

Addendum 02

DOCUMENT 00 91 00

DATE: March 15, 2023

PROJECT: Tipp City Government Building Infill Addition
280 South Garber Drive
Tipp City, OH 45371

PROJECT #: 22094.0

OWNER: City of Tipp City
Contact: Doug Arnold
280 South Garber Drive
Tipp City, OH 45371

ARCHITECT: Garmann Miller
38 South Lincoln Drive
P.O. Box 71
Minster, Ohio 45865

TO: Prospective Bidders

This addendum form is a part of the Contract Documents and modifies the Bidding Documents dated February 2, 2023 with amendments and additions noted below.

Acknowledge receipt of this Addendum on the Bid Form. Failure to do so may disqualify the Bidder.

This addendum consists of 03 pages, 04 specification sections, 03 re-issued drawing sheets.

FOR INFORMATION ONLY

NONE

CHANGES TO THE PROJECT MANUAL

1. Section 00 41 13 – Bid Form: Revise the "owner's desired completion date". Refer to the attached.
2. Section 07 22 16 Roof Board Insulation:
 - a. Article 2.01 Insulation Manufacturers, Paragraph A. Insulation; Add Elevate: www.holcimelevate.com as an acceptable manufacturer



- b. Article 2.02 Insulation, Paragraph A. Polyisocyanurate Board Insulation, Subparagraph, 6. Manufacturers; Add Elevate: www.holcimelevate.com as an acceptable manufacturer.
 - c. Article 2.02 Insulation, Paragraph B. Tapered Polyisocyanurate Board Insulation, Subparagraph, 9. Manufacturers; Add Elevate: www.holcimelevate.com as an acceptable manufacturer.
3. Section 07 42 13.13 Formed Metal Wall Panels:
 - a. Reference updates to Article 1.09 Warranty
 4. Section 07 54 19 PVC Thermoplastic Single-Ply Roofing:
 - a. Article 2.01 Manufacturers; Add Elevate: (www.holcimelevate.com) as an acceptable manufacturer.
 - b. Article 2.03 Roofing Membrane and Associated Materials, Paragraph B. Membrane, Subparagraph 6. Product; Add Elevate PVC, 60 mil, by Elevate: www.holcimelevate.com as an acceptable manufacturer.
 5. Section 23 74 13 Packaged Outdoor Central-Station Air- Handling Units,
 - a. Article 2.04: Delete Paragraph A, Paragraph C, Paragraph D, Paragraph E, Paragraph G, Paragraph H all in their entirety.
 - b. Article 2.05: Paragraph A: Delete Item 1, Item 3 in their entirety.
 6. Section 23 82 00 Convection Heating and Cooling Units, Article 2.01, Paragraph H
Revise to read:

Control: Manufacturer shall provide a unit mounted, built-in 2-stage thermostat which are operated by an internal voltage source.

CHANGES TO THE DRAWINGS

1. Drawing Sheet A0.2 Typical Details: Legend for wall types added: Revise drawing as shown.
2. Drawing Sheet FP1.1 Fire Protection Plan, Fire Protection General Notes, Note "L" add a sentence pre request of Fire Department. Revise the note to read:

PROVIDE A COMPLETE LIGHT HAZARD WET-TYPE SPRINKLER SYSTEM FOR ALL FIRE ZONES AS SHOWN ON THE DRAWINGS. PROVIDE ORDINARY HAZARD IN SPACE WHERE REQUIRED. INSTALL SPRINKLER SYSTEM PER NFPA 13, STATE AND LOCAL FIRE MARSHALL AND DIVISION 21 OF THE SPECIFICATIONS. ALL SPRINKLER HEADS WILL NEED TO MATCH THE RATINGS OF THE EXISTING ORDINARY SPRINKLER HEADS WITHIN THE GOVERNMENT CENTER.
3. Drawing Sheet M2.2: Revise the "model number" and "remarks" of the RTU-A101 in the Rooftop Unit Schedule.
4. Drawing Sheet E6.1 Luminaire Schedule: Revised equivalent model/manufacturer list for fixture type 'C'.



ATTACHMENTS

The following attachments are included and are part of this addendum:

Specification Sections: 00 41 13 , 07 22 16, 07 42 13.13, 07 54 19

Drawing Sheets A0.2, M2.2, E6.1

END OF ADDENDUM



SECTION 00 41 13 - BID FORM
THE PROJECT AND THE PARTIES

TO:

City of Tipp City
260 S Garber Drive
Tipp City, Ohio45371

FOR:

Project: 22094.00 Tipp City Government Center Infill Addition
Project Number: 22094.00
260 S Garber Drive
Tipp City, Ohio45371

DATE: _____ (Bidder to enter date)

SUBMITTED BY:

Bidder's Full Name: _____

Address: _____

City, State, Zip: _____

Telephone: _____

Fax No.: _____

E-mail: _____

OFFER

Having examined the Place of The Work and all matters referred to in the Instructions to Bidders and the Contract Documents prepared by Garmann/Miller & Associates Inc. for the above mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform the Work for the Sum of:

Item 1 - Contract A, General Construction - Base Bid:

_____ dollars

All Cash and Contingency Allowances described in Section 01 21 00 are included in the Bid Sum.

We have included the Bid Bond or security deposit as required by the Advertisement, Notice to Bidders, Instructions to Bidders.

This is a Tax Exempt Project.

Builders Risk Insurance is to be furnished by the Owner.

State of Ohio Prevailing Wage Rates, have been included.

ACCEPTANCE

This offer shall be open to acceptance and is irrevocable for sixty days from the bid closing date.

If this bid is accepted by Owner within the time period stated above, we will:

Execute the Agreement within ten (10) days of receipt of Notice of Award.

Commence work within ten (10) days after written Notice to Proceed of this bid.

If this bid is accepted within the time stated, and we fail to commence the Work or we fail to provide the required Bond(s), the security deposit shall be forfeited as damages to Owner by reason of our failure, limited in amount to the lesser of the face value of the security deposit or the difference between this bid and the bid upon which a Contract is signed.

In the event our bid is not accepted within the time stated above, the required security deposit shall be returned to the undersigned, in accordance with the provisions of the Instructions to Bidders; unless a mutually satisfactory arrangement is made for its retention and validity for an extended period of time.

CONTRACT TIME

Owners desired start date: April 15, 2023

Owners desired completion date: March 15, 2024

The Liebert technology equipment room cooling units are currently estimated to have a 52 week lead time. The completion date above will not apply to the work associated with these units. All other portions of the project are required to be completed.

If this Bid is accepted, we will:

Complete the Work by March 15, 2024 or at an earlier date of _____ (Bidder to enter completion date or time frame prior to completion date listed.)

UNIT PRICES

The following are Unit Prices for specific portions of the Work as listed. The following is the list of Unit Prices:

The Owner, Architect, and Contractor must agree to all Unit Prices prior to the award of contract. Lack of agreement of Unit Prices is grounds for rejection of bid.

Roof insulation - Provide a price per square foot to cut out, remove existing roof insulation and replace with new roof insulation in the event that saturated insulation is found during construction.

\$ _____ Per Square Foot

ADDENDA

The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Sum.

Addendum # _____ Dated _____.

BID FORM SUPPLEMENTS

Bid Bond

Noncollusion Affidavit

Contractor's Affidavit

BID FORM SIGNATURE(S)

(Bidder - print the full name of your firm)
was hereunto affixed in the presence of:

(Authorized signing officer)

(Authorized signing officer, Title)

SEALED SUBMISSION:

Bid is to be submitted in Duplicate.

Bid is to be submitted in a sealed envelope containing bid and bid form supplements and addressed as follows:

Prime Contract Bid for:
City of Tipp City
260 S Garber Drive
Tipp City, Ohio 45371

END OF BID FORM

**SECTION 07 22 16
ROOF BOARD INSULATION**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Fully Adhered insulation, flat and tapered.
- B. Vapor retarder.
- C. Flashings.

1.02 RELATED SECTIONS

- A. Section 05 31 00 - Steel Decking
- B. Section 06 10 00 - Rough Carpentry: Wood nailers, curbs, and cant strips.
- C. Section 07 54 19 - PVC Thermoplastic Roofing
- D. Section 07 6200 - Sheet Metal Flashing and Trim: Counterflashings, reglets, .
- E. Section 07 72 00 - Roof Accessories

1.03 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data indicating the following:
 - 1. Flashing materials
 - 2. Insulation
 - 3. Fasteners
 - 4. Maintenance & repair instructions
- C. Shop Drawings: Indicate joint or termination detail conditions, conditions of interface with other materials, and paver layout.
- D. Manufacturer's Installation Instructions: Indicate membrane seaming precautions and perimeter conditions requiring special attention.
- E. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- F. Manufacturer's Field Reports: Indicate procedures followed, ambient temperatures, humidity, wind velocity during application, and supplementary instructions given.
- G. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.04 QUALITY ASSURANCE

- A. Perform work in accordance with NRCA Roofing and Waterproofing Manual and manufacturer's instructions.
- B. Fire-Test-Response Characteristics
 - 1. Surface-Burning Characteristics: Maximum flame-spread and smoke-developed indexes of 75 and 450, respectively.
 - 2. Exterior Fire-Test Exposure: Class A.
- C. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.
- D. Installer Qualifications: Company specializing in performing the work of this section with minimum 3 years experience and approved by manufacturer.
 - 1. The installer shall have an experienced, pre-qualified, thoroughly trained superintendent having experience installing the roof system specified, who is familiar with the requirements of this project, on the job at all times when roofing system work is in progress.

