

Addendum #2

This Addendum modifies, amends, and supplements designated parts of the Contract Documents, Specifications and Drawings for:

Norway Readiness Center Renovation Efficiency Maine HVAC - Project No:23SR21-400-D1, Bid Number #24-033

Directorate of Facilities Engineering

29 January 2024

It shall be the responsibility of the Contractor to notify all Subcontractors and Suppliers for various portions of the work of any changes or modifications contained in this Addendum.

Specification Items:

1. Specification Section 00 41 13, Contractor Bid Form. **Remove** in entirety and **Insert** attached Specification Section 00 41 13, Contractor Bid Form. Addition of Alternate Bid Item #6.
2. Specification Section 01 00 00, Administrative Provisions. **Remove** page 2 and **Insert** attached Specification Section 01 00 00, Administrative Provisions, page 2. Addition of Alternate Bid Item #6.

Drawing Items:

1. **Remove** the following drawing sheets and **Insert** attached revised drawing sheets (contained in Harriman Addendum No. 2 Attachment):
 - a. A10-1 Plans and Details
 - b. M100-1 Legend and General Notes
 - c. M05-1 First Floor Mechanical Demolition
 - d. M10-1 First Floor Mechanical
 - e. M10-2 Second Floor Mechanical
 - f. M50-2 Control Diagram & Specifications
 - g. M60-1 Schedules
 - h. E-20-1 First Floor Plan Power

- Attachments: 1. Specification Section 00 41 13, Contractor Bid Form
2. Specification Section 01 00 00, Administrative Provisions, page 2.
3. Harriman Addendum No.2

**00 41 13
Contractor Bid Form**

**Norway Readiness Center Renovation
Efficiency Maine HVAC**

BGS project number 3365

Bid Form submitted by:

paper documents only to address below Bid Administrator:

Ms. Sara Thompson
Directorate of Facilities Engineering
Bldg. 7, Camp Keyes
194 Winthrop Street
Augusta, Maine 04330

Sara.Thompson@maine.gov

Bidder:

Signature: _____

Printed name and
title: _____

Company name: _____

Mailing address: _____

City, state, zip code: _____

Phone number: _____

Email address: _____

State of
incorporation,
if a corporation: _____

List of all partners,
if a partnership: _____

The Bidder agrees, if the Owner offers to award the contract, to provide any and all bonds and certificates of insurance, as well as Schedule of Values, Project Schedule, and List of Subcontractors and Suppliers if required by the Owner, and to sign the designated Construction Contract within twelve calendar days after the date of notification of such acceptance, except if the twelfth day falls on a State of Maine government holiday or other closure day, or a Saturday, or a Sunday, in which case the aforementioned documents must be received before 12:00 noon on the first available business day following the holiday, other closure day, Saturday, or Sunday.

As a guarantee thereof, the Bidder submits, together with this bid, a bid bond or other acceptable instrument as and if required by the Bid Documents.

**00 41 13
Contractor Bid Form**

1. The Bidder, having carefully examined the *Norway Readiness Center Renovation Efficiency Maine HVAC* Project Manual dated 22 December 2023, prepared by *Harriman*, as well as Specifications, Drawings, and any Addenda, the form of contract, and the premises and conditions relating to the work, proposes to furnish all labor, equipment and materials necessary for and reasonably incidental to the construction and completion of this project for the **Base Bid** amount of:

\$ _____ .00

2. Allowances *are not included* on this project.

No Allowances

insert brief name of Allowance

\$ 0.00

3. Alternate Bids *are included* on this project.

Alternate Bids are as shown below

Any dollar amount line below that is left blank by the Bidder shall be read as a bid of **\$0.00**.

1 *Install four (4) ea. Destratification fans in asembly hall.* \$ _____ .00

2 *Remove existing steam unit heater IAW Sheet M05-1.* \$ _____ .00

3 *Remove XMUA-1 IAW Sheet M05-1* \$ _____ .00

4 *Remove OA intake duct IAW Sheet M05-1* \$ _____ .00

5 *Remove piping serving XUH-F IAW Sheet M05-1* \$ _____ .00

6 *Metering and trending through BAS* \$ _____ .00

Owner reserves the right to award all, none or any combination of Alternate Bid Items plus the Base Bid.

4. Bid security *is required* on this project.

If noted above as required, or if the Base Bid amount exceeds \$125,000.00, the Bidder shall include with this bid form a satisfactory Bid Bond (section 00 43 13) or a certified or cashier's check for 5% of the bid amount with this completed bid form submitted to the Owner.

5. Filed Sub-bids *are not required* on this project.

If noted above as required, the Bidder shall include with this bid form a list of each Filed Sub-bidder selected by the Bidder on the form provided (section 00 41 13F).

4. Limit access to Owner's site, hours of operations are 7:00 A.M. - 4:00 P.M.
5. The Contractor must work with each organization to gain access to certain area through-out the building. When the Contractor needs to gain access to certain areas, he must notify each organization seven working days in advance.
6. Coordinate use of premises under direction of Owner.
7. The Contractor shall be responsible for his/her security in Construction Area until substantial completion. The contractor shall coordinate security of Building with Owner.
8. Winter Conditions: Per specifications.

E. Owner Occupancy

1. Owner will occupy surrounding areas during entire period of construction, to conduct Owner's normal operations. The Contractor shall cooperate with Owner to minimize conflict to the Owner's operations.

F. Owner-furnished Products: 1000 gallon propane tank.

G. Schedule of Allowances: Not Used.

H. Alternate Bids: Alternate Bid Item #1: Install four (4) ea. Destratification fans in assembly hall; Alternate Bid Item #2 : Remove existing steam unit heater IAW Sheet M05-1; Alternate Bid Item #3: Remove XMUA-1 IAW Sheet M05-1; Alternate Bid Item #4: Remove OA intake duct IAW Sheet M05-1; Alternate Bid Item #5: Remove piping serving XUH-F IAW Sheet M05-1; Alternate Bid Item #6 Metering and Trending through BAS.

I. Unit Prices:

J. Applications for Payment:

1. Submit One (1) copy of each application under procedures of 00 72 13 Section 31, on B.G.S. Form "Application for Payment, 00 62 76 and 00 62 76.01", revised 4 May 2021.

K. Coordination:

1. Work of this Contract includes coordination of the entire Work of the Project.
2. Coordinate work with all utilities. Interruption of services shall be coordinated with an appropriate official at the facility to minimize the disruption of operations within the facility.
3. Coordinate the work of equipment and material suppliers and subcontractors.

ADDENDUM

Date January 29, 2024

To Prospective Bidders

Re Addendum No. 2 to the Construction Documents for:

Norway Readiness Center Renovation
Efficiency Maine HVAC
BGS Project #: 3365
Project #23SR21-400-D1
Bid#24-033
Harriman Project No. 21319

This Addendum forms a part of the Contract Documents and modifies the original Construction Documents dated December 22, 2023 and Addendum 1 dated January 24, 2024. Acknowledge receipt of this Addendum in the space provided in the Bid Form.

This Addendum consists of the drawings listed below.

Harriman



Mark D. Lee, AIA, LEED
President, CEO

DRAWINGS REVISED AND REISSUED WITH THIS ADDENDUM, DATED 01-29-24:

1. DRAWING A10-1 – PLANS AND DETAILS
2. DRAWING M00-1 – LEGEND AND GENERAL NOTES
3. DRAWING M05-1 – FIRST FLOOR MECHANICAL DEMOLITION
4. DRAWING M10-1 – FIRST FLOOR MECHANICAL
5. DRAWING M10-2 – SECOND FLOOR MECHANICAL
6. DRAWING M50-2 – CONTROL DIAGRAM & SPECIFICATIONS
7. DRAWING M60-1 - SCHEDULES
8. DRAWING E20-1 – FIRST FLOOR PLAN POWER

SPECIFICATION NOTES

024100 DEMOLITION
PART 1 - EXECUTION

1. PREPARATION
A. TEMPORARY SHORING, BRACING, AND STRUCTURAL SUPPORTS AS REQUIRED TO PRESERVE STABILITY AND PREVENT MOVEMENT, SETTLEMENT, OR COLLAPSE OF CONSTRUCTION AND FINISHES TO REMAIN, AND TO PREVENT UNEXPECTED OR UNCONTROLLED MOVEMENT OR COLLAPSE OF CONSTRUCTION BEING DEMOLISHED.
1. STRENGTHEN OR ADD NEW SUPPORTS WHEN REQUIRED DURING PROGRESS OF SELECTIVE DEMOLITION.
2. REMOVE TEMPORARY SHORING, BRACING AND STRUCTURAL SUPPORTS WHEN NO LONGER REQUIRED.

1.1 SELECTIVE DEMOLITION

A. GENERAL: DEMOLISH AND REMOVE EXISTING CONSTRUCTION ONLY TO THE EXTENT REQUIRED BY NEW CONSTRUCTION AND AS INDICATED. USE METHODS REQUIRED TO COMPLETE THE WORK WITHIN LIMITATIONS OF GOVERNING REGULATIONS AND AS FOLLOWS:
1. NEATLY CUT OPENINGS AND HOLES PLUMB, SQUARE, AND TRUE TO DIMENSIONS REQUIRED. USE CUTTING METHODS LEAST LIKELY TO DAMAGE CONSTRUCTION TO REMAIN OR ADJOINING CONSTRUCTION. USE HAND TOOLS OR SMALL POWER TOOLS DESIGNED FOR SAWING OR GRINDING, NOT HAMMERS AND CHOPPING, TO MINIMIZE DISTURBANCE OF ADJACENT SURFACES. TEMPORARILY COVER OPENINGS TO REMAIN.
2. CUT OR DRILL FROM THE EXPOSED OR FINISHED SIDE INTO CONCEALED SURFACES TO AVOID MARRING EXISTING FINISHED SURFACES.

1.2 CUTTING
A. PERFORM ALL CUTTING OF EXISTING SURFACES IN A MANNER WHICH WILL ENSURE A MINIMAL DIFFERENCE BETWEEN THE CUT AREA AND NEW MATERIALS WHEN PATCHED. USE EXTREME CARE WHEN CUTTING EXISTING SURFACES CONTAINING CONCEALED UTILITY LINES WHICH ARE INDICATED TO REMAIN AND BEAR FULL RESPONSIBILITY FOR REPAIRING OR REPLACEMENT OF ALL SUCH UTILITIES THAT ARE ACCIDENTALLY DAMAGED.
B. ALL SLURRY AND WATER SHALL BE CONTAINED AND MANAGED TO AVOID DAMAGE TO EXISTING CONDITIONS WHEN USING A WET SAW OR WET CORE DRILLER.
C. OBTAIN AND PAY FOR A HOT WORK PERMIT AND ARRANGE TO HAVE ON-SITE A FIRE WATCH ITEM.
1.3 CLEANING
A. CLEAN ADJACENT STRUCTURES AND IMPROVEMENTS OF DUST, DIRT, AND DEBRIS CAUSED BY SELECTIVE DEMOLITION OPERATIONS. PREMISES SHALL BE LEFT IN A CLEAN CONDITION A CLEAN CONDITION AND READY TO ACCEPT ALTERATION WORK AND NEW CONSTRUCTION.

041200 MASONRY RESTORATION AND CLEANING
PART 1 - GENERAL

1.1 PROJECT CONDITIONS
A. REPOINT MORTAR JOINTS AND REPAIR MASONRY ONLY WHEN AIR TEMPERATURE IS BETWEEN 40 AND 90 DEG F AND IS PREDICTED TO REMAIN SO FOR AT LEAST 7 DAYS AFTER COMPLETION OF WORK.
B. COLD-WEATHER REQUIREMENTS: COMPLY WITH THE FOLLOWING PROCEDURES FOR MASONRY REPAIR AND MORTAR-JOINT POINTING:
1. WHEN AIR TEMPERATURE IS BELOW 40 DEG F, HEAT MORTAR INGREDIENTS, MASONRY REPAIR MATERIALS, AND EXISTING MASONRY WALLS TO PRODUCE TEMPERATURES BETWEEN 40 AND 120 DEG F.
2. WHEN MEAN DAILY AIR TEMPERATURE IS BELOW 40 DEG F, PROVIDE ENCLOSURE AND HEAT TO MAINTAIN TEMPERATURES ABOVE 32 DEG F WITHIN THE ENCLOSURE FOR 7 DAYS AFTER REPAIR AND POINTING.
C. HOT-WEATHER REQUIREMENTS: PROTECT MASONRY REPAIR AND MORTAR-JOINT POINTING WHEN TEMPERATURE AND HUMIDITY CONDITIONS PRODUCE EXCESSIVE EVAPORATION OF WATER FROM MORTAR AND REPAIR MATERIALS. PROVIDE ARTIFICIAL SHADE AND WIND BREAKS AND USE COOLED MATERIALS AS REQUIRED. DO NOT APPLY MORTAR TO SUBSTRATES WITH TEMPERATURES OF 90 DEG F AND ABOVE.
D. PATCH MASONRY ONLY WHEN AIR AND SURFACE TEMPERATURES ARE BETWEEN 55 AND 100 DEG F AND ARE PREDICTED TO REMAIN ABOVE 55 DEG F FOR AT LEAST 7 DAYS AFTER COMPLETION OF WORK. ON DAYS WHEN AIR TEMPERATURE IS PREDICTED TO GO ABOVE 90 DEG F, SCHEDULE PATCHING WORK TO COINCIDE WITH TIME THAT SURFACE BEING PATCHED WILL BE IN SHADE OR DURING COOLER MORNING HOURS.
E. CLEAN MASONRY SURFACES ONLY WHEN AIR TEMPERATURE IS 40 DEG F AND ABOVE AND IS PREDICTED TO REMAIN SO FOR AT LEAST 7 DAYS AFTER COMPLETION OF CLEANING

1.2 PATCHING
A. GENERAL: PATCH MASONRY TO MATCH EXISTING BRICKWORK AND WITH PHYSICAL PROPERTIES NOT LESS THAN THOSE DETERMINED FROM EXISTING UNITS.
1. PROVIDE UNITS WITH COLORS, SURFACE TEXTURE, SIZE, AND SHAPE TO MATCH EXISTING BRICKWORK AND WITH PHYSICAL PROPERTIES NOT LESS THAN THOSE DETERMINED FROM EXISTING UNITS.
a) FOR REPLACEMENT BRICK AT EXISTING BUILDING PROVIDE BRICK TO MATCH EXISTING AS APPROVED BY ARCHITECT.
b) BUILDING BRICK: PROVIDE BUILDING BRICK COMPLYING WITH ASTM C 62, OF SAME VERTICAL DIMENSION AS FACE BRICK, FOR MASONRY WORK CONCEALED FROM VIEW.
1. GRADE SW WHERE IN CONTACT WITH EARTH.
2. GRADE SW, MW, OR NW FOR CONCEALED BACKUP.
3. EXISTING BRICK SIZE: 7-3/4 INCHES BY 2 INCHES BY 3-3/8 INCHES.

1.3 CLEANING
A. CLEAN ADJACENT STRUCTURES AND IMPROVEMENTS OF DUST, DIRT, AND DEBRIS CAUSED BY SELECTIVE DEMOLITION OPERATIONS. PREMISES SHALL BE LEFT IN A CLEAN CONDITION A CLEAN CONDITION AND READY TO ACCEPT ALTERATION WORK AND NEW CONSTRUCTION.

