ADDENDUM NO. 03

April 23, 2026
Greenfield Elementary Schools Additions and Renovations

Maxwell Intermediate School
102 N Main Street
Maxwell, IN 46154

Harris Elementary School
200 W. Park Ave
Greenfield, IN 46140

Weston Elementary School
140 Polk Street
Greenfield, IN 46140

TO: ALL BIDDERS OF RECORD

This Addendum forms a part of and modifies the Bidding Requirements, Contract Forms, Contract Conditions, the Specifications and the Drawings dated March 18, 2026, by Lancer Associates Architecture. Acknowledge receipt of the Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of Pages ADD 3-1 and Lancer Associates Architecture Addendum No. 3, dated April 23, 2026, consisting of narrative three pages, one revised specification section, two added specification sections, and one drawing.

A. 01 12 00 – MULTIPLE CONTRACT SUMMARY

1. Revised specification section added in entirety and published as part of Addendum 03.

SECTION 01 12 00 - MULTIPLE CONTRACT SUMMARY

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and General Provisions of the Prime Contract, including amended General Conditions and other Division 1 Specification Sections, apply to Work of this Section.

1.02 SUMMARY

A. The intent of this Section is to indicate the Work required by the Contractors and to provide information regarding the duties, responsibilities, and cooperation required by the Contractors, with similar requirements for the subcontractors and suppliers.

B. Owners right to maintain current operations

C. Occupancy requirements

D. Work by Owner

E. Permits, fees, and notices

F. Labor and materials

G. Verifications of existing dimensions

H. Project security

I. Coordination of work

J. Time of commencement and completion

K. Schedule of contract responsibilities

1.03 WORK UNDER SEPARATE CONTRACTS

A. Prime Contracts are defined to include the following contracts described in the Schedule of Contract Responsibilities included hereinafter; and each is recognized to be a major part of the project, with Work to be performed concurrently and in close coordination with Work of other Prime Contracts.

B. The "Contract Documents," as defined in the General Conditions, include "the Drawings." Although Drawings are grouped and identified by classification of the Work, Contractors shall be responsible for their Work as specified herein and as

indicated on the Drawings. Although the majority of the Drawings are "to scale," Contractors are directed to use indicated dimensions for determining material quantities and for other reasons. No additional monies will be allowed due to Contractors using "scaling instruments" to determine material quantities or for other reasons.

C. Separate prime contracts will be awarded as per the **"Schedule of Contract Responsibilities"** (see Part 3 – Execution). Contractors shall include Work required by the Specifications and Drawings for each contract area defined in the Schedule.

D. Work for the complete construction of the Project will be under multiple prime contracts with the Owner. The Construction Manager will manage the construction of the Project.

E. Each Contractor shall be responsible for demolition and disposal of existing items relative to his Contract.

1.04 ADMINISTRATIVE RESPONSIBILITIES OF PRIME CONTRACTORS AND CM

A. The Construction Manager shall be responsible for the maintenance of the Construction Schedule and management of every phase of the Work.
   1. Each Contractor shall read the Specifications and Drawings for other separate Contracts for fixed equipment and the like to be incorporated or attached or built into the Work; and familiarize himself with the requirements and responsibilities of other Contracts to enable the required coordination and supervision.
   2. Each Contractor shall also familiarize himself with other items to be incorporated into the Work including equipment and Work by the Owner.
   3. Each Contractor shall cooperate with the Construction Manager in notifying him when the Work is at a stage to require the services of other Contractors and shall notify the Construction Manager in the event that such other Contractors do not carry out their responsibilities in connection with such notification.

B. Contractors shall cooperate with and assist the Construction Manager in the preparation of construction progress and procedures, schedule of product deliveries, and their effect on the overall project progress and completion. Other Contractors shall cooperate in getting their Work and the Work of their subcontractors completed according to the schedule as prepared and maintained by the Construction Manager. Each Contractor shall immediately notify the Construction Manager of a delay in delivery of products or the scheduled date of completion that may affect the total progress of construction.

C. The Owner will furnish the topographical survey, either as a part of these Drawings or separately, giving the general topographical lines existing at the site and the property lines.

D. Contractors required to make connections to existing utilities, especially sewerage where gravity flow occurs, shall verify grades and locations at points of such connections and shall notify the Construction Manager of circumstances which would adversely affect the proper flow or connection to such facilities.

1.05 PRIME CONTRACTORS USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.
   1. Owner Occupancy: Allow for Owner occupancy and use by the public.
   2. Driveways and Entrances: Keep driveways and entrances serving the premises clear and available to the Owner, the Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on site.

B. Use of the Existing Building: Maintain the existing building in a weathertight condition throughout the construction period. Repair damage caused by construction operations. Take all precautions necessary to protect the building and its occupants during the construction period.

C. The erection of signage other than what is specified in the contract documents is prohibited.

D. The use of drones on the property is restricted without prior written permission. Operators must be licensed and have insurance specific to the operation of aerial drones.

E. Photographs or other imagery of the work in progress or renderings of the project shall not include any personal identifiable information of the project, the property, the Owner, or any occupants.

1.06 OWNERS RIGHT TO MAINTAIN OPERATIONS

A. During the course of this Project, normal and customary functions and operations must be maintained. The Contract Documents are intended to define a strict separation between the school activities of students and staff from the activities of the construction project.

B. The Construction Manager, Architect, and Owner will not tolerate any visible or audible actions initiated or responded to by any employees of Contractors on this Project toward any students, teachers, or staff members at the school system. Violators shall be promptly removed from the site.

C. The Owner intends to instruct students, teachers, and staff to refrain from communications with Contractor's personnel working on this Project. All communication with Owner and staff shall be through the Construction Manager.

D. Contractors must expend their best effort toward protection of the health, safety, and welfare of occupants on the Owner's property during the course of Work on this Project.

1.07 OCCUPANCY REQUIREMENTS

A. Full Owner Occupancy: The Owner will occupy the site and existing building during the entire construction period. Cooperate with the Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with the Owner's operations.

B. Partial Owner Occupancy: The Owner reserves the right to occupy and to place and install equipment in completed areas of the building prior to Substantial Completion, provided such occupancy does not interfere with completion of the Work. Such placing of equipment and partial occupancy shall not constitute acceptance of the total Work.
   1. The Construction Manager will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied prior to Owner occupancy.
   2. Party which obtained general building permit shall obtain a Certificate of Occupancy from local building officials prior to Owner occupancy.
   3. Prior to partial Owner occupancy, mechanical and electrical systems shall be fully operational. Required inspections and tests shall have been successfully completed. Upon occupancy, the Owner will operate and maintain mechanical and electrical systems serving occupied portions of the building.
   4. Upon occupancy, the Owner will assume responsibility for maintenance and custodial service for occupied portions of the building.

1.08 WORK BY OWNER

A. The Owner intends to complete the following items of Work outside the provisions of these Contract Documents. Contractors shall not restrict or interfere with the Owner's right to the Project to accomplish this Work.
   1. Equipment and furniture except as scheduled and specified under Divisions 11 and 12 and shown on the Drawings.
   2. Items which may be deleted from Contracts for Work as required by the Contract Documents.

3. Existing school maintenance work.
4. The purchase and supplying of certain materials as noted in the Project Manual.
5. The Owner, under separate contract, shall provide removal of identified asbestos containing materials from the existing structure. The asbestos report is available through the Construction Manager upon request.

1.09 PERMITS, FEES, AND NOTICES

A. The Construction Manager will secure the general building permit for the Owner. Each Contractor shall secure and pay for other permits, governmental fees, and licenses necessary for the proper execution and completion of his Work, which are applicable at the time the bids are also received. Fees to relocate utilities on Owner's property shall be included in the bid of the Contractor doing the relocation.
   1. State filing fees for plan approval are the responsibility of the Owner and will be paid by the Owner.

B. Utility Tie-Ins: Shall be arranged with local utility company and other involved parties for minimum interruption of service.

C. Shutdowns of existing systems shall be limited to minimum time required and scheduled with other involved parties. Provide 2 days written notice of shutdown to Construction Manager and Owner.

D. Inspections of installed work shall be performed by the governing authority as arranged for by the Contractor. Work shall not be covered until approved.

E. Each Contractor shall give notices and comply with laws, ordinances, rules, regulations, and orders of public authorities bearing on the performance of his Work. If a Contractor observes that the Contract Documents are at variance therewith, he shall promptly notify the Construction Manager in writing, and necessary changes shall be adjusted by appropriate notification. If a Contractor performs Work knowing it to be contrary to such laws, ordinances, rules, and regulations, and without such notice to the Construction Manager, he shall assume full responsibility therefore and shall bear the costs attributable thereto.

1.10 LABOR AND MATERIALS

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

B. Each Contractor shall enforce strict discipline and good order among his employees or other persons carrying out Work of his Contract and shall not permit employment of unfit person or persons or anyone not skilled in the task assigned to them.

C. Contractors and Subcontractors shall be subject to such rules and regulations for the conduct of the Work as the Owner may establish. Employees shall be properly and completely clothed while working. Bare torsos, legs and feet will not be allowed. Possession or consumption of alcoholic beverages or drugs, tobacco or other noxious behavior on the site is strictly prohibited. Violators shall be promptly removed from the site. Smoking is not permitted on school property or within school buildings.

D. Contractors will conduct criminal background checks (extent of and/or service to be used will be established by the Owner) on every employee assigned to work on the Project and clear them through the National Sex Offender Registry prior to their assignment to Project. Contractors will require the same of sub-contractors.

E. ID Badges will be issued by The Skillman Corporation upon receipt of verification from the Contractor that the employee/subcontractor employee or independent contractor has a satisfactory record to work on the Project.

F. E-Verify Compliance: Pursuant to I.C. 22-5-1.7, Contractor shall enroll in and verify the work eligibility status of all newly hired employees of Contractor through the E-Verify Program (Program). Contractor is not required to verify the work eligibility status of all newly hired employees through the Program if the Program no longer exists. Also pursuant to I.C. 22-5-1.7, Contractor must execute an affidavit affirming that the Contractor does not knowingly employ an unauthorized alien and confirming Contractor's enrollment in the Program, unless the Program no longer exists, shall be filed with the Owner prior to the execution of this contract. This contract shall not be deemed fully executed until such affidavit is delivered to the Owner.

Contractor and its subcontractors shall not knowingly employ or contract with an unauthorized alien or retain an employee or contract with a person that contractor or its subcontractor subsequently learns is an unauthorized alien. If Contractor violates this provision the Owner shall require Contractor to remedy the violation not later than thirty (30) days after the Owner notifies Contractor. If Contractor fails to remedy the violation within the thirty (30) day period, the Owner shall terminate the contract for breach of contract. If Owner terminates the contract, Contractor shall be liable to the Owner for actual damages in addition to any other contractual remedies. There is a rebuttable presumption that Contractor did not knowingly employ an unauthorized alien if Contractor verified the work eligibility status of the employee through the Program.

Prior to performing any work, Contractor shall require each subcontractor to certify to Contractor that the subcontractor does not knowingly employ or contract with an unauthorized alien and has enrolled in the Program. Contractor shall maintain on file a certification from each subcontractor throughout the duration of this contract or project which is the subject of this contract. If Contractor determines that a subcontractor is in violation of this provision,

Contractor may terminate its contract with the subcontractor for such violation. In Accordance with I.C. 5-16-13 Contractor must provide the E-Verify Case Number of every employee that works on the project. This requirement includes the contractor's subs and suppliers to the fourth (4^{th}) tier.

G. The Owner is requiring that all contractors' personnel and their onsite employees and subcontractors submit to expanded history and child protection index check. Contractors shall enroll in the Safe Vendor Program through Safe Hiring Solutions www.safehiringsolutions.com. Enrollment in Safe Vendor will ensure contractors employees are vetted in accordance with I.C. 20-26-5-10 for expanded criminal history and expanded child protection index check. Contractor is responsible for the cost of enrollment and employee background check. All contractors' personnel and employees, once cleared for work will be issued a project identification badge that must be worn at all times while on site. All contractors/subcontractors employees shall provide name, address, picture state driver's license or picture identification card and/or Safe Vendor Card to The Skillman Corporation Site Manager upon request.

H. Pursuant to Indiana Code 5-16-13 Requirements for Contractors on Public Works Projects enacted by the Indiana Legislator requires, in addition to requirements already in effect, contractors to comply with the following:

1. Tier 1 –General/Prime Contractors to self-perform 15% of their total Contract.
2. Qualification thru the Department of Administration or INDOT requirement in accordance with IC 4-13.6-4.
    a. **Bids shall not be considered unless (1) the Prime Bidder and (2) all lower tiered subcontractors whose subcontract value is estimated to be $300,000 or more are qualified at the time of the bid in accordance with IC 4 – 13.6 – 4.**
3. Include Written Drug Testing Plan that covers all employees of the bidder who will perform work on the public work project and meets or exceeds the requirements set in IC 4-13-18-5 or IC 4-13-18-6 with Bid.
4. Minimum Insurance Requirements $1M/occurrence $2M/aggregate. However, check your bidding requirements as the Owners may have higher limit requirements.
5. Mandatory enrollment in E-Verify by all contractors down to the 4th Tier Sub Contracts and must provide the case verification number of all employees working on the project.
6. Prohibits contractors down to the 4th Tier Sub Contract from paying employees in cash.
7. Requirement to retain payroll records for 3 years
8. All contractors down to the 4th Tier Sub Contract must comply with Fair Labor Act, Indiana's Workers Compensation and Unemployment Compensation Insurance.

9. Mandatory Training Requirements based upon number of employees.
10. Failure to comply may result in debarment from public works projects for up to 4 years.

