

HCCSC Salamonie HVAC Replacement and Renovation

Project # 2024.0002
10-08-2024

ADDENDUM NO. 02

This addendum is issued as a supplement to the plans and specifications and shall be considered an integral part of the same. Acknowledgement of receipt of this addendum is required on the Bid Form.

Item: G-2.1
Location: General
Description: Incorporate the Pre-Bid Meeting Minutes held 09-27-2024 and issued 09-30-2024 into the contract documents.

Item: G-2.2
Location: Mechanical and Electrical
Description: Incorporate the Addendum 2 items from SCO Mechanical and Electrical, see attached.

Item: A-2.1
Location: Specifications
Description: Delete the following specifications from the Project Manual:

- Section 220800 Commissioning of Plumbing
- Section 260800 Commissioning of Electrical Systems
- Only Commissioning of Mechanical Remains

Item: A-2.2
Location: Specifications
Description: Add the following specification section to the Project Manual:

- Section 090190.52 – MAINTENANCE REPAINTING

Item: A-2.3
Location: Specifications
Description: Revise the following Section 000110 – Table of Contents:

- Add to list: Section 090190.52 – MAINTENANCE REPAINTING

Item: A-2.4
Location: Specifications
Description: Revise the following Section 000115 – Index of Working Drawings:

- Change Drawing Name from “A3.0 – ENLARGED PLANS AND DETAILS – ALTERNATES” to “A3.0 ENLARGED PLAN DETAILS AND ELEVATIONS ADD2

Item: A-2.5
Location: Drawings
Description: Delete original Drawing dated 9-24-2024 & replace Drawing with revision date 10-08-2024:

- D2.4 DEMOLITION ROOF PLAN – PHASES 1-3 ADD2

Item: A-2.6
Location: Drawings
Description: Delete original Drawing dated 9-24-2024 & replace Drawing with revision date 10-08-2024:

- Change Drawing Name from “A3.0 – ENLARGED PLANS AND DETAILS – ALTERNATES” to “A3.0 ENLARGED PLAN DETAILS AND ELEVATIONS ADD2”.
- Drawing Sheet A3.0, Add Penthouse Elevations, details 6, 7 & 8 with notes for Exterior Painting of Metal Siding system of Penthouse, Color PT-3.
- PT-3: See Section 090190.52, Architect to Select from Manufacturer’s standard range.

Contractor Questions and Responses

Q1: Can you tell me if there is a roof warranty we will need to maintain for our equipment?

A1: Yes. See Section 075323, EPDM Roofing, Part 1.7.

Q2: Note #4 refers to relief air dampers, no relief air ducts are shown on the plans.

A2: See revised mechanical drawings in Addendum no. 2.

Q3: On north end of Penthouse there are 2 ducts 40/14 which comes out of the floor with elbows and go to what?

A3: See revised mechanical drawings in Addendum no. 2.

Q4: MZ-6 supply duct are misaligned, or something.

A4: See revised mechanical drawings in Addendum no. 2.

Q5: RF-6 is ducted to the outside air duct and not connected to the return and no control dampers are shown.

A5: See revised mechanical drawings in Addendum no. 2.

Q6: On Units MZ-5, MZ-7 it appears that the return duct ties into the outside air duct, but no control dampers?

A6: See revised mechanical drawings in Addendum no. 2.

Q7: EF A10 fan draws from the floor below is connected to the louver and to the return duct. Is that correct?

A7: Correct, Damper locations to be issued in Addendum #2.

Q8: MZ-3 the return duct from the fan to the unit is turned (I believe) the wrong direction and goes nowhere. No control dampers.

A8: See revised mechanical drawings in Addendum no. 2.

Q9: MZ-2 The return above the unit appears to be a tee, one end is open to the penthouse with a control damper the other has a damper and ties into the system. However, the OA does not have a damper on it.

A9: See revised mechanical drawings in Addendum no. 2.

Q10: On the southwest corner there are 8 supply ducts thru the floor but not connected to a unit.

A10: See revised mechanical drawings in Addendum no. 2.

Q11: EF A3 fan draws from the floor below is connected to the louver and to the return duct. Is that correct?

A11: Correct. Damper locations to be issued on the revised mechanical drawings in Addendum no. 2.

Q12: EF A4 fan has no discharge duct. The duct thru the floor is not sized.

A12: The discharge connects to the wall louver. See revised mechanical drawings in Addendum no. 2.

Q13: On the north end the MZ-1 is to be RF-1, not labeled?

A13: Correct. See revised mechanical drawings in Addendum no. 2.

Q14: Are the multi-fan MZUs coming with overloads (from the manufacturer) for each fan included?

A14: Overload protection is through the VFDs.

Q15: Should there be boiler / emergency shutdown buttons and CO monitoring tied into the Fire Alarm system in the Boiler Room?

A15: Emergency shutdown control provided and installed by the E.C. Refer to sheet E1.1. The CO sensors will be included in Addendum no. 2 drawings.

Q16: Should there be a Refrigerant Monitor in the Boiler Room with horn/strobes at each entry?

A16: Refrigerant type and quantity does not require monitoring.

Addendum

6534 Constitution Drive
Fort Wayne, IN 46804
(260) 436-9213
fax (260) 432-5481

ADDENDUM NO. 2

DATE: October 8, 2024

PROJECT: Salamonie School HVAC Replacement and Renovation

COMMISSION NO. **SCO** Engineering, LLC – 242737

The Contractor shall incorporate, into the Contract Documents and into his bid, the following changes and/or clarifications to the Drawings, Specifications and Scope of Work.

- Item: M-2.1**
Location: Specification: Section 230993 – Sequence of Operations for HVAC Controls
Description: Add: Specification section added.
- Item: M-2.2**
Location: Mechanical Drawings: MD1.1
Description: Revision: Revise the gas piping on the mechanical demolition plan – phase 1 as shown on attached revised sheet MD1.1.
- Item: M-2.3**
Location: Mechanical Drawings: M1.1
Description: Revision: Revise the gas piping and pump VFD locations on the mechanical plan – phase 1 as shown on attached revised sheet M1.1.
- Item: M-2.4**
Location: Mechanical Drawings: M1.5
Description: Revision: Revise the mechanical HVAC – Penthouse plan as shown on attached revised sheet M1.5.
- Item: E-2.1**
Location: Electrical Drawing: ED1.1
Description: Revision: Revise the Electrical Demolition Base Bid – Phase 1 plan as shown on attached revised sheet ED1.1.
- Item: E-2.2**
Location: Electrical Drawing: ED1.7
Description: Revision: Add Electrical Demolition Plan Note #9 as shown on attached revised sheet ED1.7.
- Item: E-2.3**
Location: Electrical Drawing: ED1.8
Description: Revision: Revise Electrical Demolition Plan Notes as shown on attached revised sheet ED1.8.
- Item: E-2.4**
Location: Electrical Drawing: ED1.9
Description: Revision: Referring to Electrical Demolition Plan Note #2, new Panel 'MZ' is shown on sheet E1.2.

- Item: E-2.5**
Location: Electrical Drawing: E1.1
Description: Revision: Revise Electrical Power Plan Base Bid – Phase 1 as shown on attached revised sheet E1.1.
- Item: E-2.6**
Location: Electrical Drawing: E1.4
Description: Revision: Revise Electrical Power Plan - Penthouse as shown on attached revised sheet E1.4.
- Item: E-2.7**
Location: Electrical Drawing: E2.2
Description: Revision: The south two light fixtures on the east face of the building shall be type W01.
- Item: E-2.8**
Location: Electrical Drawing: E2.3
Description: Revision: Revise Electrical Lighting Plan – Alternate 3 & 6 as shown on attached revised sheet E2.3.
- Item: E-2.9**
Location: Electrical Drawing: E2.5
Description: Revision: Revise Penthouse Electrical Lighting Plan as shown on attached revised sheet E2.5.
- Item: E-2.10**
Location: Electrical Drawing: E5.1
Description: Revision: Revise Revised Electrical Riser Diagram to add a disconnect up-stream of transformer T-1G as shown on attached revised sheet E5.1. Note that this disconnect is to be installed next to transformer T-1G.

END OF ADDENDUM NO. 2

SECTION 000110 - TABLE OF CONTENTS

DIVISION 0 PROCUREMENT AND CONTACTING REQUIREMENTS

- SECTION 000110 – TABLE OF CONTENTS
- SECTION 000115 – INDEX OF WORKING DRAWINGS
- SECTION 001116 – INVITATION TO BID
- SECTION 002113 – INSTRUCTIONS TO BIDDERS
- SECTION 002213 – SUPPLEMENTARY INSTRUCTIONS TO BIDDERS
- SECTION 004100 – PROCUREMENT FORMS AND SUPPLEMENTS
- SECTION 004110 – BID FORM
- SECTION 004393 – BID SUBMITTAL CHECKLIST
- SECTION 005200 – THE AGREEMENT
- SECTION 006000 – PROJECT FORMS
- SECTION 007200 – GENERAL CONDITIONS
- SECTION 007300 – SUPPLEMENTARY CONDITIONS
- SECTION 007375 – INDIANA – COMMON WAGE ACT
- SECTION 007400 – CONTRACTOR CHECKLIST
- SECTION 009000 – REVISIONS CLARIFICATIONS AND MODIFICATIONS

DIVISION 1 - GENERAL REQUIREMENTS

- SECTION 011000 – SUMMARY
- SECTION 012000 – PRICE AND PAYMENT PROCEDURES
- SECTION 012100 – ALLOWANCES
- SECTION 012300 - ALTERNATES
- SECTION 013000 – ADMINISTRATIVE REQUIREMENTS
- SECTION 013216 – CONSTRUCTION PROGRESS SCHEDULE
- SECTION 013300 – SUBMITTAL PROCEDURES
- SECTION 014000 – QUALITY REQUIREMENTS
- SECTION 014200 – REFERENCES
- SECTION 016000 – PRODUCT REQUIREMENTS
- SECTION 017300 – EXECUTION REQUIREMENTS
- SECTION 017329 – CUTTING AND PATCHING
- SECTION 017419 – CONSTRUCTION WASTE MANAGEMENT & DISPOSAL
- SECTION 017700 – CLOSEOUT PROCEDURES
- SECTION 017823 – OPERATION AND MAINTENANCE DATA
- SECTION 017839 – PROJECT RECORD DOCUMENTS

SECTION 019113 – GENERAL COMMISSIONING REQUIREMENTS

DIVISION 2 – EXISTING CONDITIONS

SECTION 024119 – SELECTIVE DEMOLITION

SECTION 028211 – ASBESTOS ASSESSMENT REPORT

DIVISION 3 - CONCRETE

SECTION 033000 - CAST IN PLACE CONCRETE

SECTION 035114 – CEMENTITIOUS ROOF DECK

DIVISION 4 – MASONRY

SECTION 042200 – CONCRETE UNIT MASONRY

DIVISION 5 – METALS

SECTION 051200 - STRUCTURAL STEEL FRAMING

SECTION 054000 - COLD FORMED METAL FRAMING

DIVISION 6 – WOOD AND PLASTICS

SECTION 061000 - ROUGH CARPENTRY

SECTION 061600 - SHEATHING

DIVISION 7 – THERMAL AND MOISTURE PROTECTION

SECTION 072100 - THERMAL INSULATION

SECTION 072600 - VAPOR RETARDERS

SECTION 072700 – AIR INFILTRATION BARRIERS

SECTION 074200 - METAL PANEL SYSTEM

SECTION 075323 – EPDM ROOFING SYSTEM

SECTION 076200 - SHEET METAL FLASHING AND TRIM

SECTION 077100 – ROOF SPECIALTIES

SECTION 079200 – JOINT SEALANTS

DIVISION 8 – OPENINGS

SECTION 081116 – ALUMINUM ENTRY DOORS

SECTION 081213 - HOLLOW METAL FRAMES

SECTION 081405 – COMMERCIAL WOOD DOORS

SECTION 087100 – DOOR HARDWARE

SECTION 088000 - GLAZING

DIVISION 9 – FINISHES

SECTION 09190.52 – MAINTENANCE REPAINTING

SECTION 092900 – GYPSUM BOARD

SECTION 095123 – ACOUSTICAL TILE CEILING

SECTION 096513 – RESILIENT BASE AND ACCESSORIES

SECTION 096723 – EPOXY FLOORING

SECTION 099123 – INTERIOR PAINTING

DIVISION 22 – PLUMBING

SECTION 220500 - COMMON WORK RESULTS FOR PLUMBING

SECTION 220517 - SLEEVES AND SLEEVE SEALS FOR PLUMBING PIPING

SECTION 220518 - ESCUTCHEONS FOR PLUMBING PIPING

SECTION 220523.12 - BALL VALVES FOR PLUMBING PIPING

SECTION 220529 - HANGERS AND SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT

SECTION 220553 - IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT

SECTION 220719 - PLUMBING PIPING INSULATION

SECTION 220800 – COMMISSIONING OF PLUMBING

SECTION 221116 - DOMESTIC WATER PIPING

SECTION 221119 - DOMESTIC WATER PIPING SPECIALTIES

SECTION 221316 - SANITARY WASTE AND VENT PIPING

SECTION 221319 - SANITARY WASTE PIPING SPECIALTIES

SECTION 224000 - PLUMBING FIXTURES

DIVISION 23 – HEATING, VENTILATING AND AIR CONDITIONING

SECTION 230500 - COMMON WORK RESULTS FOR HVAC

SECTION 230513 - COMMON MOTOR REQUIREMENTS FOR HVAC EQUIPMENT

SECTION 230518 - ESCUTCHEONS FOR HVAC PIPING

SECTION 230519 - METERS AND GAGES FOR HVAC PIPING

SECTION 230523 - GENERAL-DUTY VALVES FOR HVAC PIPING

SECTION 230529 - HANGERS AND SUPPORTS FOR HVAC PIPING AND EQUIPMENT

SECTION 230553 - IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT

SECTION 230593 - TESTING, ADJUSTING, AND BALANCING FOR HVAC
SECTION 230713 - DUCT INSULATION
SECTION 230716 - HVAC EQUIPMENT INSULATION
SECTION 230719 - HVAC PIPING INSULATION
SECTION 230800 – COMMISSIONING OF HVAC
SECTION 230900 - BAS INSTRUMENTATION AND CONTROL
SECTION 230913 - BAS INSTRUMENTATION AND CONTROL DEVICES
SECTION 230913.13 - BAS ACTUATORS AND OPERATORS
SECTION 230913.23 - BAS SENSORS AND TRANSMITTERS
SECTION 230913.33 - BAS CONTROL VALVES
SECTION 230913.43 - BAS CONTROL DAMPERS
SECTION 230923 - BAS DIRECT DIGITAL CONTROL SYSTEM
SECTION 230993 – SEQUENCE OF OPERATIONS FOR HVAC CONTROLS
SECTION 231123 - FACILITY NATURAL-GAS PIPING
SECTION 232113 - HYDRONIC PIPING
SECTION 232116 - HYDRONIC PIPING SPECIALTIES
SECTION 232123 - HYDRONIC PUMPS
SECTION 233113 - METAL DUCTS
SECTION 233300 - AIR DUCT ACCESSORIES
SECTION 233413 - AXIAL HVAC FANS
SECTION 233423 - HVAC POWER VENTILATORS
SECTION 233713 - DIFFUSERS, REGISTERS, AND GRILLES
SECTION 233723 - HVAC GRAVITY VENTILATORS
SECTION 235216 - CONDENSING BOILERS
SECTION 236426.13 - AIR-COOLED, ROTARY-SCREW WATER CHILLERS
SECTION 237313 - MODULAR INDOOR CENTRAL-STATION AIR-HANDLING UNITS
SECTION 237413 - PACKAGED, OUTDOOR, CENTRAL-STATION AIR-HANDLING UNITS
SECTION 238239.16 -PROPELLER UNIT HEATERS

DIVISION 26 – ELECTRICAL

SECTION 26 05 00 - COMMON WORK RESULTS FOR ELECTRICAL
SECTION 26 05 19 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES
SECTION 26 05 26 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS
SECTION 26 05 33 - RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS
SECTION 26 05 53 - IDENTIFICATION FOR ELECTRICAL SYSTEMS
SECTION 26 08 00 – COMMISSIONING OF ELECTRICAL SYSTEMS

SECTION 26 24 16 - PANELBOARDS

SECTION 26 27 26 - WIRING DEVICES

SECTION 26 28 13 - FUSES

SECTION 26 28 16 - ENCLOSED SWITCHES AND CIRCUIT BREAKERS

SECTION 26 29 13 - ENCLOSED CONTROLLERS

SECTION 26 51 00 - INTERIOR LIGHTING

DIVISION 28 – ELECTRONIC SAFETY AND SECURITY

SECTION 28 05 13 - CONDUCTORS & CABLES FOR ELECTRONIC SAFETY & SECURITY

SECTION 28 05 28 - PATHWAYS FOR ELECTRONIC SAFETY & SECURITY

SECTION 28 31 11 -DIGITAL, ADDRESSABLE FIRE-ALARM SYSTEM

DIVISION 31 - EARTHWORK

SECTION 310000 – CONTROL OF SITE WORK

SECTION 311000 – SITE DEMOLITION

SECTION 312000 – SITE EARTHWORK

DIVISION 32 – EXTERIOR IMPROVEMENTS

SECTION 321313 – PORTLAND CEMENT CONCRETE PAVEMENT

SECTION 0329200 - LAWNS AND GRASSES

SECTION 329300 – SITE LANDSCAPING

SECTION 330500 – SITE UTILITY PIPING

SECTION 333114 – SANITARY SEWER SYSTEM

END OF SECTION 000110

SECTION 000115 - INDEX OF WORKING DRAWINGS

GENERAL

G0.0	PROJECT COVER SHEET
G1.0	LIFE SAFETY & PLAN
G1.1	TEMPORARY CONDITIONS AND PHASING PLAN

CIVIL

C1.1	SITE DEMOLITION PLAN - ALTERNATE 1
C1.2	SITE DEMOLITION PLAN - ALTERNATE 2
C1.3	SITE DEMOLITION PLAN - ALTERNATE 3
C1.4	SITE DEMOLITION PLAN - ALTERNATE 4
C1.5	SITE DEMOLITION PLAN – ALTERNATE 6
C2.1	SITE LAYOUT PLAN - ALTERNATE 1
C2.2	SITE LAYOUT PLAN - ALTERNATE 2
C2.3	SITE LAYOUT PLAN - ALTERNATE 3
C2.4	SITE LAYOUT PLAN - ALTERNATE 4
C2.5	SITE LAYOUT PLAN – ALTERNATE 6
C3.1	SITE GRADING PLAN - ALTERNATE 1
C3.2	SITE GRADING PLAN - ALTERNATE 2
C3.3	SITE GRADING PLAN - ALTERNATE 3
C3.4	SITE GRADING PLAN - ALTERNATE 4
C3.5	SITE GRADING & UTILITY PLAN – ALTERNATE 6

STRUCTURAL

S0.1	STRUCTURAL NOTES
S1.1	STRUCTURAL PLAN - ALTERNATE 1
S1.2	STRUCTURAL PLAN - ALTERNATE 2
S1.3	STRUCTURAL PLAN - ALTERNATE 3
S1.4	STRUCTURAL PLAN - ALTERNATE 4
S1.5	STRUCTURAL PLAN - ALTERNATE 5
S1.6	STRUCTURAL PLAN - ALTERNATE 6
S5.1	STRUCTURAL TYPICAL DETAILS

DEMOLITION

D1.1	DEMOLITION PLAN BASE BID - PHASE 1
------	------------------------------------

D1.2	DEMOLITION PLAN BASE BID - PHASE 2
D1.3	DEMOLITION PLAN BASE BID - PHASE 3
D1.4	DEMOLITION PLAN - ALTERNATE 1
D1.5	DEMOLITION PLAN - ALTERNATE 2
D1.6	DEMOLITION PLAN - ALTERNATE 3
D1.7	DEMOLITION PLAN - ALTERNATE 4
D1.8	DEMOLITION PLAN - ALTERNATE 5 & 6
D2.1	DEMOLITION ROOF PLANS - PHASES 1-3
D2.2	DEMOLITION ROOF PLAN – ALTERNATE 4
D2.3	DEMOLITION ROOF PLAN - ALTERNATES 5
D2.4	DEMOLITION ROOF PLAN – PHASES 1-3
D3.1	DEMOLITION – ENLARGED DETAILS
D4.1	DEMOLITION EXTERIOR ELEVATIONS – ALTERNATE 1