1.05 PRE-INSTALLATION MEETING

- A. Convene one week before starting work of this section.
- B. Review preparation and installation procedures and coordinating and scheduling required with related work.

1.06 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. General Warranty: The warranties specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents

1.07 PRODUCT DELIVERY, STORAGE AND HANDLING PROCEDURES

- A. Deliver materials in original unopened packaging.
- B. Containers labeled with manufacturer's name, brand name, and identification of various items.
- C. Store materials in a dry area and protect from inclement weather. Damaged materials shall be replaced at contractor's expense.
- D. Do not allow roofing membrane to come in contact or be exposed to any materials that would be detrimental to or cause degradation of the roofing membrane.

PART 2 PRODUCT

2.01 INSULATION MANUFACTURERS

- A. Insulation:
 - 1. Atlas Roofing Corporation: www.atlasroofing.com.
 - 2. GAF Materials Corporation: www.gaf.com.
 - 3. Apache Products Co: www.apacheproducts.com.
 - 4. Dow Chemical Co: www.dow.com.
 - 5. Owens Corning Corp: www.owenscorning.com.
 - 6. Hunter: www.hunterpanels.com
 - 7. Elevate: www.holcimelevate.com
 - 8. Substitutions: See Section 01 6000 - Product Requirements.

2.02 INSULATION

- A. Polyisocyanurate Board Insulation: Rigid cellular foam, complying with ASTM C 1289, Type II, Class 1, cellulose felt or glass fiber mat both faces; Grade 2 and with the following characteristics:
 - 1. Facing: Asphalt felt or mat both faces.
 - 2. Board Size: 48 x 96 inch.
 - 3. Board Thickness: 2 1/2 inch.
 - 4. Board Edges: Square.
 - 5. Insulation must be compatible with roof membrane.
 - 6. Manufacturers:
 - a. Atlas Roofing Corporation: www.atlasroofing.com.
 - b. Apache Products Co: www.apacheproducts.com.
 - c. GAF Materials Corporation: www.gaf.com.
 - d. Hunter Panels; www.hpanels.com
 - e. Elevate; www.holcimelevate.com
 - f. Substitutions: See Section 01 6000 - Product Requirements.
- B. Tapered Polyisocyanurate Board Insulation: Rigid cellular foam, complying with ASTM C 1289, Type II, Class 1, cellulose felt or glass fiber mat both faces; Grade 1 and with the following characteristics:

1. Compressive Strength: 16 psi
 2. Facing: Asphalt felt or mat both faces.
 3. Board Size: 48 x 96 inch.
 4. First layer; Board Thickness: 2 inch.
 5. Second layer; Tapered Board: Slope 1/4 inch per foot; minimum thickness 1/2 in; fabricate of fewest layers possible.
 6. Thermal Resistance: R-value of 7 per inch thickness.
 7. Board Edges: Square.
 8. Insulation must be compatible with roof membrane.
 9. Manufacturers:
 - a. Atlas Roofing Corporation: www.atlasroofing.com.
 - b. Apache Products Co: www.apacheproducts.com.
 - c. GAF Materials Corporation: www.gaf.com.
 - d. Hunter Panels; www.hpanels.com
 - e. Elevate; www.holcimelevate.com
 - f. Substitutions: See Section 01 6000 - Product Requirements.
- C. Tapered Crickets (where required)
1. Crickets shall be formed of tapered material having the same requirements and characteristics as insulation specified.

2.03 ACCESSORIES

- A. Adhesive
1. Fully adheared roofing system. Refer to manufacturer for approved adhesive to be used to hold insulation system together.
- B. Nailers & Blocking
1. Nailers and wood blocking shall be S4S 1500 fc construction grade Douglas fir conforming to standard 15 grading and dressing rules of the West Coast Lumber Inspection Bureau, or other species of wood of equal strength. All lumber shall be grade marked at the mill.
 2. All lumber shall be pressure treated by a method approved by the roofing membrane manufacturer.
 3. Nailers shall be securely anchored to the deck to resist the minimum force required in Loss Prevention Data Sheet I-49, "Perimeter Flashing," Factory Mutual Systems. The thickness of the nailer shall be such that the top of the nailer is flush with the surface to which the membrane is to be applied.
- C. Membrane adhesive: as recommended by membrane manufacturer.
- D. Vapor Retarder:
1. ASTM C1136
 2. Maximum permeance rating of 0.13 perm.
 3. Manufacturers:
 - a. Griffolyn Type-65; Reef Industries, Houston, Texas
 - b. DURA-SKRIM 6WW; Raven Industries, Sioux Falls, South Dakota
 - c. WMP-VR; Lamtec Corporation, Mount Bethel, Pennsylvania
 - d. Or as recomended by roofing membrane manufacturer

PART 3 EXECUTION

3.01 EXAMINATION

- A. Inspect all surfaces to receive roofing for any condition that will adversely affect execution, performance, or quality of work.
- B. Verify that surfaces and site conditions are ready to receive work.
- C. Verify deck is supported and secure.

- D. Verify deck is clean and smooth, flat, free of depressions, waves, or projections, properly sloped and suitable for installation of roof system.
- E. Verify deck surfaces are dry and free of snow or ice.
- F. Verify that roof openings, curbs, and penetrations through roof are solidly set, and cant strips are in place.
- G. All roof surfaces and all sloped surfaces to drains and outlets shall be checked and approved by the roofing contractor prior to the start of the roofing work.
- H. Install roofing material only under satisfactory conditions as specified by the membrane manufacturer.

3.02 GENERAL REQUIREMENTS

- A. Do not lay out or expose any insulation on the deck that cannot be covered by membrane on the same day.
- B. In making all field heat welds, make sure all edges are clean and free of tar, mastic or other foreign items.
- C. Do not expose membrane and accessories to a constant temperature in excess of 110 degrees Fahrenheit.
- D. Sealants and adhesives should be applied according to the manufacturer's specifications and all containers shall be disposed of properly.
- E. Start securing the membrane at the highest point and work towards the drains.
- F. Weather precautions: Proceed with roofing work when existing and forecasted weather conditions permit work performance in compliance with manufacturer's recommendations.
- G. Roofing system shall not be applied when the surrounding air, surface temperature, relative humidity or wind velocity is not within the range acceptable under the manufacturer's recommendations.
- H. Prior to starting work, protect all work in an approved manner including all paving and faces of building walls. Provide special protection of the face of the building wall adjacent to hoist.

3.03 INSTALLATION OF VAPOR BARRIER

- A. Install Vapor Retarder
 - 1. Loosely lay vapor retarder over entire roof area extending to roof edges and to adjacent walls
 - 2. Side and end laps of each sheet a minimum of 6 inches
 - 3. Seal laps with continuous strip of tape recommended by the vapor retarder manufacturer. Seal at penetrations and at roof edges with manufacturer recommended butyl tape or sealant
 - 4. Vapor retarder shall be positively sealed at all edges, penetrations and wall utilizing manufacturers' vapor retarder accessories
 - 5. Seal at penetrations and at roof edges with manufacturer recommended butyl tape or sealant

3.04 INSULATION INSTALLATION

- A. Attachment of Insulation:
 - 1. Loose lay both layers of insulation over vapor retarder in accordance with insulation manufacturer's instructions. Mechanically fasten coverboard, over insulation layers, to metal deck in accordance with manufacturer's instructions.
- B. On metal deck, place boards perpendicular to flutes with insulation board edges bearing on deck flutes.
- C. The ends of the insulation boards shall be staggered 50% from row to row.

- D. Lay boards with edges in moderate contact without forcing. Cut insulation to fit neatly to perimeter blocking and around penetrations through roof.
- E. Lay subsequent layers of insulation with joints staggered minimum 12 inch from joints of preceding layer.
- F. Place tapered insulation to the required slope pattern in accordance with manufacturer's instructions.
- G. Tape joints of insulation in accordance with insulation manufacturer's instructions.
- H. Do not apply more insulation than can be covered with membrane in same day.

3.05 CLEAN-UP

- A. Upon completion of the membrane installation, the contractor shall remove all foreign matter, rubbish and scrap material from the roof. The membrane surface shall be cleaned using cleaners recommended by the membrane manufacturer.
- B. Repair or replace defaced or damaged finishes caused by work of this section.

3.06 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for general requirements for field quality control and inspection.
- B. Inspection: Roofing manufacturer's technical representative and roofing contractor shall conduct all required inspections. Submit all required drawings, details, and completed questionnaires to the roofing manufacturer before obtaining the specified warranty. After an authorized Technical Representative has inspected the roof for determining acceptability for warranty issuance, any deficiencies on the final inspection report shall be corrected by the contractor/applicator and made ready for reinspection within five (5) working days.
- C. Warranty: Upon receipt of required materials, certifying inspection, and acceptance of the roofing system by the roofing manufacturer, the warranty shall be duly executed and issued to the Owner. Date of Warranty will be the date of Substantial Completion.

3.07 PROTECTION OF FINISHED WORK

- A. Protect installed roofing and flashings from construction operations.
- B. Where traffic must continue over finished roof membrane, protect surfaces using durable materials.

