separating faces of door.
4. Reinforce sections with continuous horizontal and diagonal reinforcement, as required to stiffen door and for wind loading. Provide galvanized steel bars, struts, trusses, or strip steel, formed to depth and bolted or welded in place. End stiles shall be 16 gauge and thermally broken.
5. Provide reinforcement for hardware attachment. Install galvanized steel 14 gauge edge plates and 16 gauge center plates for hinge reinforcement.
6. Thermal Insulation:
 - a. Manufacturer's standard CFC-free and HCFC-free polyurethane insulation, with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, according to ASTM E 84. Enclose insulation completely within steel sections. Minimum R-value shall be 16.
 - b. Install thermal breaks to separate end stiles and between interior and exterior skins.
7. Fabricate sections so finished door assembly is rigid and aligned, with tight hairline joints and free of warp, twist, and deformation.
8. Finish: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
9. Surface Preparation: Clean galvanized surfaces with non-petroleum solvent so surfaces are free of oil and other contaminants.
 - a. Pretreat zinc-coated steel, after cleaning, with a conversion coating of type suited to organic coating applied over it.
10. Apply manufacturer's standard primer and powder-coat polyester finish to interior- and exterior-door faces after forming, according to coating manufacturer's written instructions

for application, thermosetting, and minimum dry film thickness.

- a. Color and Gloss: Interior faces shall be white; exterior face color to be selected from manufacturer's full range.

C. TRACKS AND SUPPORTS

1. Tracks: Three inch galvanized steel track system, designed for high lift type, sized for door size and weights, and complying with ASTM A 653/A 653M for minimum G60 zinc coating. Provide complete track assembly including brackets, bracing, and reinforcement for rigid support of ball-bearing roller guides for required door type and size. Slot vertical sections of track spaced at 2 inches apart for door-drop safety device. Slope tracks at proper angle from vertical or design to ensure tight closure at jambs when door unit is closed. Weld or bolt to track supports. Provide tracks configured for the lift types as required by available space configuration.
2. Track Reinforcement and Supports: Galvanized steel track reinforcement and support members, complying with ASTM A 36/A 36M and ASTM A 123/A 123M. Secure, reinforce, and support tracks as required for door size and weight to provide strength and rigidity without sag, sway, and vibration during opening and closing of doors.
 - a. Support and attach tracks to opening jambs with continuous angle welded to tracks and attached to wall. Support horizontal (ceiling) tracks with continuous angle welded to track and supported by laterally braced attachments to overhead structural members at curve and end of tracks.
 - (1) Repair galvanized coating on tracks according to ASTM A 780.
3. Weatherseals: Replaceable, adjustable, continuous, compressible weather-stripping gaskets of flexible vinyl, rubber, or neoprene fitted to bottom and top of overhead door.
4. Provide motor-operated doors with combination bottom weatherseal and sensor edge.

D. HARDWARE

1. General: Provide heavy-duty, corrosion-resistant hardware, with hot-dip galvanized, stainless-steel, or other corrosion-resistant fasteners, to suit door type.
2. Hinges: Heavy-duty galvanized steel hinges of not less than 0.0747-inch- thick, uncoated steel at each end stile and at each intermediate stile, according to manufacturer's written recommendations for door size. Attach hinges to door sections through stiles and rails with bolts and lock nuts or lock washers and nuts. Use rivets or self-tapping fasteners where access to nuts is not possible. Provide double hinges at end stiles.
3. Rollers: 3 inch heavy-duty rollers with steel ball bearings in case-hardened steel races, mounted with varying projections to suit slope of track. Extend roller shaft through both hinges where double hinges are required. Provide 3-inch- diameter roller tires for 3-inch- wide track.
 - a. Tire Material: Case-hardened steel
4. Push/Pull Handles: For push-up-operated or emergency-operated doors, provide galvanized steel lifting handles on each side of door.
5. Chain Lock Keeper: Suitable for padlock.
6. If door unit is power operated, provide safety interlock switch to disengage power supply when door is locked.

