Hancock County
Office Renovations

123 E Main Street
Greenfield, Indiana

Addendum No. 05

CONSTRUCTION MANAGER

Envoy, Inc.
116th Street, Suite 250
Indianapolis, Indiana 46038
Phone: 317.594.4600
Fax: 317.594.4601
www.envoy-cm.com

ARCHITECT / ENGINEER

DLZ Indiana, LLC
138 N. Delaware Street
Indianapolis, Indiana 46204
Phone: 317.633.4120

February 7, 2024

Project: **Hancock County Office Renovations**

Date: **February 7, 2024**

By: **Envoy, Inc.**

ADDENDUM

Number: 05

This addendum is based in accordance with the provisions of "The General Conditions of the Contract for Construction," Article 1, "Contract Documents" and becomes a part of the Contract Documents as provided therein. Bids will be received at the Hancock County Annex in the Commissioner's Court located at 111 South American Legion Place, Suite 101, Greenfield, IN 46140 until **2:00 p.m.** (local time) on **Thursday February 15, 2024**.

Included with this Addendum are the following Notes and Clarifications:

1. **Addendum # 04 from DLZ is included in this Addendum 05. Mostly Fire Suppression, Plumbing, Mechanical updates plus answers to questions and a Manufacturer approval.**

2. **For reference, Addendum 04 from Envoy only announced the additional Pre-Bid meeting. Included in this Addendum is the list of Attendees.**

3. **No other Scope Changes are included with this Addendum.**

4. **Bids are due at time and date listed above.**

5. **Basic questions can still be submitted, but this is intended to be the final Addendum prior to the bid.**

ADDENDUM NO. 04

PROJECT:	HANCOCK COUNTY OFFICE RENOVATIONS 123 East Main Street Greenfield, IN 46140 DLZ Project Number 2163-1063-90
TO:	All Bidders and others to whom Plans and Specifications for the above referenced Project have been issued.
OWNER:	Hancock County Board of Commissioners 111 South American Legion Place, Suite 219 Greenfield, IN 46140
ARCHITECT:	DLZ INDIANA, LLC 138 N. Delaware Street. Indianapolis, Indiana 46204
CONSTRUCTION MANAGER:	ENVOY CONSTRUCTION 890 E 116th Street, Suite 250 Fishers, Indiana 46038
DATE:	February 7, 2024

CERTIFIED BY:

Phillip J. Wink, RA
Registered Architect
State of Indiana

The items included in this Addendum are to become a part of the original Drawings and Project Manual dated December 21, 2023 as if included herein. Only these items are to be altered. The remainder of the original Drawings and Project Manual remain valid in their entirety. Bidders must acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

CLARIFICATIONS

ITEM NO. 1. In regards to the extent of mechanical and plumbing work within the Coroners Office Alternate and Public Defenders Alternate, refer to keynotes 221142, 221143, 233112, 233113. These notes contain details pertaining to enclosed regions and scope of work should each alternate be accepted or not. Alternate regions are outlined on sheets in a red dashed line. See also keynotes 022226, 022209, 221112, 221113 and 221319 for more specific details on extent of plumbing work with existing fixtures and mains. (Note: Refer to revisions to Division 22 notes within this Addendum).

PROJECT MANUAL

ITEM NO. 2. SECTION 122113 – HORIZONTAL LOUVER BLINDS

a. Paragraph 2.2B to revise locations. Replace section in its entirety with attached.

ITEM NO. 3. SECTION 123553.13 – METAL LABORATORY CASEWORK
- a. Add Paragraph 2.1-A.8:
  "8. Institutional Casework, Inc. (ICI Scientific)"
- b. Replace section in its entirety with attached.

ITEM NO. 4. SECTION 211313 – WET-PIPE SPRINKLER SYSTEMS
- a. Paragraph 2.6.C: Removed branch line testers verbiage.
- b. Replace section in its entirety with attached.

DRAWINGS

ITEM NO. 5. DRAWING P0.1 – GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS
- a. Revised verbiage on keynotes 022226, 022209, 221112, 221113, 221142, and 221143.
- b. Replace sheet in its entirety with attached.

ITEM NO. 6. DRAWING PD1.0 – LOWER LEVEL PLUMBING REMOVAL PLAN
- a. Revised verbiage on keynotes 022226 and 022209.
- b. Replace sheet in its entirety with attached.

ITEM NO. 7. DRAWING P1.1 – UNDERFLOOR PLUMBING PLAN LOWER LEVEL
- a. Revised location of keynote 221219.
- b. Replace sheet in its entirety with attached.

ITEM NO. 8. DRAWING P2.1 – LOWER LEVEL OVERALL PLUMBING PLAN
- a. Revised verbiage on keynotes 221113, 221142, and 221143.
- b. Revised location of keynote 221113.
- c. Replace sheet in its entirety with attached.

ITEM NO. 9. DRAWING P4.1 – PLUMBING ENLARGED PLANS – LOWER LEVEL I
- a. Added keynote 221113 tag on 4/P4.1.
- b. Revised verbiage keynote 221113.
- c. Replace sheet in its entirety with attached.

ITEM NO. 10. DRAWING M0.1 – GENERAL INFORMATION
- a. Added keynotes 230009 and 230011.
- b. Replace sheet in its entirety with attached.

ITEM NO. 11. DRAWING M1.2 – ROOF MECHANICAL DUCTWORK PLAN
- a. Added callout for enlarged plan 4/M4-2 of Mechanical Room 200.
- b. Replace sheet in its entirety with attached.

ITEM NO. 12. DRAWING M4.2 – MECHANICAL ROOMS ENLARGED PLANS
- a. Added enlarged plan 4/M-2 to sheet.
- b. Added keynotes 230009 and 230011.
- c. Replace sheet in its entirety with attached.

ITEM NO. 13. DRAWING M5.3 – MECHANICAL DETAILS - III

a. Edited details 1/M5-3 and 2/M5-3 to tag “Supply Fan Section”. Removed “Supply Fan Array Section”.

b. Replace sheet in its entirety with attached.

ITEM NO. 14. DRAWING M6.1 – MECHANICAL EQUIPMENT SCHEDULES -1

a. Added “Quantity” column to INDOOR AIR HANDLING UNIT SCHEDULE.

b. Replace sheet in its entirety with attached.

ATTACHMENTS:

PROJECT MANUAL – VOLUME 2

1. 122113 – HORIZONTAL LOUVER BLINDS
2. 123553.13 – METAL LABORATORY CASEWORK

PROJECT MANUAL – VOLUME 3

1. 211313 – WET-PIPE SPRINKLER SYSTEMS

DRAWINGS

1. P0.1 – GENERAL NOTES, SYMBOLS AND ABBREVIATIONS
2. PD1.0 – LOWER LEVEL PLUMBING REMOVAL PLAN
3. P1.1 – UNDERFLOOR PLUMBING PLAN LOWER LEVEL
4. P2.1 – LOWER LEVEL OVERALL PLUMBING PLAN
5. P4.1 – PLUMBING ENLARGED PLANS – LOWER LEVEL I
6. M0.1 – GENERAL INFORMATION
7. M1.2 – ROOF MECHANICAL DUCTWORK PLAN
8. M4.2 – MECHANICAL ROOMS ENLARGED PLANS
9. M5.3 – MECHANICAL DETAILS – III
10. M6.1 – MECHANICAL EQUIPMENT SCHEDULES - 1

END OF ADDENDUM NO. 04

SECTION 122113 - HORIZONTAL LOUVER BLINDS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Horizontal louver blinds with aluminum slats.

B. Related Requirements:

1. Section 061053 - "Miscellaneous Rough Carpentry" for wood blocking and grounds for mounting horizontal louver blinds and accessories.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: Show fabrication and installation details for horizontal louver blinds.

C. Samples for Initial Selection: For each type and color of horizontal louver blind.

1. Include similar Samples of accessories involving color selection.

1.4 INFORMATIONAL SUBMITTALS

A. Product Certificates: For each type of horizontal louver blind.

B. Product Test Reports: For each type of horizontal louver blind, for tests performed by manufacturer and witnessed by a qualified testing agency.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For horizontal louver blinds to include in maintenance manuals.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver horizontal louver blinds in factory packages, marked with manufacturer, product name and location of installation using same designations indicated on Drawings.

1.7 FIELD CONDITIONS

A. Environmental Limitations: Do not install horizontal louver blinds until construction and wet and finish work in spaces, including painting, is complete and dry and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

B. Field Measurements: Where horizontal louver blinds are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication and indicate measurements on Shop Drawings. Allow clearances for operating hardware of operable glazed units through entire operating range. Notify Architect of installation conditions that vary from Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain horizontal louver blinds from single source from single manufacturer.

2.2 HORIZONTAL LOUVER BLINDS, ALUMINUM SLATS

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

1. Hunter Douglas Contract.
2. Levolor Contract; a Newell Rubbermaid company.
3. Springs Window Fashions.

B. Provide at the following locations:

1. Office 110
2. Office 113
3. Office 118
4. Office 119
5. Office 121

C. Slats: Aluminum; alloy and temper recommended by producer for type of use and finish indicated; with crowned profile and radius corners.

1. Width: 1-inch.
2. Thickness: Manufacturer's standard.
3. Spacing: Manufacturer's standard.
4. Finish: Ionized antistatic, dust-repellent, baked polyester finish.
5. Lengths: Coordinate with window sizes and mullion spacing.

D. Headrail: Formed steel or extruded aluminum; long edges returned or rolled. Headrails fully enclose operating mechanisms on three sides.

1. Capacity: One blind per headrail unless otherwise indicated.
2. Ends: Manufacturer's standard.
3. Manual Lift Mechanism:

    a. Lift-Cord Lock: Variable; stops lift cord at user-selected position within blind full operating range.
    b. Operator: Extension of lift cord(s) through lift-cord lock mechanism to form cord pull.

4. Manual Tilt Mechanism: Enclosed worm-gear mechanism and linkage rod that adjusts ladders.

    a. Tilt: Full.
    b. Operator: Clear-plastic wand.
    c. Over-Rotation Protection: Manufacturer's detachable operator or slip clutch to prevent over rotation of gear.

5. Manual Lift-Operator and Tilt-Operator Lengths: Full length of blind when blind is fully closed except at transom windows.
6. Manual Lift-Operator and Tilt-Operator Locations: Manufacturer's standard unless otherwise indicated.
7. Integrated Headrail/Valance: Curved face.

E. Bottom Rail: Formed-steel or extruded-aluminum tube that secures and protects ends of ladders and lift cords and has plastic- or metal-capped ends.

1. Type: Manufacturer's standard.

F. Lift Cords: Manufacturer's standard braided cord.

G. Ladders: Evenly spaced across headrail at spacing that prevents long-term slat sag.

1. Type: Braided cord.

H. Valance: Manufacturer's standard.

I. Mounting Brackets: With spacers and shims required for blind placement and alignment indicated.

1. Type: End Mount.
2. Intermediate Support: Provide intermediate support brackets to produce support spacing recommended by blind manufacturer for weight and size of blind.

J. Colors, Textures, Patterns, and Gloss:

1. Slats: As selected by Architect from manufacturer's full range.
2. Components: Provide cords, ladders and materials exposed to view matching or coordinating with slat color unless otherwise indicated.

2.3 HORIZONTAL LOUVER BLIND FABRICATION

A. Product Safety Standard: Fabricate horizontal louver blinds to comply with WCMA A 100.1 including requirements for corded, flexible, looped devices; lead content of components; and warning labels.

B. Unit Sizes: Fabricate units in sizes to fill window and other openings as follows, measured at 74 deg F:

1. Between (Inside) Jamb Installation: Width equal to jamb-to-jamb dimension of opening in which blind is installed less 1/4 inch per side or 1/2-inch total, plus or minus 1/8-inch. Length equal to head-to-sill dimension of opening in which blind is installed less 1/4-inch, plus or minus 1/8-inch.

C. Concealed Components: Non-corrodible or corrosion-resistant-coated materials.

1. Lift-and-Tilt Mechanisms: With permanently lubricated moving parts.

D. Mounting and Intermediate Brackets: Designed for removal and reinstallation of blind without damaging blind and adjacent surfaces, for supporting blind components and for bracket positions and blind placement indicated.

E. Installation Fasteners: No fewer than two fasteners per bracket, fabricated from metal noncorrosive to brackets and adjoining construction; type designed for securing to supporting substrate; and supporting blinds and accessories under conditions of normal use.

F. Color-Coated Finish:

1. Metal: For components exposed to view, apply manufacturer's standard baked finish complying with manufacturer's written instructions for surface preparation including pretreatment, application, baking and minimum dry film thickness.

PART 3 - EXECUTION

3.1 EXAMINATION

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

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

3.2 INSTALLATION

A. Install horizontal louver blinds at all exterior windows.

B. Install horizontal louver blinds level and plumb, aligned and centered on openings and aligned with adjacent units according to manufacturer's written instructions.

1. Locate so exterior slat edges are not closer 2-inches from interior faces of glass and not closer than 1-inch from interior faces of glazing frames through full operating ranges of blinds.
2. Install mounting and intermediate brackets to prevent deflection of headrails.
3. Install with clearances that prevent interference with adjacent blinds, adjacent construction and operating hardware of glazed openings, other window treatments and similar building components and furnishings.

3.3 ADJUSTING

A. Adjust horizontal louver blinds to operate free of binding or malfunction through full operating ranges.

3.4 CLEANING AND PROTECTION

A. Clean horizontal louver blind surfaces after installation according to manufacturer's written instructions.

B. Provide final protection and maintain conditions in a manner acceptable to manufacturer and Installer and that ensures that horizontal louver blinds are without damage or deterioration at time of Substantial Completion.

C. Replace damaged horizontal louver blinds that cannot be repaired in a manner approved by Architect before time of Substantial Completion.

END OF SECTION 122113

(THIS PAGE INTENTIONALLY LEFT BLANK)

SECTION 123553.13 - METAL LABORATORY CASEWORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Metal laboratory casework
2. Filler and closure panels.

B. Related Requirements:

1. Section 061053 "Miscellaneous Rough Carpentry" for wood blocking for anchoring laboratory casework.
2. Section 092216 "Non-Structural Metal Framing" for reinforcements in metal-framed partitions for anchoring laboratory casework.
3. Section 096513 "Resilient Base and Accessories" for resilient base applied to metal laboratory casework.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.4 COORDINATION

A. Coordinate layout and installation of framing and reinforcements for support of laboratory casework.

B. Coordinate installation of laboratory casework with installation of fume hoods and other laboratory equipment.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For laboratory casework. Include plans, elevations, sections and attachment details.

1. Indicate types and sizes of cabinets.
2. Indicate locations of hardware.
3. Indicate locations and types of service fittings.
4. Indicate locations of blocking and reinforcements required for installing laboratory casework.
5. Include details of utility spaces showing supports for conduits and piping.
6. Include details of support framing system.
7. Include details of exposed conduits, if required, for service fittings.
8. Indicate locations of and clearances from adjacent walls, doors, windows, other building components, and other laboratory equipment.
9. Include coordinated dimensions for laboratory equipment specified in other Sections.

C. Samples for Initial Selection: For factory-applied finishes and other materials requiring color selection.

D. Samples for Verification: For each type of cabinet finish and each type of countertop material, in manufacturer's standard sizes.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For manufacturer.

B. Product Test Reports for Countertop Surface Material: Based on evaluation of comprehensive tests performed by a qualified testing agency, indicating compliance of laboratory countertop surface materials with requirements specified for chemical and physical resistance.

1.7 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish complete touchup kit for each type and color of metal laboratory casework provided. Include fillers, primers, paints and other materials necessary to perform permanent repairs to damaged laboratory casework finish.

B. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Cabinet Mounting Clips and Related Hardware: Quantity equal to 5 percent of amount installed, but no fewer than 20 of each type.
2. Modular Countertop Units: Two extra units of each length and material installed.

1.8 QUALITY ASSURANCE

A. Manufacturer Qualifications: A qualified manufacturer that produces casework of types indicated for this Project that has been tested for compliance with SEFA 8 M.

1.9 DELIVERY, STORAGE AND HANDLING

A. Protect finished surfaces during handling and installation with protective covering of polyethylene film or other suitable material.

1.10 FIELD CONDITIONS

A. Environmental Limitations: Do not deliver or install laboratory casework until building is enclosed, utility roughing-in and wet work are complete and dry and temporary HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.

B. Locate concealed framing, blocking and reinforcements that support casework by field measurements before being enclosed and indicate measurements on Shop Drawings.

1.11 WARRANTY

A. Warranty Period: One (1) year after Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Product: Subject to compliance with requirements, provide “HLF Steel Casework” as manufactured by Hanson Lab Furniture, Inc.” or a comparable product by one of the following:

1. Bedcolab Ltd.
2. BMC Manufacturing.
3. Kewaunee Scientific Corporation.
4. Lab Crafters, Inc.
5. Lab Fabricators.
6. Mott Manufacturing Ltd.
7. Airmaster System, Inc.
8. **Institutional Casework, Inc. (ICI Scientific)**

B. Source Limitations: Obtain laboratory casework from single source from single manufacturer unless otherwise indicated.

2.2 PERFORMANCE REQUIREMENTS

A. System Structural Performance: Laboratory casework and support framing system shall withstand the effects of the following gravity loads and stresses without permanent deformation, excessive deflection or binding of drawers and doors:

1. Wall Cabinets (Upper Cabinets): 160 lb/ft.
2. Shelves: 40 lb/sq. ft.

2.3 CASEWORK, GENERAL

A. Casework Product Standard: Comply with SEFA 8 M, "Laboratory Grade Metal Casework."

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

2.4 METAL CABINET MATERIALS

A. Metal: Cold-rolled, commercial steel (CS) sheet, complying with ASTM A 1008/A 1008M; matte finish; suitable for exposed applications.

B. Nominal Metal Thickness:

1. Sides, Ends, Fixed Backs, Bottoms, Tops, Soffits and Items Not Otherwise Indicated: 0.048-inch.
2. Back Panels, Doors, Drawer Fronts and Bodies and Shelves: 0.036-inch except 0.048-inch for back panels and doors of flammable liquid storage cabinets and for unreinforced shelves more than 36-inches long.
3. Intermediate Horizontal Rails, Table Aprons and Cross Rails, Center Posts and Top Gussets: 0.060-inch.
4. Drawer Runners, Sink Supports and Hinge Reinforcements: 0.075-inch.
5. Leveling and Corner Gussets: 0.105-inch.

2.5 METAL CABINETS

A. Fabrication: Assemble and finish units at point of manufacture. Use precision dies for interchangeability of like-size drawers, doors and similar parts. Perform assembly on precision jigs to provide units that are square. Reinforce units with angles, gussets and channels. Except where otherwise specified, integrally frame and weld cabinet bodies to form dirt- and vermin-resistant enclosures. Where applicable, reinforce base cabinets for sink support. Maintain uniform clearance around door and drawer fronts of 1/16 to 3/32-inch.

B. Flush Doors: Outer and inner pans that nest into box formation, with full-height channel reinforcements at center of door. Fill doors with noncombustible, sound-deadening material.

C. Hinged Doors: Mortise for hinges and reinforce with angles welded inside inner pans at hinge edge.

D. Drawers: Fronts made from outer and inner pans that nest into box formation, with no raw metal edges at top. Sides, back, and bottom fabricated in one piece with rolled or formed top of sides for stiffening and comfortable grasp for drawer removal. Provide drawers with rubber bumpers, polymer roller slides and positive stops to prevent metal-to-metal contact or accidental removal.

E. Adjustable Shelves: Front, back and ends formed down, with edges returned horizontally at front and back to form reinforcing channels.

F. Toe Space: Fully enclosed, 4-inches high by 3-inches deep, with no open gaps or pockets.

G. Filler and Closure Panels: Provide where indicated and as needed to close spaces between cabinets and walls, ceilings and indicated equipment. Fabricate from same material and with same finish as cabinets and with hemmed or flanged edges unless otherwise indicated.

2.6 METAL CABINET FINISH

A. General: Prepare, treat, and finish welded assemblies after assembling. Prepare, treat, and finish components that are to be assembled with mechanical fasteners before assembling. Prepare, treat and finish concealed surfaces same as exposed surfaces.

B. Preparation: After assembly, clean surfaces of mill scale, rust, oil and other contaminants. After cleaning, apply a conversion coating suited to the organic coating to be applied over it.

C. Chemical-Resistant Finish: Immediately after cleaning and pretreating, apply laboratory casework manufacturer's standard two-coat, chemical-resistant, baked-on finish consisting of prime coat and thermosetting topcoat. Comply with coating manufacturer's written instructions for applying and baking to achieve a minimum dry film thickness of 2 mils.

1. Chemical and Physical Resistance of Finish System: Finish complies with acceptance levels of cabinet surface finish tests in SEFA 8 M. Acceptance level for chemical spot test shall be no more than four Level 3 conditions.
2. Colors for Metal Laboratory Casework Finish: As selected by Architect from manufacturer's full range.

2.7 HARDWARE

A. General: Provide laboratory casework manufacturer's standard, commercial-quality, heavy-duty hardware complying with requirements indicated for each type.

B. Hinges: Stainless-steel, five-knuckle hinges complying with BHMA A156.9, Grade 1, with antifriction bearings and rounded tips. Provide two for doors 48 inches high or less and three for doors more than 48-inches high.

C. Hinged Door and Drawer Pulls: Solid-aluminum, stainless-steel or chrome-plated-brass, back-mounted pulls. Provide two pulls for drawers more than 24-inches wide.

1. Design: Wire pulls rectangular loop pulls with rounded corners.
2. Overall Size: 1 by 4-1/2-inches.

D. Door Catches: Nylon-roller spring catches. Provide two catches on doors more than 48-inches high.

E. Drawer Slides: Side mounted, epoxy-coated steel, self-closing; designed to prevent rebound when drawers are closed; complying with BHMA A156.9, Type B05091.

1. Standard Duty (Grade 1): Full-extension type, with polymer rollers.

F. Locks: Cam or half-mortise type with five-pin tumbler, brass with chrome-plated finish; complying with BHMA A156.11, Type E0728 in all drawers and cabinets.

G. Sliding-Door Hardware Sets: Laboratory casework manufacturer's standard, to suit type and size of sliding-door units.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas, with Installer present, for compliance with requirements for installation tolerances, location of reinforcements and other conditions affecting performance of the Work.

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

3.2 INSTALLATION OF CABINETS

A. Comply with installation requirements in SEFA 2.3. Install level, plumb, and true; shim as required, using concealed shims. Where laboratory casework abuts other finished work, apply filler strips and scribe for accurate fit, with fasteners concealed where practical. Do not exceed the following tolerances:

1. Variation of Tops of Base Cabinets from Level: 1/16-inch in 10 feet.
2. Variation of Bottoms of Upper Cabinets from Level: 1/8-inch in 10 feet.
3. Variation of Faces of Cabinets from a True Plane: 1/8-inch in 10 feet.
4. Variation of Adjacent Surfaces from a True Plane (Lippage): 1/32-inch.
5. Variation in Alignment of Adjacent Door and Drawer Edges: 1/16-inch.

B. Utility-Space Framing: Secure to floor with two fasteners at each frame. Fasten to partition framing, wood blocking or metal reinforcements in partitions and to base cabinets.

C. Base Cabinets: Fasten cabinets to utility-space framing, partition framing, wood blocking or reinforcements in partitions, with fasteners spaced not more than 16-inches o.c. Bolt adjacent cabinets together with joints flush, tight, and uniform.
   1. Where base cabinets are installed away from walls, fasten to floor at toe space at not more than 24-inches o.c. and at sides of cabinets with not less than two fasteners per side.

D. Wall Cabinets: Fasten to hanging strips, masonry, partition framing, blocking, or reinforcements in partitions. Fasten each cabinet through back, near top, at not less than 16-inches o.c.

E. Install hardware uniformly and precisely. Set hinges snug and flat in mortises.

F. Adjust laboratory casework and hardware so doors and drawers align and operate smoothly without warp or bind and contact points meet accurately. Lubricate operating hardware as recommended by manufacturer.

G. Remove excess sealant or adhesive while still wet and finish joint for neat appearance.

3.3 CLEANING AND PROTECTING

A. Clean finished surfaces, touch up as required, and remove or refinish damaged or soiled areas to match original factory finish, as approved by Architect.

END OF SECTION 123553.13

(THIS PAGE INTENTIONALLY LEFT BLANK)

SECTION 211313 - WET-PIPE SPRINKLER SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Pipes, fittings, and specialties.
2. Cover system for sprinkler piping.
3. Specialty valves.
4. Sprinklers.
5. Alarm devices.
6. Pressure gauges.

B. Related Requirements:
1. Section 210523 "General-Duty Valves for Water-Based Fire-Suppression Piping" for ball, butterfly, check, gate, post-indicator, and trim and drain valves.

1.3 DEFINITIONS

A. Standard-Pressure Sprinkler Piping: Wet-pipe sprinkler system piping designed to operate at working pressure of 175-psig maximum.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.

B. Shop Drawings: For wet-pipe sprinkler systems.

1. Include plans, elevations, sections, and attachment details.
2. Include diagrams for power, signal, and control wiring.

C. Delegated-Design Submittal: For wet-pipe sprinkler systems indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.5 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Sprinkler systems, or BIM model, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:
   a. Domestic water piping.
   b. HVAC hydronic piping.
   c. Items penetrating finished ceiling include the following:
      1) Lighting fixtures.
      2) Air outlets and inlets.

B. Qualification Data: For qualified Installer and professional engineer.

C. Design Data:

1. Approved Sprinkler Piping Drawings: Working plans, prepared according to NFPA 13, that have been approved by authorities having jurisdiction, including hydraulic calculations if applicable.

D. Welding certificates.

E. Field Test Reports:

1. Indicate and interpret test results for compliance with performance requirements and as described in NFPA 13. Include "Contractor's Material and Test Certificate for Aboveground Piping."
2. Fire-hydrant flow test report.

F. Field quality-control reports.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For wet-pipe sprinkler systems and specialties to include in emergency, operation, and maintenance manuals.

1.7 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Sprinkler Cabinets: Finished, wall-mounted, steel cabinet with hinged cover, and with space for minimum of six spare sprinklers plus sprinkler wrench. Include number of sprinklers required by NFPA 13 and sprinkler wrench. Include separate cabinet with sprinklers and wrench for each type of sprinkler used on Project.

1.8 QUALITY ASSURANCE

A. Installer Qualifications:

1. Installer's responsibilities include designing, fabricating, and installing sprinkler systems and providing professional engineering services needed to assume engineering responsibility. Base calculations on results of fire-hydrant flow test.

a. Engineering Responsibility: Preparation of working plans, calculations, and field test reports by a qualified professional engineer.

B. Welding Qualifications: Qualify procedures and operators according to 2010 ASME Boiler and Pressure Vessel Code.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

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

B. Sprinkler system equipment, specialties, accessories, installation, and testing shall comply with NFPA 13.

C. Standard-Pressure Piping System Component: Listed for 175-psig minimum working pressure.

D. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design wet-pipe sprinkler systems.