ARCHITECTURAL

A1.1	ARCHITECTURAL FLOOR PLAN & ELEVATIONS – ALTERNATE 1
A1.2	ARCHITECTURAL FLOOR PLAN & ELEVATIONS – ALTERNATE 2
A1.3	ARCHITECTURAL FLOOR PLAN & ELEVATION – ALTERNATE 3
A1.4	ARCHITECTURAL FLOOR PLAN & ELEVATION – ALTERNATE 4
A1.5	ARCHITECTURAL FLOOR PLAN - ALTERNATES 5&6
A2.1	ENLARGED ROOF DETAILS
A3.0	ENLARGED PLAN DETAILS AND ELEVATIONS ADD1
A5.1	WALL SECTIONS
A7.1	DOOR SCHEDULE AND DETAILS
A9.0	LOWER-LEVEL REFLECTED CEILING PLAN

PLUMBING

PD0.0	PLUMBING NOTES AND GENERAL INFORMATION
PD0.1	UNDERGROUND PLUMBING DEMOLITION PLAN – ALTERNATES 1&3
PD1.1	FIRST FLOOR PLUMBING DEMOLITION PLAN – ALTERNATES 1 & 3
PD1.2	PLUMBING DEMOLITION PLAN – ALTERNATE 2
PD1.3	PLUMBING DEMOLITION PLAN – ALTERNATE 4
P1.1	PLUMBING PLANS – ALTERNATE 6

MECHANICAL & HVAC

MG0.0	MECHANICAL NOTES AND GENERAL INFORMATION
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MD1.1	MECHANICAL DEMOLITION BASE BID - PHASE 1
MD1.2	MECHANICAL DEMOLITION BASE BID - PHASE 2
MD1.3	MECHANICAL DEMOLITION BASE BID - PHASE 3
MD1.4	MECHANICAL DEMOLITION PLAN – ALTERNATE 1
MD1.5	MECHANICAL DEMOLITION PLAN – ALTERNATE 2
MD1.6	MECHANICAL DEMOLITION PLAN – ALTERNATE 3
MD1.7	MECHANICAL DEMOLITION PLAN – ALTERNATE 4
MD1.8	MECHANICAL DEMOLITION PLAN – ALTERNATE 5&6
MD1.9	MECHANICAL PIPING DEMOLITION – PENTHOUSE
MD1.10	MECHANICAL HVAC DEMOLITION – PENTHOUSE PLAN
MD2.1	MECHANICAL ROOF DEMOLITION PLAN – PHASE 1
MD2.2	DEMOLITION ROOF MECHANICAL PLAN – PHASE 2
MD2.3	DEMOLITION ROOF MECHANICAL PLAN – PHASE 3
MD2.4	MECHANICAL ROOF DEMOLITION PLAN – ALTERNATES 1-3
MD2.5	DEMOLITION ROOF MECHANICAL PLAN – ALTERNATES 4
M1.1	MECHANICAL PLAN BASE BID – PHASE 1
M1.2	MECHANICAL PLAN BASE BID – PHASE 2
M1.3	MECHANICAL PLAN BASE BID – PHASE 3
M1.4	MECHANICAL PIPING PENTHOUSE PLAN
M1.5	MECHANICAL HVAC PENTHOUSE PLAN
M1.6	MECHANICAL PLAN – ALTERNATES 5&6
M2.1	MECHANICAL ROOF PLAN BASE BID – PHASE 1
M2.2	MECHANICAL ROOF PLAN BASE BID – PHASE 2
M2.3	MECHANICAL ROOF PLAN BASE BID – PHASE 3
M2.4	MECHANICAL ROOF PLAN – ALTERNATE 5&6
M4.1	MECHANICAL DETAILS
M4.2	MECHANICAL DETAILS
M5.1	MECHANICAL SCHEDULES

ELECTRICAL

EG0.0	ELECTRICAL NOTES AND GENERAL INFORMATION
ED1.1	ELECTRICAL DEMOLITION BASE BID – PHASE 1
ED1.2	ELECTRICAL DEMOLITION BASE BID – PHASE 2
ED1.3	ELECTRICAL DEMOLITION BASE BID – PHASE 3
ED1.4	ELECTRICAL DEMOLITION PLAN – ALTERNATE 1
ED1.5	ELECTRICAL DEMOLITION PLAN – ALTERNATE 2
ED1.6	ELECTRICAL DEMOLITION PLANS – ALTERNATE 3

ED1.7	ELECTRICAL DEMOLITION PLAN – ALTERNATE 4
ED1.8	ELECTRICAL DEMOLITION PLAN – ALTERNATE 3&6
ED1.9	ELECTRICAL DEMOLITION PENTHOUSE PLAN
ED1.10	ELECTRICAL DEMOLITION ROOF PLAN – PHASE 1
ED1.11	ELECTRICAL DEMOLITION ROOF PLAN – PHASE 2
ED1.12	ELECTRICAL DEMOLITION ROOF PLAN – PHASE 3
E1.1	ELECTRICAL POWER PLAN BASE BID – PHASE 1
E1.2	ELECTRICAL POWER PLAN BASE BID – PHASE 2
E1.3	ELECTRICAL POWER PLAN BASE BID – PHASE 3
E1.4	ELECTRICAL POWER PLAN PENTHOUSE
E1.5	ELECTRICAL POWER PLAN – ALTERNATES 5&6
E1.6	ELECTRICAL ROOF PLAN BASE BID – PHASE 1
E1.7	ELECTRICAL ROOF PLAN BASE BID – PHASE 2
E1.8	ELECTRICAL ROOF PLAN BASE BID – PHASE 3
E1.9	ELECTRICAL ROOF PLAN – ALTERNATE 5
E2.1	ELECTRICAL LIGHTING PLAN – ALTERNATE 1
E2.2	ELECTRICAL LIGHTING PLAN – ALTERNATE 2
E2.3	ELECTRICAL LIGHTING PLAN – ALTERNATES 3&6
E2.4	ELECTRICAL LIGHTING PLAN – ALTERNATE 4
E2.5	ELECTRICAL LIGHTING PLAN – PENTHOUSE
E5.1	ELECTRICAL DETAILS
E5.2	ELECTRICAL DETAILS
E6.1	ELECTRICAL SCHEDULES

END OF SECTION 000115

SECTION 090190.52 - MAINTENANCE REPAINTING**PART 1 - GENERAL****1.1 SUMMARY**

- A. Section includes maintenance repainting as follows:

1. Repainting.

1.2 DEFINITIONS

- A. Gloss Level 1: Not more than 5 units at 60 degrees and 10 units at 85 degrees, according to ASTM D523.
- B. Gloss Level 2: Not more than 10 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D523.
- C. Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D523.
- D. Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D523.
- E. Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D523.
- F. Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D523.
- G. Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D523.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each type of paint system and each pattern, color, and gloss.
1. For each painted color being matched to a standardized color-coding system, include the color chips from the color-coding-system company with Samples.
 2. Label each Sample for location and application.
- C. Product List: Printout of current "MPI Approved Products List" for each MPI-product category specified in paint systems, with the proposed product highlighted.

1.4 INFORMATIONAL SUBMITTALS

- A. Color Matching Certificate: For computer-matched colors.

PART 2 - PRODUCTS

2.1 PREPARATORY CLEANING MATERIALS

- A. Water: Potable.
- B. Abrasives for Ferrous Metal Cleaning: Aluminum oxide paper, emery paper, fine steel wool, steel scrapers, and steel-wire brushes of various sizes.
- C. Rust Remover: Manufacturer's standard phosphoric acid-based gel formulation, also called "naval jelly," for removing corrosion from iron and steel.

2.2 PAINT, GENERAL

- A. Material Compatibility:
 - 1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - 2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
- B. Colors: Architect to Select from Manufacturer's standard range.

2.3 PAINT MATERIALS, GENERAL

- A. MPI Standards: Provide products that comply with MPI standards indicated and that are listed in its "MPI Approved Products List."
- B. Transition Coat: Paint manufacturer's recommended coating for use where a residual existing coating is incompatible with the paint system.

2.4 PAINT MATERIALS

- A. Primer plus Topcoat
 - 1. Sherwin Williams Exterior-Based Coating for Metal Surfaces:
 - a. Pro-Industrial, (1) One Coat Pro-Cryl Universal Primer, Sherwin Williams B66W01310: MPI #107.
 - b. Pro-Industrial, (2) Two Coats Acrylic Gloss Coating, (Gloss Level 3), Sherwin Williams B66W00611: MPI #114.
 - 2. Approved Equal

PART 3 - EXECUTION

3.1 MAINTENANCE REPAINTING, GENERAL

- A. Execution of the Work: In repainting surfaces, disturb them as minimally as possible and as follows:
 - 1. Remove failed coatings and corrosion and repaint.
 - 2. Verify that substrate surface conditions are suitable for repainting.
 - 3. Allow other trades to repair items in place before repainting.
- B. Mechanical Abrasion: Where mechanical abrasion is needed for the work, use gentle methods, such as scraping and lightly hand sanding, that will not abrade softer substrates, reducing clarity of detail.
- C. Heat Processes: Do not use torches, heat guns, or heat plates.

3.2 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of painting work. Comply with paint manufacturer's written instructions for inspection.

3.3 PREPARATORY CLEANING

- A. General: Use the gentlest, appropriate method necessary to clean surfaces in preparation for painting. Clean all surfaces, corners, contours, and interstices.
- B. Detergent Cleaning: Wash surfaces by hand using clean rags, sponges, and bristle brushes. Scrub surface with detergent solution and bristle brush until soil is thoroughly dislodged and can be removed by rinsing. Use small brushes to remove soil from joints and crevices. Dip brush in solution often to ensure that adequate fresh detergent is used and that surface remains wet. Rinse with water applied by clean rags or sponges.
- C. Solvent Cleaning: Use solvent cleaning to remove oil, grease, smoke, tar, and asphalt from painted or unpainted surfaces before other preparation work. Wipe surfaces with solvent using clean rags and sponges. If necessary, spot-solvent cleaning may be employed just prior to commencement of paint application, provided enough time is allowed for complete evaporation. Use clean solvent and clean rags for the final wash to ensure that all foreign materials have been removed. Do not use solvents, including primer thinner and turpentine, that leave residue.
- D. Mildew: Clean off existing mildew, algae, moss, plant material, loose paint, grease, dirt, and other debris by scrubbing with bristle brush or sponge and detergent solution. Scrub mildewed areas with mildewcide. Rinse with water applied by clean rags or sponges.

3.4 PAINT APPLICATION, GENERAL

- A. Prepare surfaces to be painted according to the Surface-Preparation Schedule and with manufacturer's written instructions for each substrate condition.
- B. Apply a transition coat over incompatible existing coatings.

- C. Blending Painted Surfaces: When painting new substrates patched into existing surfaces or touching up missing or damaged finishes, apply coating system specified for the specific substrate. Apply final finish coat over entire surface from edge to edge and corner to corner.

3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- C. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

END OF SECTION 090190.52

SECTION 230993 - SEQUENCE OF OPERATIONS FOR HVAC CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections.
- B. Division 23 Section "Common Work Results for HVAC".
- C. Division 23 Section "Facility Management Systems".

1.2 DESCRIPTION OF WORK

- A. Sequence of operation is hereby defined as the manner and method by which controls function. Requirements for each type of control system operation are specified in this section.
- B. Operating equipment, devices, and system components required for control systems are specified in Division 23 Section "Facility Management Systems".
- C. HVAC Systems shall be controlled with a Direct Digital Control (DDC) system, sometimes referred to as a Facility Management System (FMS), according to the point list contained at the end of this section. Additional hardware, input/output points or software programming not specifically identified in the point list but which are required to meet the following sequences of operation shall be provided.
- D. All electrical Controllers, Relays, Transducers, etc., required for stand-alone control shall be housed in a NEMA 1 enclosure with a lockable door.

1.3 DEFINITIONS

- A. FMS: Facility management system
- B. DAT: Discharge air temperature.
- C. VSD: Variable speed drive.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 ALARMS

- A. Generate an alarm at the computer graphics when any space temperature is <50 def F for 15 minutes (adjustable) and an immediate alarm when any space temperature is <40 deg F (adjustable).

- B. Coordinate with the owner to identify alarms as "general" or "critical". General alarms will only be displayed at the computer graphics. Critical alarms will be displayed in the computer graphics program and dialed-out, emailed, or text messaged to pre-programmed telephone numbers and email address via the internet.

3.2 HVAC ZONE CONTROL SEQUENCES

- A. Provide software time clock and set-up schedule to place each HVAC system into occupied or unoccupied mode.

3.3 TERMINAL UNITS' CONTROL SEQUENCES

- A. Unit Heater Control (Hot Water): FMS shall cycle fan motor and hot water valve to maintain space temperature between set point and 2 deg F (adjustable) below set point.
 - 1. De-energize unit when hot water supply water temperature falls below 95 deg F (adjustable) and outside air temperature is 80 deg F or above (adjustable).
- B. (ALTERNATE #6) Finned Tube Radiators (Electric): A unit mounted thermostat shall cycle electric heat to maintain space temperature between set point and 2 deg F (adjustable) below set point.

3.4 AIR HANDLING UNITS CONTROL SEQUENCES

- A. Safety Controls for Air Handling Units:
 - 1. Provide a low-limit controller to prevent unit discharge air from falling below 45 deg F (adjustable). Sensor shall be located at the discharge of the unit.
 - 2. Provide an electric low limit thermostat with a 20 foot element serpentine across the face of the leaving air side of the heating coil which will stop the supply fan, close the outside air damper (and relief dampers if applicable) and modulate the heating control valve to maintain a cabinet temperature of 75 deg F (adjustable). The freeze stat is to be automatic reset type. If the freeze stat resets 3 times (adjustable) within a 24 hour period, the unit will be locked out and require a software reset from the FMS.
 - 1. Provide strap-on aquastat on the leaving water side of the hot water coil to stop the supply fan, close the outside air damper (and relief dampers if applicable) and modulate the heating control valve to maintain a cabinet temperature of 75 deg F (adjustable) if leaving water temperature drops below 40 deg F (adjustable).
 - 2. Provide a high-limit controller to prevent unit discharge air from rising above 125 deg F (adjustable). Sensor shall be located at the discharge of the unit.

- A. MZ-1 THRU 9 (Multi-Zone):

- 1. Occupied Mode: Supply fan shall operate continuously.

Open outside air damper to minimum position and modulate relief air damper. If outside air dry bulb temperature is less than the interior space temperature, modulate outside and relief air dampers to provide economizer cooling if required.

Modulate hot water coil control valve and chilled water coil control valve to maintain hot and cold deck temperatures. If any hot zone damper reaches 100% open, reset hot deck temperature upwards to maintain zone set point. If any cold zone damper reaches 100%

open, reset cold deck temperature downwards to maintain zone set point. If any zone relative humidity exceeds set point (65%, adjustable), reset cold deck temperature to 55 deg F.

Zone dampers shall be modulated as required to maintain zone temperature set points. A low limit controller shall prevent the mixed air temperature from falling below 40 deg F

2. Unoccupied Mode: Maintain outside air damper closed and hot deck zone dampers open, cycle unit fan with maximum hot water flow to maintain reduced set point space temperature. Modulate hot deck zone dampers to prevent space temperature rising above zone occupied heating set point. If space humidity exceeds set point, the unit shall be placed into the occupied mode with the outside air damper closed until the space humidity is 5% RH below set point.
3. Morning Warm-Up: The FMS shall provide optimum start of unit supply fan with full hot water flow and outside air damper closed until each zone occupied space heating set point temperature is reached 5 to 10 minutes prior to occupied schedule. Modulate zone dampers to prevent over-shooting of occupied heating set point. The system shall revert back to its normal occupied mode per schedule.
4. Morning Cool-Down: FMS shall provide optimum start of unit fan with full cooling coil flow and outside air damper closed until each zone occupied space cooling set point temperature is reached 5 to 10 minutes prior to occupied schedule. Modulate zone dampers to prevent over-shooting of cooling set points. The system shall revert back to its normal occupied mode per schedule.

B. AHU-1 (Constant Volume, Heating and Ventilation):

1. Occupied Mode: Supply fan shall operate continuously.

Open outside air damper to provide minimum outside air. If outside air dry bulb temperature is less than interior and cooling is required, modulate outside air open to provide economizer cooling.

Modulate the hot water coil water control valve as required to maintain space set point.

2. Unoccupied Mode: Maintain outside air damper closed, cycle unit supply fan with maximum hot water flow to maintain reduced set point temperature.
3. Morning Warm-Up: FMS shall provide optimum start of unit supply fan with full hot water flow and outside air dampers closed until occupied space set point temperatures are reached, at which time the system shall revert back to its normal occupied mode.

3.5 SEQUENCE FOR ZONES WITH MULTIPLE SENSORS

- A. In zones with multiple sensors, the temperature and humidity are to be averaged. The system must be programmed to have the capability for a weighted average to give a higher priority to a single room or group of rooms.
- B. Each zone sensor is to be a combination temperature and humidity sensor.

3.6 ENERGY VALVES

- A. Where energy valves are indicated on the drawings, the valve shall be modulated as described above to maintain desired temperatures, and also to maintain a programmed water temperature difference between the supply and return piping at the associated coil. Supply and return water temperatures, and the delta T between the two, are to be displayed on the graphics per the Input/Output Summary Table.

3.7 RETURN FAN CONTROL SEQUENCE (Constant Volume)

- A. RF-1 THRU 9: Energize fan during occupied cycle of associated multizone air handling unit.

3.8 PENTHOUSE RELIEF AIR DAMPER CONTROL SEQUENCE

- A. Modulate Louver Relief air damper to maintain a positive penthouse pressure of 0.03" w.c. (adjustable).

3.9 ROOFTOP UNIT SEQUENCES (ALTERNATE #5)

- A. Safety Controls for Rooftop Units:

1. Provide a low-limit controller to prevent unit discharge air from falling below 45 deg F (adjustable). Sensor shall be located at the discharge of the duct heating coil.
2. Provide a high-limit controller to prevent unit discharge air from rising above 125 deg F (adjustable). Sensor shall be located at the discharge of the duct heating coil.

- C. RTU-1, 2 (Single Zone VAV Heating, Cooling, and Ventilating Rooftop Unit):

1. Occupied Mode: Open outside air damper to provide minimum outside air cfm on schedule. Supply fan shall operate continuously. Activate stages of DX cooling and gas heat as required to maintain discharge air temperature set point. Cooling minimum DAT shall be 55 deg F (adj.) and heating maximum DAT shall be 95 deg F (adj.). If outside air temperature is 3 degrees less than the space return temperature, and outside air temperature is less than 72 degrees, and cooling is required, modulate outside air damper open to provide economizer cooling. A mixed air temperature sensor shall maintain a minimum DAT of 55 deg F.

Modulate the outside air damper to maintain a space CO₂ level less than 800 ppm (adjustable). For RTU-1, the minimum outside air flow is to be 350 cfm. For RTU-2, the minimum outside air flow is to be 200 cfm. On a rise in space CO₂ level, modulate the outside air dampers open to the scheduled max outside air flow rate as required to maintain the space CO₂ level below 800 ppm (adjustable). The CO₂ sensor will be overridden, and the outside air damper modulated open as required to maintain a positive space pressure.

2. If space humidity rises above set point (65 % RH, adjustable) at the supplied space humidity sensor and dehumidification is enabled, the unit will maintain the compressor operation and reduce the indoor fan airflow to increase latent capacity. If the space humidity value exceeds the dehumidification setpoint during no active call for cooling, the unit will energize the compressor and fans to an optimum capacity for dehumidification. If during active enhanced dehumidification the space humidity falls below the

dehumidification setpoint - 2%, dehumidification will be terminated and the unit will transition back to normal cooling or heating control.