END OF SECTION

**SECTION 07 42 13.13
FORMED METAL WALL PANELS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Manufactured metal panels for exterior wall panels and subgirt framing assembly, with related flashings and accessory components.
- B. Sub Framing

1.02 RELATED REQUIREMENTS

- A. Section 01 30 00 - Administrative Requirements
- B. Section 04 20 00 - Unit Masonry: Wall panel substrate
- C. Section 07 21 13 - Board Insulation.
- D. Section 07 21 99 - Foam in Place Insulation
- E. Section 07 92 00 - Joint Sealants: Sealing joints between metal wall panel system and adjacent construction.

1.03 REFERENCE STANDARDS

- A. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2020.
- B. ASTM B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate (Metric) 2014.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate dimensions, layout, joints, construction details, and methods of anchorage.
- C. Shop Drawing: Sub framing system: Indicate dimensions, layout, construction details, method of anchorage
- D. Samples: Submit two samples of wall panel and soffit panel, 12 inch by 12 inch in size illustrating finish color, sheen, and texture.
- E. Manufacturer's Qualification Statement.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.
- B. Manufacturer's Qualifications: Wall system manufacturer has been engaged in the fabrication of metal wall systems for at least ten years.
 - 1. The Manufacturer shall be a member of the Metal Building Manufacturer's Association (MBNA).
 - 2. The American Institute of Steel Construction (AISC) currently certifies the Manufacturer for Category MB.
 - 3. The Manufacturer maintains a certified installer program for its products and maintains an up to date authorized roofing contractor list.
 - 4. The Manufacturer has a written warranty covering durability, color and weather tightness of its roof system.
 - 5. Manufacturer shall produce the metal panels on fixed equipment operated by the manufacturer.
- C. Installer Qualifications: Company specializing in performing sheet metal installations with minimum 5 years of experience on projects of similar size and scope.

1. Contractor shall follow the Manufacturer's installation details without exception unless written authorization from the manufacturer and architect are provided on an installation detail revision.

1.06 MOCK-UP

- A. See Section 01 40 00 Quality Requirements
- B. Mockups: Build mock-ups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials, execution, and aesthetic effect.
- C. The construction of the mock-up shall be photographed or videotaped by the masonry contractor to be part of a presentation for groups of trades people as they join the project work force.
- D. Locate where directed by Architect.
 1. Finish face is to be facing south
- E. Obtain Architect's acceptance of visual qualities of the mock up before starting of panel work
- F. Mock-up may not remain as part of the Work.

1.07 PRE-INSTALLATION MEETING

- A. Convene two weeks before starting work of this section.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Deliver system components to the project site in Manufacturer's unopened original containers.
- B. Protect system components during shipment, storage, handling and erection from mechanical abuse, stains, discoloration and corrosion.
- C. Protect panels from accelerated weathering by removing or venting sheet plastic shipping wrap.
- D. Store prefinished material off the ground and protected from weather; prevent twisting, bending, or abrasion; provide ventilation; slope metal sheets to ensure proper drainage.
- E. Prevent contact with materials that may cause discoloration or staining of products.
- F. Damaged materials will be rejected and removed from the site.

1.09 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
- B. General Warranty: The warranties specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents
- C. Finish Warranty: Furnish panel manufacturer's written warranty for twenty (20) years covering the finish of exposed coated metal surfaces against blistering, peeling, cracking, flaking, checking, chipping, rusting, and chalking and color change during the warranty period.
- D. Contractor Warranty: The contractor will guarantee, from the date of Substantial Completion, at his cost and expense make or cause to make such repairs to the wall panel system resulting from faults or defects in material or workmanship as necessary to maintain the wall panel system in a watertight condition. Guarantee shall include, but is not limited, panels, flashing, fasteners, trim flashings and joints.
 1. Warranty Period: 2 Years from the date of Substantial Completion
 2. Repairs required, either permanent or temporary, to the wall panel system or system flashing under this guarantee shall be made within 3 days after notice of the need for repair. Should the contractor fail to make such repairs within the time period, the Owner may have the repairs made and the cost paid by the Contractor.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Basis of Design: HWP Panel, manufactured by Dimensional Metals.
 - 1. Product: HWP Wall Panel, vertical installation.
- B. Basis of Design: Flush Panel manufactured by Dimensional Metals.
 - 1. Product: Flush Panel FP1012
- C. Other Acceptable Manufacturers:
 - 1. Architectural Metal Systems, Alpharetta Ga
 - 2. Berridge Manufacturing, Houston Tx
 - 3. Centria.
 - 4. McElroy Metal, Inc. Bossier City La
 - 5. MBCI.
 - 6. Petersen, Pac-Clad

2.02 MANUFACTURED METAL PANELS

- A. Wall Panel System: Factory fabricated prefinished metal panel system, site assembled.
 - 1. Provide exterior wall panels, soffit panels, and subgirt framing assembly.
 - 2. Design and size components to support assembly dead loads, and to withstand live loads caused by positive and negative wind pressure acting normal to plane of wall.
 - 3. Design Pressure: In accordance with applicable codes.
 - 4. Maximum Allowable Deflection of Panel: $L/180$ for length(L) of span.
 - 5. Movement: Accommodate movement within system without damage to components or deterioration of seals, movement between system and perimeter components when subject to seasonal temperature cycling; dynamic loading and release of loads; and deflection of structural support framing.
 - 6. Drainage: Provide positive drainage to exterior for moisture entering or condensation occurring within panel system.
 - 7. Fabrication: Formed true to shape, accurate in size, square, and free from distortion or defects; pieces of longest practical lengths.
 - 8. Corners: Factory-fabricated in one continuous piece with minimum 2 inch returns.
- B. Flush Wall Panel (FP):
 - 1. Profile: Vertical; style as indicated.
 - a. 12 inch wide panel, 1 inch deep,
 - 2. Side Seams: Double-interlocked, tight-fitting, sealed with continuous gaskets.
 - 3. Material: Precoated steel sheet, 24 gage, .0276 inch minimum thickness.
 - 4. Panel Width: 12 inches.
 - 5. Color: As selected by Architect from manufacturer's standard line.
- C. Internal and External Corners: Same material, thickness, and finish as exterior sheets; profile to suit system; shop cut and factory mitered to required angles.
- D. Expansion Joints: Same material, thickness and finish as exterior sheets; manufacturer's standard brake formed type, of profile to suit system.
- E. Trim: Same material, thickness and finish as exterior sheets; brake formed to required profiles.
- F. Anchors: Stainless steel.

2.03 MATERIALS

- A. Precoated Steel Sheet: Hot-dipped galvanized steel sheet, ASTM A653/A653M, Structural Steel (SS) or Forming Steel (FS), with G90/Z275 coating; continuous coil-coated on exposed surfaces with specified finish coating and on panel back with specified panel back coating.

2.04 INSULATION

- A. See Section 07 21 13 - Board Insulation.

2.05 SUB FRAMING

- A. Manufacturer:
 - 1. Cascadia Windows LTD: Cascadia Clip; www.cascadia.com
 - 2. Acceptable Manufacturer/System:
 - a. Knight Wall System MFI-Systems; www.knightwallsystems.com
 - b. Substitutions: See Section 01 6000 - Product Requirements.
- B. Sub-framing Thermal Spacer: 100 % Pultruded glass fibre and thermoset polyester resin insulation clip.
- C. Thermal Spacer thickness for top, base and web: 3/16 inches nominal.
 - 1. Thermal spacer depth: 2 inches nominal.
 - a. Depth tolerance: ± 0.005 inches.
 - 2. Spacer Fasteners: High hex head washer head with sharp twin lead threaded design of heat treated corrosion resistant coated steel..
 - 3. Fastener: as recommended by manufacturer
- D. Girts
 - 1. Z-Girts: 18 gauge galvalume G60, 1 inch by 1 1/2 inch
 - 2. Hat Channel: 18 gauge galvalume G60, 7/8 inch with slotted flanges

2.06 ACCESSORIES

- A. Gaskets: Manufacturer's standard type suitable for use with system, permanently resilient; ultraviolet and ozone resistant.
- B. Sealants:
 - 1. Exposed Sealant: Elastomeric; silicone, polyurethane, or silyl-terminated polyether/polyurethane.
 - 2. Concealed Sealant: Non-curing butyl sealant or tape sealant.
- C. Fasteners: Manufacturer's standard type to suit application; with soft neoprene washers, steel, hot dip galvanized. Fastener cap same color as exterior panel.
 - 1. Metal-to-Metal Fasteners: Self-drilling, self-tapping screws.
- D. Field Touch-up Paint: As recommended by panel manufacturer.

2.07 FABRICATION

- A. Form sections true to shape, accurate in size, square, and free from distortion or defects.
- B. Form pieces in longest practicable lengths.
- C. Fabricate corners in one continuous piece with minimum 18 inch returns.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that building framing members are ready to receive panels.

3.02 PREPARATION

- A. Install sub framing perpendicular to panel length, securely fastened to substrates and shimmed and leveled to uniform plane. Space at intervals indicated.
 - 1. Install in accordance to manufacturers recommendations.
 - 2. Thermal Spacer Installation: Clip thermal spacer to girt and fasten girt directly to substrate.
 - 3. Installation sequence for spacers, sub-framing, and insulation
 - a. Pre-punch or pre-drill holes in Z-girts and tracks to accommodate fasteners.
 - b. Position Z-girts directly over thermal spacer before installation of fasteners.
 - c. Completely install spacers, screws and sub-framing, prior to installing insulation.

