

# **BVH** ARCHITECTURE

## **ADDENDUM**

**ADDENDUM NO.:** #03

**DATE:** 06/04/2026

**PROJECT:** Acton Academy Lincoln

**PROJECT #:** 25026

**TO:** Prospective Bidders

This Addendum is issued by the Architect to all bidders of record prior to receipt of proposals. Bidders shall acknowledge receipt of this addendum by so indicating on the Proposal Form. Failure to do so may subject Bidder to disqualification. All information and instructions given herein shall become a part of the Contract Documents.

## **GENERAL**

1. Bidding Question: AWP-1 is called out for walls and ceiling for 308A & B. Cannot locate a type on the RFS or Spec. Please clarify.
  - a. Answer: AWP-1 should be WC-1. The drawings have been updated accordingly. See updates below.

## **PROJECT MANUAL**

1. 000100 Table of Contents
  - a. 061600 Air and Moisture Resistant Sheathing
    - i. Added to table of contents.
2. 061600 Air and Moisture Resistant Sheathing
  - a. New section issued in entirety.
3. 076200 Sheet Metal Flashing and Trim
  - a. 2.01, B
    - i. Add line B stating the following information: "Pre-Finished Aluminum: ASTM B209/B209M, 3005 alloy, H12 or H14 temper; 16 gauge, 0.060 inch and 20 gauge, 0.032 inch thick; plain finish shop pre-coated with fluoropolymer coating."
4. 087100 Door Hardware
  - a. Hardware Sets
    - i. Updates highlighted within.

## **DRAWINGS**

1. A0.0 Wall Types, Drafting Standards
  - a. Typical Wall Details: EX-1, EX-2, EX-5, EX-6, EX-7, and EX-8
    - i. Updated sheathing keynote to the following, "061600 Air and moisture resistant sheathing"
2. A1.3 Plan Details

- a. 1. Exterior Storefront At Bench, Building A
  - i. The detail annotations and wall membrane layer have been updated.
- b. 2. Ext. Storefront, Bench, & Corner, Building A
  - i. The detail annotations and wall membrane layer have been updated.
- c. 3. Ext. Corner At Flow Room, Building C
  - i. The detail annotations and wall membrane layer have been updated.
- d. 4. EX-1 Outside Corner @ Building A
  - i. The detail annotations and wall membrane layer have been updated.
- e. 5. Exterior Storefront Door Jamb
  - i. The detail annotations and wall membrane layer have been updated.
- f. 6. Exterior Storefront Jamb
  - i. The detail annotations have been updated.
- g. 7. Storefront at EX-1
  - i. The detail annotations have been updated.
- h. 8. EX-1 Transition To EX-5
  - i. The detail annotations have been updated.
- i. 10. EX-1 Inside Corner, Building A
  - i. The detail annotations and wall membrane layer have been updated.
- 3. A1.4 - Plan Details
  - a. 7. EX-2 Inside Corner @ Building B
    - i. The wall membrane layer in the detail has been updated.
  - b. 8. First Floor Plan - Building B - Corner
    - i. The detail annotations have been updated.
  - c. 9 EX-4 TO EX-7 Transition
    - i. The detail annotations have been updated.
- 4. A3.1A - Building Elevations
  - a. South Elevation - Building A
    - i. Removed metal panel portion above door 101 and replaced with wood siding through this area.
    - ii. Updated note pertaining to break metal flashing between door and transom window to indicate it shall be 16 gauge aluminum break metal.
- 5. A3.1B - Building Elevations
  - a. North Elevation - Building B
    - i. Removed metal panel portion above door 200 and replaced with wood siding through this area.
    - ii. Updated note pertaining to break metal flashing between door and transom window to indicate it shall be 16 gauge aluminum break metal.
- 6. A3.1C - Building Elevations
  - a. East Elevation - Building C
    - i. Removed metal panel portion above door 300 and replaced with wood siding through this area.
    - ii. Updated note pertaining to break metal flashing between door and transom window to indicate it shall be 16 gauge aluminum break metal.
- 7. A5.1 - Wall Sections - Building A and B

- a. 1. Building A, Long Overhang & Column
  - i. The detail annotations have been updated.
- b. 2. Building A, High Side Overhang
  - i. The detail annotations have been updated and fixed misaligned detail callouts.
- c. 3. Typical Lateral Wall Section
  - i. A detail annotation has been updated.
- d. 4. Building A, Low Side
  - i. A detail annotation has been updated.
- e. 5. Building B, High Side
  - i. A detail annotation has been updated.
- f. 6. Building B, High Side Overhang
  - i. A detail annotation has been updated.
- g. 7. Building B, Transversal
  - i. A detail annotation has been updated.
- h. 8. Building B, Low Side
  - i. A detail annotation has been updated.
- 8. A5.2 - Wall Sections - Building C
  - a. 1. Building C, High Side
    - i. A detail annotation has been updated.
  - b. 2. Building C, High Side Overhang
    - i. Fixed misaligned detail callouts and a detail annotation has been updated.
  - c. 3. Building C, Low Side
    - i. A detail annotation has been updated.
  - d. 4. Building C, Low Side Overhang
    - i. Fixed misaligned detail callouts.
- 9. A6.1 - Details
  - a. 1. E/W Section - Building A
    - i. A detail annotation has been updated.
  - b. 4. Ceiling Detail At Sparks Studio
    - i. The wall membrane layer in the detail has been updated.
- 10. A6.2 - Details
  - a. 2. Base @ Exterior Sliding Door - Alternate
    - i. Fixed detail graphic overlap.
  - b. 7. Sliding Door Head @ Storefront
    - i. Revised entire detail.
  - c. 11. Window Sill, Typ.
    - i. Extended solid surface sill ½" past the gypsum board wall finish.
- 11. A7.1 - Door Schedule, Window Frame Types/Details
  - a. Door Schedule
    - i. Removed "detail" column and updated "access control" columns.
  - b. 9. Exterior Storefront W. Metal Frame Jamb
    - i. The detail annotations and wall membrane layer have been updated.

- c. 10. Exterior Storefront W. Metal Frame Head
    - i. A detail annotation has been updated.
  - d. 11. Exterior Sliding Door Head, Typ. - Alternate
    - i. A detail annotation has been updated.
- 12. A9.1C - Building C Finish Plan, Interior Elevations
  - a. Interior Elevation 8 - South Launchpad Studio 308
    - i. Updated finish note pertaining to the wall finish in Break Out 308A & 308B from AWP-1 to WC-1.
    - ii. Updated note to indicate extension of wall covering
  - b. Interior Elevation 15 - South Break Out 308B
    - i. Updated finish note pertaining to the wall finish in Break Out 308A & 308B from AWP-1 to WC-1.
    - ii. Updated note to indicate extension of wall covering
- 13. M3.1 – Enlarged Plans
  - a. Detail 2
    - i. Added note for smoke detector.
    - ii. Removed fire dampers around janitors closet and added radiation damper at the ceiling.
  - b. Detail 3
    - i. Added note for smoke detector.
  - c. Detail 10
    - i. Added a duct size.
- 14. M6.1 – Mechanical Schedules
  - a. Energy Recovery Ventilators
    - i. Removed motorized dampers.
  - b. Louvers
    - i. Adjusted note to provide custom color.
  - c. Domestic Water Heaters (Electric)
    - i. Updated remarks
  - d. Pumps
    - i. Updated remarks
- 15. M7.1 – Mechanical Specifications
  - a. Specifications
    - i. Updated some of the specifications.
- 16. ES.O2 – SITE LIGHTING PHOTOMETRIC PLAN
  - a. Site lighting photometric plan
    - i. Updated photometric plan due to fixture location and height changes.
  - b. Site lighting calculations luminaire schedule
    - i. Updated fixture type D4.
  - c. Horizontal lighting calculations
    - i. Updated site plan calculations due to fixture location and height changes.
- 17. ESO.3 – SITE LIGHTING CUTSHEETS
  - a. Cutsheet



- i. Updated cutsheet for fixture D4 to reflect changes.
- 18. E1.1A – ELECTRICAL PLANS BUILDING A
  - a. Detail 1
    - i. Updated fixture height for fixture W1.
    - ii. Updated fixture type D4 to reflect square downlights.
- 19. E1.1B – ELECTRICAL PLANS BUILDING B
  - a. Detail 1
    - i. Updated fixture height for fixture W1.
    - ii. Updated fixture type D4 to reflect square downlights.
- 20. E1.1A – ELECTRICAL PLANS BUILDING C
  - a. Detail 1
    - i. Updated fixture height for fixture W1.
    - ii. Updated fixture type D4 to reflect square downlights.
- 21. E7.1 – ELECTRICAL SCHEDULES
  - a. Light fixture schedule
    - i. Added approved manufacturer column to schedule.
  - b. Light fixture schedule
    - i. Updated fixture type d4 to be a square downlight.
  - c. Inverter panel schedule - INVA
    - i. Added approved mfr to schedule.
  - d. Inverter panel schedule - INVB
    - i. Added approved mfr to schedule.
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**END OF ADDENDUM**

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NOT USED

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NOT USED

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**SECTION 061600**  
**AIR AND MOISTURE RESISTANT SHEATHING**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Wall sheathing with integral weather-resistive barrier
- B. Roof sheathing with integral roof underlayment.

**1.02 REFERENCE STANDARDS**

- A. ASTM C661 - Standard Test Method for Indentation Hardness of Elastomeric-Type Sealants by Means of a Durometer; 2015 (Reapproved 2022).
- B. ASTM D412 - Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers--Tension; 2016 (Reapproved 2021).
- C. ASTM D779 - Standard Test Method for Determining the Water Vapor Resistance of Sheet Materials in Contact with Liquid Water by the Dry Indicator Method; 2016 (Reapproved 2022).
- D. ASTM E96/E96M - Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials; 2024a.
- E. ASTM E2357 - Standard Test Method for Determining Air Leakage Rate of Air Barrier Assemblies; 2025.
- F. ICC (IBC) - International Building Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- G. ICC-ES AC38 - Acceptance Criteria for Water-Resistive Barriers; 2016, with Editorial Revision (2021).
- H. ICC-ES AC148 - Acceptance Criteria for Flexible Flashing Materials; 2017, with Editorial Revision (2021).
- I. ICC-ES AC310 - Acceptance Criteria for Water-Resistive Membranes Factory-Bonded to Wood-Based Structural Sheathing, Used as Water-Resistive Barriers; 2008, with Editorial Revision (2021).
- J. PS 2 - Performance Standard for Wood Structural Panels; 2019.

**1.03 ACTION SUBMITTALS**

- A. Product Data: Product Data: For each type of sheathing product. Include manufacturer's technical data indicating performance properties
- B. Shop Drawings: Indicating location and extent of sheathing, accessories, and assemblies. Include details of joints, corners, and penetrations.

**1.04 INFORMATIONAL SUBMITTALS**

- A. Evaluation Reports: From ICC-ES, for wood sheathing and seam tape and flashing.
- B. Product Certifications: From manufacturer, indicating that sheathing products comply with indicated ICC-ES Acceptance Criteria.
- C. Warranty: Sample unexecuted copy of manufacturer warranty.

**1.05 CLOSEOUT SUBMITTALS**

- A. Warranty: Executed copy of manufacturer warranty

**1.06 QUALITY ASSURANCE**

- A. Wall sheathing meeting requirements for water-resistive barrier in accordance with ICC-ES AC310 – Water-resistive Membranes Factory-bonded to Wood-based Structural Sheathing, Used as Water-resistive Barriers.

- B. Roof sheathing meeting requirements for roof underlayment in accordance with ICC-ES AC266- Wood Structural Panel Roof Sheathing Factory-laminated with an Alternative Roof Underlayment.

#### **1.07 DELIVERY, STORAGE, AND HANDLING**

- A. Comply with manufacturer's written instructions for protection of sheathing products from weather prior to installation.

#### **1.08 WARRANTY**

- A. Manufacturer's Warranty: Manufacturer's standard form in which sheathing manufacturer agrees to repair or replace sheathing products that demonstrate deterioration or failure under normal use due to manufacturing defects within warranty period specified, when installed according to manufacturer's instructions.
  - 1. Warranty Period for Sheathing Products: 30 years from date of Substantial Completion.

### **PART 2 PRODUCTS**

#### **2.01 MANUFACTURER**

- A. Basis of Design: Huber Engineered Woods LLC, Charlotte NC; Phone: (800) 933-9220; Website: [www.huberwood.com](http://www.huberwood.com)
- B. Substitutions: See Section 016000.

#### **2.02 PERFORMANCE REQUIREMENTS**

- A. Air-Barrier Assembly Air Leakage: Less than 0.04 cfm/sq. ft. at 1.57 lbf/sq. ft. (0.2 L/s x sq. m at 75 Pa), per ASTM E2357 – Standard Test Method for Determining Air Leakage of Air Barrier Assemblies
- B. Water-Vapor Permeance, Facer: Minimum 12 perms (689 ng/Pa x s x sq. m), when tested in accordance with ASTM E96/E96M – Standard Test Methods for Water Vapor Transmission of Materials.

#### **2.03 WOOD PANEL PRODUCTS**

- A. Single Source Limitations: Provide Wall sheathing with integral weather-resistive barrier and roof sheathing with integral roof underlayment by a single manufacturer.
- B. Oriented Strand Board: US Department of Commerce DOC PS 2 - Performance Standard for Wood-Based Structural Panels
  - 1. Panels made with binder containing no added urea formaldehyde.
- C. Panel Exposure: No damage from weather exposure for up to 180 days.
- D. Printed fastener spacing symbols on facer for 16-inch (406 mm) and 24-inch (610 mm) on center spacing.

#### **2.04 WALL SHEATHING WITH INTEGRAL WEATHER-RESISTIVE BARRIER**

- A. Oriented-Strand-Board Wall Sheathing: Exposure 1, Structural 1 sheathing with factory-laminated water-resistive barrier facer and printed fastener location symbols.
  - 1. Basis-of-Design: Huber Engineered Woods LLC; ZIP System® sheathing.
  - 2. Characteristics
    - a. Span Rating and Performance Category: Not less than 32/16; Structural 1; 1/2 Performance Category.
    - b. Edge Profile: Square Edge.
    - c. Weather Barrier Facer: Medium-density, phenolic-impregnated sheet material qualifying as an ASTM D779 Grade D weather-resistive barrier in accordance with ICC-ES AC38 – Water-Resistive Barriers

#### **2.05 ROOF SHEATHING WITH INTEGRAL ROOF UNDERLAYMENT**

- A. Oriented-Strand-Board Roof Sheathing: Exposure 1 sheathing with factory-laminated water-resistive barrier facer with printed fastener location symbols.

1. Basis-of-Design: Huber Engineered Woods LLC; ZIP System® sheathing.
2. Characteristics
  - a. Span Rating, Panel Grade and Performance Category: Not less than 32/16; Structural 1; 1/2 Performance category.
  - b. Edge Profile: Square Edge.
  - c. Exterior Surface Facer: Medium-density, phenolic-impregnated kraft paper overlay in accordance with ICC-ES AC266 – Wood Structural Panel Roof Sheathing Factory-laminated with an Alternative Roof Underlayment.
  - d. Interior Surface Facer: Radiant Barrier Foil Facer
- B. Panel Edge Clips: Provide panel edge clips approved for roof application in accordance with code approvals and panel manufacturer's written instructions.

## **2.06 FASTENERS**

- A. Fasteners, General: Size and type complying with manufacturer's written instructions for Project conditions and requirements of authorities having jurisdiction.
  1. Corrosion Resistant.
- B. Nails, Brads, and Staples: Conform with ICC-ES AC116 - Acceptance Criteria for Nails and Spikes and ICC-ES AC201 Acceptance Criteria for Staples
- C. Power-Driven Fasteners: ICC-ES ESR-1539 - Power Driven Staples and Nails for Use in Engineered and Non-Engineered Connections or ICC-ES NER-272 - Power Driven Staples and Nails for Use in All Types of Building Construction

## **2.07 ACCESSORY PRODUCTS**

- A. Self-Adhering Seam and Flashing Tape: Pressure-sensitive, self-adhering, cold-applied, seam tape consisting of polyolefin film with acrylic adhesive, meeting ICC-ES AC148 – Acceptance Criteria for Flexible Flashing Materials, and tested as part of an assembly meeting performance requirements.
  1. Basis-of-Design: Huber Engineered Woods; ZIP System™ flashing tape.
  2. Characteristics
    - a. Adhesive type: Acrylic
    - b. Thickness: 0.012 inch (0.3 mm).
    - c. Tensile Strength: 938 psi
    - d. Elongation: 400-800 percent
    - e. Complies with AAMA 711 – Voluntary Specification for Self Adhering Flashing Used for Installation of Exterior Wall Fenestration and ICC-ES AC148 – Acceptance Criteria for Flexible Flashing Materials,
- B. Liquid-Applied Flashing Membrane: Gun-grade, cold-applied, silyl-terminated polymer (STP) liquid flashing membrane compatible with sheathing/weather barrier, self-adhering seam and flashing tape, and tested as part of an assembly meeting performance requirements.
  1. Basis-of-Design: Huber Engineered Woods; ZIP System™ Liquid Flash.
  2. Characteristics
    - a. Composition: Single component silyl-terminated polymer (STP)
    - b. Application Temperature Range: Between 35 Deg F (2 Deg C) and 110 Deg F (43 Deg C) surface and ambient.
    - c. VOC Content: 30 g/L
    - d. Hardness, Shore A: 40 to 45 in accordance with ASTM C661 – Standard Test Method for Indentation Hardness of Elastomeric Type Sealants by Means of a Durometer
    - e. Tensile Strength: 75 psi in accordance with ASTM D412 – Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers
    - f. Elongation at Break: 225 percent in accordance with ASTM D412 – Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers.



- C. Self-Adhering Flexible Flashing Tape: Pressure-sensitive, self-adhering, cold-applied, seam tape consisting of polyolefin film with acrylic adhesive; tested as part of an assembly meeting performance requirements.
  - 1. Basis-of-Design: Huber Engineered Woods; ZIP System™ stretch tape.
  - 2. Characteristics
    - a. Adhesive type: Acrylic
    - b. Thickness: 0.042 inch (1.067 mm).
    - c. Tensile Strength: 225 psi
    - d. Elongation: 800-1200 percent
    - e. Complies with AAMA 711 – Voluntary Specification for Self Adhering Flashing Used for Installation of Exterior Wall Fenestration and ICC-ES AC148 – Acceptance Criteria for Flexible Flashing Materials

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Examine framing spacing and alignment to determine if work is ready to receive sheathing. Proceed with sheathing work once conditions meet requirements.

### **3.02 SHEATHING INSTALLATION**

- A. General: Install sheathing panels in accordance with manufacturer's written instructions, requirements of applicable Evaluation Reports, and requirements of authorities having jurisdiction.
  - 1. Do not bridge expansion joints; allow joint spacing equal to spacing of structural supports.
  - 2. Install panels with laminated facer to exterior. Stagger end joints of adjacent panel runs. Support all panel edges.
  - 3. Panel Edge Spacing: In accordance with sheathing panel manufacturer's recommendations.
  - 4. Attach sheathing panels securely to substrate with manufacturer-approved fasteners in compliance with the following:
    - a. ICC-ES ESR-1539 - Power Driven Staples and Nails for Use in Engineered and Non-Engineered Connections or ICC-ES NER-272 - Power Driven Staples and Nails for Use in All Types of Building Construction
    - b. ICC (IBC) International Building Code Table 2304.9.1 Fastening Schedule.
  - 5. Install Roof Sheathing Panel Clips where required under code approvals based upon panel thickness and support spacing, provide panel clips located at each unsupported panel butt joint centered between supports.

### **3.03 SEAM AND PENETRATION TREATMENT**

- A. Assembly continuity: Coordinate sheathing installation with flashing and joint sealant sequencing and installation and with adjacent building air and moisture barrier components to provide complete, continuous air- and moisture- barrier.
- B. Tape panel seams, penetrations, and facer defects or cracks with self-adhering seam tape ZIP System™ Flashing Tape to form continuous weathertight surface. Apply tape according to manufacturer's written instructions and requirements of ICC-ES applicable to tape application.
- C. Flash penetrations, gaps, and cracks with liquid-applied flashing membrane ZIP System™ Liquid Flash to form continuous weathertight surface. Apply according to manufacturer's written instructions. Follow manufacturer's recommendation for integration with self-adhering seam tape ZIP System™ Flashing Tape.
- D. Tape window and doors openings and radius penetrations with self-adhering flexible flashing tape ZIP System™ Stretch Tape to form continuous weathertight surface. Apply tape according to manufacturer's written instructions and requirements of ICC-AC applicable to tape application.

## **END OF SECTION**

## SECTION 087100 - DOOR HARDWARE

### PART 1 GENERAL

#### 1.1 SECTION INCLUDES

- A. Hardware for Swinging Doors
- B. Hardware for fire-rated doors.
- C. Electrically operated and controlled hardware.
- D. Thresholds, weatherstripping and gasketing.

#### 1.2 RELATED REQUIREMENTS

- A. Section 081113 - Hollow Metal Doors and Frames.
- B. Section 081416 - Flush Wood Doors.
- C. Section 084313 - Aluminum-Framed Storefronts.
- D. Section 281000 (if provided)- Access Control: Electronic access control devices.

#### 1.3 REFERENCE STANDARDS

- E. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design 2010.
- F. ANSI/BHMA Certified product Standards – A156 Series.
- G. DHI (H&S) - Sequence and Format for the Hardware Schedule 2019.
- H. ICC A117.1 - Accessible and Usable Buildings and Facilities 2017.
- I. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- J. NFPA 80 - Standard for Fire Doors and Other Opening Protectives 2022.
- K. NFPA 105 - Standard for Smoke Door Assemblies and Other Opening Protectives 2022.
- L. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies 2022.
- M. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies Current Edition, Including All Revisions.
- N. UL 1784 - Standard for Air Leakage Tests of Door Assemblies Current Edition, Including All Revisions.

#### 1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate the manufacture, fabrication, and installation of products that door hardware is installed on.
- B. Sequence installation to ensure facility services connections are achieved in an orderly and expeditious manner.
- C. Pre-Submittal Conference: Conduct coordination conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier(s), Installer(s), and Contractor(s) to review proper methods and the procedures for receiving, handling, and installing door hardware.
  - 1. Prior to installation of door hardware, conduct a project specific training meeting to instruct the installing contractors' personnel on the proper installation and adjustment of their

respective products. Product training to be attended by installers of door hardware (including electromechanical hardware) for aluminum, hollow metal and wood doors. Training will include the use of installation manuals, hardware schedules, templates and physical product samples as required.

2. Inspect and discuss electrical roughing-in, power supply connections, and other preparatory work performed by other trades.
  3. Review sequence of operation narratives for each unique access controlled opening.
  4. Review and finalize construction schedule and verify availability of materials.
  5. Review the required inspecting, testing, commissioning, and demonstration procedures.
- D. Keying Requirements Meeting:
1. Agenda:
    - a. Establish keying requirements.
    - b. Verify locksets and locking hardware are functionally correct for project requirements.
    - c. Verify that keying and programming complies with project requirements.
    - d. Establish keying submittal schedule and update requirements.
  2. Incorporate "Keying Requirements Meeting" decisions into keying submittal upon review of door hardware keying system.
  3. Deliver established keying requirements to manufacturers.

## 1.5 SUBMITTALS

- A. See Section 013000 - Administrative Requirements for submittal procedures.
- B. Product Data: Manufacturer's catalog literature for each type of hardware, marked to clearly show products to be furnished for this project, and includes construction details, material descriptions, finishes, and dimensions and profiles of individual components.
- C. Shop Drawings - Door Hardware Schedule: A detailed listing that includes each item of hardware to be installed on each door.
  1. Prepared by or under supervision of Architectural Hardware Consultant (AHC).
  2. Comply with DHI (H&S) using door numbering scheme and hardware set numbers as indicated in Contract Documents.
    - a. Submit in vertical format.
  3. Include complete description for each door listed.
- D. Shop Drawings - Electrified Door Hardware: Include diagrams for power, signal, and control wiring for electrified door hardware that include details of interface with building safety and security systems. Provide elevations and diagrams for each electrified door opening as follows:
  1. Prepared by or under supervision of Architectural Hardware Consultant (AHC) unless provided by Access Control System provider.
    - a. Elevations: Include elevations of each door opening showing electrified devices with connections installed and an operations narrative describing how opening operates from either side at any given time.
    - b. Diagrams: Include manufacturer point-to-point wiring diagrams that show each device in door opening system with related colored wire connections to each device.
  2. Samples for Verification (if requested):
    - a. Submit minimum size of 2 by 4 inch (51 by 102 mm) for sheet samples, and minimum length of 4 inch (102 mm) for other products.
  3. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.
  4. Installer's qualification statement. Company specializing in performing work of the type specified for commercial door hardware with at least three years of documented experience.

5. Supplier's qualification statement. Company with certified Architectural Hardware Consultant (AHC) to assist in work of this section.
6. Maintenance Data: Include data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.
7. Keying Schedule:
  - a. Submit one (1) electronic copy of Keying Schedule in compliance with requirements established during Keying Requirements Meeting for distribution to project team unless otherwise indicated.
8. Warranty: Submit manufacturer's warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.
9. Project Record Documents: Record actual locations of concealed equipment, services, and conduit.
10. Maintenance Materials and Tools: Furnish the following for Owner's use in maintenance of project.
  - a. See Section 016000 - Product Requirements, for additional provisions.

#### 1.6 QUALITY ASSURANCE

- A. Coordinate the manufacture, fabrication, and installation of products that door hardware is installed on.
- B. Sequence installation to ensure facility services connections are achieved in an orderly and expeditious manner.
- C. Furnish templates for door and frame preparation to manufacturers and fabricators of products requiring internal reinforcement for door hardware.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.
- B. Tag each item or package separately with identification related to the final Door Hardware Schedule and include basic installation instructions with each item or package.
- C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

#### 1.8 WARRANTY

- A. See Section 017800 - Closeout Submittals for additional warranty requirements.
- B. Manufacturer Warranty: Provide manufacturer warranty against defects in material and workmanship for period indicated, from Date of Substantial Completion. Complete forms in Owner's name and register with manufacturer.
  1. Closers: 25 years, minimum.
  2. Exit Devices: Three years, minimum.
  3. Locksets and Cylinders: Three years, minimum.

## PART 2 PRODUCTS

### 2.1 SCHEDULED DOOR HARDWARE

- A. General: Provide door hardware for each door to comply with requirements in Door Hardware Sets and each referenced section that products are to be supplied under.
- B. Designations: Requirements for quantity, item, size, finish or color, grade, function, and other distinctive qualities of each type of door hardware are indicated in the Door Hardware Sets at the end of Part 3. Products are identified by using door hardware designations, as follows:
  - 1. Named Manufacturer's Products: Product designation and manufacturer are listed for each door hardware type required for the purpose of establishing requirements. Manufacturers' names are abbreviated in the Door Hardware Schedule.
    - a. Products furnished, but not installed, under this Section include the following. Coordinating, purchasing, delivering, and scheduling remain requirements of this Section.
      - 1) Permanent cylinders, cores, and keys to be installed by Owner.
- C. Substitutions: Requests for substitution and product approval for inclusive mechanical and electromechanical door hardware in compliance with the specifications must be submitted in writing and in accordance with the procedures and time frames outlined in Division 01, Substitution Procedures. Approval of requests is at the discretion of the architect, owner, and their designated consultants.

### 2.2 HINGES

- A. Manufacturers: Conventional butt hinges.
  - 1. BEST (Basis of Design)
  - 2. Ives
  - 3. McKinney
- B. Properties:
  - 1. Butt Hinges: As applicable to each item specified.
    - a. Standard Weight Hinges: Minimum of two (2) permanently lubricated non-detachable bearings.
    - b. Heavy Weight Hinges: Minimum of four (4) permanently lubricated bearings on heavy weight hinges.
    - c. Template screw hole locations.
    - d. Bearing assembly installed after plating.
    - e. Bearings: Exposed fully hardened bearings.
    - f. Bearing Shells: Shapes consistent with barrels.
    - g. Pins: Easily seated, non-rising pins.
      - 1) Fully plate hinge pins.
      - 2) Non-Removable Pins: Slotted stainless steel screws.
    - h. UL 10C listed for fire-resistance-rated doors.
- C. Sizes: See Door Hardware Schedule.
  - 1. Hinge Widths: As required to clear surrounding trim.
  - 2. Sufficient size to allow 180 degree swing of door.
- D. Finishes: See Door Hardware Schedule.
  - 1. Fully polish hinges, front, back, and barrel.
- E. Grades:
  - 1. Butt Hinges: Comply with BHMA A156.1 and BHMA A156.7 for templated hinges.

- F. Material: Base metal as indicated for each item by BHMA material and finish designation.
- G. Types:
  - 1. Butt Hinges: Include full mortise hinges.
- H. Options: As applicable to each item specified.
- I. Quantities:
  - 1. Butt Hinges: Three (3) hinges per leaves up to 90 inches (2286 mm) in height. Add one (1) for each additional 30 inches (762 mm) in height or fraction thereof.
  - 2. Hinge weight and size unless otherwise indicated in hardware sets:
  - 3. For doors up to 36 inches (914 mm) wide and up to 1-3/4 inches (44.5 mm) thick provide hinges with a minimum thickness of 0.134 inch (3.4 mm) and a minimum of 4-1/2 inches (114 mm) in height.
  - 4. For doors from 36 inches (914 mm) wide up to 48 inches (1219 mm) wide and up to 1-3/4 inches (44.5 mm) thick provide hinges with a minimum thickness of 0.180 inch (4.6 mm) and a minimum of 5 inches (127 mm) in height.
  - 5. For doors greater than 1-3/4 inches (44.5 mm) thick provide hinges with a minimum thickness of 0.180 inch (4.6 mm) and a minimum of 5 inches (127 mm) in height.
- J. Applications: At swinging doors.
  - 1. Provide non-removable pins at all exterior doors.

## 2.3 CONTINUOUS GEARED HINGES

- A. Manufacturers:
  - 1. BEST
  - 2. Ives
  - 3. Pemko
- B. Grade: ANSI/BHMA A156.26 Grade 1-600 certified continuous geared hinge.
  - 1. Minimum 0.120-inch thick extruded 6060 T6 aluminum alloy hinge leaves.
  - 2. Minimum overall width of 4 inches.
  - 3. Hinges are non-handed, reversible and fabricated to template screw locations.
  - 4. Factory trim hinges to suit door height and prepare for electrical cut-outs.

## 2.4 POWER TRANSFER DEVICES

- A. Electrified Quick Connect Power Transfers:
  - 1. Manufacturers:
    - a. Precision
    - b. Von Duprin
    - c. Pemko
- B. Properties:
  - 1. Provide electrified full mortise power transfers with Molex™ standardized plug connectors and sufficient number of concealed wires (up to 12) to accommodate the electrified functions specified in the Door Hardware Sets with a 1-year warranty.
  - 2. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Wire nut connections are not acceptable.

## 2.5 BOLTS

- A. Manufacturers:
  - 1. Burns
  - 2. Ives

3. Rockwood
- B. Properties:
  1. Flush Bolts:
    - a. Flush bolts to be furnished with top rod of sufficient length to allow bolt retraction device location approximately six feet from the floor.
    - b. Provide related accessories (mounting brackets, strikes, coordinators, etc.) as required for appropriate installation and operation.
  2. Manual Flush Bolts: Manually latching upon closing of door leaf.
    - a. Bolt Throw: 3/4 inch (19 mm), minimum.
  3. Automatic Flush Bolts: Automatically latching upon closing of door leaf.
    - a. Bolt Throw: 3/4 inch (19 mm), minimum.
  4. Dustproof Strikes: Furnish for bolts into floor, provide except at metal thresholds.

## 2.6 CYLINDRICAL LOCKS – GRADE 2

- B. Manufacturers:
  1. Dorma – C300 Series
  2. Schlage – AL Series
  3. Sargent – 7 Line
- C. Properties:
  1. Meets A156.2 Series 4000, Grade 2, IBC/A177.1 and ADA requirements for accessibility.
  2. Meets UL/CUL, UL 10 C Positive Pressure and 3 hour fire rated.
  3. Mechanical Locks: Manufacturer's standard.
    - a. Door Thickness Coordination Fitting 1-3/8 inch (44 mm) to 1-3/4 inch (57 mm) thick doors.
    - b. Latch: Operating lever trim features a specially designed freewheeling function to protect the lock from damage caused by excessive torque applied to the lever handles. When locked, the outside lever handle will move freely through a 60° arc without operating the latch bolt. This free movement minimizes the opportunity for damage to the lock mechanism.
    - c. Latchbolt Throw: 1/2 inch minimum.
    - d. Auxiliary Deadlatch: One piece stainless steel, permanently lubricated.
    - e. Backset: 2-3/4" (70 mm) standard and 2-3/8" (61 mm).
    - f. Lever Trim:
      - 1) Locks include a special, high-strength spring and positive stop to eliminate unsightly sagging levers.
      - 2) Trim to be self-aligning and thru-bolted for additional strength and reliability.
      - 3) Handles: Made of forged or cast brass, bronze, or stainless steel construction. Levers that contain a hollow cavity are not acceptable.
      - 4) Levers to be provided that accept a Small Format Interchangeable Core (SFIC).
- D. Finishes: See Door Hardware Schedule
  1. Core Faces: Match finish of lockset
- E. Grades: Grade 2

## 2.7 CYLINDRICAL LOCKS – GRADE 1

### F. Manufacturers:

1. Dorma – C100 Series
2. Schlage – ND Series
3. Sargent – 10X Series

### G. Properties:

1. Meets A156.2 Series 4000, Grade 2, IBC/A177.1 and ADA requirements for accessibility.
2. Meets UL/CUL, UL 10 C Positive Pressure and 3 hour fire rated.
3. Mechanical Locks: Manufacturer's standard.
  - a. Door Thickness Coordination Fitting 1-3/8 inch (44 mm) to 1-3/4 inch (57 mm) thick doors.
  - b. Latch: Operating lever trim features a specially designed freewheeling function to protect the lock from damage caused by excessive torque applied to the lever handles. When locked, the outside lever handle will move freely through a 60° arc without operating the latch bolt. This free movement minimizes the opportunity for damage to the lock mechanism.
  - c. Latchbolt Throw: 1/2 inch minimum.
  - d. Auxiliary Deadlatch: One piece stainless steel, permanently lubricated.
  - e. Backset: 2-3/4" (70 mm) standard and 2-3/8" (61 mm).
  - f. Lever Trim:
    - 1) Locks include a special, high-strength spring and positive stop to eliminate unsightly sagging levers.
    - 2) Trim to be self-aligning and thru-bolted for additional strength and reliability.
    - 3) Handles: Made of forged or cast brass, bronze, or stainless steel construction. Levers that contain a hollow cavity are not acceptable.
    - 4) Levers to be provided that accept a Small Format Interchangeable Core (SFIC).

### H. Finishes: See Door Hardware Schedule

1. Core Faces: Match finish of lockset

### I. Grades: Grade 1

## 2.8 EXIT DEVICES

### A. Manufacturers:

1. Precision – APEX 2000 Series
2. Von Duprin – 98/33 Series.
3. Sargent – 80 Series

### A. Properties:

1. Touchpads: 'T' style metal touchpads and rail assemblies with matching chassis covers end caps.
2. Latch Bolts: Stainless steel deadlocking with 3/4 inch (19 mm) projection using latch bolt.
3. Lever Design: Match project standard lockset trims.
4. Cylinder: Include where cylinder dogging or locking trim is indicated.
5. Strike as recommended by manufacturer for application indicated.
6. Sound dampening on touch bar.
7. Dogging:
  - a. Non-Fire-Resistance-Rated Devices: cylinder dogging.
  - b. Fire-Resistance-Rated Devices: Manual dogging not permitted.
8. Touch bar assembly on wide style exit devices to have a 1/4 inch (6.3 mm) clearance to allow for vision frames.



9. All exposed exit device components to be of architectural metals and "true" architectural finishes.
  10. Handling: Field-reversible.
  11. Fasteners on Back Side of Device Channel: Concealed - exposed fasteners not allowed.
  12. Vertical Latch Assemblies' Operation: Gravity, without use of springs.
- B. Grades: Complying with BHMA A156.3, Grade 1.
1. Provide exit devices tested and certified by UL or by a recognized independent laboratory for mechanical operational testing to 10 million cycles minimum with inspection confirming Grade 1 Loaded Forces have been maintained.
- C. Options:
1. Electrified Devices
  2. Electrified Device Voltage: 24 VAC.

## 2.9 LOCK CYLINDERS

- A. Manufacturers:
1. Standard Cylinder
- B. Properties:
1. Lock Cylinders: Provide key access on outside of each lock, unless otherwise indicated.
    - a. Provide cylinders from same manufacturer as locking device.
    - b. Provide cams and/or tailpieces as required for locking devices.
    - c. Provide cylinders with appropriate format interchangeable cores where indicated.
- C. Grades:
1. Standard Security Cylinders: Comply with BHMA A156.5.
- D. Types: As applicable to each item specified.

## 2.10 KEYS

- A. Manufacturers:
1. BEST
  2. Schlage
  3. Sargent
- B. Properties: Complying with guidelines of BHMA A156.28.
1. Provide keys as required for use with locks and devices indicated in hardware sets.
  2. Provide keying information in compliance with DHI standards.
  3. Keying Schedule: Arrange for a keying meeting, with Architect, Owner and hardware supplier, and other involved parties to ensure locksets and locking hardware, are functionally correct and keying complies with project requirements.
  4. Keying: Master keyed by Facility.
  5. Include construction keying for all exterior doors during construction and supply control keying.
  6. Provide key collection envelopes, receipt cards, and index cards in quantity suitable to manage number of keys.
  7. Deliver keys with identifying tags to Owner by security shipment direct from manufacturer.
  8. Permanent Keys and Cores: Stamped with applicable key marking for identification. Do not include actual key cuts within visual key control marks or codes. Stamp permanent keys "Do Not Duplicate."
- C. Key System To Be Determined.

## 2.11 DOOR PULLS

- A. Manufacturers:
  - 1. Burns
  - 2. Ives
  - 3. Rockwood
- B. Door Pulls and Push Plates: Comply with BHMA A156.6.
  - 1. Pull Type: Vertical, Ladder Style as indicated in the hardware sets.
  - 2. Material: Aluminum, unless otherwise indicated.
  - 1. Coordination: Properly sequence installation of other door hardware affected by placement of coordinators and carry bars.

## 2.12 CLOSERS

- A. Manufacturers; Surface Mounted:
  - 1. Best EHD9000 Series
  - 2. LCN 4040XP Series
  - 3. Sargent 281 Series
- B. Rack and Pinion Cast Iron Surface Closers (Extra Heavy Duty)
  - 1. Provide Full Rack and Pinion type closer constructed of one-piece cast iron, or equal, to exceed the ANSI/BHMA A156.4 Grade 1 requirements.
  - 2. Provide closers tested and approved for UL10C for positive pressure; UL228 & CAN/ULC-S133.
  - 3. Provide closers that conform to ANSI/ICC A117.1 and ADA requirements for barrier-free accessibility.
  - 4. Closer shall be available with heavy-duty arms and knuckles/elbows
  - 5. Closer shall have maximum 2 1/4 inch case projection with non-ferrous cover.
- C. Closer cover to be:
  - 1. Plastic (default)
- D. Closer cover finish to be:
  - 2. Painted
- E. Provide closers with all-weather hydraulic fluid.
- F. Provide closers with separate adjusting valves for closing and latching speeds, as well as advanced variable backcheck and delayed action.
  - 1. Provide closers with Delayed Action and/or Advanced Variable Backcheck where noted in hardware sets
  - 2. Provide closers with backcheck positioning & DA valve
- G. Provide adapter plates, shim spacers and blade stop spacers as required by frame and door conditions.
- H. Mount closers on non-public side of door and stair side of stair doors, unless otherwise noted in hardware sets.
- I. Closers shall be non-handed and multi-sized as noted in hardware sets.
- J. When specific sized closers are required provide: Size 1 through 6 - +50% power over size 6 to meet barrier-free ADA and PT4C requirements
- K. Provide closers with separate adjusting valves for closing and latching speeds, as well as backcheck and delayed action.
- L. Installation:
  - 1. Mounting: Includes surface mounted installations.
  - 2. Mount closers on non-public side of door and stair side of stair doors unless otherwise noted in hardware sets.

3. At outswinging exterior doors, mount closer on interior side of door.
4. Provide adapter plates, shim spacers, and blade stop spacers as required by frame and door conditions.
5. Where an overlapping astragal is included on pairs of swinging doors, provide coordinator to ensure door leaves close in proper order.

## 2.13 PROTECTION PLATES

- A. Manufacturers:
  1. Burns
  2. Ives
  3. Rockwood
- B. Properties:
  1. Plates:
    - a. Kick Plates: Provide along bottom edge of push side of every wood door with closer, except aluminum storefront and glass entry doors, unless otherwise indicated.
      - 1) Size: 10 inches (254 mm) high by 2 inch (51 mm) less door width (LDW) on push side of door except as noters otherwise in the hardware set.
    - b. Edges: Beveled, on four (4) unless otherwise indicated.
- C. Grades: Comply with BHMA A156.6.
- D. Material: As indicated for each item by BHMA material and finish designation.
  1. Metal Properties: Stainless steel.
    - a. Metal, Standard Duty: Thickness 0.050 inch (1.27 mm), minimum.
- E. Installation:
  1. Fasteners: Countersunk screw fasteners

## 2.14 STOPS AND HOLDERS

- A. Manufacturers:
  1. Burns
  2. Ives
  3. Rockwood
  4. Glynn Johnson
- B. General: Provide overhead stop/holder when wall or floor stop is not feasible.
- C. Grades:
  1. Door Holders, Wall Bumpers, and Floor Stops: Comply with BHMA A156.16 and Resilient Material Retention Test as described in this standard.
- D. Material: Base metal as indicated for each item by BHMA material and finish designation.
- E. Installation:
  1. Non-Masonry Walls: Confirm adequate wall reinforcement has been installed to allow lasting installation of wall bumpers.

## 2.15 THRESHOLDS

- A. Manufacturers:
  1. National Guard Products
  2. Zero
  3. Pemko
- B. Properties:
  1. Threshold Surface: Fluted horizontal grooves across full width.
- C. Grades: Thresholds: Comply with BHMA A156.21.

## 2.16 WEATHERSTRIPPING AND GASKETING

- A. Manufacturers:
  - 1. National Guard Products
  - 2. Zero
  - 3. Pemko
- B. Properties:
  - 1. Weatherstripping Air Leakage: Resilient or flexible seal strips that are easily replaceable and readily available from stocks maintained by manufacturer.
  - 2. Adhesive-Backed Perimeter Gasketing: Silicone gasket material applied to frame with self- adhesive.
- C. Grades: Comply with BHMA A156.22.

## 2.17 ASTRAGALS

- A. Manufacturers:
  - 1. National Guard Products.
  - 2. Zero
  - 3. Pemko
- B. Astragals: Comply with BHMA A156.22.
  - 1. Provide adhesive edge mounted astragal to cover or fill space for full door height between pair of doors or door and adjacent jamb.

## 2.18 SILENCERS

- A. Manufacturers:
  - 1. As provided by HM Frame Supplier.
- B. Properties:
  - 1. Silencers: Provide at equal locations on door frame to mute sound of door's impact upon closing.
    - a. Single Door: Provide three on strike jamb of frame.
    - b. Pair of Doors: Provide two on head of frame, one for each door at latch side.
    - c. Material: Rubber, gray color.
  - 2. Silencers are not specified in hardware sets. To be supplied with HM frame supplier.

## 2.19 FEMA HARDWARE

- A. Manufacturers:
  - 1. As provided by the selected Door & Frame Supplier.
- B. Properties:
  - 1. Products must be tested and approved for use on a FEMA 361 door/frame opening.
    - a. Type and function of products to be utilized are listed in the hardware sets.
    - b. All doors to be tested upon installation to ensure that upon closing they latch and that outside trim can be secured to prevent potential breach of storm security by flying debris.

## 2.20 POWER SUPPLIES

- A. Manufacturers:
  - 1. Provided by Facility Security Integrator
- B. Properties:
  - 1. Power Supply Units: Manufacturer's standard.
    - a. Enclosures: Lockable NEMA Type 1, with hinged cover and knockouts.

- b. Power: 24 VAC, 10 Amp; field-selectable.
- c. Emergency Release Terminals: Designed to release devices upon activation of fire alarm system.
- d. Auxiliary contacts for remote signaling.
- e. User-selectable time delay from 0 to 4 minutes.
- f. Fire Alarm System Interface: Standard.
- g. Fire alarm terminal with green LED indicating power is available.
- h. Output Distribution Board with indicator LEDs.
- i. On/Off LED power indicator.

## 2.21 CARD READER AND ACCESSORIES

- A. Manufacturers:
  - 1. Provided by Facility Security Integrator
- B. System Components to be included:
  - 1. System Software
  - 2. Encoder Stations
  - 3. Server Licenses
  - 4. Messenger Hubs (as required)
  - 5. System Credentials (as required)

## 2.22 FINISHES

- A. Finishes: Identified in Hardware Sets.

# PART 3 EXECUTION

## 3.1 EXAMINATION

- A. Verify that doors and frames are ready to receive this work; labeled, fire-rated doors and frames are properly installed, and dimensions are as indicated on shop drawings.
- B. Correct all defects prior to proceeding with installation.
- C. Verify that electric power is available to power operated devices and of correct characteristics.

## 3.2 INSTALLATION

- A. Install hardware in accordance with manufacturer's instructions and applicable codes.
- B. Install hardware using the manufacturer's fasteners provided. Drill and tap all screw holes located in metallic materials. Do not use "Riv-Nuts" or similar products.
- C. Install hardware on fire-rated doors and frames in accordance with applicable codes and NFPA 80.
- D. Install hardware for smoke and draft control doors in accordance with NFPA 105.
- E. Use templates provided by hardware item manufacturer.
- F. Do not install surface mounted items until application of finishes to substrate are fully completed.
- G. Wash down masonry walls and complete painting or staining of doors and frames.
- H. Complete finish flooring prior to installation of thresholds.
- I. Door Hardware Mounting Heights: Distance from finished floor to center line of hardware item. As indicated in following list, unless noted otherwise in Door Hardware Schedule or on drawings.
  - 1. Mounting heights in compliance with ADA Standards:

- a. Locksets: 40-5/16 inch (1024 mm).
  - b. Exit Devices: 40-5/16 inch (1024 mm).
- J. Set exterior door thresholds with full-width bead of elastomeric sealant at each point of contact with floor providing a continuous weather seal, anchor thresholds with stainless steel countersunk screws.

### 3.3 CLEANING

- A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.
- B. Clean adjacent surfaces soiled by door hardware installation.
- C. Clean operating items as necessary to restore proper finish. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of owner occupancy.

### 3.4 PROTECTION

- A. Protect finished Work under provisions of Section 017000 - Execution and Closeout Requirements.
- B. Do not permit adjacent work to damage hardware or finish.

### 3.5 DEMONSTRATION

- A. Instruct Owner's maintenance personnel to adjust, operate, and maintain mechanical and electromechanical door hardware.

### 3.6 DOOR HARDWARE SETS

- A. The hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.
  - 1. Quantities listed are for each pair of doors, or for each single door.
  - 2. The supplier is responsible for handing and sizing all products.
  - 3. Where multiple options for a piece of hardware are given in a single line item, the supplier shall provide the appropriate application for the opening.

### HARDWARE SETS

#### SET #1.0

Doors: 314C, 314D

|   |                                 |                             |         |     |
|---|---------------------------------|-----------------------------|---------|-----|
| 4 | HVY WT BB Hinge                 | To Meet Door System Testing | 613     | OTH |
| 1 | FEMA Multi-Pt Exit (classroom)  | To Meet Door System Testing | 613/619 | OTH |
| 1 | Hvy Duty Lever to Match         | To Meet Door System Testing | 613     | OTH |
| 1 | Rim Cylinder                    | Keyed to System             | 613     | SCH |
| 1 | FEMA Closer (parallel stop arm) | To Meet Door System Testing | 689     | OTH |
| 1 | Bottom Latch Protection Plate   | To Meet Door System Testing | 619     | OTH |
| 1 | Weatherstrip (head)             | To Meet Door System Testing | AL      | OTH |
| 2 | Weatherstrip (jambs)            | To Meet Door System Testing | AL      | OTH |
| 1 | Door Bottom                     | To Meet Door System Testing | DKB     | OTH |

|   |           |                             |     |     |
|---|-----------|-----------------------------|-----|-----|
| 1 | Drip Cap  | 16 DKB x Opening Width + 4" |     | NGP |
| 1 | Threshold | To Meet Door System Testing | 626 | OTH |

NOTE:

\* Contractor to verify products utilized for protection in severe weather events are to be tested and approved for use on FEMA 361 openings. Any instructions required for the proper methods of securing the doors during storm events shall be provided by signage installed on the doors for occupant use.

SET #2.0

Doors: 311

|   |                                |                             |         |     |
|---|--------------------------------|-----------------------------|---------|-----|
| 4 | HVY WT BB Hinge                | To Meet Door System Testing | 613     | OTH |
| 1 | FEMA Multi-Pt Lock (classroom) | To Meet Door System Testing | 613/619 | OTH |
| 2 | Mortise Cylinder               | Key to System               | 613/619 | SCH |
| 1 | FEMA Closer (regular arm)      | To Meet Door System Testing | 689     | OTH |
| 1 | Kick Plate                     | To Meet Door System Testing | 619     | OTH |
| 1 | Weatherstrip (head)            | To Meet Door System Testing | AL      | OTH |
| 2 | Weatherstrip (jambs)           | To Meet Door System Testing | AL      | OTH |
| 1 | Door Bottom                    | To Meet Door System Testing | DKB     | OTH |
| 1 | Drip Cap                       | 16 DKB x Opening Width + 4" |         | NGP |
| 1 | Threshold                      | To Meet Door System Testing | AL      | OTH |

NOTE:

\* Contractor to verify products utilized for protection in severe weather events are to be tested and approved for use on FEMA 361 openings. Any instructions required for the proper methods of securing the doors during storm events shall be provided by signage installed on the doors for occupant use.

SET #3.0

Doors: 316B

|   |                                  |                                 |         |     |
|---|----------------------------------|---------------------------------|---------|-----|
| 4 | HVY WT BB Hinge                  | To Meet Door System Testing     | 613     | OTH |
| 1 | Elect. FEMA Multi-Pt Lock w/ DB  | To Meet Door System Testing     | 613/619 | OTH |
| 1 | Mortise Cylinder                 | Key to System                   | 613     | SCH |
| 1 | FEMA Closer (parallel, stop arm) | To Meet Door System Testing     | 668     | OTH |
| 1 | Kick Plate                       | To Meet Door System Testing     | 619     | OTH |
| 1 | Weatherstrip (head)              | To Meet Door System Testing     | AL      | OTH |
| 2 | Weatherstrip (jambs)             | To Meet Door System Testing     | AL      | OTH |
| 1 | Door Bottom                      | To Meet Door System Testing     | DKB     | OTH |
| 1 | Drip Cap                         | 16 DKB x Opening Width + 4"     |         | NGP |
| 1 | Threshold                        | To Meet Door System Testing     | AL      | OTH |
| 1 | Power Supply                     | By Facility Security Integrator |         | OTH |
| 1 | Red/Green LED                    | By Facility Security Integrator |         | OTH |

NOTE:

\* Door to lock & unlock electronically on designated schedule. Lock to include deadbolt monitor which can be wired to change exterior LED color from green to red when room is occupied for privacy by throwing deadbolt. Key override is available for emergency access. Free egress always available from inside by lever trim.

\* Contractor to verify products utilized for protection in severe weather events are to be tested and approved for use on FEMA 361 openings. Any instructions required for the proper methods of securing the doors during storm events shall be provided by signage installed on the doors for occupant use.

SET #4.0

Doors: 314B

1 FEMA OH Door, Frame & Hdw To Meet Door System Testing OTH

NOTE:

\* Contractor to verify products utilized for protection in severe weather events are to be tested and approved for use on FEMA 361 openings. Any instructions required for the proper methods of securing the doors during storm events shall be provided by signage installed on the doors for occupant use.

SET #5.0

Doors: 100A, 101, 200, 300

|   |                             |                                 |     |     |
|---|-----------------------------|---------------------------------|-----|-----|
| 1 | Continuous Hinge (ept prep) | 661HDUL x Door Height           | DB  | BES |
| 1 | Rim Exit (storeroom)        | 2103 X 4903 A S300              | 613 | PRE |
| 1 | Rim Cylinder                | Keyed to System                 | 613 | SCH |
| 1 | Electric Strike             | 0162                            | 630 | RCI |
| 1 | Closer (parallel, stop arm) | EHD9016 SDS90                   | 695 | BES |
| 1 | Blade Stop Spacer           | BSHD90                          | 695 | BES |
| 1 | Drop Plate                  | DP90                            | 695 | BES |
| 1 | Perimeter Seal              | By Aluminum Frame Supplier      |     | OTH |
| 1 | Door Sweep                  | 1015V DKB x Door Width          |     | NGP |
| 1 | Threshold                   | 8425 A x Opening Width          |     | NGP |
| 1 | Wiring Harness (frame)      | By Facility Security Integrator |     | OTH |
| 1 | Power Supply                | By Facility Security Integrator |     | OTH |
| 1 | Card Reader                 | By Facility Security Integrator |     | OTH |

NOTE:

\* Door is normally closed and secured to prevent access. Presentation of credential to card reader will release electric strike to momentarily allow access. During designated times electric strike may be left unlocked by access control system timer. Access control system to secure strike after hours. Key override is available for emergency access. Free egress is always available from inside.

SET #6.0

Doors: 102C, 201C

|   |                             |                             |         |     |
|---|-----------------------------|-----------------------------|---------|-----|
| 3 | Hinge                       | FBB191 4.5" x 4.5"          | 613     | BES |
| 1 | Rim Exit (nl, rex)          | 2103 x 4903 A S300          | 613/619 | PRE |
| 1 | Rim Cylinder                | Keyed to System             | 613     | SCH |
| 1 | Closer (parallel, stop arm) | EHD9016 SDS90               | 689     | BES |
| 1 | Kick Plate                  | KP50 10" x 2" LDW B4E CSK   | 619     | BRN |
| 1 | Weatherstrip (head)         | 700N A x Door Height        |         | NGP |
| 2 | Weatherstrip (jambs)        | 700EN A x Door Height       |         | NGP |
| 1 | Door Sweep                  | 101V DKB x Door Width       |         | NGP |
| 1 | Threshold                   | 8425 A x Opening Width      |         | NGP |
| 1 | Drip Cap                    | 16 DKB x Opening Width + 4" |         | NGP |

NOTE:

\* Prepare door & frame 102C for future electric strike & card reader installation.

SET #7.0

Doors: 201D, 211C



|   |                              |                             |         |     |
|---|------------------------------|-----------------------------|---------|-----|
| 3 | Hinge                        | FBB191 4.5" x 4.5"          | 613     | BES |
| 1 | Cylindrical Lock (classroom) | C170 D LRC TX 134 5001 SC   | 613/619 | DKA |
| 1 | Latch Protector              | LP-211                      | PC      | DON |
| 1 | Closer (parallel, stop arm)  | EHD9016 SDS90               | 689     | BES |
| 1 | Kick Plate                   | KP50 10" x 2" LDW B4E CSK   | 619     | BRN |
| 1 | Weatherstrip (head)          | 700N A x Door Height        |         | NGP |
| 2 | Weatherstrip (jambs)         | 700EN A x Door Height       |         | NGP |
| 1 | Door Sweep                   | 101V A x Door Width         |         | NGP |
| 1 | Threshold                    | 8425 A x Opening Width      |         | NGP |
| 1 | Drip Cap                     | 16 DKB x Opening Width + 4" |         | NGP |

#### SET #7.1

Doors: 301C, 308C

|   |                              |                             |         |     |
|---|------------------------------|-----------------------------|---------|-----|
| 3 | Hinge                        | FBB191 4.5" x 4.5"          | 613     | BES |
| 1 | Cylindrical Lock (storeroom) | C180 D LRC TX 134 5001 SC   | 613/619 | DKA |
| 1 | Closer (parallel, stop arm)  | EHD9016 SDS90               | 689     | BES |
| 1 | Kick Plate                   | KP50 10" x 2" LDW B4E CSK   | 619     | BRN |
| 1 | Weatherstrip (head)          | 700N A x Door Height        |         | NGP |
| 2 | Weatherstrip (jambs)         | 700EN A x Door Height       |         | NGP |
| 1 | Door Sweep                   | 101V A x Door Width         |         | NGP |
| 1 | Threshold                    | 8425 A x Opening Width      |         | NGP |
| 1 | Drip Cap                     | 16 DKB x Opening Width + 4" |         | NGP |

#### NOTE:

\* Prepare doors & frames for future electric strike & card reader installation.

#### SET #8.0

Doors: 107B

|   |                              |                             |         |     |
|---|------------------------------|-----------------------------|---------|-----|
| 3 | Hinge                        | FBB191 4.5" x 4.5"          | 613     | BES |
| 1 | Cylindrical Lock (storeroom) | C180 D LRC TX 134 5001 SC   | 613/619 | DKA |
| 1 | Latch Protector              | LP-211                      | PC      | DON |
| 1 | Closer (parallel, stop arm)  | EHD9016 SDS90               | 689     | BES |
| 1 | Kick Plate                   | KP50 10" x 2" LDW B4E CSK   | 630     | BRN |
| 1 | Weatherstrip (head)          | 700N A x Door Height        |         | NGP |
| 2 | Weatherstrip (jambs)         | 700EN A x Door Height       |         | NGP |
| 1 | Door Sweep                   | 101V x DKB Door Width       |         | NGP |
| 1 | Threshold                    | 8425 A x Opening Width      |         | NGP |
| 1 | Drip Cap                     | 16 DKB x Opening Width + 4" |         | NGP |

#### SET #9.0

Doors: 102B, 201B, 211B, 301B, 308B

|   |                                |                            |         |     |
|---|--------------------------------|----------------------------|---------|-----|
| 2 | Continuous Hinge (ept prep)    | 661HDUL x Door Height      | DB      | BES |
| 1 | Manual Flush Bolt Set          | 7845 x Extension           | 613     | BRN |
| 1 | Cylindrical Lock (storeroom)   | C180 D LRC TX 134 5001 SC  | 613/619 | DKA |
| 2 | Closer (regular, stop, ho arm) | EHD9016 ISH90              | 695     | BES |
| 1 | Perimeter Seal                 | By Aluminum Frame Supplier |         | OTH |
| 1 | Astragal                       | By Aluminum Door Supplier  |         | OTH |
| 2 | Door Sweep                     | 1015V DKB x Door Width     |         | NGP |
| 1 | Threshold                      | 8425 A x Opening Width     |         | NGP |

## SET #10.0

Doors: 102A, 201A, 211A, 301A, 308A

|   |                             |                                |     |     |
|---|-----------------------------|--------------------------------|-----|-----|
| 3 | Hinge                       | FBB179 4.5" x 4.5"             | 646 | BES |
| 1 | Cylindrical Lock (entrance) | C353 D LRC 234F 118S 5001 D SC | 619 | DKA |
| 1 | Closer (regular arm)        | EHD9016 AF90                   | 689 | BES |
| 1 | Kick Plate                  | KP50 10" x 2" LDW B4E CSK      | 619 | BRN |
| 1 | Wall Stop                   | 525                            | 619 | BRN |
| 1 | Perimeter Seal              | 5050 C (head & jambs)          |     | NGP |

## SET #11.0

Doors: 100B

|   |                           |                                 |     |     |
|---|---------------------------|---------------------------------|-----|-----|
| 3 | Hinge                     | FBB179 4.5" x 4.5"              | 646 | BES |
| 1 | Cylindrical Lock (asylum) | C182 D LRC 234F 118S 5001 D SC  | 619 | DKA |
| 1 | Electric Strike           | 2164 24V                        | 32D | RCI |
| 1 | Closer (parallel arm)     | EHD9016 AF90P                   | 689 | BES |
| 1 | Kick Plate                | KP50 10" x 2" LDW B4E CSK       | 619 | BRN |
| 1 | Wall Stop                 | 525                             | 619 | BRN |
| 1 | Perimeter Seal            | 5050 C (head & jambs)           |     | NGP |
| 1 | Wiring Harness (frame)    | By Facility Security Integrator |     | OTH |
| 1 | Power Supply              | By Facility Security Integrator |     | OTH |
| 1 | Card Reader               | By Facility Security Integrator |     | OTH |

## NOTE:

\* Door is normally closed and secured to prevent access and egress. Presentation of credential to card reader will release electric strike to momentarily allow access or egress. Key override is available for emergency access from both sides.

## SET #12.0

Doors: 104, 203, 204A, 204B, 213, 302, 303, 304A, 304B, 310

|   |                              |                                |     |     |
|---|------------------------------|--------------------------------|-----|-----|
| 3 | Hinge                        | FBB191 4.5" x 4.5"             | 646 | BES |
| 1 | Cylindrical Lock (classroom) | C170 D LRC 234F 118S 5001 D SC | 619 | DKA |
| 1 | Closer (parallel, stop arm)  | EHD9016 DS90                   | 689 | BES |
| 1 | Kick Plate                   | KP50 10" x 2" LDW B4E CSK      | 619 | BRN |
| 1 | Perimeter Seal               | 5050 C (head & jambs)          |     | NGP |

## SET #13.0

Doors: 107A, 206, 208

|   |                              |                                |     |     |
|---|------------------------------|--------------------------------|-----|-----|
| 3 | Hinge                        | FBB179 4.5" x 4.5"             | 646 | BES |
| 1 | Cylindrical Lock (storeroom) | C180 D LRC 234F 118S 5001 D SC | 619 | DKA |
| 1 | Closer (regular arm)         | EHD9016 AF90                   | 689 | BES |
| 1 | Kick Plate                   | KP50 10" x 2" LDW B4E CSK      | 619 | BRN |
| 1 | Wall Stop                    | 525                            | 619 | BRN |
| 1 | Perimeter Seal               | 5050 C (head & jambs)          |     | NGP |

## NOTE:

\* Doors 107A & 208 are fire rated openings.

## SET #14.0

Doors: 214

|   |                              |                                |     |     |
|---|------------------------------|--------------------------------|-----|-----|
| 3 | Hinge                        | FBF179 4.5" x 4.5"             | 646 | BES |
| 1 | Cylindrical Lock (storeroom) | C180 D LRC 234F 118S 5001 D SC | 619 | DKA |
| 1 | Closer (parallel arm)        | EHD9016 AF90P                  | 689 | BES |
| 1 | Kick Plate                   | KP50 10" x 2" LDW B4E CSK      | 619 | BRN |
| 1 | Wall Stop                    | 525                            | 619 | BRN |
| 1 | Perimeter Seal               | 5050 C (head & jambs)          |     | NGP |

#### SET #15.0

Doors: 315

|   |                              |                                |     |     |
|---|------------------------------|--------------------------------|-----|-----|
| 3 | Hinge                        | FBF179 4.5" x 4.5"             | 646 | BES |
| 1 | Cylindrical Lock (storeroom) | C180 D LRC 234F 118S 5001 D SC | 619 | DKA |
| 1 | Closer (regular, stop arm)   | EHD9016 IS90                   | 689 | BES |
| 1 | Kick Plate                   | KP50 10" x 2" LDW B4E CSK      | 630 | BRN |
| 1 | Perimeter Seal               | 5050 C (head & jambs)          |     | NGP |

#### SET #16.0

Doors: 314A

|   |                              |                           |     |     |
|---|------------------------------|---------------------------|-----|-----|
| 3 | Hinge                        | FBF191 4.5" x 4.5"        | 646 | BES |
| 1 | Cylindrical Lock (both ways) | C166 D LRC 234F 118S 5001 | 626 | DKA |
| 1 | Closer (parallel, stop arm)  | EHD9016 DS90              | 689 | BES |
| 1 | Kick Plate                   | KP50 10" x 2" LDW B4E CSK | 630 | BRN |
| 1 | Perimeter Seal               | 5050 C (head & jambs)     |     | NGP |

#### NOTE:

\* Key in either lock side trim locks or unlocks both sides trim.