1.4 MORTAR
A. GENERAL: MORTAR TO MATCH EXISTING MORTAR. USE PORTLAND CEMENT MORTAR WITH THE FOLLOWING PROPORTIONS:
1. TYPE M MORTAR: 1 PART PORTLAND CEMENT TO 3 PARTS SAND BY VOLUME.
2. TYPE N MORTAR: 1 PART PORTLAND CEMENT TO 2.5 PARTS SAND BY VOLUME.
3. TYPE S MORTAR: 1 PART PORTLAND CEMENT TO 4 PARTS SAND BY VOLUME.
B. MIXING: MIX MORTAR IN A CLEAN, DRY MIXING BUCKET OR PORTLAND CEMENT MORTAR MIXER. DO NOT MIX MORTAR IN A CONTAINER THAT HAS BEEN USED FOR OTHER MATERIALS.
C. APPLICATION: APPLY MORTAR TO SUBSTRATE WITH A TROWEL OR MORTAR SPATULA. COMPRESS MORTAR TO FULL DENSITY. REMOVE EXCESS MORTAR WITH A TROWEL OR SPATULA. FINISH MORTAR TO MATCH EXISTING MORTAR.
D. CURING: CURE MORTAR BY SPRAYING WITH WATER FREQUENTLY TO KEEP MOIST FOR AT LEAST 7 DAYS AFTER COMPLETION OF WORK.

1.5 FLASHING
A. GENERAL: FLASHING TO MATCH EXISTING FLASHING. USE COPPER FLASHING OR ALUMINUM FLASHING.
1. PREPARE FLASHING SURFACES TO BE SMOOTH AND FREE FROM PROJECTIONS THAT COULD PUNCTURE FLASHING. WHERE FLASHING IS WITHIN MORTAR JOINT, PLACE THROUGH-WALL FLASHING ON SLOPING BED OF MORTAR AND COVER WITH MORTAR, BEFORE COVERING WITH MORTAR, SEAL PENETRATIONS IN FLASHING WITH ADHESIVE, SEALANT, OR TAPE AS RECOMMENDED BY FLASHING MANUFACTURER.
2. AT MULTI-WYTHE MASONRY WALLS, INCLUDING CAVITY WALLS, EXTEND FLASHING THROUGH OUTER WYTHE, TURNED UP A MINIMUM OF 8 INCHES, AND 1-1/2 INCHES INTO THE INNER WYTHE. FORM 1/4-INCH HOOK IN EDGE OF FLASHING EMBEDDED IN INNER WYTHE.
3. AT MASONRY-VENEER WALLS, EXTEND FLASHING THROUGH VENEER, ACROSS AIR SPACE BEHIND VENEER, AND UP FACE OF SHEATHING AT LEAST 8 INCHES; WITH UPPER EDGE COVERED WITH ELASTOMERIC MEMBRANE, LAPPING AT LEAST 4 INCHES.
4. AT LINTELS AND SHELF ANGLES, EXTEND FLASHING A MINIMUM OF 6 INCHES INTO MASONRY AT EACH END. AT HEADS AND SILLS, EXTEND FLASHING 6 INCHES AT ENDS AND TURN UP NOT LESS THAN 2 INCHES TO FORM END DAMS.

1.6 SEALANTS
A. GENERAL: SEALANTS TO MATCH EXISTING SEALANTS. USE ELASTOMERIC SEALANTS.
1. EXTERIOR SILICONE SEALANT: USE SILICONE SEALANT WITH A MINIMUM OF 25% SILICONE. USE SILICONE SEALANT WITH A MINIMUM OF 25% SILICONE. USE SILICONE SEALANT WITH A MINIMUM OF 25% SILICONE.
2. INTERIOR SILICONE SEALANT: USE SILICONE SEALANT WITH A MINIMUM OF 25% SILICONE. USE SILICONE SEALANT WITH A MINIMUM OF 25% SILICONE. USE SILICONE SEALANT WITH A MINIMUM OF 25% SILICONE.
3. POLYURETHANE SEALANT: USE POLYURETHANE SEALANT WITH A MINIMUM OF 25% POLYURETHANE. USE POLYURETHANE SEALANT WITH A MINIMUM OF 25% POLYURETHANE. USE POLYURETHANE SEALANT WITH A MINIMUM OF 25% POLYURETHANE.
4. BUTYL SEALANT: USE BUTYL SEALANT WITH A MINIMUM OF 25% BUTYL. USE BUTYL SEALANT WITH A MINIMUM OF 25% BUTYL. USE BUTYL SEALANT WITH A MINIMUM OF 25% BUTYL.

1.7 JOINT SEALANTS
A. GENERAL: JOINT SEALANTS TO MATCH EXISTING JOINT SEALANTS. USE ELASTOMERIC JOINT SEALANTS.
1. EXTERIOR ELASTOMERIC JOINT SEALANTS: USE ELASTOMERIC JOINT SEALANT WITH A MINIMUM OF 25% ELASTOMERIC. USE ELASTOMERIC JOINT SEALANT WITH A MINIMUM OF 25% ELASTOMERIC. USE ELASTOMERIC JOINT SEALANT WITH A MINIMUM OF 25% ELASTOMERIC.
2. INTERIOR ELASTOMERIC JOINT SEALANTS: USE ELASTOMERIC JOINT SEALANT WITH A MINIMUM OF 25% ELASTOMERIC. USE ELASTOMERIC JOINT SEALANT WITH A MINIMUM OF 25% ELASTOMERIC. USE ELASTOMERIC JOINT SEALANT WITH A MINIMUM OF 25% ELASTOMERIC.
3. POLYURETHANE JOINT SEALANT: USE POLYURETHANE JOINT SEALANT WITH A MINIMUM OF 25% POLYURETHANE. USE POLYURETHANE JOINT SEALANT WITH A MINIMUM OF 25% POLYURETHANE. USE POLYURETHANE JOINT SEALANT WITH A MINIMUM OF 25% POLYURETHANE.
4. BUTYL JOINT SEALANT: USE BUTYL JOINT SEALANT WITH A MINIMUM OF 25% BUTYL. USE BUTYL JOINT SEALANT WITH A MINIMUM OF 25% BUTYL. USE BUTYL JOINT SEALANT WITH A MINIMUM OF 25% BUTYL.

1.8 FLASHING
A. GENERAL: FLASHING TO MATCH EXISTING FLASHING. USE COPPER FLASHING OR ALUMINUM FLASHING.
1. PREPARE FLASHING SURFACES TO BE SMOOTH AND FREE FROM PROJECTIONS THAT COULD PUNCTURE FLASHING. WHERE FLASHING IS WITHIN MORTAR JOINT, PLACE THROUGH-WALL FLASHING ON SLOPING BED OF MORTAR AND COVER WITH MORTAR, BEFORE COVERING WITH MORTAR, SEAL PENETRATIONS IN FLASHING WITH ADHESIVE, SEALANT, OR TAPE AS RECOMMENDED BY FLASHING MANUFACTURER.
2. AT MULTI-WYTHE MASONRY WALLS, INCLUDING CAVITY WALLS, EXTEND FLASHING THROUGH OUTER WYTHE, TURNED UP A MINIMUM OF 8 INCHES, AND 1-1/2 INCHES INTO THE INNER WYTHE. FORM 1/4-INCH HOOK IN EDGE OF FLASHING EMBEDDED IN INNER WYTHE.
3. AT MASONRY-VENEER WALLS, EXTEND FLASHING THROUGH VENEER, ACROSS AIR SPACE BEHIND VENEER, AND UP FACE OF SHEATHING AT LEAST 8 INCHES; WITH UPPER EDGE COVERED WITH ELASTOMERIC MEMBRANE, LAPPING AT LEAST 4 INCHES.
4. AT LINTELS AND SHELF ANGLES, EXTEND FLASHING A MINIMUM OF 6 INCHES INTO MASONRY AT EACH END. AT HEADS AND SILLS, EXTEND FLASHING 6 INCHES AT ENDS AND TURN UP NOT LESS THAN 2 INCHES TO FORM END DAMS.

1.9 JOINT SEALANTS
A. GENERAL: JOINT SEALANTS TO MATCH EXISTING JOINT SEALANTS. USE ELASTOMERIC JOINT SEALANTS.
1. EXTERIOR ELASTOMERIC JOINT SEALANTS: USE ELASTOMERIC JOINT SEALANT WITH A MINIMUM OF 25% ELASTOMERIC. USE ELASTOMERIC JOINT SEALANT WITH A MINIMUM OF 25% ELASTOMERIC. USE ELASTOMERIC JOINT SEALANT WITH A MINIMUM OF 25% ELASTOMERIC.
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1.10 FLASHING
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1.11 JOINT SEALANTS
A. GENERAL: JOINT SEALANTS TO MATCH EXISTING JOINT SEALANTS. USE ELASTOMERIC JOINT SEALANTS.
1. EXTERIOR ELASTOMERIC JOINT SEALANTS: USE ELASTOMERIC JOINT SEALANT WITH A MINIMUM OF 25% ELASTOMERIC. USE ELASTOMERIC JOINT SEALANT WITH A MINIMUM OF 25% ELASTOMERIC. USE ELASTOMERIC JOINT SEALANT WITH A MINIMUM OF 25% ELASTOMERIC.
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1.12 FLASHING
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1.13 JOINT SEALANTS
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1.14 FLASHING
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2. AT MULTI-WYTHE MASONRY WALLS, INCLUDING CAVITY WALLS, EXTEND FLASHING THROUGH OUTER WYTHE, TURNED UP A MINIMUM OF 8 INCHES, AND 1-1/2 INCHES INTO THE INNER WYTHE. FORM 1/4-INCH HOOK IN EDGE OF FLASHING EMBEDDED IN INNER WYTHE.
3. AT MASONRY-VENEER WALLS, EXTEND FLASHING THROUGH VENEER, ACROSS AIR SPACE BEHIND VENEER, AND UP FACE OF SHEATHING AT LEAST 8 INCHES; WITH UPPER EDGE COVERED WITH ELASTOMERIC MEMBRANE, LAPPING AT LEAST 4 INCHES.
4. AT LINTELS AND SHELF ANGLES, EXTEND FLASHING A MINIMUM OF 6 INCHES INTO MASONRY AT EACH END. AT HEADS AND SILLS, EXTEND FLASHING 6 INCHES AT ENDS AND TURN UP NOT LESS THAN 2 INCHES TO FORM END DAMS.

1.15 JOINT SEALANTS
A. GENERAL: JOINT SEALANTS TO MATCH EXISTING JOINT SEALANTS. USE ELASTOMERIC JOINT SEALANTS.
1. EXTERIOR ELASTOMERIC JOINT SEALANTS: USE ELASTOMERIC JOINT SEALANT WITH A MINIMUM OF 25% ELASTOMERIC. USE ELASTOMERIC JOINT SEALANT WITH A MINIMUM OF 25% ELASTOMERIC. USE ELASTOMERIC JOINT SEALANT WITH A MINIMUM OF 25% ELASTOMERIC.
2. INTERIOR ELASTOMERIC JOINT SEALANTS: USE ELASTOMERIC JOINT SEALANT WITH A MINIMUM OF 25% ELASTOMERIC. USE ELASTOMERIC JOINT SEALANT WITH A MINIMUM OF 25% ELASTOMERIC. USE ELASTOMERIC JOINT SEALANT WITH A MINIMUM OF 25% ELASTOMERIC.
3. POLYURETHANE JOINT SEALANT: USE POLYURETHANE JOINT SEALANT WITH A MINIMUM OF 25% POLYURETHANE. USE POLYURETHANE JOINT SEALANT WITH A MINIMUM OF 25% POLYURETHANE. USE POLYURETHANE JOINT SEALANT WITH A MINIMUM OF 25% POLYURETHANE.
4. BUTYL JOINT SEALANT: USE BUTYL JOINT SEALANT WITH A MINIMUM OF 25% BUTYL. USE BUTYL JOINT SEALANT WITH A MINIMUM OF 25% BUTYL. USE BUTYL JOINT SEALANT WITH A MINIMUM OF 25% BUTYL.

1.16 FLASHING
A. GENERAL: FLASHING TO MATCH EXISTING FLASHING. USE COPPER FLASHING OR ALUMINUM FLASHING.
1. PREPARE FLASHING SURFACES TO BE SMOOTH AND FREE FROM PROJECTIONS THAT COULD PUNCTURE FLASHING. WHERE FLASHING IS WITHIN MORTAR JOINT, PLACE THROUGH-WALL FLASHING ON SLOPING BED OF MORTAR AND COVER WITH MORTAR, BEFORE COVERING WITH MORTAR, SEAL PENETRATIONS IN FLASHING WITH ADHESIVE, SEALANT, OR TAPE AS RECOMMENDED BY FLASHING MANUFACTURER.
2. AT MULTI-WYTHE MASONRY WALLS, INCLUDING CAVITY WALLS, EXTEND FLASHING THROUGH OUTER WYTHE, TURNED UP A MINIMUM OF 8 INCHES, AND 1-1/2 INCHES INTO THE INNER WYTHE. FORM 1/4-INCH HOOK IN EDGE OF FLASHING EMBEDDED IN INNER WYTHE.
3. AT MASONRY-VENEER WALLS, EXTEND FLASHING THROUGH VENEER, ACROSS AIR SPACE BEHIND VENEER, AND UP FACE OF SHEATHING AT LEAST 8 INCHES; WITH UPPER EDGE COVERED WITH ELASTOMERIC MEMBRANE, LAPPING AT LEAST 4 INCHES.
4. AT LINTELS AND SHELF ANGLES, EXTEND FLASHING A MINIMUM OF 6 INCHES INTO MASONRY AT EACH END. AT HEADS AND SILLS, EXTEND FLASHING 6 INCHES AT ENDS AND TURN UP NOT LESS THAN 2 INCHES TO FORM END DAMS.

1.17 JOINT SEALANTS
A. GENERAL: JOINT SEALANTS TO MATCH EXISTING JOINT SEALANTS. USE ELASTOMERIC JOINT SEALANTS.
1. EXTERIOR ELASTOMERIC JOINT SEALANTS: USE ELASTOMERIC JOINT SEALANT WITH A MINIMUM OF 25% ELASTOMERIC. USE ELASTOMERIC JOINT SEALANT WITH A MINIMUM OF 25% ELASTOMERIC. USE ELASTOMERIC JOINT SEALANT WITH A MINIMUM OF 25% ELASTOMERIC.
2. INTERIOR ELASTOMERIC JOINT SEALANTS: USE ELASTOMERIC JOINT SEALANT WITH A MINIMUM OF 25% ELASTOMERIC. USE ELASTOMERIC JOINT SEALANT WITH A MINIMUM OF 25% ELASTOMERIC. USE ELASTOMERIC JOINT SEALANT WITH A MINIMUM OF 25% ELASTOMERIC.
3. POLYURETHANE JOINT SEALANT: USE POLYURETHANE JOINT SEALANT WITH A MINIMUM OF 25% POLYURETHANE. USE POLYURETHANE JOINT SEALANT WITH A MINIMUM OF 25% POLYURETHANE. USE POLYURETHANE JOINT SEALANT WITH A MINIMUM OF 25% POLYURETHANE.
4. BUTYL JOINT SEALANT: USE BUTYL JOINT SEALANT WITH A MINIMUM OF 25% BUTYL. USE BUTYL JOINT SEALANT WITH A MINIMUM OF 25% BUTYL. USE BUTYL JOINT SEALANT WITH A MINIMUM OF 25% BUTYL.