- d. Friction fit insulation in place.

3.03 INSTALLATION

- A. Install panels on walls in accordance with manufacturer's instructions.
- B. Protect surfaces in contact with cementitious materials and dissimilar metals with bituminous paint. Allow to dry prior to installation.
- C. Fasten panels to structural supports; aligned, level, and plumb.
- D. Locate joints over supports.
- E. Provide expansion and control joints where indicated by manufacturer.
- F. Use concealed fasteners unless otherwise approved by Architect.
- G. Seal and place gaskets to prevent weather penetration. Maintain neat appearance.

3.04 CLEANING

- A. Remove site cuttings from finish surfaces.
- B. Remove protective material from wall panel surfaces.
- C. Clean and wash prefinished surfaces with mild soap and water; rinse with clean water.

END OF SECTION

SECTION 07 54 19
PVC THERMOPLASTIC SINGLE-PLY ROOFING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Fully Adhered system with PVC thermoplastic roofing membrane.
- B. Membrane flashings.
- C. Roofing accessories: stack boots, roofing expansion joints, and walkway pads.

1.02 RELATED REQUIREMENTS

- A. Section 01 30 00 - Administrative Requirements
- B. Section 05 31 00 - Steel Decking: Acoustical deck flute insulation.
- C. Section 06 10 00 - Rough Carpentry: Wood nailers and curbs.
- D. Section 07 01 50.19 - Preparation for Re-Roofing.
- E. Section 07 22 16 - Roof Board Insulation
- F. Section 07 62 00 - Sheet Metal Flashing and Trim: Counterflashings.
- G. Section 07 71 00 - Roof Specialties: Prefabricated roofing expansion joint flashing.
- H. Section 07 72 00 - Roof Accessories: Roof-mounted units; prefabricated curbs.
- I. Section 22 10 06 - Plumbing Piping Specialties: Roof drains.

1.03 REFERENCE STANDARDS

- A. ASCE 7 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures Most Recent Edition Cited by Referring Code or Reference Standard.
- B. ASTM C1177/C1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing 2017.
- C. ASTM D4434/D4434M - Standard Specification for Poly(Vinyl Chloride) Sheet Roofing 2021.
- D. NRCA (RM) - The NRCA Roofing Manual 2022.
- E. UL 790 - Standard for Standard Test Methods for Fire Tests of Roof Coverings Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Preinstallation Meeting: Convene one week before starting work of this section.
 - 1. Review preparation and installation procedures and coordinating and scheduling required with related work.

1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's written information listed below.
 - 1. Product data indicating membrane materials, flashing materials, fasteners, and adhesive.
 - 2. Preparation instructions and recommendations.
- C. Samples for Selection: Submit two samples 12 by 12 inches in size illustrating colored coating.
- D. Manufacturer's Installation Instructions: Indicate membrane seaming precautions and perimeter conditions requiring special attention.
- E. Warranty:
 - 1. Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.
 - 2. Submit installer's certification that installation complies with all warranty conditions for the waterproof membrane.

1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum twenty (20) years of documented experience.
- B. Installer Qualifications: Company specializing in performing the work of this section:
 - 1. Approved by membrane manufacturer.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products in manufacturer's original containers, dry, undamaged, with seals and labels intact.
- B. Protect products in weather protected environment, clear of ground and moisture.

1.08 FIELD CONDITIONS

- A. Do not apply roofing membrane during unsuitable weather.
- B. Do not apply roofing membrane when ambient temperature is below 40 degrees F.
- C. Do not apply roofing membrane to damp or frozen deck surface or when precipitation is expected or occurring.
- D. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed the same day.

1.09 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
- B. Material Warranty: Provide membrane manufacturer's warranty agreeing to replace material that shows manufacturing defects within 20 years after installation.
- C. System Warranty: Provide manufacturer's system warranty agreeing to repair or replace roofing that leaks or is damaged due to wind with wind speeds up to 55 mph or other natural causes.
 - 1. Warranty Term: 20 years.
 - 2. For repair and replacement include costs of both material and labor in warranty.
- D. Roofing Contractor Warranty: Contractor shall guarantee for 2 years, from the date of substantial completion, at their cost to make necessary repairs to the roof system resulting from faults or defects caused due to workmanship. Guarantee shall include but is not limited to the following: roof membrane, flashings, insulation, fasteners, walkways, expansion joints, pipe flashings and boots.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Carlisle SynTec
- B. Duro-Last Roofing, Inc
- C. Johns Manville
- D. Sarnafil, Inc
- E. Elevate (Formerly Firestone Building Products)
- F. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 ROOFING APPLICATIONS

- A. PVC Membrane Roofing: Single ply membrane, fully adhered, over insulation.
- B. Roofing Assembly Performance Requirements and Design Criteria:
 - 1. Roof Covering External Fire Resistance Classification: Class A when tested per UL 790.
 - 2. Wind Uplift:
 - a. Designed to withstand wind uplift forces calculated with ASCE 7.

2.03 ROOFING MEMBRANE AND ASSOCIATED MATERIALS

- A. Single Source Responsibility: Provide and install products from single source.
- B. Membrane:
 - 1. Material: Polyvinyl chloride (PVC) complying with ASTM D4434/D4434M.
 - 2. Reinforcing: Internal fabric.
 - 3. Thickness: 60 mils (0.060 inch), minimum.
 - 4. Sheet Width: Factory fabricated into largest sheets possible.
 - 5. Color: To be selected from manufacturer's standard line..
 - 6. Product:
 - a. Carlisle: SureFlex PVC. 60 mil
 - b. Duro-Last: 60 mil, Duro-Tuff
 - c. Johns Manville: 60 mil, JM SD Plus
 - d. Sarnafil: 60 mil, S 327-60 EnergySmart
 - e. Elevate: Elevate PVC, 60 mil
- C. Seaming Materials: As recommended by membrane manufacturer.
- D. Flexible Flashing Material: Same material as membrane.

2.04 DECK SHEATHING AND COVER BOARDS

- A. Deck Sheathing and Cover Board: Glass mat faced gypsum panels, ASTM C1177/C1177M, fire resistant type, 1/2 inch thick.
 - 1. Product: GP Dens-Deck Prime
 - a. Surfacing: Primed Fiberglass Mat.
 - b. Flexural Strength, Parallel (ASTM C473): 80 lbf, minimum.
 - c. Flute Span (ASTM E661): 5 inches.
 - d. Permeance (ASTM E96): Greater than 23 perms.
 - e. R-Value (ASTM C518): 0.56.
 - f. Water Absorption (ASTM C473): Less than 5 percent of weight.
 - g. Surface Water Absorption (ASTM C473): Nominal 1.0 grams.
 - h. Compressive Strength (Applicable Sections of ASTM C472): Nominal 900 pounds per square inch.
 - i. Flame Spread/ Smoke Development (ASTM E84): Not more than 0 Flame Spread, 0 Smoke Development
 - j. Combustibility (ASTM E136): Noncombustible
 - k. Fire resistance rating (UL 790 and ASTM E108): Class A
 - l. Mold Resistance (ASTM D3273): Scored a 10

2.05 INSULATION

- A. See Section 07 22 16 - Roof Board Insulation for roofing insulation.

2.06 ACCESSORIES

- A. Prefabricated Roofing Expansion Joint Flashing: Sheet butyl over closed cell foam backing seamed to galvanized steel flanges.
- B. Prefabricated Flashing Accessories:
 - 1. Corners and Seams: Same material as membrane, in manufacturer's standard thicknesses.
 - 2. Penetrations: Same material as membrane, with manufacturer's standard cut-outs, rigid inserts, clamping rings, and flanges.
 - 3. Roof Walkway Pads: Install as indicated on drawings and per manufacturer's recommendations
 - a. Pressure-Sensitive Walkway Pads (with Factory-Applied Tape on the underside of the walkway) adhered to the membrane surface in conjunction with Sure-Seal Primer.

- 4. Miscellaneous Flashing: Non-reinforced PVC membrane; 80 mils (0.080 inch) thick, in manufacturer's standard lengths and widths.
- C. Membrane Adhesive: As recommended by membrane manufacturer.
- D. Surface Conditioner for Adhesives: Compatible with membrane and adhesives.
- E. Sealants: As recommended by membrane manufacturer.
- F. Cleaner: Manufacturer's standard, clear, solvent-based cleaner.
- G. Primer: Manufacturer's recommended product.
- H. Edgings and Terminations: As specified in Section 07 72 00 - Roof Specialties.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that surfaces and site conditions are ready to receive work.
- B. Verify deck is supported and secure.
- C. Verify deck is clean and smooth, flat, free of depressions, waves, or projections, properly sloped and suitable for installation of roof system.
- D. Verify deck surfaces are dry and free of snow or ice.
- E. Verify that roof openings, curbs, and penetrations through roof are solidly set, and cant strips are in place.

3.02 PREPARATION, GENERAL

- A. Clean substrate thoroughly prior to roof application.

