

**Purchasing Department
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Denton, TX 76209
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www.dentonpurchasing.com**

ADDENDUM #3

RFP # 6899

CONSTRUCTION OF FIRE STATION #3

**Issue Date: February 7, 2019
Response due Date and Time (Central Time):
Tuesday, February 12, 2019, 1.11:00 A.M. C.S.T**

RFP # 6899

ADDENDUM #3

Pre- Bid Questions

1. Retainage – Exhibit 2 page 11 Section 21 – a. Replace 5% with 10%
2. To clarify, only performance and payment bonds are required for this project. The examples of the bond documents are included with this addendum. What is the amount performance and payment bonds?
 - a. 100% Payment and Performance Bonds are required
3. Substantial Completion dates are **330 days** as confirmed in Pricing Sheet and Exhibit A – Bid Form and Acknowledgement.
4. Tap fees? Who pays?
 - a. City of Denton pays for all Permit, Tap and Connection fees
5. Targeted City Council date is March 5th, 2019 with Notice to Proceed April 3rd, 2019 – however City of Denton reserves the right to change these dates. They are only estimates.
6. Asbestos assessment posted with Addendum 3
7. Abatement requirement?
 - a. Not performed or required
8. Utilities relocated by City?
 - a. Contractor to locate all utilities

See attached changes to plans and specifications by Kirkpatrick Architect Studio

The following are changes to the specification sheet:

(See attached changes to plans and specifications by Kirkpatrick Architect Studio)

Please acknowledge addendum on Attachment F of the main solicitation document when submitting a proposal.

KIRKPATRICK ARCHITECTURE STUDIO

100 West Mulberry
 Denton, Texas 76201
 940.387.8182 voice
 940.383.0262 fax



ADDENDUM 03

No.		03	02/07/19
To	Jody Strickland	With	City of Denton
From	David M. Robinson	Date	7 February 2019
Project	City of Denton Fire Station No. 3	Distribution	Web site Pre-Bid Attendees

The Work described or attached herein shall supplement Plans and Specifications dated 02 January 2019 and shall be considered to be a part of the bid documents.

Description

Project Manual

Attachments/Revisions

Sketch, Sheet, or Spec	Reference	
Cover		
Table of Contents		
012200	Unit Prices	Included in Table of Contents, omitted from Project Manual during printing
034500	Architectural Precast Concrete	New section, include in its entirety for structural precast elements. Please note, that the design intent is to match product specified in Section 047200.
047200	Precast Concrete	Replace section in its entirety.
047200	Precast Concrete	<u>Question</u> – Manufacturer expressed concern with cast stone profiles, V2, V3, V5, V7, S1, and S2. They believed the corner pieces were subject to cracking due to movement and prone to being damaged in the manufacture, transport, and installation. <u>Response</u> – Refer Section 047200, 2.2, G. It states that Architect will review design alternatives provided by the manufacturer.
075303	Fully Adhered Multi-Ply Roof System	<u>Clarification</u> – The only known roofing manufacturer that meets the requirements of the specification, including the hail warranty requirements, is Hyload Roofing, as distributed by Armko 972.874.1388.
083513	Panel Folding Doors	Substitution request has been denied. Refer Attached Form
087100	Door Hardware	Replace page 17 in its entirety
233516	Vehicle Exhaust System	Replace page 1 in its entirety

Description

Drawings

Attachments/Revisions

Sketch, Sheet, or Spec	Reference	
COVER		Amended dates to reflect Addendum 3
S1.2		Detail for extractor housekeeping pad and trench drain
S1.4		Lintel detail revised.
S2.1		Detail for extractor housekeeping pad and trench drain
S3.2		Detail for extractor housekeeping pad and trench drain

A-2.02	1 finish floor plan	Window Blind symbol Spelling Correction
A-2.03	1 finish plan schedule & details	Revised finish selection.
A-3.01	1 enlarged floor plan	Aligned kitchen cabinet Room 122 - Desk
A-3.02	1 enlarged floor plan	Extractor housekeeping pad
A4.02	5 enlarged elevation	Added dimensions and note for engraved text.
A-5.10	Partition types schedule	Added unconnected partition heights
A-6.14	Detail 1 Detail 2	Notes added for attachment of brick at lintel.
A-7.01	Detail 14 Detail 16	Rearrange location of millwork type
A-7.02	Detail 11, 12, 15, 16, 23, 24	Alteration to bunk
A-7.03	Detail 4, 11	Relocated electrical, correct cased opening
A-7.05	Detail 9 Detail 10	Rearrange location of millwork type
A-7.07	Detail 2 Detail 6	Created bunk shelf
A-8.01	Axonometric Door schedule	Clarified storm and electronic doors
A-8.10	Plan Details	Clarified sectional overhead door supports
A-9.01	Typical flashing details	Revised Material
MP0.2	Fan Schedule	Schedule revised
P3.1	Floor plan 1	Piping route and shower head location
E2.1	Floor plan 1	Relocated switch and light fixture ST
E3.1	Notes Floor Plan 1	Additional Telephone, additional outlets in bunk rooms

PROJECT MANUAL
FOR
FIRE STATION NO. 3
1204 McCormick Street
Denton, Texas

OWNER: CITY OF DENTON

ARCHITECT: KIRKPATRICK ARCHITECTURE STUDIO
100 West Mulberry
Denton, Texas 76201
940.387.8182 voice
Contact: Jim Kirkpatrick; jim@k-a-studio.com



STRUCTURAL ENGINEER: FRANK W. NEAL & ASSOCIATES
1015 West Broadway
Fort Worth, Texas 76104
817.332.1944 voice
Contact: Kevin Goodman; kgoodman@fwna-eng.com



CIVIL ENGINEER: MJ THOMAS ENGINEERS
3973 West Vickery Boulevard, Suite 103
Fort Worth, Texas 76107
817.732.9839 voice
Contact: Mickey Thomas; mickeyt@mlthse.com

SEAL IS FOR STRUCTURAL SPECIFICATIONS LISTED ON THE ATTACHED "TABLE OF CONTENTS" STRUCTURAL SPECIFICATIONS BY F.W.N.E.A.

MEP ENGINEER: MD ENGINEERING
500 North Central Expressway
Plano, Texas 75074
469.467.0200 voice
Contact: Michael Smith; msmith@md-eng.com



LANDSCAPE ARCHITECT: CHRISTOPHER RUSSELL
5925 La Vista Drive, #3
Dallas, Texas 75206
214.695.7344 voice
Contact: Christopher Russell; chris@christopher-russell.com

DATE: 07 February 2019 (Addendum No. 03)



06.12.18

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NUMBER TITLE _____ **ISSUE DATE** **REVISED DATE**

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SECTION 012200 - UNIT PRICES

PART 1 - GENERAL

1.1 SUMMARY

- A. Related Requirements:
 - 1. Section 012600 "Contract Modification Procedures" for procedures for submitting and handling Change Orders.
 - 2. Section 014000 "Quality Requirements" for general testing and inspecting requirements.

1.2 DEFINITIONS

- A. Unit price is an amount incorporated in the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.3 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.