I. All contractors down to the 4th Tier Sub Contract must maintain general liability insurance in at least the following amounts: Each Occurrence Limit of $1,000,000 and General Aggregate Limit of $2,000,000. Other requirements and limits may apply see specification section 00 50 00 Schedule of Insurance Requirements.

1.11 CUTTING AND PATCHING

A. Refer to Section 01 73 10 – Cutting and Patching, for provisions on this subject.

1.12 VERIFICATIONS OF EXISTING DIMENSIONS

A. When verification of existing dimensions is required, the Contractor requiring said verification for the construction or fabrication of his material shall be the Contractor responsible for the procurement of the field information.

1.13 PROJECT SECURITY

A. Each Prime Contractor shall take all reasonable precautions to prevent injury, damage or loss to people and property in, on and adjacent to the project. This shall include not only their own work or property but that of other contractors and the Owner.

B. If deemed necessary by The Construction Manager a project wide security program may be developed for the purpose of preventing damage or loss at the project site or property adjacent thereto. Once accepted by the Owner, contractors shall comply.

1.14 SCHEDULE OF CONTRACT RESPONSIBILITIES - SCOPE

A. Contractors shall submit their proposals based on the work included under each contract area as listed herein. Include Work necessary for a complete project, as shown on the Drawings and called for in the Specifications.

B. Questions concerning the phasing or "Schedule of Contract Responsibilities" should be directed to the Construction Manager, who will be the interpreter and be responsible for this Schedule of Contract Responsibilities and Contract Breakdown, prior to submitting proposals and during construction.

C. The requirements of Division 1 are a part of the Work of each and every contract area. The Contractor for any one contract area shall be familiar with the Work and requirements of all other contract areas.

D. Certain Specification Sections describe Work to be performed under several contract areas. (Example: 06 10 00 - Rough Carpentry.) Provide Work of this nature as required for each contract area whether or not enumerated in the Schedule of Contract Responsibilities.

E. The following contract areas are broken down by Specifications Section conforming basically to the CSI format.

F. The Drawings and Specifications as furnished for each of the Contracts is for the convenience of the Contractor in preparing a proposal for this Project. However, each Contractor is responsible to review the complete set of Drawings and Specifications to assure that Work required to be installed to complete his phase of the Work is included in his proposal. This "Schedule of Contract Responsibilities" is a definition of the work as it is to be bid in separate contracts. Where a specific item of Work is not defined, but is normally inherent to a trade, or is included in the scope of the applicable technical revision, it will be the responsibility of that Contractor to include the Work in his proposal.

G. This "Schedule of Contract Responsibilities" is to aid each Contractor in defining the Scope of Work to be included in his proposal. However, omissions from this "Schedule of Responsibilities" do not relieve the Contractor from including in his proposal that Work which will be required to complete his Contract. Each Contractor should read the "Schedule of Contract Responsibilities" completely to familiarize himself with the Work of other Contractors that may have Work in adjacent areas and to coordinate the interfacing problems that may occur as the work is assembled and constructed.

H. Where specific Work is to be completed under a particular phase of the Project and the Work is wholly or partially completed by other trades because of the type of work involved or jurisdictional trade agreements, the Contractor will be responsible to subcontract the Work as necessary to complete the Work included in his Contract. No delay in the Work will be allowed due to the failure of the Contractor to subcontract related work required by jurisdictional trade agreements.

1.15 COORDINATION OF WORK

A. Each Contractor is responsible to coordinate his Work with the Work of other trades and other Contractors and requirements of the school system. The Contractor must make space allowances for Work of other Contractors; provide necessary openings where indicated or implied by the Drawings and Specifications. Each Contractor is responsible to protect his own Work.

1.16 TIME OF COMMENCEMENT AND COMPLETION

A. The Contractor shall commence work within ten (10) days after being notified in writing to proceed and shall complete the Work within the time limitations established in the Form of Agreement.
   1. It is anticipated that construction will start within **82** calendar days after receipt of bids.
   2. Construction shall be complete within **566** consecutive calendar days, or earlier, after Notice to Proceed.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.01 SCHEDULE OF CONTRACT RESPONSIBILITIES

3.02 GENERAL REQUIREMENTS

A. PROVIDED BY OWNER THROUGH THE CONSTRUCTION MANAGER

Section	01 32 00	Schedules and Reports
Section	01 45 10	Testing Laboratory Services
Section	01 59 10	Project Office
Section	01 71 50	Final Cleaning

B. PROVIDED BY ALL CONTRACTORS AS APPLICABLE

Section	01 12 00	Multiple Contract Summary
Section	01 2 300	Alternates
Section	01 25 00	Contract Modification Procedures
Section	01 28 00	Schedule of Values
Section	01 29 00	Applications for Payment
Section	01 31 00	Project Meetings
Section	01 32 00	Schedules and Reports
Section	01 33 00	Submittal Procedures
Section	01 40 00	Quality Requirements
Section	01 45 10	Testing Laboratory Services (Paragraph 1.05)
Section	01 50 50	Temporary Facilities and Controls
Section	01 54 60	Environment Protection
Section	01 54 80	Utility Protection
Section	01 56 30	Water Control
Section	01 56 90	Housekeeping & Safety
Section	01 59 20	Offices and Sheds
Section	01 60 00	Product Requirements
Section	01 72 50	Work Layout
Section	01 73 10	Cutting and Patching
Section	01 77 00	Contract Closeout

All Contractors shall provide their Superintendents with radios capable of handling multiple channels and compatible with radios used by the Construction Manager.

Autodesk Build is replacing **PlanGrid**. **Autodesk Build** does not require users to purchase a license. **Contractors** will be invited to the project and required to use this tool. **Autodesk Build** will be used as the **Current Set** and **As-Built Record Drawings.** Additionally, it will be used to track **Issues** for **Safety**, **QA/QC**, **Non-Compliance Issues**, **Work Completion List** and **Punch List**.

C. PROVIDED BY DESIGNATED CONTRACTORS

Section	01 21 00	Allowances
Section	01 51 10	Temporary Electricity, Lighting and Warning Systems
Section	01 51 30	Temporary Heating, Ventilation and Cooling
Section	01 51 50	Temporary Water
Section	01 51 60	Temporary Sanitary Facilities
Section	01 51 80	Temporary Fire Protection
Section	01 52 10	Construction Aids and Temporary Enclosures
Section	01 52 60	Rubbish Container
Section	01 53 10	Fences (Temporary Security)
Section	01 53 20	Tree and Plant Protection
Section	01 53 30	Barricades
Section	01 55 00	Access Roads, Parking Areas and Groundskeeping
Section	01 56 20	Dust Control
Section	01 56 80	Erosion Control
Section	01 57 60	Project Signs
Section	01 72 00	Field Engineering

3.03 BID CATEGORIES

A. BID CATEGORY NO. 1 – General Trades

General Requirements in Paragraph 3.02.B above.

Section	02 41 19	Selective Demolition
Section	02 41 00	Removals
Section	03 10 00	Concrete Forming and Accessories
Section	03 20 00	Concrete Reinforcing
Section	03 30 00	Cast-In-Place Concrete
Section	03 35 00	Polished Concrete
Section	03 39 00	Concrete Curing and Sealing
Section	04 05 13	Masonry Mortar and Grout
Section	04 21 00	Unit Masonry
Section	04 86 00	Limestone
Section	04 90 10	Masonry Restoration
Section	05 12 00	Structural Steel Framing
Section	05 31 00	Steel Deck
Section	05 40 00	Cold-Formed Metal Framing
Section	05 50 00	Metal Fabrications

Section	06 10 53	Rough Carpentry
Section	06 16 43	Gypsum Sheathing
Section	07 21 13	Board Insulation
Section	07 21 16	Batt Insulation
Section	07 22 10	Nail Base Roof Insulation
Section	07 26 10	Building Wrap
Section	07 31 13	Asphalt Shingles Class 4
Section	07 42 13	Flat Metal Wall Panel System
Section	07 46 80	Fiber Cement Panel System
Section	07 53 25	Roof Patching
Section	07 53 25	TPO Roofing
Section	07 62 00	Sheet Metal Flashing and Trim
Section	07 84 00	Firestopping
Section	07 92 00	Joint Sealers
Section	07 95 13	Expansion Joint Cover Assemblies
Section	08 11 13	Steel Doors
Section	08 12 13	Steel Frames
Section	08 14 16	Flush Wood Doors
Section	08 31 00	Access Doors and Panels
Section	08 41 13	Aluminum Entrances, Storefronts and Fixed Windows
Section	08 71 00	Hardware
Section	08 80 00	Glazing
Section	08 82 00	Glazing Infill Panels
Section	08 91 00	Louvers
Section	09 21 16	Gypsum Board Assemblies
Section	09 51 00	Acoustical Ceilings
Section	09 67 40	Epoxy Flooring
Section	09 77 20	Decorative Fiberglass Reinforced Wall Panels
Section	09 91 00	Painting
Section	10 11 00	Visual Display Boards
Section	10 14 00	Signage
Section	10 26 13	Corner Guards
Section	10 28 13	Toilet Accessories
Section	10 44 13	Fire Extinguishers and Cabinets
Section	12 24 13	Roller Window Shades
Section	21 05 01	Basic Fire Suppression Requirements
Section	21 05 02	Agreement and Waiver for the use of Electronic Files
Section	21 05 02 A	Electronic Files – Heapy Release Form to Contractors
Section	21 05 04	Basic Fire Suppression Materials and Methods
Section	21 05 05	Firestopping
Section	21 05 07	Piping Materials and Methods for Fire Suppression
Section	21 05 29	Hangers and Supports for Fire Suppression Piping
Section	21 05 53	Identification of Fire Suppression Piping and Equipment
Section	21 13 12	Fire Suppression Piping

Section	21 13 13	Fire Suppression Sprinkler System
Section	31 10 00	Site Clearing
Section	31 10 00	Site Clearing (Weston)
Section	31 20 00	Earth Moving
Section	31 20 00	Earth Moving (Weston)
Section	32 05 23	Cement Concrete Pavement
Section	32 12 16	Hot Mix Asphalt Paving
Section	32 13 13	Concrete Pavement (Weston)
Section	32 13 73	Concrete Paving Joint Sealants (Weston)
Section	32 18 16	Playground Surfacing (Weston)
Section	33 31 11	Sanitary Sewerage Systems
Section	33 40 00	Storm Drainage
Section	33 42 00	Stormwater Conveyance (Weston)
Section	33 46 00	Subdrainage (Weston)

Clarifications:

1. Contractor is responsible for protecting all existing doors to remain.
2. Contractor is responsible for Ground Penetrating Radar (or similar technique) to locate all existing in-wall and/or below slab utilities prior to any demolition activity.
3. Contractor is responsible for private utility locates prior to any excavation or earthmoving. In locations where anticipated utility cannot be located, Contractor shall hydro-vacuum excavate to locate unknown utility.
4. Contractor is responsible to supply dumpsters and rubbish containers for all Contractors and Work for duration of the project.
5. Provide road cleaning and sweeping for the duration of the project.
6. Provide and maintain all erosion control measures, including all inspections and documentation required by IDEM following rain events.
7. Provide temporary sanitary facilities for all Contractors for duration of project. Placement of sanitary facilities to be coordinated with Construction Manager.
8. Contractor is responsible to provide and maintain concrete washout for all concrete spoils.
9. Contractor is responsible for all wood blocking. Wood blocking is to be considered any dimensional lumber, sheathing, plywood, danbacking, or similar material.
10. Contractor is responsible for saw cutting, demolition, and placement of concrete depicted on Foundation Plans and Architectural Demolition Plans.
11. Include a total of 100 man-hours at laborer's pay rate (including all fringe benefits and payroll expenses) for work to be performed at the direction of the Construction Manager. At the end of the job, unused hours will be converted to a dollar amount per Wage Scale (including fringe benefits) and returned to the Owner through a deduct Change Order. Track with work tickets signed daily by Skillman Site Manager as documentation.

12. Include a total of 200 man-hours at Skilled Carpenter's pay rate (including all fringe benefits and payroll expenses) for work to be performed at the direction of the Construction Manager. At the end of the job, unused hours will be converted to a dollar amount per Wage Scale (including fringe benefits) and returned to the Owner through a deduct Change Order. Track with work tickets signed daily by Skillman Site Manager as documentation.
13. Include a total of 100 man-hours at Skilled Drywall Finisher's pay rate (including all fringe benefits and payroll expenses) for work to be performed at the direction of the Construction Manager. At the end of the job, unused hours will be converted to a dollar amount per Wage Scale (including fringe benefits) and returned to the Owner through a deduct Change Order. Track with work tickets signed daily by Skillman Site Manager as documentation.
14. Include a total of 100 man-hours at Skilled Painter's pay rate (including all fringe benefits and payroll expenses) for work to be performed at the direction of the Construction Manager. At the end of the job, unused hours will be converted to a dollar amount per Wage Scale (including fringe benefits) and returned to the Owner through a deduct Change Order. Track with work tickets signed daily by Skillman Site Manager as documentation.
15. Contractor is responsible for all joint sealants. BC 03 is responsible for joint sealants for their own work.
16. Contractor is responsible for any temporary shoring necessary during demolition.
17. The General Trades Contractor shall refer to Guideline Schedule and include in their bid all necessary winter conditions procedures as required to meet the schedule.
18. Contractor is responsible to provide (1) knock down fame with temporary door and locking hardware for use in temporary partition as directed by the Construction Manager.

B. BID CATEGORY NO. 2 – Flooring

General Requirements in Paragraph 3.02.B above.

Section	09 30 00	Tiling
Section	09 65 00	Resilient Flooring
Section	09 68 50	Carpet Tile

Clarifications:

1. Include a total of 100 man-hours at Skilled Floor Coverer's pay rate (including all fringe benefits and payroll expenses) for work to be performed at the direction of the Construction Manager. At the end of the job, unused hours will be converted to a dollar amount per Wage Scale (including fringe benefits) and returned to the Owner through a deduct Change Order. Track with work tickets signed daily by Skillman Site Manager as documentation.