E. COUNTERBALANCE MECHANISM

1. Torsion Spring: Counterbalance mechanism consisting of adjustable-tension torsion springs fabricated from oil-tempered-steel wire complying with ASTM A 229/A 229M, Class II, mounted on a cross-header tube or steel shaft.
2. Connect to door with galvanized aircraft-type lift cables with cable safety factor of at least 5 to 1. Provide springs calibrated for a minimum of 100,000 cycles.
3. Cable Drums: Cast-aluminum or gray-iron casting cable drums grooved to receive cable. Mount counterbalance mechanism with manufacturer's standard ball-bearing brackets at each end of shaft. Provide one additional midpoint bracket for shafts up to 16 feet long and two additional brackets at one-third points to support shafts more than 16 feet long unless closer spacing is recommended by door manufacturer.

4. Bracket: Provide anchor support bracket as required to connect stationary end of spring to the wall and to level shaft and prevent sag.
5. Provide a spring bumper at each horizontal track to cushion door at end of opening operation.

F. ELECTRIC DOOR OPERATORS

1. General: Provide a jack-shift type electric door operator assembly of size and capacity recommended and provided by door manufacturer for door and operation-cycle requirements specified, with electric motor and factory-prewired motor controls, starter, gear-reduction unit, solenoid-operated brake, clutch, remote-control stations, control devices, integral gearing for locking door, and accessories required for proper operation.
2. Provide electrical counter on operator for counting the number of opening cycles.
3. Comply with NFPA 70.
4. Disconnect Device: Hand-operated disconnect device or mechanism for automatically engaging chain-and-sprocket operator and releasing brake for emergency manual operation while disconnecting motor without affecting timing of limit switch. Mount disconnect device and operator so they are accessible from floor level. Include interlock device to automatically prevent motor from operating when emergency operator is engaged.
5. Design operator so motor may be removed without disturbing limit-switch adjustment and without affecting emergency auxiliary operator.
6. Provide control equipment complying with NEMA ICS 1, NEMA ICS 2, and NEMA ICS 6, with NFPA 70, Class 2 control circuit, maximum 24-V, ac or dc.
7. Door-Operator Type: Unit consisting of electric motor and the following:
 - a. Gear head trolley type, with enclosed worm gear, running-in-oil, primary drive; chain and sprocket secondary drive; and quick release for manual operation.
8. Electric Motors: High-starting torque, reversible, continuous-duty, Class A insulated, electric motors complying with NEMA MG 1, with overload protection, sized to start, accelerate, and operate door in either direction from any position, at not less than 2/3 fps and not more than 1 fps, without exceeding nameplate ratings or service factor.
 - a. Type: Polyphase, medium-induction type.
 - b. Service Factor: Comply with NEMA MG 1, unless otherwise indicated.
 - c. Coordinate wiring requirements and electrical characteristics of motors with building electrical system.
 - d. Provide open dripproof-type motor, and controller with NEMA ICS 6, Type 1 enclosure.
 - e. Provide totally enclosed, nonventilated or fan-cooled motor, fitted with plugged drain, and controller with NEMA ICS 6, Type 4 enclosure where indicated.
9. Remote-Control Station: Momentary-contact, three-button control station with push-button controls labeled "Open," "Close," and "Stop."
 - a. Provide full-guarded, surface-mounted, heavy-duty-type interior unit with general-purpose, NEMA ICS 6, Type 1 enclosure.
 - (1) Provide two (2) stations per door opening. One shall be located adjacent to the door it operates and the second shall be located adjacent to the other door. The station immediately adjacent to the door shall operate that door.
10. Obstruction Detection Device: Provide each motorized door with indicated external automatic safety sensor capable of protecting full width of door opening. Activation of sensor immediately stops and reverses downward door travel.
 - a. Photoelectric Sensor: Install manufacturer's standard system designed to detect an obstruction in door opening without contact between door and obstruction.
 - b. Pressure-Sensor Edge: Provide each motorized door with an automatic safety sensor edge, located within astragal or weather stripping mounted to bottom bar. Contact with sensor immediately stops and reverses downward door travel. Connect to control circuit using manufacturer's standard take-up reel or self-coiling cable.
 - (1) Provide electrically actuated automatic bottom bar.
11. Limit Switches: Adjustable switches interlocked with motor controls and set to automatically stop door at fully opened and fully closed positions.
12. Radio Control: Provide radio control system consisting of the following:

- a. Three-channel, universal coaxial receiver to open, close and stop door; one per operator.
 - (1) Multifunction remote control, capable of controlling two doors from one unit. Provide three remote controls for each door.
 - b. Remote antenna mounting kits.
 - (1) Install remote antennae as required for range of operation of remotes. Field verify reception range and install kits as required.
13. M. Timer Light Status Card: provides special functionality to activate and flash auxiliary devices such as lights, bells and horns/strobes at various door positions, and to provide special timer functions.
- a. Provide for each door shown on the lighting plan to have an associated door position indicator light.

PART 3 – EXECUTION

A. INSTALLATION

- 1. General: Install door, track, and operating equipment complete with necessary hardware, jamb and head molding strips, anchors, inserts, hangers, and equipment supports according to Shop Drawings, manufacturer's written instructions, and as specified.
- 2. Fasten vertical track assembly to framing, spaced not less than 24 inches apart. Hang horizontal track from structural overhead framing with angle or channel hangers fastened to framing by welding or bolting or both. Provide sway bracing, diagonal bracing, and reinforcement as required for rigid installation of track and door-operating equipment.

B. STARTUP SERVICES

- 1. Engage a factory-authorized service representative to perform startup services.
- 2. Complete installation and startup checks according to manufacturer's written instructions.
- 3. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

C. ADJUSTING

- 1. Lubricate bearings and sliding parts; adjust doors to operate easily, free from warp, twist, or distortion and with weathertight fit around entire perimeter.
- 2. Adjust belt-driven motors as follows:
 - a. Use adjustable motor-mounting bases for belt-driven motors.
 - b. Align pulleys and install belts.
 - c. Tension belt according to manufacturer's written instructions.
- 3. Touch-up Painting: Immediately after welding galvanized track to track supports, clean field welds and abraded galvanized surfaces and repair galvanizing to comply with ASTM A 780.