1. Available fire-hydrant flow test records indicated on sheet FP0.1.

2. Sprinkler system design shall be approved by authorities having jurisdiction.

a. Margin of Safety for Available Water Flow and Pressure: 10 percent, including losses through water-service piping, valves, and backflow preventers.
b. Sprinkler Occupancy Hazard Classifications:

1) Automobile Parking Areas: Ordinary Hazard, Group 1.
2) Building Service Areas: Ordinary Hazard, Group 1.
3) Electrical Equipment Rooms: Ordinary Hazard, Group 1.
4) General Storage Areas: Ordinary Hazard, Group 1.
5) Mechanical Equipment Rooms: Ordinary Hazard, Group 1.
6) Office and Public Areas: Light Hazard.

3. Minimum Density for Automatic-Sprinkler Piping Design:
a. Light-Hazard Occupancy: 0.10 gpm over 1500-sq. ft. area.
b. Ordinary-Hazard, Group 1 Occupancy: 0.15 gpm over 1500-sq. ft. area.
c. Ordinary-Hazard, Group 2 Occupancy: 0.20 gpm over 1500-sq. ft. area.

d. Special Occupancy Hazard: As determined by authorities having jurisdiction.

4. Maximum Protection Area per Sprinkler:
   a. Office Spaces: 225 sq. ft..
   b. Storage Areas: 130 sq. ft..
   c. Mechanical Equipment Rooms: 130 sq. ft..
   d. Electrical Equipment Rooms: 130 sq. ft..
   e. Other Areas: According to NFPA 13 recommendations unless otherwise indicated.

2.2 STEEL PIPE AND FITTINGS

A. Standard-Weight, Black-Steel Pipe: ASTM A53/A53M, Type E. Pipe ends may be factory or field formed to match joining method.

B. Black-Steel Pipe Nipples: ASTM A733, made of ASTM A53/A53M, standard-weight, seamless steel pipe with threaded ends.

C. Uncoated-Steel Couplings: ASTM A865/A865M, threaded.

D. Uncoated, Gray-Iron Threaded Fittings: ASME B16.4, Class 125, standard pattern.

E. Malleable- or Ductile-Iron Unions: UL 860.

F. Cast-Iron Flanges: ASME 16.1, Class 125.

G. Grooved-Joint, Steel-Pipe Appurtenances:

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

   a. Anvil International.
   b. Tyco by Johnson Controls Company.
   c. Victaulic Company.

2. Pressure Rating: 175-psig minimum.
3. Uncoated Grooved-End Fittings for Steel Piping: ASTM A47/A47M, malleable-iron casting or ASTM A536, ductile-iron casting, with dimensions matching steel pipe.
4. Grooved-End-Pipe Couplings for Steel Piping: AWWA C606 and UL 213 rigid pattern, unless otherwise indicated, for steel-pipe dimensions. Include ferrous housing sections, EPDM-rubber gasket, and bolts and nuts.

2.3 COVER SYSTEM FOR SPRINKLER PIPING

A. Manufacturers: Subject to compliance with requirements, provide products by the following:

1. DecoShield Systems, Inc.
2. JG Innovations, Inc.

B. Description: System of support brackets and covers made to protect sprinkler piping.

C. Brackets: Glass-reinforced nylon.

D. Covers: Galvanized Steel, 16 gauge.

2.4 SPECIALTY VALVES

A. Listed in UL's "Fire Protection Equipment Directory" or FM Global's "Approval Guide."

B. Pressure Rating:

1. Standard-Pressure Piping Specialty Valves: 175-psig minimum.

C. Body Material: Cast or ductile iron.

D. Size: Same as connected piping.

E. End Connections: Flanged or grooved.

F. Alarm Valves:

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

a. Globe Fire Sprinkler Corporation.
b. Reliable Automatic Sprinkler Co., Inc. (The).
c. Tyco by Johnson Controls Company.
d. Venus Fire Protection Ltd.
e. Victaulic Company.
f. Viking Corporation.

2. Standard: UL 193.
3. Design: For horizontal or vertical installation.
4. Include trim sets for bypass, drain, electrical sprinkler alarm switch, pressure gauges, and fill-line attachment with strainer.
5. Drip cup assembly pipe drain with check valve to main drain piping.
6. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

G. Deluge Valves:

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

a. Globe Fire Sprinkler Corporation.
b. Reliable Automatic Sprinkler Co., Inc. (The).
c. Tyco by Johnson Controls Company.
d. Victaulic Company.
e. Viking Corporation.

2. Standard: UL 260.
3. Design: Hydraulically operated, differential-pressure type.
4. Include trim sets for alarm-test bypass, drain, electrical water-flow alarm switch, pressure gauges, drip cup assembly piped without valves and separate from main drain line, and fill-line attachment with strainer.
5. Wet, Pilot-Line Trim Set: Include gauge to read diaphragm-chamber pressure and manual control station for manual operation of deluge valve, and connection for actuation device.

H. Automatic (Ball Drip) Drain Valves:

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

    a. Reliable Automatic Sprinkler Co., Inc. (The).
    b. Tyco by Johnson Controls Company.
2. Standard: UL 1726.
3. Pressure Rating: 175-psig minimum.
4. Type: Automatic draining, ball check.
5. Size: NPS 3/4.
6. End Connections: Threaded.

2.5 AIR VENT

A. Automatic Air Vent:
1. Description: Automatic air vent that automatically vents trapped air without human intervention.
2. Standard: UL listed or FM Global approved for use in wet-pipe fire sprinkler systems.
3. Vents oxygen continuously from system.
4. Float valve to prevent water discharge.
5. Minimum Water Working Pressure Rating: 175 psig.

2.6 SPRINKLER PIPING SPECIALTIES

A. Branch Outlet Fittings:

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

    a. AGF Manufacturing, Inc.
    b. Anvil International.
    c. National Fittings, Inc.
    d. Shurjoint; a part of Aalberts Integrated piping Systems.
    e. Tyco by Johnson Controls Company.
    f. Victaulic Company.
2. Standard: UL 213.
3. Pressure Rating: 175-psig minimum.

4. Body Material: Ductile-iron housing with EPDM seals and bolts and nuts.
5. Type: Mechanical-tee and -cross fittings.
6. Configurations: Snap-on and strapless, ductile-iron housing with branch outlets.
7. Size: Of dimension to fit onto sprinkler main and with outlet connections as required to match connected branch piping.
8. Branch Outlets: Grooved, plain-end pipe, or threaded.

B. Flow Detection and Test Assemblies:

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

    a. AGF Manufacturing, Inc.
    b. Reliable Automatic Sprinkler Co., Inc. (The).
    c. Tyco by Johnson Controls Company.
    d. Victaulic Company.
2. Standard: UL's "Fire Protection Equipment Directory" or FM Global's "Approval Guide."
3. Pressure Rating: 175-psig minimum.
4. Body Material: Cast- or ductile-iron housing with orifice, sight glass, and integral test valve.
5. Size: Same as connected piping.
6. Inlet and Outlet: Threaded or grooved.

C. Sprinkler Inspector's Test Fittings:

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

    a. AGF Manufacturing, Inc.
    b. Triple R Specialty.
    c. Tyco by Johnson Controls Company.
    d. Victaulic Company.
    e. Viking Corporation.
2. Standard: UL's "Fire Protection Equipment Directory" or FM Global's "Approval Guide."
3. Pressure Rating: 175-psig minimum.
4. Body Material: Cast- or ductile-iron housing with sight glass.
5. Size: Same as connected piping.
6. Inlet and Outlet: Threaded.

D. Adjustable Drop Nipples:

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

    a. Aegis Technologies, Inc.
    b. CECA, LLC.
    c. CPS Products, Inc.
    d. Merit Manufacturing.
2. Standard: UL 1474.

3. Pressure Rating: 250-psig minimum.
4. Body Material: Steel pipe with EPDM-rubber O-ring seals.
5. Size: Same as connected piping.
6. Length: Adjustable.
7. Inlet and Outlet: Threaded.

E. Flexible Sprinkler Hose Fittings:

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

   a. ALEUM USA.
   b. FlexHead Industries, Inc.
   c. Gateway Tubing, Inc.
   d. Victaulic Company.
2. Standard: UL 1474.
3. Type: Flexible hose for connection to sprinkler, and with bracket for connection to ceiling grid.
4. Pressure Rating: 175-psig minimum.
5. Size: Same as connected piping, for sprinkler.

2.7 SPRINKLERS

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

1. Globe Fire Sprinkler Corporation.
2. Reliable Automatic Sprinkler Co., Inc. (The).
3. Tyco by Johnson Controls Company.
4. Victaulic Company.
5. Viking Corporation.

B. Listed in UL's "Fire Protection Equipment Directory" or FM Global's "Approval Guide."

C. Pressure Rating for Automatic Sprinklers: 175-psig minimum.

D. Automatic Sprinklers with Heat-Responsive Element:
1. Nonresidential Applications: UL 199.
2. Characteristics: Nominal 1/2-inch orifice with Discharge Coefficient K of 5.6, and for "Ordinary" temperature classification rating unless otherwise indicated or required by application.

E. Sprinkler Finishes: Chrome plated.

F. Sprinkler Escutcheons: Materials, types, and finishes for the following sprinkler mounting applications. Escutcheons for concealed, flush, and recessed-type sprinklers are specified with sprinklers.

1. Ceiling Mounting: Chrome-plated steel, one piece, flat.
2. Sidewall Mounting: Chrome-plated steel, one piece, flat.

G. Sprinkler Guards:

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

    a. Reliable Automatic Sprinkler Co., Inc. (The).
    b. Tyco by Johnson Controls Company.
    c. Victaulic Company.
    d. Viking Corporation.
2. Standard: UL 199.
3. Type: Wire cage with fastening device for attaching to sprinkler.

2.8 ALARM DEVICES

A. Alarm-device types shall match piping and equipment connections.

B. Electrically Operated Notification Appliances:

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

    a. Fire-Lite Alarms; Honeywell International, Inc.
    b. Notifier; Honeywell International, Inc.
    c. Potter Electric Signal Company, LLC.
2. Electric Bell:

    a. Standard: UL 464.
    b. Type: Vibrating, metal alarm bell.
    c. Size: 6-inch minimum- diameter.
    d. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
    e. Finish: Red-enamel or polyester powder-coat factory finish, suitable for outdoor use with approved and listed weatherproof backbox.

3. Strobe/Horn:

    a. Standard: UL 464.
    b. Tone: Selectable, steady, Temporal-3 (T-3) in accordance with ISO 8201 and ANSI/ASA S3.41, 2400 Hz, electromechanical, broadband.
    c. Voltage: 120 V ac, 60 Hz.
    d. Effective Intensity: 110 cd.
    e. Finish: Red, suitable for outdoor use with approved and listed weatherproof backbox. White letters on housing identifying device as for "Fire."

f. Sign, Integrated: Mount between backbox and strobe/horn with text visible on both sides, above and below strobe/horn. Housing to be shaped to cover surface-mounted weatherproof backbox. Sign is to consist of white lettering on red plastic identifying it as a "Sprinkler Fire Alarm" and instructing viewers to call 911, police, or fire department.

C. Water-Flow Indicators:

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

   a. ADT Security Services, Inc.
   b. McDonnell & Miller.
   c. Potter Electric Signal Company, LLC.
   d. System Sensor.
   e. Viking Corporation.
   f. WATTS.
2. Standard: UL 346.
3. Water-Flow Detector: Electrically supervised.
4. Components: Two single-pole, double-throw circuit switches for isolated alarm and auxiliary contacts, 7 A, 125-V ac and 0.25 A, 24-V dc; complete with factory-set, field-adjustable retard element to prevent false signals and tamperproof cover that sends signal if removed.
5. Type: Paddle operated.
6. Pressure Rating: 250 psig.
7. Design Installation: Horizontal or vertical.

D. Pressure Switches:

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

   a. Barksdale, Inc.
   b. Detroit Switch, Inc.
   c. Potter Electric Signal Company, LLC.
   d. System Sensor.
   e. Tyco by Johnson Controls Company.
   f. United Electric Controls Co.
   g. Viking Corporation.
2. Standard: UL 346.
3. Type: Electrically supervised water-flow switch with retard feature.
4. Components: Single-pole, double-throw switch with normally closed contacts.
5. Design Operation: Rising pressure signals water flow.

E. Valve Supervisory Switches:

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

   a. Fire-Lite Alarms; Honeywell International, Inc.
   b. Kennedy Valve Company; a division of McWane, Inc.
   c. Potter Electric Signal Company, LLC.
   d. System Sensor.
2. Standard: UL 346.

3. Type: Electrically supervised.
4. Components: Single-pole, double-throw switch with normally closed contacts.
5. Design: Signals that controlled valve is in other than fully open position.
6. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.9 PRESSURE GAUGES

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

1. AGF Manufacturing, Inc.
2. AMETEK, Inc.
3. Ashcroft Inc.
4. Brecco Corporation.
5. WIKA Instrument Corporation.

B. Standard: UL 393.

C. Dial Size: 3-1/2- to 4-1/2-inch diameter.

D. Pressure Gauge Range: 0- to 250-psig minimum.

E. Label: Include "WATER" label on dial face.

PART 3 - EXECUTION

3.1 PREPARATION

A. Perform fire-hydrant flow test according to NFPA 13 and NFPA 291. Use results for system design calculations required in "Quality Assurance" Article.

B. Report test results promptly and in writing.

3.2 PIPING INSTALLATION

A. Locations and Arrangements: Drawing plans, schematics, and diagrams indicate general location and arrangement of piping. Install piping as indicated on approved working plans.

1. Deviations from approved working plans for piping require written approval from authorities having jurisdiction. File written approval with Architect before deviating from approved working plans.
2. Coordinate layout and installation of sprinklers with other construction that penetrates ceilings, including light fixtures, HVAC equipment, and partition assemblies.

B. Piping Standard: Comply with NFPA 13 requirements for installation of sprinkler piping.

C. Use listed fittings to make changes in direction, branch takeoffs from mains, and reductions in pipe sizes.

D. Install unions adjacent to each valve in pipes NPS 2 and smaller.

E. Install flanges, flange adapters, or couplings for grooved-end piping on valves, apparatus, and equipment having NPS 2-1/2 and larger end connections.

F. Install "Inspector's Test Connections" in sprinkler system piping, complete with shutoff valve, and sized and located according to NFPA 13.

G. Install sprinkler piping with drains for complete system drainage.

H. Install sprinkler control valves, test assemblies, and drain risers adjacent to standpipes when sprinkler piping is connected to standpipes.

I. Install automatic (ball drip) drain valve at each check valve for fire-department connection, to drain piping between fire-department connection and check valve. Install drain piping to and spill over floor drain or to outside building.

J. Install alarm devices in piping systems.

K. Install hangers and supports for sprinkler system piping according to NFPA 13. Comply with requirements for hanger materials in NFPA 13. In seismic-rated areas, refer to Section 210548 "Vibration and Seismic Controls for Fire-Suppression Piping and Equipment."

L. Install pressure gauges on riser or feed main, at each sprinkler test connection, and at top of each standpipe. Include pressure gauges with connection not less than NPS 1/4 and with soft-metal seated globe valve, arranged for draining pipe between gauge and valve. Install gauges to permit removal, and install where they are not subject to freezing.

M. Pressurize and check preaction sprinkler system piping and air compressors.

N. Fill sprinkler system piping with water.

O. Install sleeves for piping penetrations of walls, ceilings, and floors. Comply with requirements for sleeves specified in Section 210517 "Sleeves and Sleeve Seals for Fire-Suppression Piping."

P. Install sleeve seals for piping penetrations of concrete walls and slabs. Comply with requirements for sleeve seals specified in Section 210517 "Sleeves and Sleeve Seals for Fire-Suppression Piping."

Q. Install escutcheons for piping penetrations of walls, ceilings, and floors. Comply with requirements for escutcheons specified in Section 210518 "Escutcheons for Fire-Suppression Piping."

R. All required shut-off valves in the housing units will be clearly marked, located in the same place in each chase, and accessible without a ladder.

S. Shut-off valves located above the ceiling shall be within 36” of the ceiling.

T. Refer to Section 135500 “Prefabricated Modular Steel Cells” for fire protection requirements for the prefabricated steel cells.

U. Division 21 Contractor required to coordinate with the Prefabricated Modular Steel Cell layouts and manufacturer so piping and location of sprinkler head are accounted for by the manufacturer. See section 3.13 of this specification for sprinkler heads.

V. The Detention Cell Manufacturer shall provide piping and a prepared location in the Prefabricated Modular Steel Cell ceilings for installation of the sprinkler head. Piping shall be a straight section with no intermediate fittings.

1. The sprinkler head shall be provided, installed and tested by fire protection contractor.
2. Connection of the cell fire protection piping to the fire protection system shall be made at the mechanical chase by the fire protection contractor.

3.3 JOINT CONSTRUCTION

A. Install couplings, flanges, flanged fittings, unions, nipples, and transition and special fittings that have finish and pressure ratings same as or higher than system's pressure rating for aboveground applications unless otherwise indicated.

B. Install unions adjacent to each valve in pipes NPS 2 and smaller.

C. Install flanges, flange adapters, or couplings for grooved-end piping on valves, apparatus, and equipment having NPS 2-1/2 and larger end connections.

D. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.

E. Remove scale, slag, dirt, and debris from inside and outside of pipes, tubes, and fittings before assembly.

F. Flanged Joints: Select appropriate gasket material in size, type, and thickness suitable for water service. Join flanges with gasket and bolts according to ASME B31.9.

G. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:

1. Apply appropriate tape or thread compound to external pipe threads.

2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged.

H. Steel-Piping, Roll-Grooved Joints: Roll rounded-edge groove in end of pipe according to AWWA C606. Assemble coupling with housing, gasket, lubricant, and bolts. Join steel pipe and grooved-end fittings according to AWWA C606 for steel-pipe grooved joints.

I. Dissimilar-Material Piping Joints: Make joints using adapters compatible with materials of both piping systems.

3.4 INSTALLATION OF COVER SYSTEM FOR SPRINKLER PIPING

A. Install cover system, brackets, and cover components for sprinkler piping according to manufacturer's "Installation Manual" and NFPA 13 or NFPA 13R for supports.

3.5 VALVE AND SPECIALTIES INSTALLATION

A. Install listed fire-protection valves, trim and drain valves, specialty valves and trim, controls, and specialties according to NFPA 13 and authorities having jurisdiction.

B. Install listed fire-protection shutoff valves supervised open, located to control sources of water supply except from fire-department connections. Install permanent identification signs indicating portion of system controlled by each valve.

C. Install check valve in each water-supply connection. Install backflow preventers instead of check valves in potable-water-supply sources.

D. Specialty Valves:

1. Install valves in vertical position for proper direction of flow, in main supply to system.
2. Install alarm valves with bypass check valve and retarding chamber drain-line connection.
3. Install deluge valves in vertical position, in proper direction of flow, and in main supply to deluge system. Install trim sets for drain, priming level, alarm connections, ball drip valves, pressure gauges, priming chamber attachment, and fill-line attachment.

E. Air Vent:

1. Provide at least one air vent at high point in each wet-pipe sprinkler system in accordance with NFPA 13 requirements. Connect vent into top of fire sprinkler piping.
2. Provide dielectric union for dissimilar metals, ball valve, and strainer upstream of automatic air vent.

3.6 SPRINKLER INSTALLATION

A. Install sprinklers in suspended ceilings in center of narrow dimension of acoustical ceiling panels.

B. Install dry-type sprinklers with water supply from heated space. Do not install pendent or sidewall, wet-type sprinklers in areas subject to freezing.

C. Install sprinklers into flexible, sprinkler hose fittings, and install hose into bracket on ceiling grid.

3.7 IDENTIFICATION

A. Install labeling and pipe markers on equipment and piping according to requirements in NFPA 13.

B. Identify system components, wiring, cabling, and terminals. Comply with requirements for identification specified in Section 260553 "Identification for Electrical Systems."

3.8 FIELD QUALITY CONTROL

A. Perform the following tests and inspections with the assistance of a factory-authorized service representative:

1. Leak Test: After installation, charge systems and test for leaks. Repair leaks and retest until no leaks exist.
2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
3. Flush, test, and inspect sprinkler systems according to NFPA 13, "Systems Acceptance" Chapter.
4. Energize circuits to electrical equipment and devices.
5. Coordinate with fire-alarm tests. Operate as required.
6. Verify that equipment hose threads are same as local fire department equipment.

B. Sprinkler piping system will be considered defective if it does not pass tests and inspections.

C. Prepare test and inspection reports.

3.9 CLEANING

A. Clean dirt and debris from sprinklers.

B. Only sprinklers with their original factory finish are acceptable. Remove and replace any sprinklers that are painted or have any other finish than their original factory finish.

3.10 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain specialty valves.

3.11 PIPING SCHEDULE

A. Piping between Fire Department Connections and Check Valves: Galvanized, standard-weight steel pipe with grooved ends, grooved-end fittings, grooved-end-pipe couplings, and grooved joints.

B. Sprinkler specialty fittings may be used, downstream of control valves, instead of specified fittings.

C. Standard-pressure, wet-pipe sprinkler system, NPS 2 and smaller, shall be the following:

1. Standard-weight, black-steel pipe with threaded ends; uncoated, gray-iron threaded fittings; and threaded joints.
2. Standard-weight, black-steel pipe with roll-grooved ends; uncoated, grooved-end fittings for steel piping; grooved-end-pipe couplings for steel piping; and grooved joints.

D. Standard-pressure, wet-pipe sprinkler system, NPS 2-1/2 to NPS 4, shall be the following:

1. Standard-weight, black-steel pipe with threaded ends; uncoated, gray-iron threaded fittings; and threaded joints.
2. Standard-weight, black-steel pipe with roll-grooved ends; uncoated, grooved-end fittings for steel piping; grooved-end-pipe couplings for steel piping; and grooved joints.

E. Standard-pressure, wet-pipe sprinkler system, NPS 5 and larger, shall be the following:

1. Standard-weight, black-steel pipe with threaded ends; uncoated, gray-iron threaded fittings; and threaded joints.
2. Standard-weight, black-steel pipe with roll-grooved ends; uncoated, grooved-end fittings for steel piping; grooved-end-pipe couplings for steel piping; and grooved joints.

3.12 SPRINKLER SCHEDULE

A. Use sprinkler types in subparagraphs below for the following applications:

1. Rooms without Ceilings: Upright sprinklers.
2. Rooms with Suspended Ceilings: non-security area: Recessed, quick response sprinklers.
3. Rooms with Suspended Ceilings, Inmate Occupied Area with non-security ceiling (excluding dayrooms): Concealed sprinklers.
4. Wall Mounting: Sidewall sprinklers.
5. Spaces Subject to Freezing: Upright, quick response sprinklers.
6. Deluge-Sprinkler Systems: Upright, open, quick response sprinklers.

B. Provide sprinkler types in subparagraphs below with finishes indicated.

1. Concealed Sprinklers: Rough brass, with factory-painted white cover plate.
2. Recessed Sprinklers: Bright chrome, with bright chrome escutcheon.

3. Upright, Pendent, and Sidewall Sprinklers: Chrome plated in finished spaces exposed to view; rough bronze in unfinished spaces not exposed to view; wax coated where exposed to acids, chemicals, or other corrosive fumes.

END OF SECTION 211313

THIS PAGE INTENTIONALLY LEFT BLANK

NOTE:
NOT EVERY KEYNOTE IS APPLICABLE TO EVERY SHEET

PLUMBING KEYNOTES - MASTER INDEX

022202 DOMESTIC EXISTING PIPING SERVING FLOOR ABOVE.

022203 EXISITING PIPING UP TO OUTSIDE HOSE BIB.

022204 REMOVE ALL EXISTING DOMESTIC PLUMBING PIPING AND FIXTURES BEYOND THIS POINT FOR ROUTING OF NEW LINES TO FIXTURES.

022205 COMPLETELY REMOVE EXISTING SANITARY AND DOMESTIC PIPING.

022208 REMOVE ALL EXISTING DOMESTIC AND SANITARY PIPING FOR ON FIRST FLOOR KITCHEN

2 022209 IF PUBLIC DEFENDER'S OFFICE ALTERNATE IS NOT ACCEPTED, RESTROOM PIPING AND FIXTURES SHALL REMAIN OPERATIONAL TILL FUTURE RENOVATION.

022211 DOMESTIC PIPING SERVING CELLS ON FLOOR ABOVE TO REMAIN.

022212 REMOVE EXISTING WATER HEATERS

022213 REMOVE EXISTING HOT WATER STORAGE TANK

022214 REMOVE EXISTING FLOOR DRAIN AND CAP SANITARY PIPING.

022215 REMOVE EXISTING FLOOR CLEANOUT AND CAP SANITARY PIPING.

022216 EXISTING FLUSH VALVE TO BE REMOVED WITH PIPING.

022217 EXISTING FLUSH VALVE TO BE REMOVED AND REPLACED WITH WILLOUGHBY MODEL RFVB OR EQUAL DURING CONSTRUCTION.

022223 REMOVE ALL PIPING BEYOND WATER ENTRANCE AND PLUMBING EQUIPMENT FROM ROOM. EASYWATER SYSTEM TO BE REUSED IN RENOVATION.

2 022226 IF CORONER'S OFFICE ALTERNATE IS NOT ACCEPTED FLOOR DRAIN TO REMAIN.

022235 REMOVE PLUMBING FIXTURES ASSOCIATED WITH DEMOLISHED PIPING. PATCH WALL/FLOOR TO MATCH ADJACENT CONTDITIONS.

022238 EXISTING SANITARY TO RESTROOM ABOVE TO REMAIN FOR NEW FIXTURE. DOMESTIC PIPES TO BE REMOVED FOR NEW PIPING INSTALLTION.

022241 DISCONNECT AND REMOVE 3" SANITARY PIPING FROM 4" EXISTING MAIN.

022242 DISCONNECT AND REMOVE 4" SANITARY PIPING FROM 4" EXISTING MAIN.

022244 DISCONNECT AND REMOVE STORM PIPING UP TO POINT INDICATED.

022245 STORM PIPING BEYOND THIS POINT TO REMAIN FOR USE IN RENOVATION.

022246 DISCONNECT AND REMOVE 3" STORM PIPING BEYOND THIS POINT AND UP TO POINT SPECIFIED ON SHEET PD1.1.

022247 DISCONNECT AND REMOVE EXISTING DCW SERVING EWC UP TO POINT INDICATED.

022248 DISCONNECT AND REMOVE 2" VENT PIPING BEYOND POINT INDICATED.

022249 DISCONNECT DCW AND DWH PIPING FROM MAIN FOR RECONNECTION TO NEW MAIN.

022250 DISCONNECT DCW PIPING FROM MAIN FOR RECONNECTION TO NEW MAIN.

022251 EXISTING WATER ENTRANCE AND BACK FLOW PREVENTER TO REMAIN.

022252 DISCONNECT AND REMOVE ALL GAS PIPING BEYOND GAS METER.

022253 DISCONNECT AND REMOVE ALL PLUMBING FIXTURES AND ASSOCIATED DOMESTIC PIPING IN MEN 103 AND WOMEN 104 RESTROOM. EWC SERVING PUBLIC LOBBY 102 TO BE REMOVED WITH DOMESTIC PIPING. CAP SANITARY FOR REUSE IN RENOVATION.

