

ADDENDUM NO. 3
TO GENERAL, MECHANICAL AND ELECTRICAL
ABERDEEN PUBLIC WORKS
MAINTENANCE BUILDING
ABERDEEN, SOUTH DAKOTA

Addendum Dated: March 23, 2026

Original Plans and Specifications Dated: February 20, 2026

NOTE: The Plans, details and accompanying specifications shall be amended as follows, but where any article is amended the original article shall remain in effect and shall become a part of the original plans and specifications.

A. GENERAL NOTES:

1. AIA 201-2017

- a) 11.2.1: City of Aberdeen with provide builder's risk insurance.

B. PLAN CHANGES AND CLARIFICATIONS:

1. Sheet A21:Door Schedule

- a) Delete Frame Type 2, and replace with Frame Type 1 on the following doors: 212C, 213B, 214, 215, 216, 217A.
- b) Door 301C Door Model to be Overhead coiling door.
- c) All coiling doors use attached detail Add 3 – 1/1.

2. Sheet A42:

- a) Delete sheet A42 in its entirety and replace with attached sheet A42.

3. Sheet A43:

- a) Delete sheet A43 in its entirety and replace with attached sheet A43.

4. Sheet S9:

- a) Delete sheet S9 in its entirety and replace with attached sheet S9.

5. Sheet S12:

- a) Delete sheet S12 in its entirety and replace with attached sheet S12.

C. SPECIFICATION CHANGES AND CLARIFICATIONS:

1. Section 03 45 13 – Plant-Precast Architectural Concrete

a) 2.13 FINISHES:

Finish exposed-face surfaces of precast architectural concrete units to match approved design reference sample and as follows:

Design Reference Sample: Finish to be Surface Planed Brush Burnished.
Should Alternate #3 be taken top of based precast concrete to include a reveal with top portion of precast to be different color Surface Planed Brush Burnished.

2. Section 06 61 00 – Solid Surface Shower Receptor

- a) Add Section 06 61 00 in its entirety - (2 Pages).

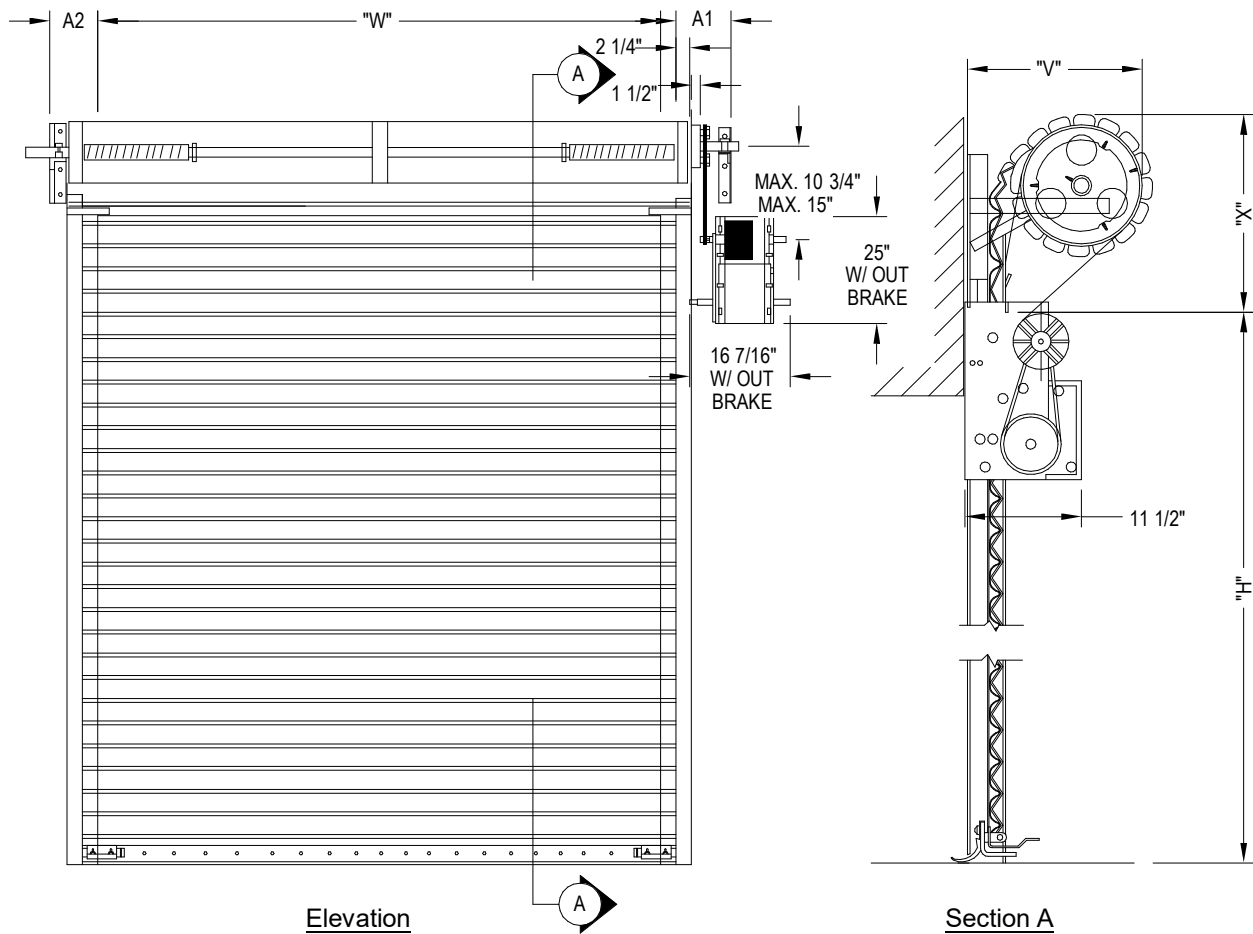
3. Section 07 41 14 – Metal Wall Panels EF-MT1 & EF-MT2
 - a). Preformed Prefinished Aluminum Wall Panels.
Basis-of-Design Product: Subject to compliance with requirements, provide 11” Flush Seam Panels, roll formed 24-gauge aluminum by Central States, with 30-year non-prorated finish warranty or comparable product. Two colors selected from manufacturers standard PVDF-Kynar 500 painted colors. One color for walls, one color for fascia. EF-MT2 Warehouse fascia has been deleted.
4. Section 07 42 43 – Aluminum Composite Material (ACM) EF-ACPI
 - a). Add Section 07 42 43 in its entirety – (6 Pages).
5. Section 09 31 00 – Ceramic Tile
 - a) Delete “Trim to be Bullnose” in Addendum #2 and delete 2.3.A.5.
“Trim: Bullnose”. Use Schluter Schiene aluminum edge trim in lieu of Bullnose trim. Schluter edge trim to be used at the top and side of all exposed tile edges including ceramic tile base and wall tile. Base is to be standard 6” cove base that comes with Daltile Haddonstone tile.
 - b) Use Schluter aluminum Reno-U at ceramic floor tile to finished concrete floor transitions.
6. Section 09 65 19 – Luxury Vinyl Tile
 - a) Luxury Vinyl Tile to be Shaw Contract, Collection Eon & Amalgam, Amalgam. Size to be 20” x 20”, with a 22 mil. wear layer thickness. Color to be selected by owner.
 - b) Use Schluter aluminum Vinpro-U at LVT to finished concrete floor transitions.
7. Section 09 68 13 – Carpet Tile
 - a) Carpet Tile to be Shaw Contract, Collection Coexist, Legacy Tile. Size to be 9” x 36”. Color to be selected by owner.
 - b) Use Schluter aluminum Reno-U at carpet tile to finished concrete floor transitions.
8. Section 09 68 30 – Walk-Off Carpet
 - a) Walk-off Carpet tile to be Shaw Contract, Collection All Access, Pace Tile. Size to be 24” x 24”. Color to be selected by owner.
9. Section 10 21 13 –Toilet Compartments
 - a). Delete section in its entirety.
10. Section 10 21 14 – Plastic Toilet Compartments
 - a). Add Section 10 21 14 in its entirety – (3 Pages).

D. APPROVED EQUALS:

1. Section 03 30 00 – Cast-In-Place Concrete: Viper II 10-mil “Class C” Vapor Barrier.

Attached: WPE Addendum 3 – 60 pages

HKG ARCHITECTS, INC., ARCHITECTS, AIA, ABERDEEN, SD

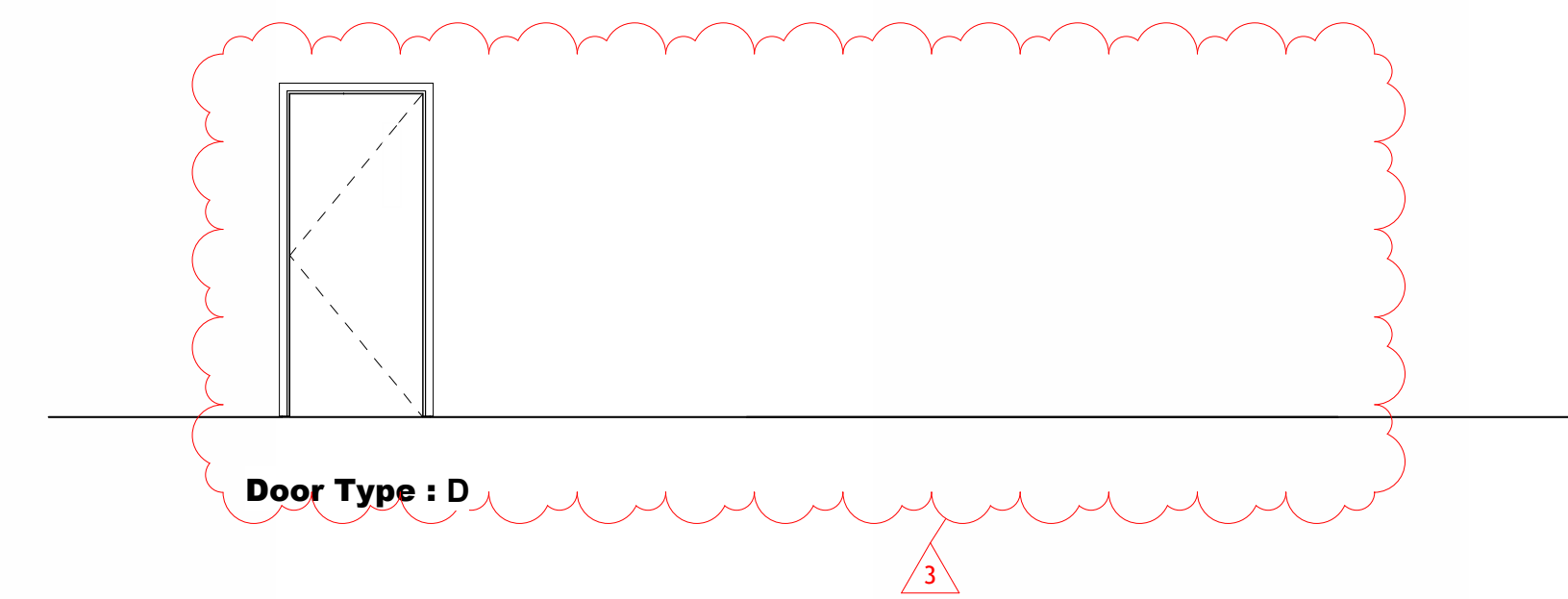
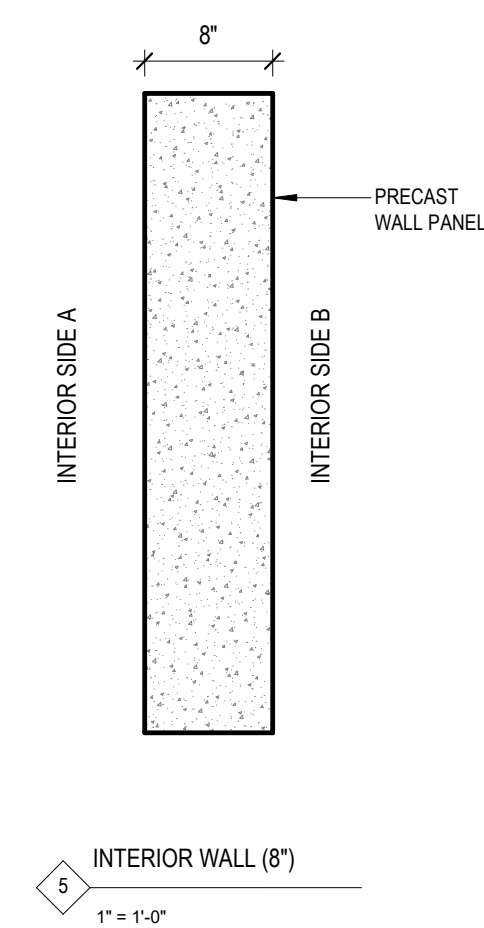
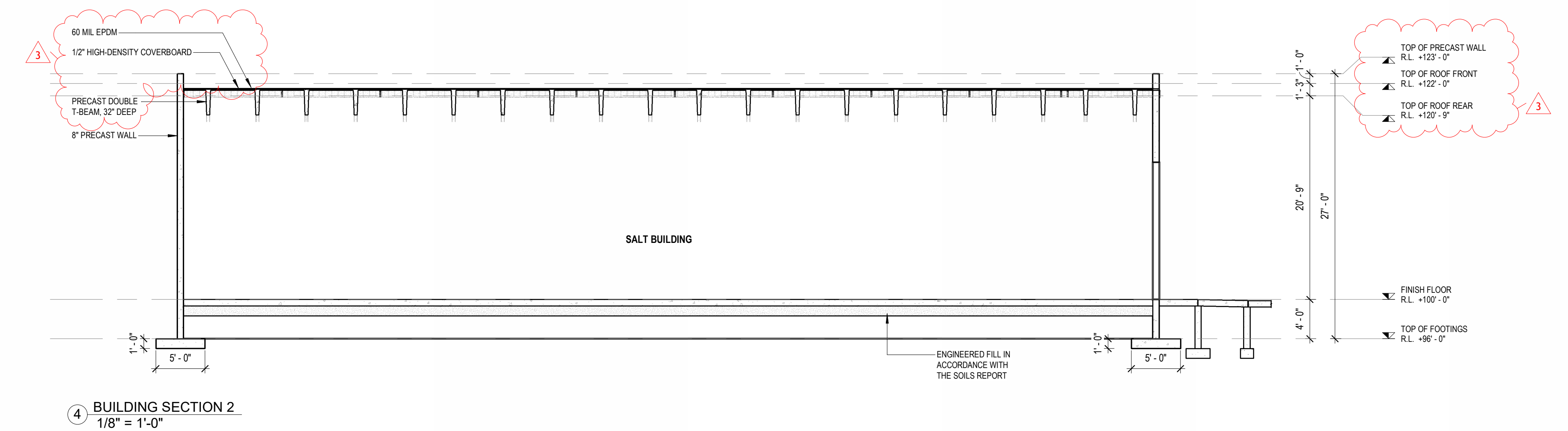
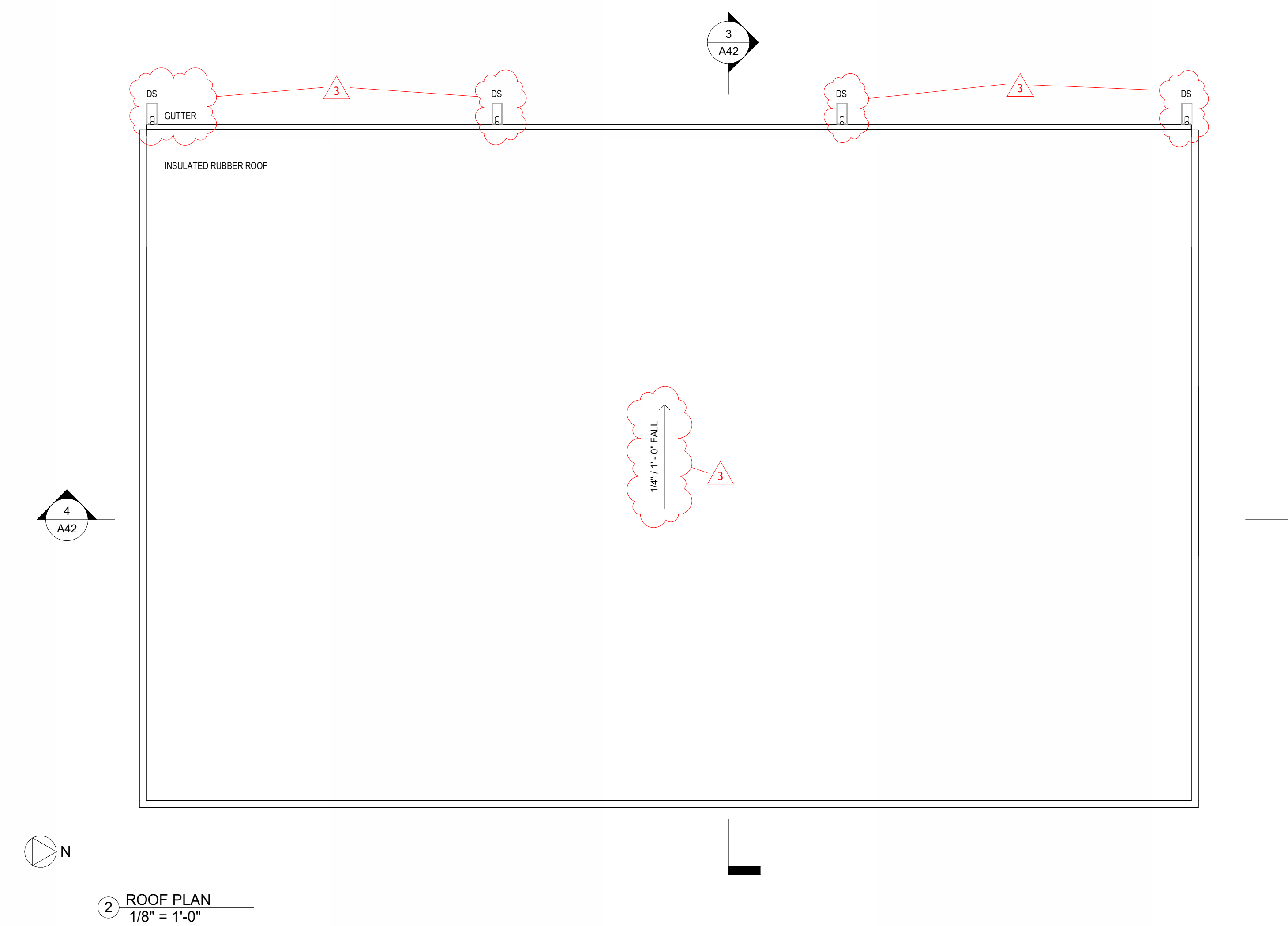


OPERATION	A1	A2
ELECTRIC DRIVE (UNDER 14' WIDE)	9	6
ELECTRIC DRIVE (14' TO UNDER 20')	10	7
ELECTRIC DRIVE (20' WIDE OR WIDER)	11	8

① Coiling Door Elevation & Section
3/8" = 1'-0"

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REVISED DATE	Plans for Aberdeen Public Works Maintenance Building Aberdeen, South Dakota	ADDENDUM 3	DRAWN BY <u>CW</u>	1 OF- 1 PROJECT NO. 2023-0032
CERT. NO.	HKG Architects, Inc.	Aberdeen, S.D.	TRACED BY _____	
			CHECKED BY <u>DM</u>	
			DATE 3/23/26	

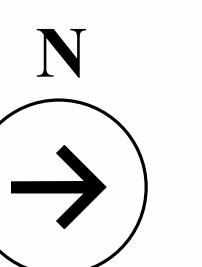


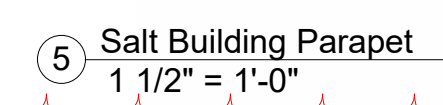
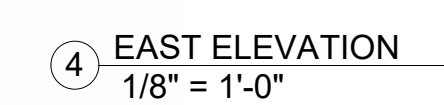
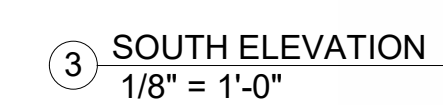
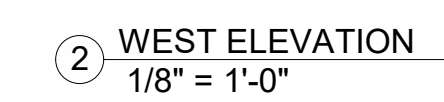
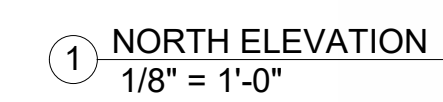
WALL SCHEDULE1			
WALL TYPE	MATERIALS	MATERIAL WIDTH	TOTAL WIDTH
5	PRECAST CONCRETE WALL	8"	0' - 8"

DOOR MARK	WIDTH	HEIGHT	DOOR TYPE	DOOR MODEL	DOOR MATERIAL	FRAME TYPE	FRAME MATERIAL	GLAZING	FIRE RATING	HARDWARE GROUP	HEAD	JAMB	THRESHOLD	COMMENTS
402	16' - 0"	14' - 0"				1	FIBERGLASS							DOOR OPENING



REVISION DATE	Plans for Aberdeen Public Works Maintenance Building Aberdeen, South Dakota	FLOOR PLAN, ROOF PLAN, SECTIONS, DOOR AND WALL SCHEDULE - SALT BUILDING	DESIGNED BY: JANK	A42
DATE ISSUED			DRAWN BY: Designer	
			CHECKED BY: DM	
			DATE: 02/20/06 PROJECT NO: 2023-0032	
	HMC Architects, Inc. Aberdeen, S.D.			





1 ADDENDUM #1 3/4/26

2 ADDENDUM #2 3/13/26

3 ADDENDUM #3 3/23/26

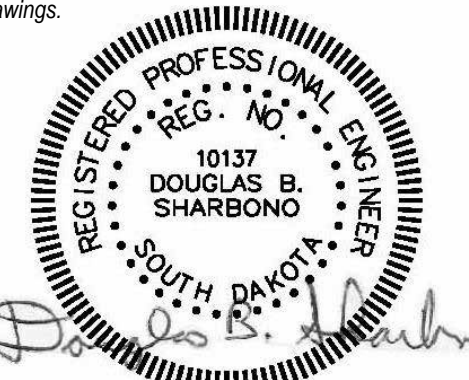
REVISED DATE Plans for Aberdeen Public Works Maintenance Building Aberdeen, South Dakota	ELEVATIONS - SALT BUILDING	ISSUED BY: JANK TRACED BY: Designer CREATED BY: DIM	A43
ISSUE DATE HSC Architects, Inc. Aberdeen, S.D.	DATE 02/20/06	PROJECT NO. 2023-0032	

GENERAL STRUCTURAL NOTES

- Design Codes Used:
IBC 2021
ACI Concrete Code
AISC Code - ASD
- Design Loads:
Roof Snow Load:
 $P_s = 40 \text{ PSF} + \text{Draft (Balanced)}$
Unbalanced snow load as per ASCE 7-16 Section 7
 $P_g = 50 \text{ PSF}$
 $P_f = 35 \text{ PSF}$
 $C_e = 1.0$
 $C_d = 1.1$
 $C_t = 1.0$
Live Load:
Storage
Mechanical
Metal Building Colateral
125 PSF
125 PSF
5 PSF
Wind Load:
 $V_{100} = 120 \text{ MPH}$ Basic Wind Speed
Risk Category = III
Wind Exposure C
Internal Pressure Coefficient ± 0.18
- Design Stresses Used:
Concrete:
- Slabs on Grade
- Footings & Foundation Walls
- Exterior Exposed
- Masonry Strength
4000 PSI @ 28 Days
3000 PSI @ 28 Days
4500 PSI @ 28 Days (air entrained)
 $f_m = 1500 \text{ PSI}$
Steel:
- W Shapes
- Tubes
- Angles, Channels, Bars
- Pipes
- Reinforcing Steel
Soil Bearing Pressure
 $F_y = 50 \text{ KSI (ASTM A992)}$
 $F_y = 45 \text{ KSI (ASTM A588 Grade B)}$
 $F_y = 36 \text{ KSI (ASTM A36)}$
 $F_y = 35 \text{ KSI (ASTM A53)}$
 $60 \text{ KSI (ASTM A615-60)}$
2000 PSF (See Geotechnical Report)
- CONCRETE COVERAGE for reinforcing shall be as follows:
Footings 3 inches
Columns and Piers 1 1/2 inches
Slabs on Grade midheight for a single layer
Walls 1 1/2 inches @ exterior
3/4 inch @ interior
3/4 inch unless noted
PROVIDE BAR SUPPORTS AND SPACERS in accordance with the ACI Detailing Manual.
- REINFORCING STEEL to be bent and placed in accordance with ACI code. All splices to be 38db for #6 bar or smaller, 48 db for #7 bar and larger.
- FOOTINGS to rest on undisturbed soil or engineered backfill. All walls and piers to center on footing unless otherwise noted. All footing elevations are given to the top of footings.
- See Soil report for Site Recommendations.
- ALL FOUNDATION WALLS to be laterally supported before backfilling. Vertical construction joints to be keyed.
- OPENINGS in concrete FOUNDATION WALLS shall be reinforced with 2 #4 bars each side, extending 2'-0" past the face of the opening unless otherwise noted.
- FOUNDATIONS SHALL BE BUILT from approved, fully dimensioned shop drawings coordinated with construction documents and field conditions. Foundation shop drawings shall consist of the anchor bolt setting plan, concrete mix design, and concrete reinforcement plan with wall & pier dimensions. All subsequent shop drawings shall be coordinated with approved foundation shop drawings.
- SHOP DRAWINGS
a. Submit electronic copies of the following shop drawings to the architect/engineer for review prior to fabrication.
1. CONCRETE REINFORCING and mix designs for each class of concrete.
2. STRUCTURAL STEEL
3. ROOF JOISTS AND DECK
4. PRE-CAST CONCRETE
5. METAL BUILDING
b. The contractor shall review and accept full responsibility for dimensional correctness. All shop drawings must bear the approval stamp of the contractor (to include initials, date and disposition), prior to review by the Architect or Engineer. The Engineer will return all shop drawings, unreviewed, that do not bear the approval stamp of the contractor.
- PORTLAND CEMENT to be ASTM C150, Type 1 & 1A.
- CONCRETE to be in accordance with ACI 301. Maximum shale content shall not exceed 0.5% for exposed concrete.
- CONTROL AND CONSTRUCTION JOINTS to be located as shown on the plan or at contractor's option - not to exceed 15'-0" o.c. (6" concrete) or 10'-0" o.c. (4" concrete).
- PROVIDE NON-SHRINK Metallic Grout under Base Plates and Non-Shrink Grout for all Dowels.
- Not Required of Pre-Engineered Metal Building columns.
- PRECAST CONCRETE MEMBERS TO BE designed by Supplier. The Supplier is to submit stamped Design Calculations when Design is not based on Standard Load Tables. Shop Drawings shall indicate strand and reinforcement locations, and steel grade used. All openings larger than 6 inches, in any direction required by other Trades through Precast Units are to be cast into Units. Core openings, drilled in the field are to miss Prestressing Strands. Use Non-Shrink grout with minimum yield of 4000 PSI @ 28 days. Derive member forces from specified area loads and wind speed/exposure.
- ROOF JOISTS to be designed for 10 PSF net uplift - Typical.
- ALL STRUCTURAL STEEL to be fabricated and erected in accordance with the AISC code. Connections not detailed are to be designed in accordance with the AISC detailing for steel construction. Shop connections to be welded. Field connections to be double clip angle connection bolted with 3/4" diameter high strength bolts (ASTM A325).
- Cold formed steel "C" studs/Joists
18 GA. - 20 GA. $F_y = 33 \text{ KSI}$
16 GA. or thicker $F_y = 50 \text{ KSI}$
General Contractor shall provide all lateral roof bracing as required by Field Installation Guide for cold form steel roof trusses by Light Gauge Steel Engineers Association.
- Steel Stud Partition Walls & Lintels to be designed by Supplier. If they do not come off of standard charts provide Engineered Calculations and shops.
- Provide 200 linear feet of L 3-1/2" x 3-1/2" x 5/16" to be used at the Architect/Engineer's discretion, or for mechanical lintels through existing walls.
- SEE MECHANICAL, ELECTRICAL & ARCHITECTURAL DRAWINGS for all openings and inserts not shown on the plan. All opening sizes and locations to be verified with mechanical and electrical contractors.
- CONTRACTOR VERIFY all dimensions with Architectural Plan.

PRE-ENGINEERED BUILDING

- a. Building components supporting masonry shall have the following deflection requirements:
Wall girts $\Delta/240$
Endwall columns $\Delta/240$
Rigid frames $\Delta/120$ horizontal drift at the height of the masonry
See Arch. plans for building elevations, clearances, etc.
b. Submit Pre-engineered Building Calculations and Anchor Bolt Plan to Foundation Engineer prior to construction for review and possible revision to the Foundation Plan.
- Submit Pre-engineered Building Calculations and Anchor Bolt Plan to Foundation Engineer prior to construction for review and possible revision to the Foundation Plan.
- Pre-engineered metal building supplier shall provide hot-rolled wide-flange sections for girts at top of precast walls, both base bid & alternates. Coordinate with precast supplier.
- Contractor shall verify all precast wall sizes, and overall dimensions to be correct for the pre-engineered building system actually supplied.
- Verify stop locations and sizes with the Architectural drawings. Section 6510 is generic. See plan for correct footing elevations at the various stop locations.



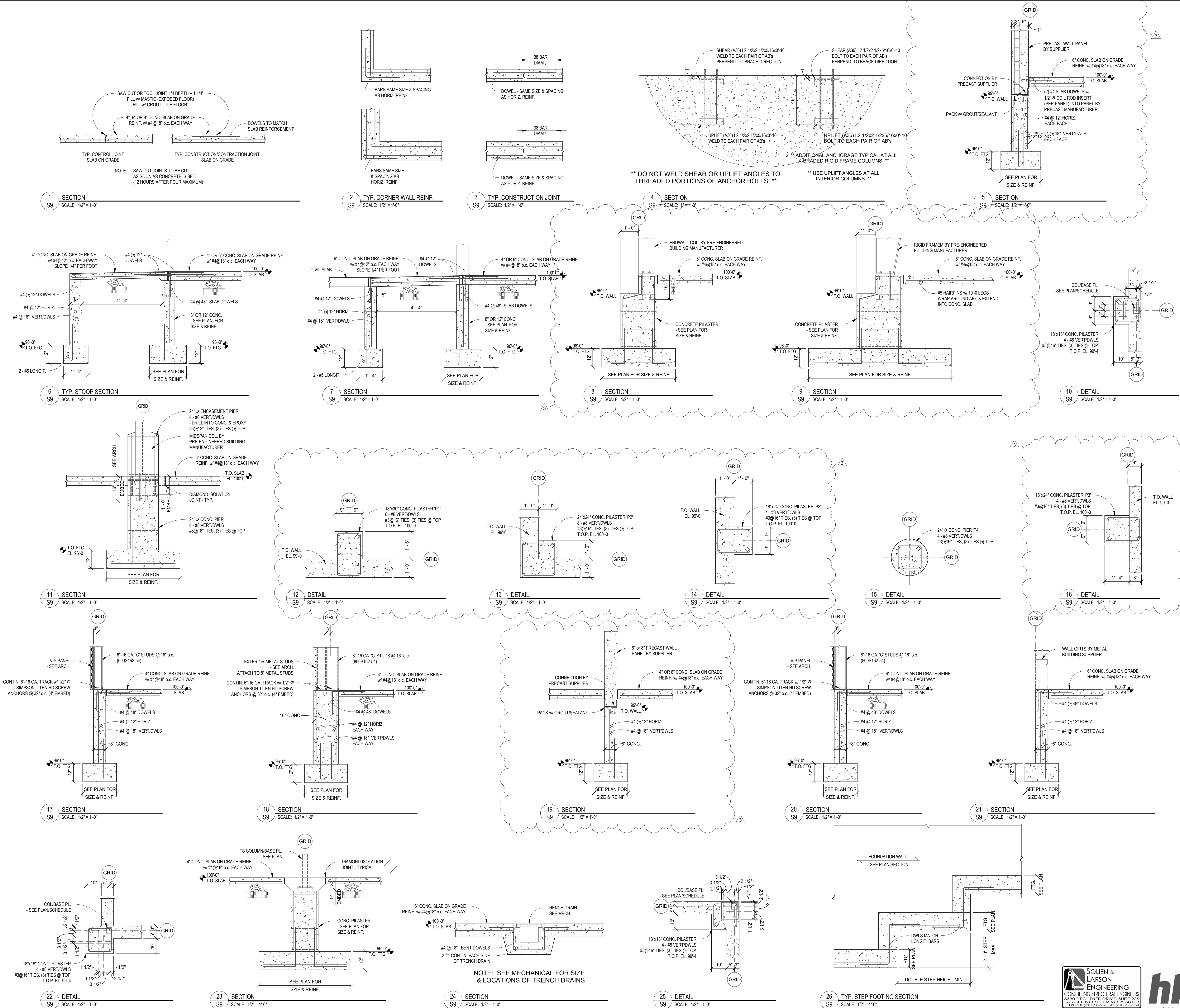
ADDENDUM NO. 3
3/20/2026

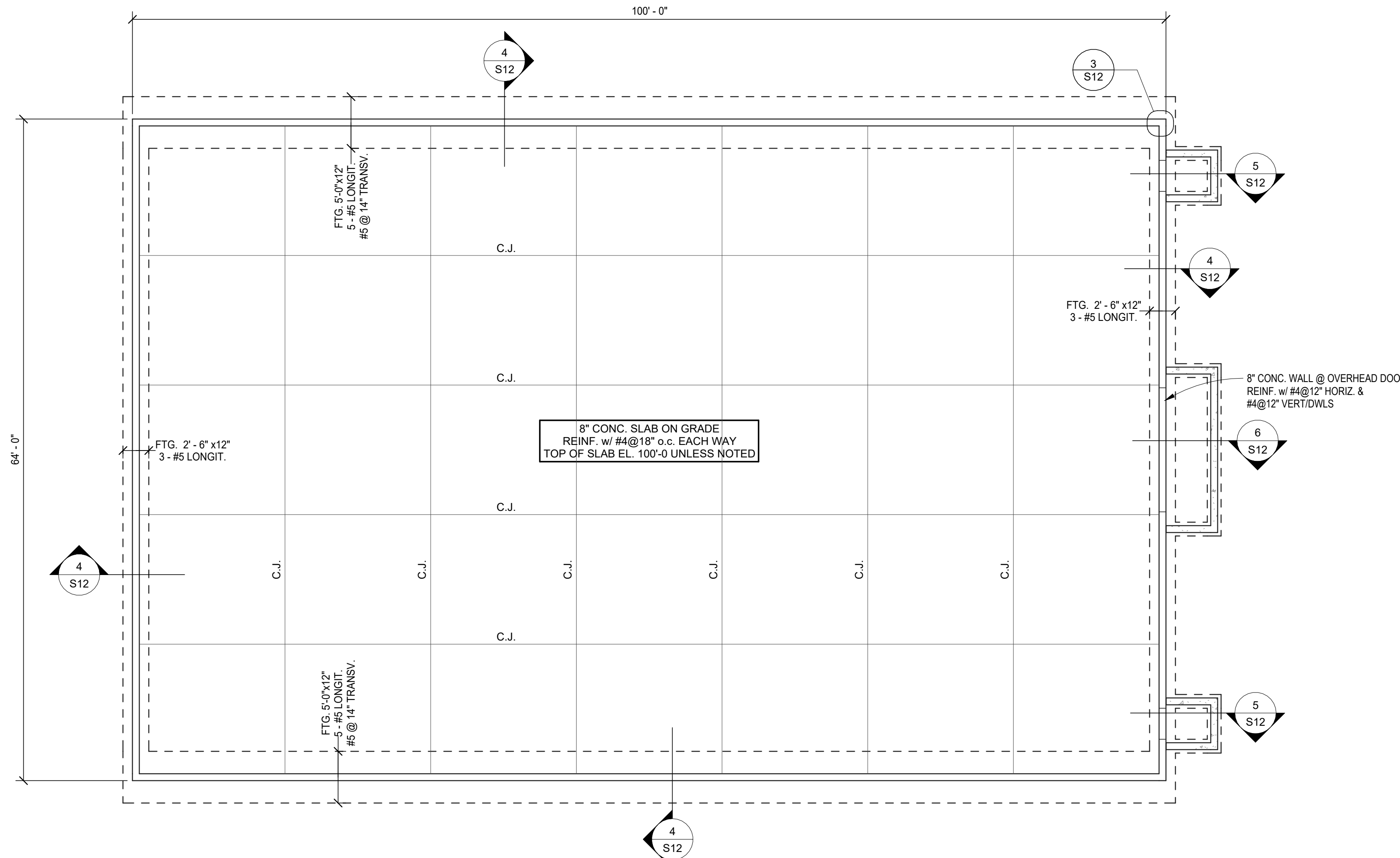
2/20/2026

Plan for	SECTIONS & DETAILS	LT	S9
ABERDEEN PUBLIC WORKS Maintenance Building Aberdeen, South Dakota		2/20/2026	25038
HKG Architects, Inc.	Aberdeen, S.D.		

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3330 FLEETCHER DRIVE, SUITE 200
P.O. BOX 1000, ABERDEEN, SD 58505
TELEPHONE (605) 251-3000 FAX (605) 251-3000

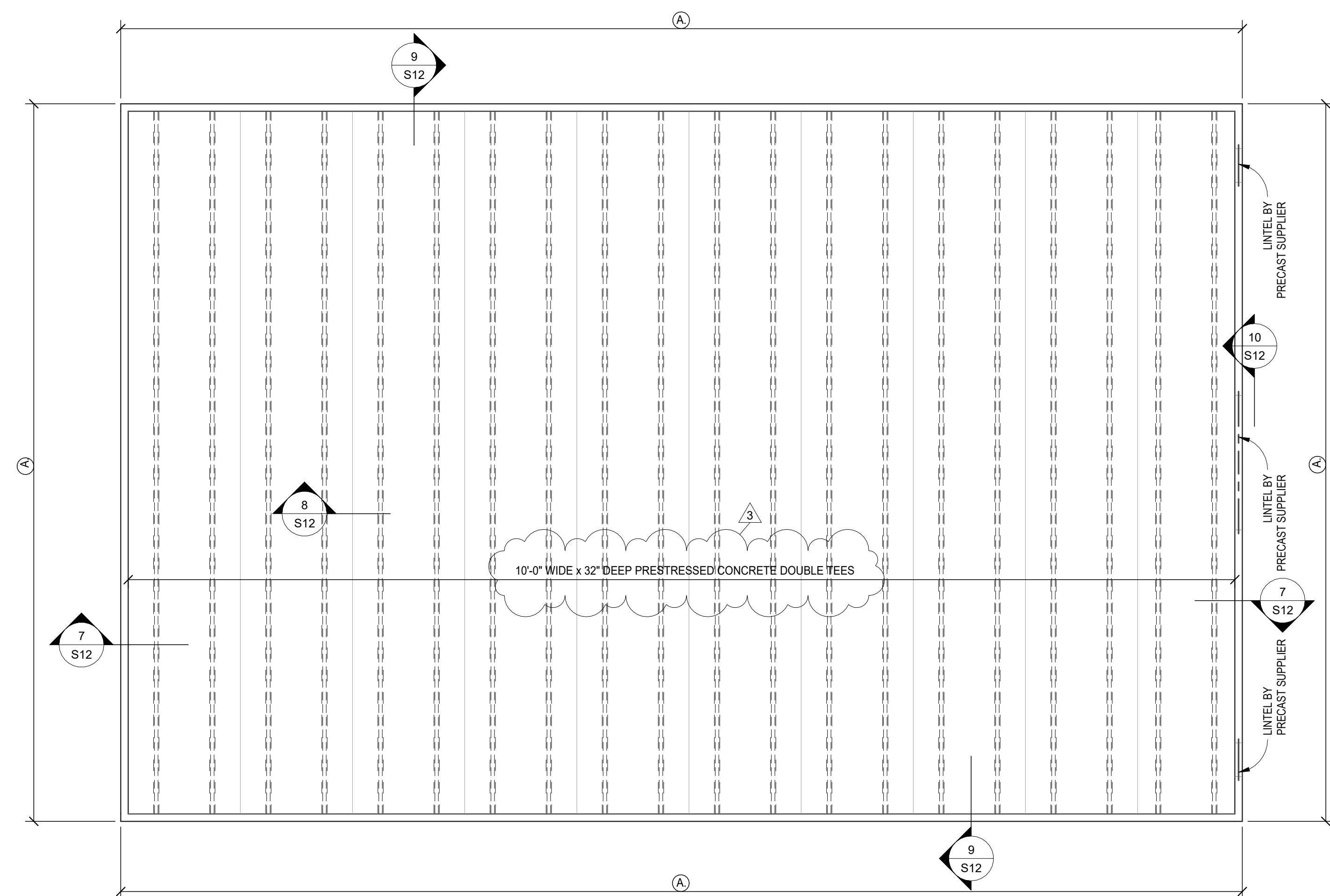
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1 SALT BUILDING FOUNDATION PLAN
SCALE: 1/8" = 1'-0"

NOTE: 1). TOP OF FOOTING EL. 95'-0" UNLESS NOTED OTHERWISE.



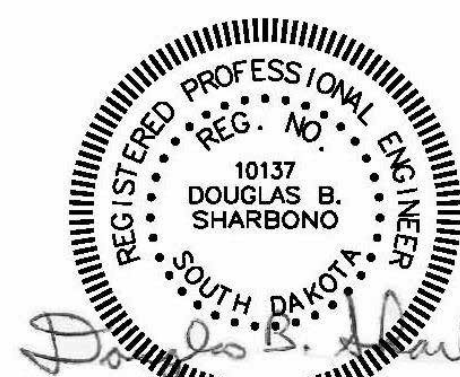
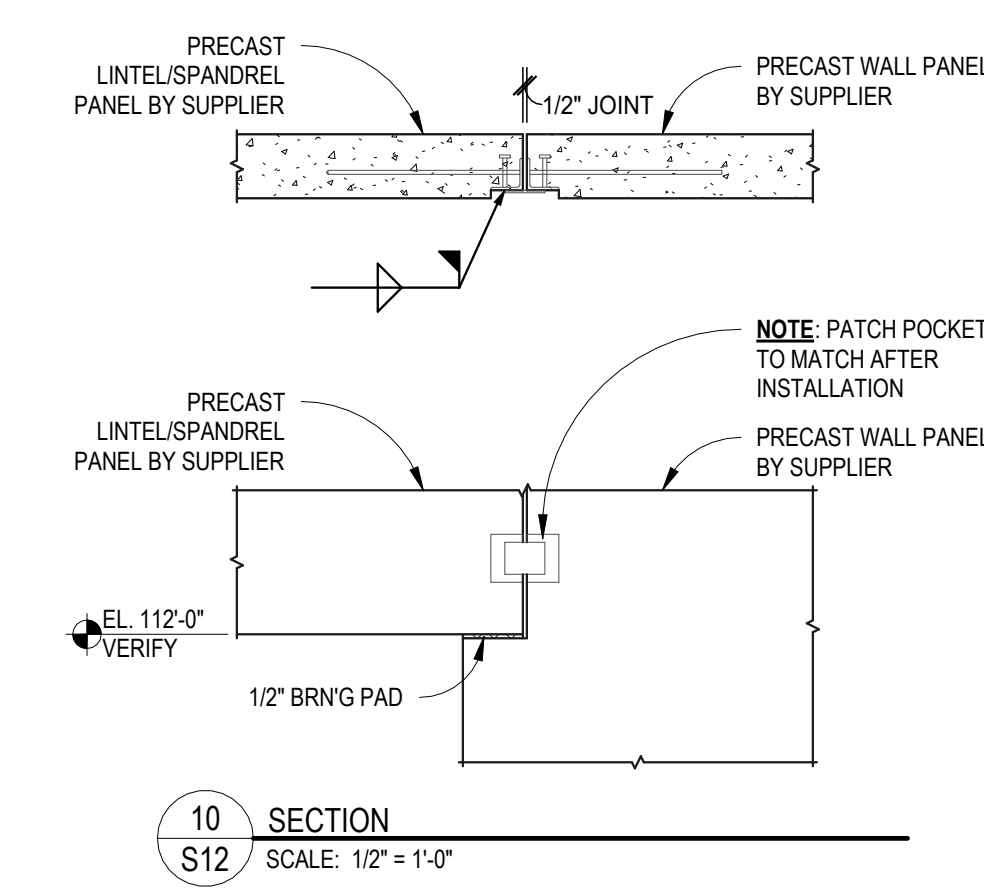
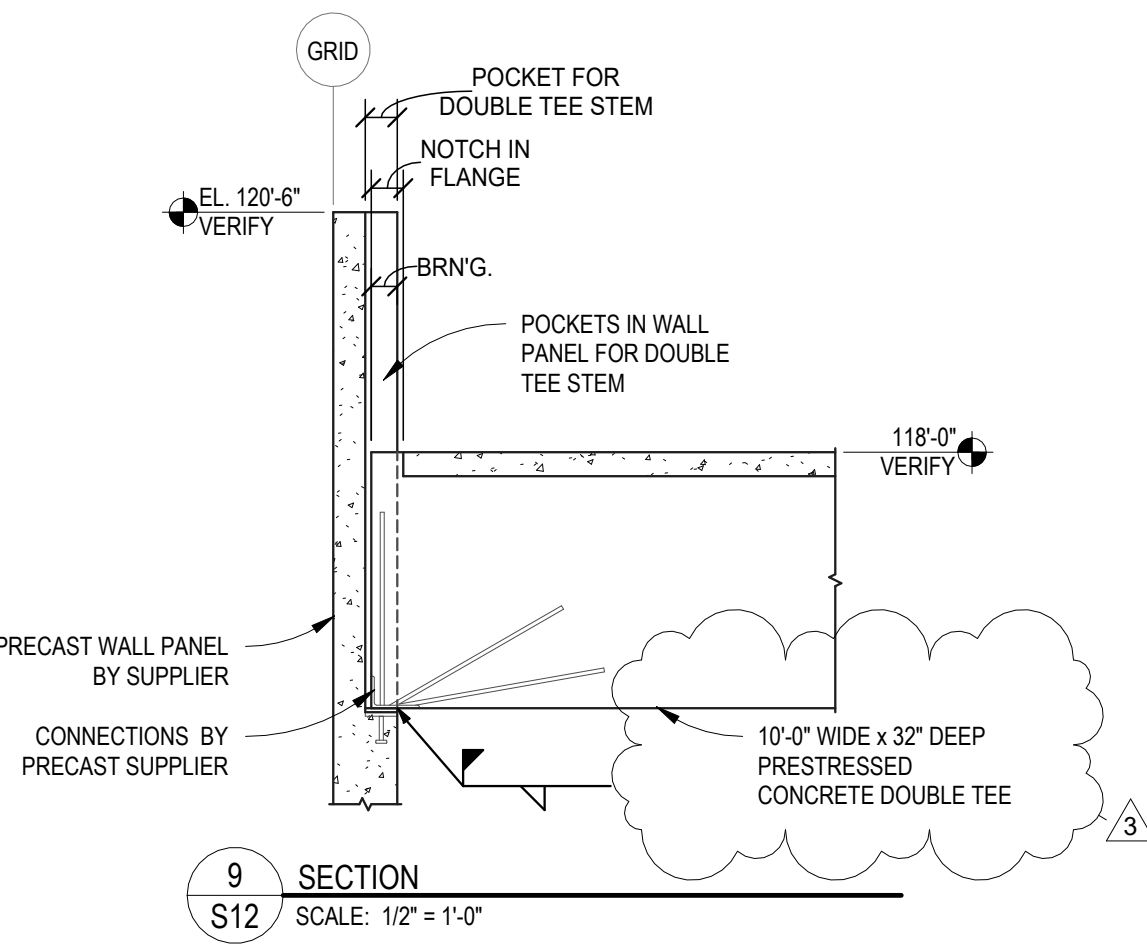
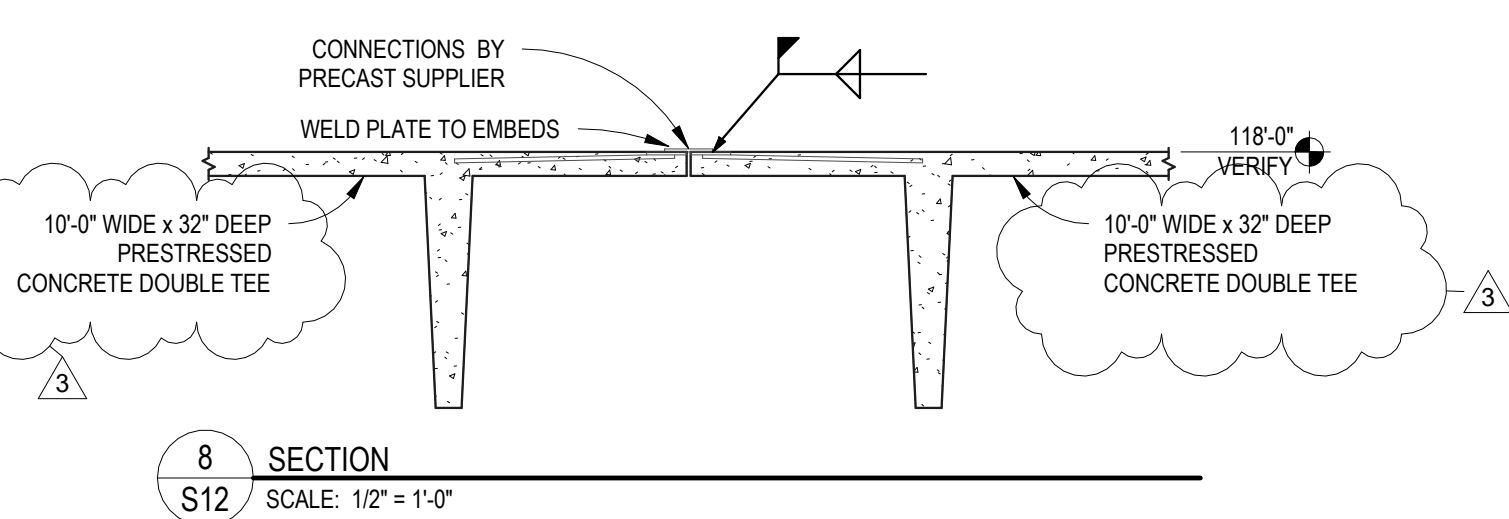
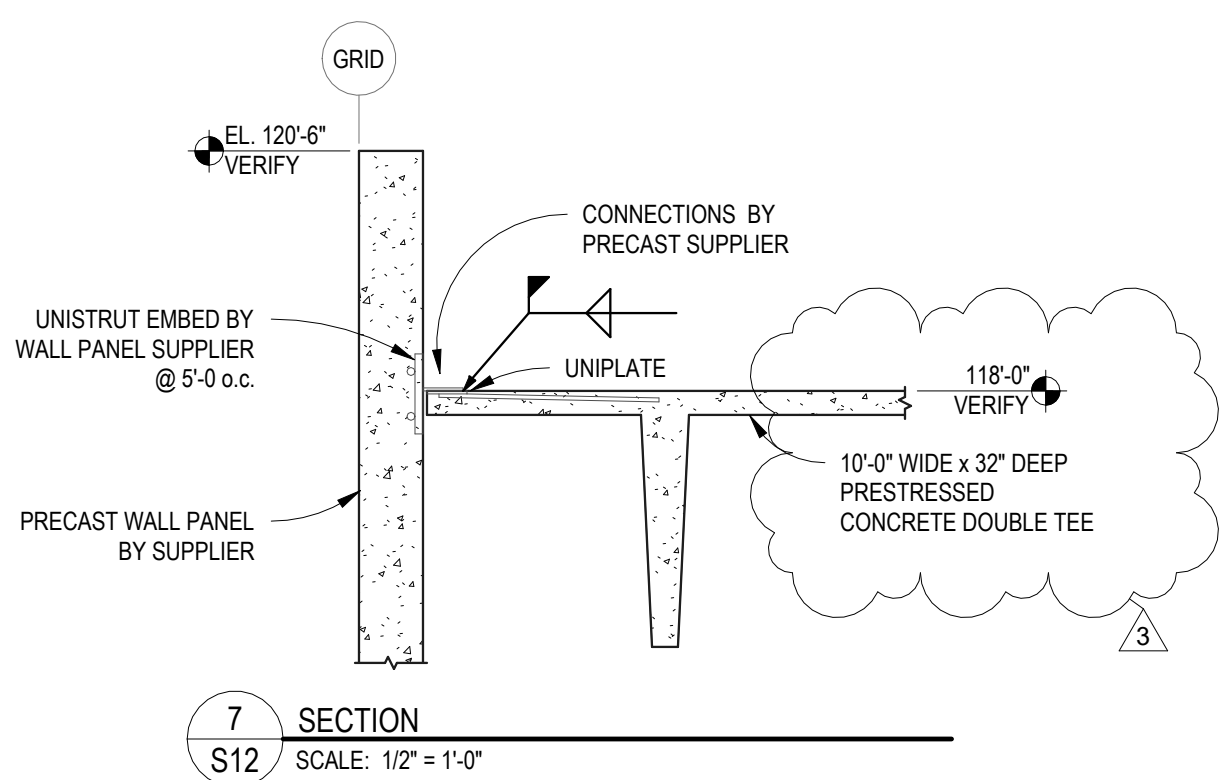
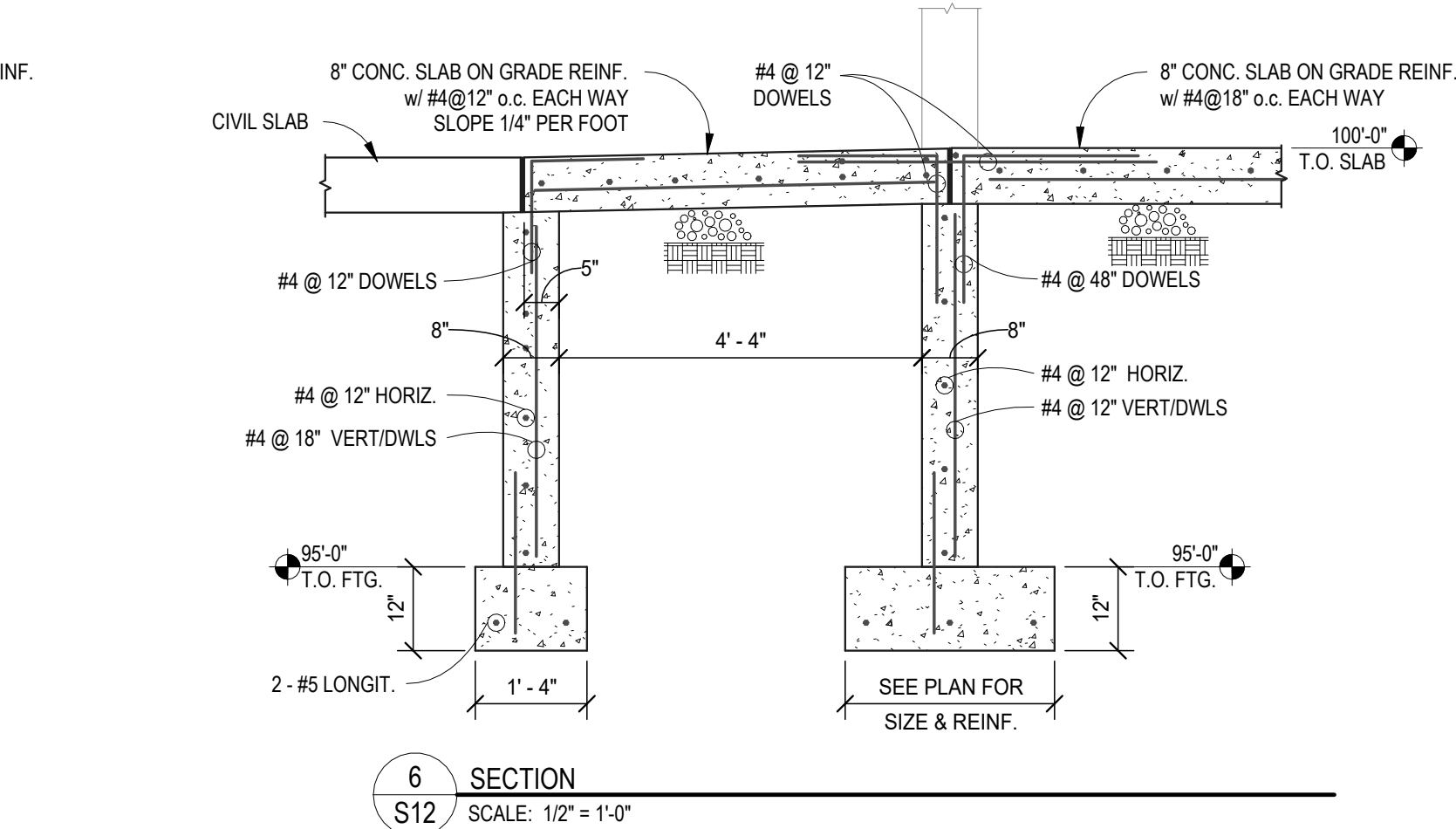
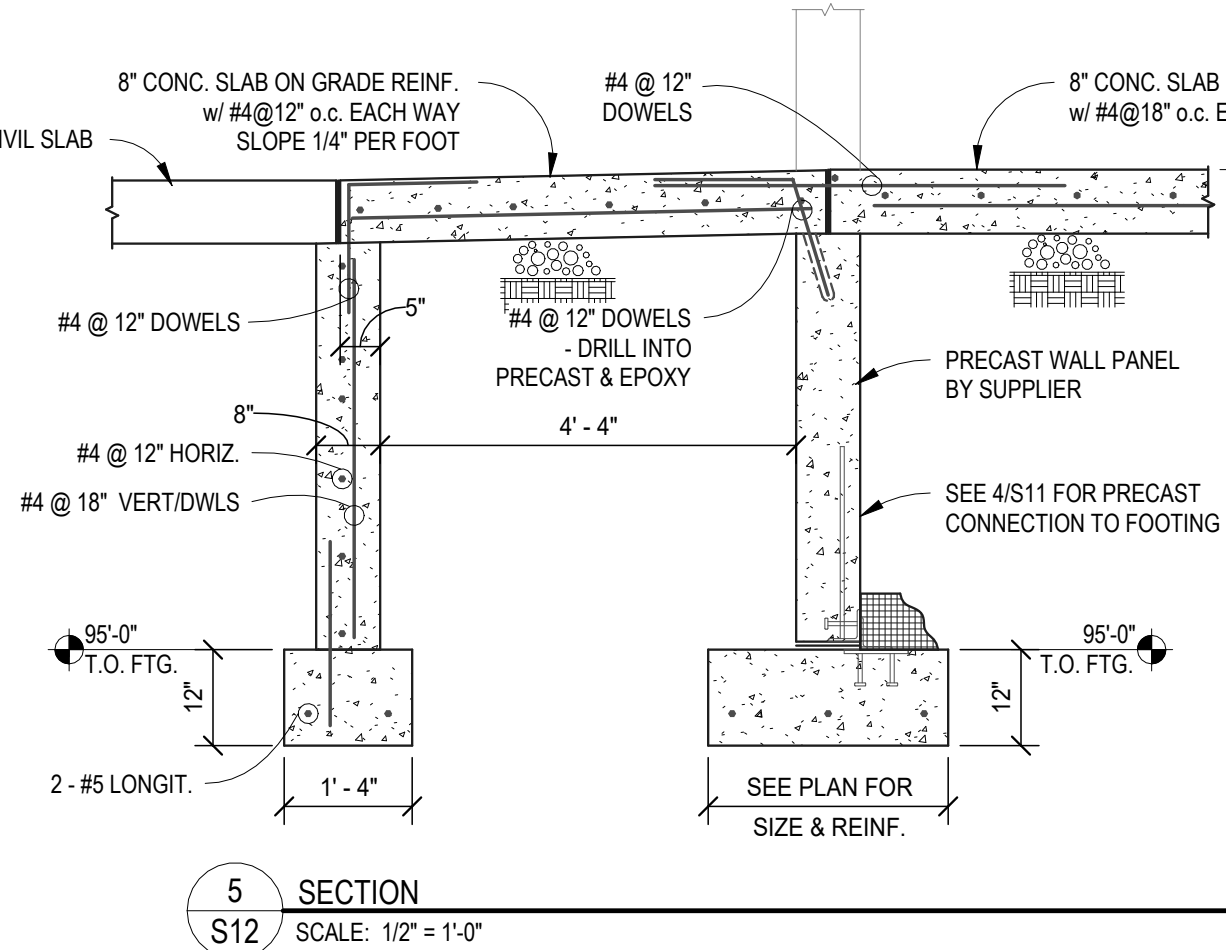
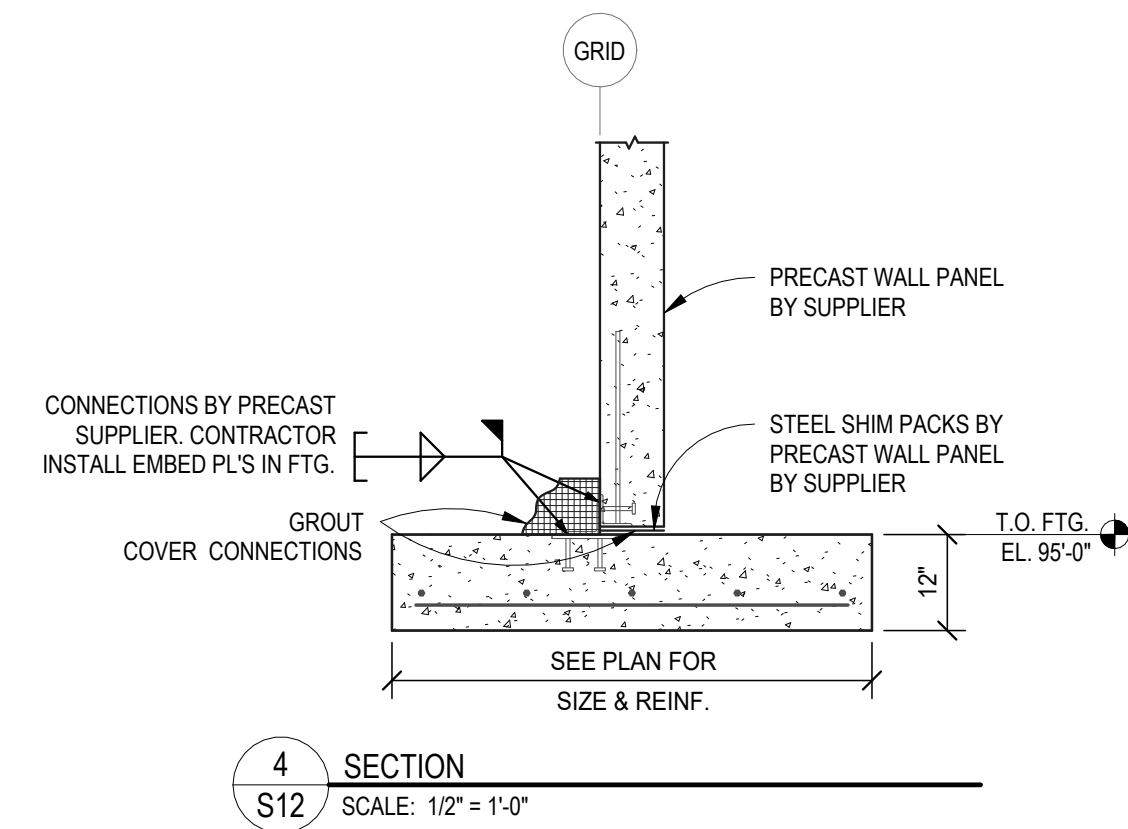
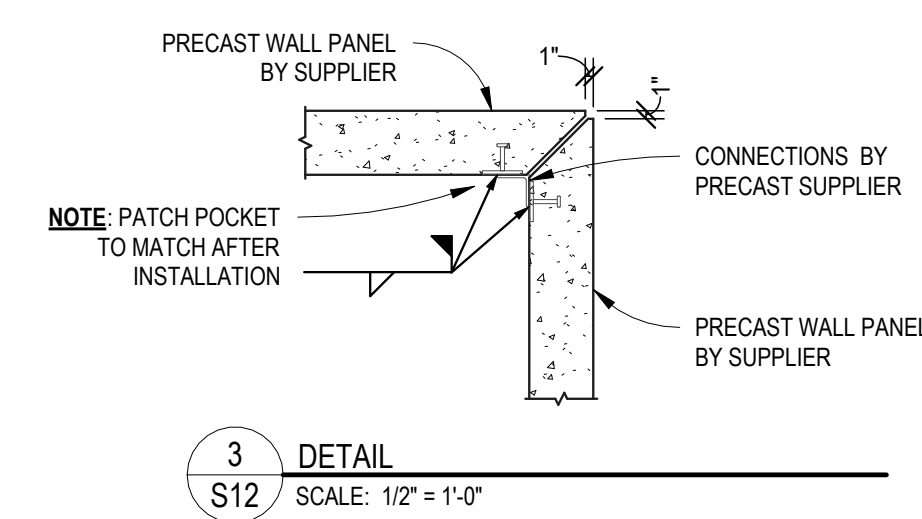
2 SALT BUILDING ROOF FRAMING PLAN
SCALE: 1/8" = 1'-0"

NOTE: 1) (A) = 8" SOLID PRECAST CONCRETE WALLS x 10'-0" WIDE. DESIGN WALL PANELS, CONNECTIONS AND CONNECTING PRECAST MEMBERS FOR RETAINED SALT WITH EQUIVALENT FLUID PRESSURE OF 45 PCF ACTING FROM EL. 100'-0" TO EL. 110'-0"

PRECAST LOADING:

DEAD LOAD: 15 PSF + SELF WEIGHT (SUPERIMPOSED)

ROOF SNOW LOAD: 40 PSF



3 ADDENDUM NO. 3
3/20/2026

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Plans for ABERDEEN PUBLIC WORKS Maintenance Building Aberdeen, South Dakota	SALT BUILDING	S12
HKG Architects, Inc. Aberdeen, S.D.	2/20/2026	25038

SECTION 06 61 00 SOLID SURFACE SHOWER RECEPTOR

PART 1 – GENERAL

1.01 SUMMARY

- A. Shower Receptors

1.02 SECTION INCLUDES

- A. Solid Surface Shower Receptors
- B. Solid Surface Trench Receptor

1.03 REFERENCES

- A. American National Standards Institute (ANSI)

1.04 SYSTEM DESCRIPTION

- A. Performance Requirements: Provide shower receptors that conform to the following requirements of regulatory agencies and the quality control of Inpro® Corporation.
 - 1. Provide shower receptors that conform to ANSI 124.1.2-2005 when tested for workmanship and finish, structural integrity and material characteristics.
 - 2. Fungal and Bacterial Resistance: Provide Prism™ Solid Surface that does not support fungal and bacterial growth as tested in accordance with ASTM G-21 and ASTM G-22.