2. Contractor to provide flooring protection (similar to 3mm carpet shield) immediately upon completion of work.

C. BID CATEGORY NO. 3 - Casework

General Requirements in Paragraph 3.02.B above.

Section	06 10 53	Rough Carpentry
Section	07 92 00	Joint Sealers
Section	12 32 16	Plastic-Laminate Casework
Section	12 36 61	Solid Surface Fabrication

Clarifications:

1. Contractor is responsible for joint sealants as it relates to their scope of work.

D. BID CATEGORY NO. 4 – Plumbing & HVAC

General Requirements in Paragraph 3.02.B above.

Section	07 84 00	Firestopping
Section	22 05 01	Basic Plumbing Requirements
Section	22 05 02	Agreement and Waiver for the Use of Electronic Files
Section	22 05 02A	Electronic Files – Heapy Release Form to Contractors
Section	22 05 04	Basic Plumbing Materials and Methods
Section	22 05 05	Firestopping
Section	22 05 07	Piping Materials and Methods
Section	22 05 09	Excavation, Backfill and Surface Restoration
Section	22 05 23	General Duty Valves for Plumbing Piping
Section	22 05 29	Hangers and Supports for Plumbing Piping
Section	22 05 53	Identification of Plumbing Piping and Equipment
Section	22 07 19	Plumbing Piping Insulation
Section	22 11 16	Interior Domestic Water Piping
Section	22 11 19	Interior Domestic Water Piping Specialties
Section	22 13 16	Interior Drainage and Vent Systems
Section	22 13 19	Drainage Systems Specialties
Section	22 42 00	Plumbing Fixtures
Section	23 05 01	Basic HVAC Requirements
Section	23 05 02	Agreement and Waiver for Use of Electronic Files
Section	23 05 02 A	Electronic Files - Heapy Release Form to Contractors
Section	23 05 04	Basic HVAC Materials and Methods
Section	23 05 05	Firestopping
Section	23 05 07	Piping Materials and Methods
Section	23 05 13	Electrical Requirements for HVAC Equipment
Section	23 05 14	Adjustable Frequency Motor Controller
Section	23 05 17	Expansion Loops for HVAC Piping Systems
Section	23 05 19	Gauges for HVAC Piping (ADDED per ADD. 2)
Section	23 05 23	General Duty Valves for HVAC Piping

Section	23 05 29	Hangers and Supports for HVAC Piping
Section	23 05 30	Bases and Supports for HVAC Equipment
Section	23 05 49	Vibration Control for HVAC
Section	23 05 53	Identification of HVAC Piping and Equipment
Section	23 05 93	Testing, Adjusting and Balancing for HVAC
	23 07 13	Duct Insulation
Section	23 07 19	HVAC Pipe Insulation
Section	23 09 23	Building Automation System for HVAC
Section	23 09 25	Instrumentation and Control Devices for HVAC
Section	23 09 47	Control Power and Wiring for HVAC
Section	23 21 13	Hydronic Piping
Section	23 21 17	Glycol Solution Systems (ADDED per ADD. 3)
Section	23 25 00	Water Treatment Systems (ADDED per ADD. 3)
Section	23 31 13	HVAC Ductwork
Section	23 31 15	HVAC Air Duct Cleaning
Section	23 33 00	Air Duct Accessories
Section	23 34 00	HVAC Fans
Section	23 34 23	HVAC Gravity Roof Ventilators
Section	23 36 16	Air Terminal Units (Vav Reheat and Shutoff) (DDC Control)
Section	23 16 18 A	Fan Powered Terminal Units (DDC Control)
Section	23 37 00	Air Outlets and Inlets
Section	23 73 00	Modular Air Handling Units
Section	23 82 23	Unit Ventilators
Section	23 82 39	Unit Heaters - Cabinet/Propeller

Clarifications:

1. Contractor is responsible for maintaining heating and cooling for the duration of the project to maintain project phasing plan.
2. Contractor is responsible for all sleeves and seals required for their own penetrations.
3. Contractor is responsible for access doors and frames not noted on Architectural.
4. Contractor is responsible for providing exact locations of required sleeves to Contractor responsible for footing, foundation, or wall construction.
5. Contractor is responsible for their own equipment pads.
6. Contractor is responsible for testing, adjusting, and balancing upon completion of each phase of work.
7. All temperature controls low voltage wiring is the responsibility of this Contractor
8. All temperature controls in wall rough-in is the responsibility of the Electrical and Technology contractor.
9. Contractor is responsible for firestopping of mechanical and plumbing penetrations only.
10. Contractor is responsible for saw cutting, demolition, and placement of concrete for plumbing rough-in.

E. BID CATEGORY NO. 5 – Electrical. Technology, Security & Communications

General requirements in Paragraph 3.02.B above.

Section	07 84 00	Firestopping
Section	26 05 01	Basic Electrical Requirements
Section	26 05 02	Agreement and Waiver for Use of Electronic Files
Section	26 05 02 A	Electronic Files - Heapy Release Form to Contractors
Section	26 05 04	Basic Electrical Materials and Methods
Section	26 05 05	Firestopping
Section	26 05 09	Excavation, Backfill and Surface Restoration
Section	26 05 19	Low-Voltage Electrical Power Conductors - Copper
Section	26 05 20	Low-Voltage Electrical Power Cables – Metal Clad "Mc" Cable
Section	26 05 26	Grounding and Bonding for Electrical Systems
Section	26 05 33	Raceways and Boxes for Electrical Systems
Section	26 05 36	Special Wireways and Raceways - For Electrical Systems
Section	26 05 53	Identification for Electrical Systems
Section	26 05 65	Specific Wiring Applications
Section	26 09 23	Lighting Control Devices
Section	26 24 16	Panelboards
Section	26 27 16	Electrical Cabinets and Enclosures
Section	26 27 26	Wiring Devices and Coverplates
Section	26 28 13	Fuses
Section	26 28 16	Disconnect Switches
Section	26 29 13	Motor Controllers
Section	26 43 13	Surge Protection Devices (Spd's) for Low-Voltage Electrical Power Circuits
Section	26 51 19	Led Interior Lighting
Section	26 52 00	Exit and Emergency Lighting
Section	27 05 01	Basic Communications Requirements
Section	27 05 02	Agreement and Waiver for Use of Electronic Files
Section	27 05 02 A	Electronic Files - Heapy Release Form to Contractors
Section	27 05 04	Basic Communications Materials and Methods
Section	27 05 05	Firestopping
Section	27 05 26	Grounding and Bonding for Communications Systems
Section	27 05 28	Communications Systems Pathways and Support Equipment
Section	27 05 53	Identification for Communications Systems
Section	27 11 00	Communications Equipment Room Fittings
Section	27 13 23	Communications Optical Fiber Backbone Cabling
Section	27 15 13	Communications Copper Horizontal Cabling
Section	27 51 25	Ip Based Building Paging – Intercom System

Section 28 31 00 Extension of Existing Fire Detection and Alarm System

Clarifications:

1. Contractor is responsible for final connection of all hard-wired equipment and furnishings, either Contractor or Owner provided.
2. All temperature controls low voltage wiring is the responsibility of the HVAC & Plumbing Contractor
3. All temperature controls in wall rough-in is the responsibility of this contractor
4. Refer to technology matrixes for contractor responsibilities.

END OF SECTION 01 12 00

ADDENDUM NO. THREE

PROJECT:	**Greenfield Central Schools Additions and Renovations**
PROJECT NUMBER:	**#25147**
DATE OF ADDENDUM:	**04.23.2026**

THIS ADDENDUM FORMS A PART OF THE CONTRACT DOCUMENTS AND IS ISSUED IN ACCORDANCE WITH THE INSTRUCTIONS TO BIDDERS. ACKNOWLEDGE RECEIPT OF THIS ADDENDUM BY SIGNING THE ADDENDUM ACKNOWLEDGMENT SECTION OF THE BID FORM.

QUESTIONS & ANSWERS:

1. Q: Please request clarification on the flooring in classrooms 211 & 212.
- Demo plan says to remove flooring and preserve for reinstall (demo plan note 3).
- Architectural floor plan says nothing about flooring (floor plan note 2).
- Finish plan shows and calls for new flooring and base.
    a. A: Finish Plan notes are correct. Both of those classrooms 211 & 212 should have new flooring and base.

2. Q: In looking at the hardware sets for the Weston school, the hardware set opening numbers don't seem to match those on the door schedule. Can you get clarification on this?
    a. A: See attached updated door hardware Spec section and door hardware set.

3. Q: One contractor expressed concern that, once the wallcovering is removed, a Level 4 finish may not be sufficient. They recommended a Level 5 drywall finish prior to painting. They also asked whether laminating new drywall over the existing surface would be acceptable. Based on initial consideration, this option does not appear to offer significant cost savings due to material costs and the finishing still required. Please advise on your preference?
    a. A: Laminating new drywall over the existing surface is acceptable.

SPECIFICATIONS:

1. Spec Section: 04 21 00
   Spec Title: Unit Masonry

   Change the following: 2.1.A.1. Red Brick Cherokee Georgian Flash, Modular

2. Spec Section: 23 21 17
   Spec Title: Glycol Solution Systems

   Change: add full spec section to volume 3

3. Spec Section: 23 25 00
   Spec Title: Water Treatment systems

   Change: add full spec section to volume 3

DRAWINGS:

Weston elementary School

1. Drawing Sheet Number: AD101
   Drawing Sheet Title: DEMOLITION PLAN – FIRST FLOOR - OVERALL

   Change:
   Change note 3 to include removal of existing flooring in classrooms 211,212
   Change note 4 to “Prime walls to receive new drywall over existing surface”.

Attachments:
(Specs) 08 71 00, Door Index, 23 21 17, 23 25 00, Volume 3 updated index
(Drawings) **Weston** AD101

END OF ADDENDUM NO. THREE

SECTION 087100 - DOOR HARDWARE

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes:

1. Mechanical and electrified door hardware
2. Electronic access control system components

B. Section excludes:

1. Windows
2. Cabinets (casework), including locks in cabinets
3. Signage
4. Toilet accessories
5. Overhead doors

C. Related Sections:

1. Division 01 "General Requirements" sections for Allowances, Alternates, Owner Furnished Contractor Installed, Project Management and Coordination.
2. Division 06 Section "Rough Carpentry"
3. Division 06 Section "Finish Carpentry"
4. Division 07 Section "Joint Sealants" for sealant requirements applicable to threshold installation specified in this section.
5. Division 08 Sections:
   a. "Metal Doors and Frames"
   b. "Flush Wood Doors"
   c. "Interior Aluminum Doors and Frames"
   d. "Aluminum-Framed Entrances and Storefronts"
6. Division 26 "Electrical" sections for connections to electrical power system and for low-voltage wiring.
7. Division 28 "Electronic Safety and Security" sections for coordination with other components of electronic access control system and fire alarm system.

1.02 REFERENCES

A. UL LLC

1. UL 10B - Fire Test of Door Assemblies
2. UL 10C - Positive Pressure Test of Fire Door Assemblies
3. UL 1784 - Air Leakage Tests of Door Assemblies
4. UL 305 - Panic Hardware

B. DHI - Door and Hardware Institute

1. Sequence and Format for the Hardware Schedule
2. Recommended Locations for Builders Hardware
3. Keying Systems and Nomenclature
4. Installation Guide for Doors and Hardware

C. NFPA – National Fire Protection Association

1. NFPA 70 – National Electric Code
2. NFPA 80 – 2016 Edition – Standard for Fire Doors and Other Opening Protectives
3. NFPA 101 – Life Safety Code
4. NFPA 105 – Smoke and Draft Control Door Assemblies
5. NFPA 252 – Fire Tests of Door Assemblies

D. ANSI - American National Standards Institute

1. ANSI A117.1 – 2017 Edition – Accessible and Usable Buildings and Facilities
2. ANSI/BHMA A156.1 - A156.29, and ANSI/BHMA A156.31 - Standards for Hardware and Specialties
3. ANSI/BHMA A156.28 - Recommended Practices for Keying Systems
4. ANSI/WDMA I.S. 1A - Interior Architectural Wood Flush Doors
5. ANSI/SDI A250.8 - Standard Steel Doors and Frames

1.03 SUBMITTALS

A. General:

1. Submit in accordance with Conditions of Contract and Division 01 Submittal Procedures.
2. Prior to forwarding submittal:
   a. Review drawings and Sections from related trades to verify compatibility with specified hardware.
   b. Highlight, encircle, or otherwise specifically identify on submittals: deviations from Contract Documents, issues of incompatibility or other issues which may detrimentally affect the Work.

B. Action Submittals:

1. Product Data: Submit technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.
2. Riser and Wiring Diagrams: After final approval of hardware schedule, submit details of electrified door hardware, indicating:
   a. Wiring Diagrams: For power, signal, and control wiring and including:
      1) Details of interface of electrified door hardware and building safety and security systems.
      2) Schematic diagram of systems that interface with electrified door hardware.
      3) Point-to-point wiring.
      4) Risers.

3. Samples for Verification: If requested by Architect, submit production sample of requested door hardware unit in finish indicated and tagged with full description for coordination with schedule.
   a. Samples will be returned to supplier. Units that are acceptable to Architect may, after final check of operations, be incorporated into Work, within limitations of key coordination requirements.