3. Unoccupied Mode: Outside air damper shall remain closed. Cycle supply fan and stages of cooling as required to maintain set back temperature. If space humidity exceeds set point, the unit shall be placed into dehumidification mode until the space humidity is 5% (adjustable) below set point. The outside air damper is to remain closed.
4. Optimal Start: The unit will use an optimal start algorithm for morning start-up. This algorithm will minimize the unoccupied warm-up or cool-down period while still achieving comfort conditions by the start of scheduled occupied period. The mixed air dampers will operate as described in the occupied mode except that the outside air damper will modulate to fully closed.
5. Space sensor is to be a combination temperature and humidity sensor.

3.10 EXHAUST FAN CONTROL SEQUENCE

- A. EF-A1 thru A10, B1 thru B7: Operate during occupied cycle of nearest AHU, off otherwise.
- B. (ALTERNATE #6) EF-B8: Operate during occupied cycle of nearest AHU, off otherwise.

3.11 PUMP CONTROL SEQUENCE

- A. P-1, P-2 Building Hot Water Distribution Loop: Variable volume pumping. Energize lead variable volume pump on a call for hot water. Modulate lead pump with a 4-20 mA output to the variable speed drive (VSD) to maintain a 10 PSIG (adjustable) differential pressure across the supply and return mains. With a failure of the lead pump to establish flow within 15 seconds after a call to operate, start the lag pump and generate an alarm message reading "BUILDING HOT WATER DISTRIBUTION LOOP LEAD PUMP FAILURE" to be automatically displayed in computer graphics and dial out, text messaged, and email to pre-programmed addresses and/or numbers. Alternate lead and lag pumps every seven days (adjustable). In unoccupied mode, if the outside air temperature is above 25 degrees (adjustable), the pumps are to be off. When outside air temperature is below 25 degrees (adjustable), the lead pump shall be energized on a call for hot water.
- B. P-3, P-4 Building Chilled Water Distribution Loop: Variable volume pumping. Energize lead variable volume pump on a call for hot water. Modulate lead pump with a 4-20 mA output to the variable speed drive (VSD) to maintain a 10 PSIG (adjustable) differential pressure across the supply and return mains. With a failure of the lead pump to establish flow within 15 seconds after a call to operate, start the lag pump and generate an alarm message reading "BUILDING CHILLED WATER DISTRIBUTION LOOP LEAD PUMP FAILURE" to be automatically displayed in computer graphics and dial out, text messaged, and email to pre-programmed addresses and/or numbers. Alternate lead and lag pumps every seven days (adjustable).

3.12 BOILER AND HEATING WATER CONTROL SEQUENCE

- A. On a call for hot water the FMS shall energize the hot water distribution pump(s), and packaged controls shall be enabled to maintain the hot water loop temperature. The packaged controls shall activate, and stage boilers and their associated pumps as required to maintain the loop supply temperature. The boiler controller shall sequence the boilers and modulate output such

that total system efficiency is maximized. The packaged controller shall reset the supply water temperature based on outside air temperature. The packaged controller shall have a set of dry contacts to notify the FMS of any alarm state within the boiler plant or controller.

- B. Boiler isolation valves are to be open when the respective boiler is firing, closed otherwise.

3.13 CHILLER CONTROL SEQUENCE

- A. During "Occupied Mode", the FMS shall enable the chiller when economizer cooling is not sufficient to satisfy space cooling needs, the ambient temperature is above 50 deg F, and there is a call for chilled water. The supply water temperature will be reset by a 4-20 mA or 0-10 VDC output signal from the FMS to the chiller microprocessor to satisfy zone with greatest cooling demand or dehumidification demand. Mechanical Contractor shall provide interlock wiring between flow switches and discharge controller sensors at chiller evaporator and condenser water barrels and chiller control panel.
- B. During "Unoccupied Mode", maintain existing sequence of operation.
- C. Monitor and trend chiller electrical load (kW) on a daily basis and maintain the maximum electrical load for chiller on each day for a period of one year in a trend log.

3.14 EXISTING EQUIPMENT SEQUENCE

- A. Maintain existing sequence of operation for all air handlers, fan coil units, exhaust fans, steam boiler, pumps, and unit heaters not being removed or replaced as part of the project.

Customer: HCCSC	INPUT/OUTPUT SUMMARY TABLE																						SOFTWARE																												
	HARDWARE										ALARMS												EMCS FUNCTIONS																												
	OUTPUT (O)		INPUT (T, D, V, C)								DIGITAL		ANALOG						DIG		ANALG																														
Location: Salamonie	DIG	ANALG	Pneumatic Transducer	Electrical Transducer	4-20 ma or 0-10 VDC	Pressure Switch	Flow Switch	Contact Closure	Auxiliary Contact	KW Meter Contact	Temperature	Relative Humidity	Set Point Adjustment	Flow	Current Transducer	Position	Trending	Equipment Status	Maintenance	High Limit	Low Limit (Temperature)	Run Time	Scheduled On/Off	Optimum Start/Stop	Demand Limiting	Totalization	Day/Night Setback	Economizer	Ventilation/recirculation	Direct Digital Temp. Control	Enthalpy (Global)	Heating or Cooling Reset	Boiler Optimization	OA Reset	Chiller Optimization	Chilled Water Reset	VAV Control	Variable Speed Pumping	Ice Storage Control	Lead/Lag Control	Lighting Control	Color Graphics Item									
	Control Relay	Solenoid										X	X	X																																					
Point Description																																																			
Outside Air																																																			
Unit Heaters																																																			
Supply Fan	X														X				X																																
Hot Water Valve					X											X																																			
Space Served											X																																								
MZ-1 THRU 9																																																			
Supply Fan					X										X				X																																
HW Coil Valve					X						X					X																																			
CHW Coil Valve					X						X					X																																			
Hot Deck											X																																								
Cold Deck											X																																								
Hot & Cold Zone Dampers					X						X					X																																			
Space Served											X				X																																				
AHU-1																																																			
Supply Fan					X										X				X																																
HW Coil Valve					X						X																																								
Outside Air Damper					X											X																																			
Return Air Damper					X											X																																			
Mixed Air											X																																								
Supply Air											X																																								
Space Served											X																																								

[illegible]

one and one half inches = one foot

one inch = one foot

three quarters inch = one foot

one half inch = one foot

three eighths inch = one foot

one quarter inch = one foot

one eighth inch = one foot

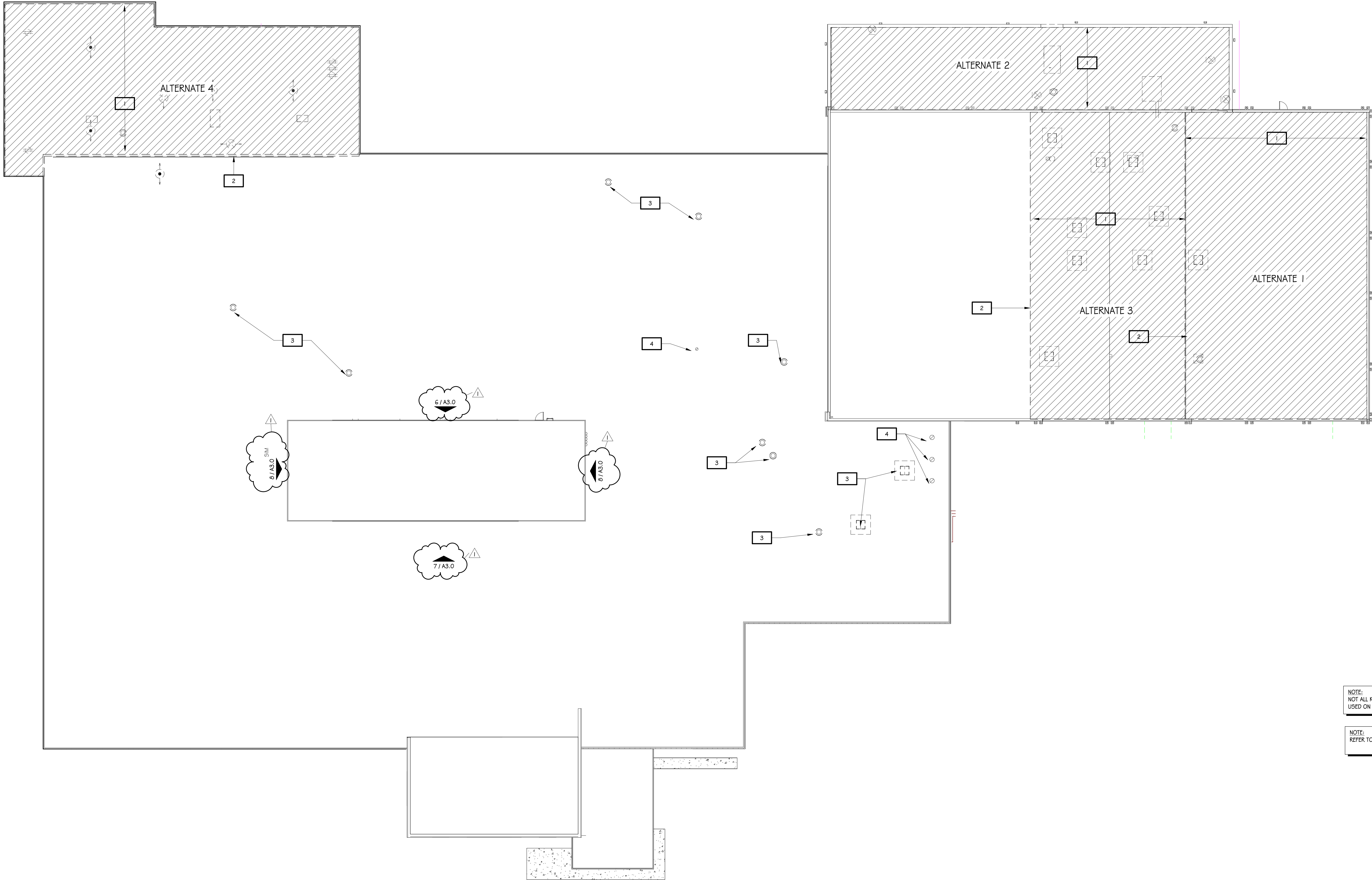
ROOF PLAN DEMOLITION NOTES

- CONTRACTOR SHALL REMOVE AND DISPOSE OF ROOFING, ROOF INSULATION, ROOF DRAINS, AND HVAC EQUIPMENT IN ITS ENTIRETY, AS APPROPRIATE TO EACH ALTERNATE. SEE DEMOLITION ELEVATIONS, STRUCTURAL AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
- CONTRACTOR TO CUT OUT ROOF COVER AND INSULATION DOWN TO STRUCTURE ALONG THE LENGTH OF THE ROOF BEING REMOVED PER THE ALTERNATE. PATCH DECK AND ROOF INSULATION, COPING AND FLASHING ALONG EDGE FOR A WATER TIGHT CONDITION.
- CONTRACTOR TO VERIFY SIZE OF OPENINGS REQUIRED FOR NEW ROOFTOP EQUIPMENT DUCTWORK AND CURB. CUT OUT ROOF COVER AND INSULATION AND PROVIDE CURB AS REQUIRED AND FLASH AROUND BASE FOR A WATER TIGHT CONDITION. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
- CONTRACTOR TO VERIFY SIZE OF PENETRATION FOR NEW FLUE, CUT OUT NEW OPENING AS REQUIRED. PROVIDE BASE FLASHING FOR A WATER TIGHT CONDITION.

GENERAL DEMOLITION NOTES

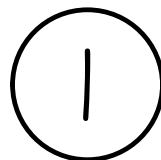
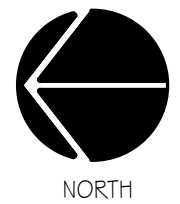
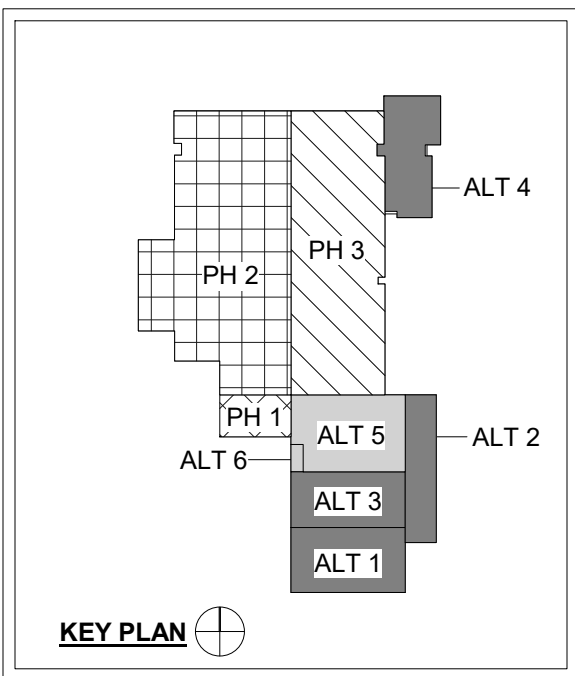
THESE NOTES APPLY TO ALL DEMOLITION DRAWINGS AND TO ALL CONTRACTORS AND / OR SUBCONTRACTORS THAT WORK WITHIN THE BUILDING.

- ALL MATERIALS INDICATED AS DASHED ARE TO BE REMOVED. THIS INCLUDES ALL FINISHES AND MATERIALS NOT SPECIFICALLY CALLED OUT BUT PERTAINING TO THE INTENDED SCOPE. CONTRACTOR TO COORDINATE ALL ASSOCIATED WORK BETWEEN ALL TRADES.
- CONTRACTORS SHALL BE RESPONSIBLE FOR VISITING THE SITE TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS. THESE DEMOLITION SHEETS SHALL SERVE TO AID THE CONTRACTOR IN THE EVALUATION OF THE EXTENT OF DEMOLITION; BUT SHALL NOT BE HELD TO BE ALL INCLUSIVE.
- CONTRACTORS SHALL FIELD INSPECT ALL DEMOLITION WORK PRIOR TO REMOVAL, TO ENSURE SUCH REMOVAL DOES NOT IMPAIR STRUCTURAL INTEGRITY OF THE EXISTING BUILDING. IF THE INSPECTION INDICATES THAT THE STRUCTURAL INTEGRITY MAY BE COMPROMISED, NOTIFY THE ARCHITECT / ENGINEER IMMEDIATELY.
- ALL CONSTRUCTION AREAS AND ASSOCIATED WORK AREAS SHALL BE KEPT CLEAN BY THE CONTRACTOR - DAILY.
- PROTECT FROM DEMOLITION DEBRIS AND EQUIPMENT, ALL EXISTING TREES.
- CONTRACTOR TO ENSURE NO DEMOLITION DEBRIS IS LEFT ON SITE (GROUNDS, DRIVEWAY, OR COUNTY ROADS) PRIOR TO COMPLETING ALL DEMOLITION WORK.
- CONTRACTOR TO PATCH / REPAIR / REGRADE EXISTING SITE PLAN AS NEEDED TO ELIMINATE ANY RUTS OR LOW AREAS CREATED DURING DEMOLITION AND CONSTRUCTION.



NOTE:
NOT ALL KEYNOTES ARE USED ON EVERY SHEET. ANY NOTE NOT USED ON THIS SHEET MAY OCCUR ON OTHER SHEETS.

NOTE:
REFER TO SHEET A2.1 FOR ENLARGED ROOF REPAIR DETAILS.



DEMOLITION - ROOF PLAN PHASE 1-3

SCALE: 1/4" = 1'-0"