1.18 FLASHING
A. GENERAL: FLASHING TO MATCH EXISTING FLASHING. USE COPPER FLASHING OR ALUMINUM FLASHING.
1. PREPARE FLASHING SURFACES TO BE SMOOTH AND FREE FROM PROJECTIONS THAT COULD PUNCTURE FLASHING. WHERE FLASHING IS WITHIN MORTAR JOINT, PLACE THROUGH-WALL FLASHING ON SLOPING BED OF MORTAR AND COVER WITH MORTAR, BEFORE COVERING WITH MORTAR, SEAL PENETRATIONS IN FLASHING WITH ADHESIVE, SEALANT, OR TAPE AS RECOMMENDED BY FLASHING MANUFACTURER.
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3. AT MASONRY-VENEER WALLS, EXTEND FLASHING THROUGH VENEER, ACROSS AIR SPACE BEHIND VENEER, AND UP FACE OF SHEATHING AT LEAST 8 INCHES; WITH UPPER EDGE COVERED WITH ELASTOMERIC MEMBRANE, LAPPING AT LEAST 4 INCHES.
4. AT LINTELS AND SHELF ANGLES, EXTEND FLASHING A MINIMUM OF 6 INCHES INTO MASONRY AT EACH END. AT HEADS AND SILLS, EXTEND FLASHING 6 INCHES AT ENDS AND TURN UP NOT LESS THAN 2 INCHES TO FORM END DAMS.

1.19 JOINT SEALANTS
A. GENERAL: JOINT SEALANTS TO MATCH EXISTING JOINT SEALANTS. USE ELASTOMERIC JOINT SEALANTS.
1. EXTERIOR ELASTOMERIC JOINT SEALANTS: USE ELASTOMERIC JOINT SEALANT WITH A MINIMUM OF 25% ELASTOMERIC. USE ELASTOMERIC JOINT SEALANT WITH A MINIMUM OF 25% ELASTOMERIC. USE ELASTOMERIC JOINT SEALANT WITH A MINIMUM OF 25% ELASTOMERIC.
2. INTERIOR ELASTOMERIC JOINT SEALANTS: USE ELASTOMERIC JOINT SEALANT WITH A MINIMUM OF 25% ELASTOMERIC. USE ELASTOMERIC JOINT SEALANT WITH A MINIMUM OF 25% ELASTOMERIC. USE ELASTOMERIC JOINT SEALANT WITH A MINIMUM OF 25% ELASTOMERIC.
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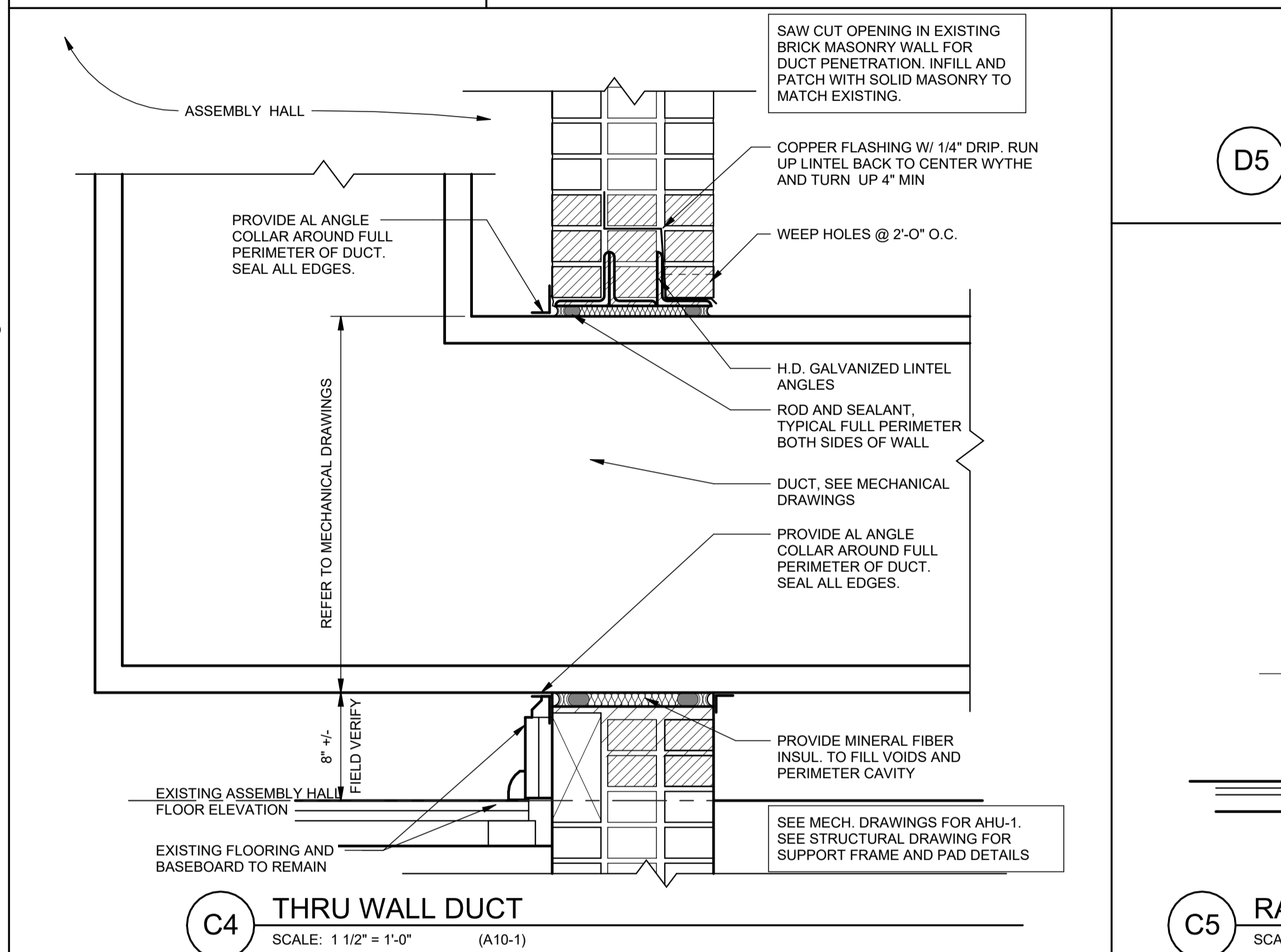
1.20 FLASHING
A. GENERAL: FLASHING TO MATCH EXISTING FLASHING. USE COPPER FLASHING OR ALUMINUM FLASHING.
1. PREPARE FLASHING SURFACES TO BE SMOOTH AND FREE FROM PROJECTIONS THAT COULD PUNCTURE FLASHING. WHERE FLASHING IS WITHIN MORTAR JOINT, PLACE THROUGH-WALL FLASHING ON SLOPING BED OF MORTAR AND COVER WITH MORTAR, BEFORE COVERING WITH MORTAR, SEAL PENETRATIONS IN FLASHING WITH ADHESIVE, SEALANT, OR TAPE AS RECOMMENDED BY FLASHING MANUFACTURER.
2. AT MULTI-WYTHE MASONRY WALLS, INCLUDING CAVITY WALLS, EXTEND FLASHING THROUGH OUTER WYTHE, TURNED UP A MINIMUM OF 8 INCHES, AND 1-1/2 INCHES INTO THE INNER WYTHE. FORM 1/4-INCH HOOK IN EDGE OF FLASHING EMBEDDED IN INNER WYTHE.
3. AT MASONRY-VENEER WALLS, EXTEND FLASHING THROUGH VENEER, ACROSS AIR SPACE BEHIND VENEER, AND UP FACE OF SHEATHING AT LEAST 8 INCHES; WITH UPPER EDGE COVERED WITH ELASTOMERIC MEMBRANE, LAPPING AT LEAST 4 INCHES.
4. AT LINTELS AND SHELF ANGLES, EXTEND FLASHING A MINIMUM OF 6 INCHES INTO MASONRY AT EACH END. AT HEADS AND SILLS, EXTEND FLASHING 6 INCHES AT ENDS AND TURN UP NOT LESS THAN 2 INCHES TO FORM END DAMS.

GENERAL NOTES

- PATCHING OF EXISTING WALLPTS SHALL BE PAINTED TO MATCH EXISTING ADJACENT WALLS, U.N.O.
- PATCH ALL OPENINGS CREATED FOR INSTALLATION OF NEW MECH., PLUMB., ELEC., ETC. WITH MATERIALS TO MATCH ADJACENT CONSTRUCTION.
- PREP WALLS FOR NEW PAINT FINISHES.
- PROVIDE FOR REPAIR OR REPLACEMENT OF CLAY MASONRY BROKEN OR DAMAGED DURING DISASSEMBLY AND RECONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE RESULTING FROM MASONRY WORK.
- PROVIDE SHORING AND BRACING REQUIRED TO MAINTAIN STABILITY OF MASONRY DURING WORK.

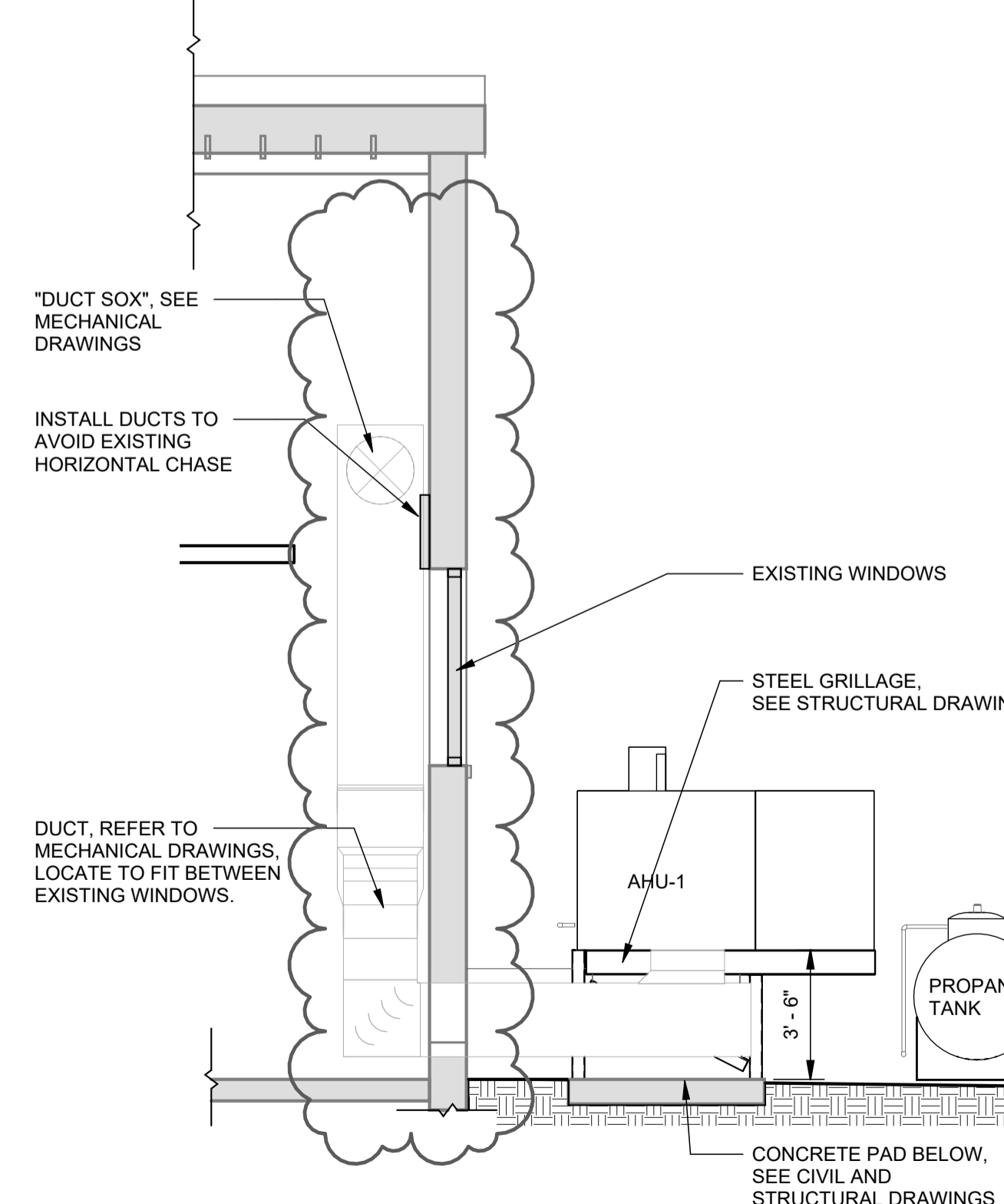
GENERAL DEMOLITION NOTES

- ALL DRAWINGS SHALL BE USED TO DETERMINE EXTENT OF REMOVALS AND DEMOLITION IN REFERENCE TO NEW WORK. ADDITIONAL DEMO BEYOND WHAT'S NOTED HERE MAY BE REQUIRED TO INSTALL AND COMPLETE NEW WORK. COORDINATE WITH NEW WORK SHOWN IN CONSTRUCTION DOCUMENTS.
- REFER TO STRUCTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR ADDITIONAL REMOVALS AND DEMOLITION. PROVIDE APPROPRIATE OPENINGS IN WALLS, SOFFITS, ROOFS, CEILINGS, PARTITIONS, ETC. TO INSTALL EQUIPMENT AND COMPONENTS. CONTRACTOR TO COORDINATE WITH TRADES RESPONSIBLE FOR PATCHING OPENINGS CREATED BY REMOVAL AND INSTALLATION OF DUCTS, CONDUIT, PIPES, ETC.
- CONTRACTOR SHALL IDENTIFY ANY AND ALL LOAD BEARING PARTITIONS PRIOR TO THE REMOVAL OF ANY PARTITIONS. TEMPORARY SHORING OF THE PERMANENT STRUCTURE SHALL BE IN PLACE PRIOR TO REMOVAL OF SUCH PARTITIONS.
- THE CONTRACTOR SHALL IDENTIFY ALL LOCATIONS WHERE PENETRATIONS ARE REQUIRED IN EXISTING WALLS (MECH. PLUMB. ELEC) PROPER OPENING SIZES SHALL BE PROVIDED WITH APPROPRIATE HEADERS OR LINTELS.
- CONTRACTOR TO COORDINATE PROTECTION OF ALL EXISTING FLOORING. ANY DAMAGED FLOORING SHALL BE REPLACED TO MATCH EXISTING.
- REFER TO SELECTIVE DEMOLITION SPEC NOTES FOR ADDITIONAL INFORMATION.
- ADDITIONAL MASONRY MAY BE REQUIRED TO BE REMOVED AT LOCATION OF TOOTHING IN. REMOVE AS REQUIRED.