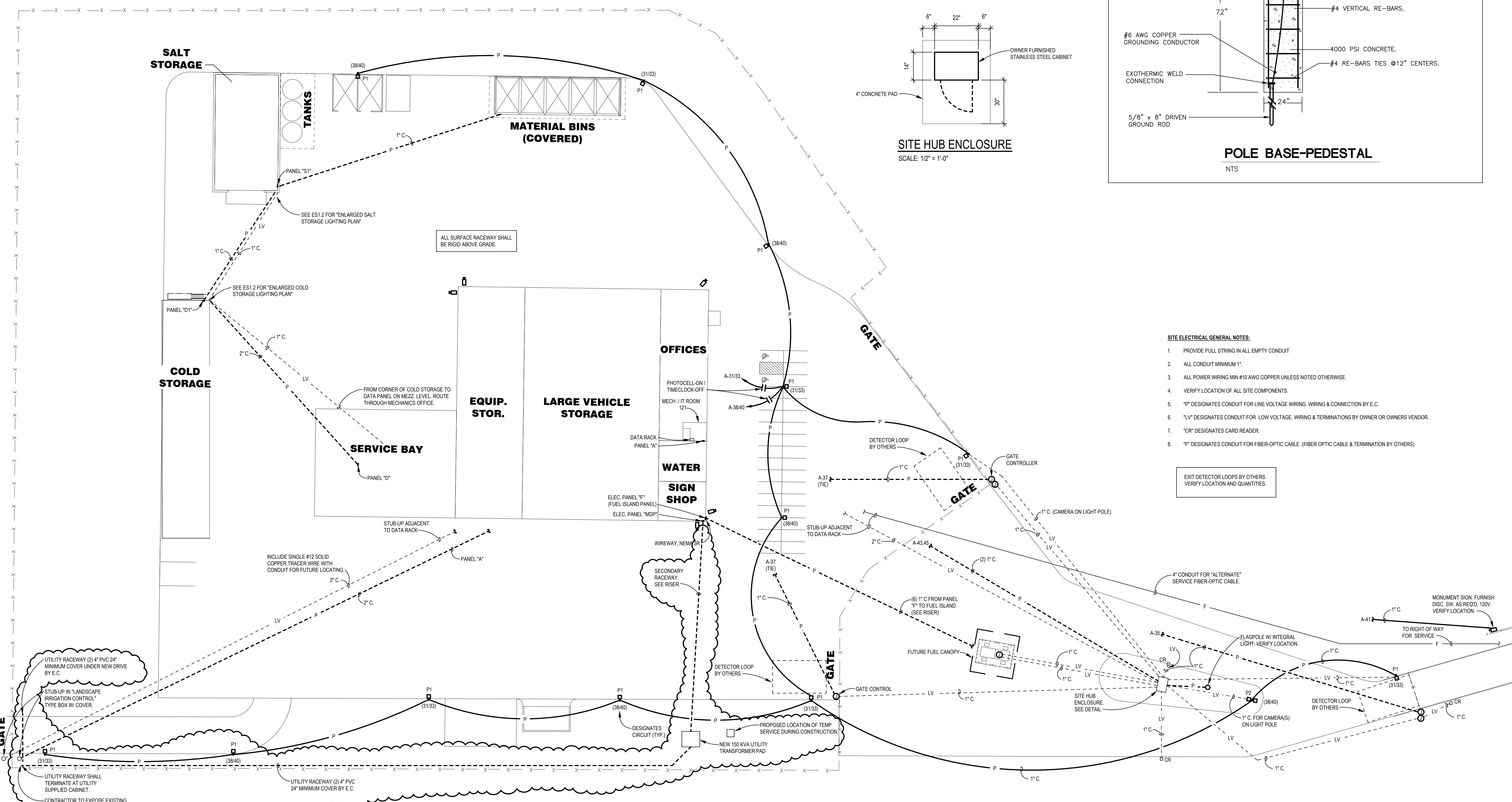
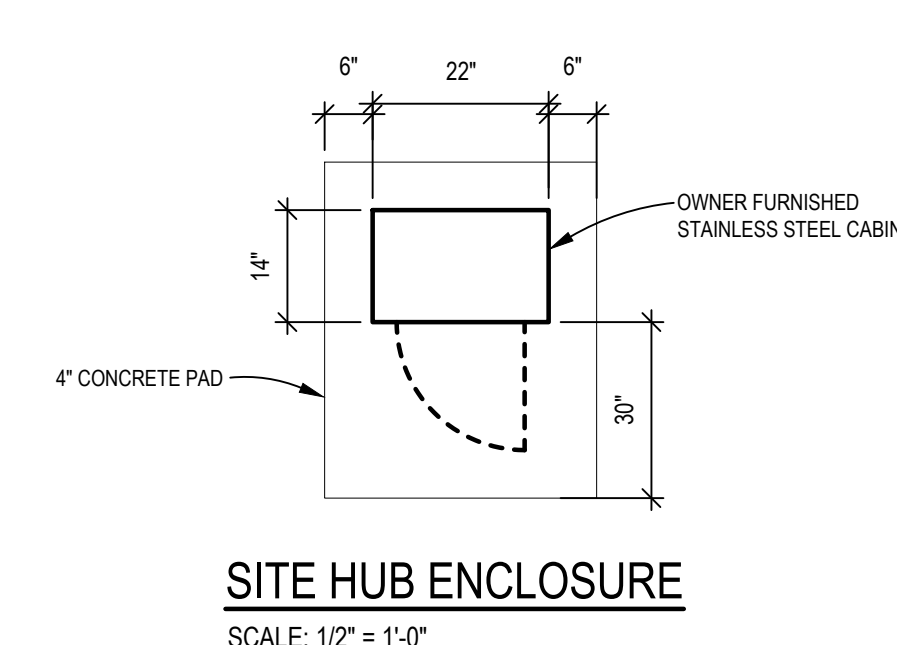