4. Door Hardware Schedule:
   a. Submit concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate fabrication of other work critical in Project construction schedule.

b. Submit under direct supervision of a Door Hardware Institute (DHI) certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) with hardware sets in vertical format as illustrated by Sequence of Format for the Hardware Schedule published by DHI.
c. Indicate complete designations of each item required for each opening, include:
    1) Door Index: door number, heading number, and Architect's hardware set number.
    2) Quantity, type, style, function, size, and finish of each hardware item.
    3) Name and manufacturer of each item.
    4) Fastenings and other pertinent information.
    5) Location of each hardware set cross-referenced to indications on Drawings.
    6) Explanation of all abbreviations, symbols, and codes contained in schedule.
    7) Mounting locations for hardware.
    8) Door and frame sizes and materials.
    9) Degree of door swing and handing.
    10) Operational Description of openings with electrified hardware covering egress, ingress (access), and fire/smoke alarm connections.

5. Key Schedule:
    a. After Keying Conference, provide keying schedule that includes levels of keying, explanations of key system's function, key symbols used, and door numbers controlled.
    b. Use ANSI/BHMA A156.28 "Recommended Practices for Keying Systems" as guideline for nomenclature, definitions, and approach for selecting optimal keying system.
    c. Provide 3 copies of keying schedule for review prepared and detailed in accordance with referenced DHI publication. Include schematic keying diagram and index each key to unique door designations.
    d. Index keying schedule by door number, keyset, hardware heading number, cross keying instructions, and special key stamping instructions.
    e. Provide one complete bitting list of key cuts and one key system schematic illustrating system usage and expansion. Forward bitting list, key cuts and key system schematic directly to Owner, by means as directed by Owner.
    f. Prepare key schedule by or under supervision of supplier, detailing Owner's final keying instructions for locks.

C. Informational Submittals:

1. Provide Qualification Data for Supplier, Installer and Architectural Hardware Consultant.
2. Provide Product Data:
    a. Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.
    b. Include warranties for specified door hardware.

D. Closeout Submittals:

1. Operations and Maintenance Data: Provide in accordance with Division 01 and include:
    a. Complete information on care, maintenance, and adjustment; data on repair and replacement parts, and information on preservation of finishes.
    b. Catalog pages for each product.
    c. Final approved hardware schedule edited to reflect conditions as installed.
    d. Final keying schedule
    e. Copy of warranties including appropriate reference numbers for manufacturers to identify project.
    f. As-installed wiring diagrams for each opening connected to power, both low voltage and 110 volts.

E. Inspection and Testing:

1. Submit written reports to the Owner and Authority Having Jurisdiction (AHJ) of the results of functional testing and inspection for:
   a. Fire door assemblies, in compliance with NFPA 80.
   b. Required egress door assemblies, in compliance with NFPA 101.

1.04 QUALITY ASSURANCE

A. Qualifications and Responsibilities:

1. Supplier: Recognized architectural hardware supplier with a minimum of 5 years documented experience supplying both mechanical and electromechanical door hardware similar in quantity, type, and quality to that indicated for this Project. Supplier to be recognized as a factory direct distributor by the manufacturer of the primary materials with a warehousing facility in the Project's vicinity. Supplier to have on staff, a certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) available to Owner, Architect, and Contractor, at reasonable times during the Work for consultation.
2. Installer: Qualified tradesperson skilled in the application of commercial grade hardware with experience installing door hardware similar in quantity, type, and quality as indicated for this Project.
3. Architectural Hardware Consultant: Person who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and meets these requirements:
   a. For door hardware: DHI certified AHC or DHC.
   b. Can provide installation and technical data to Architect and other related subcontractors.
   c. Can inspect and verify components are in working order upon completion of installation.
   d. Capable of producing wiring diagram and coordinating installation of electrified hardware with Architect and electrical engineers.

4. Single Source Responsibility: Obtain each type of door hardware from single manufacturer.

B. Certifications:

1. Fire-Rated Door Openings:
   a. Provide door hardware for fire-rated openings that complies with NFPA 80 and requirements of authorities having jurisdiction.
   b. Provide only items of door hardware that are listed products tested by UL LLC, Intertek Testing Services, or other testing and inspecting organizations acceptable to authorities having jurisdiction for use on types and sizes of doors indicated, based on testing at positive pressure and according to NFPA 252 or UL 10C and in compliance with requirements of fire-rated door and door frame labels.

2. Smoke and Draft Control Door Assemblies:
   a. Provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105
   b. Comply with the maximum air leakage of 0.3 cfm/sq. ft. (3 cu. m per minute/sq. m) at tested pressure differential of 0.3-inch wg (75 Pa) of water.

3. Electrified Door Hardware
   a. Listed and labeled as defined in NFPA 70, Article 100, by testing agency acceptable to authorities having jurisdiction.

4. Accessibility Requirements:
    a. Comply with governing accessibility regulations cited in "REFERENCES" article 087100, 1.02.D3 herein for door hardware on doors in an accessible route. This project must comply with all Federal Americans with Disability Act regulations and all Local Accessibility Regulations.

C. Pre-Installation Meetings

1. Keying Conference
    a. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including:
        1) Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
        2) Preliminary key system schematic diagram.
        3) Requirements for key control system.
        4) Requirements for access control.
        5) Address for delivery of keys.

2. Pre-installation Conference
    a. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
    b. Inspect and discuss preparatory work performed by other trades.
    c. Inspect and discuss electrical roughing-in for electrified door hardware.
    d. Review sequence of operation for each type of electrified door hardware.
    e. Review required testing, inspecting, and certifying procedures.
    f. Review questions or concerns related to proper installation and adjustment of door hardware.

3. Electrified Hardware Coordination Conference:
    a. Prior to ordering electrified hardware, schedule and hold meeting to coordinate door hardware with security, electrical, doors and frames, and other related suppliers.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up for hardware delivered to Project site. Promptly replace products damaged during shipping

B. Tag each item or package separately with identification coordinated with final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package. Deliver each article of hardware in manufacturer's original packaging.

C. Maintain manufacturer-recommended environmental conditions throughout storage and installation periods.

D. Provide secure lock-up for door hardware delivered to Project. Control handling and installation of hardware items so that completion of Work will not be delayed by hardware losses both before and after installation.

E. Handle hardware in manner to avoid damage, marring, or scratching. Correct, replace or repair products damaged during Work. Protect products against malfunction due to paint, solvent, cleanser, or any chemical agent.

F. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.

1.06 COORDINATION

A. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete.

B. Installation Templates: Distribute for doors, frames, and other work specified to be factory or shop prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

C. Security: Coordinate installation of door hardware, keying, and access control with Owner's security consultant.

D. Electrical System Roughing-In: Coordinate layout and installation of electrified door hardware with connections to power supplies and building safety and security systems.

1.07 WARRANTY

A. Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within published warranty period.

1. Warranty does not cover damage or faulty operation due to improper installation, improper use or abuse.
2. Warranty Period: Beginning from date of Substantial Completion, for durations indicated in manufacturer's published listings.
    a. Mechanical Warranty
        1) Locks: 10 years
        2) Exit Devices: 10 years
        3) Closers: 30 years
        4) Automatic Operators: 2 years
    b. Electrical Warranty
        1) Exit Devices: 3 years

1.08 MAINTENANCE

A. Furnish complete set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.

B. Turn over unused materials to Owner for maintenance purposes.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. The Owner requires use of certain products for their unique characteristics and project suitability to ensure continuity of existing and future performance and maintenance standards. After investigating available product offerings, the Awarding Authority has elected to prepare proprietary specifications. These products are specified with the notation: "No Substitute."

1. Where "No Substitute" is noted, submittals and substitution requests for other products will not be considered.

B. Approval of alternate manufacturers and/or products other than those listed as "Scheduled Manufacturer" or "Acceptable Manufacturers" in the individual article for the product category are only to be considered by official substitution request in accordance with section 01 25 00.

C. Approval of products from manufacturers indicated in "Acceptable Manufacturers" is contingent upon those products providing all functions and features and meeting all requirements of scheduled manufacturer's product.

D. Where specified hardware is not adaptable to finished shape or size of members requiring hardware, furnish suitable types having same operation and quality as type specified, subject to Architect's approval.

2.02 MATERIALS

A. Fabrication

1. Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. provide screws according to manufacturer’s recognized installation standards for application intended.
2. Finish exposed screws to match hardware finish, or, if exposed in surfaces of other work, to match finish of this other work including prepared for paint surfaces to receive painted finish.
3. Provide concealed fasteners wherever possible for hardware units exposed when door is closed. Coordinate with “Metal Doors and Frames”, “Flush Wood Doors”, “Stile and Rail Wood Doors” to ensure proper reinforcements. Advise the Architect where visible fasteners, such as thru bolts, are required.

B. Provide screws, bolts, expansion shields, drop plates and other devices necessary for hardware installation.

1. Where fasteners are exposed to view: Finish to match adjacent door hardware material.

C. Cable and Connectors:

1. Where scheduled in the hardware sets, provide each item of electrified hardware and wire harnesses with number and gage of wires enough to accommodate electric function of specified hardware.
2. Provide Molex connectors that plug directly into connectors from harnesses, electric locking and power transfer devices.
3. Provide through-door wire harness for each electrified locking device installed in a door and wire harness for each electrified hinge, electrified continuous hinge, electrified pivot, and electric power transfer for connection to power supplies.

2.03 HINGES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Ives 5BB series

2. Acceptable Manufacturers and Products:
   a. Hager BB1191/1279 series
   b. McKinney TB series

B. Requirements:

1. Provide hinges conforming to ANSI/BHMA A156.1.
2. Provide five knuckle, ball bearing hinges.
3. 1-3/4 inch (44 mm) thick doors, up to and including 36 inches (914 mm) wide:
   a. Exterior: Standard weight, bronze or stainless steel, 4-1/2 inches (114 mm) high
   b. Interior: Standard weight, steel, 4-1/2 inches (114 mm) high

4. 1-3/4 inch (44 mm) thick doors over 36 inches (914 mm) wide:
   a. Exterior: Heavy weight, bronze/stainless steel, 5 inches (127 mm) high
   b. Interior: Heavy weight, steel, 5 inches (127 mm) high

5. 2 inches or thicker doors:
   a. Exterior: Heavy weight, bronze or stainless steel, 5 inches (127 mm) high
   b. Interior: Heavy weight, steel, 5 inches (127 mm) high

6. Adjust hinge width for door, frame, and wall conditions to allow proper degree of opening.
7. Provide three hinges per door leaf for doors 90 inches (2286 mm) or less in height, and one additional hinge for each 30 inches (762 mm) of additional door height.
8. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:
   a. Steel Hinges: Steel pins
   b. Non-Ferrous Hinges: Stainless steel pins
   c. Out-Swinging Exterior Doors: Non-removable pins
   d. Out-Swinging Interior Lockable Doors: Non-removable pins
   e. Interior Non-lockable Doors: Non-rising pins

9. Provide hinges with electrified options as scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware. Locate electric hinge at second hinge from bottom or nearest to electrified locking component. Provide mortar guard for each electrified hinge specified.

2.04 CONTINUOUS HINGES

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Select
   b. Hager

B. Requirements:

1. Provide aluminum geared continuous hinges conforming to ANSI/BHMA A156.26, Grade 1.
2. Provide aluminum geared continuous hinges, where specified in the hardware sets, fabricated from 6063-T6 aluminum.
3. Provide split nylon bearings at each hinge knuckle for quiet, smooth, self-lubricating operation.
4. Provide hinges capable of supporting door weights up to 450 pounds, and successfully tested for 1,500,000 cycles.
5. On fire-rated doors, provide aluminum geared continuous hinges classified for use on rated doors by testing agency acceptable to authority having jurisdiction.

6. Provide aluminum geared continuous hinges with electrified option scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware.
7. Provide hinges 1 inch (25 mm) shorter in length than nominal height of door, unless otherwise noted or door details require shorter length and with symmetrical hole pattern.

2.05 ELECTRIC POWER TRANSFER

A. Manufacturers:

1. Scheduled Manufacturer and Product:
   a. Von Duprin EPT-10

2. Acceptable Manufacturers and Products:
   a. No Substitute

B. Requirements:

1. Provide power transfer with electrified options as scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware.
2. Locate electric power transfer per manufacturer's template and UL requirements, unless interference with operation of door or other hardware items.

2.06 FLUSH BOLTS

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Trimco

2. Acceptable Manufacturers:
   a. Ives
   b. Rockwood
   c. DCI

B. Requirements:

1. Provide automatic, semi-automatic, and manual flush bolts with forged bronze or stainless-steel face plates, extruded brass levers, and with wrought brass guides and strikes. Provide flush bolts with key components constructed of stainless steel for durability. Provide 12 inch (305 mm) steel or brass rods at doors up to 90 inches (2286 mm) in height. For doors over 90 inches (2286 mm) in height increase top rods by 6 inches (152 mm) for each additional 6 inches (152 mm) of door height. Provide dust-proof strikes at each bottom flush bolt.