1.05 SUBMITTALS

- A. Product Data: Manufacturer's printed product data for each type of shower receptors specified.
- B. Samples: Verification samples minimum of 1.5" x 3" samples indicating color and pattern.
- C. Manufacturer's Installation Instruction: Printed installation instructions for shower receptors.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in unopened factory packaging to the jobsite
- B. Inspect materials at delivery to assure that specified products have been received.
- C. Store in original packaging in an interior climate controlled location away from direct sunlight.

1.07 PROJECT CONDITIONS

- A. Environmental Requirements: Products must be installed in an interior climate controlled environment.

1.08 WARRANTY

- A. Standard Prism™ Solid Surface Limited 10 Year Warranty against material and manufacturing defects.

PART 2 – PRODUCTS

2.01 MANUFACTURER

- A. Basis-Of-Design Product: Inpro Corporation, Endurant
PO Box 406 Muskego, WI 53150 USA; Telephone: 800.222.5556, Fax: 888.715.8407,
Website: www.inprocorp.com.
 - 1. Submit comparable products of one the following for approval by architect:
 - a. Insert name of manufacture of comparable product
 - b. Submit requests for substitution in accordance with Instructions to Bidders and Division 01 General Requirements
 - c. Provide specified product; Owner will not consider substitution requests.

2.02 MANUFACTURED UNITS

- A. Prism™ Solid Surface Trench Receptors
 - 1. Width of Trench receptor shall be 60" outside dimension.
 - 2. Depth of Trench Receptor shall be 36".
 - 3. Drain Location shall be 4 15/16" on center from the front edge of the receptor. Minimum drain offset from either edge varies by size.
 - 4. Water Barrier shall be double water barrier (w/flange), 1/2" thick x 4 1/2" high water barrier with 1/4" thick x 5 1/2" high flange.
 - 5. Opening condition shall be roll-in (3/4" front edge thickness)
- B. Shower Drain:

1. Standard Trench Grate: Trench grate shall be 12 gauge brushed stainless steel with 2 $\frac{3}{4}$ " x $\frac{1}{4}$ " slotted weep holes
 - a. Secured with stainless steel tamper resistant fasteners. (Standard)
 2. Shower drain shall be Oatey number 42150, Brass, No-caulk, Drain. Drain body is sealed to shower base with a fiber and rubber washer. Drain is secured to 2", 40 DWV pipe with a mechanically compressed gasket that does not require caulking.
- C. Square Shower Receptor (Non-ADA)
1. Size to be 36" x 36" (34 $\frac{1}{2}$ " x 35 $\frac{1}{4}$ " Finished).
 2. Drain Location:
 - a. Center Drain
 3. Threshold:
 - a. Integral Full Curb
- D. Shower Drain:
1. Shower drain shall be Oatey number 42150, Brass, No-caulk, Drain w/Brass or Stainless Steel Snap-Tite Strainer. Drain body is sealed to shower base with a fiber and rubber washer. Drain is secured to 2", 40 DWV pipe with a mechanically compressed gasket that does not require caulking.
 2. Shower drain shall be Ligature Resistant EN-LRD. Drain body is modified Oatey 42150. Drain body is sealed to shower base with a fiber and rubber washer. Drain is secured to 2", 40 DWV pipe with a mechanically compressed gasket that does not require caulking. Strainer to be 304 stainless, with blind openings. Strainer is secured with 6-32 stainless pin-in torx flat head screws.

2.03 MATERIALS

- A. Prism™ Solid Surface: Trench and Shower Receptor shall be manufactured from polyester/acrylic blended resins with natural filler material.

2.04 FINISHES

- A. Select color from Inpro® Corporation Prism™ Solid Surface Shower Systems color palette.

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Examine areas and conditions in which shower receptors will be installed.

3.02 PREPARATION

- A. Surface Prep: Prior to installation, clean the substrate to remove dust, debris and loose particles. Ensure the substrate is sound and per project plans.
- B. Acclimate product in temperatures between 65°F and 80°F [18°-27°C] and a humidity level less than 80% 24 hours in advance of installation.
- C. The area of installation must temperature and humidity controlled for at least 48 hours after installation.

3.03 INSTALLATION

- A. General: Install components plumb and level, scribe adjacent finishes, in accordance with approved shop drawings and recommended installation instructions.

3.04 CLEANING

- A. At completion of the installation, clean surfaces in accordance with the Inpro® Prism™ Solid Surface clean-up and maintenance instructions.

END OF SECTION 05 53 00

SECTION 07 42 43 – ALUMINUM COMPOSITE MATERIAL (ACM) EF-ACP1

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this section.

1.02 SUMMARY

A. Definitions:

An Aluminum Composite Material (ACM) Panel System includes ACM panels, joints, attachment system components and miscellaneous materials as appropriate for the design of the project to provide a weather-resistant exterior veneer system.

- 1. A “Shop-Fabricated” ACM Panel System is designed with components that permit the complete fabrication in the shop and the subsequent installation of the system in the field.

B. Section Includes:

- 1. Exterior installation and performance of ACM panels and ACM Panel System components.

C. Related Sections:

- 1. Division 05 – Metals: Cold-Formed Metal Framing
- 2. Division 06 – Wood, Plastics, and Composites: Sheathing
- 3. Division 07 – Thermal and Moisture Protection: Sheet Metal Flashing and Trim
- 4. Division 07 – Thermal and Moisture Protection: Joint Sealants
- 5. Division 08 – Openings: Aluminum Windows
- 6. Division 08 – Openings: Glazing

1.03 REFERENCES

- A. General: Standards listed by reference, including revisions by issuing authority, form a part of this specification section to the extent indicated. Standards listed have either been identified by the International Building Code (IBC) or local building code or are specific requirements for this building construction type.
- B. Aluminum Association (AA):
 - 1. Aluminum Design Manual (ADM)
 - 2. AA-M12C23A31: Anodized – Clear Coating
 - 3. AA-M12C23A34: Anodized – Color Coating
- C. American Architectural Manufacturers Association (AAMA):
 - 1. AAMA 501.1 Standard Test Method for Water Penetration of Windows, Curtain Walls and Doors Using Dynamic Pressure
 - 2. AAMA 501.2 Quality Assurance and Diagnostic Water Leakage Field Check of Installed Storefronts, Curtain Walls and Sloped Glazing Systems
 - 3. AAMA 508 Voluntary Test Method and Specification for Pressure Equalized Rain Screen Wall Cladding Systems

1.04 SYSTEM DESCRIPTION

A. Performance Requirements:

- 1. Provide installed ACM Panel System designed to withstand project-specific design loads while maintaining System Requirements; Deflection and Thermal Movement; and Fire Performance without defects, damage, or failure as defined by the Manufacturer and required by this section.

B. System Requirements:

- 1. Wet Seal System
 - a. ASTM E283 Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen – Air flow measurement across the ACM Panel System (excluding jamb conditions) shall not be more than 0.06 cfm per sf of wall area when tested to a pressure difference of 6.24 psf.
 - b. ASTM E330 Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls By Uniform Static Air Pressure Difference – ACM Panel System must be engineered to meet the project-specific design loads for strength

- and serviceability requirements. In addition, the ACM Panel System must meet or exceed the Deflection and Thermal Movement criteria when tested to a minimum pressure of 40.0 psf.
- c. ASTM E331 Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls By Uniform Static Air Pressure Difference – Water penetration across the ACM Panel System shall not occur when tested to a pressure difference of 12.0 psf.
- C. Deflection and Thermal Movement: Provide installed ACM Panel System that has been designed to resist project-specific wind loads, acting both inward and outward:
 - 1. Perimeter Framing Deflection: Deflection of the panel perimeter framing member shall not exceed $L/175$ normal to plane of the wall, where L is the unsupported span of the perimeter framing member between fastener locations.
 - 2. Panel Deflection: Deflection of the panel face shall not exceed $L/60$ normal to plane of the wall, where L is the unsupported span of the panel between load transfer locations.
 - 3. At 150% pressure, no permanent deformation exceeding $L/1000$ or failure to structural members is permitted.
 - 4. Thermal Movements: Allow for free and noiseless horizontal and vertical thermal movement due to expansion and contraction of component parts over a temperature range of -20°F to $+180^{\circ}\text{F}$ at the material surface.
 - a. Buckling, opening of joints, undue stress on fasteners, failure of sealants, or any other detrimental effects of thermal movement are not permitted.
 - b. Field-fabrication and installation procedures shall take into account the ambient temperature range at the time of the respective operation.
- D. Fire Performance: Wall assemblies containing ACM Panel System shall meet the requirements of NFPA 285 using the Intermediate-Scale Multi-Story Test Apparatus (ISMA), where required by code based on the design of this project.

1.05 SUBMITTALS

- A. General: Provide submittals in accordance with Conditions of the Contract and Division 01 Submittal Procedures Section as follows:
- B. Product Data: Submit material descriptions, dimensions of individual components and profiles, and finishes for each type of ACM Panel System.
- C. ACM Panel System:
 - 1. Submit system-specific design details including, but not limited to, ACM panel, clip, extrusion, stiffener, adhesive, fastener, and sealant components.
 - 2. Submit design data including, but not limited to, material properties, section properties, and capacities for each ACM Panel System component. Design data shall be supported by a qualified Design Professional licensed in the state of primary research and development, design, and manufacturing of the ACM Panel System.
 - 3. Submit system-specific installation guide information.
 - 4. Submit Shop Drawings indicating, but not limited to, elevations and reflected ceiling plans with joint locations and panel sizes; sections with thicknesses and dimensions of components; edge conditions; interfaces with dissimilar materials; corners and transitions; flashings, trims, venting, fasteners, sealants, caulks, and adhesives; accessories; and/or colors.
- D. Samples:
 - 1. Selected Samples: Submit Manufacturer's color charts or chips illustrating full range of colors, finishes, patterns, and textures available for ACM panels with factory-applied finishes. Custom color selection requires color sample to be submitted for approval. Approval signature(s) are required by Owner & Architect.
 - 2. Verification Samples:
 - a. ACM Panel System assembly: Submit 12 inches x 12 inches, or size as required, demonstrating system assembly. Samples to be provided in thickness specified, including ACM panel, molding, clip, adhesive, fastener, and sealant components. Sample need not be provided in the specified color.
 - b. Submit two samples of each color or finish selected that measure approximately 3 inches x 4 inches, minimum.

E. Closeout Submittals:

1. Warranty: Submit Manufacturer and Installer warranty documents as specified within the Warranty section of this specification.
2. Maintenance: Submit Manufacturer's recommendations document for Cleaning and Maintenance of the ACM Panel System.

1.06 QUALITY ASSURANCE

A. Qualifications:

1. Manufacturer Qualifications: Company with a minimum of 20 years of continuous experience manufacturing ACM panels in the United States of America of the type specified:
 - a. Able to provide specified warranty on finish.
 - b. Able to provide a list of other projects of similar size including approximate date of installation for each.
2. Installer Qualifications:
 - a. The Installer shall have:
 - i. Been in business of a similar trade and under the present company name for at least five (5) years prior to the start of this project, and
 - ii. Experience with similar sized ACM Panel System projects, and
 - b. The Installer must be capable of providing field service representation during installation.

B. Regulatory Code Agencies Requirements: Provide ACM Panel System that has been evaluated and is in compliance with the following, where required:

1. International Code Council (ICC)

C. Pre-installation Meeting: Conduct pre-installation meeting to verify project requirements, substrate conditions, and system Manufacturer's installation details.

1.07 DELIVERY AND STORAGE

A. Upon receipt, perform visual inspection of ACM panels and inventory to identify any damages that may have occurred during shipping or any missing panels.

B. Storage:

1. Store ACM panels horizontally on pallets in a dry, well-ventilated environment under the protection of a temporary or permanent structure. If required to be stored in an exterior area, ACM panels must be placed under a well-ventilated, waterproof covering. Store ACM panels a minimum of 4" above ground level to avoid contact with standing moisture (e.g., water, snow, etc.).
2. Store ACM panels in an area protected from other construction activities and associated debris.
3. Storage temperatures are not to exceed 120°F. Protect ACM panels from moisture and direct sunlight while on the jobsite.
4. Do not stack more than 1500 pounds of ACM panels on one pallet. Other materials shall not be stacked on, or placed in contact with, ACM panels to prevent staining, denting, or other damages.

1.08 PROJECT CONDITIONS

A. Substrate Tolerances: The General Contractor is responsible for providing an acceptable substrate per Manufacturer's requirements including:

1. Adjacent substrate faces out-of-plane offset: +/- 1/8 inch, and
2. Level, plumb, and location control lines as indicated: 1/4 inch in any 20 feet, and
3. Any building elevation direction deviation: +/- 1/2 inch

B. Field Measurements: Verify locations of wall framing members and wall opening dimensions by field measurements prior to the shop-fabrication of the ACM Panel System. Field measurements to be taken once all substrate materials and adjacent materials are installed.

1.09 WARRANTY

A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.

B. ACM Manufacturer's Material Warranty: Submit, to the Owner, the Manufacturer's standard warranty.

1. Warranty Period:

- a. Material and Product Integrity: Five (5) years against delamination at any manufactured bond line
- b. Coil-Coated PVDF/Kynar 500 Painted Smooth Finish: Thirty (30) years against:
 - i. Chalking in excess of a numerical rating of eight (8) when measured in accordance with ASTM D4214, Method A
 - ii. Fading or change color in excess of five (5) E units (NBS) when calculated in accordance with ASTM D2244, paragraph 6.3
 - iii. Cracking, chipping, splitting, blistering, peeling, or loss of adhesion. Minute fracturing (i.e., crazing or cracking) as a result of routing and bending of the ACM panels shall be excluded.
- C. Shop-Fabrication Warranty: Fabricator shall submit to the Owner a standard warranty document executed by an authorized company official. The warranty shall be in addition to, and not a limitation of, other rights Owner may have under the Contract Documents.
 1. Warranty Period:
 - a. Workmanship: One (1) year warranty period commencing on Date of Substantial Completion.
- D. Installation Warranty: Installer shall submit to the Owner a standard warranty document executed by an authorized company official. The warranty shall be in addition to, and not a limitation of, other rights Owner may have under the Contract Documents.
 1. Warranty Period:
 - a. Workmanship: One (1) year warranty period commencing on Date of Substantial Completion.

PART 2 – PRODUCTS

2.01 ACM MANUFACTURERS AND SHOP-FABRICATED ACM PANEL SYSTEM SUPPLIERS

- A. ACM Manufacturers:
 1. Omega-Lite panels manufactured by Laminators Inc. – www.laminatorsinc.com
- B. Shop-Fabricated ACM Panel System Suppliers:
 1. Laminators Inc. – www.laminatorsinc.com

2.02 ALUMINUM COMPOSITE MATERIAL (ACM)

- A. ACM Panel Description
 1. Construction:
 - a. Two sheets of aluminum bonded to a core of extruded thermoplastic manufactured in a laminated batch (i.e. discontinuous) process using adhesive(s) between dissimilar materials. The core material shall not contain foam plastic insulation.
 2. Thickness: 0.236 inch (6 mm)
 3. Sheets:
 - a. Face Thickness: 0.020-inch nominal or thicker
 - b. Backer Thickness: 0.0125-inch nominal or thicker
 - c. Combined Minimum Thickness: 0.0365-inch nominal (Face + Backer)
 4. Product:
 - a. On Types I, II, III, and IV Construction to any height above grade in accordance with the provisions of IBC Section 1407.10.
 - b. On Type V Construction to any height above grade in accordance with the provisions of IBC Section 1407.12.
 5. Fire Performance: Class A Material
 - a. ASTM E84: ACM panels shall have a Flame Spread Index (FSI) of not more than 25 when tested in the maximum thickness intended for use.
 - b. ASTM E84: ACM panels shall have a Smoke Developed Index (SDI) of not more than 450 when tested in the maximum thickness intended for use.
 6. Bond Integrity:
 - a. ASTM D1781 Climbing Drum Peel Strength: 22.5 in-lb/in minimum as manufactured
 - b. Chemically bonded to the core material in a laminated batch process

2.03 FINISH

- A. Exterior Finish: Finish shall meet the performance criteria of AAMA 2605.
 1. Standard and Standard Metallic Finishes:

- a. Selected from a Manufacturer's standard color chart
2. Custom Finish:
 - a. Selected by the Owner & Architect and coordinated with Manufacturer
3. Standard Specialty Finish:
 - a. Selected from a Manufacturer's standard color chart
- B. Exterior Finish: Finish shall meet the performance criteria of the AA.
 1. Anodized:
 - a. Color Coating: AA-M12C23A34 Architectural Class

2.04 SYSTEM COMPONENTS

- A. General: Provide Manufacturer's standard ACM Panel System-specific components, including, but not limited to, mountings, adhesives, connections, and fasteners for specific applications indicated on contract documents.

2.05 RELATED MATERIALS

- A. General: Refer to Related Sections specified herein for other materials, including concrete, masonry, framing, sheathing, barriers, flashing and trim, sealants, windows, glazing, and/or curtain walls.

2.06 SHOP-FABRICATION

- A. General:
 1. Fabricate panels to sizes and joint configurations indicated on approved Shop Drawings based on an assumed design temperature of 70°F. Allow for ambient temperature range at time of fabrication.
 2. Fabricate panels with sharply cut edges and no displacement of face or backer sheets or protrusion of core. Form panel angles, breaks, corners, lines, and returns to be sharp, true, and free of buckle and/or warp.
- B. Fabrication Tolerances:
 1. Width: +/- 1/16- inch @ 70°F
 2. Length: +/- 1/16 inch @ 70°F
 3. Squareness: +/- 1/16 inch @ 70°F
- C. System Type:
 1. A wet seal system shall provide caulked panel joints and a means for water to drain to the exterior face in order to address any leakage at joints and/or condensation that may occur within the drainage cavity. The system shall be tested per AAMA 501.1. The sealant type shall be as specified in Section 079200; in conformance with Manufacturer's recommendations; and combined with foam type backer rod, as indicated on architectural drawings.
 2. A Pressure-Equalized Rainscreen (PER) system shall allow air to quickly pass-through panel joints while minimizing and controlling water infiltration at the air/water barrier. The system must be properly compartmentalized to prevent internal cavity air from moving between different pressure zones of the building surfaces. The system shall be tested per AAMA 508.
- D. System Components:
 1. Panel perimeter components shall be extruded or formed aluminum as indicated on system-specific design details to meet the Performance Requirements according to the Manufacturer's design. Galvanized cold-formed steel clips or staggered aluminum angles are not acceptable for panel-to-panel attachment.

PART 3 – EXECUTION

3.01 INSTALLER INSTRUCTIONS

- A. Compliance: Comply with Manufacturer's product data, including, but not limited to, installation guides, design details, product technical bulletins, supplemental technical instructions, and any other product packaging instructions.

3.02 PREPARATION

- A. Site Verification of Conditions: Verify that conditions of substrate previously installed under other sections are acceptable for the ACM Panel System installation. Documentation should be provided to the General Contractor indicating any conditions detrimental to the performance of the ACM Panel System.

- B. Field measurements of site conditions shall be verified with approved Shop Drawings prior to beginning of installation.

3.03 INSTALLATION

A. General:

1. Handling:
 - a. Protective masking should be left on the field of each ACM panel during installation to minimize potential damages from construction activities. Note that all masking must be removed within 2 weeks of installation.
 - b. Handle ACM panels with clean work gloves to avoid hand injury from any sharp edges and to prevent staining of surfaces with contaminants.
 - c. Glazing suction cups are recommended to handle ACM panels whenever possible.
 2. Install the ACM Panel System plumb, level, and true in accordance with Manufacturer's Installation Requirements and approved Shop Drawings.
 3. Comply with Manufacturer's instructions for installation of concealed fasteners; provisions of Section 07 92 00; and recommendations for installation of joint sealants.
 4. Panel stiffeners shall be extruded or formed aluminum or cold-formed steel as indicated on system-specific design details to meet the Performance Requirements according to the Manufacturer's design. Unless required during shop-fabrication, stiffeners shall be mechanically fastened to the substrate and secured to the rear face of ACM panels with adhesive of sufficient size and strength.
 5. Installation Tolerances:
 - a. Adjacent vertical or horizontal panel out-of-plane offset: +/- 1/16 inch
 - b. Vertical or horizontal joint width: +/- 1/16 inch
 - c. Adjacent vertical or horizontal panel edge alignment: +/- 1/16 inch
 - d. Adjacent vertical or horizontal joint deviation: +/- 1/16 inch
 - e. Maximum vertical or horizontal joint deviation: 1/4 inch in any 20 feet
 6. Do not cut, trim, weld, or braze ACM Panel System-specific components during installation in a manner which would damage the finish, decrease strength, or result in visual imperfection or a failure in performance.
 7. Separate contact of dissimilar metals with approved methods as defined by the [Manufacturer] [Fabricator] in order to eliminate the possibility of corrosive or electrolytic action between metals.
- B. Related Products Installation Requirements: Refer to other sections in Related Sections for installation of related products.

3.05 REMEDIATION AND CLEANING

A. Remediation:

1. Remove and replace ACM Panel System-specific components damaged as a direct result of activities in the Panel Installation section.
2. Remove protective masking immediately after installation of ACM Panel System. Masking intentionally left in place after Panel Installation on an elevation at the direction of the General Contractor shall become the responsibility of the General Contractor.
3. Panel Installation completion shall be agreed-upon between the Installer and the General Contractor.
4. Following Panel Installation completion, any determination of repair or replacement of ACM Panel System-specific components is at the discretion of the Architect. Such repair or replacement shall become the responsibility of the General Contractor.
 - a. At the discretion of the Architect, repair damaged ACM Panel System-specific components such that repairs are not discernible at a distance of 10 feet from the surface at a 90° angle per AAMA 2605.
5. Removal and replacement of ACM Panel System-specific components damaged by other trades shall be the responsibility of the General Contractor.
6. If required after Panel Installation, any additional protection of the ACM Panel System shall be the responsibility of the General Contractor.
7. Remove from project site damaged ACM Panel System-specific components, protective masking, and other debris attributable to work of this section.

B. Cleaning:

1. Final Cleaning shall not be part of the work of this section.

END OF SECTION 07 42 43

SECTION 10 21 14 PLASTIC TOILET COMPARTMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Plastic toilet compartment partitions for following applications:
 - a. Toilet enclosures.
- B. Related Requirements:
 - 1. Division 06 Section "Rough Carpentry" for compartment anchorage to frame walls.
- C. International Code Council (ICC)/American National Standards Institute (ANSI):
 - 1. ICC/ANSI A117.1 - Accessible and Usable Buildings and Facilities, as applicable to toilet compartments designated as accessible.
- D. United States Department of Justice:
 - 1. ADA - Americans with Disabilities Act, Excerpt from 28 CFR Part 36 - ADA Standards for Accessible Design.

1.2 ACTION SUBMITTALS

- A. Product Data: Manufacturer's data sheets for each type of product indicated. Include fabrication details, description of materials and finishes.
 - 1. Product Test Reports: When requested by Architect, submit documentation by qualified independent testing agency indicating compliance of products with requirements.
- B. Shop Drawings: Include overall product dimensions, floor plan, elevations, sections, details, and attachments to other work. Include choice of options with details.
- C. Samples for Selection: Furnish samples of manufacturer's full range of colors for initial selection.
- D. Samples for Verification: Furnish physical sample of material in selected color.
 - 1. Size: 2 by 2 inch (52 by 52 mm) minimum, in type of finish specified.

1.3 INFORMATIONAL SUBMITTALS

- A. Warranty: Sample of special warranty.

1.4 CLOSEOUT SUBMITTALS

- A. Maintenance and cleaning instructions.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Approved manufacturer listed in this section, with minimum [5] years experience in the manufacture of toilet compartments.
- B. Installers Qualifications: Experienced Installer regularly engaged in installation of toilet compartments for minimum 3 years.
- C. Source Limitations: Obtain toilet compartment components and accessories from single manufacturer.
- D. Accessibility Requirements: Comply with requirements of ICC/ANSI 117.1, and with requirements of authorities having jurisdiction.
- E. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E 84 by qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Flame-Spread Index: Not greater than 75.
 - 2. Smoke-Developed Index: 450.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Do not deliver toilet compartments to site until building is enclosed and HVAC systems are in operation.
 - 1. Deliver toilet compartments in manufacturer's original packaging.
 - 2. Store in an upright condition.

1.7 WARRANTY

- A. Special Manufacturer's Warranty: Provide manufacturer's standard form in which manufacturer agrees to repair or replace products that fail in materials or workmanship during the following period after substantial completion:

1. Plastic Toilet Partitions: Against corrosion, breakage, and delamination: 15 years.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Manufacturer: Subject to compliance with requirements, provide products of **Bradley Corporation, The Mills Company, Menomonee Falls, WI 53051.**

1. Contact Information: (800)272-3539, fax (262)251-5817; Email info@BradleyCorp.com; Website www.bradleycorp.com.

2.2 MATERIALS

- A. Plastic Panels: High density polyethylene (HDPE) suitable for exposed applications, waterproof, non-absorbent, and graffiti-resistant textured surface, Class C.
- B. Zinc Aluminum Magnesium and Copper Alloy (Zamac): ASTM B 86.
- C. Stainless Steel Sheet: ASTM A 240 or A 666, 300 series.
- D. Stainless Steel Castings: ASTM A 743/A 743M.
- E. Aluminum: ASTM B 221.

2.3 PLASTIC TOILET COMPARTMENTS

- A. Toilet Compartment Type:
 1. Floor anchored.
 - a. Basis of Design Product: **Bradley, Mills Partitions, Floor, Series 700.**
- B. Door, Panel, and Pilaster Construction, General: HDPE, with a 3/16" (4.8mm) radiused edge.
 1. Provide exposed surfaces free of pitting, visible seams and fabrication marks, stains, or other imperfections.
 2. Provide aluminum heat sink at bottom edge of panels and doors.
 3. Provide no-sightline system.
- C. Door Construction: 1 inch (25 mm) thick.
- D. Panel Construction: 1 inch (25 mm) thick.
- E. Pilaster Construction: 1 inch (25 mm) thick.
- F. Headrail: Extruded anodized aluminum headrail with anti-grip profile. Clamps around pilaster and is secured to the wall with stainless steel brackets.
- G. Shoes: 4 inches (76 mm) high minimum, 300 series stainless steel with No. 4 satin brushed finish.
- H. Brackets (Fittings):
 1. Stirrup Type: Ear or U-brackets; aluminum.
- I. Plastic Panel Finish: Manufacturer's standard impregnated finish, with one color in each room.
 1. Color: As selected by Architect from manufacturer's full range.

2.4 HARDWARE

- A. Hardware, Standard Duty: Manufacturer's standard 6463-T-5 aluminum, including stainless steel tamper-resistant fasteners:
 1. Hinges: Self-closing integral, nylon, gravity-type adjustable to hold doors open at any angle up to 90 degrees, with emergency access by lifting door.
 2. Latch and Keeper: Surface-mounted slide latch with flat rubber-faced combination door strike and keeper, meeting requirements for accessibility at accessible compartments.
 3. Coat Hook: Combination hook and rubber-tipped stop, sized to prevent door from hitting compartment-mounted accessories. Provide wall bumper where door abuts wall. Provide formed L-shaped hook without stop at outswing doors.
 4. Door Pull: Standard unit on outside of inswing doors. Provide pulls on both sides of outswing doors.
 5. outswing doors.

2.5 FABRICATION

- A. Floor Anchored Units: Provide manufacturer's standard corrosion-resistant anchoring assemblies with leveling adjustment at tops and bottoms of pilasters. Provide shoes and sleeves (caps) at pilasters to conceal anchorage.

- B. Door Size and Swings: Unless otherwise indicated, provide 24-inch- wide, in-swinging doors for standard toilet compartments and 36-inch- wide, out-swinging doors with a minimum 32-inch- wide clear opening for compartments designated as accessible.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine work area to verify that measurements, substrates, supports, and environmental conditions are in accordance with manufacturer's requirements to allow installation.
 - 1. Proceed with installation once conditions meet manufacturer's requirements.

3.2 INSTALLATION

- A. General: Comply with manufacturer's written installation instructions. Install units rigid, straight, level, and plumb. Secure units in position with manufacturer's recommended anchoring devices.
- B. Install toilet partitions in spaces with operating, temperature controlled HVAC systems. Shield partitions and screens from direct sunlight.
- C. Clearances: Install with clearances indicated on Drawings. Where clearances are not indicated, allow maximum 1/2 inch between pilasters and panels, and 1 inch between panels and walls.
- D. Stirrup Brackets: Secure panels to walls and to pilasters with no fewer than three brackets attached at midpoint and near top and bottom of panel. Locate wall brackets so holes for wall anchors occur in masonry or tile joints. Align brackets at pilasters with brackets at walls.

3.3 ADJUSTING

- A. Hardware Adjustment: Adjust and lubricate hardware according to hardware manufacturer's written instructions for proper operation. Set hinges on in-swinging doors to hold doors open approximately 15 degrees from closed position when unlatched. Set hinges on out-swinging doors to return doors to fully closed position.

3.4 FINAL CLEANING

- A. Remove packaging and construction debris and legally dispose of off-site.
- B. Clean partition and screen surfaces with materials and cleansers in accordance with manufacturer's recommendations.

END OF SECTION

Date: March 20, 2026**Project:** Aberdeen Public Works Facility**To:** HKG Architects**Project #:** BS23045**From:** Nick Carr, Nate Reynhout**Project Location:** Aberdeen, SD**Addendum Number:** 3

To: All prime contract bidders and all others to whom Drawings and Specifications have been issued by the Engineer. Acknowledge receipt of the Addendum by inserting its number and date on the Bid Form. Failure to do so may subject bidder to disqualification. This Addendum forms a part of the Contract Documents. It modifies them as follows:

Product Approvals

The manufacturers and products, which are listed in the following texts, are approved for bidding. Final acceptance is contingent upon receipt and approval of final shop drawings. Manufacturer shall conform to all warranties, performances, size, etc., as the item specified. The burden of proof of the merit of the proposed substitution is upon the proposer. Those items not specifically listed by addendum shall not be approved for bidding.

<u>Section</u>	<u>Description</u>	<u>Manufacturer</u>
22 3000	Pressure Booster System	Grundfos
23 0910	VFDs	Square D, ABB
23 0913	CO/NO2 Detection Sensors	Macurco
23 0923	DDC System for HVAC	Distech
23 2113	In-Floor Heat Piping	Comfort Products
23 2114	Expansion Tanks	Grundfos
23 2114	Air Separators	Grundfos
23 2114	Suction Diffusers	Grundfos
23 2114	Triple Duty Valves	Grundfos
23 2114	Auto Flow Control Valves	HCI
23 2114	Pump Flexible Connectors	Twin City Hose
23 2114	Expansion Tank	Patterson & Flamco
23 2114	Magnetic Filter	Flamco
23 2114	Air Vents	Thrush Co.
23 2114	Air Separator	Patterson & Flamco
23 2114	Triple Duty Valve	Patterson
23 2114	Expansion Tank	Armstrong
23 2123	Hydronic Pumps	Flo Fab
23 2123	Hydronic Pumps	Grundfos
23 2123	Hydronic Pumps	Patterson
23 2500	Pot Feeder	Neptune
23 2500	Pot Feeder	Flamco
23 3300	Air Duct Accessories	United Enertech
23 3413	Axial Fans	Rupp
23 3423	HVAC Power Ventilators	Rupp
23 3516	Engine Exhaust Systems	Plymovent

23 3600	Air Terminal Units	Metalaire/Greenheck
23 3600	Air Terminal Units	Titus
23 5216	Condensing Boilers	Fulton
23 6313	Air-Cooled Ref. Condensers	LG
23 6313	Air-Cooled Ref. Condenser	Addison
23 7313	Air Handling Units	VTs
23 7313	Make-Up Air Units	VTs
23 8200	Hydronic Unit Heaters	Beacon Morris
23 8200	Cabinet Unit Heaters	Beacon Morris
23 8200	Fan Coil Units	IEC
23 8200	Fan Coil Units	Commercial Aire Products
23 8300	Radiant Panels	TWA
23 8415	Steam Humidifiers	CAREL

Clarifications

- *Question: Does the fire pump require a soft start starter.*
 - Answer: The starting type of the fire pump controller shall be of the combined manual and automatic type designed for Solid State Soft Start Starting.

Specifications

260519 – Low-Voltage Electrical Power Conductors and Cables

1. See attached spec section for the following revisions:
 - a. Added the following exception under part 2.2(H)(1)(a) regarding the substitution of aluminum conductors:
 - i. Exception: Conductors from the generator to each transfer switch, and the generator to the load bank, shall be copper. No substitutions.

Drawings

Sheet M200B – First Floor Plumbing Plan – Area B

1. See attached sheet for the following revisions:
 - a. Note added relating to Pump 203 space.

Sheet M200D – First Floor Plumbing Plan – Area D

1. See attached sheet for the following revisions:
 - a. Note added relating to Service 210 and Welding 212 spaces.

Sheet M400A – First Floor HVAC Piping Plan – Area A

1. See attached sheet for the following revisions:
 - a. Piping sizes updated.
 - b. Keynotes added to drawing for clarification.

Sheet M400B – First Floor HVAC Piping Plan – Area B

1. See attached sheet for the following revisions:
 - a. Piping sizes updated.

- b. Keynotes added to drawing for clarification.

Sheet M400C – First Floor HVAC Piping Plan – Area C

- 1. See attached sheet for the following revisions:
 - a. HWS/R piping modified and sizes and notes added.

Sheet M400D – First Floor HVAC Piping Plan – Area D

- 1. See attached sheet for the following revisions:
 - a. HWS/R piping modified and sizes and notes added.

Sheet M401 – Mezzanine HVAC Piping Plan

- 1. See attached sheet for the following revisions:
 - a. HWS/R piping modified and sizes and notes added.

Sheet M402 – First Floor In-Floor Heat Plan

- 1. See attached sheet for the following revisions:
 - a. In-floor heat zones added.
 - b. Keynotes added for clarification.

Sheet M500 – Underfloor Plumbing Plan – Area F – Alternate #1

- 1. See attached sheet for the following revisions:
 - a. Note added to help clarify alternates.

Sheet M501 – Underfloor Plumbing Plan – Area E – Alternate #2

- 1. See attached sheet for the following revisions:
 - a. Note added to help clarify alternates.

Sheet M502 – First Floor Plumbing Plan – Area F – Alternate #1

- 1. See attached sheet for the following revisions:
 - a. Note added to help clarify alternates.

Sheet M503 – First Floor Plumbing Plan – Area E – Alternate #2

- 1. See attached sheet for the following revisions:
 - a. Note added to help clarify alternates.

Sheet M506 – First Floor HVAC Piping Plan – Alternate #1

- 1. See attached sheet for the following revisions:
 - a. Note added to help clarify alternates.
 - b. HWS/R piping modified and pipe sizes and keynotes added for clarification.

Sheet M507 – First Floor HVAC Piping Plan – Alternate #2

- 1. See attached sheet for the following revisions:
 - a. Note added to help clarify alternates.
 - b. HWS/R piping modified and pipe sizes and keynotes added for clarification.

Sheet M508 – First Floor In-Floor Heat Plan – Alternate #1

- 1. See attached sheet for the following revisions:
 - a. In-floor heat zones added.

- b. Keynotes added for clarification.

Sheet M509 – First Floor In-Floor Heat Plan – Alternate #2

- 1. See attached sheet for the following revisions:
 - a. In-floor heat zones added.
 - b. Keynotes added for clarification.

Sheet M603 – Mechanical Details

- 1. See attached sheet for the following revisions:
 - a. Sizes updated in Boiler Intake/Venting Detail

Sheet M604 – Mechanical Details

- 1. See attached sheet for the following revisions:
 - a. Radiant Panel Diagram detail added to sheet.
 - b. Diffuser Mounting Detail added to sheet.
 - c. AHU Drain Trap Detail added to sheet.

Sheet M605 – Mechanical Details

- 1. See attached sheet for the following revisions:
 - a. Heating coil piping schematics added to sheet.
 - b. Bypass flow rate updated in Heating Water System Schematic Detail.

Sheet M606 – Mechanical Control Details

- 1. See attached sheet for the following revisions:
 - a. Make-up air units control details updated.

Sheet M607 – Mechanical Control Details

- 1. See attached sheet for the following revisions:
 - a. In-floor Heat System Controls Detail updated.
 - b. BTUH meter removed from Heating Water System Controls Detail.

Sheet M608 – Mechanical Control Details

- 1. See attached sheet for the following revisions:
 - a. All controls details updated.

Sheet M609 – Mechanical Schedules

- 1. See attached sheet for the following revisions:
 - a. Fan Coil Unit Schedule comments updated.
 - b. Fan schedule finished.
 - c. Roof Intake and Relief Ventilator Schedule finished.

Sheet M610 – Mechanical Schedules

- 1. See attached sheet for the following revisions:
 - a. Make-up Air Schedule comments updated.
 - b. Coil pumps serving make-up air units added to Pump Schedule.

Sheet M611 – Mechanical Schedules

- 1. See attached sheet for the following revisions:

- a. In-Floor Heating Schedule comments updated.
- b. Oil Tank Schedule added.

Sheet M800D – First Floor – Area D & Mezzanine Area B Fire Protection Plan

- 1. See attached sheet for the following revisions:
 - a. Fire sprinkler piping updated in Washbay 217 and Spray Room 213 area.

Sheet E100A – First Floor Power Plan – Area A

- 1. See attached sheet for the following revisions:
 - a. Moved circuits for treadmills in TRAINING 112 to panel L5.
 - b. Added keynote for pressure washer disconnect in TRAFFIC SHOP 201.

Sheet E100B – First Floor Power Plan – Area B

- 1. See attached sheet for the following revisions:
 - a. Revised circuiting for EF-9.

Sheet E100C – First Floor Power Plan – Area C

- 1. See attached sheet for the following revisions:
 - a. Added HVLS fans with disconnects and control panel, each with associated circuits.

Sheet E100D – First Floor Power Plan – Area D

- 1. See attached sheet for the following revisions:
 - a. Added EF-12, EF-13, EF-14, EF-15, and EF-16 with associated circuits.

Sheet E101 – Mezzanine and Roof Power Plans

- 1. See attached sheet for the following revisions:
 - a. Mezzanine Area A: Revised VFD locations.
 - b. Mezzanine Area B: Added HCP-1, HCP-2, HCP-3 with associated VFDs and circuits. Also added VEF-1 with associated circuit.

Sheet E300C – First Floor Lighting Plan – Area C

- 1. See attached sheet for the following revisions:
 - a. Revised lighting to accommodate clearance from HVLS fans.

Sheet E300D – First Floor Lighting Plan – Area D

- 1. See attached sheet for the following revisions:
 - a. Revised the lighting fixture types in OIL 211 and WASH BAY 217.

Sheet E401 – First Floor Power Plans – Alternates #1 & #2

- 1. See attached sheet for the following revisions:
 - a. Alternate #1: Added EF-21 with associated circuit.
 - b. Alternate #2: Added HVLS fans with disconnects, each with associated circuits.

Sheet E403 – First Floor Lighting Plans – Alternates #1 & #2

- 1. See attached sheet for the following revisions:
 - a. Revised lighting to accommodate clearance from HVLS fans.

Sheet E500 – Electrical Details

1. See attached sheet for the following revisions:
 - a. One-Line Diagram: Increased feeder size for panel H2 from 200A to 250A.

Sheet E501 – Electrical Schedules

1. See attached sheet for the following revisions:
 - a. Updated various circuits in panel schedules for MSWB, H1, H2, and H3.

Sheet E502 – Electrical Schedules

1. See attached sheet for the following revisions:
 - a. Updated various circuits in panel schedules for L1A and L2.

Sheet E503 – Electrical Schedules

1. See attached sheet for the following revisions:
 - a. Updated various circuits in panel schedules for L3, L4A, and L5.

Sheet E505 – Electrical Schedules

1. See attached sheet for the following revisions:
 - a. Starter Disconnect Schedule: added various mechanical equipment.
 - b. Lighting Fixture Schedule: replaced Types F and FE with Types J2 and J2E, respectively. Also added Types J3 and J3E.

END OF DOCUMENT – NC / NR

SECTION 260519 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Single conductor building wire.
- B. Metal-clad cable.
- C. Variable-frequency drive cable.
- D. Wiring connectors.
- E. Electrical tape.
- F. Oxide inhibiting compound.
- G. Wire pulling lubricant.
- H. Firestop sleeves.

1.2 RELATED REQUIREMENTS

- A. Section 260526 - Grounding and Bonding for Electrical Systems: Additional requirements for grounding conductors and grounding connectors.
- B. Section 260553 - Identification for Electrical Systems: Identification products and requirements.

1.3 REFERENCE STANDARDS

- A. ASTM B3 - Standard Specification for Soft or Annealed Copper Wire; 2013 (Reapproved 2024).
- B. ASTM B8 - Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft; 2023.
- C. ASTM B787/B787M - Standard Specification for 19 Wire Combination Unilay-Stranded Copper Conductors for Subsequent Insulation; 2004 (Reapproved 2020).
- D. ASTM B800 - Standard Specification for 8000 Series Aluminum Alloy Wire for Electrical Purposes - Annealed and Intermediate Tempers; 2005 (Reapproved 2021).
- E. ASTM B801 - Standard Specification for Concentric-Lay-Stranded Conductors of 8000 Series Aluminum Alloy for Subsequent Covering or Insulation; 2018 (Reapproved 2023).
- F. ASTM D3005 - Standard Specification for Low-Temperature Resistant Vinyl Chloride Plastic Pressure-Sensitive Electrical Insulating Tape; 2024.
- G. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2023.
- H. NECA 104 - Standard for Installing Aluminum Building Wire and Cable; 2012.
- I. NECA 120 - Standard for Installing Armored Cable (AC) and Type Metal-Clad (MC) Cable; 2018.

- J. NEMA WC 70 - Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy; 2021.
- K. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- L. NFPA 79 - Electrical Standard for Industrial Machinery; 2021.
- M. UL 83 - Thermoplastic-Insulated Wires and Cables; Current Edition, Including All Revisions.
- N. UL 267 - Outline of Investigation for Wire-Pulling Compounds; Current Edition, Including All Revisions.
- O. UL 486A-486B - Wire Connectors; Current Edition, Including All Revisions.
- P. UL 486C - Splicing Wire Connectors; Current Edition, Including All Revisions.
- Q. UL 486D - Sealed Wire Connector Systems; Current Edition, Including All Revisions.
- R. UL 510 - Polyvinyl Chloride, Polyethylene, and Rubber Insulating Tape; Current Edition, Including All Revisions.
- S. UL 1569 - Metal-Clad Cables; Current Edition, Including All Revisions.
- T. UL 2277 - Outline of Investigation for Flexible Motor Supply Cable and Wind Turbine Tray Cable; Current Edition, Including All Revisions.

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate sizes of raceways, boxes, and equipment enclosures installed under other sections with the actual conductors to be installed, including adjustments for conductor sizes increased for voltage drop.
 - 2. Coordinate with electrical equipment installed under other sections to provide terminations suitable for use with the conductors to be installed.
 - 3. Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

1.5 SUBMITTALS

- A. There are no shop drawing submittals required for this section.

1.6 QUALITY ASSURANCE

- A. Comply with requirements of NFPA 70.
- B. Products: Furnish products listed and classified by Underwriters Laboratories inc. or other third party recognized testing agencies as suitable for the purpose specified and indicated.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store conductors and cables in accordance with manufacturer's instructions.

1.8 FIELD CONDITIONS

- A. Do not install or otherwise handle thermoplastic-insulated conductors at temperatures lower than 14 degrees F, unless otherwise permitted by manufacturer's instructions. When installation below this temperature is unavoidable, notify Architect and obtain direction before proceeding with work.

PART 2 PRODUCTS

2.1 CONDUCTOR AND CABLE APPLICATIONS

- A. Do not use conductors and cables for applications other than as permitted by NFPA 70 and product listing.
- B. Provide single conductor building wire installed in suitable raceway unless otherwise indicated, permitted, or required.
- C. Nonmetallic-sheathed cable is not permitted.
- D. Underground feeder and branch-circuit cable is not permitted.
- E. Service entrance cable is not permitted.
- F. Armored cable is not permitted.
- G. Metal-clad cable is permitted only as follows:
 - 1. Where not otherwise restricted, may be used:
 - a. Where concealed above accessible ceilings for final connections from junction boxes to luminaires.
 - 1) Maximum Length: 6 feet.
 - b. Where concealed in hollow stud walls, above accessible ceilings, and under raised floors for branch circuits up to 20 A.
 - 1) Exception: Provide single conductor building wire in raceway for circuit homerun from first outlet to panelboard.
- H. VFD cable - provide for all motors with VFD's.

2.2 CONDUCTOR AND CABLE GENERAL REQUIREMENTS

- A. Provide products that comply with requirements of NFPA 70.
- B. Provide products listed, classified, and labeled as suitable for the purpose intended.
- C. When drawings specifically state reuse of existing cabling is acceptable it shall be tested and warranted as new. If cabling is removed reuse is not permitted.
- D. Unless specifically indicated to be excluded, provide all required conduit, boxes, wiring, connectors, etc. as required for a complete operating system.
- E. Comply with NEMA WC 70.

- F. Thermoplastic-Insulated Conductors and Cables: Listed and labeled as complying with UL 83.
- G. Conductors for Grounding and Bonding: Also comply with Section 260526.
- H. Conductor Material:
 - 1. Provide copper conductors except where aluminum conductors are specifically indicated or permitted for substitution. Conductor sizes indicated are based on copper unless specifically indicated as aluminum. Conductors designated with the abbreviation "AL" indicate aluminum.
 - a. Substitution of aluminum conductors for copper is permitted only for the following:
 - 1) Services: Copper conductors size 1/0 AWG and larger.
 - 2) Feeders: Copper conductors size 1/0 AWG and larger.
 - 3) Where aluminum conductors are substituted for copper, comply with the following:
 - (a) Size aluminum conductors to provide, when compared to copper sizes indicated, equivalent or greater ampacity and equivalent or less voltage drop.
 - (b) Increase size of raceways, boxes, wiring gutters, enclosures, etc. as required to accommodate aluminum conductors.
 - (c) Provide aluminum equipment grounding conductor sized according to NFPA 70.
 - (d) Equip electrical distribution equipment with compression lugs for terminating aluminum conductors.
 - 4) Exception: Conductors from the generator to each transfer switch, and the generator to the load bank, shall be copper. No substitutions.
 - 2. Copper Conductors: Soft drawn annealed, 98 percent conductivity, uncoated copper conductors complying with ASTM B3, ASTM B8, or ASTM B787/B787M unless otherwise indicated.
 - 3. Aluminum Conductors (only where specifically indicated or permitted for substitution): AA-8000 series aluminum alloy conductors recognized by ASTM B800 and compact stranded in accordance with ASTM B801 unless otherwise indicated.
- I. Minimum Conductor Size:
 - 1. Branch Circuits: 12 AWG.
 - a. Exceptions:
 - 1) 20 A, 120 V circuits longer than 75 feet: 10 AWG, for voltage drop.
 - 2) 20 A, 120 V circuits longer than 150 feet: 8 AWG, for voltage drop.
 - 3) 20 A, 277 V circuits longer than 150 feet: 10 AWG, for voltage drop.
 - 4) Feeders conductors shall be sized for a maximum voltage drop of 3% at design load.

- 5) Branch circuit conductors shall be sized for a maximum voltage drop of 5% at design load.
 - 6) This contractor shall derated conductor ampacity in areas of high ambient temperature per the NEC.
 - 7) Provide a separate neutral for each phase wire - NO SHARED NEUTRALS. This applies to single phase circuits only.
 - 8) Provide additional derating per NEC tables 310-16 through 310-31 note 8 for all home runs with more than 3 current carrying conductors in a raceway.
2. Control Circuits: 14 AWG.
- J. Where conductor size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.
- K. Minimum size wiring for power applications shall be #12 unless the distance is greater than 100 feet, than it shall be #10 stranded, or larger to compensate of voltage drop.
- L. 120/208-volt normal, 120/208-volt emergency, 120/240-volt normal, 277/480-volt normal, 277/480-volt emergency, communications, and Fire Alarm wiring shall not occupy the same raceway, junction box or pull box.
- M. All cable for major feeders shall be continuous from origin to termination.
1. Splices in branch circuit wires shall be made only in accessible junction boxes.
 2. Keep conductor splices to a minimum.
- N. Conductor Color Coding:
1. Color code conductors as indicated unless otherwise required by the authority having jurisdiction. Maintain consistent color coding throughout project.
 2. Color Coding Method: Integrally colored insulation.
 3. Color Code:
 - a. 480Y/277 V, 3 Phase, 4 Wire System:
 - 1) Phase A: Brown.
 - 2) Phase B: Orange.
 - 3) Phase C: Yellow.
 - 4) Neutral/Grounded: Gray.
 - b. 208Y/120 V, 3 Phase, 4 Wire System:
 - 1) Phase A: Black.
 - 2) Phase B: Red.

- 3) Phase C: Blue.
- 4) Neutral/Grounded: White.
- c. 240/120 V High-Leg Delta, 3 Phase, 4 Wire System:
 - 1) Phase A: Black.
 - 2) Phase B (High-Leg): Orange.
 - 3) Phase C: Blue.
 - 4) Neutral/Grounded: White.
- d. Equipment Ground, All Systems: Green.
- e. Travelers for 3-Way and 4-Way Switching: Pink.
- f. For control circuits, comply with manufacturer's recommended color code.

2.3 SINGLE CONDUCTOR BUILDING WIRE

A. Manufacturers:

1. Copper Building Wire:

- a. Cerro Wire LLC: www.cerrowire.com.
- b. Encore Wire Corporation: www.encorewire.com.
- c. General Cable Technologies Corporation: www.generalcable.com.
- d. Service Wire Co: www.servicewire.com.
- e. Southwire Company: www.southwire.com.
- f. Or equal.

B. Description: Single conductor insulated wire.

C. Conductor Stranding:

1. Feeders and Branch Circuits:

- a. Size 10 AWG and Smaller: Solid.
- b. Size 8 AWG and Larger: Stranded.

2. Control Circuits: Stranded.

D. Insulation Voltage Rating: 600 V.

E. Insulation:

- 1. Copper Building Wire: Type THHN/THWN or THHN/THWN-2.

2.4 METAL-CLAD CABLE

A. Manufacturers:

1. AFC Cable Systems Inc: www.afcweb.com/#sle.
2. Encore Wire Corporation: www.encorewire.com/#sle.
3. Service Wire Co: www.servicewire.com/#sle.
4. Southwire Company: www.southwire.com/#sle.
5. Or equal.

B. Description: NFPA 70, Type MC cable listed and labeled as complying with UL 1569, and listed for use in classified firestop systems to be used.

C. Conductor Stranding:

1. Size 10 AWG and Smaller: Solid.
2. Size 8 AWG and Larger: Stranded.

D. Insulation Voltage Rating: 600 V.

E. Insulation: Type THHN/THWN or THHN/THWN-2.

F. Grounding: Full-size integral equipment grounding conductor.

G. Armor: Steel, interlocked tape.

2.5 VARIABLE-FREQUENCY DRIVE CABLE

A. Manufacturers:

1. General Cable: www.prysmian.com
2. Southwire: www.southwire.com
3. Or equal.

B. Description: Flexible motor supply cable listed and labeled as complying with UL 2277 in accordance with NFPA 79; specifically designed for use with variable frequency drives and associated nonlinear power distortions.

C. Conductor Stranding: Stranded.

D. Insulation Voltage Rating: 1000 V.

E. Insulation: Use only thermoset insulation types; thermoplastic insulation types are not permitted.

F. Grounding: Full-size integral equipment grounding conductor or symmetrical arrangement of multiple conductors of equivalent size.

G. Provide metallic shielding.

- H. Jacket: PVC or Chlorinated Polyethylene (CPE).

2.6 WIRING CONNECTORS

- A. Description: Wiring connectors appropriate for the application, suitable for use with the conductors to be connected, and listed as complying with UL 486A-486B or UL 486C as applicable.
- B. Wiring Connectors for Splices and Taps:
 - 1. Copper Conductors Size 8 AWG and Smaller: Use twist-on insulated spring connectors.
 - 2. Copper Conductors Size 6 AWG and Larger: Use mechanical connectors or compression connectors.
 - 3. Connectors for Aluminum Conductors: Use compression connectors.
- C. Wiring Connectors for Terminations:
 - 1. Provide terminal lugs for connecting conductors to equipment furnished with terminations designed for terminal lugs.
 - 2. Provide compression adapters for connecting conductors to equipment furnished with mechanical lugs when only compression connectors are specified.
 - 3. Where over-sized conductors are larger than the equipment terminations can accommodate, provide connectors suitable for reducing to appropriate size, but not less than required for the rating of the overcurrent protective device.
 - 4. Provide motor pigtail connectors for connecting motor leads in order to facilitate disconnection.
 - 5. Copper Conductors Size 8 AWG and Larger: Use mechanical connectors or compression connectors where connectors are required.
 - 6. Aluminum Conductors: Use compression connectors for all connections.
 - 7. Stranded Conductors Size 10 AWG and Smaller: Use crimped terminals for connections to terminal screws.
 - 8. Conductors for Control Circuits: Use crimped terminals for all connections.
- D. Do not use insulation-piercing or insulation-displacement connectors designed for use with conductors without stripping insulation.
- E. Do not use push-in wire connectors as a substitute for twist-on insulated spring connectors.
- F. Twist-on Insulated Spring Connectors: Rated 600 V, 221 degrees F for standard applications and 302 degrees F for high temperature applications; pre-filled with sealant and listed as complying with UL 486D for damp and wet locations.
- G. Mechanical Connectors: Provide bolted type or set-screw type.
- H. Compression Connectors: Provide circumferential type or hex type crimp configuration.

- I. Crimped Terminals: Nylon-insulated, with insulation grip and terminal configuration suitable for connection to be made.
 1. For the connection to any of the following: utility transformer, exterior transformer, transition cabinet, or padmount transformer, provide long barrel, 2 hole NEMA spaced, tin plated copper compression connectors with hot dipped galvanized or stainless steel hardware consisting of 1/2 inch bolts, washers, lock washers, and nuts.
 2. Engineer to witness installation - schedule accordingly. With engineer approval photographs may be provided in lieu of engineer oversight. Coordinate required photos with engineer.

2.7 WIRING ACCESSORIES

A. Electrical Tape:

1. Vinyl Color Coding Electrical Tape: Integrally colored to match color code indicated; listed as complying with UL 510; minimum thickness of 7 mil; resistant to abrasion, corrosion, and sunlight; suitable for continuous temperature environment up to 221 degrees F.
2. Vinyl Insulating Electrical Tape: Complying with ASTM D3005 and listed as complying with UL 510; minimum thickness of 7 mil; resistant to abrasion, corrosion, and sunlight; conformable for application down to 0 degrees F and suitable for continuous temperature environment up to 221 degrees F.

B. Oxide Inhibiting Compound: Listed; suitable for use with the conductors or cables to be installed.

1. Provide for ALL aluminum conductor terminations, splices, etc.

C. Wire Pulling Lubricant:

1. Manufacturers:
 - a. 3M: www.3m.com/#sle.
 - b. American Polywater Corporation: www.polywater.com/#sle.
 - c. Ideal Industries, Inc: www.idealindustries.com/#sle.
 - d. Or equal.
2. Listed and labeled as complying with UL 267.
3. Suitable for use with conductors/cables and associated insulation/jackets to be installed.
4. Suitable for use at installation temperature.
5. Products:
 - a. American Polywater Corporation; Polywater J Cable Pulling Lubricant: www.polywater.com.
 - b. American Polywater Corporation; Polywater LZ Cable Pulling Lubricant: www.polywater.com.

D. Solderless Pressure Connectors:

1. Scotch lok brand not acceptable.
 2. WAGO PUSHWIRE connectors or similar are not acceptable.
 3. WAGO Lever-Nuts or similar are not acceptable.
- E. Where a circuit passes through an outlet box and is tapped, all leads should be pigtailed out to the wiring device, including the equipment ground wire. This prevents loss of neutral or ground during maintenance work.
- F. Sealing Systems for Roof Penetrations: Premanufactured components and accessories as required to preserve integrity of roofing system and maintain roof warranty; suitable for cables and roofing system to be installed; designed to accommodate existing penetrations where applicable.
- G. Firestop Sleeves: Listed; provide as required to preserve fire resistance rating of building elements.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that interior of building has been protected from weather.
- B. Verify that work likely to damage wire and cable has been completed.
- C. Verify that raceways, boxes, and equipment enclosures are installed and are properly sized to accommodate conductors and cables in accordance with NFPA 70.
- D. Verify that field measurements are as indicated.
- E. Verify that conditions are satisfactory for installation prior to starting work.
- F. If existing conductors are indicated to be re-used, the cable shall be tested and warranted as new.

3.2 PREPARATION

- A. Clean raceways thoroughly to remove foreign materials before installing conductors and cables.

3.3 INSTALLATION

- A. Circuiting Requirements:
 1. Unless dimensioned, circuit routing indicated is diagrammatic.
 2. When circuit destination is indicated without specific routing, determine exact routing required.
 3. Arrange circuiting to minimize splices.
 4. Include circuit lengths required to install connected devices within 10 ft of location indicated.
 5. Maintain separation of Class 1, Class 2, and Class 3 remote-control, signaling, and power-limited circuits in accordance with NFPA 70.
 6. Maintain separation of wiring for emergency systems in accordance with NFPA 70.

7. Circuiting Adjustments: Unless otherwise indicated, when branch circuits are indicated as separate, combining them together in a single raceway is permitted, under the following conditions:
 - a. Provide no more than six current-carrying conductors in a single raceway. Dedicated neutral conductors are considered current-carrying conductors.
 - b. Increase size of conductors as required to account for ampacity derating.
 - c. Size raceways, boxes, etc. to accommodate conductors.
 8. Common Neutrals: Unless otherwise indicated, sharing of neutral/grounded conductors among up to three single phase branch circuits of different phases installed in the same raceway is not permitted. Provide dedicated neutral/grounded conductor for each individual branch circuit.
- B. Install products in accordance with manufacturer's instructions.
- C. Perform work in accordance with NECA 1 (general workmanship).
- D. Install aluminum conductors in accordance with NECA 104.
- E. Install metal-clad cable (Type MC) in accordance with NECA 120.
- F. Installation in Raceway:
1. Tape ends of conductors and cables to prevent infiltration of moisture and other contaminants.
 2. Pull all conductors and cables together into raceway at same time.
 3. Do not damage conductors and cables or exceed manufacturer's recommended maximum pulling tension and sidewall pressure.
 4. Use suitable wire pulling lubricant where necessary, except when lubricant is not recommended by the manufacturer.
- G. Paralleled Conductors: Install conductors of the same length and terminate in the same manner.
- H. Secure and support conductors and cables in accordance with NFPA 70 using suitable supports and methods approved by the authority having jurisdiction. Provide independent support from building structure. Do not provide support from raceways, piping, ductwork, or other systems.
1. Installation Above Suspended Ceilings: Do not provide support from ceiling support system. Do not provide support from ceiling grid or allow conductors and cables to lay on ceiling tiles.
 2. Installation in Vertical Raceways: Provide supports where vertical rise exceeds permissible limits.
- I. Terminate cables using suitable fittings.
1. Metal-Clad Cable (Type MC):
 - a. Use listed fittings.
 - b. Cut cable armor only using specialized tools to prevent damaging conductors or insulation. Do not use hacksaw or wire cutters to cut armor.

- J. Variable-Frequency Drive Cable: Terminate shielding at both variable-frequency motor controller and associated motor using glands or termination kits recommended by manufacturer.
- K. Install conductors with a minimum of 12 inches of slack at each outlet.
- L. Neatly train and bundle conductors inside boxes, wireways, panelboards and other equipment enclosures.
- M. Group or otherwise identify neutral/grounded conductors with associated ungrounded conductors inside enclosures in accordance with NFPA 70.
- N. Make wiring connections using specified wiring connectors.
 - 1. Make splices and taps only in accessible boxes. Do not pull splices into raceways or make splices in conduit bodies or wiring gutters.
 - 2. Remove appropriate amount of conductor insulation for making connections without cutting, nicking or damaging conductors.
 - 3. Do not remove conductor strands to facilitate insertion into connector.
 - 4. Clean contact surfaces on conductors and connectors to suitable remove corrosion, oxides, and other contaminants. Do not use wire brush on plated connector surfaces.
 - 5. Connections for Aluminum Conductors: Fill connectors with oxide inhibiting compound where not pre-filled by manufacturer.
 - 6. Mechanical Connectors: Secure connections according to manufacturer's recommended torque settings.
 - 7. Compression Connectors: Secure connections using manufacturer's recommended tools and dies.
- O. Insulate ends of spare conductors using vinyl insulating electrical tape.
- P. Field-Applied Color Coding: Where vinyl color coding electrical tape is used in lieu of integrally colored insulation as permitted in Part 2 under "Color Coding", apply half overlapping turns of tape at each termination and at each location conductors are accessible.
- Q. Identify conductors and cables in accordance with Section 260553.
- R. Install firestopping to preserve fire resistance rating of partitions and other elements◇.
- S. Unless specifically indicated to be excluded, provide final connections to all equipment and devices, including those furnished by others, as required for a complete operating system.
- T. Route wire and cable as required to meet project conditions.
 - 1. Wire and cable routing indicated is approximate unless dimensioned.
 - 2. Where wire and cable destination is indicated and routing is not shown, determine exact routing and lengths required.
 - 3. Include wire and cable of lengths required to install connected devices within 10 ft of location shown.

- U. Make splices, taps, and terminations to carry full ampacity of conductors with no perceptible temperature rise.

3.4 FIELD QUALITY CONTROL

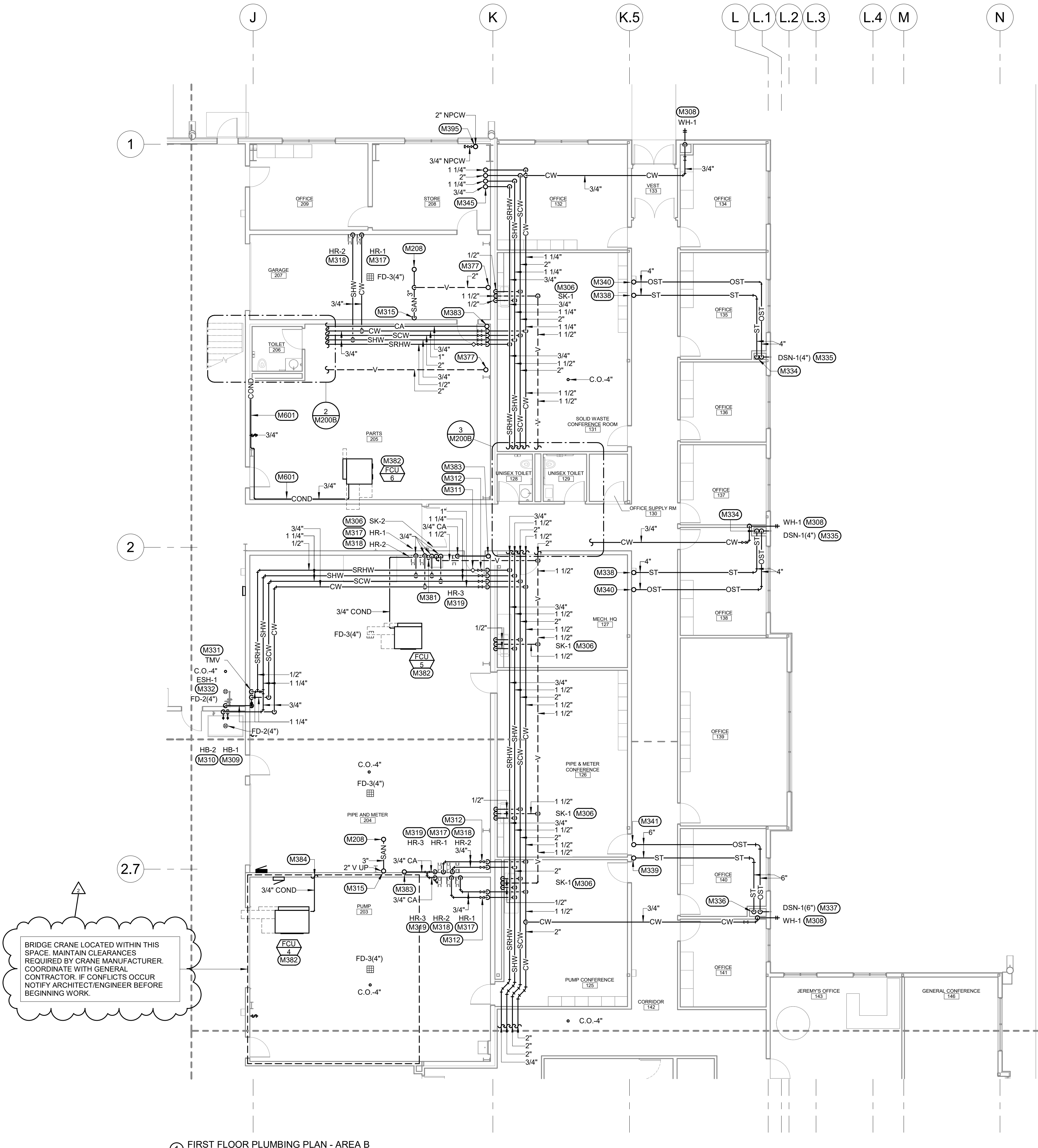
- A. Correct deficiencies and replace damaged or defective conductors and cables.