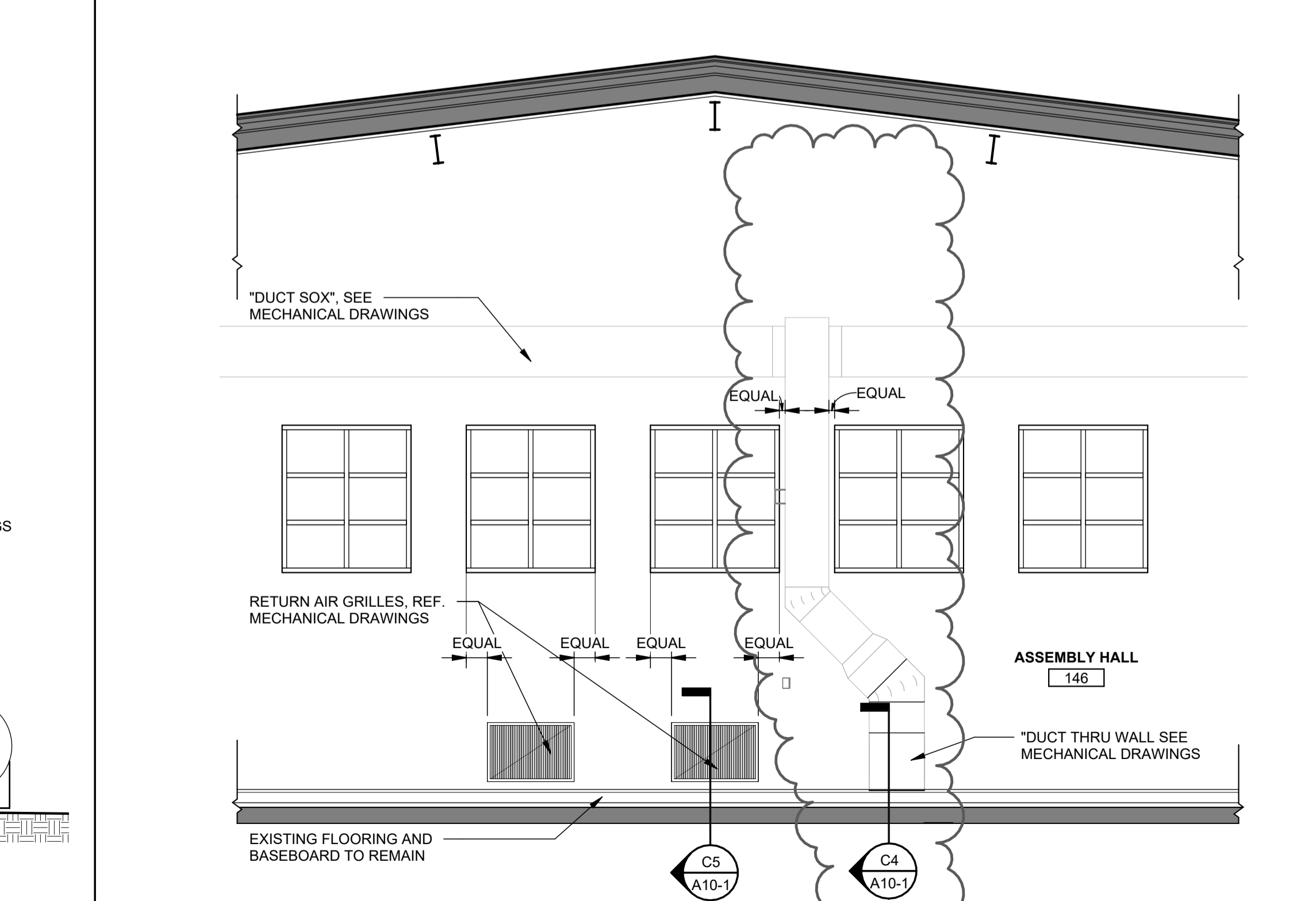


D5 KEY PLAN
SCALE: 1" = 80'-0" (A25-1)

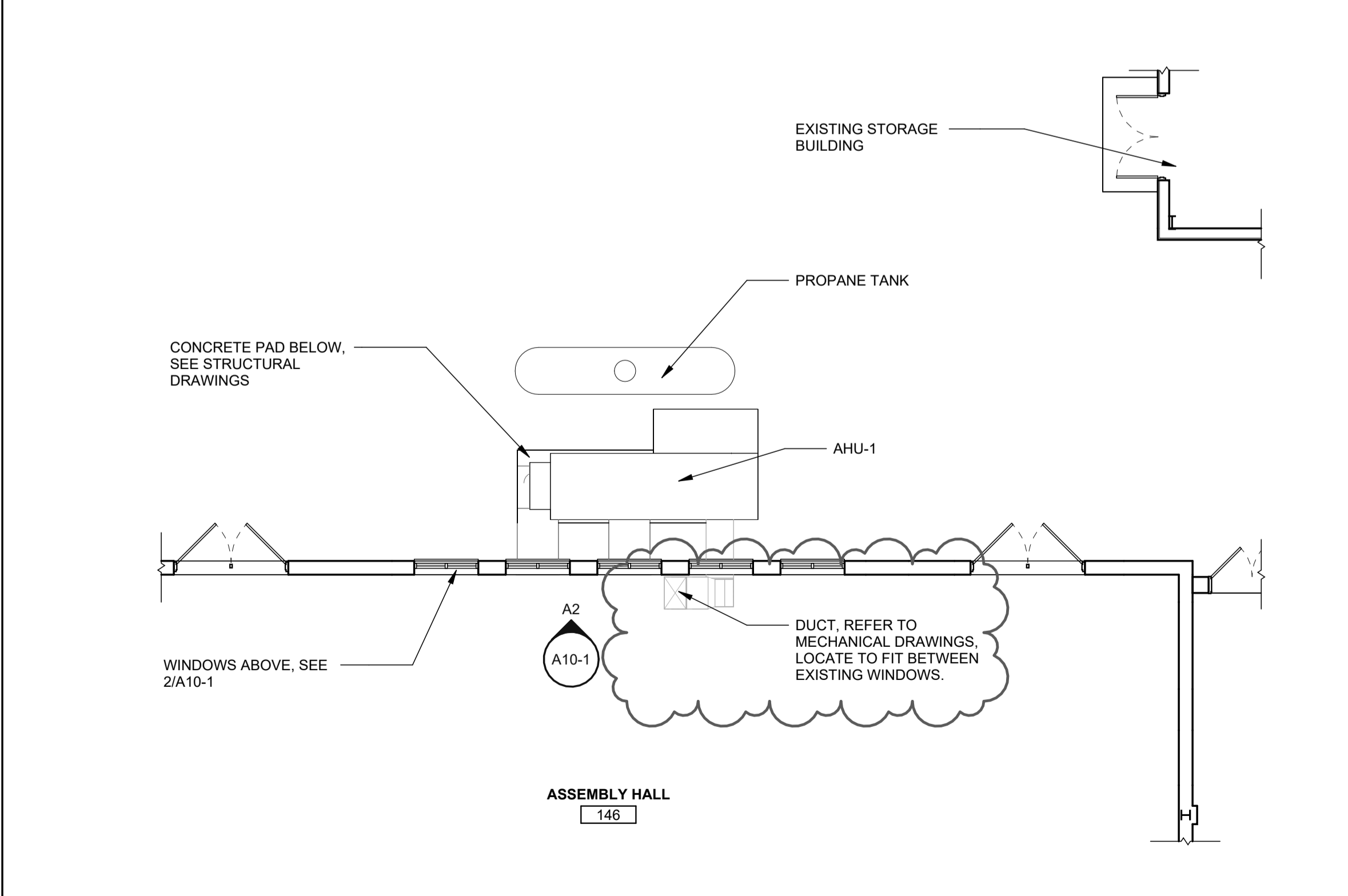
C5 RA GRILLE DETAIL
SCALE: 1" = 1'-0" (A10-1)



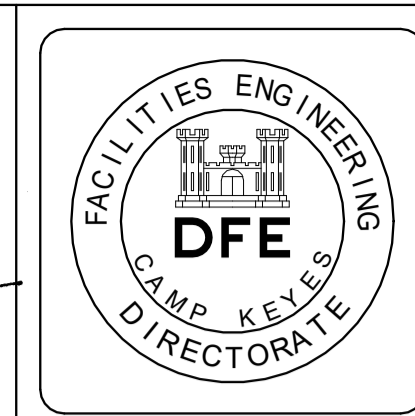
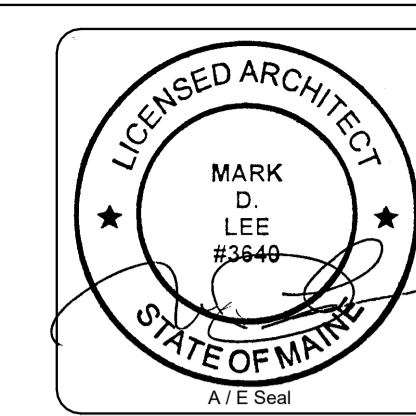
A1 SECTION LOOKING EAST
SCALE: 1/4" = 1'-0"



A2 INTERIOR ELEVATION - SOUTH
SCALE: 1/4" = 1'-0" (A10-1)



A4 PARTIAL PLAN - ASSEMBLY HALL EXTERIOR HVAC AREA
SCALE: 1/8" = 1'-0"



Rev#	Description	Date	Appr.
1	ADDENDUM 2	01-29-24	

DESIGNED BY:	CNY
DRAWN BY:	CNY
CHECKED BY:	RKC
DATE:	DECEMBER 22, 2023
SCALE:	As indicated
DFE PROJECT NO.:	23SR21-400-ABC
HA Project No.:	21319

STATE OF MAINE
DEPARTMENT OF DEFENSE, VETERANS AND EMERGENCY MANAGEMENT
Harriman
Architects + Engineers
46 Harriman Drive
Auburn, ME 04210
207-784-5100

NORWAY READINESS CENTER RENOVATION
EFFICIENCY MAINE HVAC
19 ELM STREET, NORWAY, ME 04268
PLANS AND DETAILS

PLAN PROGRESS

<input type="checkbox"/>	DRAFT
<input type="checkbox"/>	35% REVIEW
<input type="checkbox"/>	50% REVIEW
<input type="checkbox"/>	95% REVIEW
<input type="checkbox"/>	FINAL REVIEW
<input checked="" type="checkbox"/>	FOR BIDDING
<input type="checkbox"/>	ISSUED FOR CONSTRUCTION
<input type="checkbox"/>	RECORD DRAWINGS

SHEET ID:
A10-1
SHEET: 7 OF 18

ABBREV DESCRIPTION

ACV	AUTOMATIC CONTROL VALVE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AMS	AIRFLOW MEASURING STATION
APD	AIR PRESSURE DROP
ATC	AUTOMATIC TEMPERATURE CONTROL
BD	BACKDRAFT DAMPER
BHP	BRAKE HORSEPOWER
BTU	BRITISH THERMAL UNITS
CFM	CUBIC FEET PER MINUTE
CTE	CONNECT TO EXISTING
DEG.F	DEGREES FAHRENHEIT
DIA	DIAMETER
DN	DOWN
EAT	ENTERING AIR TEMPERATURE
ESP	EXTERNAL STATIC PRESSURE
EXG	EXISTING
EXH	EXHAUST
F/S	FIRE AND SMOKE COMBINATION DAMPER
FD	FIRE DAMPER
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FPM	FEET PER MINUTE
FT	FEET
FT-HD	FEET OF HEAD
GAL	GALLONS
GPM	GALLONS PER MINUTE
HP	HORSEPOWER
IN	INCHES
LAT	LEAVING AIR TEMPERATURE
LPCR	LOW PRESSURE CONDENSATE RETURN (LESS THAN 15 PSI)
LPS	LOW PRESSURE STEAM(LESS THAN 15 PSI)

ABBREV DESCRIPTION

M	MOTORIZED DAMPER
MAX	MAXIMUM
MBH	1000 BRITISH THERMAL UNITS
MCA	MINIMUM CIRCUIT AMPS
MIN	MINIMUM
MOPD	MAXIMUM OVERCURRENT PROTECTIVE DEVICE
NA	NOT APPLICABLE
NC	NOISE CRITERIA
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OC	ON CENTER
PD	PRESSURE DROP
PRD	PRESSURE RELIEF DAMPER
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
RET	RETURN
RPM	REVOLUTIONS PER MINUTE
S	SMOKE DAMPER
SP	STATIC PRESSURE
SS	STAINLESS STEEL
SUP	SUPPLY
TEMP	TEMPERATURE
TYP	TYPICAL
V	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE
W/	WITH
W/O	WITHOUT
WC	WATER COLUMN
WG	WATER GAUGE
WPD	WATER PRESSURE DROP
Z	ZONE DAMPER
PREFIX OF X	EXISTING

PIPING LEGEND

SYMBOL	DESCRIPTION
	EXISTING SUPPLY PIPING TO REMAIN
	EXISTING RETURN PIPING TO REMAIN
	NEW SUPPLY PIPING
	NEW RETURN PIPING
	ACV 2 - WAY
	CAP - PIPE
	ISOLATION VALVE
	PIPE DOWN
	PIPE UP
	TAKE - OFF FROM BOTTOM OF PIPE
	TAKE - OFF FROM TOP OF PIPE
	UNION

CONTROLS LEGEND

SYMBOL	DESCRIPTION
	TEMPERATURE SENSOR
	THERMOSTAT

GENERIC LEGEND

SYMBOL	DESCRIPTION
	CONNECT NEW TO EXISTING
	COMPLETELY REMOVE EQUIPMENT, DUCTWORK, OR PIPING
	EXISTING EQUIPMENT TO REMAIN
	NEW EQUIPMENT
	SECTION I.D. (SECTION A SHOWN ON DWG. M10.1)

DUCTWORK LEGEND

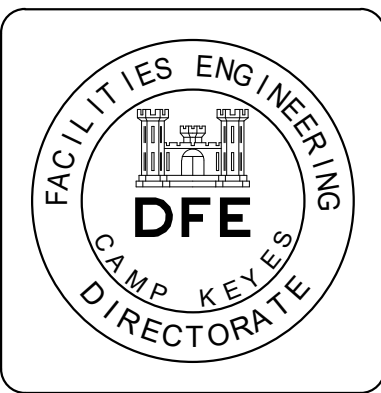
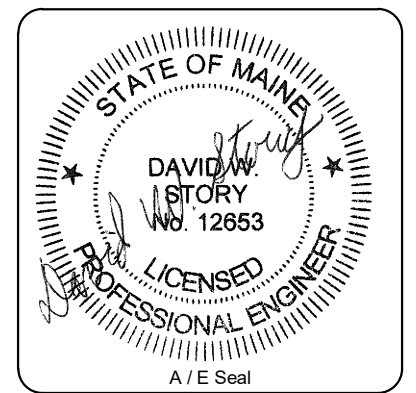
SYMBOL	DESCRIPTION
	EXISTING DUCTWORK TO REMAIN
	NEW DUCTWORK
	SPIRAL DUCT DIAMETER
	DUCT SECTION - SUPPLY/OUTDOOR AIR
	DUCT SECTION - RETURN AIR
	DUCT SECTION - EXHAUST AIR
	DUCT TURNING VANES
	FIRE DAMPER (1 1/2 HOUR RATED)
	FIRE AND SMOKE DAMPER (1 1/2 HOUR RATED)
	MOTORIZED DAMPER
	SMOKE DAMPER
	VOLUME DAMPER
	DUCT MOUNTED SMOKE DETECTOR
	RETURN OR EXHAUST AIR
	SUPPLY OR OUTSIDE AIR

