



Addendum #1

Bid Opportunity: 7269-RW-22

Stewart Avenue Public School HVAC Upgrades

Closing Date: Monday, February 28, 2022 2:00 PM

The following issued by the Board shall form part of the Bid / Proposal Solicitation document. The revisions and additions noted herein along with any attachments shall be read in conjunction with all other related documents. This Addendum shall, take precedence over the previously issued documents where differences occur. Receipt of this addendum must be acknowledged in the Bidding System, bids&tenders.

If you have already submitted a Bid / Proposal, it will be automatically withdrawn as a result of this addendum. You must resubmit the Bid / Proposal acknowledging all addenda and revising your Bid / Proposal to comply with all addenda.

Question 1:

Please confirm no glass & windows has been specified for this tender, as the list of pre-qualified vendors was shared.

Answer 1: There is no new or replacement glass or window assemblies required in this project.

Question 2:

On the the detail drawing M4.1 there is a detail showing the expansion joints on the 1 1/4 piping around the new unit ventilators. Is this needed or required due to the the small offset around the new unit ventilators.

Answer 2: Refer to attached Mechanical Addendum which is hereby issued as part of Addendum No.1 and forms an integral part of this addendum.

Question 3:

Specification Section 23 82 23 – Hydronic Unit Ventilators, Item 1.3.4 – Equipment delivery by July 17, 2022. We have spoken with the three listed suppliers and all are indicating that if orders are place immediately the chance of receiving the equipment on time is low. Generally deliveries are 22 to 26 weeks after approval of submittals. They will not guarantee delivery dates at this time due to supply, manufacturing and delivery issues.

What contingency or impact costs should we allow for if the scheduled completion cannot be met?

Answer 3: Refer to attached Mechanical Addendum which is hereby issued as part of Addendum No.1 and forms an integral part of this addendum.

Please note as well; Should delivery of the units be delayed, the General Contractor shall carry extended time within the base bid to complete the scope of work after school hours or weekends after the start of school.

Question 4:

Please consider Carrier as acceptable product for equipment.

Answer 4: Refer to attached Mechanical Addendum which is hereby issued as part of Addendum No.1 and forms an integral part of this addendum.

Note: Addendum No.1 forms part of the Contract Documents and amends the original Specifications and Drawings issued for tender as noted above and below.

1.Project Manual Specifications:

1.1 REF: Section 00 21 14 - Vendors of Record: Add the following Electrical Contractors to the Electrical Contractors Vendors of Record listed under paragraph 4.0 Subcontractors:

Electrical Contractor	Phone	Email
BCG Electrical/Pro Plumbing (a Lancaster Group Company)	(519) 304-8411	trankin@lancastergroup.ca
Cameron Electric	(519) 465-4614	greg@cameronelectric.ca
Eby Electric Inc.	(519) 635-7642	todd@ebyelectric.com
Electri-tech Services Inc	(519) 743-6518	eric.karn@electri-tech.com
Energize Electric Canada	(519) 589-9630	energize@hotmail.ca
Jones Electric of Kitchener Inc.	(519) 745-5158	Office@JonesElectricofKitchener.ca
Mendler Electric Inc.	(519) 616-1733	mendlers@rogers.com

1.2 REF: Mechanical Specifications:

1. Attached Mechanical Addendum, dated February 24, 2022 and prepared by DEI Consulting Engineers, is hereby issued and forms an integral part of this addendum.

2. Architectural Drawings:

2.1 REF: Architectural Drawing A3.1 – Typical Classroom Interior Elevations and Proposed Exterior Elevations:

.2.1.1. On exterior elevation drawings 3/A3.1 and 4/A3.1, delete the notes that read; “Replace existing aluminum panel and exhaust with new 25mm insulated panel with aluminum anodized framing to match existing curtain wall frame.”.

2.2 REF: Architectural Drawing A4.1 – Building Sections and Detail:

.2.2.1. On existing wall section demolition 2/A4.1, add the following general note; “Existing exterior brick and stone that is salvaged for reinstallation, is to be cut as required to suit the revised wall thickness and proposed steel lintel assembly as described on Architectural Drawing 1/A4.1 – Proposed Wall Section”.

3. Structural Drawings: No revisions to structural drawings.

4. Mechanical Drawings:

4.1. Attached Mechanical Addendum, dated February 24, 2022 and prepared by DEI Consulting Engineers, is hereby issued and forms an integral part of this addendum.

5. Electrical Drawings and Specifications: No revisions to Electrical Drawings and Specifications.

6. Clarification: All abatement, required to complete the work described in the Contract Documents, is to be carried in the Contractor’s base bid. Refer to notes on drawings and Section 01 35 43A regarding areas that contain hazardous materials to confirm where abatement is required. Any hazardous materials that are discovered, and that require removal to complete the work, but that are not described in the Contract Documents, is carried in the project cash allowance.

7. Clarification: All roofing work that is required to accommodate new mechanical work and penetrations in the roofing assembly is carried in the base bid cost. Contractors are to site verify the existing roofing assembly and

make good the roofing assembly to match existing as required to complete all work described in the contract documents.

END OF ADDENDUM NO.1.

February 24, 2022

Client: ward99 architects inc.
7500 Highway 27, Unit 27B
Vaughan, Ontario
L4H 0J2

RE: Stewart Avenue Public School – Ventilation Upgrades
Cambridge, Ontario

Job #: 21085

Attn: Ms. Tina Ranieri-D’Ovidio, Principal, B.Arch, OAA, MRAIC, LEED, AP® BD + C

MECHANICAL ADDENDUM

MECHANICAL

Item 1

- 1.0 Reference Attached Re-Issued Specification Section 23 82 23 ‘Hydronic Unit Ventilators’
.1 Add attached specification section 23 82 23 ‘Hydronic Unit Ventilators’ in its entirety.

Item 2

- 2.0 Reference Specification Section 23 82 23 ‘Hydronic Unit Ventilators’
.1 Equipment suppliers are to meet unit ventilators delivery requirements as per specification.
Note in specification, item 1.3.4 “Include in tender price for premium costs associated with manufacturer’s rush/accelerated delivery.”

Item 3

- 3.0 Reference Drawing M1.1
.1 In Air Cooled Condensing Unit Schedule, add ‘Carrier’ as acceptable manufacturer.
.2 In General Notes, remove TSSA certificate of authorization for split refrigeration systems (exceeding 3 or 5 tons) from conformance letter requirements.

Item 4

- 4.0 Reference Drawing M3.1
.1 In Special Ed Classroom 6, Classroom 7, Classroom 8, Classroom 9, Classroom 10, Classroom 11, and Classroom 12, revise the following note ‘450x450 exhaust duct thru roof. Terminate with gooseneck’ to ‘450x450 exhaust duct thru roof. Terminate with gooseneck above roof. Terminate in ceiling space complete with motorized damper’.
.2 In Specific Renovation Notes, revise Note E to “New DDC thermostat, CO² sensor, and control wiring. Fish existing wall as required for new control wiring.

Item 5

- 5.0 Reference Attached Re-Issued Drawing M4.1
.1 Refer to attached re-issued drawing M4.1 for revised ‘Wall Fin Radiation Piping for New Unit Ventilator Install- Demolition’, ‘Wall Fin Radiation Piping for New Unit Ventilator Install- Renovation’, ‘Pipe Routing to New Unit Ventilator’, and ‘Condensing Unit on Roof’ details.

Nicole Freitas

Nicole Freitas, Mechanical Technologist

21085 Addendum (M-unit ventilators)(re-issued dwg M4.1) Feb 24 22
nf/sad



Part 1 General

1.1 GENERAL

- .1 Conform to general provisions for mechanical division in General Requirements section.