END OF SECTION 260519

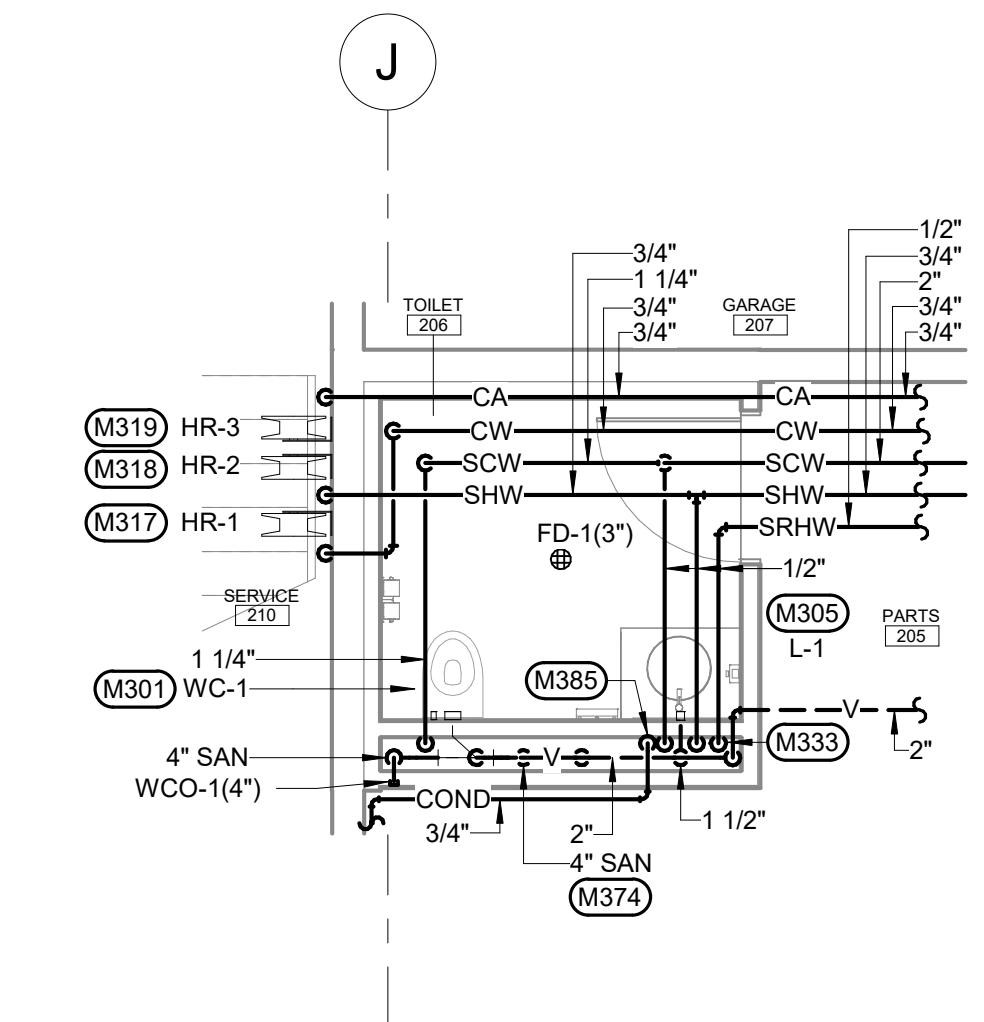
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- PLUMBING MISCELLANEOUS NOTES**
- A DRAWINGS ARE SCHEMATIC IN NATURE. MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS BEFORE BEGINNING WORK. REPORT DISCREPANCIES TO ARCHITECT/ENGINEER.
- B DO NOT ROUTE PIPING ABOVE OR IN FRONT OF ELECTRICAL GEAR. MAINTAIN CODE REQUIRED CLEARANCES.
- C PROVIDE AND INSTALL INDIVIDUAL SHUT OFF VALVES TO ALL WALL HYDRANTS AND HOSE BIBS. INSTALL SHUT OFF VALVES IN AN ACCESSIBLE LOCATION.
- D MAINTAIN CURRENT AND ACCURATE FIELD DRAWINGS OF "AS-BUILT" CONDITIONS. THESE DRAWINGS SHALL BE REVIEWED AT EACH CONSTRUCTION PROGRESS MEETING.
- E COORDINATE LOCATIONS OF ALL SERVICES WITH SITE CONTRACTOR.

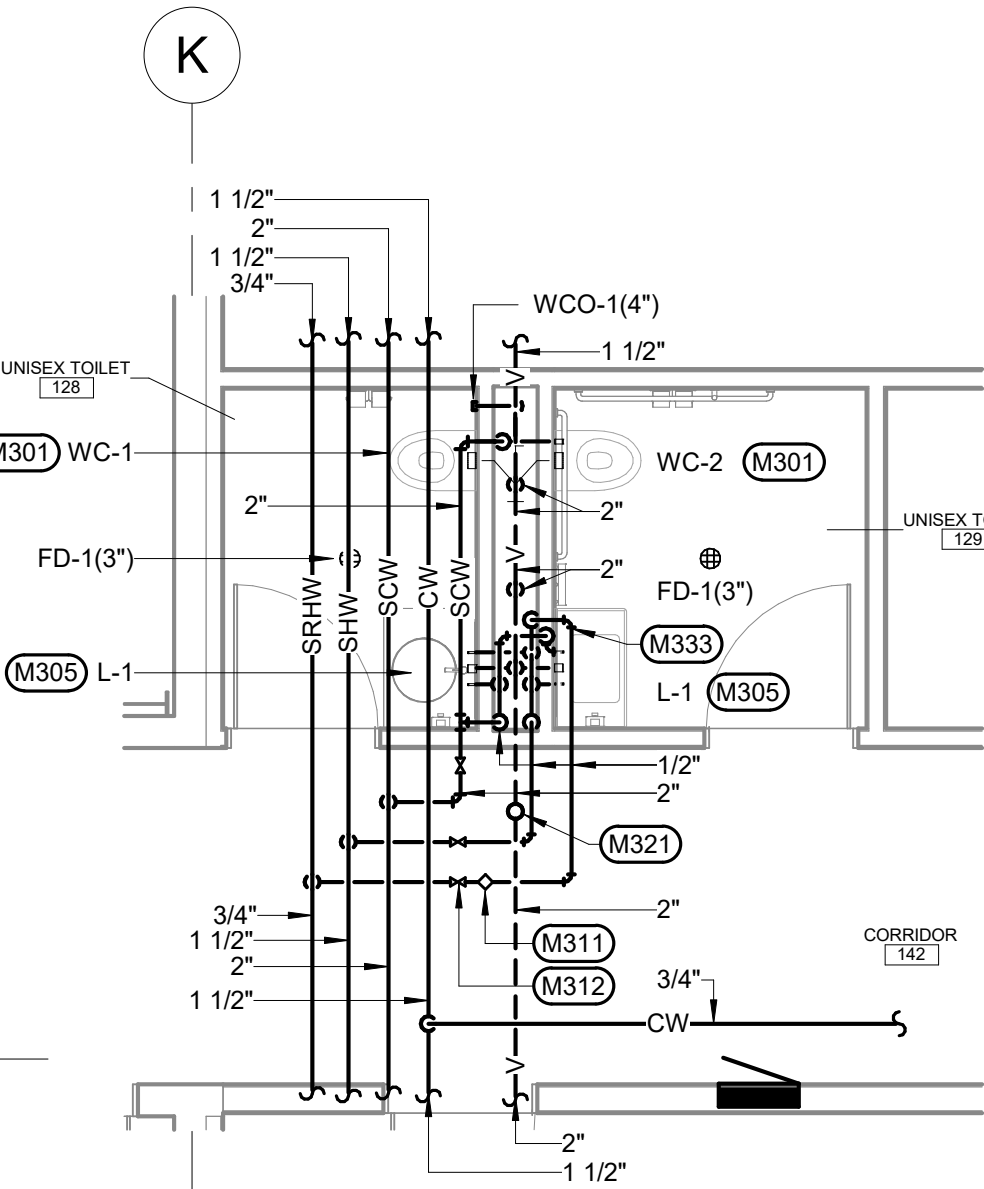
- MECHANICAL SPECIFIC NOTES**
- M208 3" WASTE UP TO FLOOR DRAIN. ROUTE 2" VENT UP AT LOCATION SHOWN.
- M301 1-1/4" SCW, 4" WASTE, 2" VENT TO WATER CLOSET.
- M305 1/2" SCW, 1/2" SHW, 2" WASTE, 1-1/2" VENT TO LAVATORY.
- M306 1/2" SCW, 1/2" SHW, 2" WASTE, 1-1/2" VENT TO SINK.
- M308 3/4" CW DN TO WALL HYDRANT. MOUNT AT 36" A.F.F. PROVIDE MANUAL ISOLATION VALVE ABOVE CEILING IN ACCESSIBLE LOCATION IN FINISHED SPACES AND ON PIPE RISER IN SHOP AREAS.
- M309 3/4" CW DN TO HOSE BIB. MOUNT AT 36" A.F.F. ROUTE PIPING EXPOSED ALONG WALL. PROVIDE MANUAL ISOLATION VALVE ABOVE CEILING IN ACCESSIBLE LOCATION IN FINISHED SPACES AND ON PIPE RISER IN SHOP AREAS.
- M310 3/4" SHW DN TO HOSE BIB. MOUNT AT 36" A.F.F. PROVIDE MANUAL ISOLATION VALVE ABOVE CEILING IN ACCESSIBLE LOCATION IN FINISHED SPACES AND ON PIPE RISER IN SHOP AREAS.
- M311 INSTALL MANUAL BALANCING VALVE ABOVE CEILING IN ACCESSIBLE LOCATION. COORDINATE MOUNTING HEIGHT WITH OWNER.
- M312 PROVIDE MANUAL ISOLATION VALVE ABOVE CEILING IN ACCESSIBLE LOCATION.
- M315 3" WASTE DN. SEE UNDERFLOOR PLUMBING PLAN FOR CONTINUATION.
- M317 3/4" CW TO HOSE REEL. PROVIDE MANUAL ISOLATION VALVE AND INLINE VACUUM BREAKER IN ACCESSIBLE LOCATION. COORDINATE MOUNTING HEIGHT WITH OWNER.
- M318 3/4" SHW TO HOSE REEL. PROVIDE MANUAL ISOLATION VALVE AND INLINE VACUUM BREAKER IN ACCESSIBLE LOCATION. COORDINATE MOUNTING HEIGHT WITH OWNER.
- M319 3/4" CA TO HOSE REEL. PROVIDE MANUAL ISOLATION VALVE IN ACCESSIBLE LOCATION. PLUMBING CONTRACTOR TO COORDINATE THE REQUIRED MANUFACTURER AND MODEL OF THE QUICK CONNECTION AND MOUNTING HEIGHT WITH OWNER.
- M321 2" VENT UP TO 4" VTR. MAINTAIN CODE REQUIRED CLEARANCES FROM ALL FRESH AIR INTAKES. SEE VENT DETAIL.
- M331 1-1/4" SCW, 1-1/4" SHW TO EMERGENCY THERMOSTATIC MIXING VALVE (TMV) MOUNTED ON WALL, IN CABINET, FOR EMERGENCY SHOWER/REVE AND FACE WASH. ROUTE 1-1/4" TEMPERED WATER FROM TMV TO EMERGENCY FIXTURE.
- M332 1-1/4" TEMPERED WATER TO EMERGENCY FIXTURE. ROUTE EXPOSED ALONG WALL. INSTALL AS PER MANUFACTURERS INSTRUCTIONS.
- M333 ROUTE 1/2" SRHW DN TO AS CLOSE TO FIXTURE CONNECTION AS POSSIBLE TO LIMIT TIME FOR HOT WATER TO SUPPLY FIXTURE. SEE HOT WATER PIPING DETAIL.
- M334 4" ST DN. SEE UNDERFLOOR PLUMBING PLAN FOR CONTINUATION.
- M335 4" OST DN TO DOWNSPOUT NOZZLE. DOWNSPOUT NOZZLE SHALL BE MOUNTED AT 18" ABOVE FINISH GRADE. SEAL WALL PENETRATION WEATHER TIGHT. COORDINATE WALL PENETRATION WITH GENERAL CONTRACTOR.
- M336 6" ST DN. SEE UNDERFLOOR PLUMBING PLAN FOR CONTINUATION.
- M337 6" OST DN TO DOWNSPOUT NOZZLE. DOWNSPOUT NOZZLE SHALL BE MOUNTED AT 18" ABOVE FINISH GRADE. SEAL WALL PENETRATION WEATHER TIGHT. COORDINATE WALL PENETRATION WITH GENERAL CONTRACTOR.
- M338 4" ST UP TO ROOF DRAIN.
- M339 6" ST UP TO ROOF DRAIN.
- M340 4" OST UP TO OVERFLOW ROOF DRAIN.
- M341 4" OST UP TO OVERFLOW ROOF DRAIN.
- M345 1-1/4" CW, 2" SCW, 1-1/4" SHW, AND 3/4" SRHW UP. SEE MEZZANINE PLUMBING PLAN FOR CONTINUATION.
- M374 4" WASTE DN. SEE UNDERFLOOR PLUMBING PLAN FOR CONTINUATION.
- M377 2" VENT UP. SEE MEZZANINE PLUMBING PLAN FOR CONTINUATION.
- M381 3/4" COND DN ALONG WALL. INDIRECT DRAIN INTO SINK BASIN.
- M382 ROUTE 3/4" COND FROM UNIT TO NEAREST DRAIN FOR CONTINUATION.
- M383 3/4" CA UP. SEE MEZZANINE FLOOR PLUMBING PLAN FOR CONTINUATION.
- M384 SEE MEZZANINE FLOOR PLUMBING PLAN FOR CONTINUATION.
- M385 3/4" CONDENSATE DN IN CHASE. CONNECT INTO LAVATORY DRAIN UPSTREAM OF P-TRAP.
- M395 2" NPCW UP/DN. INSTALL SHUT OFF VALVE 3'-0" A.F.F. TAP OFF 3/4" NPCW DOWNSTREAM OF SHUT OFF VALVE AND PROVIDE SHUT OFF VALVE. THREADED HOSE CONNECTION AND CAP FOR WINTER BLOW DOWN. SEE MEZZANINE PLUMBING PLAN AND UNDERFLOOR PLUMBING PLAN FOR CONTINUATION.
- M601 ROUTE CONDENSATE AS HIGH AS POSSIBLE ALONG WALL.



BRIDGE CRANE LOCATED WITHIN THIS SPACE. MAINTAIN CLEARANCES REQUIRED BY CRANE MANUFACTURER. COORDINATE WITH GENERAL CONTRACTOR. IF CONFLICTS OCCUR NOTIFY ARCHITECT/ENGINEER BEFORE BEGINNING WORK.

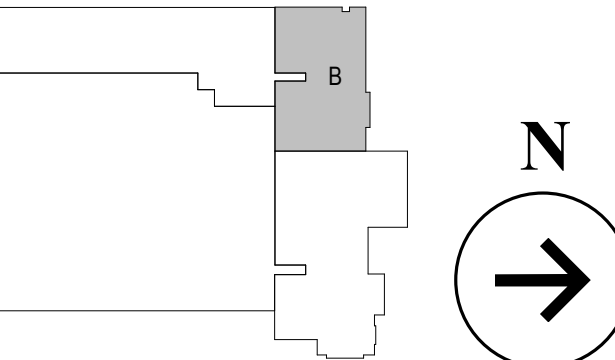


2 ENLARGED FIRST FLOOR PLUMBING PLAN - AREA B
1/4" = 1'-0"



3 ENLARGED FIRST FLOOR PLUMBING PLAN - AREA B
1/4" = 1'-0"

3/20/26 ADDENDUM 3 CHANGES



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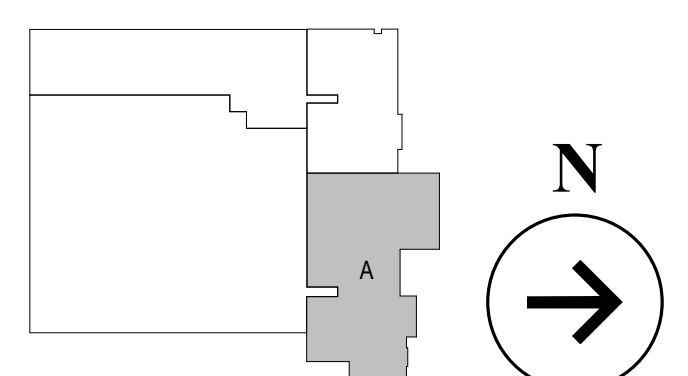
Plans for Aberdeen Public Works Maintenance Building Aberdeen	FIRST FLOOR PLUMBING PLAN - AREA B	DATE 12/20/26	PROJECT M200B	REVISION 8/23/2045
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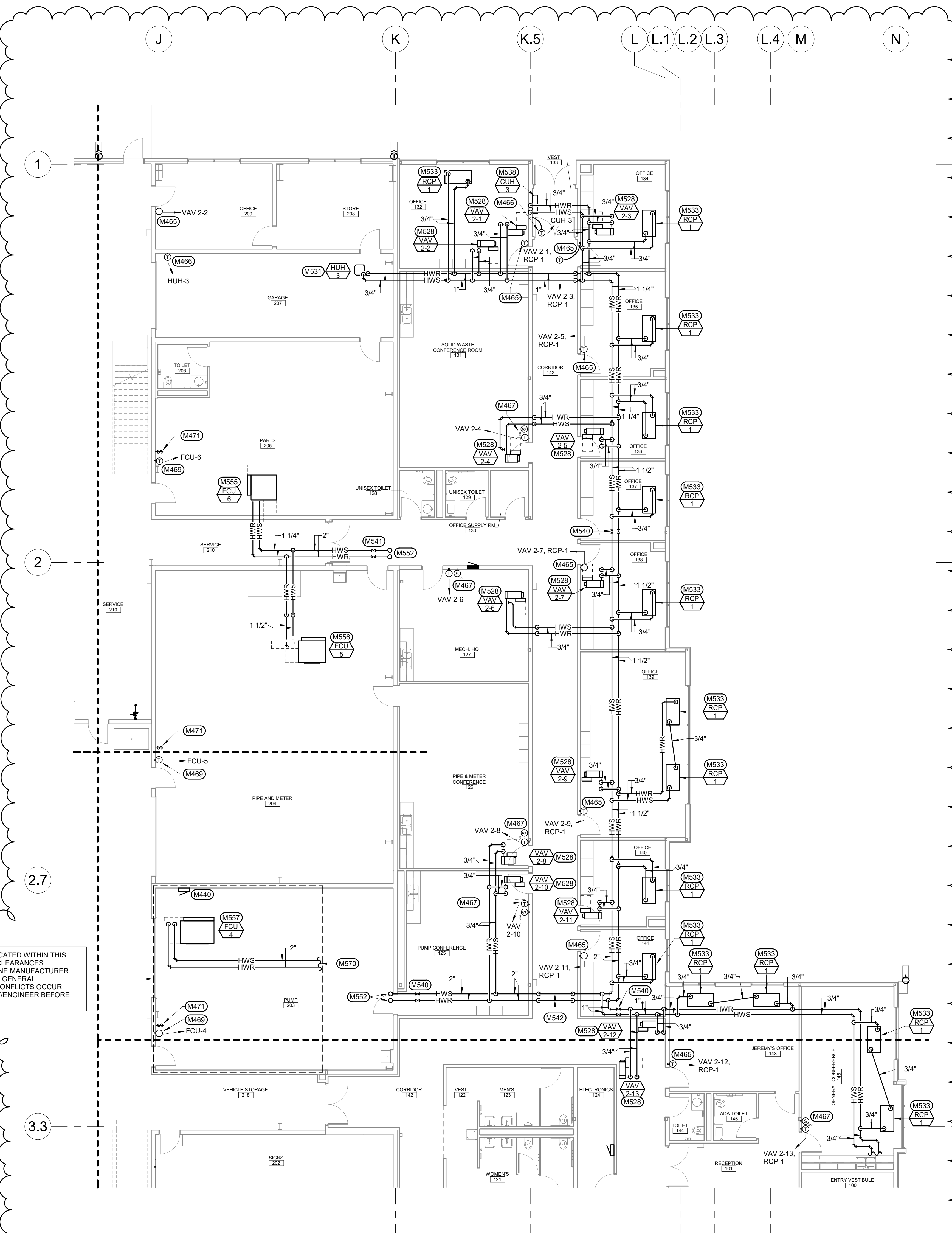




M440	TEMPERATURE CONTROL PANEL. COORDINATE POWER REQUIREMENTS WITH ELECTRICAL CONTRACTOR. PROVIDE COMBINATION SWITCH WITH GENERAL CONTRACTOR.
M465	TEMPERATURE CONTROLS CONTRACTOR SHALL PROVIDE BAS AS ADJUSTABLE THERMOSTAT ON WALL AT 48" A.F.F.
M466	TEMPERATURE CONTROLS CONTRACTOR SHALL PROVIDE NON-ADJUSTABLE THERMOSTAT ON WALL AT 48" A.F.F. LOCAL SETPOINT ADJUSTMENT SHALL BE LOCKED OUT.
M467	TEMPERATURE CONTROLS CONTRACTOR SHALL PROVIDE COMBINATION BASE THERMOSTAT AND CO2 SENSOR ON WALL AT 48" A.F.F.
M468	TEMPERATURE CONTROLS CONTRACTOR SHALL PROVIDE BUILDING PRESSURE SENSOR ON WALL AT 48" A.F.F.
M469	TEMPERATURE CONTROLS CONTRACTOR SHALL PROVIDE BAS ADJUSTABLE THERMOSTAT ON WALL AT 48" A.F.F. PROVIDE THERMIST COVER PLATE OVER THERMOSTAT TO PROTECT THERMOSTAT FROM DAMAGE.
M470	TEMPERATURE CONTROLS CONTRACTOR SHALL PROVIDE COMBINATION THERMOSTAT AND HUMIDISTAT ON WALL AT 48" A.F.F. TEMPERATURE AND RELATIVE HUMIDITY SETPOINTS SHALL BE LOCALLY ADJUSTABLE.
M471	TEMPERATURE CONTROLS CONTRACTOR SHALL PROVIDE ILLUMINATION SWITCH ON WALL ON WALL AT 48" A.F.F. SWITCH SHALL CONTROL EXHAUST FAN SERVING THE SAME SPACE.
M528	HWSR FROM TOP OF MAIN TO REHEAT COIL. SEE REPEAT COIL PIPING DETAIL ON MECHANICAL DETAILS SHEET.
M529	1" HWSR FROM TOP OF MAIN TO REHEAT COIL. SEE REPEAT COIL PIPING DETAIL ON MECHANICAL DETAILS SHEET.
M531	3/4" HWSR DN TO HYDRONIC UNIT HEATER. SEE REPEAT COIL PIPING DETAIL ON MECHANICAL DETAILS SHEET.
M532	1" HWSR DN TO HYDRONIC UNIT HEATER. SEE REPEAT COIL PIPING DETAIL ON MECHANICAL DETAILS SHEET.
M533	3/4" HWSR DN TO RADIANT CEILING PANEL. COORDINATE EXACT LOCATION OF RADIANT CEILING PANEL WITH ALL OTHERS IN ROOM. SEE RADIANT CEILING PANEL DETAIL ON MECHANICAL DETAILS SHEET.
M534	3/4" HWSR DN TO CABINET UNIT HEATER. SEE CABINET UNIT HEATER DETAIL ON MECHANICAL DETAILS SHEET.
M540	PROVIDE ISOLATION VALVE ABOVE CEILING IN ACCESSIBLE LOCATION.
M541	PROVIDE ISOLATION VALVE IN ACCESSIBLE LOCATION.
M549	PROVIDE AIR VENT IN HWSR PIPING MAINS AT LOCALIZED HIGH POINTS. TYPICAL. 1" HWSR UP. SEE ASSOCIATED MEZZANINE LEVEL PLAN FOR CONTINUATION. 1-1/4" HWSR UP. SEE ASSOCIATED MEZZANINE LEVEL PLAN FOR CONTINUATION.
M550	2" HWSR UP. SEE ASSOCIATED MEZZANINE LEVEL PLAN FOR CONTINUATION.
M551	1" HWSR FROM TOP OF MAIN TO FAN COIL UNIT REHEAT COIL. SEE FAN COIL UNIT PIPING DETAIL ON MECHANICAL DETAILS SHEET.
M555	1-1/4" HWSR FROM TOP OF MAIN TO FAN COIL UNIT REHEAT COIL. SEE FAN COIL UNIT PIPING DETAIL ON MECHANICAL DETAILS SHEET.
M571	1" HWSR FROM TOP OF MAIN TO FAN COIL UNIT REHEAT COIL. SEE FAN COIL UNIT PIPING DETAIL ON MECHANICAL DETAILS SHEET.
M570	1" HWSR FROM TOP OF MAIN TO FAN COIL UNIT REHEAT COIL. SEE FAN COIL UNIT PIPING DETAIL ON MECHANICAL DETAILS SHEET.
M571	1" HWSR FROM TOP OF MAIN TO FAN COIL UNIT REHEAT COIL. SEE FAN COIL UNIT PIPING DETAIL ON MECHANICAL DETAILS SHEET.
M570	1" HWSR FROM TOP OF MAIN TO FAN COIL UNIT REHEAT COIL. SEE FAN COIL UNIT PIPING DETAIL ON MECHANICAL DETAILS SHEET.

2 3/20/26 ADDENDUM 3 CHANGES





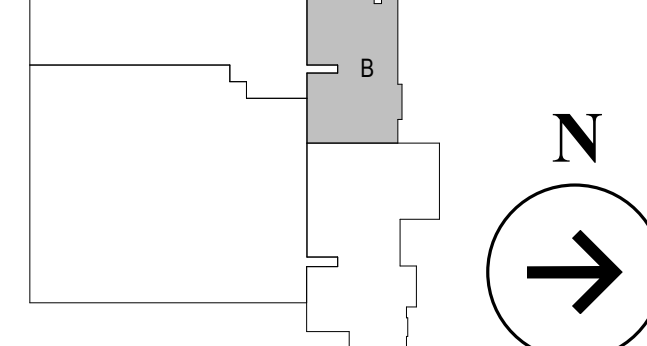
1 FIRST FLOOR HVAC PIPING PLAN - AREA B
1/8" = 1'-0"

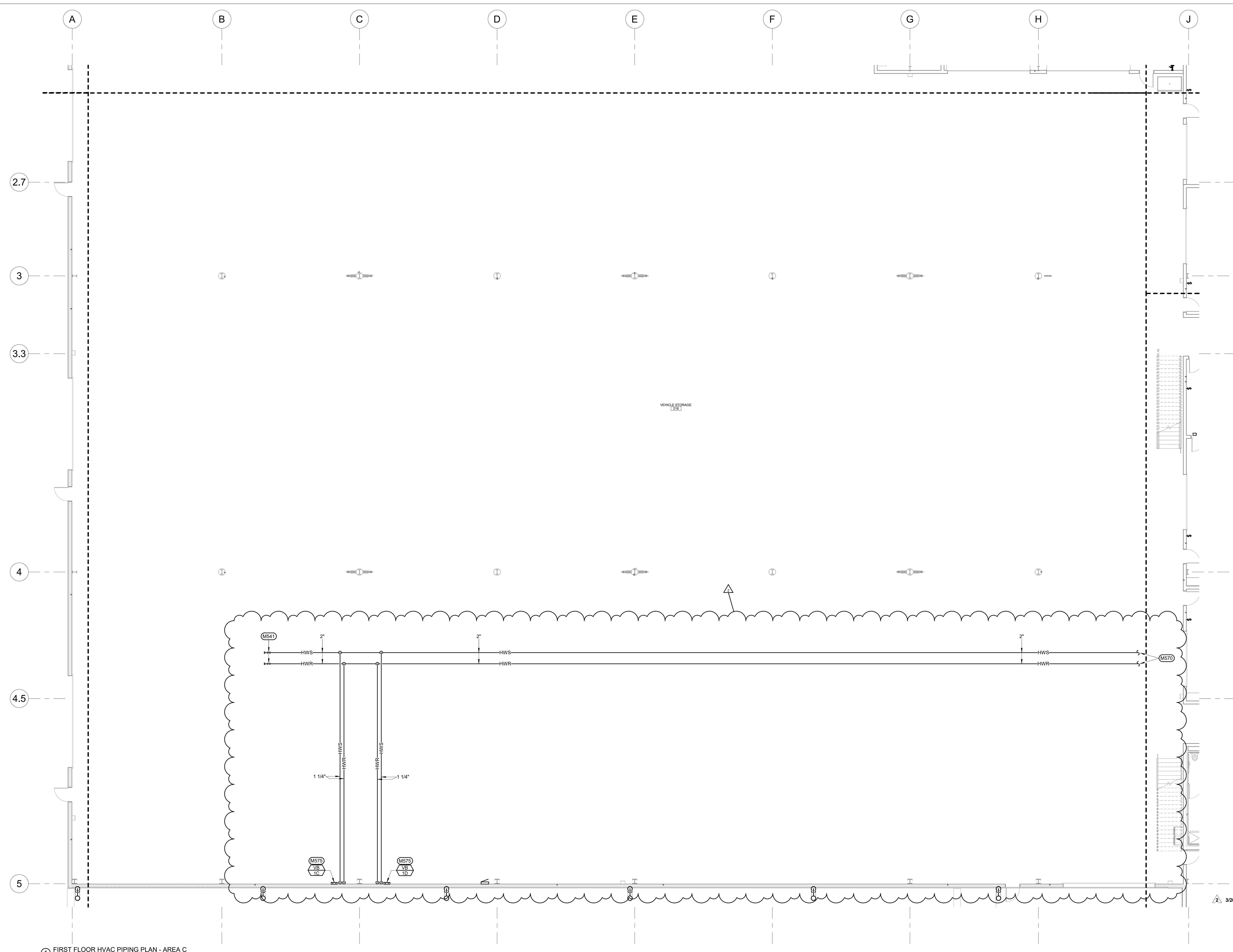
- HVAC PIPING MISCELLANEOUS NOTES**
- A. DRAWINGS ARE SCHEMATIC IN NATURE. MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS BEFORE BEGINNING WORK. REPORT DISCREPANCIES TO ARCHITECT/ENGINEER.
 - B. DO NOT ROUTE PIPING ABOVE OR IN FRONT OF ELECTRICAL GEAR. MAINTAIN CODE REQUIRED CLEARANCES.
 - C. COORDINATE PIPING LAYOUTS WITH ALL TRADES. PROVIDE OFFSET AS REQUIRED TO AVOID CONFLICT.
 - D. PROVIDE ADEQUATE VENTILATION AS PER OWNER AND OSHA TO PROPERLY REMOVE COBBS AND FUMES FROM SPACES WHERE WORK IS BEING PERFORMED TO OUTDOORS.
 - K. COORDINATE LOCATION OF ALL UNDER FLOOR PIPING WITH GENERAL CONTRACTOR BEFORE FLOOR IS POURED.
 - L. NO BUGGIES WILL BE ALLOWED TO RUN OVER INFLOOR PIPING WHILE FLOOR IS BEING POURED.
 - M. CONTRACTOR SHALL PROVIDE AN AUTOCAD OR ELECTRONIC PIPING LAYOUT TO ENGINEER FOR APPROVAL BEFORE ANY PIPING IS INSTALLED.
 - N. MAINTAIN CURRENT AND ACCURATE FIELD DRAWINGS OF "AS-BUILT" CONDITIONS. THESE DRAWINGS SHALL BE REVIEWED AT EACH CONSTRUCTION PROGRESS MEETING.

- MECHANICAL SPECIFIC NOTES**
- M440 TEMPERATURE CONTROL PANEL. COORDINATE POWER REQUIREMENTS WITH ELECTRICAL CONTRACTOR. COORDINATE EXACT LOCATION WITH GENERAL CONTRACTOR.
 - M465 TEMPERATURE CONTROLS CONTRACTOR SHALL PROVIDE BAS ADJUSTABLE THERMOSTAT ON WALL AT 48" A.F.F.
 - M466 TEMPERATURE CONTROLS CONTRACTOR SHALL PROVIDE NON-ADJUSTABLE THERMOSTAT ON WALL AT 48" A.F.F. LOCAL SETPOINT ADJUSTMENT SHALL BE LOCKED OUT.
 - M467 TEMPERATURE CONTROLS CONTRACTOR SHALL PROVIDE COMBINATION BAS THERMOSTAT AND CO2 SENSOR ON WALL AT 48" A.F.F.
 - M469 TEMPERATURE CONTROLS CONTRACTOR SHALL PROVIDE BAS ADJUSTABLE THERMOSTAT ON WALL AT 48" A.F.F. PROVIDE THERMOSTAT COVER PLATE OVER THERMOSTAT TO PROTECT THERMOSTAT FROM DAMAGE.
 - M471 TEMPERATURE CONTROLS CONTRACTOR SHALL PROVIDE ILLUMINATED WALL LIGHT SWITCH ON WALL AT 48" A.F.F. SWITCH SHALL CONTROL EXHAUST FAN SERVING THE SAME SPACE.
 - M528 3/4" HWS/R FROM TOP OF MAIN TO REHEAT COIL. SEE REHEAT COIL PIPING DETAIL ON MECHANICAL DETAILS SHEET.
 - M531 3/4" HWS/R DN TO HYDRONIC UNIT HEATER. SEE HYDRONIC UNIT HEATER DETAIL ON MECHANICAL DETAILS SHEET.
 - M533 3/4" HWS/R DN TO RADIANT CEILING PANEL. COORDINATE EXACT LOCATION OF RADIANT CEILING PANEL WITH ALL OTHER TRADES. SEE RADIANT CEILING PANEL DETAIL ON MECHANICAL DETAILS SHEET.
 - M538 3/4" HWS/R DN TO CABINET UNIT HEATER. SEE CABINET UNIT HEATER DETAIL ON MECHANICAL DETAILS SHEET.
 - M540 PROVIDE ISOLATION VALVE ABOVE CEILING IN ACCESSIBLE LOCATION.
 - M541 PROVIDE ISOLATION VALVE IN ACCESSIBLE LOCATION.
 - M542 PROVIDE AIR VENT IN HWS/R PIPING MAINS AT LOCALIZED HIGH POINTS. TYPICAL.
 - M552 2" HWS/R UP. SEE ASSOCIATED MEZZANINE LEVEL PLAN FOR CONTINUATION.
 - M555 1-1/4" HWS/R FROM TOP OF MAIN TO FAN COIL UNIT REHEAT COIL. SEE FAN COIL UNIT PIPING DETAIL ON MECHANICAL DETAILS SHEET.
 - M556 1-1/2" HWS/R FROM TOP OF MAIN TO FAN COIL UNIT REHEAT COIL. SEE FAN COIL UNIT PIPING DETAIL ON MECHANICAL DETAILS SHEET.
 - M557 2" HWS/R FROM TOP OF MAIN TO FAN COIL UNIT REHEAT COIL. SEE FAN COIL UNIT PIPING DETAIL ON MECHANICAL DETAILS SHEET.
 - M570 SEE ASSOCIATED MEZZANINE LEVEL HVAC PIPING PLAN FOR CONTINUATION.



3/20/26 ADDENDUM 3 CHANGES



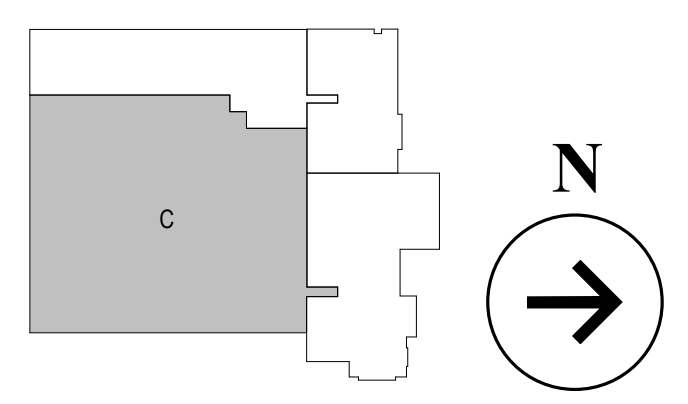


- HVAC PIPING MISCELLANEOUS NOTES**
- A. DRAWINGS ARE SCHEMATIC IN NATURE. MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS BEFORE BEGINNING WORK. REPORT DISCREPANCIES TO ARCHITECT/ENGINEER.
 - B. DO NOT ROUTE PIPING ABOVE OR IN FRONT OF ELECTRICAL GEAR. MAINTAIN CODE REQUIRED CLEARANCES.
 - C. COORDINATE PIPING LAYOUTS WITH ALL TRADES. PROVIDE OFFSET AS REQUIRED TO AVOID CONFLICT.
 - D. PROVIDE ADEQUATE VENTILATION AS PER OWNER AND OSHA TO PROPERLY REMOVE ODORS AND FUMES FROM SPACES WHERE WORK IS BEING PERFORMED TO OUTDOORS.
 - K. COORDINATE LOCATION OF ALL UNDER FLOOR PIPING WITH GENERAL CONTRACTOR BEFORE FLOOR IS POURED.
 - L. NO BUGGIES WILL BE ALLOWED TO RUN OVER INFLOOR PIPING WHILE FLOOR IS BEING POURED.
 - M. CONTRACTOR SHALL PROVIDE AN AUTOCAD OR ELECTRONIC PIPING LAYOUT TO ENGINEER FOR APPROVAL BEFORE ANY PIPING IS INSTALLED.
 - N. MAINTAIN CURRENT AND ACCURATE FIELD DRAWINGS OF "AS-BUILT" CONDITIONS. THESE DRAWINGS SHALL BE REVIEWED AT EACH CONSTRUCTION PROGRESS MEETING.
- MECHANICAL SPECIFIC NOTES**
- M541. PROVIDE ISOLATION VALVE IN ACCESSIBLE LOCATION.
 - M570. SEE ASSOCIATED MEZZANINE LEVEL HVAC PIPING PLAN FOR CONTINUATION.
 - M575. 1-1/4" HW/SR DN TO IN-FLOOR HEAT MANIFOLD. TEMPERATURE CONTROLS CONTRACTOR SHALL PROVIDE A SINGLE MODULATING 3-WAY CONTROL VALVE TO SERVE THE MANIFOLD. MECHANICAL CONTRACTOR SHALL PROVIDE A SHUT OFF VALVE AND STRAINER ON THE SUPPLY TO THE MANIFOLD AND A SHUT-OFF VALVE AND MANUAL BALANCING VALVE ON THE RETURN FROM THE MANIFOLD. SEE ASSOCIATED IN-FLOOR HEAT PIPING SHEETS. SEE IN-FLOOR HEAT DETAILS ON MECHANICAL DETAILS SHEETS.

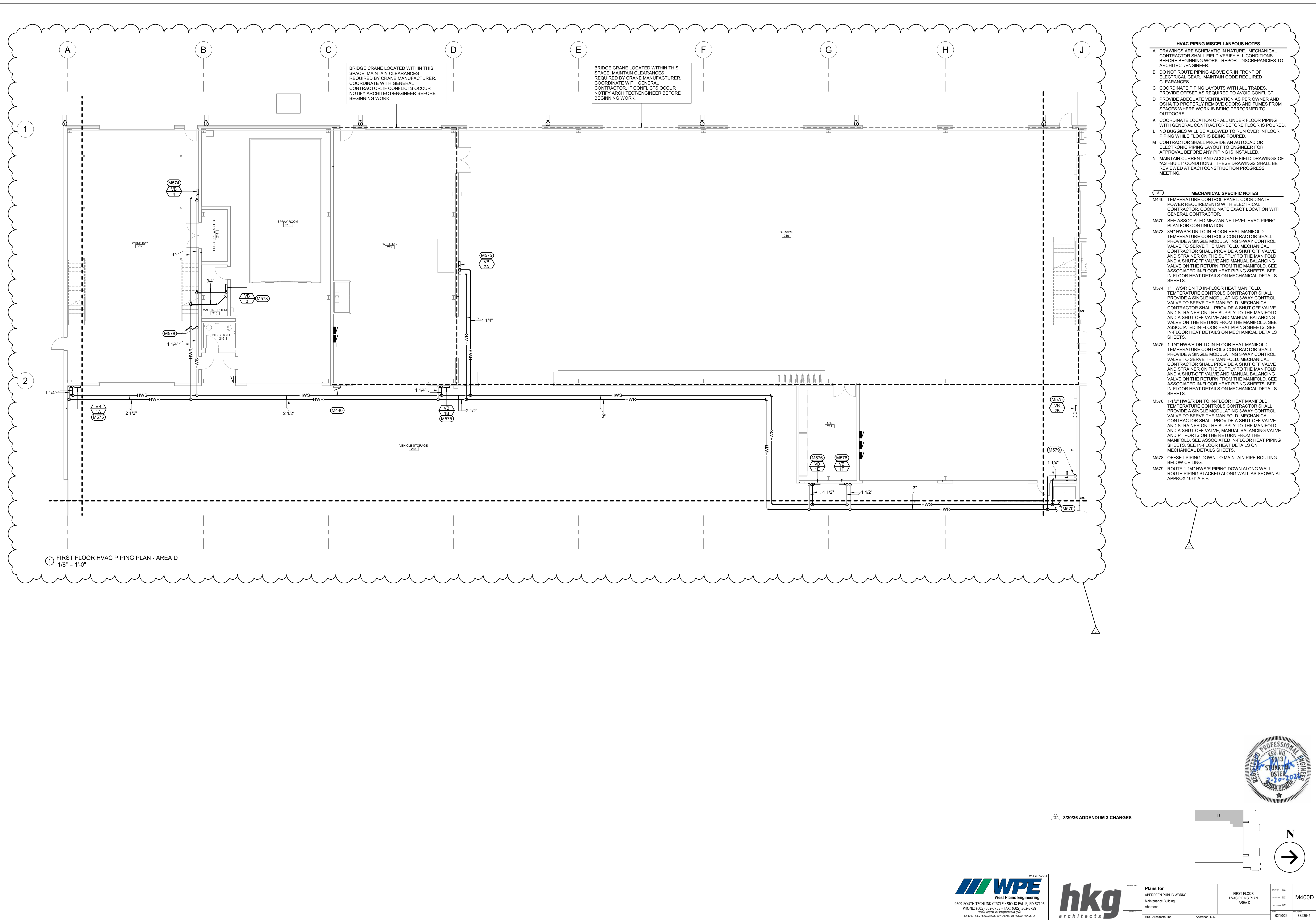
1 FIRST FLOOR HVAC PIPING PLAN - AREA C
1/8" = 1'-0"

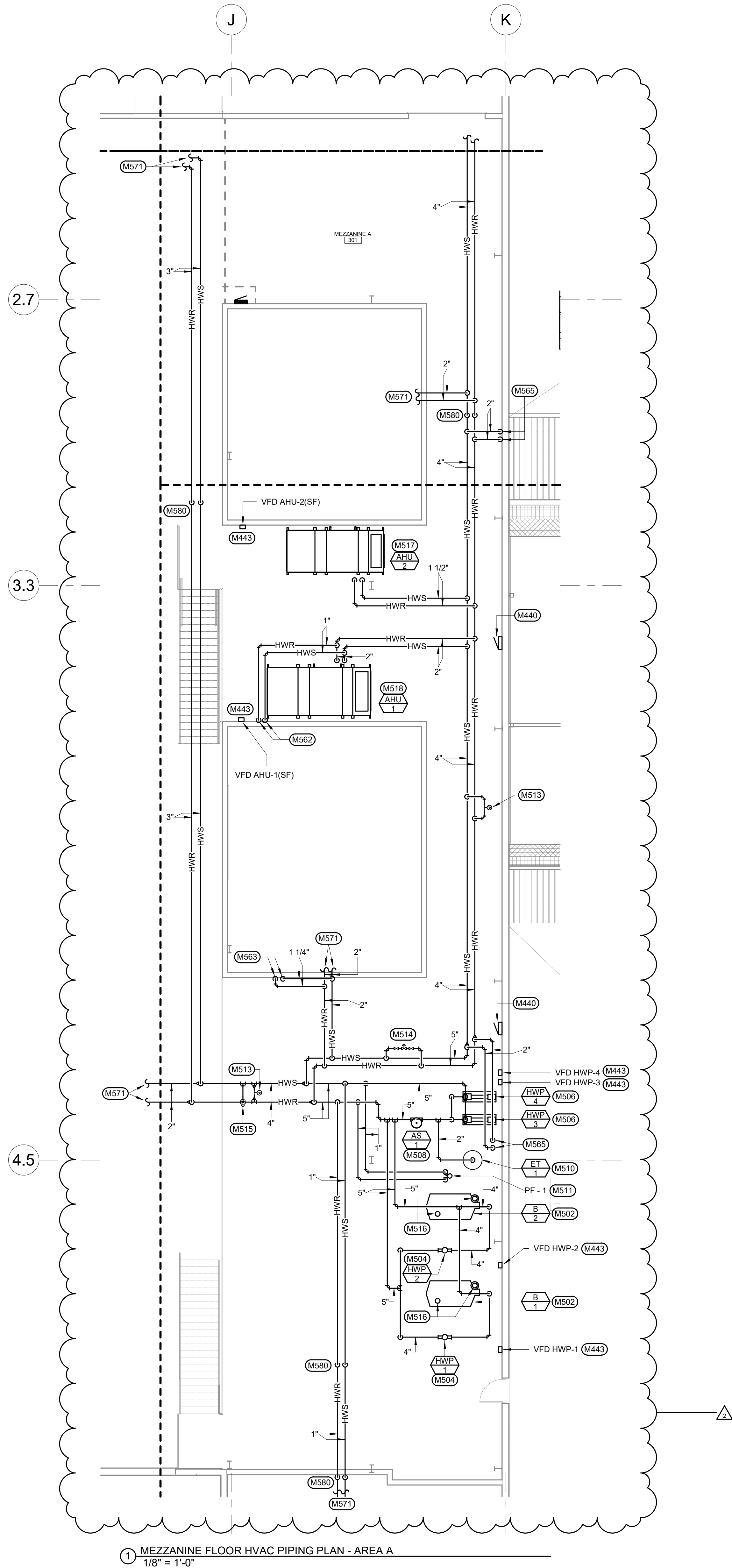


3/20/26 ADDENDUM 3 CHANGES

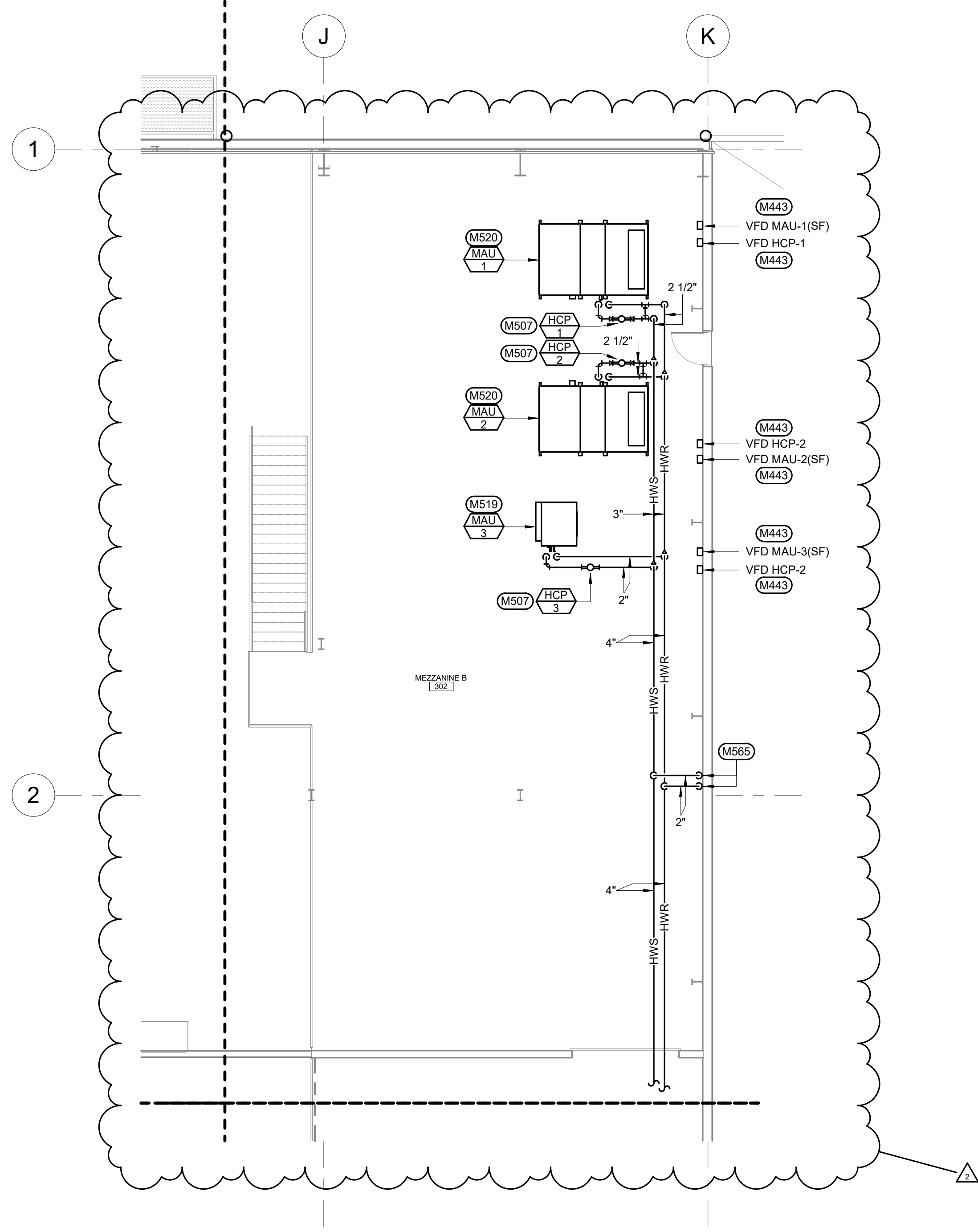


 West Plains Engineering 4609 SOUTH TECHLINK CIRCLE • SIOUX FALLS, SD 57106 PHONE: (605) 362-3753 • FAX: (605) 362-3759 WWW.WESTPLAINSENGINEERING.COM SIOUX CITY, SD • SIOUX FALLS, SD • CHAIRMAN, WY • CEDAR RAPIDS, IA	 hkg architects	<table><tr><td>Project Name</td><td>Plans for ABERDEEN PUBLIC WORKS Maintenance Building Aberdeen</td></tr><tr><td>Project Location</td><td>FIRST FLOOR HVAC PIPING PLAN - AREA C</td></tr><tr><td>Project No.</td><td>M400C</td></tr><tr><td>Date</td><td>02/20/26</td></tr><tr><td>Drawn By</td><td>BSZ3045</td></tr></table>	Project Name	Plans for ABERDEEN PUBLIC WORKS Maintenance Building Aberdeen	Project Location	FIRST FLOOR HVAC PIPING PLAN - AREA C	Project No.	M400C	Date	02/20/26	Drawn By	BSZ3045
Project Name	Plans for ABERDEEN PUBLIC WORKS Maintenance Building Aberdeen											
Project Location	FIRST FLOOR HVAC PIPING PLAN - AREA C											
Project No.	M400C											
Date	02/20/26											
Drawn By	BSZ3045											





1 MEZZANINE FLOOR HVAC PIPING PLAN - AREA A
1/8" = 1'-0"



2 MEZZANINE FLOOR HVAC PIPING PLAN - AREA B
1/8" = 1'-0"

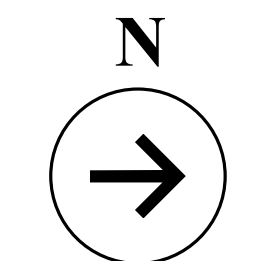
HVAC PIPING MISCELLANEOUS NOTES

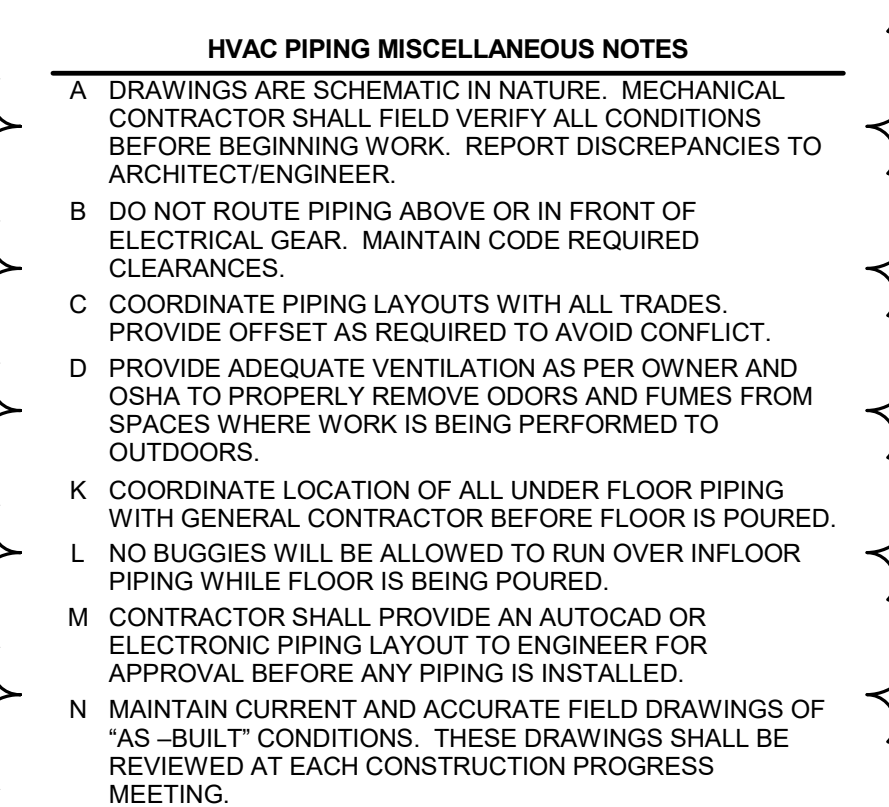
- DRAWINGS ARE SCHEMATIC IN NATURE. MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS BEFORE BEGINNING WORK. REPORT DISCREPANCIES TO ARCHITECT/ENGINEER.
- DO NOT ROUTE PIPING ABOVE OR IN FRONT OF ELECTRICAL GEAR. MAINTAIN CODE REQUIRED CLEARANCES.
- COORDINATE PIPING LAYOUTS WITH ALL TRADES. PROVIDE OFFSET AS REQUIRED TO AVOID CONFLICT.
- PROVIDE ADEQUATE VENTILATION AS PER OWNER AND OSHA TO PROPERLY REMOVE ODORS AND FUMES FROM SPACES WHERE WORK IS BEING PERFORMED TO OUTDOORS.
- COORDINATE LOCATION OF ALL UNDER FLOOR PIPING WITH GENERAL CONTRACTOR BEFORE FLOOR IS POURED.
- NO BUGGIES WILL BE ALLOWED TO RUN OVER INFLOOR PIPING WHILE FLOOR IS BEING POURED.
- CONTRACTOR SHALL PROVIDE AN AUTOCAD OR ELECTRONIC PIPING LAYOUT TO ENGINEER FOR APPROVAL BEFORE ANY PIPING IS INSTALLED.
- MAINTAIN CURRENT AND ACCURATE FIELD DRAWINGS OF "AS-BUILT" CONDITIONS. THESE DRAWINGS SHALL BE REVIEWED AT EACH CONSTRUCTION PROGRESS MEETING.

MECHANICAL SPECIFIC NOTES

- TEMPERATURE CONTROL PANEL. COORDINATE POWER REQUIREMENTS WITH ELECTRICAL CONTRACTOR. COORDINATE EXACT LOCATION WITH GENERAL CONTRACTOR.
- VFD FOR EQUIPMENT INDICATED TO BE PROVIDED BY THE TEMPERATURE CONTROLS CONTRACTOR MOUNTED ON WALL AT LOCATION SHOWN. COORDINATE POWER CONNECTION WITH ELECTRICAL CONTRACTOR.
- MOUNT BOILER ON 4" THICK CONCRETE HOUSEKEEPING PAD. EXTEND PAD 6" BEYOND UNIT IN ALL DIRECTIONS. COORDINATE PAD WITH GENERAL CONTRACTOR. SEE HEATING WATER SYSTEM SCHEMATIC DETAIL ON MECHANICAL DETAILS SHEET.
- SUPPORT PIPING AS REQUIRED AROUND INLINE PUMP FROM FINISH FLOOR. DO NOT SUPPORT PUMP DIRECTLY AS PER MANUFACTURER'S RECOMMENDATIONS. SEE HEATING WATER SYSTEM SCHEMATIC DETAIL ON MECHANICAL DETAILS SHEET.
- MOUNT PUMP ON 4" THICK CONCRETE HOUSEKEEPING PAD. EXTEND PAD 6" BEYOND UNIT IN ALL DIRECTIONS. COORDINATE PAD WITH GENERAL CONTRACTOR. SEE BASE MOUNTED PUMP DETAIL ON MECHANICAL DETAILS SHEET.
- SUPPORT PIPING AS REQUIRED AROUND INLINE PUMP. DO NOT SUPPORT PUMP DIRECTLY AS PER MANUFACTURER'S RECOMMENDATIONS. SEE MAKE-UP AIR UNIT COIL PIPING SCHEMATIC ON MECHANICAL DETAILS SHEET.
- SUPPORT AIR SEPARATOR FROM STRUCTURE. SEE VERTICAL DIAPHRAGM EXPANSION TANK DETAIL.
- PROVIDE 4" THICK CONCRETE HOUSEKEEPING PAD FOR EXPANSION TANK. EXTEND PAD 6" BEYOND UNIT IN ALL DIRECTIONS. COORDINATE PAD WITH GENERAL CONTRACTOR. SEE VERTICAL DIAPHRAGM EXPANSION TANK DETAIL.
- MOUNT CHEMICAL POT FEEDER ON SUPPORTS FROM FINISH FLOOR. SEE CHEMICAL POT FEEDER DETAIL ON MECHANICAL DETAILS SHEET.
- PROVIDE GAS PRESSURE DIFFERENTIAL SENSOR PIPED ACROSS HWS/R MAINS IN THIS APPROXIMATE LOCATION. PROVIDE SHUT-OFF VALVES ON BOTH SIDES OF THE PRESSURE DIFFERENTIAL SENSOR.
- PROVIDE 4" SYSTEM BYPASS ACROSS HWS/R PIPING MAINS IN THIS APPROXIMATE LOCATION. PROVIDE TWO-WAY CONTROL VALVE IN BYPASS PIPING WITH MANUAL BALANCING VALVE AND SHUT-OFF VALVE. BALANCE BYPASS TO 135 GPM. SEE HEATING WATER SYSTEM SCHEMATIC DETAIL ON MECHANICAL DETAILS SHEET.
- TEMPERATURE CONTROLS CONTRACTOR SHALL PROVIDE THREE-WAY CONTROL VALVE FOR TEMPERATURE CONTROL OF IN-FLOOR HEAT LOOP. SEE IN-FLOOR HEAT SYSTEM CONTROLS DETAIL.
- PROVIDE 10" PVC INTAKE PIPING AND 10" POLYPROPYLENE VENT PIPING FROM CONNECTIONS ON BOILER UP THROUGH ROOF. PROVIDE DRAIN PIPING FROM BOILER VENT PIPING TO CONDENSATE NEUTRALIZER AND THEN FLOOR DRAIN. INSTALL ALL PIPING PER MANUFACTURER'S RECOMMENDATIONS. SEE BOILER INTAKE/VENTING DETAIL ON MECHANICAL DETAILS SHEET.
- 1-1/2" HWS/R DN TO (1) HEATING HOT WATER COIL IN AIR HANDLING UNIT. SEE MECHANICAL DETAILS SHEET FOR COIL PIPING SCHEMATIC.
- 2" HWS/R DN TO (1) HEATING HOT WATER COIL IN AIR HANDLING UNIT. SEE MECHANICAL DETAILS SHEET FOR COIL PIPING SCHEMATIC.
- 2" HWS/R DN TO (1) HEATING HOT WATER COIL IN MAKE-UP AIR UNIT. SEE MECHANICAL DETAILS SHEET FOR COIL PIPING SCHEMATIC.
- 2-1/2" HWS/R DN TO (1) HEATING HOT WATER COIL IN MAKE-UP AIR UNIT. SEE MECHANICAL DETAILS SHEET FOR COIL PIPING SCHEMATIC.
- 1" HWS/R DN. SEE ASSOCIATED FIRST FLOOR HVAC PIPING PLAN FOR CONTINUATION.
- 1-1/4" HWS/R DN. SEE ASSOCIATED FIRST FLOOR HVAC PIPING PLAN FOR CONTINUATION.
- 2" HWS/R DN. SEE ASSOCIATED FIRST FLOOR HVAC PIPING PLAN FOR CONTINUATION.
- SEE ASSOCIATED FIRST FLOOR HVAC PIPING PLAN FOR CONTINUATION.
- OFFSET PIPING DOWN TO MAINTAIN PIPE ROUTING BELOW ROOF.

3/20/26 ADDENDUM 3 CHANGES





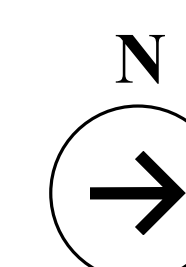
MECHANICAL SPECIFIC NOTES

M543 HATCHED AREA REPRESENTS INFLOOR HEAT ZONE TO BE SERVED BY SIX MANIFOLDS. CIRCUITS WITHIN EACH MANIFOLD SHALL BE APPROXIMATELY THE SAME LENGTH FOR EQUAL PRESSURE DROP ACROSS ALL CIRCUITS. TEMPERATURE CONTROLS VALVE PROVIDE SLAB TEMPERATURE SENSOR AND THREE-WAY CONTROL VALVE FOR EACH MANIFOLD. TEMPERATURE SETPOINT SHALL BE THE SAME FOR ALL SENSORS WITHIN THE SAME ZONE.

M544 HATCHED AREA REPRESENTS INFLOOR HEAT ZONE TO BE SERVED BY 11 MANIFOLDS. CIRCUITS WITHIN THE SAME MANIFOLD SHALL ALL BE APPROXIMATELY THE SAME LENGTH FOR EQUAL PRESSURE DROP ACROSS ALL CIRCUITS. TEMPERATURE CONTROLS CONTRACTOR SHALL PROVIDE A SLAB TEMPERATURE SENSOR, THREE-WAY CONTROL VALVE FOR EACH MANIFOLD. SLAB TEMPERATURE SETPOINT SHALL BE THE SAME FOR ALL SENSORS WITHIN THE SAME ZONE.

M545 HATCHED AREA REPRESENTS INFLOOR HEAT ZONE TO BE SERVED BY ONE MANIFOLD. CIRCUITS WITHIN THE SAME MANIFOLD SHALL ALL BE APPROXIMATELY THE SAME LENGTH FOR EQUAL PRESSURE DROP ACROSS ALL CIRCUITS. TEMPERATURE CONTROLS CONTRACTOR SHALL PROVIDE SLAB TEMPERATURE SENSOR AND THREE-WAY CONTROL VALVE FOR EACH MANIFOLD.

2 3/20/26 ADDENDUM 3 CHANGES



- A. DRAWINGS ARE SCHEMATIC IN NATURE. MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS BEFORE BEGINNING WORK. REPORT DISCREPANCIES TO ARCHITECT/ENGINEER.
- B. COORDINATE ALL UNDERGROUND PIPING WITH FOOTING, FOUNDATION, AND ALL OTHER TRADES. PROVIDE SLEEVES AND OFFSETS AS REQUIRED TO AVOID CONFLICT.
- C. PROVIDE CLEANOUTS AS REQUIRED BY CODE AND AUTHORITY HAVING JURISDICTION.
- D. COORDINATE LOCATIONS OF ALL SERVICES WITH SITE CONTRACTOR.
- E. MAINTAIN CURRENT AND ACCURATE FIELD DRAWINGS OF "AS-BUILT" CONDITIONS. THESE DRAWINGS SHALL BE REVIEWED AT EACH CONSTRUCTION PROGRESS MEETING.

M213 4" WASTE UP TO HEAVY DUTY TRAFFIC DRAIN.
P-TRAP NOT REQUIRED.

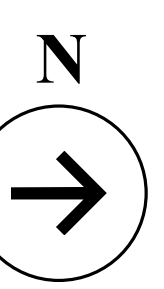
M223 LINE SIZED WASTE UP TO CLEANOUT. 4" MAXIMUM.
CLEANOUTS LOCATED IN SHOP AREAS TO BE HEAVY
DUTY TYPE CLEANOUTS. SEE CLEANOUT DETAIL.