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CERTIFICATION



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HCCSC - SALAMONIE SCHOOL HVAC REPLACEMENT AND RENOVATION

1063 E 900 S
WARREN, INDIANA 46792

REVISION	DATE	DESCRIPTION
1	10-08-2024	ADDENDUM #2

DATE	PROJECT
09/24/2024	2024.0002
TITLE	DEMOLITION ROOF PLAN - PHASES 1-3

SHEET

D2.4

one and one half inches = one foot

one inch = one foot

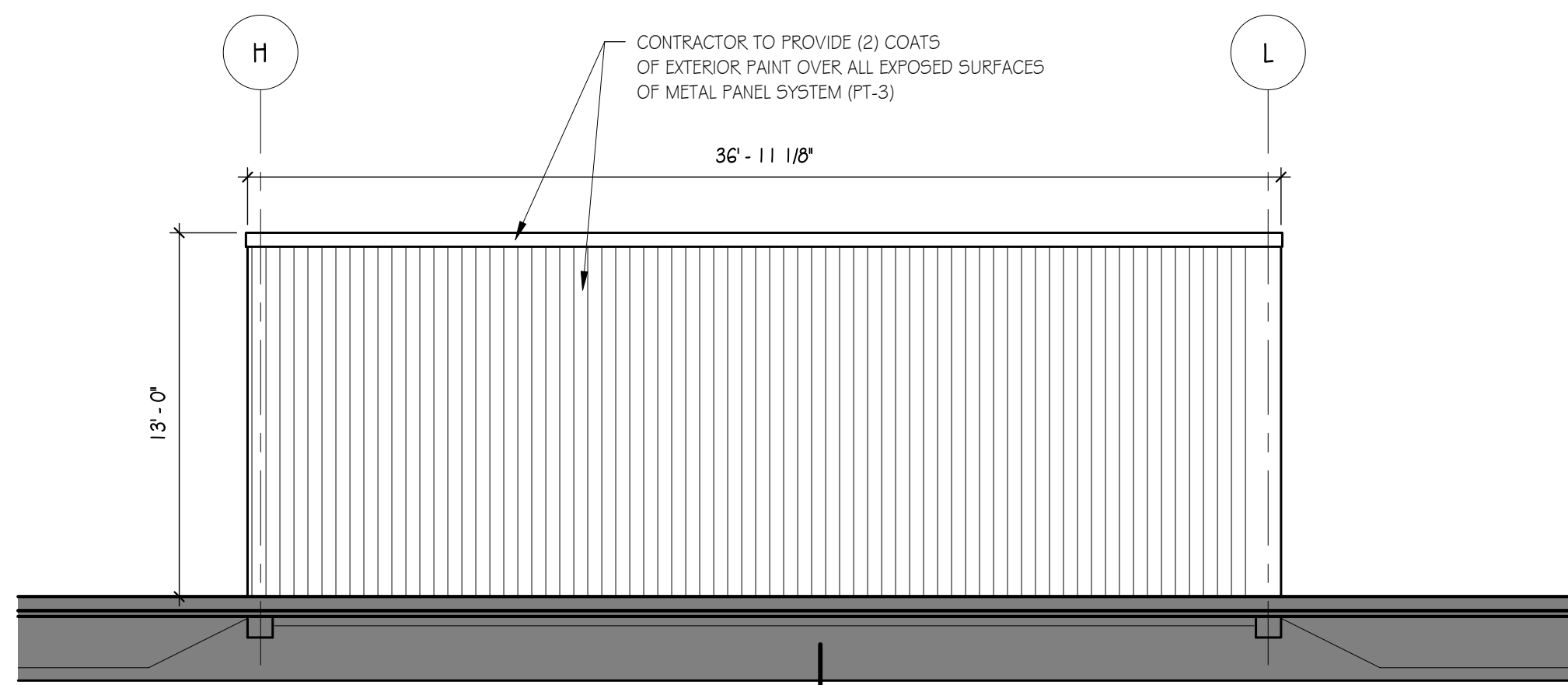
three quarters inch = one foot

one half inch = one foot

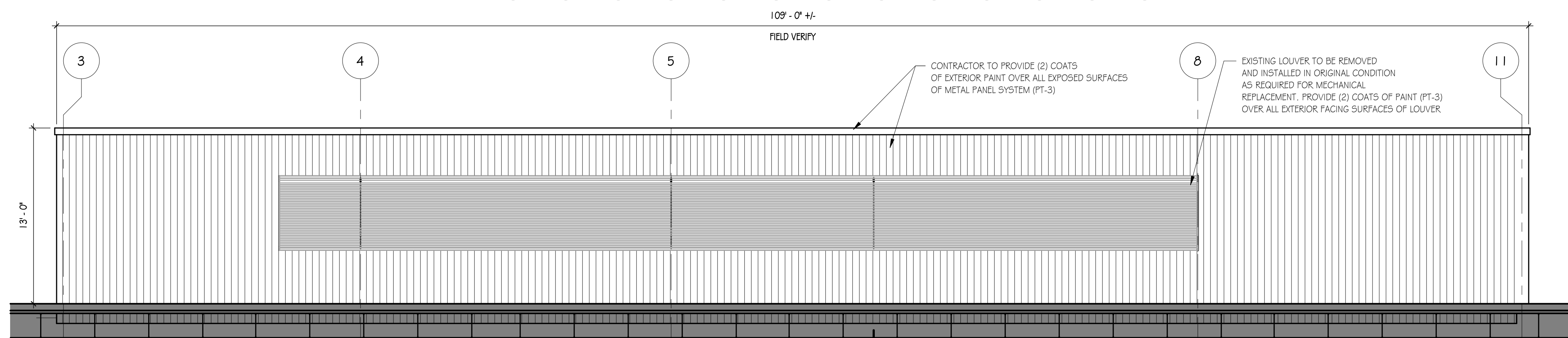
three eighths inch = one foot

one quarter inch = one foot

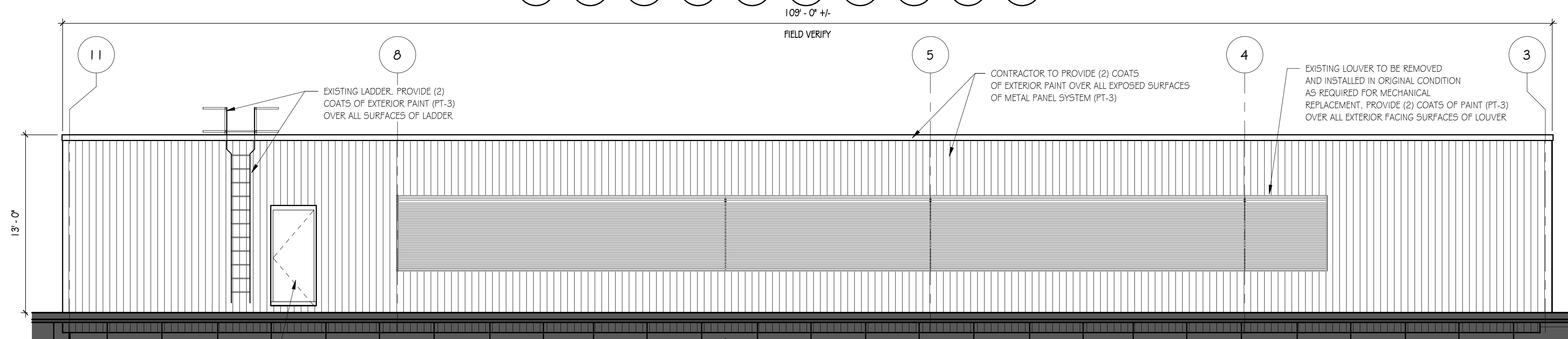
one eighth inch = one foot



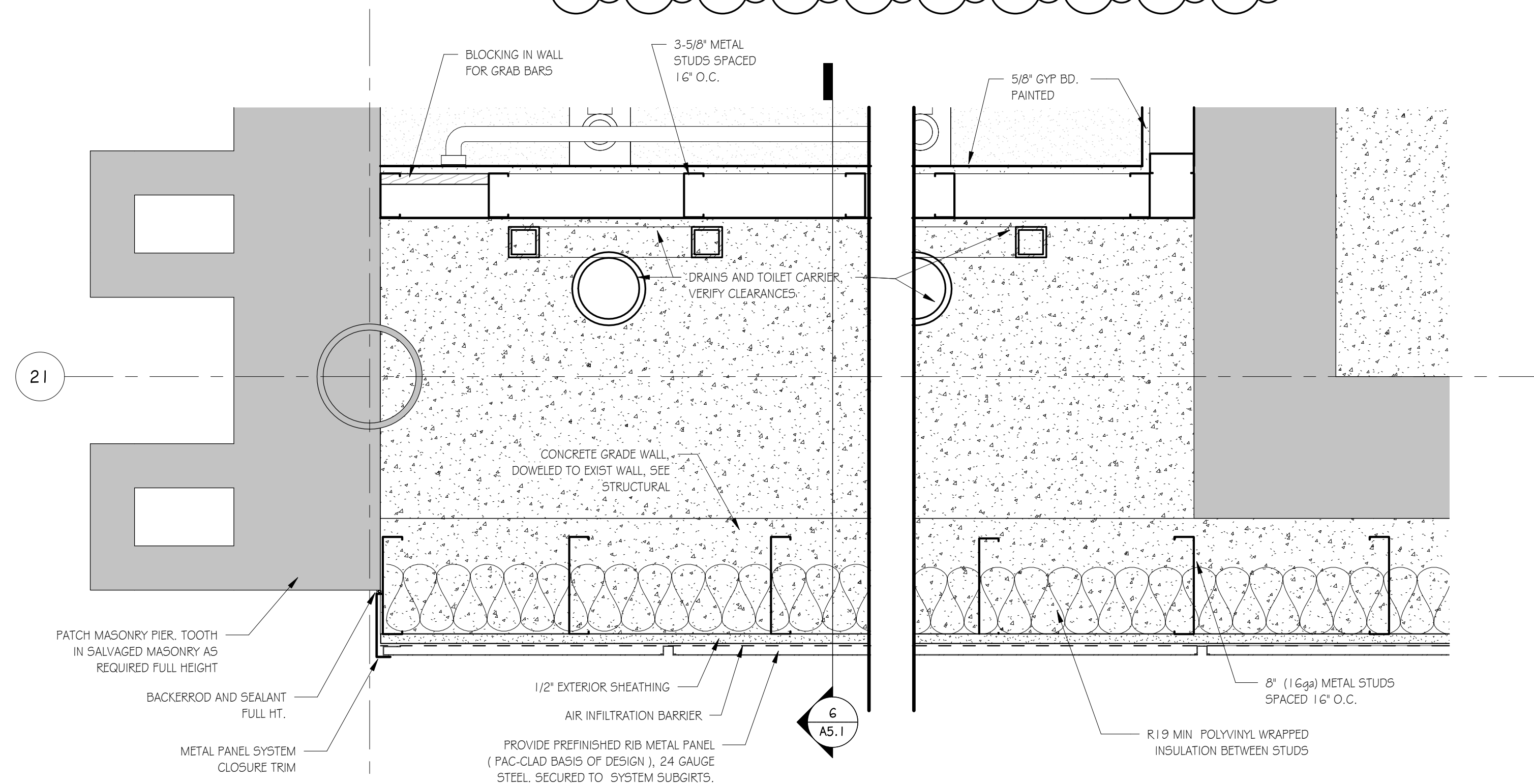
8 NORTH AND SOUTH ELEVATION PENTHOUSE - BASE BID
SCALE: 3/16" = 1'-0"



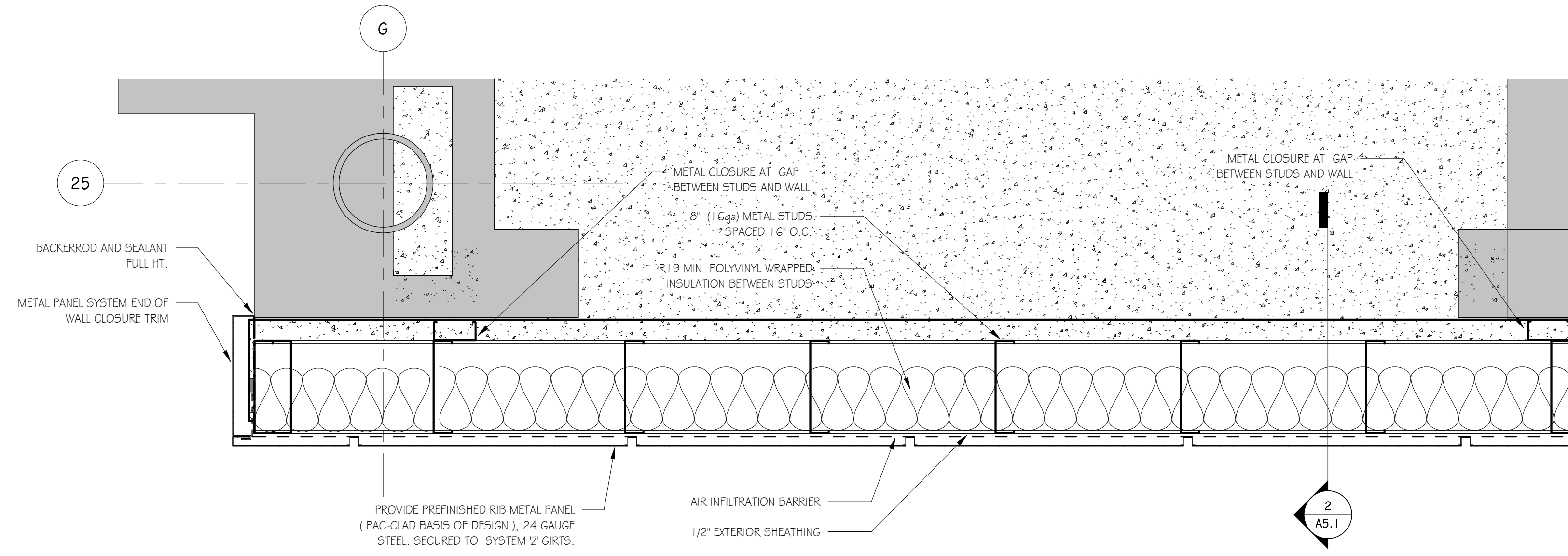
7 WEST ELEVATION PENTHOUSE - BASE BID
SCALE: 3/16" = 1'-0"



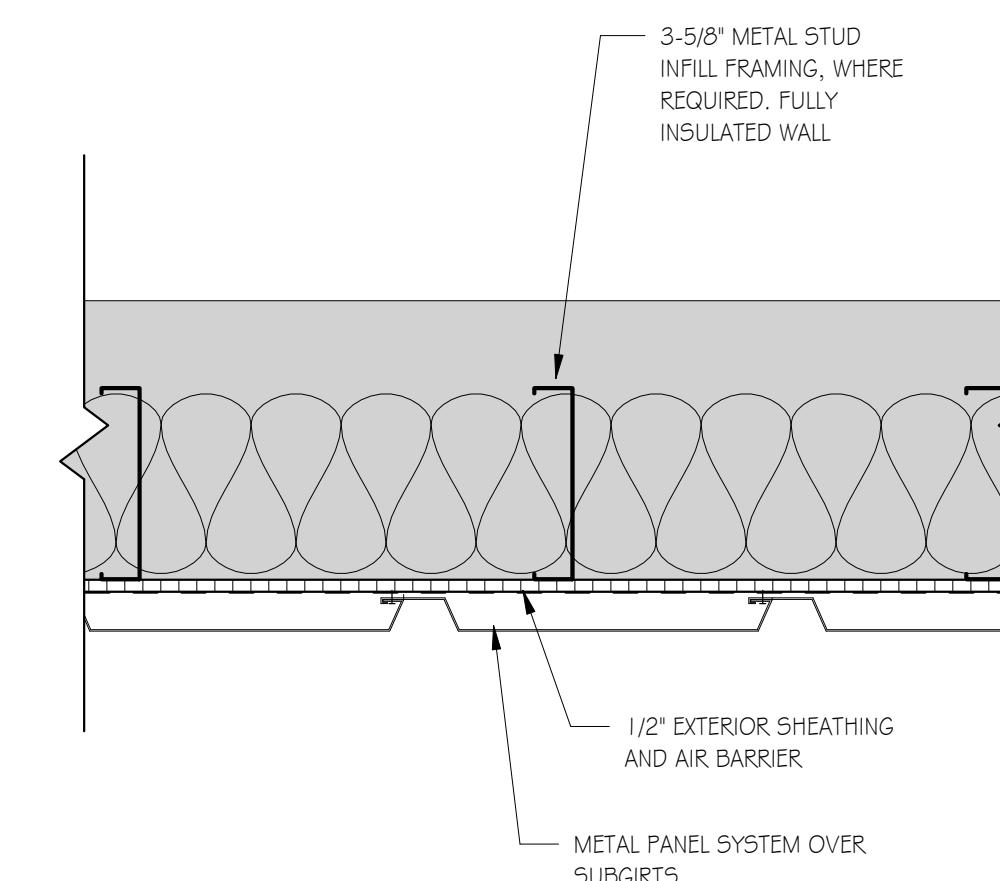
6 EAST ELEVATION PENTHOUSE - BASE BID
SCALE: 3/16" = 1'-0"



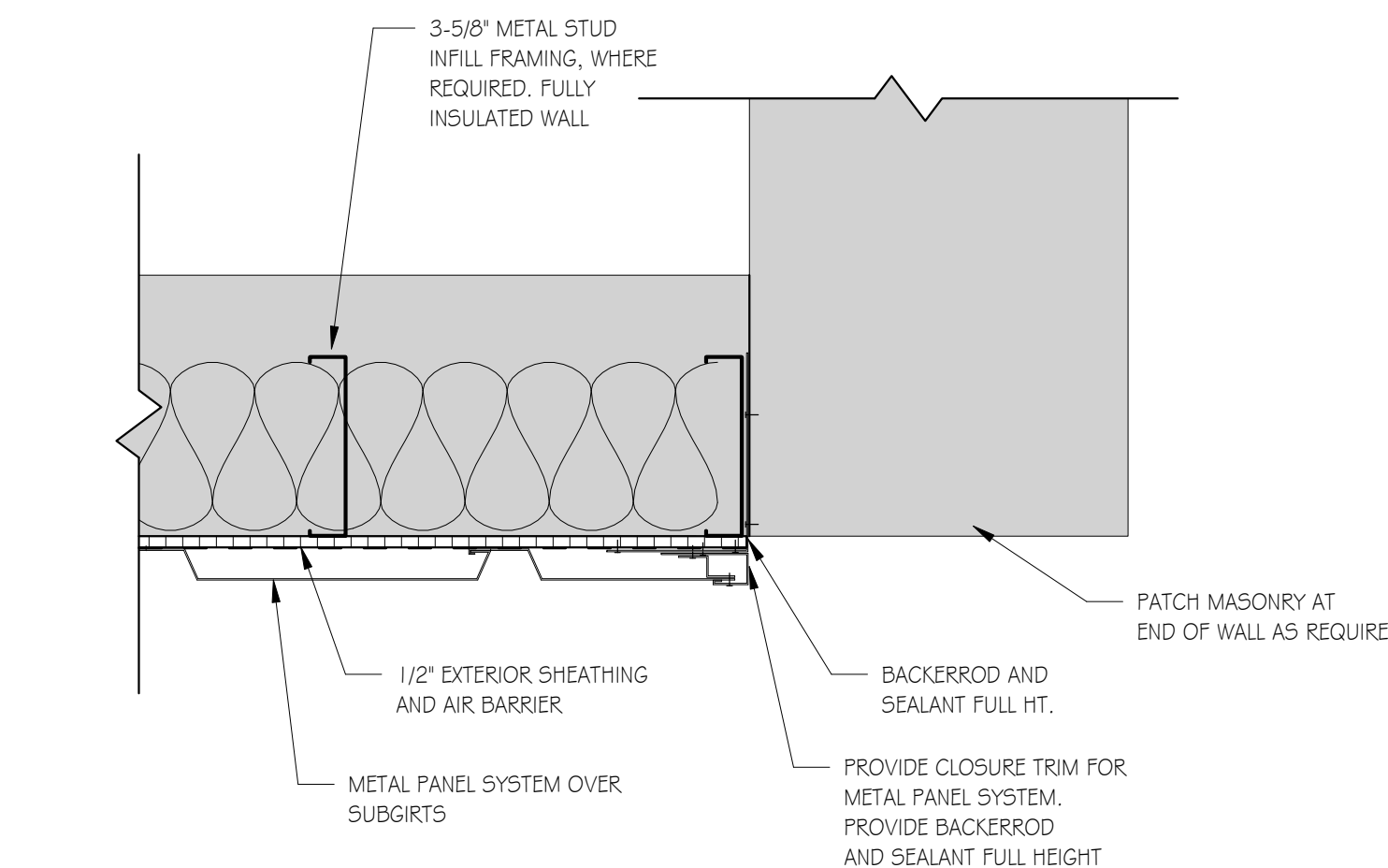
5 ENLARGED PLAN DETAIL 2 - ALTERNATE 3
SCALE: 1 1/2" = 1'-0"



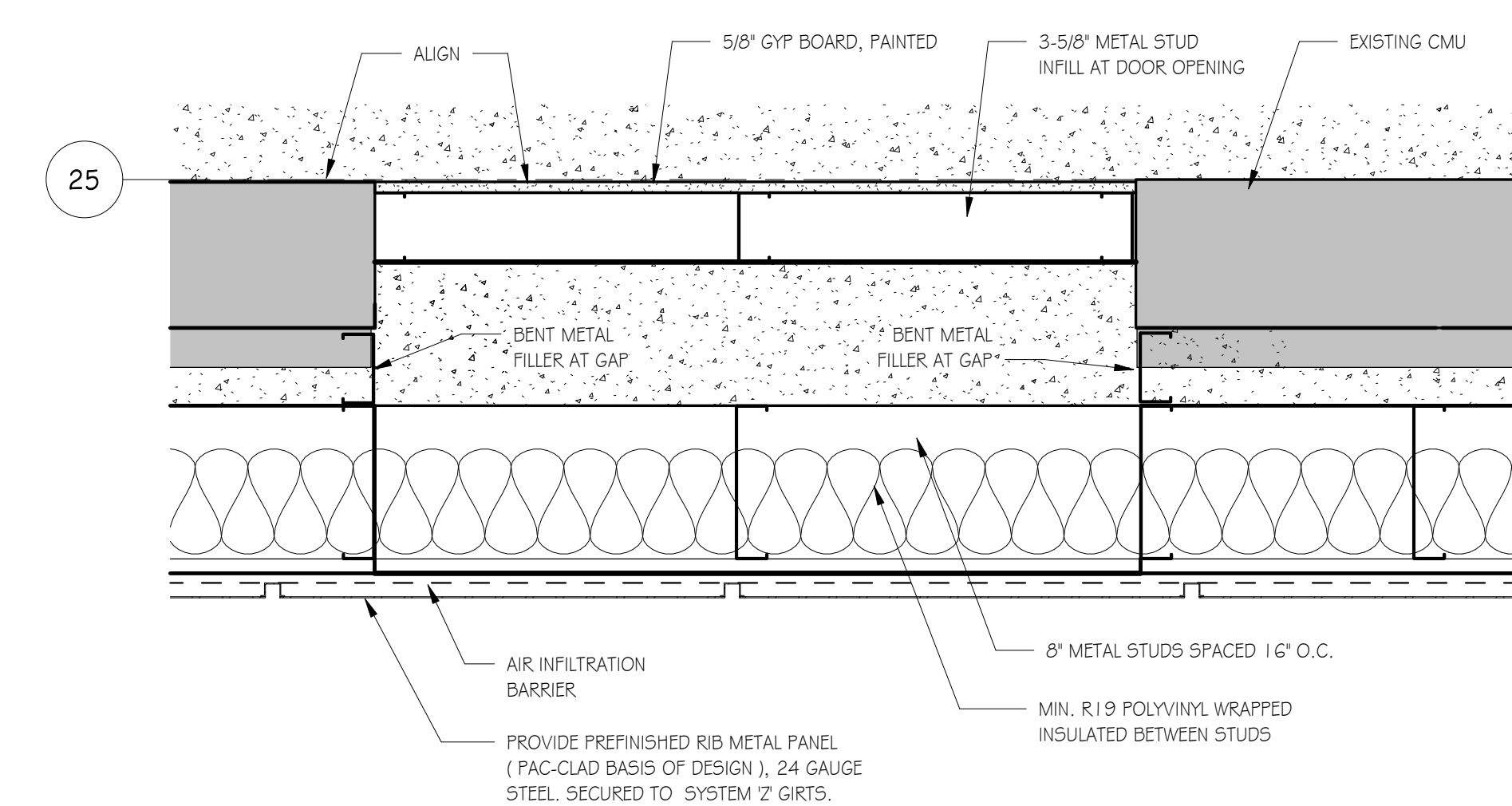
1 ENLARGED PLAN DETAIL 1 - ALTERNATE 1
SCALE: 1 1/2" = 1'-0"