1.2 SUBMITTAL

- .1 Submit shop drawings and product data in accordance with general requirements,
- .2 Indicate the following: complete specifications, wiring diagrams (showing all interconnections); weight; performance details.
- .3 Provide data for inclusion in the Operating and Maintenance manuals in accordance with general requirements,

1.3 SHOP DRAWING SUBMISSION/UNIT DELIVERY REQUIREMENTS

- .1 **Shop drawings shall be submitted to the Consultant within two (2) weeks of Award of Contract.**
- .2 **Shop drawings shall be reviewed/returned by the Consultant within one (1) week of submission.**
- .3 **Contractor to order equipment from manufacturer immediately upon returned/approved shop drawings.**
- .4 **This Contractor shall co-ordinate with the manufacturer to ensure unit ventilator equipment is delivered to site (for installation) by July 17, 2022. Include in tender price for premium costs associated with manufacturer's rush/accelerated delivery.**

Part 2 Products

2.1 UNIT VENTILATOR

- .1 Exterior cabinet panels shall be constructed of heavy gauge steel. Units shall be constructed such that testing and trouble-shooting can be accomplished in the end pockets of the unit without affecting the normal airflow pattern through the unit.
- .2 Floor mounted units shall have an integral pipe tunnel for convenient crossover of piping or electrical wiring in accordance with local and National Electric Codes (NEC). The front surface shall consist of three separate, removable panels. Control compartment must be accessible without removing the entire front panel. Unit discharge grille shall be welded continuous bar type with round edged steel bars placed for a 10° vertical deflection. Adjustable side deflection vanes shall be located beneath the continuous bar grille for easy adjustment by maintenance personnel]. A 6 mm (1/4") painted galvanized mesh screen shall be furnished and located beneath the discharge grille. Unit top surface shall be supplied with a textured paint surface that resists scuffing and hides fingerprints.

Overall unit depth shall be 550 mm (21 7/8").

- .3 Motors shall be direct drive electronically commutated motors (ECM) and be mounted on rubber isolation. Blowers shall be designed specifically for unit ventilator operation. ECM motors shall be programmed to meet the scheduled airflow at the specified external static pressure with additional speed taps for manual adjustment on site during balancing. Motors shall consist of a brushless, permanently lubricated ball bearing construction for maintenance free operation.
- .4 Hydronic coils are to be constructed with copper tubes and mechanically bonded aluminum corrugated plate fins. Water coils shall be furnished with a threaded drain plug at the lowest point. A manual air vent shall be provided at the high point of the coil on all floor mounted units. An auto air vent shall be provided at the high point of the coil on all ceiling mounted units. Direct expansion coils (DX) - all DX coils must be supplied with a factory installed thermal expansion valve. The expansion valve must be sized for the manufacturer's matching remote condensing unit.
- .5 Air Cooled Condensing Units - The unit ventilator manufacturer shall provide remote air cooled condensing units where indicated on plans. The outdoor unit shall be factory precharged and shall be design matched to the indoor unit.
- The installing contractor shall provide and install between indoor and outdoor unit the interconnecting refrigerant tubing of the size recommended by the unit manufacturer. The installing contractor shall evacuate the indoor coil and interconnection tubing and charge the system in accordance with manufacturer's instructions.
- Condensing unit shall have corrosion resistant cabinet, with hermetically sealed compressor with internal spring isolation, external isolation, permanent split capacitor motor and overload protection, copper tube aluminum fin condenser coil, direct drive propeller fan with permanently lubricated ball bearing single phase motor with internal overload protection.
- .1 Acceptable manufacturers:
- Daikin
 - Trane
 - Engineered Air
- .6 Microprocessor-based control for each unit ventilator that must be adaptable to future network system. This control must be pre-engineered, preprogrammed and pretested and shall be factory installed before shipment. The microprocessor-based control shall monitor room conditions and automatically adjust unit operations to maintain these requirements. The control sequence shall be on the basis of [ASHRAE Cycle II. The manufacturer shall provide this DDC controller in each unit ventilator. Control shall modulate remote 3-way heating valve and sequence condensing unit to maintain setpoint.
- The direct digital controller shall have the following tenant adjustments as an integral part of the device: room temperature setpoint, minimum percent outdoor air setting, and unoccupied setpoint (offset). Each controller shall be furnished with an LED status/fault indicator on board and a communication port to allow monitoring and adjustment from a portable computer.
- .7 Economizer Operation: The unit shall have the capacity for 100% outdoor air when outdoor conditions allow. Provide power vent operation.

- .8 Separate room air and outdoor air dampers. The room air damper shall be constructed of aluminum and shall be counterbalanced against back pressure. Outdoor air damper shall be two-piece double wall construction with 15 mm (1/2") thick, 1.5 lb. density fiberglass insulation sandwiched between welded 1.0 mm (20 Ga.) galvanized steel blades for rigidity and to inhibit corrosion. Dampers shall be fitted with blended mohair seals along all the sealing edges. Damper bearings shall be made of nylon or other material which does not require lubrication. Dampers shall be factory mounted complete with modulating spring return damper actuator for proportional damper control.
- .9 Integral factory installed face and bypass damper. The face and bypass damper shall be constructed of aluminum and have a dead air space to minimize pickup in the bypass position. The long sealing edges of the damper shall be fitted with silicone rubber impregnated glass cloth seals with blended mohair seals on the ends for long life and positive sealing.
- .10 Drain pan constructed of stainless steel and shall be insulated. A drain outlet shall be provided on both ends of the pan with one outlet capped. The drain hand of connection shall be easily field-reversed by relocating the cap to the opposite end.
- .11 Filters shall be MERV 13.
- .12 Unit manufacturer shall provide an external wall louvre for the outdoor air intake. The louvre and frame shall be of heavy gauge aluminum with 45 deg. blades. The blade profile shall be designed to prevent water penetration. The louvre shall have 1/2" birdscreen attached to the inner face and shall have a minimum free area of 1.1 sq. ft. The finish on the louver shall be: mill finish / primer coat / a color as per Architect's instruction.
- .13 Unit manufacturer shall provide a decorative exterior aluminum wall grille constructed of heavy gauge aluminum with rectangular holes to match louvre blade spacing to maximize the air opening. Grille to be secured to wall louvre/ exterior wall. The grille finish shall match the louvre above.
- .14 **All internal line voltage wiring shall be by the unit manufacturer.**
 - .1 A suitably rated unfused disconnect switch shall be factory installed within the unit.
- .15 Controls
 - .1 Control items shall be furnished by the unit manufacturer. Components shall be UL or CSA list devices listed in the country intended for use and approved by factory for fit and form prior to arrival.
 - .2 Control items to be factory installed may include:
 - .1 DDC controller.
 - .2 Supply Air Temperature sensor.
 - .3 Mixed Air Temperature sensor.
 - .4 Supply Air Fan current sensor.
 - .5 Enthalpy control for economizer operation.

- .6 3-way proportional modulation control valve.
- .7 Remote thermostat provided by manufacturer.
- .8 Rear pipe chase.
- .3 Manufacturer to provide provisions for connection to BAS automation system.
- .16 Unit capacity: As indicated.
- .17 Acceptable manufacturers:
 - Daikin
 - Trane
 - Engineered Air