1.4 SCHEDULE OF UNIT PRICES

- A. Drilled Piers:
 - 1. For actual depth versus anticipated depth indicated on Drawings.
 - 2. Reconciliation: Per pier diameter category for net add or deduct, not per individual pier.
 - 3. For each diameter category pier required, provide:
 - a. Unit price per additional or deleted lineal foot of completed pier (steel and concrete).
 - b. Unit price per additional or deleted lineal foot for steel casings.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

END OF SECTION

SECTION 034500 – ARCHITECTURAL PRECAST CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Load bearing architectural precast concrete
 - a. Specifically includes H4, A4.05.
- B. Related Sections include the following:
 - 1. Section 047200 Precast Cast Stone for panels, trim, and accessories.

1.3 DEFINITION

- A. Design Reference Sample: Sample of approved architectural precast concrete color, finish and texture, preapproved by Architect.

1.4 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide architectural precast concrete units and connections capable of withstanding the following design loads within limits and under conditions indicated:
 - 1. Loads: As indicated.
 - 2. Dead Loads: Design precast members for self-weight and masonry dead loads supported.
 - 3. Live Loads: Design precast members for construction tributary live loads.
 - 4. Wind Loads: Design precast members for tributary wind components and cladding wind loads per General Notes listed on sheet S0.1.
 - 5. Thermal Movements: Provide for in-plane thermal movements resulting from annual ambient temperature changes of 100 deg F
 - 6. Precast members shall be designed to allow masonry column reinforcement to pass vertically through precast members as noted in details.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated in the contract drawings.
- B. Design Mixtures: For each precast concrete mixture. Include compressive strength.
- C. Shop Drawings: Detail fabrication and installation of architectural precast concrete units. Indicate locations, plans, elevations, dimensions, shapes, and cross sections of each unit. Indicate joints, reveals, and extent and location of each surface finish. Indicate details at building corners.
 - 1. Indicate separate face and backup mixture locations and thicknesses.
 - 2. Indicate welded connections by AWS standard symbols. Detail loose and cast-in hardware and connections.
 - 3. Indicate locations, tolerances, and details of anchorage devices to be embedded in or attached to structure or other construction.
 - 4. Indicate locations, extent, and treatment of dry joints if two-stage casting is proposed.
 - 5. Include plans and elevations showing unit location and sequence of erection for special conditions.
 - 6. Indicate location of each architectural precast concrete unit by same identification mark placed on panel.
 - 7. Indicate relationship of architectural precast concrete units to adjacent materials.
 - 8. Indicate locations and details of stone facings, anchors, and joint widths.
 - 9. Design Modifications: If design modifications are proposed to meet performance requirements and field conditions, submit design calculations and Shop Drawings. Do not adversely affect the appearance, durability, or strength of units when modifying details or materials and maintain the general design concept.
 - 10. Comprehensive engineering analysis signed and sealed by the qualified professional engineer responsible for its preparation. Show governing panel types, connections, and types of reinforcement, including special reinforcement. Indicate location, type, magnitude, and direction of loads imposed on the building structural frame from architectural precast concrete.
 - a. Analysis along with exhibits shall be reviewed by project structural engineer-of-record.

- D. Samples: For each type of finish indicated on exposed surfaces of architectural precast concrete units, in sets of 3, illustrating full range of finish, color, and texture variations expected; approximately 12 by 12 by 2 inches.
 - 1. When other faces of precast concrete units are exposed, include Samples illustrating workmanship, color, and texture of backup concrete as well as facing concrete.
 - 2. Sample to match that provided under Section 047200.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For fabricator and installer.
- B. Welding certificates for fabricator and installer.
- C. Material Certificates: For the following items (if used), signed by manufacturers:
 - 1. Cementitious materials.
 - 2. Reinforcing materials.
 - 3. Admixtures.
 - 4. Bearing pads.
 - 5. Structural-steel shapes and hollow structural sections.
 - 6. Stone anchors.
- D. Material Test Reports: For aggregates.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: A precast concrete erector who has retained a "PCI-Certified Field Auditor" to conduct a field audit of a project in same category as this Project before erection of precast concrete and who can produce an Erectors' Post-Audit Declaration.
- B. Fabricator Qualifications: A firm that assumes responsibility for engineering architectural precast concrete units to comply with performance requirements. This responsibility includes preparation of Shop Drawings and comprehensive engineering analysis by a qualified professional engineer.
 - 1. Participates in PCI's plant certification program and is designated a PCI-certified plant for Group A, Category A1 - Architectural Cladding and Load Bearing Units or participates in APA's "Plant Certification Program for Production of Architectural Precast Concrete Products" and is designated an APA-certified plant.
 - 2. Manufacturers who by past experience have demonstrated their ability to produce quality Architectural Precast Products of the scope required under this contract and who possess adequate resources to follow manufacturing guidelines set forth in PCI-MNL-117 "Manual for Quality Control for Plants and Production of Architectural Precast Products".
 - 3. Fabricators shall at the request of the Architect, provide a copy of the Quality Control Manual used to assure conformance to PCI MNL-117. Plant procedures set forth in the QC manual shall be subject to inspection by the architect or engineer of record or their representatives.
- C. Design Standards: Comply with ACI 318 and design recommendations of PCI MNL 120, "PCI Design Handbook - Precast and Prestressed Concrete," applicable to types of architectural precast concrete units indicated.
- D. Quality-Control Standard: For manufacturing procedures and testing requirements, quality-control recommendations, and dimensional tolerances for types of units required, comply with PCI MNL 117, "Manual for Quality Control for Plants and Production of Architectural Precast Concrete Products."
- E. Welding: Qualify procedures and personnel according to AWS D1.1/D.1.1M, "Structural Welding Code - Steel"; and AWS D1.4, "Structural Welding Code - Reinforcing Steel."
- F. Sample Panels: After sample approval and before fabricating architectural precast concrete units, produce sample panels of "V6" and "V1" as shown on A-4.02 in area for review by Architect. Incorporate full-scale details of architectural features, finishes, textures, and transitions in sample panels.
 - 1. Locate panels where indicated or, if not indicated, as directed by Architect.
 - 2. Damage part of an exposed-face surface for each finish, color, and texture, and demonstrate adequacy of repair techniques proposed for repair of surface blemishes.
 - 3. After acceptance of repair technique, maintain one sample panel at manufacturer's plant and one at Project site in an undisturbed condition as a standard for judging the completed Work.
 - 4. Demolish and remove sample panels when directed.
- G. Range Samples: After sample panel approval and before fabricating architectural precast concrete units, produce a minimum of (2) sets of samples, approximately (1) sq. ft. in area, representing anticipated range of each color and texture on project units. Following range sample approval, maintain one set of samples at project site and remaining sample sets at manufacturer's plant as color and texture approval reference.
- H. Mockups: After sample panel and range sample approval but before production of architectural precast concrete units, construct full-sized mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and to set quality standards for materials and execution.

1. Build mockup as indicated on 2/A9.02 including aluminum framing, glass, sealants, metal stud framing, and architectural precast concrete complete with anchors, connections, flashings, and joint fillers.
 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undamaged at time of Substantial Completion.
 4. Approval of mockups does not constitute approval of deviations from the Contract Documents unless such deviations are specifically approved by Architect in writing.
- 1.8 DELIVERY, STORAGE, AND HANDLING
- A. Deliver architectural precast concrete units in such quantities and at such times to limit unloading units temporarily on the ground.
 - B. Support units during shipment on nonstaining shock-absorbing material.
 - C. Store units with adequate dunnage and bracing and protect units to prevent contact with soil, to prevent staining, and to prevent cracking, distortion, warping or other physical damage.
 - D. Place stored units so identification marks are clearly visible, and units can be inspected.
 - E. Handle and transport units in a position consistent with their shape and design in order to avoid excessive stresses which would cause cracking or damage.
 - F. Lift and support units only at designated points shown on Shop Drawings.
- 1.9 SEQUENCING
- A. Furnish loose connection hardware and anchorage items to be embedded in or attached to other construction without delaying the Work. Provide locations, setting diagrams, templates, instructions, and directions, as required, for installation.