4 METAL PANEL - PLAN VIEW
SCALE: 1 1/2" = 1'-0"

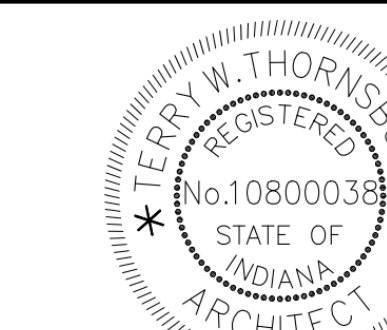


3 METAL PANEL - OUTSIDE CORNER
SCALE: 1 1/2" = 1'-0"



2 DOOR INFILL DETAIL - ALTERNATE 1
SCALE: 1 1/2" = 1'-0"

CERTIFICATION



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HCCSC - SALAMONIE SCHOOL HVAC REPLACEMENT
AND RENOVATION

1063 E 900 S
WARREN, INDIANA 46792

REVISION	DATE	DESCRIPTION
1	10-08-2024	ADDENDUM #2

DATE	PROJECT
09/24/2024	2024.0002
TITLE	
ENLARGED PLAN DETAILS & ELEVATIONS	

SHEET
A3.0

one and one half inches = one foot

one inch = one foot

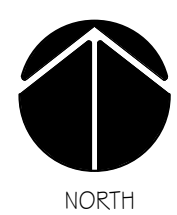
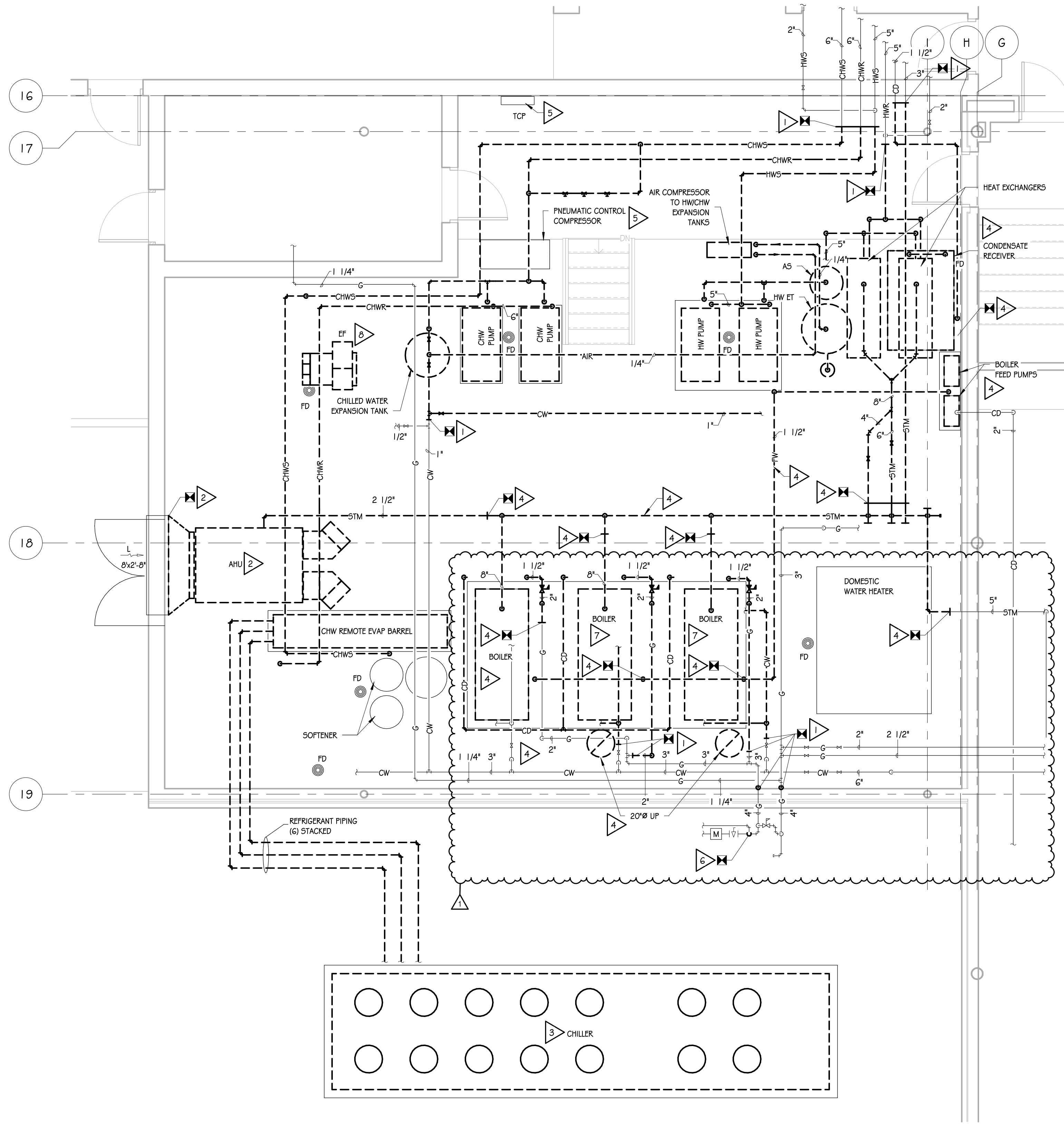
three quarters inch = one foot

one half inch = one foot

three eighths inch = one foot

one quarter inch = one foot

one eighth inch = one foot



MECHANICAL DEMOLITION BASE BID - PHASE I

SCALE: 1/4" = 1'-0"

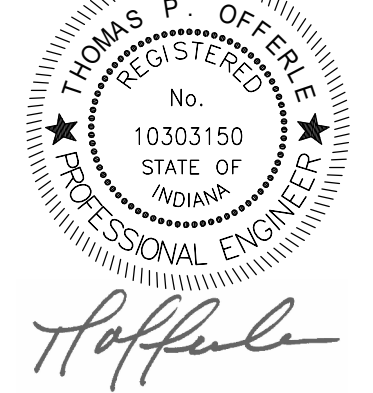
MECHANICAL DEMOLITION PLAN NOTES

- REMOVE PIPING TO POINT INDICATED AND PREPARE FOR NEW WORK.
- REMOVE AIR HANDLING UNIT COMPLETE. REMOVE DUCTWORK TO POINT INDICATED AND PREPARE FOR NEW WORK.
- REMOVE CHILLER COMPLETE. EXISTING EQUIPMENT PAD TO REMAIN.
- BASE BID: PLAN LEFT EXISTING STEAM BOILER IS TO REMAIN ACTIVE INCLUDING ALL ASSOCIATED STEAM PIPE TO SERVE MECHANICAL EQUIPMENT LOCATED IN SOUTH PENTHOUSE. EXISTING CONDENSATE PIPE, RECEIVER, FEED WATER PIPE AND PUMPS TO REMAIN ACTIVE AND ALL OTHER SPECIALTIES AS REQUIRED. REMOVE PIPING TO POINT INDICATED AND PREPARE FOR NEW WORK. MIDDLE AND RIGHT BOILERS INDICATED ON PLAN ARE TO BE REMOVED COMPLETE.
- ALTERNATE BID #3: REMOVE PLAN LEFT BOILER COMPLETE INCLUDING ALL ASSOCIATED STEAM, CONDENSATE AND FEED WATER PIPING, CONDENSATE RECEIVERS, FEED PUMPS AND ALL ASSOCIATED SPECIALTIES. REMOVE 1 1/2" AND 20" FLUE PIPING COMPLETE UP THROUGH ROOF AND CAP EXISTING CURB ON ROOF. PREPARE NATURAL GAS PIPING FOR NEW WORK.
- EXISTING TCP AND PNEUMATIC CONTROLS TO REMAIN ACTIVE FOR ALTERNATE AREAS NOT TAKEN TO MAINTAIN CONTROL OF EXISTING EQUIPMENT TO REMAIN.
- ALTERNATE BID #5: REMOVE GAS PIPING TO POINT INDICATED AND PREPARE FOR NEW WORK. REFER TO GAS METER DETAIL FOR ADDITIONAL INFORMATION.
- REMOVE BOILER COMPLETE INCLUDING ALL ASSOCIATED PIPING, FLUES, CONTROLS, AND ACCESSORIES TO POINT INDICATED AND PREPARE ALL PIPING FOR NEW WORK.
- REMOVE EXISTING EXHAUST FAN COMPLETE INCLUDING ALL CONTROLS, WIRING, DUCTWORK, AND ACCESSORIES AND PREPARE AREA FOR NEW WORK.



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SALAMONIE SCHOOL HVAC REPLACEMENT AND RENOVATION

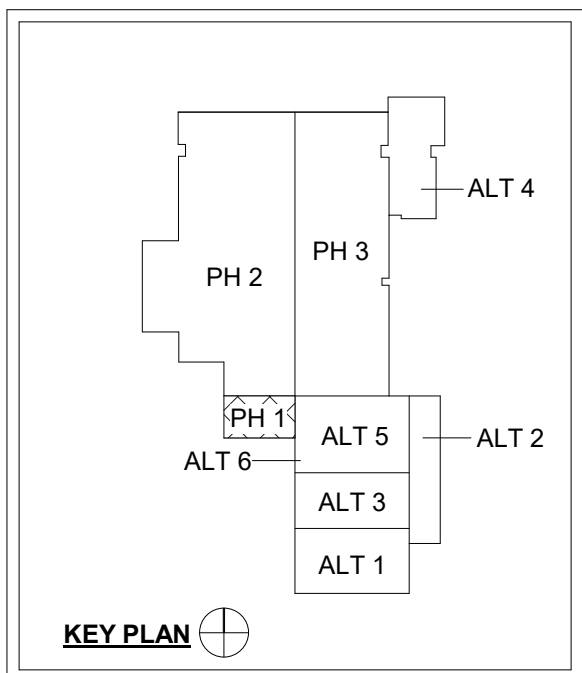
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REVISION	DATE	DESCRIPTION
1	10-08-2024	ADDENDUM #2

DATE	PROJECT
09/24/2024	2024.0002
TITLE	MECHANICAL DEMOLITION BASE BID - PHASE I

SHEET

MDI.1



one and one half inches = one foot

one inch = one foot

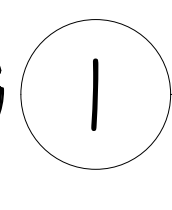
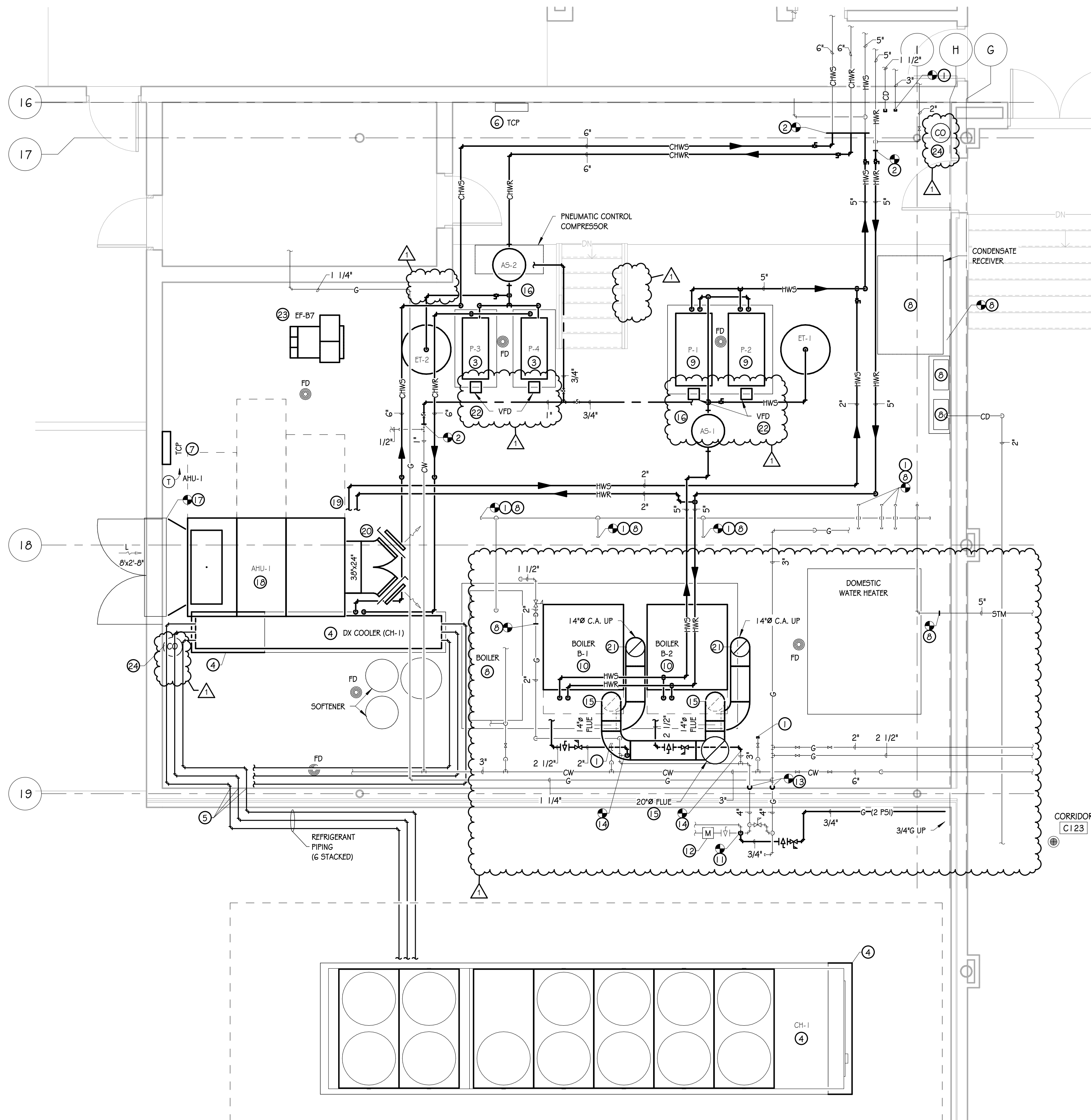
three quarters inch = one foot

one half inch = one foot

three eighths inch = one foot

one quarter inch = one foot

one eighth inch = one foot



MECHANICAL PLAN BASE BID - PHASE I

SCALE: 1/4" = 1'-0"

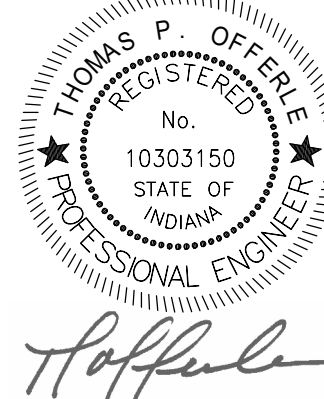
MECHANICAL PLAN NOTES

- PROVIDE AND INSTALL CAP ON EXISTING PIPING.
- TIE INTO EXISTING PIPING AND ROUTE AS INDICATED.
- PROVIDE AND INSTALL NEW CHILLED WATER PUMPS COMPLETE. NEW PUMPS TO BE MOUNTED ON EXISTING CONCRETE HOUSEKEEPING PAD. CONTRACTOR TO EXTEND CONCRETE HOUSEKEEPING PAD AS REQUIRED.
- PROVIDE AND INSTALL NEW CHILLER COMPLETE INCLUDING ALL PIPING, REFRIGERANT, REMOTE DX COOLER, AND ALL PIPING ACCESSORIES PER MANUFACTURER'S RECOMMENDED INSTALLATION. NEW CHILLER AND DX COOLER TO BE MOUNTED ON EXISTING CONCRETE HOUSEKEEPING PAD. CONTRACTOR TO EXTEND EXISTING CONCRETE HOUSEKEEPING PAD AS REQUIRED. PROVIDE ALL WORKING CLEARANCES PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. REFER TO CHILLED WATER FLOW DIAGRAM AND ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION. PROVIDE AND INSTALL PIPE SUPPORTS FOR REFRIGERANT PIPING.
- ROUTE NEW REFRIGERANT PIPING THROUGH EXISTING OPENINGS. MODIFY EXISTING OPENINGS AS REQUIRED AND SEAL PIPE PENETRATIONS FOR A WATER-TIGHT WEATHERPROOF INSTALLATION.
- EXISTING TCP AND PNEUMATIC CONTROLS TO REMAIN ACTIVE FOR ALTERNATE AREAS NOT TAKEN TO MAINTAIN CONTROL OF EXISTING EQUIPMENT TO REMAIN.
- PROPOSED TEMPERATURE CONTROL PANEL LOCATION. CONTRACTOR IS TO VERIFY QUANTITY AND LOCATION OF ALL PANELS REQUIRED AND PROVIDE ELECTRICAL POWER TO ANY CHANGE IN LOCATION OR ADDITIONAL PANELS.
- BASE BID: EXISTING BOILER AND EXTENT OF PIPING, CONDENSATE RECEIVER, FEED PUMPS, CONTROLS AND SPECIALTIES TO REMAIN ACTIVE.
ALTERNATE BID #3: CAP STEAM 5" MAIN IN BOILER ROOM SERVING MECHANICAL EQUIPMENT IN ALT. 3. REFER TO MD-1 FOR ADDITIONAL INFORMATION.
- PROVIDE AND INSTALL NEW HEATING HOT WATER PUMPS COMPLETE. NEW PUMPS TO BE MOUNTED ON EXISTING CONCRETE HOUSEKEEPING PAD. CONTRACTOR TO EXTEND CONCRETE HOUSEKEEPING PAD AS REQUIRED.
- PROVIDE AND INSTALL NEW BOILER COMPLETE INCLUDING ALL PIPING, CONTROLS, WIRING, AND ACCESSORIES PER MANUFACTURER'S RECOMMENDED INSTALLATION. PROVIDE ALL WORKING CLEARANCES PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. REFER TO HOT WATER FLOW DIAGRAM FOR ADDITIONAL INFORMATION.
- ALTERNATE BID #5: TIE INTO EXISTING GAS PIPING AND ROUTE AS INDICATED FOR FINAL CONNECTION TO NEW ROOFTOP UNITS. PROVIDE AND INSTALL NECESSARY PRESSURE REGULATORS AS REQUIRED TO REDUCE GAS PRESSURE TO 2 PSI. REFER TO GAS METER DETAIL FOR ADDITIONAL INFORMATION.
- CONTRACTOR TO CONFIRM EXISTING METER IS CAPABLE OF HANDLING ADDITIONAL GAS LOADS. COORDINATE WITH LOCAL UTILITIES AND PROVIDE AND INSTALL NEW GAS METER AS REQUIRED.
BASE BID: ADDITIONAL GAS LOAD IS: 7,000 CFH.
ALTERNATE BID #5: ADDITIONAL GAS LOAD IS: 500 CFH.
TOTAL ADDITIONAL GAS LOAD FOR BASE BID PLUS ALTERNATE BID #5 IS: 7,500 CFH.
- PROVIDE AND INSTALL EMERGENCY GAS SHUTOFF VALVES ON EXISTING INCOMING GAS PIPING FOR SHUTOFF UPON ACTIVATION OF PUSH BUTTON CONTROL PROVIDED BY OTHERS. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION AND COORDINATE ALL REQUIREMENTS.
- TIE INTO EXISTING GAS PIPING AND ROUTE AS INDICATED FOR FINAL CONNECTION TO NEW BOILERS. PROVIDE AND INSTALL ALL NECESSARY STEP-DOWN REGULATORS TO REDUCE INCOMING GAS PRESSURE TO 7"-14" W.C. CONFIRM REQUIRED GAS PRESSURE WITH APPROVED EQUIPMENT AND INSTALL GAS PIPING AND SPECIALTIES PER MANUFACTURER'S RECOMMENDED INSTALL. REFER TO NATURAL GAS CONNECTION DETAIL FOR ADDITIONAL INFORMATION.
- PROVIDE AND INSTALL AL284C STAINLESS STEEL DOUBLE WALL FLUE PIPING FROM BOILERS, COMBINED AND ROUTED UP THROUGH EXISTING ROOF OPENING AND TERMINATE WITH MANUFACTURER'S RECOMMENDED CAP. INSTALL ALL DRAINS, SLOPES, AND CLEARANCES PER MANUFACTURER'S RECOMMENDATIONS.
- REFER TO HOT WATER AND CHILLED WATER FLOW DIAGRAMS FOR ADDITIONAL INFORMATION ON MAKE-UP WATER CONNECTIONS. SEPARATE BACKFLOW PREVENTORS ARE TO BE PROVIDED FOR EACH SYSTEM.
- PROVIDE AND INSTALL DUCTWORK AND TRANSITIONS AS REQUIRED TO CONNECT EXISTING LOUVER AND SLEEVE TO NEW AHU.
- PROVIDE AND INSTALL NEW AIR HANDLER COMPLETE INCLUDING ALL CONTROLS, WIRING, DUCTWORK, AND ACCESSORIES. UNIT TO BE SUSPENDED FROM STRUCTURE. PROVIDE AND INSTALL ALL NECESSARY HANGERS, SUPPORTS, AND HARDWARE AS REQUIRED.
- PROVIDE AND INSTALL BELIMO ENERGY VALVE ON HW PIPING. COORDINATE WORK WITH T.C.C.
- PROVIDE AND INSTALL WITH ADJUSTABLE BLADES ON SUPPLY AIR DUCT OUTLETS.
- ROUTE 1-1/2" PVC COMBUSTION AIR INTAKE FROM BOILER UP THROUGH ROOF AND TERMINATE PER MANUFACTURER'S RECOMMENDATIONS. MAINTAIN ALL REQUIRED CLEARANCES.
- PROPOSED VARIABLE FREQUENCY DRIVE LOCATION. VFD SHALL BE PROVIDED BY THE TEMPERATURE CONTROL CONTRACTOR. COORDINATE LOCATION WITH MANUFACTURER'S CLEARANCES AND PROVIDE AND INSTALL VFD ON METAL STRUT SEPARATE FROM UNIT. INCLUDE ALL HARDWARE AS REQUIRED.
- PROVIDE AND INSTALL NEW EXHAUST FAN COMPLETE INCLUDING ALL WIRING, CONTROLS, DUCTWORK, MOUNTING HARDWARE, AND ACCESSORIES. FAN TO BE SUSPENDED FROM STRUCTURE. ROUTE DUCTWORK UP THROUGH EXISTING OPENING IN ROOF FOR FINAL CONNECTION TO NEW ROOF CAP. PROVIDE AND INSTALL ALL NECESSARY DUCT TRANSITIONS AND FITTINGS AS REQUIRED.
- PROVIDE AND INSTALL CO SENSOR.