022254 DEMOLISH PIPING TO THIS POINT

022255 DISCONNECT AND REMOVE ALL PLUMBING FIXTURES.

022256 REMOVE ALL PIPING FROM KITCHEN.

022257 DISCONNECT AND REMOVE ALL PLUMBING FIXTURES IN ROOM WITH ASSOCATED PIPING.

221105 HWR SELF-ACTUATING THERMOSTATIC BALANCING VALVE SIMILAR TO CIRCUIT SOLVER OR EQUAL. PROVIDE TWO (2) SHUT-OFF VALVES WITH CHECK AND BALANCE VALVE BETWEEN.

221107 PIPING UP THROUGH FLOOR ABOVE

221108 PIPING DOWN THROUGH FLOOR BELOW

221109 BALL VALVE

221110 CONNECT EXISTING 1" DCW PIPING SERVING DETOX TOILET FLUSHVALVE TO NEW DOMESTIC MAIN.

221111 CONNECT EXISTING ROUTING OF DOMESTIC PIPING SERVING FIRST FLOOR CELLS TO NEW DOMESTIC MAINS.

2 221112 IF PUBLIC DEFENDER'S OFFICE ALTERNATE BID IS NOT ACCEPTED, DOMESTIC WATER PIPING AND FIXTURES IN BREAKROOM 084, TOILET 081 TOILET 083 ARE TO NOT BE INSTALLED. PROVIDE PIPE WITH SHUT-OFF VALVE AND CAPS FOR FUTURE RENOVATION. 2

221113 IF CORONERS OFFICE ALTERNATE BID IS NOT ACCEPTED, DOMESTIC WATER PIPING AND FIXTURES IN AUTOPSY 011 AND TOILET/SHOWER 015 TO NOT BE INSTALLED. PROVIDE PIPE WITH SHUT-OFF VALVE AND CAPS FOR FUTURE RENOVATION

221114 EXISITING GAS METER SERVICING BUILDING.

221115 INSTALL NEW FLUSH VALVE ON TO EXISTING PIPING SERVING FLUSHABLE DETOX TOILET ABOVE.

221116 CONNECT EXISTING DOMESTIC COLD WATER TO NEW DOMESTIC SOFTENED COLD WATER MAIN.

221117 CONNECT EXISTNG DOMESTIC LINES SERVICING JANITORS MOP SINK TO NEW DOMESTIC MAINS.

221118 CONNECT EXISTING DOMESTIC HOT WATER RETURN TO NEW HOT WATER RETURN MAIN.

221119 EXISTING DOMESTIC AND SANITARY LINE SERVING CELLS ABOVE.

221120 EXISTING DOMESTIC LINE SERVING CELLS ABOVE.

PLUMBING KEYNOTES - MASTER INDEX

221122 EXISTING DOMESTIC AND SANITARY LINES SERVING MOP SINK AND EWC ABOVE.

221123 EXISTING DOMESTIC AND SANITARY LINES SERVING EWC ABOVE.

221124 PROVIDE 2 1/2" SCW, 1 1/2" DHW, 1" DWHR FOR INFRASTRUCTURE ROUGH-IN ALTERNATE TO SERVICE FUTURE RENOVATED RESTROOM ABOVE. PROVIDE SHUT-OFF VALVE AND CAP ENDS. RUNNING PIPING UP TO FLOOR ABOVE IN LOCATION OF EXISTING EXHAUST DUCT PREVIOUSLY DEMOED AND REMOVED.

221126 DOMESTIC PIPING SERVICING TOILET 120 ABOVE. PROVIDE SHUT-OFF VALVE, CHECK VALVE, AND SHUT-OFF VAVLE IN THE DIRECTION OF WATER FLOW. BALANCE TO FLOW INDICATED.

221127 INSTALL 3/4" DCW PIPE TO SERVE EXISTING HOSE BIBB.

221128 INSTALL 3/4" DCW PIPE TO SERVE EXISTING WALL HYDRANT.

221136 SET GAS PRESSURE REGULATING VALVE TO 10" W.C.

221137 ROUTE NEW DCW PIPING TO EXISTING EXTERIOR HOSE BIBB.

221138 BYPASS VALVE

221139 REINSTALL EASY WATER WIRING TO SERVE RECIRC LINE OF WATER HEATERS.

221140 CONNECT L-1 TO EXISTING SANITARY PIPING.

221141 MANUAL BYPASS VALVE. TO BE OPENED WHEN DOMESTIC BOOSTER PUMP IS INOPERABLE.

2 221142 CORONER'S OFFICE ALTERNATE REFERENCED BY ENCLOSED ZONE. IF ALTERNATE IS NOT ACCEPTED, ALL ABOVE GRADE NEW DOMESTIC BRANCHES AND FIXTURES WILL NOT BE INSTALLED. PROVIDE PIPE TEES WITH SHUT-OFF VALVES AND CAPS FOR INSTALLATION IN FUTURE CONSTRUCTION. INSTALL BELOW GRADE DOMESTIC AND SANITARY WITH CAPS AT FLOOR. 2

221143 PUBLIC DEFENDER'S OFFICE ALTERNATE REFERENCED BY ENCLOSED ZONE. IF ALTERNATE IS NOT ACCEPTED, ALL ABOVE GRADE NEW DOMESTIC BRANCHES AND FIXTURES WILL NOT BE INSTALLED. PROVIDE PIPE TEES WITH SHUT-OFF VALVES AND CAPS FOR INSTALLATION IN FUTURE CONSTRUCTION. INSTALL BELOW GRADE DOMESTIC AND SANITARY WITH CAPS AT FLOOR. EXISTING SANITARY AND DOMESTIC PIPING SERVING EXISTING FIXTURES TO REMAIN FUNCTIONAL UNTIL FUTURE CONSTRUCTION.

221146 NEW WATER CLOSETS AND LAVATORIES TO BE CONNECTED TO EXISTING SANITARY PIPING.

221147 CONNECT EXISTING 3" STORM PIPING TO NEW 6" STORM MAIN.

221148 PROVIDE OPEN HUB CONNECTION FOR CONDENSATE LINE FROM DS-2. REFER TO M2.0 FOR PIPE ROUTING.

221151 CONNECT NEW SANITARY FLOOR DRAIN PIPING TO EXISTING SANITARY MAIN. CONTRACTOR TO COORDINATE LOCATION OF DRAIN WITH MECHANICAL EQUIPMENT IN SPACE.

221155 MAKE-UP WATER LINE FOR HOT WATER SYSTEM. REFER TO MECHANICAL SHEETS FOR CONTINUATION.

221156 MAKE-UP WATER LINE FOR CHILLED WATER SYSTEM. REFER TO MECHANICAL SHEETS FOR CONTINUATION.

221157 EXISTING DOMESTIC WATER BACKFLOW PREVENTER.

221158 EXISTING FIRE PROTECTION BACKFLOW PREVENTER.

221159 COODINATE ROUTING OF DOMESTIC PIPING WITH ELECTRICAL EQUIPMENT IN SPACE.

221160 PROVIDE EMERGENCY GAS SHUTOFF

221161 PROVIDE 1" CW(S) FOR REMOTE FLUSH VALVE. 1" LINE TO BE ROUTED FROM REMOTE FLUSH VALVE TO DT-1.

221162 CONNECT NEW 3" GAS PIPING TO EXISTING GAS METER. PROVIDE PRESSURE REGULATING VALVE TO 14" W.C.

221163 DOMESTIC AND VENT PIPING SERVING AUTOPSY SINK.

221164 REFER TO SHEET 2/P4.1 FOR CONTINUATION.

221304 SEAL PIPE AT WALL.

221305 4" VTR.

221306 CAP OFF SANITARY LINE TO WALL AND/OR FLOOR AND PATCH TO MATCH ADJACENT CONDITIONS. PIPING TO BE ABANDONED REFER TO SHEET PD1.0.

221307 CONNECT NEW SANITARY PIPE TO EXISTING SANITARY PIPE. CONTRACTOR TO VERIFY PIPE DEPTH OF EXISTING MAIN PRIOR TO INSTALLATION AND NOTIFY ENGINEER IF REQUIRED DROP NOT AVAILABLE.

221308 CAP EXISITNG SANITARY PIPING THAT IS NOT BEING REUSED.

221310 CONNECT NEW VENT PIPING TO EXISITING VENT PIPING.

221313 COORDINATE EXACT LOCATION OF FLUSHABLE DRAIN WITH OWNER PROVIDED AUTOPSY TABLE.

221315 PROVIDE OPEN HUB CONNECTION WITH TRAP SEAL FOR ROUTING OF CONDENSATE PIPING FROM DUCTLESS SPLIT. REFER TO SHEET M2.0 FOR CONTINUATION.

221316 VENTS TO BE 12" MINIMUM ABOVE ROOF LEVEL.

221317 CAP ALL EXISITNG SANITARY AND VENT LINES AT FLOOR.

221319 REGARDLESS OF ACCEPTANCE OF ALTERNATE. INSTALL BELOW GRADE SANITARY AND DOMESTIC PIPING. CAP AT FLOOR FOR USE IN FUTURE RENOVATION.

221320 EXISTING SANITARY PIPING SERVING RESTROOM ABOVE.

221404 EXISTING STORM PIPING FROM ROOF DRAIN.

221405 STORM PIPING DOWN THROUGH THE FLOOR.

221406 CONNECT EXISTING STORM PIPING TO NEW STORM PIPING.

221407 INSTALL SUMP PUMP TO SERVE EXISTING BASIN AND CONNECT TO EXISTING STORM WATER FORCE MAIN.

221408 ROUTE NEW STORM PIPING FROM EXISTING ROOF DRAIN.

221409 INSTALL SUMP PUMP IN EXISTING BASIN AND CONNECT TO EXISTING SANITARY MAIN TO SEWAGE MAIN.

221410 INSTALL ELEVATOR SUMP PUMP IN EXISTING BASIN. CONNECT TO EXISTING SANITARY PIPING.

221411 COORDINATE ROUTING OF STORM RISE WITH HVAC DUCTWORK IN CHASE. CONNECT STORM PIPING TO NEW STORM MAIN.

PLUMBING BASIS OF DESIGN

SANITARY	419	DFU'S
COLD WATER	700	WSFU'S
HOT WATER	106	WSFU'S
GAS	5320	CFH

PLUMBING SYMBOLS

- A — COMPRESSED AIR
- DCW — DOMESTIC COLD WATER
- SCW — DOMESTIC SOFT COLD WATER
- G — NATURAL GAS
- DHW — DOMESTIC HOT WATER
- HW-140 — DOMESTIC HOT WATER (140)
- DHWR — HOT WATER RETURN
- SAN — SANITARY ABOVE GROUND
- SAN — SANITARY BELOW GROUND
- ST — STORM ABOVE GROUND
- ST — STORM BELOW GROUND
- V — ABOVE GROUND VENT
- V — BELOW GROUND VENT
- BALL VALVE
- CALIBRATED BALANCING VALVE
- CHECK VALVE
- SINGLE LINE - PIPE DROP
- SINGLE LINE - PIPE RISE
- SINGLE LINE - PIPE RISE TEE
- SINGLE LINE - PIPE DROP TEE
- TWO LINE - PIPE DROP
- TWO LINE - PIPE RISE
- ROOF DRAIN
- OVERFLOW ROOF DRAIN
- WATER HAMMER ARRESTOR
- CONNECT TO EXISTING
- DISCONNECT FROM EXISTING
- Demo TO POINT

ANNOTATION SYMBOLS

PHOTOGRAPH TARGET

3/A5.1 — VIEW NUMBER / SHEET NUMBER / DIRECTION OF PHOTOGRAPH

EQUIPMENT ABBREVIATIONS

AD	AREA DRAIN
CB	CATCH BASIN
CU	COMBINATION UNIT
DF	DRINKING FOUNTAIN
EWC	ELECTRIC WATER COOLER
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
GD	GARBAGE DISPOSAL
GI	GREASE INTERCEPTOR
HB	HOSE BIBB
IMB	ICE MACHINE BOX
L	LAVATORY
LI	LINT INTERCEPTOR
MB	MOP BASIN
OI	OIL INTERCEPTOR
RD	ROOF DRAIN
RP	RECIRCULATING PUMP
SH	SHOWER
S	SINK
TD	TRENCH DRAIN
TP	TRAP PRIMER
TV	TEMPERING VALVE
UR	URINAL
WH	WALL HYDRANT
WC	WATER CLOSET
WCO	WALL CLEANOUT
WH	WATER HEATER
WHA	WATER HAMMER ARRESTOR
WS	WATER SOFTENER
DET	DOMESTIC EXPANSION TANK
GD	GARBAGE DISPOSAL
IMB	ICE MACHINE BOX
WHA	WATER HAMMER ARRESTOR

PLUMBING ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
BT	BRINE TANK
BV	BALANCING VALVE
CONT	CONTINUATION
CW	CW
DN	DOWN
DWG.	DRAWING
ELEV.	ELEVATION
FBG	FROM BELOW GRADE
FFA	FROM FLOOR ABOVE
FFB	FROM FLOOR BELOW
FUT	FUTURE
G	NATURAL GAS
GPM	GALLONS PER MINUTE
HW	HOT WATER
HWR	HOT WATER RETURN
IE	INVERT ELEVATION
LKW	LAVATORY KITCHEN
W	WASTE
MAX	MAXIMUM
MIN	MINIMUM
OS&Y	OUTSIDE SCREW & YOKE
PHE	PLATE HEAT EXCHANGER
ST	STORM
SQFT	SQUARE FEET
TBG	TO BELOW GRADE
TFA	TO FLOOR ABOVE
TFB	TO FLOOR BELOW
TS	TEMPERATURE SENSOR
TYP	TYPICAL
V	VENT
VTR	VENT THROUGH ROOF
W	WASTE

GENERAL NOTES

1. INSTALLATION OF PLUMBING FIXTURES AND ACCESSORIES, INCLUDING FLUSH CONTROL VALVES INTENDED FOR PEOPLE WITH DISABILITIES, SHALL BE IN ACCORDANCE WITH ADA REQUIREMENTS.
2. INSTALLATION OF PLUMBING PIPING SHALL BE FULLY COORDINATED WITH STRUCTURAL, ARCHITECTURAL, ELECTRICAL, AND HVAC DRAWINGS TO AVOID CONFLICT.
3. NO PLUMBING (WATER, DRAINS, VENT, OR GAS PIPING) SHALL BE INSTALLED DIRECTLY ABOVE ANY ELECTRICAL PANELS. COORDINATE WITH OTHER DIVISIONS BEFORE PROCEEDING WITH INSTALLATION.
4. IF NON DESIGN BASE EQUIPMENT IS SELECTED, CONTRACTOR SHALL BEAR ADDITIONAL COSTS FOR MODIFICATIONS TO THE ORIGINAL SYSTEM(S), INCLUDING COSTS FOR ARCHITECT/ENGINEER DESIGN REVIEW.
5. PROVIDE WATER HAMMER ARRESTERS AT PLUMBING FIXTURES AND GROUPS OF PLUMBING FIXTURES THAT ARE SUBJECT TO WATER HAMMER. SELECT ARRESTERS IN ACCORDANCE WITH THE PLUMBING AND DRAINAGE INSTITUTE STANDARD.
6. CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIALS, LABOR AND EQUIPMENT PERMIT FEES, REQUIRED FOR, OR INCIDENTAL TO THE INSTALLATION OF A COMPLETE AND OPERATIONAL PLUMBING SYSTEM AS INDICATED IN THE CONTRACT DOCUMENTS INCLUDING SPECIFICATIONS.
7. ALL PLUMBING SERVICES GOING INTO THE BUILDING AND LEAVING THE BUILDING SHALL BE CONNECTED TO THE SITE UTILITIES, COORDINATE WITH SITE UTILITIES DRAWINGS. COORDINATE ALL EXTERIOR UNDERGROUND PLUMBING WORK WITH THE SITE UTILITIES BEFORE COMMENCING WORK. COORDINATE ALL UNDERGROUND PIPING WITH FOUNDATION DRAWINGS.
8. ALL PLUMBING WORK SHALL BE IN CONFORMANCE WITH THE INTERNATIONAL PLUMBING CODE, LATEST EDITION ADOPTED BY THE STATE OF INDIANA WITH INDIANA AMENDMENTS, MUNICIPAL OR CITY CODES, AND THE AUTHORITY HAVING JURISDICTION.
9. INSTALL BALL VALVE CLOSE TO WATER MAIN ON EACH BRANCH AND RISER SERVING PLUMBING EQUIPMENT AND FIXTURES.
10. ALL REQUIRED SHUT-OFF VALVES IN THE HOUSING UNITS SHALL BE CLEARLY MARKED, LOCATED IN THE SAME PLACE, AND ACCESSIBLE WITHOUT A LADDER. SHUT-OFF VALVES LOCATED ABOVE THE CEILING THROUGHOUT THE BUILDING SHALL BE WITHIN 24" OF THE CEILING.
11. REFERENCE SECTIONS AND RISER / ISOMETRICS FOR ADDITIONAL INFORMATION ON PIPE SIZES NOT SHOWN IN PLAN VIEWS.
12. PIPING SERVING DRINKING FOUNTAINS, ELECTRIC WATER COOLERS, AND LAVATORIES LOCATED BELOW GRADE OR BELOW THE SECOND FLOOR SHALL BE SOFT COPPER TUBE AND INSTALLED IN 4" PVC CONDUIT WITH LONG SWEEP BENDS. CONDUIT TO BE CAPPED 12" ABOVE CHASE FLOOR AND CONCEALED BEHIND FIXTURES. INSTALLATION REQUIRED FOR FUTURE SERVICABILITY OR PIPE REPLACEMENT.
13. REFER TO ARCHITECTURAL ROOF DRAWINGS FOR DIMENSIONS.
14. CONTRACTOR SHALL PROVIDE ACCESS DOORS IN ALL WALLS AND CEILINGS WHERE SERVICE OR ADJUSTMENT TO MECHANICAL, PLUMBING, OR FIRE PROTECTION ITEMS MAY BE REQUIRED. ACCESS DOORS SHALL BE OF AN APPROPRIATE SIZE REQUIRED FOR EACH APPLICATION. WHERE APPLICABLE, ACCESS DOORS SHALL MATCH THE FIRE RATING OF THE WALL ASSEMBLY.
15. PROVIDE SIZES TO FIXTURES AS INDICATED ON PLANS, RISERS, AND SECTIONS. IF SIZE IS NOT INDICATED, PROVIDE SIZE SHOWN ON PLUMBING FIXTURE SCHEDULE.
16. PROVIDE HOUSEKEEPING PAD FOR EQUIPMENT. PAD SIZES SHOWN ARE APPROXIMATE AND ARE BASED ON BASIS OF DESIGN EQUIPMENT. MAINTENANCE REQUIRES EQUIPMENT PADS SIZED TO SPECIFIC EQUIPMENT FURNISHED. PROVIDE EQUIPMENT PAD SIZES BASED ON ACTUAL SIZE OF FURNISHED EQUIPMENT. SUBMIT COORDINATION DRAWINGS ILLUSTRATING PROPOSED PAD DIMENSIONS BASED ON APPROVED EQUIPMENT. DO NOT PERFORM LAYOUT WORK OR BEGIN FORM WORK FOR PADS PRIOR TO APPROVAL OF COORDINATION DRAWINGS.
17. INITIAL FLOW TEST PERFORMED ON 02/07/2022 IS OUTDATED. CONTRACTOR TO VERIFY FLOW TEST PRIOR TO CONSTRUCTION AND REPORT BACK TO ENGINEER

GENERAL DEMOLITION NOTES

1. REFER TO DRAWINGS OF ALL OTHER DISCIPLINES FOR ADDITIONAL REMOVALS AND SELECTIVE DEMOLITION ACTIVITIES.
2. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO SELECTIVE DEMOLITION ACTIVITIES. ANY ITEMS NOT INDICATED ON DRAWINGS OR SPECIFICATIONS THAT ARE IN CONFLICT WITH THE CONTRACT WORK SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO BID FOR CLARIFICATION.
3. FOR DURATION OF THE PROJECT IF ANY EXISTING ITEM IS DAMAGED DURING CONSTRUCTION, IT SHALL BE REPLACED AND RESTORED TO ITS ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.
4. CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL TEMPORARY SHORING AND BRACING REQUIRED TO COMPLETE THE WORK.
5. CONTRACTOR IS RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED, INCLUDING ASSOCIATED REPAIR AND FINISHING TO MATCH ADJACENT SURFACES.
6. CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY ENVIRONMENTAL CONTROL MEASURES INCLUDING ACCEPTABLE AIR QUALITY CONTROL MEASURES, DUST CONTROL, EROSION CONTROL AND OTHER MEASURES REQUIRED FOR PROTECTION OF PROPERTY DURING SELECTIVE DEMOLITION AND CONSTRUCTION ACTIVITIES.
7. CONTRACTOR IS SOLELY RESPONSIBLE FOR COORDINATING CONTRACT DRAWINGS WITH FIELD CONDITIONS AND WORK ASSOCIATED WITH EACH TRADE.
8. CONTRACTOR SHALL COORDINATE DEMOLITION ACTIVITIES WITH NEW WORK TO VERIFY DIMENSIONS AND EXTENT OF REMOVALS PRIOR TO BEGINING OF WORK.
9. CONTRACTOR IS RESPONSIBLE FOR REMOVAL, STORAGE AND REINSTALLATION OF REMAINING WALL MOUNTED DEVICES INTENDED FOR REUSE.
10. ALL DEMOLITION WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE SECTIONS OF THE STATE OF INDIANA, LOCAL BUILDING CODES, OSHA AND NFPA.
11. OWNER RESERVES THE RIGHT TO SALVAGE ANY EQUIPMENT OR MATERIAL INDICATED TO BE DEMOLISHED.
12. PIPING AND DUCTWORK DEMOLITION PLANS ARE FOR DIAGRAMMATIC PURPOSES ONLY BASED ON LIMITED SITE OBSERVATIONS. CONTRACTOR TO REMOVE ANY UNUSED / ABANDONED DUCTWORK, EQUIPMENT, PIPING (SANITARY, VENT, DOMESTIC WATER, GAS, REFRIGERANT, FIRE ETC.), ASSOCIATED ACCESORIES COMPLETE WHETHER INDICATED ON THE PLANS OR NOT. CONTRACTOR TO VERIFY EXTENT OF DEMOLITION ON THE FIELD AND COORDINATE WITH THE ENGINEER (AT NO ADDITIONAL COST TO THE OWNER). PATCH WALLS, CEILINGS, ROOF AND/OR FLOOR TO MATCH ADJACENT CONDITIONS WHETHER INDICATED ON THE PLANS OR NOT.

DLZ
ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES
DLZ INDIANA, LLC

2/7/2024
JOSHUA R. APLING REGISTERED PROFESSIONAL ENGINEER PE 10029124 STATE OF INDIANA

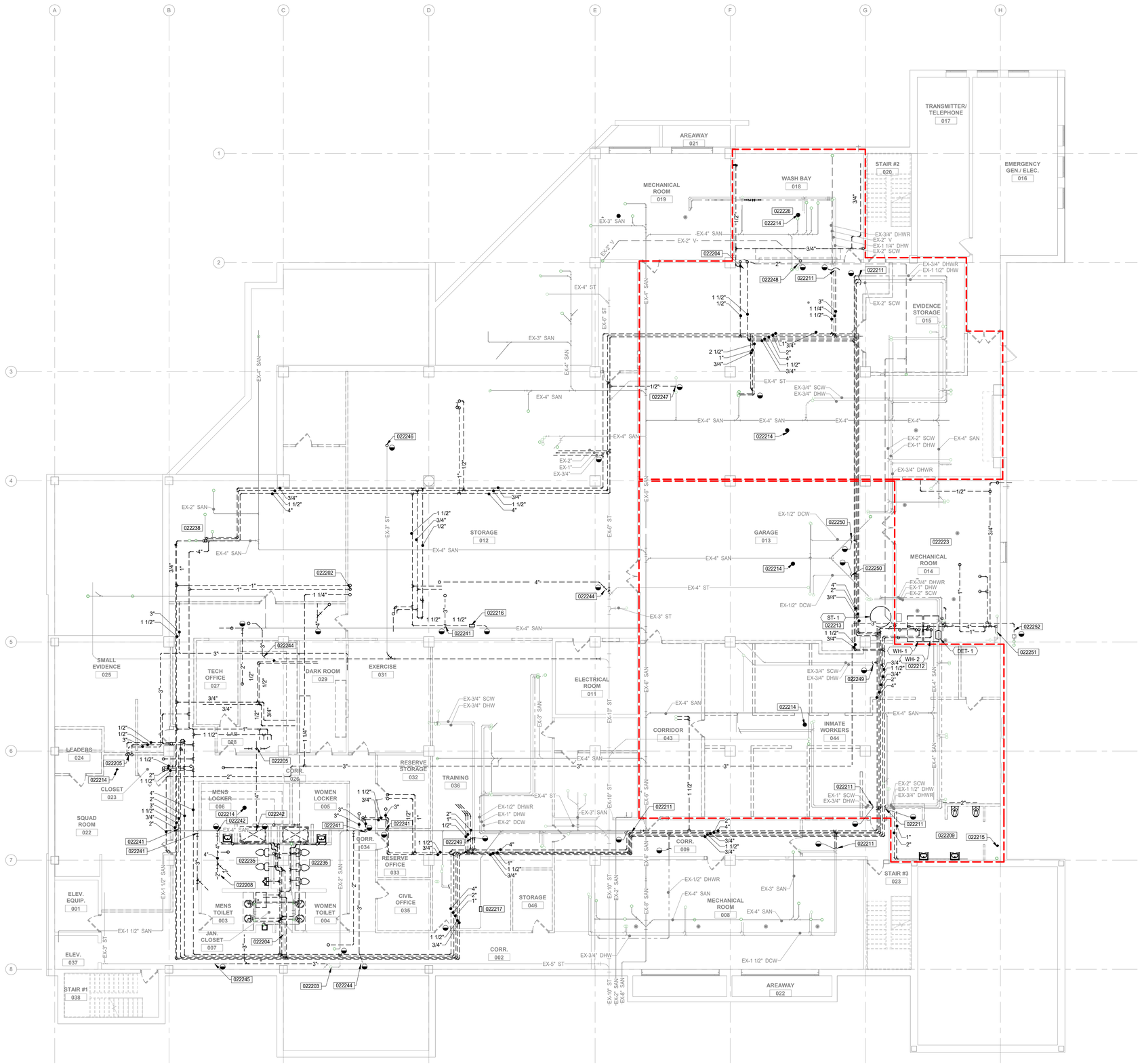
NO.	REVISION	DATE
1	ADDENDUM 1	1/18/24
2	ADDENDUM 4	2/7/24

DRAWN: GRVK | CHK'D: JRA
DESIGNED: GRVK
APPRV'D: JRA
DATE: DECEMBER 21, 2023
PROJECT NUMBER 2163-1063-90

HANCOCK COUNTY BOARD OF COMMISSIONERS
OFFICE RENOVATIONS
123 E. MAIN STREET
GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS

DRAWING NUMBER
P0.1
PLUMBING

C:\Revit\Backups\2022\2163-1063-90_Hancock Co_Jail_Mech_sstarks_dlz.rvt
2/6/2024 4:19:05 PM



1 LOWER LEVEL PLUMBING REMOVAL PLAN
SCALE: 1/8" = 1'-0"

NORTH

GENERAL NOTES

A. REFER TO SHEETS G1.1 AND P0.1 FOR ADDITIONAL GENERAL NOTES AND INFORMATION.

B. WHERE PIPE SIZE MAY NOT BE INDICATED SERVING A FIXTURE, PROVIDE SIZES AS INDICATED IN THE PLUMBING FIXTURE SCHEDULE.

C. INSTALL ALL EQUIPMENT, FIXTURES, AND ASSOCIATED ACCESSORIES PER MANUFACTURER RECOMMENDATIONS.

D. COORDINATE WITH ALL OTHER DISCIPLINES BEFORE INSTALLING ANY PIPING DEVICES.

E. INVERT ELEVATIONS ARE BASED ON 100.00' FINISHED FIRST FLOOR ELEVATION TO BOTTOM OF PIPE. SITE / CIVIL PLANS ESTABLISH FINISHED FLOOR ELEVATION.

