Addendum

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DATE: 02/10/2025

PROJECT: Huber Heights FS23 Renovation and Addition

PROJECT ADDRESS: 7435 Old Troy Pike
Dayton, Ohio 45424

ADDENDUM NO. 2

RECEIPT OF THIS ADDENDUM MUST BE NOTED ON THE FORM OF PROPOSAL

TO ALL BIDDERS:

This addendum supplements and amends the original Plans and Specifications and shall be taken into account in preparing proposals and shall become part of the Contract Documents.

GENERAL ITEMS:

ARCHITECTURAL CLARIFICATION:
Refer to Addendum No. 1 for items Questions 1-2.

Q3 Is there a specific canopy manufacturer, materials, and/or finish required?
A3 See ITEM AS13 for added specifications for Awning.

Q4 Clarify signage requirements.
A4 Refer to ITEMS AS12, A7, and A8.

Q5 Should the $100,000 allowance be carried within contractor's base bid or in addition to?
A5 Allowance should be carried as an addition to base bid. See ITEM AS8 for updated Bid Form.

Q6 Is there any other information on the metal cabinets?
A6 The model numbers for the basis of design is what the Owner has requested. An approved equal may be accepted.

Q7 Specification 01 5000 calls for 6' high construction fence as shown on drawings. Is a fence required?
A7 No perimeter fence is required for this project.

Q8 Specification 075300 2.03.A.2 requires 76" maximum sheet width. Is the standard 10'-0" sheet acceptable?
A8 120" width sheet is acceptable if the assembly is fully adhered. See Section 2.03.A.2.a.

ARCHITECTURAL SPECIFICATIONS:

Refer to Addendum No. 1 for AS1-6.

ITEM AS7: TABLE OF CONTENTS

1. Added Specifications added from Addendum 1 and Addendum 2 to Table of Contents.

ITEM AS8: 004100 BID FORM

1. Updated BID FORM to clarify Allowance tabulation.

ITEM AS9: 075300 ELASTOMERIC MEMBRANE ROOFING

1. Modified Insulation Thermal Resistance verbiage in Paragraph 2.02.B.2.
2. Modified Deck Sheathing thickness to match Drawing details in Paragraph 2.04.A.

ITEM AS10: 081416 FLUSH WOOD DOORS

1. Added Section to specifications.

ITEM AS11: 096700 FLUID APPLIED FLOORING

1. Added Section to specifications.

ITEM AS12: 101419 DIMENSIONAL LETTER SIGNAGE

1. Added Section to specifications.

ITEM AS13: 107313 AWNINGS

1. Added Section to specifications.

ARCHITECTURAL DRAWINGS:

Refer to Addendum No. 1 for ITEMS A1-A6.

ITEM A7 SHEET A3.1 – EXTERIOR ELEVATIONS

1. Modified Construction Note 5 and 11 for clarification.

ITEM A8 SHEET A5.4 – EXTERIOR DETAILS

1. Renamed Detail D5 for clarification.
2. Renamed Detail F5 for clarification.
3. Added notes to Detail F5.
4. Added notes to Detail D5.

ITEM A9 SHEET A9.1 – FINISH PLANS

1. Removed Construction Note 4. Refer to Specification Section 096700 for Fluid-Applied Flooring details.

PLUMBING DRAWINGS:

ITEM P1 SHEET P0.3 – SITE PLAN

1. Modified natural gas pipe size serving generator.
2. Added Construction Note 6.

HVAC SPECIFICATIONS:

ITEM HS1 263624 AUTOMATIC TRANSFER SWITCHES
1. Paragraph 2.1.A: Added "Cummins" to the list of acceptable manufacturers.

HVAC DRAWINGS:
Refer to Addendum No. 1 for ITEM H1.

ITEM H2 SHEET H0.3 – EQUIPMENT SCHEDULE
1. Fan Coil Unit Schedule
   a. Added "Carrier" as an approved equal manufacturer.
   b. Clarified unit descriptions.
   c. Removed Schedule Note 4.
2. Condensing Unit Schedule
   a. Added "Carrier" as an approved equal manufacturer.
3. Branch Selector Box Schedule
   a. Added "Carrier" as an approved equal manufacturer.
4. Equipment Notes
   a. Added "Carrier" as an approved equal for FC-1/CD-1.

ITEM H3 SHEET H1.3 – PHASE 1 SECTIONS
1. Added Sheet H1.3.

END OF ADDENDUM NO. 2

ATTACHMENTS:

Specifications
TABLE OF CONTENTS
004100 BID FORM
075300 ELASTOMERIC MEMBRANE ROOFING
081416 FLUSH WOOD DOORS
096700 FLUID APPLIED FLOORING
101419 DIMENSIONAL LETTER SIGNAGE
107313 AWNINGS
263624 AUTOMATIC TRANSFER SWITCHES

Drawing sheets
A3.1, A5.4, A9.1
P0.3
H0.3, H1.3

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DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS

DIVISION 01 - GENERAL REQUIREMENTS

DIVISION 03 - CONCRETE

DIVISION 04 - MASONRY

DIVISION 05 - METALS

DIVISION 12 - FURNISHINGS

DIVISION 21 - FIRE SUPPRESSION

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REFER TO DIVISION 26 INDEX

DIVISION 31 – EARTHWORK

DIVISION 32 - EXTERIOR IMPROVEMENTS

DIVISION 33 - UTILITIES

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SECTION 00 4100
BID FORM

_____, 20____

SUBMITTED BY:

_____Name of Bidder

To: City of Huber Heights – Fire Station 23
6131 Taylorsville Road
Huber Heights, Ohio 45424

We, the undersigned having familiarized ourselves with the local conditions affecting the cost of the work, and with all Bidding Documents, including Addenda No. ___ through No. ___, prepared by App Architecture, Inc., 615 Woodside Drive, Englewood, OH 45322, hereby purpose to furnish all labor, equipment, utilities, and transportation, to furnish and deliver all materials, and to perform and supervise all work required for the construction of the project entitled:

FIRE STATION 23 ADDITION AND RENOVATION

ITEM #1 – ALL WORK – FIRE STATION 23

BASE BID: All labor and material, for the sum of: $_____

ALLOWANCE: $100,000

TOTAL BID: Base Bid + Allowance: $_____

Sum of_____Dollars

UNIT PRICES:

Should more or less Work of the following categories be required, adjustment will be made to the Contract Sum at the following unit prices, which shall include all expenses, transportation, trucking, restocking charges and overhead profit.

Unit Price Item	Total Price per Unit	Unit of Measure
Unit Price No. 1: Removal of unsatisfactory soil and replacement with satisfactory soil material.	**$**	
Unit Price No. 2: Mass rock excavation and replacement with satisfactory soil material.	**$**	
Unit Price No. 3: Removal of unsatisfactory soil and replacement with low-strength concrete (lsm).	**$**	
Unit Price No. 4 - Provide and place lime for the purpose of drying wet soil.	**$**	
Unit Price No. 5 - Provide and place 304 gravel.	**$**	

Accompanying this Proposal is a Bid Bond in the amount of ten percent (10%) of the Bid, as required by the Instructions to Bidders.

Completion Time From Notice To Proceed _____ Calendar Days.

Date of Commencement of the Project shall be no more than 30 days after bid is awarded.

It is agreed that the BID shall be irrevocable for a period of sixty (60) days after the date of submission.

FIRM NAME:_____

BY:_____

TITLE:_____

OFFICIAL ADDRESS:

_____

_____

One copy of each of the following documents must accompany each copy of this Bid Form:

1. Bid Security
2. AIA A305 Contractor's Qualification Statement

One complete copy of the Bid Form and all items listed above must be submitted.

END OF DOCUMENT 00 4100

SECTION 07 5300
ELASTOMERIC MEMBRANE ROOFING

PART 1 GENERAL

1.01 SECTION INCLUDES

1.01.A. Elastomeric roofing membrane application.

1.01.B. Insulation, flat and tapered.

1.01.C. Deck sheathing.

1.02 RELATED REQUIREMENTS

1.02.A. Section 06 1000 - Rough Carpentry: Wood cant strips.

1.03 REFERENCE STANDARDS

1.03.A. ASTM C1177/C1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing; 2017.

1.03.B. ASTM C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board; 2023a.

1.03.C. ASTM D4637/D4637M - Standard Specification for EPDM Sheet Used in Single-Ply Roof Membrane; 2015, with Editorial Revision (2022).

1.03.D. FM DS 1-28 - Wind Design; 2015, with Editorial Revision (2024).

1.04 SUBMITTALS

1.04.A. See Section 01 3000 - Administrative Requirements for submittal procedures.

1.04.B. Product Data: Provide data indicating membrane materials, flashing materials, insulation, vapor retarder, surfacing, and fasteners.

1.04.C. Shop Drawings: Indicate joint or termination detail conditions, conditions of interface with other materials, and setting plan for tapered insulation.

1.04.D. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

1.04.E. Manufacturer's Installation Instructions: Indicate membrane seaming precautions and perimeter conditions requiring special attention.

1.04.F. Installer's qualification statement.

1.04.G. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.05 QUALITY ASSURANCE

1.05.A. Installer Qualifications: Company specializing in performing the work of this section with minimum three years documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

1.06.A. Deliver materials in manufacturer's original containers, dry and undamaged, with seals and labels intact.

1.06.B. Store materials in weather protected environment, clear of ground and moisture.

1.06.C. Ensure storage and staging of materials does not exceed static and dynamic load-bearing capacities of roof decking.

1.06.D. Protect foam insulation from direct exposure to sunlight.

1.07 FIELD CONDITIONS

1.07.A. Do not apply roofing membrane during unsuitable weather.

1.07.B. Do not apply roofing membrane when ambient temperature is below 40 degrees F (5 degrees C).

1.07.C. Do not apply roofing membrane to damp or frozen deck surface or when precipitation is expected or occurring.

1.07.D. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed the same day.

1.07.E. Schedule applications so that no partially completed sections of roof are left exposed at end of workday.

1.08 WARRANTY

1.08.A. See Section 01 7800 - Closeout Submittals for additional warranty requirements.

1.08.B. Correct defective work within a two-year period after Date of Substantial Completion.

1.08.C. Provide ten year manufacturer's material and labor warranty to cover failure to prevent penetration of water.

PART 2 PRODUCTS

2.01 MANUFACTURERS

2.01.A. EPDM Membrane Materials:
1. Carlisle SynTec Systems: www.carlisle-syntec.com/#sle.
2. GenFlex Roofing Systems, LLC; _____: www.genflex.com.
3. Johns Manville: www.jm.com/#sle.
4. Firestone Building Products, RubberGard (Basis-of-Design).

2.02 ROOFING - UNBALLASTED APPLICATIONS

2.02.A. Elastomeric Membrane Roofing: One ply membrane, fully adhered, over insulation.

2.02.B. Roofing Assembly Requirements:
1. Factory Mutual Classification: Class 1 and windstorm resistance of 1-90, in accordance with FM DS 1-28.
2. Insulation Thermal Resistance (R-Value): ~~3 per inch~~ 5.5 per inch, minimum; provide insulation of thickness required as indicated on the drawings.

2.02.C. Acceptable Insulation Types - Tapered Application: Any type that meets requirements and is approved by membrane manufacturer for application.

2.03 ROOFING MEMBRANE AND ASSOCIATED MATERIALS

2.03.A. Membrane: Ethylene-propylene-diene-monomer (EPDM); non-reinforced; complying with minimum properties of ASTM D4637/D4637M.
1. Thickness: 60 mil, 0.060 inch (1.5 mm), minimum.
2. Sheet Width: 76 inches (1,930 mm), maximum.
   a. Adhered Application: Limit width to 120 inches (3,048 mm), maximum, when ambient temperatures are less than 40 degrees F (4.4 degress C) for extended period of time during installation.
3. Color: Black.

2.03.B. Seaming Materials: As recommended by membrane manufacturer.

2.03.C. Flexible Flashing Material: Same material as membrane.

2.04 DECK SHEATHING

2.04.A. Deck Sheathing: Glass mat faced gypsum panels, ASTM C1177/C1177M, fire resistant type, ~~1/4~~ 5/8 inch (6.4 mm) thick.
1. Thickness: 5/8 inch (15.9 mm), Type X, fire-resistant.
2. Products:

a. Georgia-Pacific; DensDeck Prime with EONIC Technology: www.densdeck.com/#sle. (Basis-of-Design)
b. USG Corporation: www.usg.com/#sle.

2.05 INSULATION

2.05.A. Polyisocyanurate (ISO) Board Insulation: Rigid cellular foam, complying with ASTM C1289.