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SALAMONIE SCHOOL HVAC REPLACEMENT AND RENOVATION

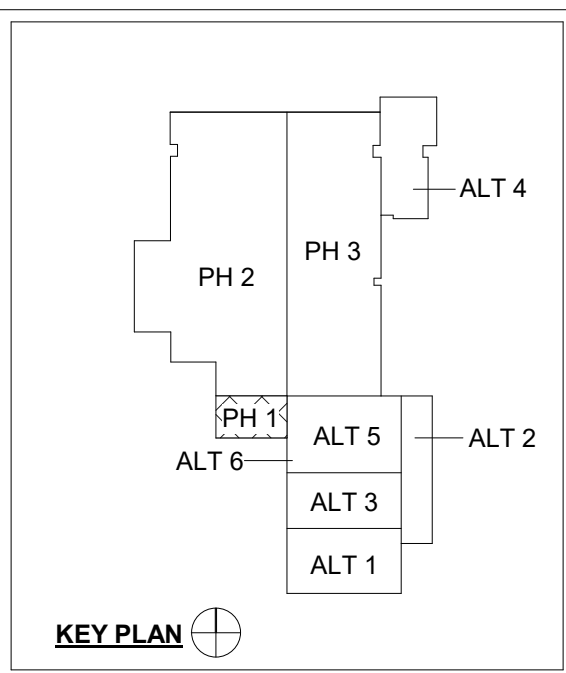
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REVISION	DATE	DESCRIPTION
1	10-08-2024	ADDENDUM #2

DATE	PROJECT
09/24/2024	2024.0002
TITLE	
MECHANICAL PLAN BASE BID - PHASE I	

SHEET

MI.1



one and one half inches = one foot

one inch = one foot

three quarters inch = one foot

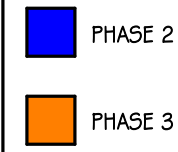
one half inch = one foot

three eighths inch = one foot

one quarter inch = one foot

one eighth inch = one foot

PHASING LEGEND



MECHANICAL PLAN NOTES

1. PROVIDE AND INSTALL NEW AIR HANDLING UNIT COMPLETE INCLUDING ALL CONTROLS, WIRING, AND ACCESSORIES. PROVIDE AND INSTALL NECESSARY DUCTWORK, TRANSITIONS, AND FITTINGS AS REQUIRED FOR CONNECTION TO EXISTING DUCTWORK.
2. PROPOSED TEMPERATURE CONTROL PANEL LOCATION. CONTRACTOR IS TO VERIFY QUANTITY AND LOCATION OF PANEL REQUIRED AND PROVIDE ELECTRICAL POWER TO ANY CHANGE IN LOCATION OR ADDITIONAL PANELS.
3. PROPOSED VARIABLE FREQUENCY DRIVE LOCATION. VFD SHALL BE PROVIDED BY THE TEMPERATURE CONTROL CONTRACTOR. COORDINATE LOCATION WITH MANUFACTURERS CLEARANCES AND PROVIDE AND INSTALL VFD ON METAL STRUT SEPARATE FROM UNIT. INCLUDE ALL HARDWARE AS REQUIRED.
4. PROVIDE AND INSTALL NECESSARY QUANTITY OF RELIEF DAMPERS AND ACTUATORS SIZED FOR FULL SIZE OF EXISTING LOUVER DIMENSION. ACTUATORS TO BE PROVIDED BY T.C.C. MECHANICAL. CONTRACTOR AND T.C.C. TO COORDINATE QUANTITY OF ACTUATORS REQUIRED.
5. TIE INTO EXISTING DUCTWORK AT FLOOR AND ROUTE AS INDICATED.
6. EXTEND ZONE DUCTWORK DOWN TO UNIT. SPLIT DUCT TO CONNECT TO HOT AND COLD DUCT CONNECTIONS ON UNIT.
7. EXISTING LOUVER TO REMAIN. CONTRACTOR TO REMOVE AND REINSTALL AS NECESSARY FOR REMOVAL AND INSTALLATION OF NEW EQUIPMENT.

THIS PROJECT IS TO BE PHASED.

PHASE 2: THE INTENT IS TO REPLACE ALL UNIT HEATERS, AIR HANDLING UNITS, ASSOCIATED BRANCH PIPING, VALVES, CONTROLS, PIPING SPECIALTIES, AND OVERHEAD PIPING MAINS NOTED ON THE PLANS TO BE PART OF PHASE 2. AIR HANDLERS, CONTROLS, AND ASSOCIATED BRANCH PIPING NOTED ON PLANS TO BE PART OF PHASE 3 ARE TO REMAIN AND BRANCH PIPING TO BE RECONNECTED TO NEW PIPING MAINS WITH A NEW BRANCH SHUTOFF VALVE INSTALLED AT EACH HWS, HW, CHWS, AND CHWR TAKE OFF. DURING PHASE 2, STEAM PIPING MAIN WILL BE REMOVED AND STEAM WILL NO LONGER BE AVAILABLE. STEAM AND CONDENSATE PIPING ASSOCIATED WITH MZ-1, MZ-4, MZ-8 AND THW-MZ-1 UNITS STEAM PREHEAT COILS ARE TO BE CAPPED AS PART OF PHASE 2.

PHASE 3: THE INTENT IS TO REPLACE ALL AIR HANDLING UNITS, ASSOCIATED BRANCH PIPING, VALVES, CONTROLS, AND PIPING SPECIALTIES NOTED ON PLANS TO BE PART OF PHASE 3. PHASE 3 AIR HANDLING UNIT NEW BRANCH PIPING IS TO BE TIED INTO HWS, HW, CHWS, AND CHWR PIPING MAINS THAT WERE REPLACED IN PHASE 2.

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Thomas P. O'Connell

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SALAMONIE SCHOOL HVAC REPLACEMENT AND RENOVATION

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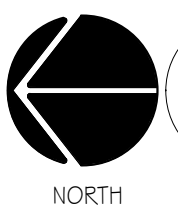
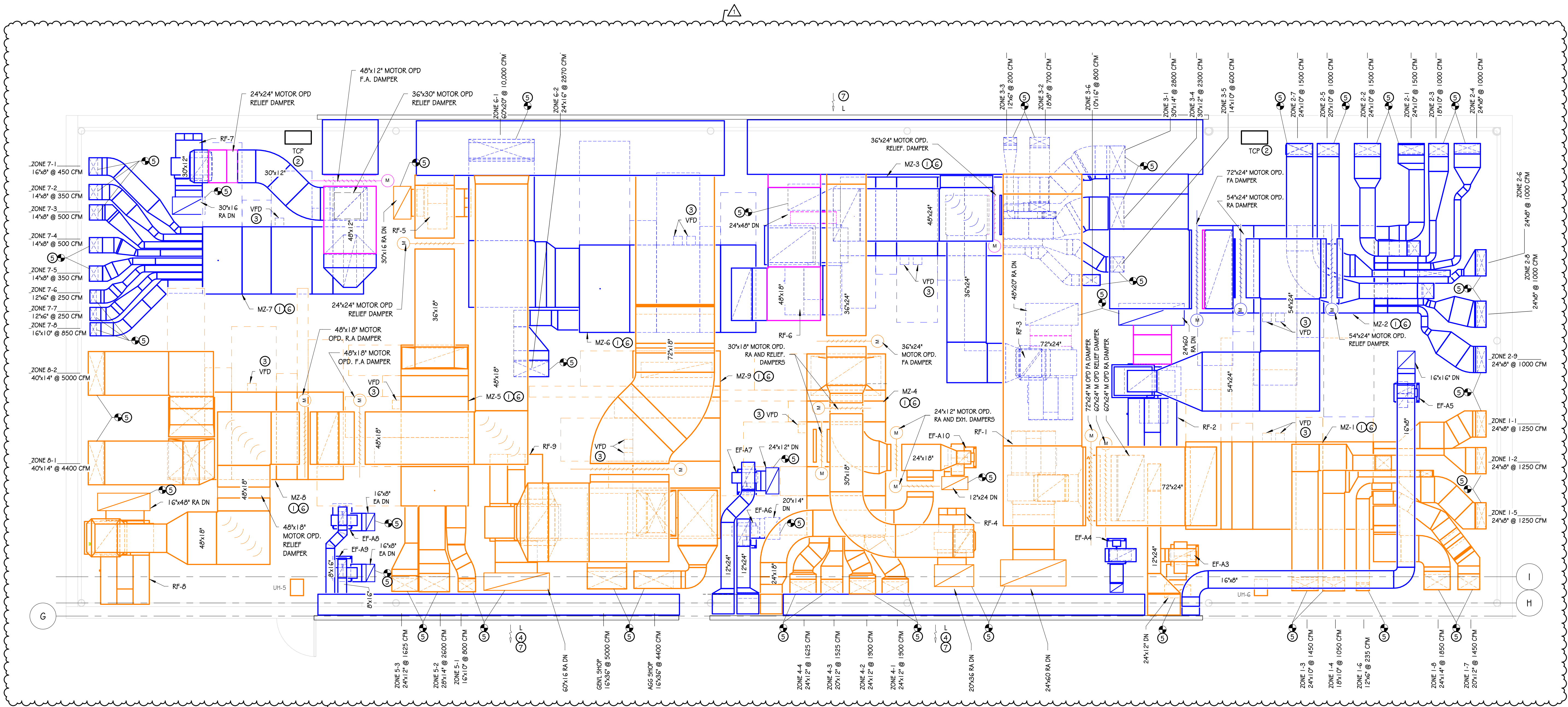
REVISION	DATE	DESCRIPTION
1	10-08-2024	ADDENDUM #2

DATE **09/24/2024** PROJECT **2024.0002**

TITLE
**MECHANICAL HVAC -
PENTHOUSE PLAN**

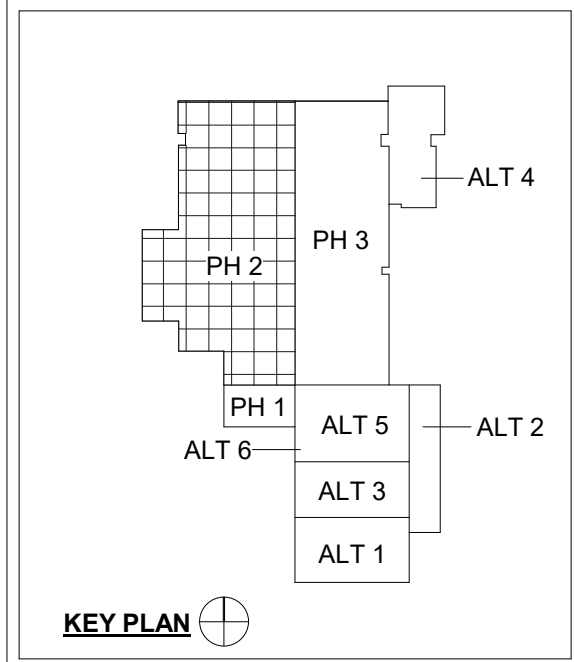
SHEET

MI.5



MECHANICAL HVAC - PENTHOUSE PLAN

SCALE: 1/4" = 1'-0"



- ELECTRICAL DEMOLITION PLAN NOTES
- EXISTING MECHANICAL EQUIPMENT TO BE REMOVED AND REPLACED; PROVIDE ALL LABOR AND MATERIAL REQUIRED TO DISCONNECT EXISTING BRANCH CIRCUIT AND PREPARE FOR EXTENSION AND TERMINATION TO REPLACEMENT EQUIPMENT, AND TO REMOVE ASSOCIATED DISCONNECTS AND STARTERS.

BASE BID, NO WORK.
ALTERNATE 3, EXISTING MECHANICAL EQUIPMENT TO BE REMOVED; PROVIDE ALL LABOR AND MATERIAL REQUIRED TO DISCONNECT EXISTING EQUIPMENT AND REMOVE ASSOCIATED DISCONNECTS, STARTERS, RACEWAY AND CONDUCTORS COMPLETE BACK TO SOURCE.

EXISTING MECHANICAL EQUIPMENT TO BE REMOVED AND REPLACED; PROVIDE ALL LABOR AND MATERIAL REQUIRED TO DISCONNECT EXISTING BRANCH CIRCUIT, TO REMOVE ASSOCIATED DISCONNECTS AND STARTERS, AND TO REMOVE EXISTING BRANCH CIRCUIT RACEWAY, SUPPORTS, AND CONDUCTORS COMPLETE BACK TO SOURCE.

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THOMAS P. OFFERLE

No. 10303150

STATE OF INDIANA

PROFESSIONAL ENGINEER

Thomas P. Offerle

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SALAMONIE SCHOOL HVAC
REPLACEMENT AND RENOVATION

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REVISION	DATE	DESCRIPTION
1	10-08-24	Addendum #2

DATE	PROJECT
09/24/2024	242737

TITLE
ELECTRICAL DEMOLITION BASE BID - PHASE 1

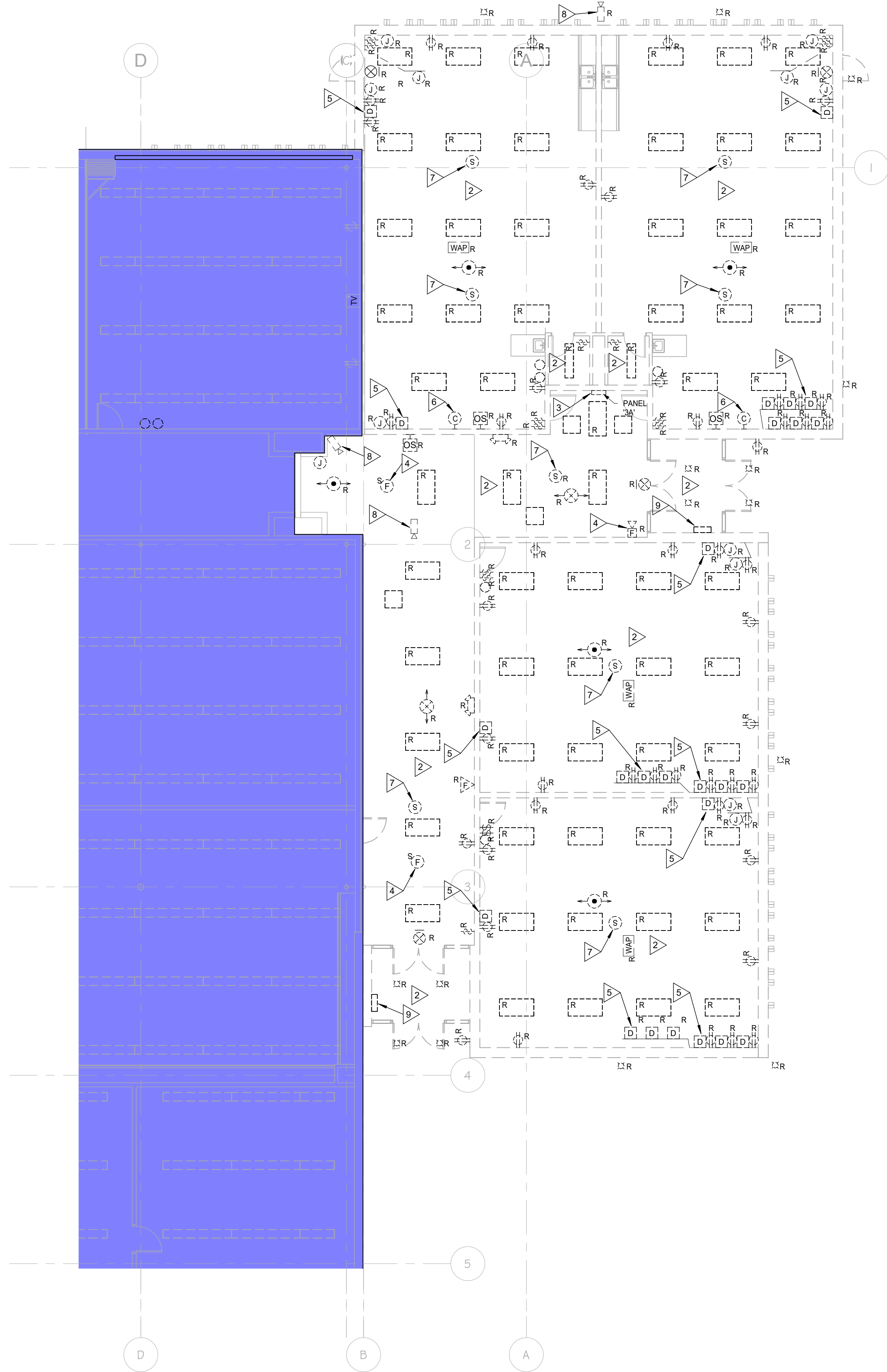
SHEET
ED 1.1

1

ELECTRICAL DEMOLITION BASE BID - PHASE 1

SCALE: 1/4" = 1'-0"