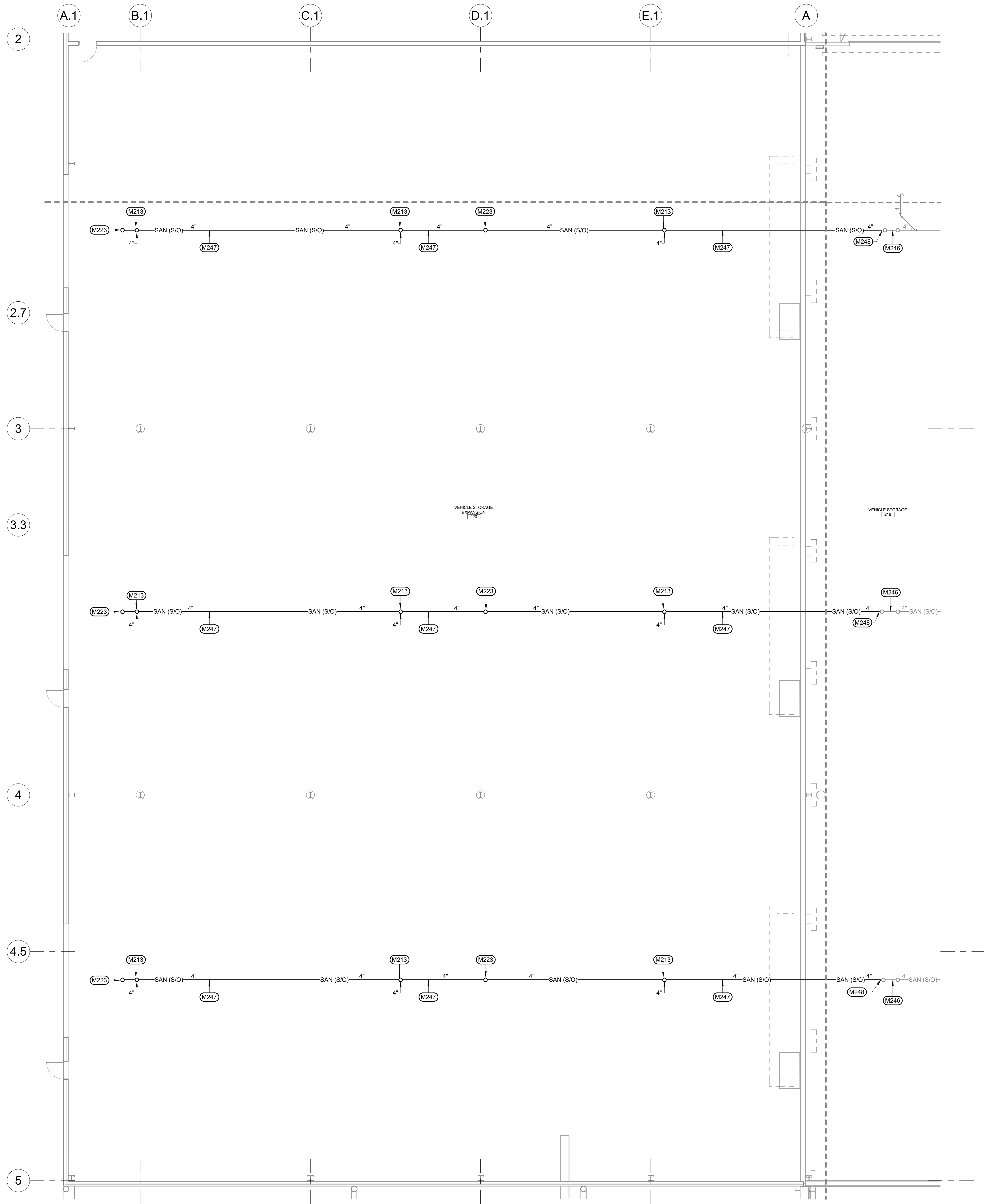
M244 CONNECT 4" WASTE TO 4" WASTE AT THIS LOCATION
IF ADD ALTERNATE #1 IS ACCEPTED.

M245 INSTALL PIPING AND ACCESSORIES AS SHOWN IF
ADD ALTERNATE #1 IS ACCEPTED.

M246 INSTALL PIPING AND ACCESSORIES AS SHOWN
UNDER BASE BID.

1 UNDERFLOOR PLUMBING PLAN - AREA F - ALTERNATE #1
1/8" = 1'-0"

[illegible]



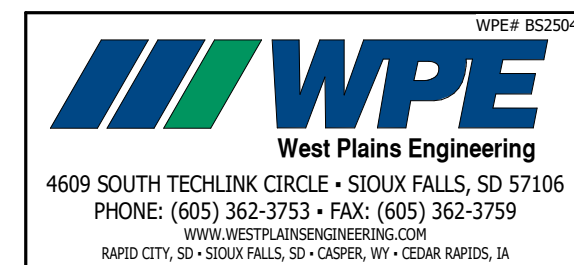
UNDERFLOOR PLUMBING MISCELLANEOUS NOTES

- A DRAWINGS ARE SCHEMATIC IN NATURE. MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS BEFORE BEGINNING WORK. REPORT DISCREPANCIES TO ARCHITECT/ENGINEER.
- B COORDINATE ALL UNDERGROUND PIPING WITH FOOTING, FOUNDATION, AND ALL OTHER TRADES. PROVIDE SLEEVES AND OFFSETS AS REQUIRED TO AVOID CONFLICT.
- C PROVIDE CLEANOUTS AS REQUIRED BY CODE AND AUTHORITY HAVING JURISDICTION.
- D COORDINATE LOCATIONS OF ALL SERVICES WITH SITE CONTRACTOR.
- E MAINTAIN CURRENT AND ACCURATE FIELD DRAWINGS OF "AS-BUILT" CONDITIONS. THESE DRAWINGS SHALL BE REVIEWED AT EACH CONSTRUCTION PROGRESS MEETING.

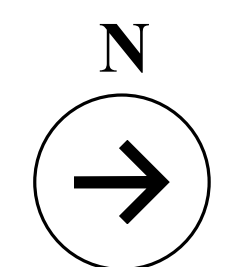
MECHANICAL SPECIFIC NOTES

- M213 4" WASTE UP TO HEAVY DUTY TRAFFIC DRAIN. P-TRAP NOT REQUIRED.
- M223 LINE SIZED WASTE UP TO CLEANOUT. 4" MAXIMUM. CLEANOUTS LOCATED IN SHOP AREAS TO BE HEAVY DUTY TYPE CLEANOUTS. SEE CLEANOUT DETAIL.
- M246 INSTALL PIPING AND ACCESSORIES AS SHOWN UNDER BASE BID.
- M247 INSTALL PIPING AND ACCESSORIES AS SHOWN IF ADD ALTERNATE #2 IS ACCEPTED.
- M248 CONNECT 4" WASTE TO 4" WASTE AT THIS LOCATION IF ADD ALTERNATE #2 IS ACCEPTED.

② UNDERFLOOR PLUMBING PLAN - AREA E - ALTERNATE #2
1/8" = 1'-0"

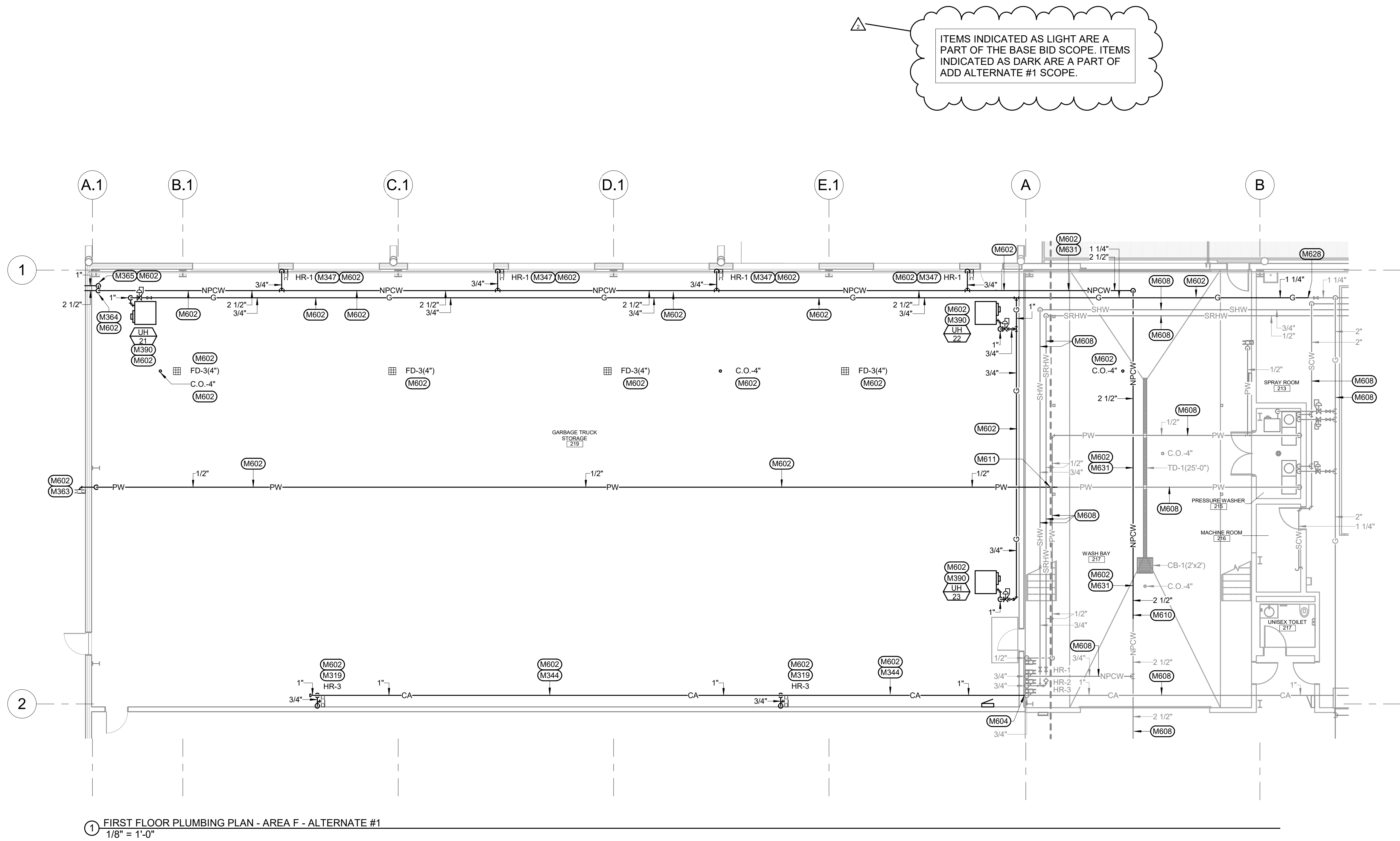


Plans for ABERDEEN PUBLIC WORKS Maintenance Building Aberdeen	UNDERFLOOR PLUMBING PLANS - AREA E - ALTERNATE #2	DESIGNED BY DNT	CHECKED BY DNT	DATE 02/20/26	PROJECT NO. BS23045

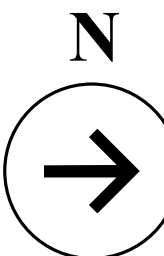
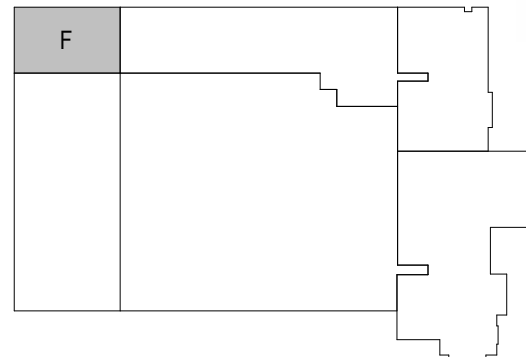


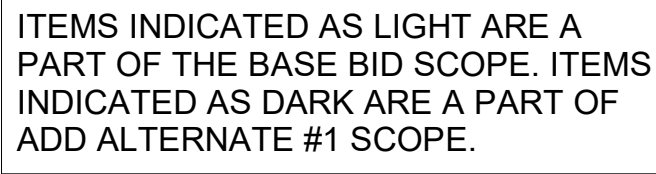
- PLUMBING MISCELLANEOUS NOTES**
- A DRAWINGS ARE SCHEMATIC IN NATURE. MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS BEFORE BEGINNING WORK. REPORT DISCREPANCIES TO ARCHITECT/ENGINEER.
- B DO NOT ROUTE PIPING ABOVE OR IN FRONT OF ELECTRICAL GEAR. MAINTAIN CODE REQUIRED CLEARANCES.
- C PROVIDE AND INSTALL INDIVIDUAL SHUT OFF VALVES TO ALL WALL HYDRANTS AND HOSE BIBS. INSTALL SHUT OFF VALVES IN AN ACCESSIBLE LOCATION.
- D MAINTAIN CURRENT AND ACCURATE FIELD DRAWINGS OF "AS-BUILT" CONDITIONS. THESE DRAWINGS SHALL BE REVIEWED AT EACH CONSTRUCTION PROGRESS MEETING.
- E COORDINATE LOCATIONS OF ALL SERVICES WITH SITE CONTRACTOR.

- MECHANICAL SPECIFIC NOTES**
- M319 3/4" CA TO HOSE REEL. PROVIDE MANUAL ISOLATION VALVE IN ACCESSIBLE LOCATION. PLUMBING CONTRACTOR TO COORDINATE THE REQUIRED MANUFACTURER AND MODEL OF THE QUICK CONNECTION AND MOUNTING HEIGHT WITH OWNER.
- M344 COMPRESSED AIR MAIN TO HAVE A MINIMUM SLOPE OF 1% BACK TO DRAIN DOWN LOCATIONS.
- M347 3/4" NPCW DN TO HOSE REEL. PROVIDE MANUAL ISOLATION VALVE AND IN-LINE VACUUM BREAKER IN ACCESSIBLE LOCATION. COORDINATE MOUNTING HEIGHT WITH OWNER.
- M363 OUTDOOR PRESSURE WASHER HOSE REEL FED BY PRESSURE WASHER PW-2. LOCATE REMOTE CONTROL AND LOCKOUT SWITCH INSIDE BY MAIN DOOR. COORDINATE EXACT HEIGHT AND FINAL LOCATION WITH OWNER. INSTALL SHUT OFF VALVE ON PIPE RISER, INSIDE, IN ACCESSIBLE LOCATION. THIS WORK TO BE COMPLETED IF ADD ALTERNATE #1 IS ACCEPTED.
- M364 2-1/2" NPCW TO HOSE CONNECTION ON EXTERIOR OF BUILDING. COORDINATE EXACT MOUNTING HEIGHT AND FINAL CONNECTION TYPE WITH OWNER. INSTALL SHUT OFF VALVE INSIDE IN ACCESSIBLE LOCATION. THIS WORK TO BE COMPLETED IF ADD ALTERNATE #1 IS ACCEPTED.
- M365 1" NPCW TO HOSE CONNECTION ON EXTERIOR OF BUILDING. COORDINATE EXACT MOUNTING HEIGHT AND FINAL CONNECTION TYPE WITH OWNER. INSTALL SHUT OFF VALVE INSIDE IN ACCESSIBLE LOCATION. THIS WORK TO BE COMPLETED IF ADD ALTERNATE #1 IS ACCEPTED.
- M390 INSTALL GAS COCK AND REGULATOR MINIMUM 10'-0" FROM GAS CONNECTION TO UNIT HEATER. PROVIDE ADDITIONAL PIPING BEYOND WHAT IS SHOWN AS NEEDED TO MEET DISTANCE REQUIREMENT. REGULATOR TO BE 2 PSI INLET TO INCHES OUTLET AND RATED FOR INTERIOR USE (VENTLESS REGULATORS NOT PERMITTED). VENT TO OUTDOORS AS PER MANUFACTURE'S INSTRUCTION. SEE GAS RISER DIAGRAM FOR MORE GAS PIPE SIZES.
- M602 INSTALL PIPING, ACCESSORIES, AND EQUIPMENT AS SHOWN IF ADD ALTERNATE #1 IS ACCEPTED.
- M604 CONNECT 1" CA TO 1" CA AT THIS LOCATION IF ADD ALTERNATE #1 IS ACCEPTED.
- M608 INSTALL PIPING, ACCESSORIES, AND EQUIPMENT AS SHOWN UNDER BASE BID.
- M610 CONNECT 2-1/2" NPCW TO 2-1/2" NPCW AT THIS LOCATION IF ADD ALTERNATE #1 IS ACCEPTED.
- M611 CONNECT 1/2" PW TO 1/2" PW AT THIS LOCATION IF ADD ALTERNATE #1 IS ACCEPTED.
- M628 CONNECT 1-1/4" 2W GAS TO 1-1/4" 2W GAS AT THIS LOCATION IF ADD ALTERNATE #1 IS ACCEPTED.
- M631 INSTALL INSULATION AND PVC JACKET FOR PIPING LOCATED IN WASH BAY 217.



3/20/26 ADDENDUM 3 CHANGES

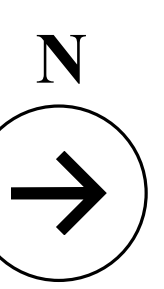




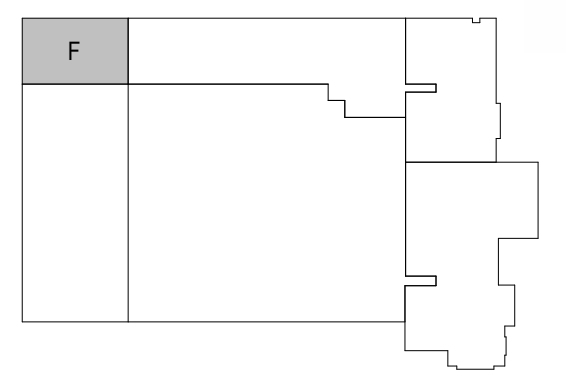
- #### MECHANICAL SPECIFIC NOTES

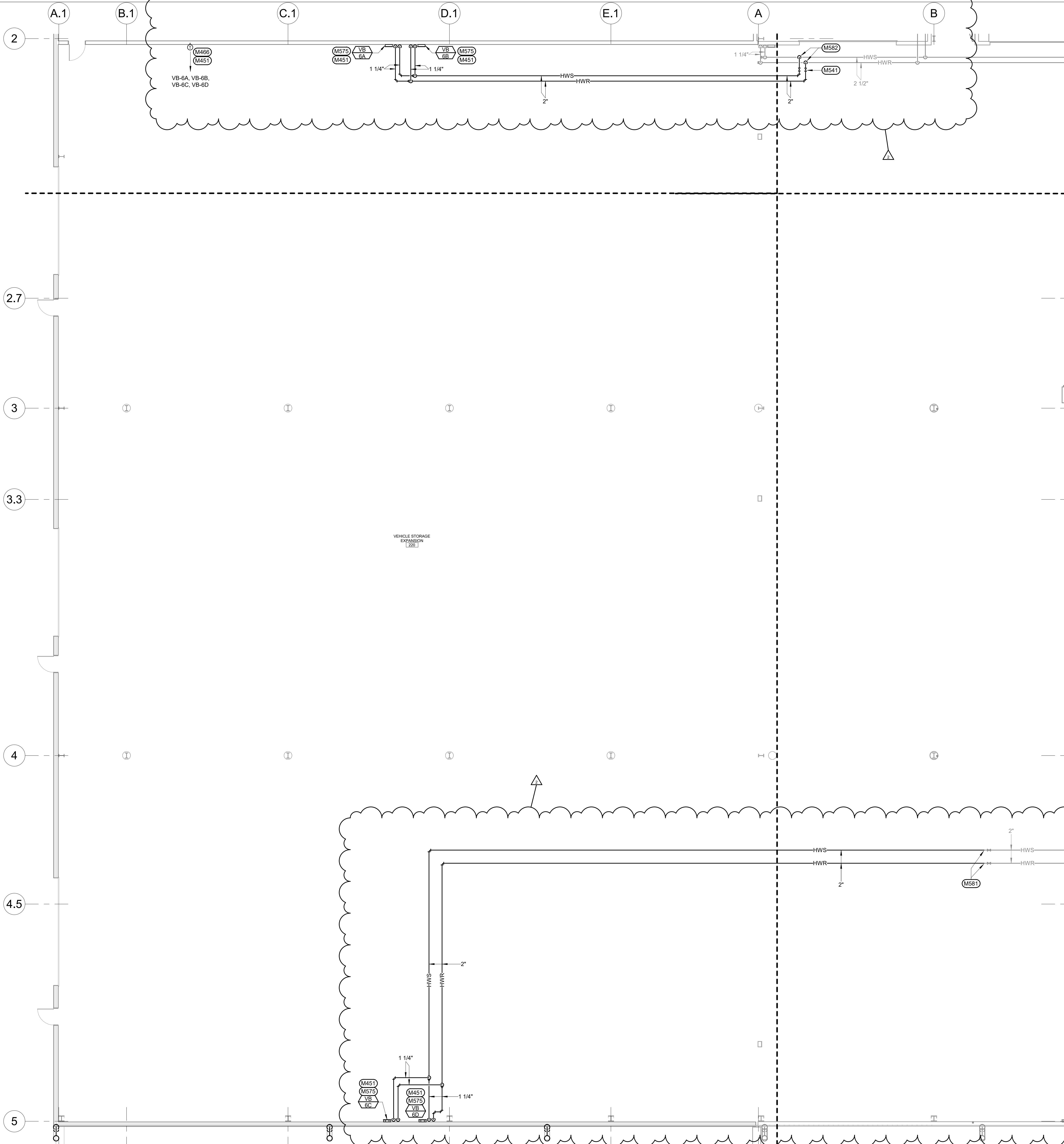
- M583 CONNECT 1-1/2" HWS/R PIPING TO 2-1/2" HWS/R AT THIS LOCATION IF ADD ALTERNATE #1 IS ACCEPTED.

1 FIRST FLOOR HVAC PIPING PLAN - AREA F - ALTERNATE #
1/8" = 1'-0"



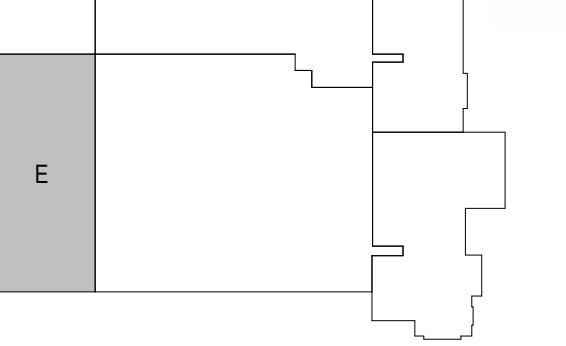
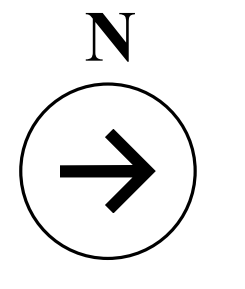
2 3/20/26 ADDENDUM 3 CHANGES





- HVAC PIPING MISCELLANEOUS NOTES**
- A. DRAWINGS ARE SCHEMATIC IN NATURE. MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS BEFORE BEGINNING WORK. REPORT DISCREPANCIES TO ARCHITECT/ENGINEER.
 - B. DO NOT ROUTE PIPING ABOVE OR IN FRONT OF ELECTRICAL GEAR. MAINTAIN CODE REQUIRED CLEARANCES.
 - C. COORDINATE PIPING LAYOUTS WITH ALL TRADES. PROVIDE OFFSET AS REQUIRED TO AVOID CONFLICT.
 - D. PROVIDE ADEQUATE VENTILATION AS PER OWNER AND OSHA TO PROPERLY REMOVE ODORS AND FUMES FROM SPACES WHERE WORK IS BEING PERFORMED TO OUTDOORS.
 - K. COORDINATE LOCATION OF ALL UNDER FLOOR PIPING WITH GENERAL CONTRACTOR BEFORE FLOOR IS POURED.
 - L. NO BUGGIES WILL BE ALLOWED TO RUN OVER INFLOOR PIPING WHILE FLOOR IS BEING POURED.
 - M. CONTRACTOR SHALL PROVIDE AN AUTOCAD OR ELECTRONIC PIPING LAYOUT TO ENGINEER FOR APPROVAL BEFORE ANY PIPING IS INSTALLED.
 - N. MAINTAIN CURRENT AND ACCURATE FIELD DRAWINGS OF 'AS-BUILT' CONDITIONS. THESE DRAWINGS SHALL BE REVIEWED AT EACH CONSTRUCTION PROGRESS MEETING.
- MECHANICAL SPECIFIC NOTES**
- M451 PROVIDE IN SCOPE OF ADD ALTERNATE #2.
 - M466 TEMPERATURE CONTROLS CONTRACTOR SHALL PROVIDE NON-ADJUSTABLE THERMOSTAT ON WALL AT 48" A.F.F. LOCAL SETPOINT ADJUSTMENT SHALL BE LOCKED OUT.
 - M541 PROVIDE ISOLATION VALVE IN ACCESSIBLE LOCATION.
 - M575 1-1/4" HWS/R DN TO IN-FLOOR HEAT MANIFOLD. TEMPERATURE CONTROLS CONTRACTOR SHALL PROVIDE A SINGLE MODULATING 3-WAY CONTROL VALVE TO SERVE THE MANIFOLD. MECHANICAL CONTRACTOR SHALL PROVIDE A SHUT-OFF VALVE AND STRAINER ON THE SUPPLY TO THE MANIFOLD AND A SHUT-OFF VALVE AND MANUAL BALANCING VALVE ON THE RETURN FROM THE MANIFOLD. SEE ASSOCIATED IN-FLOOR HEAT PIPING SHEETS. SEE IN-FLOOR HEAT DETAILS ON MECHANICAL DETAILS SHEETS.
 - M581 CONNECT 2" HWS/R PIPING TO 2" HWS/R AT THIS LOCATION IF ADD ALTERNATE #2 IS ACCEPTED.
 - M582 CONNECT 2" HWS/R PIPING TO 2-1/2" HWS/R AT THIS LOCATION IF ADD ALTERNATE #2 IS ACCEPTED.

ITEMS INDICATED AS LIGHT ARE A PART OF THE BASE BID SCOPE. ITEMS INDICATED AS DARK ARE A PART OF ADD ALTERNATE #2 SCOPE.



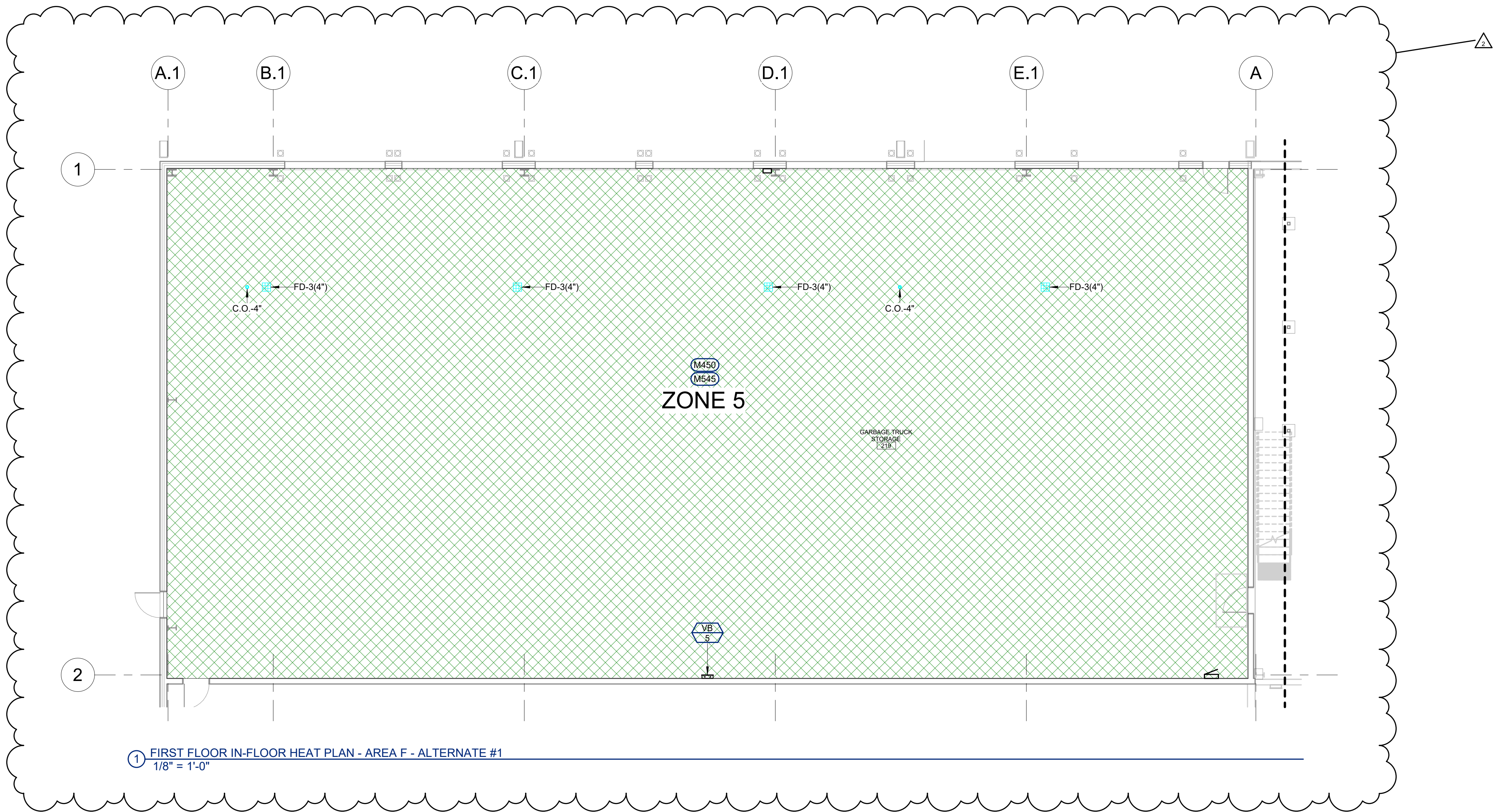
3/20/26 ADDENDUM 3 CHANGES

WPE
West Plains Engineering
4609 SOUTH TECHLINK CIRCLE • SIOUX FALLS, SD 57106
PHONE: (605) 362-3753 • FAX: (605) 362-3759
WWW.WESTPLAINSENGINEERING.COM
SIOUX FALLS, SD • SIOUX FALLS, SD • SIOUX FALLS, SD • SIOUX FALLS, SD

hkg
architects

Plans for ABERDEEN PUBLIC WORKS Maintenance Building Aberdeen		FIRST FLOOR HVAC PIPING PLANS ALTERNATE #2	Project: NC Revision: NC Date: 02/20/26	M507 8523045
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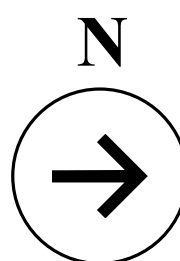
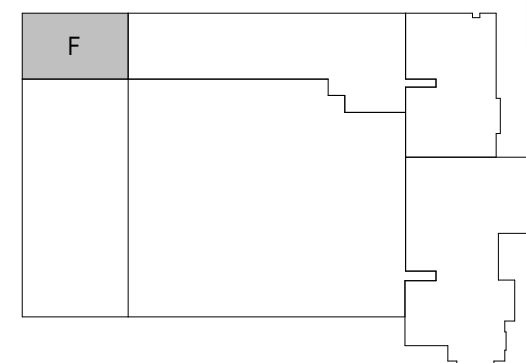
1 FIRST FLOOR HVAC PIPING PLAN - AREA E - ALTERNATE #2
1/8" = 1'-0"

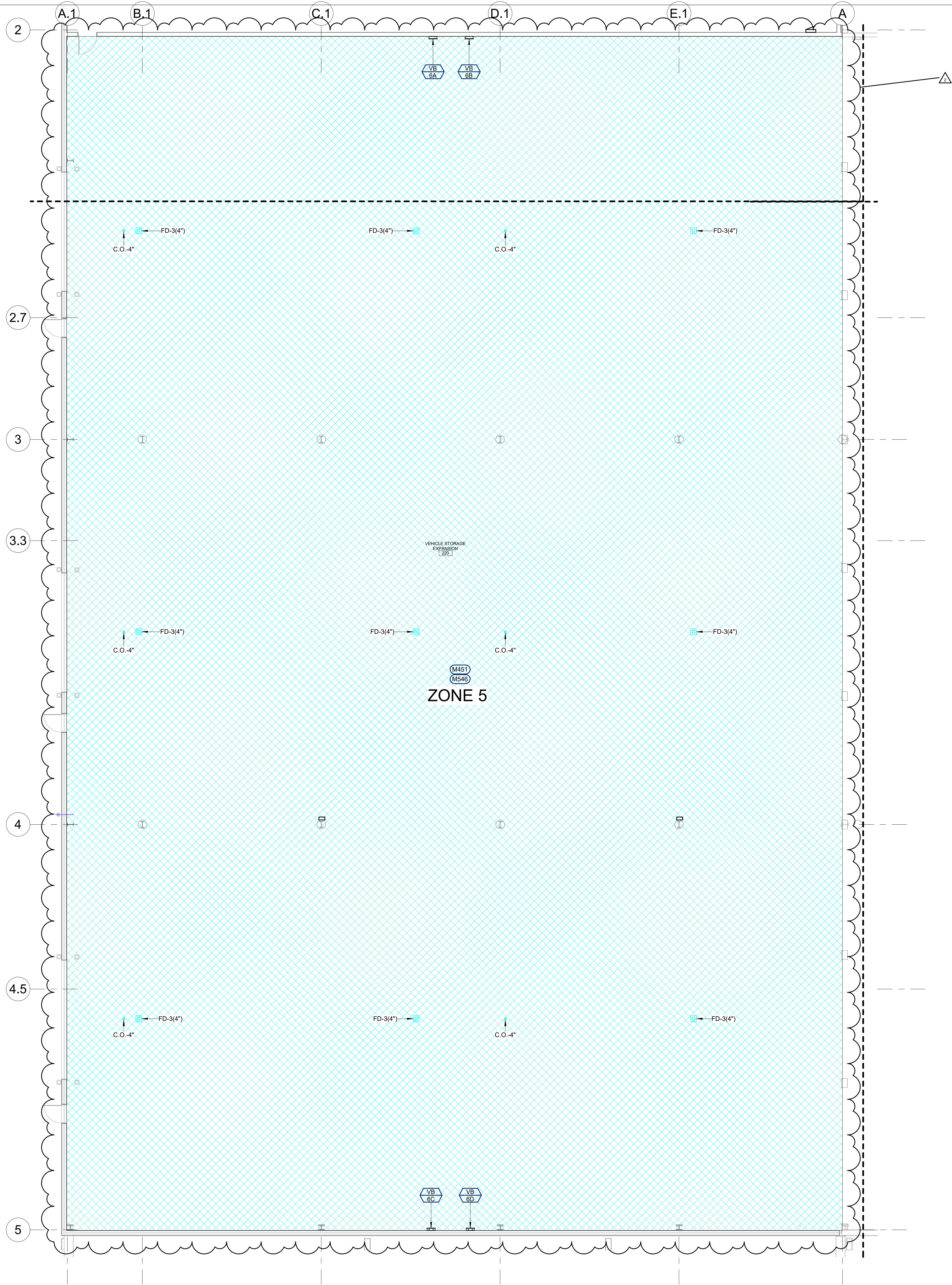


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 - K. COORDINATE LOCATION OF ALL UNDER FLOOR PIPING WITH GENERAL CONTRACTOR BEFORE FLOOR IS POURED.
 - L. NO BUGGIES WILL BE ALLOWED TO RUN OVER INFLOOR PIPING WHILE FLOOR IS BEING POURED.
 - M. CONTRACTOR SHALL PROVIDE AN AUTOCAD OR ELECTRONIC PIPING LAYOUT TO ENGINEER FOR APPROVAL BEFORE ANY PIPING IS INSTALLED.
 - N. MAINTAIN CURRENT AND ACCURATE FIELD DRAWINGS OF "AS-BUILT" CONDITIONS. THESE DRAWINGS SHALL BE REVIEWED AT EACH CONSTRUCTION PROGRESS MEETING.

- MECHANICAL SPECIFIC NOTES**
- M450 PROVIDE IN SCOPE OF ADD ALTERNATE #1.
 - M545 HATCHED AREA REPRESENTS INFLOOR HEAT. ZONE TO BE SERVED BY ONE MANIFOLD. CIRCUITS WITHIN THE SAME MANIFOLD SHALL ALL BE APPROXIMATELY THE SAME LENGTH FOR EQUAL PRESSURE DROP ACROSS ALL CIRCUITS. TEMPERATURE CONTROLS CONTRACTOR SHALL PROVIDE A SLAB TEMPERATURE SENSOR AND THREE-WAY CONTROL VALVE FOR EACH MANIFOLD.

3/20/26 ADDENDUM 3 CHANGES





- HVAC PIPING MISCELLANEOUS NOTES**
- A DRAWINGS ARE SCHEMATIC IN NATURE. MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS BEFORE BEGINNING WORK. REPORT DISCREPANCIES TO ARCHITECT/ENGINEER.

B DO NOT ROUTE PIPING ABOVE OR IN FRONT OF ELECTRICAL GEAR. MAINTAIN CODE REQUIRED CLEARANCES.

C COORDINATE PIPING LAYOUTS WITH ALL TRADES. PROVIDE OFFSET AS REQUIRED TO AVOID CONFLICT.

D PROVIDE ADEQUATE VENTILATION AS PER OWNER AND OSHA TO PROPERLY REMOVE ODORS AND FUMES FROM SPACES WHERE WORK IS BEING PERFORMED TO OUTDOORS.

K COORDINATE LOCATION OF ALL UNDER FLOOR PIPING WITH GENERAL CONTRACTOR BEFORE FLOOR IS POURED.

L NO SUGGES WILL BE ALLOWED TO RUN OVER INFLOOR PIPING WHILE FLOOR IS BEING POURED.

M CONTRACTOR SHALL PROVIDE AN AUTOCAD OR ELECTRONIC PIPING LAYOUT TO ENGINEER FOR APPROVAL BEFORE ANY PIPING IS INSTALLED.

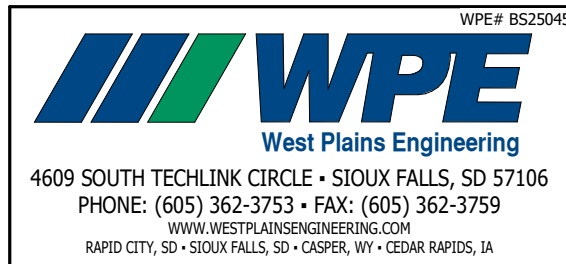
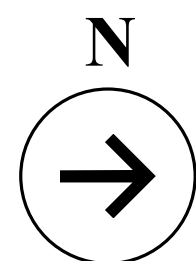
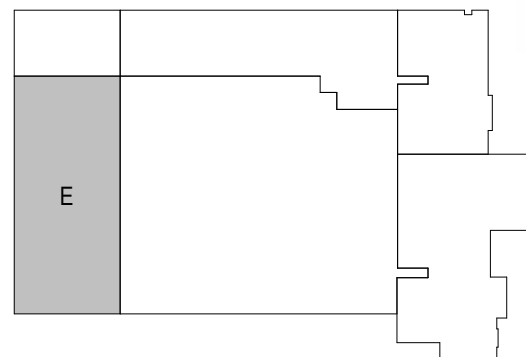
N MAINTAIN CURRENT AND ACCURATE FIELD DRAWINGS OF "AS-BUILT" CONDITIONS. THESE DRAWINGS SHALL BE REVIEWED AT EACH CONSTRUCTION PROGRESS MEETING.

- MECHANICAL SPECIFIC NOTES**
- M451 PROVIDE IN SCOPE OF ADD ALTERNATE #2.

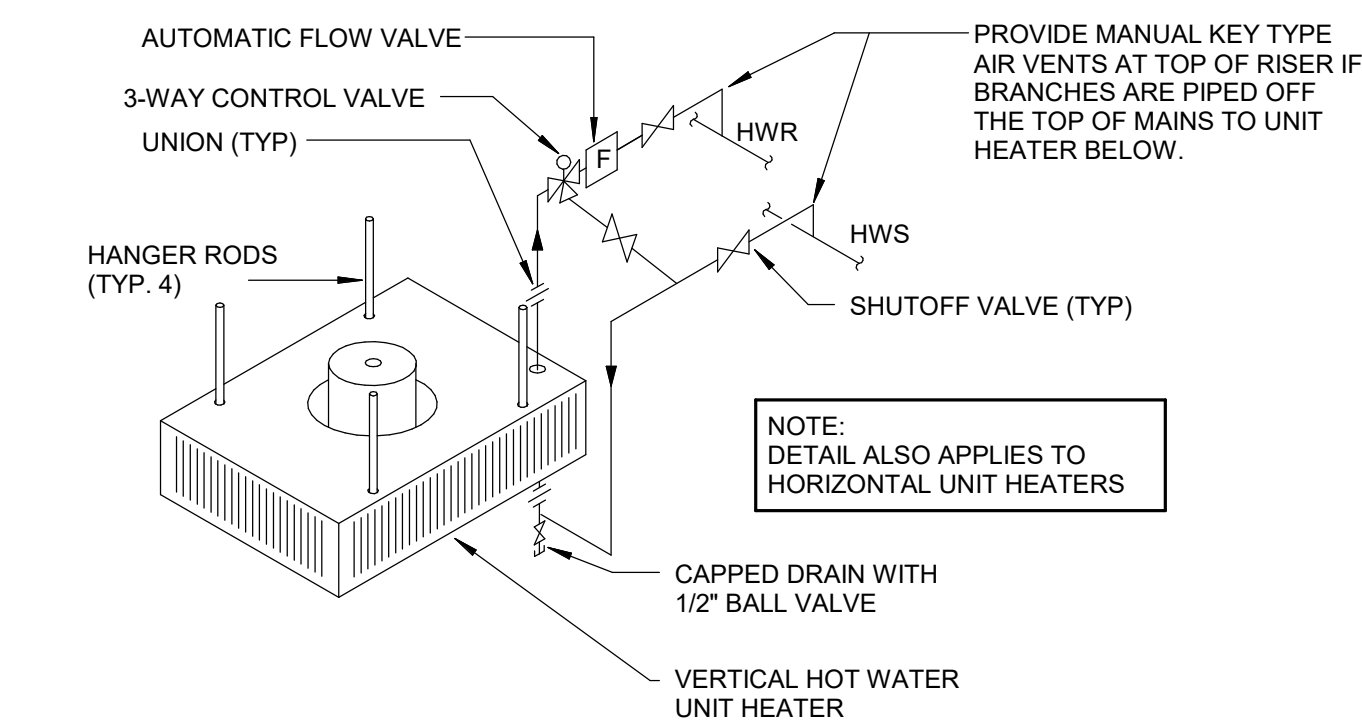
M546 HATCHED AREA REPRESENTS INFLOOR HEAT. ZONE TO BE SERVED BY FOUR MANIFOLDS. CIRCUITS WITHIN THE SAME MANIFOLD SHALL ALL BE APPROXIMATELY THE SAME LENGTH FOR EQUAL PRESSURE DROP ACROSS ALL CIRCUITS. TEMPERATURE CONTROLS CONTRACTOR SHALL PROVIDE A SLAB TEMPERATURE SENSOR AND THREE-WAY CONTROL VALVE FOR EACH MANIFOLD. SLAB TEMPERATURE SETPOINT SHALL BE THE SAME FOR ALL SENSORS WITHIN THE SAME ZONE.

1 FIRST FLOOR IN-FLOOR HEAT PLAN - AREA E - ALTERNATE #2
1/8" = 1'-0"

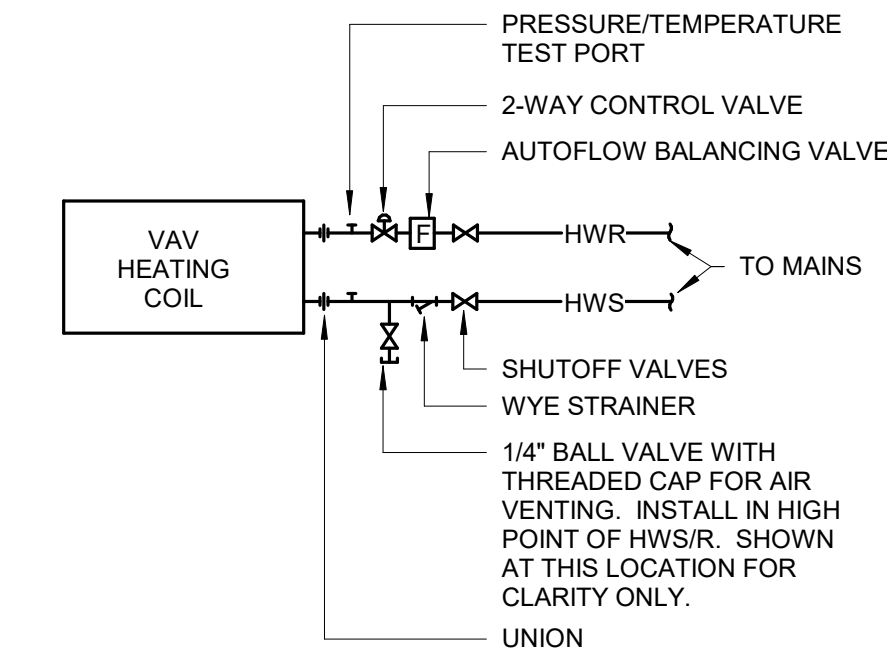
2 3/20/26 ADDENDUM 3 CHANGES



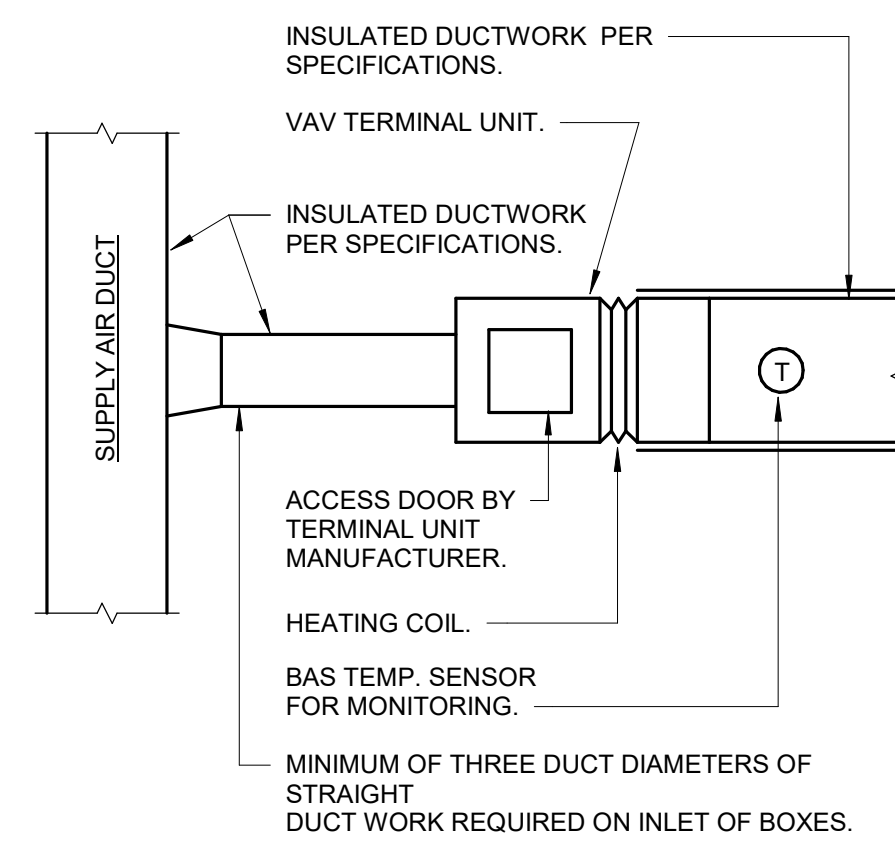
Plans for ABERDEEN PUBLIC WORKS Maintenance Building Aberdeen		FIRST FLOOR IN-FLOOR HEAT PLANS ALTERNATE #2	Revised: NC Project: NC Location: NC	M509
HKG Architects, Inc. Aberdeen, S.D.			02/20/26	8523045



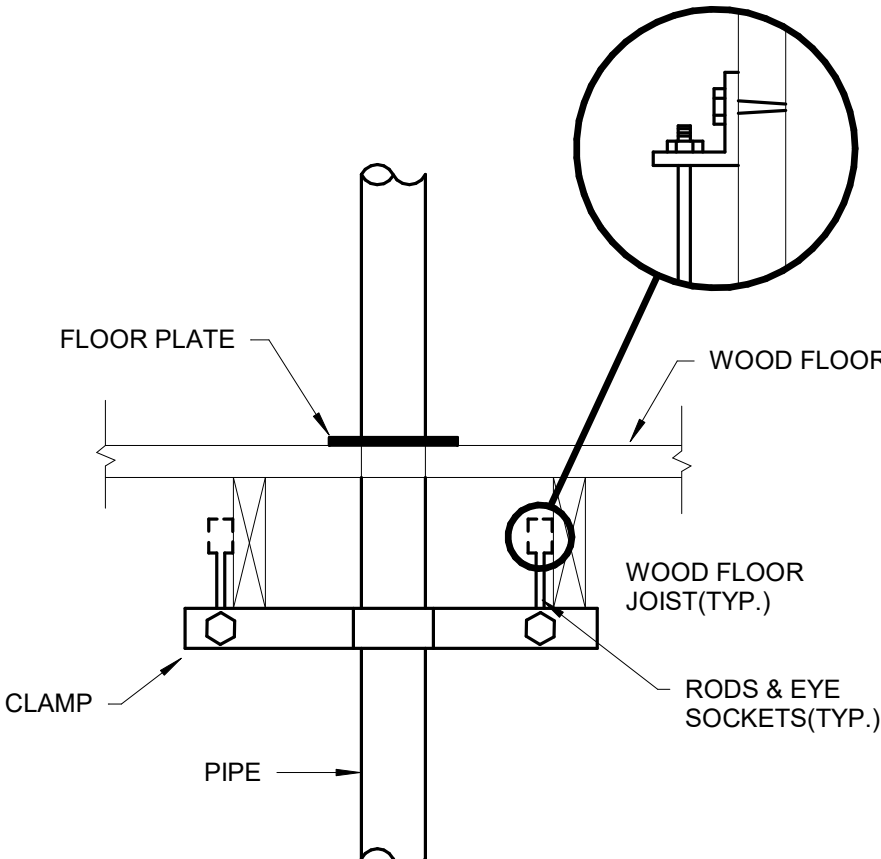
1 VERTICAL - HOT WATER UNIT HEATER DETAIL
NO SCALE



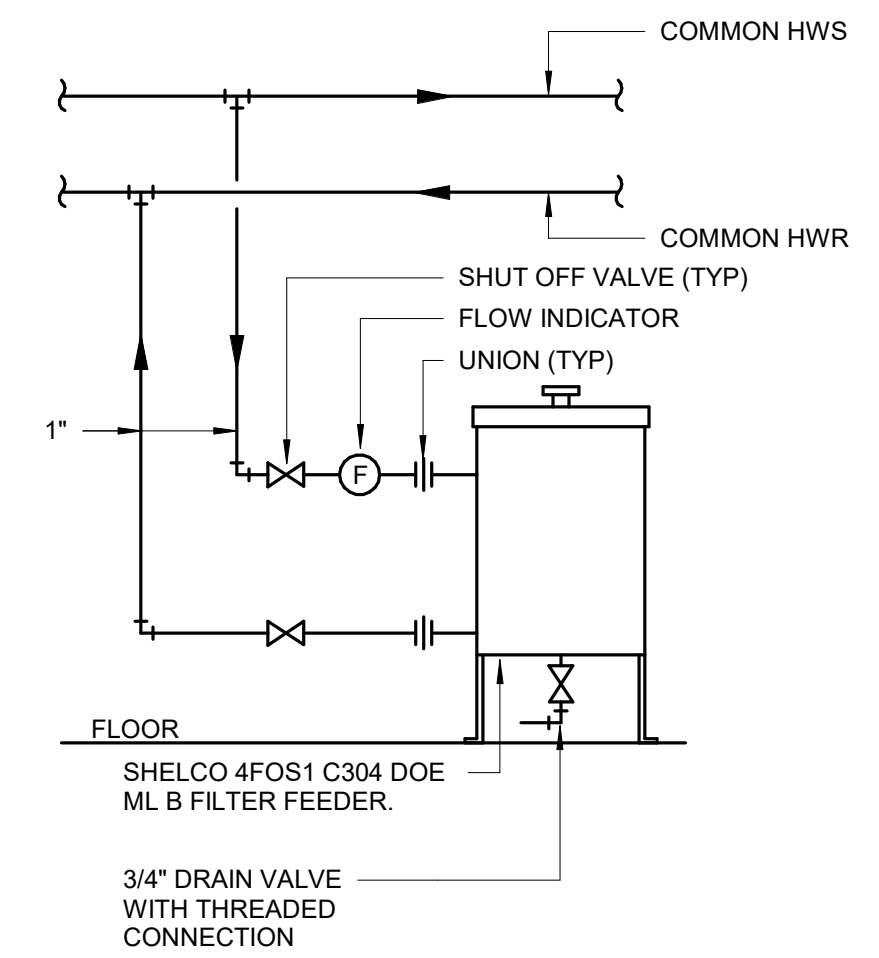
2 REHEAT COIL PIPING DIAGRAM
NO SCALE



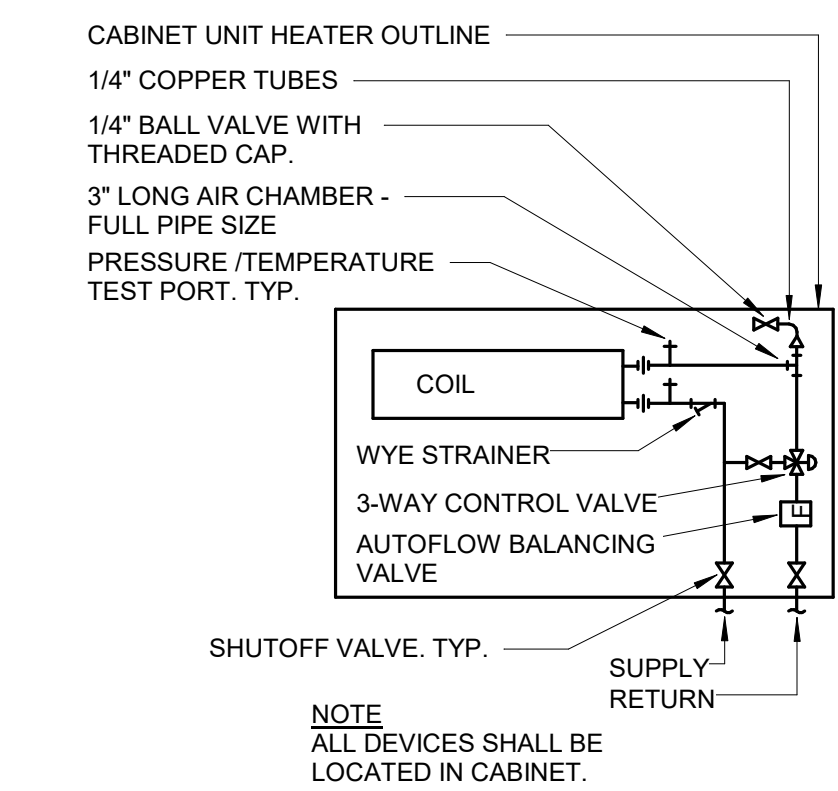
3 VAV - TERMINAL UNIT DETAIL
NO SCALE



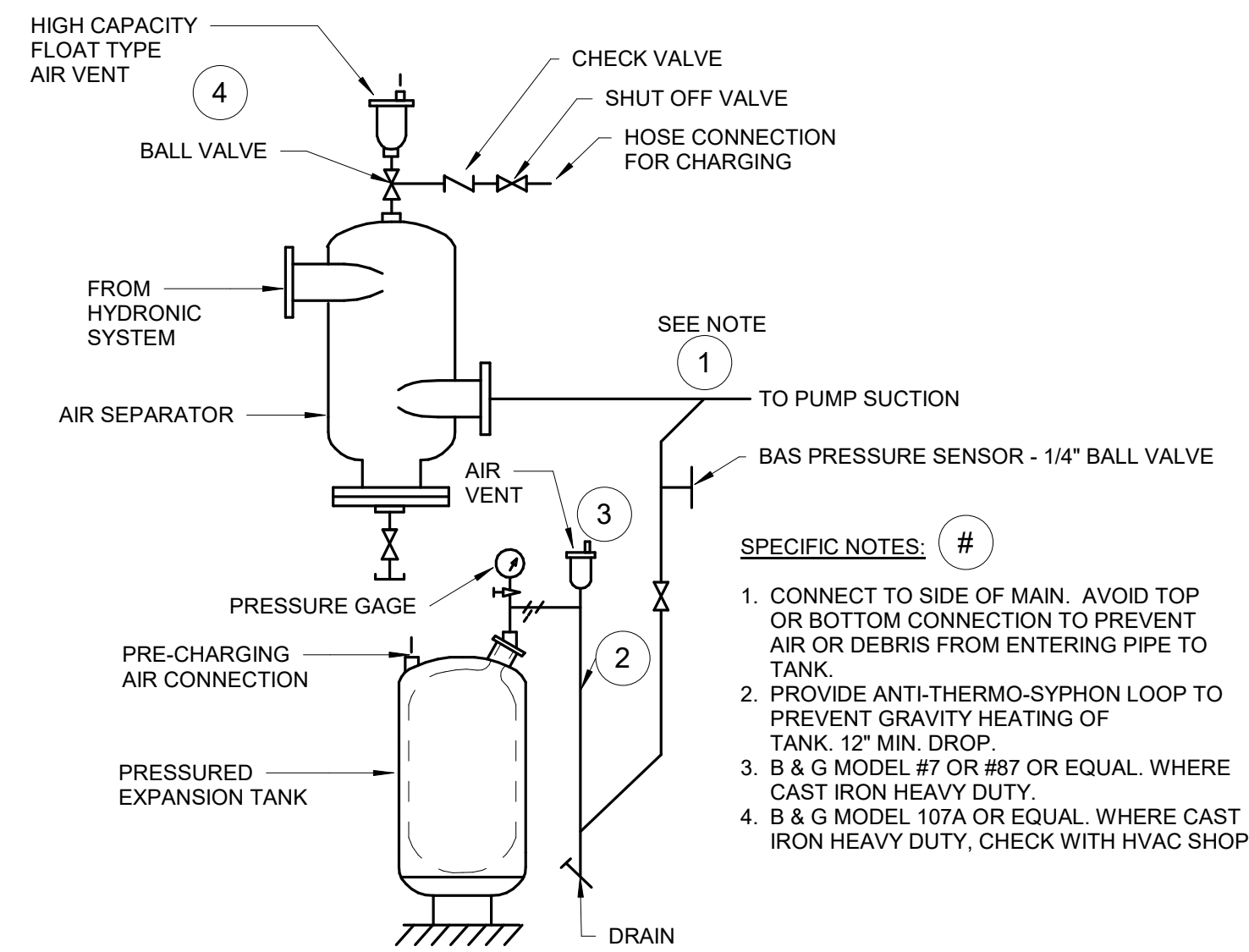
4 VERTICAL PIPE SUPPORT DETAIL
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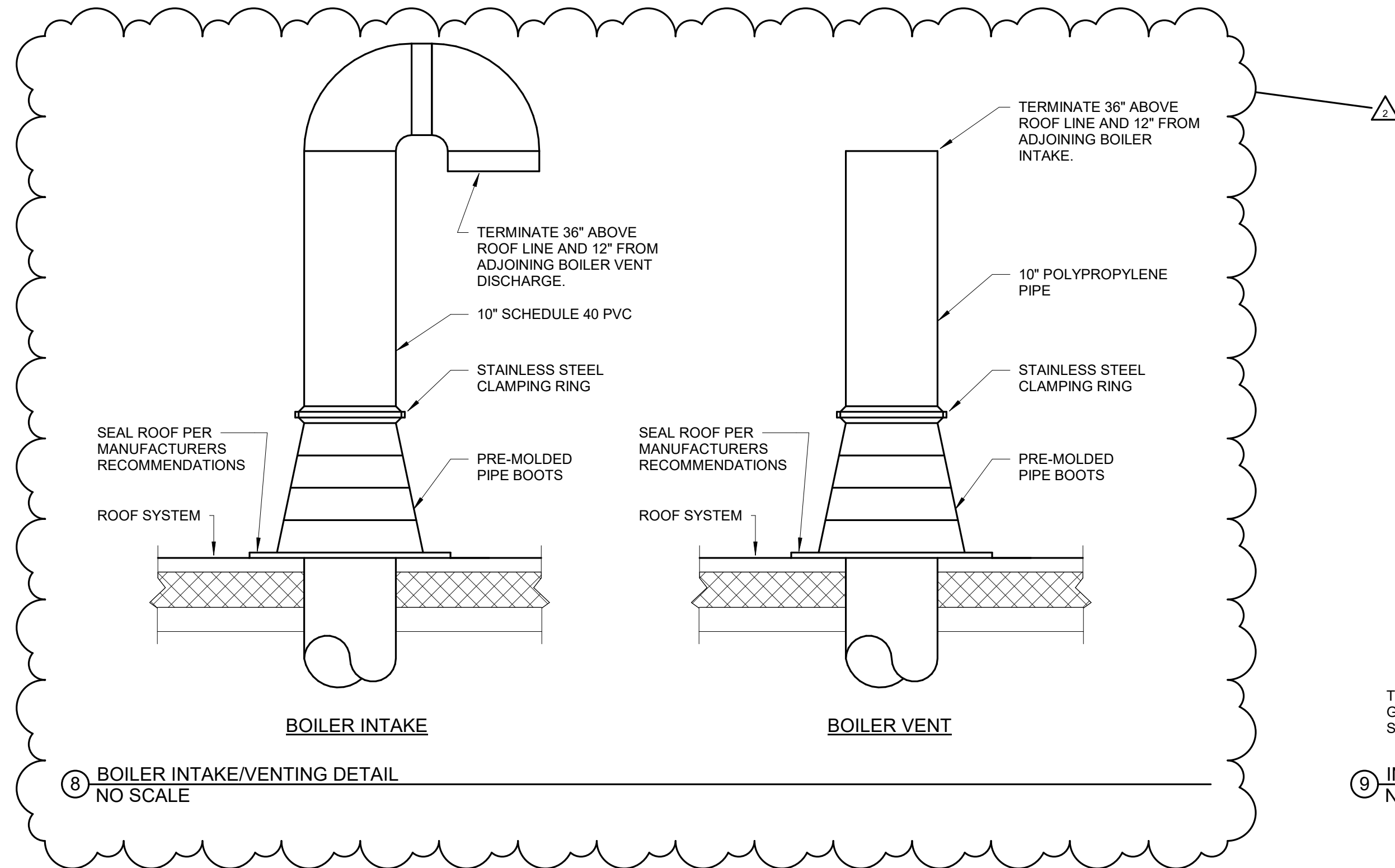
5 CHEMICAL POT FEEDER DETAIL
NO SCALE



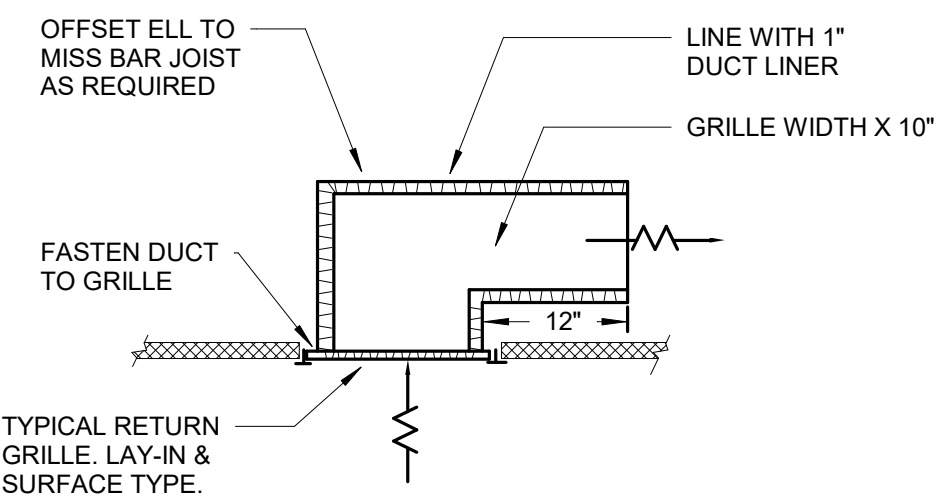
6 CABINET UNIT HEATER - PIPING DETAIL
NO SCALE