F. PROVIDE GAS PRESSURE REGULATORS AS NEEDED FOR EQUIPMENT.

G. EXACT LOCATION OF PLUMBING FIXTURES SHALL BE COORDINATED WITH THE ARCHITECTURAL PLANS TO MEET A.D.A. REQUIREMENTS.

PLUMBING KEYNOTES

022202	DOMESTIC EXISTING PIPING SERVING FLOOR ABOVE.
022203	EXISITING PIPING UP TO OUTSIDE HOSE BIB.
022204	REMOVE ALL EXISTING DOMESTIC PLUMBING PIPING AND FIXTURES BEYOND THIS POINT FOR ROUTING OF NEW LINES TO FIXTURES.
022205	COMPLETELY REMOVE EXISTING SANITARY AND DOMESTIC PIPING.
022208	REMOVE ALL EXISTING DOMESTIC AND SANITARY PIPING FOR ON FIRST FLOOR KITCHEN.
022209	IF PUBLIC DEFENDER'S OFFICE ALTERNATE IS NOT ACCEPTED, RESTROOM PIPING AND FIXTURES SHALL REMAIN OPERATIONAL TILL FUTURE RENOVATION.
022211	DOMESTIC PIPING SERVING CELLS ON FLOOR ABOVE TO REMAIN.
022212	REMOVE EXISTING WATER HEATERS
022213	REMOVE EXISTING HOT WATER STORAGE TANK
022214	REMOVE EXISTING FLOOR DRAIN AND CAP SANITARY PIPING.
022215	REMOVE EXISTING FLOOR CLEANOUT AND CAP SANITARY PIPING.
022216	EXISTING FLUSH VALVE TO BE REMOVED WITH PIPING.
022217	EXISTING FLUSH VALVE TO BE REMOVED AND REPLACED WITH WILLOUGHBY MODEL RFVB OR EQUAL DURING CONSTRUCTION.
022223	REMOVE ALL PIPING BEYOND WATER ENTRANCE AND PLUMBING EQUIPMENT FROM ROOM. EASYWATER SOFTENER TO BE REMOVED IN ENTIRETY.
022226	IF CORONER'S OFFICE ALTERNATE IS NOT ACCEPTED FLOOR DRAIN TO REMAIN.
022235	REMOVE PLUMBING FIXTURES ASSOCIATED WITH DEMOLISHED PIPING. PATCH WALL/FLOOR TO MATCH ADJACENT CONTDITIONS.
022238	EXISTING SANITARY TO RESTROOM ABOVE TO REMAIN FOR NEW FIXTURE. DOMESTIC PIPES TO BE REMOVED FOR NEW PIPING INSTALLTION.
022241	DISCONNECT AND REMOVE 3" SANITARY PIPING FROM 4" EXISTING MAIN.
022242	DISCONNECT AND REMOVE 4" SANITARY PIPING FROM 4" EXISTING MAIN.
022244	DISCONNECT AND REMOVE STORM PIPING UP TO POINT INDICATED.
022245	STORM PIPING BEYOND THIS POINT TO REMAIN FOR USE IN RENOVATION.
022246	DISCONNECT AND REMOVE 3" STORM PIPING BEYOND THIS POINT AND UP TO POINT SPECIFIED ON SHEET PD1.1.
022247	DISCONNECT AND REMOVE EXISTING DCW SERVING EWC UP TO POINT INDICATED.
022248	DISCONNECT AND REMOVE 2" VENT PIPING BEYOND POINT INDICATED.
022249	DISCONNECT DCW AND DWH PIPING FROM MAIN FOR RECONNECTION TO NEW MAIN.
022250	DISCONNECT DCW PIPING FROM MAIN FOR RECONNECTION TO NEW MAIN.
022251	EXISTING WATER ENTRANCE AND BACK FLOW PREVENTER TO REMAIN.
022252	DISCONNECT AND REMOVE ALL GAS PIPING BEYOND GAS METER.

ALTERNATE BOUNDARY AS NOTED/LABELED

NOTE:
ELEMENTS ON THIS DRAWING ARE IDENTIFIED BY VARIOUS COLORS; IF THIS NOTE IS NOT RED, THIS DRAWING IS NOT IN COLOR AND NEEDS TO BE REPRENTED IN COLOR.

DLZ
ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES
DLZ INDIANA, LLC

2/7/2024

JOSHUA M. APLING
REGISTERED
PROFESSIONAL ENGINEER
STATE OF INDIANA
PE 19970273

NO.	REVISION	DATE
2.	ADDENDUM 4	2/7/24

DRAWN: CRWK CHK'D: JRA
DESIGNED: CRWK
APPR'VD: JRA
DATE: DECEMBER 21, 2023

PROJECT NUMBER
2163-1063-90

HANCOCK COUNTY BOARD OF COMMISSIONERS
OFFICE RENOVATIONS
123 E. MAIN STREET
LOWER LEVEL PLUMBING REMOVAL PLAN

DRAWING NUMBER
PD1.0

PLUMBING

C:\Revit\Backups\2022\2163-1063-90_Hancock Co_Jail_Mech_sstarks_dlz.rvt
2/6/2024 4:19:43 PM

GENERAL NOTES

A. REFER TO SHEETS G1.1 AND P0.1 FOR ADDITIONAL GENERAL NOTES AND INFORMATION.

B. WHERE PIPE SIZE MAY NOT BE INDICATED SERVING A FIXTURE, PROVIDE SIZES AS INDICATED IN THE PLUMBING FIXTURE SCHEDULE.

C. INSTALL ALL EQUIPMENT, FIXTURES, AND ASSOCIATED ACCESSORIES PER MANUFACTURER RECOMMENDATIONS.

D. COORDINATE WITH ALL OTHER DISCIPLINES BEFORE INSTALLING ANY PIPING DEVICES.

E. INVERT ELEVATIONS ARE BASED ON 100.00' FINISHED FIRST FLOOR ELEVATION TO BOTTOM OF PIPE. SITE / CIVIL PLANS ESTABLISH FINISHED FLOOR ELEVATION.

F. PROVIDE GAS PRESSURE REGULATORS AS NEEDED FOR EQUIPMENT.

G. EXACT LOCATION OF PLUMBING FIXTURES SHALL BE COORDINATED WITH THE ARCHITECTURAL PLANS TO MEET A.D.A. REQUIREMENTS.

PLUMBING KEYNOTES

221140	CONNECT L-1 TO EXISTING SANITARY PIPING.
221142	CORONER'S OFFICE ALTERNATE REFERENCED BY ENCLOSED ZONE. IF ALTERNATE IS NOT ACCEPTED, ALL ABOVE GRADE NEW DOMESTIC BRANCHES AND FIXTURES WILL NOT BE INSTALLED. PROVIDE PIPE TEES WITH SHUT-OFF VALVES AND CAPS FOR INSTALLATION IN FUTURE CONSTRUCTION. INSTALL BELOW GRADE DOMESTIC AND SANITARY WITH CAPS AT FLOOR.
221143	PUBLIC DEFENDER'S OFFICE ALTERNATE REFERENCED BY ENCLOSED ZONE. IF ALTERNATE IS NOT ACCEPTED, ALL ABOVE GRADE NEW DOMESTIC BRANCHES AND FIXTURES WILL NOT BE INSTALLED. PROVIDE PIPE TEES WITH SHUT-OFF VALVES AND CAPS FOR INSTALLATION INFUTURE CONSTRUCTION. INSTALL BELOW GRADE DOMESTIC AND SANITARY WITH CAPS AT FLOOR. EXISTING SANITARY AND DOMESTIC PIPING SERVING EXISTING FIXTURES TO REMAIN FUNCTIONAL UNTIL FUTURE CONSTRUCTION.
221146	NEW WATER CLOSETS AND LAVATORIES TO BE CONNECTED TO EXISTING SANITARY PIPING.
221148	PROVIDE OPEN HUB CONNECTION FOR CONDENSATE LINE FROM DS-2. REFER TO M2.0 FOR PIPE ROUTING.
221151	CONNECT NEW SANITARY FLOOR DRAIN PIPING TO EXISTING SANITARY MAIN. CONTRACTOR TO COORDINATE LOCATION OF DRAIN WITH MECHANICAL EQUIPMENT IN SPACE.
221161	PROVIDE 1" CW(S) FOR REMOTE FLUSH VALVE. 1" LINE TO BE ROUTED FROM REMOTE FLUSH VALVE TO DT-1.
221306	CAP OFF SANITARY LINE TO WALL AND/OR FLOOR AND PATCH TO MATCH ADJACENT CONDITIONS. PIPING TO BE ABANDONED REFER TO SHEET PD1.0.
221307	CONNECT NEW SANITARY PIPE TO EXISTING SANITARY PIPE. CONTRACTOR TO VERIFY PIPE DEPTH OF EXISTING MAIN PRIOR TO INSTALLATION AND NOTIFY ENGINEER IF REQUIRED DROP NOT AVAILABLE.
221313	COORDINATE EXACT LOCATION OF FLUSHABLE DRAIN WITH OWNER PROVIDED AUTOPSY TABLE.
221315	PROVIDE OPEN HUB CONNECTION WITH TRAP SEAL FOR ROUTING OF CONDENSATE PIPING FROM DUCTLESS SPLIT. REFER TO SHEET M2.0 FOR CONTINUATION.
221317	CAP ALL EXISITNG SANITARY AND VENT LINES AT FLOOR.
221319	REGARDLESS OF ACCEPTANCE OF ALTERNATE. INSTALL BELOW GRADE SANITARY AND DOMESTIC PIPING. CAP AT FLOOR FOR USE IN FUTURE RENOVATION.
221407	INSTALL SUMP PUMP TO SERVE EXISTING BASIN AND CONNECT TO EXISTING STORM WATER FORCE MAIN.
221409	INSTALL SUMP PUMP IN EXISTING BASIN AND CONNECT TO EXISTING SANITARY MAIN TO SEWAGE MAIN.
221410	INSTALL ELEVATOR SUMP PUMP IN EXISTING BASIN. CONNECT TO EXISTING SANITARY PIPING.

1 UNDERFLOOR PLUMBING INSTALLATION PLAN
SCALE: 1/8" = 1'-0"
NORTH

ALTERNATE BOUNDARY AS NOTED/LABELED

NOTE:
ELEMENTS ON THIS DRAWING ARE IDENTIFIED BY VARIOUS COLORS; IF THIS NOTE IS NOT RED, THIS DRAWING IS NOT IN COLOR AND NEEDS TO BE REPRENTED IN COLOR.

DLZ
ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES
DLZ INDIANA, LLC

2/7/2024
JOSHUA R. APLING
REGISTERED PE10400674
STATE OF INDIANA
PROFESSIONAL ENGINEER

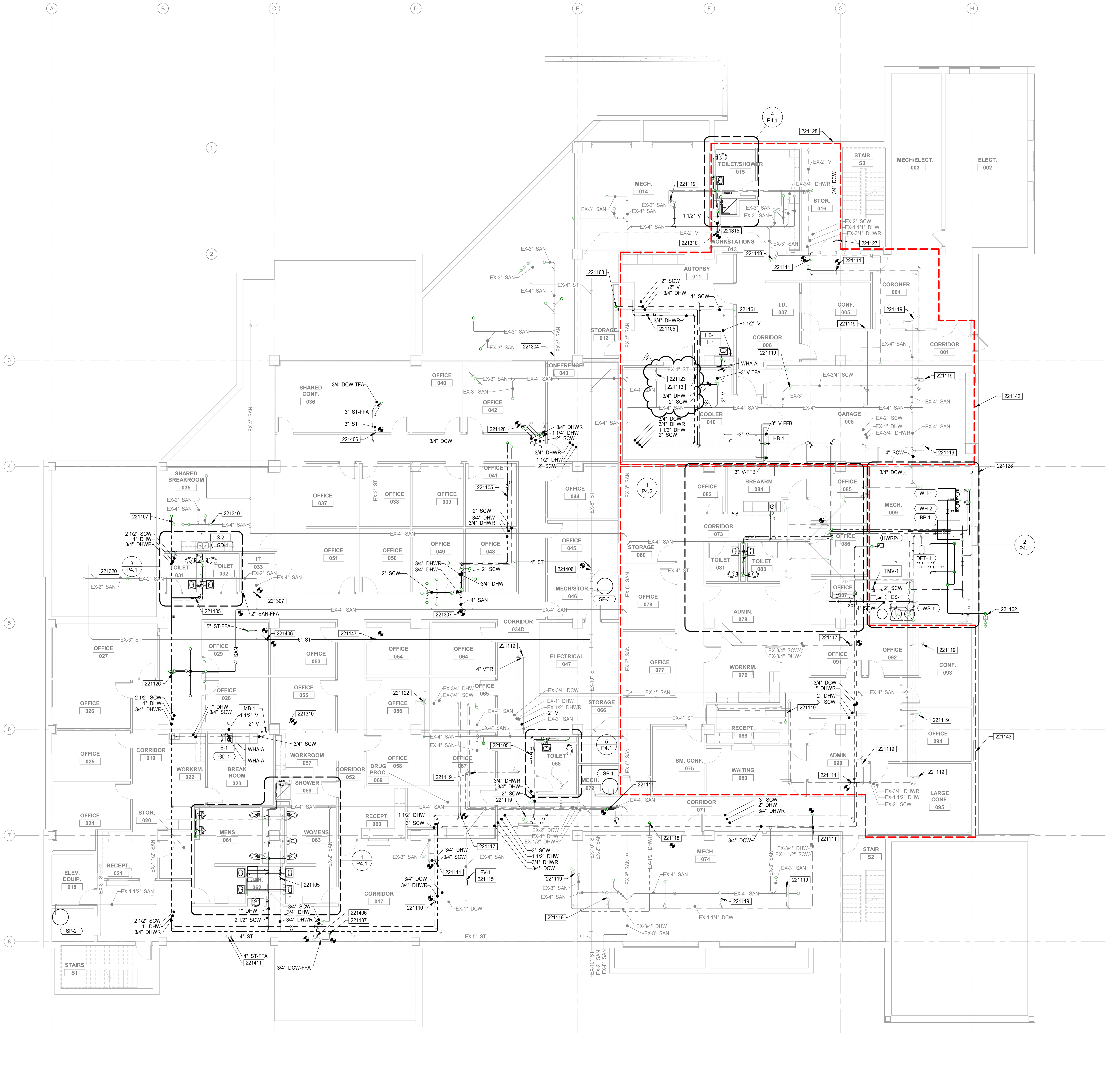
NO.	REVISION	DATE
2	ADDENDUM 4	2/7/24

DRAWN: QRWK CHK'D: JRA
DESIGNED: QRWK
APPR'VD: JRA
DATE: DECEMBER 21, 2023
PROJECT NUMBER
2163-1063-90

HANCOCK COUNTY BOARD OF COMMISSIONERS
OFFICE RENOVATIONS
123 E. MAIN STREET
UNDERFLOOR PLUMBING PLAN LOWER LEVEL

DRAWING NUMBER
P1.1
PLUMBING

C:\RevitBackups\2022\2163-1063-90_Hancock Co_Jail_Mech_sstarks_dlz.rvt
2/6/2024 4:19:14 PM



1 LOWER LEVEL PLUMBING INSTALLATION PLAN
SCALE: 1/8" = 1'-0"
NORTH

GENERAL NOTES

A. REFER TO SHEETS G1.1 AND P0.1 FOR ADDITIONAL GENERAL NOTES AND INFORMATION.

B. WHERE PIPE SIZE MAY NOT BE INDICATED SERVING A FIXTURE, PROVIDE SIZES AS INDICATED IN THE PLUMBING FIXTURE SCHEDULE.

C. INSTALL ALL EQUIPMENT, FIXTURES, AND ASSOCIATED ACCESSORIES PER MANUFACTURER RECOMMENDATIONS.

D. COORDINATE WITH ALL OTHER DISCIPLINES BEFORE INSTALLING ANY PIPING DEVICES.

E. INVERT ELEVATIONS ARE BASED ON 100.00' FINISHED FIRST FLOOR ELEVATION TO BOTTOM OF PIPE. SITE / CIVIL PLANS ESTABLISH FINISHED FLOOR ELEVATION.

F. PROVIDE GAS PRESSURE REGULATORS AS NEEDED FOR EQUIPMENT.

G. EXACT LOCATION OF PLUMBING FIXTURES SHALL BE COORDINATED WITH THE ARCHITECTURAL PLANS TO MEET A.D.A. REQUIREMENTS.

PLUMBING KEYNOTES

221105	HWR SELF-ACTUATING THERMOSTATIC BALANCING VALVE SIMILAR TO CIRCUIT SOLVER OR EQUAL. PROVIDE TWO (2) SHUT-OFF VALVES WITH CHECK AND BALANCE VALVE BETWEEN.
221107	PIPING UP THROUGH FLOOR ABOVE
221110	CONNECT EXISTING 1" DCW PIPING SERVING DETOX TOILET FLUSHVALVE TO NEW DOMESTIC MAIN.
221111	CONNECT EXISTING ROUTING OF DOMESTIC PIPING SERVING FIRST FLOOR CELLS TO NEW DOMESTIC MAINS.
221113	IF CORONERS OFFICE ALTERNATE BID IS NOT ACCEPTED, DOMESTIC WATER PIPING AND FIXTURES IN AUTOPSY 011 AND TOILET/SHOWER 015 TO NOT BE INSTALLED. PROVIDE PIPE WITH SHUT-OFF VALVE AND CAPS FOR FUTURE RENOVATION.
221115	INSTALL NEW FLUSH VALVE ON TO EXISTING PIPING SERVING FLUSHABLE DETOX TOILET ABOVE.
221117	CONNECT EXISTNG DOMESTIC LINES SERVICING JANITORS MOP SINK TO NEW DOMESTIC MAINS.
221118	CONNECT EXISTING DOMESTIC HOT WATER RETURN TO NEW HOT WATER RETURN MAIN.
221119	EXISTING DOMESTIC AND SANITARY LINE SERVING CELLS ABOVE.
221120	EXISTING DOMESTIC LINE SERVING CELLS ABOVE.
221122	EXISTING DOMESTIC AND SANITARY LINES SERVING MOP SINK AND EWC ABOVE.
221123	EXISTING DOMESTIC AND SANITARY LINES SERVING EWC ABOVE.
221126	DOMESTIC PIPING SERVICING TOILET 120 ABOVE. PROVIDE SHUT-OFF VALVE, CHECK VALVE, AND SHUT-OFF VAVLE IN THE DIRECTION OF WATER FLOW. BALANCE TO FLOW INDICATED.
221127	INSTALL 3/4" DCW PIPE TO SERVE EXISTING HOSE BIBB.
221128	INSTALL 3/4" DCW PIPE TO SERVE EXISTING WALL HYDRANT.
221137	ROUTE NEW DCW PIPING TO EXISTING EXTERIOR HOSE BIBB.
221142	CORONER'S OFFICE ALTERNATE REFERENCED BY ENCLOSED ZONE. IF ALTERNATE IS NOT ACCEPTED, ALL ABOVE GRADE NEW DOMESTIC BRANCHES AND FIXTURES WILL NOT BE INSTALLED. PROVIDE PIPE TEES WITH SHUT-OFF VALVES AND CAPS FOR INSTALLATION IN FUTURE CONSTRUCTION. INSTALL BELOW GRADE DOMESTIC AND SANITARY WITH CAPS AT FLOOR.
221143	PUBLIC DEFENDER'S OFFICE ALTERNATE REFERENCED BY ENCLOSED ZONE. IF ALTERNATE IS NOT ACCEPTED, ALL ABOVE GRADE NEW DOMESTIC BRANCHES AND FIXTURES WILL NOT BE INSTALLED. PROVIDE PIPE TEES WITH SHUT-OFF VALVES AND CAPS FOR INSTALLATION INFUTURE CONSTRUCTION. INSTALL BELOW GRADE DOMESTIC AND SANITARY WITH CAPS AT FLOOR. EXISTING SANITARY AND DOMESTIC PIPING SERVING EXISTING FIXTURES TO REMAIN FUNCTIONAL UNTIL FUTURE CONSTRUCTION.
221147	CONNECT EXISTING 3" STORM PIPING TO NEW 6" STORM MAIN.
221161	PROVIDE 1" CW(S) FOR REMOTE FLUSH VALVE. 1" LINE TO BE ROUTED FROM REMOTE FLUSH VALVE TO DT-1.
221162	CONNECT NEW 3" GAS PIPING TO EXISTING GAS METER. PROVIDE PRESSURE REGULATING VALVE TO 14" W.C.
221163	DOMESTIC AND VENT PIPING SERVING AUTOPSY SINK.
221304	SEAL PIPE AT WALL.
221307	CONNECT NEW SANITARY PIPE TO EXISTING SANITARY PIPE. CONTRACTOR TO VERIFY PIPE DEPTH OF EXISTING MAIN PRIOR TO INSTALLATION AND NOTIFY ENGINEER IF REQUIRED DROP NOT AVAILABLE.
221310	CONNECT NEW VENT PIPING TO EXISITING VENT PIPING.
221315	PROVIDE OPEN HUB CONNECTION WITH TRAP SEAL FOR ROUTING OF CONDENSATE PIPING FROM DUCTLESS SPLIT. REFER TO SHEET M2.0 FOR CONTINUATION.
221320	EXISTING SANITARY PIPING SERVING RESTROOM ABOVE.
221406	CONNECT EXISTING STORM PIPING TO NEW STORM PIPING.
221411	COORDINATE ROUTING OF STORM RISE WITH HVAC DUCTWORK IN CHASE. CONNECT STORM PIPING TO NEW STORM MAIN.

ALTERNATE BOUNDARY AS NOTED/LABELED

NOTE:
ELEMENTS ON THIS DRAWING ARE IDENTIFIED BY VARIOUS COLORS; IF THIS NOTE IS NOT RED, THIS DRAWING IS NOT IN COLOR AND NEEDS TO BE REPRENTED IN COLOR.