one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot



  **ELECTRICAL DEMOLITION LOWER LEVEL PLAN - ALTERNATE 4**
SCALE: 1/8" = 1'-0"

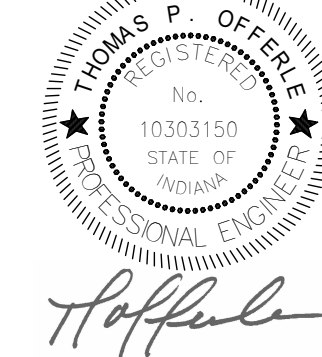
ELECTRICAL DEMOLITION PLAN NOTES

- EXISTING MECHANICAL EQUIPMENT TO BE REMOVED AND REPLACED; PROVIDE ALL LABOR AND MATERIAL REQUIRED TO DISCONNECT EXISTING BRANCH CIRCUIT AND PREPARE FOR EXTENSION AND TERMINATION TO REPLACEMENT EQUIPMENT, AND TO REMOVE ASSOCIATED DISCONNECTS AND STARTERS.
- EXISTING AREA TO BE DEMOLISHED; PROVIDE ALL LABOR AND MATERIAL REQUIRED TO DISCONNECT EXISTING ELECTRICAL ITEMS FROM SOURCE; ELECTRICAL ITEMS TO BE ABANDONED IN PLACE FOR REMOVAL DURING BUILDING DEMOLITION.
- EXISTING PANEL TO BE DISCONNECTED; PROVIDE ALL LABOR AND MATERIAL REQUIRED TO DISCONNECT EXISTING PANEL FEEDER AT SOURCE AND REMOVE FEEDER CONDUCTORS, OVERHEAD RACEWAY, AND SUPPORTS COMPLETE BACK TO SOURCE; PANEL TO BE ABANDONED IN PLACE FOR REMOVAL DURING BUILDING DEMOLITION. TYPICAL FOR ALL FIRE ALARM DEVICES WITHIN AREA.
- EXISTING FIRE ALARM DEVICE TO BE DISCONNECTED; PROVIDE ALL LABOR AND MATERIAL REQUIRED TO DISCONNECT EXISTING FIRE ALARM DEVICE FROM SOURCE AND TO REMOVE CABLE BACK TO NEXT ACTIVE DEVICE; EXISTING FIRE ALARM DEVICE TO BE ABANDONED IN PLACE FOR REMOVAL DURING BUILDING DEMOLITION. TYPICAL FOR ALL FIRE ALARM DEVICES WITHIN AREA.
- EXISTING DATA OUTLET TO BE DISCONNECTED; PROVIDE ALL LABOR AND MATERIAL REQUIRED TO DISCONNECT EXISTING DATA OUTLET FROM SOURCE AND TO REMOVE CABLE(S) BACK TO NEXT ACTIVE DEVICE; EXISTING DATA OUTLET TO BE ABANDONED IN PLACE FOR REMOVAL DURING BUILDING DEMOLITION. TYPICAL FOR ALL DATA OUTLETS WITHIN AREA.
- EXISTING CLOCK TO BE DISCONNECTED; PROVIDE ALL LABOR AND MATERIAL REQUIRED TO DISCONNECT EXISTING CLOCK FROM SOURCE AND TO REMOVE CABLE BACK TO NEXT ACTIVE DEVICE; EXISTING CLOCK TO BE ABANDONED IN PLACE FOR REMOVAL DURING BUILDING DEMOLITION. TYPICAL FOR ALL CLOCKS WITHIN AREA.
- EXISTING SPEAKER TO BE DISCONNECTED; PROVIDE ALL LABOR AND MATERIAL REQUIRED TO DISCONNECT EXISTING SPEAKER FROM SOURCE AND TO REMOVE CABLE BACK TO INTERCOM HEADING; EXISTING SPEAKER TO BE ABANDONED IN PLACE FOR REMOVAL DURING BUILDING DEMOLITION. TYPICAL FOR ALL SPEAKERS WITHIN AREA.
- EXISTING CAMERA TO BE DISCONNECTED; PROVIDE ALL LABOR AND MATERIAL REQUIRED TO DISCONNECT EXISTING CAMERA FROM SOURCE AND TO REMOVE CABLE BACK TO CAMERA HEADING; EXISTING CAMERA TO BE ABANDONED IN PLACE FOR REMOVAL DURING BUILDING DEMOLITION. TYPICAL FOR ALL CAMERAS WITHIN AREA.
- EXISTING PANEL TO BE DISCONNECTED; PROVIDE ALL LABOR AND MATERIAL REQUIRED TO DISCONNECT EXISTING PANEL FEEDER AT SOURCE AND REMOVE FEEDER CONDUCTORS, OVERHEAD RACEWAY, AND SUPPORTS COMPLETE BACK TO SOURCE; PANEL TO BE ABANDONED IN PLACE FOR REMOVAL DURING BUILDING DEMOLITION.



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SALAMONIE SCHOOL HVAC REPLACEMENT AND RENOVATION

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REVISION	DATE	DESCRIPTION
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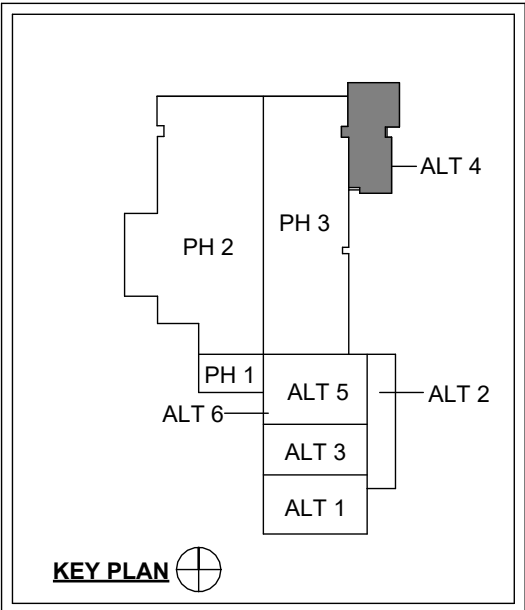
1 10-08-24 Addendum #2

DATE	PROJECT
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09/24/2024 242737
TITLE
ELECTRICAL DEMOLITION
PLAN - ALTERNATE 4

SHEET

ED I.7



one and one half inches = one foot

one inch = one foot

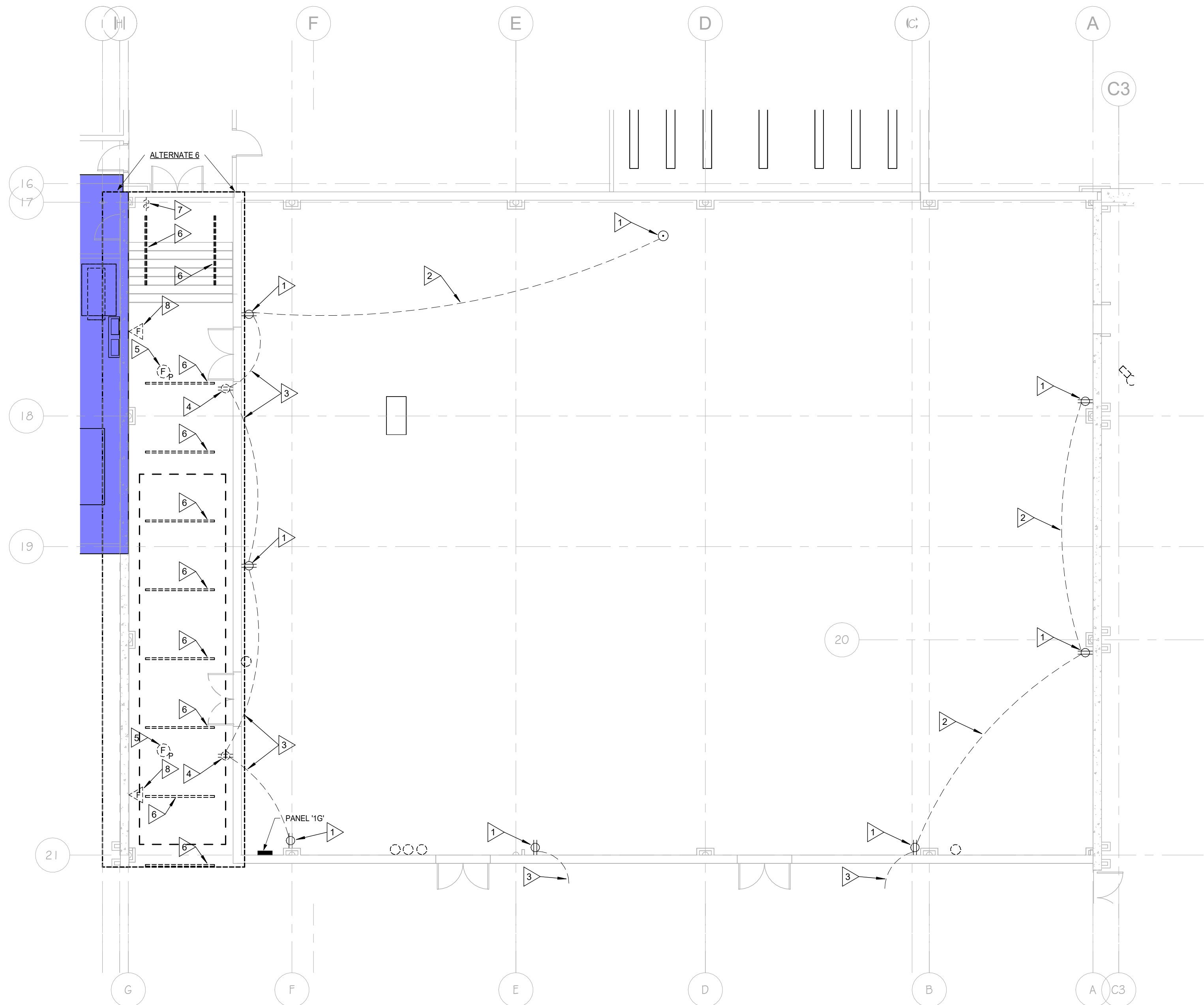
three quarters inch = one foot

one half inch = one foot

three eighths inch = one foot

one quarter inch = one foot

one eighth inch = one foot



 **ELECTRICAL DEMOLITION PLAN - ALTERNATE 3 & 6**
SCALE: 1/8" = 1'-0"

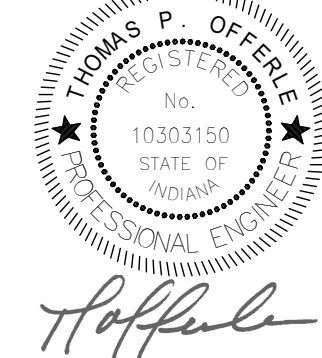
ELECTRICAL DEMOLITION PLAN NOTES

- EXISTING RECEPTACLE TO REMAIN; REFER TO ELECTRICAL POWER PLAN - ALTERNATES 3 & 6 FOR NEW BRANCH CIRCUIT REQUIREMENTS.
- EXISTING BRANCH CIRCUIT TO REMAIN; REFER TO ELECTRICAL POWER PLAN - ALTERNATES 3 & 6 FOR NEW BRANCH CIRCUIT REQUIREMENTS.
- ALTERNATE 03: EXISTING BRANCH CIRCUIT TO REMAIN; REFER TO ELECTRICAL POWER PLAN - ALTERNATES 3 & 6 FOR NEW BRANCH CIRCUIT REQUIREMENTS.
- ALTERNATE 05: EXISTING BRANCH CIRCUIT TO BE REMOVED; PROVIDE ALL LABOR AND MATERIAL REQUIRED TO DISCONNECT BRANCH CIRCUIT AT RECEPTACLE TO REMAIN, REMOVE BRANCH CIRCUIT CONDUCTORS BACK TO NEXT DEVICE, AND ABANDON CONDUIT IN PLACE.
- ALTERNATE 06: EXISTING RECEPTACLE TO REMAIN; REFER TO ELECTRICAL POWER PLAN - ALTERNATES 3 & 6 FOR NEW BRANCH CIRCUIT REQUIREMENTS.
- ALTERNATE 08: EXISTING RECEPTACLE TO BE REMOVED; PROVIDE ALL LABOR AND MATERIAL REQUIRED TO REMOVE RECEPTACLE, DISCONNECT BRANCH CIRCUIT, REMOVE BRANCH CIRCUIT CONDUCTORS BACK TO NEXT DEVICE TO REMAIN, AND ABANDON BOX AND CONDUIT IN PLACE.
- EXISTING SMOKE DETECTOR TO BE REMOVED AND RE-INSTALL IN NEW LOCATION; PROVIDE ALL LABOR AND MATERIAL REQUIRED TO REMOVE SMOKE DETECTOR AND PREPARE INITIATE CIRCUIT FOR EXTENSION TO RE-INSTALLED SMOKE DETECTOR.
- EXISTING LIGHT FIXTURE TO BE REMOVED; PROVIDE ALL LABOR AND MATERIAL REQUIRED TO REMOVE LIGHT FIXTURE AND BRANCH CIRCUIT CONDUIT AND CONDUCTORS COMPLETE BACK TO SOURCE.
- EXISTING LIGHT SWITCH TO BE REMOVED; PROVIDE ALL LABOR AND MATERIAL REQUIRED TO REMOVE LIGHT SWITCH AND BRANCH CIRCUIT CONDUIT AND CONDUCTORS COMPLETE BACK TO SOURCE.
- EXISTING FIRE ALARM SIGNAL TO BE REMOVED AND RE-INSTALLED IN NEW LOCATION; PROVIDE ALL LABOR AND MATERIAL REQUIRED TO REMOVE FIRE ALARM SIGNAL, AND PREPARE SIGNAL CIRCUIT FOR EXTENSION TO RE-INSTALLED FIRE ALARM SIGNAL.



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**SALAMONIE SCHOOL HVAC
REPLACEMENT AND RENOVATION**

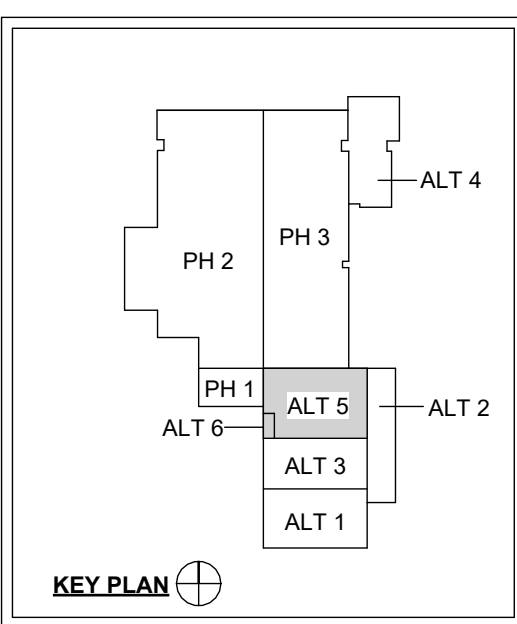
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REVISION	DATE	DESCRIPTION
1	10-08-24	Addendum #2

DATE	PROJECT
09/24/2024	242737
TITLE	ELECTRICAL DEMOLITION PLAN - ALTERNATE 3 & 6

SHEET

ED 1.8



- ELECTRICAL PLAN NOTES**
- EQUIPMENT IS PROVIDED AND INSTALLED BY ANOTHER CONTRACTOR. ELECTRICAL CONTRACTOR SHALL REFER TO ARCHITECTURAL, CIVIL, STRUCTURAL, MECHANICAL, AND PLUMBING DRAWING SHEETS TO COORDINATE THE EXACT LOCATION OF EQUIPMENT WITH EQUIPMENT PROVIDER. ELECTRICAL CONTRACTOR SHALL TERMINATE EQUIPMENT AS REQUIRED, WHERE NO STARTERS, DISCONNECTS, OR SWITCHES ARE INDICATED, THEY WILL BE FACTORY MOUNTED AND LOAD-SIDE WIRED.
 - NEW REPLACEMENT MECHANICAL EQUIPMENT: PROVIDE ALL LABOR AND MATERIAL REQUIRED TO EXTEND EXISTING BRANCH CIRCUIT TO NEW EQUIPMENT AND TERMINATE.
 - BASE BID, NO WORK.
ALTERNATE 3, EXISTING MECHANICAL EQUIPMENT IS REMOVED; REFER TO ELECTRICAL DEMOLITION BASE BID - PHASE 1.
 - REFER TO REVISE ELECTRICAL RISER DIAGRAM FOR BRANCH CIRCUIT REQUIREMENTS.
 - ALARM SIGNALS FOR DUCT SMOKE DETECTORS AT MZ UNITS IN PENTHOUSE; ONE SIGNAL FOR EACH MZ UNIT; ARRANGE SIGNALS IN THREE ROWS AND THREE COLUMNS, FIELD VERIFY EXACT LOCATION.
 - VFD PROVIDED AND INSTALLED BY ANOTHER CONTRACTOR; PROVIDE ALL LABOR AND MATERIAL REQUIRED TO TERMINATE INDICATED BRANCH CIRCUIT TO VFD; COORDINATE ALL WORK WITH GENERAL AND MECHANICAL CONTRACTORS.



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**SALAMONIE SCHOOL HVAC
REPLACEMENT AND RENOVATION**

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WARREN, INDIANA 46792

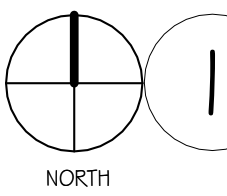
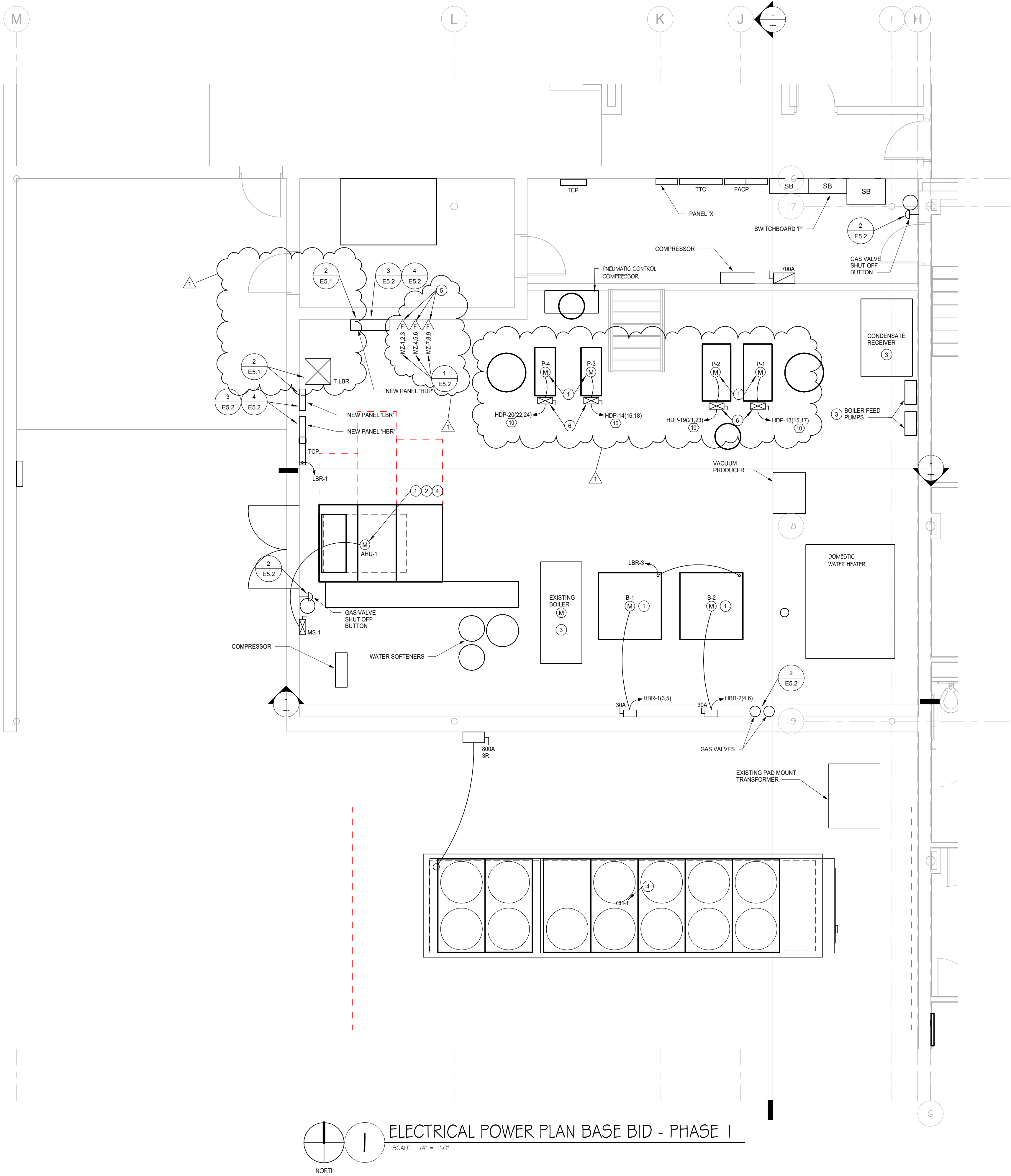
REVISION	DATE	DESCRIPTION
1	10-08-24	Addendum #2