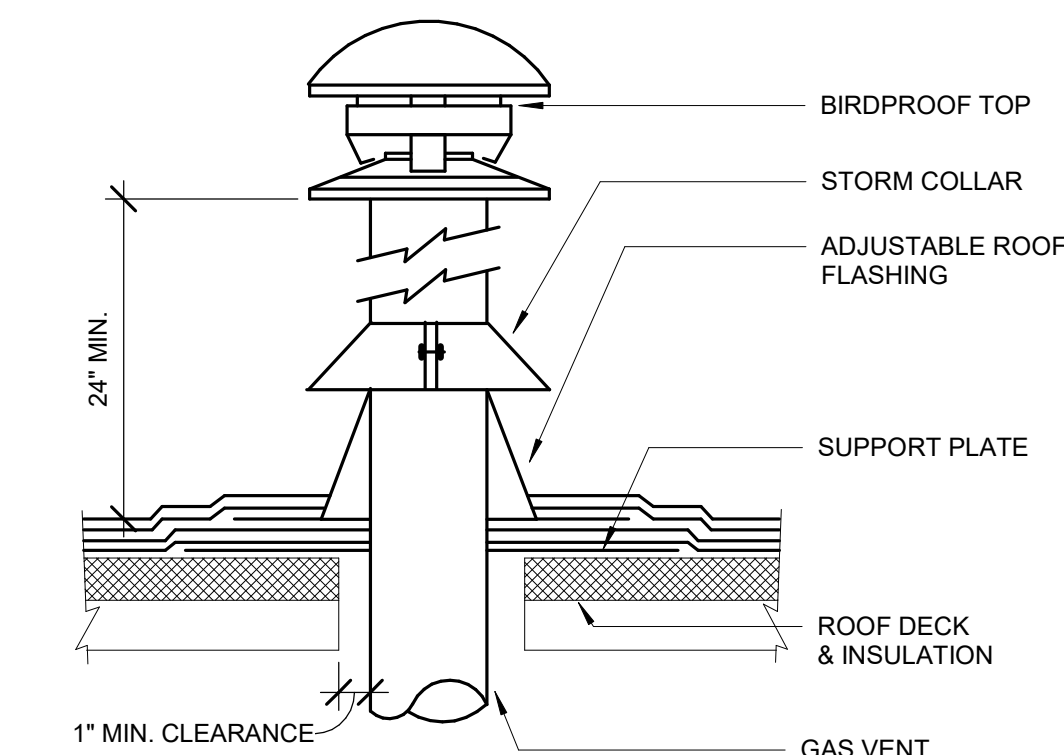
7 VERTICAL DIAPHRAM EXPANSION TANK DETAIL
NO SCALE



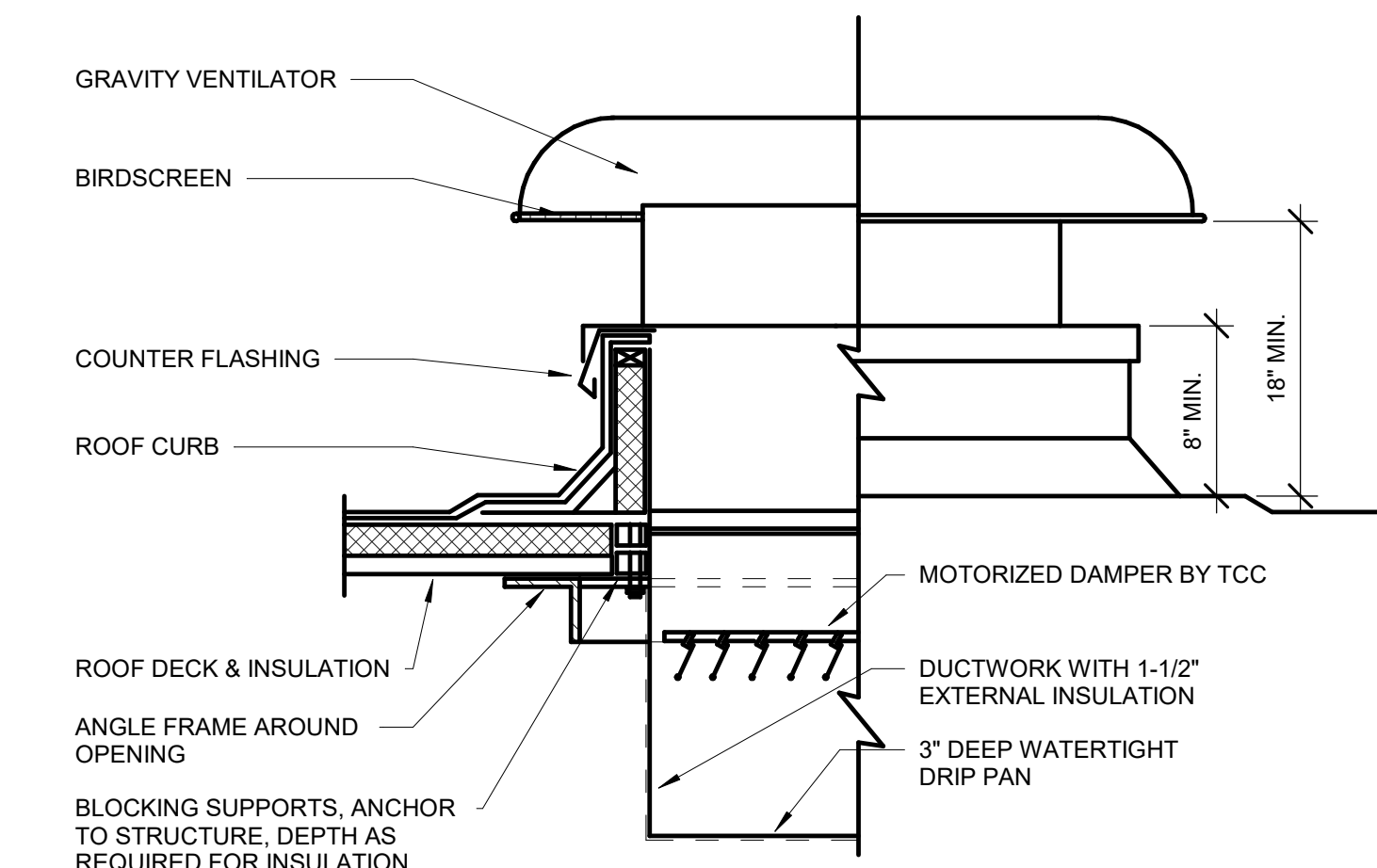
8 BOILER INTAKE/VENTING DETAIL
NO SCALE



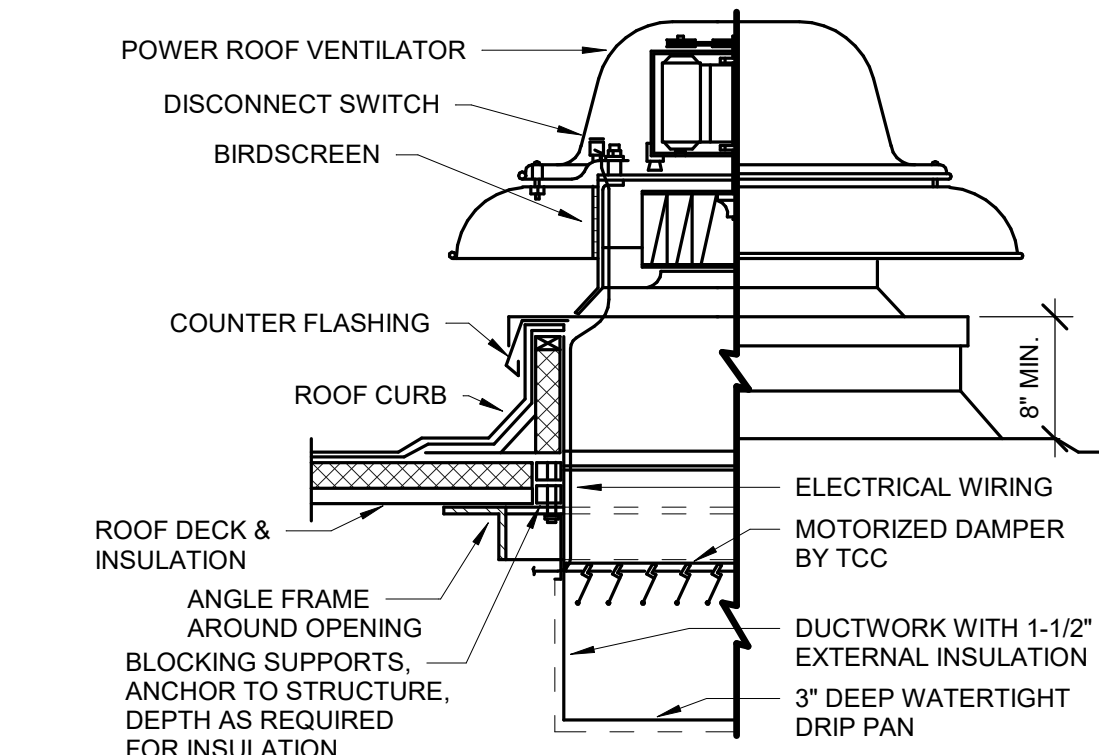
9 INSULATED RETURN ELBOW DETAIL
NO SCALE



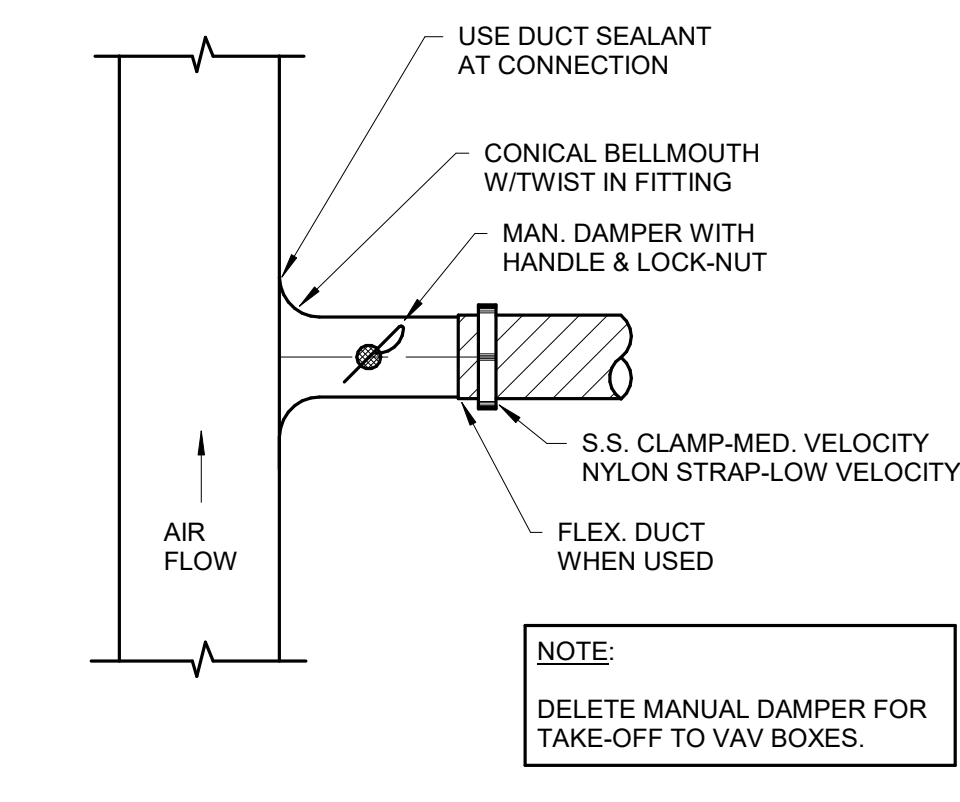
10 GAS VENT DETAIL
NO SCALE



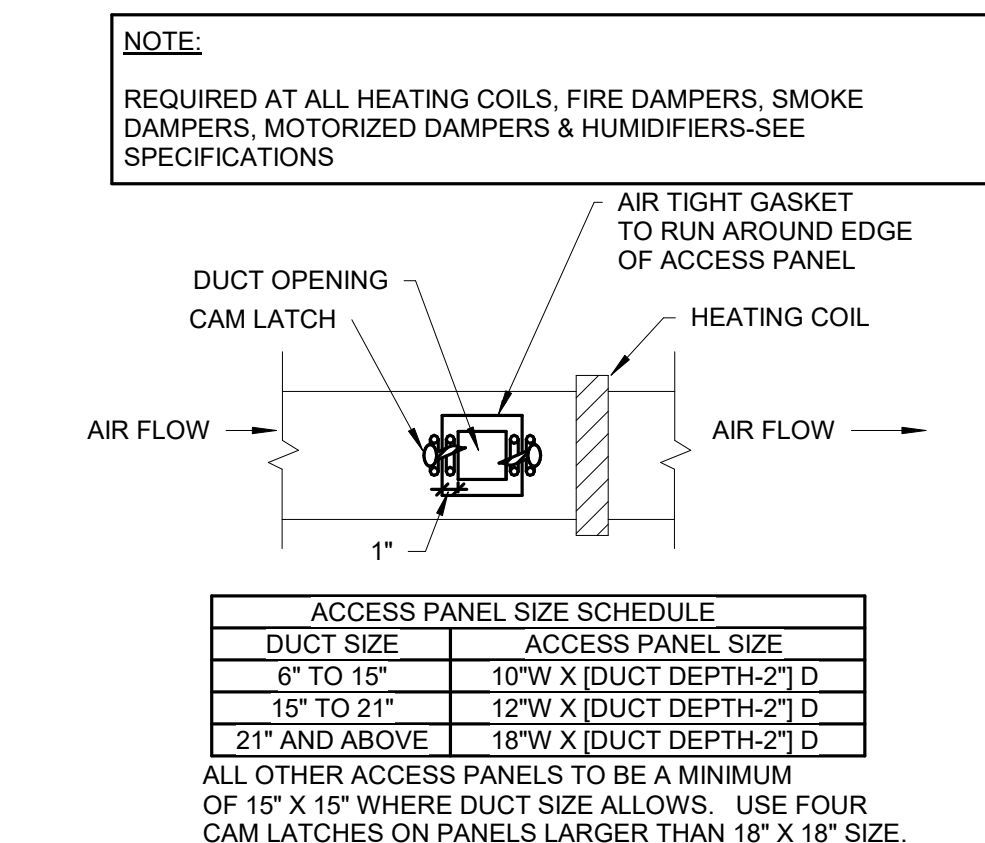
11 GRAVITY VENTILATOR DETAIL
NO SCALE



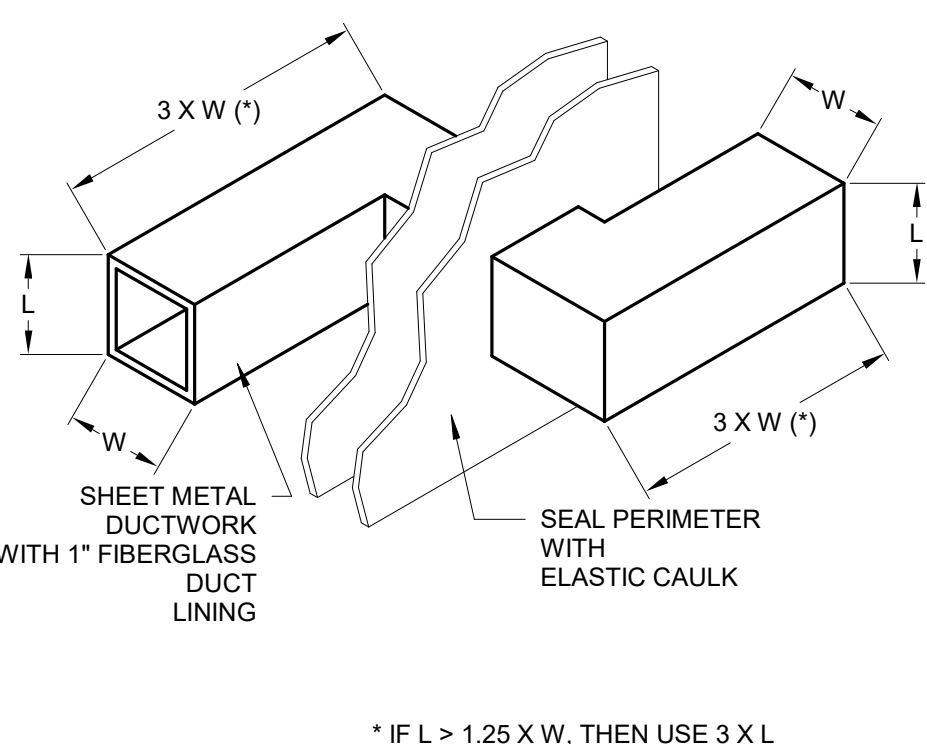
12 POWER ROOF VENTILATOR DETAIL
NO SCALE



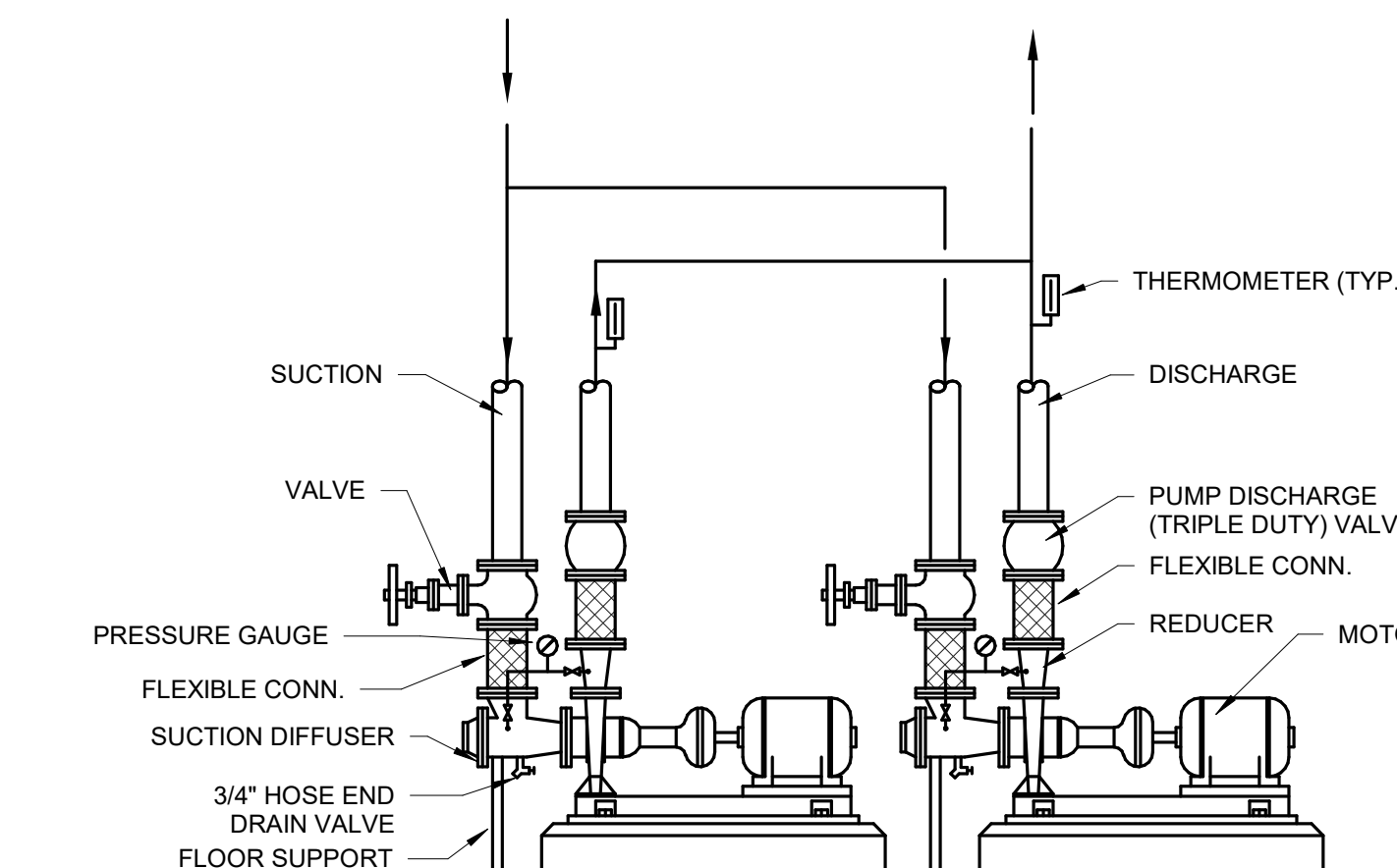
13 ROUND DUCT TAKE-OFF DETAIL
NO SCALE



14 ACCESS PANEL DETAIL
NO SCALE



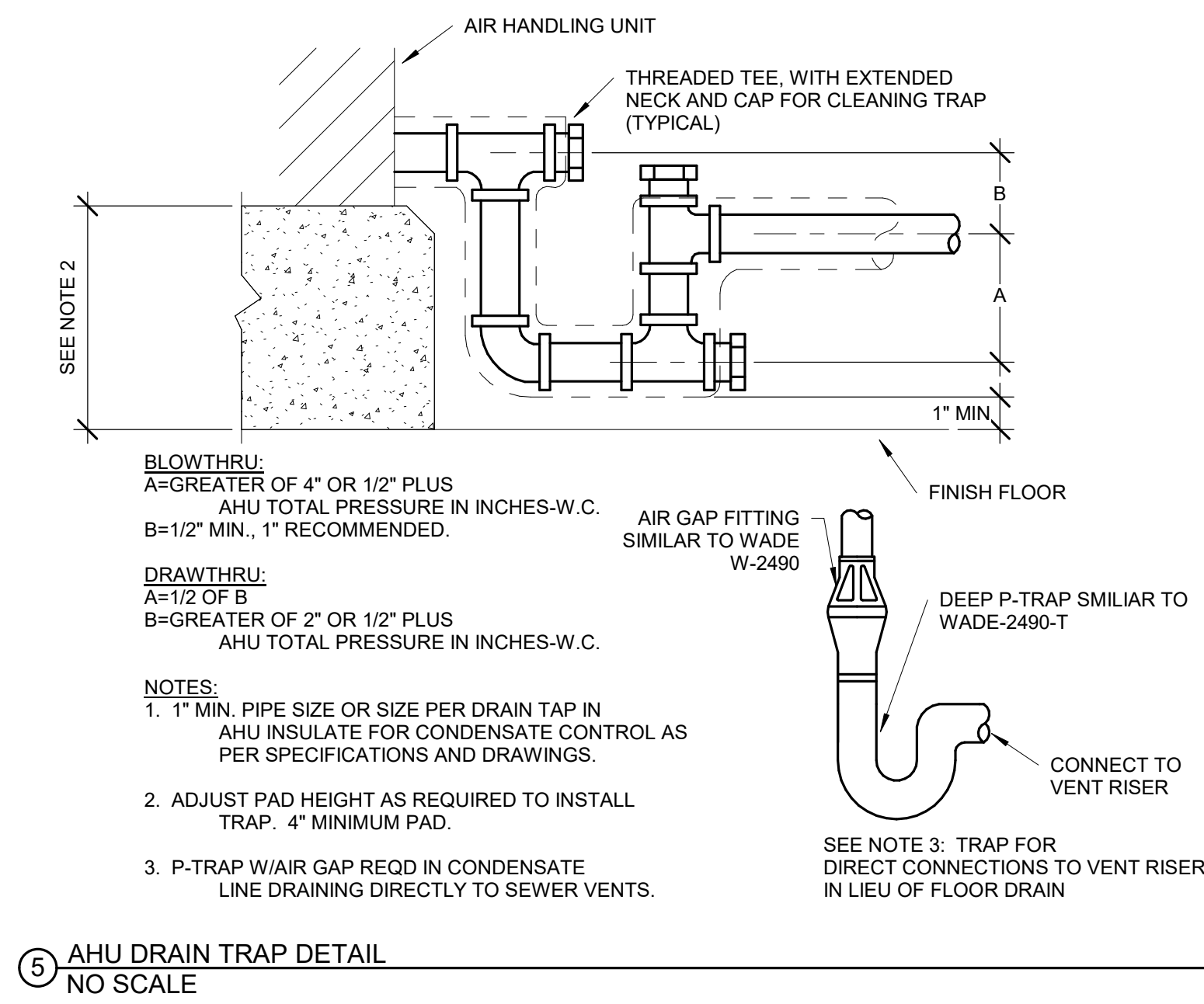
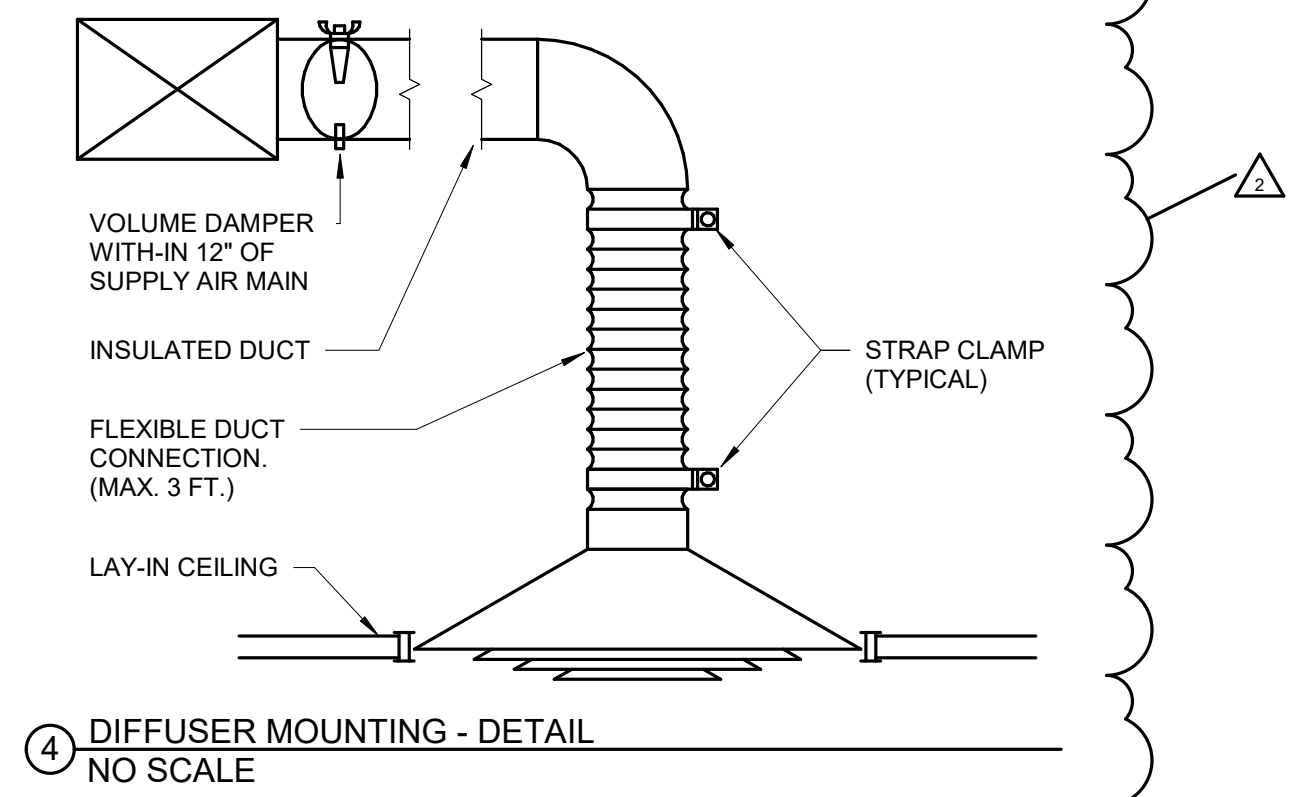
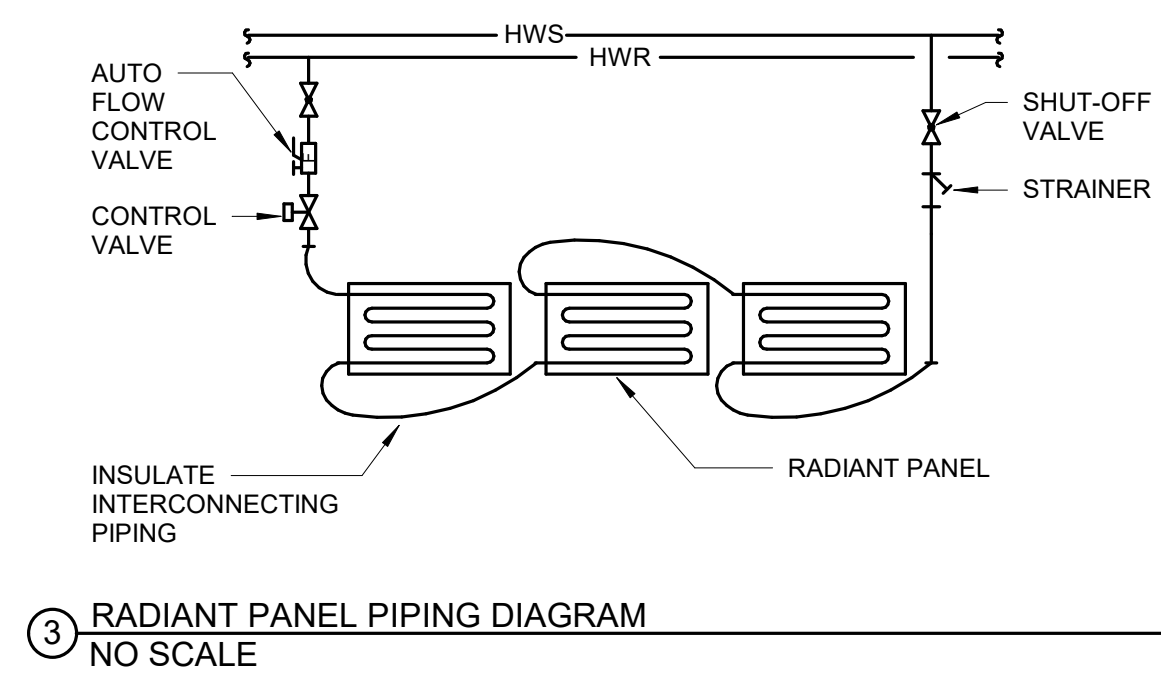
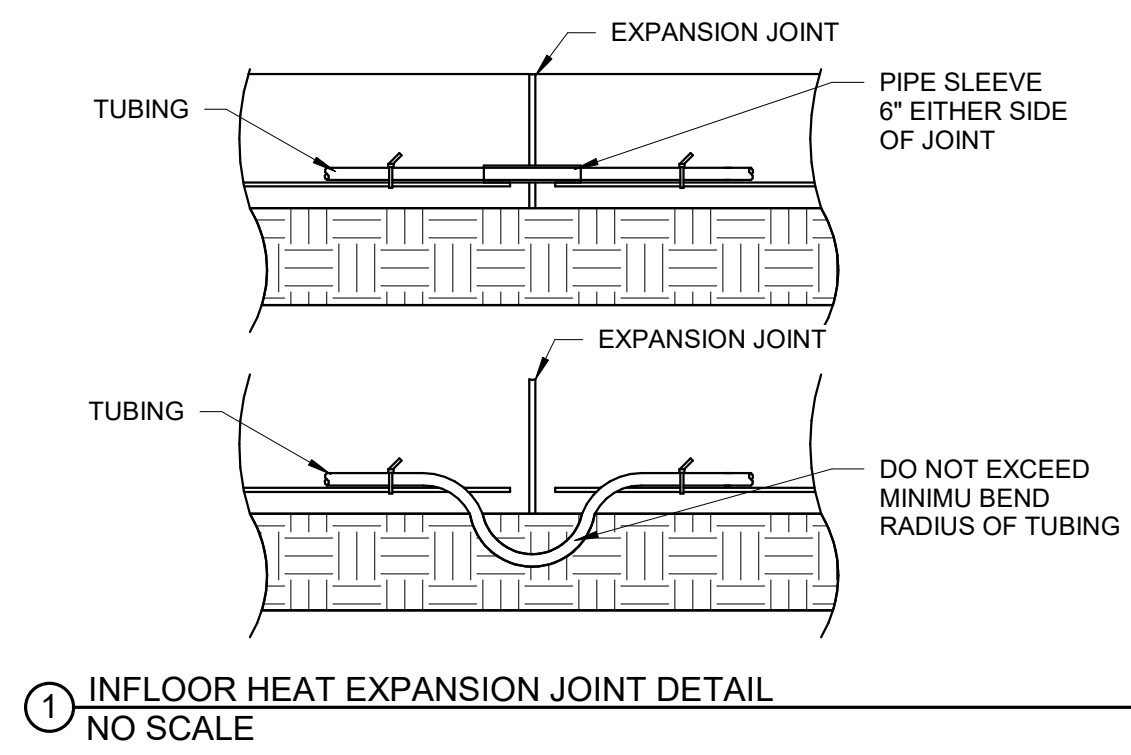
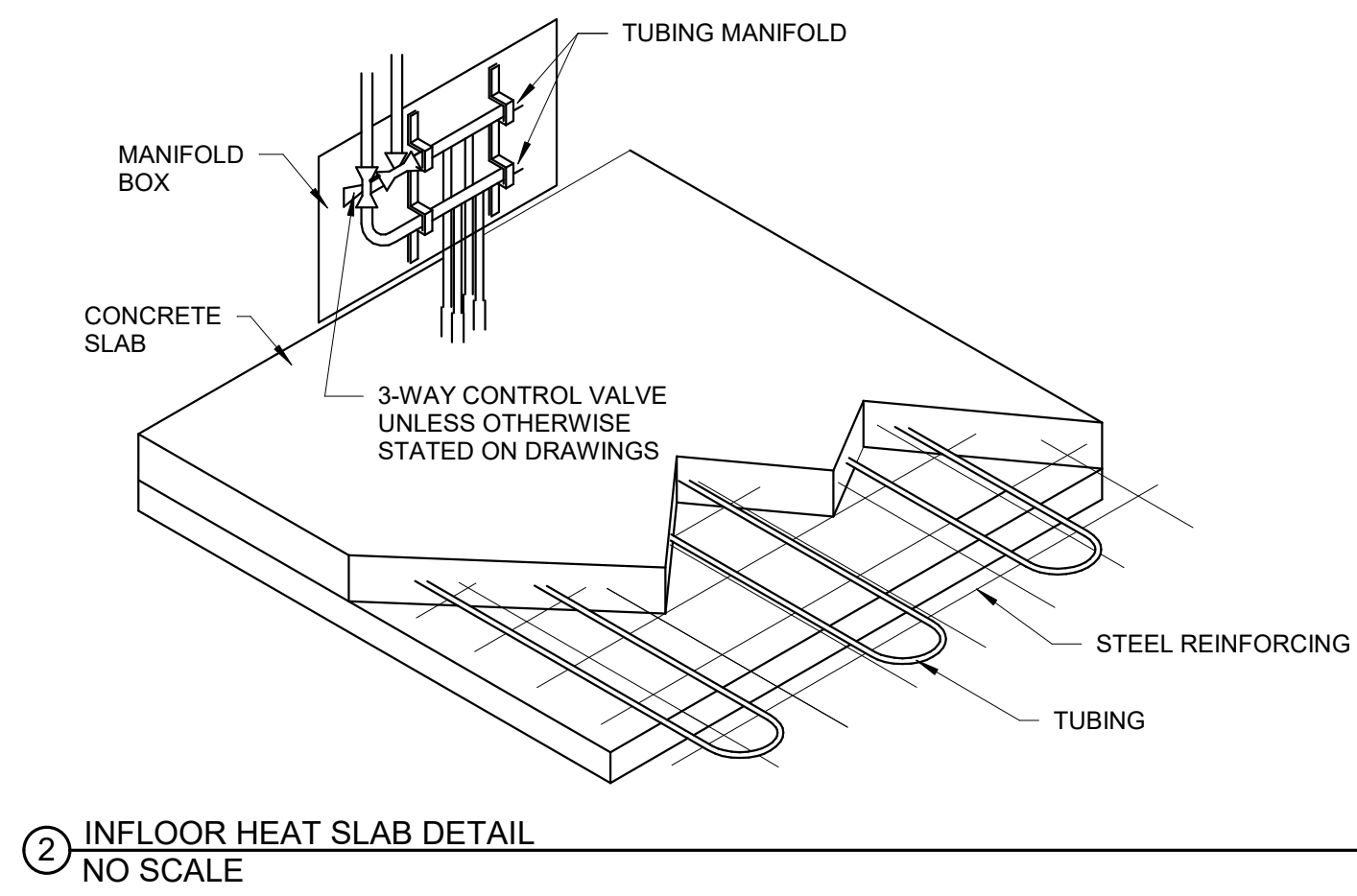
15 RETURN AIR TRANSFER DUCT DETAIL
NO SCALE



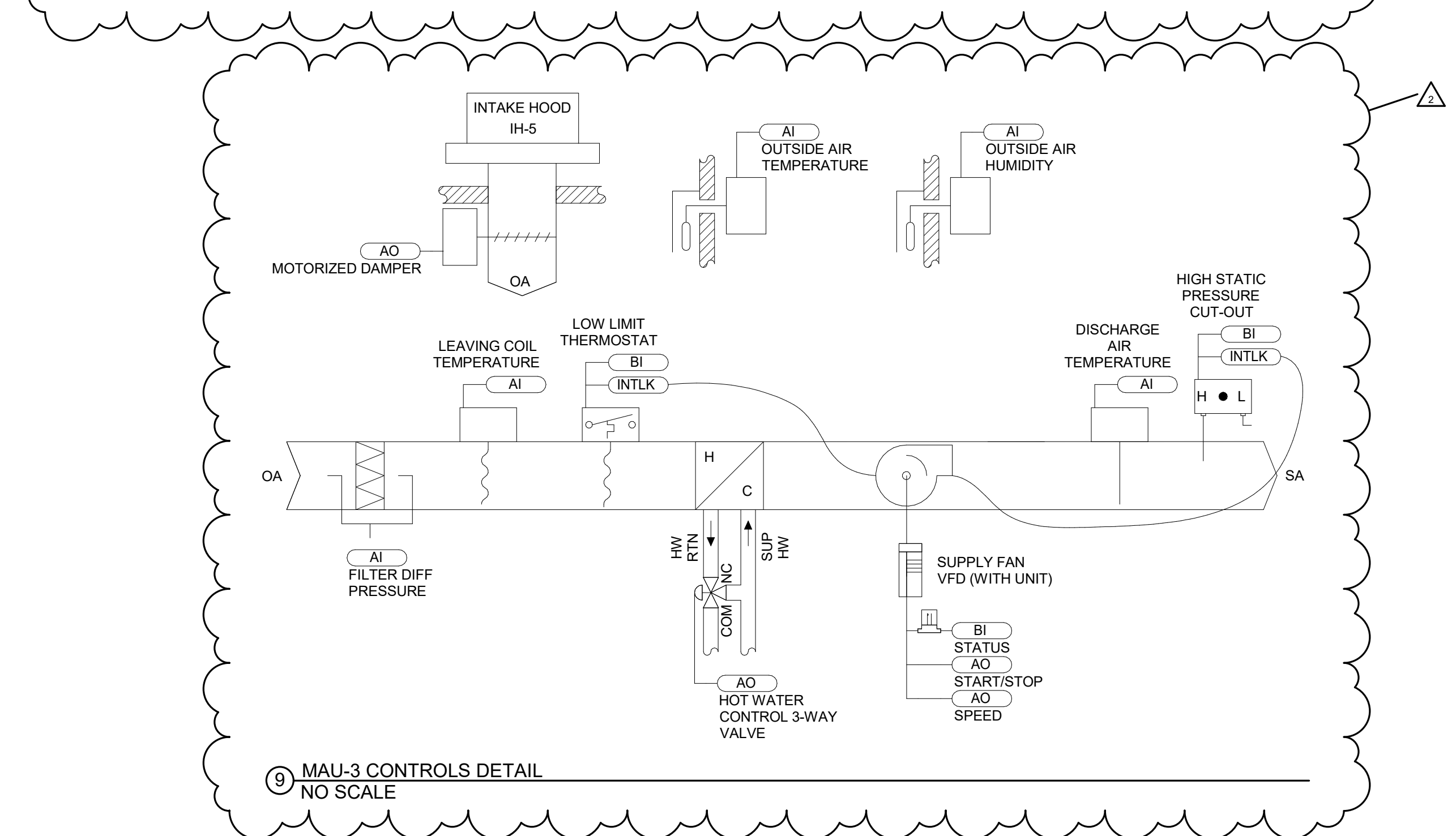
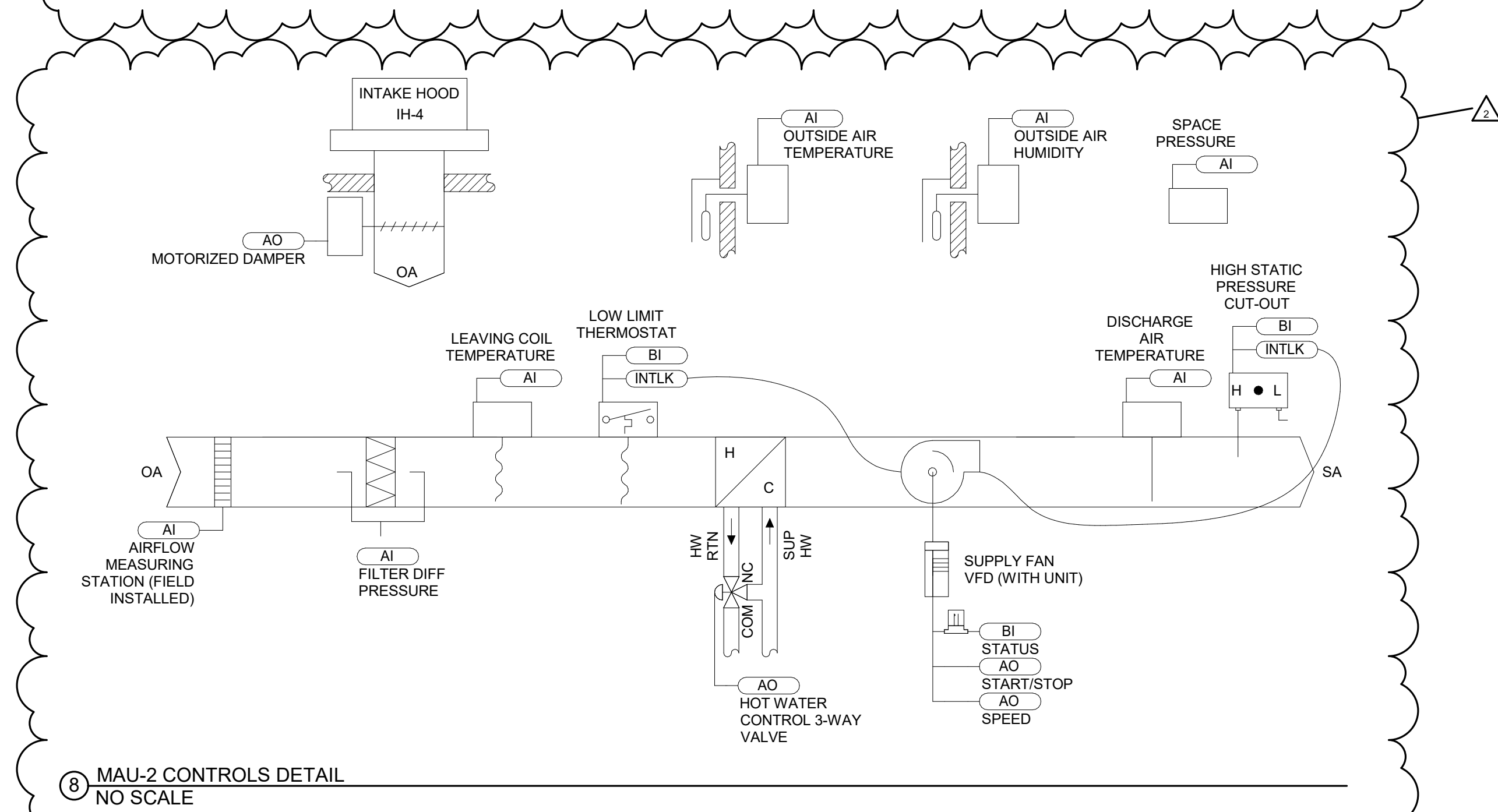
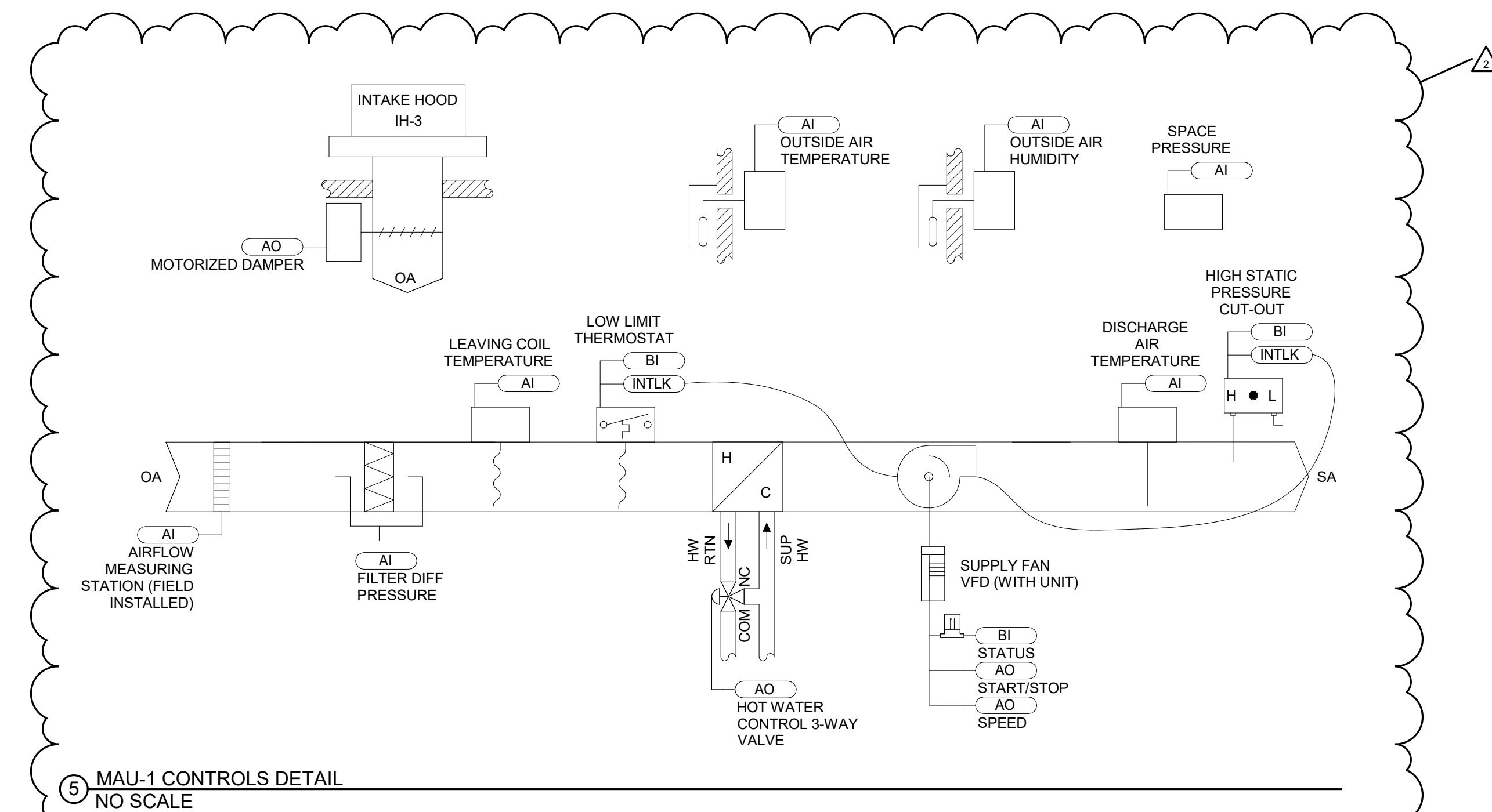
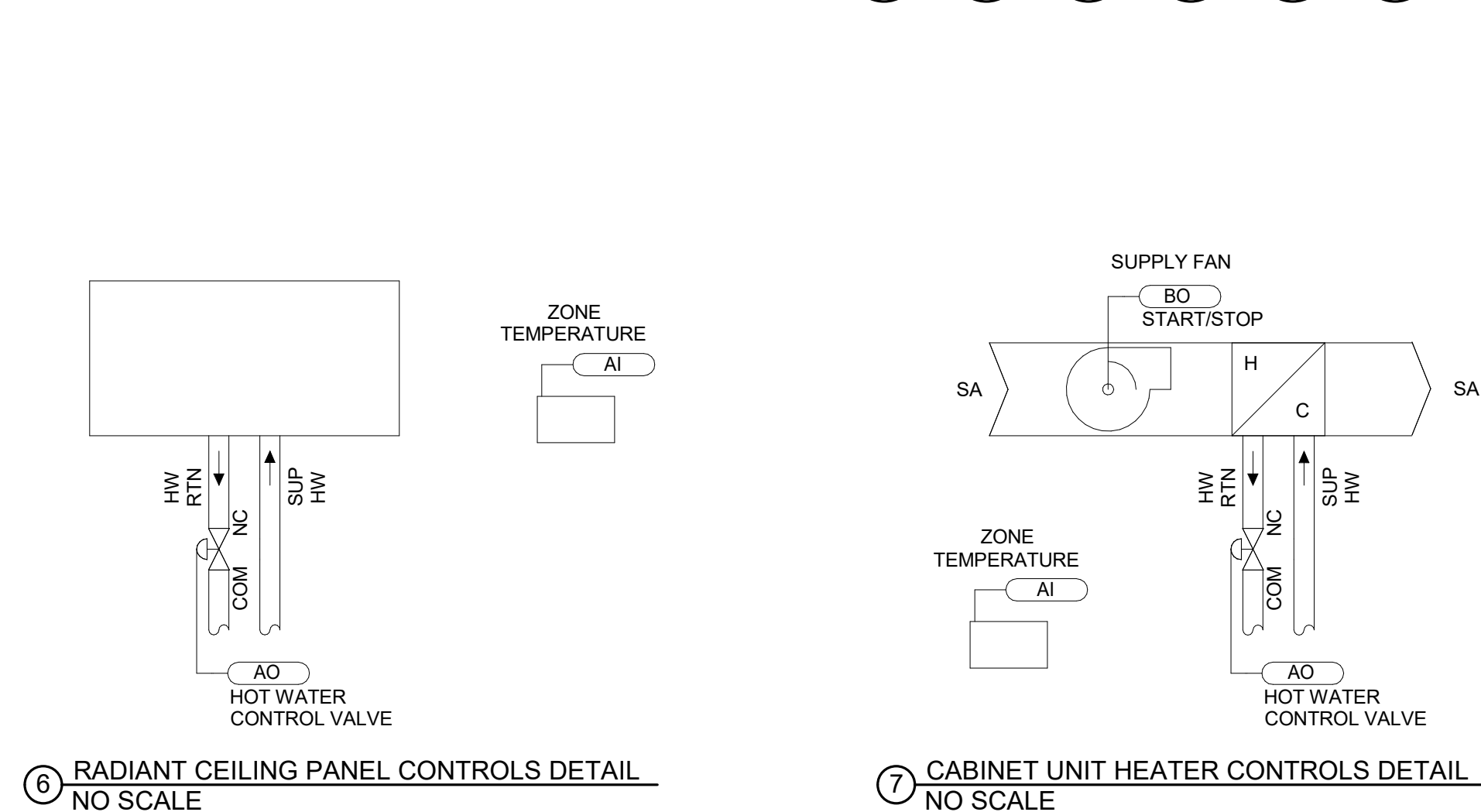
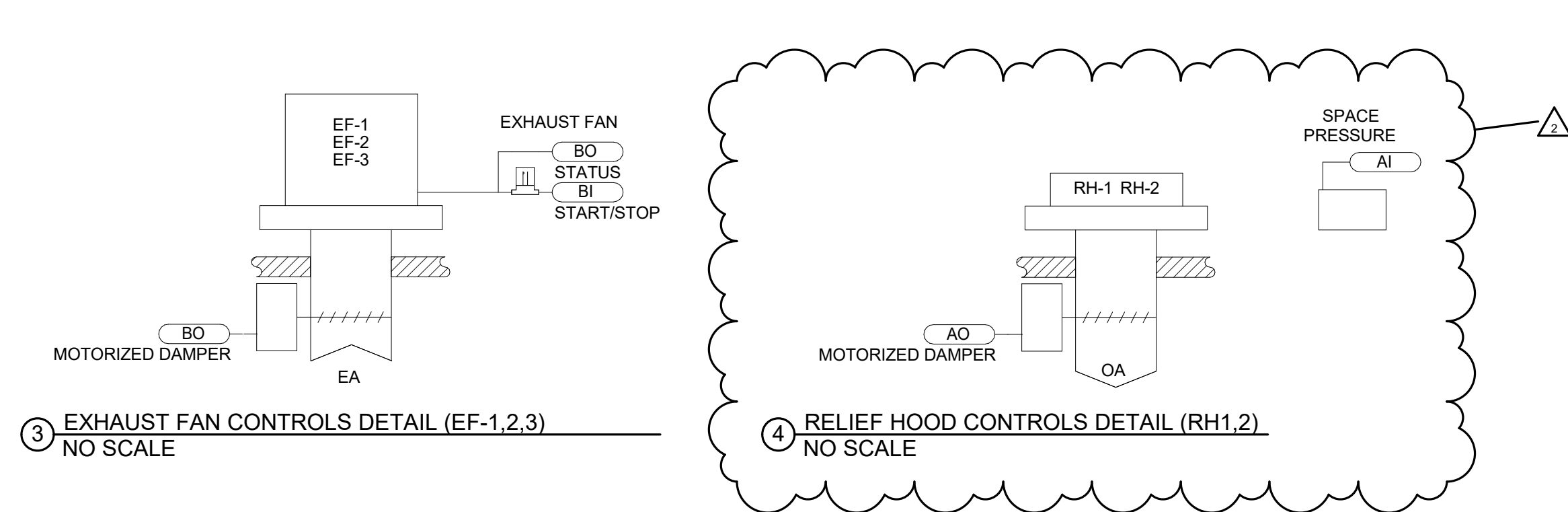
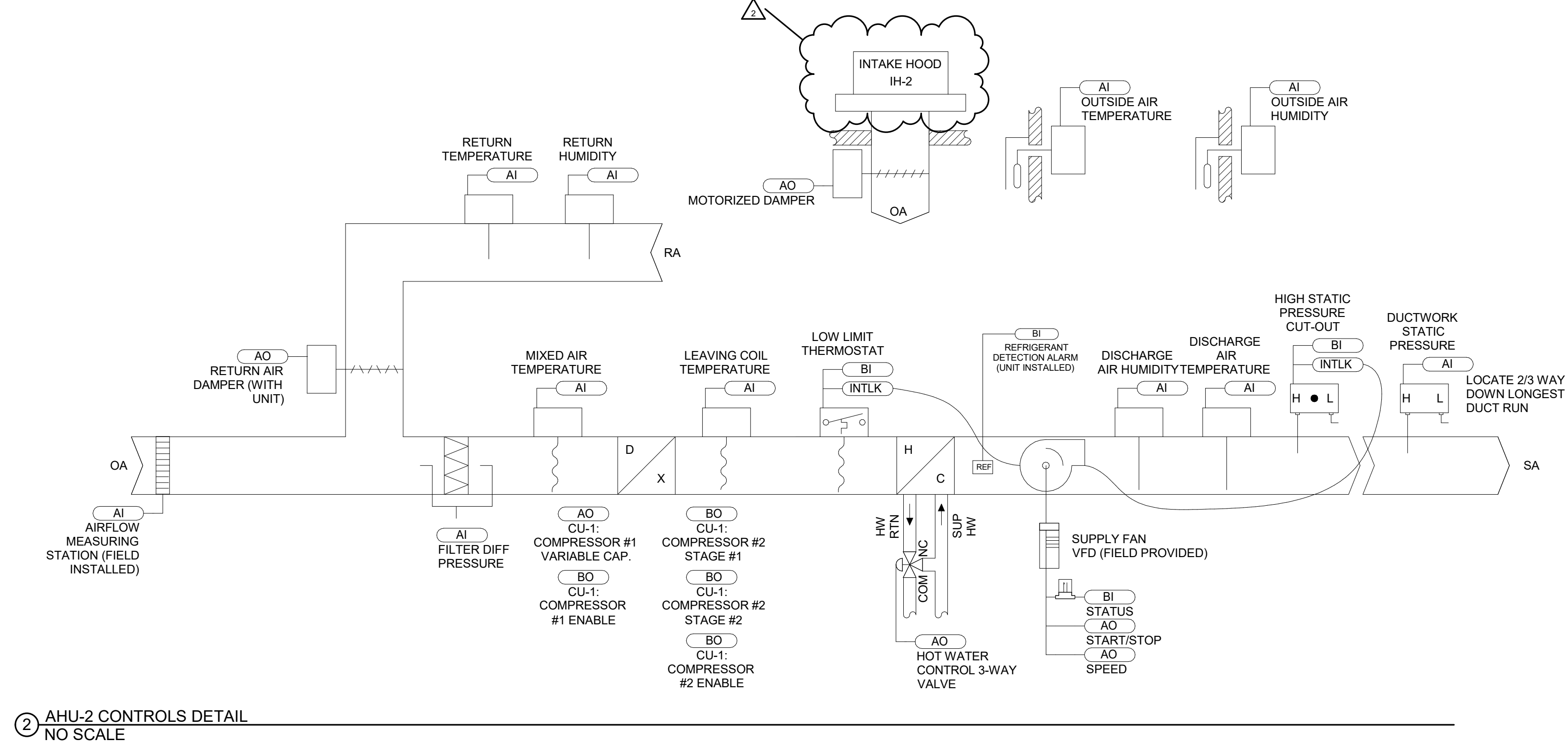
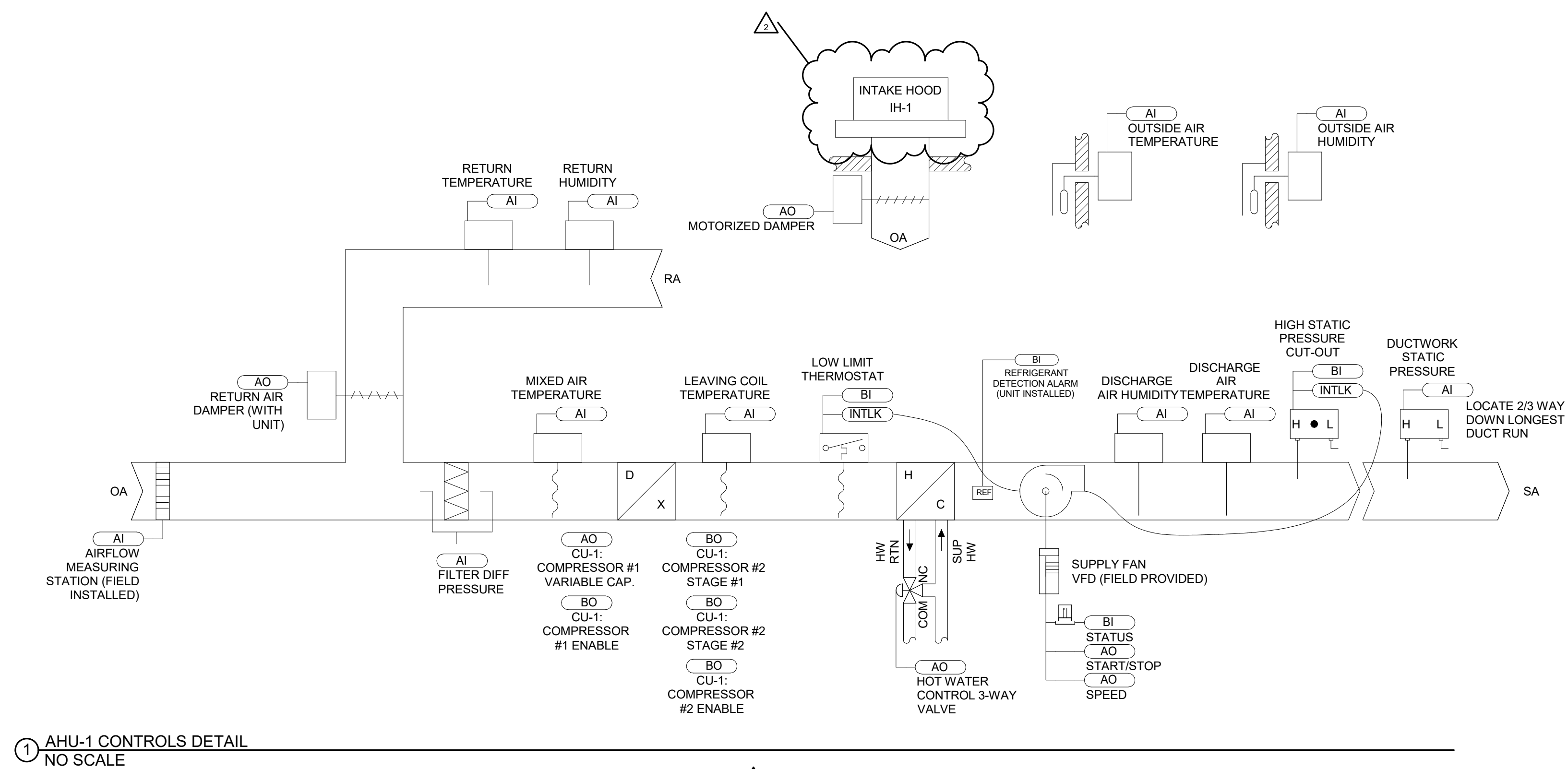
16 BASE MOUNTED PUMP SCHEMATIC
NO SCALE



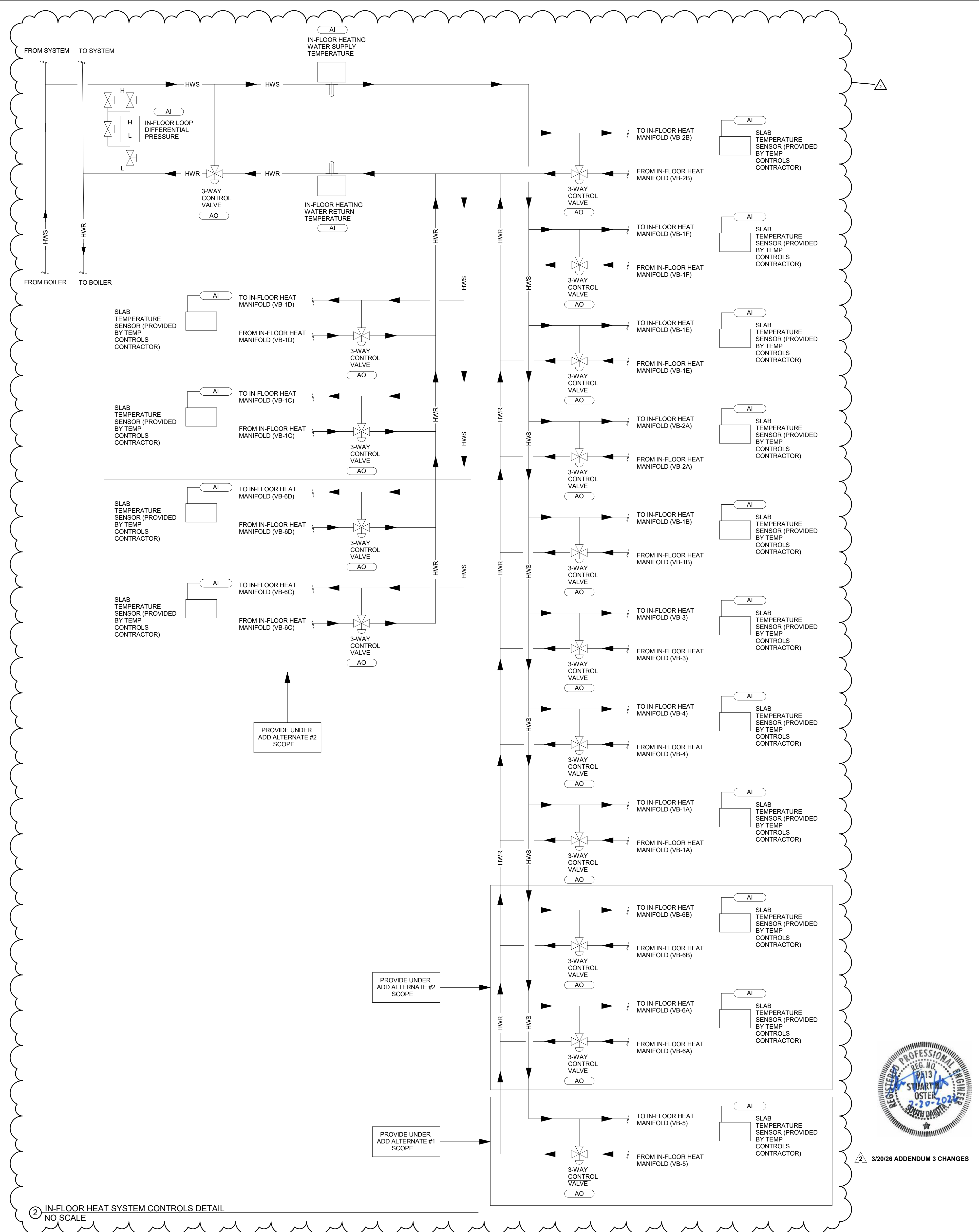
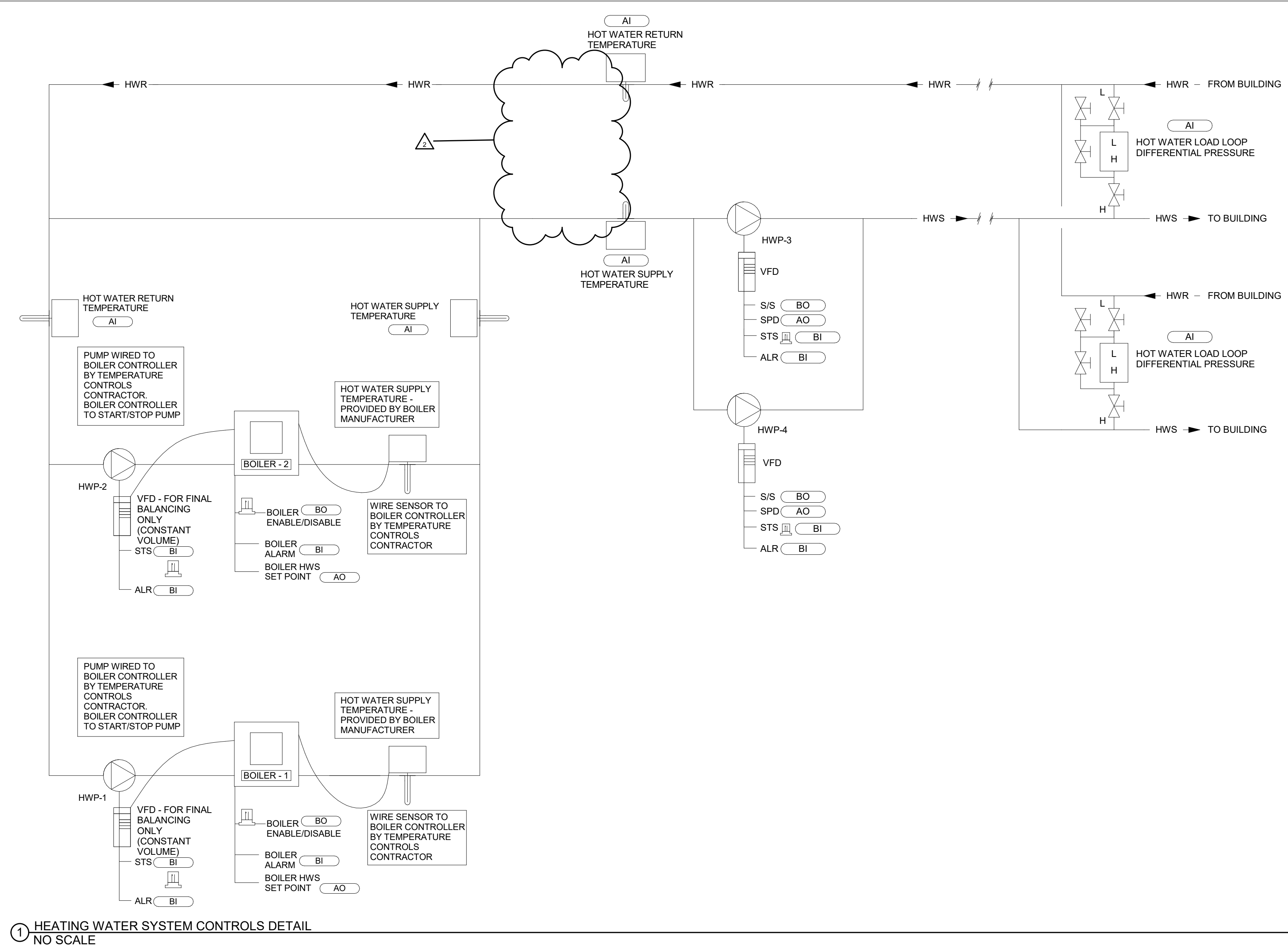
3/20/26 ADDENDUM 3 CHANGES