1. Classifications:
   a. Type II: Faced with either cellulosic facers or glass fiber mat facers on both major surfaces of the core foam.
      1) Class 1 - Faced with glass fiber reinforced cellulosic facers on both major surfaces of the core foam.
      2) Compressive Strength: Classes 1-2-3, Grade 2 - 20 psi (138 kPa), minimum.
      3) Thermal Resistance, R-value (RSI-value): At 1-1/2 inches (38 mm) thick; Class 1, Grades 1-2-3 - 8.4 (1.48) at 75 degrees F (24 degrees C).
2. Board Size: 48 by 96 inches (1220 by 2440 mm).
3. Board Thickness: 1.5 inch (37.5 mm).
4. Tapered Board: Slope as indicated; minimum thickness 1/4 inch (6.35 mm); fabricate of fewest layers possible.
5. Board Edges: Square.

2.06 ACCESSORIES

2.06.A. Cant and Edge Strips: Wood fiberboard, compatible with roofing materials; cants formed to 45 degree angle.

2.06.B. Sheathing Adhesive: Noncombustible type, for adhering gypsum sheathing to metal deck.

2.06.C. Sheathing Joint Tape: Heat resistant type, self-adhering.

2.06.D. Insulation Joint Tape: Glass fiber reinforced type as recommended by insulation manufacturer, compatible with roofing materials; 6 inches (152 mm) wide; self-adhering.

2.06.E. Membrane Adhesive: As recommended by membrane manufacturer.

2.06.F. Insulation Adhesive: As recommended by insulation manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

3.01.A. Verify that surfaces and site conditions are ready to receive work.

3.01.B. Verify deck is supported and secure.

3.01.C. Verify deck is clean and smooth, flat, free of depressions, waves, or projections, properly sloped and suitable for installation of roof system.

3.01.D. Verify deck surfaces are dry and free of snow or ice.

3.01.E. Verify that roof openings, curbs, and penetrations through roof are solidly set, and cant strips are in place.

3.02 PREPARATION - METAL DECK

3.02.A. Install deck sheathing on metal deck.

1. Lay with long side at right angle to flutes; stagger end joints; provide support at ends.
2. Cut sheathing cleanly and accurately at roof breaks and protrusions to provide smooth surface.
3. Tape joints.

3.02.B. Mechanically fasten sheathing to roof deck, in accordance with Factory Mutual recommendations and roofing manufacturer's instructions.

1. Over entire roof area, fasten sheathing using six fasteners with washers per sheathing board.

3.03 INSTALLATION - INSULATION, UNDER MEMBRANE

3.03.A. Attachment of Insulation: Embed insulation in adhesive in full contact, in accordance with roofing and insulation manufacturers' instructions.

3.03.B. Lay subsequent layers of insulation with joints staggered minimum 6 inches (152 mm) from joints of preceding layer.

3.03.C. Place tapered insulation to the required slope pattern in accordance with manufacturer's instructions.

3.03.D. On metal deck, place boards parallel to flutes with insulation board edges bearing on deck flutes.

3.03.E. Lay boards with edges in moderate contact without forcing. Cut insulation to fit neatly to perimeter blocking and around penetrations through roof.

3.03.F. Tape joints of insulation in accordance with roofing and insulation manufacturers' instructions.

3.03.G. At roof drains, use factory-tapered boards to slope down to roof drains over a distance of 18 inches (457 mm).

3.03.H. Do not apply more insulation than can be covered with membrane in same day.

3.04 INSTALLATION - MEMBRANE

3.04.A. Roll out membrane, free from wrinkles or tears. Place sheet into place without stretching.

3.04.B. Shingle joints on sloped substrate in direction of drainage.

3.04.C. Fully Adhered Application: Apply adhesive to substrate at rate of to meet the manufacturer's system warranty requirements. Fully embed membrane in adhesive except in areas directly over or within 3 inches (76 mm) of expansion joints. Fully adhere one roll before proceeding to adjacent rolls.

3.04.D. Overlap edges and ends and seal seams by contact adhesive, minimum 3 inches (76 mm). Seal permanently waterproof. Apply uniform bead of sealant to joint edge.

3.04.E. At intersections with vertical surfaces:

1. Extend membrane over cant strips and up a minimum of 4 inches (102 mm) onto vertical surfaces.
2. Fully adhere flexible flashing over membrane and up to nailing strips.

3.04.F. Around roof penetrations, seal flanges and flashings with flexible flashing.

3.04.G. Coordinate installation of roof drains and sumps and related flashings.

3.05 FIELD QUALITY CONTROL

3.05.A. See Section 01 4000 - Quality Requirements for additional requirements.

3.05.B. Owner will provide testing services, and Contractor to provide temporary construction and materials for testing in accordance with requirements.

3.05.C. Provide daily on-site attendance of roofing and insulation manufacturer's representative during installation of this work.

3.06 CLEANING

3.06.A. See Section 01 7000 - Execution and Closeout Requirements for additional requirements.

3.06.B. Remove bituminous markings from finished surfaces.

3.06.C. In areas where finished surfaces are soiled by work of this section, consult manufacturer of surfaces for cleaning advice and comply with their documented instructions.

3.06.D. Repair or replace defaced or damaged finishes caused by work of this section.

3.07 PROTECTION

3.07.A. Protect installed roofing and flashings from construction operations.

3.07.B. Where traffic must continue over finished roof membrane, protect surfaces using durable materials.

END OF SECTION 07 5300

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SECTION 08 1416
FLUSH WOOD DOORS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Five-ply flush wood veneer-faced doors for transparent finish.
2. Factory finishing flush wood doors.
3. Factory fitting flush wood doors to frames and factory machining for hardware.

B. Related Requirements:

1. Section 08 1113 "Hollow Metal Doors and Frames" for wood doors in metal frames.
2. Section 08 7100 "Door Hardware" for door hardware for flush wood doors.
3. Section 08 8000 "Glazing" for glass view panels in flush wood doors.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, core descriptions, profiles, fire-resistance ratings, and finishes.

B. Shop Drawings: Indicate location, size, and hand of each door; elevation of each type of door; construction details not covered in Product Data; and the following:

1. Door schedule indicating door location, type, size, fire protection rating, and swing.
2. Door elevations, dimension and locations of hardware, lite and louver cutouts, and glazing thicknesses.
3. Details of electrical raceway and preparation for electrified hardware, access control systems, and security systems.
4. Dimensions and locations of blocking for hardware attachment.
5. Dimensions and locations of mortises and holes for hardware.
6. Clearances and undercuts.
7. Requirements for veneer matching.
8. Doors to be factory finished and application requirements.

C. Samples for Verification:

1. Factory finishes applied to actual door face materials, approximately 8 by 10 inches, for each material and finish.

1.3 CLOSEOUT SUBMITTALS

A. Special warranties.

1.4 QUALITY ASSURANCE

A. Fire-Rated Door Inspector Qualifications: Inspector for field quality-control inspections of fire-rated door assemblies complies with qualifications set forth in NFPA 80, Section 5.2.3.1 and the following:

1. DHI's Fire and Egress Door Assembly Inspector (FDAI) certification.

B. Egress Door Inspector Qualifications: Inspector for field quality-control inspections of egress door assemblies complies with qualifications set forth in NFPA 101, Section 7.2.1.15.4 and the following:

1. DHI's Fire and Egress Door Assembly Inspector (FDAI) certification.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Comply with requirements of referenced standard and manufacturer's written instructions.

B. Package doors individually in cardboard cartons and wrap bundles of doors in plastic sheeting.

C. Mark each door on top and bottom rail with opening number used on Shop Drawings.

1.6 FIELD CONDITIONS

A. Environmental Limitations:

1. Do not deliver or install doors until building is enclosed and weathertight, wet work is complete, and HVAC system is operating and maintaining temperature between 60 and 90 deg F and relative humidity between 25 and 55 percent during remainder of construction period.

1.7 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace doors that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Delamination of veneer.

b. Warping (bow, cup, or twist) more than 1/4 inch in a 42-by-84-inch section.
c. Telegraphing of core construction in face veneers exceeding 0.01 inch in a 3-inch span.

2. Warranty also includes installation and finishing that may be required due to repair or replacement of defective doors.
3. Warranty Period for Solid-Core Interior Doors: Life of installation.

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

A. Obtain flush wood doors from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

A. Fire-Rated Wood Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction, for fire-protection ratings indicated on Drawings, based on testing at positive pressure in accordance with UL 10C, or NFPA 252.

2.3 FLUSH WOOD DOORS, GENERAL

A. Quality Standard: In addition to requirements specified, comply with AWI/AWMAC/WI's "Architectural Woodwork Standards."

1. Provide labels from AWI certification program indicating that doors comply with requirements of grades specified.

2.4 SOLID-CORE FIVE-PLY FLUSH WOOD VENEER-FACED DOORS FOR TRANSPARENT FINISH

A. Interior Doors, Solid-Core Five-Ply Veneer-Faced Insert drawing designation:

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

a. Eggers Industries
b. Marshfield (Masonite Company)
c. Oshkosh Door Company
d. VT Industries, Inc.

2. Performance Grade: ANSI/WDMA I.S. 1A Extra Heavy Duty.
3. Architectural Woodwork Standards Grade: Premium.
4. Faces: Single-plywood veneer not less than 1/50 inch thick.

    a. Species: Red Oak.
    b. Cut: Plain sliced.
    c. Match between Veneer Leaves: Book match.
    d. Assembly of Veneer Leaves on Door Faces: Running match.

5. Exposed Vertical Edges: Same species as faces - Architectural Woodwork Standards edge Type A.

    a. Fire-Rated Single Doors: Provide edge construction with intumescent seals concealed by outer stile. Comply with specified requirements for exposed vertical edges.
    b. Mineral-Core Doors: At hinge stiles, provide laminated-edge construction with improved screw-holding capability and split resistance. Comply with specified requirements for exposed edges.

6. Core for Non-Fire-Rated Doors:

    a. ANSI A208.1, Grade LD-2 particleboard.

        1) Blocking: Provide wood blocking in particleboard-core doors as needed to eliminate through-bolting hardware.

            a) 5-inch top-rail blocking, in doors indicated to have closers.
            b) 5-inch bottom-rail blocking, in exterior doors and doors indicated to have kick, mop, or armor plates.

        2) Provide doors with glued-wood-stave, or WDMA I.S. 10 structural-composite-lumber cores instead of particleboard cores for doors scheduled to receive exit devices in Section 087100 "Door Hardware."

7. Core for Fire-Rated Doors: As required to achieve fire-protection rating indicated on Drawings.

    a. Blocking for Mineral-Core Doors: Provide composite blocking with improved screw-holding capability approved for use in doors of fire-protection ratings indicated on Drawings as needed to eliminate through-bolting hardware.

8. Construction: Five plies, hot-pressed bonded (vertical and horizontal edging is bonded to core), with entire unit abrasive planed before veneering.

2.5 LIGHT FRAMES

A. Wood Beads for Light Openings in Wood Doors: Provide manufacturer's standard wood

beads unless otherwise indicated.

1. Wood Species: Same species as door faces.
2. Profile: Manufacturer's standard shape.

2.6 FABRICATION

A. Factory fit doors to suit frame-opening sizes indicated.

1. Comply with clearance requirements of referenced quality standard for fitting unless otherwise indicated.
2. Comply with NFPA 80 requirements for fire-rated doors.

B. Factory machine doors for hardware that is not surface applied.

1. Locate hardware to comply with DHI-WDHS-3.
2. Comply with final hardware schedules, door frame Shop Drawings, ANSI/BHMA-156.115-W, and hardware templates.
3. Coordinate with hardware mortises in metal frames, to verify dimensions and alignment before factory machining.
4. For doors scheduled to receive electrified locksets, provide factory-installed raceway and wiring to accommodate specified hardware.

C. Openings: Factory cut and trim openings through doors.

1. Light Openings: Trim openings with moldings of material and profile indicated.
2. Glazing: Factory install glazing in doors indicated to be factory finished. Comply with applicable requirements in Section 08 8000 "Glazing."

2.7 FACTORY FINISHING

A. Comply with referenced quality standard for factory finishing.

1. Complete fabrication, including fitting doors for openings and machining for hardware that is not surface applied, before finishing.
2. Finish faces, all four edges, edges of cutouts, and mortises.
3. Stains and fillers may be omitted on top and bottom edges, edges of cutouts, and mortises.

B. Factory finish doors.

C. Transparent Finish:

1. Architectural Woodwork Standards Grade: Premium.
2. Architectural Woodwork Standards System-5, Varnish, Conversion.
3. Staining: As selected by Architect from manufacturer's full range.

4. Sheen: Satin.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine doors and installed door frames, with Installer present, before hanging doors.

1. Verify that installed frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with level heads and plumb jambs.
2. Reject doors with defects.

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

3.2 INSTALLATION

A. Hardware: For installation, see Section 08 7100 "Door Hardware."

B. Install doors to comply with manufacturer's written instructions and referenced quality standard, and as indicated.

C. Install frames level, plumb, true, and straight.

1. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches.
2. Anchor frames to anchors or blocking built in or directly attached to substrates.

a. Secure with countersunk, concealed fasteners and blind nailing.
b. Use fine finishing nails for exposed fastening, countersunk and filled flush with woodwork.