#### SET #17.0

Doors: 105, 106B, 205, 207, 209, 210, 305, 307, 312, 313

|   |                                 |                           |     |     |
|---|---------------------------------|---------------------------|-----|-----|
| 3 | Hinge                           | FBF191 4.5" x 4.5"        | 646 | BES |
| 1 | Cylindrical Lock (privacy, ind) | ND40S RHO OS-OCC          | 619 | SCH |
| 1 | Closer (regular arm)            | EHD9016 AF90              | 689 | BES |
| 1 | Kick Plate                      | KP50 10" x 2" LDW B4E CSK | 619 | BRN |
| 1 | Wall Stop                       | 525                       | 619 | BRN |
| 1 | Perimeter Seal                  | 5050 C (head & jambs)     |     | NGP |

#### SET #18.0

Doors: 106A, 316A

|   |                                    |                           |     |     |
|---|------------------------------------|---------------------------|-----|-----|
| 3 | Hinge                              | FBF179 4.5" x 4.5"        | 646 | BES |
| 1 | Cylindrical Lock (privacy, ind)    | ND40S RHO OS-OCC          | 619 | SCH |
| 1 | Dbl Cylinder Deadbolt (keyed both) | B622P P6                  | 619 | SCH |
| 1 | Closer (parallel arm)              | EHD9016 AF90P             | 689 | BES |
| 1 | Kick Plate                         | KP50 10" x 2" LDW B4E CSK | 619 | BRN |
| 1 | Wall Stop                          | 525                       | 619 | BRN |
| 1 | Perimeter Seal                     | 5050 C (head & jambs)     |     | NGP |

#### SET #19.0

Doors: 103, 202, 212, 306, 309,

|   |                 |                    |     |     |
|---|-----------------|--------------------|-----|-----|
| 6 | Hinge           | FBB179 4.5" x 4.5" | 646 | BES |
| 2 | Roller Latch    | 550 x SP1          | 626 | BRN |
| 2 | Wire Pull       | 610                | 619 | BRN |
| 2 | Surface OH Stop | 902S               | 689 | DKA |

#### DOOR / HARDWARE SET SCHEDULE

| Door # | Set # | Door # | Set # | Door # | Set # |
|--------|-------|--------|-------|--------|-------|
| 100A   | 5.0   | 204A   | 12.0  | 304A   | 12.0  |
| 100B   | 11.0  | 204B   | 12.0  | 304B   | 12.0  |
| 101    | 5.0   | 205    | 17.0  | 305    | 17.0  |
| 102A   | 10.0  | 206    | 13.0  | 306    | 19.0  |
| 102B   | 9.0   | 207    | 17.0  | 307    | 17.0  |
| 102C   | 6.0   | 208    | 13.0  | 308A   | 10.0  |
| 103    | 19.0  | 209    | 17.0  | 308B   | 9.0   |
| 104    | 12.0  | 210    | 17.0  | 308C   | 7.1   |
| 105    | 17.0  | 211A   | 10.0  | 309    | 19.0  |
| 106A   | 18.0  | 211B   | 9.0   | 310    | 12.0  |
| 106B   | 17.0  | 211C   | 7.0   | 311    | 2.0   |
| 107A   | 13.0  | 212    | 19.0  | 312    | 17.0  |
| 107B   | 8.0   | 213    | 12.0  | 313    | 17.0  |
| 200    | 5.0   | 214    | 14.0  | 314A   | 16.0  |
| 201A   | 10.0  | 300    | 5.0   | 314B   | 4.0   |
| 201B   | 9.0   | 301A   | 10.0  | 314C   | 1.0   |
| 201C   | 6.0   | 301B   | 9.0   | 314D   | 1.0   |
| 201D   | 7.0   | 301C   | 7.1   | 315    | 15.0  |
| 202    | 19.0  | 302    | 12.0  | 316A   | 18.0  |
| 203    | 12.0  | 303    | 12.0  | 316B   | 3.0   |

**END OF SECTION**







ARCHITECT  
BVH ARCHITECTURE  
440 N 8TH ST STE 100  
LINCOLN, NE 68508  
V 402 475 4551  
bvh.com

CIVIL ENGINEER  
OLSSON  
601 P ST #200  
LINCOLN, NE 68508  
V 402 474 6311  
olsson.com

MEP ENGINEER  
OLSSON  
601 P ST #200  
LINCOLN, NE 68508  
V 402 474 6311  
olsson.com

STRUCTURAL ENGINEER  
LARGE STRUCTURAL GROUP  
1919 S 40TH STREET, SUITE 302  
LINCOLN, NE 68506  
V 402 421 9540  
largestructuralgroup.com

LANDSCAPE ARCHITECTURE  
ESTATE HOUSE DESIGN  
PENDLETON IN  
V 402 675 8296  
estatehousedesign.com

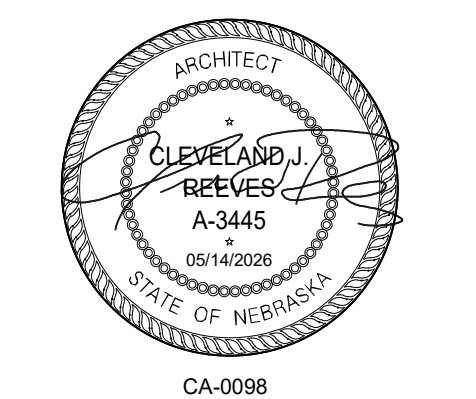
CONSTRUCTION MANAGER  
P. MAKINLER BUILDING GROUP  
5936 VANDERVOORT DR, SUITE A  
LINCOLN, NE 68516  
V 402 413 2971  
pmakinler.com

| REVISIONS SCHEDULE |           |             |
|--------------------|-----------|-------------|
| MARK               | DATE      | DESCRIPTION |
| 1                  | 5/21/2026 | Addendum 1  |
| 3                  | 6/4/2026  | Addendum 3  |

ACTON ACADEMY  
LINCOLN

6701 S FOLSOM ST  
LINCOLN, NE 68523

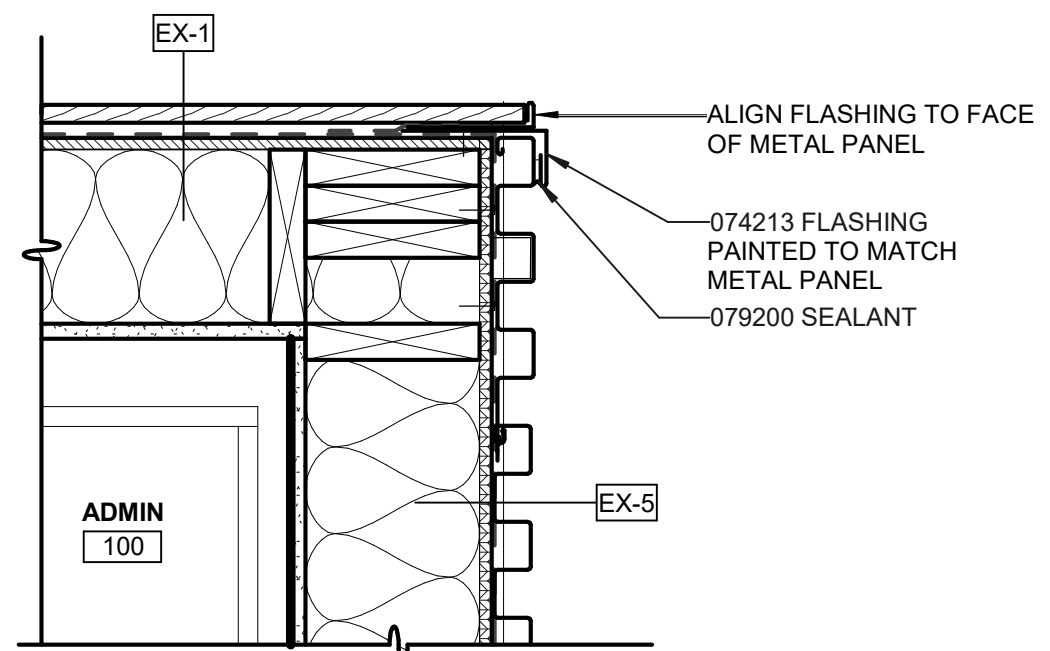
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PROJECT STATUS: CONSTRUCTION DOCUMENTS



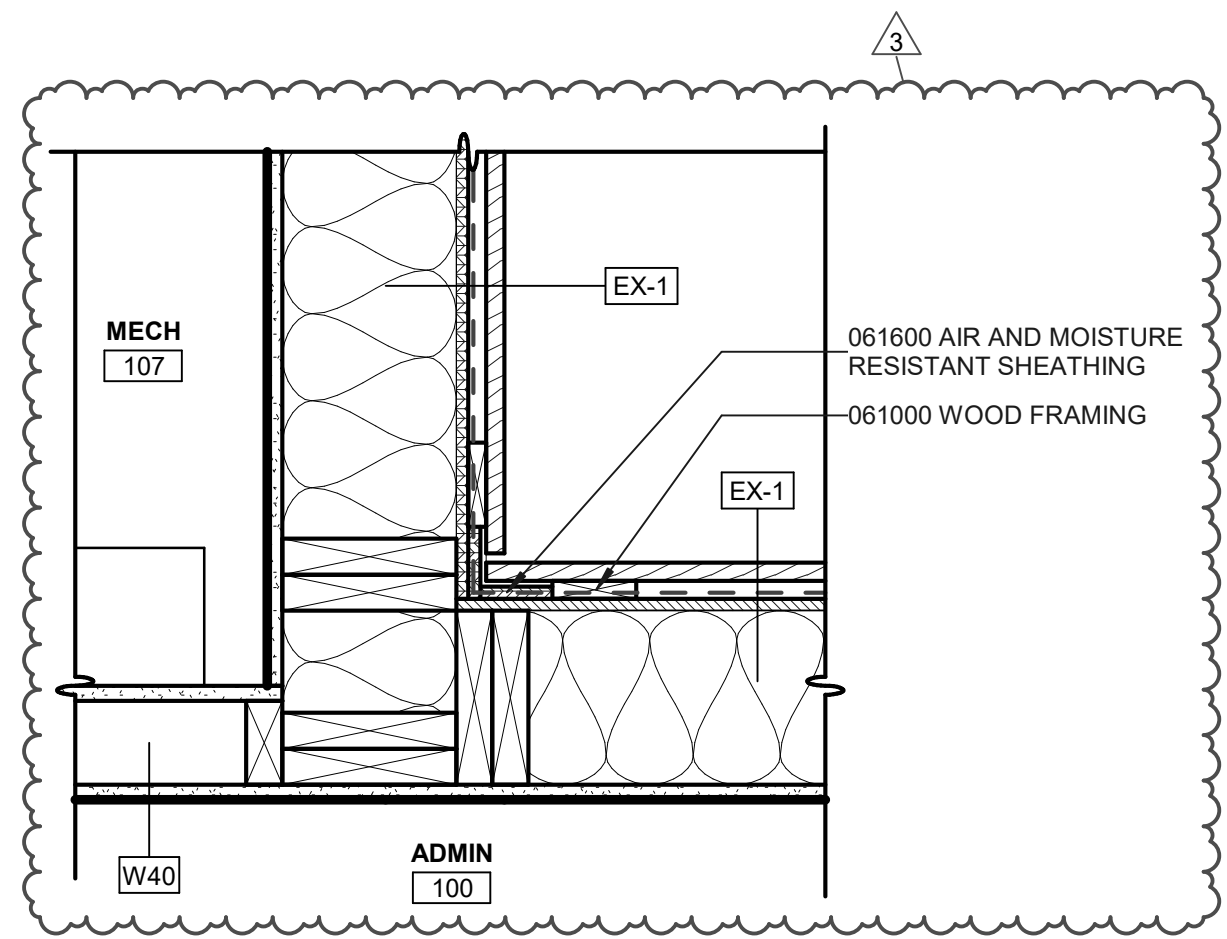
PLAN DETAILS



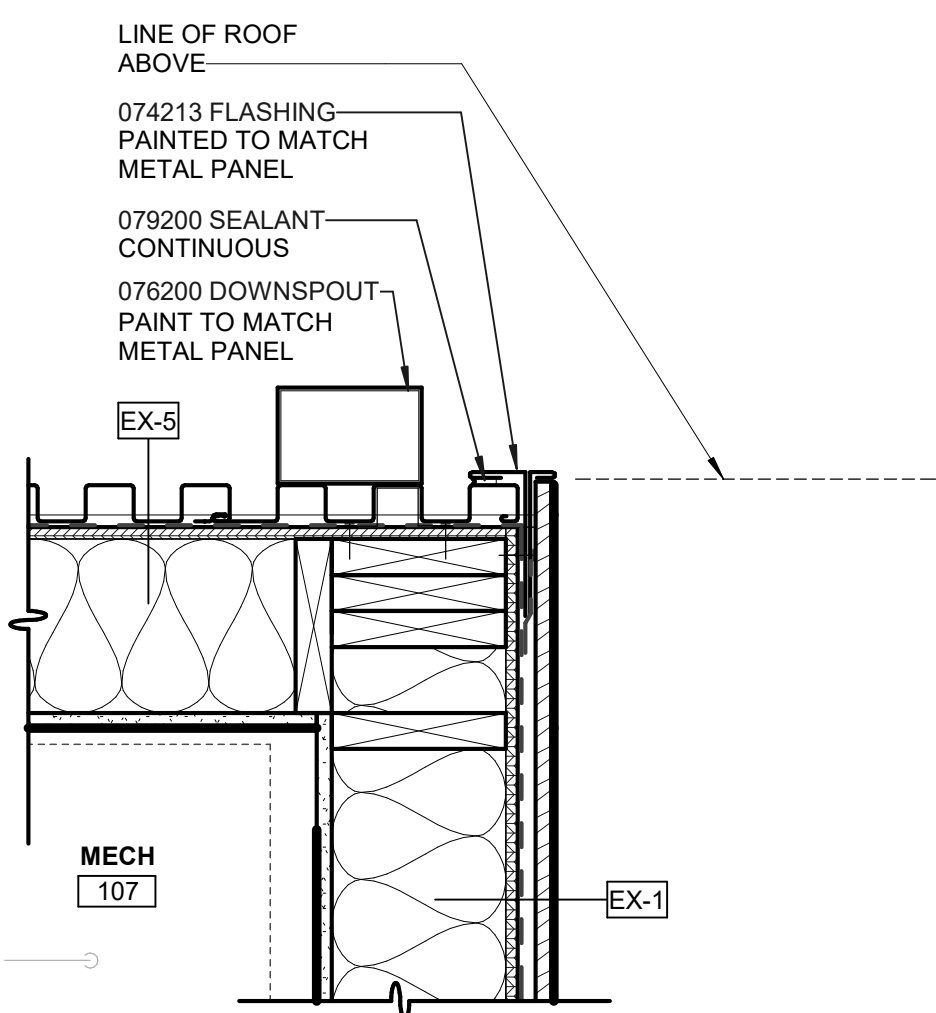
A1.3



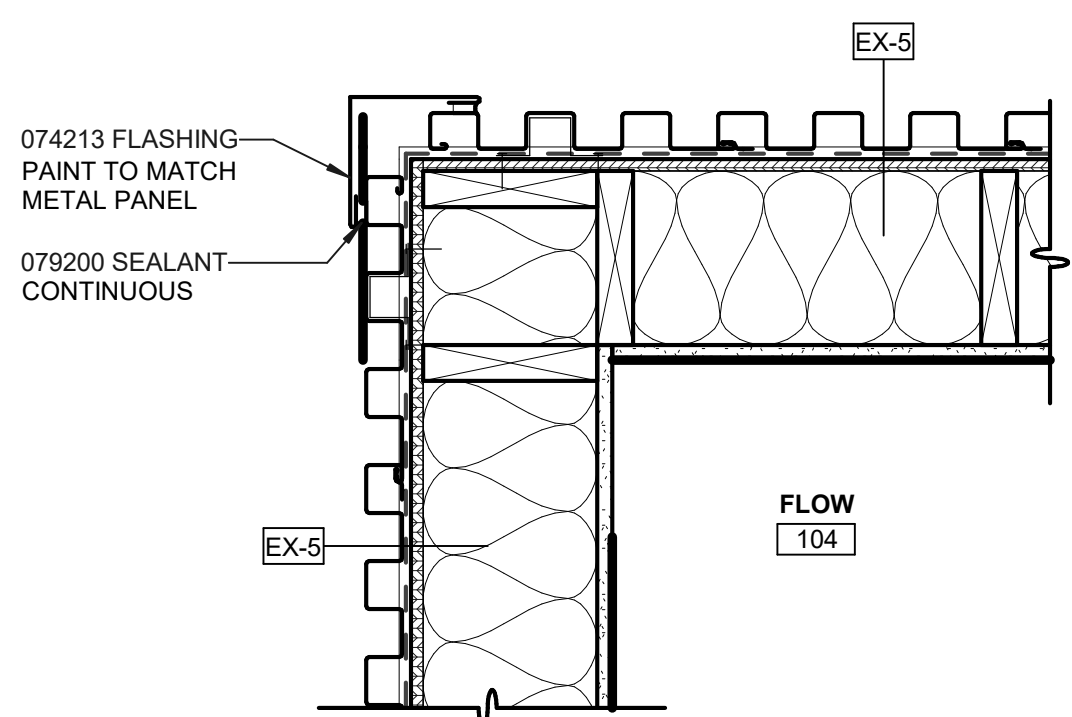
**9 OUTSIDE CORNER - BUILDING A**  
1 1/2" = 1'-0"



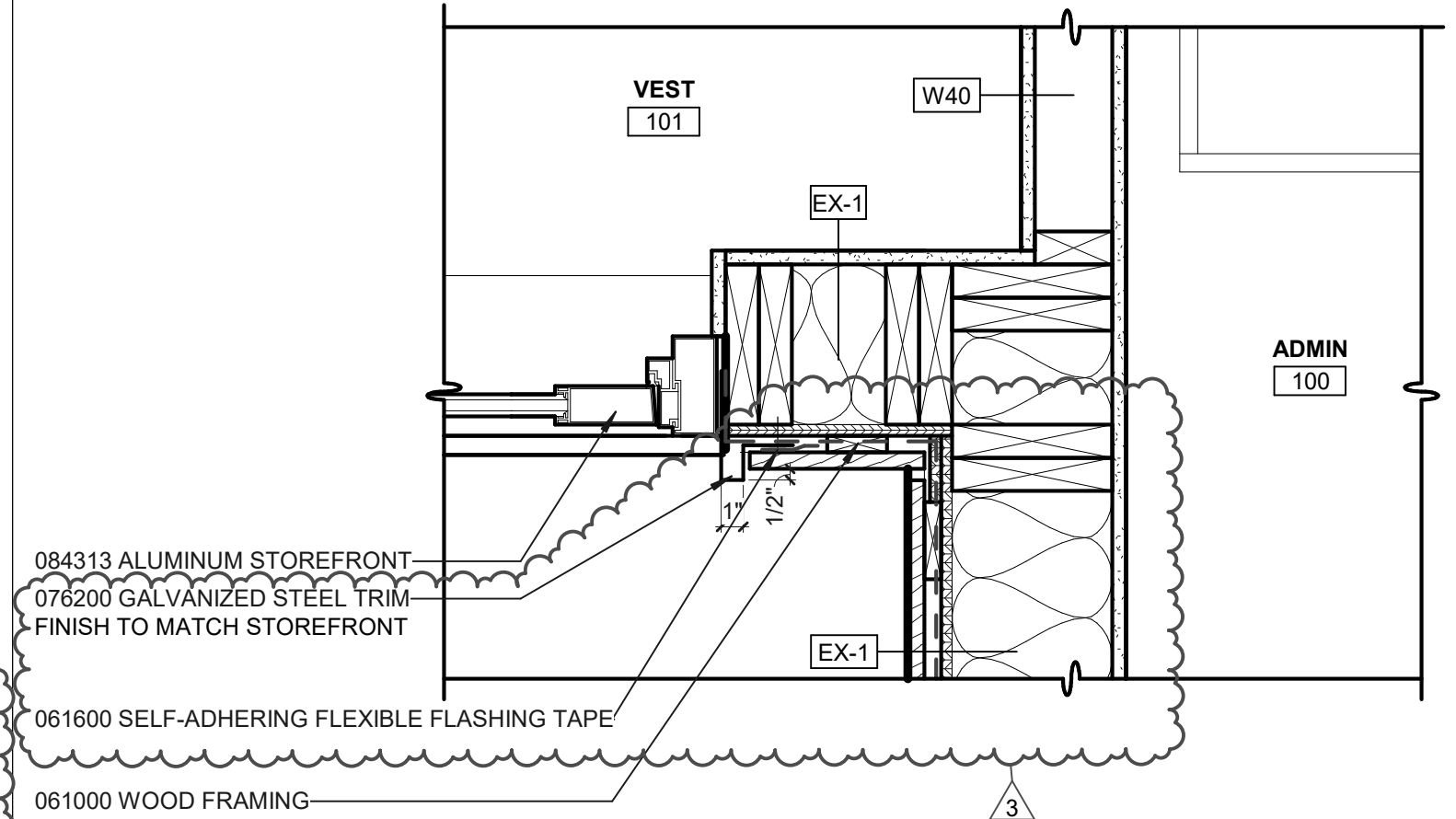
**10 EX-1 INSIDE CORNER, BUILDING A**  
1 1/2" = 1'-0"



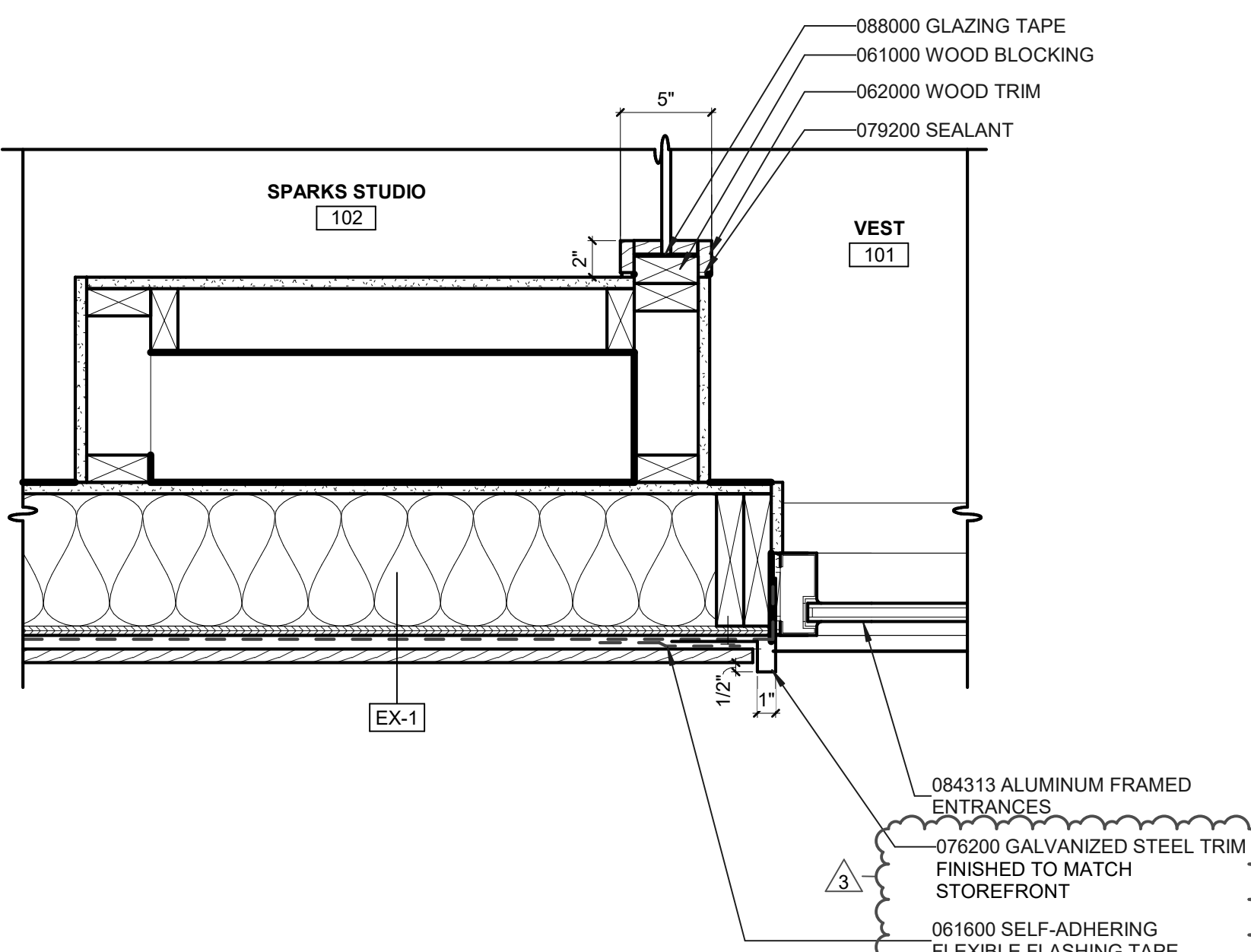
**11 OUTSIDE CORNER, TRANSITION EX-5 TO EX-1, BUILDING A**  
1 1/2" = 1'-0"



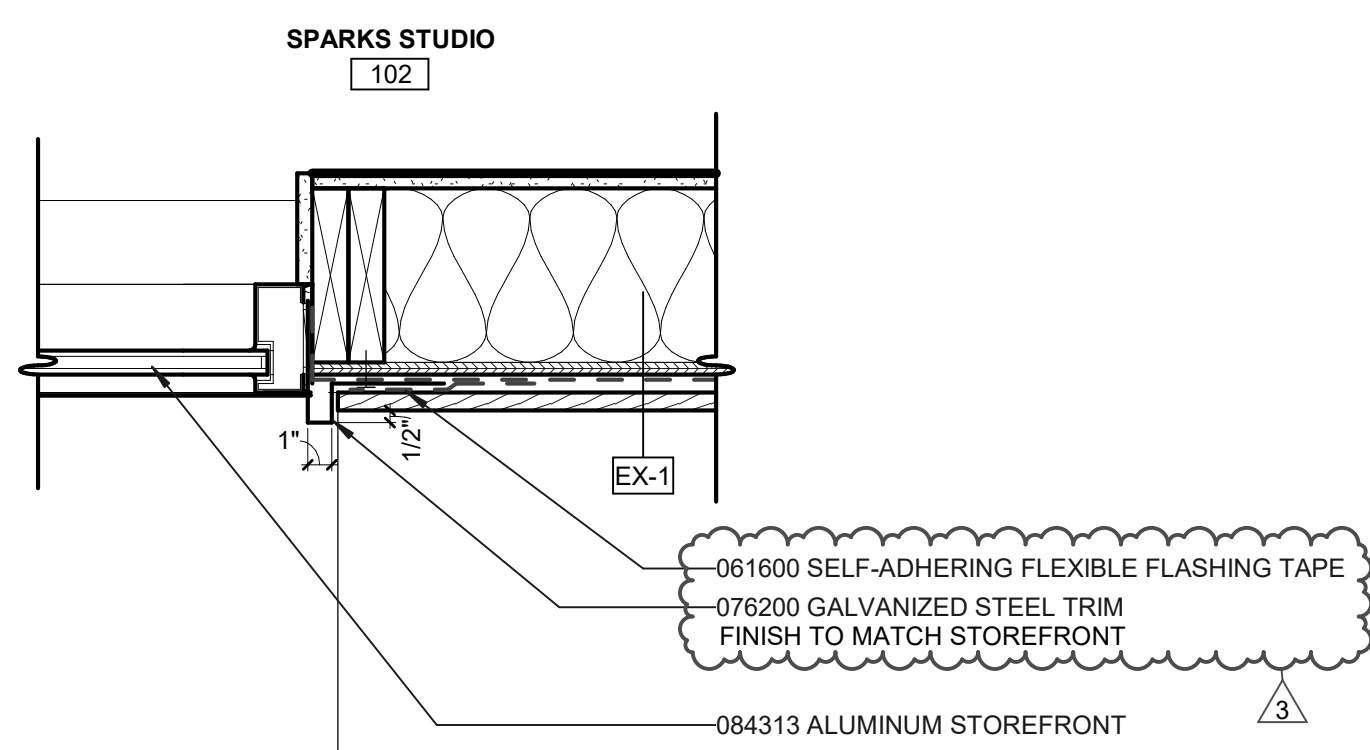
**12 EX-5 CORNER, BUILDING A**  
1 1/2" = 1'-0"



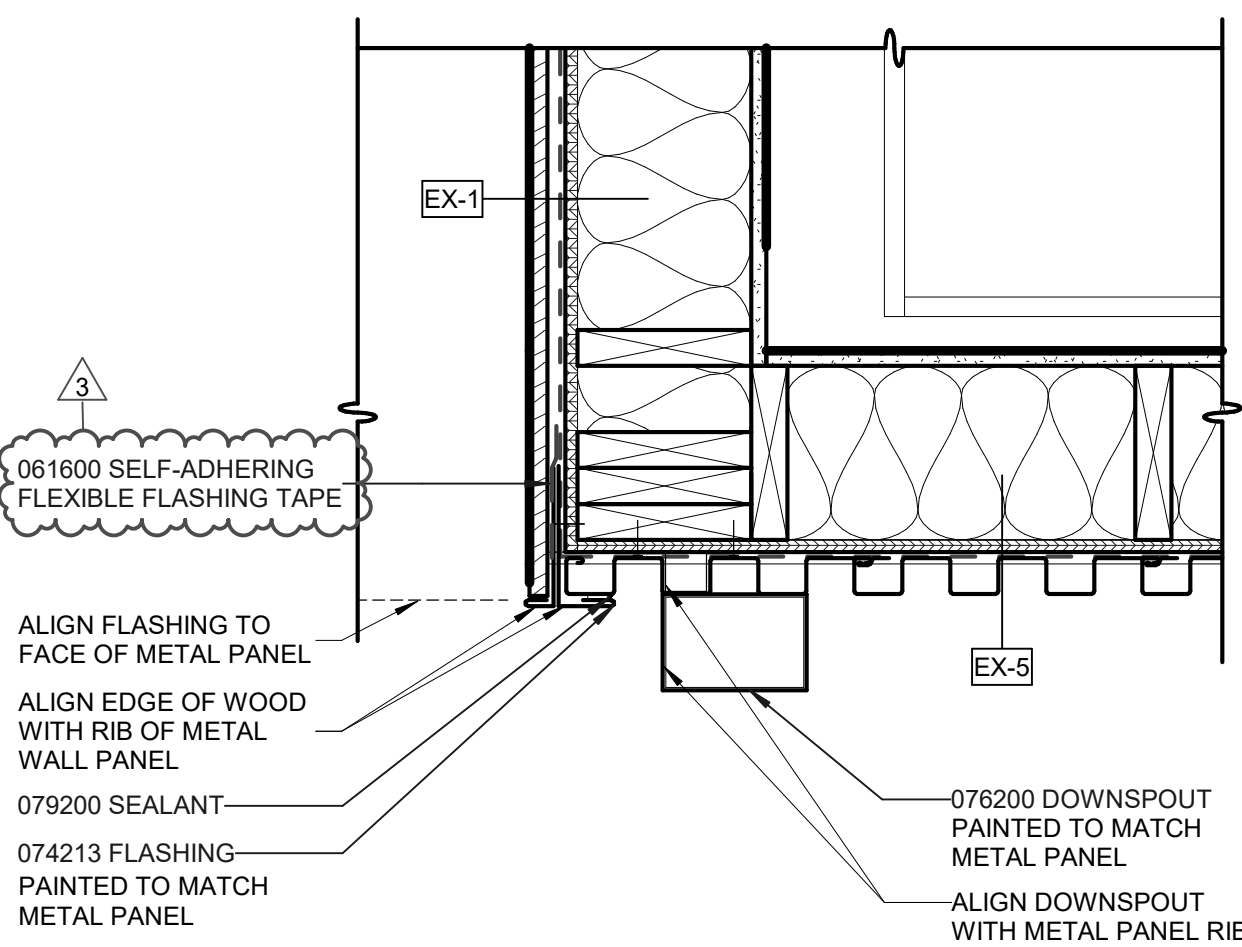
**5 EXTERIOR STOREFRONT DOOR JAMB**  
1 1/2" = 1'-0"



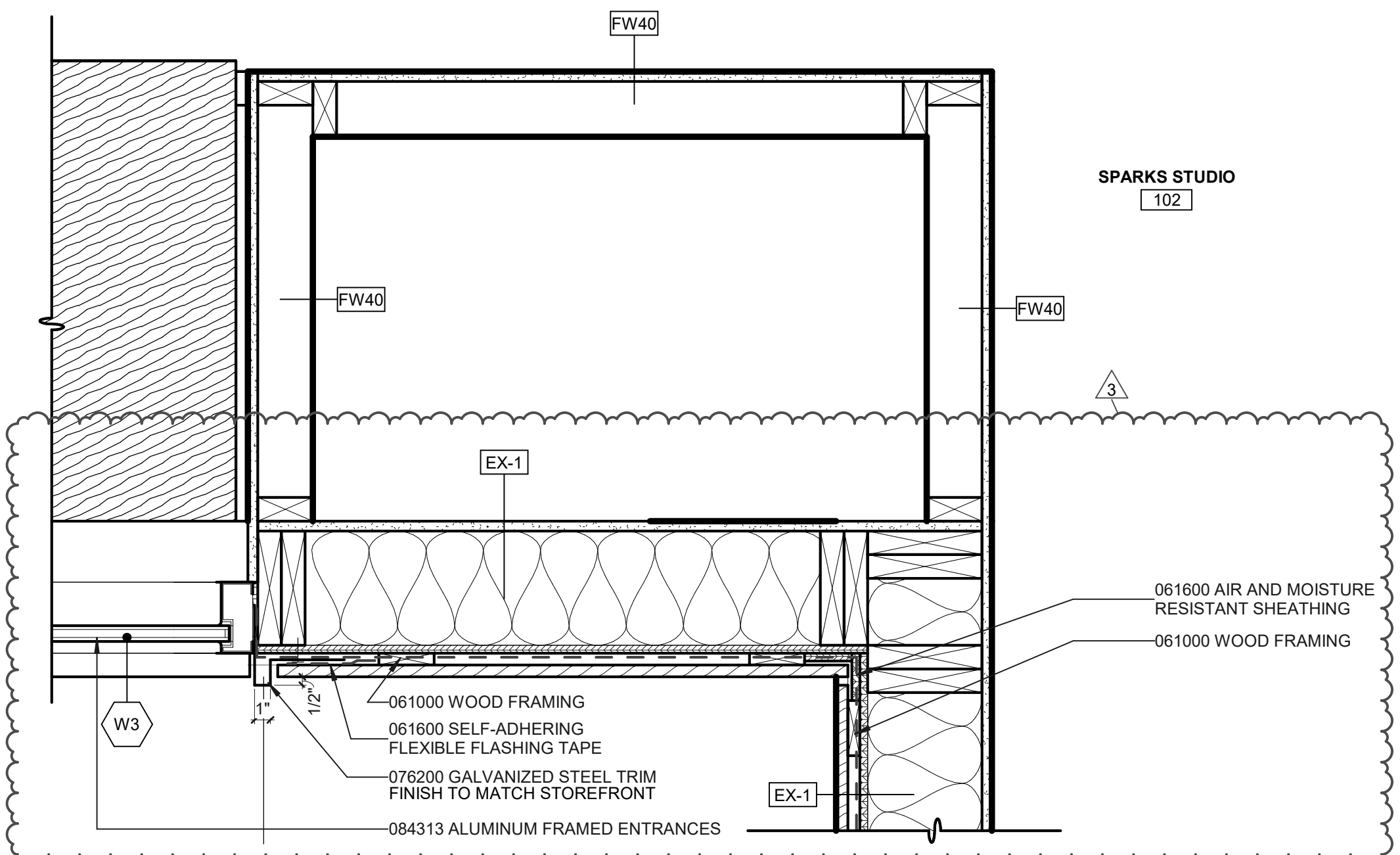
**6 EXTERIOR STOREFRONT JAMB**  
1 1/2" = 1'-0"



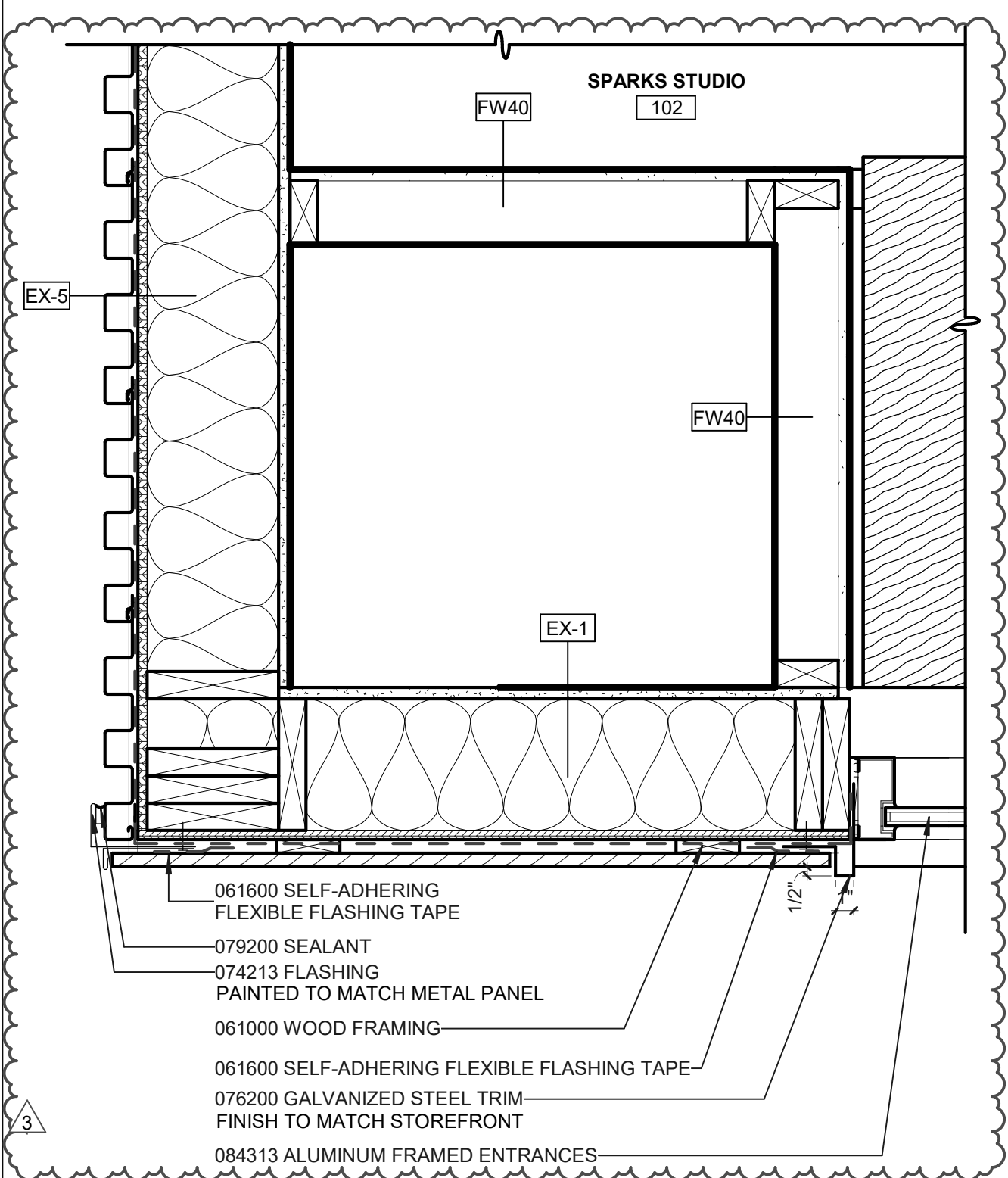
**7 STOREFRONT AT EX-1**  
1 1/2" = 1'-0"



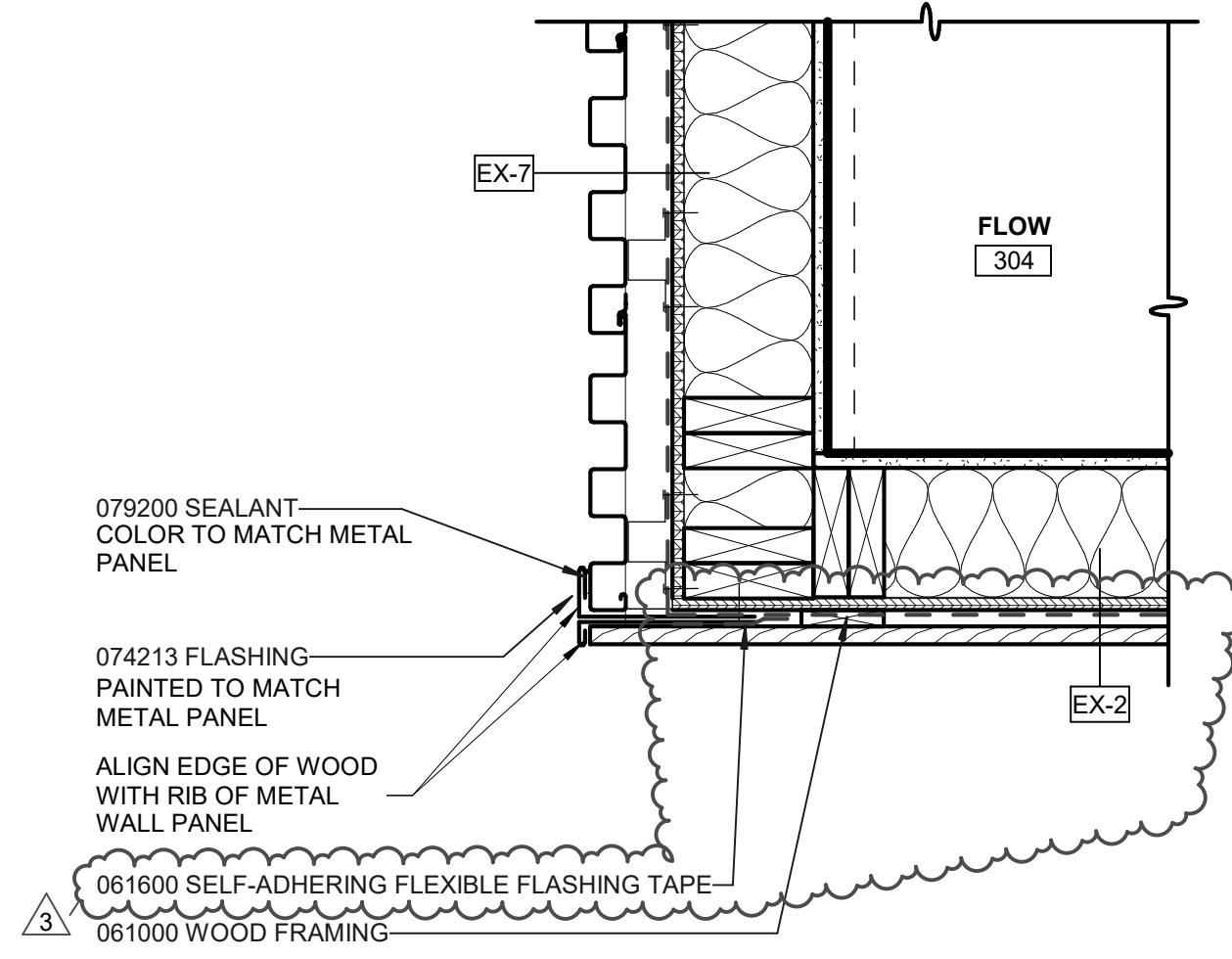
**8 EX-1 TRANSITION TO EX-5**  
1 1/2" = 1'-0"



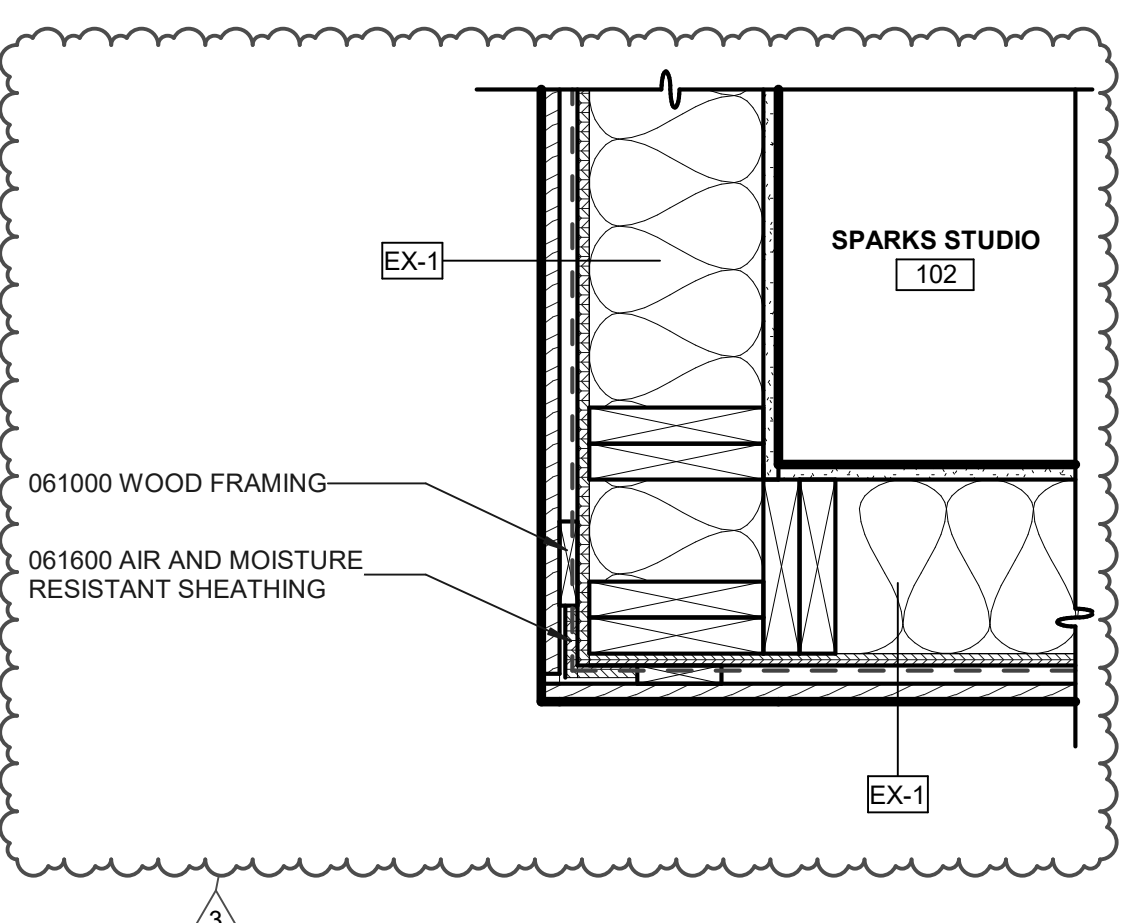
**1 EXTERIOR STOREFRONT AT BENCH, BUILDING A**  
1 1/2" = 1'-0"



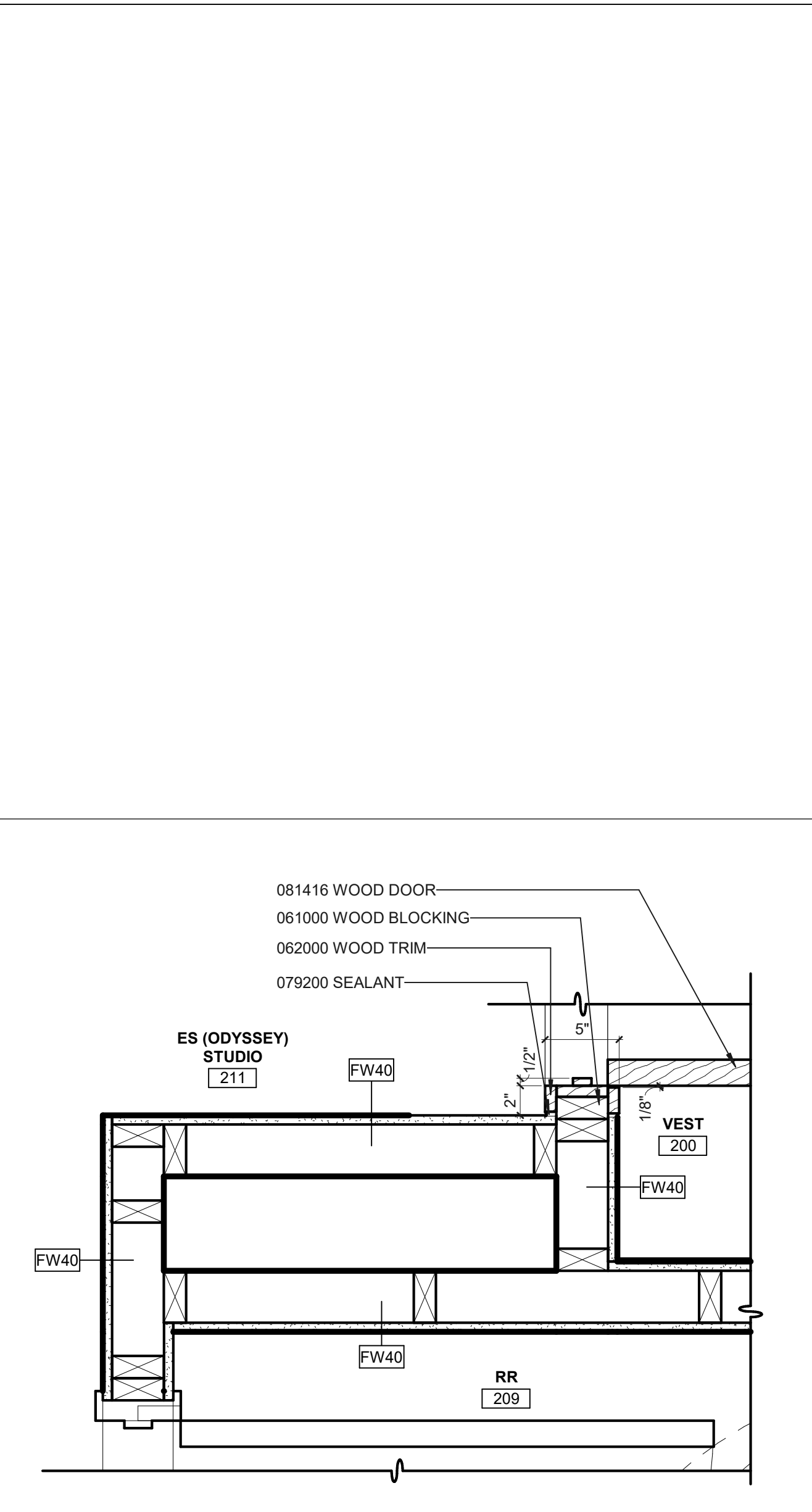
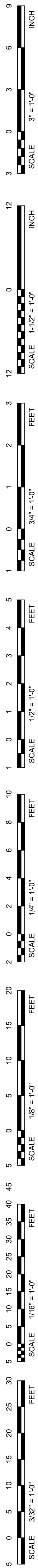
**2 EXT. STOREFRONT, BENCH, & CORNER, BUILDING A**  
1 1/2" = 1'-0"



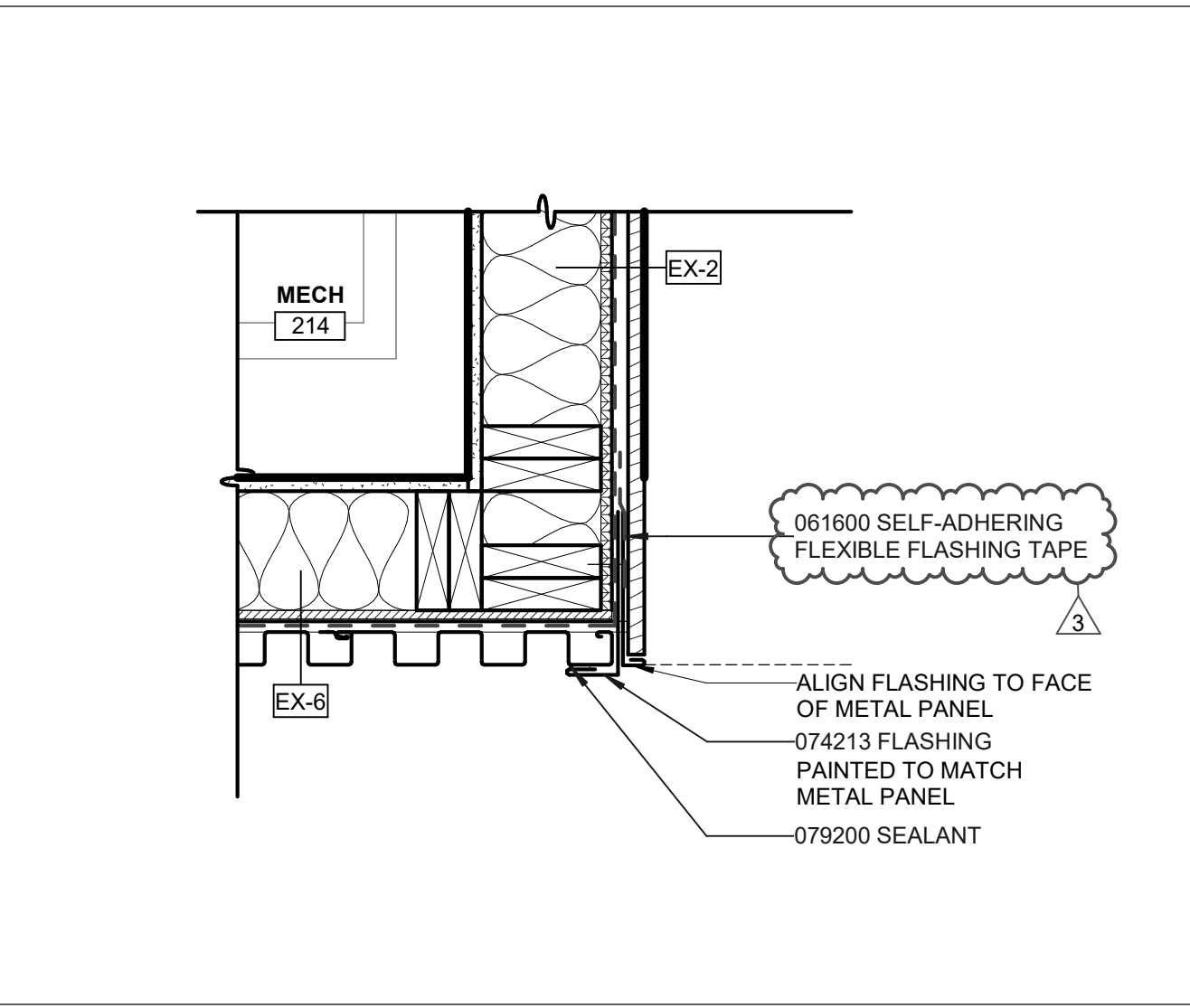
**3 EXT. CORNER AT FLOW ROOM, BUILDING C**  
1 1/2" = 1'-0"



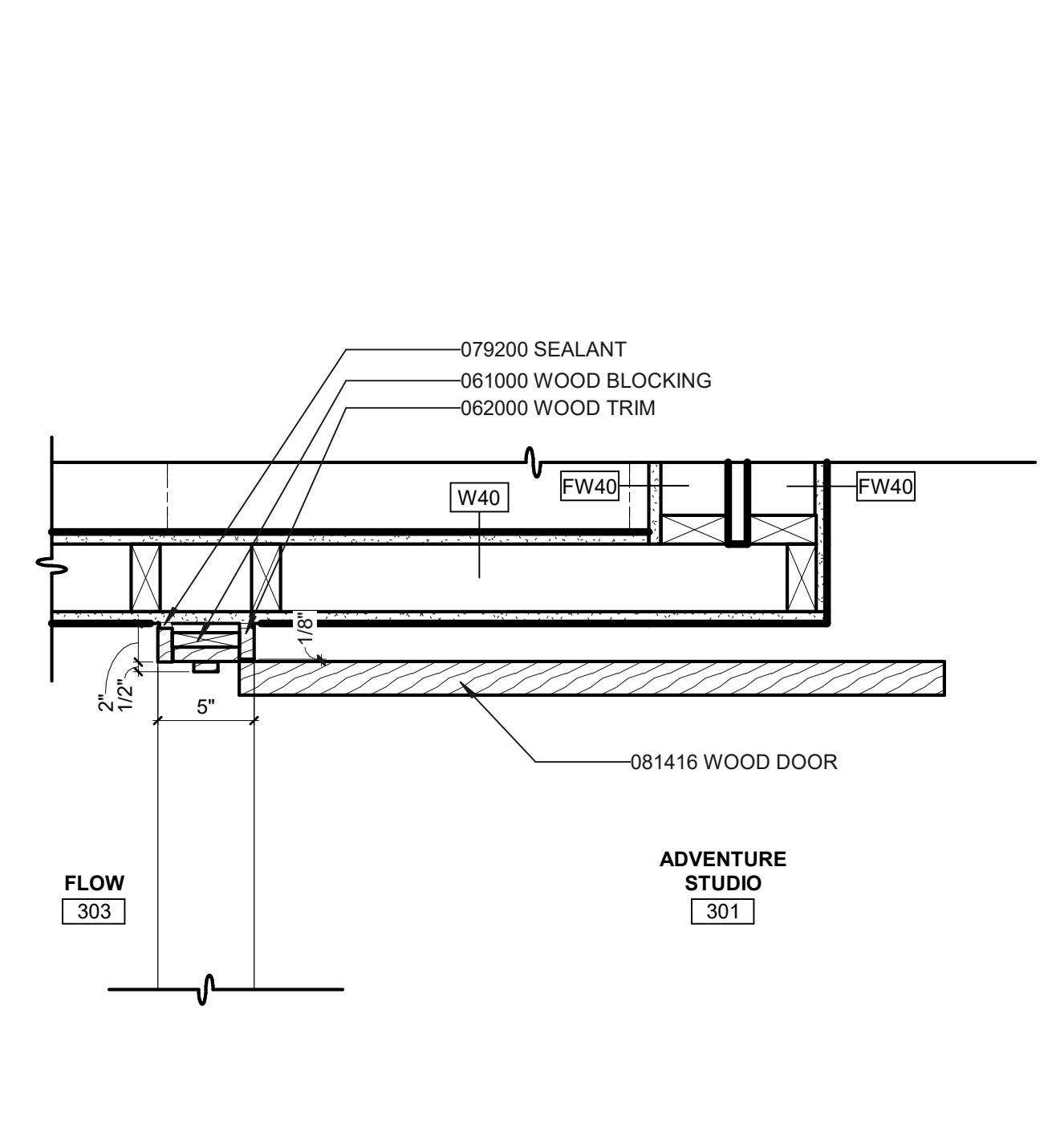
**4 EX-1 OUTSIDE CORNER @ BUILDING A**  
1 1/2" = 1'-0"



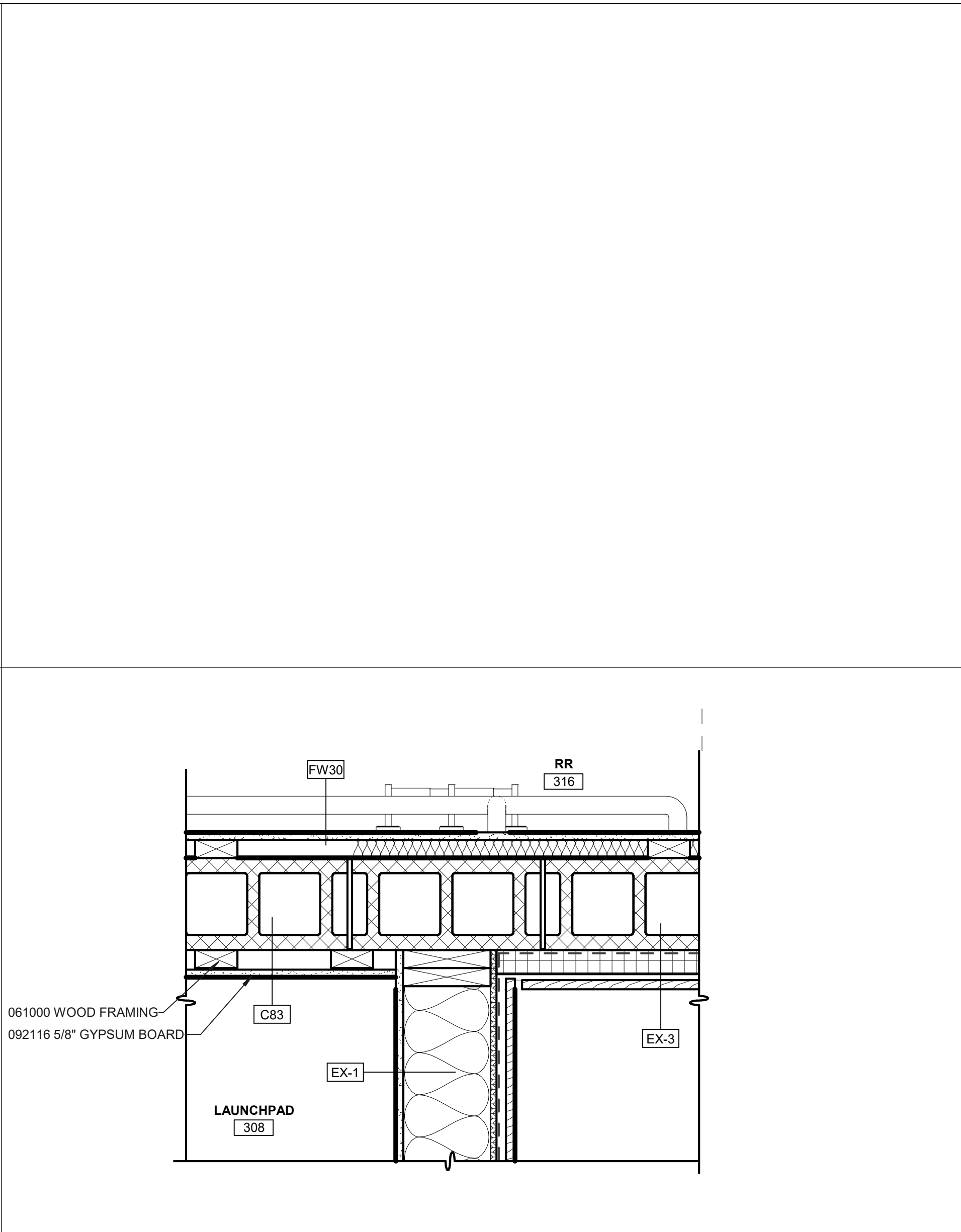
12 VESTIBULE ENTRY  
1 1/2" = 1'-0"



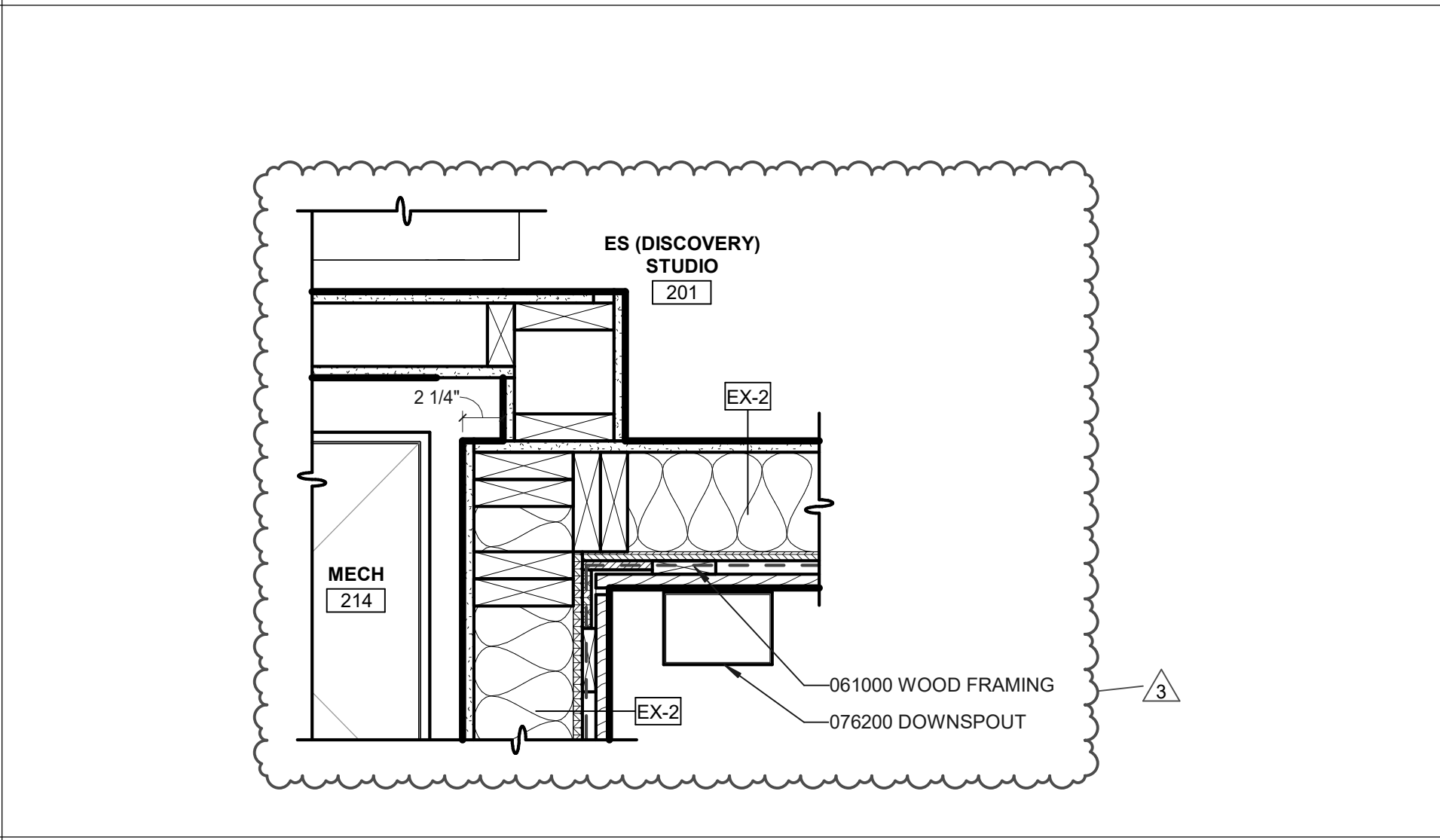
8 FIRST FLOOR PLAN - BUILDING B - CORNER  
1 1/2" = 1'-0"