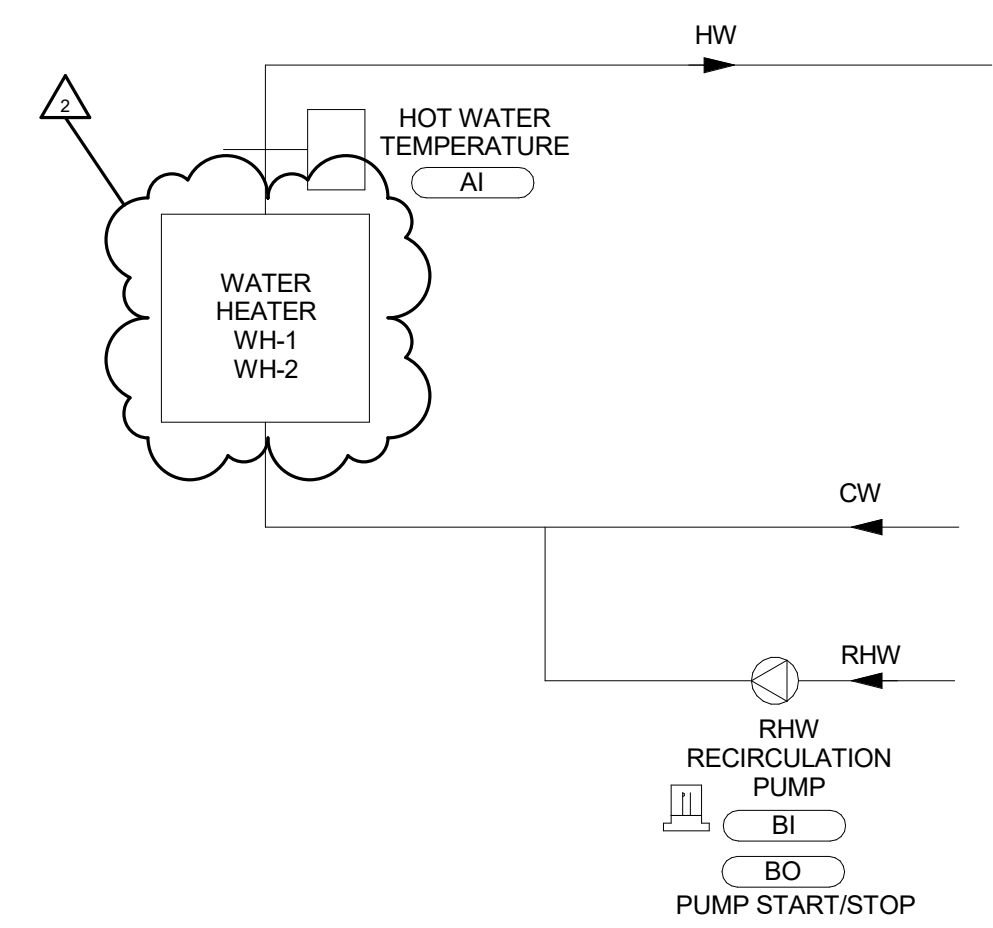
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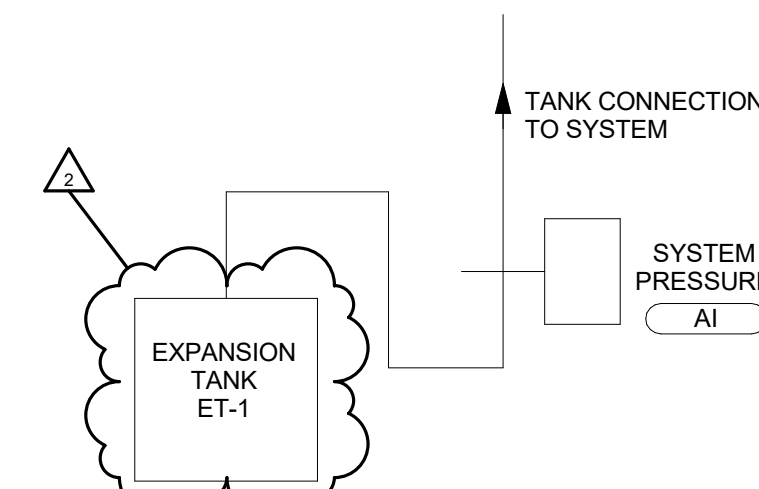
3/11/26 ADDENDUM 2 CHANGES
3/20/26 ADDENDUM 3 CHANGES



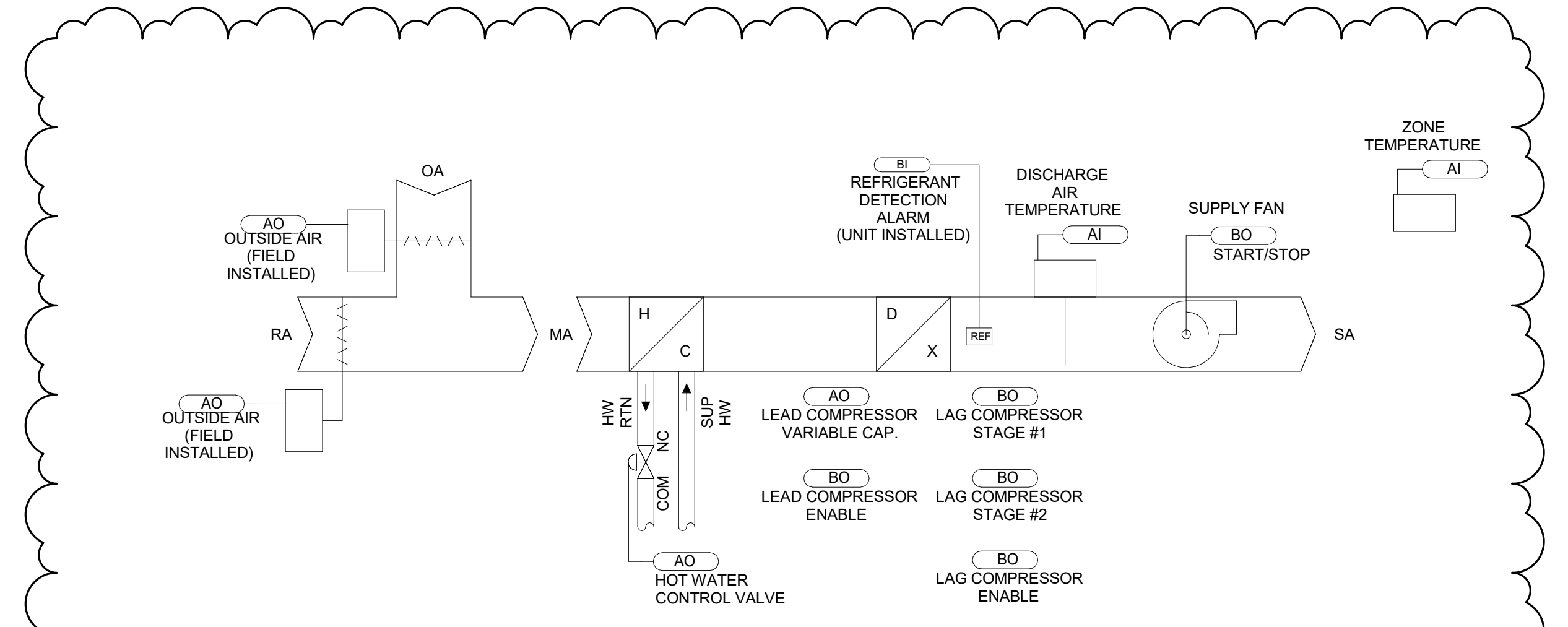
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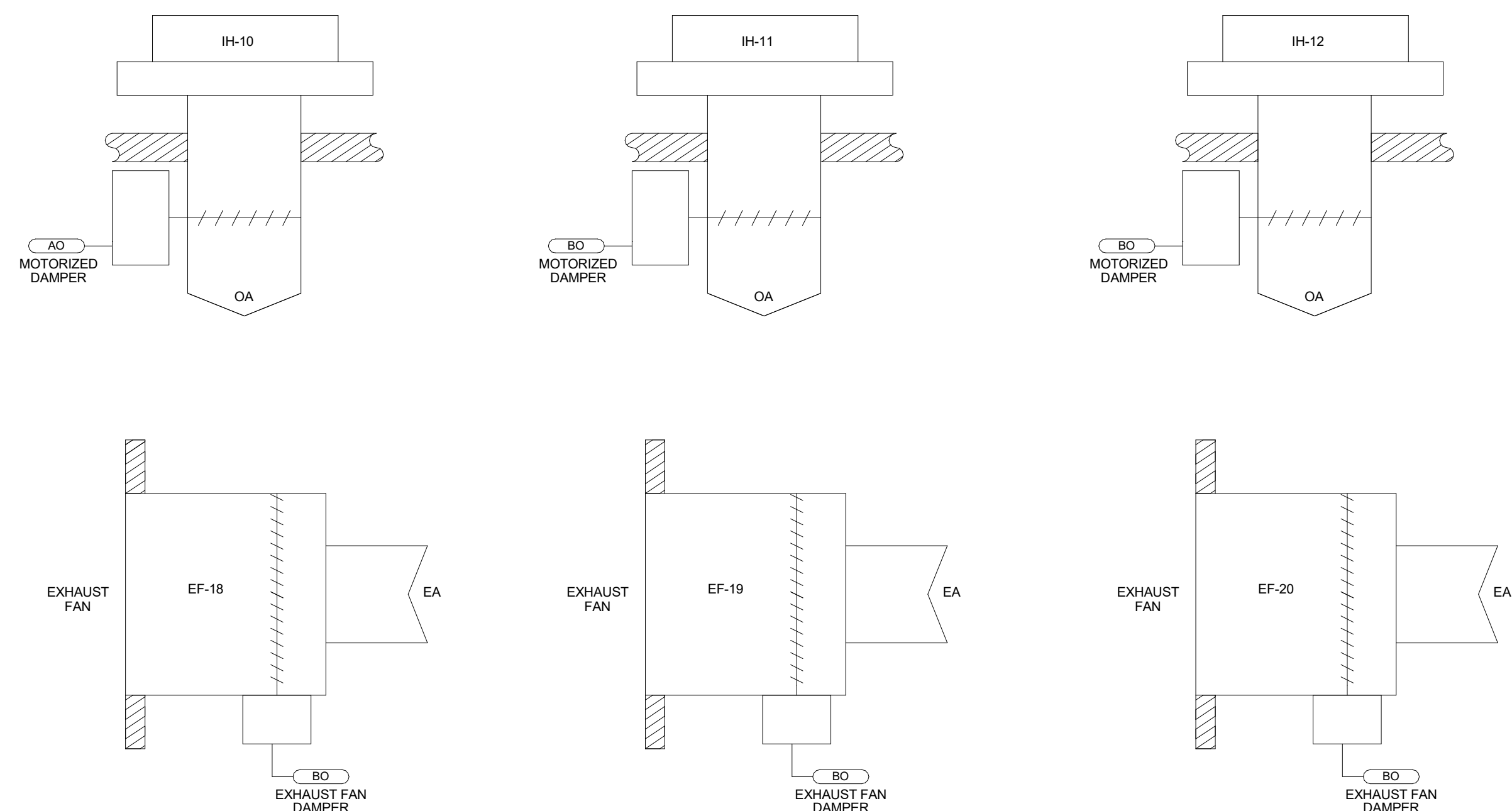
③ DOMESTIC HOT WATER SYSTEM CONTROLS DETAIL
NO SCALE



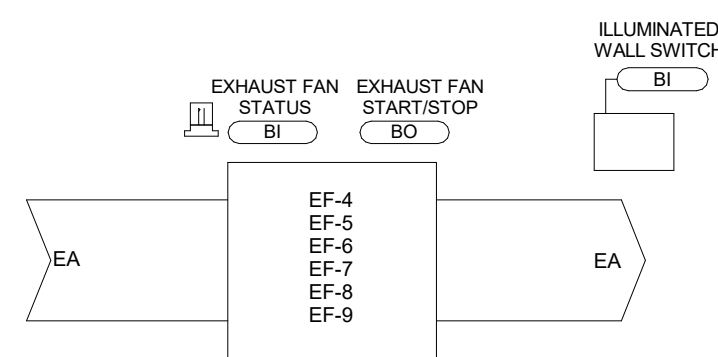
④ HYDRONIC SYSTEMS PRESSURE MONITORING CONTROLS DETAIL
NO SCALE



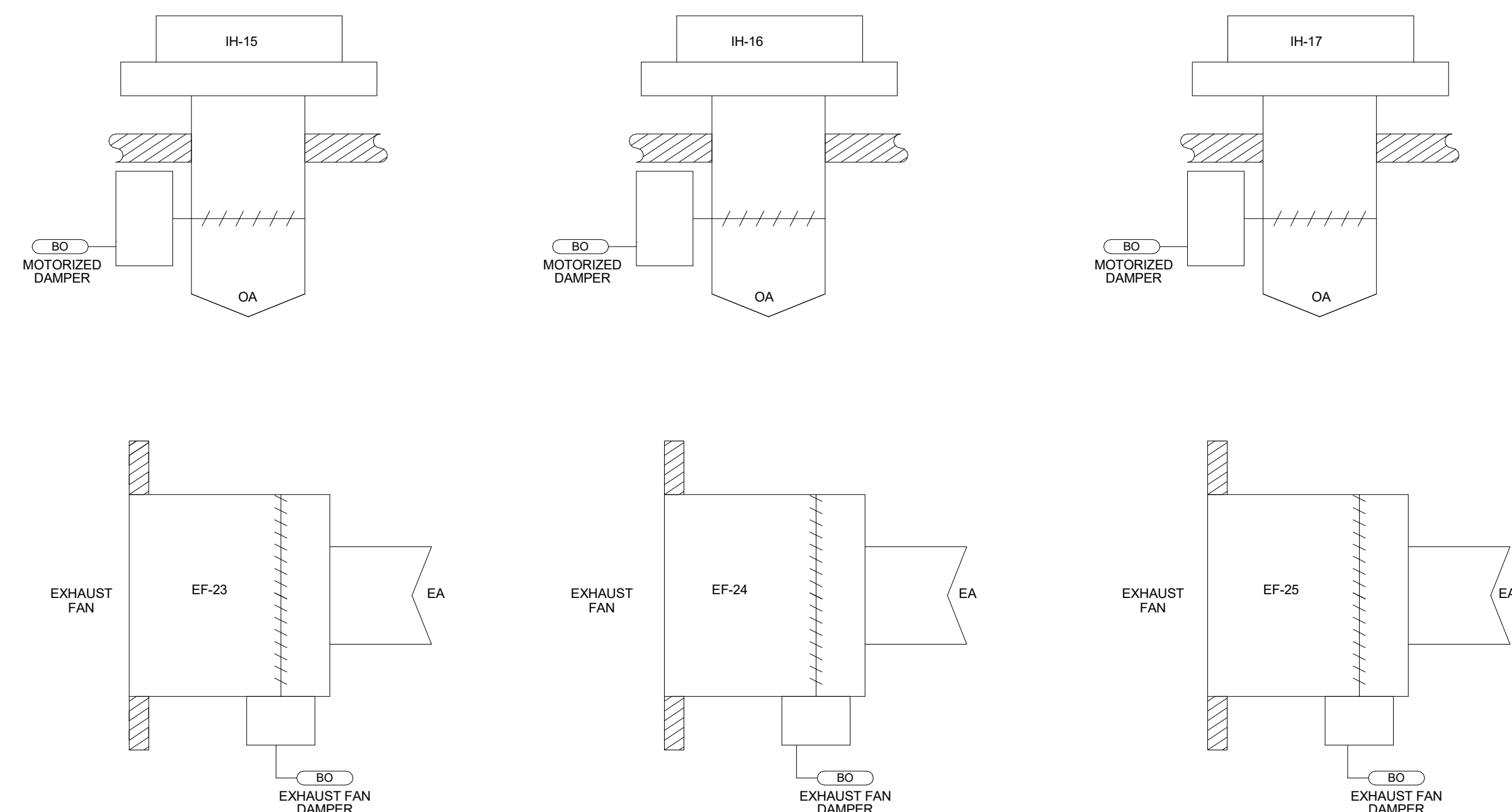
⑤ DRAW-THRU FAN COIL UNIT CONTROLS DETAIL
NO SCALE



⑥ EF-18,19,20 CONTROLS DETAIL
NO SCALE

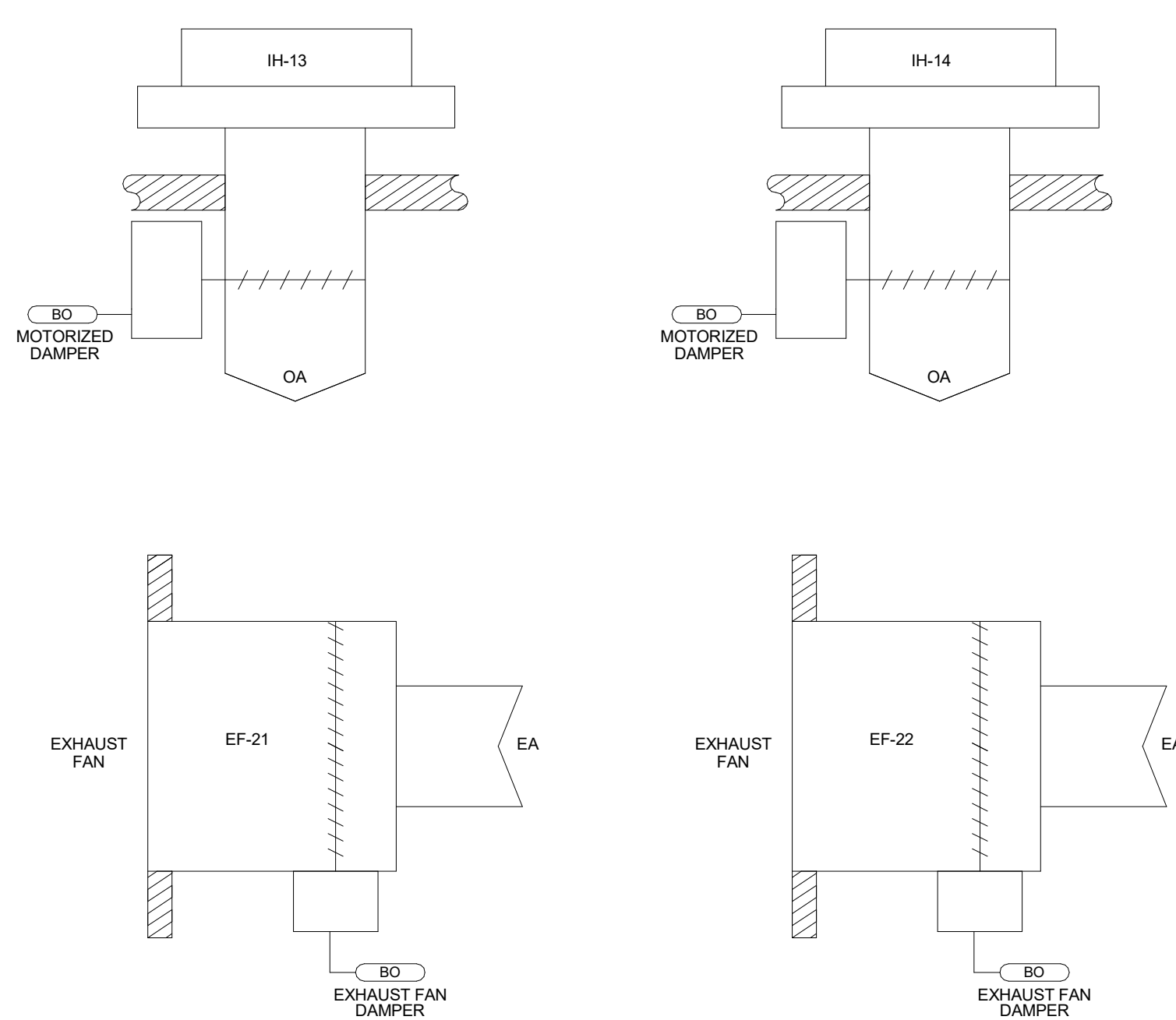


⑦ EF-4 THROUGH EF-9 CONTROLS DETAIL
NO SCALE



ALL CONTROLS WORK PROVIDED ONLY IF ADD ALTERNATE #2 IS ACCEPTED.

⑧ EF-23,24,25 CONTROLS DETAIL - ALTERNATE #2
NO SCALE



ALL CONTROLS WORK PROVIDED ONLY IF ADD ALTERNATE #1 IS ACCEPTED.

⑨ EF-21,22 CONTROLS DETAIL - ALTERNATE #1
NO SCALE



3/20/26 ADDENDUM 3 CHANGES

AIR HANDLING UNIT SCHEDULE

UNIT TYPE	UNIT NO.	MANUFACTURER	MODEL	SERVES	LOCATION	CFM	MIN O.A. CFM	SUPPLY FAN					MOTOR					DX COOLING										REHEATING COIL (WATER)										FILTER				NOTES
								E.S.P. IN W.G.	QTY	MAX RPM	FAN TYPE	HP	ELEC	TYPE	REF. TYPE	ROWS	FPI	EAT DBWB	LAT DBWB	APD IN W.G.	TOTAL BTUH	FACE VELOCITY (FPM)	TYPE	ROWS	FPI	GPM	CFM	EAT	LAT	APD IN W.G.	BTUH	EWT	LWT	WPD	% P.G.	FACE VELOCITY (FPM)	PRE-FILTER		POST FILTER			
																																					TYPE	EFF.	TYPE	EFF.		
AHU	1	DAIKIN	CAH018GDM	OFFICE AREA	MEZZANINE A 301	8315	2010	2.75	1	2183	CENTRIFUGAL-PLENUM	15	4803	DX	R454B	5	12	79.8/64.9	53.0/52.1	0.82	304244	493	HW	2	10	19.2	8315	45.2	75.1	0.2	272064	160	129.9	1.2 FT	35	520	2" PLEATED	MERV 8	4" PLEATED	MERV 13	1-18	
AHU	2	DAIKIN	CAH011GDGM	OFFICE AREA	MEZZANINE A 301	5860	1610	2.75	1	2674	CENTRIFUGAL-PLENUM	10	4803	DX	R454B	5	13	80.5/65.3	53.5/52.7	0.95	212323	530	HW	1	10	13.5	5860	45.3	75.5	0.2	193407	160	129.5	5.9	35	556	2" PLEATED	MERV 8	4" PLEATED	MERV 13	1-18	

- COMMENTS:
- HEATING COIL PERFORMANCE BASED ON 35% PROPYLENE GLYCOL.
 - PROVIDE HEATING COILS WITH 0.020" COPPER TUBE WALL THICKNESS.
 - UNIT TO BE DOUBLE WALL CONSTRUCTION WITH 2 INCHES OF R-13 INSULATION WITH THERMAL BREAK.
 - PROVIDE WITH 8" BASE RAILS.
 - PROVIDE WITH TOP SUPPLY, END RETURN, AND TOP OUTSIDE AIR CONNECTION.
 - PROVIDE WITH FACTORY INSTALLED RETURN AIR MOTORIZED DAMPER AND ACTUATOR. OUTSIDE AIR DAMPER SHALL BE FIELD INSTALLED IN OA DUCTWORK, PROVIDED BY TEMPERATURE CONTROLS CONTRACTOR.
 - PROVIDE ACCESS SECTIONS WITH MARINE LIGHT KIT AND GFI OUTLET.
 - PROVIDE WITH NEMA PREMIUM SUPPLY FAN MOTOR WITH FACTORY INSTALLED SHAFT GROUNDING KITS. FAN SHALL BE MOUNTED ON SPRING ISOLATORS.
 - SUPPLY FAN MOTOR SHALL BE FACTORY WIRED TO EXTERNAL JUNCTION BOX.
 - PROVIDE WITH WINDOWS IN ACCESS DOORS OF THE COILS AND SUPPLY FAN SECTIONS.
 - PROVIDE LED LIGHTS IN THE FOLLOWING SECTIONS: COILS, SUPPLY FANS, MIXING AND FILTERS. PREWIRE TO SINGLE SWITCH MOUNTED ON THE EXTERIOR OF THE UNIT.
 - PROVIDE WITH FACTORY INSTALLED 120V CONVENIENCE OUTLET ON THE EXTERIOR OF THE UNIT.
 - PROVIDE WITH DOUBLE SLOPED STAINLESS STEEL DRAIN PANS BELOW BOTH THE HEATING AND COOLING COILS.
 - ALL OUTSWING ACCESS DOORS IN POSITIVE PRESSURE SECTIONS SHALL BE PROVIDED WITH HANDLES AND SECONDARY SAFETY CATCHES ON THE INSIDE OF DOOR FRAME.
 - MEAN PRESSURE DROP OF 0.8" PER FILTER BANK (1.2" TOTAL) INCLUDED IN SUPPLY FAN SIZING.
 - PROVIDE WITH FACTORY INSTALLED AND WIRED R-454B REFRIGERANT DETECTOR BY THE EVAPORATOR COIL IN THE UNIT. WIRE TO FACTORY INSTALLED TERMINAL STRIP. TEMPERATURE CONTROLS CONTRACTOR SHALL MONITOR STATUS OF REFRIGERANT DETECTOR.
 - R-32 REFRIGERANT SHALL ALSO BE ACCEPTABLE FOR THIS PROJECT AS LONG AS COOLING PERFORMANCE INDICATED IS MET.
 - COOLING PERFORMANCE BASED ON 45F REFRIGERANT SUCTION TEMPERATURE.

DUCTLESS SPLIT HEAT PUMP SCHEDULE

UNIT TYPE	UNIT NUMBER	MANUFACTURER	MODEL	ELECTRIC			COOLING					EAT		COMMENTS
				VOLTAGE	PHASES	MCA	BTUH	SEER2	AMB	DB	WB			
DSCU	1	BOSCH	BMSS500-AAU036-1CSXHD	208	1	3 A	36000	23	95 °F	95 °F	73 °F			1,2,3,4
DSIU	1	BOSCH	BMSS500-AAU036-1AHWXD	208	1	3 A	36000	23	95 °F	80 °F	67 °F			

- COMMENTS:
- PROVIDE WIRELESS REMOTE THERMOSTAT WITH WALL MOUNT.
 - PIPE CONDENSATE TO DRAIN.
 - PROVIDE WITH MANUFACTURER'S CONDENSING UNIT STAND.
 - PROVIDE WITH ALL ACCESSORIES REQUIRED FOR COOLING OPERATION DOWN TO -20°F.

FAN COIL UNIT SCHEDULE

UNIT TYPE	UNIT NUMBER	MANUFACTURER	MODEL	CFM	MIN O.A. CFM	E.S.P.	SUPPLY FAN			ELECTRIC			DX COOLING										HEATING COIL					COMMENTS						
							QUANTITY	HP	VOLTAGE	PHASES	MCA	TYPE	REF. TYPE	ROWS	APD	BTUH	EAT DB	EAT WB	LAT DB	LAT WB	BTUH	GPM	WPD	EAT	EWT	LWT	% P.G.							
FCU	1	DAKIN	BCHD0161	905	905	0.75 in-wg	2	0.5	120	1	14 A	DX	R-454B	3	0.24 in-wg	61594	95 °F	73 °F	52.5 °F	51.9 °F	116209	8.3	6.45 RH20	-20 °F	160 °F	35%	1-10							
FCU	2	DAKIN	BCHD0501	2540	2540	0.75 in-wg	2	4.42	480	3	13 A	DX	R-454B	3	0.24 in-wg	178487	95 °F	73 °F	51.6 °F	51.1 °F	346426	24.4	16.67 RH20	-20 °F	160 °F	35%	1-10							
FCU	3	DAKIN	BCHD0081	570	570	0.75 in-wg	1	0.5	120	1	8 A	DX	R-454B	3	0.33 in-wg	35596	95 °F	73 °F	54.7 °F	54.1 °F	66610	4.7	8.71 RH20	-20 °F	160 °F	35%	1-10							
FCU	4	DAKIN	BCHD0501	2400	2400	0.75 in-wg	2	4.42	480	3	13 A	DX	R-454B	3	0.13 in-wg	158479	95 °F	73 °F	53.5 °F	52.7 °F	332607	23.4	15.42 RH20	-20 °F	160 °F	35%	1-10							
FCU	5	DAKIN	BCHD0301	1805	1805	0.75 in-wg	1	4.42	480	3	7 A	DX	R-454B	3	0.26 in-wg	120550	95 °F	73 °F	53.0 °F	52.4 °F	222687	15.8	8.96 RH20	-20 °F	160 °F	35%	1-10							
FCU	6	DAKIN	BCHD0161	990	990	0.75 in-wg	2	0.5	120	1	14 A	DX	R-454B	3	0.27 in-wg	65462	95 °F	73 °F	53.2 °F	52.7 °F	123207	8.6	7.01 RH20	-20 °F	160 °F	35%	1-10							

- COMMENTS:
- UNIT TO BE HORIZONTALLY SUSPENDED UNIT WITH SUPPLY AND RETURN DUCT CONNECTIONS. PROVIDE WITH HANGING ISOLATORS.
 - UNIT TO BE DOUBLE WALL CONSTRUCTION WITH 1 INCH OF R-8 INSULATION.
 - HEATING COIL TO BE BASED ON 35% PROPYLENE GLYCOL.
 - ALL VALVES SHALL BE LOCATED IN CABINET AND SHALL BE INSTALLED ABOVE DRAIN PIPE.
 - PROVIDE SINGLE POINT POWER CONNECTION WITH UNIT MOUNTED DISCONNECT.
 - PROVIDE WITH CONDENSATE PUMP AND TRANSFORMER FOR PUMP TO BE POWERED BY FAN COIL UNIT.
 - PROVIDE SUPPLY FAN WITH EC MOTOR.
 - PROVIDE WITH FACTORY MOUNTED OVERFLOW SWITCH AND FREEZESTAT.
 - PROVIDE WITH FACTORY INSTALLED AND WIRED R-454B REFRIGERANT DETECTOR BY THE EVAPORATOR COIL IN THE UNIT. WIRE TO FACTORY INSTALLED TERMINAL STRIP. TEMPERATURE CONTROLS CONTRACTOR SHALL MONITOR STATUS OF REFRIGERANT DETECTOR.
 - R-32 REFRIGERANT SHALL ALSO BE ACCEPTABLE FOR THIS PROJECT AS LONG AS COOLING PERFORMANCE INDICATED IS MET.

HUMIDIFIER SCHEDULE

UNIT TYPE	UNIT NUMBER	MANUFACTURER	MODEL	CAPACITY LBS/HR	ELECTRICAL CONSUMPTION			DISTRIBUTOR LOCATION	EAT DB	EARH	COMMENTS
					VOLTAGE	PHASES	MCA				
H	1	NORTEC	EL-SPEC-005-4803	5	120 V	1	15.6	INTEGRAL	72 °F	45	1,2,3,4,5,6

- COMMENTS:
- IN SPACE, WALL MOUNTED ELECTRODE TYPE STEAM HUMIDIFIER WITH BUILT IN BLOWER PACK AND INTERNAL DRAIN WATER COOLER.
 - INTERFACE WITH BAS TO ALLOW BAS TO INPUT SPACE RELATIVE HUMIDITY.
 - ROUTE FULL SIZE INSULATED DRAIN FROM DRAIN CONNECTION ON MAIN UNIT TO FLOOR DRAIN WITH FUNNEL.
 - PROVIDE WITH FACTORY INSTALLED DISCONNECT SWITCH FOR SINGLE POINT POWER CONNECTION TO THE EQUIPMENT.
 - PROVIDE CONTROL PANEL WITH ALARM DRY CONTACT FOR CONNECTION TO THE BAS FOR MONITORING.
 - PROVIDE WITH MANUFACTURER'S RECOMMENDED POTABLE WATER 5 MICRON FILTER.

FAN SCHEDULE

UNIT TYPE	UNIT NUMBER	MANUFACTURER	MODEL	LOCATION	SERVICE	VIBRATION ISOLATION	CFM	S.P.D.	HP	SONES	VOLTAGE	PHASES	COMMENTS
CF	1	SCHWANK MONSTERFANS	MF-GD16-XX	VEHICLE STORAGE 218	DESTRATIFICATION	N/A	127033	0.00 in-wg	1.5	11	480	3	1,2,3
CF	2	SCHWANK MONSTERFANS	MF-GD16-XX	VEHICLE STORAGE 218	DESTRATIFICATION	N/A	127033	0.00 in-wg	1.5	11	480	3	1,2,3
CF	3	SCHWANK MONSTERFANS	MF-GD16-XX	VEHICLE STORAGE 218	DESTRATIFICATION	N/A	127033	0.00 in-wg	1.5	11	480	3	1,2,3
CF	4	SCHWANK MONSTERFANS	MF-GD16-XX	VEHICLE STORAGE 218	DESTRATIFICATION	N/A	127033	0.00 in-wg	1.5	11	480	3	1,2,3
CF	5	SCHWANK MONSTERFANS	MF-GD16-XX	VEHICLE STORAGE 218	DESTRATIFICATION	N/A	127033	0.00 in-wg	1.5	11	480	3	1,2,3
CF	6	SCHWANK MONSTERFANS	MF-GD16-XX	VEHICLE STORAGE 218	DESTRATIFICATION	N/A	127033	0.00 in-wg	1.5	11	480	3	1,2,3
CF	7	SCHWANK MONSTERFANS	MF-GD16-XX	VEHICLE STOR. EXPANSION 220	DESTRATIFICATION	N/A	127033	0.00 in-wg	1.5	11	480	3	1,2,3
CF	8	SCHWANK MONSTERFANS	MF-GD16-XX	VEHICLE STOR. EXPANSION 220	DESTRATIFICATION	N/A	127033	0.00 in-wg	1.5	11	480	3	1,2,3
EF	1	LOREN COOK COMPANY	ACE-B 165C2B	LOW ROOF	EXHAUST	RUBBER ISOLATORS	1755	0.50 in-wg	0.75	7.6	480	3	4,5,6,7,8
EF	2	LOREN COOK COMPANY	ACE-D VF 101C2BD	LOW ROOF	EXHAUST	RUBBER ISOLATORS	650	0.50 in-wg	0.33	9.1	120	1	4,5,6,7,8,14
EF	3	LOREN COOK COMPANY	ACE-D VF 70C17DM	LOW ROOF	EXHAUST	RUBBER ISOLATORS	120	0.30 in-wg	0.05	4.2	120	1	4,5,6,7,8,14
EF	4	LOREN COOK COMPANY	SQN-B 100	STREETS 201	EXHAUST	HANGING ISOLATORS	1055	0.50 in-wg	0.75	14.8	480	3	4,5,9,10
EF	5	LOREN COOK COMPANY	SQN-B 180	TRAFFIC SHOP 201	EXHAUST	HANGING ISOLATORS	2690	0.50 in-wg	0.75	9.9	480	3	4,5,9,10
EF	6	LOREN COOK COMPANY	SQN-D VF 1002BDO80	SIGNS 202	EXHAUST	HANGING ISOLATORS	720	0.50 in-wg	0.33	14.4	120	1	4,5,9,10,14
EF	7	LOREN COOK COMPANY	SQN-B 180	PUMP 203	EXHAUST	HANGING ISOLATORS	2550	0.50 in-wg	0.75	9.4	480	3	4,5,9,10
EF	8	LOREN COOK COMPANY	SQN-B 150	PIPE AND METER 204	EXHAUST	HANGING ISOLATORS	1955	0.50 in-wg	0.5	10.4	480	3	4,5,9,10
EF	9	LOREN COOK COMPANY	SQN-B 120	PARTS 205	EXHAUST	HANGING ISOLATORS	1140	0.50 in-wg	0.33	9.8	480	3	4,5,9,10
EF	10	LOREN COOK COMPANY	GC-142T144	TOILET 206	EXHAUST	HANGING ISOLATORS	75	0.50 in-wg	0.013	2	120	1	11,12
EF	11	LOREN COOK COMPANY	SQN-D VF 9017DH	GARAGE 207	EXHAUST	HANGING ISOLATORS	350	0.50 in-wg	0.125	8.2	120	1	4,5,9,10,14
EF	12	LOREN COOK COMPANY	SQN-B 300	SERVICE 210	EXHAUST	HANGING ISOLATORS	7900	0.50 in-wg	1.5	11.4	480	3	4,5,9,10
EF	13	LOREN COOK COMPANY	SQN-D VF 9017DH	OIL 211	EXHAUST	HANGING ISOLATORS	350	0.50 in-wg	0.125	8.2	120	1	4,5,9,10,14
EF	14	LOREN COOK COMPANY	SQN-B 210	WELDING 212	EXHAUST	HANGING ISOLATORS	3750	0.50 in-wg	0.75	10.6	480	3	4,5,9,10
EF	15	LOREN COOK COMPANY	SQN-B 210	WELDING 212	EXHAUST	HANGING ISOLATORS	3200	0.70 in-wg	0.75	10.6	480	3	4,5,9,10
EF	16	LOREN COOK COMPANY	SQN-B 180	WASH BAY 217	EXHAUST	HANGING ISOLATORS	2600	0.50 in-wg	0.5	9.6	480	3	4,5,9,10
EF	17	LOREN COOK COMPANY	GC-142T144	UNISEX TOILET 216	EXHAUST	HANGING ISOLATORS	75	0.50 in-wg	0.013	2	120	1	11,12
EF	18	LOREN COOK COMPANY	XLW 24	VEHICLE STORAGE 218	EXHAUST	INTEGRAL	2500	0.25 in-wg	0.75	13.7	480	3	4,5,13
EF	19	LOREN COOK COMPANY	XLWH 60	VEHICLE STORAGE 218	EXHAUST	INTEGRAL	18000	0.25 in-wg	2	14.4	480	3	4,5,13
EF	20	LOREN COOK COMPANY	XLWH 60	VEHICLE STORAGE 218	EXHAUST	INTEGRAL	18000	0.25 in-wg	2	14.4	480	3	4,5,13
EF	21	LOREN COOK COMPANY	XWV VF 104017	GARBAGE TRUCK STOR. 219	EXHAUST	INTEGRAL	400	0.25 in-wg	0.125	8.1	120	1	4,5,13,14,20
EF	22	LOREN COOK COMPANY	XLW 30	GARBAGE TRUCK STOR. 219	EXHAUST	INTEGRAL	5500	0.25 in-wg	0.75	15.4	480	3	4,5,13,20
EF	23	LOREN COOK COMPANY	XWV-EC 143217	VEHICLE STOR. EXPANSION 220	EXHAUST	INTEGRAL	1500	0.25 in-wg	0.5	9.4	120	1	4,5,13,14,21
EF	24	LOREN COOK COMPANY	XLWH 54	VEHICLE STOR. EXPANSION 220	EXHAUST	INTEGRAL	10000	0.25 in-wg	1.5	13.6	480	3	4,5,13,21
EF	25	LOREN COOK COMPANY	XLWH 54	VEHICLE STOR. EXPANSION 220	EXHAUST	INTEGRAL	10000	0.25 in-wg	1.5	13.6	480	3	4,5,13,21
VEF	1	VENTAIRE	UVS150	MEZZANINE B 302	VEHICLE EXHAUST	RUBBER ISOLATORS	2400	5.00 in-wg	5	49	480	3	4,15,16,17,18,19

- COMMENTS:
- PROVIDE WITH STANDARD MOUNT FOR MOUNTING BETWEEN BUILDING STRUCTURE PURLINS. PRE-ENGINEERED METAL BUILDING PURLINS SPACED AT 30'-0" ON CENTER. COORDINATE WITH GENERAL CONTRACTOR.
 - PROVIDE WITH MOUNT EXTENSION AS REQUIRED FOR FAN INSTALLATION AT 2'-10" ABOVE FINISHED FLOOR.
 - PROVIDE WITH MANUFACTURERS CONTROL PANEL. CONTROL PANEL SHALL HAVE FIRE RELAY FOR INTERLOCK WITH FIRE ALARM SYSTEM TO SHUT DOWN FANS UPON FIRE SPRINKLER ACTIVATION.
 - PROVIDE WITH STANDARD WIREDED DISCONNECT.
 - PROVIDE WITH THERMAL OVERLOAD.
 - TEMPERATURE CONTROLS CONTRACTOR SHALL PROVIDE MOTORIZED DAMPER.
 - PROVIDE WITH RUBBER ISOLATORS.
 - PROVIDE WITH ROOF CURB.
 - INLINE FAN WITH SLIP FIT INLET AND OUTLET. PROVIDE WITH FLEXIBLE DUCT CONNECTORS ON INLET AND OUTLET.
 - PROVIDE WITH HANGING ISOLATORS ON THREADED RODS.
 - INLINE FAN WITH STANDARD PLUG DISCONNECT. PROVIDE WITH CURB MOUNTED ROOF CAP AND BACKDRAFT DAMPER.
 - PROVIDE WITH ANODIZED ALUMINUM OR PLASTIC GRILLE.
 - WALL MOUNT PROPELLER FAN. PROVIDE WITH WALL COLLAR, GRAVITY SHUTTER, OSHA GUARD AND 45 DEGREE WEATHER HOOD WITH BIRD SCREEN.
 - PROVIDE WITH EC MOTOR WITH FAN MOUNTED SPEED CONTROLLER FOR BALANCING.
 - PROVIDE WITH VIBRATION RAILS. INLET TEE, FLEX CONNECTION, WEATHER COVER, HOUSING DRAIN, GRAVITY SHUTTER.
 - PROVIDE WITH FOUR (4) SPRING POWERED 6" X 39" VENTAIRE HOSE REELS WITH PULLDOWN KIT MODEL HRA6

GAS FIRED UNIT HEATER SCHEDULE														
UNIT TYPE	UNIT NUMBER	MANUFACTURER	MODEL	LOCATION	CFM	HEATING		HP	MOTOR				COMMENTS	
						BTU/H INPUT	BTU/H OUTPUT		RPM	MCA	VOLTAGE	PHASES		
UH	1	REZNOR	UDXC 250	VEHICLE STORAGE 218	3202	250000	207500		1050	8 A	120	1	1.2	
UH	2	REZNOR	UDXC 250	VEHICLE STORAGE 218	3202	250000	207500		1050	8 A	120	1	1.2	
UH	3	REZNOR	UDXC 250	VEHICLE STORAGE 218	3202	250000	207500		1050	8 A	120	1	1.2	
UH	4	REZNOR	UDXC 250	VEHICLE STORAGE 218	3202	250000	207500		1050	8 A	120	1	1.2	
UH	5	REZNOR	UDXC 250	VEHICLE STORAGE 218	3202	250000	207500		1050	8 A	120	1	1.2	
UH	6	REZNOR	UDXC 250	VEHICLE STORAGE 218	3202	250000	207500		1050	8 A	120	1	1.2	
UH	7	REZNOR	UDXC 250	VEHICLE STORAGE 218	3202	250000	207500		1050	8 A	120	1	1.2	
UH	8	REZNOR	UDXC 250	VEHICLE STORAGE 218	3202	250000	207500		1050	8 A	120	1	1.2	
UH	9	REZNOR	UDXC 250	VEHICLE STORAGE 218	3202	250000	207500		1050	8 A	120	1	1.2	
UH	10	REZNOR	UDXC 250	VEHICLE STORAGE 218	3202	250000	207500		1050	8 A	120	1	1.2	
UH	11	REZNOR	UDXC 250	VEHICLE STORAGE 218	3202	250000	207500		1050	8 A	120	1	1.2	
UH	12	REZNOR	UDXC 250	VEHICLE STORAGE 218	3202	250000	207500		1050	8 A	120	1	1.2	
UH	13	REZNOR	UDXC 250	VEHICLE STORAGE 218	3202	250000	207500		1050	8 A	120	1	1.2	
UH	14	REZNOR	UDXC 250	VEHICLE STORAGE 218	3202	250000	207500		1050	8 A	120	1	1.2	
UH	15	REZNOR	UDXC 250	VEHICLE STORAGE 218	3202	250000	207500		1050	8 A	120	1	1.2	
UH	16	REZNOR	UDXC 250	VEHICLE STORAGE 218	3202	250000	207500		1050	8 A	120	1	1.2	
UH	17	REZNOR	UDXC 30	PRESSURE WASHER 215	456	30000	24600		1550	2 A	120	1	1.2	
UH	18	REZNOR	UDXC 40	WELDING 212	629	45000	37350		1550	3 A	120	1	1.2	
UH	19	REZNOR	UDXC 200	SERVICE 210	2562	200000	166000		1050	8 A	120	1	1.2	
UH	20	REZNOR	UDXC 200	SERVICE 210	2562	200000	166000		1050	8 A	120	1	1.2	
UH	21	REZNOR	UDXC 250	GARBAGE TRUCK STOR 219	3202	250000	207500		1050	8 A	120	1	1.2,3	
UH	22	REZNOR	UDXC 250	GARBAGE TRUCK STOR 219	3202	250000	207500		1050	8 A	120	1	1.2,3	
UH	23	REZNOR	UDXC 250	GARBAGE TRUCK STOR 219	3202	250000	207500		1050	8 A	120	1	1.2,3	
UH	24	REZNOR	UDXC 250	VEHICLE STORAGE 220	3202	250000	207500		1050	8 A	120	1	1.2,4	
UH	25	REZNOR	UDXC 250	VEHICLE STORAGE 220	3202	250000	207500		1050	8 A	120	1	1.2,4	
UH	26	REZNOR	UDXC 250	VEHICLE STORAGE 220	3202	250000	207500		1050	8 A	120	1	1.2,4	
UH	27	REZNOR	UDXC 250	VEHICLE STORAGE 220	3202	250000	207500		1050	8 A	120	1	1.2,4	
UH	28	REZNOR	UDXC 250	VEHICLE STORAGE 220	3202	250000	207500		1050	8 A	120	1	1.2,4	
UH	29	REZNOR	UDXC 250	VEHICLE STORAGE 220	3202	250000	207500		1050	8 A	120	1	1.2,4	
UH	30	REZNOR	UDXC 250	VEHICLE STORAGE 220	3202	250000	207500		1050	8 A	120	1	1.2,4	
UH	31	REZNOR	UDXC 250	VEHICLE STORAGE 220	3202	250000	207500		1050	8 A	120	1	1.2,4	
UH	32	REZNOR	UDXC 250	VEHICLE STORAGE 220	3202	250000	207500		1050	8 A	120	1	1.2,4	

- COMMENTS:
- PROVIDE DIGITAL HEATING ONLY THERMOSTAT.
 - PROVIDE MANUFACTURER'S RECOMMENDED COMPLETE VENT AND INTAKE SYSTEM.
 - PROVIDE IN ALTERNATE #1 SCOPE.
 - PROVIDE IN ALTERNATE #2 SCOPE.

ELECTRIC HEAT SCHEDULE									
UNIT TYPE	UNIT NUMBER	MANUFACTURER	MODEL	MOUNT TYPE	ELECTRICAL DATA		THERMOSTAT TYPE		COMMENTS
					KW	VOLT			
EUH	1	REZNOR	EWHB	WALL	10	480	3	INTEGRAL	1,2,3,4,5

- COMMENTS:
- STAINLESS STEEL MOISTURE RESISTANT HOUSING WITH NEMA 4X NONMETALLIC ELECTRICAL ENCLOSURE ON BOTTOM OF UNIT.
 - SEALED TUBULAR HEATING ELEMENTS WITH SS FINS AND SS ADJUSTABLE OUTLET LOUVERS.
 - PROVIDE WITH STAINLESS STEEL SWIVEL MOUNTING BRACKET FOR WALL MOUNTING.
 - PROVIDE WITH WATERTIGHT DISCONNECT SWITCH.
 - PROVIDE WITH REMOTE FIELD INSTALLED NEMA 4X THERMOSTAT.

HYDRONIC UNIT HEATER SCHEDULE																	
UNIT TYPE	UNIT NUMBER	MANUFACTURER	MODEL	LOCATION	CFM	HEATING					MOTOR				COMMENTS		
						BTU/H	GPM	EWT	LWT	WPD	% GLYCOL	HP	RPM	MCA		VOLTAGE	PHASES
HUH	1	SIGMA	039V	113A FIRE PUMP	570	20000	2	160 °F	130 °F	0.10 RH2O	35	0.05	850	120	1	1,2,3,4	
HUH	2	SIGMA	067V	113 MECHANICAL	1180	36700	3.75	160 °F	130 °F	0.10 RH2O	35	0.13	1350	120	1	1,2,3,4	
HUH	3	SIGMA	039V	207 GARAGE	570	20000	2	160 °F	130 °F	0.10 RH2O	35	0.05	850	120	1	1,2,3,4	

- COMMENTS:
- VERTICAL MOUNT UNIT HEATER.
 - SUSPEND UNIT FROM STRUCTURE ABOVE WITH THREADED RODS AND VIBRATION ISOLATORS.
 - PROVIDE WITH FACTORY INSTALLED MOTOR STARTER WITH THERMAL OVERLOAD PROTECTION.
 - CAPACITY BASED ON 35% PROPYLENE GLYCOL.

CABINET UNIT HEATER SCHEDULE																	
UNIT TYPE	UNIT NUMBER	MANUFACTURER	MODEL	LOCATION	CFM	HEATING					MOTOR					COMMENTS	
						BTU/H	GPM	EWT	LWT	WPD	% GLYCOL	HP	RPM	MCA	VOLTAGE		PHASES
CUH	1	SIGMA	SFF-03	110 VEST.	300	15880	1.5	160 °F	130 °F	0.30 RH2O	35	0.2	1075	2 A	120	1	1-8
CUH	2	SIGMA	SFF-03	100 ENTRY VEST.	300	15880	1.5	160 °F	130 °F	0.30 RH2O	35	0.2	1075	2 A	120	1	1-8
CUH	3	SIGMA	SFF-03	133 VEST.	300	15880	1.5	160 °F	130 °F	0.30 RH2O	35	0.2	1075	2 A	120	1	1-8

- COMMENTS:
- WITH 1 ROW COIL.
 - PROVIDE WITH FACTORY INSTALLED MOTOR STARTER WITH THERMAL OVERLOAD PROTECTION.
 - PROVIDE WITH FACTORY INSTALLED MOTOR SPEED CONTROLLER FOR FINAL AIR BALANCING.
 - PROVIDE WITH FACTORY INSTALLED POWER DISCONNECT SWITCH.
 - ARCHITECT SHALL SELECT CABINET COLOR FROM STANDARD COLOR CHART.
 - FULLY EXPOSED INVERTED WALL MOUNTED. FRONT TOP IN. FRONT BOTTOM OUT.
 - PROVIDE WITH FACTORY INSTALLED RELAY FOR ON/OFF CONTROL. TEMPERATURE CONTROLS CONTRACTOR SHALL PROVIDE INPUT TO RELAY FROM BAS.
 - CAPACITY BASED ON 35% PROPYLENE GLYCOL.

MAKE-UP AIR SCHEDULE																										
UNIT TYPE	UNIT NUMBER	MANUFACTURER	MODEL	LOCATION	CFM	MAX RPM	E.S.P.	MOTOR			HOT WATER HEATING COIL														FACE VELOCITY	COMMENTS
								HP	VOLTAGE	PHASES	VIBRATION ISOLATION	TYPE	EFF.	ROWS	FPI	GPM	CFM	EAT	APD	EWT	LWT	WPD				
MAU	1	DAKIN	CAH018GHGM	302 MEZZANINE B	7900	2183	1.00 in-wg	5	480	3	SPRING ISOLATORS	PLEATED	MERV 8	2	12	61.2	7900	-20 °F	0.35 in-wg	160 °F	130 °F	5.10 RH2O	490 FPM	1,2,3,4,5,6,7,8,9		
MAU	2	DAKIN	CAH015GHGM	302 MEZZANINE B	6950	2183	1.00 in-wg	5	480	3	SPRING ISOLATORS	PLEATED	MERV 8	2	13	53.9	6950	-20 °F	0.40 in-wg	160 °F	130 °F	4.20 RH2O	520 FPM	1,2,3,4,5,6,7,8,9		
MAU	3	DAKIN	BCH00301	302 MEZZANINE B	2600	2201	1.00 in-wg	4-42	480	3	SPRING ISOLATORS	PLEATED	MERV 8	2	12	20.5	2600	-20 °F	0.24 in-wg	160 °F	130 °F	14.48 RH2O	430 FPM	6,7,8,9,10,11,12,13		

- COMMENTS:
- UNIT TO BE DOUBLE WALL CONSTRUCTION WITH 2 INCHES OF R-13 INSULATION WITH THERMAL BARRIER.
 - PROVIDE WITH 6" FORMED CHANNEL BASE FOR MOUNTING ON CONCRETE HOUSEKEEPING PAD.
 - PROVIDE WITH TOP SUPPLY AND TOP OUTSIDE AIR CONNECTION.
 - PROVIDE ACCESS SECTIONS WITH MARINE LIGHT KIT.
 - MEAN PRESSURE DROP OF 0.54" ACROSS FILTER BANK INCLUDED IN SUPPLY FAN SIZING.
 - HEATING COIL PERFORMANCE BASED ON 35% PROPYLENE GLYCOL.
 - PROVIDE HEATING COILS WITH 0.020" COPPER TUBE WALL THICKNESS.
 - PROVIDE WITH NEMA PREMIUM SUPPLY FAN MOTOR WITH FACTORY INSTALLED SHAFT GROUNDING KITS. FAN SHALL BE MOUNTED ON SPRING ISOLATORS.
 - SUPPLY FAN MOTOR SHALL BE FACTORY WIRED TO EXTERNAL JUNCTION BOX.
 - UNIT TO BE DOUBLE WALL CONSTRUCTION WITH 1 INCH OF R-6 INSULATION.
 - PROVIDE WITH 6" EQUIPMENT RAILS FOR MOUNTING ON CONCRETE HOUSEKEEPING PAD.
 - PROVIDE TERMINAL STRIP FOR FIELD INSTALLED CONTROLS.
 - MEAN PRESSURE DROP OF 0.4" ACROSS FILTER BANK INCLUDED IN SUPPLY FAN SIZING.

UNIT TYPE	UNIT NUMBER	MANUFACTURER	MODEL	INLET STATIC	INLET CONNECTION	COOLING				HEATING				REHEAT SECTION										NC				COMMENTS
						OCCUPIED CFM		UNOCCUPIED CFM		OCCUPIED CFM		UNOCCUPIED CFM		GPM	BTUH	EWT	LWT	ROWS	WPD	APD	% GLYCOL	LAT	RAD	DIS				
						MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN															
VAV	1-1A	KRUEGER	LMHS-10	1.00 in-wg	10"	800	240	400	0	800	240	400	0	2.5	26200	160	137.8	2	0.74	0.23 in-wg	35	85.2 °F	11	13	1,2,3,4,5			
VAV	1-1B	KRUEGER	LMHS-12	1.00 in-wg	12"	1200	360	600	0	1200	360	1200	0	3	38800	160	132.6	2	1.08	0.27 in-wg	35	84.8 °F	16	14	1,2,3,4,5			
VAV	1-2	KRUEGER	LMHS-14	1.00 in-wg	14"	1835	1835	550	0	1835	1835	550	0	4	48300	160	128.3	2	0.67	0.25 in-wg	35	77.6 °F	13	16	1,2,3,4,5			
VAV	1-3	KRUEGER	LMHS-12	1.00 in-wg	12"	1000	300	500	0	1000	300	1000	0	2.5	33300	160	131.8	2	0.82	0.20 in-wg	35	85.7 °F	15	12	1,2,3,4,5			
VAV	1-4	KRUEGER	LMHS-06	1.00 in-wg	6"	320	100	160	0	320	100	320	0	1.25	10900	160	141.5	2	0.35	0.16 in-wg	35	86.4 °F	15	18	1,2,3,4,5			
VAV	1-5	KRUEGER	LMHS-06	1.00 in-wg	6"	320	100	160	0	320	100	320	0	1.25	10900	160	141.5	2	0.35	0.16 in-wg	35	86.4 °F	15	18	1,2,3,4,5			
VAV	1-6	KRUEGER	LMHS-06	1.00 in-wg	6"	300	90	150	0	300	90	300	0	1.25	10700	160	141.9	2	0.35	0.14 in-wg	35	87.8 °F	15	16	1,2,3,4,5			
VAV	1-7	KRUEGER	LMHS-10	1.00 in-wg	10"	870	260	435	0	435	260	435	0	0.75	12800	160	123.9	2	0.09	0.27 in-wg	35	82.0 °F	13	14	1,2,3,4,5			
VAV	1-8	KRUEGER	LMHS-08	1.00 in-wg	8"	600	180	300	0	300	180	300	0	0.75	9500	160	133.1	2	0.19	0.27 in-wg	35	84.2 °F	17	20	1,2,3,4,5			
VAV	1-9	KRUEGER	LMHS-08	1.00 in-wg	8"	570	170	285	0	285	170	285	0	0.75	9400	160	133.6	2	0.19	0.25 in-wg	35	85.3 °F	16	18	1,2,3,4,5			
VAV	1-10	KRUEGER	LMHS-08	1.00 in-wg	8"	500	500	250	0	500	500	500	0	1.25	13800	160	136.7	2	0.47	0.17 in-wg	35	80.4 °F	16	18	1,2,3,4,5			
VAV	2-1	KRUEGER	LMHS-06	1.00 in-wg	6"	350	105	175	0	350	105	350	0	1.5	12500	160	142.4	2	0.47	0.18 in-wg	35	87.8 °F	16	19	1,2,3,4,5			
VAV	2-2	KRUEGER	LMHS-06	1.00 in-wg	6"	350	105	175	0	350	105	350	0	1.5	12500	160	142.4	2	0.47	0.18 in-wg	35	87.8 °F	16	19	1,2,3,4,5			
VAV	2-3	KRUEGER	LMHS-06	1.00 in-wg	6"	220	65	110	0	220	65	220	0	0.75	7300	160	139.5	2	0.14	0.09 in-wg	35	85.4 °F	11	14	1,2,3,4,5			
VAV	2-4	KRUEGER	LMHS-10	1.00 in-wg	10"	860	260	430	0	430	260	430	0	1	13800	160	130.7	2	0.15	0.26 in-wg	35	84.6 °F	12	14	1,2,3,4,5			
VAV	2-5	KRUEGER	LMHS-06	1.00 in-wg	6"	350	105	175	0	350	105	350	0	1.5	12500	160	142.4	2	0.47	0.18 in-wg	35	87.8 °F	16	19	1,2,3,4,5			
VAV	2-6	KRUEGER	LMHS-08	1.00 in-wg	8"	580	280	175	0	280	175	280	0	0.75	9800	160	132.2	2	0.32	0.18 in-wg	35	86.9 °F	16	17	1,2,3,4,5			
VAV	2-7	KRUEGER	LMHS-06	1.00 in-wg	6"	350	105	175	0	350	105	350	0	1.5	12500	160	142.4	2	0.47	0.18 in-wg	35	87.8 °F	16	19	1,2,3,4,5			
VAV	2-8	KRUEGER	LMHS-10	1.00 in-wg	10"	780	235	390	0	390	235	390	0	1.25	12900	160	138.2	2	0.23	0.19 in-wg	35	85.4 °F	11	14	1,2,3,4,5			
VAV	2-9	KRUEGER	LMHS-08	1.00 in-wg	8"	420	130	210	0	420	130	420	0	1.5	14400	160	139.8	2	0.62	0.13 in-wg	35	86.5 °F	14	17	1,2,3,4,5			
VAV	2-10	KRUEGER	LMHS-06	1.00 in-wg	6"	440	135	220	0	220	135	220	0	0.75	6500	160	141.6	1	0.62	0.08 in-wg	35	82.3 °F	15	18	1,2,3,4,5			
VAV	2-11	KRUEGER	LMHS-06	1.00 in-wg	6"	340	105	175	0	340	105	340	0	1.5	11400	160	143.9	2	0.47	0.15 in-wg	35	85.9 °F	16	19	1,2,3,4,5			
VAV	2-12	KRUEGER	LMHS-06	1.00 in-wg	6"	320	100	160	0	230	100	230	0	1.25	10900	160	141.5	2	0.35	0.16 in-wg	35	86.4 °F	15	18	1,2,3,4,5			
VAV	2-13	KRUEGER	LMHS-08	1.00 in-wg	8"	500	150	250	0	500	150	500	0	0.75	17800	160	138.5	2	0.19	0.20 in-wg	35	87.8 °F	14	18	1,2,3,4,5			

WATER SOFTENER SCHEDULE														
UNIT TYPE	UNIT NUMBER	MANUFACTURE	MODEL	EXCHANGE CAP. @ 60 LB SALT	PIPE SIZE	FLOW RATE		BACKWASH RATE	TANK SIZES		ELECTRICAL			COMMENTS
						PEAK	CONTINUOUS		SOFTENER	BRINE	VOLTAGE	PHASES	MCA	
WS	1	CULLIGAN	CTM-120-PF	119	2"	73 GPM	55 GPM	8 GPM	16 DIA. X 65 H	24 DIA. X 50 H	120	1	1 A	1-6

- COMMENTS:
- DUPLEX MODEL WITH ONE (1) COMMON BRINE TANK.
 - UNIT SHALL BE A DUPLEX PARALLEL-WATER METER/DEMAND AUTOMATIC WATER SOFTENER. WATER SOFTENER CONTROLS SHALL BE SET UP FOR PROGRESSIVE OPERATION TO OPERATE BOTH TANKS SIMULTANEOUSLY.
 - PERFORMANCE SHOWN IS PER BRINE TANK.
 - INSTALL ON 4" HIGH CONCRETE PAD TO BE PROVIDED BY THE GENERAL CONTRACTOR.
 - PERFORMANCE BASED ON 22 GPG INFLUENT HARDNESS.
 - MAXIMUM 25 PSI PRESSURE DROP AT 73 GPM FLOW.

WATER HEATER SCHEDULE														
UNIT TYPE	UNIT NUMBER	MANUFACTURER	MODEL	LOCATION	SERVES	STORAGE CAPACITY	FUEL	GAS INPUT	ELECTRIC INPUT	RECOVERY RATE	TEMP. RISE	VOLTAGE	PHASES	COMMENTS
WH	1	A. O. SMITH	BTHL-400A	MECHANICAL 113	DOMESTIC HOT WATER	220.0 gal	NG	399900		451	100 °F	120	1	1-6
WH	2	A. O. SMITH	BTHL-400A	MECHANICAL 113	DOMESTIC HOT WATER	220.0 gal	NG	399900		451	100 °F	120	1	1-6
WH	3	CHRONOMITE	CMI-12L277	UNISEX TOILET 216	DOMESTIC HOT WATER	0.0 gal	ELEC.		3.3 kW	0	65 °F	277	1	7-8

- COMMENTS:
- PROVIDE AGA-RATED TEMPERATURE AND PRESSURE RELIEF VALVE.
 - ASME CERTIFIED.
 - PROVIDE WITH CONDENSATE NEUTRALIZER KIT.
 - PROVIDE WITH AMERICAN WHEATLEY BDT-26 ASME CERTIFIED EXPANSION TANK. (DET-1)
 - INSTALL OF 4" THICK CONCRETE HOUSEKEEPING PAD. PROVIDED BY THE GENERAL CONTRACTOR.
 - SEALED COMBUSTION. DIRECT VENT UNIT.
 - INSTANTANEOUS ELECTRIC TANKLESS. THERMOSTATIC CONTROL. MINIMUM OPERATING PRESSURE: 25-PSI, 0.2 GPM ACTIVATION FLOW RATE, 65°F RISE AT 0.35 GPM FLOW RATE. BUILT-IN ASSE 1070 TMV SET: 105°F. MOUNT BELOW LAVATORY.
 - ENTERING WATER TEMP = 40°F, LEAVING WATER TEMP = 105°F.