1) For factory-finished items, use filler matching finish of items being installed.

3. Install fire-rated doors and frames in accordance with NFPA 80.
4. Install smoke- and draft-control doors in accordance with NFPA 105.

D. Job-Fitted Doors:

1. Align and fit doors in frames with uniform clearances and bevels as indicated below.

a. Do not trim stiles and rails in excess of limits set by manufacturer or permitted for fire-rated doors.

2. Machine doors for hardware.
3. Seal edges of doors, edges of cutouts, and mortises after fitting and machining.
4. Clearances:

    a. Provide 1/8 inch at heads, jambs, and between pairs of doors.
    b. Provide 1/8 inch from bottom of door to top of decorative floor finish or covering unless otherwise indicated on Drawings.
    c. Where threshold is shown or scheduled, provide 1/4 inch from bottom of door to top of threshold unless otherwise indicated.
    d. Comply with NFPA 80 for fire-rated doors.

5. Bevel non-fire-rated doors 1/8 inch in 2 inches at lock and hinge edges.
6. Bevel fire-rated doors 1/8 inch in 2 inches at lock edge; trim stiles and rails only to extent permitted by labeling agency.

E. Factory-Fitted Doors: Align in frames for uniform clearance at each edge.

F. Factory-Finished Doors: Restore finish before installation if fitting or machining is required at Project site.

3.3 ADJUSTING

A. Operation: Rehang or replace doors that do not swing or operate freely.

B. Finished Doors: Replace doors that are damaged or that do not comply with requirements. Doors may be repaired or refinished if Work complies with requirements and shows no evidence of repair or refinishing.

END OF SECTION 08 1416

SECTION 09 6700
FLUID-APPLIED FLOORING

PART 1 GENERAL

1.01 SECTION INCLUDES

1.01.A. Fluid-applied flooring and base.

1.02 RELATED REQUIREMENTS

1.02.A. Section 07 9200 - Joint Sealants: Sealing joints between fluid-applied flooring and adjacent construction and fixtures.

1.03 REFERENCE STANDARDS

1.03.A. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring; 2022.

1.03.B. ASTM F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride; 2023.

1.03.C. ASTM F2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes; 2019a.

1.03.D. ICRI 310.2R - Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair; 2013.

1.04 SUBMITTALS

1.04.A. See Section 01 3000 - Administrative Requirements for submittal procedures.

1.04.B. Product Data: Provide data on specified products, describing physical and performance characteristics; sizes, patterns and colors available.

1.04.C. Samples: Submit two samples, 8 inch by 8 inch inch (203 by 203 mm) in size illustrating color and pattern for each floor material for each color specified.

1.04.D. Concrete Subfloor Test Report: Submit a copy of the moisture and alkalinity (pH) test reports.

1.04.E. Manufacturer's Installation Instructions: Indicate special procedures, perimeter conditions requiring special attention, and application rate for each coat.

1.04.F. Applicator's Qualification Statement.

1.04.G. Maintenance Data: Include maintenance procedures, recommended maintenance materials, procedures for stain removal, repairing surface, and suggested schedule for cleaning.

1.05 QUALITY ASSURANCE

1.05.A. Applicator Qualifications: Company specializing in performing the work of this section.
1. Minimum 5 years of documented experience.
2. Approved by manufacturer.

1.06 DELIVERY, STORAGE, AND HANDLING

1.06.A. Store resin materials in a dry, secure area.

1.06.B. Store materials for three days prior to installation in area of installation to achieve temperature stability.

1.07 FIELD CONDITIONS

1.07.A. Maintain minimum temperature in storage area of 55 degrees F (13 degrees C).

1.07.B. Store materials in area of installation for minimum period of 24 hours prior to installation.

1.07.C. Maintain ambient temperature required by manufacturer 72 hours prior to, during, and 24 hours after installation of materials.

PART 2 PRODUCTS

2.01 MANUFACTURERS

2.01.A. Fluid-Applied Flooring:
1. Epoxy Hub

2.02 Fluid-Applied Flooring SYSTEMS

2.02.A. Fluid-Applied Flooring: Epoxy base coat(s), with broadcast aggregate.
1. Aggregate: Decorative Flake full broadcast size and color blend to be selected by Architect.
2. Base Coat: 100% solid epoxy, EH 100 from Epoxy Hub.
3. Top Coat: For durability and gloss apply UV-resistant Polyaspartic top coat, EH Ploy 85 or equivalent.
4. Texture: Slip resistant.
5. Sheen: High Gloss.
6. Color: As selected by Architect.

7. Products: Subject to compliance with requirements, provide products by one of the following.
   a. Epoxy Hub 7688 McEwen Rd., Centerville Ohio 45459; sales@myepoxyhub.com; 937-989-2628.
   b. Or preapproved equal.

2.03 ACCESSORIES

2.03.A. Primer: Type recommended by fluid-applied flooring manufacturer.

2.03.B. Moisture Vapor Barrier at new concrete: Type recommended by fluid-applied flooring manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

3.01.A. Verify that subfloor surfaces are smooth and flat within the tolerances specified for that type of work and are ready to receive flooring.

3.01.B. Verify that subfloor surfaces are dust-free and free of substances that could impair bonding of materials to subfloor surfaces.

3.01.C. Verify that wood subfloors have 12 percent maximum moisture content.

3.01.D. Cementitious Subfloor Surfaces: Verify that substrates are ready for fluid-applied flooring installation by testing for moisture and alkalinity (pH).
1. Test as Follows:
   a. Alkalinity (pH): ASTM F710.
   b. Internal Relative Humidity: ASTM F2170.
   c. Moisture Vapor Emission: ASTM F1869.
2. Obtain instructions if test results are not within limits recommended by fluid-applied flooring manufacturer.

3.02 PREPARATION

3.02.A. Remove subfloor ridges and bumps. Fill low spots, cracks, joints, holes, and other defects with subfloor filler.

3.02.B. Prepare concrete surfaces according to ICRI 310.2R, CSP 2.
1. Substrate: Remove existing floor covering to expose concrete substrate, mechanically profile to a CSP 2.

3.02.C. Apply, trowel, and float filler to achieve smooth, flat, hard surface. Grind irregularities above the surface level. Prohibit traffic until filler is cured.

3.02.D. Vacuum clean substrate.

3.02.E. Apply primer to surfaces required by flooring manufacturer.

3.03 INSTALLATION - FLOORING

3.03.A. Apply in accordance with manufacturer's instructions.

3.03.B. Apply each coat to minimum thickness required by manufacturer.

3.03.C. Finish to smooth level surface.

3.03.D. Cove at vertical surfaces.

3.04 FIELD QUALITY CONTROL

3.04.A. See Section 01 4000 - Quality Requirements, for additional requirements.

3.05 PROTECTION

3.05.A. Prohibit traffic on floor finish for 48 hours after installation.

3.05.B. Barricade area to protect flooring until fully cured.

END OF SECTION 09 6700

SECTION 10 1419
DIMENSIONAL LETTER SIGNAGE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Dimensional characters.

a. Fabricated channel dimensional characters.
b. Illuminated, fabricated channel dimensional characters.

1.2 DEFINITIONS

A. Illuminated: Illuminated by lighting source integrally constructed as part of the sign unit.

1.3 COORDINATION

A. Furnish templates for placement of electrical service embedded in permanent construction by other installers.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For signs.

1. Include fabrication and installation details and attachments to other work.
2. Show sign mounting heights, locations of supplementary supports to be provided by other installers, and accessories.
3. Show message list, typestyles, graphic elements, and layout for each sign at least quarter size.
4. Show locations of electrical service connections.
5. Include diagrams for power, signal, and control wiring.

C. Samples for Verification: For each type of sign assembly showing all components and with the required finish(es), in manufacturer's standard size unless otherwise indicated and as follows:

1. Dimensional Characters: Full-size Sample of dimensional character.
2. Full-size Samples, if approved, will be returned to Contractor for use in the Project.

D. Product Schedule: For dimensional letter signs. Use same designations indicated on Drawings or specified.

1. Include structural analysis calculations for signs indicated to comply with design loads; signed and sealed by the qualified professional engineer responsible for their preparation.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For signs to include in maintenance manuals.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer of products or an entity that employs installers and supervisors who are trained and approved by manufacturer.

1.7 FIELD CONDITIONS

A. Field Measurements: Verify locations of electrical service embedded in permanent construction by other installers by field measurements before fabrication and indicate measurements on Shop Drawings.

1.8 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of signs that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Deterioration of finishes beyond normal weathering.
b. Separation or delamination of sheet materials and components.

2. Warranty Period: For the life of the business.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Structural Performance: Signs and supporting elements shall withstand the effects of gravity and other loads within limits and under conditions indicated; to comply with requirements of authorities having jurisdiction.

B. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.

1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.2 DIMENSIONAL CHARACTERS

A. Fabricated Channel Characters: Metal face and side returns, formed free from warp and distortion; with uniform faces, sharp corners, and precisely formed lines and profiles; internally braced for stability, to meet structural performance loading without oil-canning or other surface deformation, and for securing fasteners; and as follows.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Ace Sign Systems, Inc.
b. ASI Signage Innovations
c. Best Sign Systems
d. FastSigns

2. Illuminated Characters: Backlighted character construction with LED lighting, including transformers, insulators, and other accessories for operability, with provision for servicing and concealing connections to building electrical system. Use tight or sealed joint construction to prevent unintentional light leakage. Space lamps apart from each other and away from character surfaces as needed to illuminate evenly.

a. Power: As indicated on electrical Drawings.
b. Weeps: Provide weep holes to drain water at lowest part of exterior characters. Equip weeps with permanent baffles to block light leakage without inhibiting drainage.

3. Character Material: Sheet or plate aluminum.
4. Material Thickness: 0.125 inch thick for face, 0.063” for returns.
5. Character Height: As indicated on Drawings.
6. Character Depth: As indicated on Drawings.
7. Finishes:

a. Baked-Enamel or Powder-Coat Finish: Manufacturer's standard, in color as selected by Architect from manufacturer's full range.

8. Mounting: Concealed, painted aluminum back bar or bracket assembly.

a. Hold characters at 1-inch distance from wall surface.

9. Typeface: Arial Bold.

2.3 DIMENSIONAL CHARACTER MATERIALS

A. Aluminum Sheet and Plate: ASTM B209 (ASTM B209M), alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.

B. Aluminum Extrusions: ASTM B221 (ASTM B221M), alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.

2.4 ACCESSORIES

A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of signs, noncorrosive and compatible with each material joined, and complying with the following:

1. Use concealed fasteners and anchors unless indicated to be exposed.

2. Sign Mounting Fasteners:

a. Concealed Studs: Concealed (blind), threaded studs welded or brazed to back of sign material, screwed into back of sign assembly, or screwed into tapped lugs cast integrally into back of cast sign material, unless otherwise indicated.

B. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D1187/D1187M.

2.5 FABRICATION

A. General: Provide manufacturer's standard sign assemblies according to requirements indicated.

1. Preassemble signs and assemblies in the shop to greatest extent possible. Disassemble signs and assemblies only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation; apply markings in locations concealed from view after final assembly.
2. Mill joints to a tight, hairline fit. Form assemblies and joints exposed to weather to resist water penetration and retention.
3. Comply with AWS for recommended practices in welding and brazing. Provide welds and brazes behind finished surfaces without distorting or discoloring exposed side. Clean exposed welded and brazed connections of flux, and dress exposed and contact surfaces.
4. Conceal connections if possible; otherwise, locate connections where they are inconspicuous.

5. Internally brace dimensional characters for stability, to meet structural performance loading without oil-canning or other surface deformation, and for securing fasteners.
6. Provide rabbets, lugs, and tabs necessary to assemble components and to attach to existing work. Drill and tap for required fasteners. Use concealed fasteners where possible; use exposed fasteners that match sign finish.

2.6 GENERAL FINISH REQUIREMENTS

A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

C. Organic, Anodic, and Chemically Produced Finishes: Apply to formed metal after fabrication but before applying contrasting polished finishes on raised features unless otherwise indicated.

2.7 ALUMINUM FINISHES

A. Baked-Enamel or Powder-Coat Finish: AAMA 2603 except with a minimum dry film thickness of 1.5 mils . Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.

B. Verify that sign-support surfaces are within tolerances to accommodate signs without gaps or irregularities between backs of signs and support surfaces unless otherwise indicated.

C. Verify that electrical service is correctly sized and located to accommodate signs.

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

3.2 INSTALLATION OF DIMENSIONAL CHARACTERS

A. General: Install signs using mounting methods indicated and according to manufacturer's written instructions.

1. Install signs level, plumb, true to line, and at locations and heights indicated, with sign surfaces free of distortion and other defects in appearance.
2. Before installation, verify that sign surfaces are clean and free of materials or debris that would impair installation.
3. Corrosion Protection: Coat concealed surfaces of exterior aluminum in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.