PART 2 - PRODUCTS

- 2.1 MANUFACTURERS
- Available Fabricators: Subject to compliance with requirements, fabricators offering products that may be incorporated into the Work include, but are not limited to, the following:
1. DeVinci Cast Stone, 4520 S. MacArthur Blvd, Oklahoma City, Oklahoma 73179, Phone 405-680-9000, Fax 405-680 9314
 2. Fabricator shall produce all product specified under 047200 Cast Stone (Dry tamp or wet cast precast concrete)
- 2.2 MOLD MATERIALS
- A. Molds: Rigid, dimensionally stable, non-absorptive material, warp and buckle free, that will provide continuous and true precast concrete surfaces within fabrication tolerances indicated; nonreactive with concrete and suitable for producing required finishes.
 1. Mold-Release Agent: Commercially produced liquid-release agent that will not bond with, stain or adversely affect precast concrete surfaces and will not impair subsequent surface or joint treatments of precast concrete.
- 2.3 REINFORCING MATERIALS
- A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.
 - B. Low-Alloy-Steel Reinforcing Bars: ASTM A 706/A 706M, deformed.
 - C. Plain-Steel Welded Wire Reinforcement: ASTM A 185, fabricated from galvanized steel wire into flat sheets.
 - D. Galvanized Reinforcing Bars: ASTM A 615/A 615M, Grade 60 deformed, Class II zinc coated, hot-dip galvanized.
 1. Use when reinforcement is covered with less than 1-1/2 inches of precast concrete material.
 - E. Deformed-Steel Welded Wire Reinforcement: ASTM A 497/A 497M, flat sheet.
 - F. Alkali Resistant Glass Fiber for Fiber Reinforced Concrete: ASTM C 1666/C1666M-08
 - G. Supports: Suspend reinforcement from back of mold or use bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place according to PCI MNL 117.
- 2.4 CONCRETE MATERIALS
- A. Portland Cement: ASTM C 150, Type I, white or Type III, gray, unless otherwise indicated.
 1. For surfaces exposed to view in finished structure, use white cement.

- B. Supplementary Cementitious Materials:
 - 1. Not Used
- C. Normal-Weight Aggregates: Except as modified by PCI MNL 117, ASTM C 33, with coarse aggregates complying with Class 5S. Stockpile fine and coarse aggregates for each type of exposed finish from a single source (pit or quarry) for Project.
 - 1. Face-Mixture-Coarse Aggregates: Selected, hard, and durable; free of material that reacts with cement or causes staining; to match selected finish sample.
 - a. Gradation: Gap graded to match design reference sample.
 - 2. Face-Mixture-Fine Aggregates: Selected, natural or manufactured sand of same material as coarse aggregate, unless otherwise approved by Architect.
- D. Coloring Admixture: ASTM C 979, synthetic or natural mineral-oxide pigments or colored water-reducing admixtures, temperature stable, and nonfading.
- E. Water: Potable; free from deleterious material that may affect color stability, setting, or strength of concrete and complying with chemical limits of PCI MNL 117.
- F. Air-Entraining Admixture: ASTM C 260, certified by manufacturer to be compatible with other required admixtures.
- G. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures and to not contain calcium chloride, or more than 0.15 percent chloride ions or other salts by weight of admixture.
 - 1. Water-Reducing Admixtures: ASTM C 494/C 494M, Type A.
 - 2. Retarding Admixture: ASTM C 494/C 494M, Type B.
 - 3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
 - 4. Water-Reducing and Accelerating Admixture: ASTM C 494/C 494M, Type E.
 - 5. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
 - 6. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
 - 7. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017 M.

2.5 STEEL CONNECTION MATERIALS

- A. Carbon-Steel Shapes and Plates: ASTM A 36/A 36M.
- B. Carbon-Steel-Headed Studs: ASTM A 108, AISI 1018 through AISI 1020, cold finished, AWS D1.1/D1.1M, Type A or B, with arc shields and with minimum mechanical properties of PCI MNL 117, Table 3.2.3.
- C. Carbon-Steel Plate: ASTM A 283/A 283M.
- D. Malleable Iron Castings: ASTM A 47/A 47M.
- E. Carbon-Steel Castings: ASTM A 27/A 27M, Grade 60-30.
- F. High-Strength, Low-Alloy Structural Steel: ASTM A 572/A 572M.
- G. Carbon-Steel Structural Tubing: ASTM A 500, Grade B.
- H. Wrought Carbon-Steel Bars: ASTM A 675/A 675M, Grade 65.
- I. Deformed-Steel Wire or Bar Anchors: ASTM A 496 or ASTM A 706/A 706M.
- J. Carbon-Steel Bolts and Studs: ASTM A 307, Grade A; carbon-steel, hex-head bolts and studs; carbon-steel nuts, ASTM A 563; and flat, unhardened steel washers, ASTM F 844.
- K. Zinc-Coated Finish: For exterior steel items and items indicated for galvanizing, apply zinc coating by hot-dip process according to ASTM A 123/A 123M or ASTM A 153/A 153M.
 - 1. For steel shapes, plates, and tubing to be galvanized, limit silicon content of steel to less than 0.03 percent or to between 0.15 and 0.25 percent or limit sum of silicon and 2.5 times phosphorous content to 0.09 percent.
 - 2. Galvanizing Repair Paint: High-zinc-dust-content paint with dry film containing not less than 94 percent zinc dust by weight, and complying with DOD-P-21035A or SSPC-Paint 20.
- L. Shop-Primed Finish: Prepare surfaces of nongalvanized steel items, except those surfaces to be embedded in concrete, according to requirements in SSPC-SP 3 and shop-apply SSPC-Paint 25 according to SSPC-PA 1.
- M. Welding Electrodes: Comply with AWS standards.

2.6 STAINLESS-STEEL CONNECTION MATERIALS

- A. Stainless-Steel Plate: ASTM A 666, Type 304, of grade suitable for application.
- B. Stainless-Steel Bolts and Studs: ASTM F 593, Alloy 304 or 316, hex-head bolts and studs; stainless-steel nuts; and flat, stainless-steel washers.
 - 1. Lubricate threaded parts of stainless-steel bolts with an antiseize thread lubricant during assembly.
- C. Stainless-Steel-Headed Studs: ASTM A 276, with minimum mechanical properties of PCI MNL 117, Table 3.2.3.