DATE	PROJECT
09/24/2024	242737

TITLE
ELECTRICAL POWER PLAN
BASE BID - PHASE I

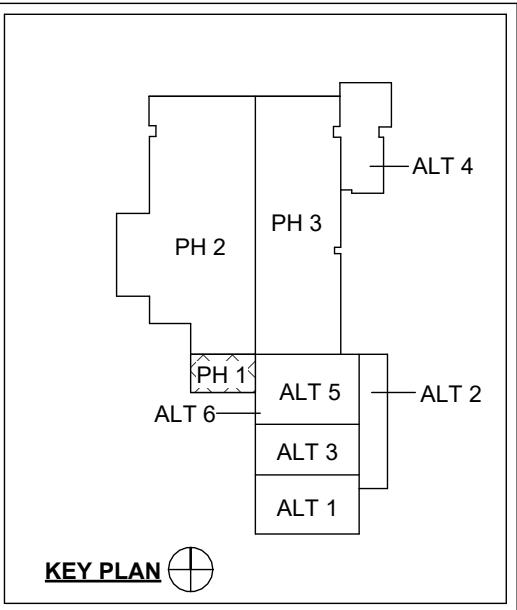
SHEET

E1.1

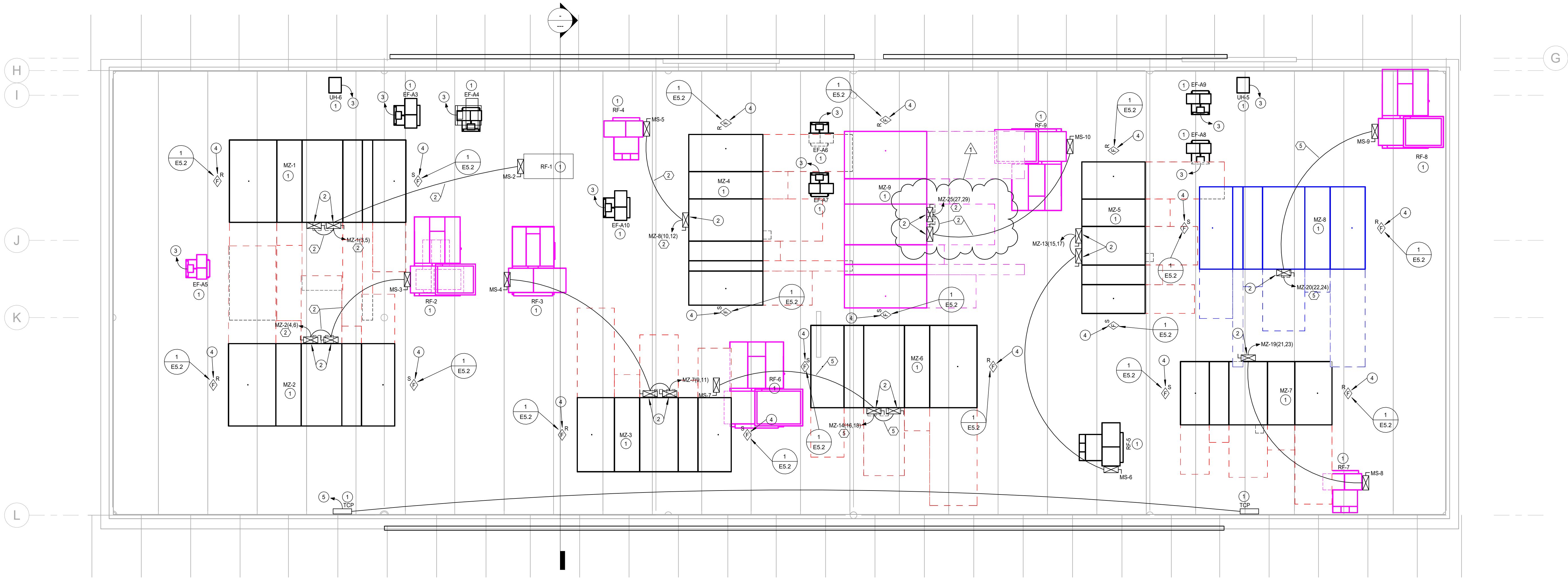


ELECTRICAL POWER PLAN BASE BID - PHASE I

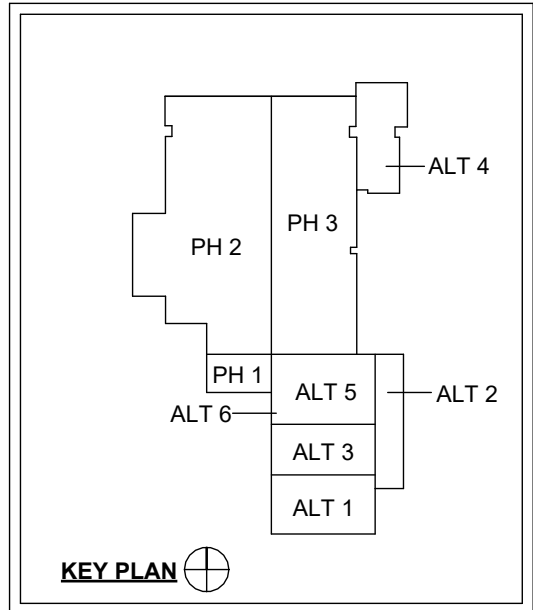
SCALE: 1/4" = 1'-0"



one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one eighth inch = one foot
one quarter inch = one foot
one eighth inch = one foot



ELECTRICAL POWER PLAN - PENTHOUSE
SCALE: 1/4" = 1'-0"



- ### ELECTRICAL PLAN NOTES
- EQUIPMENT IS PROVIDED AND INSTALLED BY ANOTHER CONTRACTOR. ELECTRICAL CONTRACTOR SHALL REFER TO ARCHITECTURAL, CIVIL, STRUCTURAL, MECHANICAL, AND PLUMBING DRAWING SHEETS TO COORDINATE THE EXACT LOCATION OF EQUIPMENT WITH EQUIPMENT PROVIDER. ELECTRICAL CONTRACTOR SHALL TERMINATE EQUIPMENT AS REQUIRED, WHERE NO STARTERS, DISCONNECTS, OR SWITCHES ARE INDICATED, THEY WILL BE FACTORY MOUNTED AND LOAD-SIDE WIRED.
 - WID PROVIDED AND INSTALLED BY ANOTHER CONTRACTOR. PROVIDE ALL LABOR AND MATERIAL REQUIRED TO TERMINATE INDICATED BRANCH CIRCUIT TO WPD. COORDINATE ALL WORK WITH GENERAL AND MECHANICAL CONTRACTORS.
 - NEW REPLACEMENT MECHANICAL EQUIPMENT. PROVIDE ALL LABOR AND MATERIAL REQUIRED TO EXTEND EXISTING BRANCH CIRCUIT TO NEW EQUIPMENT AND TERMINATE.
 - PROVIDE AND INSTALL DUCT MOUNTED SMOKE DETECTOR IN RETURN OR SUPPLY AIR DUCT AS INDICATED. ACTUAL LOCATION SHALL BE FIELD DETERMINED BY FINAL DUCT CONFIGURATION AND MANUFACTURERS MOUNTING INSTRUCTIONS. DETECTOR SHALL BE TERMINATED TO HVAC UNIT SUCH THAT UPON SMOKE DETECTION, UNIT SHUTS DOWN.
 - NEW BRANCH CIRCUIT. PROVIDE ALL LABOR AND MATERIAL REQUIRED FOR A NEW 200 AMP BRANCH CIRCUIT FROM EXISTING PANEL. 18" TERMINATE TO INDICATED TOP PANEL.



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SALAMONIE SCHOOL HVAC REPLACEMENT AND RENOVATION

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REVISION	DATE	DESCRIPTION
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DATE	PROJECT
09/24/2024	242737

TITLE
ELECTRICAL POWER PLAN -
PENTHOUSE

SHEET

E1.4

- ELECTRICAL PLAN NOTES
- 1

TERMINATE NEW BRANCH CIRCUIT TO EXISTING LIGHT FIXTURE. PROVIDE ALL LABOR AND MATERIAL REQUIRED TO TERMINATE NEW BRANCH CIRCUIT TO EXISTING LIGHT FIXTURE.
- 2

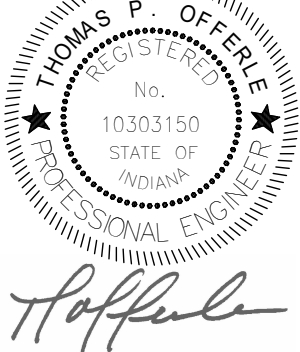
PHOTOCELL: PROVIDE ALL LABOR AND MATERIAL REQUIRED FOR AN INTERMATIC #K4236C, OR EQUAL, PHOTOCELL INSTALLED AT INDICATED HEIGHT, AND INDICATED BRANCH CIRCUIT TERMINATED TO PHOTOCELL.
- 3

EXISTING LIGHTING BRANCH CIRCUIT TO BE REMOVED; PROVIDE ALL LABOR AND MATERIAL REQUIRED TO DISCONNECT EXISTING LIGHTING BRANCH CIRCUIT FROM EXISTING LIGHT FIXTURE, REMOVE CONDUIT BETWEEN LIGHT FIXTURE AND SOUTH GYMNASIUM WALL, AND REMOVE CONDUITS COMPLETE BACK TO SOURCE.



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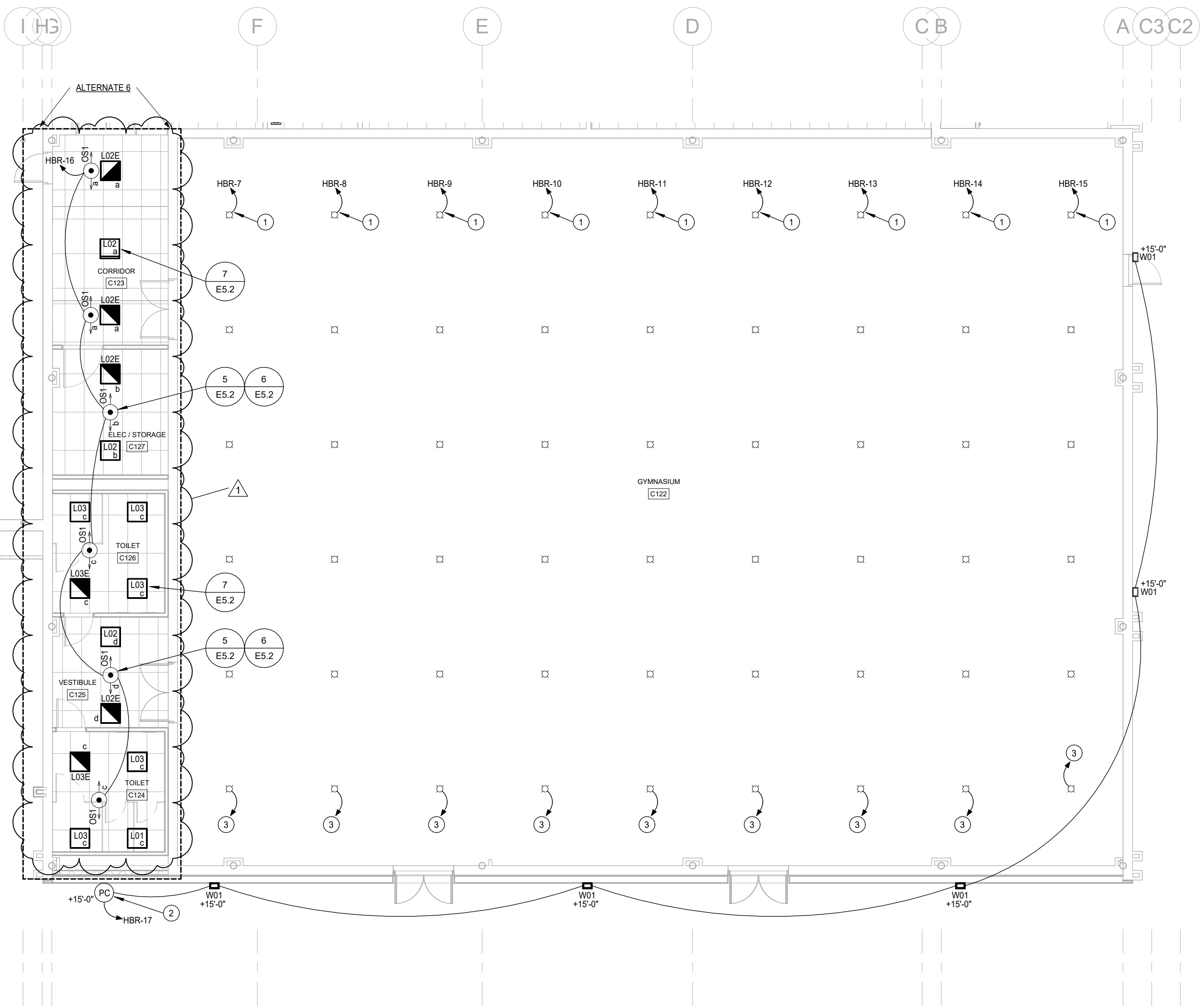
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1	10-08-24	Addendum #2

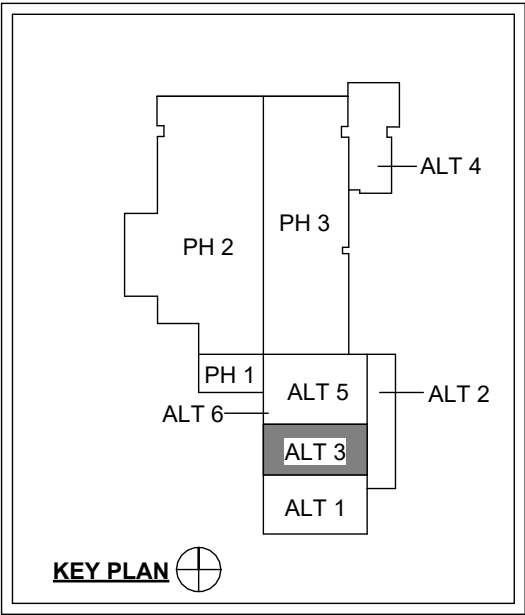
DATE	PROJECT
09/24/2024	242737
TITLE	ELECTRICAL LIGHTING PLAN - ALTERNATE 3 & 6

SHEET

E2.3



ELECTRICAL LIGHTING PLAN - ALTERNATE 3 & 6
SCALE: 1/8" = 1'-0"
NORTH



one and one half inches = one foot

one inch = one foot

three quarters inch = one foot

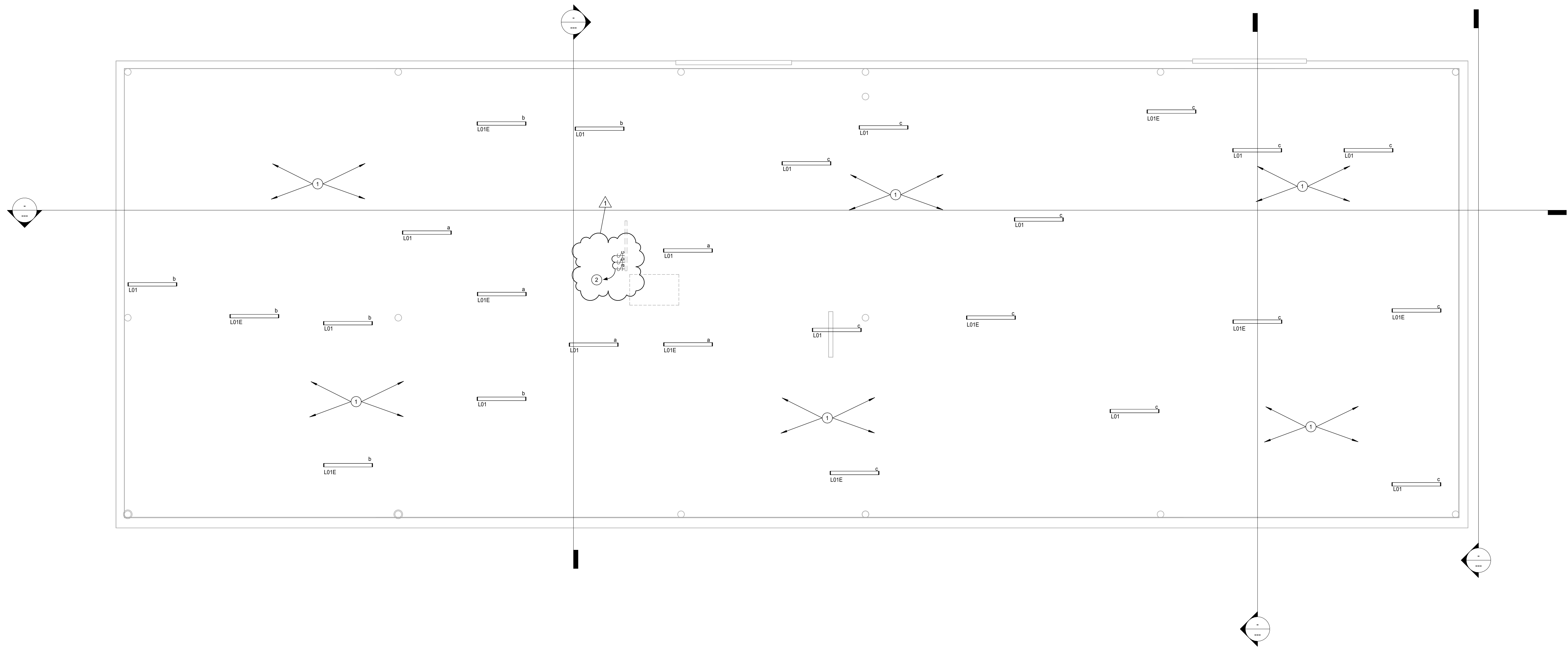
one half inch = one foot

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one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot



- ELECTRICAL PLAN NOTES**
- 1 NEW LIGHT FIXTURES: PROVIDE ALL LABOR AND MATERIAL REQUIRED TO COORDINATE EXACT LOCATIONS OF NEW LIGHT FIXTURES AROUND DUCT WORK; COORDINATE WITH GENERAL AND MECHANICAL CONTRACTORS.
 - 2 EXISTING LIGHTING BRANCH CIRCUIT: PROVIDE ALL LABOR AND MATERIAL REQUIRED TO EXTEND EXISTING LIGHTING BRANCH CIRCUIT TO NEW SWITCHES AND TERMINATE.



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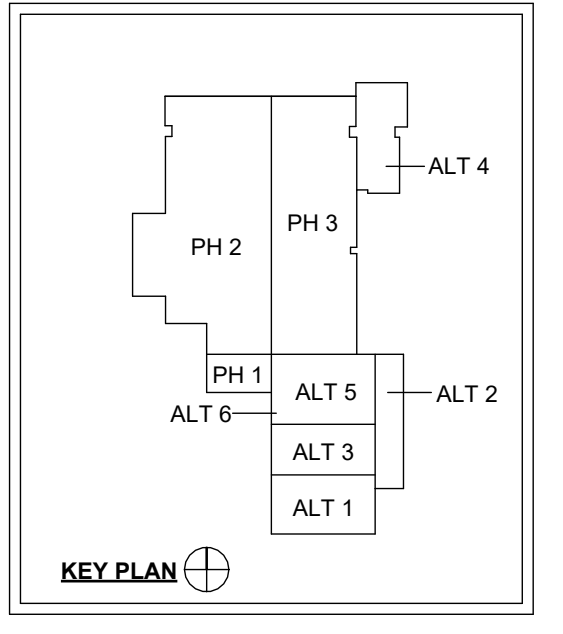
REVISION	DATE	DESCRIPTION
1	10-08-24	Addendum #2

DATE	PROJECT
09/24/2024	242737

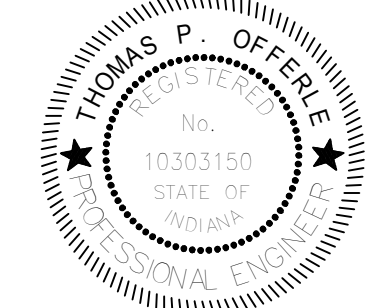
TITLE
ELECTRICAL LIGHTING PLAN - PENTHOUSE

SHEET
E2.5

PENTHOUSE ELECTRICAL LIGHTING PLAN
SCALE: 1/4" = 1'-0"
NORTH



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REVISION	DATE	DESCRIPTION
1	10-08-24	Addendum 2

DATE	PROJECT
09/24/2024	2024.0002
TITLE	
ELECTRICAL DETAILS	

SHEET

E5.1