B. Mounting Methods:

1. Concealed Studs: Using a template, drill holes in substrate aligning with studs on back of sign. Remove loose debris from hole and substrate surface.

    a. Masonry Substrates: Fill holes with adhesive. Leave recess space in hole for displaced adhesive. Place sign in position and push until flush to surface, embedding studs in holes. Temporarily support sign in position until adhesive fully sets.
    b. Thin or Hollow Surfaces: Place sign in position and flush to surface, install washers and nuts on studs projecting through opposite side of surface, and tighten.

3.3 ADJUSTING AND CLEANING

A. Remove and replace damaged or deformed characters and signs that do not comply with specified requirements. Replace characters with damaged or deteriorated finishes or components that cannot be successfully repaired by finish touchup or similar minor repair procedures.

B. Remove temporary protective coverings and strippable films as signs are installed.

C. On completion of installation, clean exposed surfaces of signs according to manufacturer's written instructions and touch up minor nicks and abrasions in finish. Maintain signs in a clean condition during construction and protect from damage until acceptance by Owner.

END OF SECTION 10 1419

SECTION 10 7313
AWNINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Fixed awnings.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include styles, material descriptions, construction details, fabrication details, dimensions of individual components and profiles, hardware, fittings, mounting accessories, features, and finishes for awnings.

B. Shop Drawings:

1. Include plans, elevations, sections, mounting heights, and attachment details.
2. Show locations for blocking, reinforcement, and supplementary structural support.

C. Delegated-Design Submittal: For awnings, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation, as defined in Section 01 4000 “Quality Requirements”.

D. Samples for Initial Selection: For each type of exposed finish.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: For awnings to include in operation and maintenance manuals.

1.5 QUALITY ASSURANCE

A. Fabricator Qualifications: Shop that employs skilled workers who custom fabricate products similar to those required for this Project and whose products have a record of successful in-service performance.

1.6 WARRANTY

A. Special Warranty: Manufacturer and fabricator agree to repair or replace components of awnings that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Structural failures including framework.
b. Deterioration of fabric including seam failure.
c. Deterioration of metals, metal finishes, and other materials beyond normal weathering.

2. Awning Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Manufacturers: Subject to compliance with requirements, provide materials by the following:
1. InnoTech Manufacturing, LLC. – Prefabricated Aluminum Awnings.
2. Queen City Awning – Cincinnati, Ohio
3. Approved equal.

2.2 FIXED AWNING FABRICATION

A. Prefabricated Aluminum Awnings:

1. Frame Fabrication: Fabricate awning frames from aluminum. Preassemble in shop to greatest extent possible. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
2. Form exposed work true to line and level with accurate angles and surfaces and straight edges.
3. Weld corners and connections continuously. Obtain fusion without undercut or overlap. Remove welding flux immediately. At exposed corners and connections,

finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface

4. Provide for anchorage of type indicated; coordinate with supporting structure. Space anchoring devices to secure awnings in place and to properly transfer loads.

B. Aluminum Finish: Baked-enamel or powder-coat finish complying with finish manufacturer's written instructions for surface preparation including pretreatment, application, baking, and minimum dry film thickness.

1. Color: As selected by Architect from manufacturer's full range.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for supporting members, blocking, inserts, installation tolerances, lighting, and other conditions affecting performance of the Work.

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

3.2 INSTALLATION

A. General: Install awnings at locations and in position indicated, securely connected to supports, free of rack, and in proper relation to adjacent construction. Use mounting methods of types described and in compliance with Shop Drawings and fabricator's written instructions.

B. Install awnings after other finishing operations, including joint sealing and painting, have been completed.

C. Weld frame connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations.

1. Field Welding: Comply with the following requirements:

a. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
b. Obtain fusion without undercut or overlap.
c. Remove welding flux immediately.
d. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.

D. Anchoring to In-Place Construction: Use anchors, fasteners, fittings, hardware, and installation accessories where necessary for securing awnings to structural support and for properly transferring load to in-place construction.

E. Corrosion Protection: Coat concealed surfaces of aluminum that come in contact with grout, concrete, masonry, wood, or dissimilar metals with a heavy coat of bituminous paint.

F. Coordinate awning installation with flashing and joint-sealant installation so these materials are installed in sequence and in a manner that prevents exterior moisture from passing through completed exterior wall and roof assemblies.

3.3 CLEANING AND PROTECTION

A. Touch up factory-applied finishes to restore damaged or soiled areas.

END OF SECTION 10 7313

SECTION 26 3624 – AUTOMATIC TRANSFER SWITCHES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes automatic transfer switches rated 600 V and less, including the following:

1. Automatic transfer switches.
2. Remote annunciator.
3. Portable Generator Docking Station

1.2 GENERAL

A. Furnish and install electrically operated automatic switches to transfer loads to standby system upon failure of main source of electricity. Unit shall be complete with accessories in NEMA 1 enclosure as shown on the drawings.

B. Switch shall be electrically operated, mechanically held type with a mechanical interlock to prevent both sides closing simultaneously.

C. Manufacturer Seismic Qualification Certification: Submit certification that transfer switches accessories, and components will withstand seismic forces defined in Division 26 Section 26 0549 “Seismic Controls for Electrical Systems." Include the following:

1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.

   a. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified and the unit will be fully operational after the seismic event."

2. Dimensioned Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
3. Detailed description of equipment anchorage devices on which the certification is based. Provided by Seismic Engineer based on site conditions and installation.

1.3 QUALITY ASSURANCE

A. 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.

B. Manufacturer Qualifications: Maintain a service center capable of providing training, parts, and emergency maintenance repairs within a response period of less than eight hours from time of notification.

C. Comply with NEMA ICS 1.

D. Comply with NFPA 70.

E. Comply with NFPA 99.

F. Comply with NFPA 110.

G. Comply with UL 1008 unless requirements of these Specifications are stricter.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: ASCO Bulletin 7000 Series or equivalent by Russelectric, Kohler, Caterpillar, or *Cummins – Addendum 2 – 2/10/25*. Voltage and ampere ratings as indicated on the drawings.

B. Approval is subject compliance with maximum unit dimensions shown on drawings.

2.2 GENERAL TRANSFER-SWITCH PRODUCT REQUIREMENTS

A. Indicated Current Ratings: Apply as defined in UL 1008 for continuous loading and total system transfer, including tungsten filament lamp loads not exceeding 30 percent of switch ampere rating, unless otherwise indicated.

B. Tested Fault-Current Closing and Withstand Ratings: Adequate for duty imposed by protective devices at installation locations in Project under the fault conditions indicated on the drawings, based on testing according to UL 1008.

C. Microprocessor Controls: Microprocessor based controller with Control and Display Panel mounted on face of door, panel shall have LED source and switch indication lights and membrane interface panel for test and time delay bypass controls.

D. Resistance to Damage by Voltage Transients: Components shall meet or exceed voltage-surge withstand capability requirements when tested according to IEEE C62.41. Components shall meet or exceed voltage-impulse withstand test of NEMA ICS 1.

E. Electrical Operation: Accomplish by a nonfused, momentarily energized solenoid or electric-motor-operated mechanism, mechanically and electrically interlocked in both directions.

F. Switch Characteristics: Designed for continuous-duty repetitive transfer of full-rated current between active power sources.

1. Limitation: Switches using molded-case switches or circuit breakers or insulated-case circuit-breaker components are not acceptable.
2. Switch Action: Double throw; mechanically held in both directions.

3. Contacts: Silver composition or silver alloy for load-current switching. Conventional automatic transfer-switch units, rated 600 A and higher, shall have separate arcing contacts.

G. Neutral Switching. Where four-pole switches are indicated, provide neutral pole switched simultaneously with phase poles.

H. Neutral Terminal: Solid and fully rated, unless otherwise indicated.

I. Annunciation, Control, and Programming Interface Components: Devices at transfer switches for communicating with remote programming devices, annunciators, or annunciator and control panels shall have communication capability matched with remote device.

J. Factory Wiring: Train and bundle factory wiring and label, consistent with Shop Drawings, either by color-code or by numbered or lettered wire and cable tape markers at terminations. Color-coding and wire and cable tape markers are specified in Division 26 Section "Identification for Electrical Systems."

1. Designated Terminals: Pressure type, suitable for types and sizes of field wiring indicated.
2. Power-Terminal Arrangement and Field-Wiring Space: Suitable for top, side, or bottom entrance of feeder conductors as indicated.
3. Control Wiring: Equipped with lugs suitable for connection to terminal strips.

K. Enclosures: General-purpose NEMA 250, Type 1, complying with NEMA ICS 6 and UL 508, unless otherwise indicated.

2.3 FEATURES AND ACCESSORIES

A. Comply with Level 1 equipment according to NFPA 110.

B. Switching Arrangement: Double-throw type, incapable of pauses or intermediate position stops during normal functioning, unless otherwise indicated.

C. Manual Switch Operation: Under load, with door closed and with either or both sources energized. Transfer time is same as for electrical operation. Control circuit automatically disconnects from electrical operator during manual operation.

D. Signal-Before-Transfer Contacts: A set of normally open/normally closed dry contacts operates in advance of retransfer to normal source. Interval is adjustable from 1 to 30 seconds.

E. Transfer Switches Based on Molded-Case-Switch Components: Comply with NEMA AB 1, UL 489, and UL 869A.

F. Automatic Closed-Transition Transfer Switches: Include the following functions and characteristics:

1. Fully automatic make-before-break operation.

2. Load transfer without interruption, through momentary interconnection of both power sources not exceeding 100 ms.
3. Initiation of No-Interruption Transfer: Controlled by in-phase monitor and sensors confirming both sources are present and acceptable.

    a. Initiation occurs without active control of generator.
    b. Controls ensure that closed-transition load transfer closure occurs only when the 2 sources are within plus or minus 5 electrical degrees maximum, and plus or minus 5 percent maximum voltage difference.

4. Failure of power source serving load initiates automatic break-before-make transfer.

5. Provide “Fail-To-Transfer” auxiliary contact to shunt-trip normal or emergency input breaker upon failure of switch to open either normal or emergency source after 100 ms. Provide local alarm condition of “Fail-To-Transfer” (light indication and audible device) as well as NO/NC auxiliary contacts for remote annunciation/alarm.

G. In-Phase Monitor: Factory-wired, internal relay controls transfer so it occurs only when the two sources are synchronized in phase. Relay compares phase relationship and frequency difference between normal and emergency sources and initiates transfer when both sources are within 15 electrical degrees, and only if transfer can be completed within 60 electrical degrees. Transfer is initiated only if both sources are within 2 Hz of nominal frequency and 70 percent or more of nominal voltage.

H. Motor Disconnect and Timing Relay: Controls designate starters so they disconnect motors before transfer and reconnect them selectively at an adjustable time interval after transfer. Time delay for reconnecting individual motor loads is adjustable between 1 and 60 seconds, and settings are as indicated. Relay contacts handling motor-control circuit inrush and seal currents are rated for actual currents to be encountered.

I. Automatic Transfer-Switch Features:

1. Undervoltage Sensing for Each Phase of Normal Source: Sense low phase-to-ground voltage on each phase. Pickup voltage shall be adjustable from 85 to 100 percent of nominal, and dropout voltage is adjustable from 75 to 98 percent of pickup value. Factory set for pickup at 90 percent and dropout at 85 percent.
2. Adjustable Time Delay: For override of normal-source voltage sensing to delay transfer and engine start signals. Adjustable from zero to six seconds, and factory set for one second.
3. Current Sensors for each phase and neutral of Load Source: Sensors shall be wired to LCD display to allow reading of current for each phase as well as RMS summary load.
4. Voltage/Frequency Lockout Relay: Prevent premature transfer to generator. Pickup voltage shall be adjustable from 85 to 100 percent of nominal. Factory set for pickup at 90 percent. Pickup frequency shall be adjustable from 90 to 100 percent of nominal. Factory set for pickup at 95 percent.
5. Time Delay for Retransfer to Normal Source: Adjustable from 0 to 30 minutes, and factory set for 10 minutes to automatically defeat delay on loss of voltage or sustained undervoltage of emergency source, provided normal supply has been restored.
6. Test Switch: Simulate normal-source failure.
7. Switch-Position Pilot Lights: Indicate source to which load is connected.

8. Source-Available Indicating Lights: Supervise sources via transfer-switch normal- and emergency-source sensing circuits.

    a. Normal Power Supervision: Green light with nameplate indicating "Normal Source Available."
    b. Emergency Power Supervision: Red light with nameplate indicating "Emergency Source Available."