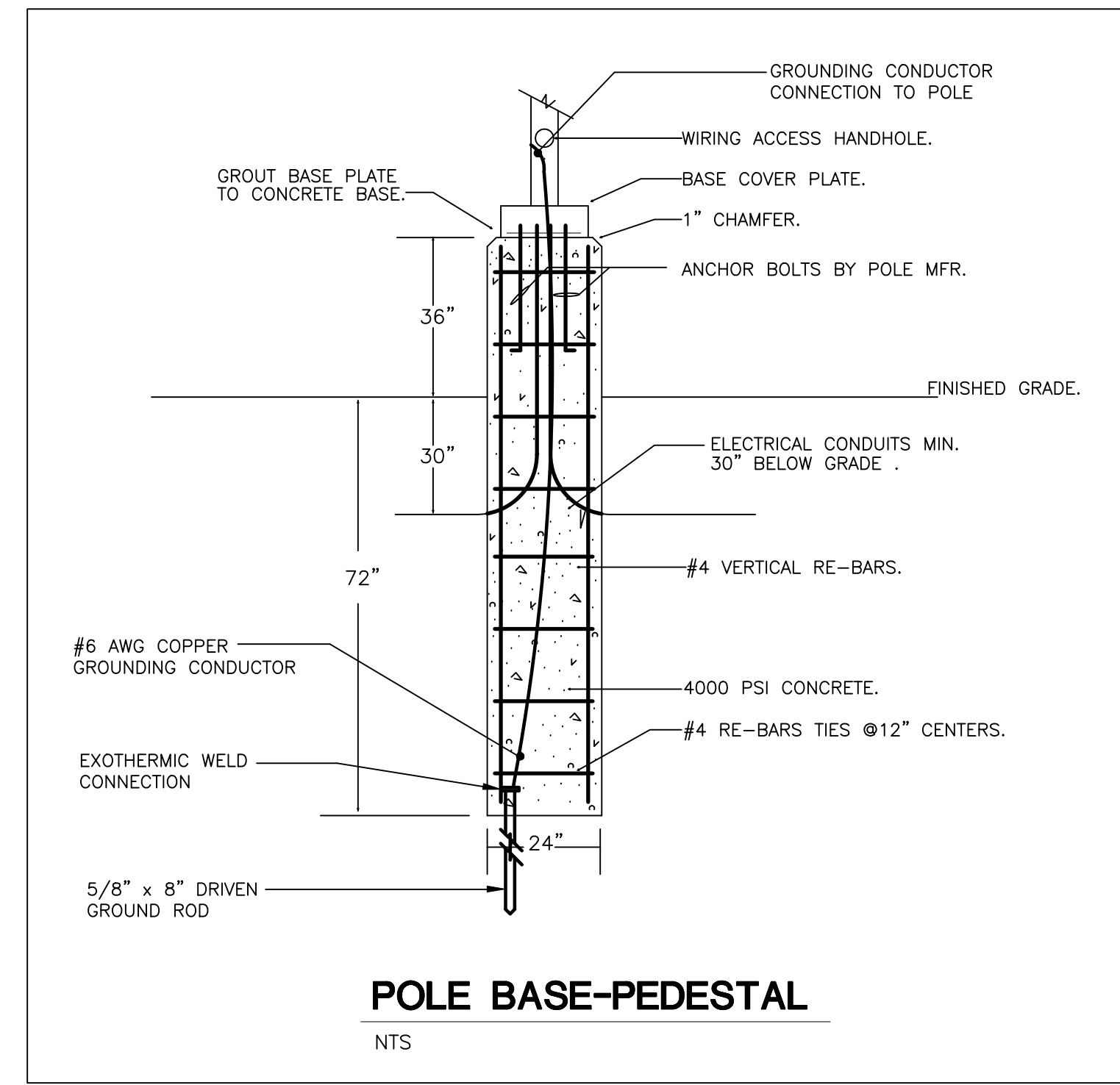
D. DEMONSTRATION