3.03 INSTALLATION - GENERAL

- A. Perform work in accordance with manufacturer's instructions and NRCA (RM) applicable requirements.
- B. Do not apply roofing membrane during unsuitable weather.
- C. Do not apply roofing membrane when ambient temperature is outside the temperature range recommended by manufacturer.
- D. Do not apply roofing membrane to damp or frozen deck surface or when precipitation is expected or occurring.
- E. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed the same day.

3.04 MEMBRANE APPLICATION

- A. Roll out membrane, free from wrinkles or tears. Place sheet into place without stretching.
- B. Shingle joints on sloped substrate in direction of drainage.
- C. Fully Adhered Application:
 - 1. Fully embed membrane in adhesive except in areas directly over or within 3 inches of expansion joints.
 - 2. Fully adhere one roll before proceeding to adjacent rolls.
- D. Seam Welding:
 - 1. Overlap edges and ends and seal seams by heat welding, minimum 2 inches.
 - 2. Cover all seams with manufacturer's recommended joint covers.
 - 3. Probe all seams once welds have thoroughly cooled. (Approximately 30 minutes.)
 - 4. Repair all deficient seams within the same day.
 - 5. Seal cut edges of reinforced membrane after seam probe is complete.
- E. At intersections with vertical surfaces:
 - 1. Fully adhere flexible flashing over membrane and up to nailing strips.

- F. Install roofing expansion joints where indicated. Make joints watertight.
- G. Install prefabricated joint components in accordance with manufacturer's instructions.
- H. Coordinate installation of roof drains and sumps and related flashings.
- I. Install walkway pads. Space pad joints to permit drainage.
- J. Daily Seal: Install daily seal per manufacturers instructions at the end of each work day. Prevent infiltration of water at incomplete flashings, terminations, and at unfinished membrane edges.

3.05 FIELD QUALITY CONTROL

- A. See Section 01 43 00 - Quality Assurance, for general requirements for field quality control and inspection.
- B. Require site attendance of roofing and insulation material manufacturers daily during installation of the Work.

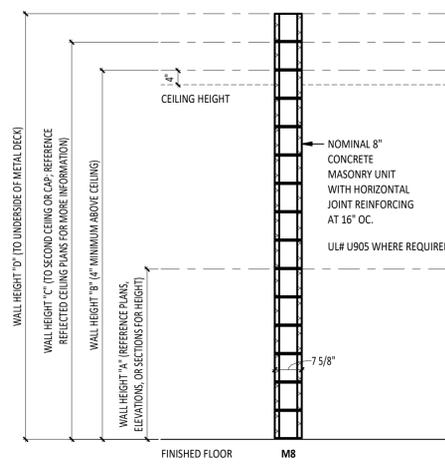
3.06 CLEANING

- A. See Section 01 74 19 - Construction Waste Management and Disposal, for additional requirements.
- B. Remove wrappings, empty containers, paper, and other debris from the roof daily. Dispose of debris in compliance with local, State, and Federal regulations.
- C. Remove bituminous markings from finished surfaces.
- D. In areas where finished surfaces are soiled by work of this section, consult manufacturer of surfaces for cleaning advice and conform to their documented instructions.
- E. Repair or replace defaced or damaged finishes caused by work of this section.

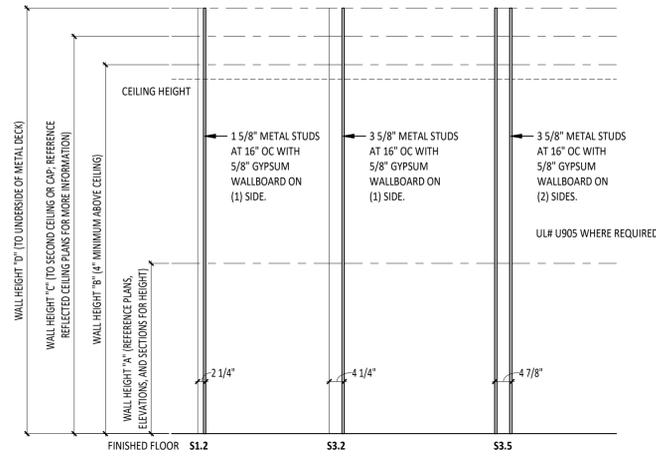
3.07 PROTECTION

- A. Protect installed roofing and flashings from construction operations.
- B. Where traffic must continue over finished roof membrane, protect surfaces using durable materials.

END OF SECTION



1 CONCRETE MASONRY WALL TYPES (M)
1 1/2" = 1'-0"



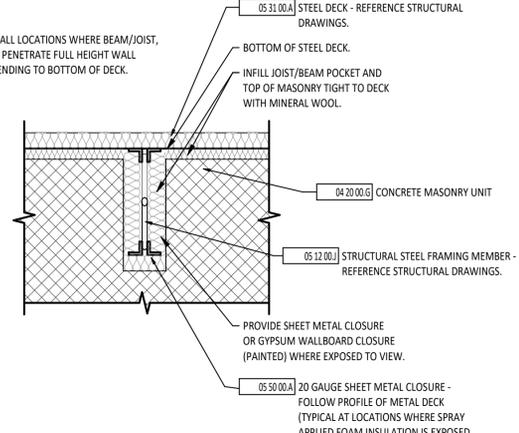
2 STUD WALL TYPES (S)
1 1/2" = 1'-0"

WALL TYPE INFORMATION

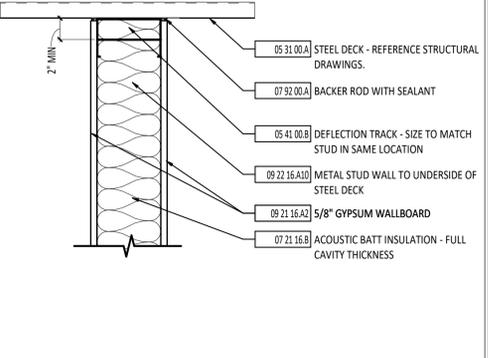
- WALL TYPE SYMBOL
- WALL TYPE (REFERENCE PLAN AND TYPE DETAILS)
- ADDITIONAL INFORMATION; SEE BELOW
- FIRE/SMOKE RATING: 0, 1, 2, 3, OR 5 (SMOKE)
- WALL HEIGHT; REFERENCE WALL TYPE DETAILS

ADDITIONAL INFORMATION

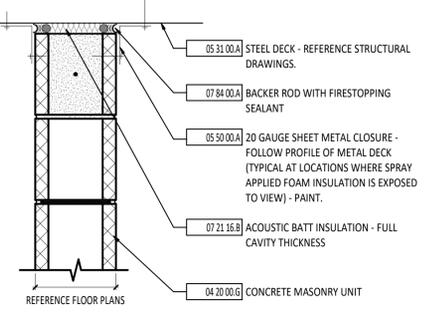
- A = ACOUSTICAL BATT INSULATION
- FW = FIRE RATED WALL
- FB = FIRE BARRIER WALL
- G = GROUT FULL WALL



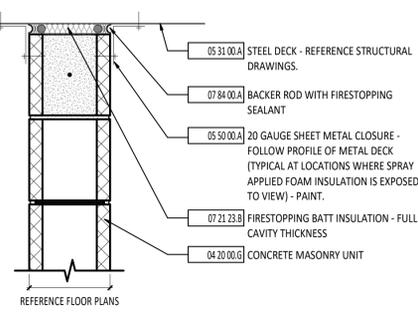
3 WALL TERMINATION - INTERIOR JOIST POCKET
1 1/2" = 1'-0"



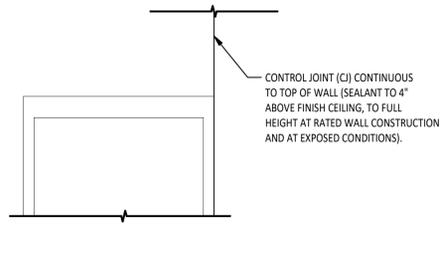
4 WALL TERMINATION - ACOUSTIC
1 1/2" = 1'-0"



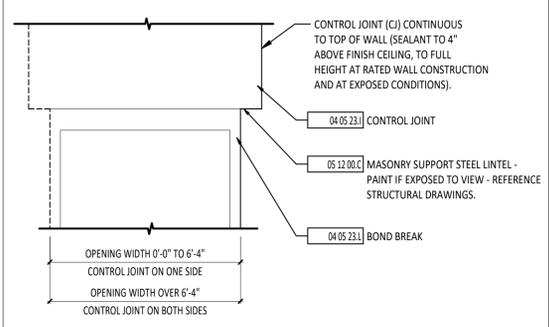
5 WALL TERMINATION - ACOUSTIC
1 1/2" = 1'-0"



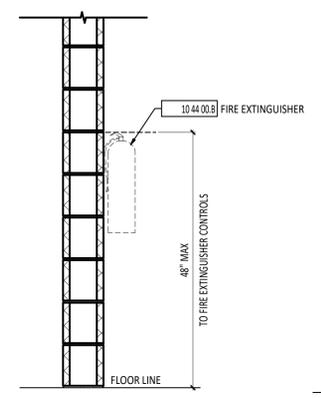
6 WALL TERMINATION - FIRESTOPPING (UL#U905)
1 1/2" = 1'-0"