9. All pilot/indication lights shall be LED type for long life.
10. Unassigned Auxiliary Contacts: Two normally open/normally closed, single-pole, double-throw contacts for each switch position, rated 10 A at 240-V ac.
11. Transfer Override Switch: Overrides automatic retransfer control so automatic transfer switch will remain connected to emergency power source regardless of condition of normal source. Pilot light indicates override status.
12. Terminal provisions for connection of remote test and serial communications port for remote monitoring/annunciation.
13. Engine Starting Contacts: One isolated and normally closed, and one isolated and normally open; rated 10 A at 32-V dc minimum.
14. Engine Shutdown Contacts: Instantaneous; shall initiate shutdown sequence at remote engine-generator controls after retransfer of load to normal source.
15. Engine Shutdown Contacts: Time delay adjustable from zero to five minutes, and factory set for five minutes. Contacts shall initiate shutdown at remote engine-generator controls after retransfer of load to normal source.
16. Engine-Generator Exerciser: Solid-state, programmable-time switch starts engine generator and transfers load to it from normal source for a preset time, then retransfers and shuts down engine after a preset cool-down period. Initiates exercise cycle at preset intervals adjustable from 7 to 30 days. Running periods are adjustable from 10 to 30 minutes. Factory settings are for 7-day exercise cycle, 20-minute running period, and 5-minute cool-down period. Exerciser features include the following:

    a. Exerciser Transfer Selector Switch: Permits selection of exercise with and without load transfer.
    b. Push-button programming control with digital display of settings.
    c. Integral battery operation of time switch when normal control power is not available.

17. NEMA 3R enclosure shall be provided for outdoor transfer switches, All controls shall be located withing panel face enclosed by gasketed locking cover.
    a. Include 120 volt thermostatically controlled anti-condensation strip heater.

2.4 REMOTE ANNUNCIATOR SYSTEM

A. Functional Description: Remote annunciator panel shall annunciate conditions for indicated transfer switches and portable generator interconnect panel as included in the generator set remote annunciator or auxiliary remote annunciator. Annunciation shall include the following:

1. Sources available, as defined by actual pickup and dropout settings of transfer-switch controls.
2. Switch position.

3. Portable generator interconnect panel status switches for ‘generator off line’ and ‘interlock engaged’ contacts.

B. Annunciator Panel: LED-lamp type with audible signal and silencing switch.

1. Indicating Lights: Grouped for each transfer switch monitored.
2. Label each group, indicating transfer switch it monitors, location of switch, and identity of load it serves.
3. Mounting: Flush, modular, steel cabinet, unless otherwise indicated.
4. Lamp Test: Push-to-test or lamp-test switch on front panel.

2.5 GENERATOR DOCKING STATION GENERAL REQUIREMENTS

A. Docking Station Ampacity-Voltage requirements shall be as indicated on the drawings. Provide for Life-Safety System, at a minimum. Provide for other Systems if indicated on drawings.

B. Enclosure shall be UL 1008 Listed, NEMA 3R rated with multiple single or 3-point latching and locking provisions, Factory applied finish in ANSI #61 Medium Light Grey. UL listed acrylic baked paint finish over a rust-inhibiting, corrosion-resistant primer on treated metal surface.

C. Station shall have Camlock cable connections for connecting two sets of 400 amp temporary cables; number of sets as required to meet unit ampacity. Spring-loaded or latching hinged flap for cable entry.

D. Where switch utilizes manual, double-throw action to transfer load, means shall be available to padlock switch in all positions.

E. Include 120 volt thermostatically controlled anti-condensation strip heater.

F. Refer to drawing information for additional interface requirements.

2.6 SOURCE QUALITY CONTROL

A. Factory test and inspect components, assembled switches, and associated equipment. Ensure proper operation. Check transfer time and voltage, frequency, and time-delay settings for compliance with specified requirements. Perform dielectric strength test complying with NEMA ICS 1.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Utilize each fastener and support to carry load indicated by seismic design requirements and according to seismic-restraint details as required by Seismic Design Engineer. See Division 26 Section 26 0459 "Seismic Controls for Electrical Systems."

B. Wall Mounted Switch: Utilize appropriate brackets or inserts.

C. Floor Mounted Switch: Anchor to concrete base by bolting.

1. Concrete Bases: 3 inches high, reinforced, with chamfered edges. Extend base no more than 4 inches in all directions beyond the maximum dimensions of switch, unless otherwise indicated or unless required for seismic support. Construct concrete bases according to Division 26 Section "Hangers and Supports for Electrical Systems."

D. Identify components according to Division 26 Section "Identification for Electrical Systems."

E. Set field-adjustable intervals and delays, relays, and engine exerciser clock.

3.2 CONNECTIONS

A. Ground equipment according to Division 26 Section "Grounding and Bonding for Electrical Systems."

B. Connect wiring according to Division 26 Section "Low-Voltage Electrical Power Conductors and Cables."

1. Connect automatic transfer switch(es) to initiate cranking of the emergency generator and to provide remote annunciation/control where specified or indicated on the drawings. Include installation of all wire and conduit associated with each automatic transfer switch.

3.3 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. Coordinate tests with tests of generator and run them concurrently.

C. Report results of tests and inspections in writing. Record adjustable relay settings and measured insulation resistances and time delays. Attach a label or tag to each tested component indicating satisfactory completion of tests.

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

E. Arc Flash Evaluation Studies are required to be made by the distribution switchgear manufacturer. The Electrical Contractor shall provide the appropriate labels to the automatic transfer switch(es).

3.4 WARRANTY

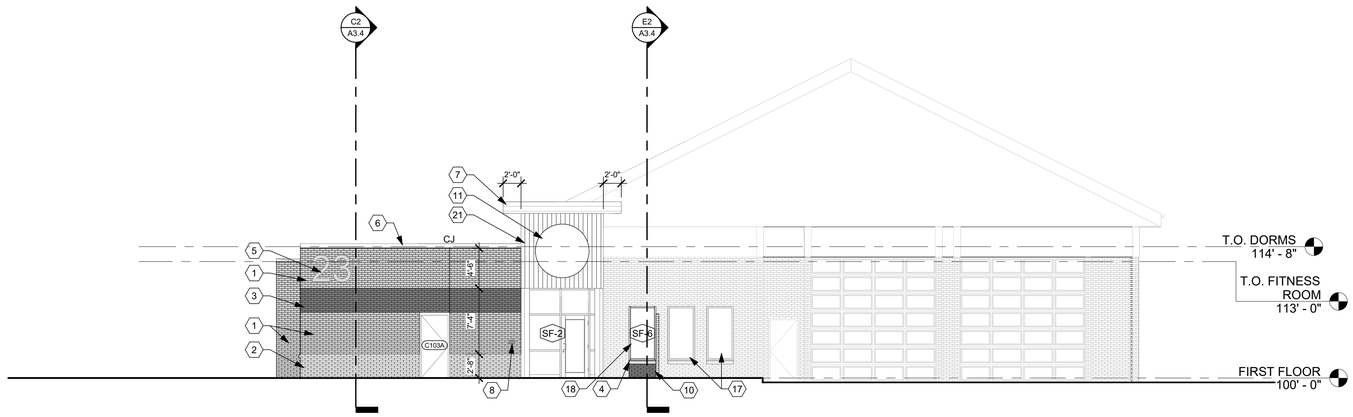
A. Provide 5-year extended warranty (Parts and Labor). Provide the certificate directly to the Owner accompanied by a letter of transmittal. Provide a copy to the Architect/Engineer with shop drawings.

3.5 DEMONSTRATION

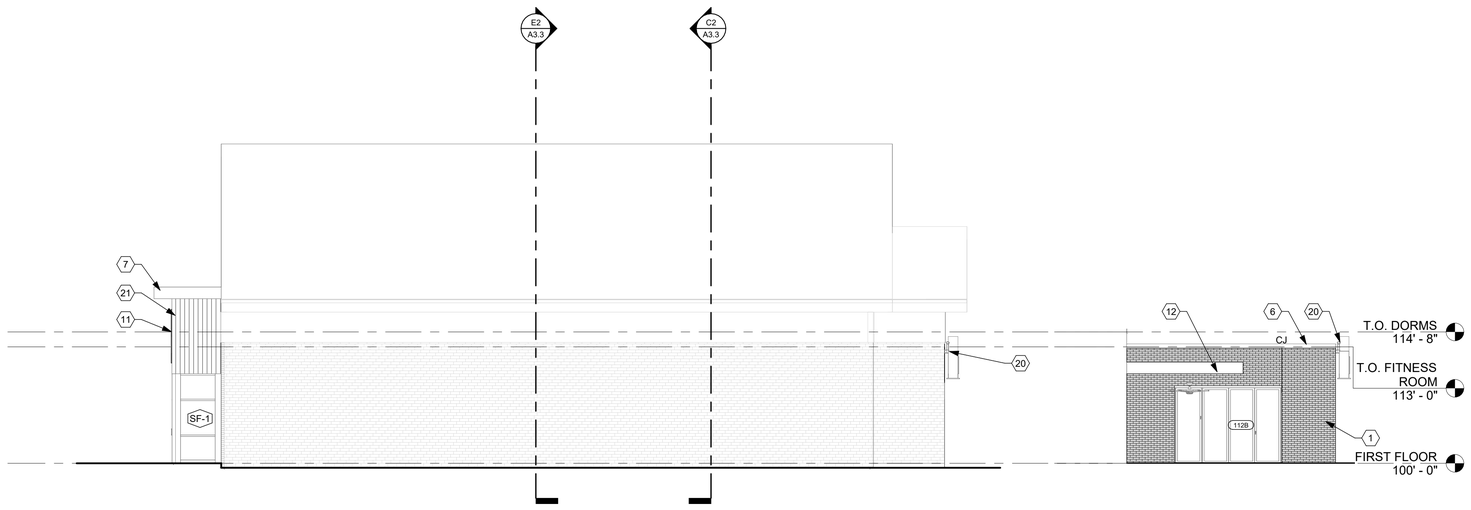
A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain transfer switches and related emergency standby equipment.

B. Coordinate this training with that for generator equipment.

END OF SECTION 263600



C2 EAST ELEVATION
1/8" = 1'-0"



F2 NORTH ELEVATION
1/8" = 1'-0"

F5 FITNESS WING PARTIAL NORTH ELEVATION
1/8" = 1'-0"

CONSTRUCTION NOTES

00 INDICATES CONSTRUCTION NOTE.

1 NEW MODULAR BRICK VENEER COLOR 1.

2 NEW MODULAR BRICK VENEER COLOR 2.

3 NEW MODULAR BRICK VENEER COLOR 3.

4 CAST STONE WINDOW SILL. MATCH EXISTING.

2 5 STATION NUMBERS SIGNAGE. REFER TO SHEET A5.4 FOR DETAILS.

6 PREFINISHED GALVALUME COPING.

7 PREFINISHED GALVALUME FASCIA. COLOR TO BE SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE OF COLORS.

8 KNOX BOX MOUNTED AT 48" A.F.F.

9 NEW 5" PREFINISHED GALVALUME GUTTER.

10 INFILL PORTION OF WALL WITH MODULAR BRICK VENEER. MATCH EXISTING BRICK VENEER.

2 11 ENTRANCE LOGO SIGN. REFER TO SHEET A5.4 FOR DETAILS.

12 PREMANUFACTURED METAL AWNING. COLOR TO BE SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE OF COLORS. REFER TO SHEET A5.1 FOR DETAILS

13 NEW 4"X6" PREFINISHED GALVALUME DOWNSPOUT. REFER TO A5.2 FOR DOWNSPOUT ADAPTOR DETAILS.

14 EXISTING DOWNSPOUT TO REMAIN.

15 NEW 4"x6" PREFINISHED GALVALUME DOWNSPOUT TO DRAIN ONTO NEW FLAT ROOF. INSTALL INTO EXISTING OR NEW GUTTER.

16 EXISTING WINDOW TO REMAIN.

17 EXISTING WINDOWS TO REMAIN.

18 NEW STOREFRONT WINDOW TO MATCH ADJACENT FRAMES AND FINISH.

19 TRAINING OPENING @ 0'-6" ABOVE LANDING ON INTERIOR. 1/16" DIAMOND PLATE FROM LANDING TO BOTTOM OF FRAME AND 24" ABOVE FRAME ON INTERIOR. 1/16" DIAMOND PLATE 24" BELOW FRAME ON EXTERIOR. REFER TO DOOR SCHEDULE FOR DETAILS.