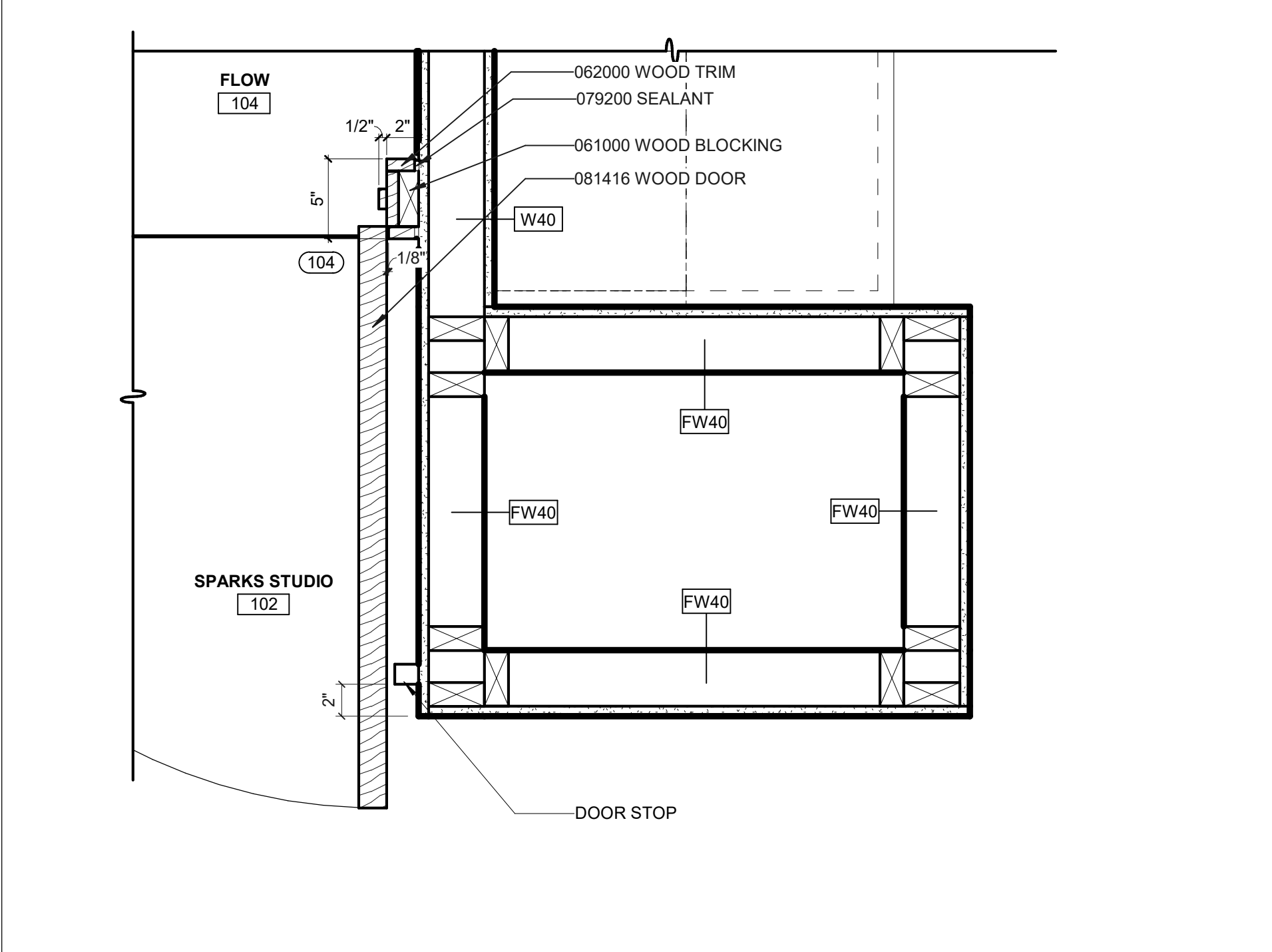
4 FLOW ROOM WOOD DOOR JAMB AT BUILDING C  
1 1/2" = 1'-0"



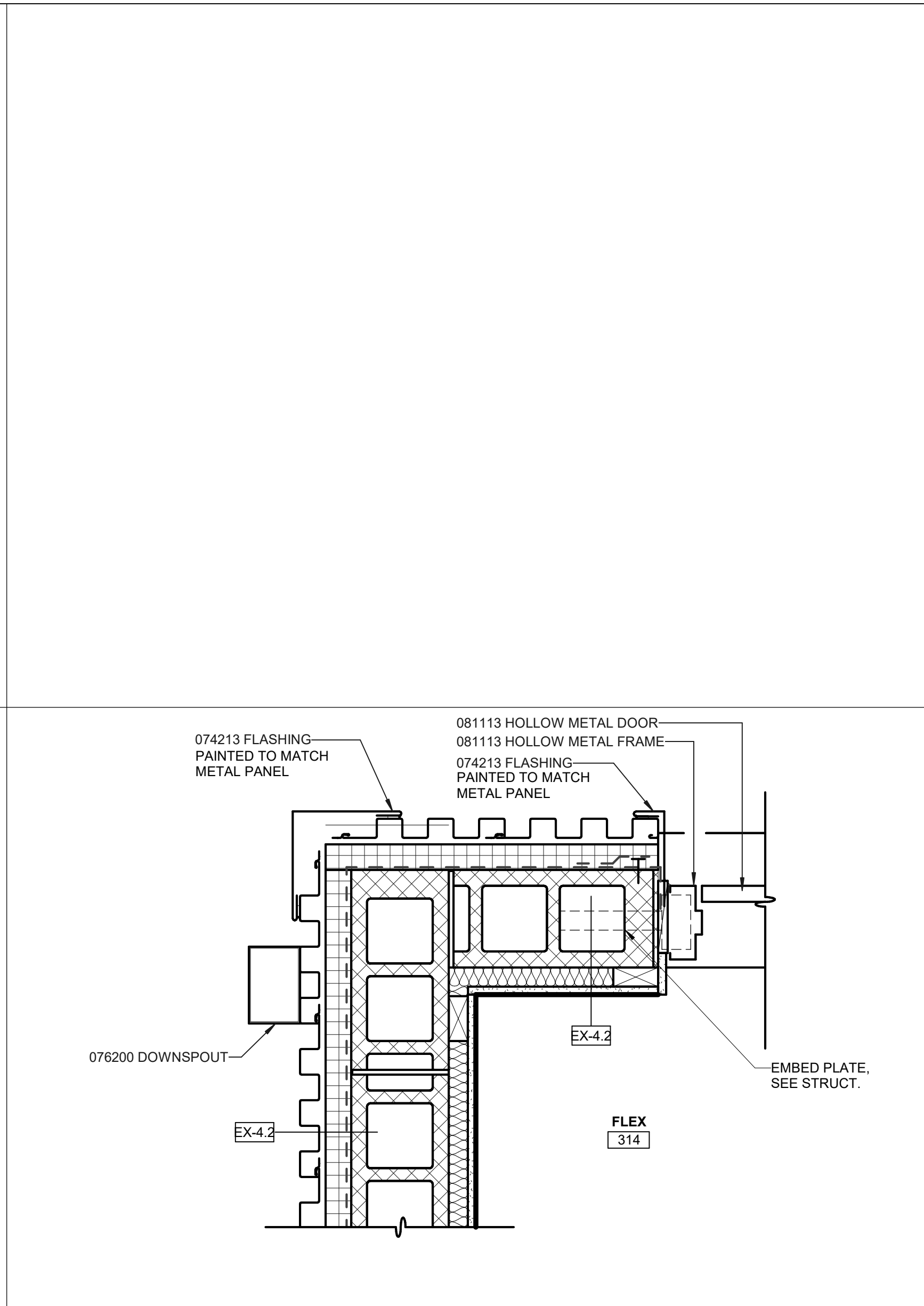
11 RESTROOM WALL @ FLEX  
1 1/2" = 1'-0"



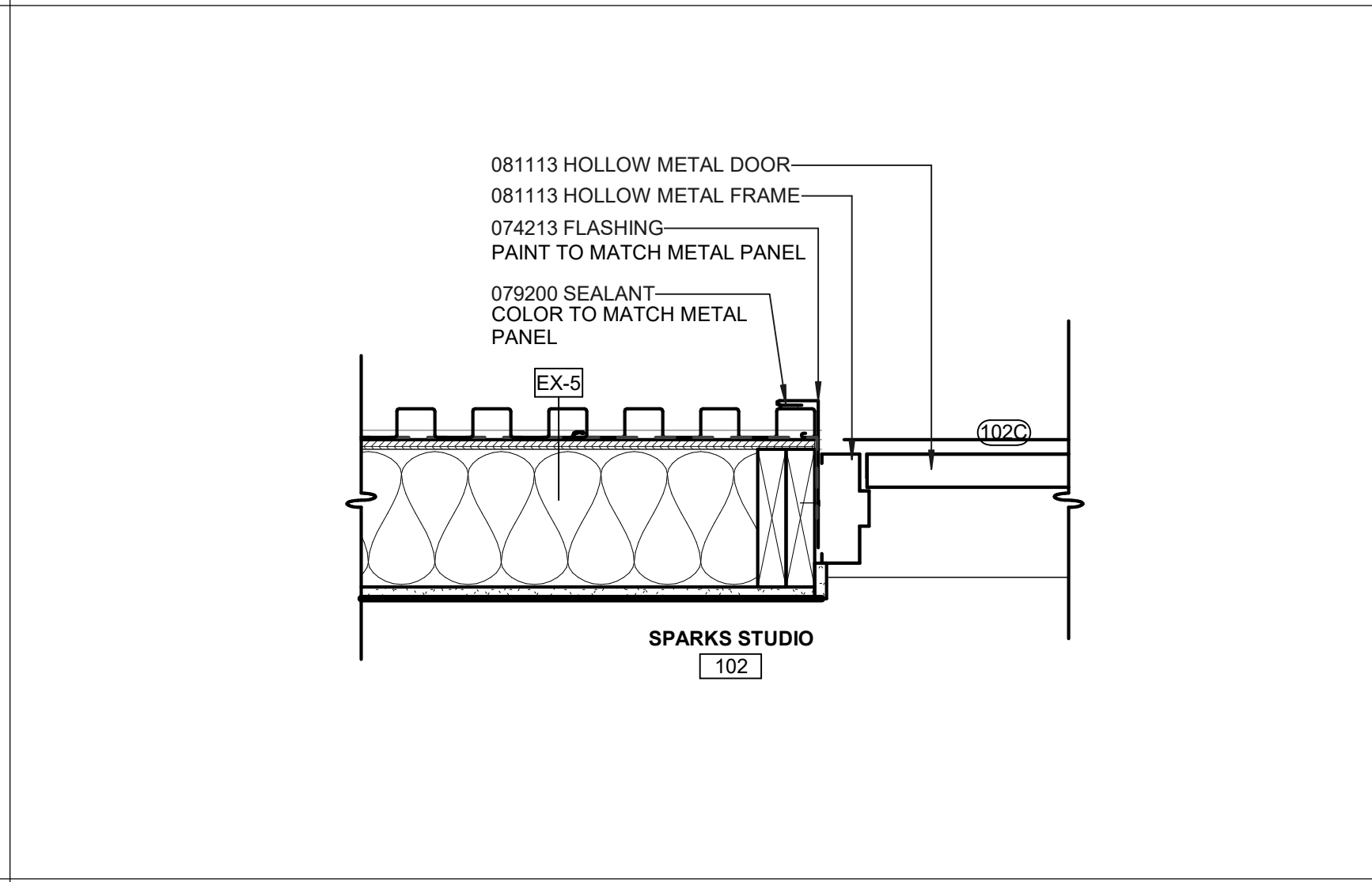
7 EX-2 INSIDE CORNER @ BUILDING B  
1 1/2" = 1'-0"



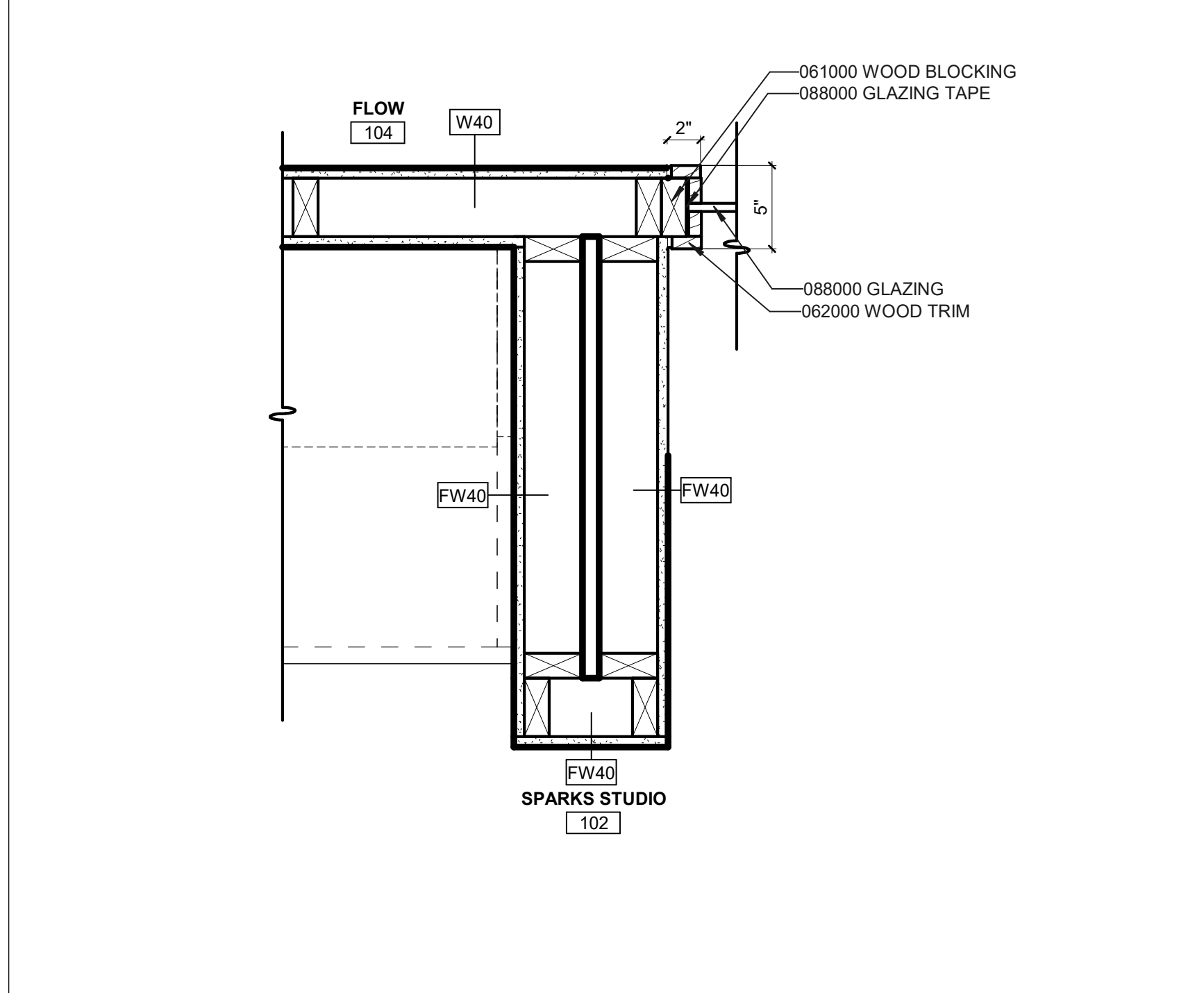
3 FLOW ROOM WOOD DOOR JAMB AT BUILDING A  
1 1/2" = 1'-0"



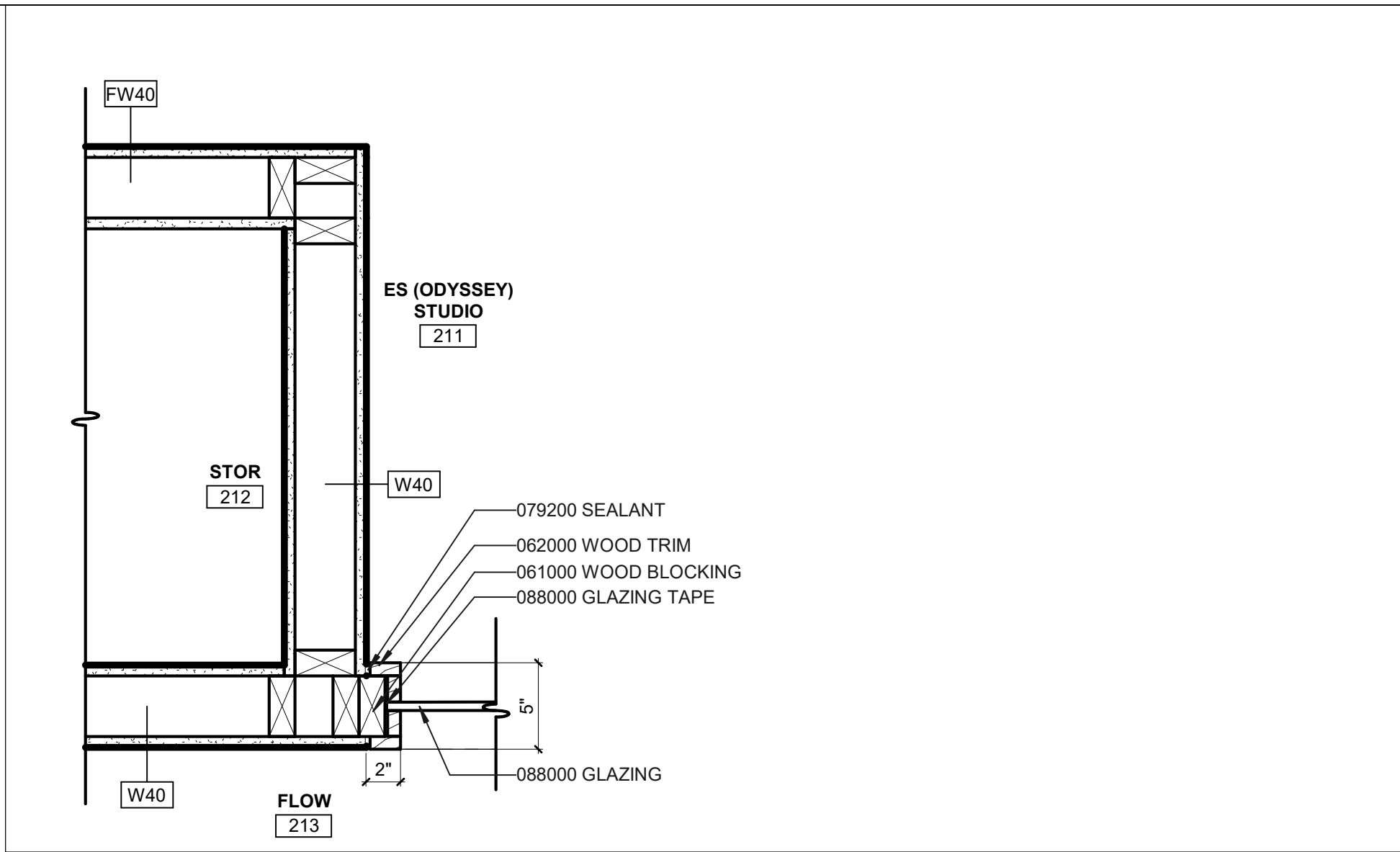
10 EX-4 CORNER @ FLEX  
1 1/2" = 1'-0"



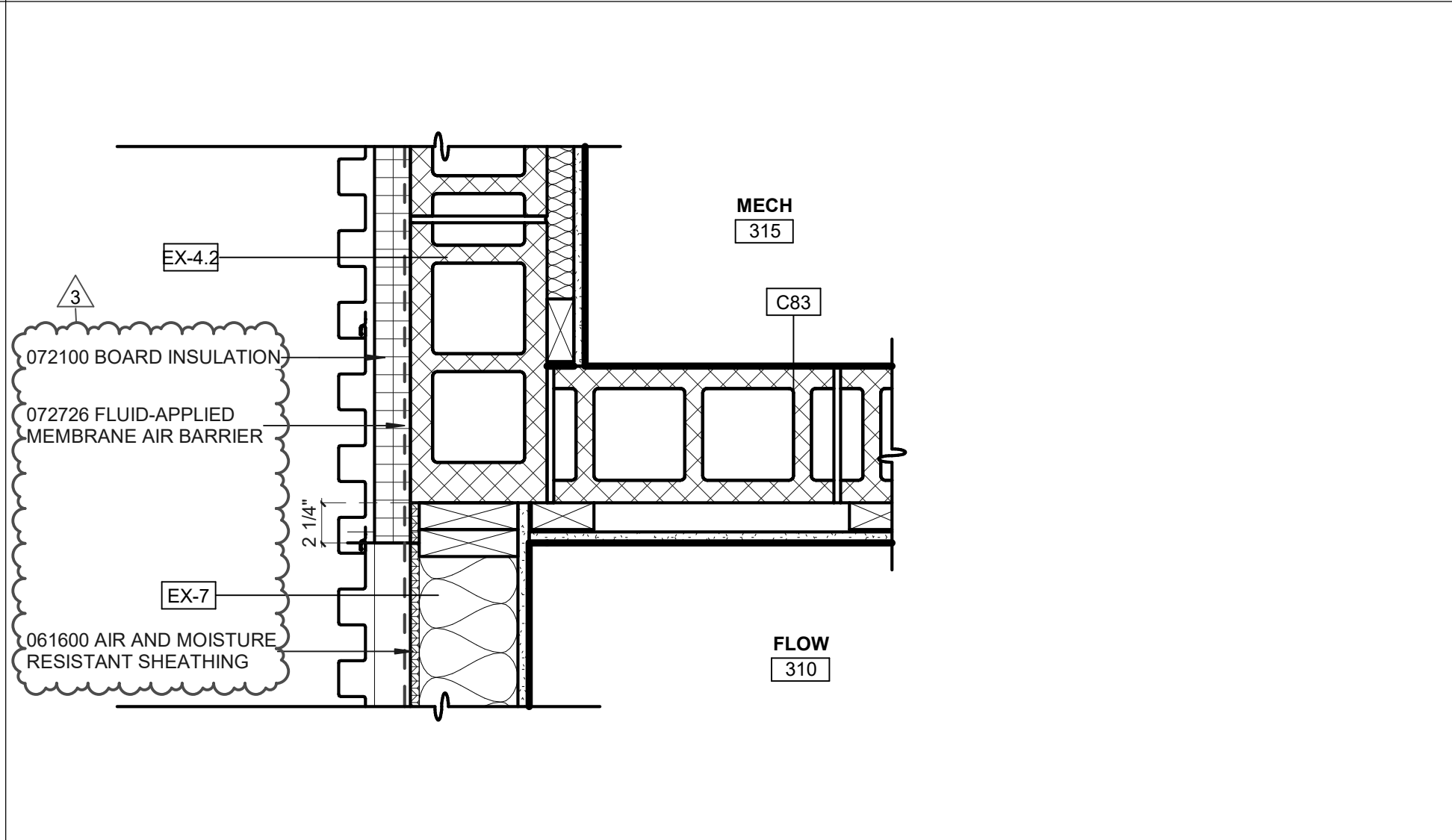
6 EXTERIOR HOLLOW METAL DOOR TO EX-5  
1 1/2" = 1'-0"



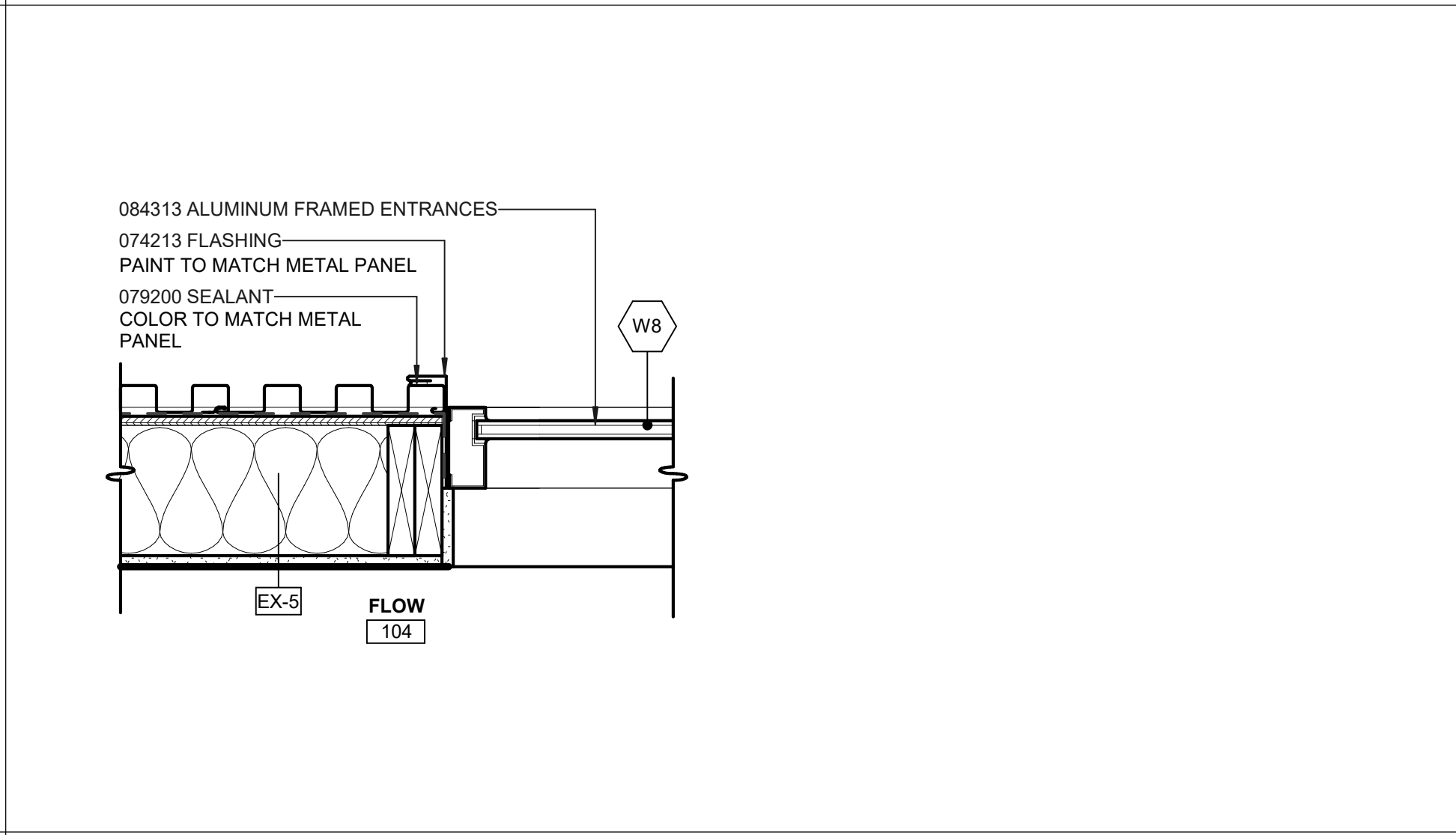
2 FLOW ROOF INTERIOR LITE WOOD FRAME, BUILDING A  
1 1/2" = 1'-0"



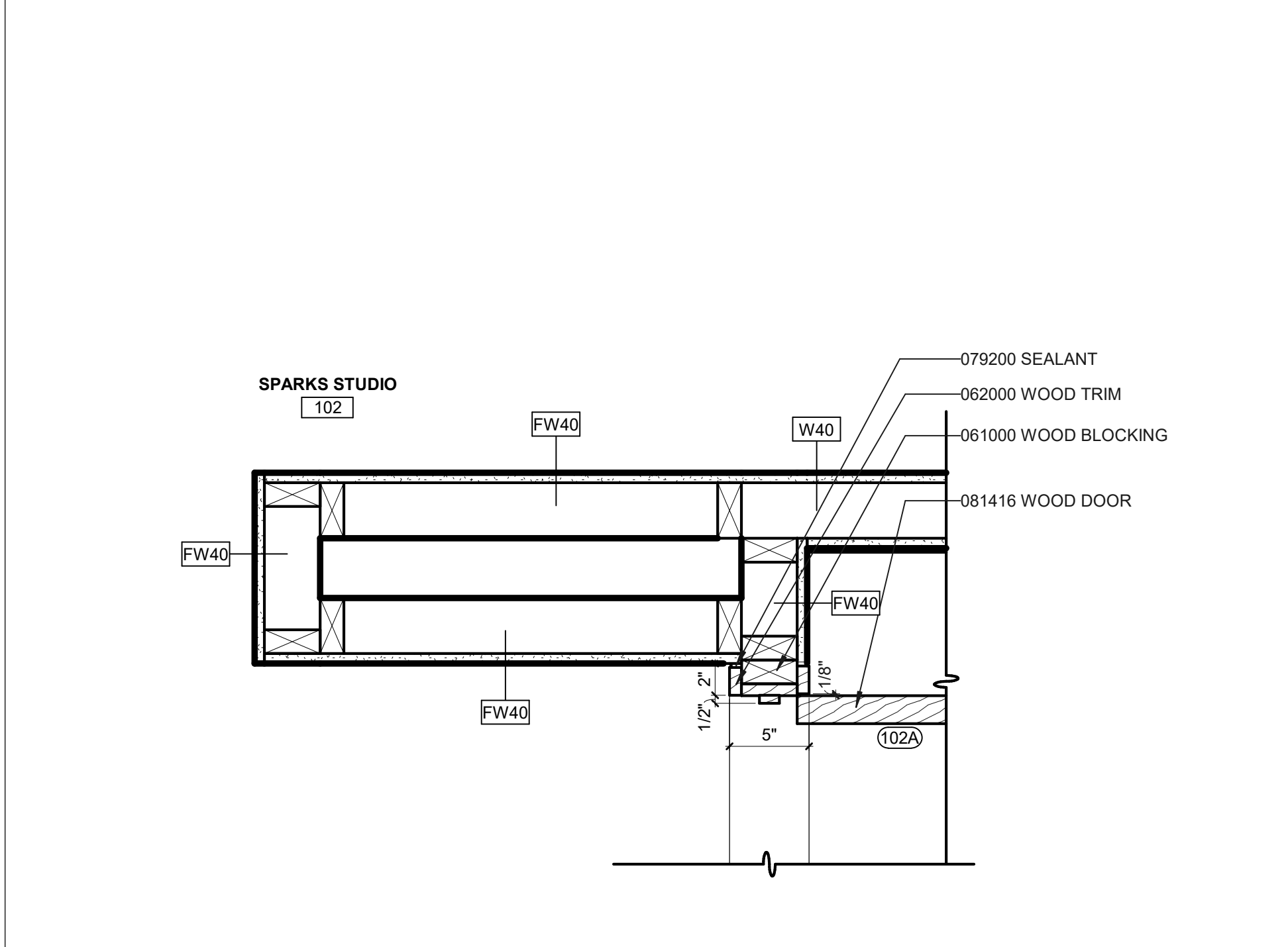
13 FLOW ROOM ENTRY  
1 1/2" = 1'-0"



9 EX-4 TO EX-7 TRANSITION  
1 1/2" = 1'-0"



5 EXTERIOR STOREFRONT TO EX-5  
1 1/2" = 1'-0"



1 ENTRY VESTIBULE WOOD DOOR FRAME AT BUILDING A  
1 1/2" = 1'-0"

BVH

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STRUCTURAL ENGINEER  
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1919 S 40TH STREET, SUITE 302  
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largestructuralgroup.com

LANDSCAPE ARCHITECTURE  
ESTATE HOUSE DESIGN  
PENDLETON IN  
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estatehousedesign.com

CONSTRUCTION MANAGER  
P. MAKINER BUILDING GROUP  
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pmakiner.com

| REVISIONS SCHEDULE |           |             |
|--------------------|-----------|-------------|
| MARK               | DATE      | DESCRIPTION |
| 1                  | 5/21/2026 | Addendum 1  |
| 3                  | 6/4/2026  | Addendum 3  |

ACTON ACADEMY  
LINCOLN  
6701 S FOLSOM ST  
LINCOLN, NE 68523

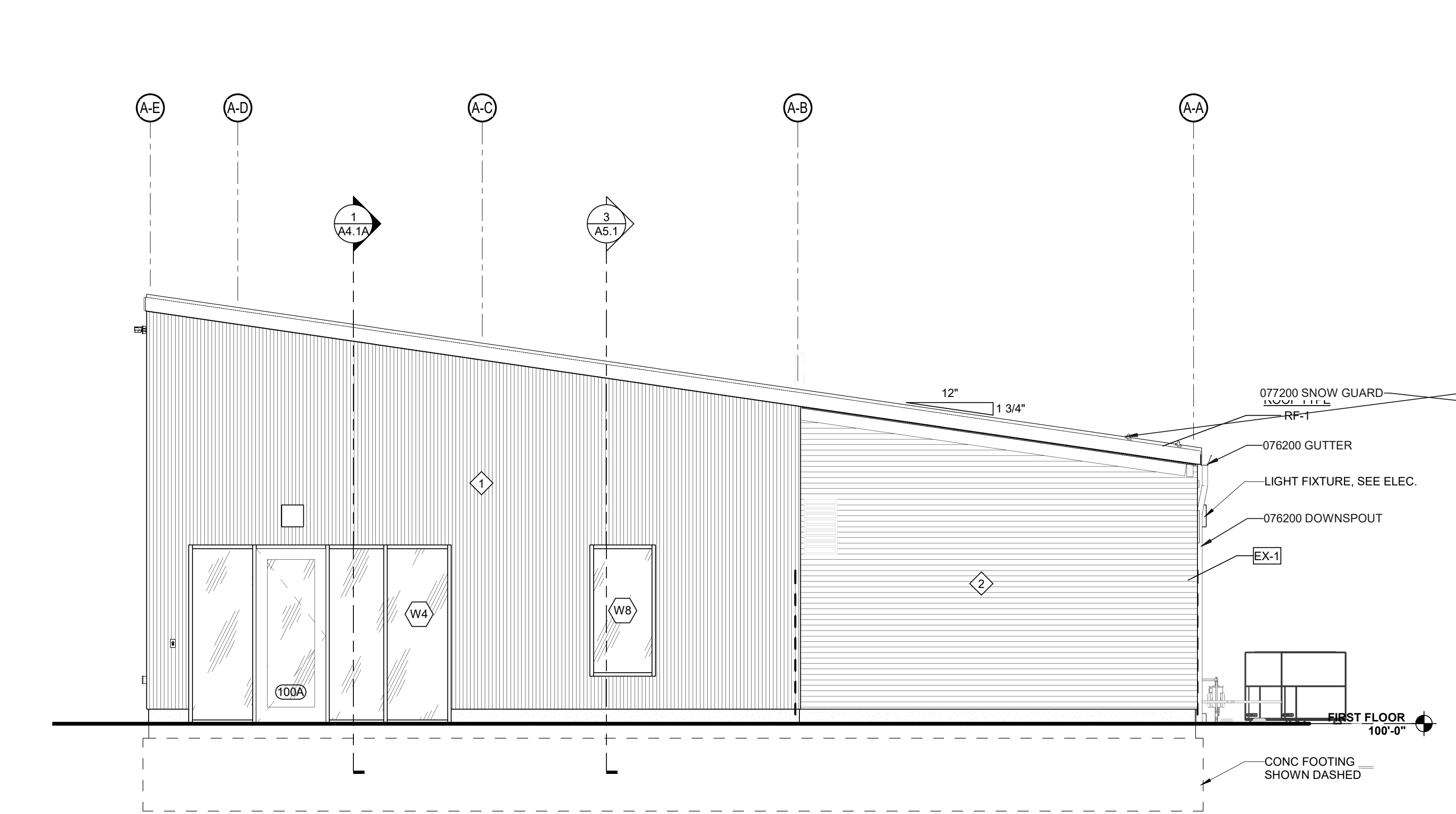
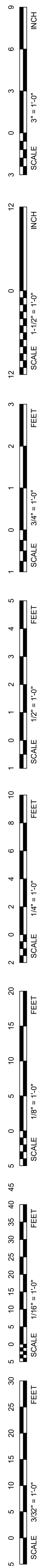
PROJECT: 25026 DATE: 09/14/2026  
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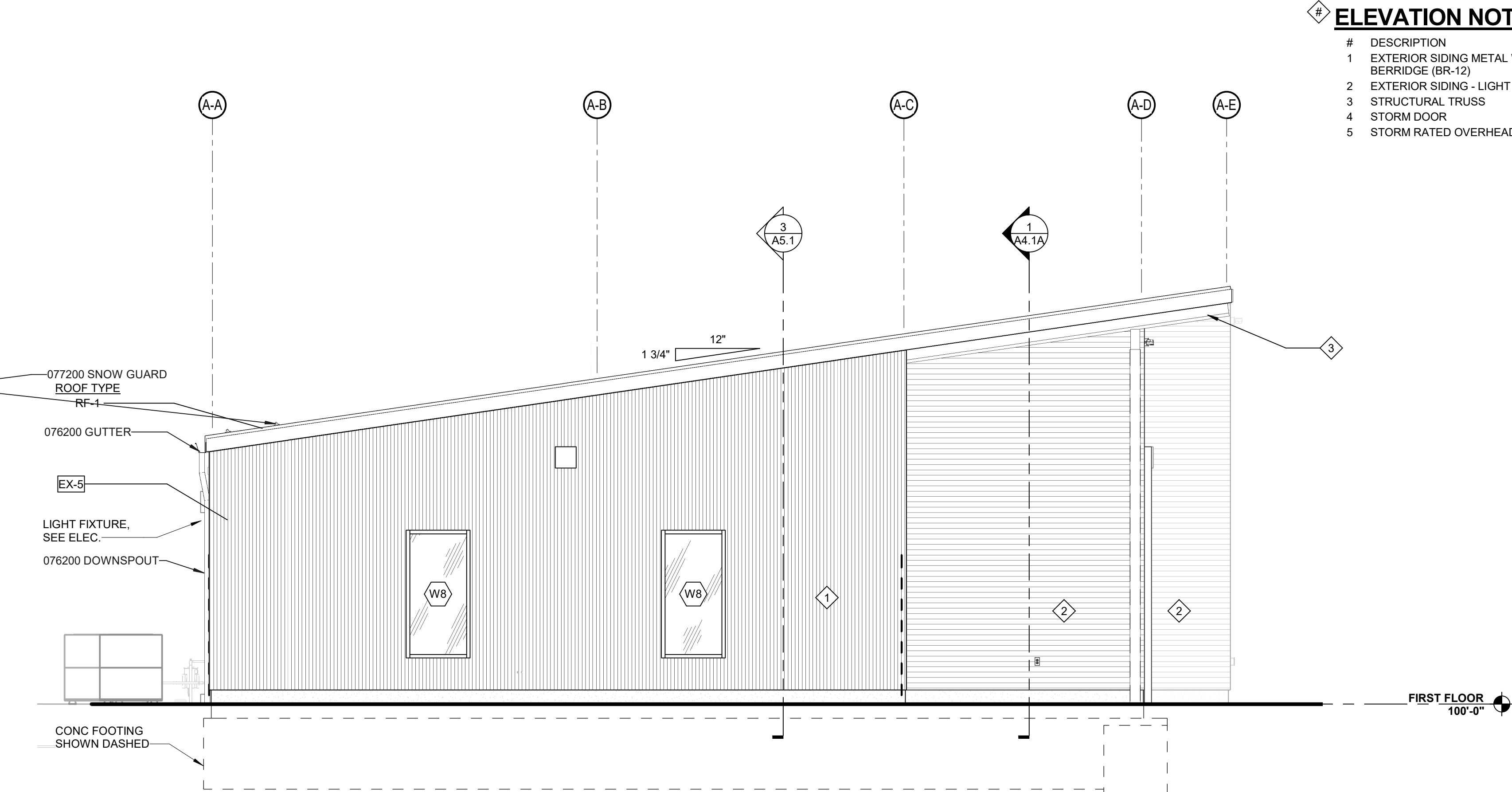
PLAN DETAILS



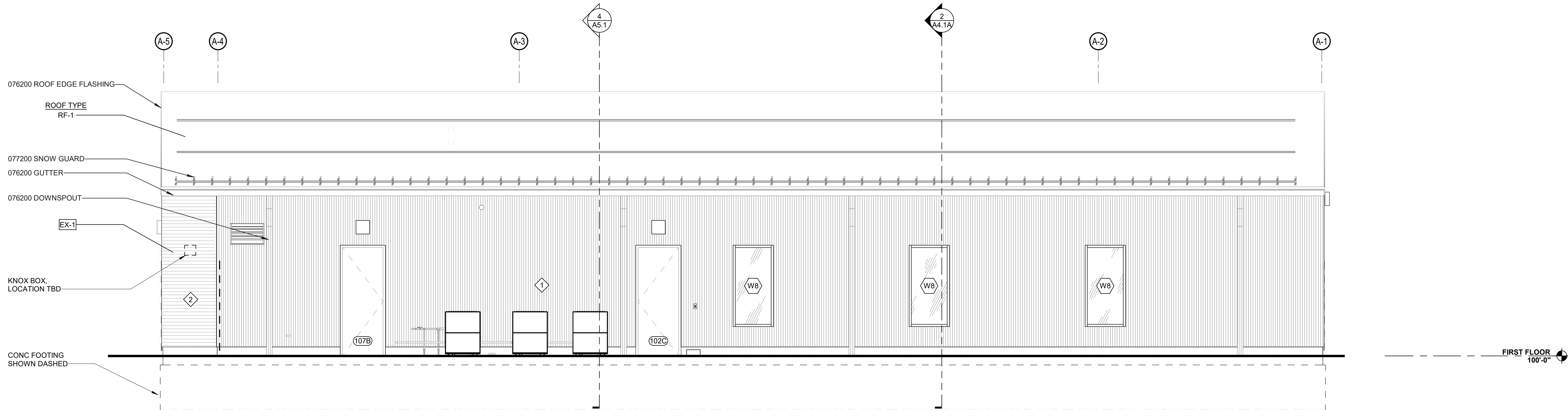
A1.4



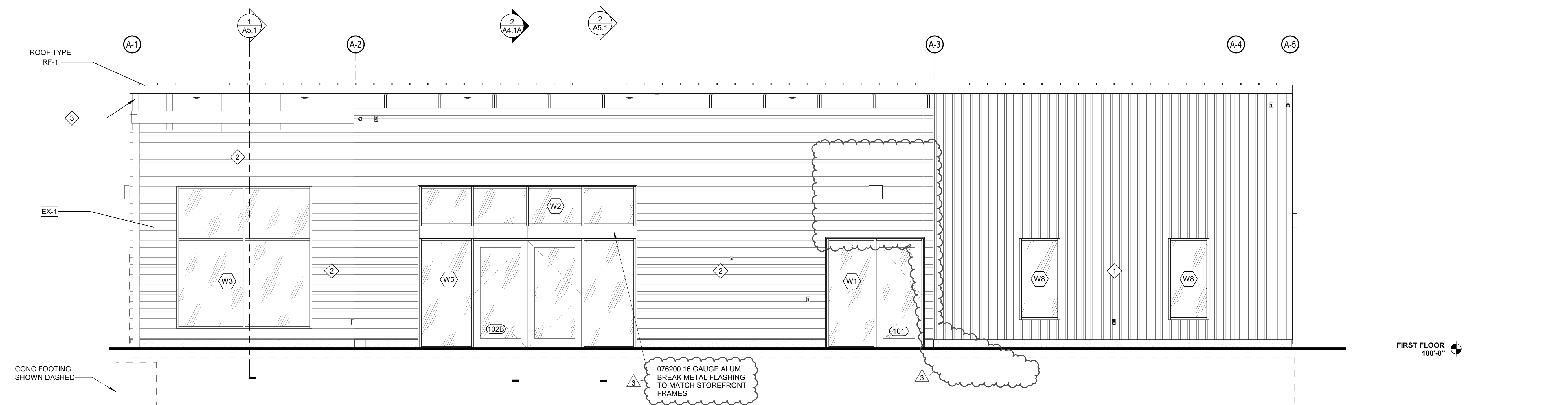
4 EAST ELEVATION - BUILDING A  
1/4" = 1'-0"



3 WEST ELEVATION - BUILDING A  
1/4" = 1'-0"



2 NORTH ELEVATION - BUILDING A  
1/4" = 1'-0"



1 SOUTH ELEVATION - BUILDING A  
1/4" = 1'-0"

- ELEVATION NOTES**
- # DESCRIPTION
  - 1 EXTERIOR SIDING METAL WALL PANEL - BERRIDGE (BR-12)
  - 2 EXTERIOR SIDING - LIGHT CEDAR WOOD
  - 3 STRUCTURAL TRUSS
  - 4 STORM DOOR
  - 5 STORM RATED OVERHEAD DOOR

**BVH**

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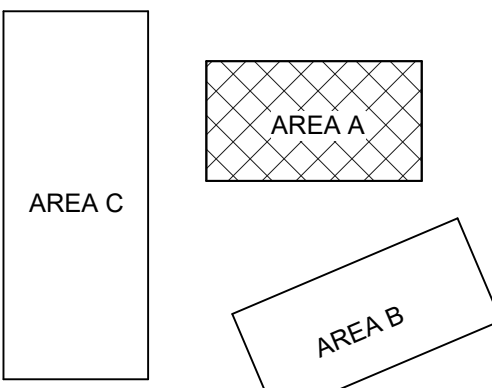
MEP ENGINEER  
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pmakinler.com

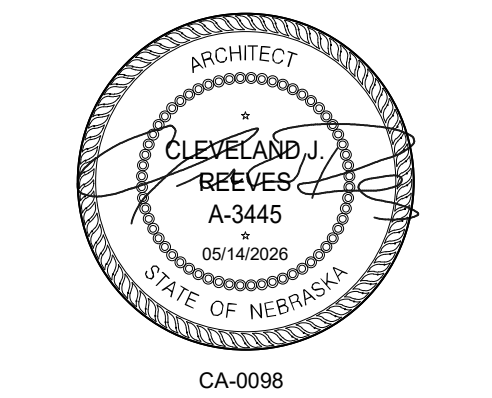
| REVISIONS SCHEDULE |           |             |
|--------------------|-----------|-------------|
| MARK               | DATE      | DESCRIPTION |
| 2                  | 5/28/2026 | Addendum 2  |
| 3                  | 6/4/2026  | Addendum 3  |



**ACTON ACADEMY  
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**BUILDING  
ELEVATIONS**

**A3.1A**



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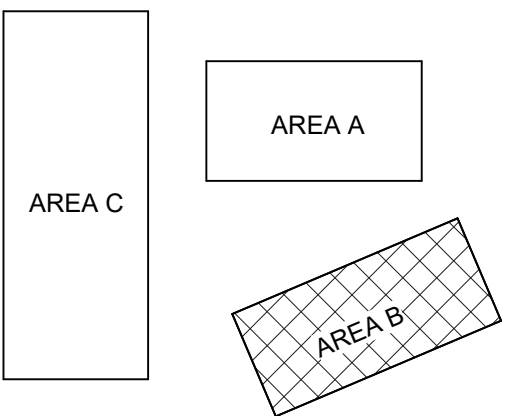
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pmakinler.com

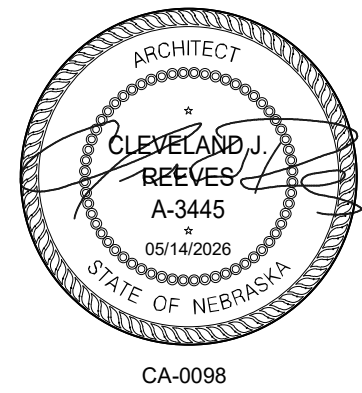
| REVISIONS SCHEDULE |          |             |
|--------------------|----------|-------------|
| MARK               | DATE     | DESCRIPTION |
| 3                  | 6/4/2026 | Addendum 3  |



ACTION ACADEMY  
LINCOLN

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LINCOLN, NE 68523

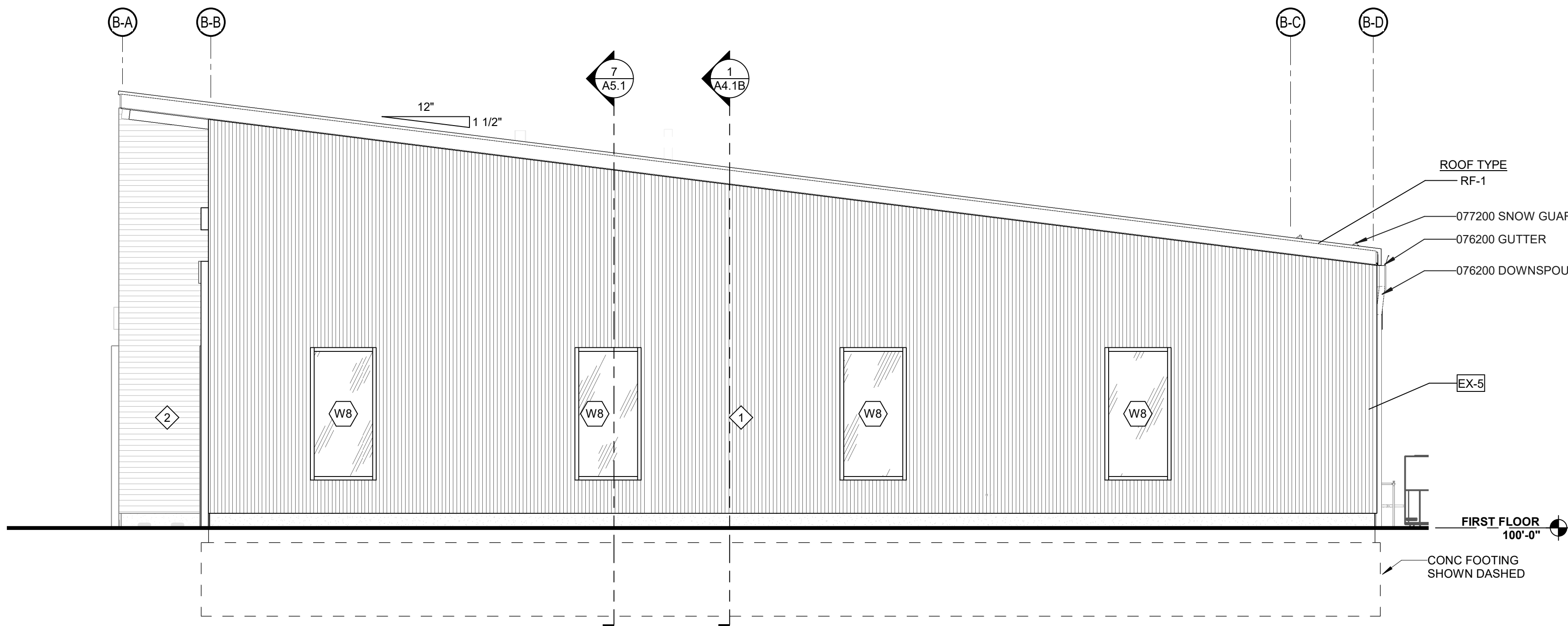
PROJECT: 25026 DATE: 09/14/2026  
PROJECT STATUS: CONSTRUCTION DOCUMENTS



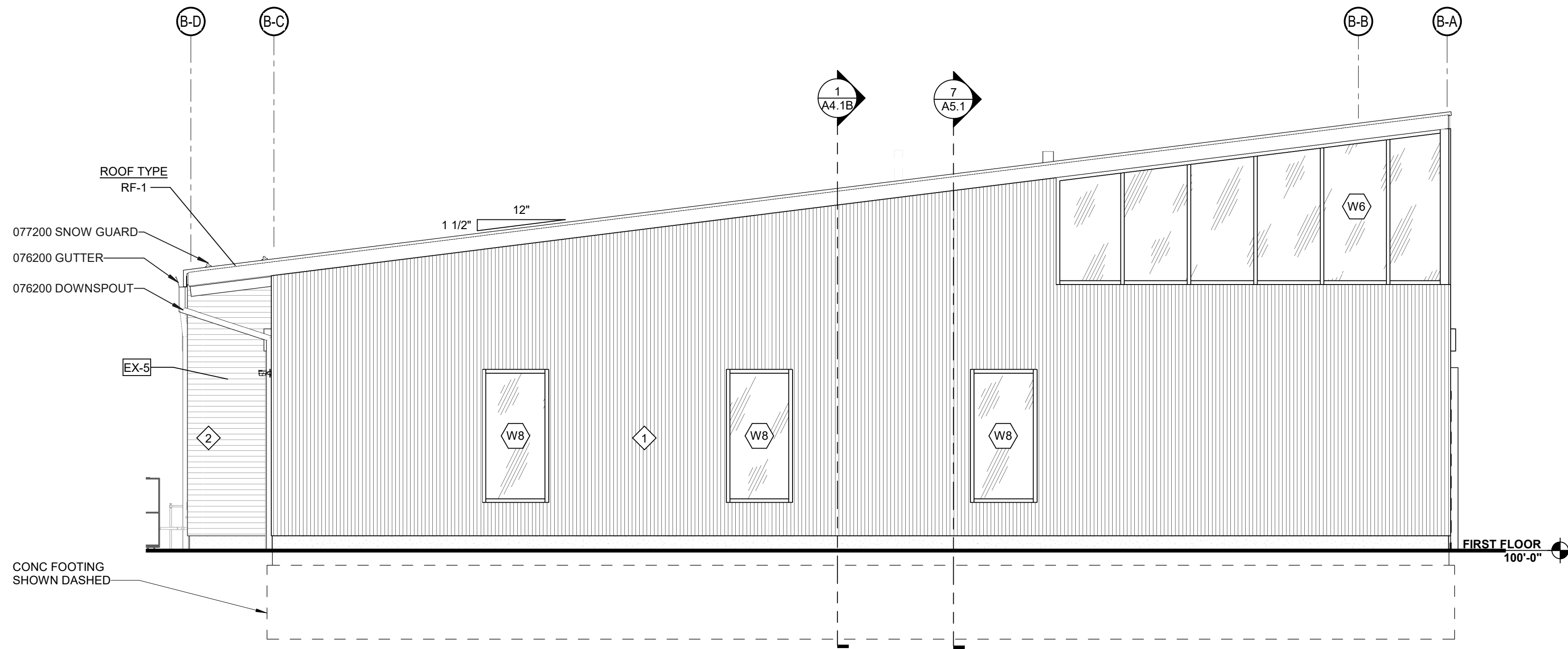
BUILDING  
ELEVATIONS

#### ELEVATION NOTES

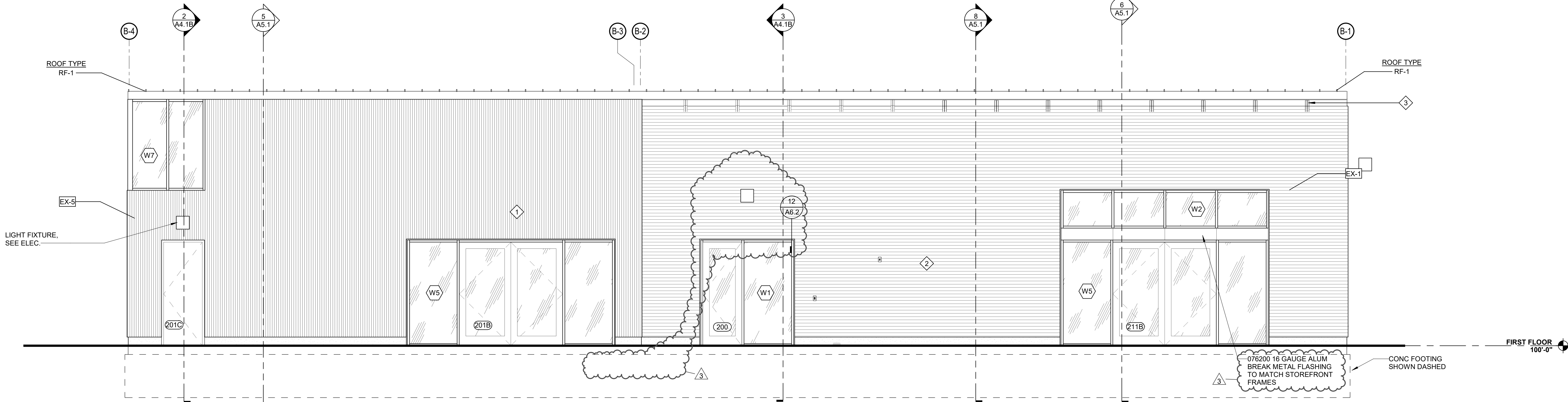
- 1 EXTERIOR SIDING METAL WALL PANEL - BERRIDGE (BR-12)
- 2 EXTERIOR SIDING - LIGHT CEDAR WOOD
- 3 STRUCTURAL TRUSS
- 4 STORM DOOR
- 5 STORM RATED OVERHEAD DOOR



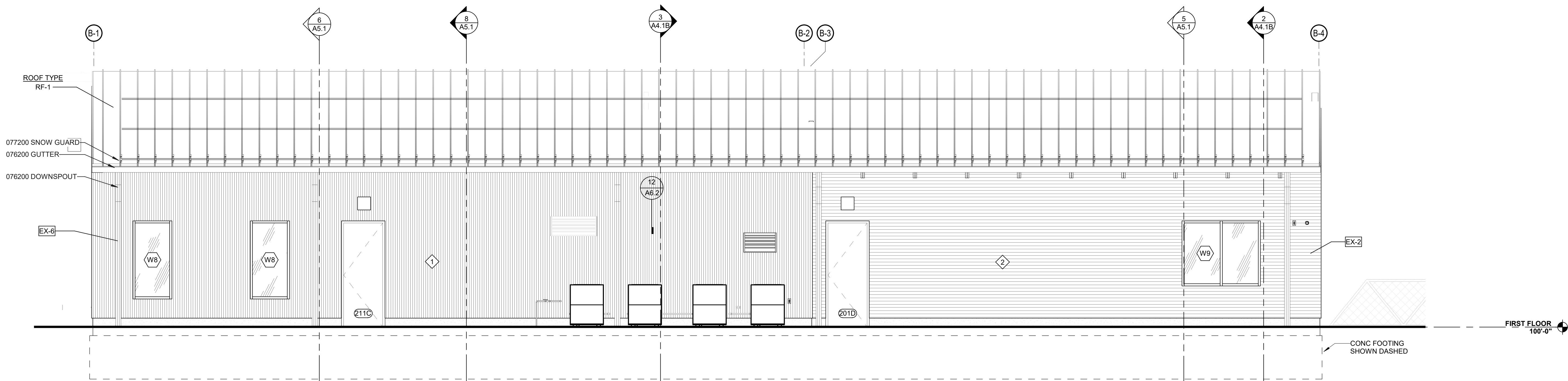
4 WEST ELEVATION - BUILDING B  
1/4" = 1'-0"



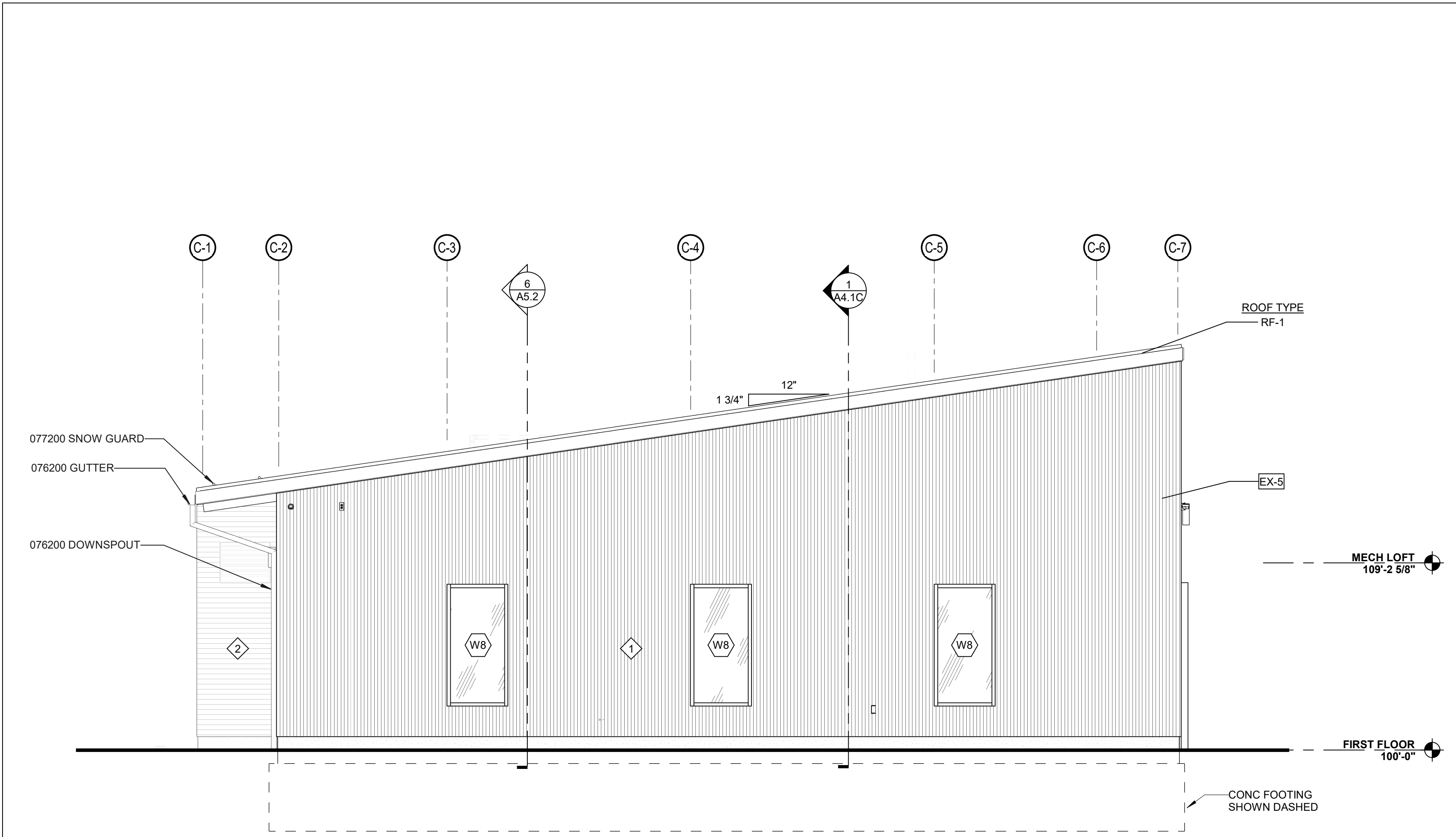
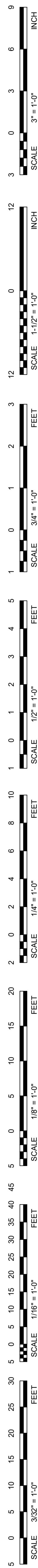
3 EAST ELEVATION - BUILDING B  
1/4" = 1'-0"



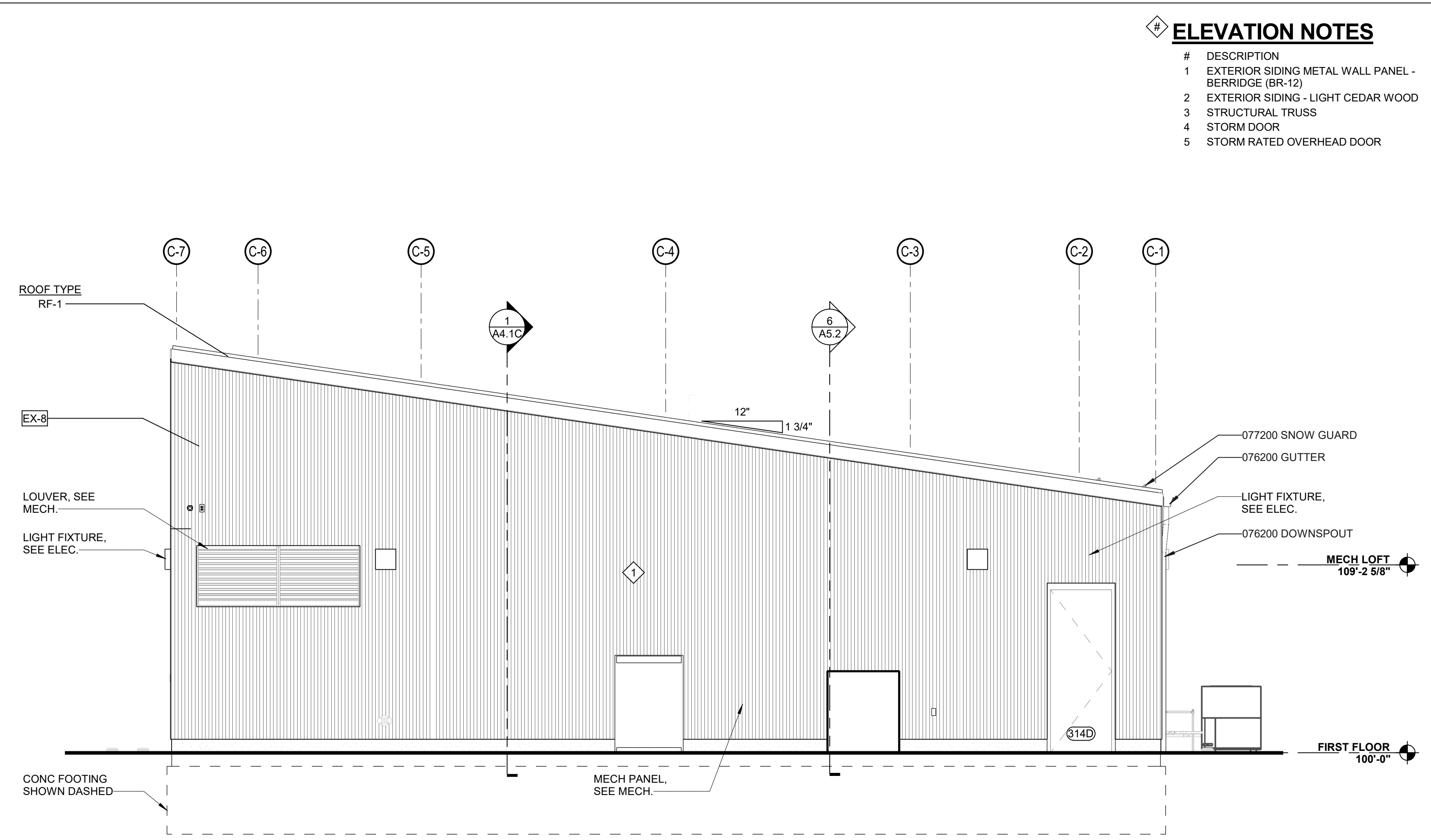
2 NORTH ELEVATION - BUILDING B  
1/4" = 1'-0"