- 1. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain sectional overhead doors. Refer to Division 1 Section "Closeout Procedures."

END OF SECTION 08360

LIGHTING FIXTURE SCHEDULE					
MARK	DESCRIPTION	VOLT	LAMP	MOUNT	MANUFACTURER
P1	POLE MOUNTED LED AREA LIGHT, WET LOCATION, HOUSE SIDE EXTERNAL GLARE SHIELD, DARK BRONZE FINISH, T4 OPTICS, SURGE PROTECTION	120	133 W LED 21,239 LUM 4000 K	30" STEEL POLE ON 30" CONCRETE BASE	LITHONIA EAX2-ALO-SHW2-SO-UVOLT-SRA-SPD10KV- DDB-EAX2HSEGSBL-M6 POLE: SSS-30-4G-DM19EAX
P2	(2) P1 FIXTURES ON A SINGLE POLE @ 180°	120	133 W LED EACH 21,239 LUM 4000 K	30" STEEL POLE ON 30" CONCRETE BASE	LITHONIA EAX2-ALO-SHW2-SO-UVOLT-SRA-SPD10KV- DDB-EAX2HSEGSBL-M6 POLE: SSS-30-4G-DM19EAX

NOTES:
 1. CONNECT ALL EXIT & EMERGENCY LIGHTS TO LOCAL AREA LIGHTING CIRCUIT AHEAD OF ANY SWITCHING AND AUTOMATIC CONTROLS.
 2. EQUAL FIXTURES BY COOPER, HUBBELL, LSI, PHILLIPS OR LITHONIA.



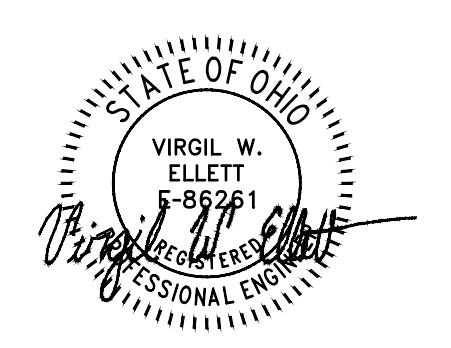
- SITE ELECTRICAL GENERAL NOTES:**
1. PROVIDE PULL STRING IN ALL EMPTY CONDUIT
 2. ALL CONDUIT MINIMUM 1".
 3. ALL POWER WIRING MIN #10 AWG COPPER UNLESS NOTED OTHERWISE.
 4. VERIFY LOCATION OF ALL SITE COMPONENTS.
 5. "P" DESIGNATES CONDUIT FOR LINE VOLTAGE WIRING. WIRING & CONNECTION BY E.C.
 6. "LV" DESIGNATES CONDUIT FOR LOW VOLTAGE. WIRING & TERMINATIONS BY OWNER OR OWNERS VENDOR.
 7. "CR" DESIGNATES CORD READER.
 8. "F" DESIGNATES CONDUIT FOR FIBER-OPTIC CABLE. (FIBER OPTIC CABLE & TERMINATION BY OTHERS)

EXIT DETECTOR LOOPS BY OTHERS.
 VERIFY LOCATION AND QUANTITIES.

ELECTRICAL SITE PLAN
 SCALE: 1" = 40'-0"

**ALL WORK ON THIS SHEET BY 16A
 UNLESS OTHERWISE NOTED.**

REVISIONS:



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