20 PARAPET GUARDRAIL. REFER TO ROOF PLAN FOR DETAILS.

21 VERTICAL METAL PLANK SYSTEM.

GENERAL NOTES

A. "CJ" = MASONRY CONTROL JOINT.

B. FOR SIDWALKS AND EXTERIOR PADS REFER TO CIVIL SITE PLAN AND LANDSCAPE PLAN.

C. ALL BRICK VENEER TO BE 1/2 RUNNING BOND.

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Expiration Date 12/31/2025

Renovation and Addition

Huber Heights Fire Station 23

7435 Old Troy Pike, Dayton, Ohio 45424

ISSUE

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2	2/10/2025	Addendum 2

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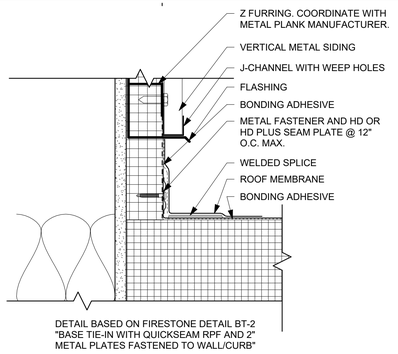
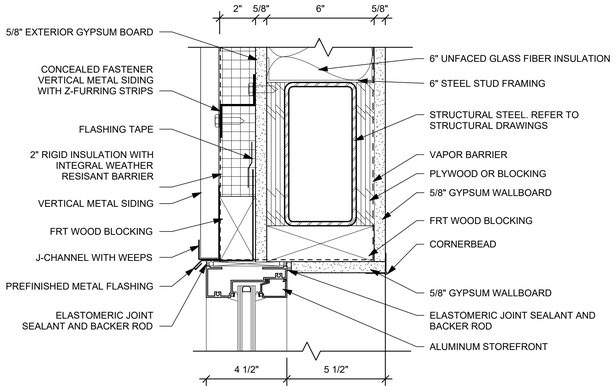
TITLE
EXTERIOR ELEVATIONS

SHEET NO.
A3.1

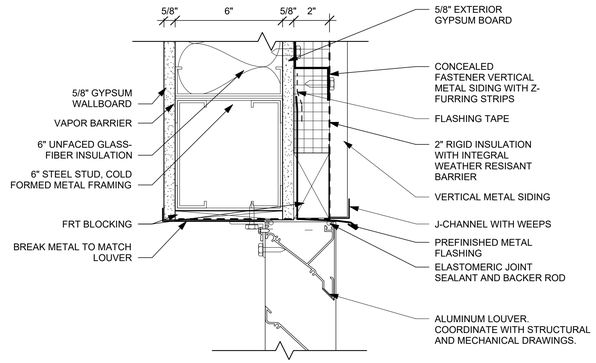
2/10/2025 12:29:12 AM



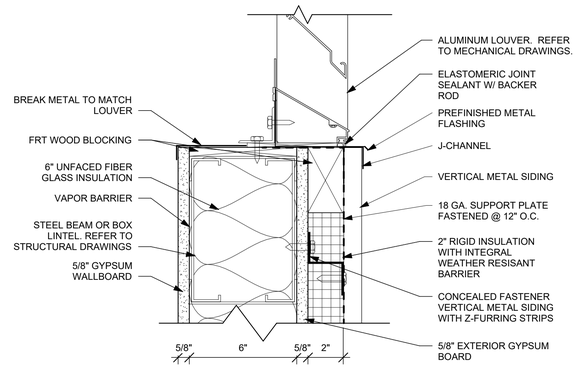
B1 FLAT ROOF @ VERTICAL METAL SIDING
3" = 1'-0"



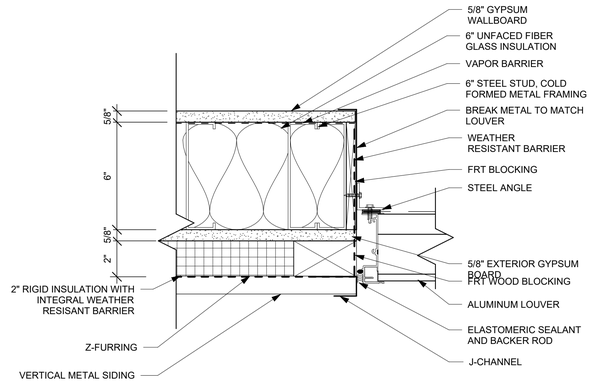
D1 ENTRY HEAD DETAIL
3" = 1'-0"



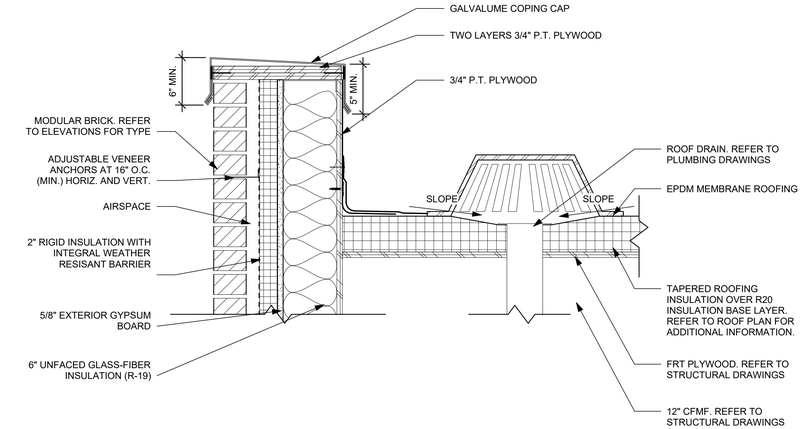
B3 LOUVER HEAD DETAIL
3" = 1'-0"



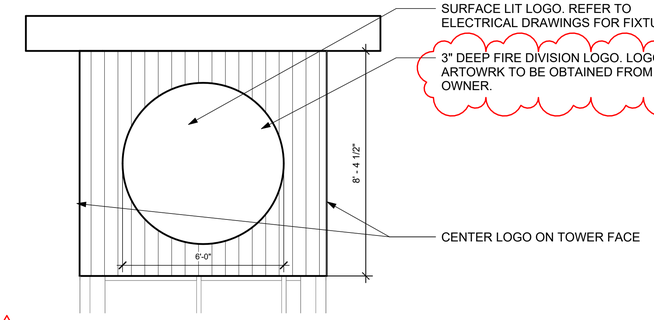
D3 LOUVER SILL DETAIL
3" = 1'-0"



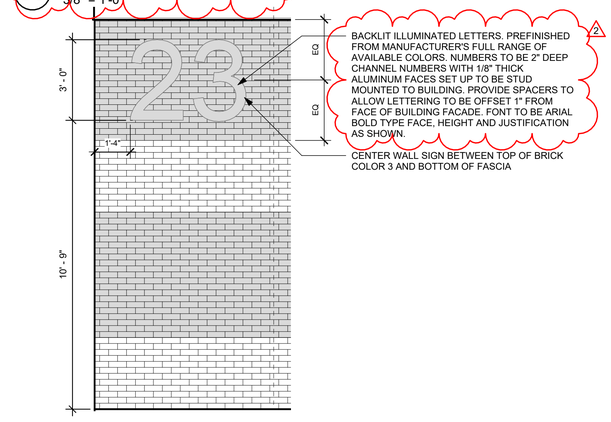
F3 LOUVER JAMB DETAIL
3" = 1'-0"



B5 INTERNAL GUTTER DETAIL
1 1/2" = 1'-0"



D5 ENTRANCE LOGO SIGN
3/8" = 1'-0"



F5 STATION NUMBERS
3/8" = 1'-0"

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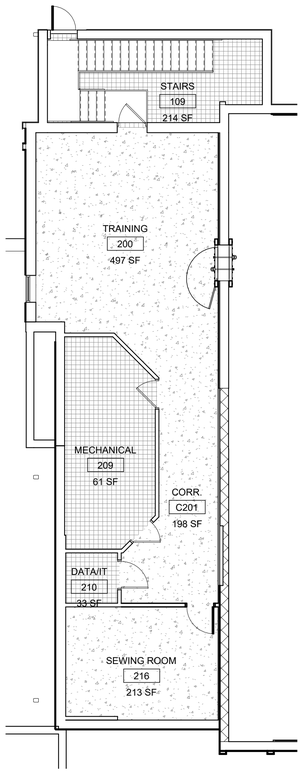
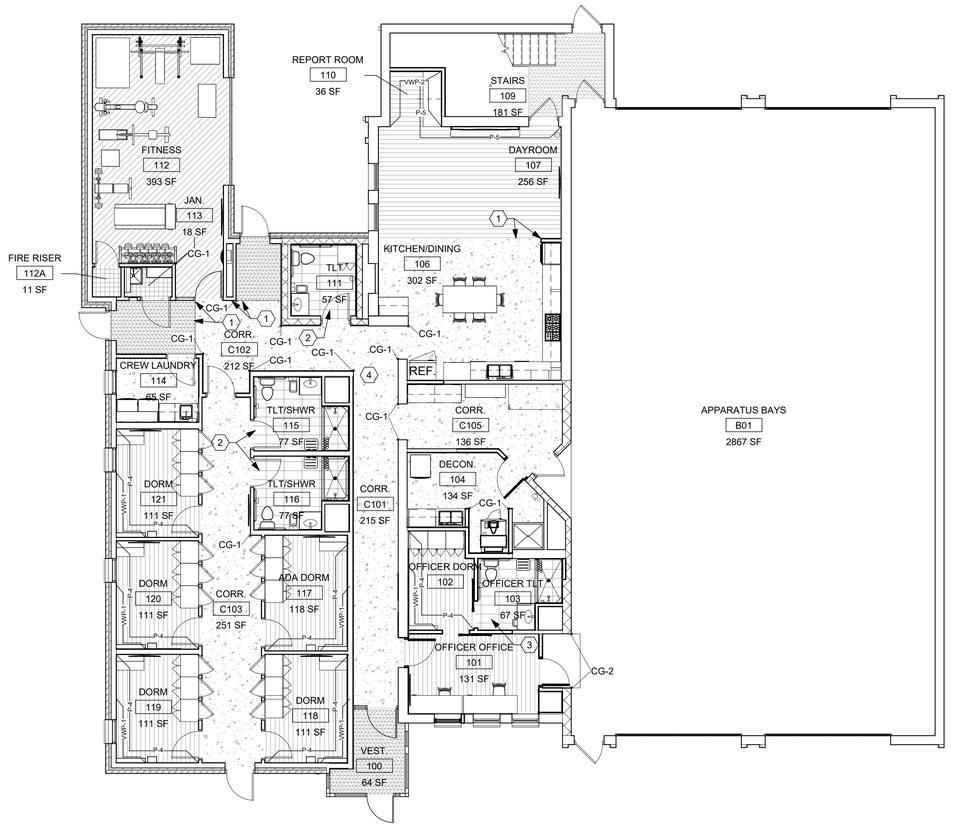
TITLE
EXTERIOR DETAILS

SHEET NO.
A5.4

2/10/2025 12:29:03 AM



E1 SECOND FLOOR FINISHES PLAN
1/8" = 1'-0"



E3 FIRST FLOOR FINISHES PLAN
1/8" = 1'-0"

CONSTRUCTION NOTES

00 INDICATES CONSTRUCTION NOTE.

1 ALIGN.

2 REFER TO D1/A7.02, PARTIAL ENLARGED FLOOR PLAN B, FOR FLOOR TILE (PT-1) LAYOUT.

3 REFER TO C1/A7.01, PARTIAL ENLARGED FLOOR PLAN A, FOR FLOOR TILE (PT-1) LAYOUT.

2 4 NOT USED.