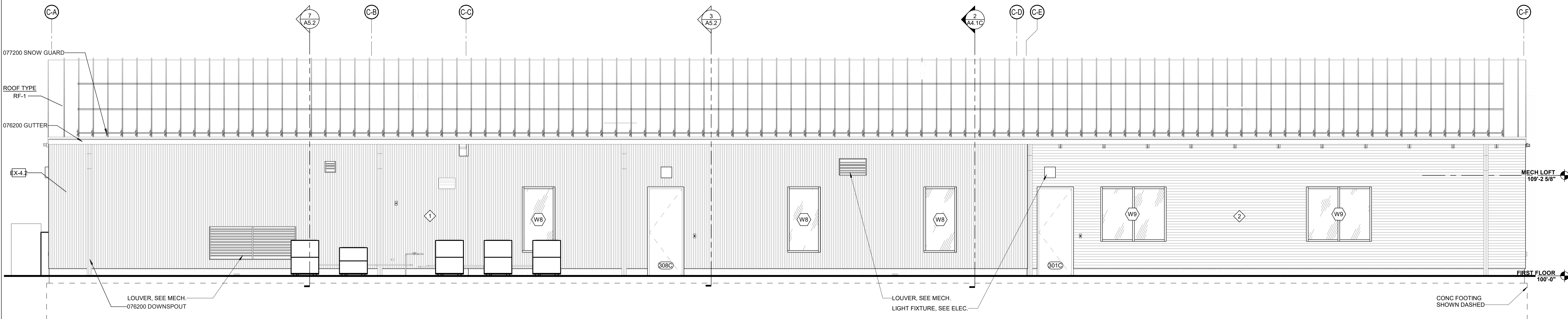
1 SOUTH ELEVATION - BUILDING B  
1/4" = 1'-0"



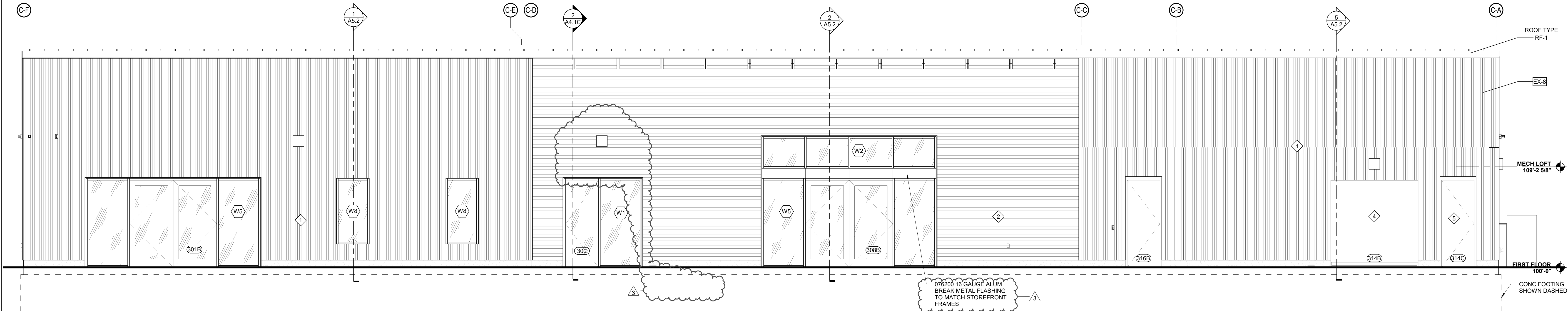
**4 SOUTH ELEVATION - BUILDING C**  
1/4" = 1'-0"



**3 NORTH ELEVATION - BUILDING C**  
1/4" = 1'-0"



**2 WEST ELEVATION - BUILDING C**  
1/4" = 1'-0"



**1 EAST ELEVATION - BUILDING C**  
1/4" = 1'-0"

- ELEVATION NOTES**
- # DESCRIPTION
  - 1 EXTERIOR SIDING METAL WALL PANEL - BERRIDGE (BR-12)
  - 2 EXTERIOR SIDING - LIGHT CEDAR WOOD
  - 3 STRUCTURAL TRUSS
  - 4 STORM DOOR
  - 5 STORM RATED OVERHEAD DOOR

**BVH**

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olsson.com

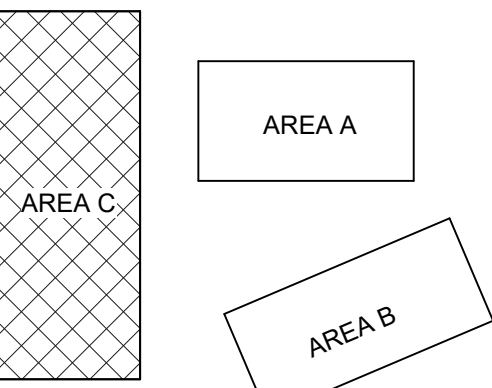
MEP ENGINEER  
OLSSON  
601 P ST #200  
LINCOLN, NE 68508  
V 402 474 6311  
olsson.com

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ESTATE HOUSE DESIGN  
PENDLETON IN  
V 851 675 8296  
estatehousedesign.com

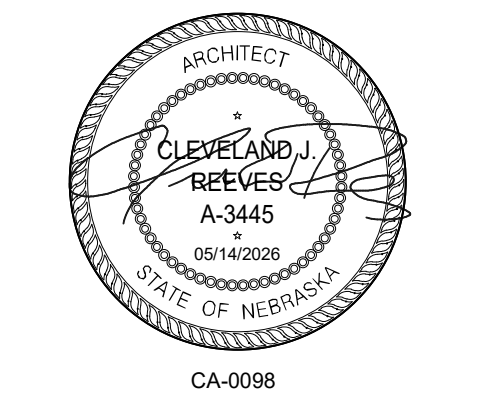
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pmakiner.com

| REVISIONS SCHEDULE |           |             |
|--------------------|-----------|-------------|
| MARK               | DATE      | DESCRIPTION |
| 2                  | 5/28/2026 | Addendum 2  |
| 3                  | 6/4/2026  | Addendum 3  |



**ACTON ACADEMY LINCOLN**  
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LINCOLN, NE 68523

PROJECT: 25026 DATE: 09/14/2026  
PROJECT STATUS: CONSTRUCTION DOCUMENTS



**BUILDING ELEVATIONS**

**A3.1C**

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bvh.com

CIVIL ENGINEER  
OLSSON  
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V 402 474 6311  
olsson.com

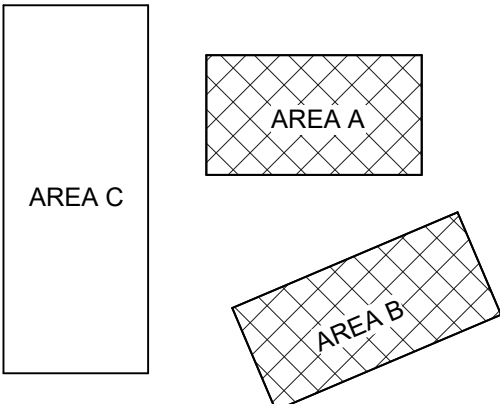
MEP ENGINEER  
OLSSON  
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LARGE STRUCTURAL GROUP  
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LINCOLN, NE 68506  
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largestructuralgroup.com

LANDSCAPE ARCHITECTURE  
ESTATE HOUSE DESIGN  
PENDLETON IN  
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| REVISIONS SCHEDULE |          |             |
|--------------------|----------|-------------|
| MARK               | DATE     | DESCRIPTION |
| 3                  | 6/4/2026 | Addendum 3  |

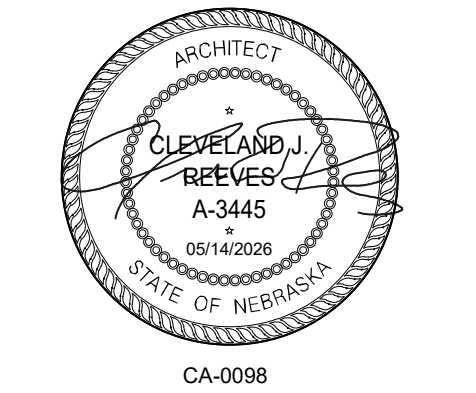


ACTON ACADEMY  
LINCOLN

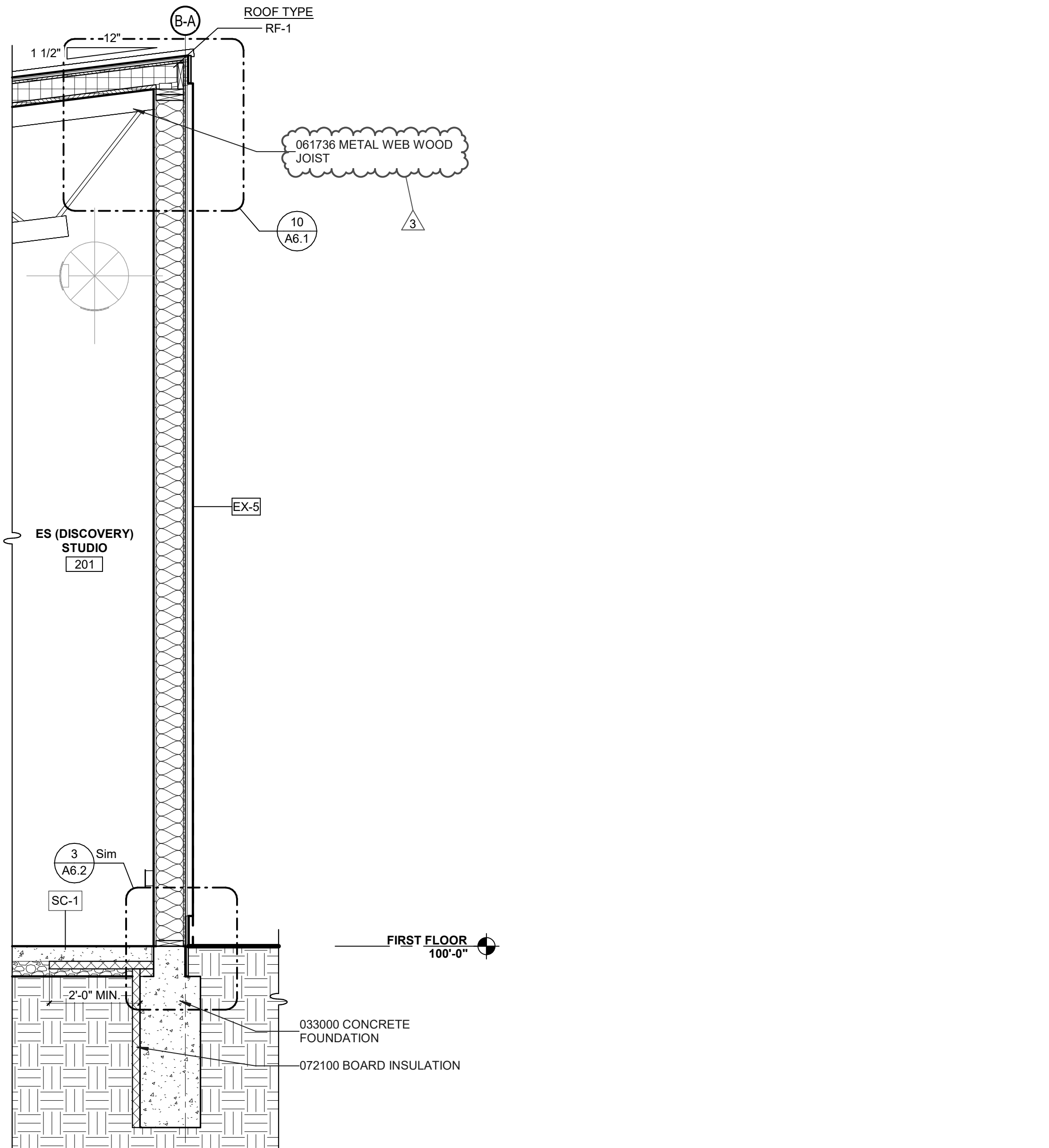
6701 S FOLSOM ST  
LINCOLN, NE 68523

PROJECT: 25026 DATE: 09/14/2026  
PROJECT STATUS: CONSTRUCTION DOCUMENTS

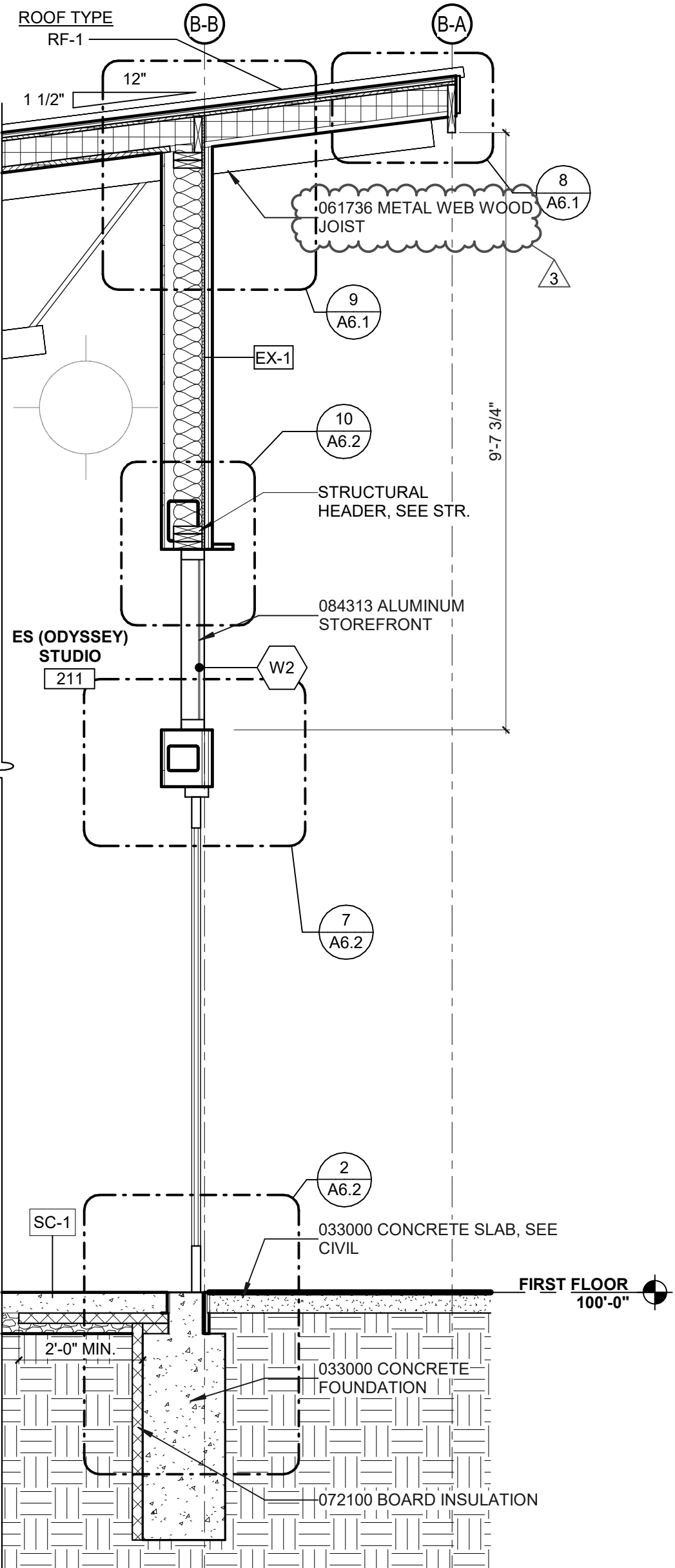
© COPYRIGHT BVH ARCHITECTURE



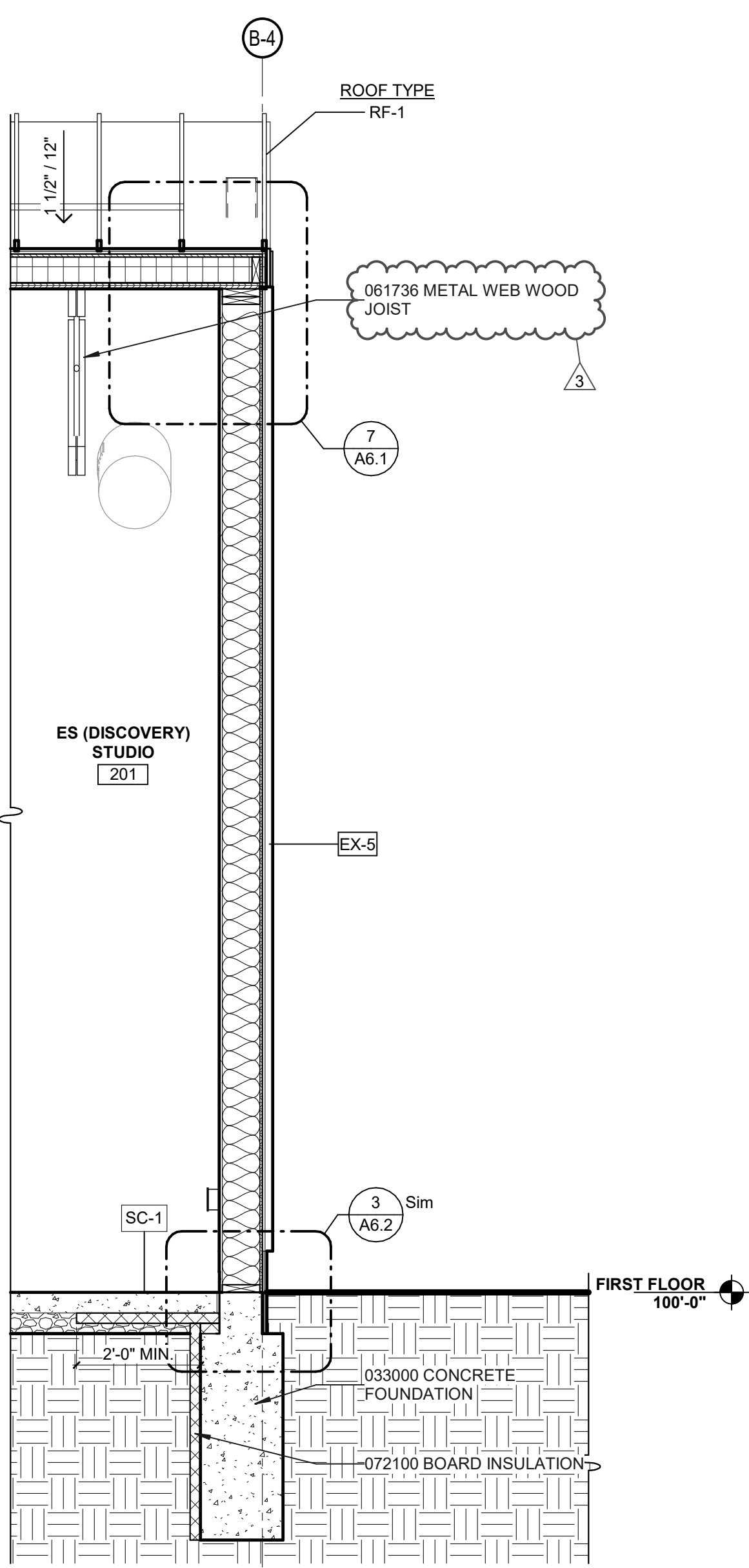
WALL SECTIONS -  
BUILDINGS A AND B



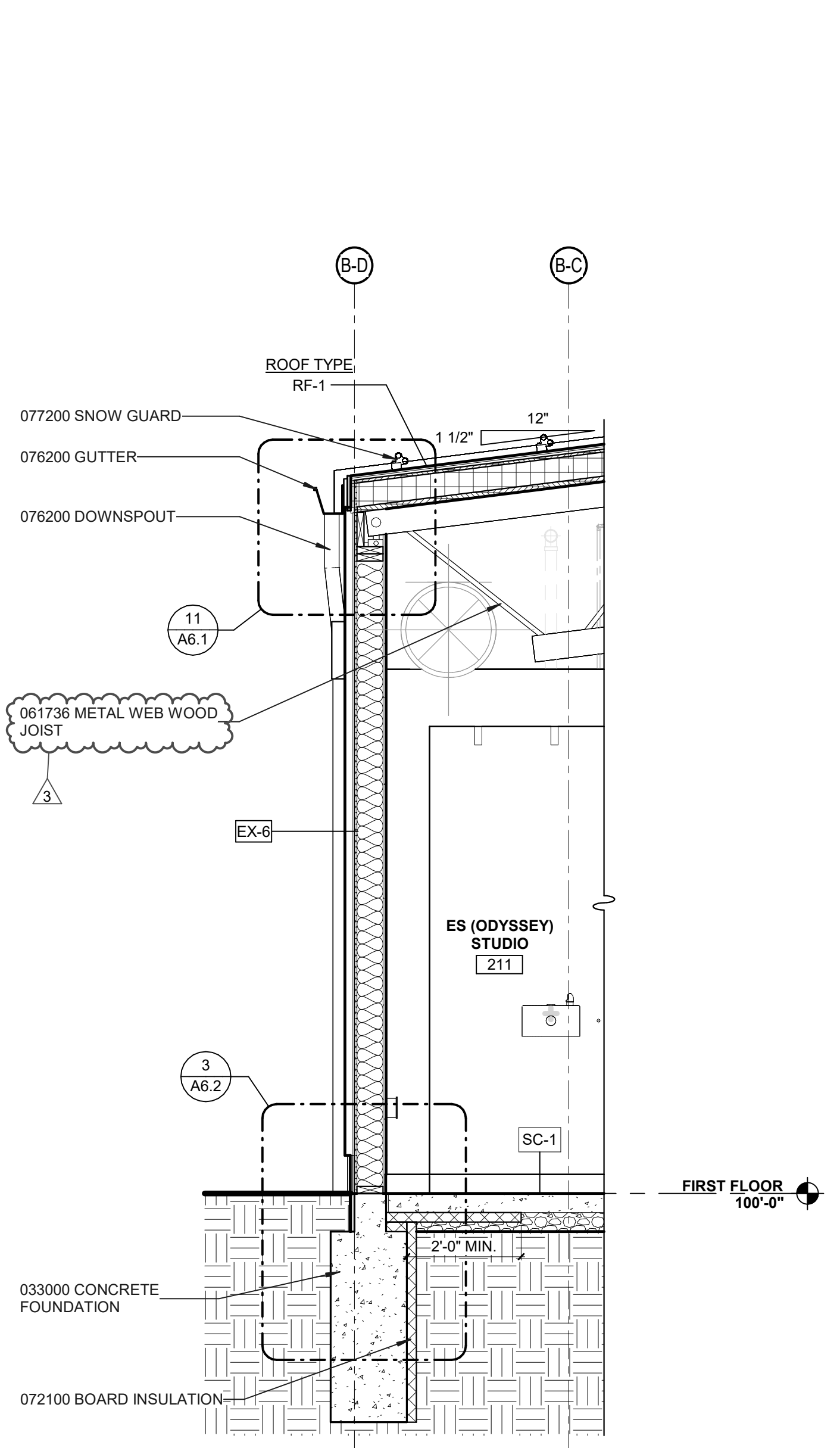
5 BUILDING B, HIGH SIDE  
1/2" = 1'-0"



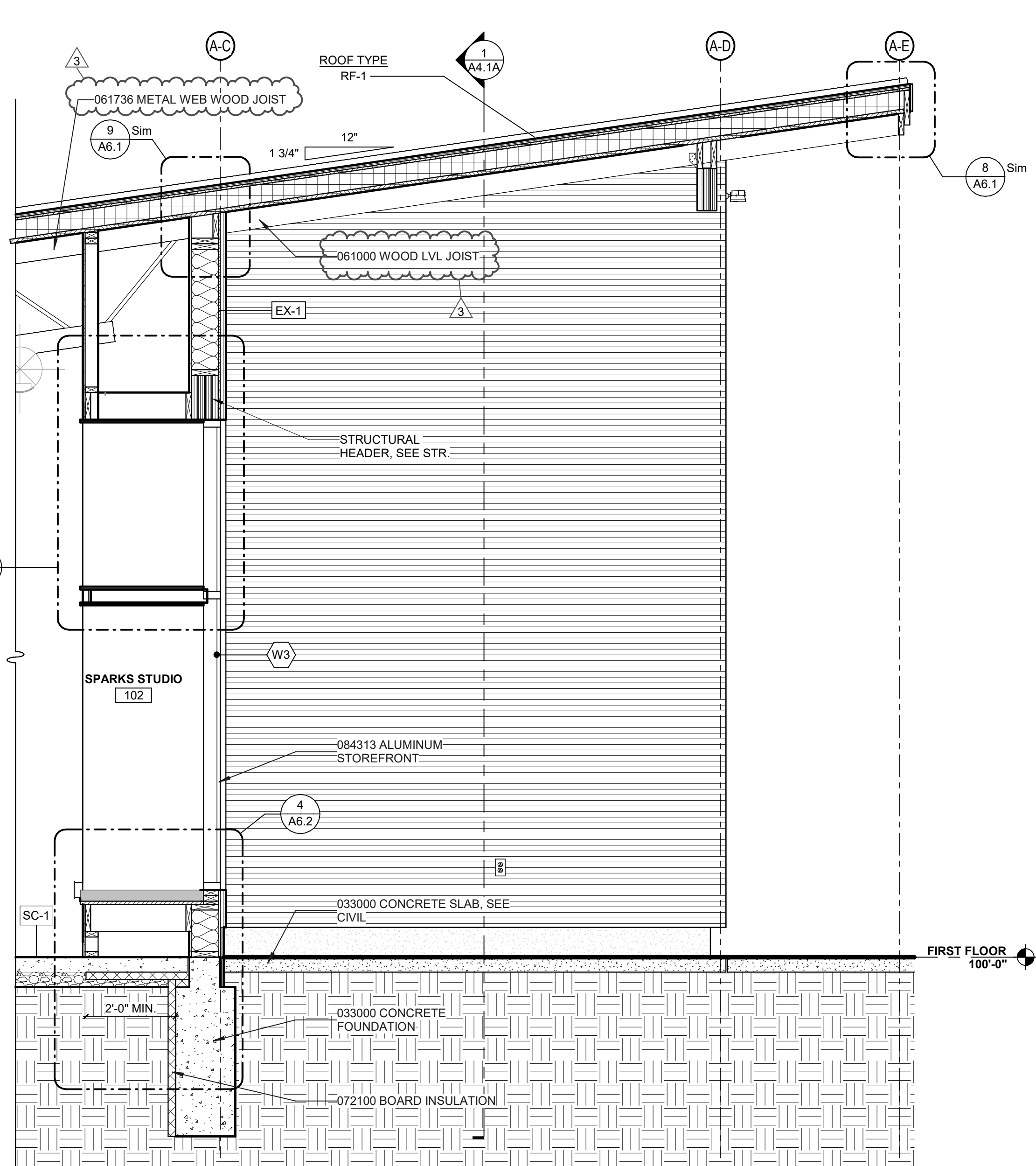
6 BUILDING B, HIGH SIDE OVERHANG  
1/2" = 1'-0"



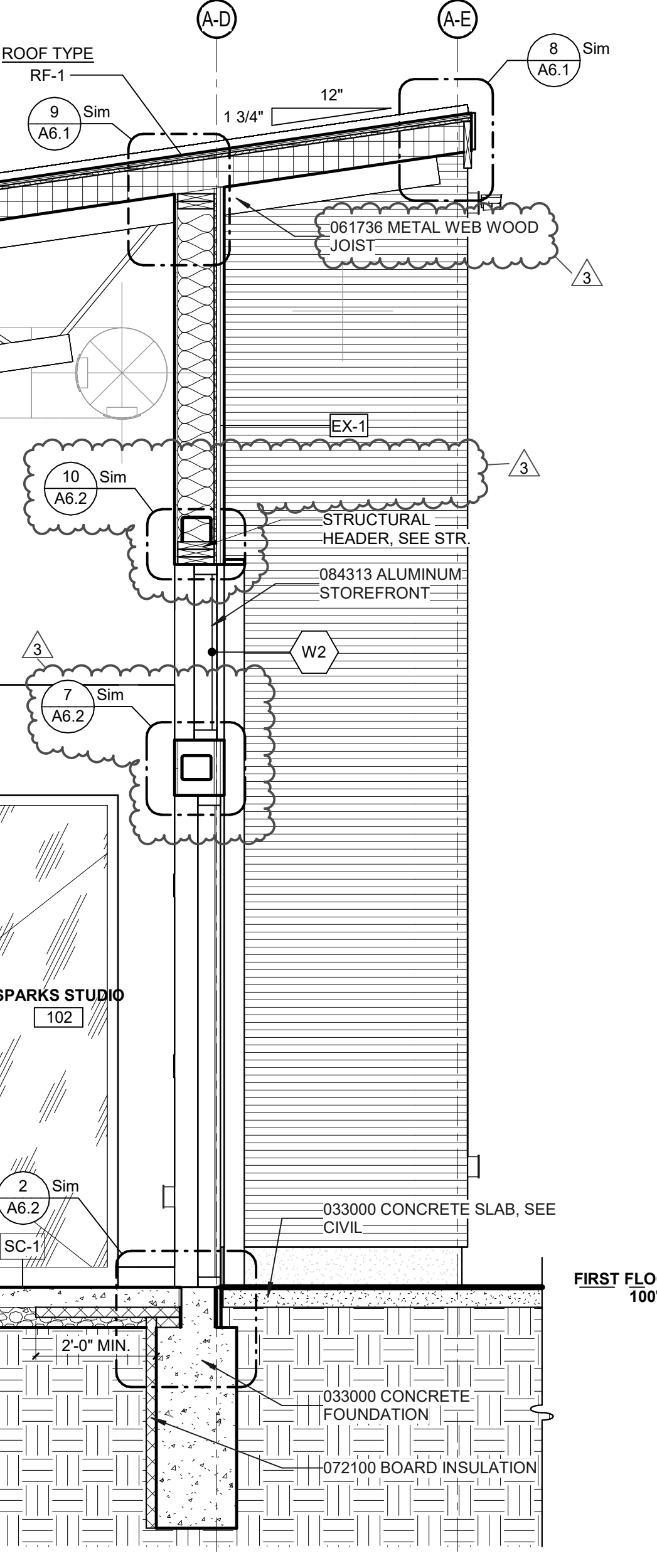
7 BUILDING B, TRANSVERSAL  
1/2" = 1'-0"



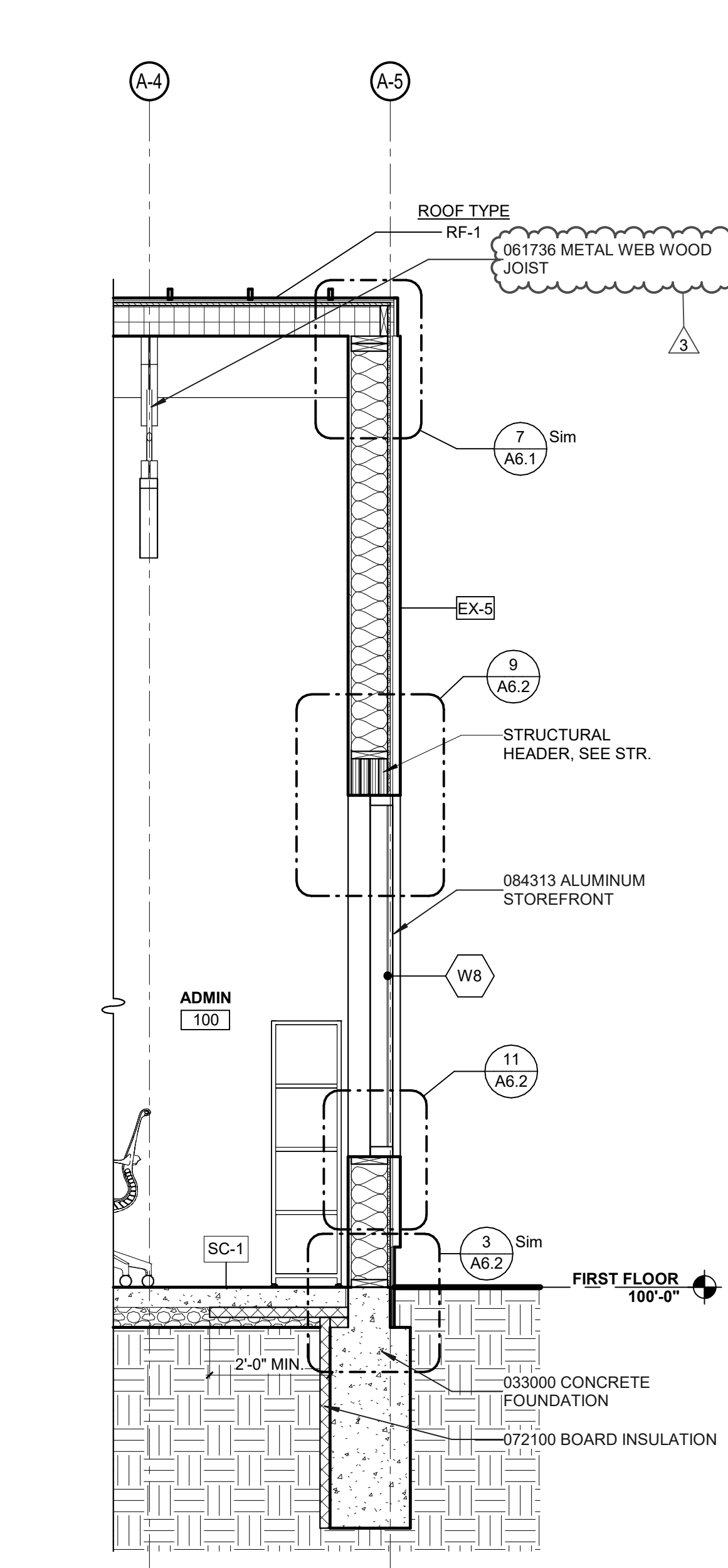
8 BUILDING B, LOW SIDE  
1/2" = 1'-0"



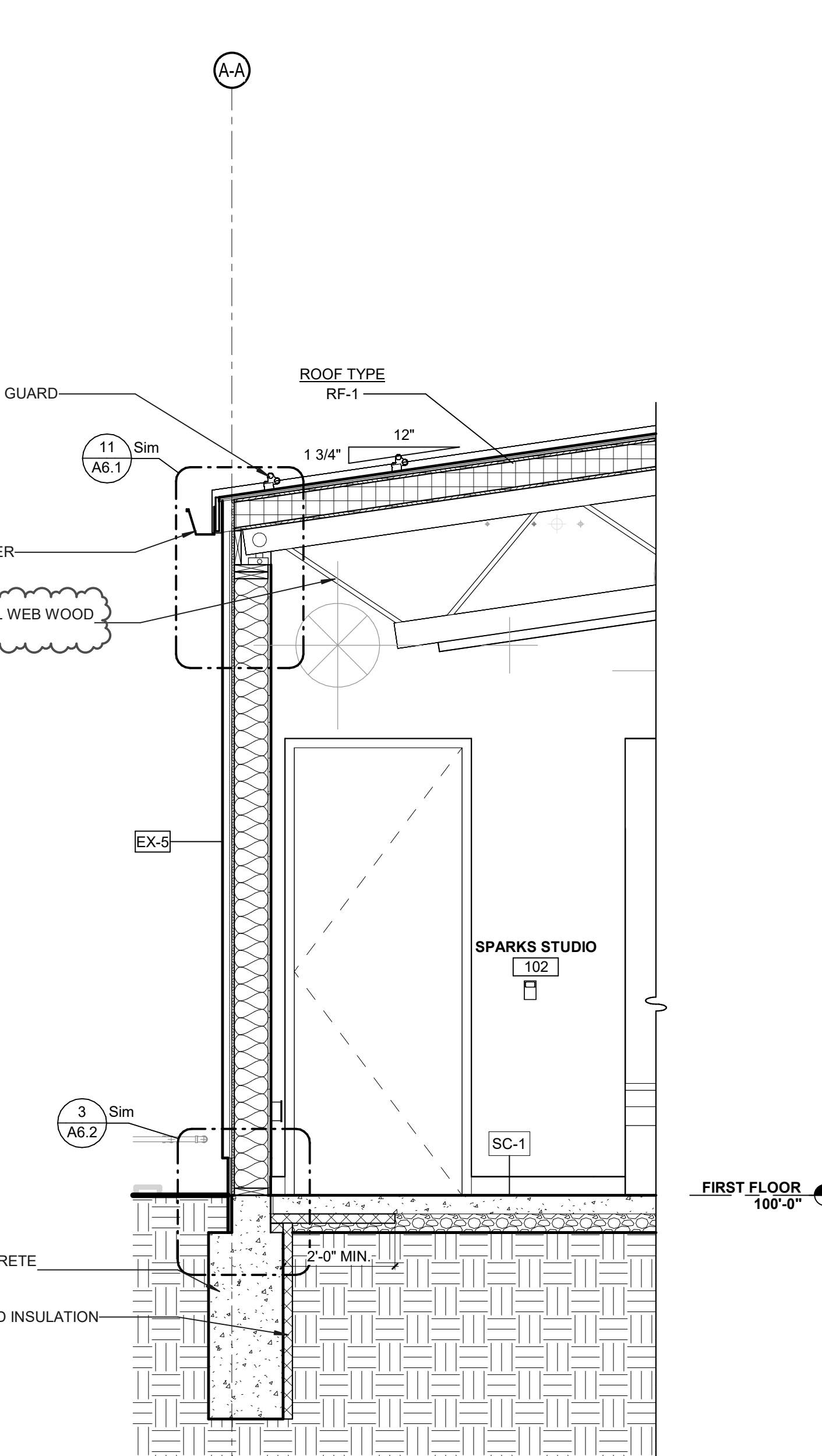
1 BUILDING A, LONG OVERHANG & COLUMN  
1/2" = 1'-0"



2 BUILDING A, HIGH SIDE OVERHANG  
1/2" = 1'-0"

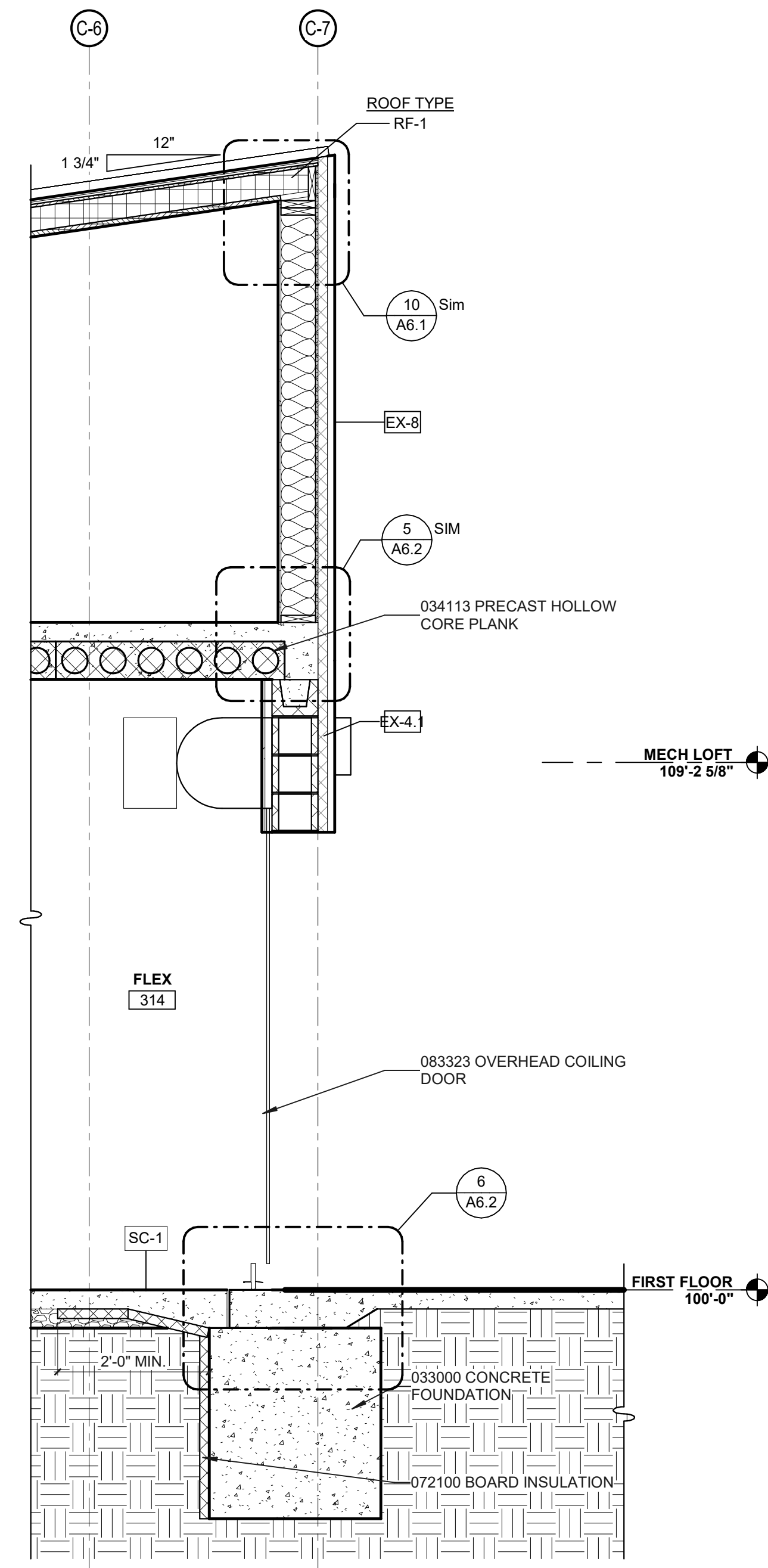
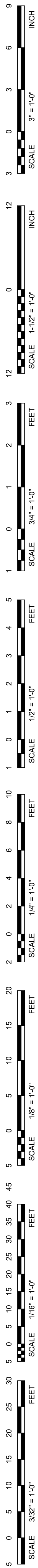


3 TYPICAL LATERAL WALL SECTION  
1/2" = 1'-0"

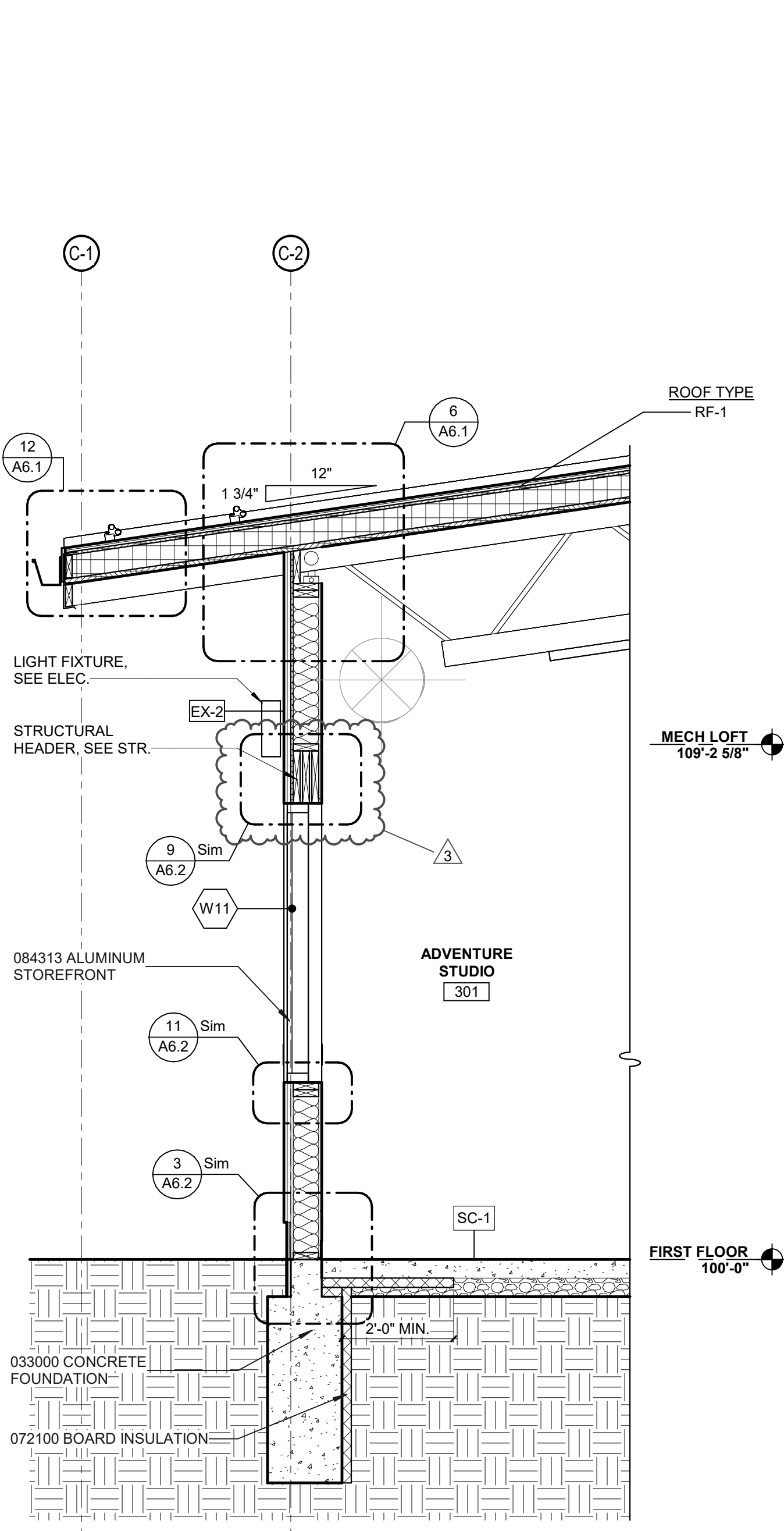


4 BUILDING A, LOW SIDE  
1/2" = 1'-0"

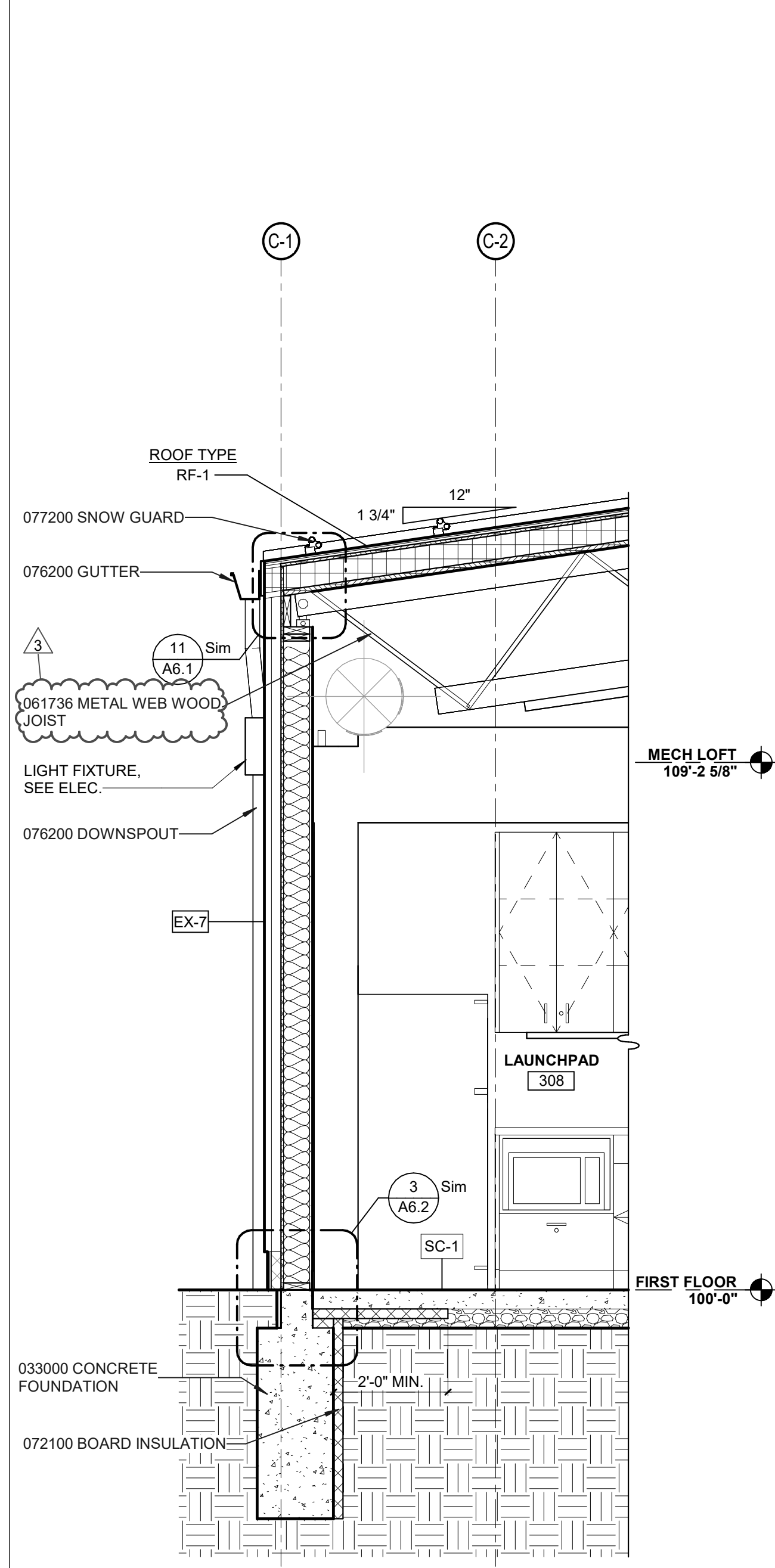




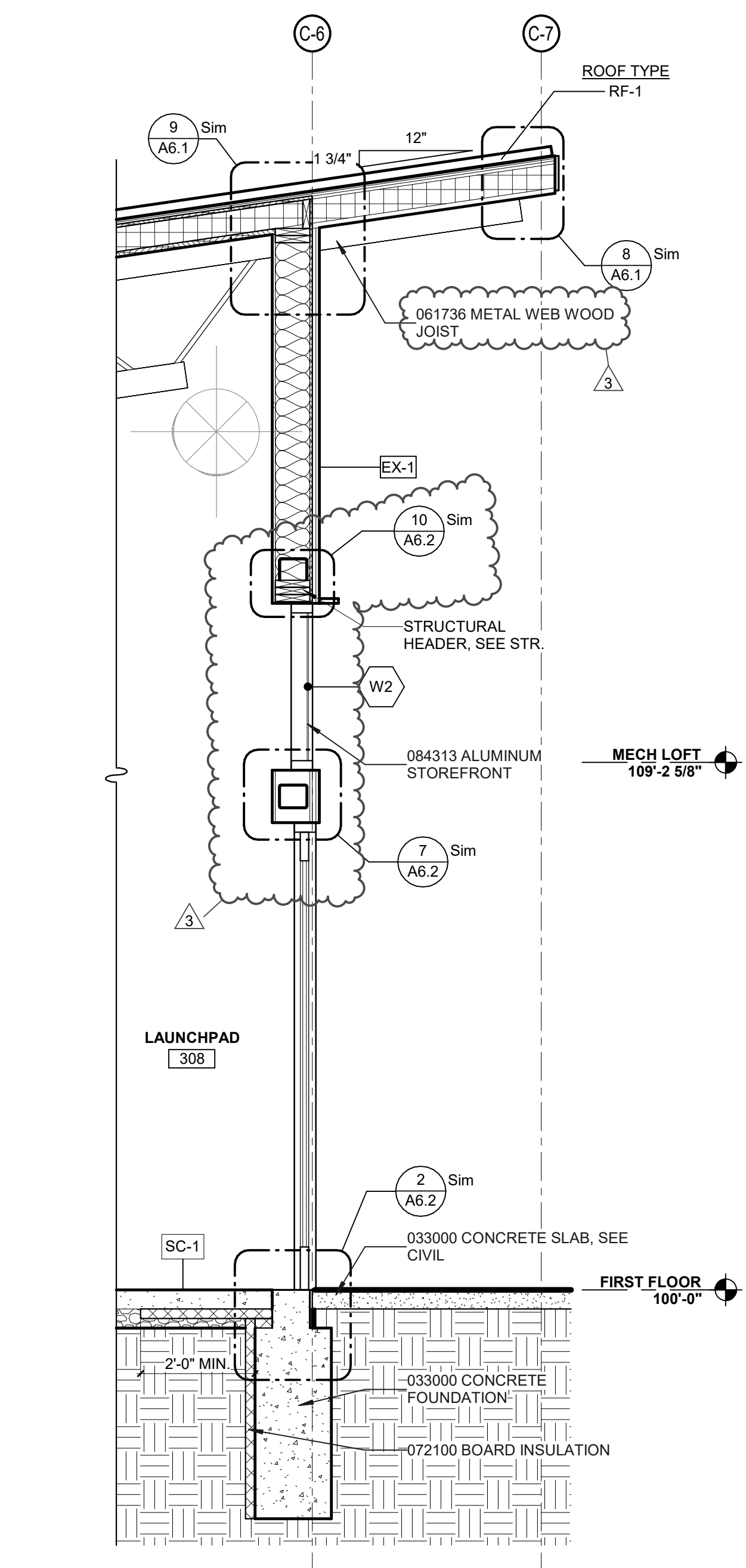
5 STORMSHELTER, HIGH SIDE  
1/2" = 1'-0"



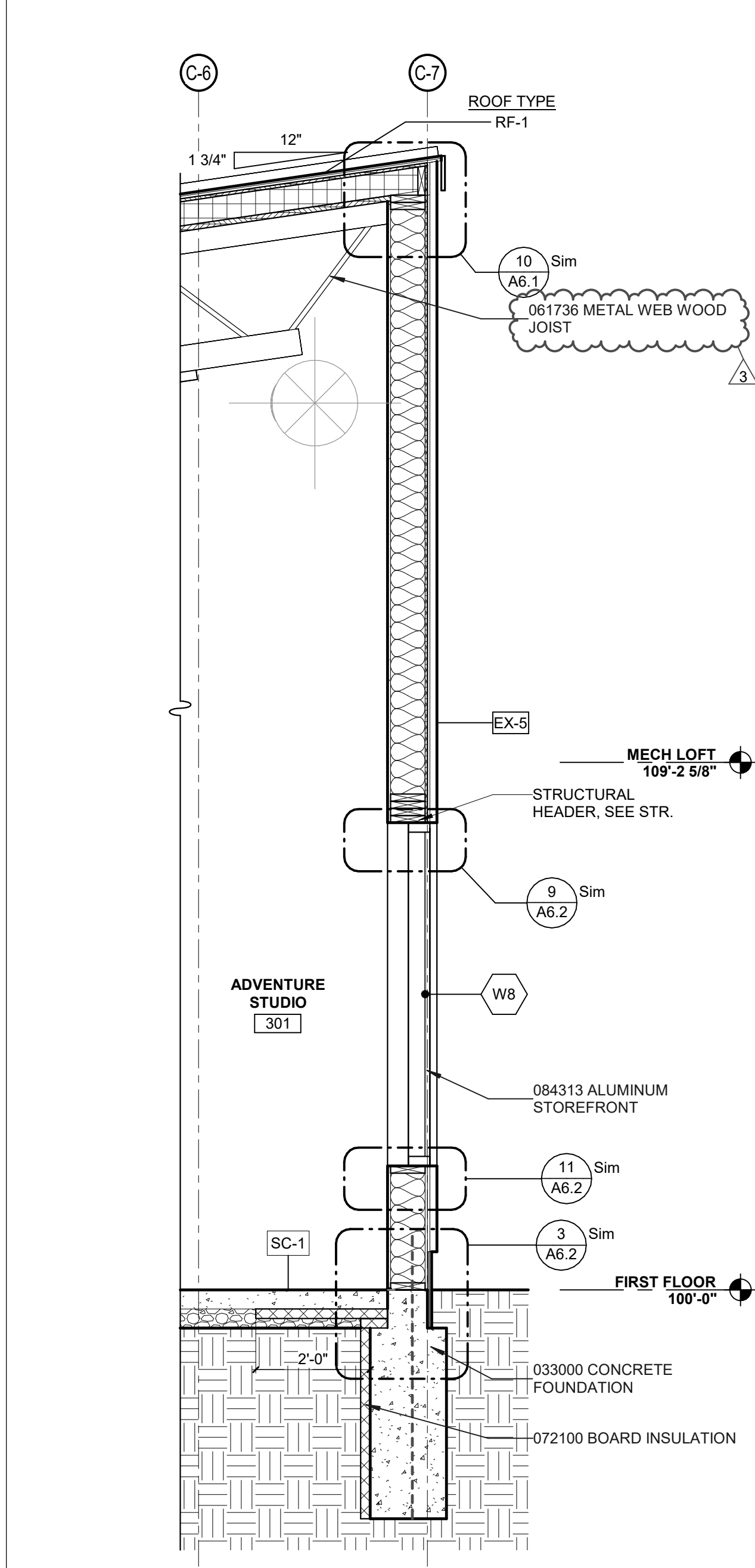
4 BUILDING C, LOW SIDE OVERHANG  
1/2" = 1'-0"



3 BUILDING C, LOW SIDE  
1/2" = 1'-0"



2 BUILDING C, HIGH SIDE OVERHANG  
1/2" = 1'-0"



1 BUILDING C, HIGH SIDE  
1/2" = 1'-0"

7 STORMSHELTER, LOW SIDE  
1/2" = 1'-0"

6 STORMSHELTER, NORTH WALL  
1/2" = 1'-0"

BVH

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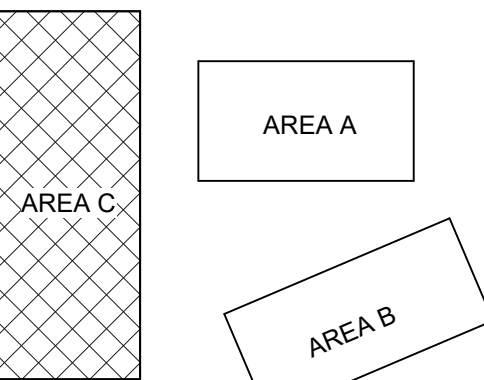
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V 402 474 6311  
olsson.com

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LARGE STRUCTURAL GROUP  
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V 402 421 9540  
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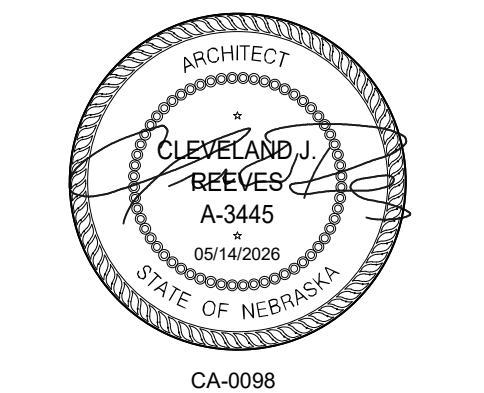


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WALL SECTIONS -  
BUILDING C

A5.2



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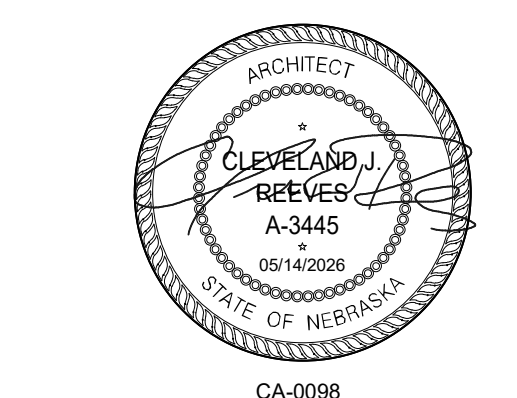
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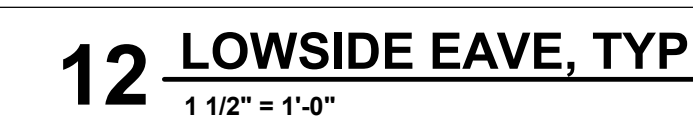
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## DETAILS