2.07 EXIT DEVICES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Von Duprin 99/33A series

2. Acceptable Manufacturers and Products:
    a. No Substitute

B. Requirements:

1. Provide exit devices tested to ANSI/BHMA A156.3 Grade 1 and UL listed for Panic Exit or Fire Exit Hardware.
2. Cylinders: Refer to "KEYING" article, herein.
3. Provide grooved touchpad type exit devices, fabricated from brass, bronze, stainless steel, or aluminum, plated to standard architectural finishes to match the balance of door hardware.
4. Touchpad must extend a minimum of one-half of the door width. No plastic inserts are allowed in touchpads.
5. Provide exit devices with a deadlatching feature for security and for future addition of alarm kits and/or other electrified requirements.
6. Provide exit devices at pool gates with weather-resistant components that can withstand harsh conditions of various climates and corrosive cleaners used in outdoor pool environments.
7. Provide flush end caps for exit devices.
8. Provide exit devices with manufacturers' approved strikes.
9. Provide exit devices cut to the door width and height. Install exit devices at a height recommended by the exit device manufacturer, allowable by governing building codes, and approved by the Architect.
10. Mount the mechanism case flush on the face of the doors or provide spacers to fill gaps behind the devices. Where glass trim or molding projects off the face of the door, provide glass bead kits.
11. Provide cylinder or hex-key dogging as specified at non-fire-rated openings.
12. Removable Mullions: 2 inches (51 mm) x 3 inches (76 mm) steel tube. Where scheduled as keyed removable mullion, provide a type that can be removed by use of a keyed cylinder, which is self-locking when reinstalled.
13. Provide factory-drilled weep holes for exit devices used in full exterior applications, highly corrosive areas, and where noted in hardware sets.
14. Provide electrified options as scheduled.
15. Top latch mounting: double- or single-tab mount for steel doors, face mount for aluminum doors, eliminating the requirement of tabs, and double tab mount for wood doors.
16. Provide exit devices with optional trim designs to match other lever and pull designs used on the project.
    a. Provide levers that return to within 1/2 inch (13 mm) of the door face.
17. Provide exit devices with PA filler.
18. Accessibility: Require not more than 5 lb. to retract the latchbolt, per CBC 2019 11B-404.2.7 and 11B-309.4.
    a. Mechanical method: Von Duprin AX feature, where touchpad directly retracts the latchbolt with 5 lb. or less of force. Provide testing lab certification confirming that the mechanical device is independent third-party tested to meet this 5 lb. requirement.
    b. Electrical method: Von Duprin's RX-QEL feature, where lightly pressing the touchpad with 5 lb. or less of force closes an electric switch, activating quiet electric latch retraction.

2.08 POWER SUPPLIES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
    a. Schlage/Von Duprin PS900 Series

2. Acceptable Manufacturers and Products:
    a. No Substitute

B. Requirements:

1. Provide power supplies approved by manufacturer of supplied electrified hardware.
2. Provide appropriate quantity of power supplies necessary for proper operation of electrified locking components as recommended by manufacturer of electrified locking components with consideration for each electrified component using power supply, location of power supply, and approved wiring diagrams. Locate power supplies as directed by Architect.
3. Provide regulated and filtered 24 VDC power supply, and UL class 2 listed.
4. Provide power supplies with the following features:
    a. 12/24 VDC Output, field selectable.
    b. Class 2 Rated power limited output.
    c. Universal 120-240 VAC input.
    d. Low voltage DC, regulated and filtered.
    e. Polarized connector for distribution boards.
    f. Fused primary input.
    g. AC input and DC output monitoring circuit w/LED indicators.
    h. Cover mounted AC Input indication.
    i. Tested and certified to meet UL294.
    j. NEMA 1 enclosure.
    k. Hinged cover w/lock down screws.
    l. High voltage protective cover.

2.09 CYLINDERS

A. Manufacturers:

1. Scheduled Manufacturer and Product:
    a. Sargent 6300 series

2. Acceptable Manufacturers and Products:
    a. No Substitute

B. Requirements:

1. Provide cylinders/cores to match Owner’s existing key system, compliant with ANSI/BHMA A156.5; latest revision; cylinder face finished to match lockset, manufacturer’s series as indicated. Refer to “KEYING” article, herein.

2.10 KEYING

A. Scheduled System:

1. Existing factory registered system:
    a. Provide cylinders/cores keyed into Owner’s existing factory registered keying system. Comply with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference.

B. Requirements:

1. Construction Keying:

a. Replaceable Construction Cores.
    1) Provide temporary construction cores replaceable by permanent cores, furnished in accordance with the following requirements.
        a) 3 construction control keys
        b) 12 construction change (day) keys.
    2) Owner or Owner's Representative will replace temporary construction cores with permanent cores.

2. Permanent Keying:
    a. Provide permanent cylinders/cores keyed by the manufacturer according to the following key system.
        1) Master Keying system as directed by the Owner.
    b. Forward bitting list and keys separately from cylinders, by means as directed by Owner. Failure to comply with forwarding requirements will be cause for replacement of cylinders/cores involved at no additional cost to Owner.
    c. Provide keys with the following features:
        1) Material: Nickel silver; minimum thickness of .107-inch (2.3mm)
        2) Patent Protection: Keys and blanks protected by one or more utility patent(s).
    d. Identification:
        1) Mark permanent cylinders/cores and keys with applicable blind code for identification. Do not provide blind code marks with actual key cuts.
        2) Identification stamping provisions must be approved by the Architect and Owner.
        3) Stamp cylinders/cores and keys with Owner's unique key system facility code as established by the manufacturer; key symbol and embossed or stamped with "DO NOT DUPLICATE"
        4) Failure to comply with stamping requirements will be cause for replacement of keys involved at no additional cost to Owner.
        5) Forward permanent cylinders/cores to Owner, separately from keys, by means as directed by Owner.
    e. Quantity: Furnish in the following quantities.
        1) Permanent Control Keys: 3.
        2) Master Keys: 6.
        3) Change (Day) Keys: 3 per cylinder/core that is keyed differently
        4) Key Blanks: Quantity as determined in the keying meeting.

2.11 DOOR CLOSERS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
    a. LCN 4040XP series

2. Acceptable Manufacturers and Products:
    a. No Substitute

B. Requirements:

1. Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory. ISO 9000 certify closers. Stamp units with date of manufacture code.
2. Provide door closers with fully hydraulic, full rack and pinion action with high strength cast iron cylinder, and full complement bearings at shaft.
3. Cylinder Body: 1-1/2-inch (38 mm) diameter piston with 5/8-inch (16 mm) diameter double heat-treated pinion journal. QR code with a direct link to maintenance instructions.

4. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
5. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards. Provide snap-on cover clip, with plastic covers, that secures cover to spring tube.
6. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck. Provide graphically labelled instructions on the closer body adjacent to each adjustment valve. Provide positive stop on reg valve that prevents reg screw from being backed out.
7. Provide closers with solid forged steel main arms and factory assembled heavy-duty forged forearms for parallel arm closers.
8. Pressure Relief Valve (PRV) Technology: Not permitted.
9. Finish for Closer Cylinders, Arms, Adapter Plates, and Metal Covers: Powder coating finish which has been certified to exceed 100 hours salt spray testing as described in ANSI Standard A156.4 and ASTM B117, or has special rust inhibitor (SRI).
10. Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.
11. Closers shall be capable of being upgraded by adding modular mechanical or electronic components in the field.

2.12 ELECTROMECHANICAL CLOSER/HOLDERS

A. Manufacturers:

1. Scheduled Manufacturer:
   a. LCN SEM7800 Series

2. Acceptable Manufacturers:
   a. No Substitute

B. Requirements:

1. Provide single-point or multi-point hold-open electromechanical closer/holders as specified. Coordinate voltage requirements and provide transformer if necessary.
2. Provide closer/holders that function as full rack and pinion door closer when current is interrupted or continuous hold-open is not engaged.
3. Provide door closers with fully hydraulic, full rack and pinion action with high strength cylinder and full complement bearings at shaft.
4. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
5. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards.
6. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck.
7. Pressure Relief Valve (PRV) Technology: Not permitted.
8. Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.

2.13 ELECTRO-HYDRAULIC AUTOMATIC OPERATORS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
    a. LCN 4600 series

2. Acceptable Manufacturers and Products:
    a. No Substitute

B. Requirements:

1. Provide low energy automatic operator units with hydraulic closer complying with ANSI/BHMA A156.19.
2. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
3. Provide units with conventional door closer opening and closing forces unless power operator motor is activated. Provide door closer assembly with adjustable spring size, back-check, and opening and closing speed adjustment valves to control door
4. Provide units with on/off switch for manual operation, motor start up delay, vestibule interface delay, electric lock delay, and door hold open delay.
5. Provide drop plates, brackets, and adapters for arms as required for details.
6. Provide actuator switches and receivers for operation as specified.
7. Provide weather-resistant actuators at exterior applications.
8. Provide key switches with LED's, recommended and approved by manufacturer of automatic operator as required for function described in operation description of hardware group below. Cylinders: Refer to "KEYING" article, herein.
9. Provide complete assemblies of controls, switches, power supplies, relays, and parts/material recommended and approved by manufacturer of automatic operator for each individual leaf. Actuators control both doors simultaneously at pairs. Sequence operation of exterior and vestibule doors with automatic operators to allow ingress or egress through both sets of openings as directed by Architect. Locate actuators, key switches, and other controls as directed by Architect.
10. Provide units with vestibule inputs that allow sequencing operation of two units, and SPDT relay for interfacing with latching or locking devices.

2.14 DOOR TRIM

A. Manufacturers:

1. Scheduled Manufacturer:
    a. Ives

2. Acceptable Manufacturers:
    a. Burns
    b. Trimco
    c. Rockwood

B. Requirements:

1. Provide push plates, push bars, pull plates, pulls, and hands-free reversible door pulls with diameter and length as scheduled.

2.15 PROTECTION PLATES

A. Manufacturers:

1. Scheduled Manufacturer:

a. Trimco

2. Acceptable Manufacturers:
   a. No Substitute

B. Requirements:

1. Provide standard stainless steel, brass, bronze, or aluminum protection plates with beveled four edges and with thickness as scheduled. Furnish with sheet metal or wood screws, finished to match plates.
2. Sizes plates 2 inches (51 mm) less width of door on single doors, pairs of doors with a mullion, and doors with edge guards. Size plates 1 inch (25 mm) less width of door on pairs without a mullion or edge guards.
3. At fire rated doors, provide protection plates over 16 inches high with UL label.
4. At fire rated doors, provide protection plate with option for adhesive tape mounted protection plates over 16 inches high provide UL label stamp.

2.16 OVERHEAD STOPS AND OVERHEAD STOP/HOLDERS

A. Manufacturers:

1. Scheduled Manufacturers:
   a. Glynn-Johnson

2. Acceptable Manufacturers:
   a. Sargent
   b. ABH

B. Requirements:

1. Provide overhead stop at any door where conditions do not allow for a wall stop or floor stop presents tripping hazard.

2.17 DOOR STOPS AND HOLDERS

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Burns
   b. Trimco
   c. Rockwood

B. Provide door stops at each door leaf:

1. Provide wall stops wherever possible. Provide concave type where lockset has a push button of thumbturn.
2. Where a wall stop cannot be used, provide universal floor stops.
3. Where wall or floor stop cannot be used, provide overhead stop.
4. Provide roller bumper where doors open into each other and overhead stop cannot be used.

2.18 SILENCERS

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Trimco

2. Acceptable Manufacturers:
   a. Ives
   b. Burns
   c. Rockwood

B. Requirements:

1. Provide "push-in" type silencers for hollow metal or wood frames.
2. Provide one silencer per 30 inches (762 mm) of height on each single frame, and two for each pair frame.
3. Omit where gasketing is specified.

2.19 THRESHOLDS, SEALS, DOOR SWEEPS, AUTOMATIC DOOR BOTTOMS, AND GASKETING

A. Manufacturers:

B. Scheduled Manufacturer:

1. Zero International

C. Acceptable Manufacturers:

1. National Guard
2. Reese

D. Seals and Gasketing: Provide continuous gasketing on exterior openings, to the head and jambs, forming a continuous seal between the door and the frame. Provide smoke, light, or sound gasketing on interior doors where indicated.

1. Provide self-tapping fasteners for aluminum extruded gasketing being applied to hollow metal frames.
   a. Provide non-corrosive fasteners for all exterior applications.
   b. Provide security fasteners where indicated.

2. Provide neoprene, EPDM, silicone, or nylon brush inserts as specified in hardware sets. Provide non brush inserts of solid or sponge cell, as specified in hardware sets. Vinyl inserts are not allowed except where specified in hardware sets.

E. Smoke Labeled Gasketing: At all smoke labeled openings, provide smoke listed perimeter gasketing assemblies complying with NFPA 105 listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction for smoke control ratings indicated based on testing according to UL 1784.

F. Fire Listed Gasketing: Assemblies complying with NFPA 80 that are listed by a testing and inspecting agency acceptable to authorities having jurisdiction for fire ratings indicated based on testing according to UL-10C.

1. Where frame-applied intumescent seals are required by the manufacturer, provide gaskets that comply with UL10C Standard for Positive Pressure Fire Tests of Door Assemblies and UBC 7-2, Fire Tests of Door Assemblies.

G. Sound-Rated Gasketing: Provide acoustic gasketing to meet Sound Transmission Class (STC) rating required.

H. Meeting-Stile Gasketing: Provide meeting-stile gasketing that fastens to the meeting stiles forming a continuous seal when doors are closed.

I. Door Sweeps or Shoes: Apply to the bottom of the door to close the gap between the door bottom and finished floor or saddle threshold.

1. Provide solid neoprene, EPDM, silicone, or nylon brush type of seal as specified in hardware sets. Vinyl inserts are not allowed except where specified in hardware sets.

J. Automatic Door Bottoms:

1. Provide closed cell sponge, bulb neoprene. or EPDM type of seal as specified in hardware sets.
2. Door bottom to be mortised, semi mortised, or surface mount as with a minimum thickness as specified in hardware sets.

K. Rain Drips:

1. Provide overhead rain drips for out-swinging hollow metal doors that are not covered against 45 degree blowing rain. Aluminum extrusion to be a minimum of .088 inches thick and extend 2.50 inches from the face of the frame, in anodized finish to match door.
2. Door sweeps or shoes with integral rain drip must meet ADA requirements

L. Thresholds: Provide threshold units not less than 4 inches wide, formed to accommodate change in floor elevation where indicated, and fabricated to accommodate door hardware and fit door frames.