2.7 BEARING PADS

- A. Provide one of the following bearing pads for architectural precast concrete units when recommended by precast fabricator for application:

1. Elastomeric Pads: AASHTO M 251, plain, vulcanized, 100 percent polychloroprene (neoprene) elastomer, molded to size or cut from a molded sheet, Type A durometer hardness of 50 to 70, ASTM D 2240, minimum tensile strength 2250 psi (15.5 MPa), ASTM D 412.
2. Random-Oriented, Fiber-Reinforced Elastomeric Pads: Preformed, randomly oriented synthetic fibers set in elastomer. Type A durometer hardness of 70 to 90, ASTM D 2240; capable of supporting a compressive stress of 3000 psi (20.7 MPa) with no cracking, splitting, or delaminating in the internal portions of pad. Test one specimen for every 200 pads used in Project.
3. Cotton-Duck-Fabric-Reinforced Elastomeric Pads: Preformed, horizontally layered cotton-duck fabric bonded to an elastomer; Type A durometer hardness of 80 to 100, ASTM D 2240; complying with AASHTO's "AASHTO Load and Resistance Factor Design (LRFD) Bridge Design Specifications, Division II, Section 18.10.2, or with MIL-C-882E.
4. Frictionless Pads: Tetrafluoroethylene (Teflon), glass-fiber reinforced, bonded to stainless or mild-steel plate, of type required for in-service stress.
5. High-Density Plastic: Multimonomer, nonleaching, plastic strip.

2.8 ACCESSORIES

- A. Reglets: Stainless steel (when exposed to the elements in final installation), Type 302 or 304
- B. Precast Accessories: Provide clips, hangers, plastic or steel shims, and other accessories required to install architectural precast concrete units.

2.9 GROUT MATERIALS

- A. Sand-Cement Grout: Portland cement, ASTM C 150, Type I, and clean, natural sand, ASTM C 144 or ASTM C 404. Mix at ratio of 1 part cement to 2-1/2 parts sand, by volume, with minimum water required for placement and hydration.
- B. Nonmetallic, Nonshrink Grout: Premixed, nonmetallic, noncorrosive, nonstaining grout containing selected silica sands, portland cement, shrinkage-compensating agents, plasticizing and water-reducing agents, complying with ASTM C 1107, Grade A for drypack and Grades B and C for flowable grout and of consistency suitable for application within a 30-minute working time.
- C. Epoxy-Resin Grout: Two-component, mineral-filled epoxy resin; ASTM C 881/C 881M, of type, grade, and class to suit requirements.

2.10 THIN BRICK UNITS AND ACCESSORIES (Not Used)

2.11 STONE FACING MATERIALS AND ACCESSORIES (Not Used)

2.12 INSULATED PANEL ACCESSORIES (Not Used)

2.13 CONCRETE MIXTURES

- A. Prepare design mixtures for each type of precast concrete required.
- B. Design mixtures may be prepared by a qualified independent testing agency or by qualified precast plant personnel at architectural precast concrete fabricator's option.
- C. Limit water-soluble chloride ions to maximum percentage by weight of cement permitted by ACI 318 (ACI 318M) or PCI MNL 117 when tested according to ASTM C 1218/C 1218M.
- D. Normal-Weight Concrete Mixtures: Proportion face and backup mixtures or full-depth mixtures, at fabricator's option, by either laboratory trial batch or field test data methods according to ACI 211.1, with materials to be used on Project, to provide normal-weight concrete with the following properties:
 1. Compressive Strength (28 Days): 5000 psi (34.5 MPa) minimum.
 2. Maximum Water-Cementitious Materials Ratio: 0.45.
- E. Water Absorption: 6 percent by weight or 14 percent by volume, tested according to PCI MNL 117.
- F. Lightweight Concrete Backup Mixtures: (Not Allowed)
- G. Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having an air content complying with PCI MNL 117.
- H. When included in design mixtures, add other admixtures to concrete mixtures according to manufacturer's written instructions.

2.14 MOLD FABRICATION

- A. Molds: Accurately construct molds, mortar tight, of sufficient strength to withstand pressures due to concrete-placement operations and temperature changes and for prestressing and detensioning operations. Coat contact surfaces of molds with release agent before reinforcement is placed. Avoid contamination of reinforcement and prestressing tendons by release agent.

- B. Maintain molds to provide completed architectural precast concrete units of shapes, lines, and dimensions indicated, within fabrication tolerances specified.
 - 1. Form joints are not permitted on faces exposed to view in the finished work.
 - 2. Edge and Corner Treatment: Uniformly radiused not to exceed 1/8" unless shown otherwise in contract drawings.

- 2.15 THIN BRICK FACINGS (N/A)

- 2.16 STONE FACINGS (N/A)

- 2.17 FABRICATION
 - A. Cast-in Anchors, Inserts, Plates, Angles, and Other Anchorage Hardware: Fabricate anchorage hardware with sufficient anchorage and embedment to comply with design requirements. Accurately position for attachment of loose hardware, and secure in place during casting operations. Locate anchorage hardware where it does not affect position of main reinforcement or concrete placement.
 - 1. Weld-headed studs and deformed bar anchors used for anchorage according to AWS D1.1/D1.1M and AWS C5.4, "Recommended Practices for Stud Welding."
 - B. Furnish loose hardware items including steel plates, clip angles, seat angles, anchors, dowels, cramps, hangers, and other hardware shapes for securing architectural precast concrete units to supporting and adjacent construction.
 - C. Cast-in reglets, slots, holes, and other accessories in architectural precast concrete units as indicated on the Contract Drawings.
 - D. Cast-in openings larger than 10 inches (250 mm) in any dimension. Do not drill or cut openings or prestressing strand without Architect's approval.
 - E. Reinforcement: Comply with recommendations in PCI MNL 117 for fabricating, placing, and supporting reinforcement.
 - 1. Clean reinforcement of loose rust and mill scale, earth, and other materials that reduce or destroy the bond with concrete. When damage to epoxy-coated reinforcing exceeds limits specified in ASTM A 775/A 775M, repair with patching material compatible with coating material and epoxy coat bar ends after cutting.
 - 2. Accurately position, support, and secure reinforcement against displacement during concrete-placement and consolidation operations. Completely conceal support devices to prevent exposure on finished surfaces.
 - 3. Place reinforcement to maintain at least 3/4-inch (19-mm) minimum coverage. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position while placing concrete. Direct wire tie ends away from finished, exposed concrete surfaces.
 - 4. Place reinforcing steel and prestressing strand to maintain at least 3/4-inch (19-mm) minimum concrete cover. Increase cover requirements for reinforcing steel to 1-1/2 inches (38 mm) when units are exposed to corrosive environment or severe exposure conditions. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position while placing concrete. Direct wire tie ends away from finished, exposed concrete surfaces.
 - 5. Install welded wire fabric in lengths as long as practicable. Lap adjoining pieces at least one full mesh spacing and wire tie laps, where required by design. Offset laps of adjoining widths to prevent continuous laps in either direction.
 - F. Reinforce the units as required by the drawings and for safe handling and structural stress.
 - G. Reinforcing Concrete Trim Units
 - 1. Minimum reinforcing shall be 0.25 percent of the cross section area with steel reinforcements for conventional precast and with 2.0 lbs per cu. yd. of Alkali Resistant Glass Fiber for Fiber Reinforced Concrete. (FRC)
 - 2. Steel Reinforcements shall be non corrosive where faces exposed to weather are covered with less than 1.5 in. (38 mm) of concrete material. All steel reinforcement shall have minimum coverage of twice the diameter of the bars.
 - 3. Panels, soffits and similar stones greater than 24 in. (600 mm) in one direction shall be conventionally reinforced with steel in that direction. Units less than 24 in. (600 mm) in both their length and width dimension shall require no conventional steel reinforcement unless otherwise specified.
 - H. Comply with requirements in PCI MNL 117 and requirements in this Section for measuring, mixing, transporting, and placing concrete. After concrete batching, no additional water may be added.
 - I. Place face mixture to a minimum thickness after consolidation of the greater of 1 inch (25 mm) or 1.5 times the maximum aggregate size, but not less than the minimum reinforcing cover specified.
 - J. Place concrete in a continuous operation to prevent seams or planes of weakness from forming in precast concrete units.