## A6.1





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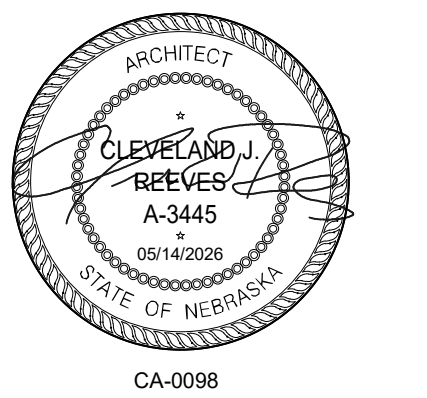
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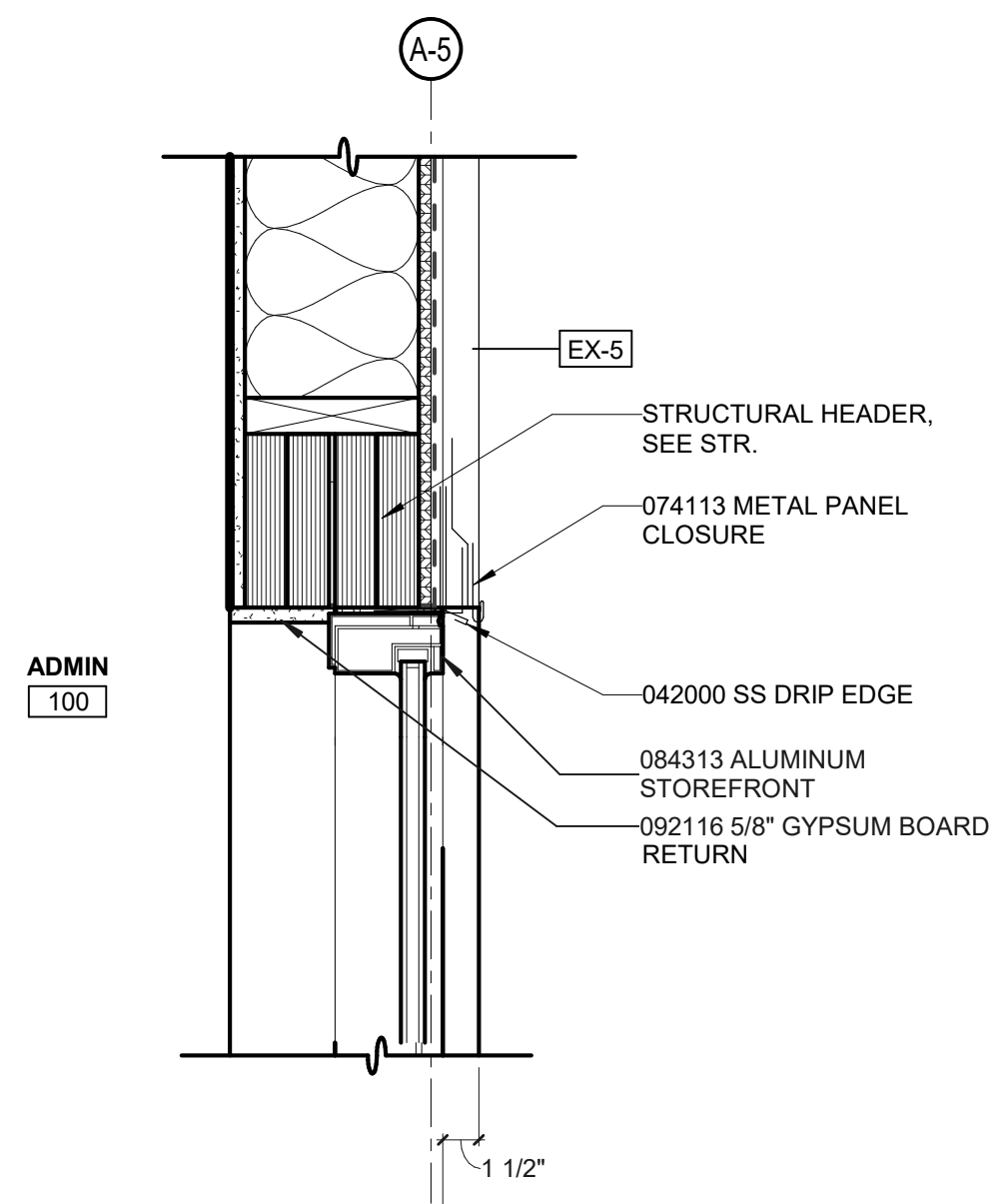
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| MARK               | DATE      | DESCRIPTION |
| 1                  | 5/21/2026 | Addendum 1  |
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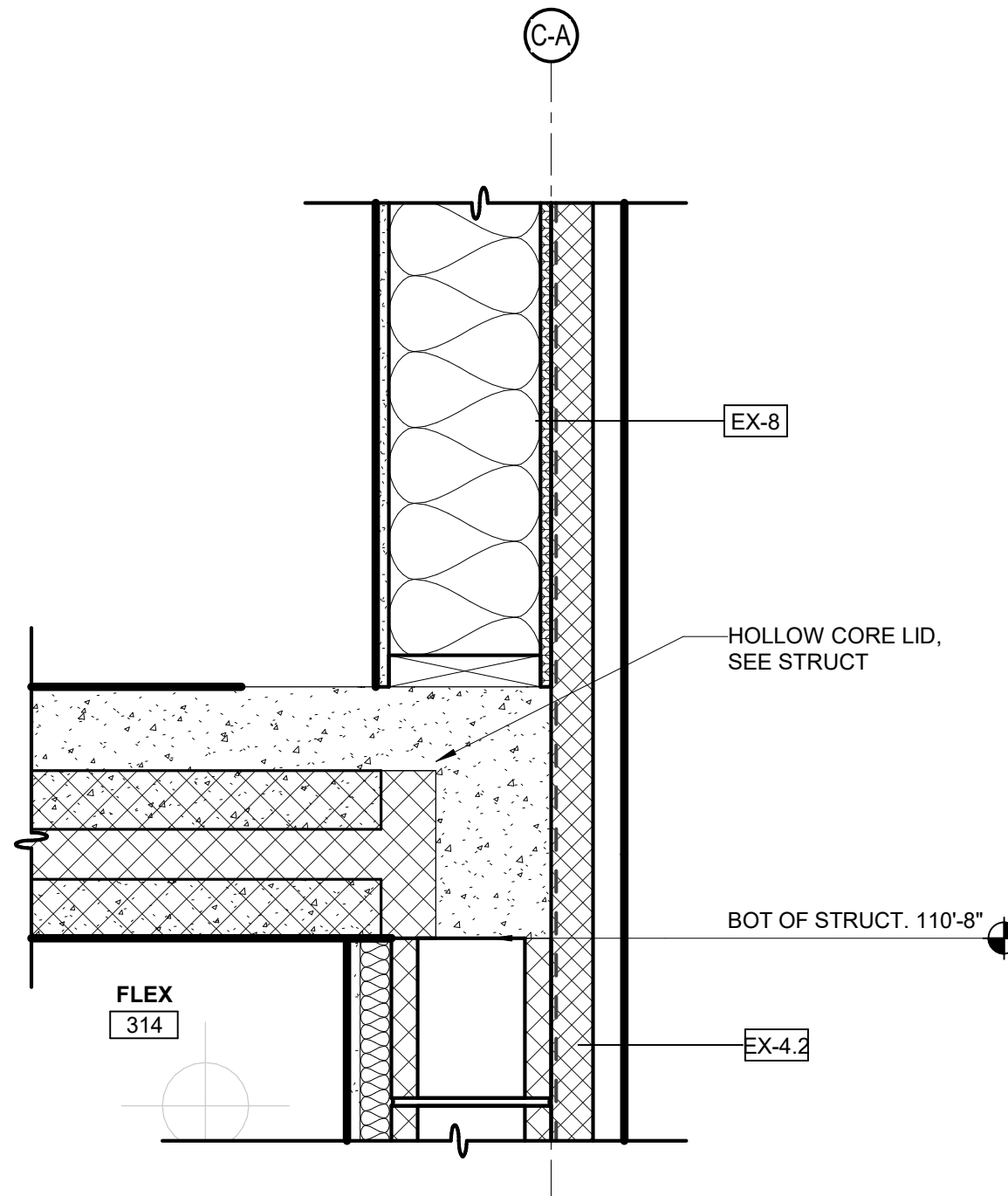
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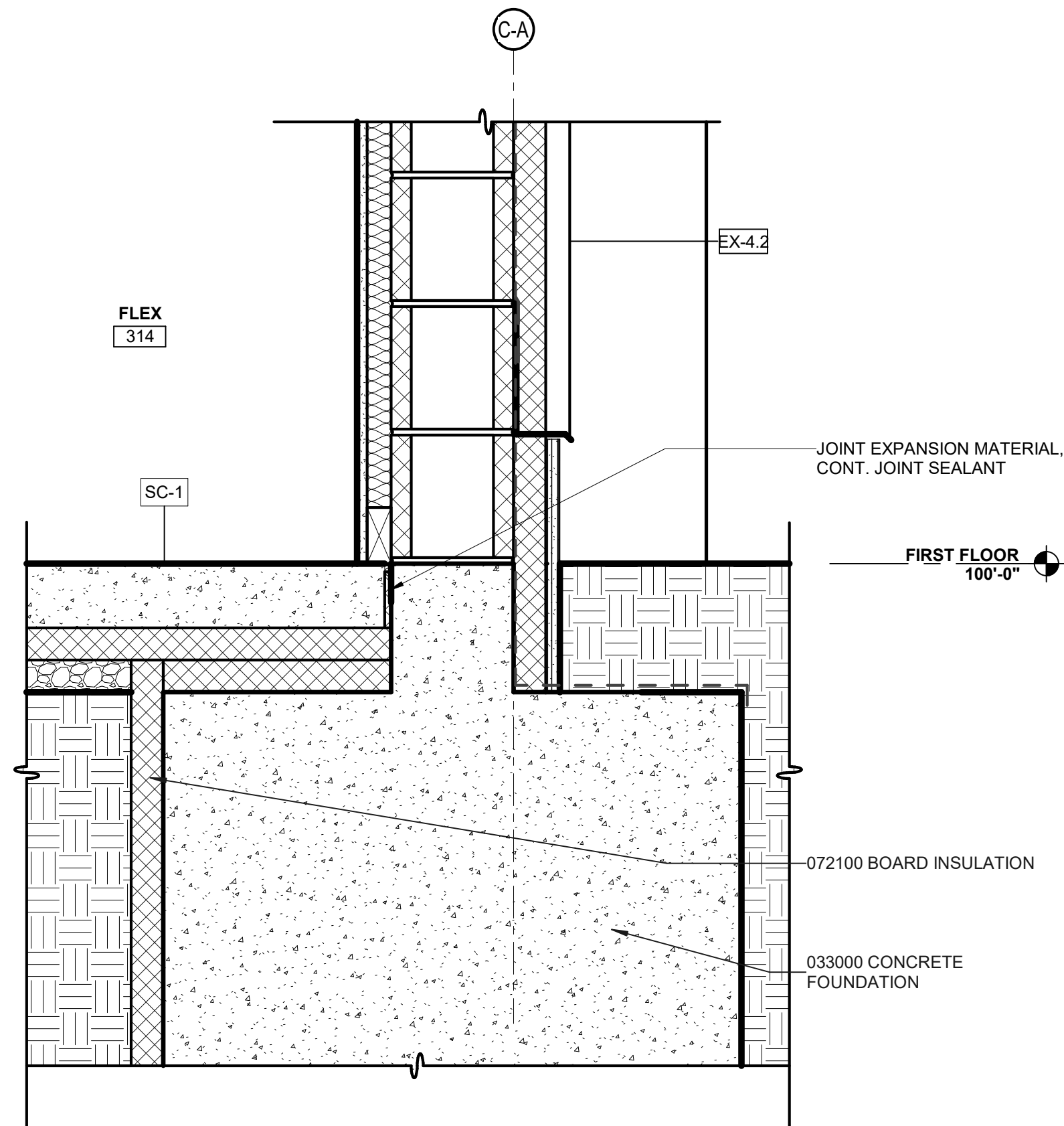
DETAILS



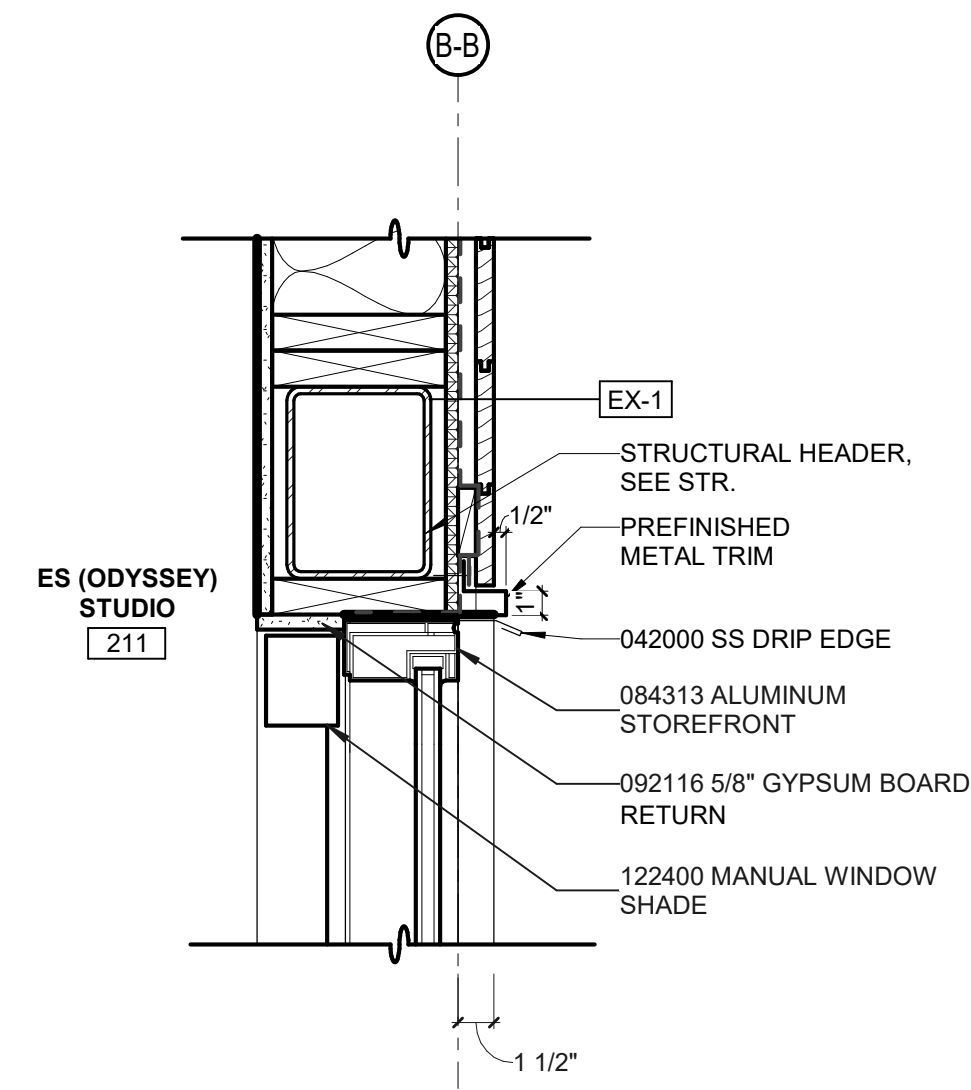
9 WINDOW HEAD, TYP.  
1 1/2" = 1'-0"



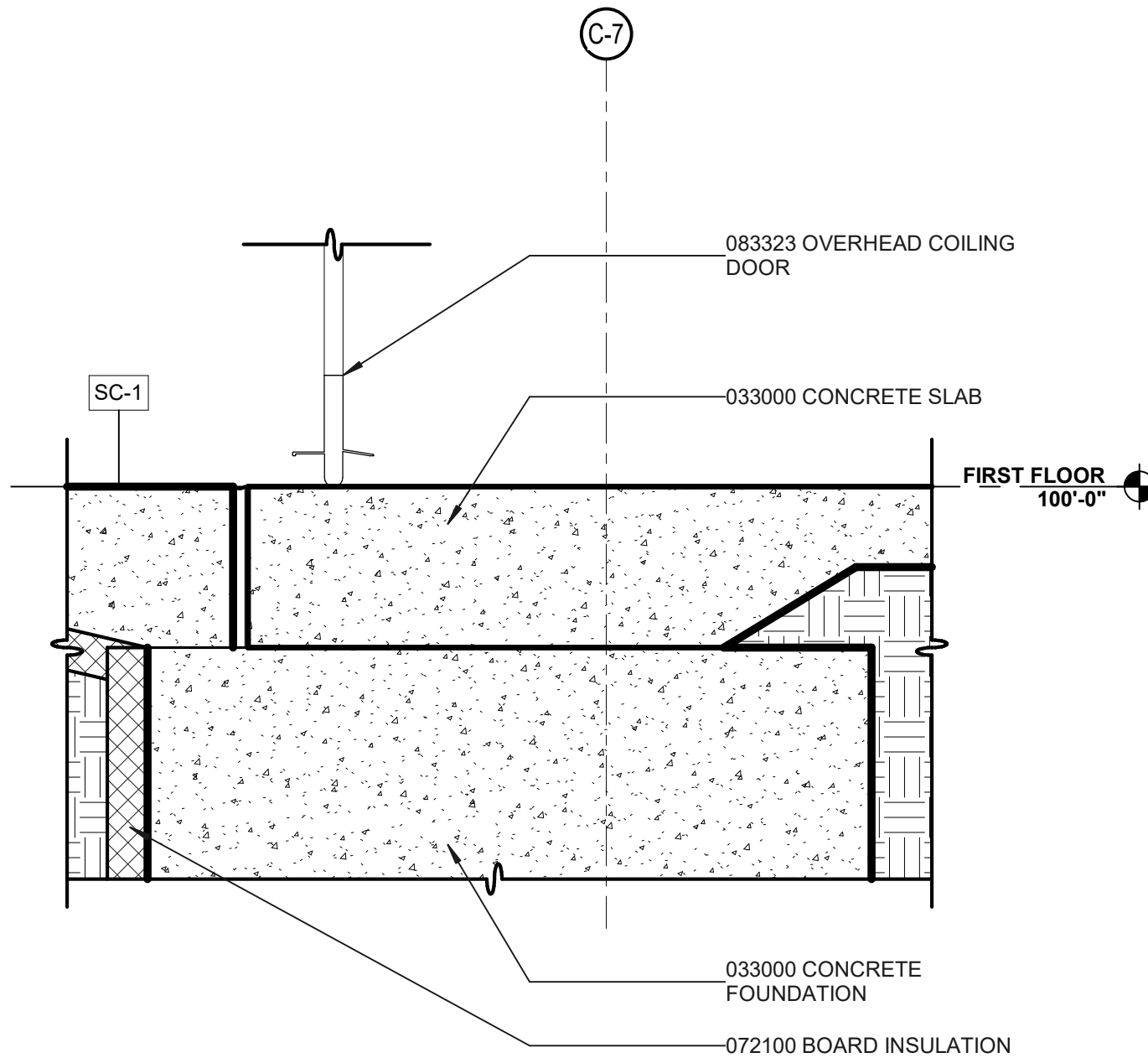
5 STORMSHELTER WALL TO LID TRANSITION, TYP.  
1 1/2" = 1'-0"



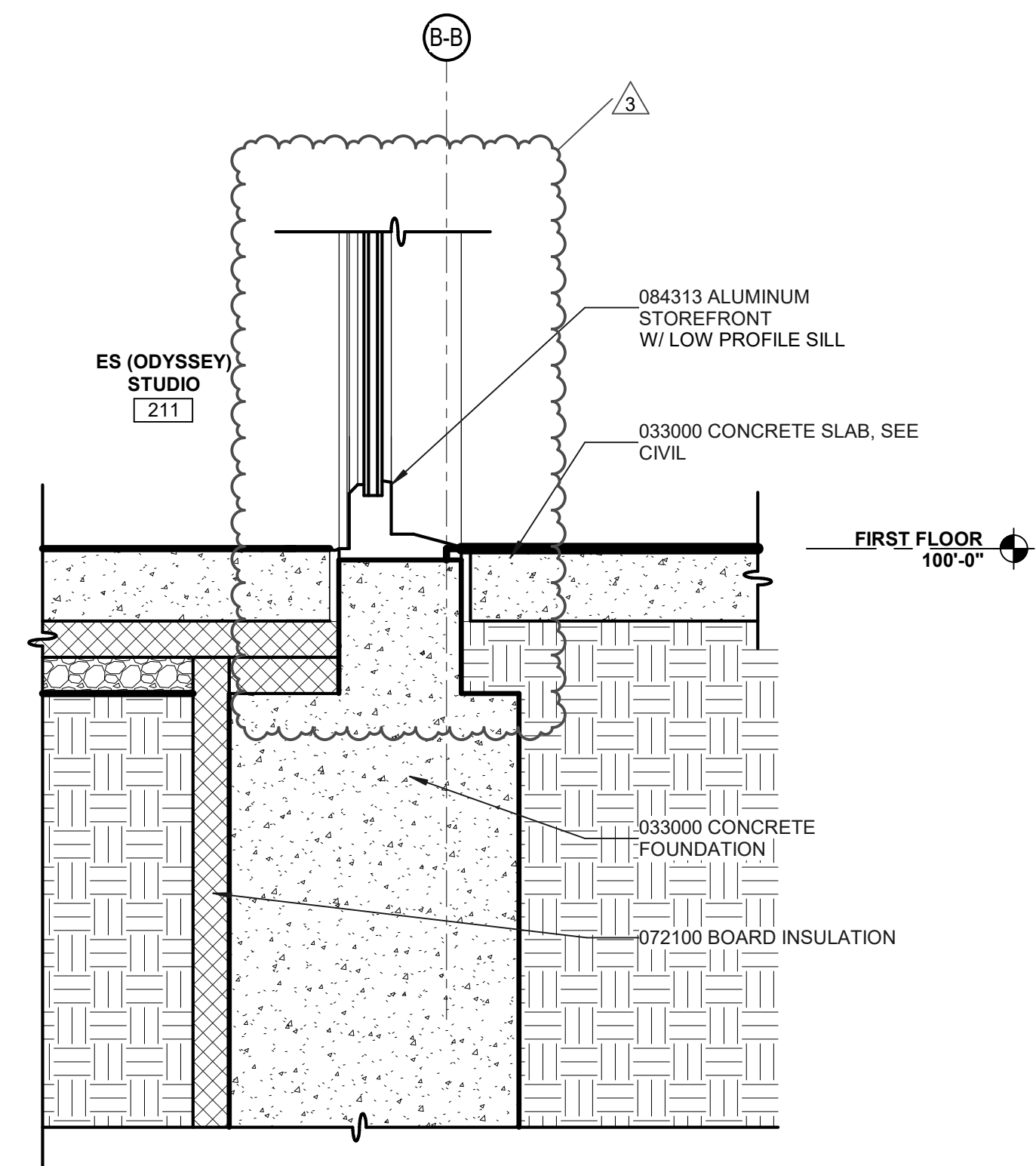
1 CMU @ BASE, STORMSHELTER  
1 1/2" = 1'-0"



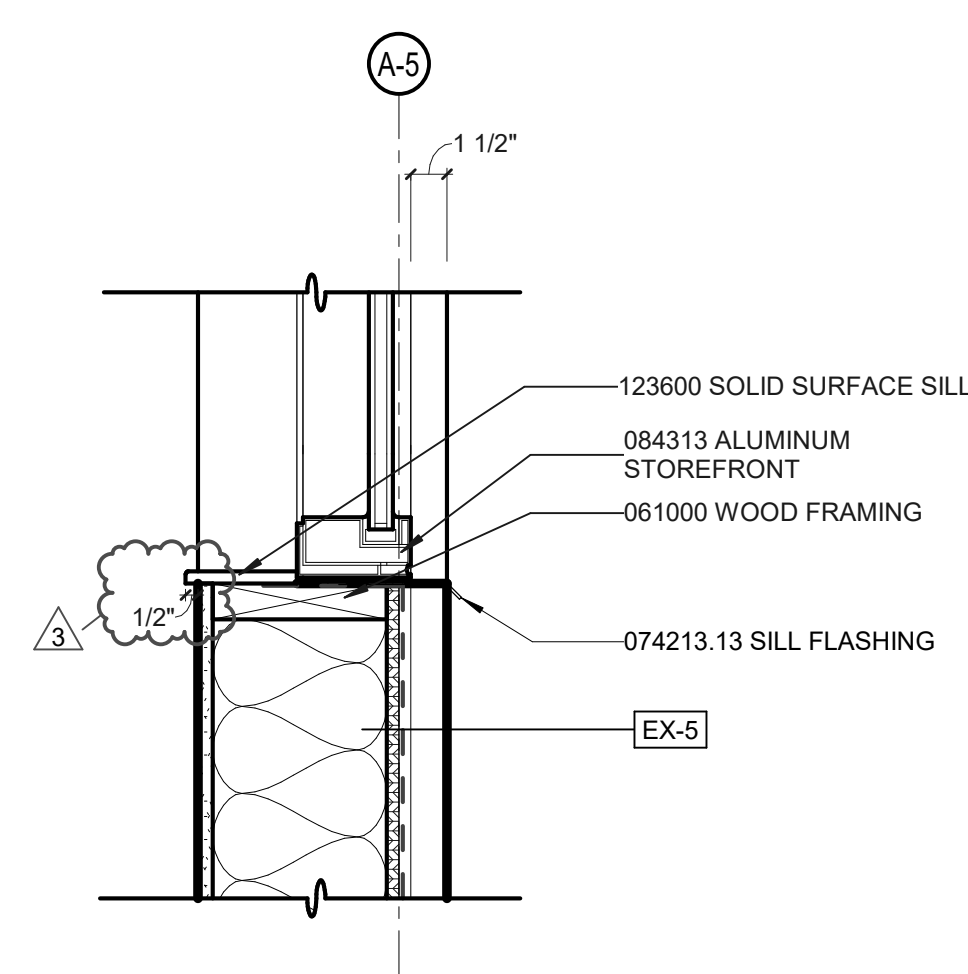
10 STOREFRONT HEAD @ EXTERIOR WALL  
1 1/2" = 1'-0"



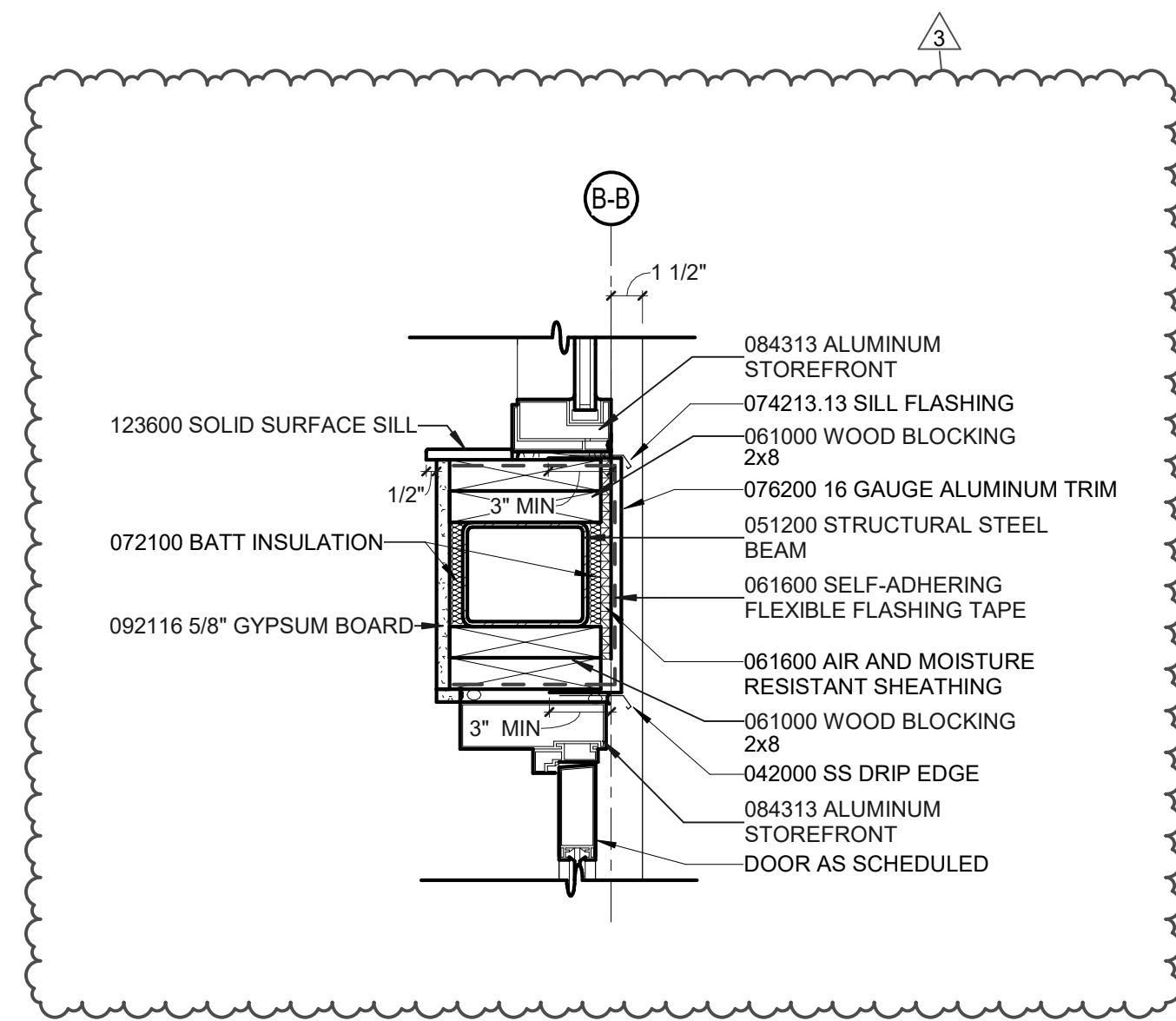
6 SLAB DETAIL AT OVERHEAD DOOR  
1 1/2" = 1'-0"



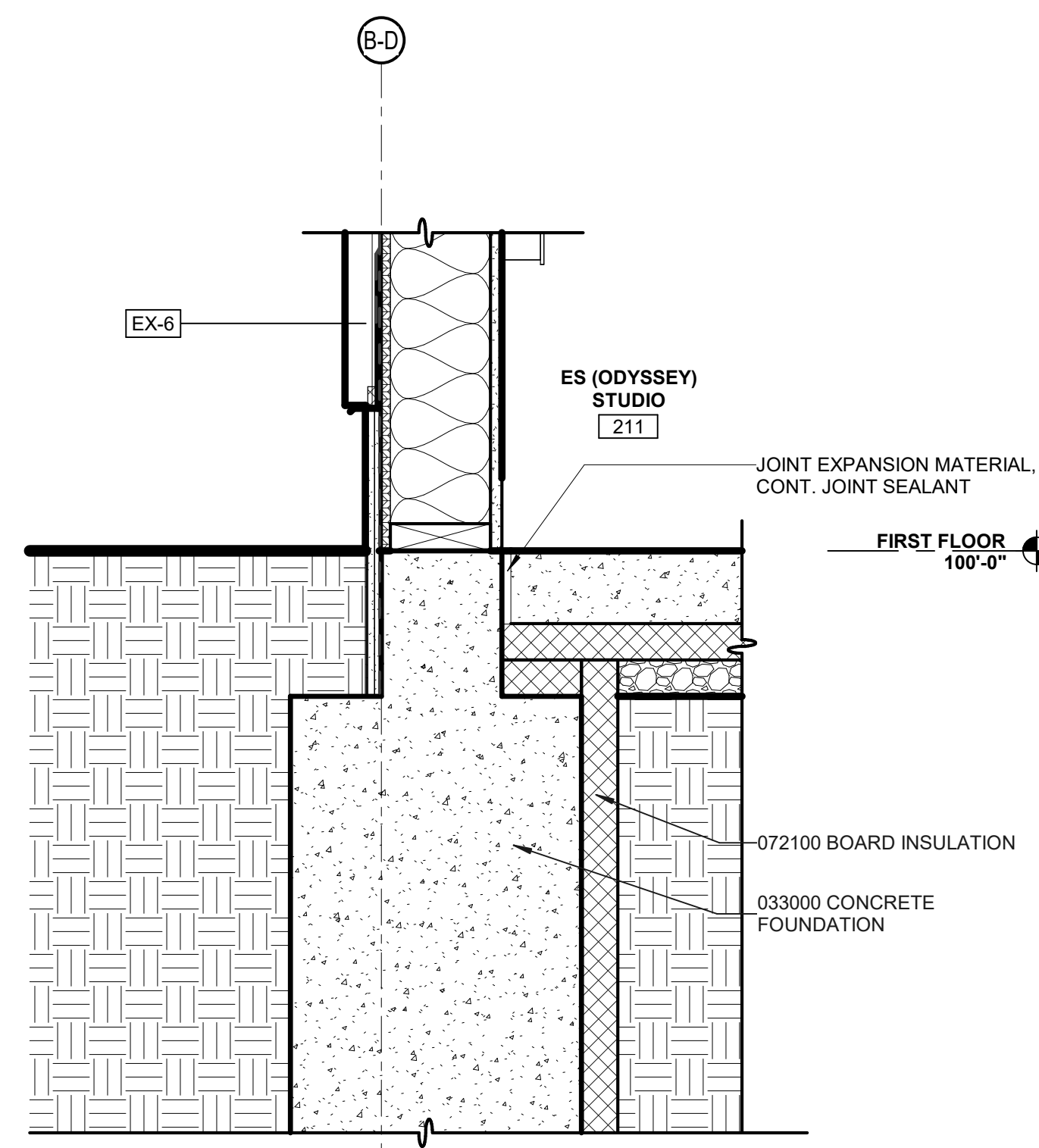
2 BASE @ EXTERIOR SLIDING DOOR - ALTERNATE  
1 1/2" = 1'-0"



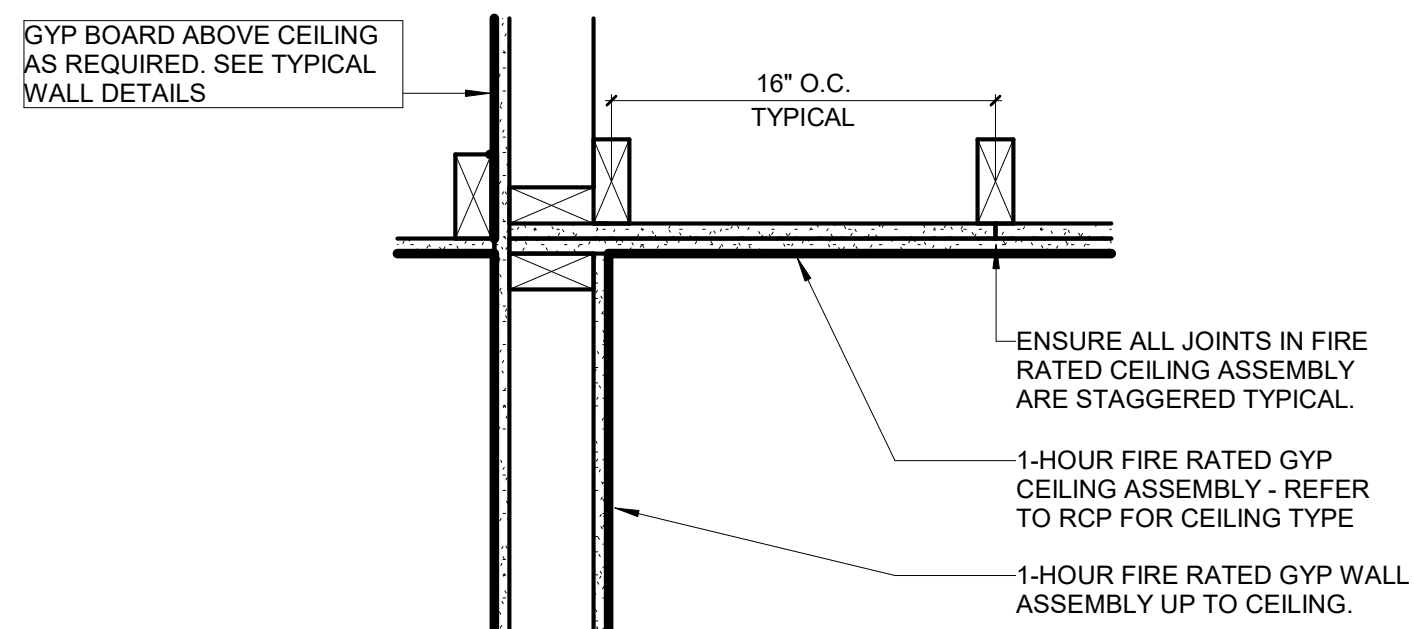
11 WINDOW SILL, TYP.  
1 1/2" = 1'-0"



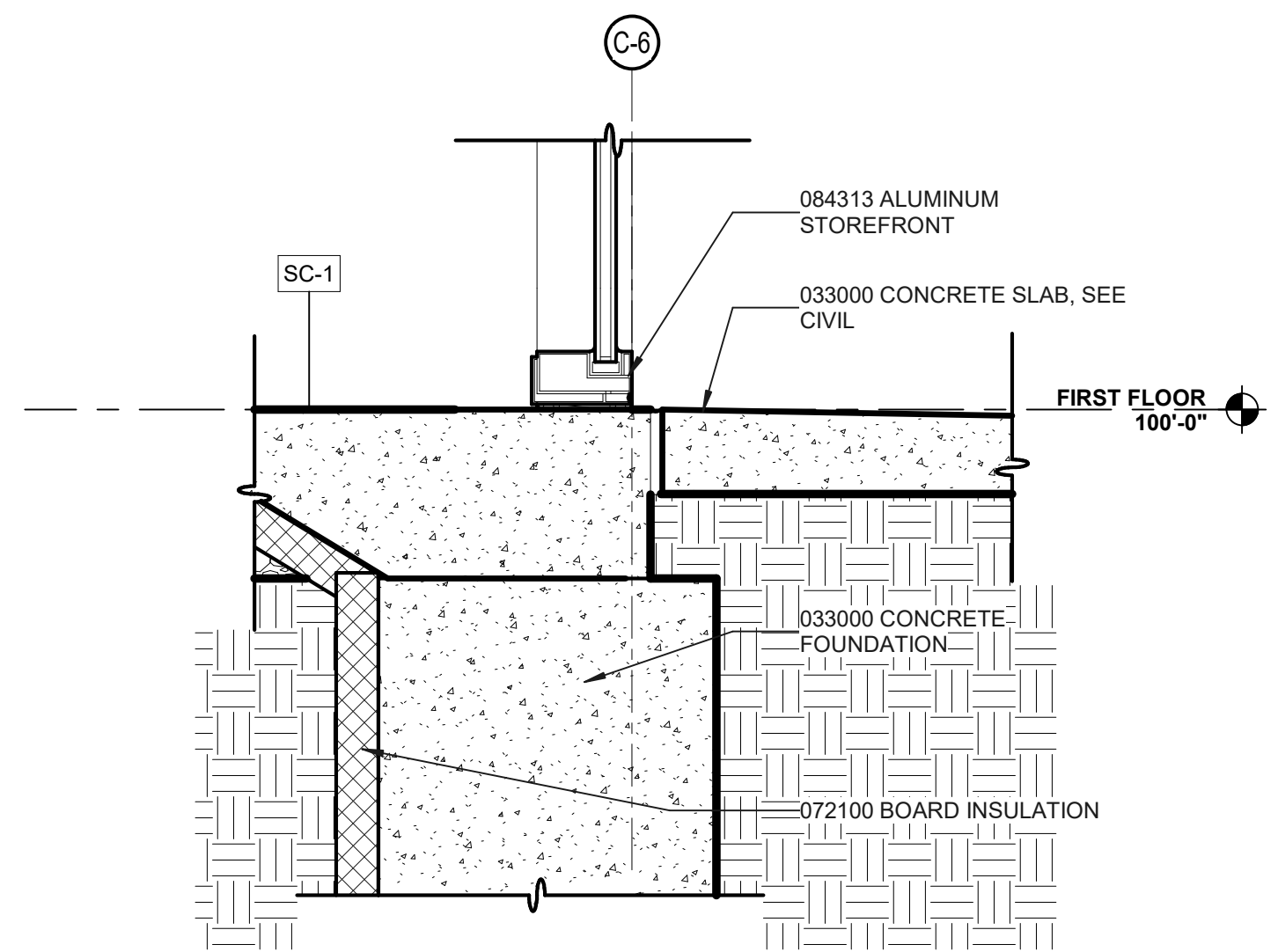
7 SLIDING DOOR HEAD @ STOREFRONT  
1 1/2" = 1'-0"



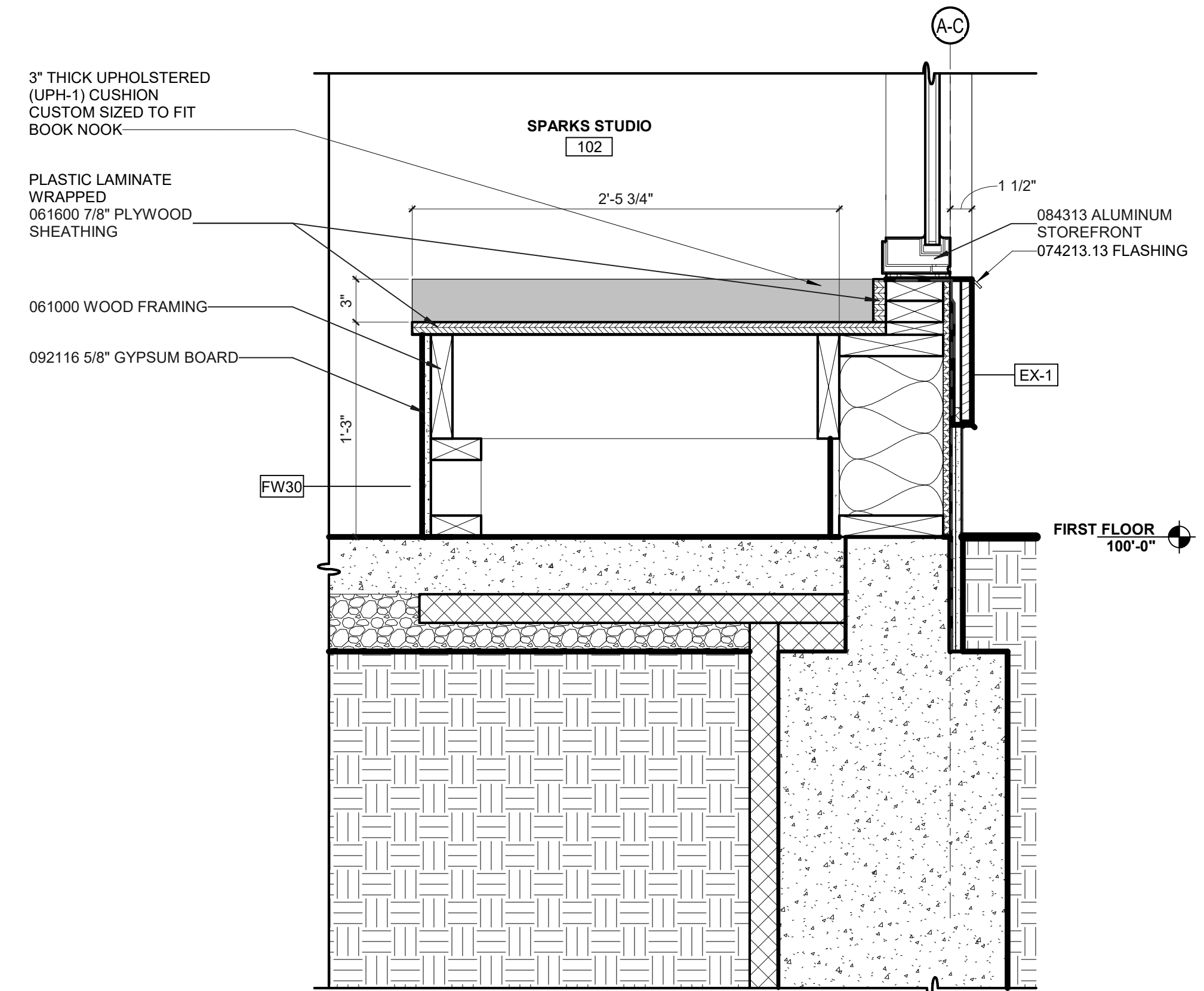
3 WALL TO FLOOR/FOOTING, TYP.  
1 1/2" = 1'-0"



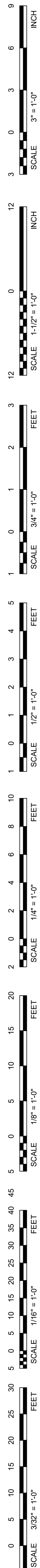
12 1-HOUR RATED GYP CEILING ASSEMBLY  
1 1/2" = 1'-0"



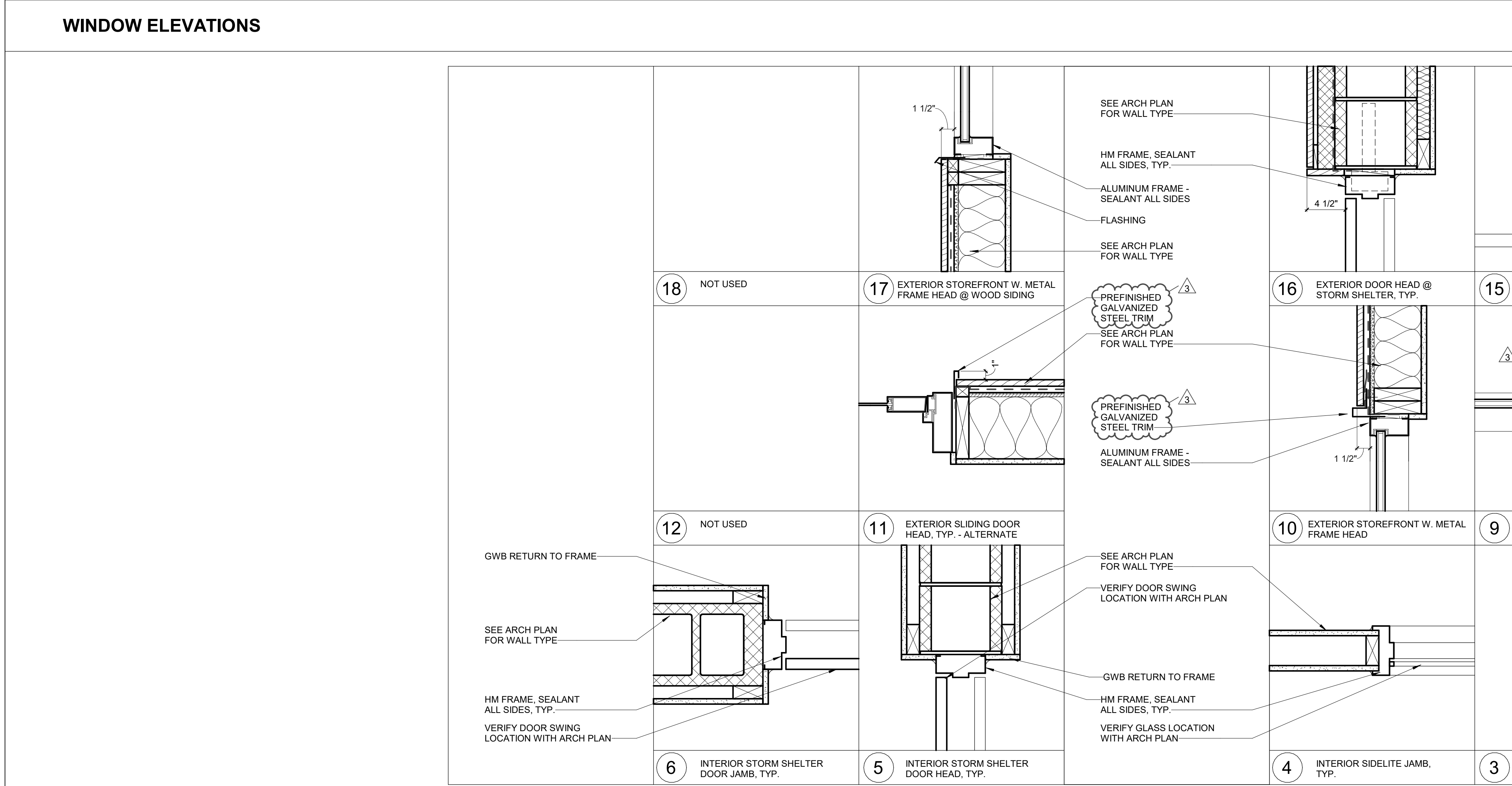
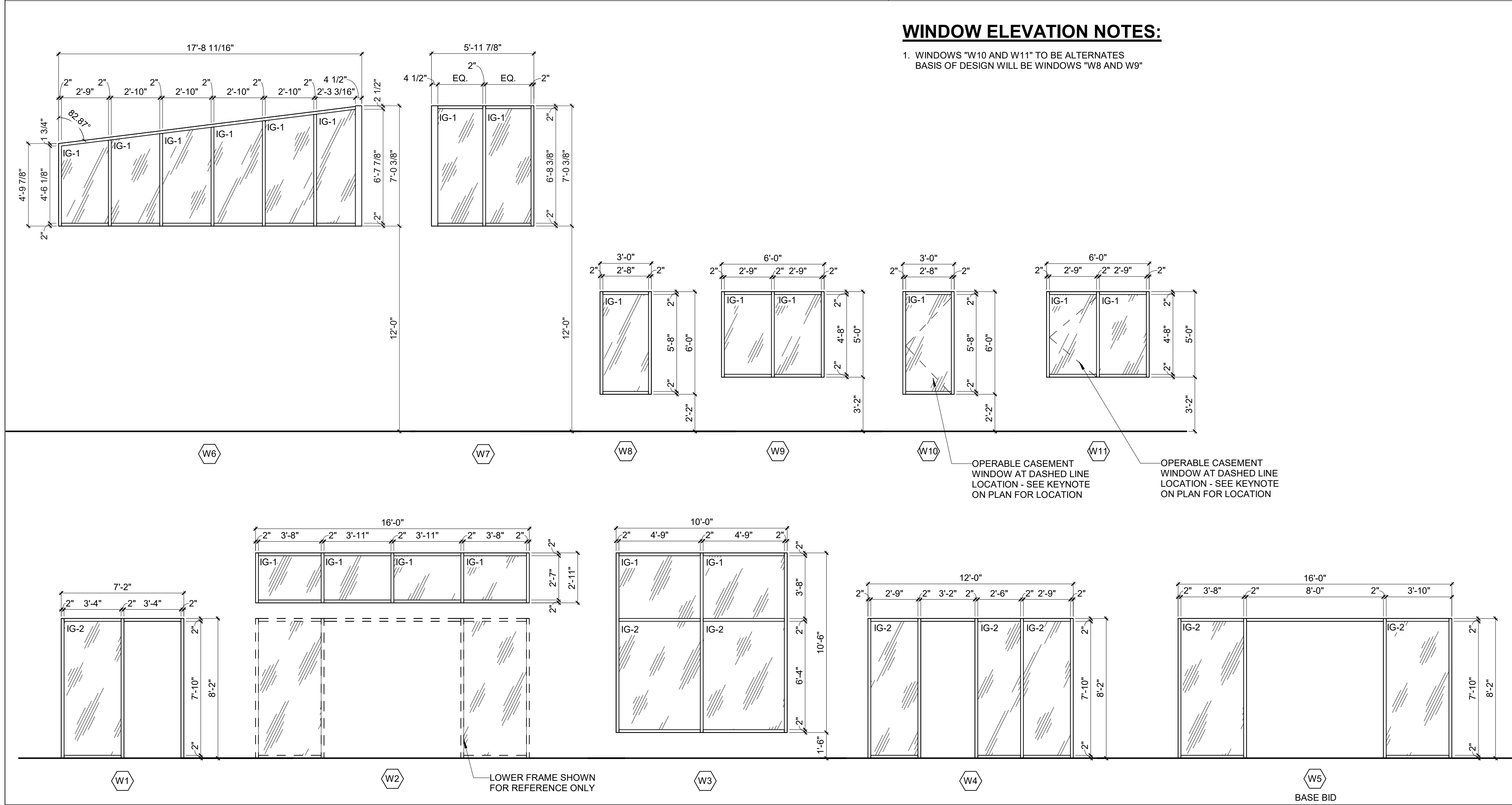
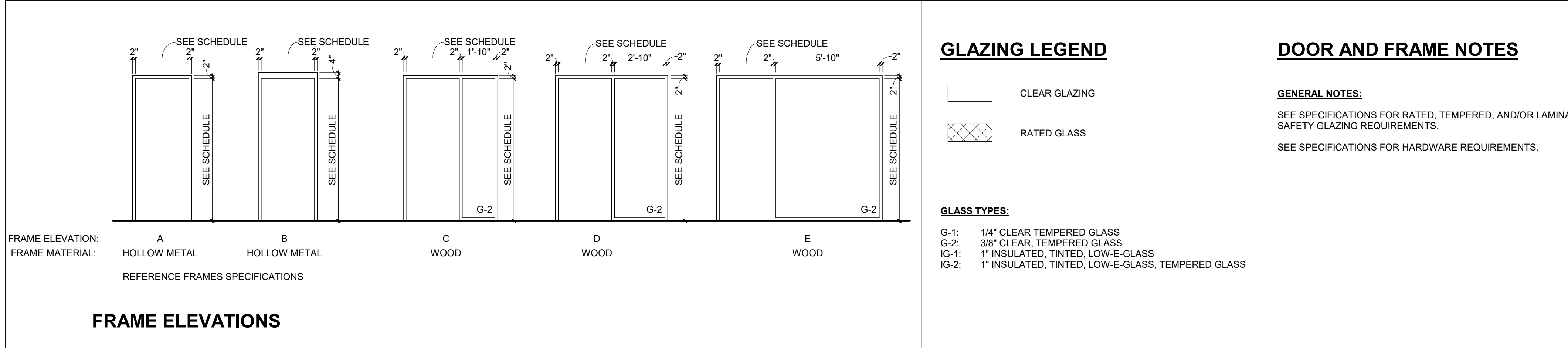
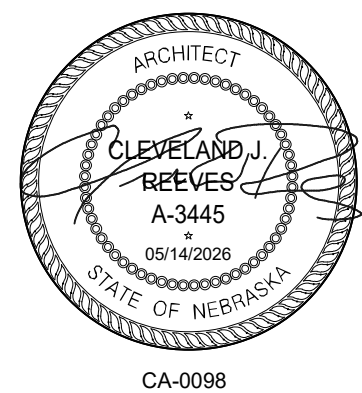
8 SILL DETAIL AT ALUM FRAME - TYPICAL  
1 1/2" = 1'-0"



4 BOOK NOOK - BASE  
1 1/2" = 1'-0"



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9  
6  
3  
0  
3  
12  
INCH  
SCALE 3" = 1'-0"

12  
0  
1-1/2" = 1'-0"  
12  
SCALE 1-1/2" = 1'-0"

3  
2  
1  
0  
3/4" = 1'-0"  
1  
SCALE 3/4" = 1'-0"

5  
4  
3  
2  
1  
0  
1/2" = 1'-0"  
1  
SCALE 1/2" = 1'-0"

10  
8  
6  
4  
2  
0  
1/4" = 1'-0"  
2  
SCALE 1/4" = 1'-0"

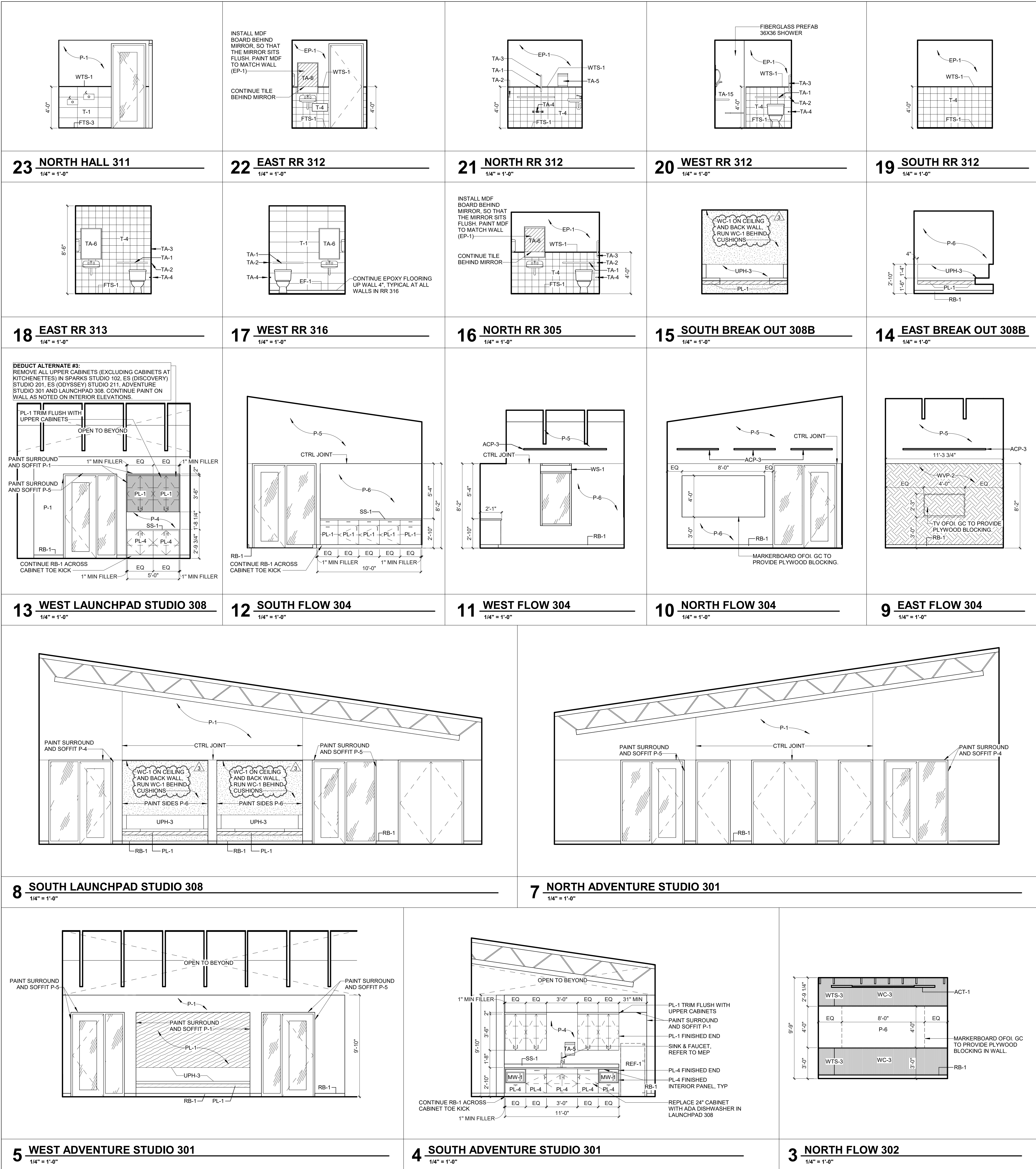
20  
15  
10  
5  
0  
1/8" = 1'-0"  
5  
SCALE 1/8" = 1'-0"

45  
40  
35  
30  
25  
20  
15  
10  
5  
0  
1/16" = 1'-0"  
5  
SCALE 1/16" = 1'-0"

FEET  
SCALE 3/32" = 1'-0"

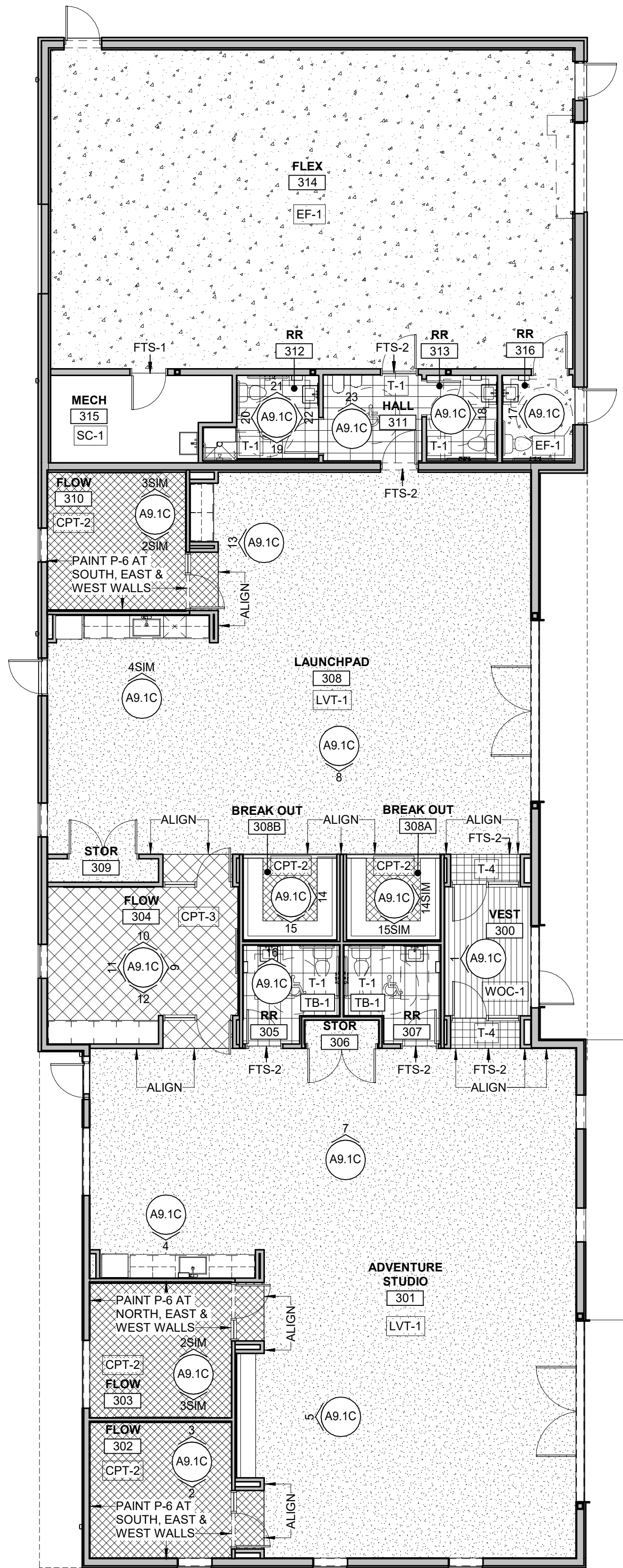
5  
0  
5  
10  
15  
20  
25  
30  
35  
40  
45  
1/32" = 1'-0"  
5  
SCALE 1/32" = 1'-0"

FEET  
SCALE 1/64" = 1'-0"



FINISHES LEGEND

- CPT-1
- CPT-2
- CPT-3
- WOC-1
- LVT-1
- LVT-2
- T-1
- T-2
- T-3
- T-4
- EF-1
- SC-1



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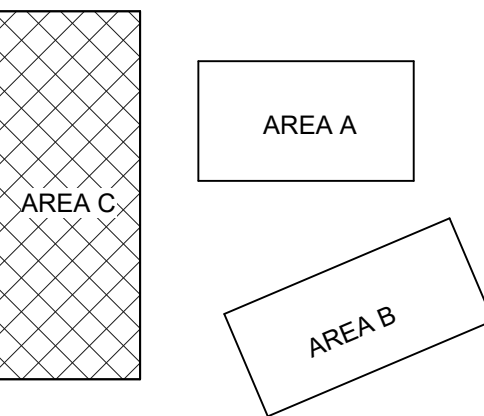
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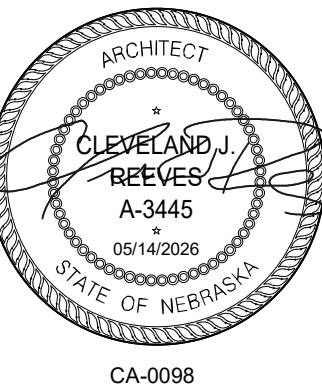
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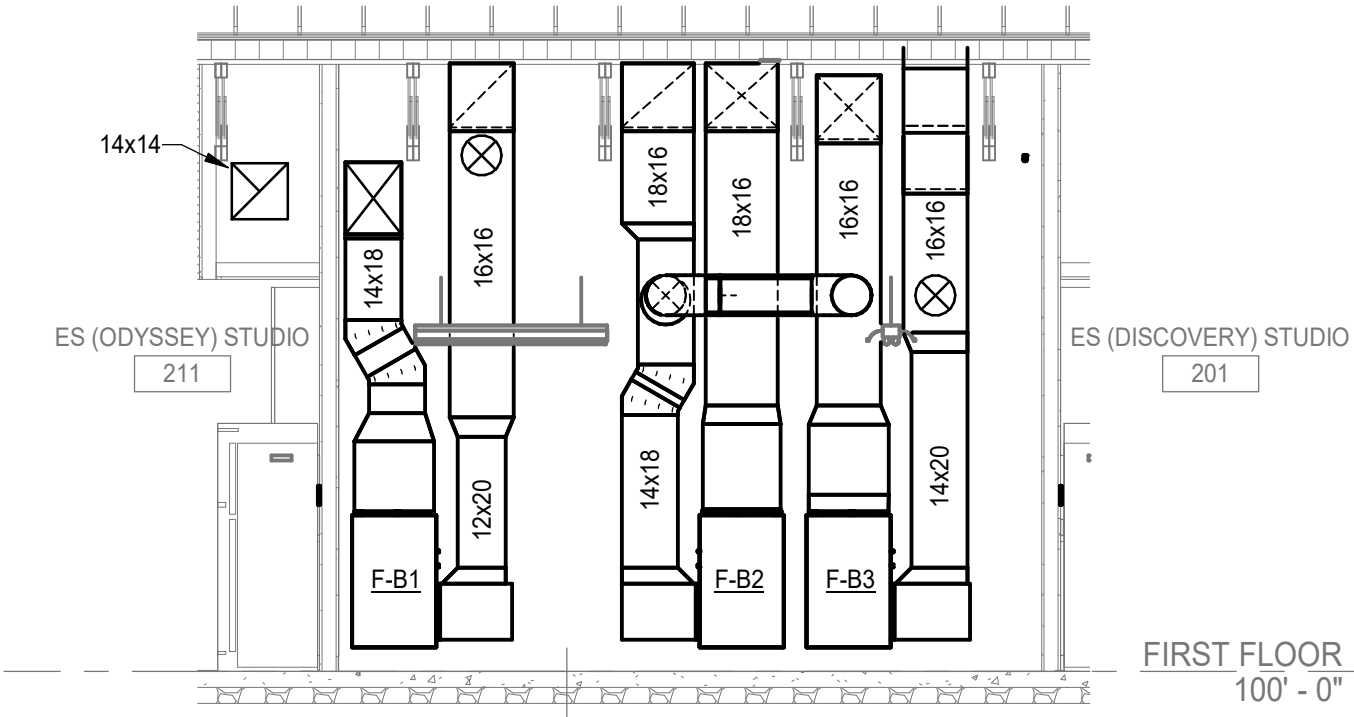
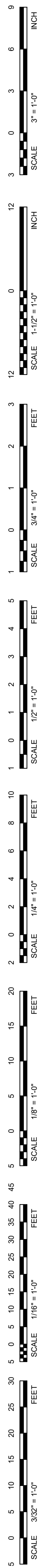
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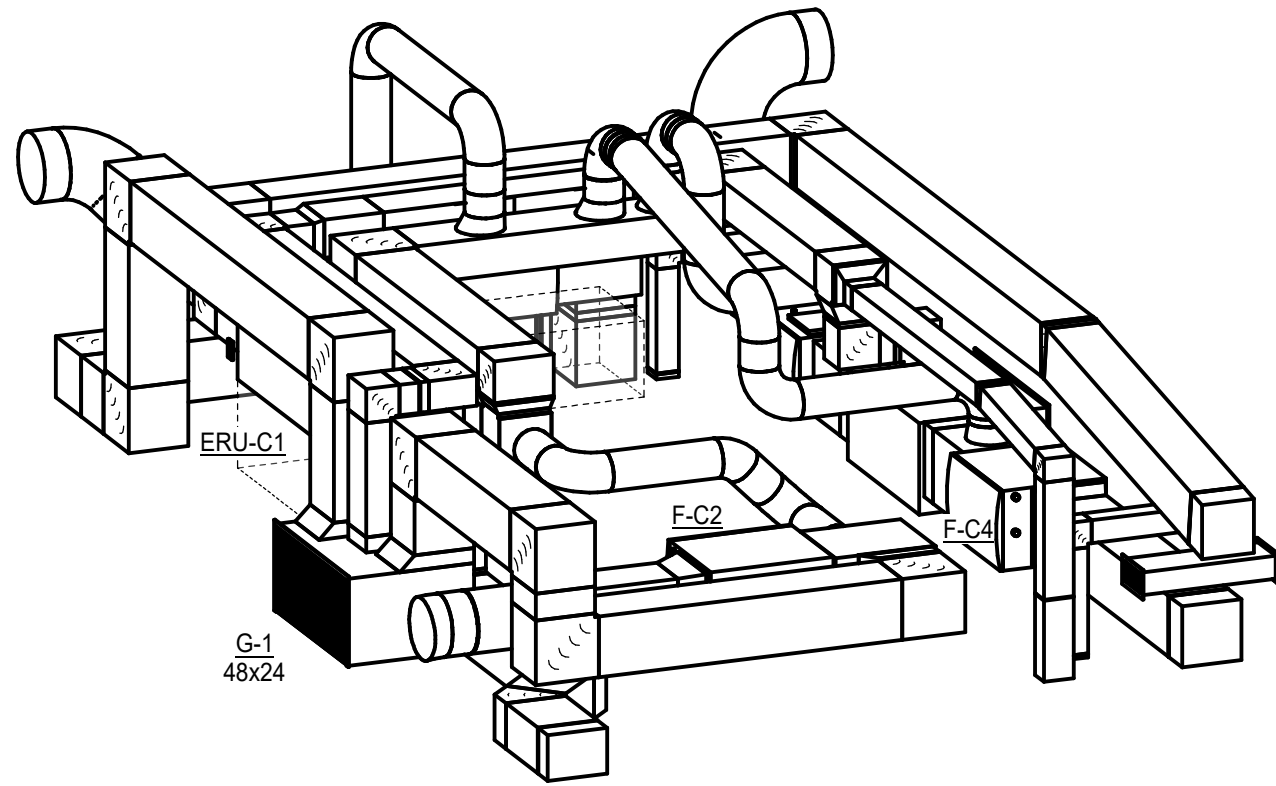
BUILDING C FINISH  
PLAN, INTERIOR  
ELEVATIONS