1. Threshold extrusion to be a minimum thickness as specified in hardware sets.

2.20 FINISHES

A. FINISH: BHMA 626/652 (US26D); EXCEPT:

1. Hinges at Exterior Doors: BHMA 630 (US32D)
2. Aluminum Geared Continuous Hinges: BHMA 628 (US28)
3. Push Plates, Pulls, and Push Bars: BHMA 630 (US32D)
4. Protection Plates: BHMA 630 (US32D)
5. Overhead Stops and Holders: BHMA 630 (US32D)
6. Door Closers: Powder Coat to Match
7. Wall Stops: BHMA 630 (US32D)
8. Latch Protectors: BHMA 630 (US32D)
9. Weatherstripping: Clear Anodized Aluminum
10. Thresholds: Mill Finish Aluminum

PART 3 - EXECUTION

3.01 EXAMINATION

A. Prior to installation of hardware, examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance. Verify doors, frames, and walls have been properly reinforced for hardware installation.

B. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.

C. Submit a list of deficiencies in writing and proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

A. Mount door hardware units at heights to comply with the following, unless otherwise indicated or required to comply with governing regulations.

1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
2. Custom Steel Doors and Frames: HMMA 831.
3. Interior Architectural Wood Flush Doors: ANSI/WDMA I.S. 1A
4. Installation Guide for Doors and Hardware: DHI TDH-007-20

B. Install door hardware in accordance with NFPA 80, NFPA 101 and provide post-install inspection, testing as specified in section 1.03.E unless otherwise required to comply with governing regulations.

C. Install each hardware item in compliance with manufacturer's instructions and recommendations, using only fasteners provided by manufacturer.

D. Do not install surface mounted items until finishes have been completed on substrate. Protect all installed hardware during painting.

E. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.

F. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.

G. Install operating parts so they move freely and smoothly without binding, sticking, or excessive clearance.

H. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than quantity recommended by manufacturer for application indicated.

I. Lock Cylinders:

1. Install construction cores to secure building and areas during construction period.
2. Replace construction cores with permanent cores as indicated in keying section.
3. Furnish permanent cores to Owner for installation.

J. Wiring: Coordinate with Division 26, ELECTRICAL and Division 28 ELECTRONIC SAFETY AND SECURITY sections for:

1. Conduit, junction boxes and wire pulls.
2. Connections to and from power supplies to electrified hardware.
3. Connections to fire/smoke alarm system and smoke evacuation system.
4. Connection of wire to door position switches and wire runs to central room or area, as directed by Architect.
5. Connections to panel interface modules, controllers, and gateways.
6. Testing and labeling wires with Architect's opening number.

K. Continuous Hinges: Re-locate the door and frame fire rating labels where they will remain visible so that the hinge does not cover the label once installed.

L. Door Closers & Auto Operators: Mount closers/operators on room side of corridor doors, inside of exterior doors, and stair side of stairway doors from corridors. Mount closers/operators so they are not visible in corridors, lobbies and other public spaces unless approved by Architect.

M. Overhead Stops/Holders: Mount overhead stops/holders on room side of corridor doors, inside of exterior doors, and stair side of stairway doors.

N. Power Supplies: Locate power supplies as indicated or, if not indicated, above accessible ceilings or in equipment room, or alternate location as directed by Architect.

O. Thresholds:

1. Set thresholds in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."
2. Aluminum thresholds to be cut-in, and scribed around mullions, frame members, and stops. Do not butt to thresholds. Provide a continuous surface across full width of opening from jamb to jamb.
3. Where aluminum panic-type (rabbeted) thresholds with neoprene inserts are specified, undercut doors as required to properly mate with seal in threshold.

P. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they may impede traffic or present tripping hazard.

Q. Perimeter Gasketing:

1. Apply to head and jamb, forming seal between door and frame.
2. Install gasketing in a manner eliminating need to cut any seal to install surface mounted hardware. Install compatible mounting bracket for surface mounted hardware unless minimum 1/4 inch thick solid aluminum seals are provided for mounting of surface applied hardware.

R. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.

S. Door Bottoms and Sweeps: Apply to bottom of door, forming seal with threshold when door is closed.

3.03 ADJUSTING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

1. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.

B. Occupancy Adjustment: Approximately three to six months after date of Substantial Completion, examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors and door hardware.

3.04 CLEANING AND PROTECTION

A. Clean adjacent surfaces soiled by door hardware installation.

B. Clean operating items per manufacturer's instructions to restore proper function and finish.

C. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Substantial Completion.

3.05 DOOR HARDWARE SCHEDULE

A. The intent of the hardware specification is to specify the hardware for interior and exterior doors, and to establish a type, continuity, and standard of quality. However, it is the door hardware supplier's responsibility to thoroughly review existing conditions, schedules, specifications, drawings, and other Contract Documents to verify the suitability of the hardware specified.

B. Discrepancies, conflicting hardware, and missing items are to be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application.

C. Hardware items are referenced in the following hardware schedule. Refer to the above specifications for special features, options, cylinders/keying, and other requirements.

D. Hardware Sets:

147899 OPT0476357 Version 1

Greenfield Maxwell Intermediate school

Hardware Group No. M01

M100

Provide each door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112XY	628	IVE
1	EA	CONT. HINGE	112XY EPT	628	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	REMOVABLE MULLION	KR4954 STAB	689	VON
1	EA	PANIC HARDWARE	LD-99-EO	626	VON
1	EA	ELEC PANIC HARDWARE	LX-RX-QEL-99-NL-OP-110MD 24 VDC	626	VON
1	EA	RIM CYLINDER	60-34	626	SAR
1	EA	MORTISE CYLINDER	60-42	626	SAR
2	EA	PERM. CORE	SARGENT AS REQUIRED	626	SAR
2	EA	STANDARD OFFSET PULL	1191E-3-0	630	TRM
1	EA	OH STOP	100SE	630	GLY
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	AUTO OPERATOR	4642 TBWMS 120 VAC	689	LCN
1	EA	CUSH SHOE SUPPORT	4040XP-30 SRT (AS REQ'D)	689	LCN
1	EA	BLADE STOP SPACER	4040XP-61 SRT (AS REQ'D)	689	LCN
1	EA	WEATHER RING	8310-801		LCN
1	EA	ACTUATOR, TOUCH	8310-853T		LCN
1	EA	DUAL ACTUATOR, WALL MOUNT	8310-855	630	LCN
2	EA	MOUNT BOX	8310-867F		LCN
1	EA	RAIN DRIP	142AA DW + 4" (OMIT @ COVERED OPENINGS)	AA	ZER
1	SET	ASTRAGAL	MEETING STILE SEAL BY DOOR MFR		
2	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	625A-223	A	ZER
1	EA	CREDENTIAL READER	BY ACCESS CONTROL PROVIDER		UNK
1	EA	POWER SUPPLY	PS902 900-4RL 120/240 VAC	LGR	SCE
1			WEATHERSTRIP BY DOOR/FRAME MANUFACTURER		

PRESENTING VALID CREDENTIAL TO READER RETRACTS EXIT DEVICE LATCH AND ENABLES EXTERIOR ACTUATOR. PUSHING ENABLED EXTERIOR ACTUATOR SIGNALS AUTOMATIC OPERATOR TO OPEN DOOR. INTERIOR ACTUATOR ENABLED AT ALL TIMES. PUSHING INTERIOR ACTUATOR RETRACTS LATCH AND SIGNALS AUTOMATIC OPERATOR TO OPEN DOOR. FREE EGRESS AT ALL TIMES

Hardware Group No. M02

M100.1

Provide each door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112XY	628	IVE
2	EA	PUSH/PULL SET	1737EG-2	630	TRM
1	EA	OH STOP	100SE	630	GLY
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	AUTO OPERATOR	4642 TBWMS 120 VAC	689	LCN
1	EA	CUSH SHOE SUPPORT	4040XP-30 SRT (AS REQ'D)	689	LCN
1	EA	BLADE STOP SPACER	4040XP-61 SRT (AS REQ'D)	689	LCN
1	EA	ACTUATOR, TOUCH	8310-853T		LCN
1	EA	MOUNT BOX	8310-867F		LCN
1	SET	ASTRAGAL	MEETING STILE SEAL BY DOOR MFR		
1			WEATHERSTRIP BY DOOR/FRAME MANUFACTURER		

FREE EGRESS AT ALL TIMES. ACTUATORS ARE ALWAYS ENABLED.

Hardware Group No. M03

M100.3

Provide each door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1 5 X 4.5 (NRP AS REQ'D)	652	IVE
1	EA	FIRE EXIT HARDWARE	9927-L-F-LBR-06-499F	626	VON
1	EA	FIRE EXIT HARDWARE	9927-L-F-LBRAFL-06-499F	626	VON
2	EA	RIM CYLINDER	60-34	626	SAR
2	EA	PERM. CORE	SARGENT AS REQUIRED	626	SAR
2	EA	SURFACE CLOSER	4040XP RW/PA	689	LCN
2	EA	KICK PLATE	K0050 10X2 LDW-CSK-NO	630	TRM
2	EA	MAGNET	SEM7830 12V/24V/120V	689	LCN
1	EA	GASKETING	488S PSA H & J	BK	ZER

MAGNET HOLD OPENS TO BE TIED TO THE FIRE ALARM AND RELEASE UPON SIGNAL

Hardware Group No. M04

M101 M102 M103 M104

Provide each door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 (NRP AS REQ'D)	652	IVE
1	EA	CLASSROOM LOCK	60-8237-TO-L	626	SAR
1	EA	PERM. CORE	SARGENT AS REQUIRED	626	SAR
1	EA	SURFACE CLOSER	4040XP EDA	689	LCN
1	EA	KICK PLATE	K0050 10X2 LDW-CSK-NO	630	TRM
1	EA	WALL STOP	1270WV	626/630	TRM
1	EA	GASKETING	488S PSA H & J	BK	ZER

Hardware Group No. M05

M105.1 M105.2 M113.1 M113.2

Provide each door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 (NRP AS REQ'D)	652	IVE
1	EA	STOREROOM LOCK	9K3-0-D-15D-SARRC	626	BES
1	EA	PERM. CORE	SARGENT AS REQUIRED	626	SAR
1	EA	WALL STOP	1270WV	626/630	TRM
3	EA	SILENCERS-MTL	1229-A		TRM

Hardware Group No. M06

M106 M107 M111 M112

Provide each door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 (NRP AS REQ'D)	652	IVE
1	EA	PRIVACY LOCK W/ COIN TURN	9K3-0-L-15D	626	BES
1	EA	WALL STOP	1270WV	626/630	TRM
1	EA	GASKETING	488S PSA H & J	BK	ZER

Hardware Group No. M07

M108 M109 M120

Provide each door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 (NRP AS REQ'D)	652	IVE
1	EA	STOREROOM LOCK	60-8204-TO-L	626	SAR
1	EA	PERM. CORE	SARGENT AS REQUIRED	626	SAR
1	EA	SURFACE CLOSER	4040XP RW/PA	689	LCN
1	EA	KICK PLATE	K0050 10X2 LDW-CSK-NO	630	TRM
1	EA	WALL STOP	1270WV	626/630	TRM
1	EA	GASKETING	488S PSA H & J	BK	ZER

Hardware Group No. M08

M110

Provide each door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 (NRP AS REQ'D)	652	IVE
1	EA	OFFICE LOCK WITH INDICATOR	49-60-8256-TO-L	626	SAR
1	EA	PERM. CORE	SARGENT AS REQUIRED	626	SAR
1	EA	SURFACE CLOSER	4040XP RW/PA	689	LCN
1	EA	KICK PLATE	K0050 10X2 LDW-CSK-NO	630	TRM
1	EA	WALL STOP	1270WV	626/630	TRM
1	EA	GASKETING	488S PSA H & J	BK	ZER

Hardware Group No. M09

M120.1

Provide each door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	224XY	628	IVE
1	EA	CONST LATCH FB	3820X3810	625	TRM
1	EA	STOREROOM LOCK	60-8204-TO-L	626	SAR
1	EA	PERM. CORE	SARGENT AS REQUIRED	626	SAR
1	EA	OH STOP	90S	630	GLY
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
2	EA	KICK PLATE	K0050 10X2 LDW-CSK-NO	630	TRM
1	EA	RAIN DRIP	142AA DW + 4" (OMIT @ COVERED OPENINGS)	AA	ZER
1	EA	GASKETING	429 @ HEAD & JAMBS	AA	ZER
2	EA	DOOR SWEEP	39A	A	ZER
1	EA	ASTRAGAL	47A	A	ZER
1	EA	THRESHOLD, 1/2"	655A	A	ZER

Greenfield Central Schools Harris Elementary School

Hardware Group No. H01

For use on Door #(s):
H105 H106 H108 H109

PART 4 - Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	224XY	628	IVE
1	EA	PASSAGE LOCK	9K3-0-N-15D	626	BES
1	EA	WALL STOP	1270WV	626/630	TRM
1	EA	GASKETING	488S PSA H & J	BK	ZER

Hardware Group No. H02

For use on Door #(s):
H104 H107

PART 5 - Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	224XY	628	IVE
1	EA	STOREROOM LOCK	9K3-0-D-15D-SARRC	626	BES
1	EA	PERM. CORE	SARGENT AS REQUIRED	626	SAR
1	EA	WALL STOP	1270WV	626/630	TRM
3	EA	SILENCERS-MTL	1229-A		TRM

Hardware Group No. H03

For use on Door #(s):
H100 H102 H103

PART 6 - Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	224XY	628	IVE
1	EA	CLASSROOM LOCK	60-8237-TO-L	626	SAR
1	EA	PERM. CORE	SARGENT AS REQUIRED	626	SAR
1	EA	WALL STOP	1270WV	626/630	TRM
3	EA	SILENCERS-MTL	1229-A		TRM