1. Place backup concrete mixture to ensure bond with face-mixture concrete.
- K. Thoroughly consolidate placed concrete by internal and external vibration without dislocating or damaging reinforcement and built-in items, and minimize pour lines, honeycombing, or entrapped air on surfaces. Use equipment and procedures complying with PCI MNL 117.
1. Place self-consolidating concrete without vibration according to PCI TR-6, "Interim Guidelines for the Use of Self-Consolidating Concrete in Precast/Prestressed Concrete Institute Member Plants."
- L. Comply with PCI MNL 117 for hot- and cold-weather concrete placement.
- M. Identify pickup points of architectural precast concrete units and orientation in structure with permanent markings, complying with markings indicated on Shop Drawings. Imprint or permanently mark casting date on each architectural precast concrete unit on a surface that will not show in finished structure.
- N. Cure concrete, according to requirements in PCI MNL 117, by moisture retention without heat or by accelerated heat curing using low-pressure live steam or radiant heat and moisture. Cure units until compressive strength is high enough to ensure that stripping does not have an effect on performance or appearance of final product.
- O. Discard and replace architectural precast concrete units that do not comply with requirements, including structural, manufacturing tolerance, and appearance, unless repairs meet requirements in PCI MNL 117 and Architect's approval.
- 2.18 INSULATED PANEL CASTING (N/A)
- 2.19 FABRICATION TOLERANCES
- A. Fabricate architectural precast concrete units straight and true to size and shape with exposed edges and corners precise and true so each finished panel complies with PCI MNL 117 product tolerances as well as position tolerances for cast-in items.
- B. Position Tolerances: For cast-in items measured from datum line location, as indicated on Shop Drawings.
1. Weld Plates: Plus or minus 1 inch (25 mm).
 2. Inserts: Plus or minus 1/2 inch (13 mm).
 3. Handling Devices: Plus or minus 3 inches (75 mm).
 4. Reinforcing Steel and Welded Wire Fabric: Plus or minus 1/4 inch (6 mm) where position has structural implications or affects concrete cover; otherwise, plus or minus 1/2 inch (13 mm).
 5. Reinforcing Steel Extending out of Member: Plus or minus 1/2 inch (13 mm) of plan dimensions.
 6. Tendons: Plus or minus 1/4 inch (6 mm), vertical; plus or minus 1 inch (25 mm), horizontal.
 7. Location of Rustication Joints: Plus or minus 1/8 inch (3 mm).
 8. Location of Opening within Panel: Plus or minus 1/4 inch (6 mm).
 9. Location of Flashing Reglets: Plus or minus 1/4 inch (6 mm).
 10. Location of Flashing Reglets at Edge of Panel: Plus or minus 1/8 inch (3 mm).
 11. Reglets for Glazing Gaskets: Plus or minus 1/8 inch (3 mm).
 12. Electrical Outlets, Hose Bibs: Plus or minus 1/2 inch (13 mm).
 13. Location of Bearing Surface from End of Member: Plus or minus 1/4 inch (6 mm).
 14. Allowable Rotation of Plate, Channel Inserts, and Electrical Boxes: 2-degree rotation or 1/4 inch (6 mm) maximum over the full dimension of unit.
 15. Position of Sleeve: Plus or minus 1/2 inch (13 mm).
 16. Location of Window Washer Track or Buttons: Plus or minus 1/8 inch (3 mm).
- 2.20 FINISHES
- A. Panel faces shall be free of joint marks, grain, and other obvious defects. Corners, including false joints shall be uniform, straight, and sharp. Finish exposed-face surfaces of architectural precast concrete units to match approved samples as follows:
1. Acid-Etched Finish: Use acid and hot-water solution, equipment, application techniques, and cleaning procedures to expose aggregate and surrounding matrix surfaces. Protect hardware, connections, and insulation from acid attack.
 - a. Finish is to match product specified under Section 047200 Precast Concrete
- B. Finish exposed top & bottom surfaces of architectural precast concrete units to match face-surface finish.
- C. Finish unexposed surfaces of architectural precast concrete units by float or broom finish.
- 2.21 SOURCE QUALITY CONTROL
- A. Quality-Control Testing: Test and inspect precast concrete according to PCI MNL 117 requirements. If using self-consolidating concrete, also test and inspect according to PCI TR-6, "Interim Guidelines for the Use of Self-Consolidating Concrete in Precast/Prestressed Concrete Institute Member Plants."

- B. Strength of precast concrete units will be considered deficient if units fail to comply with ACI 318 (ACI 318M) requirements for concrete strength.
- C. Testing: If there is evidence that strength of precast concrete units may be deficient or may not comply with ACI 318 (ACI 318M) requirements, precaster will employ an independent testing agency to obtain, prepare, and test cores drilled from hardened concrete to determine compressive strength according to ASTM C 42/C 42M.
 - 1. A minimum of three representative cores will be taken from units of suspect strength, from locations directed by Architect.
 - 2. Cores will be tested in an air-dry condition.
 - 3. Strength of concrete for each series of 3 cores will be considered satisfactory if average compressive strength is equal to at least 85 percent of 28-day design compressive strength and no single core is less than 75 percent of 28-day design compressive strength.
 - 4. Test results will be made in writing on same day that tests are performed, with copies to Architect, Contractor, and precast concrete fabricator. Test reports will include the following:
 - a. Project identification name and number.
 - b. Date when tests were performed.
 - c. Name of precast concrete fabricator.
 - d. Name of concrete testing agency.
 - e. Identification letter, name, and type of precast concrete unit(s) represented by core tests; design compressive strength; type of break; compressive strength at breaks, corrected for length-diameter ratio; and direction of applied load to core in relation to horizontal plane of concrete as placed.
 - 5. Results to be reviewed and approved by project structural engineer-of-record.
- D. Patching: If core test results are satisfactory and precast concrete units comply with requirements, clean and dampen core holes and solidly fill with precast concrete mixture that has no coarse aggregate, and finish to match adjacent precast concrete surfaces.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine supporting structural frame or foundation and conditions for compliance with requirements for installation tolerances, true and level bearing surfaces, and other conditions affecting performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. Do not install precast concrete units until supporting cast-in-place building structural framing has attained minimum allowable design compressive strength or supporting steel or other structure is complete.