GENERAL NOTES

A. REFER TO FINISH SCHEDULE ON A0.2 FOR ADDITIONAL MATERIAL DETAILS AND LOCATIONS.

B. TRANSITION STRIPS ARE REQUIRED WHERE DIFFERING FLOORING TYPES MEET.

LEGEND

- EXISTING
- CPT-2 CARPET TILE
- CPT-1 CARPET TILE
- MAT-1 WALK OFF MAT
- EPOXY
- PT-1 PORCELAIN TILE
- RT-1 RUBBER TILE
- SC-1 SEALED CONCRETE
- VWP — VINYL WALL PROTECTION TYPE
- P — ACCENT PAINT COLOR LOCATION
- CG-1, CG-2 — CORNER GUARD LOCATION

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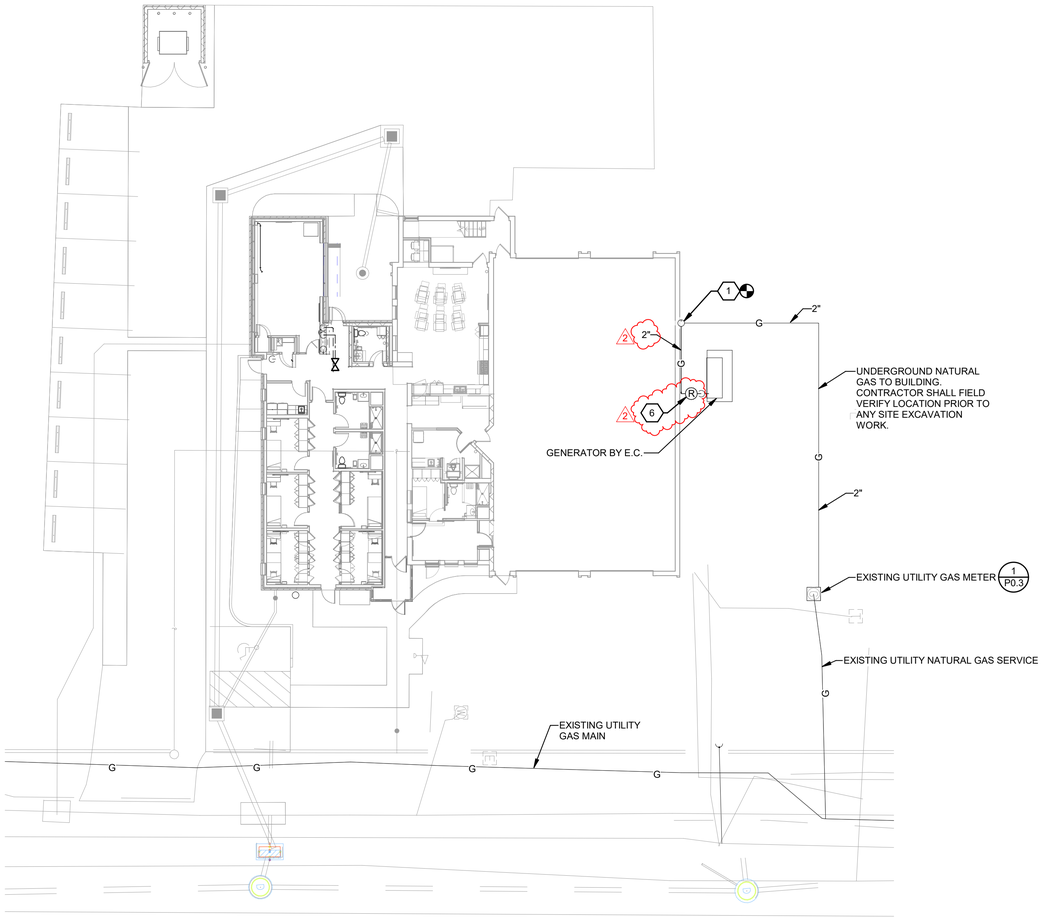
TITLE
FINISH PLANS

SHEET NO.
A9.1

2/10/2025 12:28:51 AM



SITE PLAN

SCALE: 1/16" = 1'-0"

CONSTRUCTION NOTES

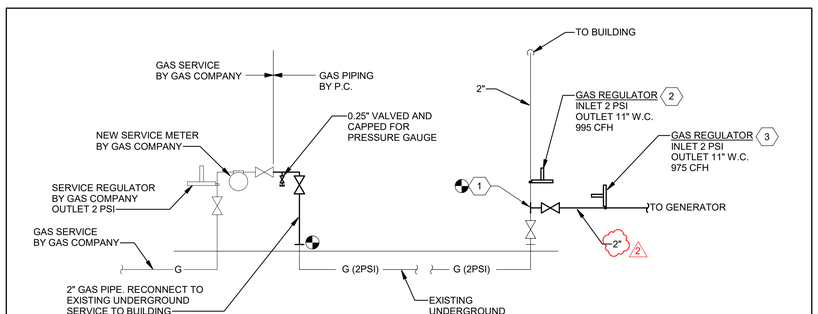
1. REMOVE EXISTING GENERATOR GAS SERVICE TO RISER. REPLACE BRANCH TEE WITH NEW 2"x2"x1" TEE AND RUN NEW 1" GAS PIPE TO NEW GENERATOR.
2. VERIFY WITH MANUFACTURER EXISTING REGULATOR CAPACITY. PROVIDE NEW REGULATOR FOR NEW GAS LOAD IF REQUIRED.
3. NEW GAS REGULATOR.
4. SECURE PIPE TO EXTERIOR WALL.
5. METER REPLACED BY UTILITY PURVEYOR.
6. GENERATOR REGULATOR LOCATION. 2

GAS LOAD SCHEDULE

GENERAL NOTES

• PIPING SIZED USING THE LONGEST LENGTH METHOD.
•LOW PRESSURE (7" W.C.) GAS PIPING SIZED USING TABLE 402.4(3) OF THE 2021 IFC.

ITEM	LOAD	
GENERATOR (NEW)	975	CFH
FC-1 (NEW)	80	CFH
FURNACE (EXISTING)	120	CFH
FURNACE (EXISTING)	120	CFH
GAS COOKTOP (NEW)	220	CFH
GAS GRILLE (EXISTING)	75	CFH
RADIANT HEATERS (EXISTING)	300	CFH
WATER HEATER (EXISTING)	80	CFH



1 GAS SERVICE RISER
N.T.S.

0 8 16 32 48 64 80

SCALE: 1/16"=1'-0"

Ohio Utilities Protection Service Call 811 before you dig

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JEFFREY D. ZELINSKI
63822
REGISTERED PROFESSIONAL ENGINEER

JEFFERY D. ZELINSKI, LICENSE #63822
EXPIRATION DATE 12/31/2025

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TITLE
SITE PLAN

SHEET NO.
P0.3

2/7/2025 8:11:52 AM

AIR DEVICE SCHEDULE

GENERAL NOTES

AIR DEVICES BASED ON PRICE.
EQUAL BY TITUS, TUTTLE & BAILEY

MAXIMUM SOUND LEVEL AT NC-25 AT INDICATED AIR FLOW.

BALANCING DAMPER GENERALLY PROVIDED IN DUCT, NOT AT DEVICE.

STANDARD WHITE BAKED ACRYLIC FINISH UNLESS NOTED OTHERWISE.

DIFFUSERS SHALL BE 4-WAY THROW UNLESS OTHERWISE NOTED OR INDICATED ON DRAWINGS.

VERIFY CEILING TYPE AND PROVIDE APPROPRIATE MOUNTING FRAME WHERE REQUIRED.

TAG	DESCRIPTION	MODEL NO.	MATERIAL	ACCESSORIES	NOTES
S1 & S1A	2'X2' SQUARE PLAQUE DIFFUSER ROUND DUCT CONNECTION	SPD (ASPD)	STEEL (A) = ALUMINUM	INSULATED BACKPAN (STYLE 31)	
S2 & S2A	12"X12"SQUARE PLAQUE DIFFUSER ROUND DUCT CONNECTION	SPD (ASPD)	STEEL (A) = ALUMINUM	INSULATED BACKPAN (STYLE 31)	1
S3	LOUVERED SUPPLY GRILLE DOUBLE DEFLECTION W/ LONG FRONT BLADES 3/4" BLADE SPACING	520	STEEL		
S4	LINEAR SLOT TYPE WITH PLENUM (2) 1-1/2" SLOTS 48" LENGTH ROUND DUCT CONNECTION	TBD2	STEEL	EXTERNAL INSULATED PLENUM	
R1	RETURN GRILLE DEVICE SIZE - 24" X 24" 45° HORIZONTAL BLADES 1/2" SPACING	635	ALUMINUM	RETURN AIR CANOPY	
R2	RETURN GRILLE DEVICE SIZE - 24" X 12" 45° HORIZONTAL BLADES 1/2" SPACING BLADES PARALLEL TO LONG DIMENSION	635	ALUMINUM	RETURN AIR CANOPY	
R3	LOUVERED FACE SIDE WALL RETURN GRILLE DEVICE SIZE - INDICATED ON PLAN MOUNTING HEIGHT - INDICATED ON PLAN 45° HORIZONTAL BLADES 1/2" SPACING HORIZONTAL BLADES	635	ALUMINUM		
R4	LOUVERED FACE SIDE WALL RETURN GRILLE DEVICE SIZE - INDICATED ON PLAN MOUNTING HEIGHT - INDICATED ON PLAN 45° HORIZONTAL BLADES 3/4" SPACING HORIZONTAL BLADES	710	STAINLESS STEEL		
E1	RETURN GRILLE DEVICE SIZE - 24" X 12" 45° HORIZONTAL BLADES 1/2" SPACING BLADES PARALLEL TO LONG DIMENSION	635	ALUMINUM		1
E2	EXHAUST GRILLE DEVICE SIZE - 12" X 12" 45° HORIZONTAL BLADES 1/2" SPACING	635	ALUMINUM		

NOTES:

1. DEVICE TO BE SURFACE MOUNTED IN CENTER OF ACOUSTIC CEILING PAD FOR LAY-IN APPLICATION.

LOUVER SCHEDULE

GENERAL NOTES

BASIS OF DESIGN: GREENHECK
EQUAL BY: POTTORFF, RUSKIN, AIROLITE

MAXIMUM 500 FPM ON INTAKE LOUVERS
MAXIMUM 1000 FPM ON EXHAUST LOUVERS

FINAL COLOR SELECTION BY ARCHITECT.

TAG	DESCRIPTION	MODEL NO.	MATERIAL	ACCESSORIES	NOTES
L-1	FIXED BLADE LOUVER DEVICE SIZE - 18"x18" LOUVER FRAME SIZE - 6" FRAME	ESD-635	ALUMINUM	BLACK BIRDSCREEN	
L-2	FIXED BLADE LOUVER DEVICE SIZE - 18"x18" LOUVER FRAME SIZE - 6" FRAME	ESD-635	ALUMINUM	BLACK BIRDSCREEN	
L-3	FIXED BLADE LOUVER DEVICE SIZE - 12"x16" FRAME SIZE - 6"	ESD-603	ALUMINUM	BLACK BIRDSCREEN HINGED ACCESS	1

NOTES:

1. PROVIDE INSULATED DAMPER, GREENHECK #ICD-45. ACTUATOR 120V, POWERED CLOSED, SPRING RETURN, FAIL OPEN.

CIRCULATION FAN SCHEDULE

TAG	DESCRIPTION / MODEL #	BLADE DIA.	MOTOR WATTS	ELECTRIC	NOTES
CF-1	RESIDENTIAL LOW PROFILE / HUNTER FANS #KENNICOTT OUTDOOR	52"	55	120V / 1PH	1, 2, 3, 4, 6
WF-1	SIDEWALL OSCILLATING FAN / GLOBAL INDUSTRIAL #WB607050	24"	150	120V / 1PH	4, 5

NOTES:

1. LOW PROFILE, "HUGGER" TYPE.
2. FIXED, WALL MOUNTED, THREE SPEED CONTROL FURNISHED BY H.C., INSTALLED BY E.C.
3. FINISH COLOR SELECTION BY ARCHITECT.
4. FAN SHALL BE PROVIDED WITH BLADE SAFETY CAGE.
5. PROVIDE PULL STRING EXTENSION TO CONTROL FAN SPEED.
6. PATIO FAN SHALL BE OUTDOOR, WET RATED.

EQUIPMENT NOTES

(#)

FC-1 & CD-1

A/C WITH FURNACE/COIL SPLIT SYSTEM
BASIS OF DESIGN: TRANE
INDOOR UNIT MODEL #: 4TXC+S9X1B
OUTDOOR UNIT MODEL #: 4TTR4
SYSTEM CAPACITY: 3.5 TONS

FAN PERFORMACE:
- 1,475 CFM

COOLING PERFORMANCE:
- E.A.T.: 75.5 DB / 63 WB
- L.A.T.: 55 DB / 54 WB
- TOTAL CAPACITY: 42 MBH
- SENSIBLE CAPACTY: 31 MBH

HEATING PERFORMANCE:
- 96% EFFICIENT FURNACE
- INPUT / OUTPUT (MBH): 80 / 77.6
- FUEL TYPE: NATURAL GAS

FILTER SIZE:
- 16"x25"x1"

REFRIGERANT:
- R-454b

ELECTRICAL DATA:
- INDOOR UNIT: 120V / 1PH / 10.3 MCA / 15 MOCP
- OUTDOOR UNIT: 240V / 1PH / 20 MCA / 35 MOCP

APPROVED EQUALS: DAIKIN, YORK, CARRIER. 2

NOTES:
1. PROVIDE INSULATED REFRIGERANT LINTSET FOR UNIT.
2. PROVIDE REMOTE MOUNTED THERMOSTAT.
3. PROVIDE CONDENSATE NEUTRALIZING KIT.

FAN & ROOF VENTILATOR SCHEDULE

BASIS OF DESIGN - GREENHECK
REFER TO SPECIFICATIONS FOR OTHER MANUFACTURERS

VFD DRIVEN MOTORS SHALL BE PROVIDED WITH SHAFT GROUNDING RINGS, VFD DUTY MOTORS.

REFER TO INSTALLATION DETAILS.