Greenfield Weston Elementary School

Hardware Group No. W01

For use on Door #(s):

W201.1	W201	W202.1	W202	W205	W205.2
W206.1	W206	W207	W208	W209	W210
W211	W212				

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 (NRP AS REQ'D)		652	IVE
1	EA	CLASSROOM LOCK	60-8237-TO-L		626	SAR
1	EA	PERM. CORE	SARGENT AS REQUIRED		626	SAR
1	EA	WALL STOP	1270WV		626/630	TRM
3	EA	SILENCERS-MTL	1229-A			TRM

Hardware Group No. W02

For use on Door #(s):

W201.2	W201.4	W202.3	W202.2	W207.1	W210.2
W210.3					

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 (NRP AS REQ'D)		652	IVE
1	EA	STOREROOM LOCK	9K3-0-D-15D-SARRC		626	BES
1	EA	PERM. CORE	SARGENT AS REQUIRED		626	SAR
1	EA	WALL STOP	1270WV		626/630	TRM
3	EA	SILENCERS-MTL	1229-A			TRM

Hardware Group No. W03

For use on Door #(s):

W201.3	W202.4	W206.2	W205.3	W207.2	W210.1
W212.1					

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 (NRP AS REQ'D)		652	IVE
1	EA	PASSAGE LOCK	9K3-0-N-15D		626	BES
1	EA	WALL STOP	1270WV		626/630	TRM
1	EA	GASKETING	488S PSA H & J		BK	ZER

Hardware Group No. W04

For use on Door #(s):
W203 W204

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 (NRP AS REQ'D)		652	IVE
1	EA	STOREROOM LOCK	60-8204-TO-L		626	SAR
1	EA	PERM. CORE	SARGENT AS REQUIRED		626	SAR
1	EA	SURFACE CLOSER	4040XP RW/PA		689	LCN
1	EA	KICK PLATE	K0050 10X2 LDW-CSK-NO		630	TRM
1	EA	UNIVERSAL DOME STOP	1211		626	TRM
3	EA	SILENCERS-MTL	1229-A			TRM

Hardware Group No. W05

For use on Door #(s):
W205.1

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 (NRP AS REQ'D)		652	IVE
1	EA	OFFICE LOCK WITH INDICATOR	49-60-8256-TO-L		626	SAR
1	EA	PERM. CORE	SARGENT AS REQUIRED		626	SAR
1	EA	SURFACE CLOSER	4040XP RW/PA		689	LCN
1	EA	KICK PLATE	K0050 10X2 LDW-CSK-NO		630	TRM
1	EA	WALL STOP	1270WV		626/630	TRM
1	EA	GASKETING	488S PSA H & J		BK	ZER

Hardware Group No. W06

For use on Door #(s):
W223

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 (NRP AS REQ'D)		652	IVE
1	EA	STOREROOM LOCK	60-8204-TO-L		626	SAR
1	EA	PERM. CORE	SARGENT AS REQUIRED		626	SAR
1	EA	SURFACE CLOSER	4040XP RW/PA		689	LCN
1	EA	KICK PLATE	K0050 10X2 LDW-CSK-NO		630	TRM
1	EA	WALL STOP	1270WV		626/630	TRM
3	EA	SILENCERS-MTL	1229-A			TRM

END OF SECTION

Greenfield Maxwell Intermediate school

147899 OPT0476357

Version 1

Door#	HwSet#
M100	M01
M100.1	M02
M100.3	M03
M101	M04
M102	M04
M103	M04
M104	M04
M105.1	M05
M105.2	M05
M106	M06
M107	M06
M108	M07
M109	M07
M110	M08
M111	M06
M112	M06
M113.1	M05
M113.2	M05
M120	M07
M120.1	M09

Greenfield Harris Elementary School

148218 OPT0476359

Version 1

Door#	HwSet#
H100	H03
H102	H03
H103	H03
H104	H02
H105	H01
H106	H01
H107	H02
H108	H01
H109	H01

Greenfield Weston Elementary School

147901 OPT0476361 Version 1

Door#	HwSet#
W201	W01
W201.1	W01
W201.2	W02
W201.3	W03
W201.4	W02
W202	W01
W202.1	W01
W202.2	W02
W202.3	W02
W202.4	W03
W203	W04
W204	W04
W205	W01
W205.1	W05
W205.2	W01
W205.3	W03
W206	W01
W206.1	W01
W206.2	W03
W207	W01
W207.1	W02
W207.2	W03
W208	W01
W209	W01
W210	W01
W210.1	W03
W210.2	W02
W210.3	W02
W211	W01
W212	W01
W212.1	W03
W223	W06

INDEX

VOLUME 3 OF 3

DIVISION 21 – FIRE SUPPRESSION

DIVISION 22 – PLUMBING

DIVISION 23 – HVAC

DIVISION 26 – ELECTRICAL

DIVISION 27 - COMMUNICATIONS

END OF INDEX

23 21 17 GLYCOL SOLUTION SYSTEMS

PART 1 - GENERAL.

1.1 The chilled and heating hot water piping system shall be filled with a factory or job site mixed solution of ethylene glycol and water, 30 percent by volume.

PART 2 - PRODUCTS

2.1 Ethylene glycol shall be Dow Chemical "Dowtherm SR-1", Rhomar Water's RhoTherm or equal by Protocol, Interstate Chemical or Union Carbide, a freeze protection fluid with special inhibitor formulation for HVAC application. The freeze protection fluid shall be factory mixed with deionized water to the desired concentration and furnished in drums. Note: because the piping system and components cannot be 100% drained after flushing and cleaning, the pre-mixed glycol solution shall account for this and be 5-10% higher in concentration than that specified, as recommended by the glycol supplier. The solution shall contain a fluorescent dye to facilitate easy leak detection.

PART 3 - EXECUTION

3.1 Before introduction of the solution, the piping shall be thoroughly cleaned and prepared in strict accordance with manufacturer's recommendations. Provide valved inlet connections, sampling valves, air vents, etc. Pump the solution into the piping, bleed air manually, circulate and test for correct concentration.

3.2 When concentrated ethylene glycol is mixed on the job site, it shall be thoroughly mixed in a drum or drums to the specified solution prior to introduction into the piping system. Water for mixing shall be softened to no more than 5 to 6 grains prior to mixing with the concentrate.

3.3 Excess solution in the specified concentration, 50 gallons minimum, shall be turned over to the Owner in sealed, opaque shipping containers placed where so directed by the Owner.

END OF SECTION

23 25 00 WATER TREATMENT SYSTEMS

PART 1 - GENERAL

1.1 Provide a complete water treatment system for the existing hot water system and chilled water as specified herein and shown on the drawings.

1.2 Existing systems affected by the new / renovation work shall have chemical treatment re-established after the work is complete, performed by the Owner's chemical treatment professional (list company name). Cost for doing so shall be included in Division 23.

1.3 All chemical treatment materials shall be in full conformance with all EPA, state, federal and local environmental control standards.

1.4 Equipment shall carry an all-inclusive manufacturer's parts and labor warranty for a period of one (1) year(s) from date of final acceptance or date of beneficial use, as agreed to between Contractor and Architect or Construction Manager. Any materials, equipment, or controls found to be defective during this warranty period shall be made good without expense to the Owner, including any required replacement of fluids, glycol, or refrigerant. The warranty shall include a delayed start-up provision such that the warranty does not begin at time of delivery. The labor for the warranty shall be performed by the manufacturer's authorized service agent.

1.5 Definitions

A. TDS – Total Dissolved Solids.

B. µS -- MIcroSiemens

C. TSS – Total Suspended Solids.

D. Mg/l – Milligrams per liter.

E. PPM – Parts per Million.

F. Low Voltage – As defined in NFPA 70 for circuits and equipment operating at less than 50V or for remote-control, signaling power-limited circuits.

1.6 Chemicals and Components

A. Cleaning and Treatment Chemicals shall be as recommended by water-treatment system manufacturer that are compatible with piping system components and connected equipment, and that can attain water quality specified here-in.

B. Solid Water Treatment Chemicals shall be contained in recyclable containers, and in a form allowing for easier, safer and more environmentally responsible handling, shipping, storage and use, similar to Solid Blend Technologies, Inc. ES Series.

C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

1.7 Performance Requirements for Closed Recirculating Systems

A. Water treatment systems shall minimize corrosion, scale buildup, waterborne pathogens, and biological growth for optimum efficiency of HVAC equipment without creating a hazard to operating personnel or the environment.

B. For Closed Water-Based Hydronic Systems, base water treatment chemical products on quality of water available at project site, HVAC system equipment material characteristics and functional performance characteristics, operating personnel capabilities, requirements, and guidelines of authorities having jurisdiction.

C. Closed Loop Glycol-Water Solution Systems.

1. The closed loop glycol solution shall be a pre-blended solution of industrially inhibited Ethylene and de-ionized water blended to provide 30% solution concentration. Refer to specification section 23 21 17 GLYCOL SOLUTION SYSTEMS.

1.8 Submittals

A. Water Management Program: Provide a written sequence of operation on an annual basis for the application equipment required to achieve water quality defined in the “Performance Requirements” detailed above.

B. Water Analysis: Report water quality available at project site.

C. Provide Chemical Safety Data Sheets (SDS) for all chemical products to be used for cleaning, passivation, treatment, and testing of the hydronic systems.

D. Shop Drawings shall include schematics, including configuration in to piping design, chemical treatment equipment showing dissolving boards, or dissolving modules (if applicable), maintenance, space required, and piping connections to HVAC systems. Include plans, elevations, sections, details, and attachments to other work.

1.9 Closeout Submittals

A. Operation and Maintenance Manuals shall be provided for all equipment, valves, and sensors.

B. Complete Operations (SOP) Manual for Water Treatment Program shall be provided, including:

1. Log Sheets for recording test results.
2. Scope of work for all testing to be performed.
3. Test Kits for testing hardness, alkalinity, pH, treatment product residual, conductivity, and any other test needed to test product levels and conductivity. Shall be equal to Solid Blend Technologies, Inc. Series 1600.
4. Technical/Safety Data Sheets for all products used at the site.

C. Flushing/Cleaning and Passivation Confirmation Report: Verify that the procedure for flushing, and/or cleaning, and passivation (if applicable) of all metal surfaces has been performed, and confirmed this has been completed in a written report to the Construction Manager and the project engineer.

1.10 Manufacturers/Service Providers

A. The Water-Treatment Service Provider shall be Solid Blend Technologies or approved equal.

Water-Treatment Service Provider Qualifications: A member in good standing with the Association of Water Technologies (AWT), shall be a Certified Water Technologist (or individual supervised by a CWT), and have a minimum of ten years’ experience in the water treatment business. Water-treatment service provider shall be capable of analyzing water qualities, installing water-treatment equipment, and applying water treatment as specified in this section.

B. Startup chemical treatment programs, including cleaning, flushing, and passivation, shall be in accordance with industry best practices for Initial Cleaning/Passivating of Systems and shall be verified by the water treatment supplier.

1.11 Furnish a one year service contract, including monthly site visits for evaluation of the treatment program, and adjustment in feed/bleed rates, chemical concentration, and chemical type.

A. Scope of Maintenance Service for Closed Systems (non-glycol): Provide chemicals and service program to maintain water conditions required above for initial system cleaning, to inhibit corrosion, scale formation, and biological growth for cooling, chilled-water piping and/or heating, hot-water piping and equipment. Services and chemicals shall be provided for a period of one year from date of Substantial Completion and shall include the following:

1. Initial Water Analysis and HVAC recommendations.
2. Periodic field service and consultation during construction phase.
3. Startup Assistance and Technical Support to the Installing Contractor.
4. Complete Training Program (on site) provided to owner to encompass: testing techniques, and data logging of test results, chemical safety, and system troubleshooting.
5. Periodic on site supervision, and reporting during Passivation Programs.
6. Provision of customer report charts and log sheets.
7. Regularly scheduled service visits are required for systems not containing aluminum components each week for the first four weeks after initial charging of the system(s) and checking all parameters listed under PERFORMANCE REQUIRMENTS. Subsequently monthly service calls checking items 1-5 during the first year of substantial completion provided that all other parameters are within specified ranges.
8. Laboratory technical analysis on a periodic basis throughout the first year as needed.

B. Scope of Maintenance Service for Closed Systems containing glycol solutions: The coolant manufacturer shall analyze the fluid bi-annually to ensure the glycol water solution continues to provide corrosion protection within industry standards at no additional cost to the owner:

1. Initial Water Analysis and HVAC recommendations.
2. Periodic field service and consultation during construction phase.
3. Startup Assistance and Technical Support to the Installing Contractor.
4. No chemical additions shall be made to the glycol water solution until the coolant manufacturer has completed an analysis. Should such a chemical addition be required, it will be done in accordance with the recommendations on the analytical report as supplied by the manufacturer.

PART 2 - PRODUCTS

2.1 Water treatment systems shall be as follows:

A. Heating Hot Water System

1. This includes the following HVAC water-treatment systems:
   a. Cleaning and treatment of HVAC Piping System.
   b. Solid and/or Liquid based HVAC water-treatment chemicals.
   c. Chemical treatment test equipment.

B. Chilled Water System

1. This includes the following HVAC water-treatment systems:
   a. Cleaning and treatment of HVAC Piping System.
   b. Solid and/or Liquid based HVAC water-treatment chemicals.
   c. Chemical treatment test equipment.

PART 3 - EXECUTION

3.1 Water Analysis

A. Regardless of what is provided in this specification regarding water quality for bid purposes, perform a certified laboratory analysis of:

1. Supply water to determine quality of water available at Project Site.
2. Initial and final cleaning solution water to determine proper concentrations.
3. Water systems after cleaning and flushing to determine complete removal of cleaning chemicals prior to treatment.
4. Water systems after treatment to determine compliance with required water quality.
5. Retests if any test is failed.