DLZ
ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES
DLZ INDIANA, LLC

2/7/2024

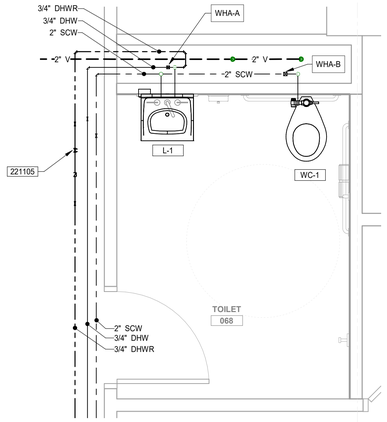
NO.	REVISION	DATE
2	ADDENDUM 4	2/7/24

DRAWN: QRWK CHK'D: JRA
DESIGNED: QRWK
APPR'D: JRA
DATE: DECEMBER 21, 2023
PROJECT NUMBER
2163-1063-90

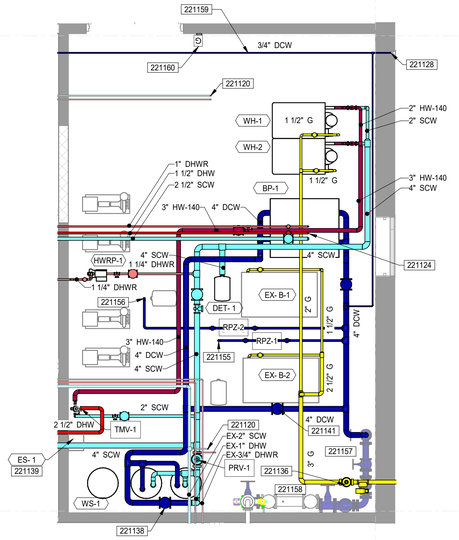
HANCOCK COUNTY BOARD OF COMMISSIONERS
OFFICE RENOVATIONS
123 E. MAIN STREET
LOWER LEVEL OVERALL PLUMBING PLAN

DRAWING NUMBER
P2.1
PLUMBING

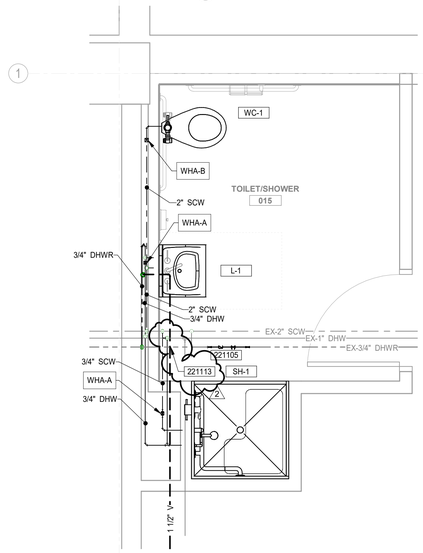
C:\RevitBackups\2022\2163-1063-90_Hancock Co_Jail_Mech_sstarks_dlz.rvt
2/6/2024 4:19:30 PM



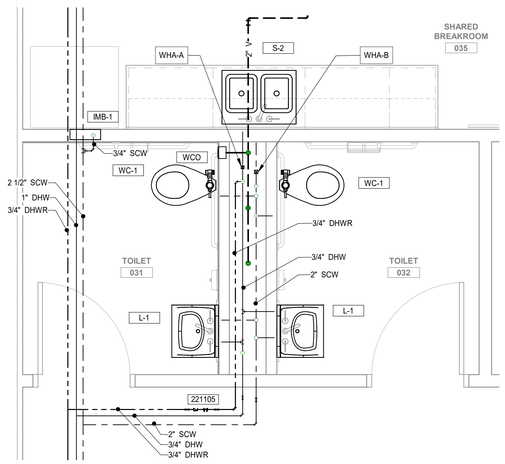
5 **LOWER LEVEL PLUMBING - TOILET 068**
SCALE: 1/2" = 1'-0"



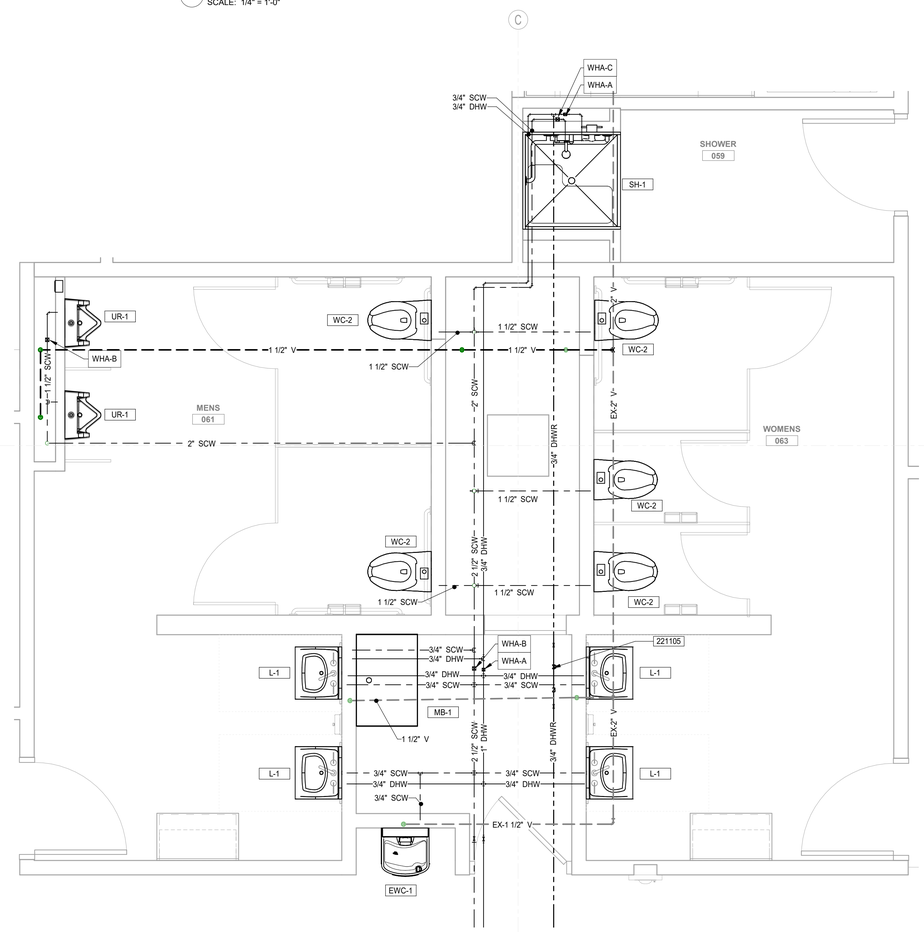
2 **LOWER LEVEL PLUMBING - MECHANCIAL ROOM 009**
SCALE: 1/4" = 1'-0"



4 **LOWER LEVEL PLUMBING - CORONER ALTERNATE TOILET/SHOWER**
SCALE: 1/2" = 1'-0"



3 **LOWER LEVEL PLUMBLING - TOILET 031/032**
SCALE: 1/2" = 1'-0"



1 **LOWER LEVEL PLUMBING - MENS/WOMENS RESTROOM**
SCALE: 1/2" = 1'-0"

GENERAL NOTES

A. REFER TO SHEETS G1.1 AND P0.1 FOR ADDITIONAL GENERAL NOTES AND INFORMATION.

B. WHERE PIPE SIZE MAY NOT BE INDICATED SERVING A FIXTURE, PROVIDE SIZES AS INDICATED IN THE PLUMBING FIXTURE SCHEDULE.

C. INSTALL ALL EQUIPMENT, FIXTURES, AND ASSOCIATED ACCESSORIES PER MANUFACTURER RECOMMENDATIONS.

D. COORDINATE WITH ALL OTHER DISCIPLINES BEFORE INSTALLING ANY PIPING DEVICES.

E. INVERT ELEVATIONS ARE BASED ON 100.00' FINISHED FIRST FLOOR ELEVATION TO BOTTOM OF PIPE. SITE / CIVIL PLANS ESTABLISH FINISHED FLOOR ELEVATION.

F. PROVIDE GAS PRESSURE REGULATORS AS NEEDED FOR EQUIPMENT.

G. EXACT LOCATION OF PLUMBING FIXTURES SHALL BE COORDINATED WITH THE ARCHITECTURAL PLANS TO MEET A.D.A. REQUIREMENTS.

PLUMBING KEYNOTES

221105	HWR SELF-ACTUATING THERMOSTATIC BALANCING VALVE SIMILAR TO CIRCUIT SOLVER OR EQUAL. PROVIDE TWO (2) SHUT-OFF VALVES WITH CHECK AND BALANCE VALVE BETWEEN.
221113	IF CORONERS OFFICE ALTERNATE BID IS NOT ACCEPTED, DOMESTIC WATER PIPING AND FIXTURES IN AUTOPSY 011 AND TOILET/SHOWER 015 TO NOT BE INSTALLED. PROVIDE PIPE WITH SHUT-OFF VALVE AND CAPS FOR FUTURE RENOVATION.
221120	EXISTING DOMESTIC LINE SERVING CELLS ABOVE.
221124	PROVIDE 2 1/2" SCW, 1 1/2" DHW, 1" DWHR FOR INFRASTRUCTURE ROUGH-IN ALTERNATE TO SERVICE FUTURE RENOVATED RESTROOM ABOVE. PROVIDE SHUT-OFF VALVE AND CAP ENDS. RUNNING PIPING UP TO FLOOR ABOVE IN LOCATION OF EXISTING EXHAUST DUCT PREVIOUSLY DEMOED AND REMOVED.
221128	INSTALL 3/4" DCW PIPE TO SERVE EXISTING WALL HYDRANT.
221136	SET GAS PRESSURE REGULATING VALVE TO 10" W.C.
221138	BYPASS VALVE
221139	REINSTALL EASY WATER WIRING TO SERVE RECIRC LINE OF WATER HEATERS.
221141	MANUAL BYPASS VALVE. TO BE OPENED WHEN DOMESTIC BOOSTER PUMP IS INOPERABLE.
221155	MAKE-UP WATER LINE FOR HOT WATER SYSTEM. REFER TO MECHANICAL SHEETS FOR CONTINUATION.
221156	MAKE-UP WATER LINE FOR CHILLED WATER SYSTEM. REFER TO MECHANICAL SHEETS FOR CONTINUATION.
221157	EXISTING DOMESTIC WATER BACKFLOW PREVENTER.
221158	EXISTING FIRE PROTECTION BACKFLOW PREVENTER.
221159	COODINATE ROUTING OF DOMESTIC PIPING WITH ELECTRICAL EQUIPMENT IN SPACE.
221160	PROVIDE EMERGENCY GAS SHUTOFF

NOTE:
ELEMENTS ON THIS DRAWING ARE IDENTIFIED BY VARIOUS COLORS; IF THIS NOTE IS NOT RED, THIS DRAWING IS NOT IN COLOR AND NEEDS TO BE REPRENTED IN COLOR.

DLZ
ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES
DLZ INDIANA, LLC

2/7/2024

JOSHUA R. APLING REGISTERED PE 10006274 STATE OF INDIANA PROFESSIONAL ENGINEER

NO.	REVISION	DATE
2	ADDENDUM 4	2/7/24

DRAWN: GRWK CHK'D: JRA
DESIGNED: GRWK
APPRV'D: JRA
DATE: DECEMBER 21, 2023

PROJECT NUMBER 2163-1063-90

HANCOCK COUNTY BOARD OF COMMISSIONERS

OFFICE RENOVATIONS

123 E. MAIN STREET

PLUMBING ENLARGED PLANS - LOWER LEVEL I

DRAWING NUMBER

P4.1

PLUMBING

NOT EVERY KEYNOTE IS APPLICAPLE TO EVERY SHEET

MECHANICAL KEYNOTES - MASTER INDEX

232111	ROUTE REFRIGERANT PIPING FROM DS-1 UP THROUGH FLOOR ABOVE TO CU-1 ON ROOF.
232112	ROUTE REFRIGERANT PIPING FROM DS-2 UP THROUGH FLOOR ABOVE TO CU-2 ON ROOF.
232113	ROUTE CONDESNATE LINE FROM AHU-4 FROM UNIT DOWN TO LOWER LEVEL AND CONNECT INTO CONDENSATE LINE FROM DS-1.
232114	CONDESNATE LINE FROM AHU-4 TO CONNECT INTO DS-1 CONDENSATE AND ROUTE TO NEARBY MOP BASIN.
233101	6"X6" EXHAUST DUCT UP TO FLOOR ABOVE
233102	CONNECT EXISTING DUCTWORK INTO NEW MAIN.
233103	ROUTE 10"X8" EXHAUST DUCT UP THROUGH EXISTING ROOF PENETRATION. FEILD VERIFY LOCATION.
233105	ROUTE 8"X8" EXHAUST DUCT UP THROUGH EXISTING ROOF PENETRATION FROM EF-2 INTO RV-2. FIELD VERIFY LOCATION.
233106	6"X6" EXHAUST DUCT UP TO FLOOR ABOVE.
233107	16"X8" EXHAUST DUCT UP THROUGH FLOOR ABOVE TO EF-4.
233109	10"X10" EXHAUST DUCT UP TO EF-3.
233110	RETURN DUCT SIZE TO MATCH GRILLE 12"X12". TYPICAL OF ALL RETURN GRILLES. REFER TO DETAIL 6/M5.1.
233111	24"X26" RETURN DUCT ROUTED UP THROUGH CHASE IN DEP. DIRECTOR 132 TO CONNECT INTO RETURN PLENUM FOR AHU-5.
233112	CORONERS OFFICE ALTERNATE BID REFERENCED BY ENCLOSED ZONE. IF BID IS NOT ACCEPTED, ALL DUCTWORK, ACCESSORIES, DIFFUSERS AND GRILLES BEYOND VAV BOXES SHALL NOT BE INSTALLED. PROVIDE SHUTOFF DAMPER ON EACH BRANCH BEFORE EACH VAV BOX. VAV BOXES TO BE CONTROLLED BY ONE SINGULAR THERMOSTAT. HYDRONIC UNIT HEATER SHALL REMAIN.
233113	PUBLIC DEFENDERS OFFICE ALTERNATE BID REFERENCED BY ENCLOSED ZONE. IF BID IS NOT ACCEPTED, AHU-3 AND ALL ASSOCIATED DUCTWORK, VAV BOXES, DAMPERS, DIFFUSERS AND GRILLS SHALL NOT BE INSTALLED. THE EXISTING DUCTLESS SPLIT UNIT, CONDENSING UNIT, AND ALL ASSOCIATED DUCTWORK GRILLES AND PIPING SHALL REMAIN. EXISTING UNIT HEATER IN AREA SHALL REMAIN
233114	IF CORONERS OFFICE ALTERNATE IS ACCEPTED, EF-13, HV-13 AND ALL ASSOCIATED DUCTWORK IS TO BE DEMOLISHED AS SHOWN IN MD1.0.
233115	IF BOTH PUBLIC DEFENDERS OFFICE ALTERNATE AND CORONERS OFFICE ALTERNATE ARE NOT ACCEPTED, EF-13, HV-13 AND ASSOCIATED DUCTWORK IS EXISTING TO REMAIN TO SERVE SALLYPORT REMAINING IN CORONERS OFFICE ALTERNATE ZONE. HOWEVER ANY SECTION FEEDING THE PUBLIC DEFENDERS OFFICE ALTERNATE ZONE SHALL BE RELOCATED AND CAPPED OFF.
233117	ROUTE 8"X6" EXHAUST DUCT UP THROUGH EXISTING ROOF PENETRATION FROM EF-1 INTO RV-1. FIELD VERIFY LOCATION.
233118	16"X8" RETURN DUCT AND 10X18 RETURN DUCT ROUTED UP TO FLOOR ABOVE THROUGH EXISTING PENETRATION AND CONNECTED INTO EXISTING RETURN GRILLE AND DUCT SERVING HOUSING AREA.
233121	REMOVE BACKDRAFT DAMPER FROM THE LOUVER PLENUM AND PROVIDE A NEW DAMPER.
233123	REPLACE 26"X12" SA AND 26"X8" RA DUCT UP TO THIS POINT WITH NEW DUCTWORK SIZES INDICATED FOR FUTURE RENOVATION. CONNECT INTO EXISTING ON FIRST FLOOR.
233126	ROUTE 10"X12" EA DUCT AS CLOSE TO EXISTING PENETRATION AS POSSIBLE FOR FUTURE RENOVATION.
233127	REPLACE EXISTING DUCTWORK WITH 12"X30" SA AND 26"X8" RA ROUTED THROUGH EXISTING PENETRATION AND CONNECTED IN MAIN CHASE SERVING HOUSING AREA.
233128	ROUTE 16"X18" RETURN, 20"X22" SUPPLY, 20"X22" SUPPLY, AND 16"X18" RETURN THROUGH EXISTING PENETRATION THROUGH SLAB.
233132	PROVIDE OPENING IN WALL FOR TRANSFER AIR IN RETURN PLENUM.
233133	OPEN END RETURN DUCT ABOVE CEILING PLENUM SERVING AHU-1. PROVIDE WIRE MESH SCREEN.
233134	OPEN END RETURN DUCT ABOVE CEILING PLENUM SERVING AHU-2. PROVIDE WIRE MESH SCREEN.
233135	OPEN END RETURN DUCT ABOVE CEILING PLENUM SERVING AHU-3. PROVIDE WIRE MESH SCREEN.
233136	OPEN END RETURN DUCT ABOVE CEILING PLENUM SERVING AHU-4. PROVIDE WIRE MESH SCREEN.
233137	OPEN END RETURN DUCT ABOVE CEILING PLENUM SERVING AHU-5. PROVIDE WIRE MESH SCREEN.
233138	PROVIDE UNITS WITH EXISTING REPROGRAMMED AAON VCCX2 CONTROLLERS. CONTROLLERS SHALL BE REPROGRAMMED TO MEET NEW SEQUENCE OF OPERATION FOR THE UNITS AS PER SHEETS M7.X SERIES
233141	COORDINATE WITH PLUMBING FOR DUCT ROUTING THROUGH CHASE ALONG WITH STORM PIPING.
233146	PROVIDE MOTORIZED DAMPER FOR L-1 WITH MINUMUM 24" DEEP PLENUM AT THE LOUVER. BOTTOM OF THE PLENUM SHALL SLOPE TOWARDS THE LOUVER.
233147	RUN 26"X12" SA DUCT TO MECHANICAL ROOM AND CAP FOR FUTURE CONNECTION.
233148	RUN 24"X10" RA DUCT TO MECHANICAL ROOM AND CAP FOR FUTURE CONNECTION.
233150	RUN WATER HEATER COMBUSION AIR THROUGH SIDEWALL OF MECHANICAL ROOM. INSTALL PER MANUFACTURERS RECOMENDATION.
233151	COORDINATE WITH ELECTRICAL ON DUCT ROUTING IN ELECT. 127A. DUCT SHALL NOT BE RAN OVER ELECTRICAL PANELS.
233152	RUN WATER HEATER EXHUAST AIR THROUGH SIDEWALL OF MECHANICAL ROOM. INSTALL PER MANUFACTURERS RECOMENDATION.
233153	IF PUBLIC DEFENDERS OFFICE ALTERNATE IS ACCEPTED AND CORONERS OFFICE ALTERNATE IS NOT ACCEPTED, EF-13, HV-13 AND ASSOCIATED DUCTWORK IS EXISTING TO REMAIN TO SERVE SALLYPORT REMAINING IN CORONERS OFFICE ALTERNATE ZONE. HOWEVER ANY SECTION FEEDING THE PUBLIC DEFENDERS OFFICE ALTERNATE ZONE SHALL BE RELOCATED AND CAPPED OFF.
233155	PROVIDE FACE DAMPER ON EXHUAST GRILLE.
233156	14"X6" EA DUCT UP TO EF-5
233157	6"X6" EXHUAST DUCT TO FLOOR BELOW
233158	CONNECT TO EXISTING 8"X6" DUCT
233159	8"X6" EXHUAST DUCT TO FLOOR BELOW
233161	REFRIGERANT PIPING RS/RL TO FLOOR ABOVE TO DS-1 BELOW.
233162	2" CWR, 2" CWS, 2" HWR AND 2" HWS FROM FLOOR BELOW TO FLOOR ABOVE.
233163	PROVIDE PRESSURE GAUGE ON HYDRONIC LINES 3/4 DISTANCE DOWN LONGEST RUN.
233164	PROVIDE EMERGENCY BOILER SHUTDOWN SWITCH TIED TO GAS SOLENOID
233165	ROUTE CONDENSATE LINE FROM DS-4 DOWN TO FLOOR BELOW TO CONNECT INTO CONDESNATE LINE FROM DS-3
233166	PROVIDE BLANK OFF PANEL FOR REMOVED LOUVER
233404	20" X 10" EXHAUST DUCT UP TO EF-4

MECHANICAL KEYNOTES - MASTER INDEX

022304	EXISTING CHILLER AND BOILERS WILL REMAIN, REMOVE ALL HYDRONIC PIPING UP TO EQUIPMENT OR AS OTHERWISE INDICATED. REMOVE ASSOCIATED EXPANSION TANKS, AIR SEPERATORS, PUMPS AND SHUTOFF VALVES.
022305	REMOVE EXISTING HVAC-12 ALONG WITH ALL ASSOCIATED DUCTWORK, GRILLES AND DIFFUSERS. REMOVE ALL ASSOCIATED PIPING AND VALVES.
022306	REMOVE EXISTING HVAC-2, RF-2 ALONG WITH ALL ASSOCIATED DUCTWORK, GRILLES AND DIFFUSERS. REMOVE ALL ASSOCIATED PIPING AND VALVES.
022307	REMOVE EXISTING HVAC-6, RF-6 ALONG WITH ALL ASSOCIATED DUCTWORK, GRILLES AND DIFFUSERS. REMOVE ALL ASSOCIATED PIPING AND VALVES.
022308	REMOVE EXISTING HVAC-11, RF-11 ALONG WITH ALL ASSOCIATED DUCTWORK, GRILLES AND DIFFUSERS. REMOVE ALL ASSOCIATED PIPING AND VALVES.
022315	REMOVE EXISTING AIR COMPRESSOR. OWNER RESERVES THE RIGHT TO SALVAGE ANY EQUIPMENT OR MATERIAL INDICATED TO BE DEMOLISHED.
022316	REMOVE HVAC-4 AND ALL ASSOCIATED EXISTING SUPPLY AND RETURN DUCTWORK, ACCESSORIES AND APPURTANCES.
022317	REMOVE HVAC-4 AND ALL ASSOCIATED HYDRONIC PIPING, ACCESSORIES AND APPURTANCES.
022318	REMOVE CONTROLLER (AAON VCCX2) WITH EXPANSION BOARDS SERVING THE UNIT FOR REUSE.
022322	REMOVE EXISTING FIN TUBE RADIATOR AND ANY ASSOCIATED PIPING.
022323	REMOVE EXISTING UNIT HEATER AND ANY ASSOCIATED PIPING.
022324	REMOVE EXISTING DUCTLESS SPLIT UNIT AND CONDENSING UNIT. REMOVE ALL ASSOCIATED DUCTWORK, GRILLES AND MECHANICAL PIPING.
022325	REMOVE EXISTING EXHUAST FAN AND ALL ASSOCIATED DUCTWORK, GRILLES, DIFFUSERS AND DAMPERS.
022326	REMOVE EXISTING DUCTWORK TO POINT INDICATED FOR CONNECTION TO NEW DUCTWORK.
022327	REMOVE EXISTING DUCTWORK TO POINT INDICATED AND CAP AT MAIN.
022328	REMOVE EXISTING CABINET HEATER AND ANY ASSOCIATED PIPING.
022329	REMOVE EXISTING ROOF VENT & PATCH ROOF PENETRATION.
022330	REMOVE ROOF VENT AND REUSE EXISTING ROOF PENETRATION IF POSSIBLE.
022332	REMOVE PIPING UP TO AND INCLUDING SHUTOFF VALVES TO EXISTING AIR HANDLING UNITS THAT ARE TO REMAIN.
022333	REMOVE HYDRONIC COIL FROM DUCT AND REMOVE ASSOCIATED PIPING.
022334	REMOVE EXISTING OUTSIDE AIR PLENUM FROM EXISTING LOUVER.
022335	REMOVE EXISTING PIPING TO POINT INDICATED FOR CONNECTION TO NEW PIPING.
022336	REMOVE EXISTING HVAC-1, RF-1 ALONG WITH ALL ASSOCIATED DUCTWORK, GRILLES AND DIFFUSERS. REMOVE ALL ASSOCIATED PIPING AND VALVES.
022337	REMOVE EXISTING HVAC-5, RF-5 ALONG WITH ALL ASSOCIATED DUCTWORK, GRILLES AND DIFFUSERS. REMOVE ALL ASSOCIATED PIPING AND VALVES.
022338	REMOVE EXISTING HVAC-3, RF-3 ALONG WITH ALL ASSOCIATED DUCTWORK, GRILLES AND DIFFUSERS. REMOVE ALL ASSOCIATED PIPING AND VALVES.
022340	REMOVE EXISTING RETURN GRILLES & ASSOCIATED BLANK OFF PANELS FROM CORNER BENCHES.
022341	REMOVE EXISTING SUPPLY DIFFUSER FROM WALL.
211323	PROVIDE NEW SPRINKLER HEADS AND BRANCH PIPING AS NEEDED FOR INSTALLATION OF NEW DUCTWORK.
230004	THERMOSTAT FOR VAV 5-8 TO BE LOCATED IN AREA IN WHICH IT SERVES CLASSROOM 175. SEE M2.1.
230005	EXISTING EXHUAST FAN AND LOUVER SERVING VEHICLE SALLY PORT TO REMAIN AND BE TIED INTO NEW CONTROLS.
230006	THERMOSTAT CONTROLING VAV 5-8. SEE M2.0
230007	REUSE AND EXTEND EXISTING CONCRETE PADS IF POSSIBLE FOR NEW MECHANICAL EQUIPMENT IN SIMILAR LOCATION TO EXISTING. VERIFY CLEARANCES OF EQUIPMENT.
230009	REMOVE AND REINSTALL EXISTING LOUVER AS NEEDED FOR INSTALLATION OF AHU-4 IN PENTHOUSE. EXISTING RELIF AIR PLENUM TO BE REMOVED AND REINSTALLED AS NEEDED. INSTALL 20"X24" BACKDRAFT DAMPER IN PLENUM.
230011	CONNECT NEW OA DUCTWORK TO EXISTING PLENUM.
230101	CLEAN EXISTING SUPPLY AND RETURN DUCTWORK SERVING MULTI-PURPOSE ROOM.
230703	CONNECT NEW 8"X8" EXHAUST DUCT TO EXISTING EXHAUST GRILLE AND DAMPER.
230704	CONNECT EXISTING SUPPLY SIDEWALL GRILL AND DUCT INTO NEW SUPPLY BRANCH SERVED BY VAV 5-1. DELIVER 200 CFM TO THE SPACE.
230706	CONNECT EXISTING EXHAUST GRILLE INTO NEW 8X8 EXHUAST BRANCH SERVED BY EF-5.
230707	CONNECT EXISTING 24"X8" SUPPLY DUCT INTO NEW SUPPLY DUCT OF SAME SIZE. EXISTING ZONE SHALL BE SERVED BY VAV 5-9. REBALANCE EXISITING DIFFUSERS TO CFMS NOTED ON PLANS.
230708	EXISTING 18"X16" RETURN DUCT TO BE CONNECTED INTO NEW DUCT AND ROUTED BACK TO AHU-5 RETURN.
230709	EXISTING 18"X16" SUPPLY DUCT TO BE CONNECTED INTO NEW 20"X12" SUPPY DUCT AND SERVED BY VAV-5-8.
230711	CONNECT EXISTING SUPPLY SIDEWALL GRILL AND DUCT INTO NEW SUPPLY BRANCH SERVED BY VAV 5-1. DELIVER 50 CFM TO THE SPACE.
230712	6"X4" EXHAUST DUCT WORK SERVING SIDE WALL MOUNTED SA-5 TERMINALS (50 CFM EACH)BELOW AUTOPSY TABLE. TO BE INSTALLED 8" A.F.F.
232101	ROUTE CONDESNATE LINE FROM DUCTLESS SPLIT UNIT TO NEARBY MOP BASIN.
232102	ROUTE CONDESNATE LINE FROM DUCTLESS SPLIT UNIT TO NEARBY SANITARY LINE. SEE PLUMBING DRAWINGS FOR CONTINUATION.
232103	ROUTE CONDENSATE LINE FROM DUCTLESS SPLIT UNIT TO NEARBY FLOOR DRAIN.
232105	INSTALL AND SIZE REFRIGERANT PIPING PER MANUFACTURERS RECOMENDATIONS
232107	MAKE UP WATER LINE. SEE PLUMBING DRAWINGS FOR CONTINUATION.
232108	REPLACE PIPING UP TO AND INCLUDING SHUTOFF VALVES TO EXISTING AIR HANDLING UNITS.
232109	PRIOR TO START-UP CONTRACTOR SHALL THOROUGHLY FLUSH AND SLOW DRAIN HYDRONIC PIPING SYSTEMS FOR ANY POTENTIAL DEBRIS.
232110	ROUTE REFRIGERANT PIPING FROM DS-3 UP THROUGH FLOOR ABOVE TO CU-3 ON ROOF.