BOOSTER PUMP SCHEDULE											
UNIT TYPE	UNIT NUMBER	MANUFACTURER	MODEL	SUCTION PRESSURE (INLET SIDE)	DISCHARGE PRESSURE (OUTLET SIDE)	TOTAL GPM	ELECTRICAL			RPM	COMMENTS
							VOLTAGE	PHASES	HP (PER PUMP)		
DBP	1	BELL & GOSSETT	HVX2DL-33SVX2	30 psi	80 psi	180	480	3	10	3600	1-8

- COMMENTS:
- DESCRIPTION: SKID MOUNTED DUPLEX BOOSTER PUMP SYSTEM WITH MULTI-PUMP CONTROLLER, VFDS FOR EACH PUMP FACTORY WIRED, AND 4" STAINLESS STEEL SUCTION/DISCHARGE HEADERS.
 - INSTALL SKID ON 4" HIGH CONCRETE PAD TO BE PROVIDED BY THE GENERAL CONTRACTOR. COORDINATE WITH THE GENERAL CONTRACTOR.
 - PROVIDE PRESSURE GAUGE ON SUCTION AND DISCHARGE HEADERS.
 - CONTROL PANEL SHALL HAVE MAIN POWER DISCONNECT SWITCH AND PREWIRED FOR SINGLE POINT POWER CONNECTION BY THE ELECTRICAL CONTRACTOR. CONTROL PANEL SHALL HAVE NEMA 1 ENCLOSURE.
 - PROVIDE ISOLATION VALVES AT EACH PUMP SUCTION AND DISCHARGE.
 - PROVIDE CONTROL PANEL WITH ALARM DRY CONTACT FOR CONNECTION TO THE BAS FOR MONITORING.
 - PROVIDE FACTORY INSTALLED AND WIRED PRESSURE SENSOR ON DISCHARGE PIPING TO CONTROL PUMP OPERATION.
 - WESSELLS 211 GALLON DRAWDOWN TANK TO BE SHIPPED LOOSE FOR FIELD INSTALLATION. WORKING PRESSURE OF 125 PSIG. INSTALL ON 4" HIGH CONCRETE PAD TO BE PROVIDED BY THE GENERAL CONTRACTOR. COORDINATE WITH THE GENERAL CONTRACTOR.

BACKFLOW PREVENTION DEVICE SCHEDULE

UNIT TYPE	UNIT NUMBER	MANUFACTURER	MODEL	TYPE	LOCATION	SYSTEM SERVED	SIZE (IN)	FLOW RATE	MAX PRESSURE DROP (PSI)	NOTES
								MAX (GPM)		
BPD	1	WATTS	LF709	DCVA	MECHANICAL 113	MAIN WATER SERVICE	4"	300	5	1,2
BPD	2	WATTS	LF007	DCVA	MECHANICAL 113	LAWN IRRIGATION SERVICE	2"	80	5	1,2
BPD	3	WATTS	LF909	RPZA	MECHANICAL 113	NON-POTABLE SERVICE	2-1/2"	110	14	2,3

- COMMENTS:
- BACKFLOW PREVENTION DEVISE SHALL MEET STANDARDS ASSE 1015.
 - BACKFLOW PREVENTION DEVICE TO BE FIELD CERTIFIED PRIOR TO OWNER OCCUPANCY.
 - PROVIDE AIR GAP FITTING AND ROUTE RELIEF TO FLOOR SINK.

HOT WATER PRESSURE WASHER SCHEDULE

UNIT TYPE	UNIT NUMBER	MANUFACTURER	MODEL	GPM	FUEL TYPE	HEATING BTUH	PRESSURE PSI	HP	ELECTRICAL		COMMENTS
									VOLTAGE	PHASES	
PW	1	AALADIN	3530	5	NG	440000	3000	10	240	3	1,2,3,4
PW	2	AALADIN	3530	5	NG	440000	3000	10	240	3	2,3,4,5

- COMMENTS:
- PROVIDE WITH TWO HOSE REELS WITH 150 FT OF 1/2" HEAVY DUTY HIGH PRESSURE HOSE AND TWO INSULATED TRIGGER GUNS WITH INSULATED WANDS WITH ADJUSTABLE SIDE HANDLE.
 - PROVIDE WITH DRAFT DIVERTER
 - PROVIDE WITH MULTI-REMOTE CONTROL STATIONS WITH WATER RESISTANT CABINET.
 - PROVIDE TIME DELAY WITH THERMAL SHUTDOWN.
 - PROVIDE WITH ONE HOSE REEL WITH 150 FT OF 1/2" HEAVY DUTY HIGH PRESSURE HOSE AND ONE INSULATED TRIGGER GUN WITH INSULATED WAND WITH ADJUSTABLE SIDE HANDLE.

RADIANT PANEL SCHEDULE

UNIT TYPE	UNIT NUMBER	MANUFACTURER	MODEL	BTUH	GPM	AVERAGE WATER TEMPERATURE	AIR TEMPERATURE	PANEL LENGTH	PANEL WIDTH	COMMENTS
RCP	1	AIRTEX	HPH2448L PANEL	1050	<varies>	145 °F	70 °F	2' - 0"	4' - 0"	1,2,3,4,5

- COMMENTS:
- AIR TEMPERATURE OF 70 DEG. F.
 - 35% PROPYLENE GLYCOL.
 - COORDINATE FRAME STYLE WITH CEILING TYPE.
 - PROVIDE WITH 1" THICK FIBERGLASS INSULATION ON TOP OF PANEL. INSULATION SHALL BE RATED FOR INSTALLATION IN A RETURN AIR PLENUM (25/50).
 - FACTORY WHITE PANEL COLOR.

AIR COMPRESSOR SCHEDULE

UNIT TYPE	UNIT NUMBER	MANUFACTURER	MODEL	HP	TYPE	CAPACITY CFM@ 90 PSI	RPM	RECIEVER	REDUCING VALVE		ELECTRIC		COMMENTS
									IN	OUT	VOLTAGE	PHASES	
AC	1	INGERSOLL RAND	2545K10V	10	VERTICAL	35.600	800	120	175 psi	100 psi	480	3	1-6
AC	2	INGERSOLL RAND	2545K10V	10	VERTICAL	35.600	800	120	175 psi	100 psi	480	3	1-6

- COMMENTS:
- PROVIDE WITH A COMBINATION DELUXE ALTERNATOR PANEL (MONTED AND WIRED) WHICH SHALL ENABLE BOTH COMPRESSION UNITS TO OPERATE IN RESPONSE TO SYSTEM DEMAND. ALTERNATOR PANEL SHALL INCLUDE (2) DEFINITE PURPOSE (DP) STARTERS WITH OVERLOADS, (1) CONTROL RELAY FOR ALTERNATION, (2) ON/OFF SWITCHES, FUSED CONTROL CIRCUIT, (2) FUSED DISCONNECT SWITCHES WITH DOOR INTERLOCK, (2) 120 VOLT CONTROL TRANSFORMERS, (2) RESET BUTTONS, AND NEMA 1 IUL & CSA APPROVED.
 - PROVIDE WITH AIR-COOLED REFRIGERATED DRYER. SEPARATE 120V/1PH POWER CONNECTION PROVIDED BY ELECTRICAL CONTRACTOR.
 - PROVIDE WITH LOW OIL LEVEL SWITCH.
 - PROVIDE WITH HIGH EFFICIENCY COALESING FILTER.
 - PROVIDE WITH ELECTRIC DRAIN VALVE.
 - PROVIDE WITH INSTALLATION KIT TO INCLUDE VIBRATION ISOLATION PADS, 3-FOOT STAINLESS STEEL BRAIDED HOSE, AND WEDGE ANCHOR BOLTS.

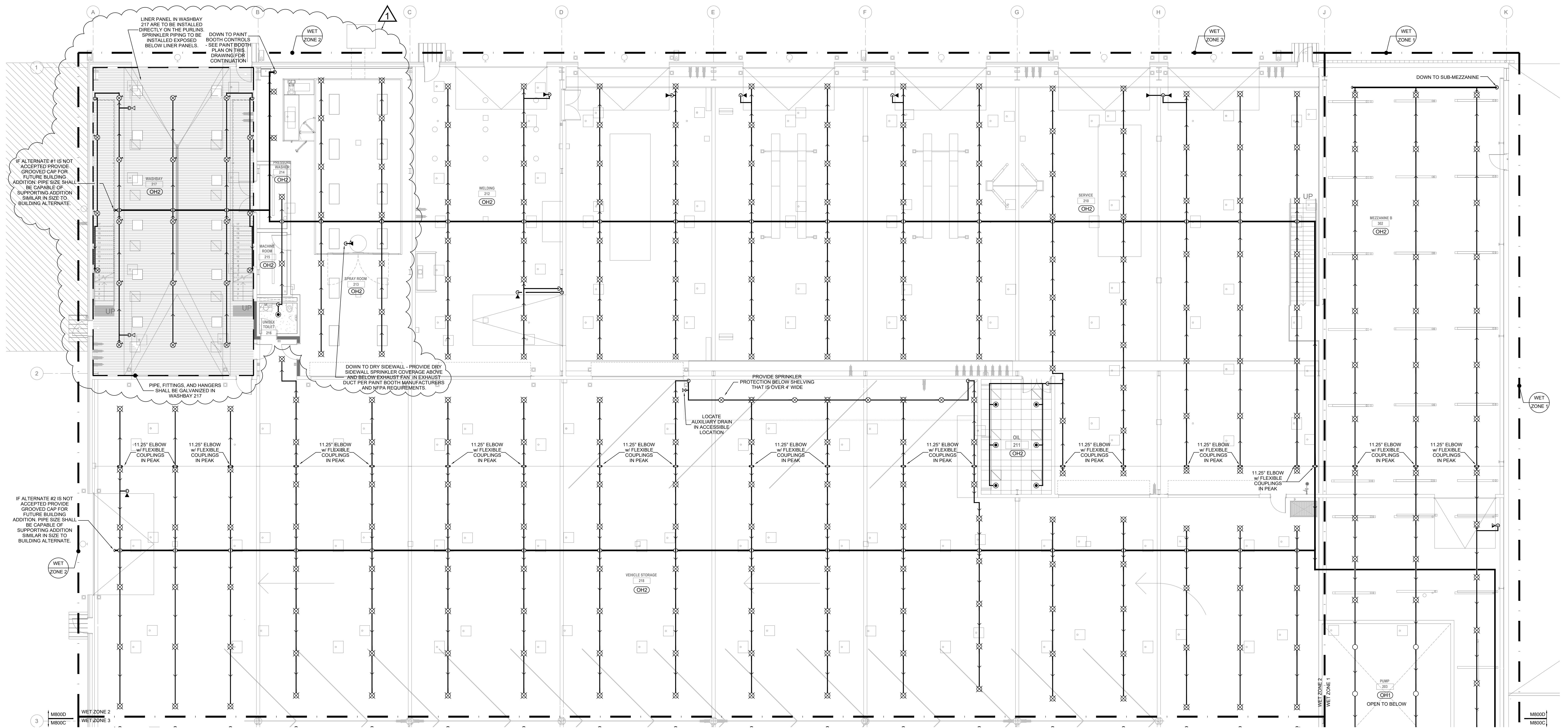
PLUMBING FIXTURE SCHEDULE

UNIT TYPE	UNIT NUMBER	FIXTURE TYPE	MANUFACTURER	MODEL	TRIM	SUPPLIES	WASTE	WASTE	VENT	SUPPLY		TRIM/REMARKS
										CW	HW	
WC	1	WATER CLOSET, FLUSH VALVE, WALL HUNG, ELONG	AMERICAN STANDARD	2257.101	SLOAN REGAL, 111-SFSM-1.28-TMO SENSOR, BATTERY OPERATED	--	--	4"	2"	1 1/4"		CHURCH 9500SSCT SEAT, JOSAM SERIES 12000 CARRIER. CARRIER TO BE PROVIDE WITH 2" AUXILIARY WASTE CONNECTION FOR WATER CLOSETS LOCATED IN WOMEN'S 122 AND TOILET 145. TOP SPUD.
WC	2	WATER CLOSET, FLUSH VALVE, WALL HUNG, ELONG, ADA	AMERICAN STANDARD	2257.101	SLOAN REGAL, 111-SFSM-1.28-TMO SENSOR, BATTERY OPERATED	--	--	4"	2"	1 1/4"		CHURCH 9500SSCT SEAT, JOSAM SERIES 12000 CARRIER. CARRIER TO BE PROVIDE WITH 2" AUXILIARY WASTE CONNECTION FOR WATER CLOSET LOCATED IN ADA TOILET 146. TOP SPUD, MOUNT SEAT AT 19" MAX. TRIP LEVER TO WIDE SIDE OF STALL.
UR	1	URINAL, WALL HUNG	AMERICAN STANDARD	6590.001	SLOAN REGAL-186-SFSM-0.5-TMO SENSOR,BATTERY OPERATED	--	--	2"	1 1/2"	3/4"		JOSAM SERIES 17000 CARRIER
UR	2	URINAL, WALL HUNG, ADA	AMERICAN STANDARD	6590.001	SLOAN REGAL-186-SFSM-0.5-TMO SENSOR,BATTERY OPERATED	--	--	2"	1 1/2"	3/4"		JOSAM SERIES 17000 CARRIER, MOUNT TOP OF RIM AT 17" MAX. A.F.F. TRIP LEVER TO WIDE SIDE OF STALL
L	1	INTERGRAL COUNTERTOP AND SINK BY OTHERS	--	--	SLOAN OPTIMA, EAF-150, 0.5GPM AERATED FLOW SENSOR, BATTERY OPERATED	BRASSCRAFT, KTSCR19C	GRID DRAIN	2"	1 1/2"	1/2"	1/2"	VANDAL RESISTANT 0.5 GPM FLOW OUTLET AND THERMOSTATIC MIXING FOR SINGLE FAUCET AND 4" COVER PLATE. OFFSET GRID DRAIN, TREJBORO LAV GUARD TAILPIECE INSULATION, SUPPLY KIT WITH STOP VALVE AND TUBE RISERS. PROVIDE ASSE 1070 RATED THERMAL MIXING VALVE LOCATED DOWNSTREAM OF THE FIXTURE STOPS.
SK	1	SINK - STAINLESS STEEL, DOUBLE COMPARTMENT	ELKAY	LRAD331965PD	ZURN, Z871C4-XL-HS	BRASSCRAFT, KTSCR19C		2"	1 1/2"	1/2"	1/2"	DOUBLE COMPARTMENT STAINLESS STEEL COUNTERTOP SINK, REAR CENTER DRAIN OUTLET, HOLE DRILLING CONFIGURATION 4 (4 HOLES AT 4" OC.), 8" GOOSENECK SPOUT, 1.5 GPM AERATOR FLOW OUTLET, CERAMIC DISK CARTRIDGES, 4" WRIST BLADE HANDLES WITH HAND SPRAY. PROVIDE WITH 17 GAUGE CHROME PLATED P TRAP, STRAINER, AND SUPPLY KIT WITH KEVED ANGLED STOP VALVE AND TUBE RISERS. SEE ARCHITECTURAL PLANS FOR COUNTERTOP ELEVATIONS. COORDINATE SINK OPENING WITH COUNTERTOP MILLWORK. PROVIDE ASSE 1070 RATED THERMAL MIXING VALVE LOCATED DOWNSTREAM OF THE FIXTURE STOPS.
SK	2	FLOOR MOUNTED UTILITY SINK	FIAT	FL-1	FIAT, A1 FAUCET	BRASSCRAFT, KTSCR19C	--	2"	1 1/2"	1/2"	1/2"	4" CENTERSET CHROME PLATED, METAL FAUCET WITH 6-3/4" SWING SPOUT, 4" WRIST BLADE HANDLES, RUBBER STOPPER & DRAIN ASSEMBLY, CHECK VALVES. 17 GAUGE CHROME PLATED P TRAP, AND SUPPLY KIT WITH KEVED ANGLED STOP VALVE AND TUBE RISERS. PROVIDE ASSE 1070 RATED THERMAL MIXING VALVE LOCATED DOWNSTREAM OF THE FIXTURE STOPS.
EWC	1	FILTERED AND REFRIGERATED WATER CHILLER, SPLIT LEVEL W/ SENSOR BOTTLE FILLER, ADA	ELKAY	LZSTL8WSLK	--	BRASSCRAFT, KTSCR19C	--	2"	1 1/2"	1/2"		DUAL WATER COOLER WITH ELECTRONIC SENSOR OPERATED BOTTLE FILLER, WALL MOUNTED, ANTI-SQUIRT BUBBLER, SS TON AND SHROUD, FRONTSIDE PUSH BARS, ACCESSORIES: PROVIDED. 3-PACK FILTER REPLACEMENT, CANE APRON, 17 GA. C.P. P-TRAP AND SUPPLY. NOTES: VERIFY AND COORDINATE FINAL ORIENTATION WITH ARCHITECTURAL LAYOUTS. ELECTRICAL: 120V, 1.1 AMP
SH	1	SHOWER - TILED SURROUND	--	--	ZURN, Z7301-SS-MT-S8	--	2" FLOOR DRAIN		1/2"	1/2"		SHOWER TRIM, LEVEL VOLUME CONTROL HANDLE, THERMOSTATIC VALVE CARTRIDGE
SH	2	SHOWER - TILED SURROUND - ADA	--	--	ZURN, Z7301-SS-MT-DV2P-HW-H7-S8	--	2" FLOOR DRAIN		1/2"	1/2"		ALL METAL TRIM, FIXED AND HAND SHOWER HEADS, SLIDE BAR, DIVERTER VALVE, INLINE VACUUM BRAKER
UB	1	UTILITY BOX, LAUNDRY	GUY GRAY	WB200HA	--	--	--	2"	1 1/2"	1/2"	1/2"	BOTTOM CW & HW W/ ARRESTERS, 2" DRAIN SUITABLE FOR RECESSED OR SURFACE MOUNTING
WH	1	WALL HYDRANT W/ RECESSED BOX AND DOOR	WOODFORD	867	--	--	--	--	--	--	3/4"	FREEZE RESISTANT, SELF DRAINING W/ BACKFLOW PREVENTOR, REMOVABLE KEY, BOX AND DOOR. MOUNT AT 24" AFG.
HB	1	HOSE BIB - COLD WATER	WOODFORD	26	--	--	--	--	--	--	3/4"	ANTI-SIPHON WITH VACUUM BREAKER. ONLY INSTALLED IN NON-FREEZING AREAS. MOUNT AT 36" AFF.
HB	2	HOSE BIB - HOT WATER	WOODFORD	26	--	--	--	--	--	--	3/4"	ANTI-SIPHON WITH VACUUM BREAKER. ONLY INSTALLED IN NON-FREEZING AREAS. MOUNT AT 36" AFF.
ESH	1	EMERGENCY SHOWER & EYEFACE WASH	BRADLEY	S19314	--	--	--	--	1 1/4"	1 1/4"		STAINLESS STEEL PIPE MATERIAL AND BALL VALVE. PLASTIC SHOWER HEAD, WITH PLASTIC SHROUD. STAINLESS STEEL HALO EYE/ FACE RECEPTOR AND DUST COVER. STRAINER, INTERNAL FILTERS, STAY OPEN SS VALVES, SS PULL ROD W/TRIANGLE HANDLE, PUSH FLAG PEDAL, UNIVERSAL EMERGENCY SIGN, BRADLEY S19-2150 EMERGENCY FIXTURE THERMOSTATIC MIXING VALVE (TMV-2), PIPED ASSEMBLY WITH INLET AND OUTLET SHUTOFF, SURFACE MOUNTED STAINLESS STEEL CABINET W/ WINDOW IN DOOR.
HR	1	HOSE REEL - COLD WATER	REELCRAFT	8307S OLP	--	--	--	--	3/4"			PROVIDE WITH VACUUM BREAKER AND 75 FEET OF 3/4" DIAMETER HOSE.
HR	2	HOSE REEL - HOT WATER	REELCRAFT	8307S OLP	--	--	--	--	3/4"		3/4"	PROVIDE WITH VACUUM BREAKER AND 75 FEET OF 3/4" DIAMETER HOSE.
HR	3	HOSE REEL - COMPRESSED AIR	REELCRAFT	8307S OLP	--	--	--	--				PROVIDE WITH 75 FEET OF 3/4" DIAMETER HOSE. COORDINATE OUTLET TYPE WITH OWNER.
MSK	1	MOP SINK, FLOOR MOUNTED	FIAT	MSB-2424	ZURN, Z843M1-RC-CS W/ VACUUM BREAKER	--	SS DOME STRAINER	3"	2"	3/4"	3/4"	HOSE AND BRACKET, MOP HANGER, CERAMIC DISK CARTRIDGES, STAINLESS STEEL BUMPER GAUARDS, STAINLESS STEEL WALL GAUARDS.
FD	1(2')	FLOOR DRAIN	JAY R SMITH	2005	--	--	--	2"	2"			9" DIAMETER CAST IRON BODY, 5" DIAMETER NICKEL BRONZE STRAINER HEAD, HEELPROOF GRATE, ACCESSORIES: VANDAL PROOF SCREWS.
FD	1(3')	FLOOR DRAIN	JAY R SMITH	2005	--	--	--	3"	2"			9" DIAMETER CAST IRON BODY, 5" DIAMETER NICKEL BRONZE STRAINER HEAD, HEELPROOF GRATE, ACCESSORIES: VANDAL PROOF SCREWS.
FD	2(3')	FLOOR DRAIN	JAY R SMITH	2350	--	--	--	3"	2"			12" DIAMETER CAST IRON BODY, 8 1/2" DIAMETER DUCTILE IRON BUCKET AND GRATE. ACCESSORIES: VANDAL PROOF SCREWS, ENAMEL COATED CAST IRON BODY WITH FLANGE, CLAMPING COLLAR, SEDIMENT BUCKET, BOTTOM OUTLET, AND NO-HUB JOINT.
FD	2(4')	FLOOR DRAIN	JAY R SMITH	2350	--	--	--	4"	2"			12" DIAMETER CAST IRON BODY, 8 1/2" DIAMETER DUCTILE IRON BUCKET AND GRATE. ACCESSORIES: VANDAL PROOF SCREWS, ENAMEL COATED CAST IRON BODY WITH FLANGE, CLAMPING COLLAR, SEDIMENT BUCKET, BOTTOM OUTLET, AND NO-HUB JOINT.
FD	3(4')	TRAFFIC FLOOR DRAIN	JAY R SMITH	2470-M	--	--	--	4"				CAST IRON BODY WITH DUCTILE IRON HINGED GRATE, AND SEDIMENT BUCKET. GRATE TO MEET ASME SPECIAL DUTY LOAD RATING.
FD	4(3')	FLOOR DRAIN W/ FUNNEL	JAY R SMITH	2005	--	--	--	3"	2"			9" DIAMETER CAST IRON BODY, 5" DIAMETER NICKEL BRONZE STRAINER HEAD, ACCESSORIES:JAY R SMITH 9703 STAINLESS STEEL FUNNEL, VANDAL PROOF SCREWS
FS	1(4')	FLOOR SINK	JAY R SMITH	3151	--	--	--	4"	2"			12" SQUARE, 8" DEEP, PORCELAIN ENAMEL, ACID RESISTANT COATED, CAST IRON BODY. ACCESSORIES: SEDIMENT BUCKET, 1/2-NICKEL BRONZE GRATE.
FS	1(6')	FLOOR SINK	JAY R SMITH	3450	--	--	--	6"	3"			16" SQUARE, 12" DEEP, ACID RESISTANT COATED, CAST IRON BODY, ACCESSORIES: SEDIMENT BUCKET, 1/2 GRATE.
TD	1(25'-0")	6" WIDE TRENCH DRAIN	JAY R SMITH	9440	--	--	--	4"				6" WIDE, CLASS C SLOTTED GRATE, DUCTILE IRON
CB	1(2x2')	2 x 2 CATCH BASIN	JAY R SMITH	9960	--	--	--	4"				2X2' CATCH BASIN, CLASS C SLOTTED GRATE, DUCTILE IRON, STAINLESS SEDIMENT BUCKET, 9440 CHANNEL/CATCH BASIN ADAPTOR, 4" PIPE ADAPTOR
RD	1(4')	ROOF DRAIN	JAY R SMITH	1010Y	--	--	--	--				16" DIAMETER, ENAMEL COATED CAST IRON BODY WITH FLANGE, FLASHING RING WITH GRAVEL STOP, UNDER DECK CLAMP, SUMP RECEIVER, ALUMINUM DOME, NO HUB JOINT.
RD	1(6')	ROOF DRAIN	JAY R SMITH	1010Y	--	--	--	--				16" DIAMETER, ENAMEL COATED CAST IRON BODY WITH FLANGE, FLASHING RING WITH GRAVEL STOP, UNDER DECK CLAMP, SUMP RECEIVER, ALUMINUM DOME, NO HUB JOINT.
ORD	1(4')	OVERFLOW ROOF DRAIN	JAY R SMITH	1080Y	--	--	--	--				16"DIAMETER, ENAMEL COATED CAST IRON BODY WITH FLANGE, FLASHING RING WITH GRAVEL STOP, UNDERDECK CLAMP, SUMP RECEIVER, 2" EXTERIOR WATER DAM, ALUMINUM DOME, NO-HUB JOINT.
ORD	1(6')	OVERFLOW ROOF DRAIN	JAY R SMITH	1080Y	--	--	--	--				16"DIAMETER, ENAMEL COATED CAST IRON BODY WITH FLANGE, FLASHING RING WITH GRAVEL STOP, UNDERDECK CLAMP, SUMP RECEIVER, 2" EXTERIOR WATER DAM, ALUMINUM DOME, NO-HUB JOINT.
DSN	1(4')	DOWNSPOUT NOZZLE	JAY R SMITH	1770Y	--	--	--	--				NICKEL BRONZE BODY NO HUB OUTLET.
DSN	1(6')	DOWNSPOUT NOZZLE	JAY R SMITH	1770Y	--	--	--	--				NICKEL BRONZE BODY NO HUB OUTLET.

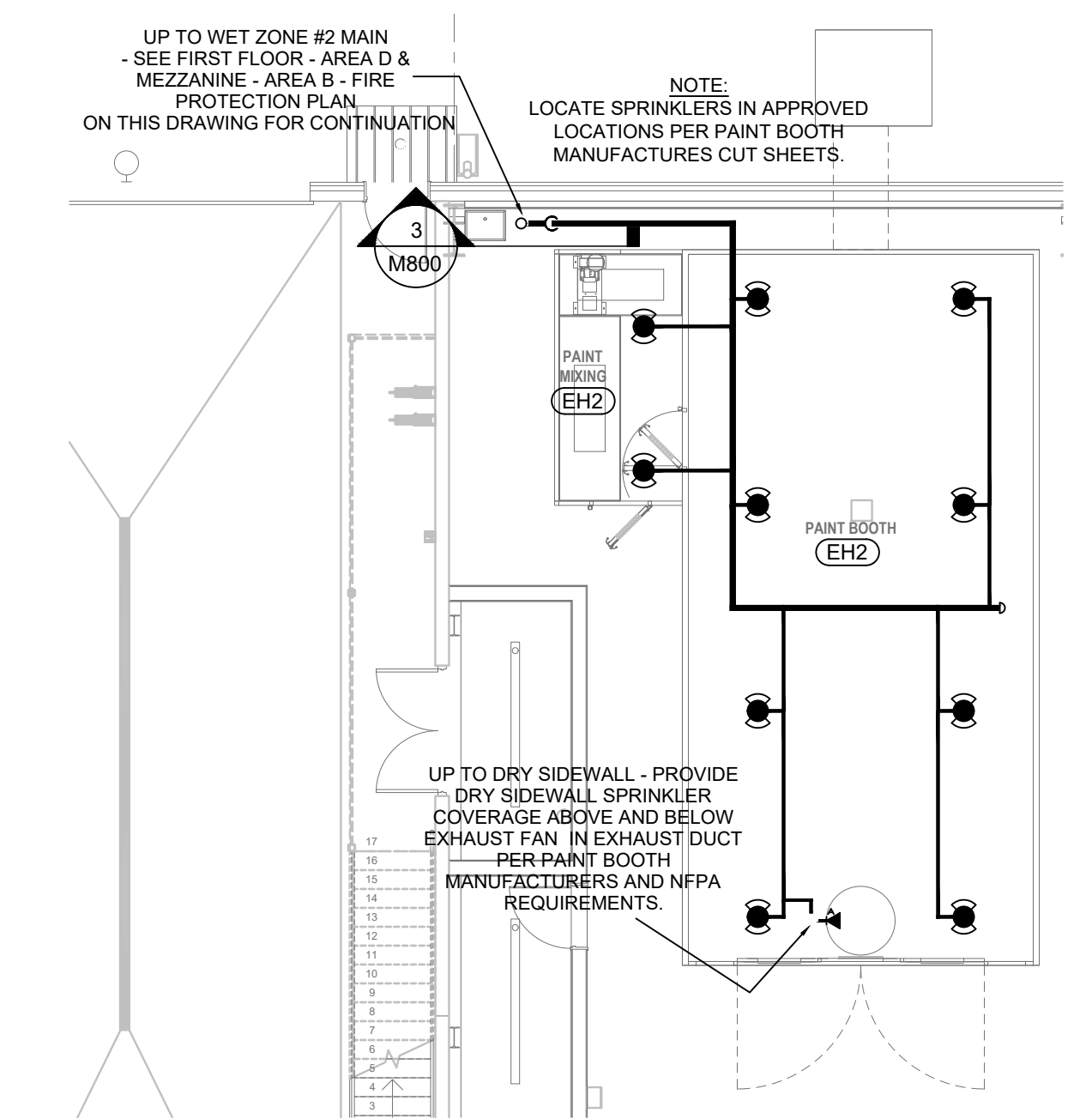
- COMMENTS:
- COMPLY WITH ALL MANUFACTURER INSTALLATION REQUIRMENTS TO PROVIDE COMPLETE AND OPERATIONAL FIXTURES.
 - PROVIDE TRANSITION FITTING AS REQUIRED TO CONNECT TO BRANCH PIPING, WHICH MAY BE A DIFFERENT SIZE, AND AS SHOWN ON DRAWINGS. PROVIDE FIXTURE OPTIONS AS REQUIRED TO CONNECT TO SPECIFIED WASTE PIPING TYPE.
 - PROVIDE STOP VALVES, BACKFLOW PREVENTERS AND SUPPORTS AS REQUIRED BY THE MANUFACTURER AND PLUMBING CODE.
 - COORDINATE WITH ELECTRICAL DESIGN FOR POWER SUPPLY AND LOCATIONS.
 - HOT WATER SHALL BE LIMITED TO ALL FIXTURES IN ACCORDANCE WITH ASSE STANDARDS: PUBLIC LAVATORIES SHALL BE LIMITED TO 110°F (ASSE 1070), SINGLE SHOWER LIMITED TO 120°F (ASSE 1016/ ASSE 1069), AND EMERGENCY EYEWASH/SHOWERS LIMITED TO 100°F(ASSE 1071). PROVIDE MIXING VALVE AND ANY ASSOCIATED ACCESS PANELS AS REQUIRED.

INFLOOR HEATING SCHEDULE

UNIT TYPE	ZONE NUMBER	LOCATION	SPACING	CAPACITY	EWT	LWT	G
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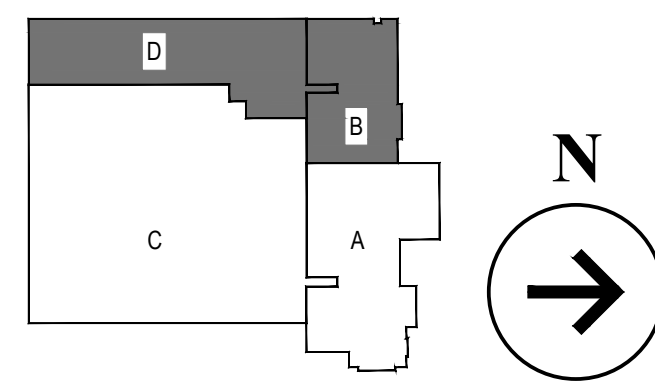
1 FIRST FLOOR - AREA D & MEZZANINE - AREA B - FIRE PROTECTION PLAN
1/8" = 1'-0"

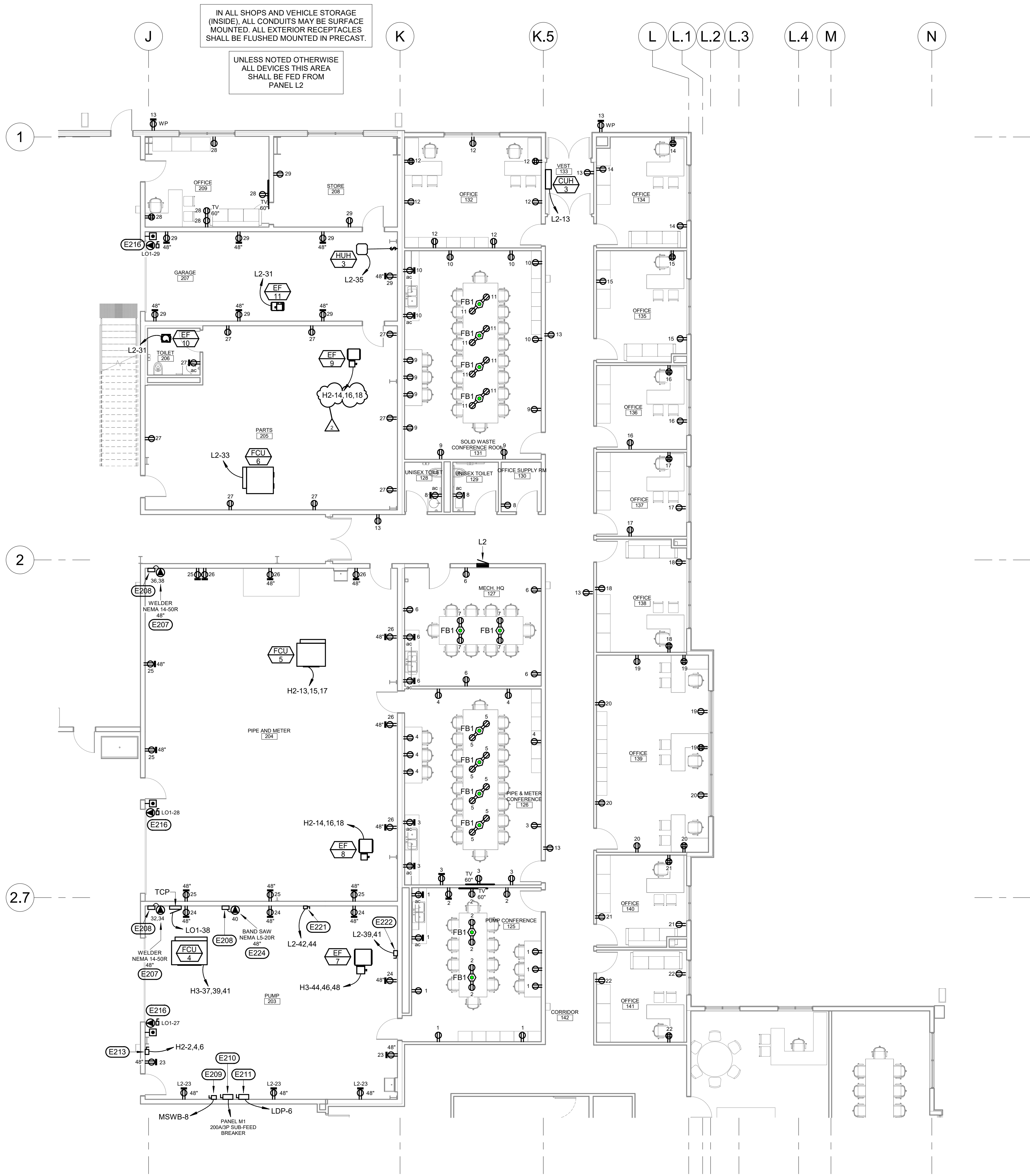


2 PAINT BOOTH - AREA D & MEZZANINE - AREA B - FIRE PROTECTION PLAN
1/8" = 1'-0"

SPRAY BOOTH NOTES:
1. SPRAY BOOTH PROTECTED WITH A WET PIPE SPRINKLER SYSTEM PER NFPA 33.
2. DESIGNED TO A DENSITY OF 0.40 gpm/ft² (NFPA 13 EXTRA HAZARD GROUP 2) OVER ENTIRE BOOTH AREA, INCLUDING EXHAUST DUCTS.
3. MAXIMUM SPRINKLER SPACING = 100 FT.
4. SPRINKLERS SHALL BE K-11.2, 200" STANDARD RESPONSE.
5. PIPING ROUTED ABOVE SPRAY BOOTH CEILING AND DROPS THROUGH HOLES DRILLED IN CEILING FOR PENDENTS.
6. ANNULAR SPACE COMPLETELY SEALED AROUND DROP SO THAT AIR CANNOT ENTER DURING EXHAUST FAN OPERATION.
7. SPRINKLERS SHALL BE COVERED WITH THIN CELLOPHANE OR PAPER BAGS PER NFPA 33. BAGS SHALL BE REPLACED FREQUENTLY TO AVOID EXCESSIVE PAINT RESIDUE BUILD-UP.

3/20/2026 ADDENDUM 3 CHANGES



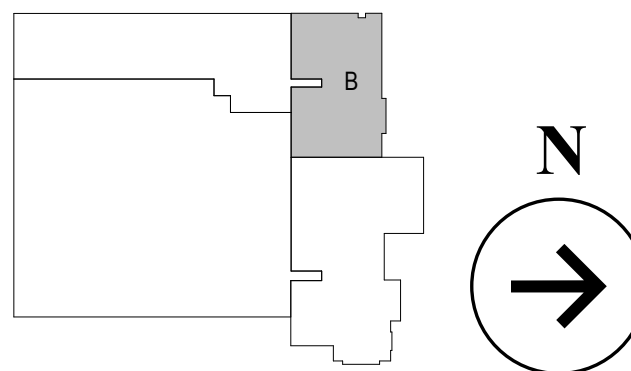
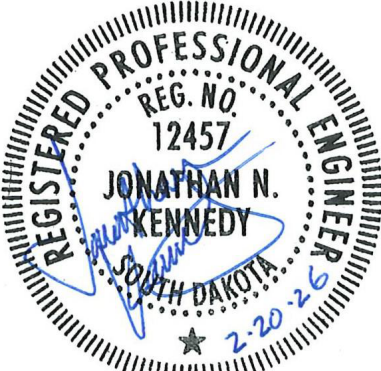


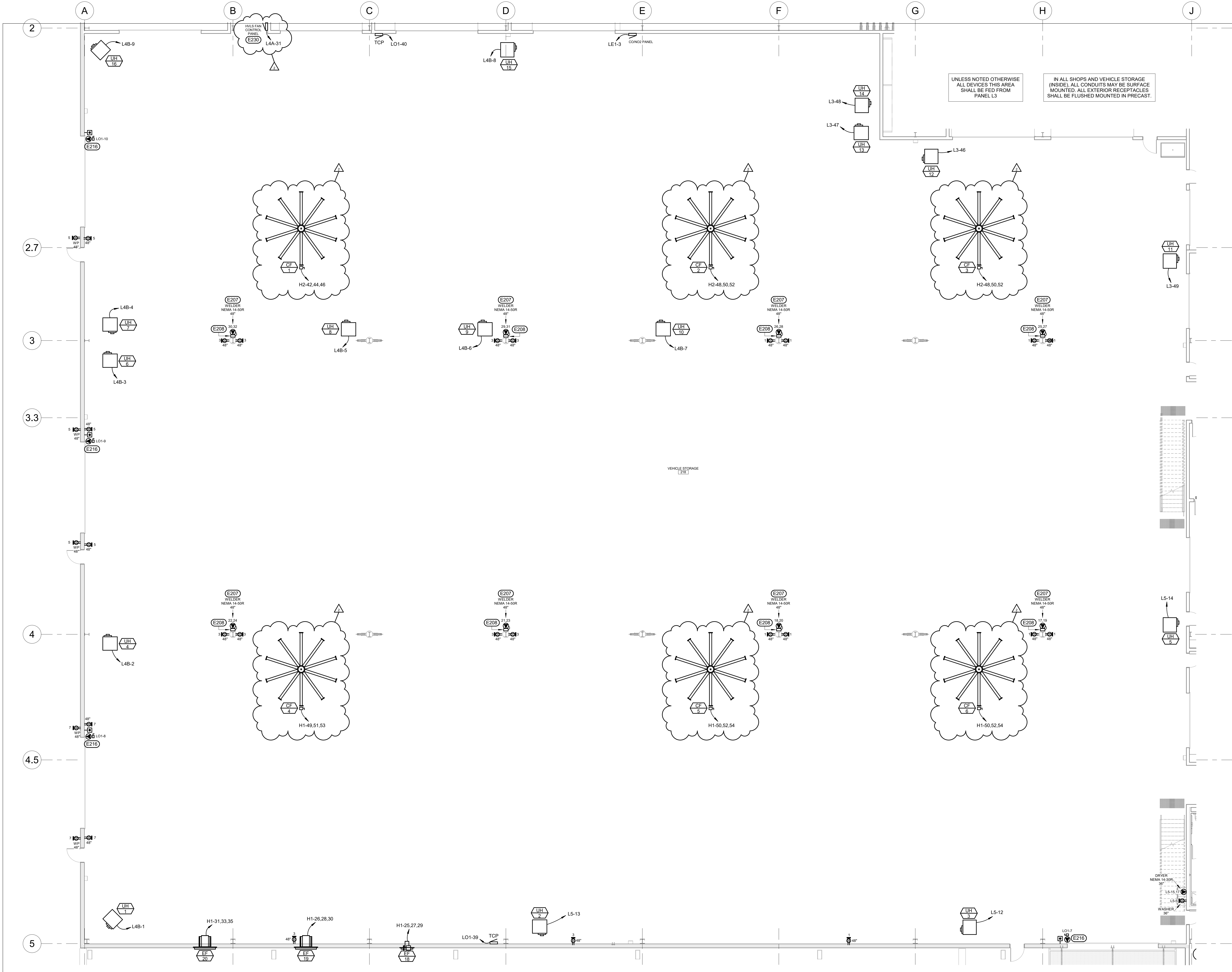
1 FIRST FLOOR POWER PLAN - AREA B
1/8" = 1'-0"

- ELECTRICAL SPECIFIC NOTES**
- E207 PROVIDE A NEMA 14-50R RECEPTACLE FOR WELDER. VERIFY WELDER LOCATION WITH OWNER PRIOR TO ROUGH-IN.
- E208 PROVIDE AN EXTERNAL GFCI PROTECTION DEVICE SIZED FOR THE CIRCUIT SHOWN. INSTALL NEAR RECEPTACLE/EQUIPMENT IN A READILY ACCESSIBLE LOCATION. (NORTH SHORE SAFETY LINECARD PGFS OR EQUAL.)
- E209 PROVIDE A 100A FRAME NON-FUSED DISCONNECT FOR VOLTAGE TESTING. PROVIDE ENGRAVED LABEL "VOLTAGE TESTING FOR 480V/3PH, 100A".
- E210 PROVIDE A 200A FRAME NON-FUSED DISCONNECT FOR VOLTAGE TESTING. PROVIDE ENGRAVED LABEL "VOLTAGE TESTING FOR 240V/3PH, 200A".
- E211 PROVIDE A 200A FRAME NON-FUSED DISCONNECT FOR VOLTAGE TESTING. PROVIDE ENGRAVED LABEL "VOLTAGE TESTING FOR 208V/3PH, 200A".
- E213 PROVIDE A 30A FRAME NON-FUSED DISCONNECT FOR FREE-STANDING BRIDGE CRANE.
- E216 AUTOMATIC OVERHEAD DOOR PUSHBUTTON STATIONS AND OPERATORS. EQUIPMENT PROVIDED AND INSTALLED BY GC. CONNECTED/POWERED BY EC. INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND COORDINATE EXACT REQUIREMENTS WITH ARCHITECTURAL SPECIFICATIONS/SHOP DRAWINGS. PROVIDE NECESSARY CONTROL WIRING FOR SAFETY FEATURES. COORDINATE EXACT LOCATIONS WITH OWNER AND OTHER TRADES TO MAKE ALL SERVICES FIT IN THIS AREA. TYPICAL.
- E221 PROVIDE A 30A FRAME NON-FUSED DISCONNECT FOR DRILL PRESS. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO ROUGH-IN.
- E222 PROVIDE A 60A FRAME NON-FUSED DISCONNECT FOR PLASMA CUTTER. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO ROUGH-IN.
- E224 PROVIDE A NEMA L5-20R LOCKING-TYPE RECEPTACLE FOR BAND SAW. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO ROUGH-IN.

2 3/20/26 ADDENDUM 3 CHANGES

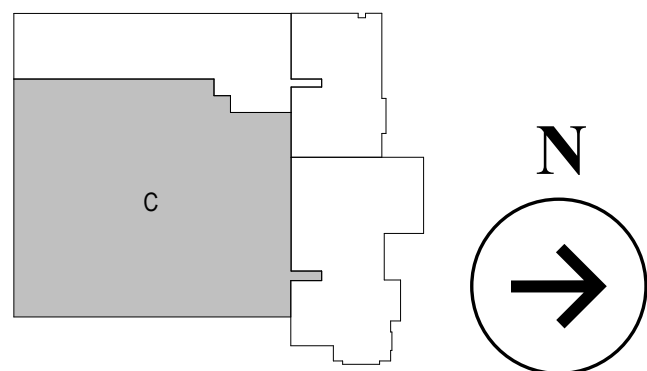
1 3/11/26 ADDENDUM 2 CHANGES





- ELECTRICAL SPECIFIC NOTES**
- E207 PROVIDE A NEMA 14-50R RECEPTACLE FOR WELDER. VERIFY WELDER LOCATION WITH OWNER PRIOR TO ROUGH-IN.
 - E208 PROVIDE AN EXTERNAL GFCI PROTECTION DEVICE SIZED FOR THE CIRCUIT SHOWN. INSTALL NEAR RECEPTACLE/EQUIPMENT IN A READILY ACCESSIBLE LOCATION. (NORTH SHORE SAFETY LINECARD PGFS OR EQUAL.)
 - E216 AUTOMATIC OVERHEAD DOOR PUSHBUTTON STATIONS AND OPERATORS. EQUIPMENT PROVIDED AND INSTALLED BY GC. CONNECTED/POWERED BY EC. INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND COORDINATE EXACT REQUIREMENTS WITH ARCHITECTURAL SPECIFICATIONS/SHOP DRAWINGS. PROVIDE NECESSARY CONTROL WIRING FOR SAFETY FEATURES. COORDINATE EXACT LOCATIONS WITH OWNER AND OTHER TRADES TO MAKE ALL SERVICES FIT IN THIS AREA. TYPICAL.
 - E230 CONTROL PANEL FOR HVLS FANS. INTERCONNECT WITH FIRE ALARM SYSTEM TO SHUT DOWN IMMEDIATELY UPON RECEIVING A WATER FLOW SIGNAL. PER NFPA 13. PROVIDE RELAY COIL AND CONTACTS AS REQUIRED TO FAN CONTROL PANEL.

2. 3/20/26 ADDENDUM 3 CHANGES

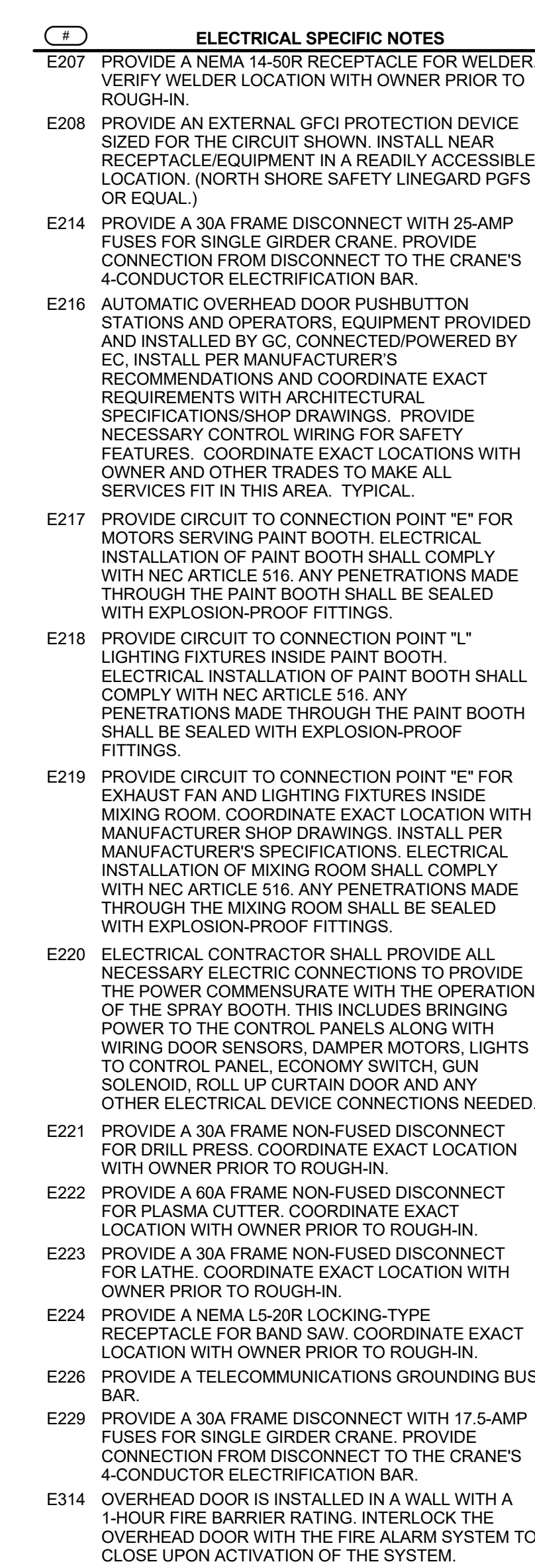


1 FIRST FLOOR POWER PLAN - AREA C
1/8" = 1'-0"

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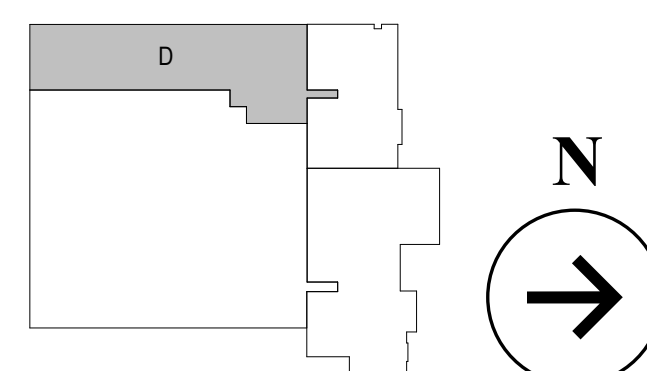
hkg
architects

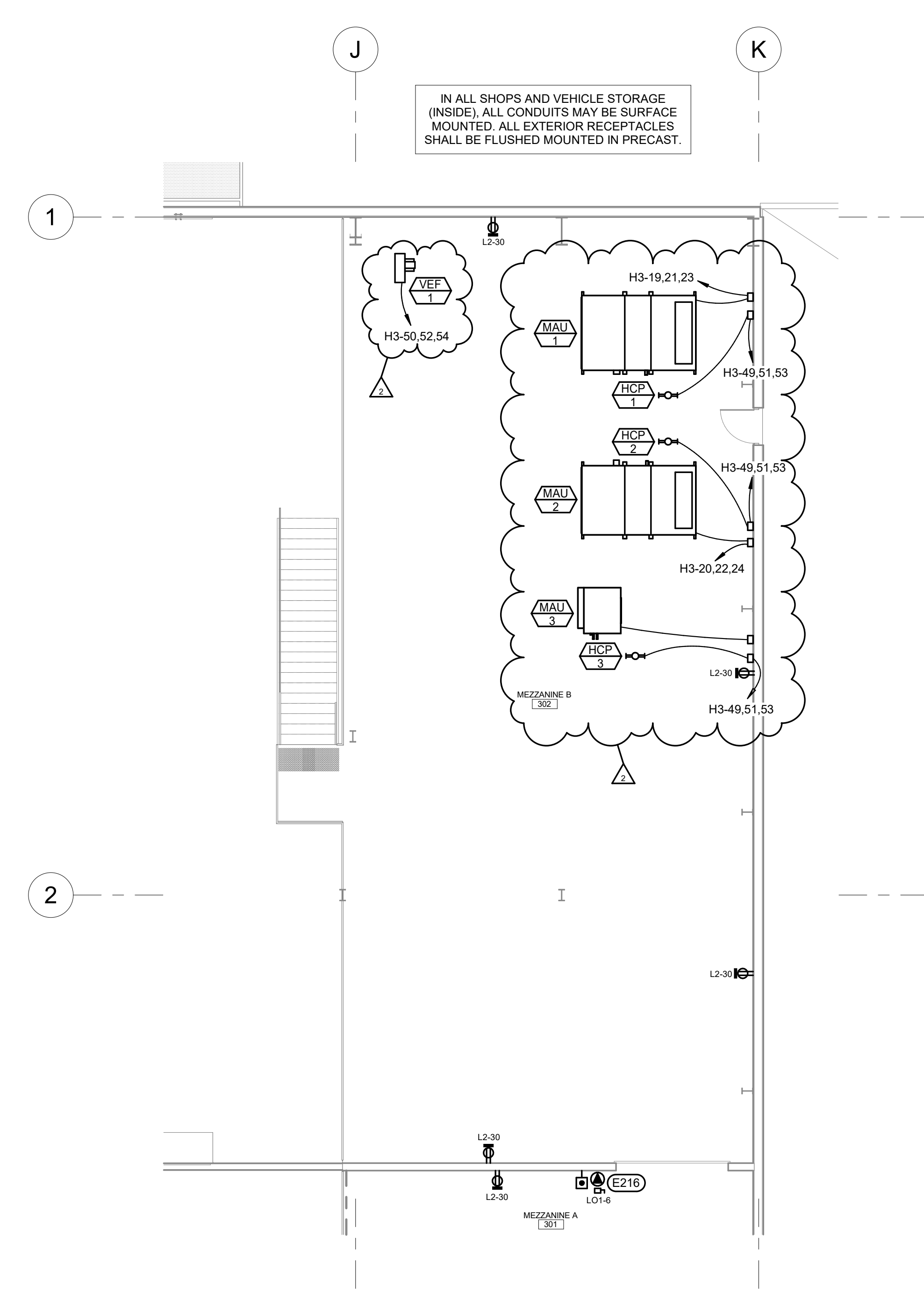
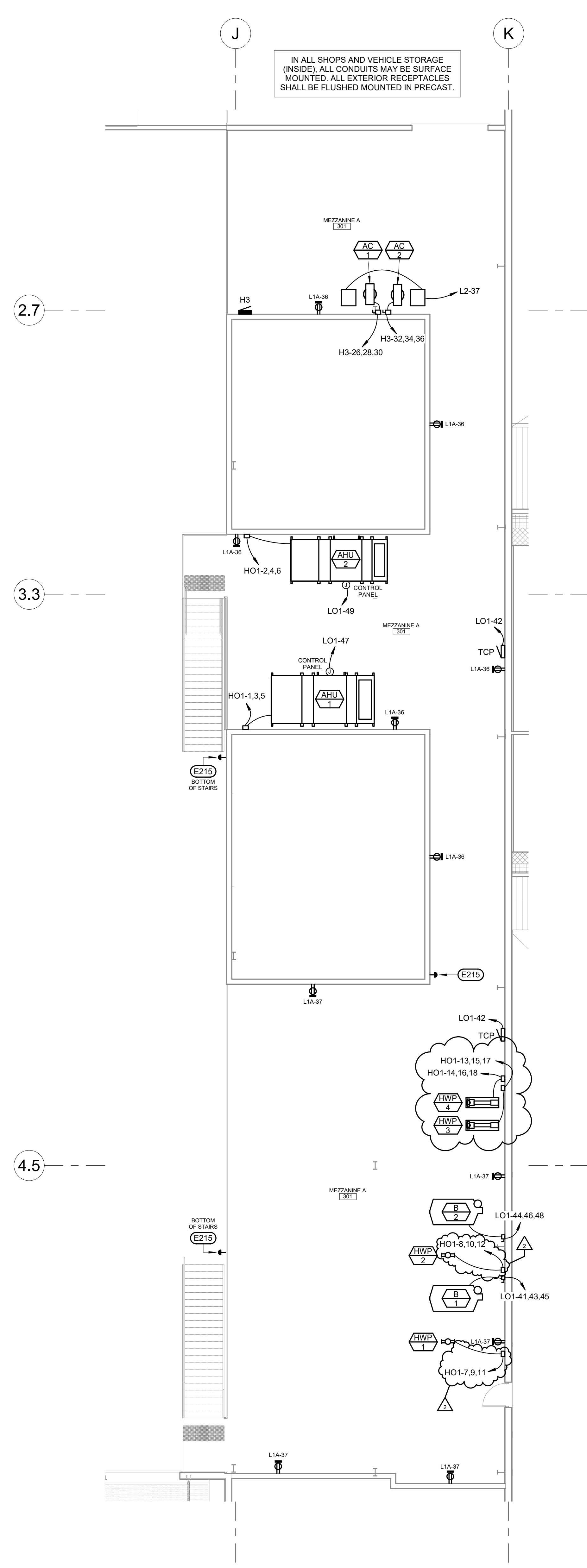
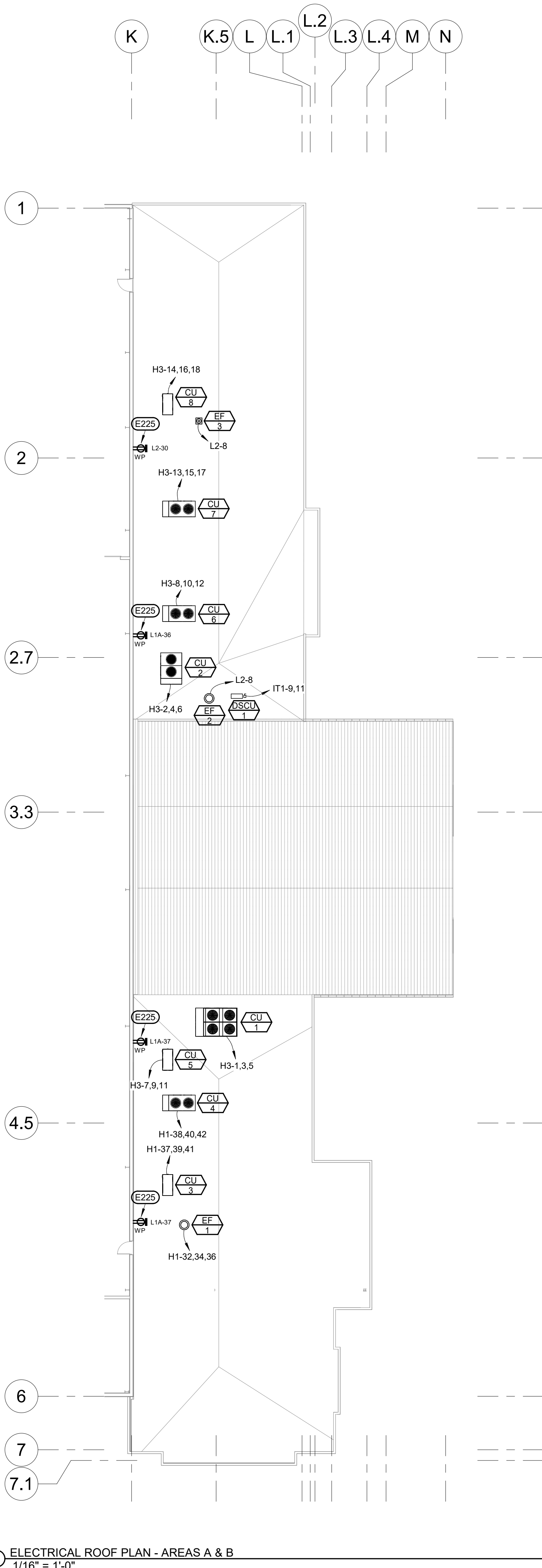
Project: Plans for ABERDEEN PUBLIC WORKS Maintenance Building Aberdeen	Sheet: FIRST FLOOR POWER PLAN - AREA C	Revision: NR Project: NR Contract: JK	Scale: E100C
Client: HWG Architects, Inc.	Location: Aberdeen, S.D.	Date: 02/20/26	Sheet: 8823045



2 3/20/26 ADDENDUM 3 CHANGES

1 3/11/26 ADDENDUM 2 CHANGES



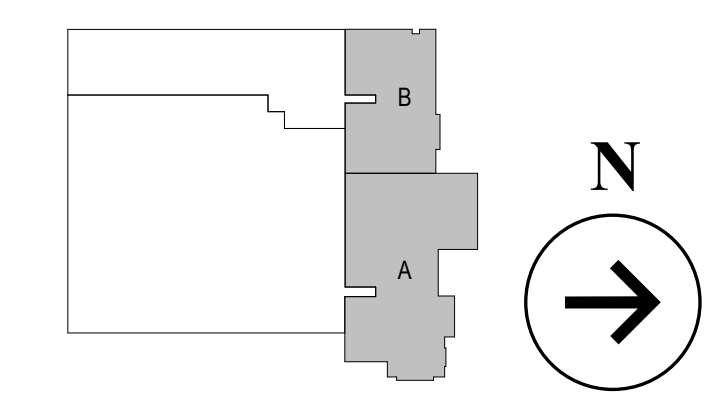


- ELECTRICAL SPECIFIC NOTES**
- E215 PROVIDE AN EMERGENCY SHUTDOWN PUSHBUTTON SWITCH WITH CLEAR FLIP-UP COVER AND INTERLOCK WITH BOILERS.
 - E216 AUTOMATIC OVERHEAD DOOR PUSHBUTTON STATIONS AND OPERATORS, EQUIPMENT PROVIDED AND INSTALLED BY GC, CONNECTED/POWERED BY EC. INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND COORDINATE EXACT REQUIREMENTS WITH ARCHITECTURAL SPECIFICATIONS/SHOP DRAWINGS. PROVIDE NECESSARY CONTROL WIRING FOR SAFETY FEATURES. COORDINATE EXACT LOCATIONS WITH OWNER AND OTHER TRADES TO MAKE ALL SERVICES FIT IN THIS AREA. TYPICAL.
 - E225 PROVIDE GFCI-TYPE RECEPTACLE WITHIN 25FT OF MECHANICAL EQUIPMENT ON ROOF.