GENERAL NOTES

- VISIT THE BUILDING SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS, AND TO TAKE MEASUREMENTS AS NECESSARY FOR COMPLETION OF THE WORK ASSOCIATED WITH THE DESIGN INTENT OF THE CONTRACT DOCUMENTS.
- COORDINATE WORK OF MECHANICAL SUBCONTRACTOR WITH WORK OF OTHER TRADES.
- DUCTWORK, PIPING AND EQUIPMENT ARE INDICATED DIAGRAMMATICALLY. FIELD-VERIFY LOCATIONS.
- PRIOR TO FABRICATING DUCTWORK, COORDINATE WITH OTHER TRADES TO ENSURE THAT THE DUCTWORK CAN BE INSTALLED WITH THE INDICATED SIZES AND LOCATIONS. FIELD-VERIFY EXISTING DUCT SIZES AND CONDITIONS. SUBMIT ANY DISCREPANCIES OR PROPOSED CHANGES.
- DUCT ELBOWS SHALL BE LONG-RADIUS TYPE (THROAT RADIUS EQUAL TO OR GREATER THAN DUCT WIDTH IN THE PLANE OF THE TURN) WHEREVER SPACE ALLOWS. IF SPACE IS NOT ADEQUATE, PROVIDE MITERED ELBOWS WITH TURNING VANES.
- PROVIDE 16 GAUGE SINGLE-THICKNESS TURNING VANES AT MITERED DUCT ELBOWS. VANE EDGES (LEADING AND TRAILING) SHALL BE TANGENTIAL TO AIRFLOW.
- MOUNT THERMOSTATS AND TEMPERATURE AND HUMIDITY SENSORS AT 48 INCHES AFF TO TOP OF ITEM. PROVIDE ELECTRICAL WALL BOX ATTACHED TO FRAMING.
- PROVIDE ALL REQUIRED PENETRATIONS IN RATED ASSEMBLIES, INCLUDING BUT LIMITED TO WALLS AND FLOORS WITH A UL APPROVED FIRESTOPPING ASSEMBLY INCLUDING LISTING LABEL OF PENETRATION AFTER PASSING THROUGH UTILITIES.
- NOTE: THERE ARE SEVERAL DIFFERENT ALTERNATE PRICES ASSOCIATED WITH THIS PROJECT. PLEASE REVIEW THE DOCUMENTS CAREFULLY AND REQUEST FORMAL CLARIFICATION IF THERE IS ANY QUESTION REGARDING THE ALTERNATE SCOPE OF WORK.
- ACCORDING TO CORRESPONDENCE WITH AUTHORITIES, PERMITTING WILL INCLUDE A GENERAL BUILDING PERMIT (\$50.00) FOR THE CONCRETE EQUIPMENT PAD, DUCTWORK INSULATION AND DUCT LEAK TESTING FOLLOWING PLANNING BOARD APPROVAL. ELECTRICAL PERMIT WILL BE REQUIRED FROM THE STATE OF MAINE AND CONSTRUCTION PERMIT FROM STATE FIRE MARSHALL OFFICE.
- RAM BOARD IS ACCEPTABLE FOR PROTECTING THE ASSEMBLY HALL FLOOR FROM DAMAGE.

DEMOLITION NOTES

- DURING DEMOLITION PROPERLY CAP AND PROTECT ALL PIPING & DUCTWORK THAT WILL REMAIN IN OPERATION
- WHERE EXISTING INSULATION TO REMAIN IS DAMAGED BY THE REQUIREMENTS OF WORK, REPLACE ANY DAMAGED INSULATION IN KIND
- MECHANICAL CONTRACTOR SHALL REFER TO THE SPECIFICATIONS FOR DISTRIBUTION OF RESPONSIBILITY AMONGST CONTRACTORS FOR SPECIFIC PORTIONS OF CUTTING AND PATCHING WORK. PLUMBING CONTRACTOR SHALL COORDINATE ALL CUTTING AND PATCHING WORK WITH ALL OTHER CONTRACTORS INVOLVED AS DEFINED IN THE SPECIFICATIONS
- LOCATION OF EXISTING PIPING & DUCTWORK AS SHOWN ON DRAWINGS IS APPROXIMATE
- COMPLETELY REMOVE ALL EQUIPMENT AS INDICATED & OR MISCELLANEOUS ARTICLES IN THEIR ENTIRETY INCLUDING AUXILIARY EQUIPMENT, PIPING, WIRING & CONDUIT
- INCLUDE ALL DEMOLITION OF SYSTEMS AND COMPONENTS WHERE SYSTEMS SHALL BE REPLACED BY NEW WORK. REFER TO THE DRAWINGS & SPECIFICATIONS FOR SCOPE OF NEW & RECONNECTED WORK. THE INTENT OF THIS REQUIREMENT IS TO HAVE THE CONTRACTOR DISCONNECT, DEMOLISH & REMOVE ALL EXPOSED & CONCEALED WORK WHERE BEING REPLACED OR CONNECTED TO THE PROPOSED LAYOUTS
- COORDINATE ELECTRICAL POWER DISCONNECTION PRIOR TO DEMOLITION WITH ELECTRICAL CONTRACTOR
- ALL PIPING & DUCTWORK TO REMAIN SHALL HAVE ENDS TERMINATED IN A NEAT MANNER READY FOR CONNECTION OF NEW WORK. ALL EXPOSED ENDS OF PIPING SHALL BE CAPPED
- EXISTING PIPING NOT TO BE REUSED, NOT SUPPLYING ANY EQUIPMENT AND NOT SPECIFICALLY NOTED OR SHOWN ON DRAWINGS TO BE ABANDONED, SHALL BE COMPLETELY REMOVED
- CONTRACTOR SHALL CLEAN UP, REMOVE AND DISPOSE OF ALL DEBRIS AND DISCARDED ITEMS UPON COMPLETION OF CONSTRUCTION TO BE READY FOR A NEW OCCUPANCY CONDITION
- DEMOLISH & COMPLETELY REMOVE EXISTING CONDITIONS DESIGNATED BY A HEAVY DASHED LINE UNLESS NOTED OTHERWISE. REFER TO LEGEND AND DEMOLITION PLANS FOR SCOPE OF WORK



PLAN REVISIONS	Rev#	Description	Date	Appr.
	1	ADD/END/UM 2	01-28-24	

DESIGNED BY:	DWS
DRAWN BY:	JSL
CHECKED BY:	DWS
DATE:	DECEMBER 22, 2023
SCALE:	1/8" = 1'-0"
DFE PROJECT NO.:	23SR21-400-ABC

STATE OF MAINE
DEPARTMENT OF DEFENSE, VETERANS AND EMERGENCY MANAGEMENT

Harriman
Architects + Engineers
46 Harriman Drive
Augusta, ME 04201
207-794-5100

HA Project No. 21319

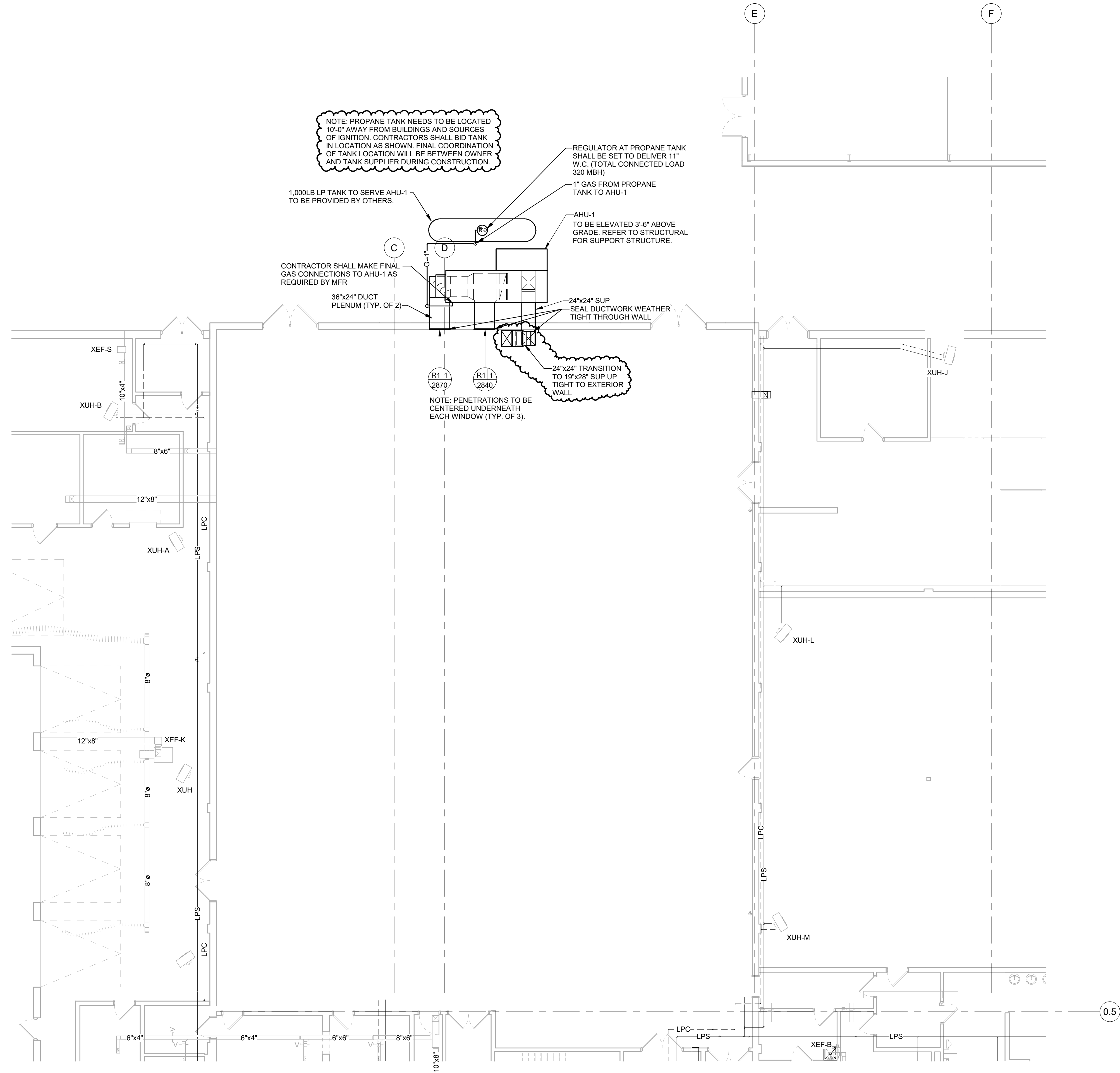
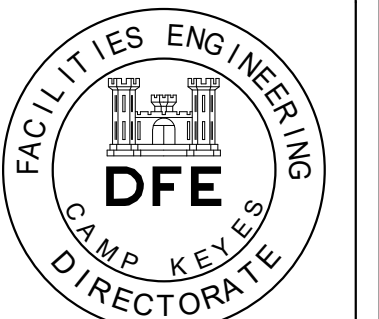
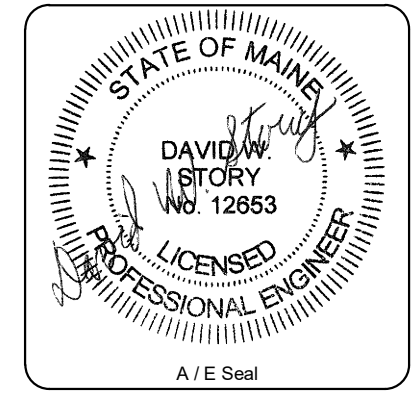
NORWAY READINESS CENTER RENOVATION
EFFICIENCY MAINE HVAC

19 ELM STREET, NORWAY, ME 04268

LEGEND AND GENERAL NOTES

PLAN PROGRESS

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<input type="checkbox"/>	50% REVIEW
<input type="checkbox"/>	95% REVIEW
<input type="checkbox"/>	FINAL REVIEW
<input checked="" type="checkbox"/>	FOR BIDDING
<input type="checkbox"/>	ISSUED FOR CONSTRUCTION
<input type="checkbox"/>	RECORD DRAWINGS



A1 FIRST FLOOR MECHANICAL
SCALE: 1/8" = 1'-0"

Rev#	Description	Date	Appr.
1	ADDENDUM 2	01-25-24	

DESIGNED BY: DWS
DRAWN BY: JSL
CHECKED BY: DWS
DATE: DECEMBER 22, 2023
SCALE: 1/8" = 1'-0"
DFE PROJECT NO.: 23SR21-400-ABC

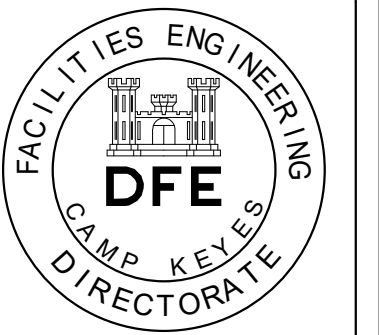
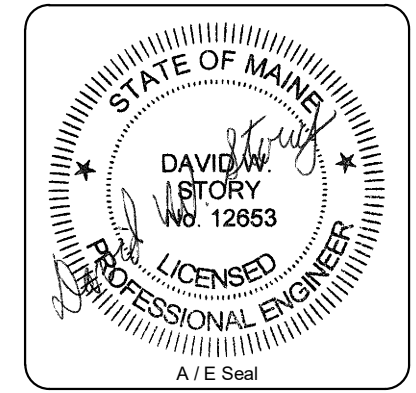
STATE OF MAINE
DEPARTMENT OF DEFENSE, VETERANS
AND EMERGENCY MANAGEMENT
Harriman
Architects + Engineers
46 Harriman Drive
Portland, ME 04103
207-784-5100
HA Project No. 21319