3.2 INSTALLATION

- A. Install clips, hangers, bearing pads, and other accessories required for connecting architectural precast concrete units to supporting members and backup materials.
- B. Erect architectural precast concrete level, plumb, and square within specified allowable tolerances. Provide temporary supports and bracing as required to maintain position, stability, and alignment as units are being permanently connected.
 - 1. Install temporary steel or plastic spacing shims or bearing pads as precast concrete units are being erected. Tack weld steel shims to each other to prevent shims from separating.
 - 2. Maintain horizontal and vertical joint alignment and uniform joint width as erection progresses.
 - 3. Remove projecting lifting devices and grout fill voids within recessed lifting devices flush with surface of adjacent precast surfaces when recess is exposed.
 - 4. Unless otherwise indicated, maintain uniform joint widths of 3/8 inch.
- C. Connect architectural precast concrete units in position by bolting, welding, grouting, or as otherwise indicated on Shop Drawings. Remove temporary shims, wedges, and spacers as soon as practical after connecting and grouting are completed.
 - 1. Do not permit connections to disrupt continuity of roof flashing.
- D. Welding: Comply with applicable AWS D1.1/D1.1M and AWS D1.4 for welding, welding electrodes, appearance, quality of welds, and methods used in correcting welding work.
 - 1. Protect architectural precast concrete units and bearing pads from damage by field welding or cutting operations, and provide noncombustible shields as required.
 - 2. Welds not specified shall be continuous fillet welds, using no less than the minimum fillet as specified by AWS.
 - 3. Clean weld-affected metal surfaces with chipping hammer followed by brushing, and apply a minimum 4.0-mil- (0.1-mm-) thick coat of galvanized repair paint to galvanized surfaces according to ASTM A 780 or and reprime damaged painted surfaces if painted.
 - 4. Remove, reweld, or repair incomplete and defective welds.

- E. At bolted connections, use lock washers, tack welding, or other approved means to prevent loosening of nuts after final adjustment.
 - 1. Where slotted connections are used, verify bolt position and tightness. For sliding connections, properly secure bolt but allow bolt to move within connection slot. For friction connections, apply specified bolt torque and check 25 percent of bolts at random by calibrated torque wrench.
 - F. Grouting Connections: Grout connections where required or indicated. Retain grout in place until hard enough to support itself. Pack spaces with stiff grout material, tamping until voids are completely filled. Place grout to finish smooth, level, and plumb with adjacent concrete surfaces. Keep grouted joints damp for not less than 24 hours after initial set. Promptly remove grout material from exposed surfaces before it affects finishes or hardens.
- 3.3 ERECTION TOLERANCES
- A. Erect architectural precast concrete units level, plumb, square, true, and in alignment without exceeding the noncumulative erection tolerances of PCI MNL 117, Appendix I.
- 3.4 FIELD QUALITY CONTROL
- A. Testing Agency: Owner may engage a qualified testing agency to perform tests and inspections and prepare test reports.
 - B. Field welds will be subject to visual inspections and nondestructive testing according to ASTM E 165 or ASTM E 709. High-strength bolted connections will be subject to inspections.
 - C. Testing agency (when engaged) will report test results promptly and in writing to Contractor and Architect.
 - D. Repair or remove and replace work where tests and inspections indicate that it does not comply with specified requirements.
 - E. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
- 3.5 REPAIRS
- A. Repair architectural precast concrete units if permitted by Architect. The Architect reserves the right to reject repaired units that do not comply with requirements.
 - B. Mix patching materials and repair units so cured patches blend with color, texture, and uniformity of adjacent exposed surfaces and show no apparent line of demarcation between original and repaired work, when viewed in typical daylight illumination from a distance of 20 feet (6 m).
 - C. Prepare and repair damaged galvanized coatings with galvanizing repair paint according to ASTM A 780.
 - D. Wire brush, clean, and paint damaged prime-painted components with same type of shop primer.
 - E. Remove and replace damaged architectural precast concrete units when repairs do not comply with requirements.
- 3.6 CLEANING
- A. Clean surfaces of precast concrete units exposed to view.
 - B. Clean mortar, plaster, fireproofing, weld slag, and other deleterious material from concrete surfaces and adjacent materials immediately.
 - C. Clean exposed surfaces of precast concrete units after erection and completion of joint treatment to remove weld marks, other markings, dirt, and stains.
 - 1. Perform cleaning procedures, if necessary, according to precast concrete fabricator's recommendations. Clean soiled precast concrete surfaces with detergent and water, using stiff fiber brushes and sponges, and rinse with clean water. Protect other work from staining or damage due to cleaning operations.
 - 2. Do not use cleaning materials or processes that could change the appearance of exposed concrete finishes or damage adjacent materials.

END OF SECTION

SECTION 047200 – PRECAST CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Precast concrete panel and trim units.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
 - 1. For precast concrete units, include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Shop Drawings: Show fabrication and installation details for precast concrete units. Include dimensions, details of reinforcement and anchorages if any, and indication of finished faces.
 - 1. Include building elevations showing layout of units and locations of joints and anchors.
 - 2. Include analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
- C. Samples for Initial Selection: For colored mortar.
- D. Samples for Verification:
 - 1. For each color and texture of precast concrete required, 10 inches square in size.
 - 2. For colored mortar. Make Samples using same sand and mortar ingredients to be used on Project. Label Samples to indicated types and amounts of pigments used.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer of precast concrete units similar to those indicated for this Project, that has sufficient production capacity to manufacture required units, and is a plant certified by the Precast Concrete Institute or participates in APA's "Plant Certification Program for Production of Architectural Precast Concrete Products" and is designated an APA-certified plant.
- B. Source Limitations for Precast concrete: Obtain precast concrete units through single source from single manufacturer. Same manufacturer to provide product under Section 034500.
- C. Source Limitations for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color, from one manufacturer for each cementitious component and from one source or producer for each aggregate.
- D. Mockups: Furnish precast concrete for installation in mockups specified in Section 042000 "Unit Masonry."
- E. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Build mockup of typical wall area as shown on Drawings.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Coordinate delivery of precast concrete with unit masonry work to avoid delaying the Work and to minimize the need for on-site storage.
- B. Pack, handle, and ship precast concrete units in suitable packs or pallets.
 - 1. Lift with wide-belt slings; do not use wire rope or ropes that might cause staining. Move precast concrete units, if required, using dollies with wood supports.
 - 2. Store precast concrete units on wood skids or pallets with nonstaining, waterproof covers, securely tied. Arrange to distribute weight evenly and to prevent damage to units. Ventilate under covers to prevent condensation.
- C. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.
- D. Store mortar aggregates where grading and other required characteristics can be maintained and contamination can be avoided.

1.6 PROJECT CONDITIONS

- A. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Comply with cold-weather construction requirements in ACI

530.1/ASCE 6/TMS 602.

1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F and above and will remain so until precast concrete has dried, but no fewer than seven days after completing cleaning.
- B. Hot-Weather Requirements: Comply with hot-weather construction requirements in ACI 530.1/ASCE 6/TMS 602.