2.2 SYSTEM CONTROL

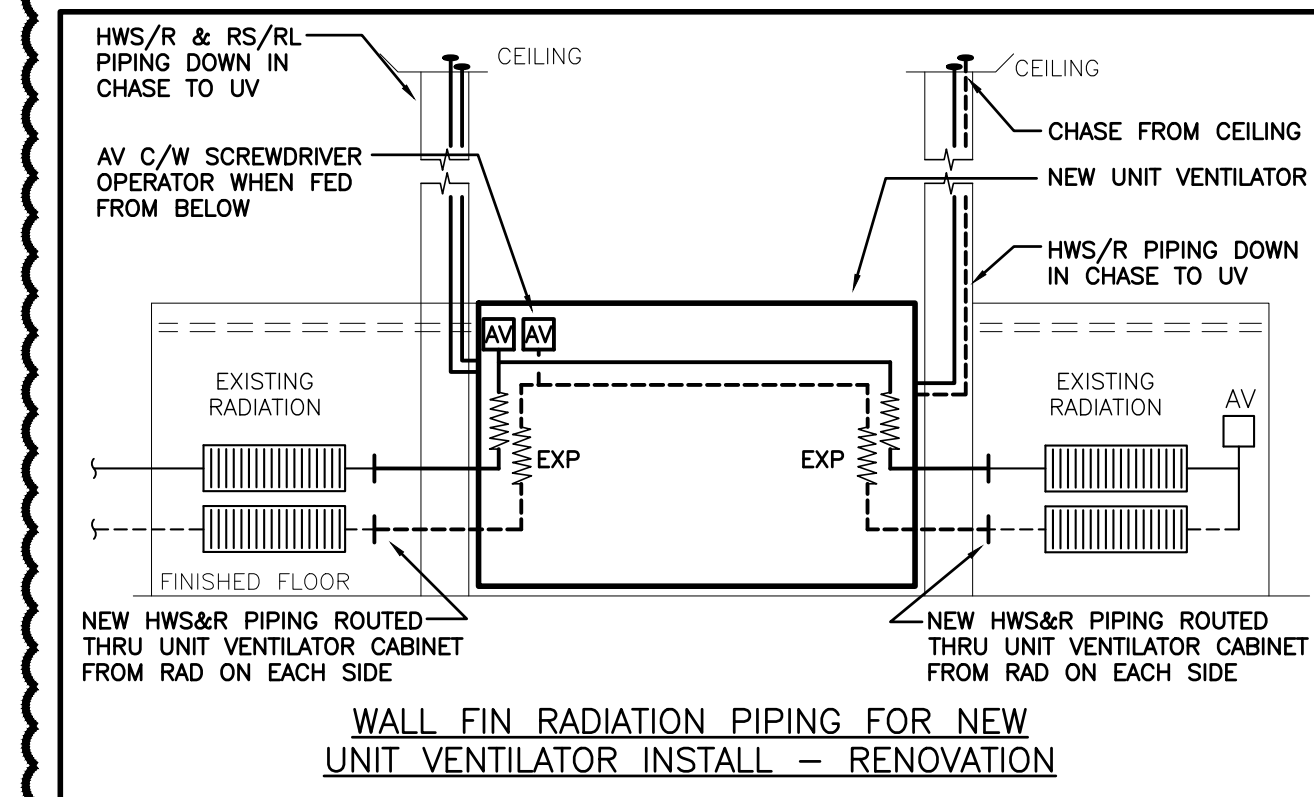
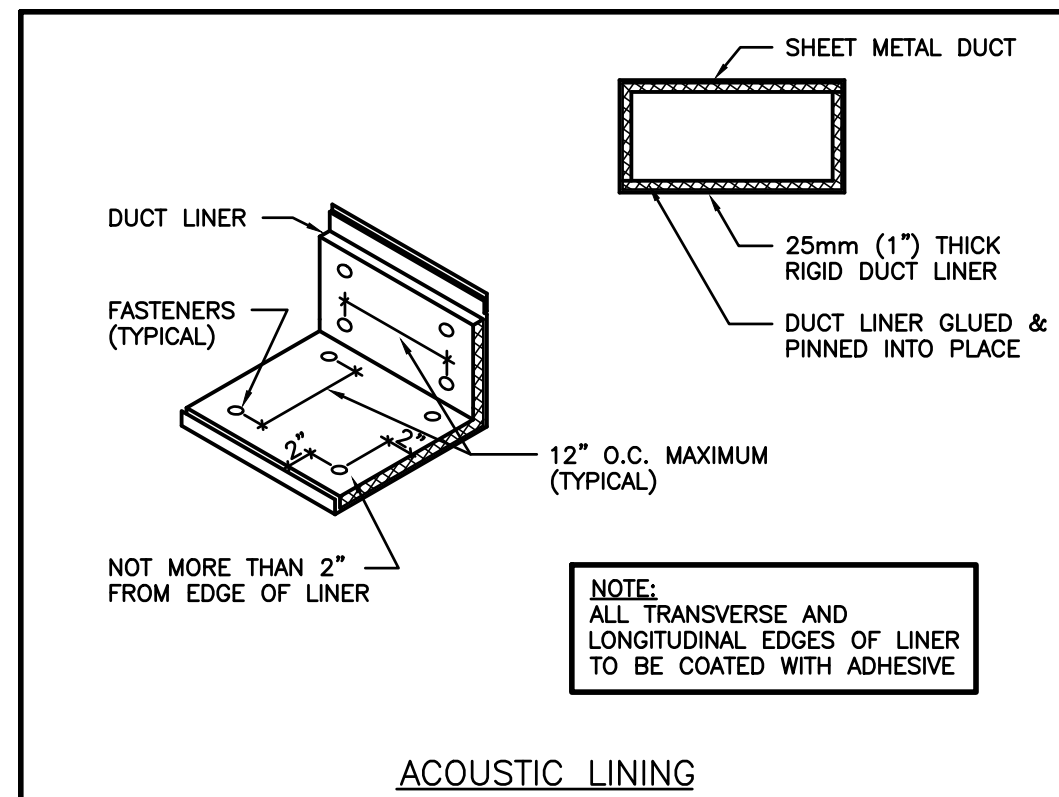
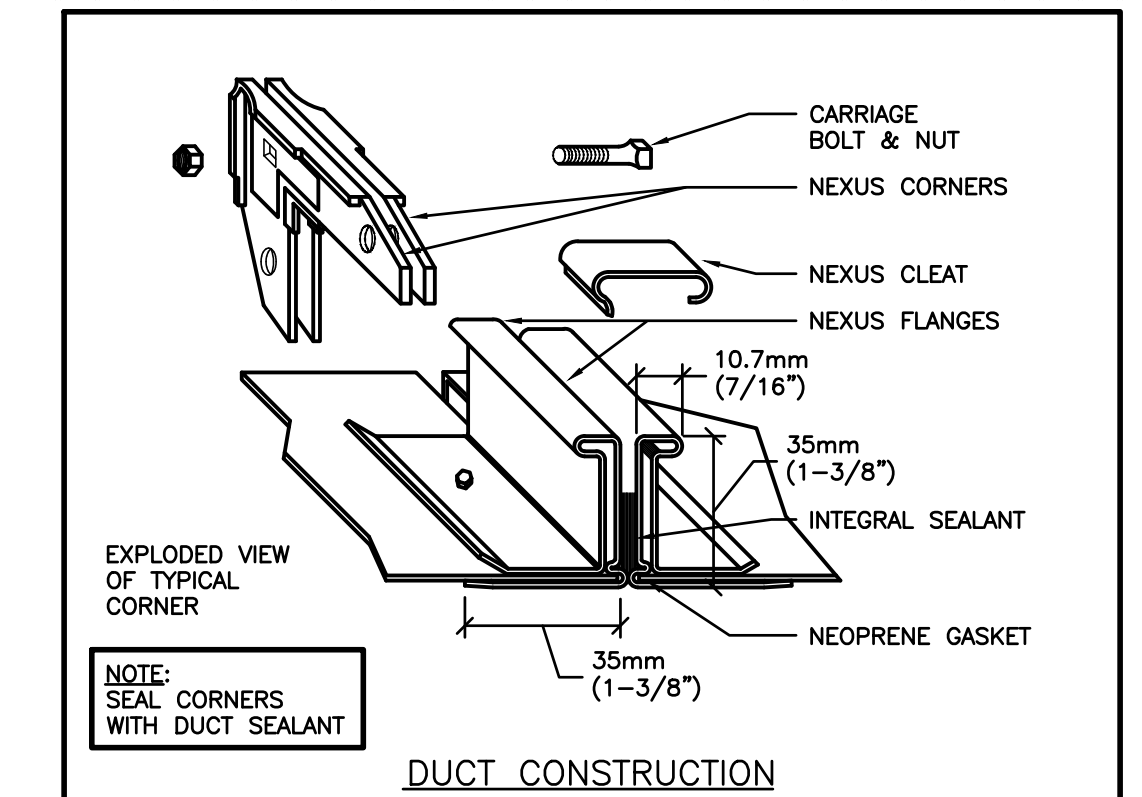