NORTH  
1  
A9.1C

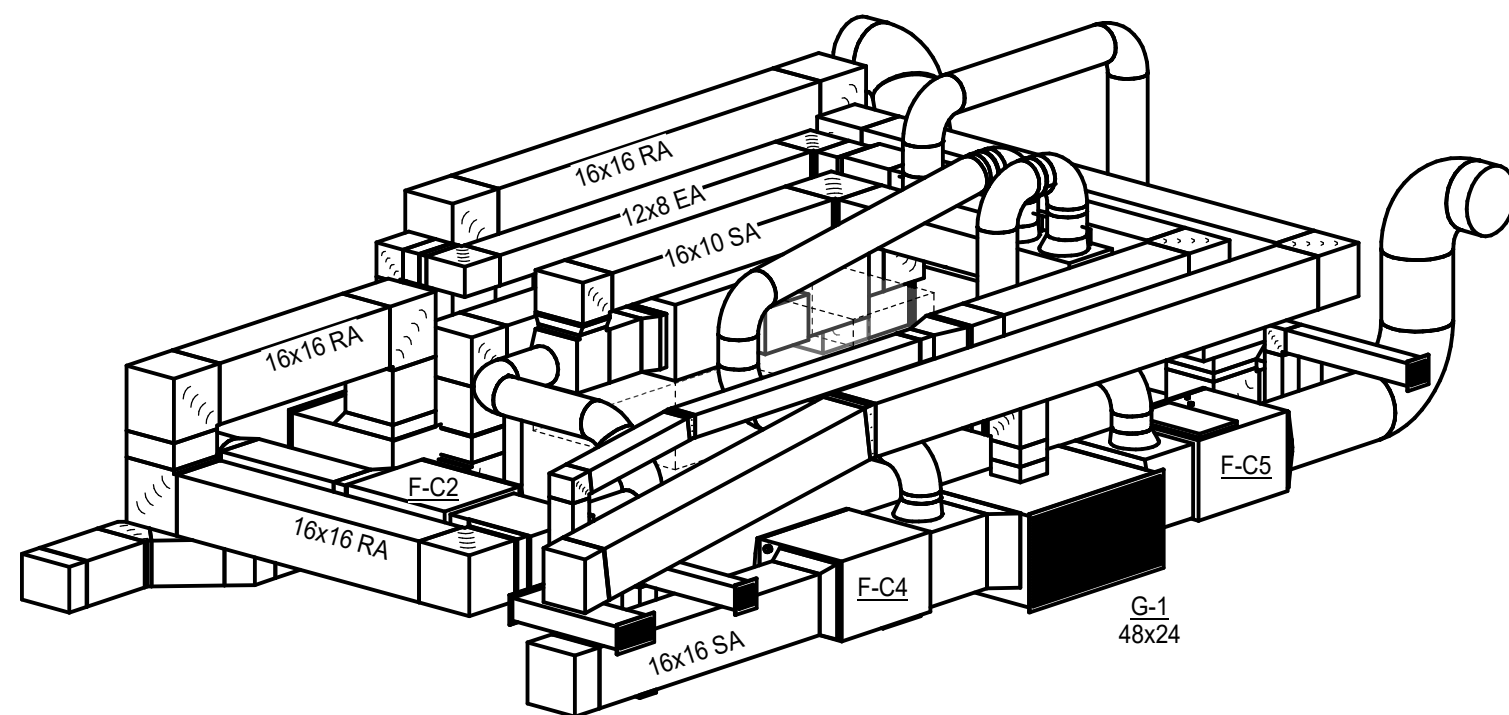




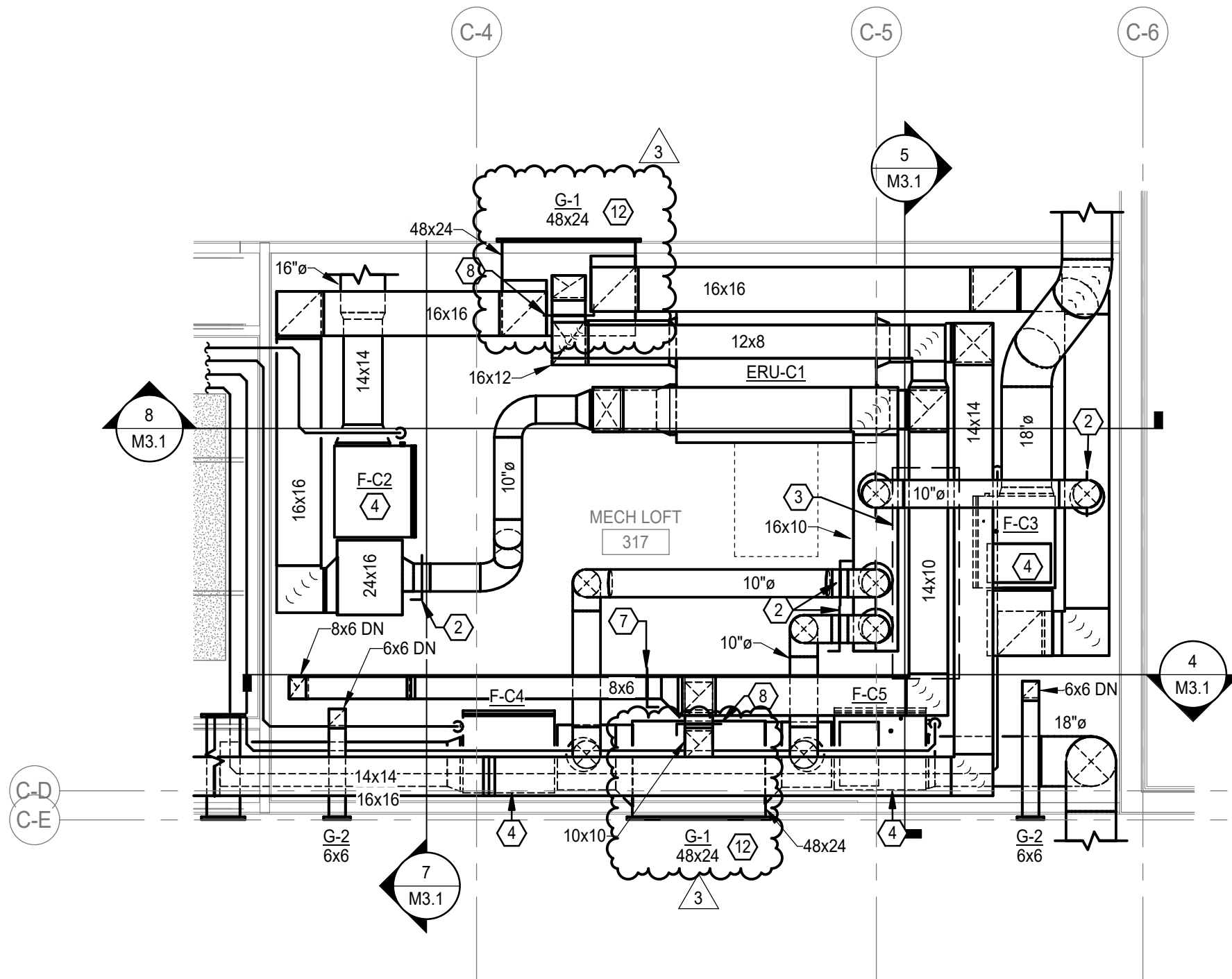
15 SECTION OF MECH 214 LOOKING NORTH  
1/4" = 1'-0"



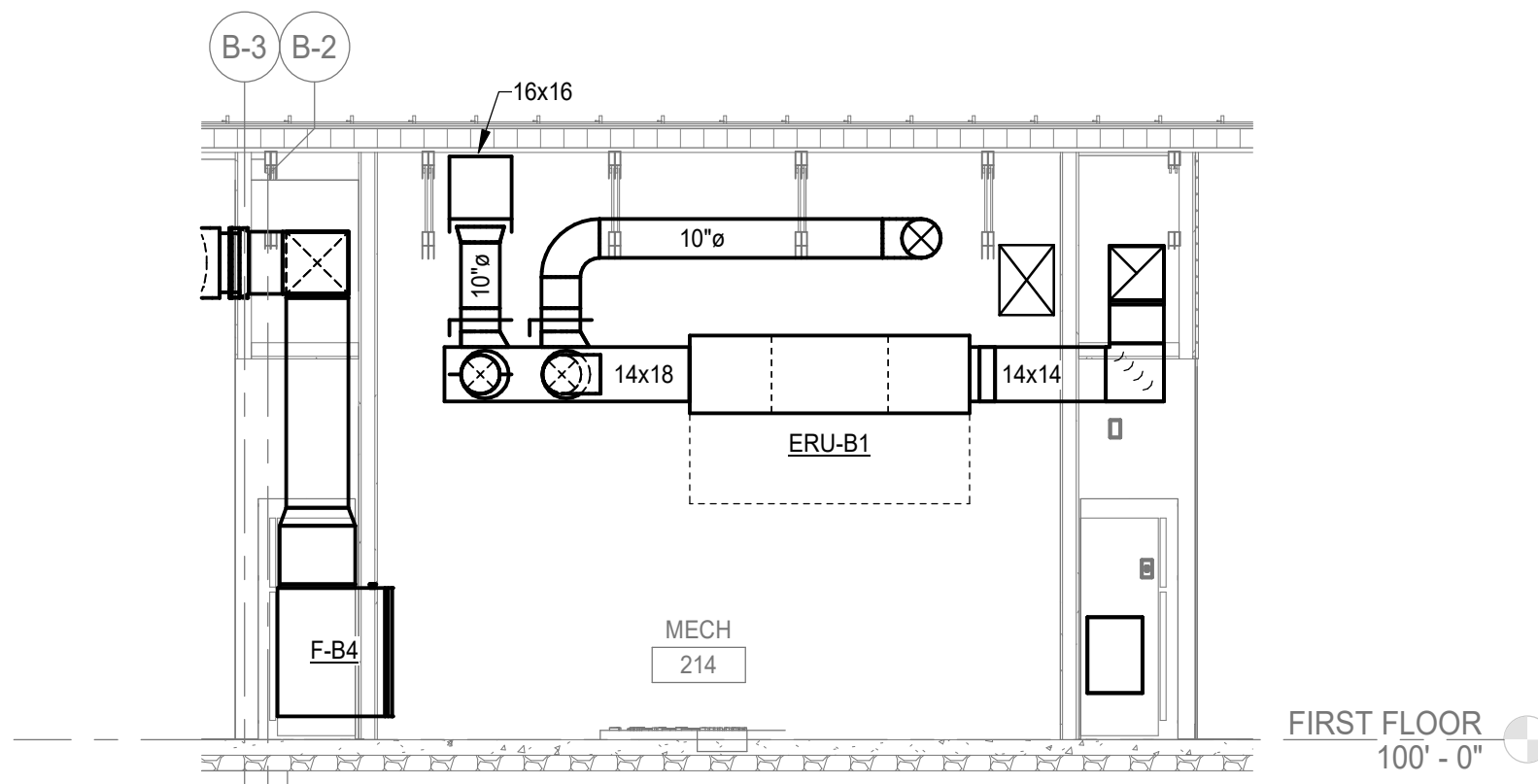
9 MECH LOFT 317 ISO 1  
NO SCALE



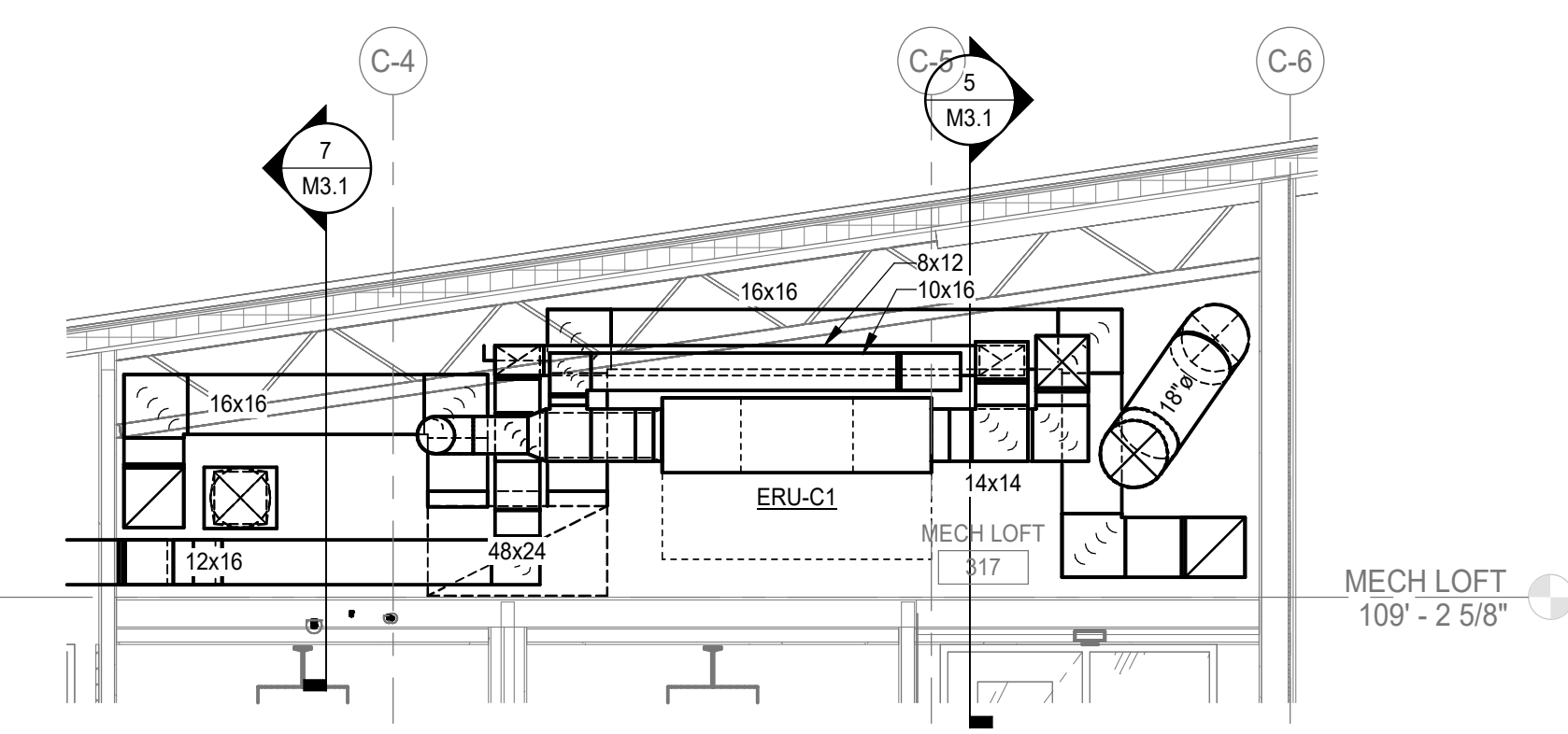
6 MECH LOFT 317 ISO 2  
NO SCALE



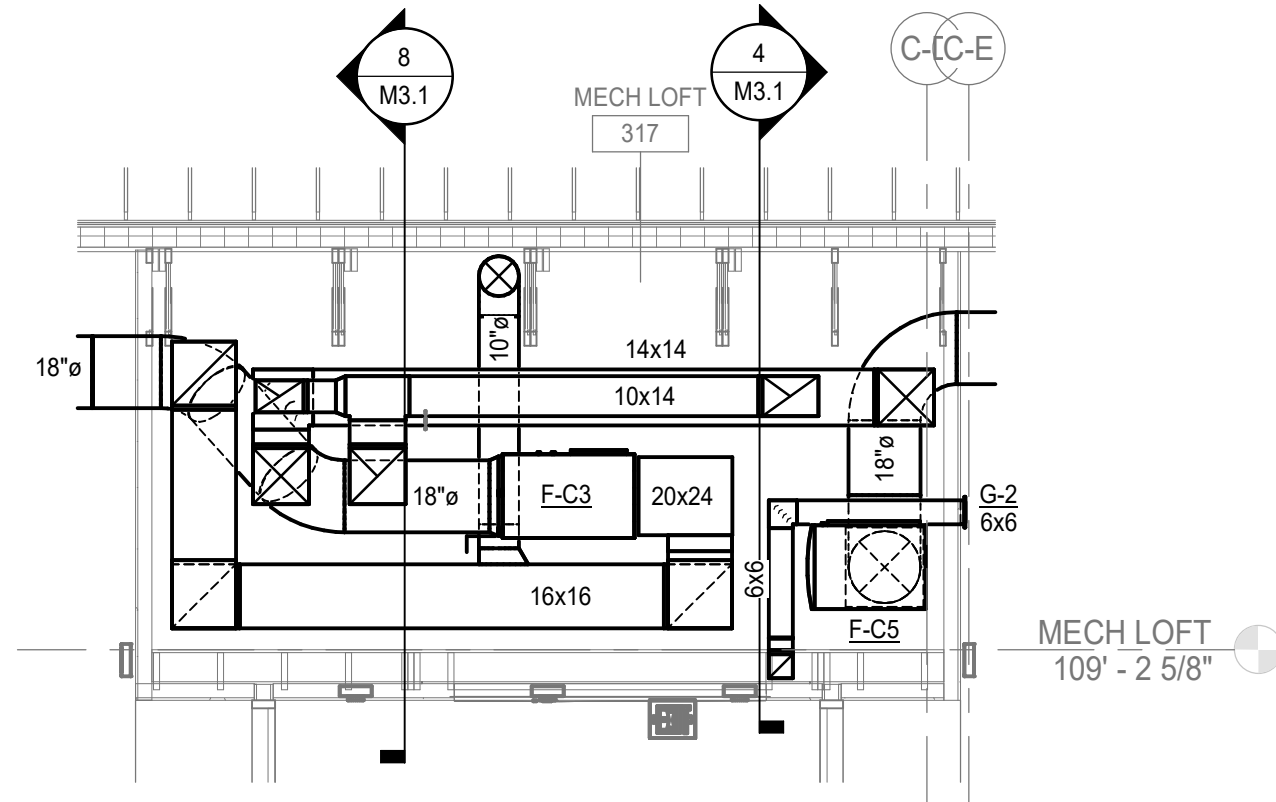
3 ENLARGED HVAC PLAN - MECH LOFT 317  
1/4" = 1'-0"



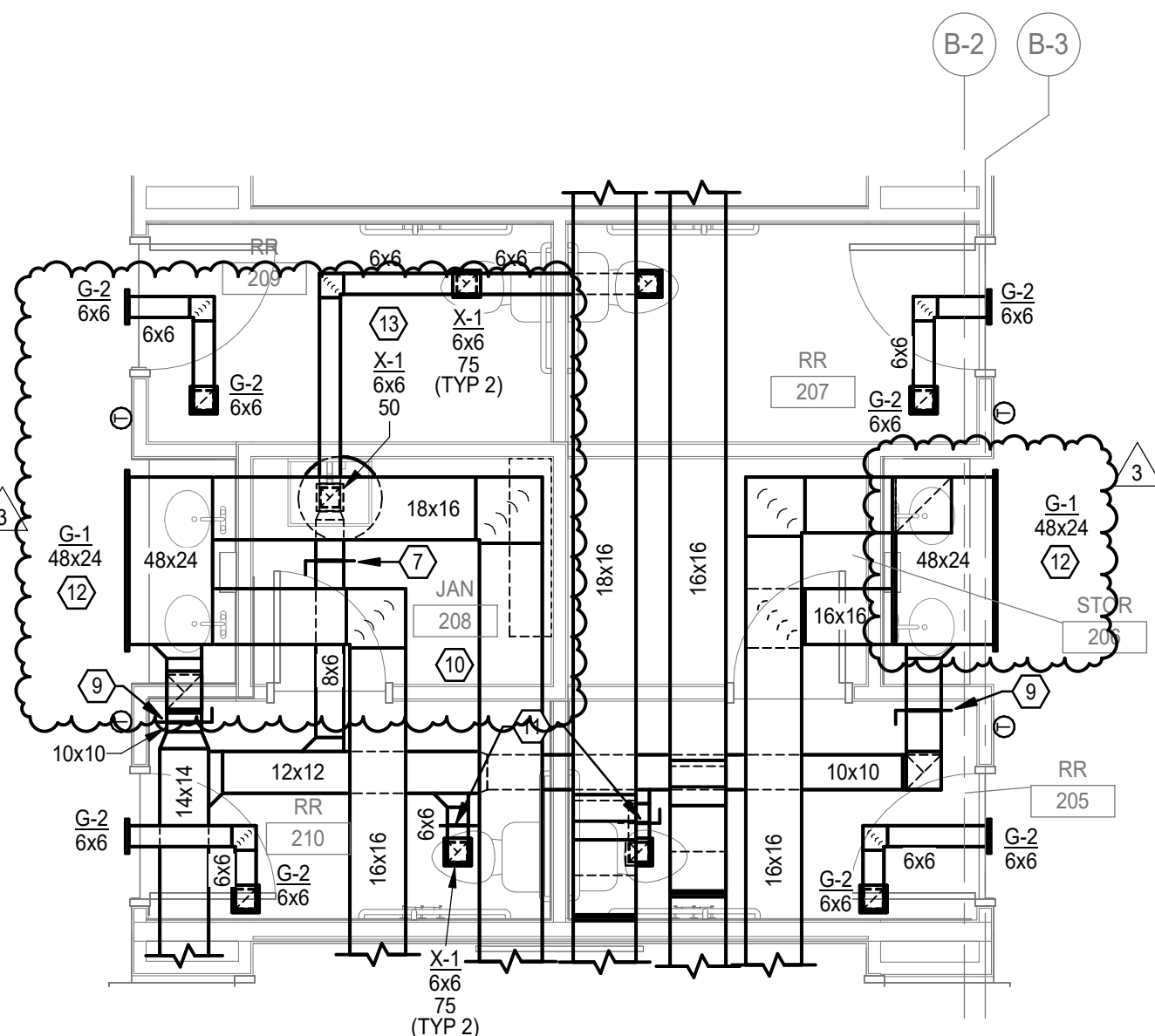
11 SECTION OF MECH 214 LOOKING SOUTH  
1/4" = 1'-0"



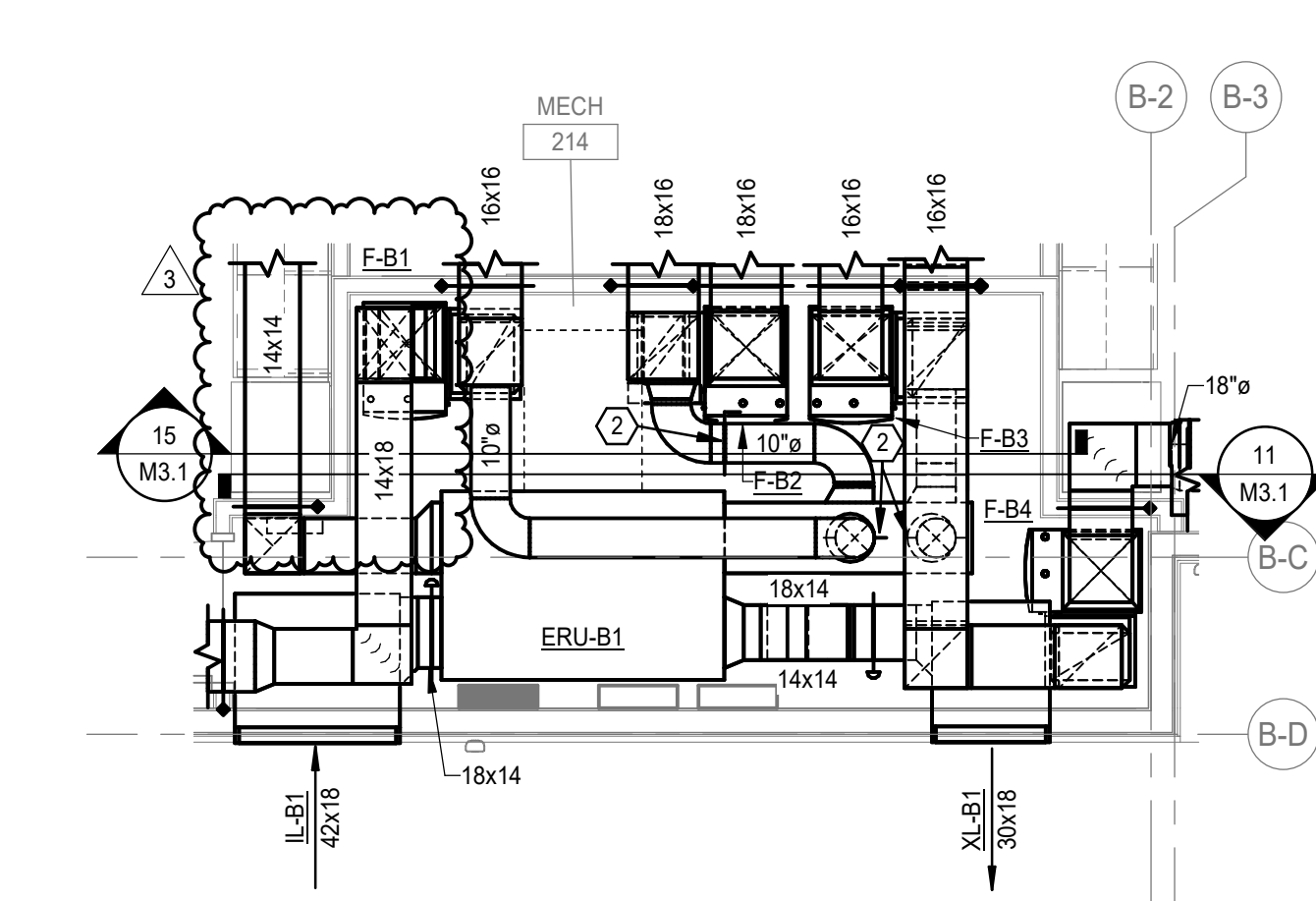
8 SECTION OF MECH LOFT 317 LOOKING NORTH  
1/4" = 1'-0"



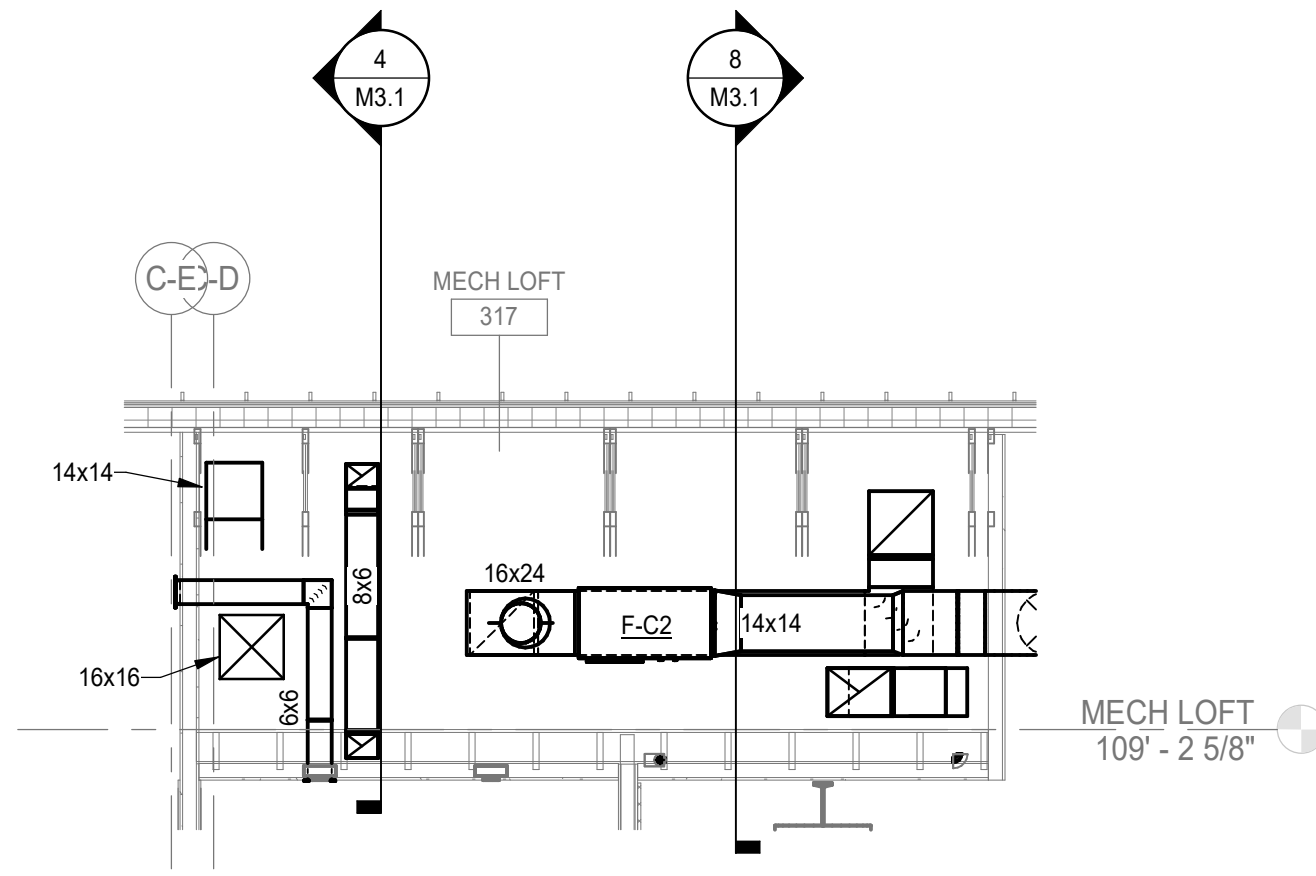
5 SECTION OF MECH LOFT 317 LOOKING EAST  
1/4" = 1'-0"



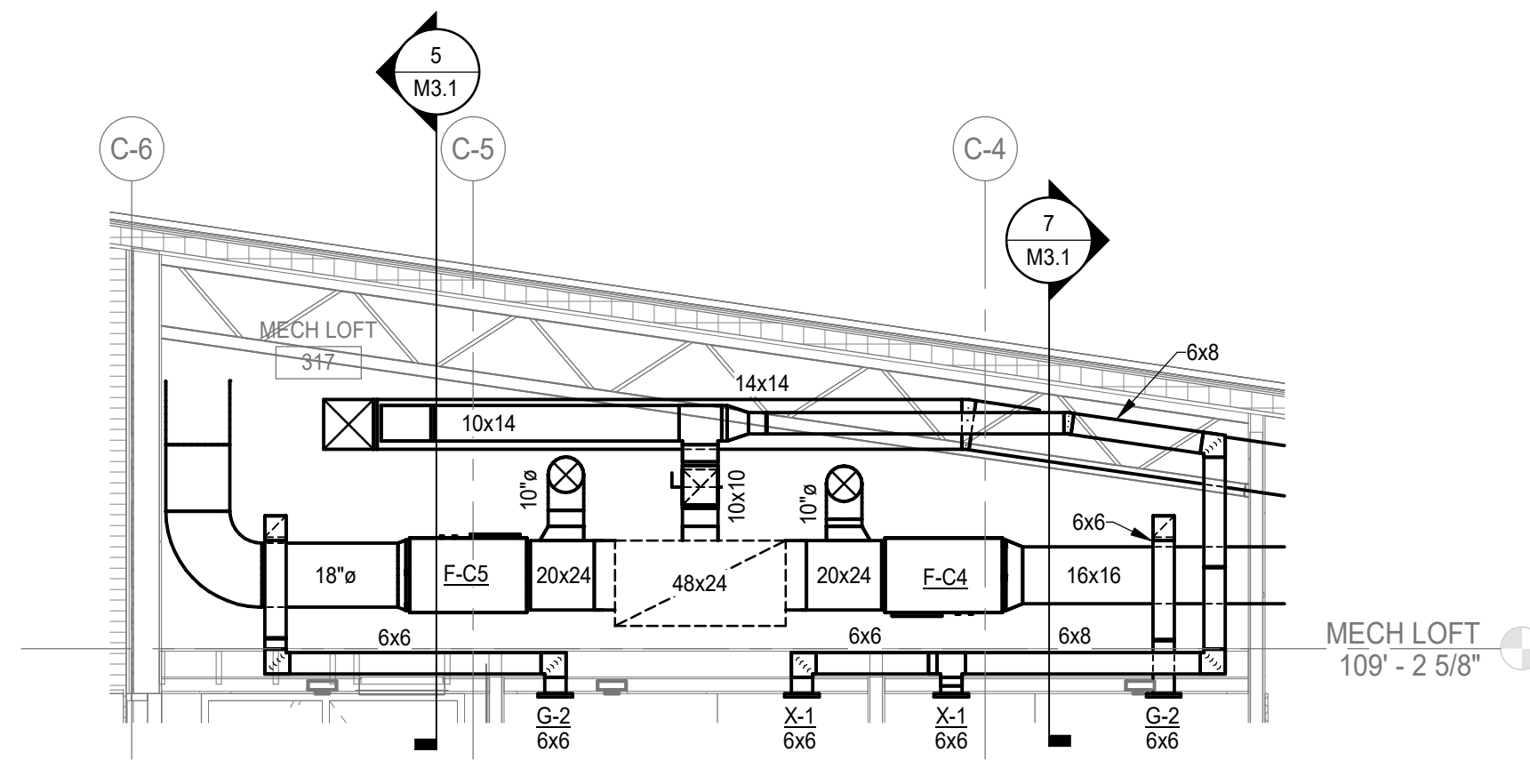
2 ENLARGED HVAC PLAN - RESTROOMS BUILDING B  
1/4" = 1'-0"



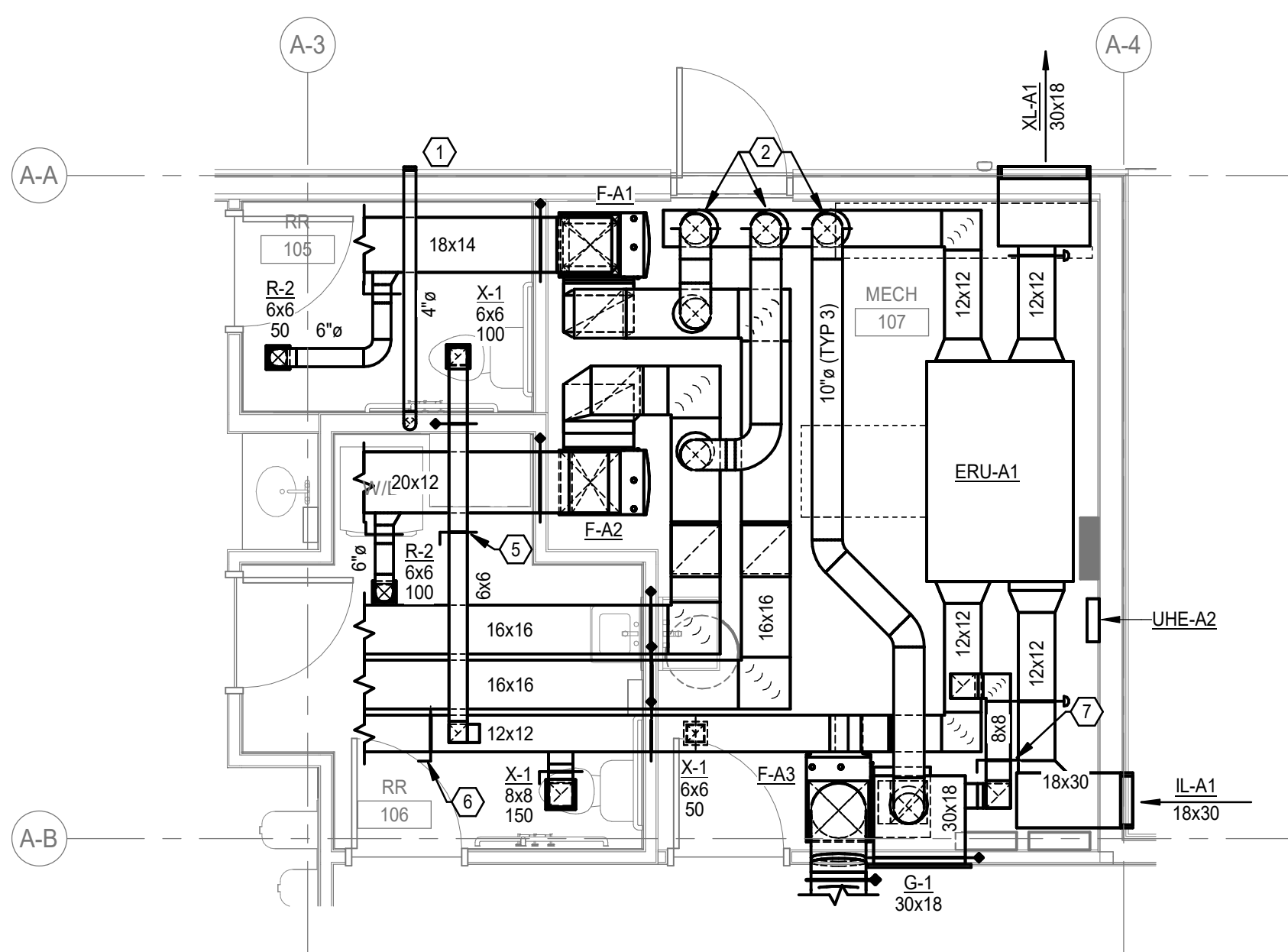
10 ENLARGED HVAC PLAN - MECH 214  
1/4" = 1'-0"



7 SECTION OF MECH LOFT 317 LOOKING WEST  
1/4" = 1'-0"



4 SECTION OF MECH LOFT 317 LOOKING SOUTH  
1/4" = 1'-0"



1 ENLARGED HVAC PLAN - MECH 107  
1/4" = 1'-0"

## GENERAL SHEET NOTES

- DO NOT ROUTE ITEMS OVER ELECTRICAL PANELS. PROVIDE 3'-6" CLEARANCE IN FRONT OF ELECTRICAL PANELS AND DEVICES FROM FLOOR TO 6'-6" TOP OF PANEL AS PER CODE REQUIREMENTS.
- DRAWINGS ARE DIAGRAMMATIC IN NATURE AND DO NOT NECESSARILY SHOW ALL OFFSETS REQUIRED FOR A COMPLETE SYSTEM.
- UNLESS NOTED OTHERWISE, ALL DUCTWORK SHALL BE RUN AS HIGH AS POSSIBLE, TIGHT TO STRUCTURE WHERE FEASIBLE. RUN DUCTS UP IN JOIST SPACE WHERE INDICATED AND AS REQUIRED. COORDINATE WITH ELECTRICAL, FIRE PROTECTION, AND PLUMBING CONTRACTORS PRIOR TO INSTALLATION. DAMPERS AND OTHER MAINTENANCE ITEMS SHALL NOT BE INSTALLED HIGHER THAN 2 FEET ABOVE CEILINGS.
- LOCATE EQUIPMENT TO ALLOW ACCESS FOR ADJUSTMENT AND SERVICING. REFER TO INSTALLATION MANUALS UNLESS OTHERWISE SPECIFICALLY SHOWN ON THESE DRAWINGS. LOCATE HANGING EQUIPMENT WITHIN THE SPACE SO THAT MAINTENANCE AREA AROUND AND ACCESS AREA BELOW IS FREE OF OBSTRUCTIONS INCLUDING PIPING, DUCTWORK, CONDUIT OR OTHER BUILDING ELEMENTS.
- ROUTE ALL DUCTWORK IN MECHANICAL ROOMS TO PROVIDE A MINIMUM OF 6'-8" CLEARANCE FROM BOTTOM OF DUCT, PIPE, INSULATION, OR HANGERS TO FINISHED FLOOR.
- DASHED LINES AROUND EQUIPMENT INDICATE MINIMUM REQUIRED SERVICE CLEARANCES. DO NOT INSTALL HVAC, PIPING, AND ELECTRICAL ITEMS IN THESE AREAS.
- ALL DUCT FITTINGS WHERE TURN IS GREATER THAN 90-DEGREES SHALL BE PROVIDED WITH TURNING VANES EXCEPT TRANSFER AIR DUCTS, UNLESS NOTED OTHERWISE.
- ALL SUPPLY AIR DEVICES SHALL BE INSTALLED WITH MANUAL BALANCING DAMPERS. DAMPER SHALL BE FITTED WITH QUADRANT CONTROL WITH STANDOFF TO EXTEND THRU INSULATION. DAMPERS SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS.
- NEW THERMOSTATS AND SENSORS SHALL BE LOCATED ON WALL NEAR LOCATION SHOWN. LOCATE ON WALL WITH CENTER AT 3'-8" ABOVE FINISH FLOOR, MATCHING LIGHT FIXTURE SWITCH HEIGHT, UNLESS NOTED OTHERWISE.
- ALL CEILING DIFFUSERS SHALL HAVE A MINIMUM 2'-0" LENGTH OF FLEXIBLE DUCT FOR SOUND DAMPENING. DO NOT USE FLEX DUCT TO CHANGE DIRECTION.
- KEEP ALL DUCT OPENINGS AND AIR DEVICES COVERED AIR-TIGHT UNTIL ALL DUST CREATING ACTIVITY HAS BEEN FINISHED AND EQUIPMENT IS READY FOR START-UP.
- DUCTWORK TO DIFFUSER SHALL MATCH DIFFUSER NECK SIZE UNLESS NOTED OTHERWISE.
- ERV TO BE OPERATED BY A TIME CLOCK PER BUILDING. THE ERV WILL ONLY BE IN OPERATION WHEN OCCUPIED. WHEN UN-OCCUPIED, ERV SHALL SHUT OFF AND MOTORIZED DAMPERS TO BE CLOSED.
- FURNACE FANS SHALL RUN ALL THE TIME WHEN THE BUILDING IS OCCUPIED. FAN SHALL BE TURNED TO AUTO WHEN BUILDING IS UN-OCCUPIED.
- COORDINATE ROOF PENETRATIONS WITH ROOFING CONTRACTOR.
- ALL EXPOSED ROUND DUCTWORK SHALL BE SPIRAL, DOUBLE WALL DUCT WITH 1 INCH INSULATION AND PAINT GRIP FINISH. ALL EXPOSED DUCTWORK IN AREAS WITHOUT CEILINGS TO BE PAINTED, SEE ARCHITECTURAL SPECIFICATIONS.

## SHEET KEYNOTES

- PROVIDE DRYER BOX MODEL 425 IN STUD WALL FOR DRYER VENT CONNECTION. INSTALL #10 DRYER VENT THROUGH STUD WALL AND TERMINATE WITH TYPE S METAL DRYER VENT CAP WITH INTEGRAL BACKDRAFT DAMPER AND BIRDSCREEN.
- PROVIDE VOLUME DAMPER AND BALANCE TO CFM SPECIFIED IN FURNACES (GAS) SCHEDULE.
- DASHED LINE INDICATES HATCH TO ACCESS MECH LOFT. ALL DUCTWORK AND PIPING BEING INSTALLED ABOVE THE HATCH SHALL BE INSTALLED AS HIGH AS POSSIBLE, AT LEAST 4'-0" OF HEAD ROOM MUST BE MAINTAINED ABOVE THE HATCH TO ALLOW REMOVAL OF EQUIPMENT.
- PROVIDE PVC PIPING FOR FURNACE FLUE AND COMBUSTION AIR THRU ROOF. SIZE AND INSTALL PER MANUFACTURER'S RECOMMENDATIONS. KEEP AT LEAST 10' AWAY FROM ANY OUTDOOR AIR INTAKES.
- PROVIDE ELECTRONIC PULSE DAMPER AND BALANCE TO 150 CFM.
- PROVIDE ELECTRONIC PULSE DAMPER AND BALANCE TO 400 CFM.
- BALANCE VOLUME DAMPER TO 200 CFM.
- BALANCE VOLUME DAMPER TO 450 CFM.
- PROVIDE ELECTRONIC PULSE DAMPER AND BALANCE TO 375 CFM.
- PROVIDE REMOTE DAMPER WALL BOXES AS REQUIRED. MOUNT TO WALL AND PROVIDE SUFFICIENT QUANTITY OF WALL BOXES AS REQUIRED FOR NUMBER OF REMOTE DAMPERS.
- PROVIDE REMOTE DAMPER WALL BOXES AS REQUIRED. MOUNT TO WALL AND PROVIDE SUFFICIENT QUANTITY OF WALL BOXES AS REQUIRED FOR NUMBER OF REMOTE DAMPERS.
- ELECTRICAL TO PROVIDE SMOKE DETECTOR IN COMMON RETURN.
- PROVIDE RADIATION DAMPER AT EXHAUST GRILLE.

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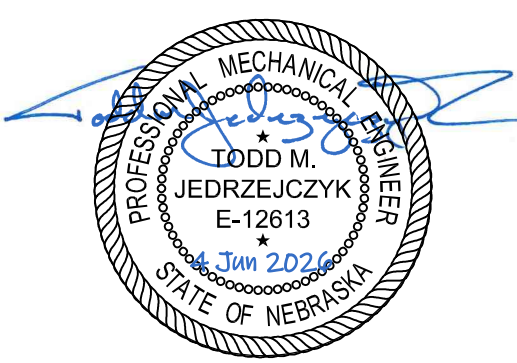
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|--------------------|-----------|-------------|
| MARK               | DATE      | DESCRIPTION |
| 2                  | 5/28/2026 | Addendum 2  |
| 3                  | 6/04/2026 | Addendum 3  |

ACTON ACADEMY  
LINCOLN

6701 S FOLSOM ST  
LINCOLN, NE 68523

PROJECT: 25026 DATE: 09/14/2026  
PROJECT STATUS: CONSTRUCTION DOCUMENTS



OLSSON PROJECT # 028-00288  
OLSSON COME, CA-0638

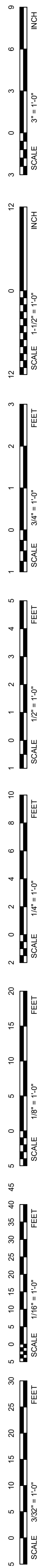
ENLARGED PLANS

NORTH



# M3.1





PLUMBING FIXTURE SCHEDULE

| MARK  | TYPE                                       | MANUFACTURER      | MODEL                    | DESCRIPTION  | ACCESSORIES  | CONNECTIONS              |        |         |      |
|-------|--|-------------------|--------------------------|--|--|--------------------------|--------|---------|------|
|       |  |                   |                          |  |  | WASTE                    | VENT   | OW      | HW   |
| WC-1  | WATER CLOSET FLOOR MOUNTED FLUSH TANK      | KOHLER            | "HIGHLINE" K-43999       | ELONGATED, VITREOUS CHINA BOWL WITH REVOLUTION 360 AND AQUAPISTON FLUSH ASSIST, FLOOR MOUNTED, ADA COMPLIANT, 1/20 GPF.  | INCLUDE BOLT CAPS MATCHING FIXTURE, CHROME PLATED SUPPLY WITH STOP VALVE AND ESCUTCHEON, AND KOHLER "CACHET" K-4638-RL, ELONGATED SEAT WITH LID, LOCATE FLUSH LEVER ON OPEN SIDE OF FIXTURE. REFER TO PLANS PRIOR TO ORDERING.   | 4"                       | 2"     | 1/2"    | -    |
| CL-1  | LAVATORY UNDERMOUNT ADA                    | AMERICAN STANDARD | "STUDIO" 0614            | WHITE, VITREOUS CHINA, FRONT OVERFLOW, RECTANGULAR BOWL WITH MOUNTING KIT, 21"x14" BOWL DIMENSION, ADA COMPLIANT.  | PROVIDE CHROME-PLATED COPPER SUPPLIES WITH QUARTER TURN STOPS, 1-1/4" CHROME-PLATED CAST-BRASS TRAP WITH CLEANOUT, AND WALL ESCUTCHEONS. KRAUS FUS-14102 FAUCET, ADA-COMPLIANT, BRUSHED BRASS FINISH, METAL CONSTRUCTION, DUAL LEVER HANDLES, 0.5 GPM AERATOR, AND POP-UP DRAIN WITH OVERFLOW CAP. COVER EXPOSED WASTE AND WATER PIPING WITH TRUEBRO LAVGUARD-2 INSULATION KIT OR EQUAL.   | 1-1/2"                   | 1-1/4" | 1/2"    | 1/2" |
| L-1   | LAVATORY WALL HUNG ADA                     | AMERICAN STANDARD | "DECORUM" 9024           | WHITE, VITREOUS CHINA, REAR OVERFLOW, RECTANGULAR BOWL, FAUCET HOLES ON 4" CENTERS, FAUCET LEDGE AND SELF-DRAINING DECK AREA, ADA MOUNTING HEIGHT.   | PROVIDE WITH FLOOR-MOUNTED CONCEALED ARM CARRIER, CHROME-PLATED COPPER SUPPLIES WITH QUARTER TURN STOPS, 1-1/4" CHROME-PLATED CAST-BRASS TRAP WITH CLEANOUT, AND WALL ESCUTCHEONS. KRAUS FUS-14102 FAUCET, ADA-COMPLIANT, BRUSHED BRASS FINISH, METAL CONSTRUCTION, DUAL LEVER HANDLES, 0.5 GPM AERATOR, AND POP-UP DRAIN WITH OVERFLOW CAP. COVER EXPOSED WASTE AND WATER PIPING WITH TRUEBRO LAVGUARD-2 INSULATION KIT OR EQUAL. | 1-1/2"                   | 1-1/4" | 1/2"    | 1/2" |
| S-1   | SINK UNDERMOUNT SINGLE BOWL                | ELKAY             | "CROSSTOWN" ECTRUA031755 | SINGLE BOWL, UNDERMOUNT, 18-GAUGE TYPE 304 STAINLESS STEEL, 31-1/2" x 18-1/2" x 5-1/2" DEEP BOWL WITH 3-1/2" CENTERED DRAIN OPENING.   | PROVIDE CHROME-PLATED COPPER SUPPLIES WITH QUARTER TURN STOPS, 1-1/2" CHROME-PLATED CAST-BRASS TRAP WITH CLEANOUT, DEARBORN 11T DRAIN, AND WALL ESCUTCHEONS. KRAUS KPF-2620 SINGLE HANDLE, 10" H-ARC SWINGING SPOUT WITH PULL DOWN SPRAY, 1.5 GPM, ADA COMPLIANT, BRUSHED BRASS FINISH. INSINKERATOR BADGER S, 1/2 HP DISPOSAL WITH 3-PRONG POWER CORD.  | 2" UP TO 1-1/2" TRAP ARM | 1-1/2" | 1/2"    | 1/2" |
| SH-1  | SHOWER ENCLOSURE COMPLETE WITH ACCESSORIES | AQUATIC           | 1383BFSD                 | 36" x 36" x 75" SHOWER WITH 38-1/8" x 35-3/4" REQUIRED FRAMING DIMENSIONS. ONE-PIECE ACRYLX SHOWER, WHITE, SMOOTH WALL FINISH, TEXTURED BOTTOM, CENTER DRAIN, GRAB BARS, L-SHAPED FOLD-UP SEAT, AND SOAP DISH COVE, ADA COMPLIANT. | PROVIDE WITH 2" ZURN ADJUSTABLE SHOWER DRAIN FD2254 OR EQUAL, AMERICAN STANDARD TUB625G 211 SHOWER SYSTEM KIT CONTAINING DOUBLE CERAMIC PRESSURE BALANCE CARTRIDGE, VALVE TRIM KIT, 3-FUNCTION HAND SHOWER WITH NON-POSITIVE SHUT-OFF, 50" METAL HOSE, VACUUM BREAKER, WALL SUPPLY AND 30" SLIDE-GRAB BAR, 1.5 GPM.  | 2"                       | 2"     | 1/2"    | 1/2" |
| DF-1  | DRINKING FOUNTAIN, TWO STATION ADA         | ELKAY             | EDFP217C                 | B-I-LEVEL, TWO STATION, WALL MOUNTED DRINKING FOUNTAIN, 18 GAUGE, TYPE 304, STAINLESS STEEL CONSTRUCTION, FRONT PUSH BUTTON OPERATION, VANDAL RESISTANT BUBBLER HEAD, WASTE STRAINER, BOTTOM COVER PLATE.                          | PROVIDE CHROME-PLATED COPPER SUPPLY WITH QUARTER TURN STOP, 1-1/4" CHROME-PLATED CAST-BRASS TRAP WITH CLEANOUT, AND WALL ESCUTCHEONS.  | 1-1/2"                   | 1-1/4" | (2)1/2" | -    |
| DF-2  | DRINKING FOUNTAIN, SINGLE STATION ADA      | ELKAY             | EDFP214C                 | SINGLE STATION, WALL MOUNTED DRINKING FOUNTAIN, 18 GAUGE, TYPE 304, STAINLESS STEEL CONSTRUCTION, FRONT PUSH BUTTON OPERATION, VANDAL RESISTANT BUBBLER HEAD, WASTE STRAINER, BOTTOM COVER PLATE, MOUNTED AT ADA HEIGHT.           | PROVIDE CHROME-PLATED COPPER SUPPLY WITH QUARTER TURN STOP, 1-1/4" CHROME-PLATED CAST-BRASS TRAP WITH CLEANOUT, AND WALL ESCUTCHEONS.  | 1-1/2"                   | 1-1/4" | 1/2"    | -    |
| DF-3  | DRINKING FOUNTAIN, SINGLE STATION          | ELKAY             | EDFP210C                 | SINGLE STATION, WALL MOUNTED DRINKING FOUNTAIN, 18 GAUGE, TYPE 304, STAINLESS STEEL CONSTRUCTION, FRONT PUSH BUTTON OPERATION, VANDAL RESISTANT BUBBLER HEAD, WASTE STRAINER, BOTTOM COVER PLATE.                                  | PROVIDE CHROME-PLATED COPPER SUPPLY WITH QUARTER TURN STOP, 1-1/4" CHROME-PLATED CAST-BRASS TRAP WITH CLEANOUT, AND WALL ESCUTCHEONS.  | 1-1/2"                   | 1-1/4" | 1/2"    | -    |
| US-1  | UTILITY SINK                               | MUSTEE            | 15CF UTILATUB            | FLOOR MOUNTED, 20"x24"x34" HIGH, 13" DEEP POLYPROPYLENE LAUNDRY TUB, WITH STEEL ANGLE LEGS.  | PROVIDE CHROME-PLATED COPPER SUPPLIES AND STOP VALVES. PROVIDE WITH CHROME-PLATED CAST-BRASS TRAP WITH CLEANOUT, 0.045" THICK TUBULAR BRASS. WASTE TO WALL AND WALL ESCUTCHEONS. INCLUDE OPTIONAL DECK MOUNTED, DUAL HANDLE FAUCET WITH 6" SWING SPOUT, AERATOR AND HOSE ADAPTOR.  | 2" UP TO 1-1/2" TRAP ARM | 1-1/2" | 1/2"    | 1/2" |
| CWB-1 | CLOTHES WASHER RECESSED OUTLET BOX         | GUY GRAY          | MWB26                    | RECESSED CLOTHES WASHER BOX, CENTER DRAIN OPENING, WHITE POWDER COATED STEEL, TOP MOUNTED QUARTER TURN BRASS SUPPLY VALVES WITH WATER HAMMER ARRESTORS, INCLUDE SUPPORT BRACKETS.  | -  | 2"                       | 1-1/2" | 1/2"    | 1/2" |
| WH-1  | CONCEALED FREEZELESS WALL HYDRANT          | WOODFORD          | B67                      | FREEZELESS, AUTOMATIC DRAINING, WITH HOSE CONNECTION DOUBLE CHECK BACKFLOW PROTECTION, CHROME FINISH, HOSE THREADED SPOUT, AND REMOVABLE KEY, ENCLOSED IN A FLUSH MOUNTED WALL BOX.  | PROVIDE WITH SPARE KEY FOR EACH HYDRANT PROVIDED.  | -                        | -      | 3/4"    | -    |
| FD-1  | ROUND FLOOR DRAIN                          | ZURN              | Z415B                    | CAST IRON TWO PIECE BODY WITH DOUBLE DRAINAGE FLANGE, WEEP HOLES, REVERSIBLE CLAMPING COLLAR, PORCELAIN ENAMEL INTERIOR AND TOP, COMPLETE WITH WHITE ABS ANTI-SPLASH INTERIOR BOTTOM DOME STRAINER.                                | DIMENSIONS OF TOP STRAINER: 2" OUTLET WITH A 5" STRAINER, 3" OR 4" OUTLET WITH 8" STRAINER, 6" OUTLET WITH A 10" STRAINER. PROVIDE A GASKETED TRAP SEALER IN NECK OF FLOOR DRAIN BY SURE-SEAL OR EQUAL.  | 2"                       | 2"     | -       | -    |
| FS-1  | SQUARE FLOOR SINK                          | ZURN              | Z1901                    | ADJUSTABLE FLOOR CLEANOUT, DURA-COATED CAST IRON BODY, WITH GAS AND WATERTIGHT ABS TAPERED THREAD PLUG, AND SQUARE TOP WITH ROUND SCORATED SECURED HEAVY DUTY TOP, ADJUSTABLE TO FINISH FLOOR.                                     | PROVIDE WITH 1/2 GRATE.  | 2"                       | 2"     | -       | -    |
| ECO   | EXTERIOR CLEANOUT                          | ZURN              | Z1400-HD                 | CAST IRON BODY, WITH GAS AND WATER-TIGHT ABS TAPERED THREAD PLUG, AND ROUND POLISHED BRONZE SCORATED SECURED TOP, ADJUSTABLE TO FINISH FLOOR.  | CLEANOUT SHALL BE THE SAME SIZE AS PIPING UP TO 4" 4" AND LARGER PIPING SHALL BE A 4" CLEANOUT.  | -                        | -      | -       | -    |
| FOO   | FLOOR CLEANOUT                             | ZURN              | Z1400                    | CAST IRON BODY, WITH GAS AND WATER-TIGHT ABS TAPERED THREAD PLUG, AND ROUND POLISHED BRONZE SCORATED SECURED TOP, ADJUSTABLE TO FINISH FLOOR.  | CLEANOUT SHALL BE THE SAME SIZE AS PIPING UP TO 4" 4" AND LARGER PIPING SHALL BE A 4" CLEANOUT.  | -                        | -      | -       | -    |

REMARKS:  
1. VERIFY ALL CONNECTIONS & MOUNTING HEIGHTS WITH CODES, MANUFACTURERS, AND PLANS.  
2. SIZES LISTED INDICATE MIN. SIZE ONLY. SEE PLUMBING RISERS AND FLOOR PLANS FOR LARGER SIZES.  
3. SEE SPECIFICATIONS FOR LISTS OF ALTERNATIVE MANUFACTURERS.

DOMESTIC WATER HEATERS (ELECTRIC)

| MARK  | LOCATION | STORAGE (GAL) | RECOVERY (GPH) | TEMP RISE (°F) | TEMP SETTING (°F) | VOLTS | PH | ELECTRICAL DATA<br>TOTAL INPUT (KW) | NUMBER OF ELEMENTS | MANUFACTURER | MODEL  | REMARKS |
|-------|----------|---------------|----------------|----------------|-------------------|-------|----|-------------------------------------|--------------------|--------------|--------|---------|
| DWH-1 | MECH 107 | 36            | 21             | 90             | 140               | 240   | 1  | 4.5                                 | 2                  | AO SMITH     | ENL-36 | 1-6     |
| DWH-2 | JAN 208  | 36            | 21             | 90             | 140               | 240   | 1  | 4.5                                 | 2                  | AO SMITH     | ENL-36 | 1-6     |
| DWH-3 | MECH 315 | 51            | 21             | 90             | 140               | 240   | 1  | 4.5                                 | 2                  | AO SMITH     | ENL-50 | 1-6     |

REMARKS:  
1. FURNISHED WITH ANODE ROD, HIGH LIMIT RESET, DRAIN VALVE, AND T&P RELIEF.  
2. INSULATED TANK WITH 150 MAX PSI WORKING PRESSURE.  
3. ELECTRICAL DISCONNECT PROVIDED BY ELECTRICAL CONTRACTOR. SEE ELECTRICAL DRAWINGS.  
4. PROVIDE AMTROL ST-5 EXPANSION TANK.  
5. MIXING VALVE SHALL BE POWERS LPL16400, 0.5 GPM MINIMUM FLOW, 7.6 GPM AT 5 PSI DROP, 11 GPM AT 10 PSI DROP. PROVIDE WITH INTEGRAL CHECKS AND UNION CONNECTION. TRANSITION TO/FROM VALVE SIZE DIRECTLY ADJACENT TO UNIT. SET MIXING VALVE DISCHARGE TO 120°F.  
6. ALTERNATE MANUFACTURERS: STATE, RUUD/HEEM, AND PVI.

PUMPS

| MARK | LOCATION | SERVES     | TYPE   | GPM | HEAD (FT) | EFF% | MOTOR DATA<br>HP VOLTS PH RPM | MANUFACTURER | MODEL | REMARKS |
|------|----------|------------|--------|-----|-----------|------|-------------------------------|--------------|-------|---------|
| P-1  | MECH 107 | BLDG A DHW | INLINE | 0.5 | 8         | -    | 1/40 120 1 3250               | TACO         | 006   | 1-2     |
| P-2  | JAN 208  | BLDG B DHW | INLINE | 0.5 | 7         | -    | 1/40 120 1 3250               | TACO         | 006   | 1-2     |
| P-3  | MECH 315 | BLDG C DHW | INLINE | 1.5 | 12        | -    | 1/20 120 1 3250               | TACO         | 0012  | 1-2     |

REMARKS:  
1. BRONZE OR STAINLESS STEEL CONSTRUCTION SUITABLE FOR POTABLE WATER USAGE.  
2. PROVIDE WITH TIMER AND AQUASTAT. MOUNT ON WALL AT 60" ABOVE FINISH FLOOR NEAR PUMP.

ENERGY RECOVERY VENTILATORS

| MARK   | LOCATION      | SERVES     | OUTSIDE AIR |            |      | EXHAUST AIR |            |      | ELECTRICAL DATA |    | SENSEIBLE EFFECTIVENESS | TOTAL EFF IN WINTER | TOTAL EFF IN SUMMER | MANUFACTURER | MODEL | REMARKS |
|--------|---------------|------------|-------------|------------|------|-------------|------------|------|-----------------|----|-------------------------|---------------------|---------------------|--------------|-------|---------|
|        |               |            | CFM         | ESP IN. WG | HP   | CFM         | ESP IN. WG | HP   | VOLTS           | PH |                         |                     |                     |              |       |         |
| ERV-A1 | MECH 107      | BUILDING A | 990         | 0.5        | FRAC | 900         | 0.5        | FRAC | 240             | 1  | 67.4                    | 62.6                | 56.2                | OXYGEN 8     | B20N  | 1-5     |
| ERV-B1 | MECH 214      | BUILDING B | 1260        | 0.5        | FRAC | 1100        | 0.5        | FRAC | 240             | 1  | 64.1                    | 61.3                | 54.2                | OXYGEN 8     | B20N  | 1-5     |
| ERV-C1 | MECH LOFT 317 | BUILDING C | 1260        | 0.5        | FRAC | 1100        | 0.5        | FRAC | 240             | 1  | 60.0                    | 57.4                | 50.5                | OXYGEN 8     | B20N  | 1-5     |

REMARKS:  
1. SINGLE POINT POWER CONNECTION WITH NON-FUSED DISCONNECT SWITCH.  
2. AIR CONDITIONS FOR ENERGY RECOVERY:  
SUMMER OA CONDITIONS (°F): 93.2 DB / 74.5 WB, WINTER OA CONDITIONS (°F): -10.0 DB / -11.0 WB, SUMMER RA CONDITIONS (°F): 75.0 DB / 62.5 WB, WINTER RA CONDITIONS (°F): 72.0 DB / 52.5 WB.  
3. OUTDOOR AND EXHAUST AIR FILTER SECTIONS WITH 2" MERV 8 FILTERS.  
4. PROVIDE VIBRATION HANGERS.  
5. TO BE CONTROLLED BY TIME CLOCK.

FURNACES (GAS)

| MARK | LOCATION      | CFM  | OA CFM | ESP (IN WC) | FUEL     | MBH IN/OUT | MOTOR DATA |    |     | MANUFACTURER | MODEL           |                 | REMARKS     |
|------|---------------|------|--------|-------------|----------|------------|------------|----|-----|--------------|-----------------|-----------------|-------------|
|      |               |      |        |             |          |            | VOLTS      | PH | HP  |              | EVAPORATOR COIL | FURNACE         |             |
| F-A1 | MECH 107      | 1600 | 350    | 0.5         | NAT. GAS | 66.063.9   | 120        | 1  | 0.5 | LENNOX       | CK40HT-48B      | ML196UH070XE48B | 1,2,3,4,5,6 |
| F-A2 | MECH 107      | 1600 | 350    | 0.5         | NAT. GAS | 66.063.9   | 120        | 1  | 0.5 | LENNOX       | CK40HT-48B      | ML196UH070XE48B | 1,2,4,5,6   |
| F-A3 | MECH 107      | 1600 | 290    | 0.5         | NAT. GAS | 66.063.9   | 120        | 1  | 0.5 | LENNOX       | CK40HT-48B      | ML196UH070XE48B | 1,2,4,5,6   |
| F-B1 | MECH 214      | 1600 | 300    | 0.5         | NAT. GAS | 66.063.9   | 120        | 1  | 0.5 | LENNOX       | CK40HT-48B      | ML196UH070XE48B | 1,2,4,5,6   |
| F-B2 | MECH 214      | 1600 | 300    | 0.5         | NAT. GAS | 66.063.9   | 120        | 1  | 1.0 | LENNOX       | CK40HT-48B      | ML196UH070XE48B | 1,2,4,5,6   |
| F-B3 | MECH 214      | 1600 | 300    | 0.5         | NAT. GAS | 66.063.9   | 120        | 1  | 0.5 | LENNOX       | CK40HT-48B      | ML196UH070XE48B | 1,2,4,5,6   |
| F-B4 | MECH 214      | 1600 | 300    | 0.5         | NAT. GAS | 66.063.9   | 120        | 1  | 0.5 | LENNOX       | CK40HT-48B      | ML196UH070XE48B | 1,2,4,5,6   |
| F-C1 | MECH LOFT 315 | 1600 | 290    | 0.5         | NAT. GAS | 66.063.9   | 120        | 1  | 1.0 | LENNOX       | CK40HT-48B      | ML196UH070XE48B | 1,2,4,5,6   |
| F-C2 | MECH LOFT 317 | 1200 | 300    | 0.5         | NAT. GAS | 66.063.9   | 120        | 1  | 0.5 | LENNOX       | CK40HT-48B      | ML196UH070XE48B | 1,3,4,5,6   |
| F-C3 | MECH LOFT 317 | 1600 | 300    | 0.5         | NAT. GAS | 66.063.9   | 120        | 1  | 0.5 | LENNOX       | CK40HT-48B      | ML196UH070XE48B | 1,3,4,5,6   |
| F-C4 | MECH LOFT 317 | 1600 | 330    | 0.5         | NAT. GAS | 66.063.9   | 120        | 1  | 0.5 | LENNOX       | CK40HT-48B      | ML196UH070XE48B | 1,3,4,5,6   |
| F-C5 | MECH LOFT 317 | 1600 | 330    | 0.5         | NAT. GAS | 66.063.9   | 120        | 1  | 0.5 | LENNOX       | CK40HT-48B      | ML196UH070XE48B | 1,3,4,5,6   |

REMARKS:  
1. SINGLE POINT POWER CONNECTION, DISCONNECT PROVIDED BY ELECTRICAL CONTRACTOR.  
2. UPFLOW UNIT.  
3. HORIZONTAL UNIT.  
4. 98% AFUE HEATING THERMAL EFFICIENCY.  
5. DIRECT DRIVE EC MOTOR SUPPLY FAN.  
6. 2" MERV 8 FILTER SECTION.  
7. PROVIDE CONCENTRIC VENT BEFORE GOING THRU ROOF.