PART 2 - PRODUCTS

2.1 PRECAST CONCRETE MATERIALS

- A. General: Comply with ASTM C 1364.
- B. Portland Cement: ASTM C 150, Type I or Type III, containing not more than 0.60 percent total alkali when tested according to ASTM C 114. Provide natural color or white cement as required to produce precast concrete color indicated.
- C. Coarse Aggregates: Granite, quartz, or limestone complying with ASTM C 33; gradation and colors as needed to produce required precast concrete color.
- D. Fine Aggregates: Natural sand or crushed stone complying with ASTM C 33, gradation and colors as needed to produce required precast concrete textures and colors.
- E. Color Pigment: ASTM C 979, synthetic mineral-oxide pigments or colored water-reducing admixtures; color stable, free of carbon black, nonfading, and resistant to lime and other alkalis.
- F. Admixtures: Use only admixtures specified or approved in writing by Architect.
 1. Do not use admixtures that contain more than 0.1 percent water-soluble chloride ions by mass of cementitious materials. Do not use admixtures containing calcium chloride.
 2. Use only admixtures that are certified by manufacturer to be compatible with cement and other admixtures used.
 3. Air-Entraining Admixture: ASTM C 260. Add to mixes for units exposed to the exterior at manufacturer's prescribed rate to result in an air content of 4 to 6 percent, except do not add to zero-slump concrete mixes.
- G. Reinforcement: Deformed steel bars complying with ASTM A 615/A 615M, Grade 60. Use galvanized or epoxy-coated reinforcement when covered with less than 1-1/2 inches of precast concrete material.
 1. Epoxy Coating: ASTM A 775/A 775M.
 2. Galvanized Coating: ASTM A 767/A 767M.
- H. Embedded Anchors and Other Inserts: Fabricated from stainless steel complying with ASTM A 240, ASTM A 276, or ASTM A 666, Type 304.

2.2 PRECAST CONCRETE UNITS

- A. Provide precast concrete units complying with ASTM C 1364 using vibrant dry tamping or wet-cast method.
 1. Provide units that are resistant to freezing and thawing as determined by laboratory testing according to ASTM C 666/C 666M, Procedure A, as modified by ASTM C 1364.
- B. Fabricate units with sharp arris and accurately reproduced details, with indicated texture on all exposed surfaces unless otherwise indicated.
 1. Slope exposed horizontal surfaces 1:12 to drain unless otherwise indicated.
 2. Provide drips on projecting elements unless otherwise indicated.
- C. Fabrication Tolerances:
 1. Variation in Cross Section: Do not vary from indicated dimensions by more than 1/8 inch.
 2. Variation in Length: Do not vary from indicated dimensions by more than 1/360 of the length of unit or 1/8 inch, whichever is greater, but in no case by more than 1/4 inch.
 3. Warp, Bow, and Twist: Not to exceed 1/360 of the length of unit or 1/8 inch, whichever is greater.
 4. Location of Grooves, False Joints, Holes, Anchorages, and Similar Features: Do not vary from indicated position by more than 1/8 inch on formed surfaces of units and 3/8 inch on unformed surfaces.
- D. Cure units as follows:
 1. Cure units in enclosed moist curing room at 95 to 100 percent relative humidity and temperature of 100 deg F for 12 hours or 70 deg F for 16 hours.
 2. Keep units damp and continue curing to comply with one of the following:
 - a. No fewer than six days at mean daily temperature of 60 deg F or above.
- E. Acid etch units after curing to remove cement film from surfaces to be exposed to view.
- F. Colors and Textures: As selected by Architect from manufacturer's full available range.
- G. Architect will review panel design alternatives should manufacturer have concerns regarding performance or damage due to shape and size.

2.3 MORTAR MATERIALS

- A. Portland Cement: ASTM C 150, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.
- B. Hydrated Lime: ASTM C 207, Type S.
- C. Portland Cement-Lime Mix: Packaged blend of portland cement and hydrated lime containing no other ingredients.
- D. Mortar Pigments: Natural and synthetic iron oxides and chromium oxides, compounded for use in mortar mixes and complying with ASTM C 979. Use only pigments with a record of satisfactory performance in masonry mortar.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Davis Colors; True Tone Mortar Colors.
 - b. Solomon Colors, Inc.; SGS Mortar Colors.
- E. Aggregate for Mortar: ASTM C 144.
 - 1. For mortar that is exposed to view, use washed aggregate consisting of natural sand or crushed stone.
 - 2. For joints less than 1/4 inch thick, use aggregate graded with 100 percent passing the No. 16 sieve.
- F. Water: Potable.

2.4 ACCESSORIES

- A. Anchors: Type and size indicated, fabricated from steel complying with ASTM A 36/A 36M, and hot-dip galvanized to comply with ASTM A 123/A 123M.
- B. Dowels: 1/2-inch- diameter, round bars, fabricated from steel complying with ASTM A 36/A 36M, and hot-dip galvanized to comply with ASTM A 123/A 123M.
- C. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry without discoloring or damaging masonry surfaces. Use product expressly approved for intended use by precast concrete manufacturer and expressly approved by cleaner manufacturer for use on precast concrete and adjacent masonry materials.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Diedrich Technologies, Inc.
 - b. ProSoCo, Inc.

2.5 MORTAR MIXES

- A. Comply with requirements in Section 042000 "Unit Masonry" for mortar mixes.
- B. Do not use admixtures including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures unless otherwise indicated.
 - 1. Do not use calcium chloride in mortar or grout.
 - 2. Use portland cement-lime or mortar unless otherwise indicated.
- C. Comply with ASTM C 270, Proportion Specification.
 - 1. For setting mortar, use Type N.
 - 2. For pointing mortar, use Type N.
- D. Pigmented Mortar: Use colored cement product or select and proportion pigments with other ingredients to produce color required. Do not add pigments to colored cement products.
 - 1. Pigments shall not exceed 10 percent of portland cement by weight.
 - 2. Pigments shall not exceed 5 percent of mortar cement by weight.
 - 3. Mix to match Architect's sample.
 - 4. Application: Use pigmented mortar for exposed mortar joints.

2.6 SOURCE QUALITY CONTROL

- A. Engage a qualified independent testing agency to sample and test precast concrete units according to ASTM C 1364.
 - 1. Include one test for resistance to freezing and thawing.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation

- tolerances and other conditions affecting performance of work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 SETTING PRECAST CONCRETE IN MORTAR

- A. Set precast concrete as indicated on Drawings. Set units accurately in locations indicated with edges and faces aligned according to established relationships and indicated tolerances.
 - 1. Install anchors, supports, fasteners, and other attachments indicated or necessary to secure units in place.
 - 2. Coordinate installation of precast concrete with installation of flashing specified in other Sections.
- B. Wet joint surfaces thoroughly before applying mortar or setting in mortar.
- C. Set units in full bed of mortar with full head joints unless otherwise indicated.
 - 1. Set units with joints 3/8 inch wide unless otherwise indicated.
 - 2. Build anchors and ties into mortar joints as units are set.
 - 3. Fill dowel holes and anchor slots with mortar.
 - 4. Fill collar joints solid as units are set.
 - 5. Build concealed flashing into mortar joints as units are set.
 - 6. Keep head joints in coping and other units with exposed horizontal surfaces open to receive sealant.
 - 7. Keep joints at shelf angles open to receive sealant.
- D. Rake out joints for pointing with mortar to depths of not less than 3/4 inch. Rake joints to uniform depths with square bottoms and clean sides. Scrub faces of units to remove excess mortar as joints are raked.
- E. Point mortar joints by placing and compacting mortar in layers not greater than 3/8 inch. Compact each layer thoroughly and allow it to become thumbprint hard before applying next layer.
- F. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness unless otherwise indicated.
- G. Provide sealant joints at copings and other horizontal surfaces, at expansion, control, and pressure-relieving joints, and at locations indicated.
 - 1. Keep joints free of mortar and other rigid materials.
 - 2. Build in compressible foam-plastic joint fillers where indicated.
 - 3. Form joint of width indicated, but not less than 3/8 inch.
 - 4. Prime precast concrete surfaces to receive sealant and install compressible backer rod in joints before applying sealant unless otherwise indicated.
 - 5. Prepare and apply sealant of type and at locations indicated to comply with applicable requirements in Section 079200 "Joint Sealants."