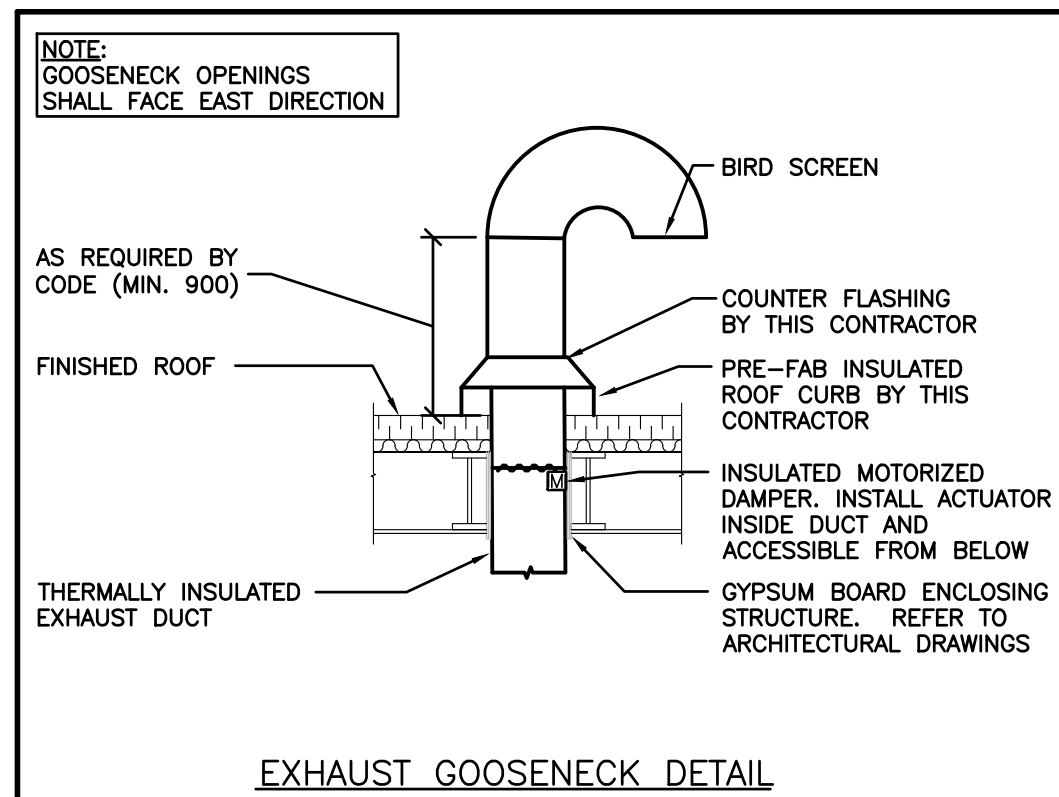
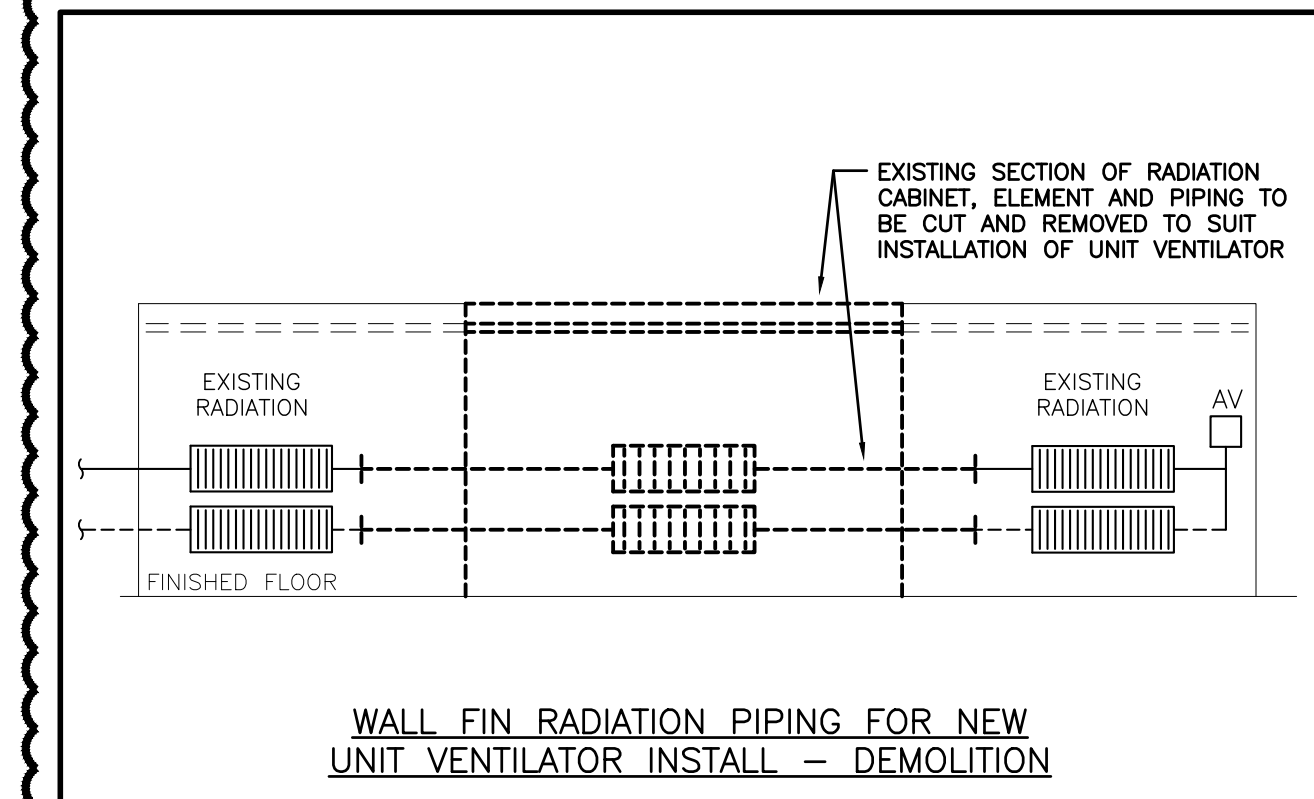
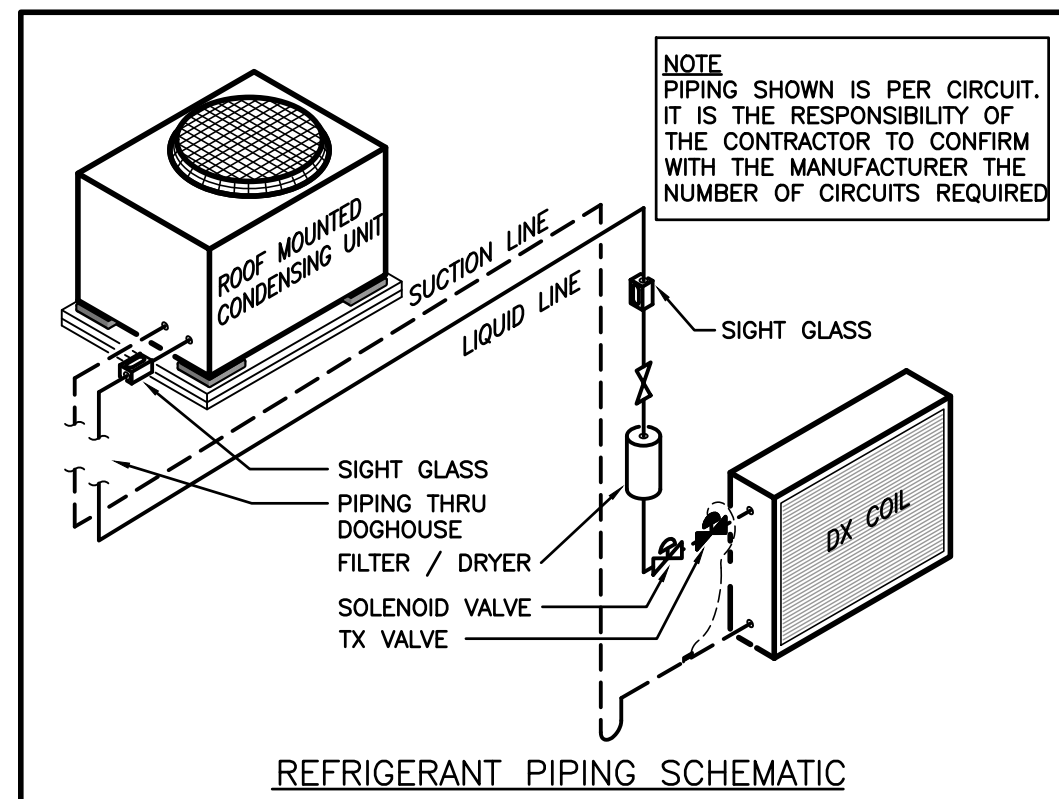
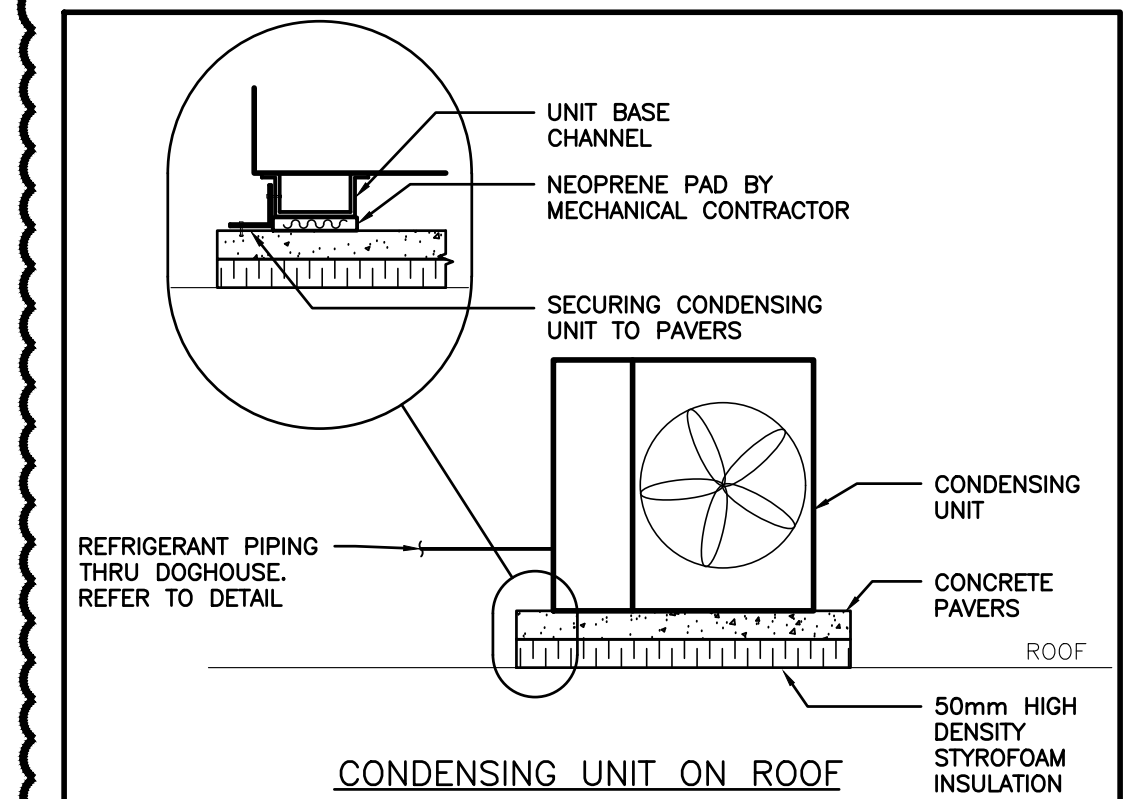