AIR COOLED CONDENSING UNITS

| MARK  | NOMINAL TONS | NO. OF FANS | COMPRESSOR NO. | TYPE   | REFRIG TYPE | AMBIENT TEMP | EER  | VOLTS | MANUFACTURER | MODEL       | REMARKS |
|-------|--------------|-------------|----------------|--------|-------------|--------------|------|-------|--------------|-------------|---------|
| CUA-1 | 4.0          | 1           | 1              | SCROLL | R-454B      | 95           | 14.7 | 240   | LENNOX       | ML17KC2-04B | 1,2,3,4 |
| CUA-2 | 4.0          | 1           | 1              | SCROLL | R-454B      | 95           | 14.7 | 240   | LENNOX       | ML17KC2-04B | 1,2,3,4 |
| CUB-1 | 4.0          | 1           | 1              | SCROLL | R-454B      | 95           | 14.7 | 240   | LENNOX       | ML17KC2-04B | 1,2,3,4 |
| CUB-2 | 4.0          | 1           | 1              | SCROLL | R-454B      | 95           | 14.7 | 240   | LENNOX       | ML17KC2-04B | 1,2,3,4 |
| CUB-3 | 4.0          | 1           | 1              | SCROLL | R-454B      | 95           | 14.7 | 240   | LENNOX       | ML17KC2-04B | 1,2,3,4 |
| CUB-4 | 4.0          | 1           | 1              | SCROLL | R-454B      | 95           | 14.7 | 240   | LENNOX       | ML17KC2-04B | 1,2,3,4 |
| CUC-1 | 4.0          | 1           | 1              | SCROLL | R-454B      | 95           | 14.7 | 240   | LENNOX       | ML17KC2-04B | 1,2,3,4 |
| CUC-2 | 3.0          | 1           | 1              | SCROLL | R-454B      | 95           | 15.5 | 240   | LENNOX       | ML17KC2-03B | 1,2,3,4 |
| CUC-3 | 4.0          | 1           | 1              | SCROLL | R-454B      | 95           | 14.7 | 240   | LENNOX       | ML17KC2-04B | 1,2,3,4 |
| CUC-4 | 4.0          | 1           | 1              | SCROLL | R-454B      | 95           | 14.7 | 240   | LENNOX       | ML17KC2-04B | 1,2,3,4 |
| CUC-5 | 4.0          | 1           | 1              | SCROLL | R-454B      | 95           | 14.7 | 240   | LENNOX       | ML17KC2-04B | 1,2,3,4 |

REMARKS:  
1. SINGLE POINT POWER CONNECTION, DISCONNECT PROVIDED BY ELECTRICAL CONTRACTOR.  
2. INSTALL ON 4" CONCRETE PAD.  
3. TWO-STAGE COMPRESSOR WITH FACTORY PROVIDED, FIELD INSTALLED CRANKCASE HEATER.  
4. PROVIDE PRE-INSULATED REFRIGERANT LINESETS PIPED FROM OUTDOOR UNIT TO INDOOR UNIT. PIPING SIZED PER MANUFACTURER'S INSTRUCTIONS.

UNIT HEATERS (ELECTRIC)

| MARK   | LOCATION  | CFM | KW      | MBH      | EAT (°F) | LAT (°F) | VOLTS | PH | AMPS | MOUNTING HEIGHT | MANUFACTURER | MODEL   | REMARKS     |
|--------|-----------|-----|---------|----------|----------|----------|-------|----|------|-----------------|--------------|---------|-------------|
| UHE-A1 | ENTRY 101 | 100 | 3.0/1.5 | 10.2/5.1 | 40       | 135      | 240   | 1  | 14.4 | 1'-0" AFF       | QMARK        | AWH440F | 1,2,3,4,5,6 |
| UHE-A2 | MECH 107  | 100 | 3.0/1.5 | 10.2/5.1 | 40       | 135      | 240   | 1  | 14.4 | 1'-0" AFF       | QMARK        | AWH440F | 1,2,3,4,5,6 |
| UHE-B1 | ENTRY 200 | 100 | 3.0/1.5 | 10.2/5.1 | 40       | 135      | 240   | 1  | 14.4 | 1'-0" AFF       | QMARK        | AWH440F | 1,2,3,4,5,6 |
| UHE-B2 | ENTRY 200 | 100 | 3.0/1.5 | 10.2/5.1 | 40       | 135      | 240   | 1  | 14.4 | 1'-0" AFF       | QMARK        | AWH440F | 1,2,3,4,5,6 |
| UHE-C1 | ENTRY 300 | 100 | 3.0/1.5 | 10.2/5.1 | 40       | 135      | 240   | 1  | 14.4 | 1'-0" AFF       | QMARK        | AWH440F | 1,2,3,4,5,6 |

REMARKS:  
1. UNIT TO BE SURFACE MOUNTED ON WALL, PROVIDE WITH MOUNTING BOX.  
2. UNIT TO BE CONTROLLED BY INTERNAL THERMOSTAT.  
3. POWDER COATED STEEL GRILLE IN STANDARD COLOR SELECTED BY ARCHITECT.  
4. PROVIDE WITH THERMAL CUTOUT.  
5. MAINTAIN REQUIRED CLEARANCES IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS AND NEC REQUIREMENTS.  
6. PROVIDE WITH INTEGRAL DISCONNECT.

AIR DISTRIBUTION DEVICES

| MARK  | SYSTEM  | COLOR | DAMPER | THROW PATTERN   | MAX NC | MAX APD (IN WC) | MANUFACTURER | MODEL             | REMARKS |
|-------|---------|-------|--------|-----------------|--------|-----------------|--------------|-------------------|---------|
| CD-1  | SUPPLY  | WHITE | -      | 360°            | 30     | 0.1             | TITUS        | OMNI (24x24 FACE) | 1,2,3   |
| RA-2  | RETURN  | WHITE | -      | PERFORATED      | 30     | 0.1             | TITUS        | PAR (24x24 FACE)  | 1,2,3   |
| LD-1  | SUPPLY  | WHITE | -      | 180°            | 30     | 0.1             | TITUS        | FL-20             | 1,2,4,5 |
| LDR-1 | RETURN  | WHITE | -      | -               | 30     | 0.1             | TITUS        | FL-20             | 1,2,4,5 |
| R-1   | SUPPLY  | WHITE | OBD    | DOUBLE DEFL.    | 30     | 0.1             | TITUS        | S300FS            | 1,2,4   |
| R-2   | SUPPLY  | WHITE | OBD    | DOUBLE DEFL.    | 30     | 0.1             | TITUS        | 300 FS            | 1,2,4   |
| G-1   | RETURN  | WHITE | -      | 35° FIXED DEFL. | 30     | 0.1             | TITUS        | 350 RL            | 1,2,3   |
| G-2   | RETURN  | WHITE | -      | 35° FIXED DEFL. | 30     | 0.1             | TITUS        | 350 RL            | 1,2,4   |
| X-1   | EXHAUST | WHITE | OBD    | 35° FIXED DEFL. | 30     | 0.1             | TITUS        | 350 FL            | 1,2,4   |

REMARKS:  
1. VERIFY BORDER TYPE REQUIRED.  
2. NECK SIZE INDICATED ON PLANS.  
3. STEEL CONSTRUCTION.  
4. ALUMINUM CONSTRUCTION.  
5. 2 SLOTS WITH 1" SLOT WIDTH.

LOUVERS

| MARK  | TYPE                  | APPLICATION | CFM  | TOTAL LOUVER FREE AREA (SQ FT) | FREE AREA VELOCITY (FPM) | MAX PD (IN WC) | SIZE (INCHES) |    |   | MANUFACTURER | MODEL  | REMARKS |
|-------|-----------------------|-------------|------|--------------------------------|--------------------------|----------------|---------------|----|---|--------------|--------|---------|
|       |                       |             |      |                                |                          |                | W             | H  | D |              |        |         |
| IL-A1 | HORIZONTAL STATIONARY | INTAKE      | 990  | 1.56                           | 627                      | 0.15           | 18            | 30 | 4 | RUSKIN       | ELF837 | 1,2     |
| IL-B1 | HORIZONTAL STATIONARY | INTAKE      | 1200 | 1.56                           | 770                      | 0.15           | 42            | 18 | 4 | RUSKIN       | ELF837 | 1,2     |
| IL-C1 | HORIZONTAL STATIONARY | INTAKE      | -    | -                              | -                        | -              | 48            | 36 | 4 | RUSKIN       | XP900  | 1,2,3   |
| IL-C2 | HORIZONTAL STATIONARY | INTAKE      | -    | -                              | -                        | -              | 48            | 36 | 4 | RUSKIN       | XP900  | 1,2,3   |
| IL-C3 | HORIZONTAL STATIONARY | INTAKE      | 250  | 0.46                           | 543                      | 0.04           | 18            | 12 | 4 | RUSKIN       | XP900  | 1,2,3   |
| IL-C4 | HORIZONTAL STATIONARY | INTAKE      | 1260 | 2.20                           | 573                      | 0.20           | 30            | 24 | 4 | RUSKIN       | ELF837 | 1,2     |
| XL-A1 | HORIZONTAL STATIONARY | EXHAUST     | 900  | 1.09                           | 826                      | 0.10           | 30            | 18 | 4 | RUSKIN       | ELF837 | 1,2     |



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| REVISIONS SCHEDULE |           |             |
|--------------------|-----------|-------------|
| MARK               | DATE      | DESCRIPTION |
| 3                  | 6/04/2026 | Addendum 3  |

ACTON ACADEMY  
LINCOLN

6701 S FOLSOM ST  
LINCOLN, NE 68523

PROJECT: 25026 DATE: 09/14/2026  
PROJECT STATUS: CONSTRUCTION DOCUMENTS

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OLSSON PROJECT # 028-00088  
OLSSON COAF, CA-0638

MECHANICAL  
SPECIFICATIONS

NORTH



M7.1

DIVISION 21/22/23 - MECHANICAL SPECIFICATIONS

SECTION 210000/220000/230000 - GENERAL PROVISIONS

THE DRAWINGS, GENERAL NOTES, GENERAL CONDITIONS, AND DIVISION 1 GENERAL REQUIREMENTS SHALL BE CONSIDERED AS PART OF THIS SPECIFICATION.

ALL MATERIALS AND EQUIPMENT SHALL BE NEW, INSTALLED IN FULL COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS. INSTALLED IN ACCORDANCE WITH ACCEPTED GOOD PRACTICE OF THE INDUSTRY, AND ALL APPLICABLE ITEMS SHALL CARRY A UL LABEL.

THE WORD 'PROVIDE' AS USED HEREIN MEANS TO FURNISH AND INSTALL COMPLETE, INCLUDING ALL ITEMS NECESSARY FOR A FULLY-FUNCTIONAL SYSTEM.

FAMILIARIZE ONESELF WITH ALL REQUIREMENTS AS TO PERMITS, LICENSES, FEES, CODES, AND ORDINANCES AND ARRANGE TO COMPLY WITH THEM. ALL PERMITS, LICENSES, FEES, AND INSPECTIONS REQUIRED FOR THE WORK UNDER THIS CONTRACT SHALL BE OBTAINED AND PAID FOR UNLESS OTHERWISE SPECIFIED.

ALL WORK SHALL BE IN COMPLIANCE WITH APPLICABLE NFPA, NEC, ANSI, UL, SMACNA, AND ASHRAE CODES AND STANDARDS UNLESS SUPERCEDED BY STATE AND LOCAL REGULATION. CONFORM TO DOCUMENTS WHEN CODES ARE EXCEEDED.

EXAMINE SITE BEFORE BIDDING. ADVISE ENGINEER PRIOR TO BID IF SITE CONDITIONS DICTATE MODIFICATION TO THE BASE DESIGN.

COORDINATE ALL WORK WITH OTHER TRADES AND VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD. CUT AND PATCH ONLY AS REQUIRED. COORDINATE ALL CHANGES TO BUILDING STRUCTURE WITH ARCHITECT/ENGINEER AND THEIR REQUIREMENTS PRIOR TO EXECUTION.

SUBMIT MATERIAL LIST AND SHOP DRAWINGS FOR MAJOR EQUIPMENT TO GENERAL CONTRACTOR OR CONSTRUCTION MANAGER FOR FORWARDING TO ARCHITECT/ENGINEER FOR APPROVAL. SUBMITTALS SHALL BE IN ACCORDANCE WITH GENERAL CONDITIONS AND SHALL BEAR A STAMP OF THE MECHANICAL CONTRACTOR SHOWING THAT THEY REVIEWED AND APPROVED THEM. LACK OF SUCH CONTRACTOR APPROVAL WILL BE CAUSE FOR REJECTION WITHOUT REVIEW BY THE ARCHITECT/ENGINEER.

SUBSTITUTION OF EQUIPMENT MAY BE PERMITTED WITH PRIOR APPROVAL OF ENGINEER. THE ENGINEER SHALL BE THE SOLE AND FINAL JUDGE AS TO THE SUITABILITY OF ITEMS SUBSTITUTED FOR THOSE SPECIFIED. THE ENTIRE COST OF ALL CHANGES DUE TO SUBSTITUTION SHALL BE BORNE BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

PAINTING, IF REQUIRED, SHALL BE COORDINATED WITH AND COMPLETED BY THE GENERAL CONTRACTOR.

PROVIDE ACCESS DOORS FOR ALL DEVICES REQUIRING INSPECTION OR MAINTENANCE.

EXCAVATING AND BACKFILLING PIPE TRENCHES SHALL BE ACCURATELY GRADED TO PROVIDE UNIFORM SUPPORT ON UNDISTURBED SOIL FOR PIPING. SHEETING, SHORING, AND BRACING SHALL BE PROVIDED WHERE NECESSARY IN DEEP TRENCHES OR IN UNSTABLE SOILS. AFTER INSTALLATION HAS BEEN TESTED AND APPROVED, TRENCHES AND EXCAVATIONS SHALL BE BACKFILLED PER STATE AND LOCAL CODES, FREE FROM CLODS AND STONES.

MECHANICAL CONTRACTOR SHALL RECORD ALL FIELD CHANGES IN THEIR WORK AS THE JOB PROGRESSES, AND UPON COMPLETION, SHALL TURNOVER TO THE ARCHITECT/ENGINEER A 'RECORD' SET OF PRINTS SHOWING THESE CHANGES.

THE CONTRACTOR SHALL GUARANTEE THAT ALL MECHANICAL SYSTEMS SHALL BE FREE FROM DEFECTS IN WORKMANSHIP, MATERIALS, AND PERFORMANCE TO SPECIFIED CAPACITIES AND THAT IF SUCH DEFECTS SHALL APPEAR DURING A PERIOD OF ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE, THEY WILL REMEDY SUCH DEFECTS TO THE SATISFACTION OF THE ARCHITECT/ENGINEER AT NO EXTRA COST TO THE OWNER, WITHIN A REASONABLE TIME.

FURNISH AN ELECTRONIC OPERATING AND MAINTENANCE MANUAL TO THE ARCHITECT/ENGINEER AFTER ALL TESTS AND ADJUSTMENTS HAVE BEEN MADE. FINAL PAYMENT WILL NOT BE MADE UNTIL THIS MANUAL HAS BEEN APPROVED AND DELIVERED TO THE OWNER. THE MANUAL SHALL INCLUDE, BUT NOT BE LIMITED TO:

- CONTRACTOR ADDRESS AND PHONE NUMBER.
- MANUFACTURER AND LOCAL REPRESENTATIVE ADDRESSES AND PHONE NUMBERS.
- APPROVED SHOP DRAWINGS, INCLUDING ENGINEER APPROVAL SHEET.
- MANUFACTURERS' MANUAL AND PARTS LIST.
- FILTER AND V-BELT LIST.
- TEST AND BALANCE REPORT.
- STATE OR CITY TESTS, APPROVAL, OR ACCEPTANCE OF SYSTEMS (THIS SHALL INCLUDE WATER STERILIZATION AND EQUIPMENT INSTALLATION START-UPS.)

SECTION 211000 - SPRINKLER SYSTEM

PROVIDE AUTOMATIC FIRE EXTINGUISHING DISTRIBUTION SYSTEM THROUGHOUT BUILDING C.

COMPLY WITH ALL REQUIREMENTS OF THE GOVERNMENTAL AGENCIES AND AUTHORITIES HAVING JURISDICTION OVER THE PREMISES. DESIGN AND INSTALLATION SHALL COMPLY WITH NFPA #13 AND ALL APPLICABLE STATE AND LOCAL LAWS AND ORDINANCES. SUBCONTRACT THE WORK TO A LICENSED CONTRACTOR.

SUBMIT SHOP DRAWINGS TO INDICATE DESIGN, LAYOUT, MATERIALS, AND INSTALLATION. SUBMIT TO THE ARCHITECT/ENGINEER, AND TO AUTHORITIES HAVING JURISDICTION, AND OBTAIN THEIR APPROVAL, PRIOR TO EXECUTION OF THE WORK OF THIS SECTION. SHOP DRAWINGS SHALL SHOW PIPING AND SPRINKLER HEADS, CEILING CONSTRUCTION AND HEIGHTS, LIGHTS, MECHANICAL DIFFUSERS, SOFFITS, AND OTHER CEILING DROPS.

ALL WET-PIPE SPRINKLER PIPING 2" AND SMALLER SHALL BE EITHER SCHEDULE 40, BLACK-STEEL PIPE WITH THREADED ENDS, UNCOATED GRAY-IRON THREADED FITTINGS, AND THREADED JOINTS; OR SCHEDULE 10 BLACK STEEL PIPE WITH ROLL-GROOVED ENDS, UNCOATED GROOVED END FITTINGS, GROOVED-END PIPE COUPLINGS, AND GROOVED JOINTS. WET PIPING 2-1/2" AND LARGER SHALL BE SCHEDULE 10 BLACK STEEL PIPE WITH ROLL-GROOVED ENDS, UNCOATED GROOVED END FITTINGS, GROOVED-END PIPE COUPLINGS, AND GROOVED JOINTS.

SPRINKLER HEADS IN CEILINGS SHALL BE FULLY CONCEALED TYPE WITH FACTORY-PAINTED WHITE COVER PLATE. HEADS IN AREAS WITH NO CEILING SHALL BE EXPOSED. UPRIGHT SPRINKLERS, UPRIGHT SPRINKLERS IN FINISHED AREAS SHALL BE CHROME-PLATED SIDEWALL SPRINKLERS SHALL BE CHROME-PLATED AND INSTALLED WHERE NOTED ON THE PLANS.

COORDINATE SPRINKLER SYSTEM WORK WITH OTHER TRADES TO CLEAR PIPING, LIGHTING, DUCTWORK, AND STRUCTURAL MEMBERS.

IN ALL AREAS WITH CEILINGS, INSTALL PIPING ABOVE CEILING UNLESS OTHERWISE DIRECTED. LOCATE SPRINKLER HEADS CENTERED IN SQUARE CEILING PANELS. LOCATE DRAIN LINES TO PREVENT WATER DAMAGE IN BUILDING.

SECTION 220500/230500 - COMMON WORK RESULTS

PIPE SLEEVES AND FIRE STOPPING:

THIS CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, SETTING, AND PROPER LOCATION OF ALL SLEEVES REQUIRED FOR PLUMBING WORK. ALL SLEEVES SHALL BE OF SUFFICIENT SIZE TO PERMIT PIPE MOVEMENT DUE TO EXPANSION AND CONTRACTION, AND TO ACCOMMODATE PIPE INSULATION.

HOLES FOR PIPING THROUGH CONCRETE FLOORS AND WALLS SHALL BE SCHEDULE 40 STEEL PIPE, SECURED TO WALL. SLEEVES ARE NOT REQUIRED FOR CORE-DRILLED OPENINGS.

PIPES SHALL NOT BE INSTALLED THROUGH FOOTINGS, BEAMS, OR COLUMNS EXCEPT AS APPROVED BY STRUCTURAL ENGINEER.

FIRESTOPPING IS DEFINED HEREIN AS THE PROCESS OF FURNISHING AND INSTALLING MATERIAL, OR COMBINATION OF MATERIALS, IN VARIOUS CONSTRUCTION TO MAINTAIN AN EFFECTIVE BARRIER AGAINST THE SPREAD OF FLAME, SMOKE, AND GASES AND TO RETAIN THE INTEGRITY OF TIME-RATED CONSTRUCTION. INSTALL FIRESTOP FOR ALL PIPING AND DUCT PENETRATIONS THROUGH FLOOR SLAB, THROUGH FIRE-RATED PARTITIONS, OR FIRE WALLS.

FLASHING:  
VENTS THRU ROOF SHALL BE FLASHED PER THE ROOFING MANUFACTURER'S RECOMMENDATIONS.

SECTION 220520/230520 - HANGERS AND SUPPORT

ALL FERROUS PIPING SHALL BE HUNG WITH ADJUSTABLE SWIVEL RING AND HANGERS. ALL COPPER PIPING SHALL BE HUNG WITH ADJUSTABLE SWIVEL RING, COPPER PLATED HANGERS FOR NOMINAL TUBING AS REQUIRED. PROVIDE VINYL-COATED HANGERS FOR PEX PIPING.

PROVIDE HANGER RODS OF THE PROPER LENGTH AND SIZE FOR ALL HANGERS.

UTILIZE WALL BRACKETS, BEAMS, OR OTHER CONSTRUCTION TO SUPPORT HANGER RODS WITH APPROPRIATE BEAM CLAMPS OR OTHER STRUCTURAL ATTACHMENTS. SHOT-IN ANCHORS WILL NOT BE ACCEPTED.

CONTRACTOR SHALL FURNISH AND INSTALL MISCELLANEOUS STEEL MEMBERS FOR SUPPORT OF PIPING WHERE REQUIRED. STANDARD CONNECTIONS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION SHALL BE UTILIZED. WELDING TO BUILDING STEEL IS NOT ALLOWED.

ALL PIPES SHALL BE SUPPORTED AT EACH FLOOR LEVEL AND ELSEWHERE AS REQUIRED TO ELIMINATE VIBRATION WITH RISER CLAMPS.

HANGERS FOR STEEL AND COPPER PIPING SHALL BE SPACED NOT OVER 10'-0" ON CENTERS, AND CLOSER WHERE REQUIRED TO ACCOMMODATE CONCENTRATED LOADS AND TO LIMIT DEFLECTION TO 1/4". HANGERS SHALL BE INSTALLED AT ALL CHANGES IN DIRECTION OF PIPING.

HANGERS FOR PEX PIPING SHALL BE SPACED NOT OVER 4'-0" ON CENTERS, AND CLOSER WHERE REQUIRED TO LIMIT DEFLECTION TO 1/4". HANGERS SHALL BE INSTALLED AT ALL CHANGES IN DIRECTION OF PIPING.

HANGERS FOR P/V PIPING SHALL COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS, OR LOCAL CODES, WHICHEVER IS MORE STRINGENT.

FIXTURES, FIXTURE SUPPORTS, FIXTURE TRIMMINGS, ETC., SHALL BE SECURED WITH 1/2" BRASS THROUGH BOLTS, EXPANSION BOLTS OR TOGGLE BOLTS IN ACCORDANCE WITH WALL MATERIAL AND AS REQUIRED TO SECURELY ANCHOR FIXTURE TO WALL. EXPOSED HEADS AND CAP NUTS SHALL BE CHROMIUM PLATED.

HANGERS FOR PIPE SHALL BE SIZED TO ACCOMMODATE INSULATION AND SHALL BE INSTALLED WITH SHEET METAL SHIELDS.

PROVIDE SUPPLEMENTAL STEEL BRACING TO PREVENT PIPE SWAY (HORIZONTAL MOVEMENT). INSTALL IN SUCH A MANNER TO ALLOW PIPE EXPANSION AND CONTRACTION (LATERAL MOVEMENT). SEISMIC BRACING SHALL BE PER CODE AND SMACNA STANDARDS.

SECTION 220540/230540 - VIBRATION ISOLATORS

CONTRACTOR SHALL PROVIDE ISOLATION SYSTEMS SO THAT OBJECTIONABLE NOISES OR VIBRATIONS WILL NOT BE TRANSMITTED THROUGH FOUNDATIONS, FLOORS, WALLS, COLUMNS, PIPING AND DUCTS, ETC. ALL ISOLATION SYSTEMS PROPOSED SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT/ENGINEER.

EVERY ROTATING AND RECIPROCATING ITEM OF EQUIPMENT, THEIR COMPONENTS, AND MATERIALS USED FOR CONVEYANCE, SHALL BE PROVIDED WITH THE PROPER ISOLATION EQUIPMENT. FACTORY PACKAGED EQUIPMENT SHALL BE FURNISHED COMPLETE WITH INTEGRAL ISOLATORS.

SECTION 220700/230700 - PIPE INSULATION

AS MANUFACTURED BY JOHNS MANVILLE, KNAUF, OR OWENS CORNING. ALL INSULATION SHALL HAVE COMPOSITE FIRE AND SMOKE HAZARD RATINGS, AS TESTED BY PROCEDURE ASTM E-84, NFPA 255, & UL 723, NOT EXCEEDING A FLAME SPREAD RATING OF 25 AND SMOKE DEVELOPED RATING OF 50. INSULATION SHALL BE CONTINUOUS THROUGH WALLS, INCLUDING INSTALLED INSIDE OF WALL CAVITIES.

INSERTS SHALL BE INSTALLED AT ALL HANGERS OR SUPPORTS FOR PIPING 1-1/2" AND LARGER. INSERTS SHALL CONSIST OF RIGID PIPE INSULATION OF EQUAL THICKNESS TO THE ADJOINING INSULATION, CORROSION RESISTANT RIGID SHIELD OR SADDLE, AND SHALL BE PROVIDED WITH VAPOR BARRIER WHERE REQUIRED.

PRE-FORMED, FIBERGLASS PIPE INSULATION WITH ALL-SERVICE JACKET, INCLUDING SELF-SEALING LAPS, AND VAPOR BARRIER SHALL BE PROVIDED FOR THE FOLLOWING SYSTEMS:

- DOMESTIC COLD WATER, HOT WATER, AND RECIRCULATING PIPING (EXCLUDING PEX); 1" THICK.

FLEXIBLE ELASTOMERIC OR POLYOLEFIN INSULATION SHALL BE PROVIDED FOR THE FOLLOWING SYSTEMS:

- PEX PIPING/TUBING: 1" THICK.
- REFRIGERANT SUCTION AND HOT-GAS PIPING/TUBING: 1" THICK.

ALL VALVES AND FITTINGS SHALL BE INSULATED WITH ZESTON PRE-MOLDED PEX COVERS WITH GLASS FIBER INSERT TO SAME THICKNESS AS PIPE INSULATION. TAPE JUNCTION OF COVERS AND PIPE INSULATION. SEAL THROAT OF COVERS WITH MASTIC FOR ALL COLD WATER PIPING IN BUILDING.

SECTION 221000/231000 - PIPING MATERIALS

ALL PIPE AND FITTINGS SHALL BE SMOOTH INSIDE, STRAIGHT, FREE FROM WELD OR SOLDER FLAWS, BLISTERS, OR OTHER DEFECTS. EACH LENGTH OF PIPE AND EACH FITTING SHALL HAVE CAST, STAMPED, OR NEDELBLY MARKED ON IT, THE MAKER'S MARK OR NAME AND THE WEIGHT AND QUALITY OF THE PRODUCT WHERE SUCH MARKING IS REQUIRED BY THE APPROVED STANDARD THAT APPLIES. ALL SIZES SHOWN ON PLANS ARE I.D. REFERENCES TO ANSI AND OTHER STANDARDS SHALL BE LATEST EDITIONS.

PIPING:  
ALL SANITARY WASTE AND CONDENSATE DRAIN PIPING IN BUILDING ABOVE GROUND AND VENTS ABOVE GROUND SHALL BE PVC PLASTIC PIPE OR CAST IRON PIPE (BELL & SPIGOT OR HUBLESS WITH 304 STAINLESS STEEL HEAVY-DUTY COUPLING). PLASTIC PIPE AND FITTINGS SHALL NOT BE INSTALLED IN CEILING SPACES USED FOR AIR PLENUMS UNLESS COVERED WITH A MINIMUM OF 1" FIBERGLASS INSULATION AS SPECIFIED IN SECTION 220700.

UNDERGROUND DRAINAGE AND VENT PIPING INSIDE THE BUILDING SHALL BE SCHEDULE 40 SOLID WALL PVC PLASTIC PIPE OR SERVICE WEIGHT HUB AND SPIGOT CAST IRON SOIL PIPE, CONFORMING TO ASTM A74, AND BEARING THE MARK OF THE CAST IRON SOIL PIPE INSTITUTE.

HORIZONTAL SOIL, WASTE, AND DRAIN PIPE SHALL BE SLOPED AT 1/4" PER FOOT EXCEPT WHEN THE PIPE IS LARGER THAN 3" WHICH MAY BE INSTALLED WITH A SLOPE OF NOT LESS THAN 1/8" PER FOOT UNLESS OTHERWISE NOTED.

ALL ABOVE GROUND DOMESTIC COLD AND DOMESTIC HOT WATER PIPING INSIDE BUILDING 2" AND SMALLER SHALL BE TYPE L' HARD TEMPER COPPER TUBING CONFORMING TO ASTM B88 WITH SOLDERED JOINTS, OR PEX TUBING CONFORMING TO ASTM F877.

ALL DOMESTIC WATER PIPING BURIED WITHIN 5'-0" OF BUILDING SHALL BE EITHER TYPE 'K' SOFT COPPER TUBING CONFORMING TO ASTM B88, INSTALL UNDERGROUND COPPER TUBE IN PE ENCASEMENT ACCORDING TO ASTM A 974 OR AWWA C105.

ALL UNDERGROUND GAS PIPING SHALL BE PE PIPE AND FITTINGS JOINED BY HEAT FUSION. SERVICE-LINE RISERS WITH TRACER WIRE TERMINATED IN AN ACCESSIBLE LOCATION, OR STEEL PIPE WITH WROUGHT-STEEL FITTINGS AND WELDED JOINTS, COAT UNDERGROUND STEEL PIPE AND FITTINGS WITH PROTECTIVE COATING.

ALL ABOVE GROUND GAS PIPING SHALL BE SCHEDULE 40 BLACK STEEL WITH MALLEABLE IRON THREADED FITTINGS, COMPLYING WITH ANSI STANDARD B 30.3, 150LB. CLASS, OR WITH WROUGHT-STEEL FITTINGS AND WELDED JOINTS. GAS PIPING LOCATED IN THE CEILING SPACES USED FOR RETURN AIR PLENUMS SHALL BE WELDED. PAINT ALL EXTERIOR GAS PIPING, VALVES, SUPPORTS, ETC., WITH ALKOYD ANTI-CORROSIVE METAL PRIMER AND EXTERIOR ALKOYD ENAMEL FLAT GRAY TOPCOAT.

REFRIGERANT PIPING SHALL BE COPPER TUBING ACR HARD DRAWN STRAIGHT LENGTHS OF SEAMLESS COPPER PIPE & COPPER TUBING TYPE L', ANNEALED.

FITTINGS:

FITTINGS FOR CAST IRON SOIL PIPE, BELL AND SPIGOT, SHALL BE CAST IRON CONFORMING TO ASTM A74. JOINTS SHALL BE MADE WITH VULCANIZED RUBBER OR NEOPRENE CONFORMING TO ASTM C-564.

FITTINGS FOR CAST IRON SOIL PIPE (HUBLESS) SHALL BE MADE WITH 304 STAINLESS STEEL COUPLINGS. GASKETS TO CONFORM TO CISPI 301.

PVC FITTINGS FOR PVC PIPING.

FITTINGS FOR RIGID COPPER TUBING SHALL BE WROUGHT COPPER SOLDER FITTINGS CONFORMING TO ANSI B16.22.

PEX FITTINGS CONFORMING TO ASTM F1807 FOR PEX PIPING.

FITTINGS FOR GAS PIPING SHALL BE MALLEABLE IRON CONFORMING TO ASME B16.3 OR ASTM A234 FORGED STEEL WELDING TYPE PER NFPA 58.

JOINTS:

SOLDERED PIPE JOINTS SHALL HAVE FULL CLEAN CUT THREADS CONFORMING TO ANSI B2.1, WITH ENDS OF PIPE REAMED, FILED AND ALL BURRS REMOVED. JOINTS SHALL BE MADE WITH GRAPHITE BASE PIPE JOINT COMPOUND OR APPROVED EQUAL COMPOUND. FITTINGS AND PIPE SHALL BE FREE FROM OIL AND GREASE.

SOLDERED COPPER PIPE JOINTS SHALL USE .95% TIN AND 5% ANTIMONY SOLDER USING A NON-CORROSIVE FLUX.

PVC PIPE JOINTS SHALL BE SOLVENT WELD WITH SOLVENT CEMENT CONFORMING TO ASTM D2855 AND D2564.

UNIONS ARE REQUIRED FOR CONNECTING ALL EQUIPMENT. UNIONS 2" OR SMALLER SHALL BE SCREWED OR SOLDER TYPE, WITH SPHERICAL GROUND JOINT. UNIONS 2-1/2" AND LARGER SHALL BE OF THE BOLTED FLANGED TYPE.

INSTALL INSULATING TYPE DIELECTRIC UNIONS FOR CONNECTING DISSIMILAR PIPE.

PIPE LABELS:

ATTACHED SELF-ADHESIVE, PRINTED PLASTIC, PIPE LABELS TO ALL NEW DOMESTIC PIPING IN CONCEALED AREAS. SPACING SHALL BE EVERY 20' AND NEXT TO EACH WALL PENETRATION, ACCESS DOOR, OR MAJOR EQUIPMENT. LABEL SHALL INCLUDE A MINIMUM OF 1/2" HIGH LETTERS AND FLOW ARROWS.

METERS & GAGES:

THERMOMETERS SHALL BE METAL-CASE, LIQUID-IN-GLASS TYPE, 3" HIGH CAST ALUMINUM CASE WITH MAGNIFYING LENS AND BLUE ORGANIC LIQUID. RANGE SHALL BE SUITABLE TO SYSTEM INSTALLED IN.

VALVES:

VALVES SHALL BE OF ONE MANUFACTURER THROUGHOUT INSTALLATION. VALVES SHALL BE RATED 200 PSI FOR COLD WATER SERVICE. SOLDER JOINT VALVES SHALL BE RATED 150 PSI FOR WATER SERVICE AT 200°F. UNLESS OTHERWISE SPECIFIED OR INDICATED, ALL VALVES SHALL BE FULL-PORT BALL VALVES. WHERE VALVES AND PIPING SHALL BE INSULATED, EXTENDED STEMS SHALL BE PROVIDED ON VALVES.

SOLDER JOINT VALVES FOR COPPER TUBING:

- BALL VALVES - BRONZE/BRASS BALL, SCREWED TFE SEAT.
- CHECK VALVES - BRONZE SWING CHECK.

TESTING AND FLUSHING:

ALL WATER PIPING SHALL BE HYDROSTATICALLY TESTED, AT 1-1/2 TIMES OPERATING PRESSURE (MIN. 125 PSI), LEAKS REPAIRED AND SYSTEM RETESTED UNTIL PROVED RIGHT BEFORE BACKFILLING, OR CONCEALING OF INSULATED PIPE. WASTE PIPE SHALL BE TESTED AT A MINIMUM OF 10' OF WATER. GAS PIPING SHALL BE TESTED WITH 60 PSI OF AIR AND A WARM SOAPY WATER SOLUTION, NOTIFY ARCHITECT/ENGINEER A MINIMUM OF 48 HOURS BEFORE PERFORMING TESTS.

ALL POTABLE WATER SYSTEM PIPING AND COMPONENTS SHALL BE FLUSHED AND STERILIZED AFTER CLEANING. STERILIZE AND CHLORINATE IN ACCORDANCE WITH STATE AND LOCAL HEALTH DEPARTMENT STANDARDS, SUBMIT SAMPLES TO BE TESTED AND PROVIDE REPORT TO ARCHITECT/ENGINEER.

SECTION 224000 - PLUMBING FIXTURES

PLUMBING FIXTURES SHALL BE FURNISHED AND INSTALLED IN A WORKMANLIKE MANNER WITH PROPER CONNECTIONS TO SUPPLY AND DRAINAGE PIPING. ALL FIXTURES SHALL BE TESTED TO BALANCE THE SYSTEMS TO DELIVER THE REQUIRED PERFORMANCE IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS.

TRAPS:

EACH FIXTURE AND EACH PIECE OF EQUIPMENT REQUIRING CONNECTION TO THE SANITARY DRAINAGE SYSTEM SHALL BE EQUIPPED WITH WATER-SEALED TRAP. EACH TRAP SHALL BE PLACED AS NEAR THE FIXTURE AS POSSIBLE. TRAPS EXPOSED TO VIEW IN FINISHED SPACES SHALL BE CHROME-PLATED CAST BRASS WITH CLEANOUT. TRAPS INSTALLED ON THREADED PIPE SHALL BE RECESS DRAINAGE PATTERN.

VENT PIPING:

MINIMUM SIZES OF FIXTURE VENTS SHALL BE INSTALLED AS SHOWN IN RISER DIAGRAM ON THE DRAWINGS. CONNECTING VENTS SHALL BE SIZED AND RUN THROUGH ROOF OR CONNECTION TO MAIN VENT SHOWN ON PLANS. VENTS MUST BE CONNECTED INTO STACK VENTS ABOVE HIGHEST FIXTURE.

SECTION 230580 - TESTING AND BALANCING

AFTER THE HEATING AND COOLING SYSTEMS ARE OPERABLE, ENGAGE A NEBB-CERTIFIED TAB SPECIALIST TO OPERATE THE SYSTEMS AND MAKE ADJUSTMENTS IN THE CONTROLS AND EQUIPMENT AS REQUIRED TO BALANCE THE SYSTEMS TO DELIVER THE REQUIRED DESIGN AIR QUANTITIES AND TEMPERATURES. PROVIDE TYPEWRITTEN TEST AND BALANCE REPORT, INDICATING ACTUAL READINGS AT ALL INLETS AND OUTLETS IN THE SUPPLY, RETURN AND EXHAUST SYSTEMS. DELIVER TO ARCHITECT/ENGINEER. USE NEBB REPORTING FORMS FOR REPORT.

SECTION 230700 - HVAC INSULATION

DUCT INSULATION SHALL BE AS MANUFACTURED BY CERTANTEED, JOHNS MANVILLE, KNAUF, OR OWENS CORNING. ALL INSULATION SHALL HAVE COMPOSITE FIRE AND SMOKE HAZARD RATINGS, AS TESTED BY PROCEDURE ASTM E-84, NFPA 255, & UL 723, NOT EXCEEDING FLAME SPREAD RATING OF 25 AND SMOKE DEVELOPED RATING OF 50.

INTERIOR DUCTWORK (DUCTWORK IN MECHANICAL ROOMS SHALL BE CONSIDERED AS CONCEALED):

- ROUND SUPPLY DUCT IN EXPOSED AREAS SHALL BE UNINSULATED SINGLE-WALL SPIRAL DUCT.
- RECTANGULAR SUPPLY DUCT IN EXPOSED AREAS SHALL UNINSULATED.
- ROUND AND RECTANGULAR SUPPLY DUCT IN CONCEALED AREAS SHALL BE COVERED WITH 1-1/2" THICK 3/4 LB. DENSITY FIBERGLASS BLANKET DUCT WRAP WITH FACTORY-APPLIED FSK FACING, AND VAPOR BARRIER.
- EXHAUST AIR DUCTWORK SHALL BE COVERED WITH 1-1/2" THICK 3/4 LB. DENSITY FIBERGLASS BLANKET DUCT WRAP WITH FACTORY-APPLIED FSK FACING, AND VAPOR BARRIER.
- OUTSIDE AIR DUCTWORK SHALL BE INSULATED WITH 2" THICK 3/4 LB. DENSITY FIBERGLASS BLANKET DUCT WRAP WITH FACTORY-APPLIED FSK FACING.

SECTION 230900 - CONTROLS

PROVIDE ALL TEMPERATURE CONTROLS IN ACCORDANCE WITH RECOMMENDATIONS OF THE EQUIPMENT MANUFACTURER.

- FURNISH COMPLETE CONTROL DIAGRAMS SHOWING ALL ASPECTS OF THE OPERATION.
- CONTROLS SHALL BE TYPE AS INDICATED ON THE PLANS.
- PROVIDE ALL WIRING, TUBING, ETC. REQUIRED FOR COMPLETE AND OPERATING SYSTEM.
- ALL CONTROLS AND SAFETY DEVICES SHALL BE THOROUGHLY CHECKED TO ASSURE PROPER OPERATION AND PROTECTION.

SECTION 233000 - DUCTWORK AND ACCESSORIES

SHEET METAL DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH LATEST EDITION OF LOCAL CODES, ASHRAE, AND SMACNA STANDARDS FOR LOW PRESSURE DUCT SYSTEMS. SEISMIC BRACING SHALL BE PROVIDED PER CODE AND PER SMACNA STANDARDS.

ALL EXPOSED ROUND DUCT SHALL BE SPIRAL CONSTRUCTION. ALL CONCEALED ROUND DUCT SHALL BE SPIRAL CONSTRUCTION OR CONSTRUCTED WITH A LONGITUDINAL SEAM AND SCREWED OR POP RIVETED TOGETHER.

DUCTS AND CASINGS SHALL BE MECHANICALLY TIGHT AND SUBSTANTIALLY AIRTIGHT. ALL SEAMS SHALL BE SEALED OR GLUED PER MANUFACTURER'S RECOMMENDATIONS.

SIZES SHOWN ON THE PLAN INDICATE THE FREE AREA OF THE DUCT UNLESS OTHERWISE NOTED. GALVANIZED SHEET STEEL SHALL COMPLY WITH ASTM A653 AND HAVE MILL PHOSPHATIZED FINISH.

CLEAN DUCTWORK BY REMOVING ALL VISIBLE CONTAMINANTS. FAILURE TO PROTECT DUCTWORK OPENINGS FROM CONSTRUCTION DUST MAY RESULT IN A MORE STRINGENT CLEANING METHODOLOGY REQUIREMENT.

DUCT CONSTRUCTION PRESSURE CLASSES:

- SUPPLY DUCTS: POSITIVE 2" W.G.
- RETURN DUCTS: POSITIVE OR NEGATIVE 2" W.G.
- OUTDOOR AIR DUCTS: POSITIVE OR NEGATIVE 2" W.G.
- EXHAUST DUCTS: NEGATIVE 2" W.G.

SEALANTS AND GASKETS SHALL HAVE A MAXIMUM FLAME-SPREAD INDEX OF 25 AND A MAXIMUM SMOKE-DEVELOPED INDEX OF 50 WHEN TESTED ACCORDING TO UL 723.

APPLY WATER BASED JOINT AND SEAM SEALANTS. PRODUCTS SHALL BE RATED FOR INDOOR/OUTDOOR USE, WATER RESISTANT, MOLD AND MILDEW RESISTANT, WITH A SERVICE TEMPERATURE OF -20 TO 200 DEGREES.

FLANGED JOINT SEALANTS SHALL COMPLY WITH ASTM C220. FLANGED JOINT GASKETS SHALL BE BUTYL RUBBER, NEOPRENE, OR EPDM POLYMER WITH POLYISOBUTYLENE PLASTICIZER.

PROTECT DUCTS EXPOSED IN FINISHED SPACES FROM BEING DENTED, SCRATCHED, OR DAMAGED. TRIM DUCT SEALANTS FLUSH WITH METAL, CREATE A SMOOTH AND UNIFORM EXPOSED BEAD. DO NOT USE TWO-PART TAPE SEALING SYSTEM. MAINTAIN CONSISTENCY, SYMMETRY, AND UNIFORMITY IN THE ARRANGEMENT AND FABRICATION OF FITTINGS, HANGER AND SUPPORTS, DUCT ACCESSORIES, AND AIR OUTLETS. REMOVE ALL LABELS AND MARKINGS FOR A CLEAN AND UNIFORM EXPOSED FINISH.

SEAL DUCTS TO THE FOLLOWING SEAL CLASSES ACCORDING TO SMACNA'S HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE:

- CONDITIONED SPACE, SUPPLY AIR DUCTS <6" 2" W.G., SEAL CLASS C.
- CONDITIONED SPACE, EXHAUST DUCTS: SEAL CLASS B.
- CONDITIONED SPACE, RETURN AIR DUCTS: SEAL CLASS C.

SECTION 233300 - AIR DUCT ACCESSORIES

INSTALL DUCT ACCESSORIES ACCORDING TO APPLICABLE DETAILS IN 2020 SMACNA HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE:

TURNING VANES SHALL BE INSTALLED IN EACH BEND OR TURN IN ALL SUPPLY, EXHAUST AND RETURN AIR DUCTS. INSTALL SPLITTER DAMPERS, MANUAL DAMPERS, ETC., WHERE NOTED ON THE PLANS OR WHERE REQUIRED.

ACCESS DOORS 18"x18" OR AS LARGE AS DUCT WILL ALLOW, SHALL BE INSTALLED WHERE REQUIRED TO PROVIDE ACCESS TO WORKING PARTS, FIRE DAMPERS, FUSIBLE LINKS, FILTERS, COILS, ETC.

WHEREVER SHEET METAL DUCTWORK IS INSTALLED, ALL DUCT CONNECTIONS TO EQUIPMENT WITH BLOWERS SHALL BE MADE WITH FLEXIBLE DUCT CONNECTION A MINIMUM OF 3' WIDE OF FIRE RESISTANT MATERIAL THAT IS ABSOLUTELY WATERTIGHT AND AIRTIGHT. FABRIC SHALL WITHSTAND TEMPERATURE OF 200°F CONTINUOUSLY. CONNECTION OF FLEXIBLE DUCT TO SHEET METAL SHALL BE MADE AIRTIGHT WITH RIVETS OR SCREWS AS REQUIRED. VENTILAS BY VENTFABRICS, OR NEOPRENE FABRI-DUCT BY ELDEN. COMPLY WITH NFPA 90A.

SQUARE OR RECTANGULAR BALANCING DAMPERS SHALL BE STANDARD-LEAKAGE DAMPERS WITH OPPOSED 3V BLADE TYPE. GREENHECK MBD-15 OR EQUAL. ROUND BALANCING DAMPERS SHALL BE GREENHECK MBRD-50 OR EQUAL. FURNISH EACH DAMPER WITH 1-1/2" STANDOFF BRACKET AND POSITIVE LOCKING QUADRANT FOR MANUAL DAMPERS TO HOLD DAMPER BLADES SECURELY IN THE DESIRED POSITION AND SHALL INDICATE THE RELATIVE POSITION OF THE DAMPER BLADES. QUADRANTS SHALL BE MOUNTED IN ACCESSIBLE LOCATIONS.

SQUARE OR RECTANGULAR INTERIOR ISOLATION DAMPERS SHALL BE NON-INSULATED, LOW-LEAKAGE AIRFOIL DAMPERS, OPPOSED BLADE TYPE, WITH LEAKAGE LESS



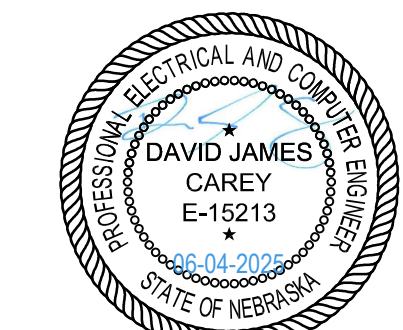
| REVISIONS SCHEDULE |            |             |
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| 3                  | 06/04/2026 | ADDENDUM 3  |

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PROJECT: 25026 DATE: 05/14/2026  
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OLSSON PROJECT # 026-00388  
OLSSON COAR CA-0638

SITE LIGHTING  
PHOTOMETRIC PLAN

NORTH



ES0.2

## CERTIFICATION OUTDOOR LIGHTING STANDARDS



Planning and Development Services  
555 S. 10<sup>th</sup> Street, Suite 203, Lincoln, NE 68508  
Phone 402-443-7521  
Lincoln.ne.gov/plandev

Date: 05/14/2026 Permit Number: \_\_\_\_\_

I, David Carey, \_\_\_\_\_

Print/Type Name

hereby certify the outdoor lighting contained in this building permit application complies with the City of Lincoln Design Standards as contained in Chapter 3.100 and will be inspected for compliance with such design standard. Design Party must be a State of Nebraska Registered Electrical Engineer, Licensed Electrician, or Certified Lighting Designer.

Design Party \_\_\_\_\_ Signature & License # E-15213

Initial only if all lighting fixtures proposed are less than 4050 lumens and the lighting measurements taken at the property line will not exceed 2.0 vertical footcandles and 0.5 horizontal footcandles.

### Chapter 3.100 DESIGN STANDARDS FOR OUTDOOR LIGHTING

The Building & Safety Department is assigned responsibility  
for administration of these design standards.

Light trespass from a non-residential use abutting, or across the alley from, a residential district shall not exceed 0.5 horizontal foot candles at the residential property line. Light trespass at a property line cannot exceed 2.0 vertical foot candles. Techniques may include such methods as shielding and controlled cut-off fixtures, as well as proper alignment and location for lighting of the subject. If any existing uses are extended, enlarged, moved, structurally altered, or reconstructed, this standard shall apply with respect to such extended, enlarged, moved, structurally altered or reconstructed uses.

Other related adopted lighting standards may be found as follows:

- Zoning Code §27.69.030(g) – Illumination & §27.69.035(c) - Lighting for Signs

Outdoor\_Lighting\_102025

### SITE LIGHTING CALCULATIONS LUMINAIRE SCHEDULE

| SYMBOLS | LABEL                              | CATALOG NUMBER | DESCRIPTION | LAMP                                     | FILE  | LUMENS | LFE | WATTS   | MOUNTING HEIGHT | BLUG |
|---------|------------------------------------|----------------|-------------|--|-------|--------|-----|---------|-----------------|------|
| D4      | REFER TO LIGHTING FIXTURE SCHEDULE | JUNO JSFSQ     | 3000K LED'S | JSFSQ SIN Ø71M 30K 90CRI MVOLT Z1 WH.ies | 705   | 1.0    | 9   | CEILING | -               |      |
| S1      | REFER TO LIGHTING FIXTURE SCHEDULE | LITHONIA DSX1  | 3000K LED'S | DSX1 LED P1 30K 80CRI T2M HS.ies         | 7,203 | 1.0    | 51  | 27'-6"  | B0-U0-G0        |      |
| S2      | REFER TO LIGHTING FIXTURE SCHEDULE | LITHONIA DSX1  | 3000K LED'S | DSX1 LED P2 30K 80CRI TFTM HS.ies        | 9,573 | 1.0    | 68  | 27'-6"  | B0-U0-G0        |      |
| S3      | REFER TO LIGHTING FIXTURE SCHEDULE | LITHONIA DSX1  | 3000K LED'S | DSX1 LED P2 30K 80CRI TFTM.ies           | 9,573 | 1.0    | 68  | 27'-6"  | B0-U0-G0        |      |
| S4      | REFER TO LIGHTING FIXTURE SCHEDULE | LITHONIA RADPT | 3000K LED'S | RADPT P1 30K SYM.ies                     | 3,189 | 1.0    | 25  | 12'-0"  | B0-U0-G0        |      |
| W1      | REFER TO LIGHTING FIXTURE SCHEDULE | LITHONIA DSX1  | 3000K LED'S | WPX1 LED P1 30K Mvolt.ies                | 1,537 | 1.0    | 11  | WALL    | B0-U0-G0        |      |

### HORIZONTAL LIGHTING CALCULATIONS

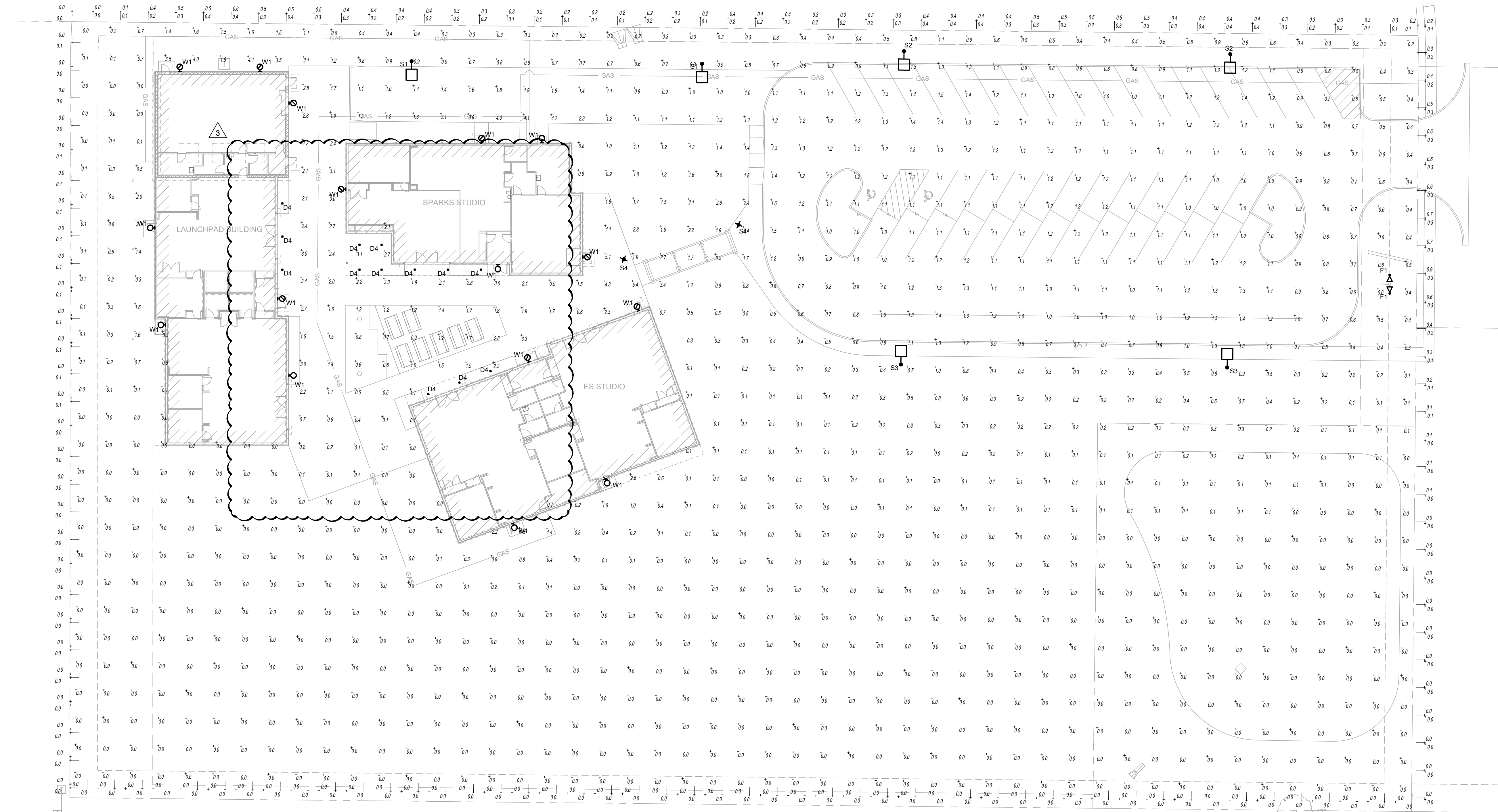
| AREA      | SYMBOL | AVERAGE | MAXIMUM | MINIMUM |
|-----------|--------|---------|---------|---------|
| SITE PLAN | +      | 0.53    | 5.4     | 0.0     |

NOTES:  
1. CALCULATION VALUES ARE IN FOOTCANDLES.  
2. CALCULATION POINTS ARE AT GRADE ON THE HORIZONTAL PLANE.

### PROPERTY LINE LIGHTING CALCULATIONS

| AREA                | SYMBOL | MAXIMUM    |          | ADJACENT ZONING |
|---------------------|--------|------------|----------|-----------------|
|                     |        | HORIZONTAL | VERTICAL |                 |
| NORTH PROPERTY LINE | +      | 0.4        | 0.6      | R-3             |
| EAST PROPERTY LINE  | +      | 0.3        | 0.9      | AGR             |
| SOUTH PROPERTY LINE | +      | 0.0        | 0.0      | AGR             |
| WEST PROPERTY LINE  | +      | 0.0        | 0.1      | AGR             |

NOTES:  
1. CALCULATION VALUES ARE IN FOOTCANDLES.  
2. VERTICAL CALCULATION POINTS ARE TAKEN 5'-0" ABOVE GRADE ON THE VERTICAL PLANE.



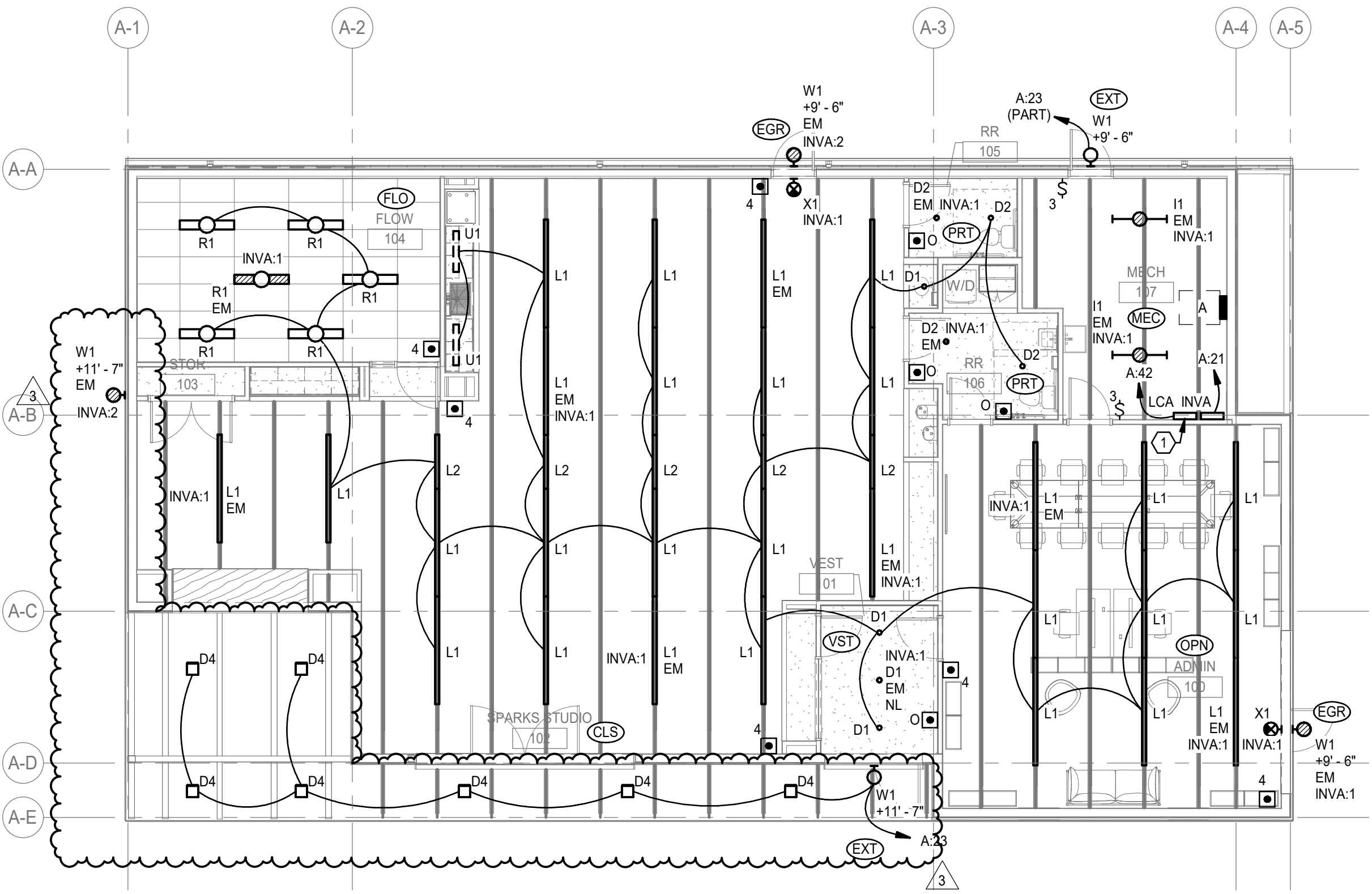
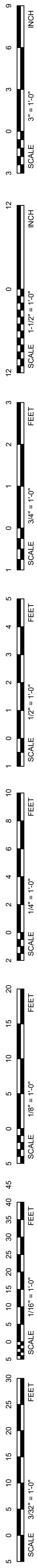
### 1 SITE LIGHTING PHOTOMETRIC PLAN

1" = 20'-0"

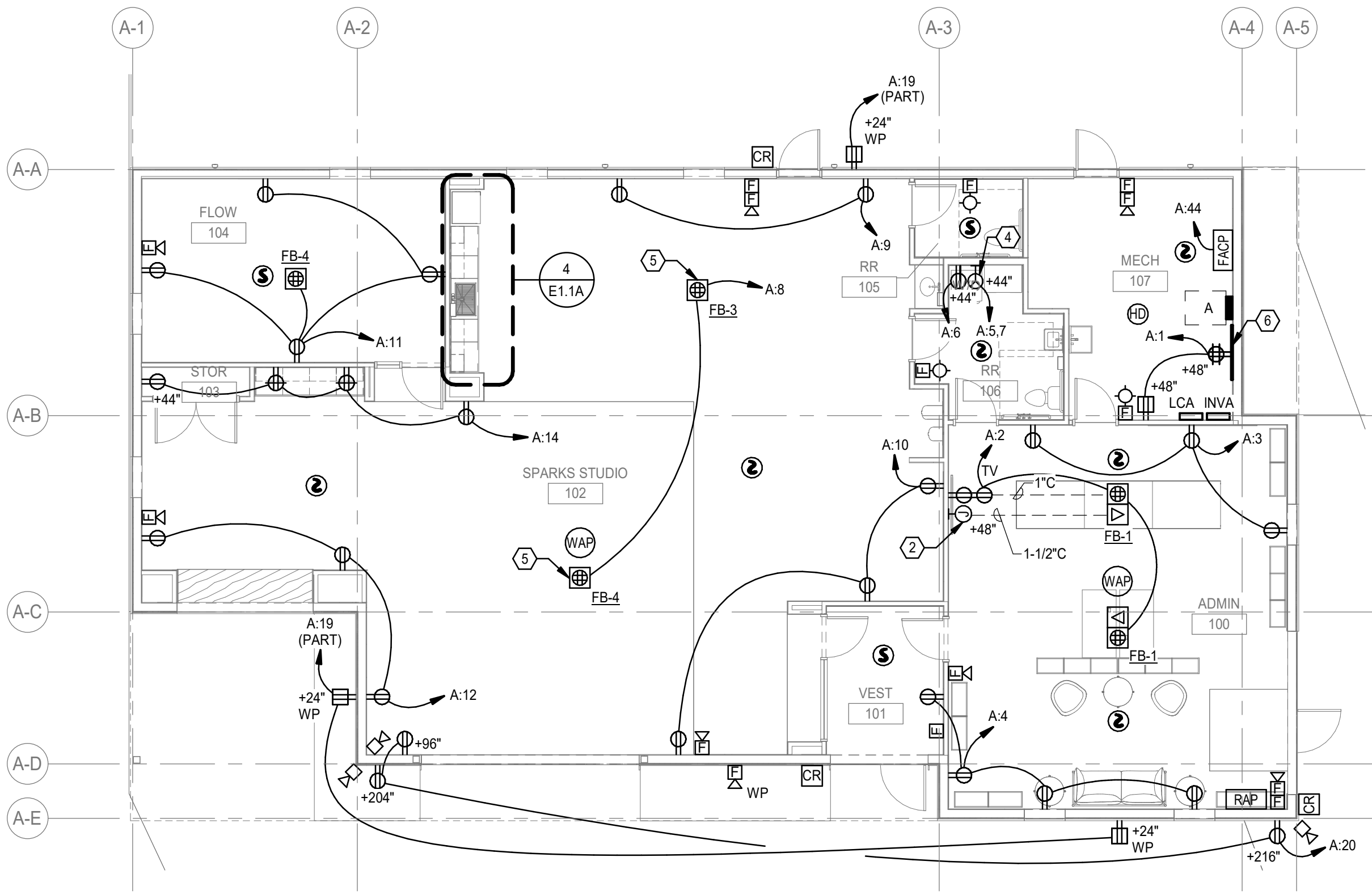




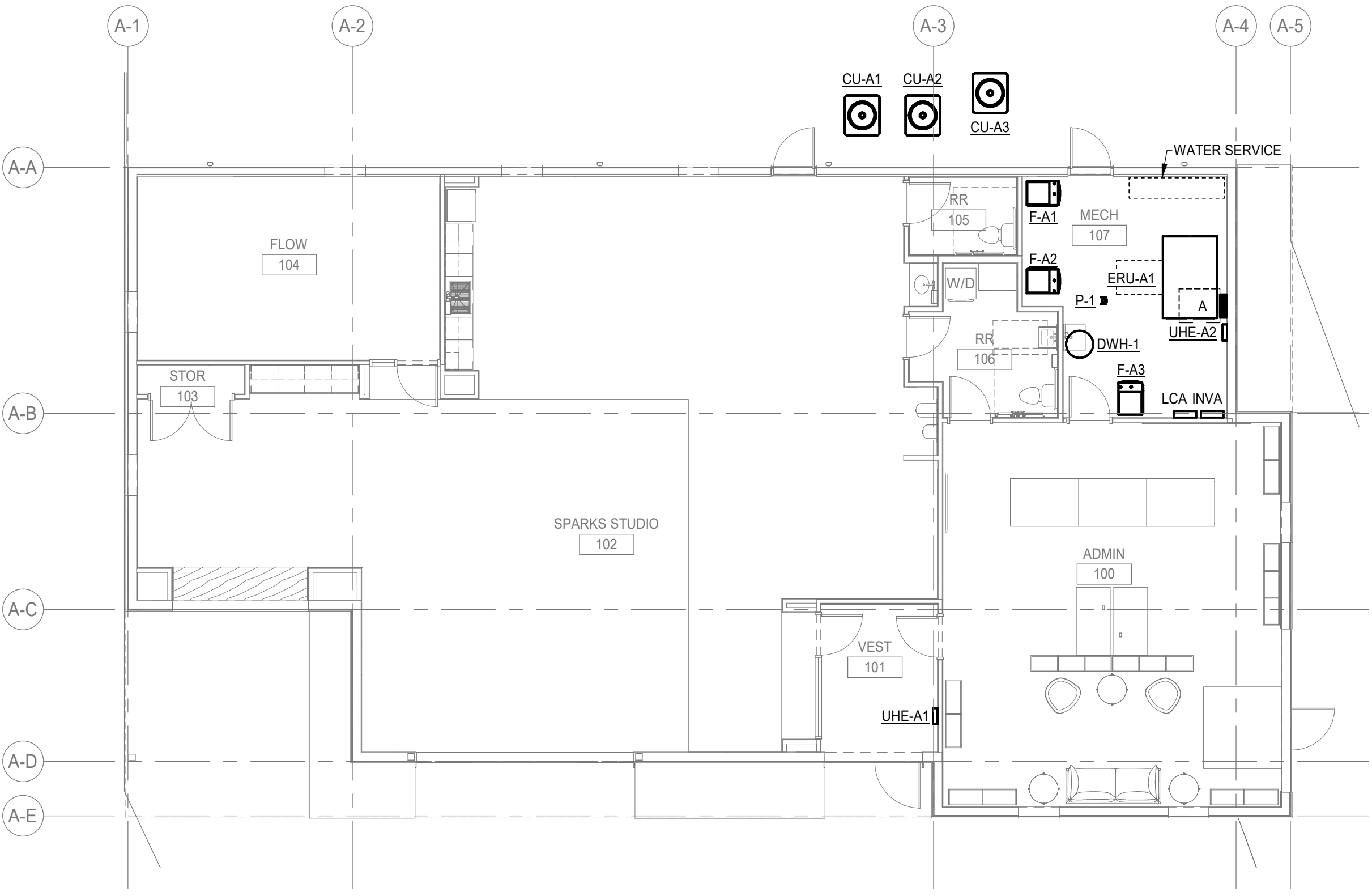




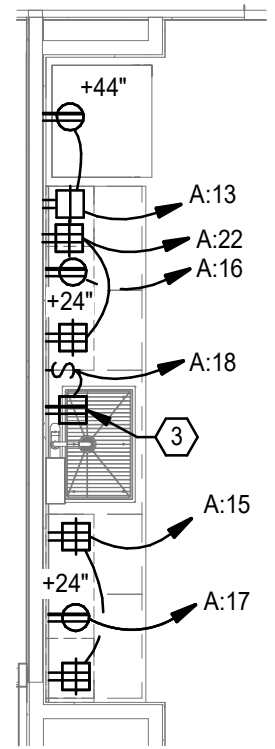
1 LIGHTING PLAN, BUILDING A  
1/8" = 1'-0"



2 POWER PLAN, BUILDING A  
1/8" = 1'-0"



3 MECHANICAL POWER PLAN, BUILDING A  
1/8" = 1'-0"



4 ENLARGED PLAN -BUILDING A - SPARKS STUDIO 102  
1/4" = 1'-0"

## GENERAL SHEET NOTES

- SEE SHEET GEA.1 AND GEA.2 FOR ELECTRICAL SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
- ELECTRICAL RECEPTACLES TAGGED AS TV UNLESS NOTED OTHERWISE. COORDINATE EXACT HEIGHT AND REQUIRED LOCATION OF RECEPTACLE WITH OWNER FURNISHED TV PRIOR TO INSTALLATION.
- SEE MECHANICAL EQUIPMENT CONNECTION SCHEDULE ON SHEET ET.2 FOR MORE INFORMATION.
- FOR WIRELESS ACCESS POINTS LOCATED IN FINISHED SPACES WITHOUT CEILINGS, PROVIDE SQUARE ROUGH-IN BOX WITH 1" C ROUTED TO ABOVE ACCESSIBLE LAY-IN CEILING OR DIRECTLY TO NEAREST MECH ROOM.
- TELECOMMUNICATIONS DEVICES ARE ROUGH-IN ONLY. SEE DETAILS 1 AND 2 ON E6.1 FOR MORE INFORMATION.
- ACCESS CONTROLS ARE ROUGH-IN ONLY. FOR CARD READER LOCATIONS SHOWN PROVIDE EXTERIOR ROUGH-IN BOX WITH 3/4" C TO ABOVE ACCESSIBLE LAY-IN CEILING OR DIRECTLY TO NEAREST MECH ROOM. AND STUB 3/4" CONDUIT FROM DOOR FRAMES TO ABOVE ACCESSIBLE LAY-IN CEILING OR DIRECTLY TO NEAREST MECH ROOM. CONCEAL ALL CARD READER ROUGH-INS. CONDUITS TO BOXES, AND CONDUITS TO DOOR HARDWARE AND FRAMES.
- CCTV DEVICES ARE ROUGH-IN ONLY. FOR SECURITY CAMERA LOCATIONS SHOWN PROVIDE ROUGH-IN BOX AND 1" C TO ABOVE ACCESSIBLE LAY-IN CEILING OR DIRECTLY TO NEAREST MECH ROOM.
- PROVIDE CONDUIT SLEEVES AS REQUIRED THROUGH ALL FINISHED SPACES TO ROUTE ALL OWNER PROVIDED LOW-VOLTAGE CABLING TO MECH ROOM IN BUILDING. QUANTITY AND SIZE OF SLEEVES SHALL BE COORDINATED WITH OWNER TO ENSURE CABLING DOES NOT EXCEED 40% ALLOWABLE FILL IN EACH CONDUIT.
- SEE FLOOR BOX SCHEDULE, SHEET E7.2 FOR FULL DETAILS AND FLOOR BOX REQUIREMENTS. COORDINATE WITH ARCHITECT FOR EXACT FLOOR BOX LOCATIONS PRIOR TO ROUGH-IN.