2

SYMBOLS

AxB	RECTANGULAR DUCT DIMENSION
A/B	FLAT-OVAL DUCT DIMENSION
AØ	ROUND DUCT DIMENSION
	RECTANGULAR SUPPLY OR OUTSIDE AIR DUCT - UP OR DOWN
	RECTANGULAR RETURN AIR DUCT - UP OR DOWN
	RECTANGULAR EXHAUST AIR DUCT - UP OR DOWN
	ROUND SUPPLY OR OUTSIDE AIR DUCT - UP OR DOWN.
	ROUND RETURN AIR DUCT - UP OR DOWN.
	ROUND EXHAUST AIR DUCT - UP OR DOWN.
	SUPPLY AIR DIFFUSER (SQUARE)
	RETURN AIR GRILLE (SQUARE)
	RETURN AIR GRILLE OR EXHAUST REGISTER (RECTANGULAR)
	EXHAUST GRILLE (SQUARE)
S D	DUCT SMOKE DETECTOR
BD	BACKDRAFT DAMPER
	VOLUME DAMPER
	ROUND DIFFUSER
	SLOT DIFFUSER
	BALL VALVE
	BUTTERFLY VALVE
	GATE VALVE
T	THERMOSTAT
TS	TEMPERATURE SENSOR
X / X	EQUIPMENT TYPE (SEE ABBREVIATIONS) / SCHEDULE #
XXXXXX	KEYNOTE
TMV	THERMOSTATIC MIXING VALVE OUTLET TEMPERATURE SENSOR
BPS	BUILDING PRESSURE SENSOR
CO	CARBON MONOXIDE SENSOR
NO2	NITROGEN DIOXIDE SENSOR
CO2	CARBON DIOXIDE SENSOR
RL	REFRIGERANT LIQUID
RG	REFRIGERANT GAS
HWS	HYDRONIC WATER SUPPLY
HWR	HYDRONIC WATER RETURN
CWS	CHILLED WATER SUPPLY
CWR	CHILLED WATER RETURN
COND	CONDENSATE LINE

ABBREVIATIONS

AMPS	AMPERES
ADJ	ADJUSTABLE
ATC	AUTOMATIC TEMPERATURE CONTROL
APD	AIR PRESSURE DROP
AFF	ABOVE FINISHED FLOOR
CFM	CUBIC FEET PER MINUTE
CO	COMPANY
COND	CONDENSATE
D	DRAIN
DSP	DUCT STATIC PRESSURE
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EDB	ENTERING DRY BULB
EF	EXHAUST FAN
EFF	EFFICIENCY
ELECT.	ELECTRICAL
ESP	EXTERNAL STATIC PRESSURE
EWB	ENTERING WET BULB
EWC	ELECTRIC WATER COOLER
F	FIRE DAMPER
FPM	FEET PER MINUTE
FD	FLOOR DRAIN
FT	FEET
GAL	GALLON
GPM	GALLONS PER MINUTE
GC	GENERAL CONTRACTOR
HC	HEATING COIL
HP	HORSE POWER
HR	HOUR
HTG.	HEATING
I.D.	IDENTIFICATION
IH	INTAKE HOOD
IN	INCH
L	LOUVER
LAT	LEAVING AIR TEMPERATURE
LDB	LEAVING DRY BULB
LBS	POUNDS
LWB	LEAVING WET BULB
MAX	MAXIMUM
MBH	1000 BRITISH THERMAL UNITS PER HOUR
MIN.	MINIMUM
NO.	NUMBER
OA	OUTSIDE AIR
P.C.	PLUMBING CONTRACTOR
PH	PHASE
PSI.	POUNDS PER SQUARE INCH
RA	RETURN AIR
RF	RELIEF AIR FAN
RH	RELIEF AIR HOOD
RM	ROOM
RTU	ROOF TOP UNIT
SA	SUPPLY AIR
SE	SMOKE EXHAUST
S	SMOKE DAMPER
SENS	SENSIBLE
TSP	TOTAL STATIC PRESSURE
V	VENT
VAV	VARIABLE AIR VOLUME BOX
VOLTS	VOLTAGE
VFD	VARIABLE FREQUENCY DRIVE
W.C.	WATER COLUMN
W.O.	WALL OPENING
WPD	WATER PRESSURE DROP

PIPE ABBREVIATIONS

CHILLED WATER RETURN	CWR
CHILLED WATER SUPPLY	CWS
COMBUSION FLUE	CF
COMBUSTION AIR INTAKE	CI
CONDENSATE	C
COOLING TOWER RETURN	CTR
COOLING TOWER SUPPLY	CTS
HYDRONIC RETURN	HWR
HYDRONIC SUPPLY	HWS
STEAM CONDENSATE	LPC
STEAM RETURN - HIGH PRESSURE	HPR
STEAM SUPPLY - HIGH PRESSURE	HPS
STEAM SUPPLY - LOW PRESSURE	LPS

HVAC BASIS OF DESIGN	
SUMMER	
OUTDOOR	91°FDB, 75°F WB
INDOOR	75°FDB, 63°F WB
WINTER	
OUTDOOR	-3°F DB
INDOOR	70°F DB
HEAT ONLY SPACES	55°F DB

GENERAL NOTES

1. ALL MECHANICAL WORK SHALL BE IN ACCORDANCE WITH INDIANA MECHANICAL CODE, LATEST APPLICABLE EDITION, THE AUTHORITY HAVING JURISDICTION AND AS SPECIFIED (WHICHEVER IS MORE STRINGENT).
2. IF NON-DESIGN BASE EQUIPMENT IS SELECTED, THIS CONTRACTOR SHALL BEAR ANY ADDITIONAL COSTS FOR MODIFICATION TO THE PROPOSED BUILDING SYSTEM CAUSED BY SELECTION OF THE NON-DESIGN BASE EQUIPMENT INCLUDING COSTS FOR ARCHITECT/ENGINEER REVIEW. DEVIATIONS FROM BASIS OF DESIGN THAT AFFECT OTHER TRADES ARE THE RESPONSIBILITY OF THIS CONTRACTOR. ADDITIONAL COSTS TO PROVIDE LARGER ELECTRICAL CIRCUITS, MORE FLOOR SPACE, ADDITIONAL SUPPORTS, ADDITIONAL MATERIALS, ETC. SHALL BE BORNE BY THIS CONTRACTOR. COORDINATE ALL WORK WITH OTHER TRADES.
3. DO NOT SCALE DRAWINGS FOR DIMENSIONS. REFER TO DIMENSIONED DRAWINGS. IF DIMENSIONS CANNOT BE ACCURATELY DETERMINED, REQUEST THE INFORMATION FROM THE ARCHITECT/ENGINEER.
4. KEY NOTES ARE MEANT AS A GENERAL GUIDE FOR TYPICAL LOCATIONS. CONTRACTOR TO PERFORM FULL EXTENT OF WORK REQUIRED TO ACCOMPLISH DESIGN INTENT.
5. CONTRACTOR IS RESPONSIBLE FOR ALL WORK IDENTIFIED ON ALL DRAWINGS AND INFORMATION IN THE PROJECT MANUAL, AS A COMPLETE PROJECT. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE SPECIFIC SCOPE OF WORK FOR ANY SUBCONTRACTORS FOR THIS PROJECT EXCEPT AS SPECIFICALLY NOTED.
6. CONTRACTOR SHALL PROVIDE ACCESS DOORS IN ALL WALLS AND CEILINGS WHERE SERVICE OR ADJUSTMENT TO MECHANICAL, PLUMBING, OR FIRE PROTECTION ITEMS MAY BE REQUIRED. ACCESS DOORS SHALL BE OF AN APPROPRIATE SIZE REQUIRED FOR EACH APPLICATION. WHERE APPLICABLE, ACCESS DOORS SHALL MATCH THE FIRE RATING OR SECURITY OF THE WALL ASSEMBLY.
7. DUCT AND PIPING LAYOUTS ARE SCHEMATIC IN NATURE. PROVIDE ADDITIONAL TRANSITIONS, ELBOWS, OFFSETS, AS NECESSARY AND COORDINATE ANY STRUCTURAL SUPPORTS FOR OPENINGS WITH STRUCTURAL TRADES.
8. DUCTWORK:
    - A. ALL LISTED DUCTWORK DIMENSIONS ARE CLEAR AIR FLOW DIMENSIONS.
    - B. ALL DUCTS IN FINISHED ROOMS AND SPACES SHALL BE CONCEALED IN CHASES OR ABOVE THE CEILINGS, UNLESS OTHERWISE NOTED.
    - C. FIELD VERIFY LOCATION OF BEAMS, GENERAL STRUCTURE, LIGHTING, PIPING, ETC., BEFORE FABRICATION AND INSTALLATION OF DUCTWORK COORDINATE ELEVATIONS, OFFSETS, AND TRANSITIONS AS REQUIRED.
    - D. MAXIMUM LENGTH OF FLEX DUCT SHALL BE 5'-0". FLEX DUCT SHALL NOT BE USED WHERE DUCTWORK IS EXPOSED. THE LAST ELBOW BEFORE CONNECTION TO AN AIR DEVICE SHALL BE A HARD DUCT.
    - E. VOLUME DAMPERS SHALL BE INSTALLED IN ALL BRANCH DUCTS.
    - F. THE ELBOWS FOR DUCTWORK SHALL HAVE TURNING VANES UNLESS NOTED OTHERWISE.
    - G. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR AIR DEVICE LOCATIONS.
    - H. ALL AIR DEVICES IN CMU WALLS SHALL MATCH BLOCK COURSING.
    - I. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR LOCATIONS OF FIRE RATED WALLS, SMOKE BARRIERS, AND SECURITY WALLS. CONTRACTOR SHALL PROVIDE FIRE DAMPERS, SMOKE DAMPERS, OR SECURITY BARS IN ALL DUCTS PENETRATING SAID WALLS, WHETHER INDICATED ON THE MECHANICAL PLANS OR NOT.
9. ALL STRUCTURAL OPENINGS SHALL BE COORDINATED WITH THE STRUCTURAL DRAWING. COORDINATE ANY STRUCTURAL SUPPORTS FOR OPENINGS WITH STRUCTURAL TRADES.
10. ALL HANGER SYSTEMS FOR PIPING AND EQUIPMENT SHALL BE SECURED TO BUILDING STRUCTURAL SYSTEM.
11. COORDINATE ALL WORK WITH EXISTING WORK TO PERMIT ACCESS AND SERVICE CLEARANCES TO ALL SYSTEMS. COORDINATE DUCT WITH ELECTRICAL J-BOXES TO PREVENT OBSTRUCTIONS.
12. CONNECTION TO EQUIPMENT SHALL CONFORM TO MANUFACTURER'S SPECIFICATION.
13. ALL MECHANICAL EQUIPMENT REQUIRING NATURAL GAS SHALL BE FURNISHED WITH PRESSURE REGULATOR. THE GAS PRESSURE REGULATOR SHALL REGULATE THE GAS PRESSURE BETWEEN THE INLET AND OPERATING PRESSURE OF THE EQUIPMENT. PROVIDE VENT TO OUTDOOR FROM EACH REGULATOR.
14. ALL HVAC CONTROL WIRING SHALL BE PROVIDED BY DIVISION 23 CONTRACTOR UNLESS OTHERWISE NOTED. EXPOSED CONTROL WIRING SHALL BE IN CONDUIT. TEMPERATURE CONTROL CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND LOCATING ANY 24V TRANSFORMERS REQUIRED FOR CONTROL COMPONENTS. COORDINATE WITH DIV 26 CONTRACTOR FOR POWER WIRING.
15. HVAC EQUIPMENT, INCLUDING HEAT TRACE, SHALL BE CONNECTED TO A BUILDING MANAGEMENT SYSTEM.
16. REFER TO DETAIL SHEETS FOR ADDITIONAL INFORMATION ON INSTALLMENT METHODS.
17. TRADE CONTRACTOR SHALL COORDINATE LOCATIONS OF ALL PENETRATIONS WITH STRUCTURAL DRAWING REQUIREMENTS. ADDITIONALLY, THE TRADE CONTRACTORS SHALL COORDINATE ALL PENETRATIONS THROUGH PRECAST CONCRETE UNITS WITH THE PRECAST CONCRETE MANUFACTURER TO PRODUCE A SHOP DRAWING SUBMITTAL NOTING ALL PENETRATIONS AND THEIR SIZES. TRADE CONTRACTORS AND PRECAST MANUFACTURE SHALL PROVIDE DOCUMENTATION WITH THE PRECAST SHOP DRAWING SUBMITTAL INDICATING THAT ALL TRADES HAVE SIGNED OFF ON ALL AFOREMENTIONED COORDINATION.
18. VOLUME DAMPERS, SHUT-OFF VALVES, AND VAV UNITS IN HOUSING TO BE CLEARLY MARKED.
19. VOLUME DAMPERS, SHUT-OFF VALVES, AND VAV UNITS LOCATED ABOVE CEILINGS THROUGHOUT THE BUILDING SHALL BE WITHIN 24 INCHES OF CEILING.
20. CONTRACTOR SHALL REUSE AND RESTORE EXISTING AAON PRISM 2 FRONT END TO CONNECT TO FIELD CONTROLLERS (AAON - VCCX-2). MODIFY GRAPHICS AS PER MONITORING POINTS AND CONTROL SEQUENCE DRAWINGS ON SHEETS M7.X SERIES. REFER TO SPECIFICATION 012300 ALTERNATES FOR OPTION TO REPLACE SYSTEM WITH ANOTHER MANUFACTURER/

GENERAL DEMOLITION NOTES

1. REFER TO DRAWINGS OF ALL OTHER DISCIPLINES FOR ADDITIONAL REMOVALS AND SELECTIVE DEMOLITION ACTIVITIES.
2. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO SELECTIVE DEMOLITION ACTIVITIES. ANY ITEMS NOT INDICATED ON DRAWINGS OR SPECIFICATIONS THAT ARE IN CONFLICT WITH THE CONTRACT WORK SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO BID FOR CLARIFICATION.
3. FOR DURATION OF THE PROJECT IF ANY EXISTING ITEM IS DAMAGED DURING CONSTRUCTION, IT SHALL BE REPLACED AND RESTORED TO ITS ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.
4. CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL TEMPORARY SHORING AND BRACING REQUIRED TO COMPLETE THE WORK.
5. CONTRACTOR IS RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED, INCLUDING ASSOCIATED REPAIR AND FINISHING TO MATCH ADJACENT SURFACES.
6. CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY ENVIRONMENTAL CONTROL MEASURES INCLUDING ACCEPTABLE AIR QUALITY CONTROL MEASURES, DUST CONTROL, EROSION CONTROL AND OTHER MEASURES REQUIRED FOR PROTECTION OF PROPERTY DURING SELECTIVE DEMOLITION AND CONSTRUCTION ACTIVITIES.
7. CONTRACTOR IS SOLELY RESPONSIBLE FOR COORDINATING CONTRACT DRAWINGS WITH FIELD CONDITIONS AND WORK ASSOCIATED WITH EACH TRADE.
8. CONTRACTOR SHALL COORDINATE DEMOLITION ACTIVITIES WITH NEW WORK TO VERIFY DIMENSIONS AND EXTENT OF REMOVALS PRIOR TO BEGINING OF WORK.
9. CONTRACTOR IS RESPONSIBLE FOR REMOVAL, STORAGE AND REINSTALLATION OF REMAINING WALL MOUNTED DEVICES INTENDED FOR REUSE.
10. ALL DEMOLITION WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE SECTIONS OF THE STATE OF INDIANA, LOCAL BUILDING CODES, OSHA AND NFPA.
11. OWNER RESERVES THE RIGHT TO SALVAGE ANY EQUIPMENT OR MATERIAL INDICATED TO BE DEMOLISHED.
12. PIPING AND DUCTWORK DEMOLITION PLANS ARE FOR DIAGRAMMATIC PURPOSES ONLY BASED ON LIMITED SITE OBSERVATIONS. CONTRACTOR TO REMOVE ANY UNUSED / ABANDONED DUCTWORK, EQUIPMENT, PIPING (SANITARY, VENT, DOMESTIC WATER, GAS, REFRIGERANT, FIRE ETC.), ASSOCIATED ACCESORIES COMPLETE WHETHER INDICATED ON THE PLANS OR NOT. CONTRACTOR TO VERIFY EXTENT OF DEMOLITION ON THE FIELD AND COORDINATE WITH THE ENGINEER (AT NO ADDITIONAL COST TO THE OWNER). PATCH WALLS, CEILINGS, ROOF AND/OR FLOOR TO MATCH ADJACENT CONDITIONS WHETHER INDICATED ON THE PLANS OR NOT.

DLZ
ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES
DLZ INDIANA, LLC

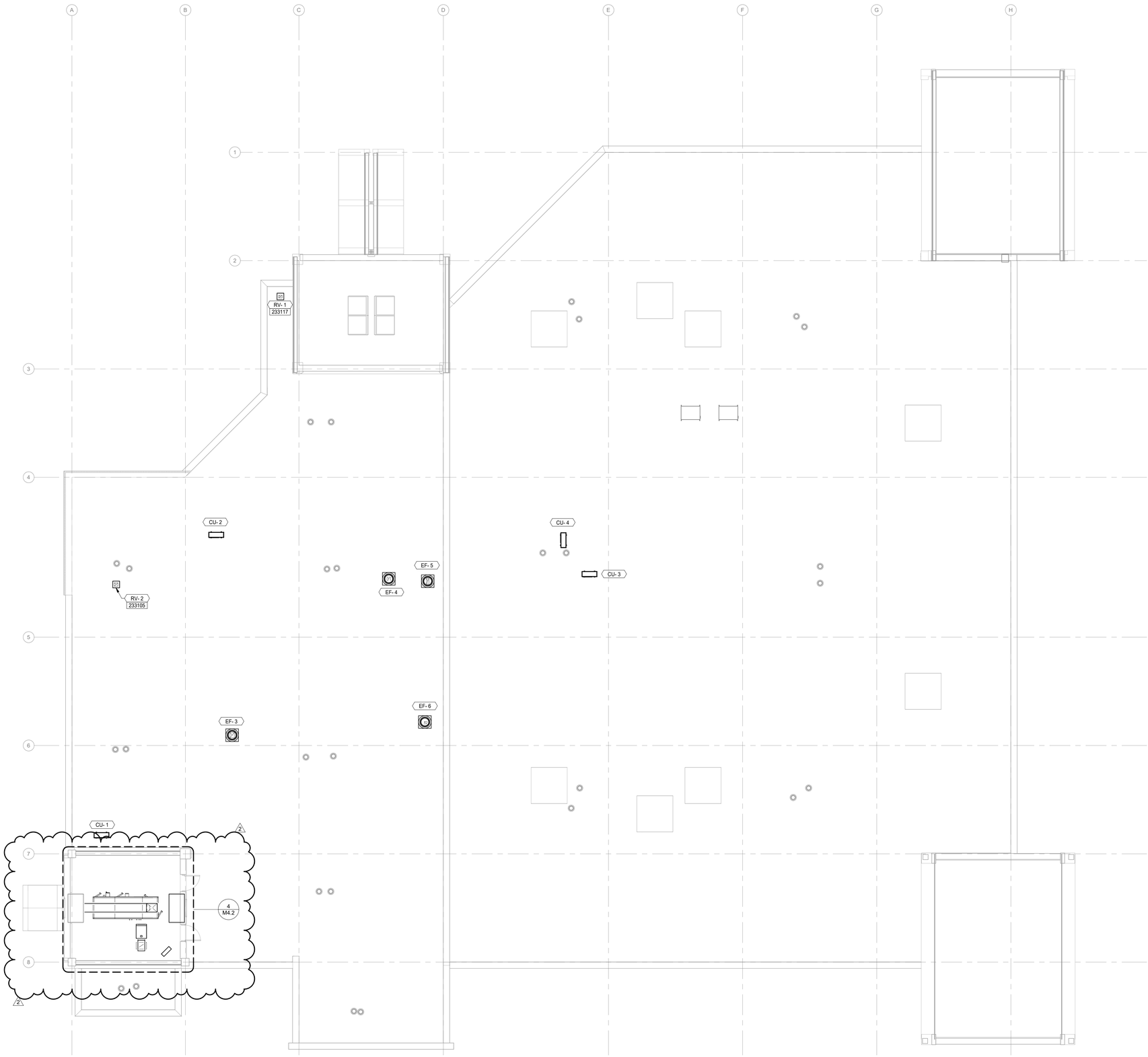
2/7/2024
JOSHUA R. APLING
REGISTERED
STATE OF INDIANA
PROFESSIONAL ENGINEER

NO.	REVISION	DATE
2	ADDENDUM 4	2/7/24

DRAWN: SPS CHK'D: JRA
DESIGNED: SPS
APPR'D: JRA
DATE: DECEMBER 21, 2023
PROJECT NUMBER
2163-1063-90

HANCOCK COUNTY BOARD OF COMMISSIONERS
OFFICE RENOVATIONS
123 E. MAIN STREET
GENERAL INFORMATION

DRAWING NUMBER
M0.1
MECHANICAL



NORTH

1 **ROOF DUCTWORK INSTALLATION PLAN**
SCALE: 1/8" = 1'-0"

GENERAL NOTES

A. REFER TO SHEETS G1.1 AND M0.1 FOR ADDITIONAL GENERAL NOTES AND INFORMATION.

B. DUCT AND PIPING LAYOUTS ARE SCHEMATIC IN NATURE. PROVIDE ADDITIONAL TRANSITIONS, ELBOWS, OFFSETS, AND FITTINGS AS REQUIRED.

C. COORDINATE ALL WORK WITH OTHER TRADES TO PERMIT ACCESS AND SERVICE CLEARANCES TO ALL SYSTEMS. COORDINATE DUCT WITH ELECTRICAL J-BOXES TO PREVENT OBSTRUCTIONS.

D. COORDINATE ANY STRUCTURAL SUPPORTS FOR OPENINGS WITH STRUCTURAL TRADES.

E. DO NOT SCALE DRAWINGS FOR DIMENSIONS. REFER TO ARCHITECTURAL DIMENSIONED DRAWINGS.

F. REFER TO DETAIL SHEETS FOR ADDITIONAL INFORMATION ON INSTALLMENT METHODS.

G. DEVIATIONS FROM BASIS OF DESIGN THAT AFFECT OTHER TRADES ARE THE RESPONSIBILITY OF THIS CONTRACTOR. ADDITIONAL COSTS TO PROVIDE LARGER ELECTRICAL CIRCUITS, MORE FLOOR SPACE, ADDITIONAL SUPPORTS, ADDITIONAL MATERIAL, ETC. SHALL BE BORNE BY THIS CONTRACTOR. COORDINATE ALL WORK WITH OTHER TRADES.

H. PIPING TO INDIVIDUAL VAV BOXES IS 3/4" UNLESS NOTED OTHERWISE.

KEYNOTES

233105	ROUTE 8"X8" EXHAUST DUCT UP THROUGH EXISTING ROOF PENETRATION FROM EF-2 INTO RV-2. FIELD VERIFY LOCATION.
233117	ROUTE 8"X6" EXHAUST DUCT UP THROUGH EXISTING ROOF PENETRATION FROM EF-1 INTO RV-1. FIELD VERIFY LOCATION.