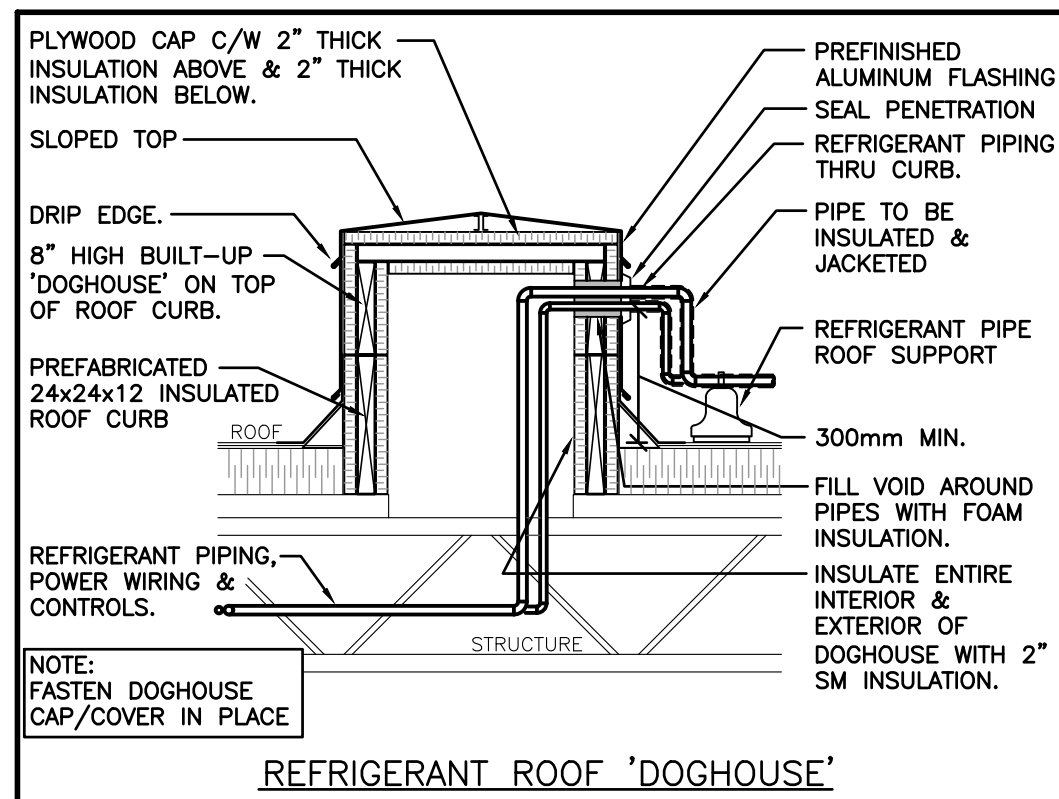
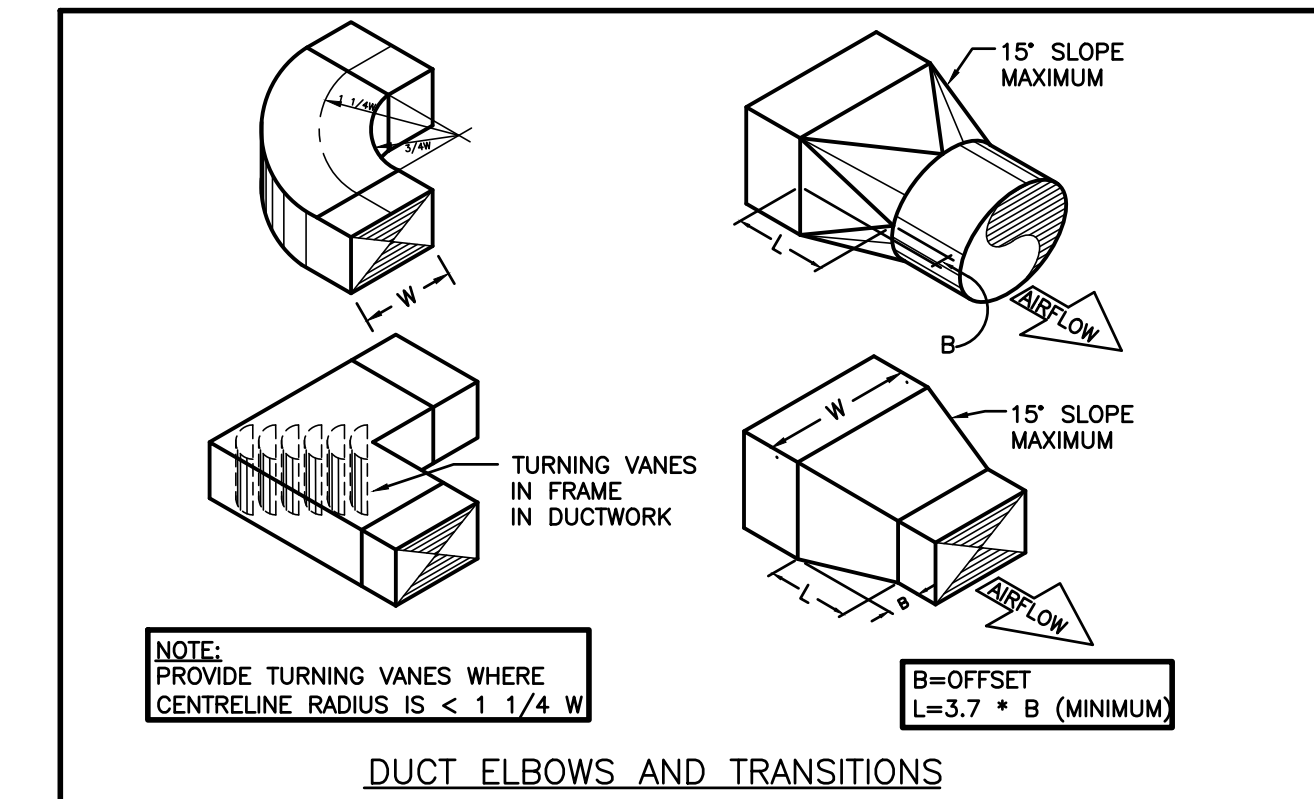
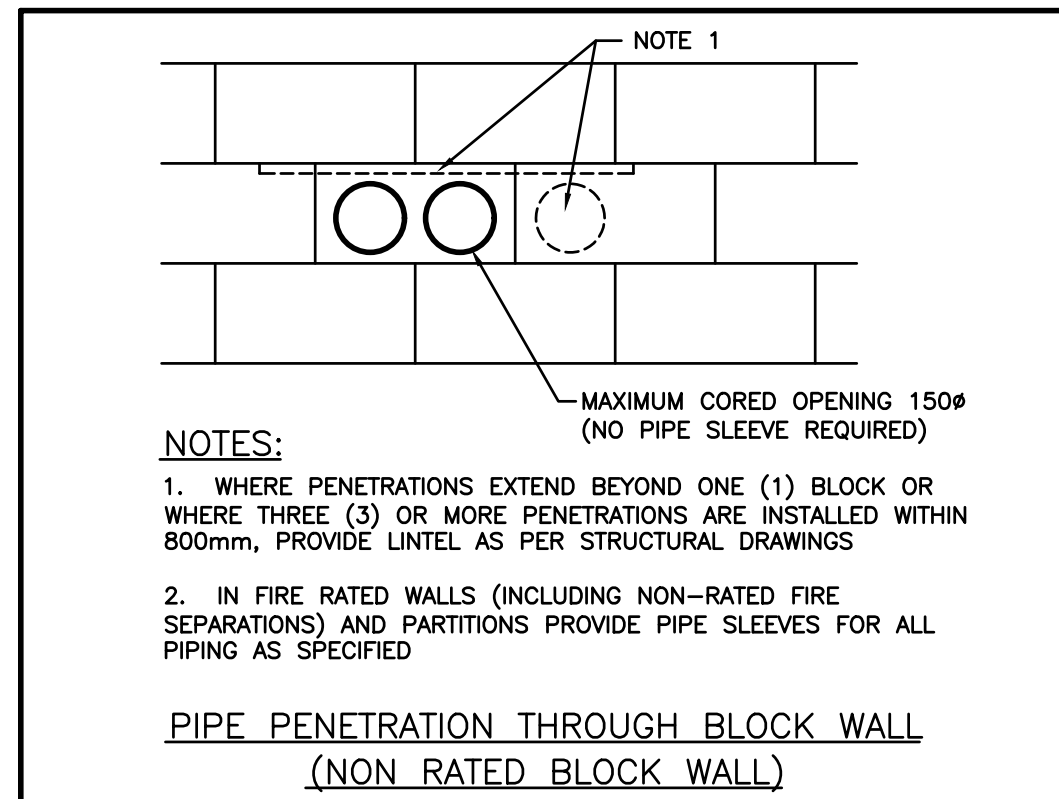
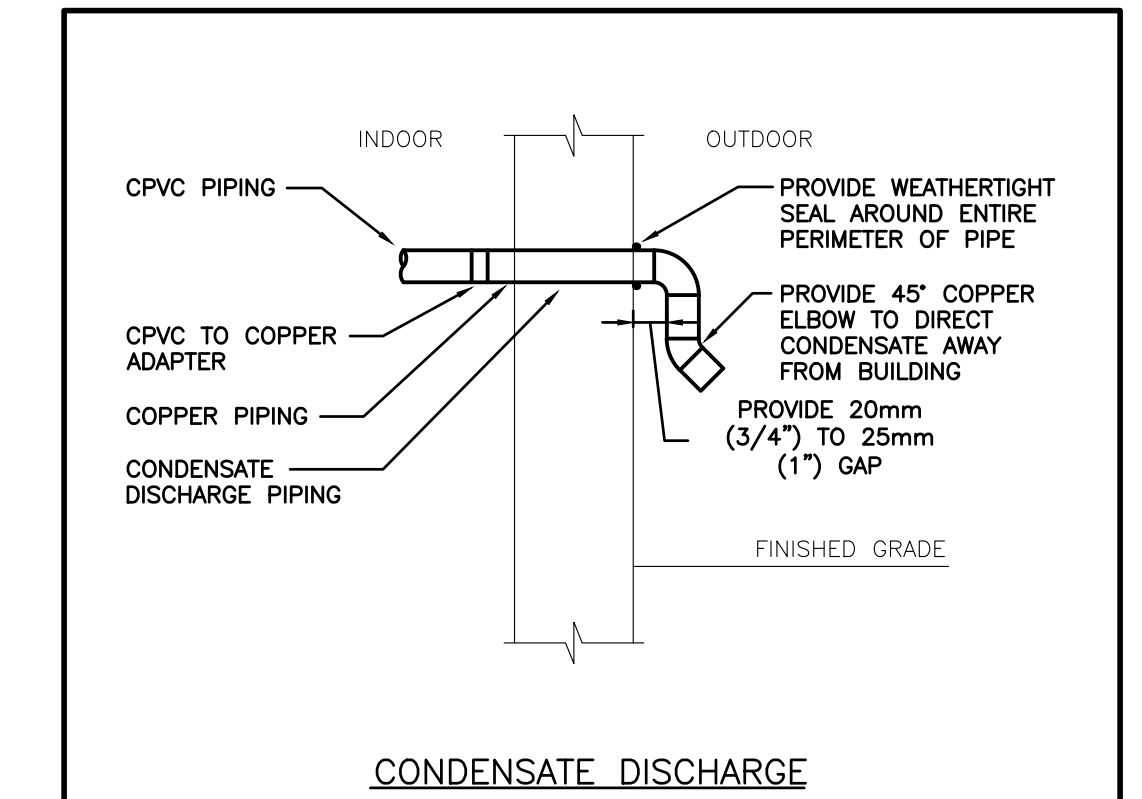