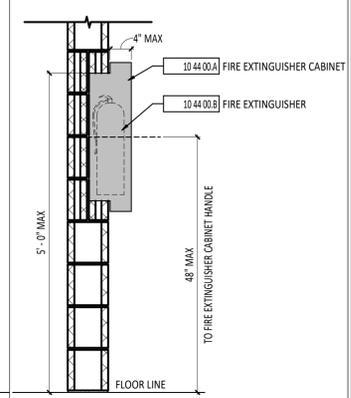
7 TYP CONTROL JOINT PLACEMENT AT METAL STUD OPENINGS
3/4" = 1'-0"



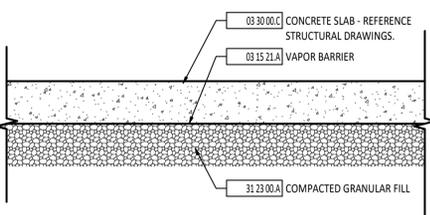
8 TYPICAL CONTROL JOINT PLACEMENT AT MASONRY OPENINGS
3/4" = 1'-0"



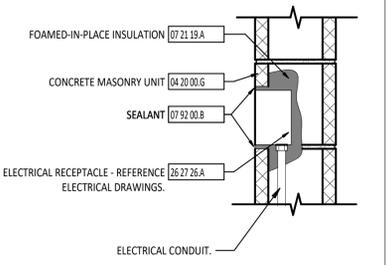
9 SURFACE MOUNT FIRE EXTINGUISHER
3/4" = 1'-0"



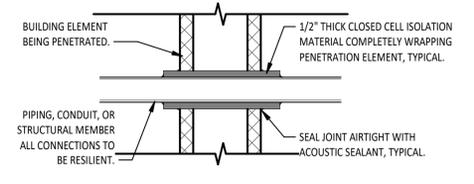
9a SEMI-RECESSED FIRE EXTINGUISHER CABINET
3/4" = 1'-0"



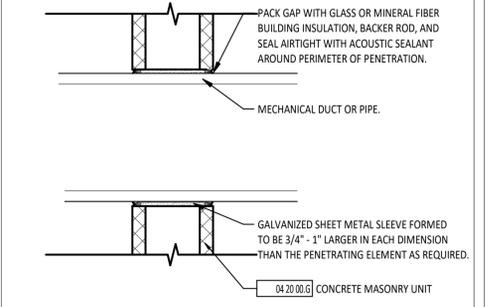
10 CONCRETE SLAB ASSEMBLY
1 1/2" = 1'-0"



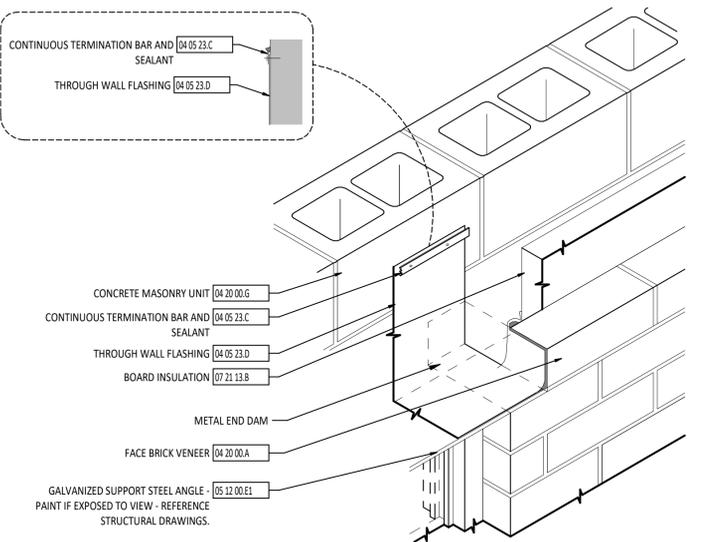
11 ELECTRICAL WALL PENETRATION
1 1/2" = 1'-0"



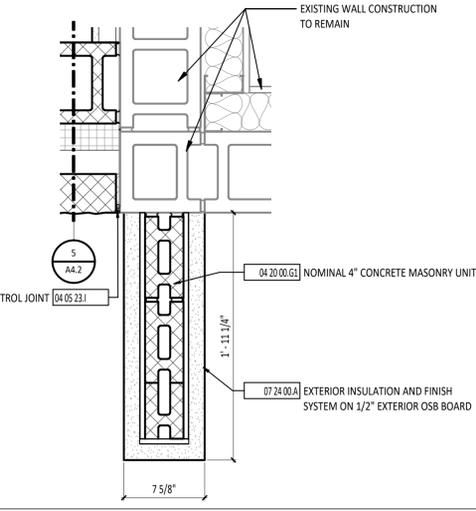
12 PIPE WALL PENETRATION
1 1/2" = 1'-0"



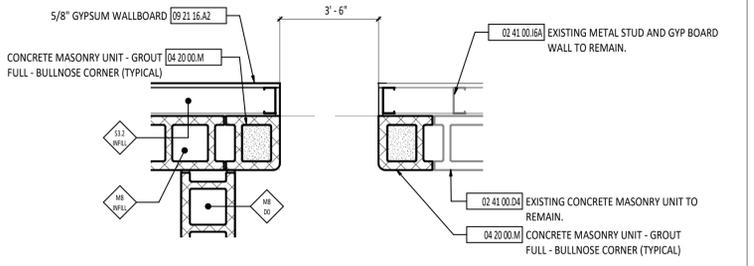
13 MECHANICAL WALL PENETRATION
1 1/2" = 1'-0"



14 END DAM FLASHING DETAIL AT OPENINGS
1 1/2" = 1'-0"



15 ENLARGED PLAN DETAIL
1 1/2" = 1'-0"



16 ENLARGED PLAN DETAIL
1" = 1'-0"

ISSUANCES/REVISIONS	
DD PHASE SUBMISSION	12/01/2022
1 ADDENDUM #02	03/14/2023

PROJECT NUMBER:	DRAWN BY:	CHECKED BY:
22094.00	MD8	APH

SHEET TITLE:

TYPICAL DETAILS

SHEET NUMBER:
A0.2



LUMINAIRE SCHEDULE

MARK	MOUNTING	LAMPS			BALLAST/DRIVER	FIXTURE VOLTAGE	INPUT WATTS	FIXTURE DESCRIPTION	COMMENTS	BASIS OF DESIGN & APPROVED MANUFACTURERS	
		TYPE	MIN. LUMENS	CCT							CRI
A	RECESSED	LED	4000 lm	5000K	80 CRI	0-10V DIMMING DOWN TO 10%	UNV	36 W	2'X4' LED FLAT PANEL, RECESSED IN GRID, FIELD SELECTABLE LUMEN OUTPUT AND COLOR TEMPERATURE, WHITE FINISH, CSA DAMP LOCATION LISTED.	LUMENS SHALL BE FIELD SET TO 4000 LM. COLOR TEMPERATURE SHALL BE FIELD SET TO 5000K.	LITHONIA CPANL 2X4 ALOG SWW7 M2 COLUMBIA CFP24-LSCS SERIES METALLUX FPS SERIES DAY-BRITE 25BP3550LRCS-4-UNV-DIM SERIES
C	SURFACE	LED	800 lm	4000K	90 CRI	ELECTRONIC	120V	11 W	22" LED LINKABLE UNDERCABINET LIGHT, SWITCHABLE COLOR TEMPERATURE, SLIM 1" HOUSING, LIGHT BAR PROVIDED WITH 20 DEGREE SWIVEL, FROSTED ACRYLIC DIFFUSER, WHITE FINISH, UL LISTED.	COLOR TEMPERATURE SHALL BE FIELD SET TO 4000K. PROVIDE MOUNTING HARDWARE AND JOINER CABLES NECESSARY FOR NUMBER OF FIXTURES AS SHOWN ON PLANS.	JUNO LUPD 22IN SWWR 90CRI WH COLUMBIA CUC SERIES HALO HU11 SERIES NORA NUD-8822 SERIES
E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0 W	EXISTING FIXTURE TO REMAIN.		
ED	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0 W	EXISTING FIXTURE TO BE DEMOLISHED.		
S	PENDANT	LED	5000 lm	5000K	80 CRI	0-10V DIMMING DOWN TO 10%	UNV	28 W	4' LED STRIP LIGHT, FIELD SELECTABLE LUMEN OUTPUT AND COLOR TEMPERATURE, WHITE FINISH, CSA DAMP LOCATION LISTED.	PROVIDE HANGER CHAIN LENGTH NECESSARY TO MOUNT FLUSH WITH STRUCTURAL STEEL. LUMENS SHALL BE FIELD SET TO 5000 LM. COLOR TEMPERATURE SHALL BE FIELD SET TO 5000K.	LITHONIA CSS L48 AL03 MVOLT SWW3 80CRI COLUMBIA CSL SERIES METALLUX SLSTP SERIES DAY-BRITE SDS SERIES
W	WALL	LED	2000 lm	5000K	80 CRI	0-10V DIMMING DOWN TO 10%	UNV	17 W	LED EXTERIOR WALL PACK, DIE-CAST ALUMINUM HOUSING, BLACK FINISH, CSA WET LOCATION LISTED.	MOUNT 4" ABOVE DOOR.	LITHONIA ARC1 LED P2 50K MVOLT DBLXD BEACON QSP1 SERIES INVUE COW SERIES FC LIGHTING FCW1038 SERIES
X	CEILING/WALL	LED	N/A	N/A	N/A	N/A	UNV	3 W	LED EXIT LIGHT, WHITE THERMOPLASTIC HOUSING, RED LETTERING, U.L. LISTED.	CONNECT AHEAD OF LOCAL SWITCHING.	LITHONIA LQM S 3 R 120/277 COMPASS CAR SERIES SURELITES APX SERIES CHLORIDE VERW SERIES