TAG	SERVICE	AREA	DESCRIPTION	MODEL NUMBER & SIZE	ROOF OPENING (L x W)	CAPACITY		ELECTRICAL		ELECTRIC				DRIVE TYPE		MOUNTING					APPLICATION				ACCESSORIES & OPTIONS								CONTROLS						
						AIRFLOW (CFM)	E.S.P. (IN. W.C.)	MOTOR HP	V/PH	DISCONNECT WITH FAN	DISCONNECT BY E.C.	VFD	ECM	DIRECT	BELT	ROOF CURB	BASE/FLOOR	SUSPENDED, INLINE	WALL	CEILING	UL 705 GREASE RATED	UL 864 SMOKE CONTROL	HIGH TEMP (ABOVE 200 °F)	EXPLOSION PROOF	VIBRATION ISOLATION	INSULATION HOUSING	THERMAL CONTROL	SLOPNG ROOF CURB	HINGED ROOF CURB	CURB EXTENSION	POWDER COAT FINISH	EPOXY INTERIOR FINISH	DDC CONNECTION	MANUALON/OFF SWITCH	DIAL SPEED CONTROLLER	HOA CONTROLLER	MOTORIZED DAMPER	GRAVITY DAMPER	NOTES
EF-1	DECON	MEZZ.	UPBLAST CENTRIFUGAL	CUE-090-VG	-	250	0.5	1/10	120 / 1	●			●	●	●	●																						2
EF-2	OFFICER R.R.	CLG.	CEILING FAN	CSP-A390-VG	-	100	0.5	1.5 MCA / 15 MOCP	120 / 1	●			●	●	●					●					●													
EF-3	IT	CLG.	CEILING FAN	CSP-A390-VG	-	200	0.5	1.9 MCA / 15 MOCP	120 / 1	●			●	●	●					●					●											●	●	1

NOTES:

1. FAN CONTROLLED THROUGH LINE VOLTAGE THERMOSTAT. SET INITIALLY TO 80 DEG. F.
2. REFER TO HOA CONTROLLER DIAGRAM.

FAN COIL UNIT SCHEDULE

BASIS OF DESIGN: MITSUBISHI
EQUAL BY: DAIKIN, YORK, CARRIER 2

- COOLING CAPACITIES BASED ON 95°F OUTDOOR AIR TEMP., HEATING BASED UPON -13°F OUTDOOR AIR TEMP.

UNIT	DESCRIPTION 2	MOUNTING	CONDENSING UNIT	CFM	E.S.P.	COOLING CAPACITY				HEATING CAPACITY		REFRIGERANT PIPING		ELECTRICAL			CABINET DIMENSIONS			UNIT WEIGHT (LBS)	MODEL NO.	NOTES
						SENS. MBH	TOTAL MBH	EAT (DB/WB)	LAT (DB/WB)	MBH	EAT / LAT	GAS	LIQUID	V/PH	MCA	MOCP	WIDTH	DEPTH	HEIGHT			
FC-2A	WALL MOUTNED	WALL	CD-2	279	-	15	17	76 / 67	55 / 54	15.5	68 / 105	1/2	1/4	230 / 1	1	NOTE 2	34-13/16	7-11/16	11-3/4	26	MSZ-EF18NAB-U2	1, 2, 3
FC-2B	WALL MOUNTED	WALL	CD-2	279	-	15	17	76 / 67	55 / 54	15.5	68 105	1/2	1/4	230 / 1	1	NOTE 2	34-13/16	7-11/16	11-3/4	26	MSZ-EF18NAB-U2	1, 2, 3

NOTES:

1. PROVIDE FLUSH MOUNT REMOTE THERMOSTAT.
2. INDOOR UNIT POWERED THROUGH OUTDOOR UNIT.
3. PROVIDE CONDENSATE PUMP. 2

CONDENSING UNIT SCHEDULE

BASIS OF DESIGN: MITSUBISHI
EQUAL BY: DAIKIN, YORK, CARRIER 2
GENERAL INFO: INVERTER DUTY COMPRESSOR.

UNIT	COOLING CAPACITY	HEATING CAPACITY	REFRIGERANT PIPING			MAX PIPING LENGTH (FT)	REFRIGERANT			ELECTRICAL			DIMENSIONS			UNIT WEIGHT (LBS)	MODEL NO.	NOTES
	MBH @ 95°F	MBH @ -13°F	GAS	LIQUID	H/L PRESSURE		TYPE	FACTORY CHARGE (LBS)	ADDITIONAL CHARGE (LBS)	V/PH	MCA	MOCP	WIDTH (IN.)	DEPTH (IN.)	HEIGHT (IN.)			
CD-2	36	31.1	5/8	3/8	NOT REQ.	245	R-410a	11.7	10	240 / 1	26	45	41-11/32	12-63/64	52-43/64	261	PUZ-HA36NKA	1, 2, 3, 4

NOTES:

1. PROVIDE WIND BAFFLE KIT TO PROVIDE LOW AMBIENT COOLING.
2. PROVIDE INSULATION TO REFRIGERANT LINE SETS.
3. PROVIDE HAIL GUARD.
4. ADDITIONAL REFRIGERANT CHARGE BY H.C.

BRANCH SELECTOR BOX SCHEDULE

BASIS OF DESIGN: MITSUBISHI
EQUAL BY: DAIKIN, YORK, CARRIER 2

UNIT	CONDENSING UNIT SERVED	AREA SERVED	# OF CIRCUITS	COOLING CAPACITY (MBH)	ELECTRICAL			CABINET DIMENSIONS			UNIT WEIGHT (LBS)	MODEL NO.	NOTES
					V/PH	MCA	MOCP	WIDTH	DEPTH	HEIGHT			
BS-1	CD-2	FITNESS	3	36	240 / 1	0.15	20	17-23/32	11-1/32	6-11/16	15	PAC-MKA33BC	1.

1. MOUNT TIGHT TO STRUCTURE WITH VIBRATION ISOLATOR HANGERS.

ENERGY RECOVERY VENTILATOR SCHEDULE

BASIS OF DESIGN: GREENHECK

ENTERING AIR CONDITIONS:
SUMMER OUTSIDE AIR: 90 DB / 74 WB
SUMMER EXHAUST AIR: 76 DB / 50% RH
WINTER OUTSIDE AIR: 0 DB
WINTER EXHAUST AIR: 68 DB

BASED ON WHEEL TYPE ERV.

UNIT	AREA SERVED	AIRFLOW (CFM)	EXHAUST E.S.P.	SUPPLY E.S.P.	COOLING			HEATING			ELECTRICAL			CABINET DIMENSIONS			UNIT WEIGHT (LBS)	MODEL NO.	NOTES
					ENTHALPY RECOVERY RATIO	EAT (DB/WB)	LAT (DB/WB)	ENTHALPY RECOVERY RATIO	EAT	LAT	V/PH	MCA	MOCP	WIDTH	DEPTH	HEIGHT			
ERV-1	ADDITION	325	0.75	0.75	84%	90 / 74	77.1 / 64.5	83%	0	57	120 / 1	20.5	25	35.3	45.8	23.8	240	MINIVENT-750-VG	1, 2

NOTES:

1. DISCONNECT WITH UNIT.
2. MERV 8 FILTERS ON OUTSIDE AIR AND EXHAUST AIR STREAMS.

ELECTRIC UNIT HEATER SCHEDULE

GENERAL NOTES

BASIS OF DESIGN: RAYWALL

UNIT NO.	DESCRIPTION	MODEL	MOUNTING	KW	MBH	AIR FLOW (CFM)	DIMENSIONS			VOLTAGE / PHASE	NOTES
							W (IN.)	H (IN.)	D (IN.)		
EUH-1	WALL HEATER	AFA230D	WALL RECESSED	3	10.2	175	16"	21"	4"	240 / 1	1
EUH-2	WALL HEATER	E3313T2RP	WALL RECESSED	1	3.4	175	14"	19"	4"	120 / 1	1

NOTES:

1. INTEGRAL THERMOSTAT AND DISCONNECT SWITCH.

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JEFFREY D. ZELINSKI, LICENSE #63822
EXPIRATION DATE 12/31/2025

Renovation and Addition

Huber Heights Fire Station 23

7435 Old Troy Pike, Dayton, Ohio 45424

ISSUE

NO.	DATE	DESCRIPTION
	12/18/2024	FOR CONSTRUCTION
2	02/10/2025	ADDENDUM 2

DATE	12/18/2024
JOB NO.	4262.00
DRAWN	DJZ
CHECKED	JDZ

TITLE
EQUIPMENT SCHEDULES

SHEET NO.
H0.3

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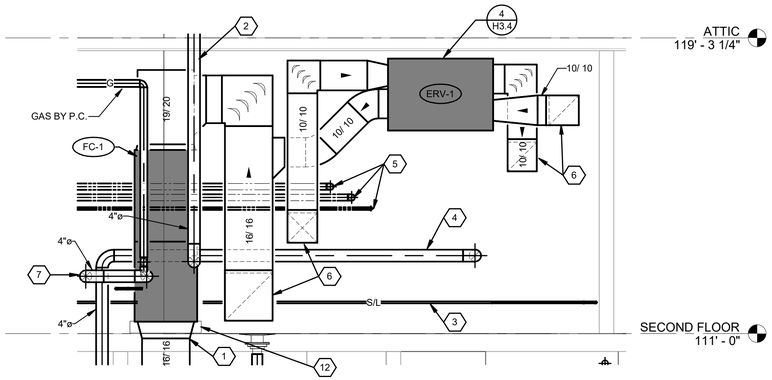
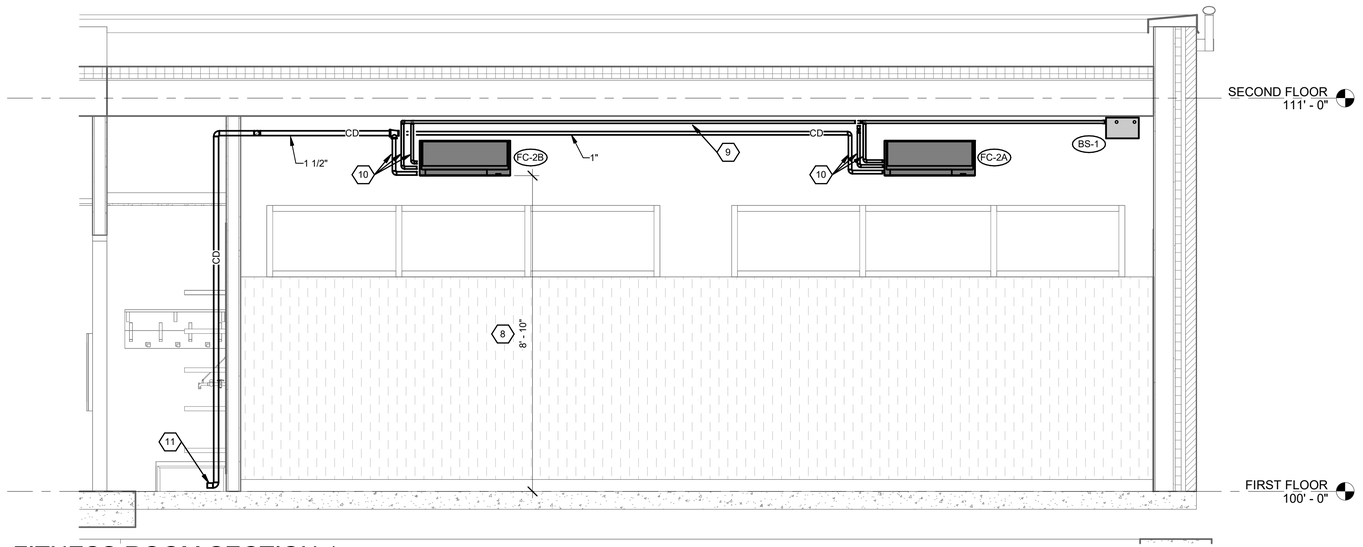


MECH ROOM SECTION 1

SCALE: 1/2" = 1'-0"



FITNESS ROOM SECTION 1

SCALE: 1/2" = 1'-0"

CONSTRUCTION NOTES

1. SUPPLY DUCT OUT OF BOTTOM OF UNIT. REUSE EXISTING FIRE POLE FLOOR PENENTRATION.
2. 4" DIAMETER FLUE UP THROUGH ROOF. INSTALL THROUGH ATTIC PER MANUFACTURERS RECOMMENDATION.
3. NEW REFRIGERANT LINE SET. CONNECT TO EXISTING INDOOR FURNACE.
4. DRYER VENT.
5. DOMESTIC WATER PLUMBING PIPES BY P.C.
6. DUCT INTO NEW "ROOF DOGHOUSE", REFER TO FLOOR PLAN.
7. COMBUSTION AIR INTAKE DUCT.
8. MOUNT FAN COIL UNITS 8'-10" A.F.F.
9. REFRIGERANT LINESET. MOUNT TIGHT TO STRUCTURE. PAINT INSULATION TO MATCH BASE MATERIAL COLORS.
10. PROVIDE VINYL ENCLOSURE TO CONSEAL PIPING MOUNTED TO WALL FACE. COLOR SELECTED BY ARCHITECT.
11. TERMINATE CONDENSATE DRAIN IN MOP SINK.
12. 4" CONCRETE PAD.

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STATE OF OHIO
JEFFREY D. ZELINSKI
63822
REGISTERED PROFESSIONAL ENGINEER

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PHASE 1 - SECTIONS

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