NORWAY READINESS CENTER RENOVATION
EFFICIENCY MAINE HVAC
19 ELM STREET, NORWAY, ME 04268
FIRST FLOOR MECHANICAL

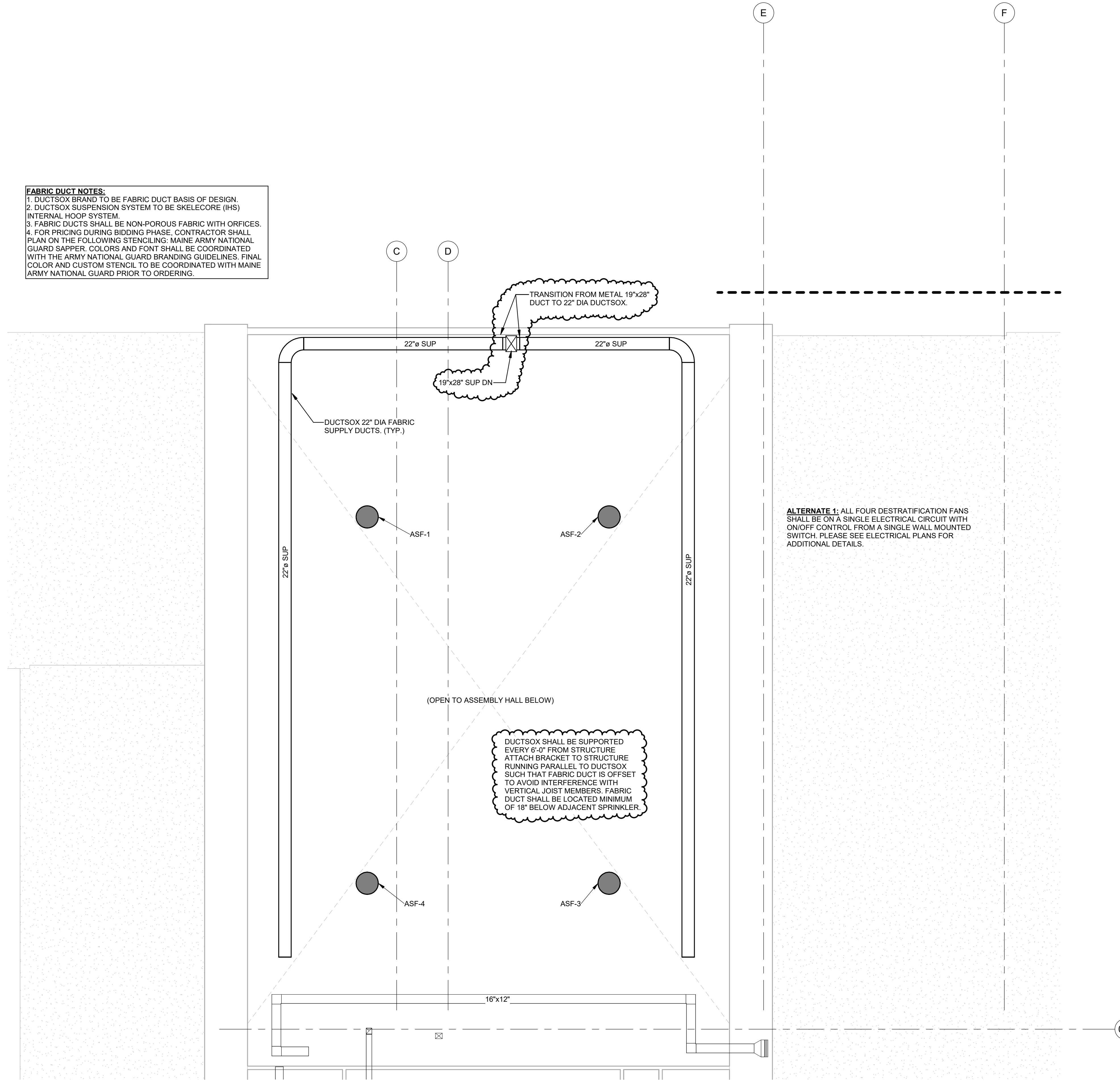
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<input type="checkbox"/>	50% REVIEW
<input type="checkbox"/>	95% REVIEW
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<input type="checkbox"/>	ISSUED FOR CONSTRUCTION
<input type="checkbox"/>	RECORD DRAWINGS

SHEET ID:
M10-1
SHEET: 10 OF 18



FABRIC DUCT NOTES:
 1. DUCTSOX BRAND TO BE FABRIC DUCT BASIS OF DESIGN.
 2. DUCTSOX SUSPENSION SYSTEM TO BE SKELECORE (IHS) INTERNAL HOOP SYSTEM.
 3. FABRIC DUCTS SHALL BE NON-POROUS FABRIC WITH ORIFICES.
 4. FOR PRICING DURING BIDDING PHASE, CONTRACTOR SHALL PLAN ON THE FOLLOWING STENCILING: MAINE ARMY NATIONAL GUARD SAPPER. COLORS AND FONT SHALL BE COORDINATED WITH THE ARMY NATIONAL GUARD BRANDING GUIDELINES. FINAL COLOR AND CUSTOM STENCIL TO BE COORDINATED WITH MAINE ARMY NATIONAL GUARD PRIOR TO ORDERING.



ALTERNATE 1: ALL FOUR DESTRATIFICATION FANS SHALL BE ON A SINGLE ELECTRICAL CIRCUIT WITH ON/OFF CONTROL FROM A SINGLE WALL MOUNTED SWITCH. PLEASE SEE ELECTRICAL PLANS FOR ADDITIONAL DETAILS.

DUCTSOX SHALL BE SUPPORTED EVERY 6'-0" FROM STRUCTURE ATTACH BRACKET TO STRUCTURE RUNNING PARALLEL TO DUCTSOX SUCH THAT FABRIC DUCT IS OFFSET TO AVOID INTERFERENCE WITH VERTICAL JOIST MEMBERS. FABRIC DUCT SHALL BE LOCATED MINIMUM OF 18" BELOW ADJACENT SPRINKLER.

PLAN REVISIONS

Rev#	Description	Date	Appr.
1	ADDENDUM 2	01-25-24	

DESIGNED BY:	DWS
DRAWN BY:	JSL
CHECKED BY:	DWS
DATE:	DECEMBER 22, 2023
SCALE:	1/8" = 1'-0"
DFE PROJECT NO.:	23SR21-400-ABC

STATE OF MAINE
 DEPARTMENT OF DEFENSE, VETERANS
 AND EMERGENCY MANAGEMENT
Harriman
 Architects + Engineers
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 Auburn, ME 04210
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 HA Project No. 21319

NORWAY READINESS CENTER RENOVATION
 EFFICIENCY MAINE HVAC
 19 ELM STREET, NORWAY, ME 04268
SECOND FLOOR MECHANICAL

PLAN PROGRESS

<input type="checkbox"/>	DRAFT
<input type="checkbox"/>	35% REVIEW
<input type="checkbox"/>	50% REVIEW
<input type="checkbox"/>	95% REVIEW
<input type="checkbox"/>	FINAL REVIEW
<input checked="" type="checkbox"/>	FOR BIDDING
<input type="checkbox"/>	ISSUED FOR CONSTRUCTION
<input type="checkbox"/>	RECORD DRAWINGS

SHEET ID:
M10-2
 SHEET: 11 OF 18

GENERAL SPECIFICATIONS:

- 1. PROVIDE LABOR, MATERIALS, ACCESSORIES, AND OTHER RELATED ITEMS AS REQUIRED TO COMPLETE OPERATIONS IN CONNECTION WITH THE COMPLETE INSTALLATION OF THE HVAC AND MECHANICAL SYSTEMS AS INDICATED ON THE DRAWINGS AND AS SPECIFIED HEREIN.
- 2. THE GENERAL LOCATION OF THE APPARATUS AND THE DETAILS OF THE WORK ARE INDICATED ON THE DRAWINGS. EXACT LOCATIONS NOT INDICATED SHALL BE DETERMINED AT THE SITE AS THE WORK PROGRESSES AND SHALL BE SUBJECT TO THE ARCHITECT'S APPROVAL.
- 3. IT IS NOT INTENDED THAT THE DRAWINGS SHALL SHOW EVERY PIPE, PIPE RISE, PIPE DROP, DUCT RISE, DUCT DROP, PIPE FITTING, DUCT FITTING, OR APPLIANCE, BUT IT SHALL BE A REQUIREMENT TO FURNISH, WITHOUT ADDITIONAL EXPENSE, MATERIAL AND LABOR NECESSARY TO COMPLETE THE SYSTEMS IN ACCORDANCE WITH THE DESIGN INTENT AND WITH THE HIGHEST POSSIBLE QUALITY AVAILABLE.
- 4. THE CONTRACTOR SHALL TAKE NO ADVANTAGE OF ANY APPARENT ERROR OR OMISSION IN THE DRAWINGS AND SPECIFICATIONS, AND THE DESIGNER SHALL BE PERMITTED TO MAKE SUCH CORRECTIONS AND INTERPRETATIONS AS MAY BE DEEMED NECESSARY FOR THE FULFILLMENT OF THE INTENT OF THE DRAWINGS AND SPECIFICATIONS. WHERE ERRORS OR OMISSIONS APPEAR IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL PROMPTLY NOTIFY THE DESIGNER IN WRITING OF SUCH ERRORS OR OMISSIONS. INCONSISTENCIES IN THE CONTRACT DOCUMENTS ARE TO BE REPORTED BEFORE PROPOSALS ARE RECEIVED, WHENEVER FOUND.
- 5. SHOULD THE DRAWINGS OR THE SPECIFICATIONS DISAGREE IN THEMSELVES OR WITH EACH OTHER, THE CONTRACTOR SHALL PROVIDE THE BETTER QUALITY OR GREATER QUANTITY OF WORK AND/OR MATERIALS UNLESS OTHERWISE DIRECTED BY WRITTEN ADDENDUM TO THE CONTRACT DOCUMENTS.
- 6. PROTECTION OF EQUIPMENT AND MATERIALS: RESPONSIBILITY FOR CARE AND PROTECTION OF MATERIALS AND MECHANICAL WORK RESTS WITH THE CONTRACTOR UNTIL THE ENTIRE PROJECT HAS BEEN COMPLETED, TESTED AND THE PROJECT IS ACCEPTED BY THE OWNER.
- 7. SUBMIT SHOP DRAWINGS AND PRODUCT DATA AS REQUIRED IN EACH SECTION. SUBMITTAL SHALL INCLUDE PHYSICAL DATA AND PERFORMANCE DATA REQUIRED TO VERIFY COMPLIANCE WITH THE CONTRACT DOCUMENTS.
- 8. ARCHITECT/ENGINEER'S REVIEW WILL NOT INCLUDE THE REVIEW, COORDINATION, OR VERIFICATION OF DIMENSIONS OR QUANTITIES; THESE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 9. PROVIDE FACTORY START-UP OF AHU-1. FACTORY START-UP SHALL BE PERFORMED BY A FACTORY AUTHORIZED REPRESENTATIVE OF THE EQUIPMENT MANUFACTURER. WHEN FACTORY START-UP IS SUCCESSFULLY COMPLETED FOR EACH PIECE OF MECHANICAL EQUIPMENT LISTED BELOW, SUBMIT A FORMAL START-UP REPORT TO THE ARCHITECT FOR APPROVAL. START-UP REPORT SHALL BE FORMATTED IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S RECOMMENDATIONS. START-UP REPORT SHALL BE TYPED, NOT HAND WRITTEN, AND SHALL BE SUBMITTED IN A CLEAN AND LEGIBLE FORM.
- 10. PROVIDE MANUFACTURERS' STANDARD WARRANTIES AND GUARANTEES FOR WORK BY THE MECHANICAL TRADES. HOWEVER, SUCH WARRANTIES AND GUARANTEES SHALL BE IN ADDITION TO AND NOT IN LIEU OF OTHER LIABILITIES WHICH THE MANUFACTURER AND THE MECHANICAL CONTRACTOR MAY HAVE BY LAW OR BY OTHER PROVISIONS OF THE CONTRACT DOCUMENTS.
- 11. FURNISH A WRITTEN GUARANTEE COVERING THE ABOVE REQUIREMENTS BEFORE SUBMITTING THE APPLICATION FOR FINAL PAYMENT.
- 12. SHEET METAL DUCTWORK SHALL BE INSULATED BY RIGID GLASS FIBER, WITH A 'K' VALUE OF 0.24 AT 75 DEG. F. INSULATION DENSITY SHALL BE 3.0 LB/CU. FT. SUPPLY DUCTWORK INSIDE BUILDING ONLY NEEDS TO BE INSULATED 5'-0" FROM PENETRATION THROUGH OUTSIDE WALL. REMAINDER OF INDOOR SUPPLY DUCT DOES NOT NEED TO BE INSULATED.
- 13. DUCT INSULATION SHALL BE SEALED WITH SELF-ADHESIVE TAPE WITH INTEGRAL VAPOR BARRIER, PRESSURE SENSITIVE ACRYLIC-BASED OR RUBBER-BASED ADHESIVE, AND RELEASE LINER STRIP, WIDTH 3 INCH NOMINAL.
- 14. EXTERIOR DUCTWORK SHALL BE PROTECTED WITH ALUMINUM JACKETING TO AVOID DAMAGE.
- 15. METAL DUCTWORK SHALL BE FABRICATED FROM GALVANIZED SHEET METAL LOCK-FORMING GAUGE, HAVING G60 OR HEAVIER ZINC COATING (690 MINIMUM FOR OUTDOOR APPLICATIONS) CONFORMING TO ASTM A653 RATING SYSTEM AND TESTED IN ACCORDANCE WITH ASTM A90.
- 16. SHEET METAL GAUGE SHALL BE NOT LESS THAN 24 GAUGE.
- 17. FABRIC DUCTWORK SHALL BE BASED UPON DUCTSOX AND SHALL INCLUDE AIR-CARRYING DUCTS FORMED OF A FLEXIBLE FABRIC SUITABLE FOR THE APPLICATION, INTEGRAL OR ATTACHED AIR OUTLETS, A COMPLETE SUSPENSION SYSTEM, AND ACCESSORIES, FROM A SINGLE MANUFACTURER. DUCTS AND SYSTEMS SHALL BE AESTHETICALLY PLEASING AND SUITABLE FOR LOCATIONS EXPOSED TO VIEW BY THE OCCUPANTS.
- 18. PERFORM TOTAL SYSTEM BALANCE IN ACCORDANCE WITH AABC NATIONAL STANDARDS FOR FIELD MEASUREMENT AND INSTRUMENTATION, TOTAL SYSTEM BALANCE, OR ASHRAE 111; OR NEBB PROCEDURAL STANDARDS FOR TESTING, BALANCING AND ADJUSTING OF ENVIRONMENTAL SYSTEMS.
- 19. VERIFY THAT SYSTEMS ARE COMPLETE AND OPERATING CORRECTLY IN ACCORDANCE WITH SEQUENCE OF OPERATIONS BEFORE COMMENCING WORK.
- 20. ADJUST AIR HANDLING AND DISTRIBUTION SYSTEMS TO PROVIDE DESIGN SUPPLY, RETURN, AND EXHAUST AIR QUANTITIES.
- 21. VARY TOTAL SYSTEM AIR QUANTITIES BY ADJUSTMENT OF FAN SPEEDS.
- 22. PROVIDE DUCT TRAVERSE DIAGRAMS WITH MEASUREMENT POINTS INDICATED, WITH READINGS RECORDED AT EACH POINT, AND WITH CALCULATED VELOCITY AND AIRFLOW.