③ MEZZANINE FLOOR POWER PLAN - AREA B
1/8" = 1'-0"

② MEZZANINE FLOOR POWER PLAN - AREA A
1/8" = 1'-0"

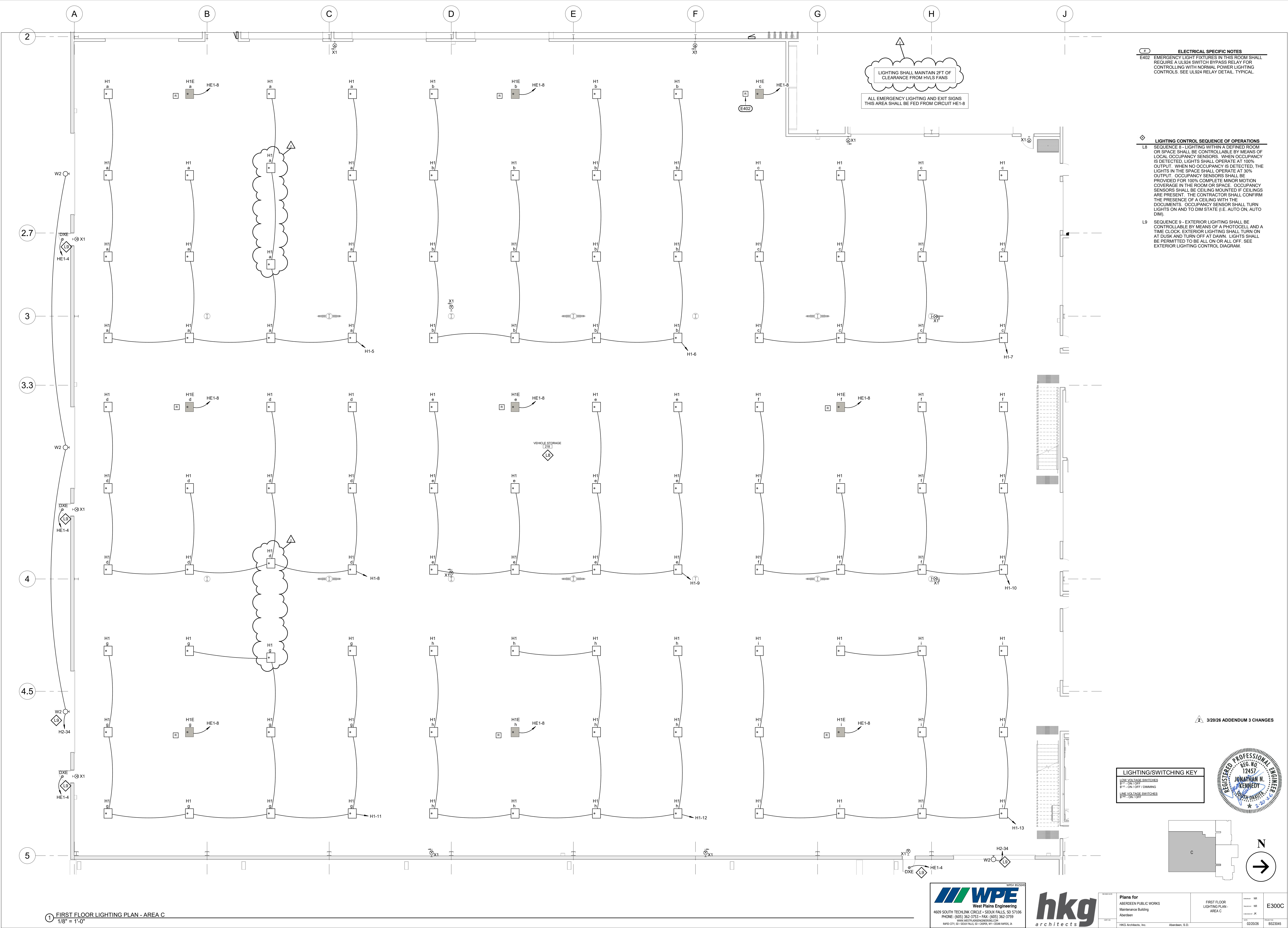
② 3/20/26 ADDENDUM 3 CHANGES



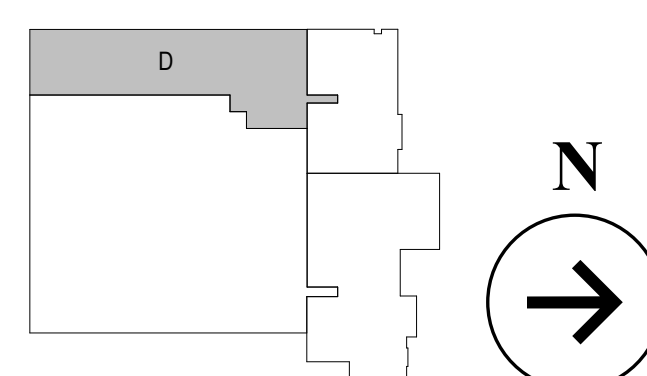
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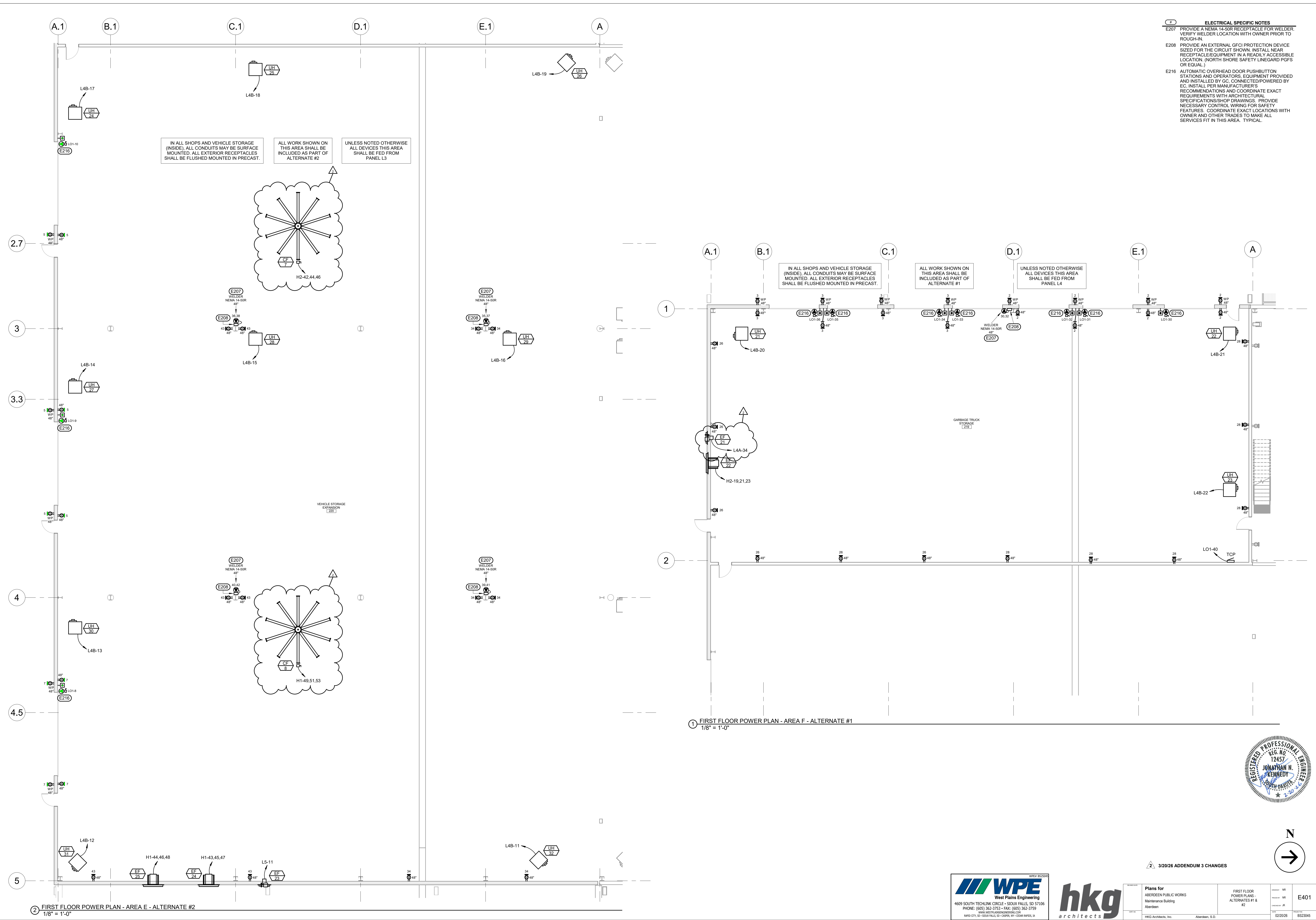
Plans for ABERDEEN PUBLIC WORKS Maintenance Building Aberdeen	MEZZANINE AND ROOF POWER PLANS	Author: NR Reviewer: NR Checker: JK Date: 02/20/26 Drawing No: 8823045	E101
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FIRST FLOOR LIGHTING PLAN - AREA C
1/8" = 1'-0"



- ELECTRICAL SPECIFIC NOTES**
- E207 PROVIDE A NEMA 14-50R RECEPTACLE FOR WELDER. VERIFY WELDER LOCATION WITH OWNER PRIOR TO ROUGH-IN.
- E208 PROVIDE AN EXTERNAL GFCI PROTECTION DEVICE SIZED FOR THE CIRCUIT SHOWN. INSTALL NEAR RECEPTACLE/EQUIPMENT IN A READILY ACCESSIBLE LOCATION. (NORTH SHORE SAFETY LINECARD PGFS OR EQUAL.)
- E216 AUTOMATIC OVERHEAD DOOR PUSHBUTTON STATIONS AND OPERATORS. EQUIPMENT PROVIDED AND INSTALLED BY GC. CONNECTED/POWERED BY EC. INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND COORDINATE EXACT REQUIREMENTS WITH ARCHITECTURAL SPECIFICATIONS/SHOP DRAWINGS. PROVIDE NECESSARY CONTROL WIRING FOR SAFETY FEATURES. COORDINATE EXACT LOCATIONS WITH OWNER AND OTHER TRADES TO MAKE ALL SERVICES FIT IN THIS AREA. TYPICAL.

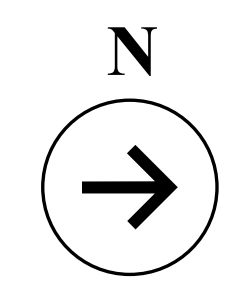


2 FIRST FLOOR POWER PLAN - AREA E - ALTERNATE #2
1/8" = 1'-0"

1 FIRST FLOOR POWER PLAN - AREA F - ALTERNATE #1
1/8" = 1'-0"

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Planned for ABERDEEN PUBLIC WORKS Maintenance Building Aberdeen	FIRST FLOOR POWER PLANS ALTERNATES #1 & #2	Scale: NR Revision: NR Checked: JK Date: 02/20/26	E401 8523045
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3/20/26 ADDENDUM 3 CHANGES

ALL EMERGENCY LIGHTING AND
EXIT SIGNS THIS AREA SHALL BE
FED FROM CIRCUIT HE1-10

LIGHTING SHALL MAINTAIN 2FT OF
CLEARANCE FROM HVLS FANS

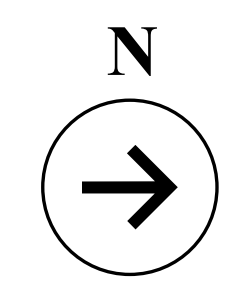
ELECTRICAL SPECIFIC NOTES
E402 EMERGENCY LIGHT FIXTURES IN THIS ROOM SHALL
REQUIRE A UL924 SWITCH BYPASS RELAY FOR
CONTROLLING WITH NORMAL POWER LIGHTING
CONTROLS. SEE UL924 RELAY DETAIL, TYPICAL.

LIGHTING CONTROL SEQUENCE OF OPERATIONS
L8 SEQUENCE 8 - LIGHTING WITHIN A DEFINED ROOM
OR SPACE SHALL BE CONTROLLABLE BY MEANS OF
LOCAL OCCUPANCY SENSORS. WHEN OCCUPANCY
IS DETECTED, LIGHTS SHALL OPERATE AT 100%
OUTPUT. WHEN NO OCCUPANCY IS DETECTED, THE
LIGHTS IN THE SPACE SHALL OPERATE AT 30%
OUTPUT. OCCUPANCY SENSORS SHALL BE
PROVIDED FOR 100% COMPLETE MINOR MOTION
COVERAGE IN THE ROOM OR SPACE. OCCUPANCY
SENSORS SHALL BE CEILING MOUNTED IF CEILINGS
ARE PRESENT. THE CONTRACTOR SHALL CONFIRM
THE PRESENCE OF A CEILING WITH THE
DOCUMENTS. OCCUPANCY SENSOR SHALL TURN
LIGHTS ON AND TO DIM STATE (I.E. AUTO ON, AUTO
DIM).
L9 SEQUENCE 9 - EXTERIOR LIGHTING SHALL BE
CONTROLLABLE BY MEANS OF A PHOTOCELL AND A
TIME CLOCK. EXTERIOR LIGHTING SHALL TURN ON
AT DUSK AND TURN OFF AT DAWN. LIGHTS SHALL
BE PERMITTED TO BE ALL ON OR ALL OFF. SEE
EXTERIOR LIGHTING CONTROL DIAGRAM.

2 FIRST FLOOR LIGHTING PLAN - AREA E - ALTERNATE #2
1/8" = 1'-0"

1 FIRST FLOOR LIGHTING PLAN - AREA F - ALTERNATE #1
1/8" = 1'-0"

LIGHTING/SWITCHING KEY
LOW VOLTAGE SWITCHES
SW1 - ON / OFF
SW1 - ON / OFF / DIMMING
LINE VOLTAGE SWITCHES
SW1 - ON / OFF



2 3/20/26 ADDENDUM 3 CHANGES

WPE
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hkg
architects

Plans for ABERDEEN PUBLIC WORKS Maintenance Building Aberdeen	FIRST FLOOR LIGHTING PLANS - ALTERNATES #1 & #2	Author: NR Reviewer: NR Designer: JK	E403
HKG Architects, Inc.	Aberdeen, S.D.	02/20/26	8523045

FOR ALL PANEL SCHEDULES:

(#1) AND (#2) DENOTE BREAKERS USED AS PART OF A SPECIFIC ALTERNATE. IF THE ALTERNATE IS NOT ACCEPTED, MARK THE BREAKER AS A SPARE.

MAIN SWITCHBOARD: MSWB											
MOUNTING:		VOLTAGE:		PHASES:		WIRE:		MAIN CAPACITY:			
FEEDER SIZE:		SURFACE		480/277 Wye		3		4		1600 A	
		SEE ONE-LINE DIAGRAM		LOCATION:		WIRE SIZE		MECHANICAL 113		MAIN CONNECTION:	
										M/CB	
CKT	ITEM FED	AMPS	POLES	FRAME		A	B	C	REMARKS		
1	ATS-702 / PANEL ODP	400 A	3	400 A	SEE ONE-LINE DIAGRAM	46764	52214	52478			
2	ATS-700 / PANEL HE1	200 A	3	250 A	SEE ONE-LINE DIAGRAM	9632	6537	2445	NOTE 1		
3	XFMR T1 / PANEL LDP	450 A	3	450 A	SEE ONE-LINE DIAGRAM	125786	122385	135699			
4	PANEL H1	250 A	3	250 A	SEE ONE-LINE DIAGRAM	40732	39703	41095			
5	PANEL H2	250 A	3	250 A	SEE ONE-LINE DIAGRAM	46443	48146	42532			
6	PANEL H3	400 A	3	400 A	SEE ONE-LINE DIAGRAM	65199	65199	65199			
7	XFMR TM1 / PANEL M1	125 A	3	125 A	SEE ONE-LINE DIAGRAM	27545	24665	27545			
8	E209 DISCONNECT FOR VOLTAGE TESTING	100 A	3	100 A	#4	18013	18013	18013			
9	SPARE	200 A	3	200 A		0	0	0	--		
10	SPACE (400-AMP FRAME)	--	3	--		--	--	--	--		
11	SPACE (400-AMP FRAME)	--	3	--		--	--	--	--		
TOTAL LOAD:		1141981 W	AMPS:	1374 A	TOTAL CONNECTED LOAD:	380113 W	378662 W	385506 W			
LOAD CLASSIFICATION		CONNECTED LOAD		DEMAND FACTOR		ESTIMATED DEMAND		PANEL TOTALS			
HVAC		2660 VA		100.00%		2660 VA					
Heating		18300 VA		100.00%		18300 VA		TOTAL CONNN. LOAD: 1141981 VA			
Lighting		88297 VA		100.00%		88297 VA		TOTAL EST. DEMAND: 1051977 VA			
Motor		507270 VA		101.92%		578161 VA		TOTAL CONNN. AMPS: 1374 A			
Other		203874 VA		100.00%		203574 VA		TOTAL EST. DEMAND AMPS: 1265 A			
Power		1000 VA		100.00%		1000 VA					
Receptacle		111120 VA		54.50%		60560 VA					
Welder		149760 VA		66.39%		99424 VA					
Notes:											
SERVICE-ENTRANCE RATED. AIC RATING: 35,000											
PROVIDE DIGITAL METER, SURGE PROTECTIVE DEVICE, GROUND FAULT PROTECTION, AND ARC ENERGY REDUCTION SWITCH.											
NOTE 1: PROVIDE A SQUARE D 250-AMP P-FRAME BREAKER SET TO TRIP AT 200-AMPS.											
CODE REQUIRED SELECTIVE COORDINATION WAS BASED ON SQUARE D DESIGN - OTHER MFRS ARE ACCEPTED, BUT IT IS UP TO THEM TO RUN THE TESTS TO ENSURE SELECTIVE COORDINATION IS.											

H2			VOLTS:			PHASES:			WIRE:			MAIN CAPACITY:			250 A															
			AIC RATING:			LOCATION:			SERVICE 210			MAIN CONNECTION:			M/C															
			MOUNTING:			SURFACE			FEEDER SIZE:			SEE ONE-LINE DIAGRAM			MAIN TYPE:			TYPE 1												
CKT	LOAD TYPE	ITEM FED	WIRE SIZE	AMPS	POLES	BREAKER TYPE	A	B	C	BREAKER TYPE	POLES	AMPS	WIRE SIZE	ITEM FED	MAIN TYPE	LOAD TYPE	CKT													
1	M	CRANE 210 (SERVICE)	10	25 A	3		4046	305				3	20 A	12	CRANE 203 (PUMP)		M	2												
3																						4								
5																							6							
7																							8							
9	M	PAINT BOOTH - MOTORS	4	70 A	3		14522	3333				3	20 A	12	EUH-1		H	10												
11																							12							
13																								14						
15																								16						
17	M	FCU-5	12	15 A	3			1552	527			3	20 A	12	EF-8, EF-9		M	18												
19																								20						
21																									22					
23																									24					
25	L	LTG - WELDING	8	20 A	1		2250	3300			1	20 A	12		WH-3		H	26												
27	L	EXT LTG - OVERHEAD DOORS W	12	20 A	1						1	20 A	10		LTG - SITE POLES W		L	28												
29	L	LTG - SERVICE, OIL	10	20 A	1						1	20 A	10		LTG - SITE POLES N		L	30												
31	L	LTG - WASH. SPRAY/PAINT	12	20 A	1		1545	1293			1	20 A	10		(#1) LTG - SITE POLES W		L	32												
33	L	(#1) LTG - GARBAGE	6	20 A	1						1	20 A	12		EXT LTG - OVERHEAD DOORS S/E		L	34												
35	L	(#1) EXT LTG - OHD GARBAGE	12	20 A	1						1	20 A	12		LTG - AREA B OFFICES		L	36												
37	L	LTG - AREA B SHOPS	12	20 A	1		2530	1567			1	20 A	12		LTG - AREA A SHOPS		L	38												
39	L	LTG - MEZZ A & B	12	20 A	1						1	20 A	10		LTG - SERVICE		L	40												
41	M	CRANE 212 (WELDING)	12	20 A	3							3	20 A	12	CF-1 (& CF-7 IN ALT #2)		M	42												
43							3381	1663																44						
45																													46	
47																														48
49	M	EF-12, EF-16	12	20 A	3							3	20 A	12	CF-2, CF-3		M	50												
51																													52	
53																														54
55																														
			TOTAL CONNECTED LOAD:				46443 W		48146 W		42532 W		AMPS: 165 A		LOAD: 137120.2 W															
LOAD CLASSIFICATION			CONNECTED LOAD		DEMAND FACTOR		ESTIMATED DEMAND				PANEL TOTALS																			
Heating			13300 VA		100.00%		13300 VA				TOTAL CONN. LOAD: 137120 VA																			
Lighting			31944 VA		100.00%		31944 VA				TOTAL EST. DEMAND LOAD: 148011 VA																			
Motor			91875 VA		111.85%		102767 VA				TOTAL CONN. CURRENT: 165 A																			
Power			0 VA		0.00%		0 VA				TOTAL EST. DEMAND CURRENT: 178 A																			

H3			VOLTS:				PHASES:				4		WIRE:		4		MAIN CAPACITY:		400 A	
			AIC RATING:		35,000		LOCATION:		MEZZANINE A 301						MAIN CONNECTION:		MLO			
			MOUNTING:		SURFACE		FEEDER SIZE:		SEE ONE-LINE DIAGRAM						MAIN TYPE:		TYPE 1			
CKT	LOAD TYPE	ITEM FED	WIRE SIZE	AMPS	POLES	BREAKER TYPE	A	B	C	BREAKER TYPE	POLES	AMPS	WIRE SIZE	ITEM FED	LOAD TYPE	CKT				
1	M	CU-1	4	80 A	3		13524	8203				3	50 A	6	CU-2	M	2			
3								13524	8203									4		
5									13524	8203									6	
7	M	CU-5	12	15 A	3		1995	6651				3	40 A	8	CU-6	M	8			
9								1995	6651									10		
11									1995	6651									12	
13	M	CU-7	8	40 A	3		6651	3326				3	25 A	10	CU-8	M	14			
15								6651	3326									16		
17									6651	3326									18	
19	M	MAU-1	12	20 A	3		2106	2106				3	20 A	12	MAU-2	M	20			
21								2106	2106									22		
23									2106	2106									24	
25	M	MAU-3	12	20 A	3		2106	3880				3	25 A	10	AC-1	M	26			
27								2106	3880									28		
29									2106	3880									30	
31	M	FCU-2	12	15 A	3		2794	3880				3	25 A	10	AC-2	M	32			
33								2794	3880									34		
35									2794	3880									36	
37	M	FCU-4	12	15 A	3		2794	443				3	20 A	12	EF-4	M	38			
39								2794	443									40		
41									2794	443									42	
43		EF-5	12	20 A	3		443	443				3	20 A	12	EF-7		44			
45									443	443									46	
47																	443	443	48	
49	M	HCP-1, HCP-2, HCP-3	12	20 A	3		1746	2106				3	20 A	12	VEF-1	M	50			
51								1746	2106									52		
53									1746	2106									54	
TOTAL CONNECTED LOAD:							65199 W	65199 W	65199 W	AMPS:	235 A	LOAD:	195596 W							
LOAD CLASSIFICATION			CONNECTED LOAD		DEMAND FACTOR		ESTIMATED DEMAND				PANEL TOTALS									
HVAC			2660 VA		100.00%		2660 VA				TOTAL CONN. LOAD: 195596 VA									
Motor			192936 VA		105.26%		203079 VA				TOTAL EST. DEMAND LOAD: 205739 VA									
Power			0 VA		0.00%		0 VA				TOTAL CONN. CURRENT: 235 A									
											TOTAL EST. DEMAND CURRENT: 247 A									

FOR ALL PANEL SCHEDULES:
(#1) AND (#2) DENOTE BREAKERS USED AS PART OF A SPECIFIC ALTERNATE. IF THE ALTERNATE IS NOT ACCEPTED, MARK THE BREAKER AS A SPARE.

MAIN DISTRIBUTION PANEL: LDP																	
MOUNTING:		VOLTAGE:		120/208 Wye		PHASES:		3		WIRE:		4		MAIN CAPACITY:		1000 A	
FEEDER SIZE:		SEE ONE-LINE DIAGRAM						LOCATION:		MECHANICAL 113				MAIN CONNECTION:		MCB	
CKT		ITEM FED	AMPS		POLES		FRAME		WIRE SIZE		A		B		C		REMARKS
1		PANEL L1A/L1B	200 A	3	200 A			SEE ONE-LINE DIAGRAM		15946	19589	17004					
2		PANEL L2	200 A	3	200 A			SEE ONE-LINE DIAGRAM		21891	21823	22680					
3		PANEL L3	400 A	3	400 A			SEE ONE-LINE DIAGRAM		40732	33588	45476					
4		PANEL L4A/L4B	250 A	3	250 A			SEE ONE-LINE DIAGRAM		22086	21532	26948					
5		PANEL L5	100 A	3	100 A			SEE ONE-LINE DIAGRAM		7116	7840	6578					
6		E211 DISCONNECT FOR VOLTAGE TESTING	200 A	3	200 A			#3/0		18013	18013	18013					
7		SPARE	200 A	3	200 A					0	0	0					--
8		SPACE (200-AMP FRAME)	--	3	--					--	--	--					--
TOTAL LOAD:			383871 W		AMPS:		1066 A		TOTAL CONNECTED LOAD:		125786 W		122385 W		135699 W		
LOAD CLASSIFICATION			CONNECTED LOAD		DEMAND FACTOR		ESTIMATED DEMAND								PANEL TOTALS		
Motor			58851 VA		103.53%		60931 VA								TOTAL CONN. LOAD:		383871 VA
Other			74240 VA		100.00%		74240 VA								TOTAL EST. DEMAND:		290105 VA
Power			0 VA		0.00%		0 VA								TOTAL CONN. AMPS:		1066 A
Receptacle			101020 VA		54.95%		55510 VA								TOTAL EST. DEMAND AMPS:		805 A
Welder			149760 VA		66.39%		99424 VA										

L2		VOLTS:		120/208 Wye		PHASES:		3		WIRE:		4		MAIN CAPACITY:		200 A		
		AIC RATING:		22,000		LOCATION:		CORRIDOR 142		MLO		MLO		MLO				
		MOUNTING:		RECESSED		FEEDER SIZE:		SEE ONE-LINE DIAGRAM		MAIN TYPE:		TYPE 1						
CKT	LOAD TYPE	ITEM FED	WIRE SIZE	AMPS	POLES	BREAKER TYPE	A	B	C	BREAKER TYPE	POLES	AMPS	WIRE SIZE	ITEM FED	MAIN CONNECTION:	LOAD TYPE	CKT	
1	R	RECEP 126	12	20 A	1		1440	1260			1	20 A	12	RECEP 126 TABLE		R	2	
3	R	RECEP 127	12	20 A	1			1080	1080		1	20 A	12	RECEP 127		R	4	
5	R	RECEP 127 TABLE	12	20 A	1				1440	1260	1	20 A	12	RECEP 128		R	6	
7	R	RECEP 128 TABLE	12	20 A	1		720	1604			1	20 A	12	RECEP 129, 130, 131, EF-2, EF-3		M; R	8	
9	R	RECEP 132	12	20 A	1			1260	1080		1	20 A	12	RECEP 132		R	10	
11	R	RECEP 132 TABLE	12	20 A	1				1440	1620	1	20 A	12	RECEP 133		R	12	
13	M; R	RECEP 134, 143, EXT. CUH-3	10	20 A	1		1443	720			1	20 A	12	RECEP 135		R	14	
15	R	RECEP 136	12	20 A	1			720	720		1	20 A	12	RECEP 137		R	16	
17	R	RECEP 138	12	20 A	1				720	720	1	20 A	12	RECEP 139		R	18	
19	R	RECEP 140	12	20 A	1		1080	1080			1	20 A	12	RECEP 140		R	20	
21	R	RECEP 141	12	20 A	1			720	720		1	20 A	12	RECEP 142		R	22	
23	R	RECEP 203	12	20 A	1					900	720	1	20 A	12	RECEP 203		R	24
25	R	RECEP 204	12	20 A	1		1080	1080			1	20 A	12	RECEP 204		R	26	
27	R	RECEP 206	12	20 A	1			1620	1080		1	20 A	12	RECEP 207		R	28	
29	R	RECEP 209	12	20 A	1				1620	1080	1	20 A	12	RECEP 302		R	30	
31	M	EF-10, EF-11	12	20 A	1		264	4160			2	50 A	6	RECEP 203 (WELDER)		W	32	
33	M	FCU-6	12	20 A	1			1383	4160		2	50 A	6	RECEP 204 (WELDER)		W	34	
35	O;	HUH-3	12	20 A	1				200	4160	2	50 A	6	RECEP 204 (WELDER)		W	36	
37	M	AIR DRYERS FOR AC-1 & AC-2	12	20 A	1		0	4160			1	20 A	12	RECEP 203 (BAND SAW)		M;	38	
39	O	PLASMA CUTTER 203	4	60 A	2			5000	1200		5000	1800				M	40	
43	--	SPARE	20 A	1	--		0	1800			2	20 A	12	DRILL PRESS 203		M	44	
45	--	SPARE	20 A	1	--			0	--		--	1	--	SPACE		--	46	
47	--	SPARE	20 A	1	--				0	--	--	1	--	SPACE		--	48	
49	--	SPARE	20 A	1	--		0	--			--	1	--	SPACE		--	50	
51	--	SPARE	20 A	1	--			0	--		--	1	--	SPACE		--	52	
53	--	SPARE	20 A	1	--				0	--	--	1	--	SPACE		--	54	
TOTAL CONNECTED LOAD:			21891 W		21823 W		22680 W		AMPS:		184 A		LOAD:		66394 W			
LOAD CLASSIFICATION			CONNECTED LOAD		DEMAND FACTOR		ESTIMATED DEMAND						PANEL TOTALS					
Motor			7694 VA		111.70%		8594 VA						TOTAL CONN. LOAD:		66394 VA			
Other			10200 VA		100.00%		10200 VA						TOTAL EST. DEMAND LOAD:		56364 VA			
Power			0 VA		0.00%		0 VA						TOTAL CONN. CURRENT:		184 A			
Receptacle			31860 VA		65.69%		20930 VA						TOTAL EST. DEMAND CURRENT:		156 A			
Welder			16640 VA		100.00%		16640 VA											

L1A			VOLTS:				120/208 Wye		PHASES:				3		WIRE:		4		MAIN CAPACITY:		200 A	
			AIC RATING:		MOUNTING:		RECESSED		FEEDER SIZE:		CORRIDOR 142						MAIN CONNECTION:		MLO			
											SEE ONE-LINE DIAGRAM										TYPE 1	
CKT	LOAD TYPE	ITEM FED	WIRE SIZE	AMPS	POLES	BREAKER TYPE	A (WATTS)		B (WATTS)		C (WATTS)		BREAKER TYPE	POLES	AMPS	WIRE SIZE	ITEM FED		LOAD TYPE	CKT		
1	M, R	RECEP 100, 101, EXT, CUH-2	10	20 A	1		723	540						1	20 A	12		RECEP 102	R	2		
3	R	RECEP 104	12	20 A	1				720	720				1	20 A	12		RECEP 105	R	4		
5	R	RECEP 103, 106, 110, 142, EXT	10	20 A	1						1620	720		1	20 A	12		RECEP 107	R	6		
7	R	RECEP 108	12	20 A	1		720	720						1	20 A	12		RECEP 109	R	8		
9	M, R	RECEP 111, CUH-1	12	20 A	1						1263	360		1	20 A	12		RECEP 102A	R	10		
11	R	RECEP 146	12	20 A	1							900	1080		1	20 A	12	RECEP 114-118, 149	R	12		
13	R	RECEP 119	12	20 A	1		540	1620						1	20 A	12		RECEP 119	R	14		
15	R	RECEP 119 (FB1)	12	20 A	1				1440	540				1	20 A	12		RECEP 120	R	16		
17	R	RECEP 120 (FB1)	12	20 A	1						720	1440		1	20 A	12		RECEP 121, 123, 142, 144, 145	R	18		
19	R	RECEP 143	12	20 A	1		1260	540						1	20 A	12		RECEP 102A	R	20		
21	R	RECEP 146	12	20 A	1				900	720				1	20 A	12		RECEP 146	R	22		
23	R	RECEP 200	12	20 A	1						900	900		1	20 A	12		RECEP 200	R	24		
25	R	RECEP 201	12	20 A	1		900	1080						1	20 A	12		RECEP 201	R	26		
27	R	RECEP 202	12	20 A	1				900	900				1	20 A	12		RECEP 202	R	28		
29	R	RECEP 111 (FRIDGE)	12	20 A	1	GFCI					500	500	GFCI	1	20 A	12		RECEP 111 (DISHWASHER)	R	30		
31	--	SPARE	20	20 A	1	--	0	0					--	1	20 A	12		SPARE	--	32		
33	--	SPARE	20	20 A	1	--			0	540				1	20 A	12		RECEP 111	R	34		
35	R	RECEP 120	12	20 A	1						1440	1260		1	20 A	12		RECEP 301	R	36		
37	R	RECEP 301	12	20 A	1		1260	500					GFCI	1	20 A	12		RECEP (EWC)	R	38		
39	W	RECEP 201 (WELDER)	6	50 A	2				4160	1498				1	20 A	12		H-1	M	40		
41											4160	864		1	20 A	12		EF-6	M	42		
TOTAL CONNECTED LOAD:							15946 W		19589 W		17004 W		AMPS:		146 A LOAD: 52539 W							
LOAD CLASSIFICATION			CONNECTED LOAD				DEMAND FACTOR				ESTIMATED DEMAND				PANEL TOTALS							
Motor			13199 VA				115.76%				15279 VA				TOTAL CONN. LOAD: 52539 VA							
Power			0 VA				0.00%				0 VA				TOTAL EST. DEMAND LOAD: 44109 VA							
Receptacle			31020 VA				66.12%				20510 VA				TOTAL CONN. CURRENT: 146 A							
Welder			8320 VA				100.00%				8320 VA				TOTAL EST. DEMAND CURRENT: 122 A							
PROVIDE WITH FEED-THRU LUGS FOR CONNECTION TO PANEL L1B																						

L1B			VOLTS:				120/208 Wye		PHASES:				3		WIRE:		4		MAIN CAPACITY:		200 A	
			AIC RATING:		MOUNTING:		RECESSED		FEEDER SIZE:		CORRIDOR 142						MAIN CONNECTION:		MLO			
											SEE ONE-LINE DIAGRAM										TYPE 1	
CKT	LOAD TYPE	ITEM FED	WIRE SIZE	AMPS	POLES	BREAKER TYPE	A (WATTS)		B (WATTS)		C (WATTS)		BREAKER TYPE	POLES	AMPS	WIRE SIZE	ITEM FED		LOAD TYPE	CKT		
1	M	FCU-1	12	20 A	1		1383	4160						2	50 A	6		PRESSURE WASHER 201	M	2		
3	M	FCU-3	12	15 A	1				768	4160										M	4	
5	--	SPARE		20 A	1	--					0	--	--	1	--			SPACE	--	6		
7	--	SPARE		20 A	1	--	0	--					--	1	--			SPACE	--	8		
9	--	SPARE		20 A	1	--			0	--			--	1	--			SPACE	--	10		
11	--	SPARE		20 A	1	--					0	--	--	1	--			SPACE	--	12		
13	--	SPARE		20 A	1	--	0	--					--	1	--			SPACE	--	14		
15	--	SPARE		20 A	1	--			0	--			--	1	--			SPACE	--	16		
17	--	SPARE		20 A	1	--					0	--	--	1	--			SPACE	--	18		
19	--	SPARE		20 A	1	--	0	--					--	1	--			SPACE	--	20		
21	--	SPARE		20 A	1	--			0	--			--	1	--			SPACE	--	22		
23	--	SPACE	--	1	--	--					--	--	--	1	--			SPACE	--	24		
25	--	SPACE	--	1	--	--	--	--			--	--	--	1	--			SPACE	--	26		
27	--	SPACE	--	1	--	--			--	--			--	1	--			SPACE	--	28		
29	--	SPACE	--	1	--	--			--	--	--	--	--	1	--			SPACE	--	30		
31	--	SPACE	--	1	--	--	--	--			--	--	--	1	--			SPACE	--	32		
33	--	SPACE	--	1	--	--			--	--	--	--	--	1	--			SPACE	--	34		
35	--	SPACE	--	1	--	--			--	--	--	--	--	1	--			SPACE	--	36		
37	--	SPACE	--	1	--	--	--	--			--	--	--	1	--			SPACE	--	38		
39	--	SPACE	--	1	--	--			--	--	--	--	--	1	--			SPACE	--	40		
41	--	SPACE	--	1	--	--			--	--	--	--	--	1	--			SPACE	--	42		
TOTAL CONNECTED LOAD:							5543 W		4928 W		0 W		AMPS:		29 A LOAD: 10471 W							
LOAD CLASSIFICATION			CONNECTED LOAD				DEMAND FACTOR				ESTIMATED DEMAND				PANEL TOTALS							
Motor			10471 VA				119.86%				12551 VA				TOTAL CONN. LOAD: 10471 VA							
Power			0 VA				0.00%				0 VA				TOTAL EST. DEMAND LOAD: 12551 VA							
															TOTAL CONN. CURRENT: 29 A							
															TOTAL EST. DEMAND CURRENT: 35 A							
CONNECTED TO PANEL L1A FEED-THRU LUGS																						

FOR ALL PANEL SCHEDULES:
(#1) AND (#2) DENOTE BREAKERS USED AS PART
OF A SPECIFIC ALTERNATE. IF THE ALTERNATE IS
NOT ACCEPTED, MARK THE BREAKER AS A SPARE.

L3		VOLTS:		120/208 Wye		PHASES:		3		WIRE:		4		MAIN CAPACITY:		400 A	
		AIC RATING:		22,000		LOCATION:		SERVICE 210		MAIN CONNECTION:		MLO		TYPE 1			
		MOUNTING:		SURFACE		FEEDER SIZE:		SEE ONE-LINE DIAGRAM		MAIN TYPE:							
		WIRE SIZE	AMPS	POLES	BREAKER TYPE	A	B	C	BREAKER TYPE	POLES	AMPS	WIRE SIZE	ITEM FED	LOAD TYPE	CKT		
1	R	RECEP 217	12	20 A	1	1620	1440				1	20 A	12	RECEP 210	R	2	
3	R	RECEP 217	12	20 A	1			1800	1440		1	20 A	12	RECEP 210	R	4	
5	R	RECEP 217, EXT	12	20 A	1					1080	360	1	20 A	12	RECEP 210	R	6
7	R	RECEP 217, EXT	12	20 A	1	720	360				1	20 A	12	RECEP 210	R	8	
9	R	RECEP 210	12	20 A	1			1080	360		1	20 A	12	RECEP 210	R	10	
11	R	RECEP 210	12	20 A	1					540	360	1	20 A	12	RECEP 210	R	12
13	R	RECEP 210	12	20 A	1	360	360				1	20 A	12	RECEP 210	R	14	
15	R	RECEP 210	12	20 A	1			360	360		1	20 A	12	RECEP 210	R	16	
17	W	RECEP 218 (WELDER)	6	50 A	2					4160	4160	2	50 A	6	RECEP 218 (WELDER)	W	18
19						4160	4160									20	
21	W	RECEP 218 (WELDER)	6	50 A	2			4160	4160			2	50 A	6	RECEP 218 (WELDER)	W	22
23										4160	4160					24	
25	W	RECEP 218 (WELDER)	6	50 A	2	4160	4160					2	50 A	6	RECEP 218 (WELDER)	W	26
27								4160	4160							28	
29	W	RECEP 218 (WELDER)	6	50 A	2					4160	4160	2	50 A	6	RECEP 218 (WELDER)	W	30
31						4160	4160									32	
33	R	RECEP 210	12	20 A	1			900	1080		1	20 A	8	(#2) RECEP 220	R	34	
35	W	(#2) RECEP 220 (WELDER)	6	50 A	2					4160	4160	2	50 A	6	(#2) RECEP 220 (WELDER)	W	36
37						4160	4160									38	
39	W	(#2) RECEP 220 (WELDER)	6	50 A	2			4160	4160			2	50 A	6	(#2) RECEP 220 (WELDER)	W	40
41										4160	4160					42	
43	R	(#2) RECEP 220	12	20 A	1	1080	480				1	15 A	12	UH-19	M	44	
45	M	UH-20	12	15 A	1			480	768		1	15 A	12	UH-12	M	46	
47	M	UH-13	12	15 A	1					768	768	1	15 A	12	UH-14	M	48
49	M	UH-11	12	15 A	1	768	264				1	20 A	12	EF-13	M	50	
51	--	SPARE		20 A	1	--		0	--	--	--	1	--	SPACE	--	52	
53	--	SPARE		20 A	1	--				0	--	--	1	--	SPACE	--	54
TOTAL CONNECTED LOAD:						40732 W	33588 W	45476 W	AMPS:		333 A	LOAD:		119796 W			
LOAD CLASSIFICATION			CONNECTED LOAD			DEMAND FACTOR			ESTIMATED DEMAND			PANEL TOTALS					
Motor			4296 VA			104.47%			4488 VA								
Power			0 VA			0.00%			0 VA			TOTAL CONN. LOAD: 119796 VA					
Receptacle			15680 VA			81.93%			12830 VA			TOTAL EST. DEMAND LOAD: 86790 VA					
Welder			99840 VA			69.58%			69472 VA			TOTAL CONN. CURRENT: 333 A					
												TOTAL EST. DEMAND CURRENT: 241 A					

L5		VOLTS:		120/208 Wye		PHASES:		3		WIRE:		4		MAIN CAPACITY:		100 A	
		AIC RATING:		22,000		LOCATION:		MECHANICAL 113		MAIN CONNECTION:		MLO		TYPE 1			
		MOUNTING:		SURFACE		FEEDER SIZE:		SEE ONE-LINE DIAGRAM		MAIN TYPE:							
		WIRE SIZE	AMPS	POLES	BREAKER TYPE	A (WATTS)	B (WATTS)	C (WATTS)	BREAKER TYPE	POLES	AMPS	WIRE SIZE	ITEM FED	LOAD TYPE	CKT		
1	R	RECEP 113, 113A, EXT	12	20 A	1	1080	180				1	20 A	12	RECEP (WS-1)	R	2	
3	M	WH-1	12	15 A	1		1440	1440			1	15 A	12	WH-2	M	4	
5	R	RECEP 218 (WASHER)	12	20 A	1	GFCI			500	180		1	20 A	12	MTRIZED OPERABLE PANELS 112	M	6
7	R	RECEP 112	12	20 A	1		1260	1260			1	20 A	12	RECEP 112, EXT	R	8	
9	R	RECEP 112 (FB2)	12	20 A	1			1080	1080		1	20 A	12	RECEP 112 (FB2)	R	10	
11	M	(#2) EF-22	12	20 A	1				1330	768		1	15 A	12	UH-3	M	12
13	M	UH-2	12	15 A	1	768	768				1	15 A	12	UH-5	M	14	
15							1000	1800			1	20 A	12	RECEP 112 (TREADMILL)	R	16	
17	R	RECEP (DRYER, 14-30R)	10	30 A	2	GFCI			1000	1800		1	20 A	12	RECEP 112 (TREADMILL)	R	18
19	--	SPARE		20 A	1	--	0	1800			1	20 A	12	RECEP 112 (TREADMILL)	R	20	
21	--	SPARE		20 A	1	--		0	--	--	1	--		SPACE	--	22	
23	--	SPARE		20 A	1	--			0	--	--	1	--	SPACE	--	24	
25	--	SPARE		20 A	1	--	0	--			--	1	--	SPACE	--	26	
27	--	SPARE		20 A	1	--		0	--	--	1	--		SPACE	--	28	
29	--	SPARE		20 A	1	--			0	--	--	1	--	SPACE	--	30	
31	--	SPACE		--	1	--	--	--			--	1	--	SPACE	--	32	
33	--	SPACE		--	1	--		--	--		--	1	--	SPACE	--	34	
35	--	SPACE		--	1	--			--	--	--	1	--	SPACE	--	36	
37	--	SPACE		--	1	--				--	--	1	--	SPACE	--	38	
39	--	SPACE		--	1	--		--	--		--	1	--	SPACE	--	40	
41	--	SPACE		--	1	--			--	--	--	1	--	SPACE	--	42	
TOTAL CONNECTED LOAD:			7116 W		7840 W		5578 W		AMPS:		57 A		LOAD:		20534 W		
LOAD CLASSIFICATION			CONNECTED LOAD		DEMAND FACTOR		ESTIMATED DEMAND						PANEL TOTALS				
Motor			6694 VA		105.38%		7054 VA						TOTAL CONN. LOAD: 20534 VA				
Power			0 VA		0.00%		0 VA						TOTAL EST. DEMAND LOAD: 18974 VA				
Receptacle			13840 VA		86.13%		11920 VA						TOTAL CONN. CURRENT: 57 A				
													TOTAL EST. DEMAND CURRENT: 53 A				

L4A			VOLTS:		120/208 Wye		PHASES:		3		WIRE:		4		MAIN CAPACITY:		250 A	
			AIC RATING:		22,000		LOCATION:		WELDING 212		MAIN CONNECTION:		MLO		TYPE 1			
			MOUNTING:		SURFACE		FEEDER SIZE:		SEE ONE-LINE DIAGRAM		MAIN TYPE:							
CKT	LOAD TYPE	ITEM FED	WIRE SIZE	AMPS	POLES	BREAKER TYPE	A (WATTS)	B (WATTS)	C (WATTS)	BREAKER TYPE	POLES	AMPS	WIRE SIZE	ITEM FED	LOAD TYPE	CKT		
1	M	UH-18	12	15 A	1		288	1440			1	20 A	8	(#1) RECEP 219	R	2		
3	R	(#1) RECEP 219	12	20 A	1			1440	540		1	20 A	12	RECEP 217	R	4		
5	R	RECEP 217	12	20 A	1				540	360	1	20 A	12	RECEP 213, 216, EF-18	M, R	6		
7	M	PAINT BOOTH - LIGHTING	10	30 A	1		400	1296			1	20 A	12	MIXING BOOTH - MOTOR & LIGHTS	M	8		
9								4160	360		1	20 A	12	RECEP 212	R	10		
11	W	RECEP 212 (WELDER)	6	50 A	2				4160	360	1	20 A	12	RECEP 212	R	12		
13		RECEP 212	12	20 A	1		360	360			1	20 A	12	RECEP 212	R	14		
15	R	RECEP 212	12	20 A	1			360	360		1	20 A	12	RECEP 212	R	16		
17	M	RECEP 212 (BAND SAW)	12	20 A	1				1200	4160				RECEP 212 (WELDER)	W	18		
19							1200	4160			2	50 A	6		O	20		
21	M	DRILL PRESS 212	12	20 A	3			1200	5000		2	60 A	4	PLASMA CUTTER 212	O	22		
23							1200	1080		1200	5000					24		
25												1	20 A	12	(#1) RECEP 219	R	26	
27	M	LATHE	12	20 A	3			1200	1080		1	20 A	12	(#1) RECEP 219	R	28		
29									1200	4160						30		
31	O	HVLS CEILING FAN CTRL PANEL	12	20 A	1		0	4160			2	50 A	6	(#1) RECEP 219 (WELDER)	W	32		
33	--	SPARE		20 A	1	--		0	264		1	20 A	12	(#1) EF-21	M	34		
35	--	SPARE		20 A	1	--			0	--	--	1	--	SPACE	--	36		
37	--	SPARE		20 A	1	--	0	--			--	1	--	SPACE	--	38		
39	--	SPARE		20 A	1	--		0	--		--	1	--	SPACE	--	40		
41	--	SPARE		20 A	1	--			0	--	--	1	--	SPACE	--	42		
TOTAL CONNECTED LOAD:							22088 W	21532 W	26948 W	AMPS:		196 A	LOAD: 70568 W					
LOAD CLASSIFICATION			CONNECTED LOAD			DEMAND FACTOR			ESTIMATED DEMAND			PANEL TOTALS						
Motor			26968 VA			103.34%			27868 VA			TOTAL CONN. LOAD: 70568 VA						
Other			10000 VA			100.00%			10000 VA			TOTAL EST. DEMAND LOAD: 70220 VA						
Power			0 VA			0.00%			0 VA			TOTAL CONN. CURRENT: 196 A						
Receptacle			8640 VA			100.00%			8640 VA			TOTAL EST. DEMAND CURRENT: 195 A						
Welder			24960 VA			95.00%			23712 VA									
PROVIDE WITH FEED-THRU LUGS FOR CONNECTION TO PANEL L4B																		

STARTER DISCONNECT SCHEDULE

UNIT TYPE	UNIT NUMBER	EQUIPMENT DESCRIPTION	KW	MOTOR HP	MCA	VOLTAGE	PHASES	MOCF	STARTER TYPE	CONTROL	DISCONNECT SWITCH SIZE	COMMENTS
AC	1	AIR COMPRESSOR		10 hp		480 V	3	-	INTEGRAL	DIV 22/23	30A NFD	
AC	2	AIR COMPRESSOR		10 hp		480 V	3	-	INTEGRAL	DIV 22/23	30A NFD	
AHU	1	AIR HANDLING UNIT		15 hp		480 V	3	-	VFD	DIV 22/23	INTEGRAL TO VFD	BACKUP POWER
AHU	2	AIR HANDLING UNIT		10 hp		480 V	3	-	VFD	DIV 22/23	INTEGRAL TO VFD	BACKUP POWER
B	1	BOILER			8.1 A	208 V	3	-	INTEGRAL	DIV 22/23	LOCKABLE 30A NFD	BACKUP POWER
B	2	BOILER			8.1 A	208 V	3	-	INTEGRAL	DIV 22/23	LOCKABLE 30A NFD	BACKUP POWER
CF	1	HVLS CEILING FAN		1.5 hp		480 V	3	-	INTEGRAL	DIV 22/23	30A NFD	
CF	2	HVLS CEILING FAN		1.5 hp		480 V	3	-	INTEGRAL	DIV 22/23	30A NFD	
CF	3	HVLS CEILING FAN		1.5 hp		480 V	3	-	INTEGRAL	DIV 22/23	30A NFD	
CF	4	HVLS CEILING FAN		1.5 hp		480 V	3	-	INTEGRAL	DIV 22/23	30A NFD	
CF	5	HVLS CEILING FAN		1.5 hp		480 V	3	-	INTEGRAL	DIV 22/23	30A NFD	
CF	6	HVLS CEILING FAN		1.5 hp		480 V	3	-	INTEGRAL	DIV 22/23	30A NFD	
CF	7	HVLS CEILING FAN		1.5 hp		480 V	3	-	INTEGRAL	DIV 22/23	30A NFD	
CF	8	HVLS CEILING FAN		1.5 hp		480 V	3	-	INTEGRAL	DIV 22/23	30A NFD	
CU	1	CONDENSING UNIT			61 A	480 V	3	80A	INTEGRAL	DIV 22/23	INTEGRAL	
CU	2	CONDENSING UNIT			37 A	480 V	3	50A	INTEGRAL	DIV 22/23	INTEGRAL	
CU	3	CONDENSING UNIT			15 A	480 V	3	25A	INTEGRAL	DIV 22/23	INTEGRAL	
CU	4	CONDENSING UNIT			34 A	480 V	3	45A	INTEGRAL	DIV 22/23	INTEGRAL	
CU	5	CONDENSING UNIT			9 A	480 V	3	15A	INTEGRAL	DIV 22/23	INTEGRAL	
CU	6	CONDENSING UNIT			30 A	480 V	3	40A	INTEGRAL	DIV 22/23	INTEGRAL	
CU	7	CONDENSING UNIT			30 A	480 V	3	40A	INTEGRAL	DIV 22/23	INTEGRAL	
CU	8	CONDENSING UNIT			15 A	480 V	3	25A	INTEGRAL	DIV 22/23	INTEGRAL	
CUH	1	CABINET UNIT HEATER		0.2 hp	1.9 A	120 V	1	-	INTEGRAL	DIV 22/23	INTEGRAL	
CUH	2	CABINET UNIT HEATER		0.2 hp	1.9 A	120 V	1	-	INTEGRAL	DIV 22/23	INTEGRAL	
CUH	3	CABINET UNIT HEATER		0.2 hp	1.9 A	120 V	1	-	INTEGRAL	DIV 22/23	INTEGRAL	
DBP	1	DOMESTIC BOOSTER PUMP		10 hp		480 V	3	-	VFD	DIV 22/23	INTEGRAL TO VFD	
DCP	1	DOMESTIC HW RECIRC PUMP		0.17 hp		480 V	3	-	INTEGRAL	DIV 22/23	30A NFD	
DSCU	1	DUCTLESS SPLIT CONDENSING UNIT			37 A	208 V	1	40A	INTEGRAL	DIV 22/23	30A NFD	
DSIU	1	DUCTLESS SPLIT INDOOR UNIT			3 A	208 V	1	15A	INTEGRAL	DIV 22/23	MOTOR-RATED SWITCH	
EF	1	EXHAUST FAN		0.75 hp		480 V	3	-	INTEGRAL	DIV 22/23	INTEGRAL	
EF	2	EXHAUST FAN		0.33 hp		120 V	1	-	ECM	DIV 22/23	INTEGRAL TO ECM	
EF	3	EXHAUST FAN		0.05 hp		120 V	1	-	ECM	DIV 22/23	INTEGRAL TO ECM	
EF	4	EXHAUST FAN		0.75 hp		480 V	3	-	INTEGRAL	DIV 22/23	INTEGRAL	
EF	5	EXHAUST FAN		0.75 hp		480 V	3	-	INTEGRAL	DIV 22/23	INTEGRAL	
EF	6	EXHAUST FAN		0.33 hp		120 V	1	-	ECM	DIV 22/23	INTEGRAL TO ECM	
EF	7	EXHAUST FAN		0.75 hp		480 V	3	-	INTEGRAL	DIV 22/23	INTEGRAL	
EF	8	EXHAUST FAN		0.5 hp		480 V	3	-	INTEGRAL	DIV 22/23	INTEGRAL	
EF	9	EXHAUST FAN		0.33 hp		480 V	3	-	INTEGRAL	DIV 22/23	INTEGRAL	
EF	10	EXHAUST FAN		0.01 hp		120 V	1	-	INTEGRAL	DIV 22/23	INTEGRAL	
EF	11	EXHAUST FAN		0.13 hp		120 V	1	-	ECM	DIV 22/23	INTEGRAL TO ECM	
EF	12	EXHAUST FAN		1.5 hp		480 V	3	-	INTEGRAL	DIV 22/23	INTEGRAL	
EF	13	EXHAUST FAN		0.13 hp		120 V	1	-	ECM	DIV 22/23	INTEGRAL TO ECM	
EF	14	EXHAUST FAN		0.75 hp		480 V	3	-	INTEGRAL	DIV 22/23	INTEGRAL	
EF	15	EXHAUST FAN		0.75 hp		480 V	3	-	INTEGRAL	DIV 22/23	INTEGRAL	
EF	16	EXHAUST FAN		0.5 hp		480 V	3	-	INTEGRAL	DIV 22/23	INTEGRAL	
EF	17	EXHAUST FAN		0.01 hp		120 V	1	-	INTEGRAL	DIV 22/23	INTEGRAL	
EF	18	EXHAUST FAN		0.75 hp		480 V	3	-	INTEGRAL	DIV 22/23	INTEGRAL	
EF	19	EXHAUST FAN		2 hp		480 V	3	-	INTEGRAL	DIV 22/23	INTEGRAL	
EF	20	EXHAUST FAN		2 hp		480 V	3	-	INTEGRAL	DIV 22/23	INTEGRAL	
EF	21	EXHAUST FAN		0.13 hp		120 V	1	-	INTEGRAL	DIV 22/23	INTEGRAL	
EF	22	EXHAUST FAN		0.75 hp		480 V	3	-	INTEGRAL	DIV 22/23	INTEGRAL	
EF	23	EXHAUST FAN		0.5 hp		120 V	1	-	ECM	DIV 22/23	INTEGRAL TO ECM	
EF	24	EXHAUST FAN		1.5 hp		480 V	3	-	INTEGRAL	DIV 22/23	INTEGRAL	
EF	25	EXHAUST FAN		1.5 hp		480 V	3	-	INTEGRAL	DIV 22/23	INTEGRAL	
EH	1	ELECTRIC UNIT HEATER	10 kW			480 V	3	-	INTEGRAL	DIV 22/23	INTEGRAL	
FCU	1	FAN COIL UNIT			14.4 A	120 V	1	20A	INTEGRAL	DIV 22/23	INTEGRAL	
FCU	2	FAN COIL UNIT			12.6 A	480 V	3	15A	INTEGRAL	DIV 22/23	INTEGRAL	
FCU	3	FAN COIL UNIT			8 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
FCU	4	FAN COIL UNIT			12.6 A	480 V	3	15A	INTEGRAL	DIV 22/23	INTEGRAL	
FCU	5	FAN COIL UNIT			7 A	480 V	3	15A	INTEGRAL	DIV 22/23	INTEGRAL	
FCU	6	FAN COIL UNIT			14.4 A	120 V	1	20A	INTEGRAL	DIV 22/23	INTEGRAL	
H	1	HUMIDIFIER			15.6 A	120 V	1	20A	INTEGRAL	DIV 22/23	INTEGRAL	
HCP	1	COIL PUMP		1 hp		480 V	3	-	VFD	DIV 22/23	INTEGRAL TO VFD	
HCP	2	COIL PUMP		1 hp		480 V	3	-	VFD	DIV 22/23	INTEGRAL TO VFD	
HCP	3	COIL PUMP		1 hp		480 V	3	-	VFD	DIV 22/23	INTEGRAL TO VFD	
HUH	1	HYDRONIC UNIT HEATER		0.05 hp		120 V	1	-	INTEGRAL	DIV 22/23	MOTOR-RATED SWITCH	BACKUP POWER
HUH	2	HYDRONIC UNIT HEATER		0.13 hp		120 V	1	-	INTEGRAL	DIV 22/23	MOTOR-RATED SWITCH	BACKUP POWER
HUH	3	HYDRONIC UNIT HEATER		0.05 hp		120 V	1	-	INTEGRAL	DIV 22/23	MOTOR-RATED SWITCH	
HWP	1	HEATING WATER PUMP		5 hp		480 V	3	-	VFD	DIV 22/23	INTEGRAL TO VFD	BACKUP POWER
HWP	2	HEATING WATER PUMP		5 hp		480 V	3	-	VFD	DIV 22/23	INTEGRAL TO VFD	BACKUP POWER
HWP	3	HEATING WATER PUMP		5 hp		480 V	3	-	VFD	DIV 22/23	INTEGRAL TO VFD	BACKUP POWER
HWP	4	HEATING WATER PUMP		15 hp		480 V	3	-	VFD	DIV 22/23	INTEGRAL TO VFD	BACKUP POWER
MAU	1	INDOOR MAKEUP AIR UNIT		5 hp		480 V	3	-	VFD	DIV 22/23	INTEGRAL TO VFD	
MAU	2	INDOOR MAKEUP AIR UNIT		5 hp		480 V	3	-	VFD	DIV 22/23	INTEGRAL TO VFD	
MAU	3	INDOOR MAKEUP AIR UNIT		4.42 hp		480 V	3	-	VFD	DIV 22/23	INTEGRAL TO VFD	
PW	1	HOT WATER PRESSURE WASHER		10 hp	30 A	240 V	3	30A	INTEGRAL	DIV 22/23	30A NFD	
PW	2	HOT WATER PRESSURE WASHER		10 hp	30 A	240 V	3	30A	INTEGRAL	DIV 22/23	30A NFD	
UH	1	GAS-FIRED UNIT HEATER			8 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
UH	2	GAS-FIRED UNIT HEATER			8 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
UH	3	GAS-FIRED UNIT HEATER			8 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
UH	4	GAS-FIRED UNIT HEATER			8 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
UH	5	GAS-FIRED UNIT HEATER			8 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
UH	6	GAS-FIRED UNIT HEATER			8 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
UH	7	GAS-FIRED UNIT HEATER			8 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
UH	8	GAS-FIRED UNIT HEATER			8 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
UH	9	GAS-FIRED UNIT HEATER			8 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
UH	10	GAS-FIRED UNIT HEATER			8 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
UH	11	GAS-FIRED UNIT HEATER			8 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
UH	12	GAS-FIRED UNIT HEATER			8 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
UH	13	GAS-FIRED UNIT HEATER			8 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
UH	14	GAS-FIRED UNIT HEATER			8 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
UH	15	GAS-FIRED UNIT HEATER			8 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
UH	16	GAS-FIRED UNIT HEATER			8 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
UH	17	GAS-FIRED UNIT HEATER			2 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
UH	18	GAS-FIRED UNIT HEATER			3 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
UH	19	GAS-FIRED UNIT HEATER			8 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
UH	20	GAS-FIRED UNIT HEATER			8 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
UH	21	GAS-FIRED UNIT HEATER			8 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
UH	22	GAS-FIRED UNIT HEATER			8 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
UH	23	GAS-FIRED UNIT HEATER			8 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
UH	24	GAS-FIRED UNIT HEATER			8 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
UH	25	GAS-FIRED UNIT HEATER			8 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
UH	26	GAS-FIRED UNIT HEATER			8 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
UH	27	GAS-FIRED UNIT HEATER			8 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
UH	28	GAS-FIRED UNIT HEATER			8 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
UH	29	GAS-FIRED UNIT HEATER			8 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
UH	30	GAS-FIRED UNIT HEATER			8 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
UH	31	GAS-FIRED UNIT HEATER			8 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
UH	32	GAS-FIRED UNIT HEATER			8 A	120 V	1	15A	INTEGRAL	DIV 22/23	INTEGRAL	
VEF	1	VEHICLE EXHAUST FAN		5 hp		480 V	3	-	INTEGRAL	DIV 22/23	INTEGRAL	
WH	1	WATER HEATER			15 A	120 V	1	15A	INTEGRAL	DIV 22/23	30A NFD	
WH	2	WATER HEATER			15 A	120 V	1	15A	INTEGRAL	DIV 22/23	30A NFD	
WS	3	WATER HEATER	3.3 kW			277 V	1	-	INTEGRAL	DIV 22/23	MOTOR-RATED SWITCH	
WS	1	WATER SOFTENER			1 A	120 V	1	15A	INTEGRAL	DIV 22/23	CORD & PLUG	

NOTES:

INTERLOCK EXHAUST FAN WITH ASSOCIATED RESTROOM LIGHTING. FAN SHALL TURN ON WHEN LIGHTS TURN ON AND OFF WHEN LIGHTS TURN OFF.

GENERAL:

- A. PROVIDE ALL DISCONNECTS WITH NEUTRAL KITS
B. COORDINATE EXACT REQUIREMENTS WITH MECHANICAL SHOP DRAWINGS PRIOR TO ORDERING EQUIPMENT OR RUNNING FEEDERS

KEY:

B = HAND-OFF-AUTO SELECTOR SWITCH, G = GREEN "OFF" PILOT LIGHT, R = RED "ON" PILOT LIGHT, FT = CONTROL XFMR 120V FUSED
FVNR = FULL VOLTAGE NON-REVERSING, FVR = FULL VOLTAGE REVERSING, VFD = VARIABLE FREQUENCY DRIVE, RVS = REDUCED VOLTAGE STARTER
SPC = SINGLE POINT CONNECTION, RC = RUNS CONTINUOUS, MMS = MANUAL MOTOR STARTER WITH OVERLOAD PROTECTION & LOCK-OFF GUARD
SSP = START-STOP PUSHBUTTON STATION, JS = JOG PUSHBUTTON STATION, WP = WEATHERPROOF

LIGHTING FIXTURE SCHEDULE

TYPE	FIXTURE		VOLTAGE	DRIVER		LIGHTING PACKAGE				CCT	MOUNTING		MANUFACTURER	MODEL	COMMENTS
	DESCRIPTION	LENS / REFLECTOR		CONTROL	DIMMING	LUMENS	WATTS	OPTICS	HEIGHT						
A	2'x2' ARCHITECTURAL PANEL	CURVED OPAL LENS	277	0-10V	1%	4000	33.3	-	4000K	RECESSED	CEILING		LITHONIA OR EQUAL	STACK	
AE	2'x2' ARCHITECTURAL PANEL	CURVED OPAL LENS	277	0-10V	1%	4000	33.3	-	4000K	RECESSED	CEILING		LITHONIA OR EQUAL	STACK	100% WATTAGE EMERGENCY
B	2'x2' FLAT PANEL	SATIN WHITE	277	0-10V	1%	4000	36.3	-	4000K	RECESSED	CEILING		LITHONIA OR EQUAL	CPX	
BE	2'x2' FLAT PANEL	SATIN WHITE	277	0-10V	1%	4000	36.3	-	4000K	RECESSED	CEILING		LITHONIA OR EQUAL	CPX	100% WATTAGE EMERGENCY
C	CONTINUOUS DIRECT / INDIRECT LINEAR	FLUSH LENS	277	0-10V	1%	D: 600FT I: 300FT	D: 4.7FT I: 2.0FT	D: LAMB I: BATWING	4000K	SUSPENDED	24" BELOW CEILING		MARR ARCH OR EQUAL	S2PID	SEE FLOOR PLANS FOR FIXTURE LENGTHS
D	6" OPEN DOWNLIGHT	SEMI-SPECULAR	277	0-10V	1%	1500	13.8	WIDE, 65°	4000K	RECESSED	CEILING		WILLIAMS OR EQUAL	6DR	WHITE
DE	6" OPEN DOWNLIGHT	SEMI-SPECULAR	277	0-10V	1%	1500	13.8	WIDE, 65°	4000K	RECESSED	CEILING		WILLIAMS OR EQUAL	6DR	WHITE, 100% WATTAGE EMERGENCY
DS	6" OPEN SHOWER DOWNLIGHT	NON-CONDUCTIVE FLUSH LENS	277	0-10V	1%	1500	13.8	WIDE, 65°	4000K	RECESSED	CEILING		WILLIAMS OR EQUAL	6DR	WHITE, WET LOCATION
DXE	EXT. 6" OPEN DOWNLIGHT	SEMI-SPECULAR	277	0-10V	1%	1500	13.8	WIDE, 65°	4000K	RECESSED	CEILING		WILLIAMS OR EQUAL	6DR	WHITE, WET LOCATION, 100% WATTAGE EMERGENCY
G	8" STRIP	ROUND DIFFUSE	277	0-10V	1%	10000	63.7	-	4000K	SUSPENDED	VARIABLES, SEE FLOOR PLAN		LITHONIA OR EQUAL	CLX	
GE	8" STRIP	ROUND DIFFUSE	277	0-10V	1%	10000	63.7	-	4000K	SUSPENDED	VARIABLES, SEE FLOOR PLAN		LITHONIA OR EQUAL	CLX	100% WATTAGE EMERGENCY
H1	HIGH BAY	FROSTED ACRYLIC	277	0-10V	10%	36000	225.0	GENERAL	4000K	SUSPENDED	VARIABLES, SEE FLOOR PLAN		LITHONIA OR EQUAL	FB2	AIRCRAFT CABLING
H1E	HIGH BAY	FROSTED ACRYLIC	277	0-10V	10%	36000	225.0	GENERAL	4000K	SUSPENDED	VARIABLES, SEE FLOOR PLAN		LITHONIA OR EQUAL	FB2	AIRCRAFT CABLING, 100% WATTAGE EMERGENCY
J	8" FULLY ENCLOSED STRIP	CLEAR POLYCARBONATE	277	0-10V	-	8000	61.0	-	4000K	SUSPENDED	BOTTOM OF STRUCTURAL DOUBLE TEE		WILLIAMS OR EQUAL	96	
J2	8" FULLY ENCLOSED STRIP	CLEAR SMOOTH ACRYLIC	277	-	-	13000	95.0	-	4000K	SUSPENDED	25" AFF		WILLIAMS OR EQUAL	96	WET LOCATION
J2E	8" FULLY ENCLOSED STRIP	CLEAR SMOOTH ACRYLIC	277	-	-	13000	95.0	-	4000K	SUSPENDED	25" AFF		WILLIAMS OR EQUAL	96	WET LOCATION, 100% WATTAGE EMERGENCY
J3	4" FULLY ENCLOSED STRIP	FROSTED SMOOTH ACRYLIC	277	-	-	4000	30.0	-	4000K	SURFACE	CEILING		WILLIAMS OR EQUAL	96	
J3E	4" FULLY ENCLOSED STRIP	FROSTED SMOOTH ACRYLIC	277	-	-	4000	30.0	-	4000K	SURFACE	CEILING		WILLIAMS OR EQUAL	96	100% WATTAGE EMERGENCY
K	2" WALL BRACKET	FROSTED ACRYLIC	277	0-10V	-	1976	17.1	-	4000K	WALL	ABOVE MIRROR		METALLUX OR EQUAL	BOLED	
S1	EXT. SINGLE HEAD POLE LIGHT	-	277	0-10V	-	56200	431.0	R4	4000K	25° POLE	3' CONCRETE BASE		LITHONIA OR EQUAL	RSX4	
W1E	EXT. PERIMETER LIGHT	-	277	-	-	3021	25.0	R3	4000K	WALL	7.5' ABOVE GROUND		LITHONIA OR EQUAL	ARC1	100% WATTAGE EMERGENCY
W2	EXT. PERIMETER LIGHT	-	277	-	-	28994	210.0	R4	4000K	WALL	17' ABOVE GROUND		LITHONIA OR EQUAL	RSX2	
X1	EXIT SIGN SINGLE FACE	RED LETTERS	277	-	-	-	5.0	-	-	UNIV.	SEE FLOOR PLANS		WILLIAMS OR EQUAL	EXIT	POLYCARBONATE WHITE HOUSING, BATTERY & CHARGER, SELF DIAGNOSTICS
X2	EXIT SIGN DOUBLE FACE	RED LETTERS	277	-	-	-	5.0	-	-	UNIV.	SEE FLOOR PLANS		WILLIAMS OR EQUAL	EXIT	POLYCARBONATE WHITE HOUSING, BATTERY & CHARGER, SELF DIAGNOSTICS
Z	EXIT SIGN SINGLE FACE	RED LETTERS	277	-	-	-	5.0	-	-	UNIV.	SEE FLOOR PLANS		WILLIAMS OR EQUAL	EXIT/WET/CP	WET LOCATION, POLYCARBONATE WHITE HOUSING, BATTERY & CHARGER, SELF DIAGNOSTICS