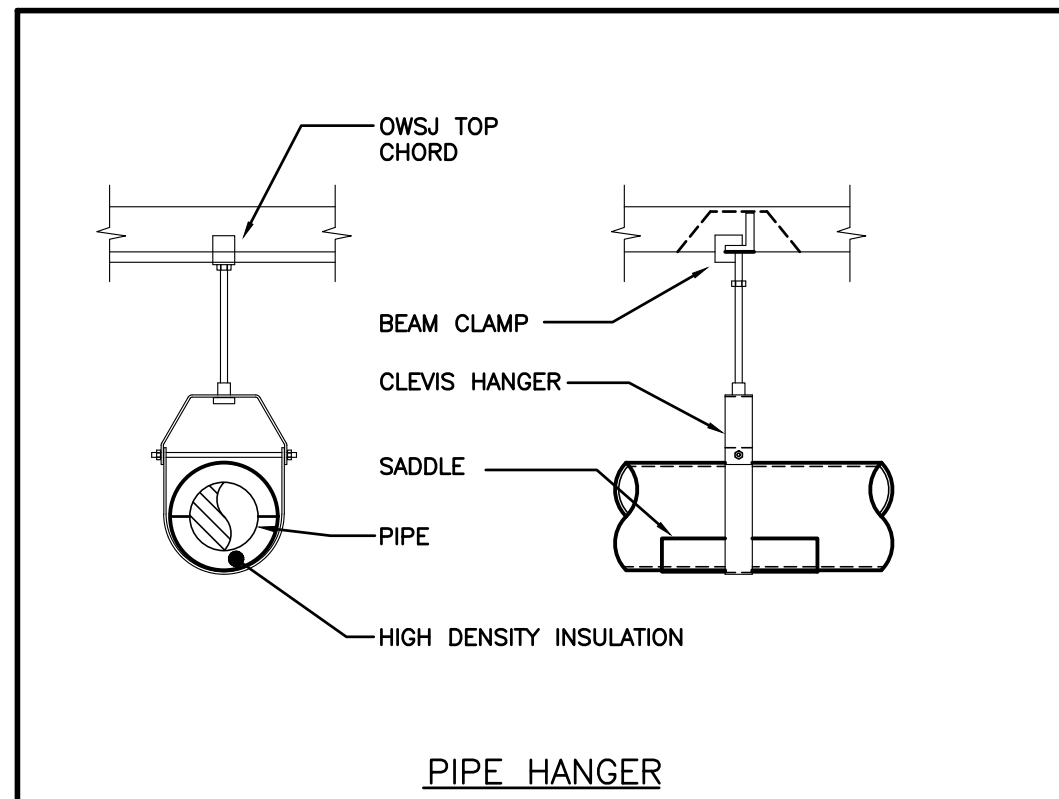
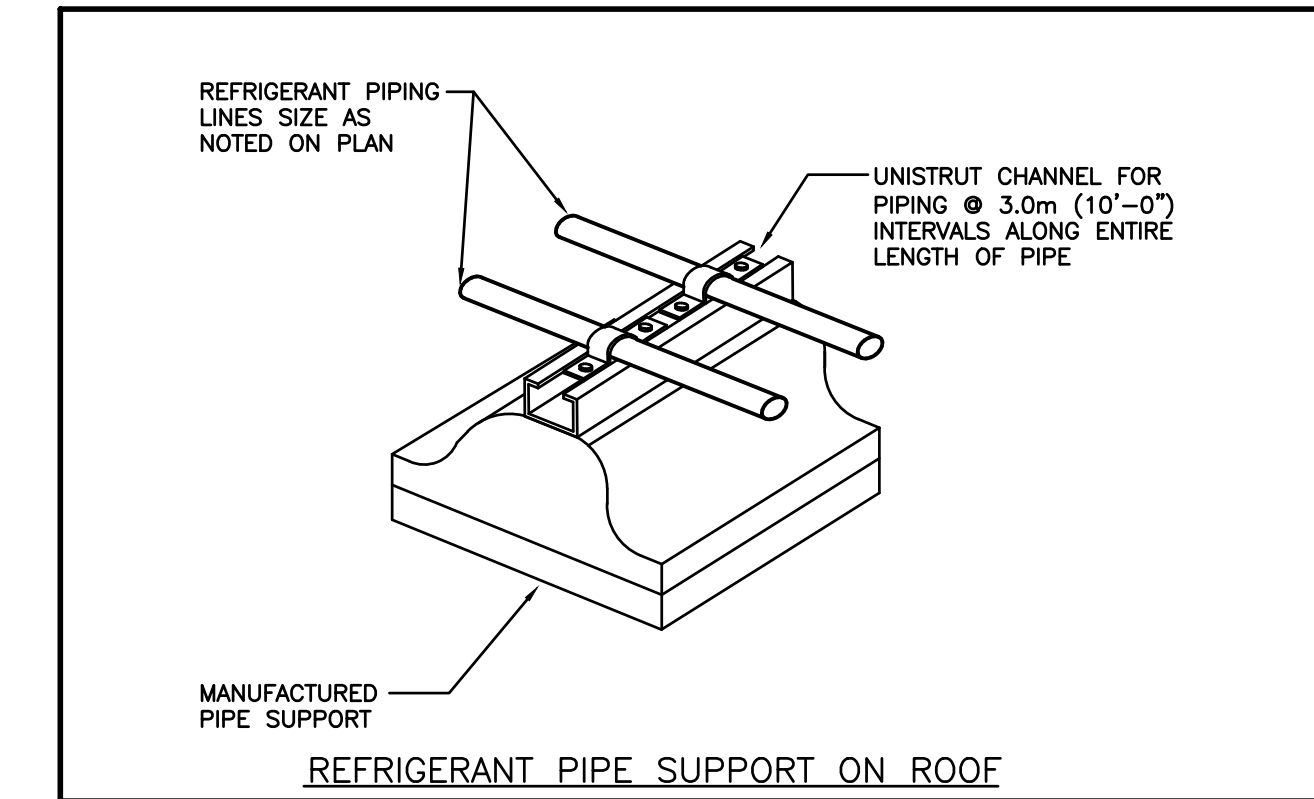
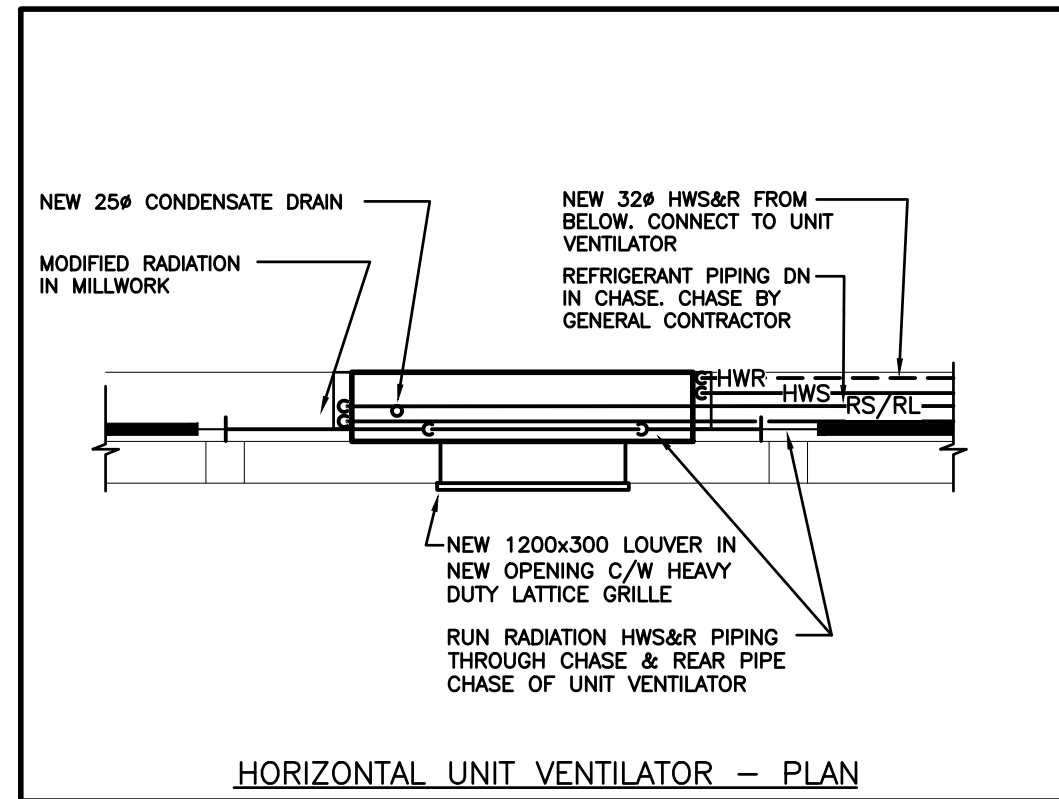