**TIPP CITY GOVERNMENT
BUILDING INFILL**

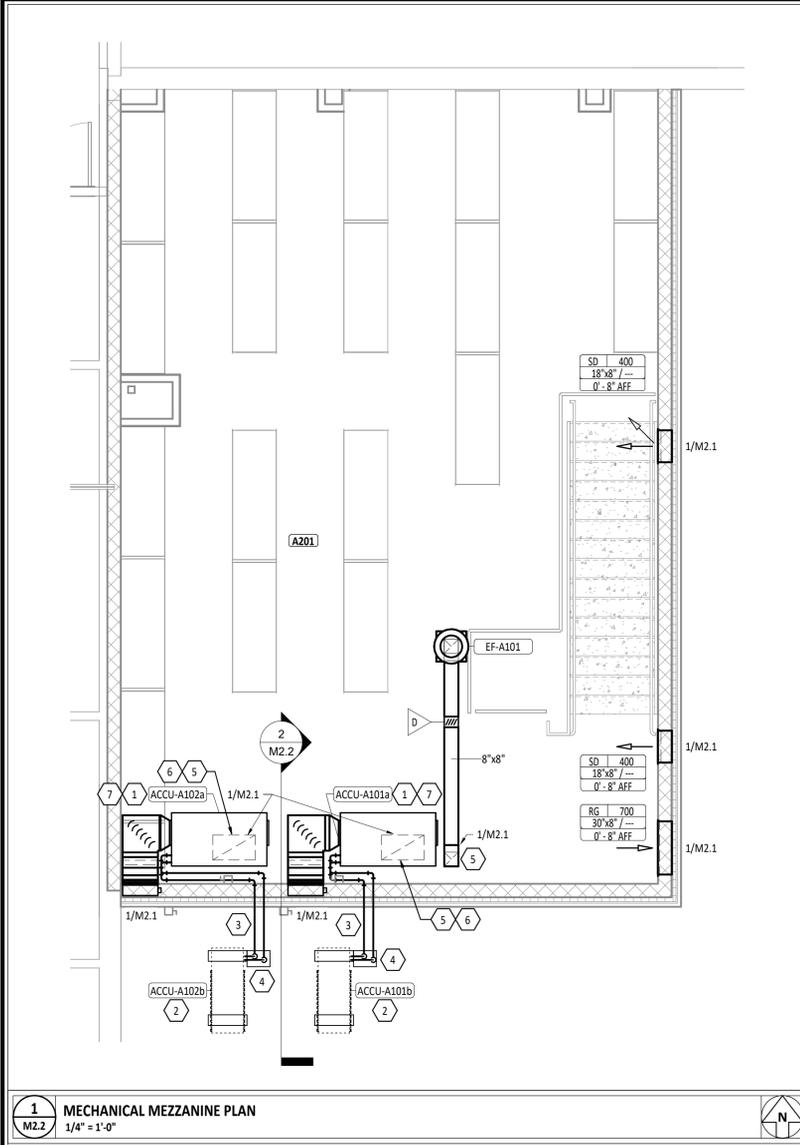
200 SOUTH GARBER DRIVE, TIPP CITY, OHIO

ISSUANCES/REVISIONS		
BID DOCUMENTS		02/02/2023
1 ADDENDUM #2		03/14/2023

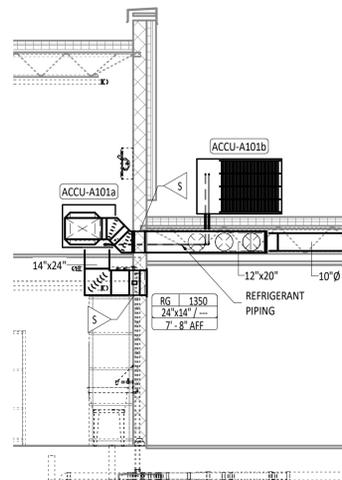
PROJECT NUMBER:	DRAWN BY:	CHECKED BY:
22094.00	AEM	CDS

SHEET TITLE:
LUMINAIRE SCHEDULE

SHEET NUMBER:
E6.1



1 MECHANICAL MEZZANINE PLAN
1/4" = 1'-0"



2 TECH COOLING UNIT SECTION
1/4" = 1'-0"

ASHRAE 62.1 VENTILATION RATE PROCEDURE SUMMARY

ROOM IDENTITY	LOCATION	Occupancy Category	Area, Az	Selected Supply Airflow	Number of People, Pz	Outdoor Airflow Rate Per Person, Rp	Outdoor Airflow Rate Per Unit Area, Ra	Zone Air Effectiveness, Ez	Breathing Zone Outdoor Airflow, Voz	Required Outdoor Air Intake Flow, Vot	OA Delivered	Specified Exhaust Airflow
Default: 1			506 SF	0 CFM	0				0 CFM	0 CFM	0 CFM	0 CFM
A104	SERVER ROOM	Non-Occupiable	506 SF	0 CFM	0							
A101	CORRIDOR	Corridors	456 SF	250 CFM	0	0.0 CFM	0.06 CFM/SF	0.8	27 CFM	34 CFM	38 CFM	0 CFM
A102	STORAGE	Non-Occupiable	860 SF	400 CFM	0			0.8			60 CFM	0 CFM
A103	RESTROOM	Toilets (public)	54 SF	0 CFM	0			0.8			0 CFM	75 CFM
A105	IT OFFICE	Office space	432 SF	450 CFM	2	5.0 CFM	0.06 CFM/SF	0.8	36 CFM	45 CFM	68 CFM	0 CFM
A106	CORRIDOR	Corridors	79 SF	75 CFM	0	0.0 CFM	0.06 CFM/SF	0.8	5 CFM	6 CFM	11 CFM	0 CFM
A201	STORAGE	Non-Occupiable	884 SF	400 CFM	0			0.8			60 CFM	0 CFM
RTU-A101: 6			2764 SF	1575 CFM	2				68 CFM	85 CFM	236 CFM	75 CFM

CALCULATIONS BASED ON ASHRAE 62.1-2016

ELECTRIC CABINET HEATER SCHEDULE

MARK	MANUFACTURER	MODEL NO.	TYPE	AIRFLOW	ELECTRIC HEATING COIL				REMARKS		
					HEATING CAP.	EAT(db)	STAGES	FLA		VOLT	PH
CH-A101	RAYWALL	T33004203	CEILING RECESSED	250 CFM	4 kW	60.0 °F	2	13 A	208 V	3	FRONT INLET & FRONT OUTLET, UNIT MOUNTED DISCONNECT, SUPPORT FROM STRUCTURE, UNIT TO BE THE COLOR WHITE TO MATCH CEILING.

EXHAUST FAN SCHEDULE

ID	LOCATION	Space: Name	Space: Number	MANUFACTURER	MODEL NO.	TYPE	ARRANGEMENT	FAN										CONTROL	DISCONNECT	REMARKS				
								AIRFLOW DESIGN	PRESS ESP	RPM	DRIVE TYPE	MOTOR		SONES	ROOF CURB	UNIT WEIGHT	VOLT				PH	SPEED CONTROLLER	TYPE	ACCESSORIES
												POWER	ECM											
EF-A101	STORAGE	A201	GREENHECK	G-060-D	ROOF EXHAUST	DOWNFLOW	75 CFM	0.30 in-wg	1510	DIRECT	0.016 hp	Yes	3	Yes	22 lb	120 V	1	Yes	BACKDRAFT DAMPER, BIRDSCREEN	AUTOMATIC OPERATION BY DIVISION 26 WITH ROOM LIGHTS.				

ROOFTOP UNIT SCHEDULE

MARK	MANUFACTURER	MODEL NO.	TYPE	ARRANGEMENT	SUPPLY AIRFLOW	OUTSIDE AIR										FAN										COOLING COIL										GAS-FIRED HX										COMPRESSOR										FILTER										REMARKS
						FLOW	DCV	PRESS	ESP	DRIVE TYPE	QTY	POWER	ECM	INCLUDE EXHAUST	STAGES OF COOLING	NOMINAL CAP	TOTAL CAP	INCLUDE ECONOMIZER	INCLUDE HGR	INPUT	EFF	FUEL		AIRSIDE		REFRIGERANT		LOW AMBIENT KIT	SUMMER AMBIENT DBT	SEER	EFF	WEIGHT	MCA	MOCP	VOLT	PH																														
																						TYPE	AVAIL	EAT(db)	LAT(db)	TYPE	CHARGE										TYPE	CHARGE																												
						NO	1.00 in-wg	DIRECT	1	0.75 hp	No	No	2	4.0 ton	47500 Btu/h	No	No	96000 Btu/h	80.0%	NATURAL GAS	7.0 in-wg	65.0 °F	95.0 °F	R410A	9 lb	Yes	95.0 °F	16	MERV-8	665 lb	25 A	35 A	208 V	3																																
RTU-A101	TRANE	4YC26048A3	GAS-FIRED WITH DX	DOWNFLOW	1575 CFM	350 CFM	No	1.00 in-wg	DIRECT	1	0.75 hp	No	No	2	4.0 ton	47500 Btu/h	No	No	96000 Btu/h	80.0%	NATURAL GAS	7.0 in-wg	65.0 °F	95.0 °F	R410A	9 lb	Yes	95.0 °F	16	MERV-8	665 lb	25 A	35 A	208 V	3	PROVIDE WITH INSULATED CURB. INSTALL UNIT TO MANUFACTURER'S REQUIREMENTS. PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT. ELECTRICAL CONTRACTOR TO PROVIDE DISCONNECT. 0-25% MOTORIZED OA DAMPER. EVAPORATOR DEFROST CONTROL. OUTDOOR AIR INTAKE HOOD. HINGED ACCESS DOORS. 2" FILTER FRAME. CRANKCASE HEATER.																														