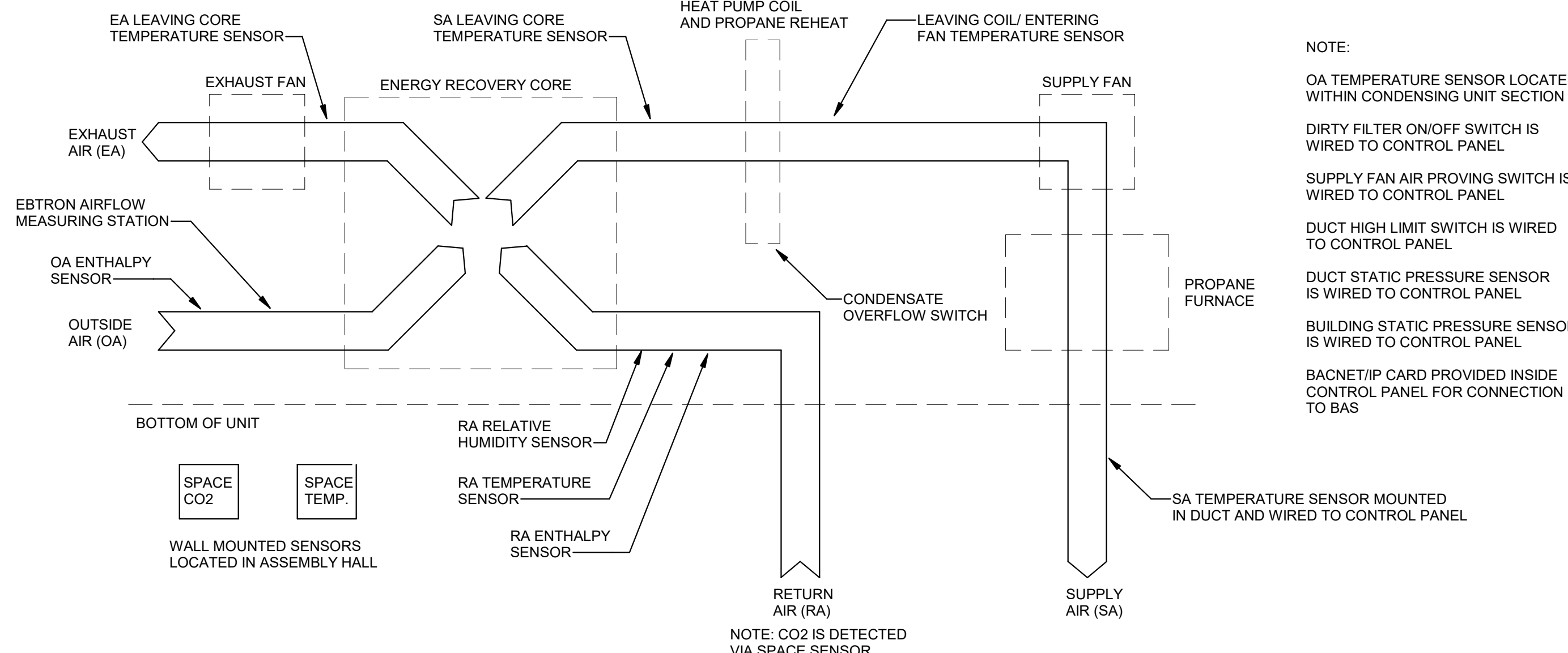
SEQUENCE OF OPERATION SPECIFICATIONS:

- 1. UNIT CONTROLS:
 - A. Building Automation System (BAS) interface: The factory unit controller will interface with BACnet IP BAS system (card provided for BAS connectivity) to be integrated with existing building automation system (BAS).
 - B. Head Pressure Control: The condenser head pressure will be monitored by the unit controller to maintain head pressure and the compressor operating envelope at all times to avoid high pressure trips on high load days. Condenser fans with ECM motors shall be provided as well as factory sensors to provide this protection.
 - C. Compressor Envelope Control: The unit controller will continually monitor the suction and discharge pressure and temperature conditions during compressor operation. The unit will modulate the compressor, condenser head pressure, and electronic expansion valve to maintain a safe compressor operating conditions to add reliability, and limit unit shut down during fringe operating conditions.
- 2. CHANGE OVER SETPOINTS: The unit change over source temperature is the variable, Outdoor air temperature (OAT), Return air temperature (RAT), or space temperature (ST), that drives the change of unit states. The unit state will change from cooling, fan only or heating based on the changeover heating or cooling setpoints.
- 3. SUPPLY FAN CONTROL: The RTU will be factory supplied with a direct drive ECM motor to vary the speed of the supply fan.
- 4. OUTSIDE AIR DAMPER CONTROL:
 - A. Outdoor air monitor: The unit controller will modulate the outside air damper as required to maintain the outside air cfm setpoint as measured by the factory provided flow station (provided with unit).
 - B. DCV: A space mounted CO2 sensor will supply a PPM reading to the unit controller. The unit controller will open the OA damper to provide more ventilation air as required by the CO2 PPM reading (Optional CO2 Sensor provided)
- 5. COOLING:
 - A. Discharge Air Control: In the cooling mode, the unit capacity will modulate the variable speed compressor to maintain the unit cooling discharge air set point. The cooling DAT set point will be adjustable at the unit controller. Unit capacity will be modulated by the variable speed compressor operation.
 - B. Cooling DAT reset: The cooling DAT setpoint may be reset by the space temp, return temp, OAT or external Voltage/mA signals. A linear relationship between the DAT and the reset variable will be created for the minimum and maximum DAT setpoints. As the reset variable changes the DAT will adjust according to the relationship.
- 6. ECONOMIZER: A comparative enthalpy shall be engaged whenever the outdoor enthalpy or dry bulb is less than the return air enthalpy or dry bulb to utilize outside air for cooling. Outside air and return air dampers shall modulate to maintain supply air temperature set point.
- 7. EXHAUST FAN CONTROL: Exhaust fan will be direct drive electrically commutated motor(s) (ECM). Powered exhaust control options are as follows:
 - A. Building pressure Control: A differential pressure transducer shall compare the indoor building pressure to ambient atmospheric pressure. The exhaust fan(s) shall modulate to maintain the building pressure set point.
 - B. MODULATING HOT GAS REHEAT
 - A. The unit is provided with fully modulating, sub cooling, hot gas reheat coil. The control sequence used for dehumidification in a Rebel unit uses two separate points of control. The first point is the leaving coil temperature sensor (LCT), and the second point is the discharge air temperature sensor (DAT). During dehumidification the refrigeration circuit controls the compressor(s) to maintain the LCT setpoint (adjustable) and the reheat coil is controlled to maintain the supply air reheat setpoint. The supply air reheat setpoint changes based on the whether there is a call for both cooling and dehumidification or a call for dehumidification only. When a call for both cooling and dehumidification is made the reheat setpoint is set as the cooling DAT setpoint. During a call for dehumidification only the reheat setpoint is reset in a linear manner between two endpoints referred to as the min and max reheat setpoints (adjustable). This reset is based on the cooling and heating setpoints for the RTU. This logic will send warmer supply air when the space is approaching the heating changeover setpoint and cooler supply air when the space is approaching cooling changeover setpoint. This logic prevents unnecessary fluctuations between cooling and heating states. Propane furnace is enabled if heating setpoint cannot be achieved.
- 8. Rebel's dehumidification controls allow the unit to cool and dehumidify simultaneously or just dehumidify if no cooling is needed.
- 10. To enable the dehumidification sequence the following options are available:
 - A. Relative Humidity (Relative humidity sensor provided) - Dehumidification will be activated when the relative humidity in the return duct or outdoor air rises above the dehumidification set point.
- 11. OCCUPIED/UNOCCUPIED CONTROL THROUGH BAS
 - A. Unit shall follow an occupied/unoccupied schedule. Fans shall not start until dampers have opened to permit flow through unit. When unit is off, dampers shall cycle to closed position, closing off outside air and exhaust air to the exterior.
 - i. When the unit goes into occupied mode the supply fan, exhaust fan, propane heater and heat pump shall cycle as needed to maintain the default occupied setpoint (62 deg. F heating, 82 deg. F cooling, adjustable). A mixed air sensor located in the mixing box, averaging type, shall monitor the mixed air temperature.
 - ii. When the unit goes into unoccupied mode the supply fan, exhaust fan, propane heater and heat pump shall cycle as needed to maintain the default unoccupied setpoint (55 deg. F heating, 85 deg. F cooling, adjustable).
 - B. Space flush shall occur at 05:00 (adjustable) with supply and exhaust fans to flush space for a period of 60 minutes (adjustable).
- 12. METERING AND TRENDRING THROUGH BAS
 - A. Monitor propane gas consumption at individual equipment meter and report consumption to BAS graphic page as: Lp gas in gallons.
 - B. Monitor electrical consumption at individual equipment meter and report consumption to BAS graphic page as: kW demand and Cumulative kWh consumption.
 - C. Record, track and calculate daily, weekly, monthly, semi-annual and annual usage for all metered end uses. Include display of daily, weekly, monthly, semi-annual and annual average outdoor temperature. Calculate current and historical degree day total using a base 65 deg. F. Create a DDC graphical display which shall include current and historical data for each end use (propane & electrical) and display deviation from historical data in a table format. Display and send an alert if current usage exceeds historical usage by more than 15% (adjustable). Items that shall be displayed on the reporting table include:
 - i. Date
 - ii. Current Propane & Electrical Consumption
 - iii. Historical Propane & Electrical Consumption
 - iv. Current Average Outdoor Temperature
 - v. Historical Average Outdoor Temperature
 - vi. Current Degree Day (Heating or Cooling) Calculation
 - vii. Historical Degree Day (Heating or Cooling) Calculation
 - viii. Percent Change in Usage, Temperature or Degree Day Compared to Historical

METERING AND TRANDING SHALL BE PRICED AS ALTERNATE 6

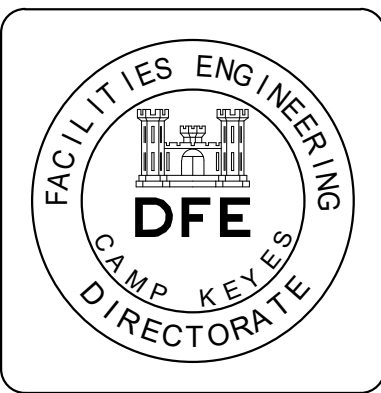
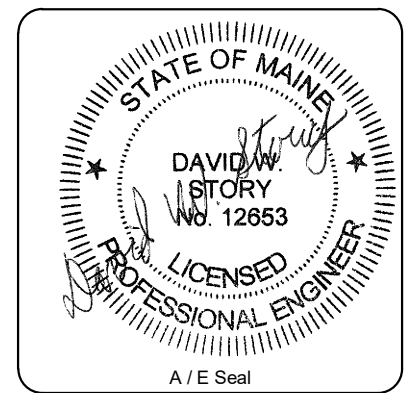
NOTE: CONTRACTOR SHALL CARRY PRICE FOR BUILDING CONTROLS SUB-CONTRACTOR IN BID.

DESCRIPTION	AO	AI	DO	DI
AHU-1 OCCUPANCY MODE				X
CURRENT OPERATING MODE				X
AHU-1 SUPPLY FAN STATUS				X
AHU-1 EXHAUST FAN STATUS				X
SUPPLY DUCT STATIC PRESSURE		X		
SUPPLY FAN SPEED COMMAND	X			
SUPPLY FAN DAMPER POSITION		X		
MAX. SUPPLY DAMPER POS. SETPOINT	X			
OUTSIDE AIR CFM		X		
EXHAUST FAN SPEED COMMAND	X			
SUPPLY AIR TEMPERATURE		X		
SA TEMPERATURE SETPOINT	X			
RETURN AIR TEMPERATURE		X		
RETURN AIR RELATIVE HUMIDITY		X		
RETURN AIR ENTHALPY		X		
OUTSIDE AIR TEMPERATURE		X		
OUTSIDE AIR ENTHALPY		X		
DX COOLING COMMAND	X			
SUPPLY FILTER PRESSURE DROP		X		
HIGH LIMIT SUPPLY STATIC STATUS		X		
AHU-1 ALARM STATUS				X
BUILDING STATIC PRESSURE		X		
SUPPLY AIR LEAVING CORE TEMP.		X		
SUPPLY AIR LEAVING COIL TEMP.		X		
PROPANE FURNACE COMMAND			X	
PROPANE FURNACE STATUS				X
MANUAL FREEZE STAT STATUS				X
SPACE CO2 CONCENTRATION		X		



NOTE:
OA TEMPERATURE SENSOR LOCATED WITHIN CONDENSING UNIT SECTION
DIRTY FILTER ON/OFF SWITCH IS WIRED TO CONTROL PANEL
SUPPLY FAN AIR PROVING SWITCH IS WIRED TO CONTROL PANEL
DUCT HIGH LIMIT SWITCH IS WIRED TO CONTROL PANEL
DUCT STATIC PRESSURE SENSOR IS WIRED TO CONTROL PANEL
BUILDING STATIC PRESSURE SENSOR IS WIRED TO CONTROL PANEL
BACNET/IP CARD PROVIDED INSIDE CONTROL PANEL FOR CONNECTION TO BAS

A1 AHU-1 CONTROL SCHEMATIC
NO SCALE



PLAN REVISIONS	Date	Appr.
	01-25-24	

DESIGNED BY: DWS
DRAWN BY: JSL
CHECKED BY: DWS
DATE: DECEMBER 22, 2023
SCALE: As indicated
DFE PROJECT NO.: 23SR21-400-ABC
HA Project No. 21319

STATE OF MAINE
DEPARTMENT OF DEFENSE, VETERANS AND EMERGENCY MANAGEMENT
Harriman
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46 Harriman Drive
Portland, ME 04102
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NORWAY READINESS CENTER RENOVATION EFFICIENCY MAINE HVAC
19 ELM STREET, NORWAY, ME 04268
CONTROL DIAGRAM & SPECIFICATIONS

PLAN PROGRESS
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<input type="checkbox"/> ISSUED FOR CONSTRUCTION
<input type="checkbox"/> RECORD DRAWINGS

SHEET ID:
M50-2
SHEET: 13 OF 18

AIR HANDLING UNIT SCHEDULE

TAG	MANUFACTURER	MODEL	SERVICE	FAN SECTION							GAS HEATING SECTION					HEAT PUMP SECTION						ELECTRIC				NOTES						
				SUPPLY AIR (CFM)	OUTDOOR AIR (CFM)	TSP (IN.WG)	RPM	BHP	MOTOR HP	EXHAUST FAN POWER (HP)	FUEL TYPE	STAGES	INPUT (MBH)	OUTPUT (MBH)	HEATING EAT (F)	HEATING LAT (F)	HEATING MAX TEMP. RISE (F)	EVAPORATOR		COMPRESSOR		CONDENSER		FILTER EFFICIENCY (%)	VOLTAGE		MCA (AMPS)	MOPD (AMPS)	WEIGHT (LBS)			
																		EAT DB/WB (DEG.F)	LAT DB/WB (DEG.F)	REFRIG.	TOTAL GROSS CAPACITY (MBH/HR)	SENSIBLE GROSS CAPACITY (MBH)	QTY							SIZE (KW)	FAN QTY & LOAD EACH (A)	EAT (DEG.F)
AHU-1	DAIKIN	DPS015A	GYM	5740	2150	3.4	2375	4.73	8	4	LP	10:1	400	320	55.3	106.7	100	77.5/65.7	55.7/55.7	R-410A	178	136	2	13.44	2/4	95	85	208	83.3	110	4131.00	ALL

NOTES:
 1. UNIT SHALL BE EQUIPPED WITH ENERGY RECOVERY SECTION. REFER TO ENERGY RECOVERY SECTION SCHEDULE FOR SPECIFIC INFORMATION.
 2. UNIT SHALL BE EQUIPPED WITH BACnet/MSTP CARD.
 3. UNIT EXTERIOR TO BE PAINTED GALVANIZED STEEL WITH 1" INJECTED FOAM, R-7 GALVANIZED STEEL LINER.
 4. UNIT SHALL HAVE THE FOLLOWING OPTIONS:
 A. ALL COILS TO BE COATED.
 B. RETURN AIR DUCT MOUNTED SMOKE DETECTOR.
 C. SPACE MOUNTED CO2 SENSOR.
 D. NON-FUSED DISCONNECT SWITCH.
 E. FIELD POWERED 115V GFI OUTLET.
 F. PHASE FAILURE MONITOR.
 G. LOW FLOW CORE OPTION.
 H. CONDENSOR ELECTROFIN COATED COIL WITH VANDAL GUARD.
 I. HOT GAS REHEAT COIL SECTION.
 J. NOTE: BASIS OF DESIGN IS DAIKIN AS SCHEDULED.