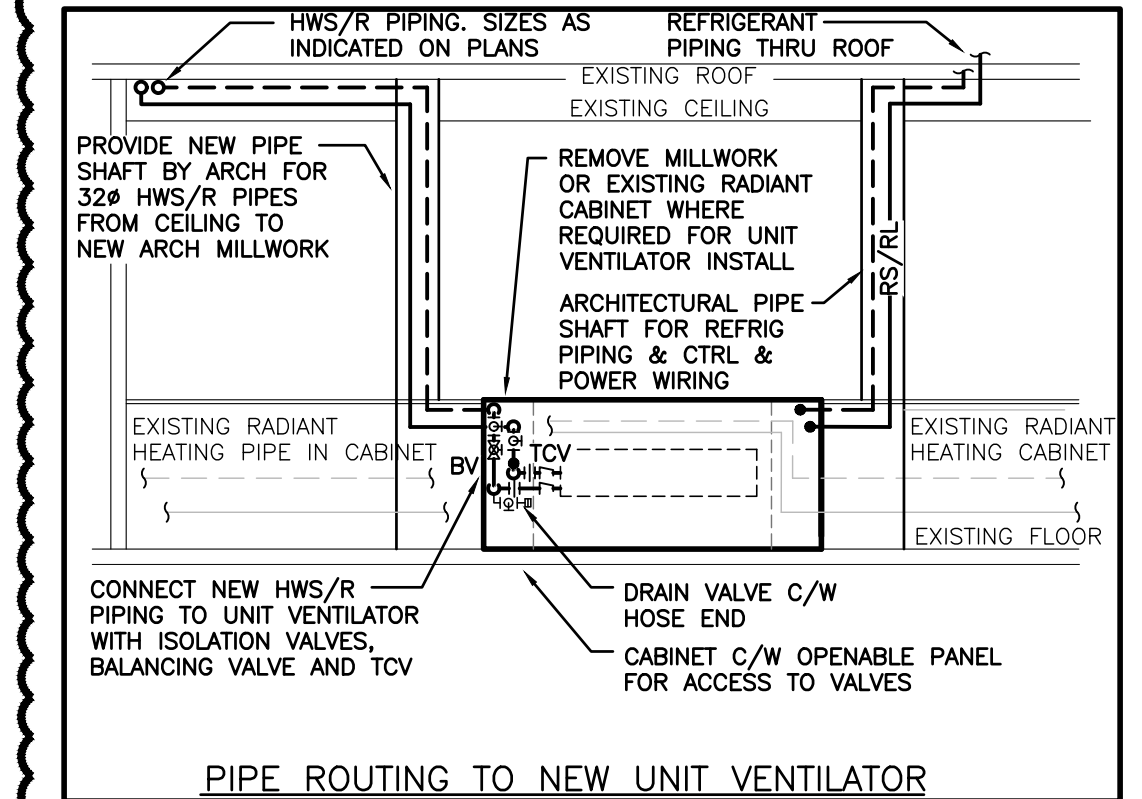
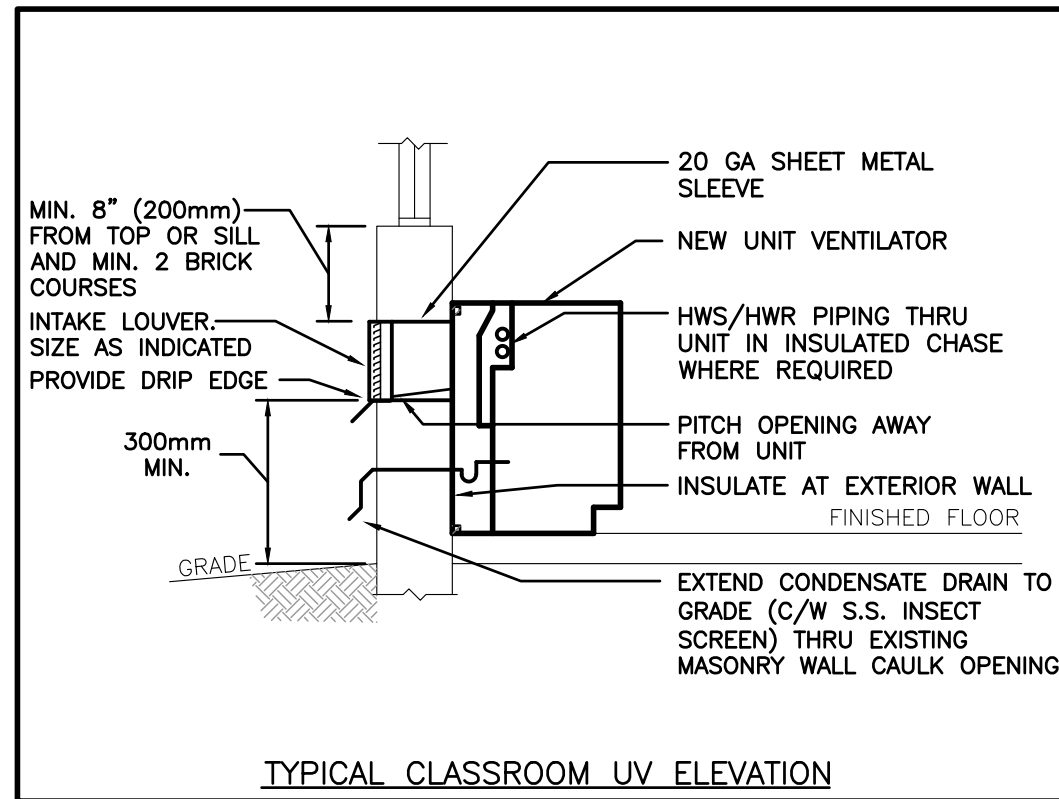
- .1 Equipment control will be by the BAS system. Coordinate with controls contractor.