TECHNOLOGY ROOM AIR CONDITIONING UNIT SCHEDULE

MARK	MANUFACTURER	MODEL	TYPE	AIRFLOW	ESP (in-wg)	TOTAL COOLING CAPACITY	EAT	REFRIGERANT TYPE	REFRIGERANT LINE SIZE		ELECTRICAL			ASSOCIATED EQUIPMENT	REMARKS	
									LIQUID	SUCTION	VOLT	PH	FLA			MOP
ACCU-A101a	LIEBERT	MT036HE1Y0S12	SPLIT SYSTEM DX AC UNIT. INDOOR EVAPORATOR UNIT.	1350 CFM	0.2	33400.0 Btu/h	75.0 °F	R-410A	3/8"	7/8"	208 V	3	29.9 A	35 A	ACCU-A101b	STEAM HUMIDIFIER, MERV 8 FILTER BANK, 3/4" CONDENSATE DRAIN, 1/2" HUMIDIFIER CONNECTION, ELECTRIC REHEAT COIL.
ACCU-A101b	LIEBERT	PFH037A-AL7	SPLIT SYSTEM DX AC UNIT. OUTDOOR HEAT EXCHANGER.	0 CFM	0	0.0 Btu/h	0.0 °F	R-410A	3/8"	7/8"	208 V	3	16.4 A	30 A	ACCU-A101a	
ACCU-A102a	LIEBERT	MT036HE1Y0S12	SPLIT SYSTEM DX AC UNIT. INDOOR EVAPORATOR UNIT.	1350 CFM	0.2	33400.0 Btu/h	75.0 °F	R-410A	3/8"	7/8"	208 V	3	29.9 A	35 A	ACCU-A102b	STEAM HUMIDIFIER, MERV 8 FILTER BANK, 3/4" CONDENSATE DRAIN, 1/2" HUMIDIFIER CONNECTION, ELECTRIC REHEAT COIL.
ACCU-A102b	LIEBERT	PFH037A-AL7	SPLIT SYSTEM DX AC UNIT. OUTDOOR HEAT EXCHANGER.	0 CFM	0	0.0 Btu/h	0.0 °F	R-410A	3/8"	7/8"	208 V	3	16.4 A	30 A	ACCU-A102a	

GRILLES, REGISTERS AND DIFFUSERS SCHEDULE

ID	DESCRIPTION	MANUFACTURER	MODEL	QTY	FACE SIZE	NECK				BLADE DESIGN			INSTALLATION		NOTES
						SIZE	WIDTH	HEIGHT	THICKNESS	SPACING	DEFLECTION ANGLE		ORIENTATION	BORDER TYPE	
											SINGLE	DOUBLE			
CD	LOUVERED FACE DIFFUSER	TITUS	TDC-AA	6	24x24	6"	8"	8"	1/8"	3/4"	45.0°	0.0°	DOUBLE-SHORT	DUCT MOUNT INSTALLATION	REFER TO SPECIFICATIONS. CORE SIZE 18"x18".
SD	LOUVERED DOUBLE DEFLECTION GRILLE	TITUS	300FS	2	---	---	18"	8"	1/8"	3/4"	45.0°	0.0°	DOUBLE-SHORT	DUCT MOUNT INSTALLATION	REFER TO SPECIFICATIONS.
EG	LOUVERED GRILLE	TITUS	355FL	1	---	---	8"	8"	1/8"	3/4"	35.0°		LONG	TYPE 1 (SURFACE)	
RG	LOUVERED GRILLE	TITUS	350PL	1	---	---	30"	8"	1/8"	3/4"	35.0°		LONG	TYPE 1 (SURFACE)	
SD	LOUVERED GRILLE	TITUS	350FL	2	---	---	12"	12"	1/8"	3/4"	35.0°		LONG	TYPE 1 (SURFACE)	
RG	LOUVERED DOUBLE DEFLECTION GRILLE	TITUS	300FS	6	---	---	14"	14"	1/8"	3/4"	45.0°	0.0°	DOUBLE-SHORT	DUCT MOUNT INSTALLATION	REFER TO SPECIFICATIONS.
RG	LOUVERED GRILLE	TITUS	350PL	2	---	---	24"	14"	1/8"	3/4"	35.0°		LONG	TYPE 1 (SURFACE)	

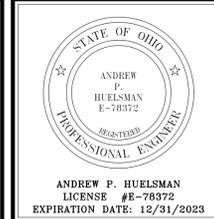
SECOND FLOOR PLAN ROOM INDEX

ROOM NUMBER	ROOM NAME	AREA
A201	STORAGE	884 SF

HVAC GENERAL NOTES

- DIVISION 23 MECHANICAL CONTRACTOR IS REQUIRED TO COORDINATE DIFFUSER AND GRILLE LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLANS.
- ALL EQUIPMENT LOCATED ABOVE CEILING REQUIRING MAINTENANCE SHALL BE INSTALLED WITHIN (2) FEET OF THE CEILING FOR MAINTENANCE PURPOSES. DO NOT INSTALL UNITS ABOVE LIGHTS AND CEILING SPEAKERS. COORDINATE LOCATION WITH ARCHITECTURAL REFLECTED CEILING PLAN AND GENERAL CONTRACTOR.
- ANY BALANCING DAMPERS OR OTHER DEVICES IN DUCTS ABOVE HARD CEILINGS SHALL BE LOCATED ABOVE NEAREST ACCESSIBLE CEILING.
- THIS CONTRACTOR SHALL BE REQUIRED TO REPLACE FILTERS ON HVAC EQUIPMENT AFTER ALL DUST PRODUCING CONSTRUCTION HAS BEEN COMPLETED AND PRIOR TO THE FINAL PUNCH.
- ALL SUPPLY, RETURN, AND EXHAUST DUCTWORK SHALL BE RATED FOR PRESSURE CLASS OF 2" W.G. UNLESS NOTED OTHERWISE.

#	KEYNOTE DESCRIPTION
1	ROUTE GRAVITY DRAIN CONDENSATE PIPING TO FLOOR SERVICE SINK IN STORAGE ROOM BELOW. TERMINATE ABOVE FLOOD RIM. CUT END OF PIPE AT 45 DEGREE ANGLE.
2	MOUNT OUTDOOR UNIT ON ROOF. PROVIDE CURB RAILS FOR MOUNTING. SECURE UNIT TO CURB RAILS. PROVIDE EPDM PIPE SEAL/FLASHING AT ROOF CURB PENETRATIONS.
3	DIVISION 23 HVAC CONTRACTOR SHALL SIZE AND ROUTE REFRIGERANT PIPING FROM OUTDOOR CONDENSING UNIT TO INDOOR COOLING UNIT AS RECOMMENDED BY UNIT MANUFACTURER. ROUTING SHALL BE COORDINATED WITH OTHER UTILITIES. EXTERIOR ROOF PENETRATIONS SHALL BE SEALED WATER TIGHT.
4	MECHANICAL CONTRACTOR TO PROVIDE CURB FOR THE PIPE PENETRATION AND ASSOCIATED FLASHING. COORDINATE PIPE PENETRATION WITH GENERAL CONTRACTOR.
5	ROUTE DUCT UP THROUGH MEZZANINE METAL GRATE FLOOR. COORDINATE OPENING WITH GENERAL CONTRACTOR.
6	INSTALL FILTER BOX ON RETURN AIR OPENING.
7	TECHNOLOGY ROOM COOLING UNIT SHALL BE INSTALLED ON CONTINUOUS METAL GRATING MEZZANINE FLOOR. UNIT SHALL BE INSTALLED ON VIBRATION ISOLATION PADS. PROVIDE 1/4" STEEL PLATES BETWEEN THE GRATING AND VIBRATION PADS. NUMBER OF PADS AND THEIR APPROPRIATE LOCATIONS SHALL BE DETERMINED BY THE LOADING. PAD SHALL BE DOUBLE LAYER NEOPRENE PAD WITH STEEL DISRUPTION PLATE SEPARATION. DESIGN BASED ON KINETICS MODEL 'NPD'.



**TIPP CITY GOVERNMENT
BUILDING INFILL**

ISSUANCES/REVISIONS

BID DOCUMENTS	02/02/2023
1 ADDENDUM #2	03/14/2023

PROJECT NUMBER: 22094.00	DRAWN BY: AMW	CHECKED BY: APH
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**MECHANICAL
MEZZANINE PLAN
AND SCHEDULES**

SHEET NUMBER:
M2.2