DLZ
ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES
DLZ INDIANA, LLC

2/7/2024

JOSHUA R. APLING
REGISTERED
PE 10009274
STATE OF INDIANA
PROFESSIONAL ENGINEER

NO.	REVISION	DATE
2	ADDENDUM 4	2/7/24

DRAWN: SPS CHK'D: JRA
DESIGNED: SPS
APPRV'D: JRA
DATE: DECEMBER 21, 2023

PROJECT NUMBER
2163-1063-90

HANCOCK COUNTY BOARD OF COMMISSIONERS

OFFICE RENOVATIONS

123 E. MAIN STREET

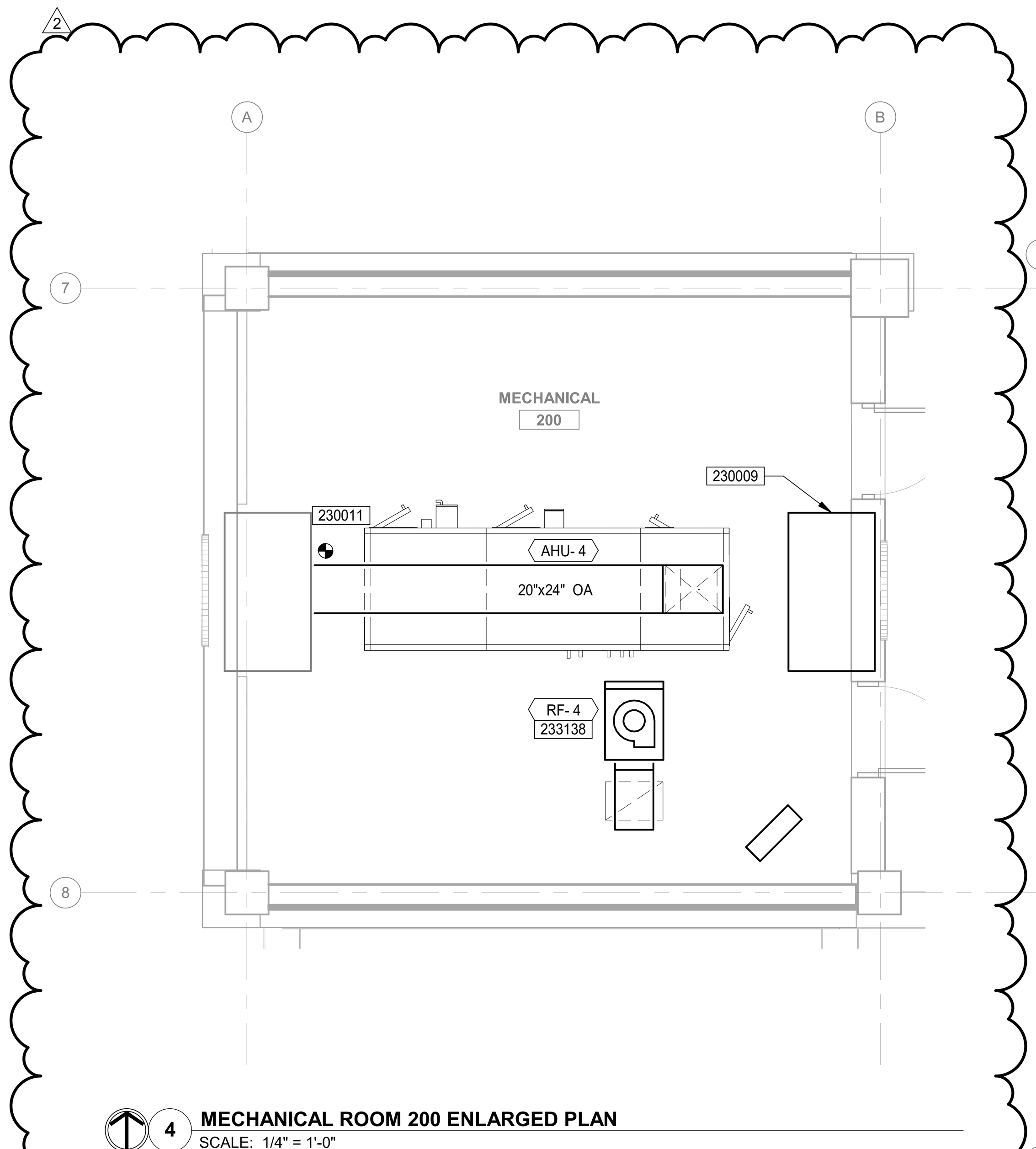
ROOF MECHANICAL DUCTWORK PLAN

DRAWING NUMBER

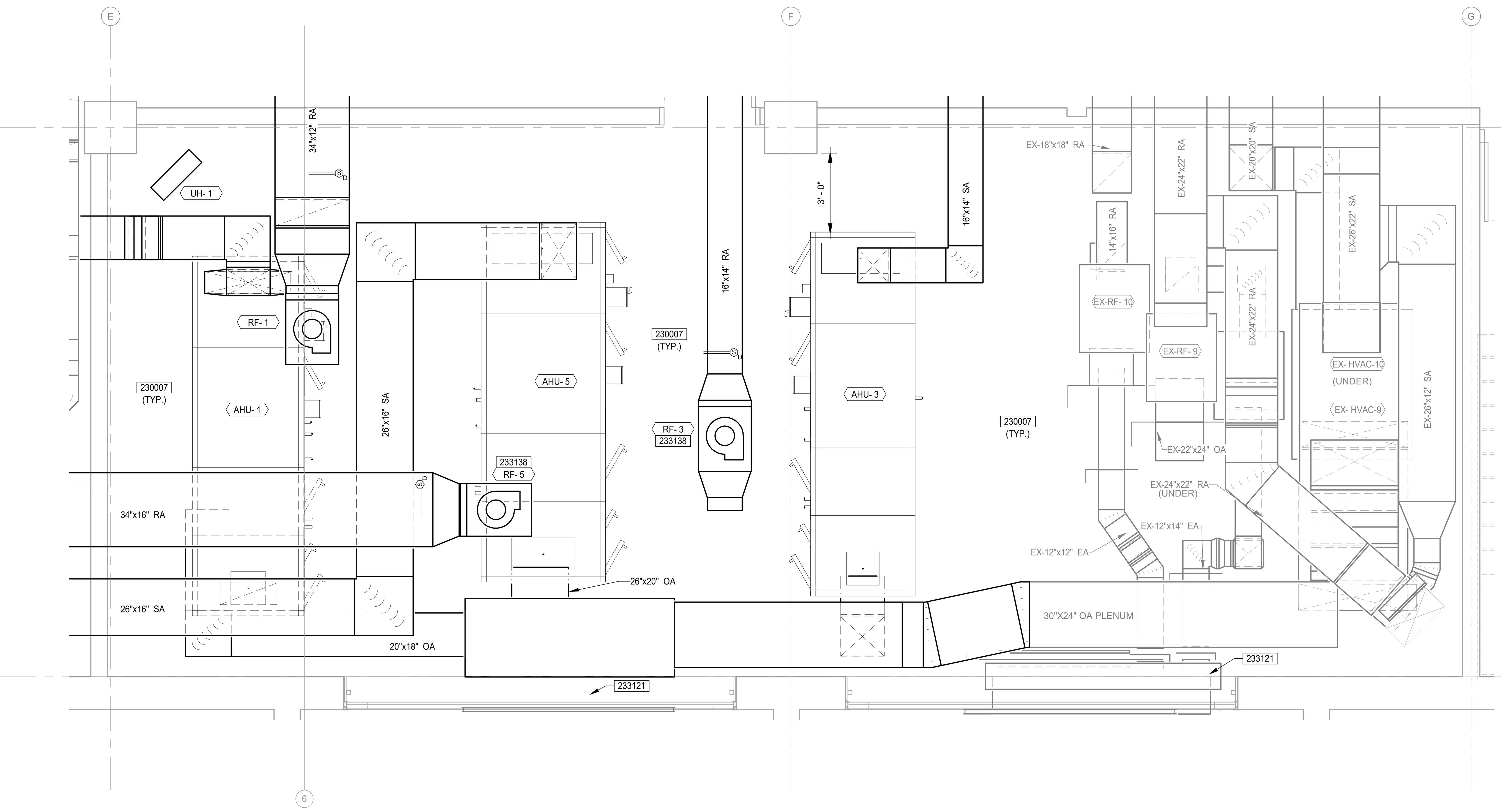
M1.2

MECHANICAL

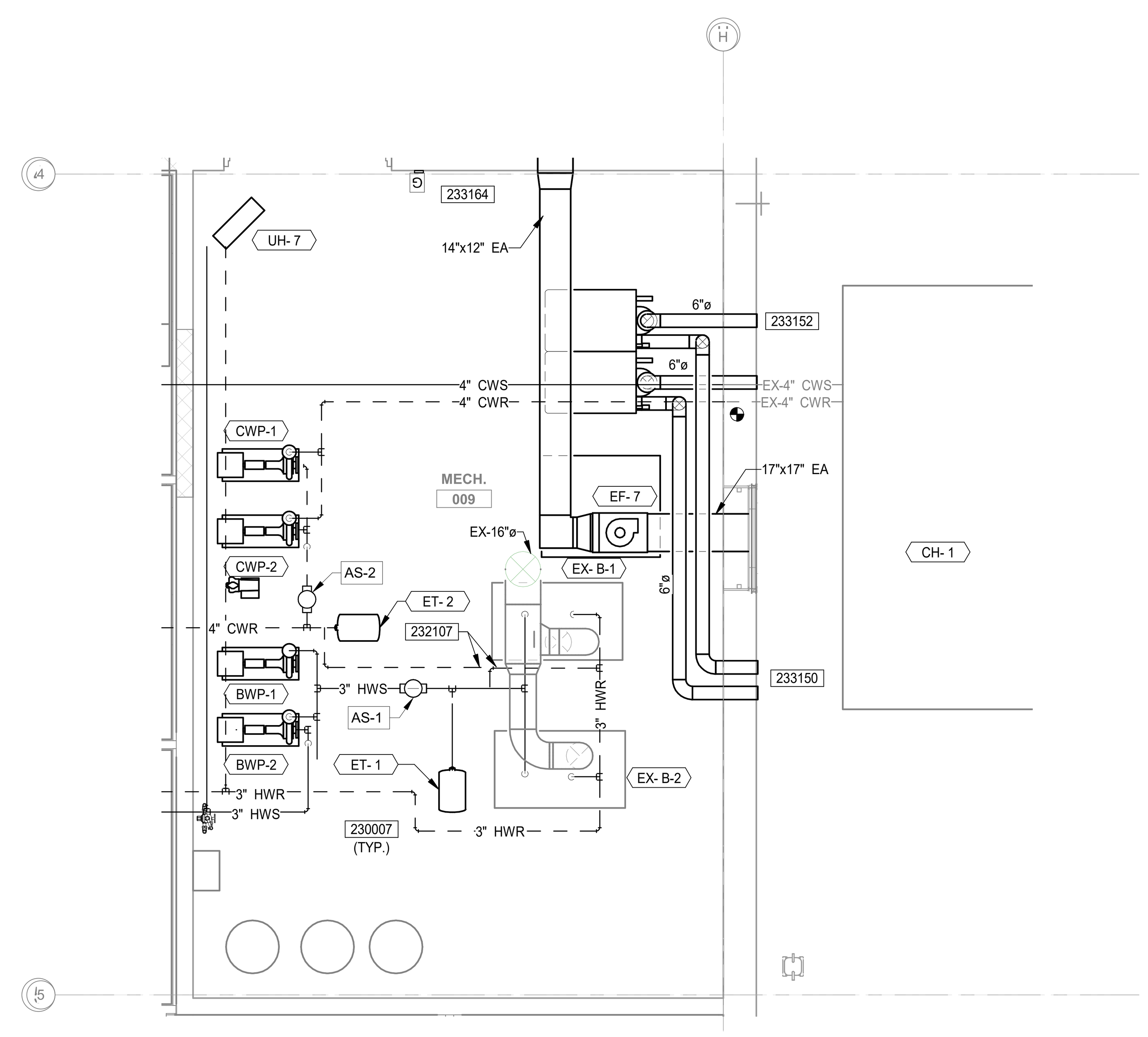
C:\RevitBackups\2022\2163-1063-90_Hancock Co_Jail_Mech_sstarks_dlz.rvt
2/6/2024 4:18:48 PM



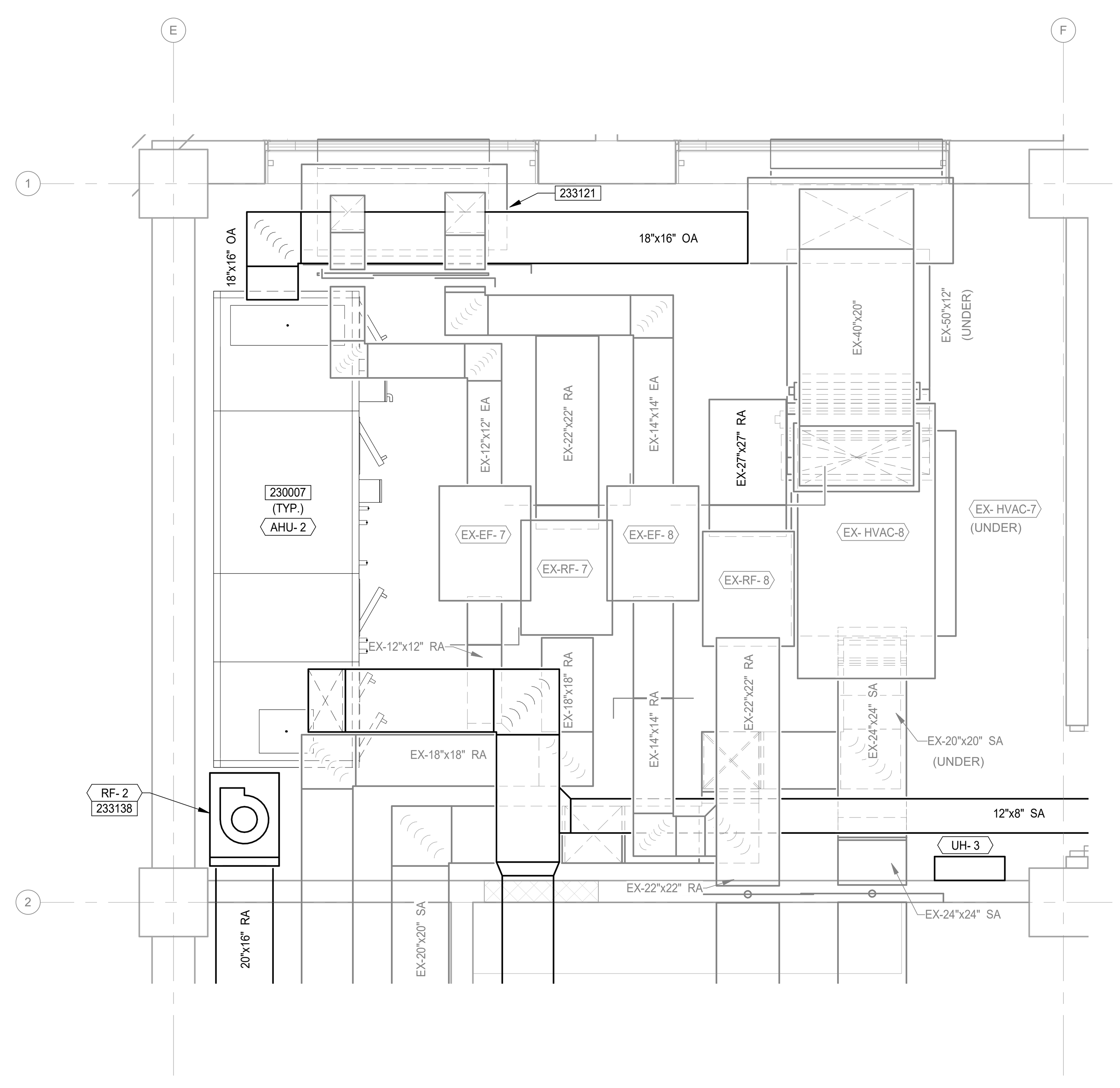
4 **MECHANICAL ROOM 200 ENLARGED PLAN**
SCALE: 1/4" = 1'-0"
NORTH



1 **MECHANICAL ROOM 008 ENLARGED PLANS**
SCALE: 3/8" = 1'-0"
NORTH



3 **MECHANICAL ROOM 014 ENLARGED PLAN**
SCALE: 1/4" = 1'-0"
NORTH



2 **MECHANICAL ROOM 019 ENLARGED PAN**
SCALE: 3/8" = 1'-0"
NORTH

GENERAL NOTES

A. REFER TO SHEETS G1.1 AND M0.1 FOR ADDITIONAL GENERAL NOTES AND INFORMATION.

B. DUCT AND PIPING LAYOUTS ARE SCHEMATIC IN NATURE. PROVIDE ADDITIONAL TRANSITIONS, ELBOWS, OFFSETS, AND FITTINGS AS REQUIRED.

C. COORDINATE ALL WORK WITH OTHER TRADES TO PERMIT ACCESS AND SERVICE CLEARANCES TO ALL SYSTEMS. COORDINATE DUCT WITH ELECTRICAL J-BOXES TO PREVENT OBSTRUCTIONS.

D. COORDINATE ANY STRUCTURAL SUPPORTS FOR OPENINGS WITH STRUCTURAL TRADES.

E. DO NOT SCALE DRAWINGS FOR DIMENSIONS. REFER TO ARCHITECTURAL DIMENSIONED DRAWINGS.

F. REFER TO DETAIL SHEETS FOR ADDITIONAL INFORMATION ON INSTALLMENT METHODS.

G. DEVIATIONS FROM BASIS OF DESIGN THAT AFFECT OTHER TRADES ARE THE RESPONSIBILITY OF THIS CONTRACTOR. ADDITIONAL COSTS TO PROVIDE LARGER ELECTRICAL CIRCUITS, MORE FLOOR SPACE, ADDITIONAL SUPPORTS, ADDITIONAL MATERIAL, ETC. SHALL BE BORNE BY THIS CONTRACTOR. COORDINATE ALL WORK WITH OTHER TRADES.

H. PIPING TO INDIVIDUAL VAV BOXES IS 3/4" UNLESS NOTED OTHERWISE.

KEYNOTES

230007	REUSE AND EXTEND EXISTING CONCRETE PADS IF POSSIBLE FOR NEW MECHANICAL EQUIPMENT IN SIMILAR LOCATION TO EXISTING. VERIFY CLEARANCES OF EQUIPMENT.
230009	REMOVE AND REINSTALL EXISTING LOUVER AS NEEDED FOR INSTALLATION OF AHU-4 IN PENTHOUSE. EXISTING RELIF AIR PLENUM TO BE REMOVED AND REINSTALLED AS NEEDED. INSTALL 20"X24" BACKDRAFT DAMPER IN PLENUM.
230011	CONNECT NEW OA DUCTWORK TO EXISTING PLENUM.
232107	MAKE UP WATER LINE. SEE PLUMBING DRAWINGS FOR CONTINUATION.
233121	REMOVE BACKDRAFT DAMPER FROM THE LOUVER PLENUM AND PROVIDE A NEW DAMPER.
233138	PROVIDE UNITS WITH EXISTING REPROGRAMMED AAON VCCX2 CONTROLLERS. CONTROLLERS SHALL BE REPROGRAMMED TO MEET NEW SEQUENCE OF OPERATION FOR THE UNITS AS PER SHEETS M7.X SERIES
233150	RUN WATER HEATER COMBUSION AIR THROUGH SIDEWALL OF MECHANICAL ROOM. INSTALL PER MANUFACTURERS RECOMENDATION.
233152	RUN WATER HEATER EXHUAST AIR THROUGH SIDEWALL OF MECHANICAL ROOM. INSTALL PER MANUFACTURERS RECOMENDATION.
233164	PROVIDE EMERGENCY BOILER SHUTDOWN SWITCH TIED TO GAS SOLENOID

2/7/2024

DLZ
ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES
DLZ INDIANA, LLC

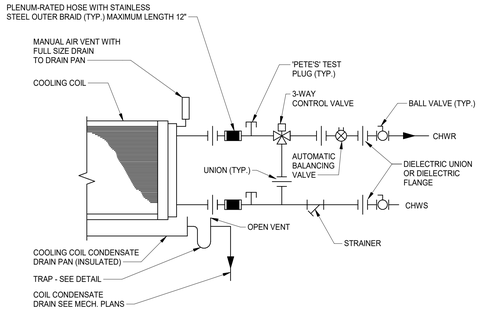
NO.	REVISION	DATE
2	ADDENDUM 4	2/7/24

DRAWN: SPS CHK'D: JRA
DESIGNED: SPS
APPR'D: JRA
DATE: DECEMBER 21, 2023
PROJECT NUMBER
2163-1063-90

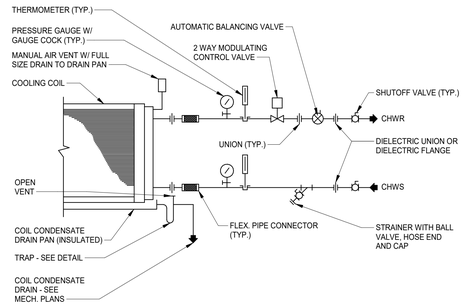
HANCOCK COUNTY BOARD OF COMMISSIONERS
OFFICE RENOVATIONS
123 E. MAIN STREET
MECHANICAL ROOMS ENLARGED PLANS

DRAWING NUMBER
M4.2
MECHANICAL

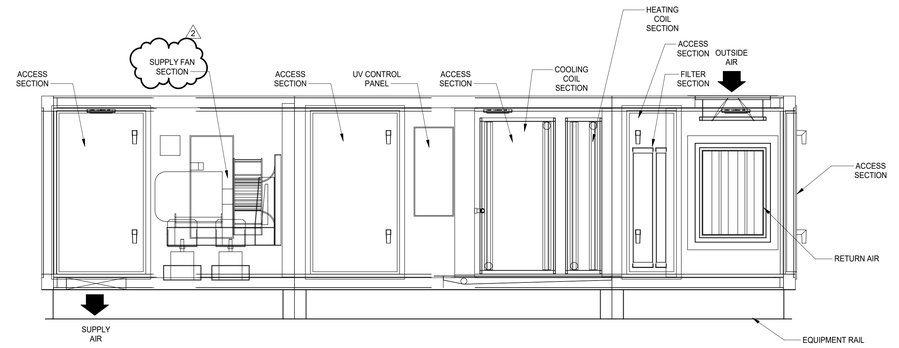
C:\RevitBackups\2022\2163-1063-90_Hancock Co_Jail_Mech_sstarks_dlz.rvt
2/6/2024 4:18:53 PM



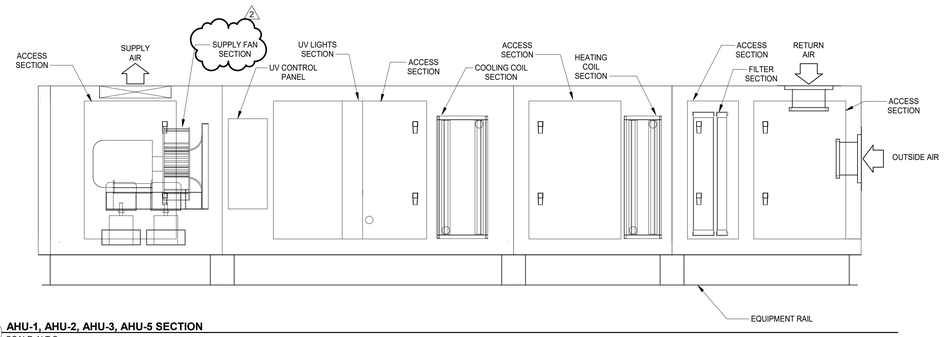
4 AIR HANDLING UNIT COIL PIPING DETAIL (3-WAY)
SCALE: N.T.S.



3 AIR HANDLING UNIT COIL PIPING DETAIL (2-WAY)
SCALE: N.T.S.



2 AHU-4 SECTION
SCALE: N.T.S.



1 AHU-1, AHU-2, AHU-3, AHU-5 SECTION
SCALE: N.T.S.

DLZ
ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES
DLZ INDIANA, LLC

2/7/2024

JOSHUA R. APLING REGISTERED PE 10006270 STATE OF INDIANA PROFESSIONAL ENGINEER

NO.	REVISION	DATE
2	ADDENDUM 4	2/7/24

DRAWN: SPS
DESIGNED: SPS
CHK'D: JRA
APPRV'D: JRA
DATE: DECEMBER 21, 2023

PROJECT NUMBER
2163-1063-90

HANCOCK COUNTY BOARD OF COMMISSIONERS

OFFICE RENOVATIONS

123 E. MAIN STREET

MECHANICAL DETAILS - III

DRAWING NUMBER

M5.3

MECHANICAL

C:\Revit\Backups\2022\2163-1063-90_Hancock Co_Jail_Mech_sstarks_dlz.rvt
2/6/2024 4:18:54 PM

INDOOR AIR HANDLING UNIT SCHEDULE

TAG				SUPPLY FAN					ELECTRICAL				COOLING COIL								HEATING COIL													
		MANUFACTURER	MODEL	QUANTITY	CFM	E.S.P. (IN W.G)	TSP	MIN O.A.	VOLT / PH.	MAX UNIT AMPS	FAN HP	BHP	ROW QUANTITY	E.A.T. (F) DB/WB	L.A.T. (F) DB/WB	CAPACITY (MBH) TOTAL	CAPACITY (MBH) SENSIBLE	GPM	WATER PRESSURE DROP (FT WG)	FLUID TYPE	CAPACITY (MBH)	CFM	EAT/LAT (°F)	ROW QUANTITY	FINS PER FEET	WATER TEMPERATURE (°F) ENTERING	WATER TEMPERATURE (°F) LEAVING	WATER FLOW (GPM)	WATER PRESSURE DROP (FT WG)	OVERALL HEIGHT (IN)	OVERALL LENGTH (IN)	OVERALL WIDTH (IN)	WEIGHT (LBS)	NOTES
AHU	1	JOHNSON CONTROLS	XTI-33x51	1	2940	2.25	5.88	1405	460/3	5.9	5	3.64	10	81.9/67	50.3/49.2	130.1	85.1	21.69	18.7	30% PROPYLENE GLYCOL	82.4	1618	6.4/55	2	96	140	100	4.12	1	33	165	51	2573	1,2,3,4,5,7,8,9
AHU	2	JOHNSON CONTROLS	XTI-36x51	1	3438	2.1	5.87	1602	460/3	5.9	5	4.23	12	83.6/68.8	50.3/49.3	172.5	106.5	28.76	16.4	30% PROPYLENE GLYCOL	94.5	1808	5.1/55	2	96	140	100	4.73	.9	36	167	51	2733	1,2,3,4,5,7,8,9
AHU	3	JOHNSON CONTROLS	XTI-33x48	1	2774	2	5.89	1450	460/3	5.9	5	3.63	12	84.3/69.6	50.3/49.4	152.5	91.8	25.44	16.4	30% PROPYLENE GLYCOL	87.8	1477	-1.7/55	2	96	140	100	4.39	.9	33	167	48	2527	1,2,3,4,6,7,8,9
AHU	4	JOHNSON CONTROLS	XTI-39x51	1	3740	2.4	6.42	1267	460/3	8.7	7.5	7.13	10	81.1/66.5	50.3/49.2	163	108.2	27.19	17.2	30% PROPYLENE GLYCOL	66.1	2055	24.3/55	1	132	140	100	3.31	.4	33	152	51	2655	1,2,3,4,6,7,8,9
AHU	5	JOHNSON CONTROLS	XTI-45x57	1	5369	2.65	6.48	2320	460/3	12.5	10	3.33	10	81.1/66.4	50.3/49.2	230	153	38.36	15.5	30% PROPYLENE GLYCOL	122.6	3653	22.9/55	1	144	140	100	6.2	1	45	165	57	3457	1,2,3,4,5,7,8,9

NOTES:
1. UNIT IS AN INDOOR RATED, CUSTOM UNIT.
2. REFER TO DETAIL 1/M7.2 FOR CONTROLS.
3. MANUFACTURER TO PROVIDE SUPPLY FAN VFDS AND STARTER DISCONNECT AS PER DISVISION 26 SPECIFICATIONS.
4. PROVIDE 3-WAY VALVES FOR HYDRONIC HOT WATER COIL. REFER TO DETAIL 4/M5.3.
5. PROVIDE 3-WAY VALVES FOR HYDRONIC CHILLED WATER COIL. REFER TO DETAIL 4/M5.3.
6. PROVIDE 2-WAY VALVES FOR HYDRONIC CHILLED WATER COIL. REFER TO DETAIL 3/M5.3.
7. CONTRACTOR TO DISASSEMBLE AIR-HANDLING UNIT SECTIONS IN THE FIELD AS NEEDED TO FIT THROUGH DOORWAYS IN ROUTE TO INSTALLATION LOCATION OF UNIT. COORDINATE WITH THE MANUFACTURER DURING BIDDING PROCESS THE REQUIREMENTS.

RETURN FAN SCHEDULE

TAG						MOTOR DATA				
		MANUF.	MODEL NO.	CFM	E.S.P. (IN. WC)	HP	VOLT.	PH.	EQUIPMENT SERVED	NOTES
RF	1	GREENHECK	BSQ-200	2940	0.09	1/3	460	3	AHU-1	1, 2
RF	2	GREENHECK	BSQ-200	3438	0.16	1/2	115	1	AHU-2	1,2
RF	3	GREENHECK	BSQ-200	2640	0.09	1/2	115	1	AHU-3	1, 2
RF	4	GREENHECK	BSQ-200	3440	0.11	1/2	460	3	AHU-4	1, 2
RF	5	GREENHECK	BSQ-180	4725	0.13	3/4	460	3	AHU-5	1, 2

NOTES:
1. MANUFACTURER PROVIDED VFD/DISCONNECT PER DIVISION 26 SPECIFICATIONS.
2. REFER TO DETAIL 2/M7.2 FOR CONTROLS.

AHU UV LIGHT SCHEDULE

TAG						DUCT INFORMATION			RATED TEMPERATURE		ELECTICAL			UV		
		MANUFACTURER	UV EMMITER LOCATION	SERVICE	CFM	WIDTH (IN)	HEIGHT (IN)	AIR VELOCITY (FPM)	MIN (F DB)	MAX (F DB)	VOLT/PH	AMPS	UV MCA	BULB QUANTITY	BULB LENGTH (IN)	NOTES
AHU	1	V-MAX	IN UNIT	SUPPLY	1618	51	33	138.4	30	135	120/1	2.3	15	3	21	1,2,3,4,5,7,8,9
AHU	2	V-MAX	IN UNIT	SUPPLY	1808	51	36	142.6	30	135	120/1	2.3	15	3	21	1,2,3,4,5,7,8,9
AHU	3	V-MAX	IN UNIT	SUPPLY	1477	48	39	113.6	30	135	120/1	2.3	15	3	21	1,2,3,4,6,7,8,9
AHU	4	V-MAX	DISCHARGE PLENUM	SUPPLY	2055	51	45	101.8	30	135	120/1	1.8	15	4	21	1,2,3,4,6,7,8,9
AHU	5	V-MAX	IN UNIT	SUPPLY	3653	57	51	182.6	30	135	120/1	2.7	15	6	21	1,2,3,4,5,7,8,9

NOTES:
1. SIZE INTENSITY FOR COMMON CORONAVIRUS USING DECAY RATE K-FACTOR OF 0.1867 AND A TARGET KILL FACTOR OF 90%.
2. REFER TO AH DIAGRAMS FOR INSTALLATION ORIENTAION AND LOCATION OF EMITTER. DEVICE SHALL BE ACCESSIBLE FROM ADJACENT PANE. SENDURE DEVICE LOCATION ALLOWS FOR PROPER MAINTENANCE.
3. THE BASIS OF DESIGN HAS UVC POWER OUTPUT OF 0.8375 WUV/INCH OF BULB. WHEN SUBMITTING ALTERNATIVE MANUFACTURERS' PRODUCTS, PROVIDE PERFORMANCE DOCUMENTATION SHOWING PRODUCT MEETS OF ECEEDS BASIS OF DESIGN CRITERIA.
4. DIVSION 26 CONTRACTOR SHALL PROVIDE DISCONNECT SWITCH.
5. PROVIDE WITH MANUFACTURER'S MOUNTING BRACET FOR IN-DUCT MOUNTING APPLICATION.
6. PROVIDE MANUFACTURER'S SAFETY KILL SWITCH.
7. PROVIDE EACH EMITTER ASSEMBLY WITH CONTROL PANEL CAPABLE OF INTERLOCKING WITH THE EQUIPMENT SERVED.
8. VERIFY UNIT DIMENSIONS IN THE FIELD AND CALCULATE ACTUAL KILL BOX LENGTH, WIDTH, AND HEIGHT WITH NEWLY INSTALLED AHU COMPONENTS.
9. PROVIDE FACTORY INSTALLED RADIOMETER.