3.2 Connections and Installation

A. Connections
1. Piping installation requirements shall be determined by the chemical treatment vendor and coordinated with the Contractor. Materials shall be consistent with project specifications.
2. Install piping adjacent to equipment to allow service and maintenance.
3. Make piping connections between HVAC water-treatment equipment and dissimilar-metal piping with dielectric fittings.
4. Install shutoff valves on HVAC water-treatment equipment inlet and outlet.
5. Coordinate makeup water connections to potable-water systems downstream of backflow preventer with Division 22.
6. Confirm applicable electrical requirements in Division 26 for connecting electrical equipment.
7. Connect wiring and ground equipment according to Division 26.

B. Closed system Installation:
1. Install chemical equipment level and plumb.
2. Install test equipment and furnish test-kit to Owner.
3. Maintain manufacturer’s recommended clearances. Arrange units so controls and devices that require servicing are accessible.
4. Install water meter in the HVAC Piping System makeup water supply.
5. Install water testing equipment on wall or near water chemical application equipment. Install interconnecting control wiring for chemical treatment controls and sensors.
6. Mount sensors and injectors (if required) in piping circuits.
7. Install bypass filter feeder in a bypass circuit around circulating pumps, unless otherwise indicated on drawings.
8. Install test-coupon assembly in bypass circuit around the Coupon Rack, circulating pumps, unless otherwise indicated on drawings.
9. Install a gate or full-port ball isolation valves on inlet, outlet, and drain below coupon inlet.

3.3 Closed Loop System Cleaning and Installation Procedure

A. During construction extreme care shall be exercised to prevent all dirt and other foreign matter from entering the pipe or other parts of the system. Pipe stored on the project shall have the open ends capped. Before installation, each piece of pipe, fitting, or valve shall be visually examined and all dirt removed.

B. After the system is complete it shall be thoroughly cleaned before placing in operation to rid the system of dirt, biological contamination, piping compound, loose mill scale, oil, and any and all other material foreign to the water.

C. Cleaning & Passivation Procedures for Closed Glycol Systems

1. Initial water analysis and HVAC water-treatment recommendations.
2. Startup assistance to building owner/contractor to flush the systems, clean with detergents, using the following steps. However, equipment that is subject to fouling from the flushing process shall be isolated when recommended by the equipment manufacturer. This may include boilers, plate and frame type heat exchangers, and small coils. Follow equipment manufacturers' cleaning and flushing instructions in those cases:
   a. The mechanical contractor shall meter the initial water fill for the purpose of hydrostatic pressure testing and/or system flushing. After completion of this requirement the water shall be metered out. This will provide the contractor with a precise measure of coolant required to fill the system as well as the amount of water trapped in the system. This process will allow for any adjustments required prior to delivery of the premixed glycol solution and ensure that the solution strength is in compliance with the specification.
   b. Prior to the introduction of a glycol solution add a low foaming alkaline/surfactant-type cleaner and use in a manner as directed by manufacturer. For Systems containing Aluminum components the pH of the Cleaning solution must not exceed 8.5 Units Circulate the system water for 8 to 24 hours (be prepared to add defoamer if excessive foam should appear.
   c. Clean strainers at the end of this period. Pump suction diffuser start-up strainers shall be removed after initial circulation and cleaning of the system.
   d. Flush the system with water, adding water to the system until the pH and conductivity of the water being flushed is within 10% of the original makeup water parameters (Conductivity and pH).
   e. Note that any discharges must be in compliance with local, state and federal mandates and must be in compliance with NPDES regulations.
   f. Add proper amount of glycol product by using the bypass feeder provided on the loop, or a pump capable of overcoming the system volume pressure.
   g. After initial amount of glycol product has been added to the system, test to determine if the proper chemical residual for the glycol is present in the system water, and make adjustments as needed. Allow the system time to circulate between additions to ensure that the sample is representative of the bulk water in the system.
   h. Should the concentration still require adjustment after the system has been filled and as a result of trapped water, drain the required amount of fluid from the system and replace it with the same manufacturers' coolant in its concentrated form. Repeat this process until compliance with this specification is achieved.
   i. Re-test system within a week of the initial startup and make adjustments as needed.
   j. Complete and sign a log of this operation and a Certification of Completion, and present to the Construction Manager and project engineer.

3.4 Field Quality Control

A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections. Report results in writing.

B. Tests and Inspections:

1. Inspect field-assembled chemical treatment components and equipment installation, including piping and electrical connections.
2. Inspect piping and equipment to determine that systems and equipment have been cleaned, flushed, and filled with water, and are fully operational before introducing chemicals for water-treatment system.
3. Place HVAC water-treatment system into operation and calibrate controls (if any) during the preliminary phase of HVAC systems' startup procedures.
4. Do not enclose, cover, or put piping into operation until it is tested and satisfactory test results are achieved.

5. Test for leaks and defects. If testing is performed in segments, submit separate report for each test, complete with diagram of portion of piping tested.
6. Leave uncovered and unconcealed new, altered, extended, and replaced water piping until it has been tested and approved. Expose work that has been covered or concealed before it has been tested and approved.
7. When testing Closed Loops, cap and subject piping to static water pressure of 50 psig above operating pressure, without exceeding pressure rating of piping system materials. Isolate test source and allow test pressure to stand for four hours. Leaks and loss in test pressure constitute defects.
8. Repair leaks and defects with new materials and retest piping until no leaks exist.

C. Remove and replace malfunctioning units and retest as specified above.

D. At intervals described above in the Maintenance Service section of this specification following Substantial Completion, perform separate water analyses to show that systems are maintaining water quality within performance requirements specified in this Section. Submit written reports of water analysis advising Owner of changes necessary.

3.5 Demonstration

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain HVAC water-treatment systems and equipment.

END OF SECTION

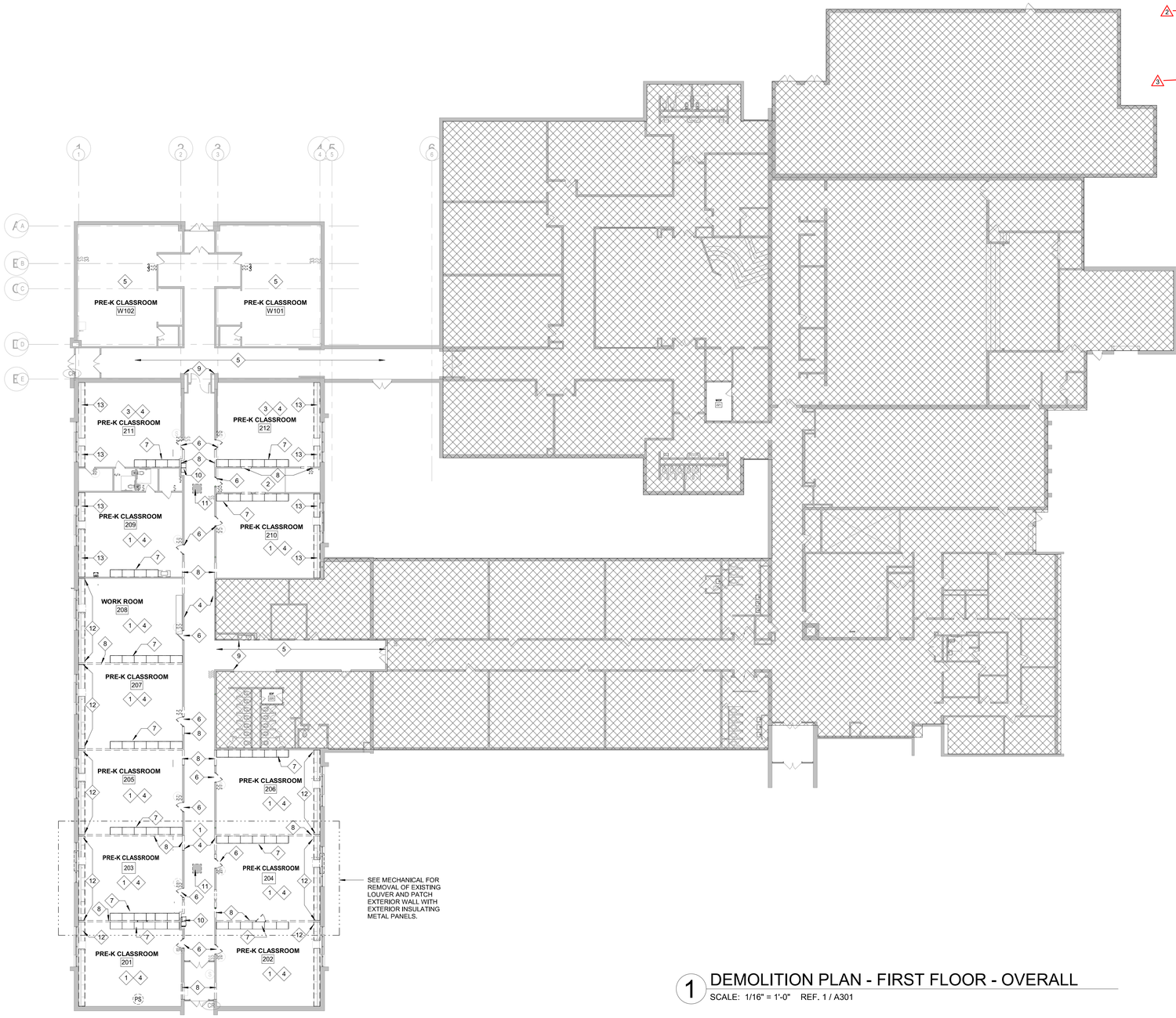
GENERAL NOTES

1. CLEAN, PATCH AND PREP SURFACES FOR NEW WORK AFTER DEMOLITION
2. COORDINATE DEMOLITION WITH NEW WORK
3. COORDINATE DEMOLITION WITH NEW/DEMO WORK ON STRUCTURAL, TECHNOLOGY, MEP AND OTHER SHEETS
4. SAW CUT SLABS AS REQUIRED FOR INSTALLATION OF NEW PLUMBING,. REFER TO PLUMBING PLANS.

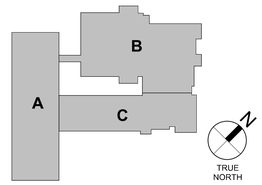
OUT OF SCOPE

PLAN NOTES - DEMOLITION

1	CLASSROOMS RENOVATIONS SCOPE: REMOVE FLOORS AND WALL BASES, REMOVE CEILING GRIDS, TILES AND LIGHTS, DEMO PARTITION WALLS TO THE EXTENT SHOWN ON FLOOR PLAN. REMOVE DOORS AND FRAMES. REMOVE WHITEBOARDS, PROTECT AND REINSTALL. PREP AREA FOR NEW WORK.
2	REMOVE FLOORS. REMOVE CEILINGS AND LIGHTS. PREPA AREA FOR NEW WORK.
3	CLASSROOMS RENOVATIONS SCOPE: REMOVE CEILING GRIDS, TILES AND LIGHTS. REMOVE FLOORING AND PREPARE FOR NEW FLOORS. REMOVE WHITEBOARDS, PROTECT AND REINSTALL. PREP AREA FOR NEW WORK.
4	REMOVE WALLCOVERING. PATCH, PREP, AND PRIME WALLS TO RECEIVE NEW DRYWALL OVER EXISTING SURFACE.
5	REMOVE CEILING GRID, TILES, AND LIGHTING FIXTURES. SEE ELECTRICAL.
6	REMOVE DOOR AND FRAME COMPLETE. CLEAN, PATCH AND PREPARE SURFACE FOR NEW WORK.
7	DEMO CASEWORK AREA AS SHOWN TO ALLOW FOR NEW WORK. VERIFY EXTENTS. CLEAN, PATCH AND PREPARE SURFACE FOR NEW WORK.
8	DEMOLISH WALLS TO EXTEND INDICATED, CLEAN, PATCH AND PREPARE SURFACE FOR NEW WORK.
9	DO NOT CONTINUE WALLCOVERING REMOVAL PAST THIS POINT.
10	REMOVE ELECTRICAL WATER COOLER(S), AND WALL TILE BEHIND
11	NOTE LOCATION FOR NEW ROOF VENT ABOVE. PROVIDE OPENING IN ROOF AND PREPARE FOR NEW WORK.
12	REMOVE ONE SECTION OF EXISTING BASE SHELVING AS REQUIRED FOR MODIFICATIONS. REMOVE COUNTERTOP AND PREPARE SURFACE FOR NEW PLASTIC LAMINATE COUNTERTOP, PATCH AND PREP FOR NEW WORK.
13	REMOVE COUNTERTOP AND PREPARE SURFACE FOR NEW PLASTIC LAMINATE COUNTERTOP.



1 DEMOLITION PLAN - FIRST FLOOR - OVERALL
SCALE: 1/16" = 1'-0" REF. 1 / A301



LANCER ASSOCIATES ARCHITECTURE
145 NORTH EAST STREET
INDIANAPOLIS, IN 46204

GREENFIELD CENTRAL CSC WESTON ELEMENTARY SCHOOL RENOVATIONS
140 POLK ST,
GREENFIELD, IN 46140

TERRY L. CRIPE REGISTERED NO. 880133 STATE OF INDIANA ARCHITECT

REVISIONS:		
#	Date	Desc.
2	04/22/2026	Addendum 02
3	04/23/2026	Addendum 03

100% CD

PROJECT: #25147
DATE: 03.18.2026
DRAWN BY: Author

DEMOLITION PLAN - FIRST FLOOR - OVERALL

AD101

PLOT DATE/TIME: 4/23/2026 10:31:32 AM