ENERGY RECOVERY SECTION SCHEDULE

TAG	MFR	MODEL	OUTSIDE AIR FLOW (CFM)	EXHAUST AIR FLOW (CFM)	OUTDOOR AIR				MIXED AIR*				SUPPLY AIR				NOTES
					SUMMER DB (DEG.F)	SUMMER WB (DEG.F)	WINTER DB (DEG.F)	WINTER WB (DEG.F)	SUMMER DB (DEG.F)	SUMMER WB (%)	WINTER DB (DEG.F)	WINTER WB (%)	SUMMER DB (DEG.F)	SUMMER WB (DEG.F)	WINTER DB (DEG.F)	WINTER WB (DEG.F)	
AHU-1	DAIKIN	DPS015A	2150	2150	90 °F	77 °F	-20 °F	-21 °F	78 °F	65.7	55 °F	41.5	82 °F	71 °F	31 °F	24 °F	ALL

NOTES:
 1. ENERGY RECOVERY SECTION IS PART OF AHU-1.
 2. SECTION TO BE EQUIPPED WITH OA AND EXHAUST BYPASS DAMPERS FOR DEFROST AND ECONOMIZER OPERATION.
 3. MIXED AIR TEMPERATURE BASED ON THE FOLLOWING CORE LEAVING AIR TEMPERATURES:
 A. SUMMER DB/WB: 81.5/70.6
 B. WINTER DB/WB: 30.7/24.4

REGISTERS, GRILLES & DIFFUSERS SCHEDULE

TAG	MANUFACTURER	MODEL	TYPE	NECK SIZE (IN)	DIRECTION OF BLOW	MAX NC	MAX SP	BORDER	NOTES
R1	PRICE INDUSTRIES	90 SERIES	HEAVY DUTY RETURN GRILLE	36 x 24	N/A	25	0.09 in-wg	SURFACE MOUNT	ALL

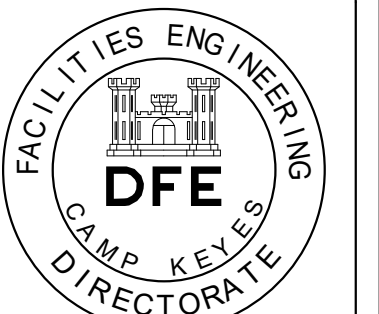
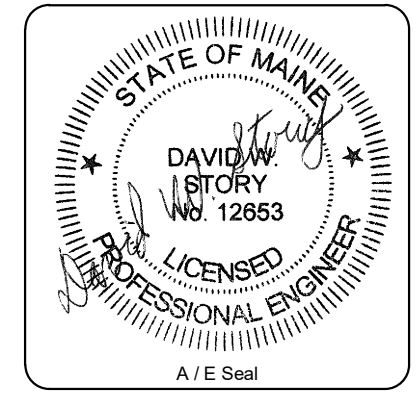
NOTES:
 1. GRILLES TO BE 3/8" BLADE SPACING WITH 0 DEGREE DEFLECTION. STEEL CONSTRUCTION.
 2. GRILLES TO BE EQUIPPED WITH HEAVY DUTY STEEL OPPOSED BLADE DAMPERS (VCS5).

CONTRACTOR SHALL SUBMIT BID FOR THE BRAND AND MODEL OF ANTI-STRATIFICATION FAN SCHEDULED

ANTI-STRATIFICATION FAN SCHEDULE

TAG	MANUFACTURER	MODEL	SERVICE	AIR VELOCITY @ 25 FEET (FT/MIN)	AIRFLOW (CFM)	RPM	SHIPPING WEIGHT (LBS)	MOTOR CONTROL	DRIVE	ELECTRICAL			NOTES
										POWER (WATTS)	VOLTAGE	PHASE	
ASF-1	CONTINENTAL	DSF 300	ASSEMBLY HALL	38	1055	1675	19	TOGGLE SWITCH	DIRECT	94	120	1	
ASF-2	CONTINENTAL	DSF 300	ASSEMBLY HALL	38	1055	1675	19	TOGGLE SWITCH	DIRECT	94	120	1	
ASF-3	CONTINENTAL	DSF 300	ASSEMBLY HALL	38	1055	1675	19	TOGGLE SWITCH	DIRECT	94	120	1	
ASF-4	CONTINENTAL	DSF 300	ASSEMBLY HALL	38	1055	1675	19	TOGGLE SWITCH	DIRECT	94	120	1	

NOTES:
 1. FANS TO BE MOUNTED FROM STRUCTURE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS, AS HIGH AS POSSIBLE ABOVE FINISHED FLOOR.



PLAN REVISIONS	Rev#	Description	Date	Appr.
	1	ADD/END ITEM 2	01-28-24	

DESIGNED BY: DWS	DRAWN BY: JSL	CHECKED BY: DWS	DATE: DECEMBER 22, 2023	SCALE: 1/8" = 1'-0"	DFE PROJECT NO: 23SR21-400-ABC
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STATE OF MAINE
 DEPARTMENT OF DEFENSE, VETERANS
 AND EMERGENCY MANAGEMENT

Harriman
 Architects + Engineers
 46 Harriman Drive
 Auburn, ME 04288
 207-784-5100
 HA Project No. 21319

NORWAY READINESS CENTER RENOVATION
 EFFICIENCY MAINE HVAC

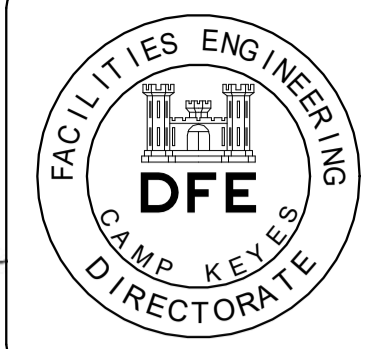
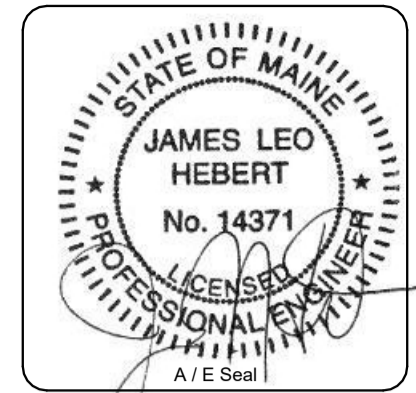
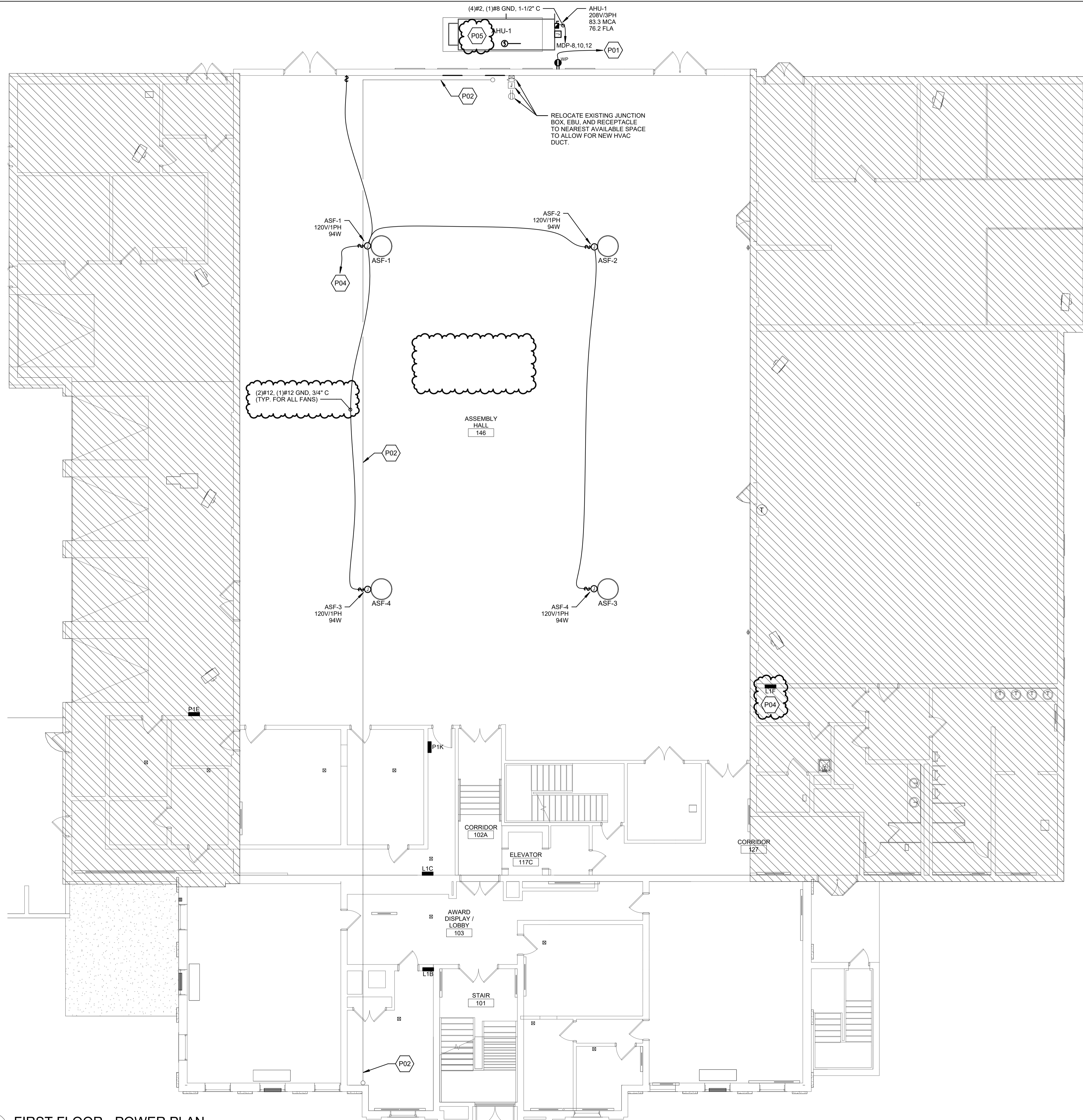
19 ELM STREET, NORWAY, ME 04288

SCHEDULES

PLAN PROGRESS

DRAFT
 35% REVIEW
 50% REVIEW
 95% REVIEW
 FINAL REVIEW
 FOR BIDDING
 ISSUED FOR CONSTRUCTION
 RECORD DRAWINGS

SHEET ID:
M60-1
 SHEET: 14 OF 18



GENERAL NOTES

- 1 WHERE CONNECTED TO A 20A BRANCH CIRCUIT SUPPLYING AN INDIVIDUAL RECEPTACLE (SIMPLEX OR DUPLEX), THE RECEPTACLE SHALL BE RATED AT 20A.
- 2 MODIFICATIONS TO NUMBER OF CONDUCTORS IN HOME RUNS IN ADDITION TO CIRCUITS INDICATED ON THIS DRAWING ARE PROHIBITED.
- 3 PROVIDE PROPER NUMBER OF CONDUCTORS TO ACHIEVE CIRCUITING AND SWITCHING SHOWN. THE SHARING OF NEUTRALS IS PROHIBITED.
- 4 CIRCUIT NUMBERS AT DEVICES CORRESPOND TO PANELBOARD BREAKERS (SEE PANELBOARD SCHEDULE). BRANCH CIRCUITS SHALL BE SIZED ACCORDING TO THE CIRCUIT BREAKER RATING, UNLESS INDICATED OTHERWISE ON THE ELECTRICAL EQUIPMENT SCHEDULE.

KEY NOTES

- P01 CONNECT TO NEAREST AVAILABLE 120V CIRCUIT.
- P02 BRANCH CIRCUIT CONDUIT ROUTING SHOWN DIAGRAMMATICALLY FOR DRAWING CLARITY. CONTRACTOR TO TRANSITION CONDUIT FROM BASEMENT TO CEILING SPACE ABOVE FIRST FLOOR. TRANSITION TO TOP OF CEILING IN ASSEMBLY HALL 146 FOR ROUTING TO FINAL DESTINATION.
- P04 CONNECT FANS TO (1) AVAILABLE EMPTY 120V SPACE COVERED BY A 0-3 FILLER PLATE IN PANEL "L1F". PANEL "L1F" IS A SIEMENS PANEL. PROVIDE (1) 20A 120V CIRCUIT BREAKER MODEL BL, BLH, HBL, BLF, BLHF, OR BOD FOR STRATIFICATION FAN CIRCUIT. TOTAL LOAD OF COMBINED STRATIFICATION FANS IS 378VA.
- P05 DUCT SMOKE DETECTOR TO BE CONNECTED TO EXISTING FIRE ALARM SYSTEM OUTSIDE OF CONTRACT.

- ALTERNATE 1:** ALL FOUR DESTRATIFICATION FANS SHALL BE INSTALLED ON THE SINGLE ELECTRICAL CIRCUIT SHOWN WITH ON/OFF CONTROL FROM THE WALL MOUNTED SWITCH AS SHOWN. CIRCUIT FANS TO PANEL "L1F".
- ALTERNATE 2:** REMOVE EXISTING STEAM UNIT HEATERS SERVING ASSEMBLY HALL. REMOVE ALL POWER AND CONTROL WIRING BACK TO ENERGIZING SOURCE. MAINTAIN EXISTING CONDUIT/RACEWAY IN PLACE. SEE MECHANICAL SHEET M05-1 FOR EXACT LOCATIONS OF STEAM UNIT HEATERS.
- ALTERNATE 3:** REMOVE FAN XMUA-1 SERVING ASSEMBLY HALL. REMOVE ALL POWER AND CONTROL WIRING BACK TO ENERGIZING SOURCE. MAINTAIN EXISTING CONDUIT/RACEWAY IN PLACE. SEE MECHANICAL SHEET M05-1 FOR EXACT LOCATION OF FAN XMUA-1.

PLAN REVISIONS	
Rev#	Description
1	ADDENDUM 2
01-20-24	Date
	Appr.

DESIGNED BY:	BDB
DRAWN BY:	BDB
CHECKED BY:	CLH
DATE:	DECEMBER 22, 2023
SCALE:	1/8" = 1'-0"
DFE PROJECT NO.:	23SR21-400-ABC
HA Project No.:	21319

STATE OF MAINE
 DEPARTMENT OF DEFENSE, VETERANS
 AND EMERGENCY MANAGEMENT
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NORWAY READINESS CENTER RENOVATION
 EFFICIENCY MAINE HVAC
 19 ELM STREET, NORWAY, ME 04268
FIRST FLOOR PLAN POWER

PLAN PROGRESS	
<input type="checkbox"/>	DRAFT
<input type="checkbox"/>	35% REVIEW
<input type="checkbox"/>	50% REVIEW
<input type="checkbox"/>	95% REVIEW
<input type="checkbox"/>	FINAL REVIEW
<input checked="" type="checkbox"/>	FOR BIDDING
<input type="checkbox"/>	ISSUED FOR CONSTRUCTION
<input type="checkbox"/>	RECORD DRAWINGS

SHEET ID:
E20-1
 SHEET: 17 OF 18

A1 FIRST FLOOR - POWER PLAN
 SCALE: 1/8" = 1'-0"