AIR COOLED CHILLER SCHEDULE

TAG						FLOW RATE (GPM)		WATER TEMPERATURE					ELECTRICAL DATA						
		MANUFACTURER / MODEL	NOMINAL TONNAGE	EER	IPLV	MINIMUM	DESIGN	ENTERING	LEAVING	REFRIGERANT TYPE	NUMBER OF REFRIGERANT CIRCUITS	NUMBER OF COMPRESSORS	VOLTAGE	PHASE	FREQUENCY (HZ)	STARTER TYPE	MCA	MOCP	NOTES
CH	1	TRANE-CGAM	110	9.624	15.342	125.2	214	54 °F	52 °F	HFC-410A	2	4	460	3	60	ACROSS THE LINE	225	250	1

NOTES:
1. FOR INFORMATION ONLY. CHILLER BEING PROVIDED AND INSTALLED AS PART OF A SEPARATE PROJECT.

CHILLER PUMP SCHEDULE

TAG	MANUFACTURER	MODEL	SERIES	GPM	HEAD (FT)	SUCTION SIZE (IN)	DISCHARGE SIZE (IN)	MOTOR (RPM)	MOTOR (HP)	VOLTAGE	PHASE	FREQUENCY (HZ)	NOTES
CWP-1	BELL & GOSSETT	2EB	e-1510	214	85	3	2	1800	10	460	3	60	1
CWP-2	BELL & GOSSETT	2EB	e-1510	214	85	3	2	1800	10	460	3	60	1

NOTES:
1. FOR INFORMATION ONLY. PUMP BEING PROVIDED AND INSTALLED AS PART OF A SEPARATE PROJECT.

BOILER PUMP SCHEDULE

TAG	MANUFACTURER	MODEL	SERIES	GPM	HEAD (FT)	SUCTION SIZE (IN)	DISCHARGE SIZE (IN)	MOTOR (RPM)	MOTOR (HP)	VOLTAGE	PHASE	FREQUENCY (HZ)	NOTES
BWP-1	BELL & GOSSETT	2BD	e-1510	125	70	2.5	2	1800	5	460	3	60	1, 2, 3, 4
BWP-2	BELL & GOSSETT	2BD	e-1510	125	70	2.5	2	1800	5	460	3	60	1, 2, 3, 4

NOTES:
1. PROVIDE VFD AND DISCONNECT PER DIVISION 26 SPECIFICATIONS.
2. REFER TO DETAIL 3/M7.1 AND 1/M7.3 FOR CONTROLS.
3. REFER TO DETAIL 9/M5.1.
4. REFER TO DETAIL 1/M.2.

EXPANSION TANK SCHEDULE

TAG		MANUFACTURER	MODEL	SYSTEM SERVED	TANK FILL TEMPERATURE	TANK MAX. TEMPERATURE	TANK FILL PRESSURE (PSI)	TANK MAX PRESSURE (PSI)	REQUIRED TANK VOLUME (GAL.)	REQUIRED ACCEPTANCE VOLUME (GAL)	TANK ORIENTATION	TANK TYPE	NOTES
ET	1	BELL & GOSSETT	D60	HEATING HOT WATER	40 °F	160 °F	12	125	22.18	4.68	HORIZONTAL	DIAPHRAGM	1, 2
ET	2	BELL & GOSSETT	D15	CHILLED WATER	40 °F	80 °F	12	125	4.95	4	HORIZONTAL	DIAPHRAGM	1, 2

NOTES:
1. TANK TO BE ASME RATED.
2. REFER TO DETAIL1/M5.2 AND 2/M5.2.

LOUVER SCHEDULE

TAG	MANUF.	MODEL	DESIGNATION	WIDTH / HEIGHT (IN.)	FREE AREA (SQ FT)	CFM	VELOCITY (FPM)	MOUNTING HEIGHT (A.F.F)	NOTES
L-1	PRICE	EDD-401	EXHAUST	14X32	1.3	960	733	7' 0"	1, 2

NOTES:
1. REFER TO DETAIL 11/M5.1
1. MOUNTING HEIGHT SPECIFIED TO BOTTOM OF LOUVER

AIR SEPARATOR SCHEDULE

TAG	MANUFACTURER	MODEL	FLOW (GPM)	MAX PRESSURE DROP (FT)	SYSTEM SERVED	NOTES
AS-1	BELL & GOSSETT	CRSN-3F	125	0.82	HEATING HOT WATER	1, 2
AS-2	BELL & GOSSETT	CRSN-4F	220	1.09	CHILLED WATER	1, 2

NOTES:
1. COALESCING, STANDARD VELOCITY, REMOVABLE MEDIUM.
2. REFER TO DETAIL 1/M5.2 AND 2/M5.2.

VAV SHUT-OFF BOX SCHEDULE

TAG					AIRFLOW (CFM)						AIR TEMPERATURE (°F)				WATER TEMPERATURE (°F)					
		MANUF.	MODEL	SIZE	MAX PRIMARY	MIN PRIMARY	MAX HEATING	INLET SP (IN. WG)	DOWNSTREAM SP (IN WG)	COIL CAPACITY (MBH)	ENTERING	LEAVING	WATER PRESSURE DROP (FT WG)	WATER FLOW (GPM)	ENTERING	LEAVING	COIL ROWS	NC	WEIGHT (LBS)	NOTES
VAV	1-1	PRICE	SDV	6	370	185	185	1	0.25	7.8	55	93.4	0.07	0.59	140	113.0	2	28	23	1,2
VAV	1-2	PRICE	SDV	6	330	165	165	1	0.25	6.9	55	93.1	0.05	0.47	140	110.4	2	26	23	1,2
VAV	1-3	PRICE	SDV	6	275	140	140	1	0.25	5.7	55	92.1	0.02	0.34	140	106.3	2	28	23	1,2
VAV	1-4	PRICE	SDV	8	560	280	280	1	0.25	11.7	55	93.3	0.2	0.92	140	114.1	2	21	28	1,2
VAV	1-5	PRICE	SDV	6	320	160	160	1	0.25	6.7	55	93.2	0.04	0.46	140	110	2	25	23	1,2
VAV	1-6	PRICE	SDV	8	420	290	290	1	0.25	10.3	55	92.6	0.13	0.72	140	110.8	2	20	23	1,2
VAV	1-7	PRICE	SDV	6	335	165	165	1	0.25	7	55	93.6	0.05	0.49	140	111.2	2	26	23	1,2
VAV	1-8	PRICE	SDV	6	335	165	165	1	0.25	7	55	93.6	0.05	0.49	140	111.2	2	26	23	1,2
VAV	2-1	PRICE	SDV	6	230	140	140	1	0.25	5.6	55	92.9	0.02	0.34	140	106.8	2	26	23	1,2
VAV	2-2	PRICE	SDV	6	220	110	110	1	0.25	4.6	55	93.2	0.02	0.27	140	105.1	2	25	23	1,2
VAV	2-3	PRICE	SDV	6	240	120	120	1	0.25	5.1	55	93.2	0.02	0.31	140	106.5	2	26	23	1,2
VAV	2-4	PRICE	SDV	6	240	120	120	1	0.25	5.1	55	93.2	0.02	0.31	140	106.5	2	26	23	1,2
VAV	2-5	PRICE	SDV	6	330	165	165	1	0.25	6.9	55	93.1	0.05	0.47	140	110.4	2	26	23	1,2
VAV	2-6	PRICE	SDV	6	330	165	165	1	0.25	6.9	55	93.1	0.05	0.47	140	110.4	2	26	23	1,2
VAV	2-7	PRICE	SDV	6	310	155	155	1	0.25	7.9	55	101.5	0.15	0.92	140	122.5	2	25	23	1,2
VAV	2-8	PRICE	SDV	6	130	65	65	1	0.25	2.8	55	93.5	0.01	0.14	140	99.4	2	-	23	1,2
VAV	2-10	PRICE	SDV	6	340	310	310	1	0.25	8.6	55	94.3	0.1	0.73	140	115.9	2	26	23	1,2
VAV	2-11	PRICE	SDV	6	370	200	200	1	0.25	7.8	55	93.4	0.07	0.59	140	113.0	2	28	23	1,2
VAV	3-1	PRICE	SDV	6	215	185	185	1	0.25	4.5	55	94.2	0.02	0.27	140	105.8	2	25	23	1,2
VAV	3-2	PRICE	SDV	6	285	140	140	1	0.25	6	55	94.2	0.04	0.4	140	109.3	2	28	23	1,2
VAV	3-3	PRICE	SDV	6	270	140	140	1	0.25	5.7	55	93.6	0.03	0.36	140	107.9	2	28	23	1,2
VAV	3-4	PRICE	SDV	6	325	165	165	1	0.25	6.8	55	92.6	0.04	0.46	140	109.6	2	26	23	1,2
VAV	3-5	PRICE	SDV	6	310	160	160	1	0.25	7	55	94.7	0.05	0.51	140	112.3	2	25	23	1,2
VAV	3-6	PRICE	SDV	6	390	230	230	1	0.25	8.8	55	89.9	0.08	0.73	140	111.6	2	28	23	1,2
VAV	3-7	PRICE	SDV	8	420	210	210	1	0.25	8.8	55	93.1	0.09	0.57	140	108.6	2	20	28	1,2
VAV	3-8	PRICE	SDV	6	225	110	110	1	0.25	4.8	55	94.2	0.02	0.29	140	106.5	2	25	23	1,2
VAV	3-9	PRICE	SDV	6	310	155	155	1	0.25	6.5	55	93.3	0.04	0.44	140	109.7	2	25	23	1,2
VAV	4-1	PRICE	SDV	8	455	260	260	1	0.25	10.9	55	93.3	0.16	0.81	140	112.7	2	20	28	1,2,3
VAV	4-2	PRICE	SDV	8	450	240	240	1	0.25	10.1	55	93.4	0.13	0.72	140	111.4	2	20	28	1,2
VAV	4-3	PRICE	SDV	8	420	215	215	1	0.25	9	55	93.1	0.09	0.59	140	108.9	2	20	28	1,2
VAV	4-4	PRICE	SDV	8	645	320	320	1	0.25	13.5	55	93.7	0.33	1.24	140	117.8	2	22	28	1,2
VAV	4-5	PRICE	SDV	6	300	150	150	1	0.25	6.2	55	92.8	0.04	0.4	140	108.3	2	25	23	1,2
VAV	4-6	PRICE	SDV	8	420	220	220	1	0.25	9.3	55	93.6	0.1	0.63	140	110.1	2	20	28	1,2
VAV	4-7	PRICE	SDV	10	700	435	435	1	0.25	18.3	55	93.7	0.61	1.51	140	115.4	2	-	30	1,2
VAV	4-8	PRICE	SDV	8	450	230	230	1	0.25	9.5	55	92.9	0.11	0.64	140	109.8	2	20	28	1,2
VAV	4-9	PRICE	SDV	6	245	120	120	1	0.25	5.1	55	93.2	0.02	0.31	140	106.5	2	26	23	1,2,3
VAV	5-1	PRICE	SDV	8	430	310	310	1	0.25	13	55	93.4	0.28	1.12	140	116.5	2	20	28	1,2
VAV	5-2	PRICE	SDV	10	665	330	330	1	0.25	13.7	55	93.2	0.27	0.9	140	109.1	2	-	30	1,2
VAV	5-3	PRICE	SDV	6	330	220	220	1	0.25	9.3	55	93.7	0.12	0.82	140	116.9	2	26	23	1,2
VAV	5-4	PRICE	SDV	10	890	715	715	1	0.25	30	55	93.7	7.71	6.33	140	130.2	2	-	30	1,2,3
VAV	5-5	PRICE	SDV	8	480	300	300	1	0.25	13.5	55	96.3	0.43	1.44	140	120.9	2	21	28	1,2
VAV	5-6	PRICE	SDV	6	230	130	130	1	0.25	3.5	55	79.3	0.01	0.14	140	89.1	2	26	23	1,2
VAV	5-7	PRICE	SDV	6	275	140	140	1	0.25	5.8	55	92.9	0.03	0.36	140	107.3	2	28	23	1,2
VAV	5-8	PRICE	SDV	10	900	675	675	1	0.25	28.4	55	93.7	4.83	4.87	140	128.2	2	-	30	1,2,3
VAV	5-9	PRICE	SDV	10	830	595	595	1	0.25	25	55	93.7	2.16	3.11	140	123.7	2	-	30	1,2,3

NOTES:
1. REFER TO DETAIL 7/M5.1.
2. REFER TO 5/M7.1 FOR CONTROLS.
3. PROVIDE 3-WAY VALVES FOR THE COILS.

EXHAUST FAN SCHEDULE

TAG						MOTOR DATA				
		MANUF.	MODEL NO.	CFM	E.S.P. (IN. WC)	HP	VOLT.	PH.	EQUIPMENT SERVED	NOTES
EF	1	GREENHECK	SQ-80-VG	140	0.25	1/15	115	1	AHU-5	1, 2, 4
EF	2	GREENHECK	SQ-80-VG	280	0.25	1/10	115	1	AHU-4	1, 2, 4
EF	3	GREENHECK	G-130-VG	840	0.3	1/4	115	1	AHU-1, AHU-2	1, 3, 4
EF	4	GREENHECK	G-100-VG	740	0.3	1/4	115	1	AHU-2	1, 3, 4
EF	5	GREENHECK	G-090-VG	350	0.25	1/10	115	1	AHU-5	1, 3, 4
EF	6	GREENHECK	G-130-VG	375	0.3	1/10	115	1	AHU-3, AHU-5	1, 3, 4
EF	7	GREENHECK	SQ-100-VG	960	0.25	1/4	115	1	-	1,3,4

NOTES:
1. MANUFACTURER PROVIDED STARTER/DISCONNECT PER DIVISION 26 SPECIFICATIONS.
2. REFER TO DETAIL 2/M5.1.
3. REFER TO DETAIL 10/M5.1.
4. REFER TO DETAIL 1/M7.1 FOR CONTROLS.

FAN POWERED VAV SCHEDULE

TAG						AIR FLOW (CFM)					AIR TEMPERATURE (°F)						WATER TEMPERATURE (°F)		FAN						
		MANUF.	MODEL	SIZE	INLET DIA (IN)	FAN FLOW	MAX PRIMARY	MIN PRIMARY	DOWNSTREAM SP (IN WG)	COIL CAPACITY (MBH)	ENTERING	LEAVING	AIR DISCHARGE NC	MAX COIL APD (IN WG)	WATER PRESSURE DROP (FT WG)	WATER FLOW (GPM)	ENTERING	LEAVING	MOTOR TYPE	HP	VOLTAGE	PHASE	FLA	WEIGHT (LBS)	NOTES
FPV	2-9	PRICE	FDC	10	6	350	350	300	0.25	10	57.9	84.2	20(3)	0.14	0.08	0.53	140	101.4	ECM	1/3	115	1	4.6	86.3	1, 2, 3

NOTES:
1. REFER TO DETAIL 7/M5.1.
2. REFER TO 7/M7.1 FOR CONTROLS.
3. PROVIDE STARTER DISCONNECT AS PER DISVISION 26 SPECIFICATIONS

ROOF VENT SCHEDULE

TAG		MANUF.	MODEL NO.	CFM	VELOCITY (FT/MIN)	THROAT SIZE (IN)	EQUIPMENT SERVED	NOTES
RV	1	GREENHECK	GRSR-8	140	378	8X8	EF-1	1
RV	2	GREENHECK	GRSR-8	280	757	8X8	EF-2	1

NOTES:
1. REFER TO DETAIL 3/M5.1

AIR TERMINAL SCHEDULE

TAG	MANUF.	MODEL	CFM RANGE	PANEL SIZE	NECK SIZE	STYLE	INSTALLATION	FINISH	PRESSURE (IN WG)	NC	THROW	NOTES
EA-1	PRICE	80 SERIES	0-720	12X12	-	EGG CRATE	CEILING	WHITE POWDER COAT	0.085	20	-	
EA-2	PRICE	80 SERIES	0-720	12X12	-	EGG CRATE	CEILING	BRUSHED ALUMINUM	0.085	20	-	
EA-3	PRICE	90 SERIES	720-1440	18X16	-	HEAVY DUTY GYM	WALL	WHITE POWDER COAT	0.022	30	-	
RA-1	PRICE	80 SERIES	0-650	12X12	-	EGG CRATE	CEILING	WHITE POWDER COAT	0.066	15	-	
RA-2	PRICE	90 SERIES	640-1280	16X16	-	HEAVY DUTY GYM	WALL	WHITE POWDER COAT	0.01	30	-	
SA-1	PRICE	SCD	0-180	24X24	6"	SQUARE CONE	CEILING	WHITE POWDER COAT	0.076	19	4	
SA-2	PRICE	SCD	181-315	24X24	8"	SQUARE CONE	CEILING	WHITE POWDER COAT	0.082	22	6	
SA-3	PRICE	SCD	316-620	24X24	12"	SQUARE CONE	CEILING	WHITE POWDER COAT	0.091	24	8	
SA-4	PRICE	SCD	0-150	12X12		SQUARE CONE	CEILING	WHITE POWDER COAT	0.05	-	5	
SA-5	PRICE	500 SERIES	45-240	8X4	-	LOUVERED FACE	WALL	WHITE POWDER COAT	0.01	-	6	
SA-6	PRICE	900 SERIES	735-1960	16X24	-	HEAVY DUTY GYM	WALL	WHITE POWDER COAT	0.01	-	33	
SL-1	PRICE	TBD8	0-250	48" LENGTH	8"	LINEAR SLOT	CEILING	WHITE POWDER COAT	0.15	29	15H / 6V	2 SLOT / 3/4" SLOT WIDTH
TA-1	PRICE	80 SERIES	0-650	12X12	-	EGG CRATE	CEILING	WHITE POWDER COAT	0.66	15	-	

NOTES:
1. REFER TO DETAIL 1/M5.1.
2. COORDINATE COLOR WITH ARCHITECTURE FOR WALL OR DUCT MOUNTED AIR TERMINALS.

ELECTRIC WALL HEATER SCHEDULE

TAG					ELECTRICAL DATA			
		MANUFAC TURER	MODEL	CAPACITY (MBH)	VOLT/PH	AMPS	CFM	NOTES
EWH	1	MARLEY	AWH3150F	5.1	120/1	12.5	100	1
EWH	2	MARLEY	AWH3150F	5.1	120/1	12.5	100	1
EWH	3	MARLEY	AWH3150F	5.1	120/1	12.5	100	1
EWH	4	MARLEY	AWH3150F	5.1	120/1	12.5	100	1
EWH	5	MARLEY	AWH3150F	5.1	120/1	12.5	100	1
EWH	6	MARLEY	AWH3150F	5.1	120/1	12.5	100	1
EWH	7	MARLEY	AWH3150F	5.1	120/1	12.5	100	1

NOTES:
1. PROVIDE INTEGRAL THERMOSTAT WITH LABEL, THERMAL OVERLOAD PROTECTION, BUILT IN DISCONNECT SWITCH AND FAN DELAY SWITCH.

HYDRONIC UNIT HEATER SCHEDULE

TAG						ELECTRICAL DATA		FAN		
		MANUF.	MODEL NO.	CAPACITY (MBH)	GPM	VOLT/PH	HP (WATTS)	CFM	WPD	NOTES
UH	1	TRANE	S-A08	8	0.8	115/1	16	245	0.8	1, 2, 3, 4, 5
UH	2	TRANE	S-A08	8	0.8	115/1	16	245	0.8	1, 2, 3, 4, 5
UH	3	TRANE	S-A08	8	0.8	115/1	16	245	0.8	1, 2, 3, 4, 5
UH	4	TRANE	S-A08	8	0.8	115/1	16	245	0.8	1, 2, 3, 4, 5
UH	5	TRANE	S-A08	8	0.8	115/1	16	245	0.8	1, 2, 3, 4, 5
UH	6	TRANE	S-A08	8	0.8	115/1	16	245	0.8	1, 2, 3, 4, 5
UH	7	TRANE	S-A08	8	0.8	115/1	16	245	0.8	1, 2, 3, 4, 5

NOTES:
1. PROVIDE STARTER/DISCONNECT PER DIVISION 26.
2. REFER TO DETAIL 8/M5.1.
3. REFER TO DETAIL 6/M7.1 FOR CONTROLS.
4. PROVIDE A 3-WAY CONTROL VALVE.

DUCTLESS SPLIT INDOOR UNIT SCHEDULE

TAG					ELECTRICAL			
		MANUFACTURER	MODEL	RATED COOLING CAPACITYBTU/HR	VOLTAGE.	MCA	PHASE	NOTES
DS	1	MITSUBISHI	PKA-A36KA7	36000	208	25	1	1, 2, 3, 4
DS	2	MITSUBISHI	PKA-A36KA7	36000	208	25	1	1, 2, 3, 4
DS	3	MITSUBISHI	PKA-A36KA7	36000	208	25	1	1, 2, 3, 4
DS	4	MITSUBISHI	PKA-A36KA7	36000	208	25	1	1, 2, 3, 4

NOTES:
1. PROVIDE TEMPERATURE SENSOR TO CONNECT TO DDC CONTROL SYSTEM.
2. PROVIDE THERMOSTAT.
3. REFER TO DETAIL 4/M5.1.
4.PROVIDE CONDENSATE PUMP.

AIR COOLED CONDENSING UNIT SCHEDULE

TAG									ELECTRICAL DATA						
		MANUFACTURER	MODEL	NOMINAL TONS	DESIGN AMBIENT TEMP (°F)	SEER	REF TYPE	NO. OF COMPRESSOR	VOLTAGE	PHASE	FREQUENCY (HZ)	MCA	MOCP	EQUIPMENT SERVED	NOTES
CU	1	MITSUBISHI	PUY-A36NKA7	3	95	18.8	R-410A	1	208	1	60	25	31	DS-1	1, 2, 3, 4
CU	2	MITSUBISHI	PUY-A36NKA7	3	95	18.8	R-410A	1	208	1	60	25	31	DS-2	1, 2, 3, 4
CU	3	MITSUBISHI	PUY-A36NKA7	3	95	18.8	R-410A	1	208	1	60	25	31	DS-3	1, 2, 3, 4
CU	4	MITSUBISHI	PUY-A36NKA7	3	95	18.8	R-410A	1	208	1	60	25	31	DS-4	1, 2, 3, 4

NOTES:
1. PROVIDE STARTER/DISCONNECT PER DIVISION 26.
2. REFER TO DETAIL 4/M5.1.
3. PROVIDE CRANKCASE HEATER, LOW-AMBIENT KIT, WINTER START KIT, HAIL GUARD, AND WIND BAFFLE.
4. SIZE AND INSTALL REFRIGERANT PIPING PER MANUFACTURER RECOMMENDATION.

C:\RevitBackups\2022\2163-1063-90_Hancock Co_Jail_Mech_sstarks_dlz.rvt
2/6/2024 4:19:05 PM

DLZ
ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES
DLZ INDIANA, LLC

2/7/2024
JOSHUA R. APLING
STATE OF INDIANA
PROFESSIONAL ENGINEER

NO.	REVISION	DATE
2	ADDENDUM 4	2/7/24

DRAWN: SPS CHK'D: JRA
DESIGNED: SPS
APPRV'D: JRA
DATE: DECEMBER 21, 2023

PROJECT NUMBER
2163-1063-90

HANCOCK COUNTY BOARD OF COMMISSIONERS
OFFICE RENOVATIONS
123 E. MAIN STREET
MECHANICAL EQUIPMENT SCHEDULES - 1

DRAWING NUMBER
M6.1
MECHANICAL

envoy

Hancock County Office Renovations
Pre-Bid Meeting
February 6, 2024

NAME (Please Print)	COMPANY NAME	TELEPHONE & FAX NUMBER	E-MAIL ADDRESS
Cory Taylor	Hancock County	463 266 9192	Cory.taylor@hancockin.gov
GREGG STARK	BOYLE CONSTRUCTION	317/450-7159	BIDS@BCMI.US
CHRIS NEAL	SCS CONST.	317-882-0100	ESTIMATING@SCSCONSTRUCTION.NET
Jay Jeffries	Patterson Horth	765 346 3396	jejeffries@pattersonhorth.com
Loren Huffman	CSUSA	317-710-9334	loren.huffman@comfortsystemsusa.com
Anthony Richardson	A. A. Huber	317-800-2983	arichardson@aahuber.com
Clay Robinson	EnviroMax	3175573094	Clay.Robinson@EnviroMax.com
Ean Stephenson	AWER	317-588-7945	sstephen@areawideelectric.com
Jeff Moore	Blood hound	317-757-7324	Jeffrey.moore3@bhug.com
Marcus Fulmer	Frontline LLC	317-446-2534	MFulmer@Frontline-llc.com
Joey Bastian	Ferguson Construction	812-350-3510	jbastian@ferguson-construction.com
Jordan Carsey	emcor - ALC	(317) 670-4736	Jordan_Carsey@emcorgroup.com

envoy

Hancock County Office Renovations
Pre-Bid Meeting
February 6, 2024

NAME (Please Print)	COMPANY NAME	TELEPHONE & FAX NUMBER	E-MAIL ADDRESS
Josh Peeke	Innovative Construction Services	317-859-8865	jpeeke@idc-ics.com

Name	Company Name	Phone #	Email
Carlyn Darnell	RSQ Fire Protection	317-997-1049	Carlyndarnell@rsqfp.com
Cory Shipman	FSG Electric	317-727-9706	cory.shipman@fsgi.com
Ben Dornbusch	Florian Fire Protection	513-256-7671	ben.dornbusch@florianfa.com