## SHEET KEYNOTES

- DEDICATED SPACE FOR BUILDING LIGHTING CONTROLS.
- PROVIDE 4" SQUARE ROUGH-IN BOX DIRECTLY ADJACENT TO DUPLEX RECEPTACLE FOR TV WITH 1-1/2" C ROUTED TO FLOORBOX FOR OWNER PROVIDED ANY CABLING.
- RECEPTACLE PROVIDED FOR DISPOSAL IS TO BE MOUNTED UNDER THE SINK. SWITCH ASSOCIATED WITH DISPOSAL IS TO BE LOCATED ABOVE THE COUNTER. LABEL SWITCH "DISPOSAL".
- DRYER RECEPTACLE. SERVE WITH (2)#10, (1)#10 GND, IN 3/4" C. PROVIDE REQUIRED NEMA PLUG CONFIGURATION AS REQUIRED BY EQUIPMENT PROVIDED.
- PROVIDE FLOORBOX AT THIS LOCATION UNDER ALTERNATE NO. 5.
- 4"x8"x3/4" PLYWOOD TELECOMMUNICATIONS EQUIPMENT BACKBOARD MOUNTED AT 12" AFF. USE FIRE RETARDANT PLYWOOD WITH WHITE PAINT. FIRE RATING LABEL ON PLYWOOD SHALL REMAIN VISIBLE FOR INSPECTION.

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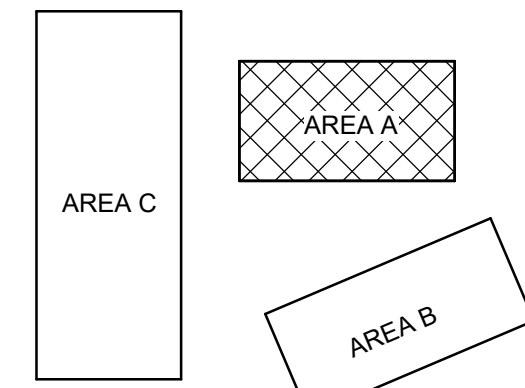
MEP ENGINEER  
OLSSON  
601 P ST #200  
LINCOLN, NE 68508  
V 402 474 6311  
olsson.com

STRUCTURAL ENGINEER  
LARGE STRUCTURAL GROUP  
1919 S 40TH STREET, SUITE 302  
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V 402 421 9540  
largestructuralgroup.com

LANDSCAPE ARCHITECTURE  
ESTATE HOUSE DESIGN  
PENDLETON IN  
V 851 675 8296  
estatehousedesign.com

CONSTRUCTION MANAGER  
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5936 VANDERVOORT DR, SUITE A  
LINCOLN, NE 68516  
V 402 413 2971  
pmakinler.com

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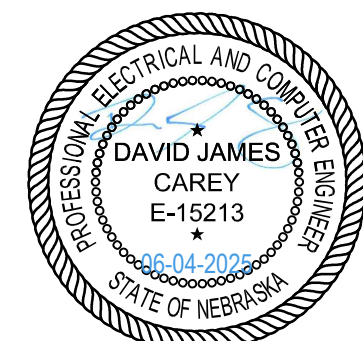


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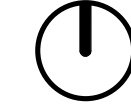
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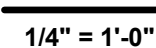
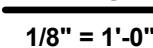
ELECTRICAL PLANS,  
BUILDING A

NORTH



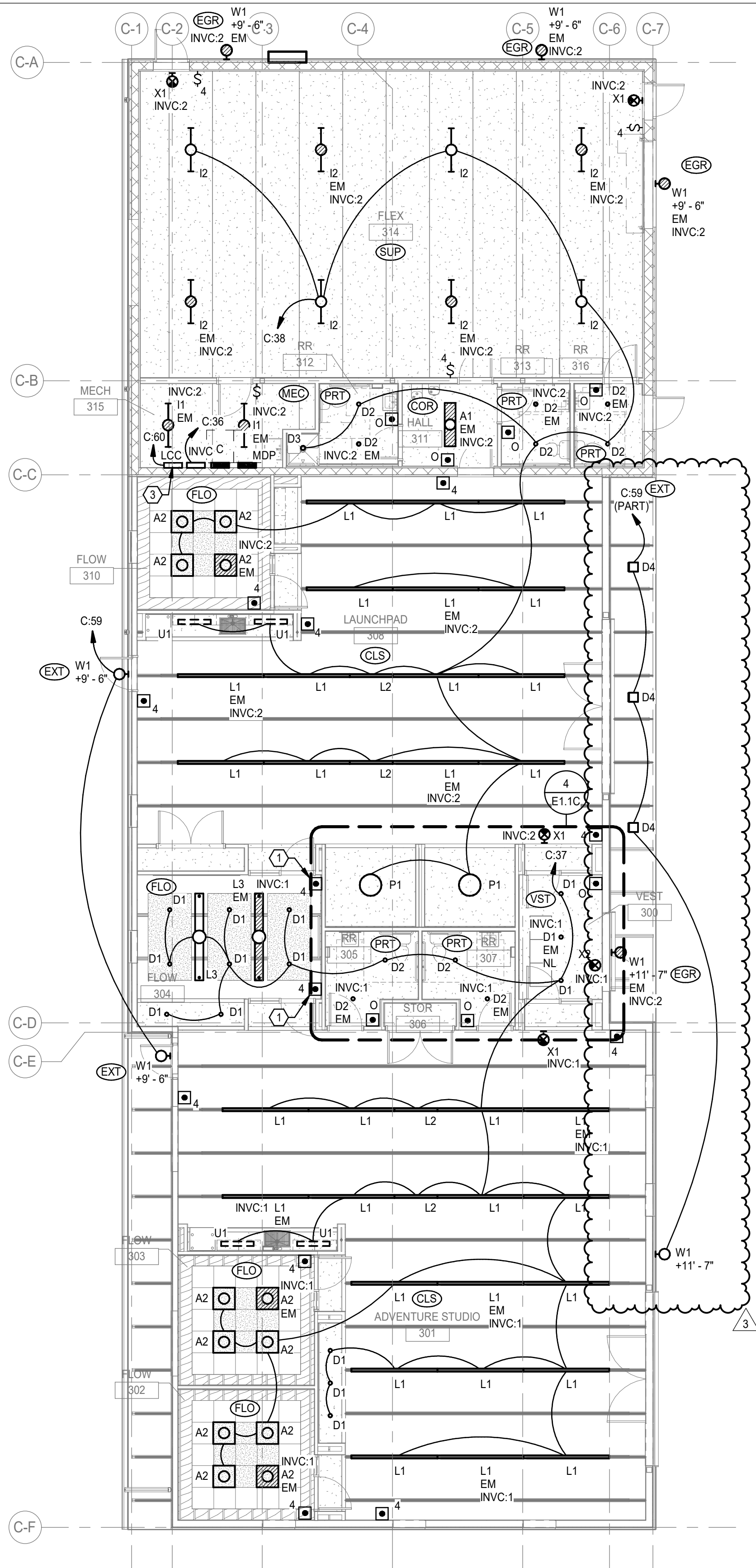
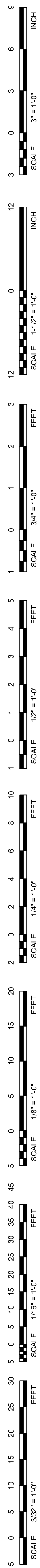
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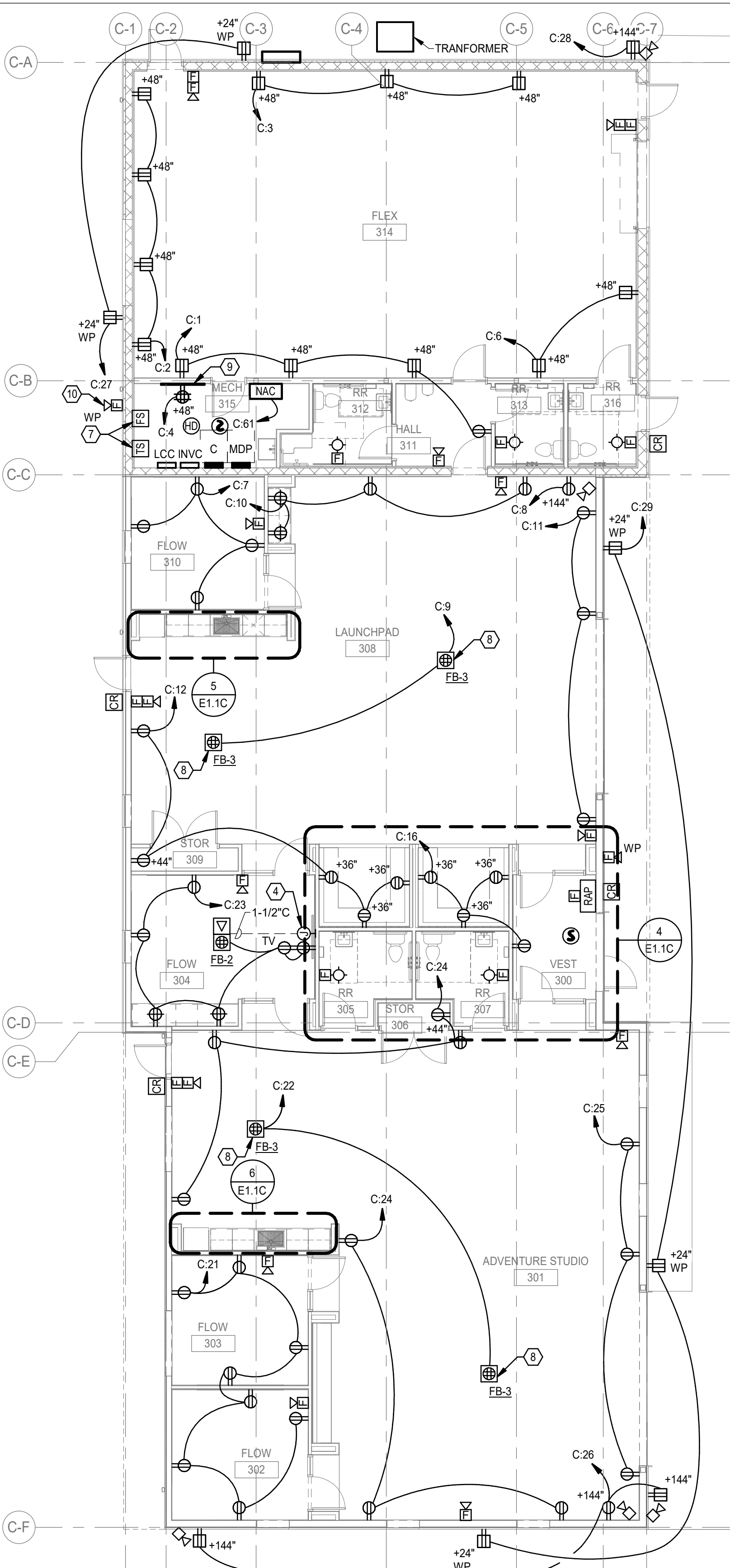


## E1.1B

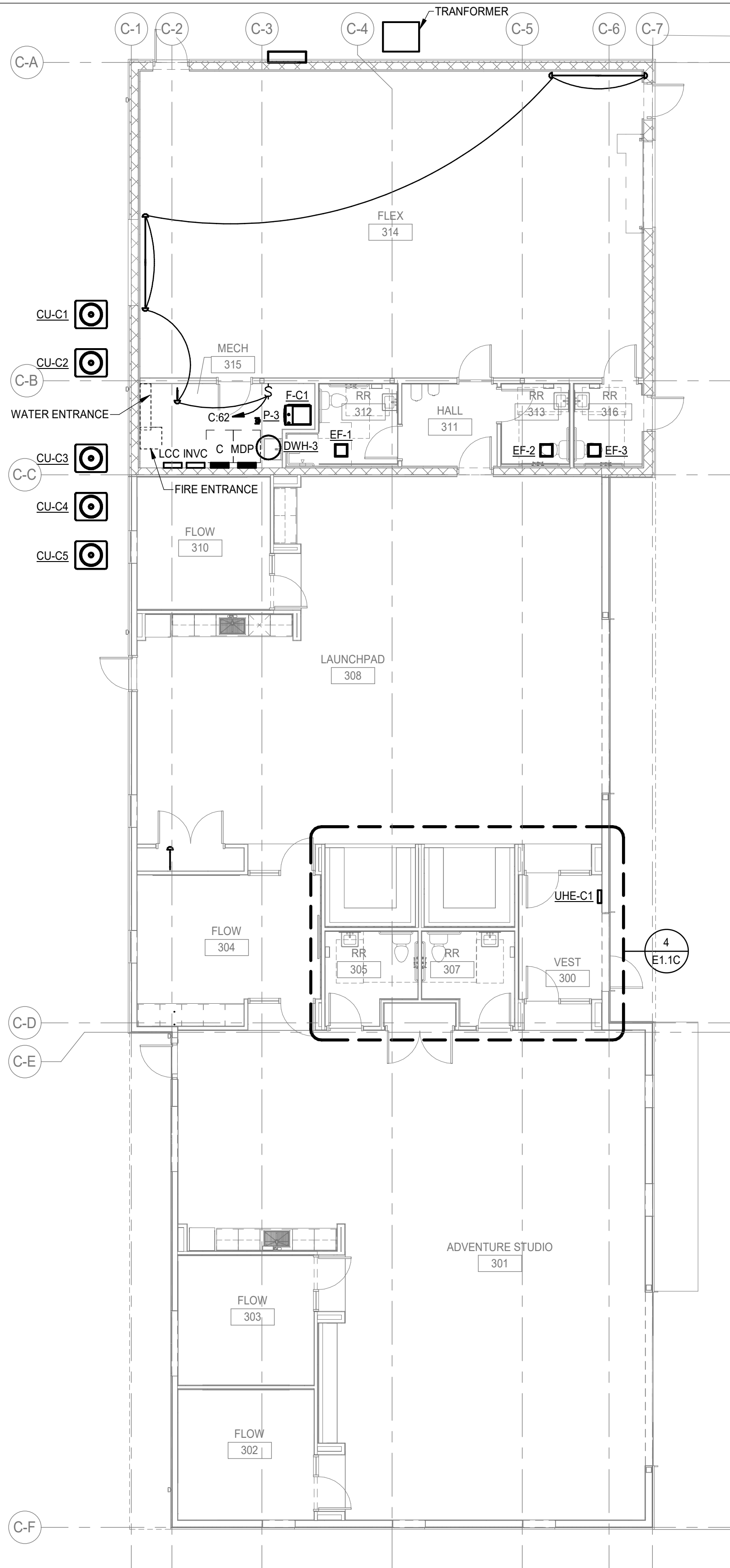




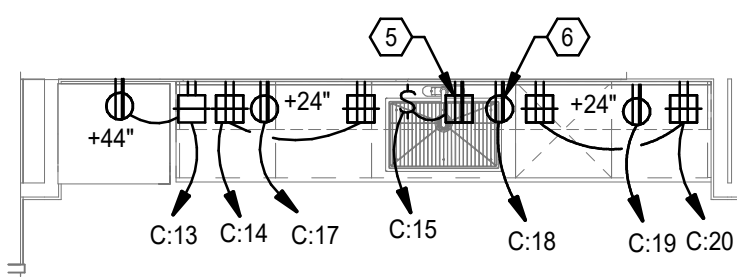
**1 LIGHTING PLAN, BUILDING C**  
1/8" = 1'-0"



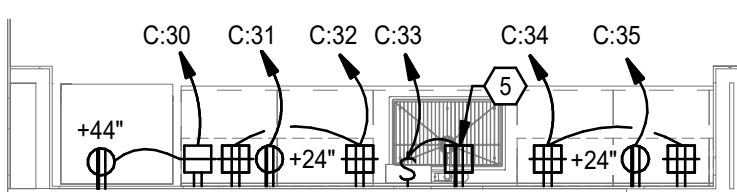
**2 POWER PLAN, BUILDING C**  
1/8" = 1'-0"



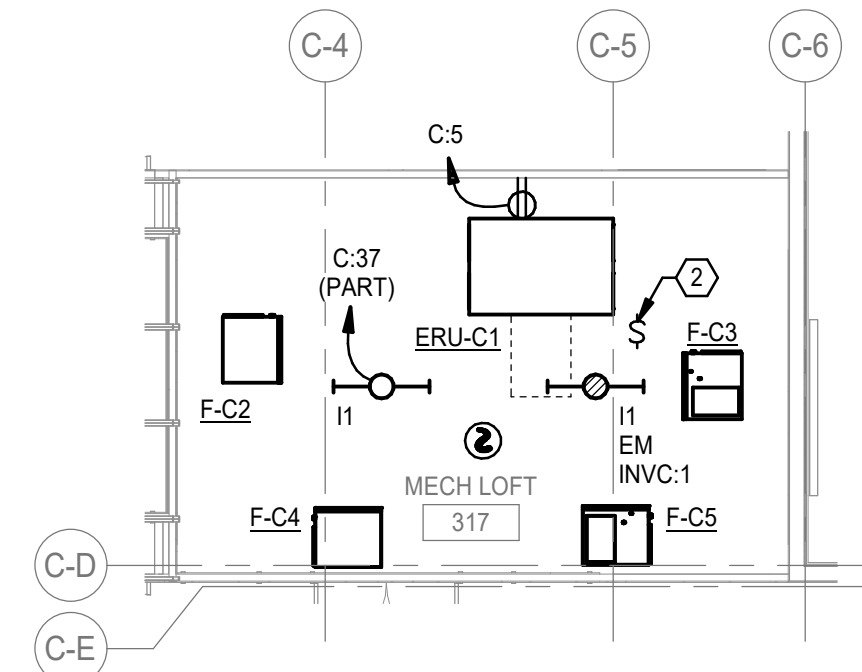
**3 MECHANICAL POWER PLAN, BUILDING C**  
1/8" = 1'-0"



**5 ENLARGED PLAN -BUILDING C - LAUNCHPAD 308**  
1/4" = 1'-0"



**6 ENLARGED PLAN -BUILDING C - ADVENTURE STUDIO 301**  
1/4" = 1'-0"



**4 POWER PLAN, BUILDING C - ENLARGED MEZZANINE**  
1/8" = 1'-0"

## GENERAL SHEET NOTES

- SEE SHEET GEA 1 AND GEA 2 FOR ELECTRICAL SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES.
- ELECTRICAL RECEPTACLES TAGGED AS TV UNLESS NOTED OTHERWISE. COORDINATE EXACT HEIGHT AND REQUIRED LOCATION OF RECEPTACLE WITH OWNER FURNISHED TV PRIOR TO INSTALLATION.
- SEE MECHANICAL EQUIPMENT CONNECTION SCHEDULE ON SHEET ET 2 FOR MORE INFORMATION.
- FOR WIRELESS ACCESS POINTS LOCATED IN FINISHED SPACES WITHOUT CEILINGS. PROVIDE SQUARE ROUGH-IN BOX WITH 1" C ROUTED TO ABOVE ACCESSIBLE LAY-IN CEILING OR DIRECTLY TO NEAREST MECH ROOM.
- TELECOMMUNICATIONS DEVICES ARE ROUGH-IN ONLY. SEE DETAILS 1 AND 2 ON E6.1 FOR MORE INFORMATION.
- ACCESS CONTROLS ARE ROUGH-IN ONLY. FOR CARD READER LOCATIONS SHOWN PROVIDE EXTERIOR ROUGH-IN BOX WITH 3/4" C TO ABOVE ACCESSIBLE LAY-IN CEILING OR DIRECTLY TO NEAREST MECH ROOM. AND STUB 3/4" CONDUIT FROM DOOR FRAMES TO ABOVE ACCESSIBLE LAY-IN CEILING OR DIRECTLY TO NEAREST MECH ROOM. CONCEAL ALL CARD READER ROUGH-INS. CONDUITS TO BOXES, AND CONDUITS TO DOOR HARDWARE AND FRAMES.
- CCTV DEVICES ARE ROUGH-IN ONLY. FOR SECURITY CAMERA LOCATIONS SHOWN PROVIDE ROUGH-IN BOX AND 1" C TO ABOVE ACCESSIBLE LAY-IN CEILING OR DIRECTLY TO NEAREST MECH ROOM.
- PROVIDE CONDUIT SLEEVES AS REQUIRED THROUGH ALL FINISHED SPACES TO ROUTE ALL OWNER PROVIDED LOW-VOLTAGE CABLING TO MECH ROOM IN BUILDING. QUANTITY AND SIZE OF SLEEVES SHALL BE COORDINATED WITH OWNER TO ENSURE CABLING DOES NOT EXCEED 40% ALLOWABLE FILL IN EACH CONDUIT.
- SEE FLOOR BOX SCHEDULE, SHEET ET 2 FOR FULL DETAILS AND FLOOR BOX REQUIREMENTS. COORDINATE WITH ARCHITECT FOR EXACT FLOOR BOX LOCATIONS PRIOR TO ROUGH-IN.

## SHEET KEYNOTES

- COORDINATE CONTROL DEVICE LOCATION AND MOUNTING ON FEATURE WALL WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION.
- LIGHT SWITCH FOR MECH LOFT. COORDINATE BEST LOCATION, NEAR HATCH OPENING, WITH EQUIPMENT LAYOUT IN LOFT.
- DEDICATED SPACE FOR BUILDING LIGHTING CONTROLS.
- PROVIDE 4" SQUARE ROUGH-IN BOX DIRECTLY ADJACENT TO DUPLEX RECEPTACLE FOR TV WITH 1-1/2" C ROUTED TO FLOORBOX FOR OWNER PROVIDED AV CABLING.
- RECEPTACLE PROVIDED FOR DISPOSAL IS TO BE MOUNTED UNDER THE SINK. SWITCH ASSOCIATED WITH DISPOSAL IS TO BE LOCATED ABOVE THE COUNTER. LABEL SWITCH "DISPOSAL".
- DISHWASHER RECEPTACLE. PROVIDE REQUIRED NEMA PLUG CONFIGURATION AS REQUIRED BY EQUIPMENT PROVIDED.
- PROVIDE FLOW SWITCHES AND TAMPER SWITCHES FOR MONITORING OF FIRE SPRINKLER SYSTEM RISER BY THE FIRE ALARM SYSTEM. COORDINATE EXACT QUANTITY OF FLOW AND TAMPER SWITCHES WITH THE FIRE SPRINKLER CONTRACTOR.
- PROVIDE FLOORBOX AT THIS LOCATION UNDER ALTERNATE NO. 5.
- 4"x8"x3/4" PLYWOOD TELECOMMUNICATIONS EQUIPMENT BACKBOARD MOUNTED AT 12" AFF. USE FIRE RETARDANT PLYWOOD WITH WHITE PAINT. FIRE RATING LABEL ON PLYWOOD SHALL REMAIN VISIBLE FOR INSPECTION.
- NOTIFICATION DEVICE, PROVIDED UNDER DIVISION 21, ASSOCIATED WITH FIRE DEPARTMENT CONNECTION. SEE DETAIL 1M5.1. FOR MORE INFORMATION.

# BVH

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440 N 8TH ST STE 100  
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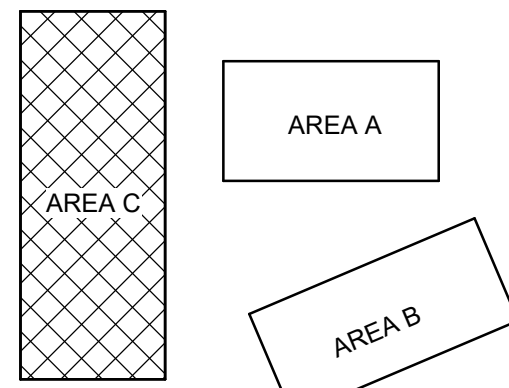
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pmakiner.com

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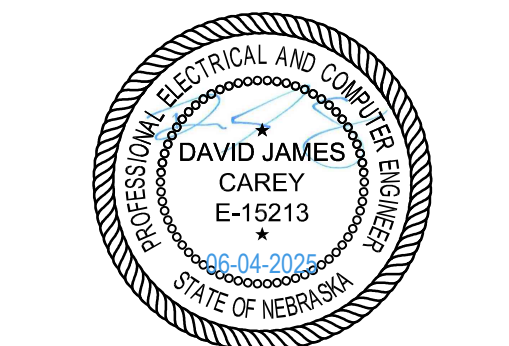


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PROJECT STATUS: CONSTRUCTION DOCUMENTS

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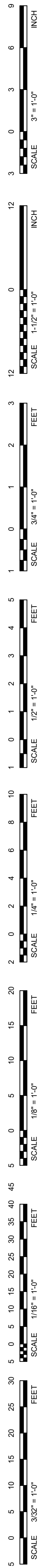


OLSSON PROJECT # 028-00388  
OLSSON CO. CA. 0638

ELECTRICAL PLANS,  
BUILDING C

NORTH  
E1.1C





LIGHTING FIXTURE SCHEDULE

| FIXTURE TYPE | DESCRIPTION   | MANUFACTURER  | MODEL  | VE MANUFACTURER | VE MODEL | APPROVED MANUFACTURER | COLOR/FINISH     | TOTAL INPUT WATTS | LAMP |        |        |     | VOLTAGE | MOUNTING     | NOTES |
|--------------|---|---------------|--|-----------------|----------|-----------------------|------------------|-------------------|------|--------|--------|-----|---------|--------------|-------|
|              |   |               |  |                 |          |                       |                  |                   | TYPE | LUMENS | CCT    | CRI |         |              |       |
| A1           | RECESSED 1x4 TROFFER  | LITHONIA      | CPX 1x4 3200LM 80CRI 35K SWL MIN10 ZT MVOLT DGA14                            | LITHONIA        | CPX CS   | METALUX               | WHITE            | 30                | LED  | 3113   | 3500 K | 80  | 120     | RECESSED     |       |
| A2           | RECESSED 2x2 TROFFER  | LITHONIA      | LFM 2x2 AL03 300LM 80CRI 35K SWL MVOLT L16                                   |                 |          | METALUX               | WHITE            | 25                | LED  | 3130   | 3500 K | 80  | 120     | RECESSED     |       |
| D1           | RECESSED DOWNLIGHT - 4"   | LITHONIA      | LDN4 AL01 SWW1 L04 AR LSS MVOLT UG2  | JUNO            | WF4      | HALO COMMERCIAL       | WHITE            | 6                 | LED  | 564    | 3500 K | 80  | 120     | RECESSED     |       |
| D2           | RECESSED DOWNLIGHT - 4"   | LITHONIA      | LDN4 AL01 SWW1 L04 AR LSS MVOLT UG2  | JUNO            | WF4      | HALO COMMERCIAL       | WHITE            | 13                | LED  | 1297   | 3500 K | 80  | 120     | RECESSED     |       |
| D3           | RECESSED DOWNLIGHT - 4"   | LITHONIA      | LDN4 AL01 SWW1 L04 AR LSS MVOLT UG2  | JUNO            | WF4      | HALO COMMERCIAL       | WHITE            | 14                | LED  | 1003   | 3500 K | 80  | 120     | RECESSED     |       |
| D4           | RECESSED DOWNLIGHT - 4"   | LITHONIA      | LDN4 AL01 SWW1 L04 AR LSS MVOLT UG2  | JUNO            | WF4      | HALO COMMERCIAL       | WHITE            | 9                 | LED  | 705    | 3000 K | 80  | 120     | SURFACE      |       |
| F1           | FLOODLIGHT  | HYDREL        | SAF1 LED P1 90CRI 30K MVOLT 30deg CVM CM CPM ZT GS BL                        | LITHONIA        | RSX1     | FC LIGHTING           | BLACK            | 33                | LED  | 2819   | 3000 K | 80  | 120     | GROUND MOUNT |       |
| I1           | INDUSTRIAL STRIP  | LITHONIA      | CLX L48 5000LM SEF FDL MVOLT G21 35K 80CRI WH HC36 M12                       | LITHONIA        | CSS      | METALUX               | WHITE            | 32                | LED  | 5000   | 3500 K | 80  | 120     | CHAIN HUNG   |       |
| I2           | INDUSTRIAL STRIP  | LITHONIA      | CLX L48 10000LM SEF FDL MVOLT G21 35K 80CRI WH HC36 M12                      | LITHONIA        | CSS      | METALUX               | WHITE            | 71                | LED  | 10000  | 3500 K | 80  | 120     | CHAIN HUNG   |       |
| L1           | SURFACE MOUNT LINEAR - 8'   | MARK LIGHTING | 84SD LLP 8FT MSL8 80CRI 35K 800LMF SCT MIN10 FLL MVOLT WHIT                  | LITHONIA        | CLX      | FINELITE              | WHITE            | 64                | LED  | 6328   | 3500 K | 80  | 120     | SURFACE      |       |
| L2           | SURFACE MOUNT LINEAR - 4'   | MARK LIGHTING | 84SD LLP 4FT MSL4 80CRI 35K 800LMF SCT MIN10 FLL MVOLT WHIT                  | LITHONIA        | CLX      | FINELITE              | WHITE            | 32                | LED  | 3164   | 3500 K | 80  | 120     | SURFACE      |       |
| L3           | SUSPENDED LINEAR - 8'   | MARK LIGHTING | S1PD LLP 8FT 90CRI 35K 800LMF SCT MIN10 FLL 120 BLKT F2 72A 90CQY BLKCY BCRD | LITHONIA        | CLX      | FINELITE              | BLACK            | 56                | LED  | 6216   | 3500 K | 90  | 120     | SUSPENDED    |       |
| P1           | DECORATIVE DRUM - 24"   | EUREKA        | 4274D-20 LED 35 80 120V DV AC(BLACK) 60 RC1 BLKE BLKE BLK CHP WH             | ANPLIGHTING     | DD20     | A WE LIGHTING         | CHARCOAL         | 31                | LED  | 2228   | 3500 K | 80  | 120     | SUSPENDED    |       |
| R1           | RECESSED LINEAR - 4"  | LITHONIA      | LSIX 4FT 3000LM 80CRI 35K 8FR SWL MIN10 ZT MVOLT MB                          |                 |          | METALUX               | BLACK            | 25                | LED  | 3000   | 3500 K | 80  | 120     | RECESSED     |       |
| S1           | SINGLE AREA LED, TYPE I DISTRIBUTION, HOUSE SIDE SHIELD, 25' POLE 2'-6" BASE  | LITHONIA      | DSX1 P1 30K 70CRI T2M MVOLT RPA HS DBLXD                                     | LITHONIA        | RSX1     | MCGRRAW-EDISON        | BLACK            | 51                | LED  | 7203   | 3000 K | 70  | 120     | POLE MOUNT   |       |
| S2           | SINGLE AREA LED, TYPE IV DISTRIBUTION, HOUSE SIDE SHIELD, 25' POLE 2'-6" BASE | LITHONIA      | DSX1 P2 30K 70CRI TFTM MVOLT RPA HS DBLXD                                    | LITHONIA        | RSX1     | MCGRRAW-EDISON        | BLACK            | 68                | LED  | 9573   | 3000 K | 70  | 120     | POLE MOUNT   |       |
| S3           | SINGLE AREA LED, TYPE IV DISTRIBUTION, 25' POLE 2'-6" BASE                    | LITHONIA      | DSX1 P2 30K 70CRI TFTM MVOLT RPA HS DBLXD                                    | LITHONIA        | RSX1     | MCGRRAW-EDISON        | BLACK            | 68                | LED  | 9573   | 3000 K | 70  | 120     | POLE MOUNT   |       |
| S4           | SINGLE PEDESTRIAN POLE, TYPE V DISTRIBUTION, 12'-0" POLE 6" BASE              | LITHONIA      | RADPTLED P1 30K SYM MVOLT EADPT20 DBLXD                                      |                 |          | SPITZER LIGHTING      | BLACK            | 25                | LED  | 3189   | 3200 K | 70  | 120     | POLE MOUNT   |       |
| U1           | SURFACE LINEAR UNDERCABINET   | PURE EDGE     | LCS 3 3W 36 D 39KZ SA  | LLJA            | LLJ-FLX  | QTL                   | SATIN WAINUM     | 10                | LED  | 2850   | 3500 K | 80  | 120     | UNDERCABINET |       |
| W1           | WALL SCONCE RECTANGULAR   | LITHONIA      | WPX1 LED P1 30K MVOLT DBLXD  |                 |          | LUMARK                | BLACK            | 11                | LED  | 1537   | 3000 K | 70  | 120     | WALL         |       |
| X1           | EXIT SIGN BACK MOUNT  | LITHONIA      | LE S 1 R   | LITHONIA        | ERG      | SURE-LITES            | BRUSHED ALUMINUM | 3                 | LED  | 100    | 3500 K | 80  | 120     | WALL         |       |
| X2           | EXIT SIGN CEILING MOUNT   | LITHONIA      | LE S 1 R   | LITHONIA        | ERG      | SURE-LITES            | BRUSHED ALUMINUM | 3                 | LED  | 100    | 3500 K | 80  | 120     | SURFACE      |       |

- GENERAL SCHEDULE NOTES:
- A. VALUE ENGINEERING ALTERNATIVES - ALTERNATE LIGHT FIXTURES FOR CONSIDERATION ARE SHOWN IN THE VE MANUFACTURER AND VE MODEL COLUMNS IN THE SCHEDULE ABOVE.
- B. ALL INTERIOR AND BUILDING MOUNT LIGHT FIXTURES SHALL BE PROVIDED WITH 0-10V DIMMING CONTROLS. ALL SITE LIGHTING FIXTURES SHALL BE PROVIDED WITH WIRELESS BI-LEVEL DIMMING CONTROLS.
- C. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT OF SUSPENDED AND WALL MOUNTED LIGHT FIXTURES WITH OWNER/ARCHITECT PRIOR TO ORDERING AND INSTALLATION. MOUNTING HEIGHTS ARE TO BOTTOM OF FIXTURE LENS, UNLESS NOTED OTHERWISE.
- D. FOR ALL CEILING MOUNTED LUMINAIRES, COORDINATE MOUNTING TYPE/CONFIGURATION WITH CEILING SYSTEM PRIOR TO ORDERING.
- E. FOR LED REPLACEMENT LAMPS, PROVIDE PRODUCT DATA SUBMITTAL FOR REVIEW BY THE OWNER/ARCHITECT/ENGINEER.
- F. FOR EXIT SIGNS, PROVIDE DIRECTIONAL ARROWS AS REQUIRED FOR MAXIMUM CLARITY OF THE PATH OF EGRESS OR TO MATERIAL PROCUREMENT.
- G. FIXTURE FINISH AND LENGTH WHERE FIXTURE CATALOG NUMBER LISTED INDICATES "" IN LIEU OF MANUFACTURER'S FINISH OPTION. COORDINATE WITH ARCHITECT FOR EXACT SELECTION PRIOR TO ORDERING. IF "" IS RELATED TO FIXTURE LENGTH, CONTRACTOR SHALL COORDINATE EXACT LENGTH REQUIREMENTS WITH LIGHTING PLANS AND FIELD CONDITIONS PRIOR TO ORDERING.
- H. ALTERNATE LIGHT FIXTURES MAY BE SUBMITTED FOR PRIOR APPROVAL IF A FOOT-CANDLE PLOT AT THE IES RECOMMENDED WORK PLANE HEIGHT IS INCLUDED, AND REQUEST IS RECEIVED 10 DAYS PRIOR TO BID DATE. IF RECEIVED LESS THAN 10 DAYS PRIOR TO BID DATE, OR AFTER, FIXTURES MAY BE SUBMITTED AS VOLUNTARY ALTERNATES. FOOTCANDLE PLOTS SHALL INCLUDE NORMAL AND EMERGENCY OPERATION.
- I. CONTRACTOR TO VERIFY ALL LIGHT FIXTURE INSTALLATION REQUIREMENTS PRIOR TO INSTALLATION. PROVIDE ALL ASSOCIATED JUMPER WIRES, JUNCTION BOXES, ACCESSORIES AND ANY ADDITIONAL RACEWAY AS REQUIRED TO PROVIDE A COMPLETE INSTALLATION IN EACH LOCATION SHOWN.
- J. WALL MOUNTED - WHERE LIGHT FIXTURES ARE INDICATED IN SCHEDULE AND ON FLOOR PLANS AS WALL MOUNTED, COORDINATE EXACT LOCATION WITH ARCHITECT AND ARCHITECTURAL DETAILS. PROVIDE BACKING, FRAMING AND BOX SUPPORTS PRIOR TO ROUGH-IN FOR EXACT PLACEMENT OF BOX TO ACHIEVE CENTERING AND ALIGNMENT WITH FINAL ARCHITECTURAL DRAWINGS. CONSULT ARCHITECT AND ENGINEER PRIOR TO ROUGH-IN FOR EXACT LOCATIONS WHERE NOT IDENTIFIED IN ARCHITECTURAL DRAWINGS.
- K. PENDANTS/SUSPENSION - WHERE LIGHT FIXTURES ARE INDICATED IN SCHEDULE AND ON FLOOR PLANS AS PENDANTS/SUSPENSION MOUNTED, COORDINATE EXACT MOUNTING ELEVATION AND ASSOCIATED ROD/CABLE LENGTH WITH ARCHITECT AND ARCHITECTURAL DETAILS/ELEVATIONS.
- L. DOWNLIGHT - PROVIDE DOWNLIGHT REFLECTOR FINISH/COLOR AS SPECIFIED IN THE LIGHTING FIXTURE SCHEDULE. SELECT CEILING TRIM FINISH/COLOR TO COORDINATE WITH CEILING TYPE. "WHITE" TRIM FOR DOWNLIGHTS MOUNTED IN WHITE ACOUSTICAL TILE CEILINGS. "CLEAR" (TO MATCH REFLECTOR FINISH/COLOR) FOR DOWNLIGHTS MOUNTED IN PAINTED GYPSUM BOARD CEILINGS.
- M. UNDERCABINET - PROVIDE ALL NECESSARY MANUFACTURER'S INSTALLATION ACCESSORIES TO ACCOMMODATE INSTALLATION, INCLUDING, BUT NOT LIMITED TO: SPICE BOXES, AND CONNECTORS, AND JUMPERDAISY CHAIN CONNECTORS.
- N. PEDESTRIAN POLE MOUNT - PROVIDE 12'-0" ROUND STRAIGHT ALUMINUM POLE. POLE SHALL COMPLY WITH AASHTO LTS-6M WITH ADEQUATE STRENGTH AT HEIGHT AND LUMINAIRE WEIGHT AS REFLECTED IN THESE DOCUMENTS AT WIND SPEEDS OF 110MPH. SELECT POLE BASED ON A FACTOR OF 1.1 TIMES THE ACTUAL EQUIVALENT PROJECTED AREA (EPA). POLE SHALL INCLUDE FACTORY INSTALLED WIND/VIBRATION DAMPENERS, GROUNDING, AND MOUNTING TO SUPPORT LUMINAIRE AND AFFIX TO POLE BASE AS DESCRIBED HEREIN.
- O. PARKING POLE MOUNT - PROVIDE 25'-0" ROUND TAPERED STEEL POLE. POLE SHALL COMPLY WITH AASHTO LTS-6-M WITH ADEQUATE STRENGTH AT HEIGHT AND LUMINAIRE WEIGHT AS REFLECTED IN THESE DOCUMENTS AT WIND SPEEDS OF 110MPH. SELECT POLE BASED ON A FACTOR OF 1.1 TIMES THE ACTUAL EQUIVALENT PROJECTED AREA (EPA). POLE SHALL INCLUDE FACTORY INSTALLED WIND/VIBRATION DAMPENERS, GROUNDING, AND MOUNTING TO SUPPORT LUMINAIRE AND AFFIX TO POLE BASE AS DESCRIBED HEREIN.

LIGHTING CONTROL SCHEDULE

| TAG | ROOM TYPE              | DEVICES |        |     |       | SEQUENCE OF OPERATION  |
|-----|------------------------|---------|--------|-----|-------|--|
|     |                        | OCC     | DAY LT | AUX | NETWK |  |
| CLS | CLASSROOM              | DT      | N      | N   | Y     | AUTO ON: UPON OCCUPANCY DETECTION, LIGHTS TO 50%.<br>WALL DEVICE: PROVIDE ON/OFF CONTROL AND DIM FROM MIN-MAX.<br>OCC DELAY: 5 MINUTE DELAY, LIGHTS TO 0%.   |
| COR | CORRIDORS              | IR      | N      | N   | Y     | AUTO ON (DURING AFTER HOURS): UPON OCCUPANCY DETECTION, LIGHTS TO 50%.<br>WALL DEVICE: PROVIDE ON/OFF CONTROL.<br>SCHEDULE ON: LIGHTS TO 100% AT 6:00 AM.<br>[AFTER HOURS: LIGHTS TO 0% FROM 10:00 PM]<br>OCC DELAY: 30 MINUTE DELAY, RETURN TO SCHEDULE.  |
| EGR | EXTERIOR EGRESS        | N       | N      | N   | Y     | AUTO ON: 15 MINUTES PRIOR TO DUSK, LIGHTS TO 100%.<br>AUTO OFF: 15 MINUTES AFTER DAWN, LIGHTS TO 0%.   |
| EXT | EXTERIOR               | N       | N      | N   | Y     | AUTO ON: 15 MINUTES PRIOR TO DUSK, LIGHTS TO 100%.<br>AFTER HOURS: BETWEEN 11 PM AND 5 AM, LIGHTS TO 30%.<br>AUTO OFF: 15 MINUTES AFTER DAWN, LIGHTS TO 0%.  |
| FLO | OFFICE/LOUNGE/ FLOW    | DT      | N      | N   | Y     | AUTO ON: UPON OCCUPANCY DETECTION, LIGHTS TO 50%.<br>WALL DEVICE: PROVIDE ON/OFF CONTROL AND DIM FROM MIN-MAX.<br>OCC DELAY: 5 MINUTE DELAY, LIGHTS TO 0%.   |
| MEC | MECHANICAL/ ELECTRICAL | N       | N      | N   | N     | WALL DEVICE: PROVIDE ON/OFF CONTROL.<br>NO AUTOMATIC CONTROLS WITHIN THIS SPACE.   |
| OPN | OPEN OFFICE            | DT      | N      | N   | Y     | SWEEP AUTO ON: LIGHTS TO 100% AT 7:00 AM.<br>SWEEP AFTER HOURS: LIGHTS TO 0% AT 7:00 PM.<br>AUTO ON (DURING AFTER HOURS): UPON OCCUPANCY DETECTION, LIGHTS TO 50%.<br>WALL DEVICE: PROVIDE OVERRIDE SWITCH FOR FIXTURE CONTROL FOR A PERIOD OF 20 MINUTES. LIGHTS TO 0%, RETURN TO SCHEDULE. SWITCH TO PROVIDE 50% DIMMING.<br>PER IECC 2018 ENERGY CODE REQUIREMENTS PER ZONE DESIGNATIONS "a", "b", "c" ETC.<br>PROVIDE "TOUCHE" TOUCH SCREEN DISPLAY TO CONTROL ZONES AS INDICATED. |
| PRT | PRIVATE RESTROOMS      | DT      | N      | N   | Y     | AUTO ON: UPON OCCUPANCY DETECTION, LIGHTS TO 100%.<br>WALL DEVICE: PROVIDE ON/OFF CONTROL.<br>OCC DELAY: 2 MINUTE DELAY, LIGHTS TO 0%.   |
| STO | STORAGE                | IR      | N      | N   | Y     | AUTO ON: UPON OCCUPANCY DETECTION, LIGHTS TO 50%.<br>WALL DEVICE: PROVIDE ON/OFF CONTROL AND DIM FROM MIN-MAX.<br>OCC DELAY: 5 MINUTE DELAY, LIGHTS TO 0%.   |
| SUP | SUPPORT SPACES         | DT      | N      | N   | Y     | AUTO ON: UPON OCCUPANCY DETECTION, LIGHTS TO 50%.<br>WALL DEVICE: PROVIDE ON/OFF CONTROL AND DIM FROM MIN-MAX.<br>OCC DELAY: 5 MINUTE DELAY, LIGHTS TO 0%.   |
| VST | VESTIBULES             | IR      | N      | N   | Y     | AUTO ON (DURING AFTER HOURS): UPON OCCUPANCY DETECTION, LIGHTS TO 50%.<br>SCHEDULE ON: 15 MINUTES PRIOR TO DUSK, LIGHTS TO 100%.<br>SCHEDULE DIM: 15 MINUTES AFTER DAWN, LIGHTS TO 50%.<br>AFTER HOURS: AT 10 PM, LIGHTS TO 10%, AT 5 AM, RETURN TO 100%.<br>OCC DELAY: 5 MINUTE DELAY, RETURN TO SCHEDULE.  |

- GENERAL SCHEDULE NOTES:
- A. SEQUENCE OF OPERATION IS BASED ON COMPLIANCE WITH LOCALLY ADOPTED ENERGY CODE. LIGHTING CONTROL SUPPLIER & CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING FINAL PROGRAMMING WITH OWNER FOR EXACT TIME SCHEDULES, DIMMING LEVELS (WHILE MAINTAINING COMPLIANCE WITH ENERGY CODE), AND OCCUPANCY SENSITIVITY & DELAY. CONTRACTOR SHALL WALK SITE WITH OWNER PRIOR TO FINAL START-UP AND COMMISSIONING OF SYSTEM TO VALIDATE PROGRAMMING OF SPACE IS ACCEPTABLE. OWNER IS NOT RESPONSIBLE FOR REPEAT VISITS BY LIGHTING CONTROL SUPPLIERS PROGRAMMERS IN ORDER TO ACHIEVE ACCEPTABLE PROGRAMMING WHERE NOT COORDINATED/DISCUSSSED AHEAD OF TIME.
- B. REFER TO LIGHTING PLAN FOR WALL DEVICE TYPES, QUANTITIES, AND LOCATIONS. REFER TO SYMBOL LEGEND FOR LIGHTING PUSH BUTTON TYPE DESCRIPTIONS.
- C. PROVIDE MANUFACTURER INTERCONNECTION DIAGRAMS INDICATING DEVICE QUANTITIES, LOCATIONS, AND ASSOCIATED CONTROLS CABLING.
- D. SEE LIGHTING PLAN FOR WALL DEVICE TYPES AND LOCATIONS. DEVICE QUANTITIES NOT INDICATED. PROVIDE TYPE AND QUANTITY OF DEVICES AS REQUIRED TO PROVIDE COMPLETE COVERAGE OF SPACE AND INTENDED SYSTEM OPERATION.
- E. FINAL QUANTITY, LOCATION, TYPE OF OCCUPANCY SENSORS, AND POWER PACK MODULES TO BE DETERMINED BY LIGHTING CONTROLS PROVIDER. PROVIDE POWER PACK MODULES, LOW VOLTAGE WIRING/CABLING AND ALL ASSOCIATED ACCESSORIES AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.
- F. WHERE INTERIOR PHOTOCELLS ARE BEING UTILIZED, PROVIDE ADDITIONAL COMPONENTS AS NEEDED TO CONTROL LIGHTING WITHIN DAYLIGHT ZONES INDEPENDENT OF GENERAL AREA LIGHTING WITHIN SPACE. PROVIDE MINIMUM OF (1) PHOTOCELL DEVICE PER DAYLIGHT ZONE. TARGET ILLUMINANCE LEVELS SHALL BE MEASURED AT WORK PLANE PER IESNA RECOMMENDATIONS OF PRIMARY TASK IN SPACE.
- G. UNLESS NOTED OTHERWISE, INTERIOR LIGHTING SHALL UTILIZE CONTINUOUS DIMMING AND EXTERIOR LIGHTING SHALL UTILIZE MULTI-LEVEL STEP DIMMING.
- H. PROVIDE SYSTEM CONTROLLER/BMS INTEGRATION MODULE(S) FOR IF NETWORK BASED BMS SYSTEM INTEGRATION WITH MECHANICAL CONTROLS. PROVIDE PROGRAMMING ASSISTANCE AND SUPPORT FOR MECHANICAL CONTROLS CONTRACTOR FOR INTEGRATION OF LIGHTING CONTROL SYSTEM WITH BMS SYSTEM.
- I. UNDERCABINET LIGHTING SHALL BE SWITCHED SEPARATELY FROM MAIN ROOM LIGHTING. UNDERCABINET LIGHTING SHALL BE CONTROLLED BY THE AUTO OFF FUNCTION OF OCCUPANCY SENSORS SERVING THE AREA.
- J. LIGHTS SHALL BE ZONED BY FIXTURE TYPE IN EACH SPACE/AREA, UNLESS NOTED OTHERWISE. PROVIDE POWERPACKS AND ALL ADDITIONAL ACCESSORIES ACCORDINGLY TO ACCOMMODATE ZONE CONTROL/PROGRAMMING BY FIXTURE TYPE.
- K. COORDINATE PROGRAMMING OF BUSINESS HOURS WITH OWNER PRIOR TO OCCUPANCY.
- L. FINISH OF WALL SWITCHES SHALL BE BLACK ON DARK FINISHED SURFACES, WHITE ON LIGHT FINISHED SURFACES, AND GREY ON GREY FINISHED SURFACES. CONFIRM FINISHES WITH ARCHITECT PRIOR TO ORDERING.
- M. COORDINATE SCENES WITH OWNER DURING PROGRAMMING.

- DEVICES:
- A. "OCC" - PROVIDE OCCUPANCY SENSOR. CEILING MOUNT UNLESS NOTED OTHERWISE.
- "IR" = PASSIVE INFRARED
  - "US" = ULTRASONIC/MICROPHONIC
  - "DT" = DUAL TECHNOLOGY
  - "N" = NO OCCUPANCY SENSOR
- B. "DAY LT" - DAYLIGHT CONTROLS. CEILING MOUNT UNLESS NOTED OTHERWISE.
- "T" = PROVIDE DAYLIGHT PHOTOCELL. PHOTOCELLS MAY NOT BE COMBINED WITH OCCUPANCY SENSORS UNLESS NOTED OTHERWISE.
  - "N" = NO DAYLIGHT PHOTOCELL.
- C. "AUX" - AUXILIARY CONTACT.
- "T" = PROVIDE AUXILIARY CONTACT/RELAY TO INDICATE OCCUPANCY FOR USE BY OTHER SYSTEMS. MAY BE INTEGRATED WITH OCCUPANCY SENSOR.
  - "N" = NO AUXILIARY CONTACT.
- D. "NETWK" - NETWORKED LIGHTING CONTROL COMMUNICATIONS.
- "T" = NETWORKED ROOM DEVICES TO BUILDING-WIDE LIGHTING CONTROLS NETWORK COMMUNICATIONS.
  - "N" = BUILDING-WIDE LIGHTING CONTROLS NETWORK COMMUNICATIONS NOT REQUIRED TO THIS AREA.
- E. "WIRELESS" - PROVIDE POWER PACKS, WALL CONTROLS, AND SENSORS THAT COMMUNICATE VIA WIRELESS COMMUNICATION PROTOCOLS WHERE THIS COLUMN IS MARKED WITH AN "X".

INVERTER PANEL SCHEDULE

| <b>PANEL: INVVA</b><br>VOLTAGE: 120V 1PH<br>FED FROM: A       |             | KVA RATING: 1.0<br>CIRCUITS: 4<br>NEMA TYPE: Type 1 |                      | LOCATION: MECH 102<br>MOUNTING: SURFACE<br>MAKE: EVENLITE<br>MODEL: LITEMINDER |   |
|---|-------------|---|----------------------|--|---|
| LOAD DESCRIPTION  | CIRCUIT NO. | LOAD  | VOLTAGE              | BREAKER TRIP   | OPERATION MODE                          |
| LIGHTING INTERIOR EGRESS                                      | 1           | 585 VA  | 120 V                | 20 A   |   |
| LIGHTING BUILDING EXTERIOR                                    | 2           | 22 VA   | 120 V                | 20 A   |   |
| LIGHTING BRIDGE   | 3           | 50 VA   | 120 V                | 20 A   |   |
|   | 4           |   |                      |  |   |
| <b>Total Load:</b>  |             | 0.7 KVA   |                      |  |   |
| <b>Total Amps:</b>  |             | 5.5 A   |                      |  |   |
| GENERAL NOTES:<br>PROVIDE BATTERY SIZED FOR A 90 MIN RUNTIME. |             |   |                      |  |   |
| <b>Load Classification</b>                                    |             | <b>Connected Load</b>                               | <b>Demand Factor</b> | <b>Estimated Demand</b>  | <b>Panel Totals</b>                     |
| Lighting  |             | 607 VA  | 100.00%              | 607 VA   |   |
|   |             |   |                      |  | <b>Total Conn. Load:</b> 0.7 KVA        |
|   |             |   |                      |  | <b>Total Conn. Current:</b> 5.5 A       |
|   |             |   |                      |  | <b>Total Est. Demand:</b> 0.7 KVA       |
|   |             |   |                      |  | <b>Total Est. Demand Current:</b> 5.5 A |
|   |             |   |                      |  | <b>AIC Rating:</b> 10K                  |

INVERTER PANEL SCHEDULE

| <b>PANEL: INVVB</b><br>VOLTAGE: 120V 1PH<br>FED FROM: B       |             | KVA RATING: 1.0<br>CIRCUITS: 4<br>NEMA TYPE: Type 1 |                      | LOCATION: MECH 214<br>MOUNTING: SURFACE<br>MAKE: EVENLITE<br>MODEL: LITEMINDER |   |
|---|-------------|---|----------------------|--|---|
| LOAD DESCRIPTION  | CIRCUIT NO. | LOAD  | VOLTAGE              | BREAKER TRIP   | OPERATION MODE                          |
| LIGHTING BUILDING B EM  | 1           | 645 VA  | 120 V                | 20 A   |   |
|   | 2           |   |                      |  |   |
|   | 3           |   |                      |  |   |
|   | 4           |   |                      |  |   |
| <b>Total Load:</b>  |             | 0.6 KVA   |                      |  |   |
| <b>Total Amps:</b>  |             | 5.4 A   |                      |  |   |
| GENERAL NOTES:<br>PROVIDE BATTERY SIZED FOR A 90 MIN RUNTIME. |             |   |                      |  |   |
| <b>Load Classification</b>                                    |             | <b>Connected Load</b>                               | <b>Demand Factor</b> | <b>Estimated Demand</b>  | <b>Panel Totals</b>                     |
| Lighting  |             | 645 VA  | 100.00%              | 645 VA   |   |
|   |             |   |                      |  | <b>Total Conn. Load:</b> 0.6 KVA        |
|   |             |   |                      |  | <b>Total Conn. Current:</b> 5.4 A       |
|   |             |   |                      |  | <b>Total Est. Demand:</b> 0.6 KVA       |
|   |             |   |                      |  | <b>Total Est. Demand Current:</b> 5.4 A |
|   |             |   |                      |  | <b>AIC Rating:</b> 10K                  |

INVERTER PANEL SCHEDULE

| <b>PANEL: INVVC</b><br>VOLTAGE: 120V 1PH<br>FED FROM: C        |             | KVA RATING: 1.0<br>CIRCUITS: 4<br>NEMA TYPE: Type 1 |                      | LOCATION: MECH 315<br>MOUNTING: SURFACE<br>MAKE: EVENLITE<br>MODEL: LITEMINDER |   |
|--|-------------|---|----------------------|--|---|
| LOAD DESCRIPTION   | CIRCUIT NO. | LOAD  | VOLTAGE              | BREAKER TRIP   | OPERATION MODE                          |
| LIGHTING ADVENTURE/FLOW  | 1           | 431 VA  | 120 V                | 20 A   |   |
| LIGHTING LAUNCHPAD/FLEX  | 2           | 685 VA  | 120 V                | 20 A   |   |
|  | 3           |   |                      |  |   |
|  | 4           |   |                      |  |   |
| <b>Total Load:</b>   |             | 0.0 KVA   |                      |  |   |
| <b>Total Amps:</b>   |             | 9.3 A   |                      |  |   |
| GENERAL NOTES:<br>PROVIDE BATTERY SIZED FOR A 120 MIN RUNTIME. |             |   |                      |  |   |
| <b>Load Classification</b>                                     |             | <b>Connected Load</b>                               | <b>Demand Factor</b> | <b>Estimated Demand</b>  | <b>Panel Totals</b>                     |
| Lighting   |             | 1116 VA   | 100.00%              | 1116 VA  |   |
|  |             |   |                      |  | <b>Total Conn. Load:</b> 1.1 KVA        |
|  |             |   |                      |  | <b>Total Conn. Current:</b> 9.3 A       |
|  |             |   |                      |  | <b>Total Est. Demand:</b> 1.1 KVA       |
|  |             |   |                      |  | <b>Total Est. Demand Current:</b> 9.3 A |
|  |             |   |                      |  | <b>AIC Rating:</b> 22K                  |

BVH

ARCHITECT  
BVH ARCHITECTURE  
440 N 8TH ST STE 100  
LINCOLN NE 68508  
V 402 475 4551  
bvh.com

CIVIL ENGINEER  
OLSSON  
601 P ST #200  
LINCOLN, NE 68508  
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olsson.com

MEP ENGINEER  
OLSSON  
601 P ST #200  
LINCOLN, NE 68508  
V 402 474 6311  
olsson.com

STRUCTURAL ENGINEER  
LARGE STRUCTURAL GROUP  
1919 S 40TH STREET, SUITE 302  
LINCOLN, NE 68506  
V 402 471 9540  
largestructuralgroup.com

LANDSCAPE ARCHITECTURE  
ESTATE HOUSE DESIGN  
PENDLETON IN  
V 851 675 8296  
estatehousedesign.com

CONSTRUCTION MANAGER  
P. MAKINLER BUILDING GROUP  
9308 VANDORVORT DR, SUITE A  
LINCOLN, NE 68516  
V 402 413 2971  
pmakinler.com

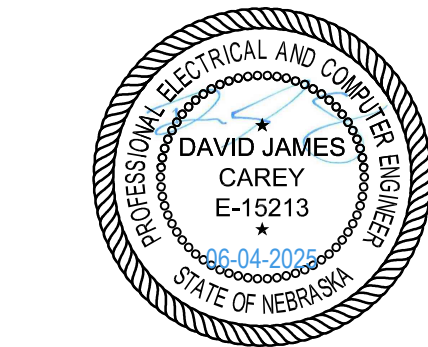
| REVISIONS SCHEDULE |           |             |
|--------------------|-----------|-------------|
| MARK               | DATE      | DESCRIPTION |
| 3                  | 6/04/2026 | Addendum 3  |

ACTON ACADEMY  
LINCOLN

6701 S FOLSOM ST  
LINCOLN, NE 68523

PROJECT: 25026 DATE: 09/14/2026  
PROJECT STATUS: CONSTRUCTION DOCUMENTS

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ELECTRICAL  
SCHEDULES

NORTH



E7.1