Part 3 Execution

3.1 INSTALLATION

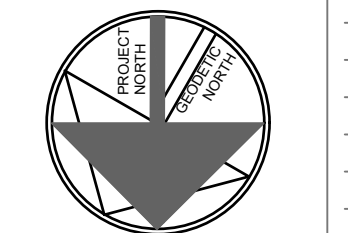
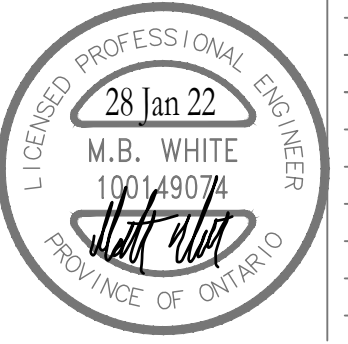
- .1 Install in accordance with manufacturer's instructions.
- .2 Install equipment exposed to finished areas after walls and ceiling are finished and painted. Avoid damage.
- .3 Protection: Provide finished cabinet units with protective covers during balance of construction.
- .4 Unit Ventilators: Locate as indicated, level and shim units, and anchor to structure. Coordinate with existing wall louvre and radiation cabinet. Adjust existing adjacent surfaces as required for a complete finished installation.
- .5 Hydronic Units: Install with shut-off valve on supply and lockshield balancing valve on return piping. If not easily accessible, extend vent to exterior surface of cabinet for easy servicing.
- .6 Connect drain pan to condensate drain.
- .7 Provide refrigerant piping, refrigerant accessories and refrigerant from condensing unit to DX coil.

END OF SECTION



The contractor shall verify all dimensions and report all errors and discrepancies to the Consultant before commencement of the work. The drawings show general arrangement of services. Follow as closely as actual building construction will permit. Obtain approval for relocation of service from Consultant before commencement of the work. The drawings do not indicate all offsets fitting and accessories which may be required. Provide the same to meet the required conditions. Drawings and specifications, etc., prepared and issued by the consultant are the property of the consultant and must be returned at the completion of the project. These documents are not to be duplicated or copied without the consent of the Consultant. Do not scale this drawing.
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no.	revision	date



no.	Issue	date
1	Issued for Tender	Jan 28, 2022

project
 WRODSB STEWART AVENUE PUBLIC SCHOOL RENOVATIONS
 WATERLOO REGION DISTRICT SCHOOL BOARD
 145 STEWART AVE, CAMBRIDGE N1R 2V5
 Drawing
DETAILS
 Drawing scale
 AS NOTED
 ward99 project number
 21009 - STEWART

ward99 architects
 drawing no.

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M4.1