3.3 SETTING ANCHORED PRECAST CONCRETE WITH SEALANT-FILLED JOINTS

- A. Set precast concrete as indicated on Drawings. Set units accurately in locations indicated with edges and faces aligned according to established relationships and indicated tolerances.
 - 1. Install anchors, supports, fasteners, and other attachments indicated or necessary to secure units in place.
 - 2. Shim and adjust anchors, supports, and accessories to set precast concrete in locations indicated with uniform joints.
- B. Keep cavities open where unfilled space is indicated between back of precast concrete units and backup wall; do not fill cavities with mortar or grout.
- C. Fill anchor holes with sealant.
 - 1. Where dowel holes occur at pressure-relieving joints, provide compressible material at ends of dowels.
- D. Set precast concrete supported on clip or continuous angles on resilient setting shims. Use material of thickness required to maintain uniform joint widths. Hold shims back from face of precast concrete a distance at least equal to width of joint.
- E. Keep joints free of mortar and other rigid materials. Remove temporary shims and spacers from joints after anchors and supports are secured in place and precast concrete units are anchored. Do not begin sealant installation until temporary shims and spacers are removed.
 - 1. Form open joint of width indicated, but not less than 3/8 inch.
- F. Prime precast concrete surfaces to receive sealant and install compressible backer rod in joints before applying sealant unless otherwise indicated.
- G. Prepare and apply sealant of type and at locations indicated to comply with applicable requirements in Section 079200 "Joint Sealants."

3.4 INSTALLATION TOLERANCES

- A. Variation from Plumb: Do not exceed 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2 inch maximum.

- B. Variation from Level: Do not exceed 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2 inch maximum.
- C. Variation in Joint Width: Do not vary joint thickness more than 1/8 inch in 36 inches or one-fourth of nominal joint width, whichever is less.
- D. Variation in Plane between Adjacent Surfaces (Lipping): Do not vary from flush alignment with adjacent units or adjacent surfaces indicated to be flush with units by more than 1/16 inch, except where variation is due to warpage of units within tolerances specified.

3.5 ADJUSTING AND CLEANING

- A. Remove and replace stained and otherwise damaged units and units not matching approved Samples. Precast concrete may be repaired if methods and results are approved by Architect.
- B. Replace units in a manner that results in precast concrete matching approved Samples, complying with other requirements, and showing no evidence of replacement.
- C. Final Cleaning: After mortar is thoroughly set and cured, clean exposed precast concrete as follows:
 - 1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
 - 2. Test cleaning methods on sample; leave one sample uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before proceeding with cleaning of precast concrete.
 - 3. Protect adjacent surfaces from contact with cleaner by covering them with liquid strippable masking agent or polyethylene film and waterproof masking tape.
 - 4. Wet surfaces with water before applying cleaners; remove cleaners promptly by rinsing thoroughly with clear water.
 - 5. Clean precast concrete by bucket-and-brush hand-cleaning method described in BIA Technical Notes 20.
 - 6. Clean precast concrete with proprietary acidic cleaner applied according to manufacturer's written instructions.

END OF SECTION



Jewers US

a member of FrOC Enterprises, LLC

PO Box 16639
Greensboro, NC 27416
P. 888.510.5331
www.jewersdoors.us

Request for Material Substitution			
TO:	Brown Reynold Watford Architect		Project Name & Description of Request:
			Request for Substitution of Four-Fold Doors for upcoming Project R307583.01 - Fire Department Administration Building
Please find enclosed product data & literature submitted for consideration of formal request of substitution, for the material described here within, on the above referenced project. Please contact Jewers Doors at info@jewersdoors.us if additional clarification is required for review.			
Specified Material Description			
Spec Section	Paragraph	Manufacturer	Description
083510	2.1.A	Door Engineering	FF300 Series
Proposed Substitution			
Manufacturer	Model Number	Description	
Jewers Doors	SWIFT - Phoenix (SWT-E-FG)	Industrial Grade Four-Fold / Bi-Fold Doors	
Differences between Specified & Proposed Substitute			
Reason for Substitution:	Comparable product meeting specs, with greater degree of safety and higher R-Value & heat transfer qualities for improved end user experience at competitive price point.		
Comparative Data:	Attached		
Does the substitution affect dimensions?	Yes / No	NO	
	Explain	no dimensional affect	
Does the substitution affect other trades?	Yes / No	NO	
	Explain	no affect on other trades	
Affects on Owner			
Value:	\$ -	Explanation:	
Time for Completion:	No affect on completion timeframe.		
Supporting Documentation Attached			
Product Data	X	Drawings	X
		Samples	X
Comments about supporting documentation:			
Certification of Equivalent Performance			
Based upon the review of the above mentioned specifaction and associated construction documents, Jewers Doors hereby certifies that the suggested material(s) submitted in this request for substitution and / or approval will perform in an equivalent manner to that of the basis of design.			
Original Submission:	11/29/18	Date Submitted:	11/29/18
Accedpted By:	Jewers US (FrOC Enterprises, LLC) by: Michael L. Peters President & CEO (0389)		
For Use by A/E			
Approved		Rejected	
Approved as Noted		Received too Late	

SECTION 012500.13
SUBSTITUTION REQUEST FORM

Manufacturer
provided information
on separate form.

PROJECT: _____

(After Contract Award)

TO: _____

NO. _____

DATE: _____

Contractor hereby requests acceptance of the following product or system as a substitution in accordance with provisions of Division 01 Section "Substitution Procedures:"

1. SPECIFIED PRODUCT OR SYSTEM

Substitution request for: _____

Specification Section No.: _____ Article/ Paragraph: _____

2. REASON FOR SUBSTITUTION REQUEST

SPECIFIED PRODUCT . . .

PROPOSED PRODUCT . . .

- | | |
|---|--|
| <p><input type="checkbox"/> Is no longer available.</p> <p><input type="checkbox"/> Is unable to meet project schedule.</p> <p><input type="checkbox"/> Is unsuitable for the designated application.</p> <p><input type="checkbox"/> Cannot interface with adjacent materials.</p> <p><input type="checkbox"/> Is not compatible with adjacent materials.</p> <p><input type="checkbox"/> Cannot provide the specified warranty.</p> <p><input type="checkbox"/> Cannot be constructed as indicated</p> <p><input type="checkbox"/> Cannot be obtained due to one or more of the following:</p> <p style="margin-left: 20px;"><input type="checkbox"/> Strike <input type="checkbox"/> Bankruptcy of manufacturer or supplier</p> <p style="margin-left: 20px;"><input type="checkbox"/> Lockout <input type="checkbox"/> Similar occurrence (explain below)</p> | <p><input type="checkbox"/> Will reduce construction time</p> <p><input type="checkbox"/> Will result in cost savings of
\$ _____ to Project</p> <p><input type="checkbox"/> Is for supplier's convenience</p> <p><input type="checkbox"/> Is for subcontractor's convenience</p> <p><input type="checkbox"/> Other: _____</p> |
|---|--|

3. SUPPORTING DATA

- Drawings, specifications, product data, performance data, test data, and any other necessary information to facilitate review of the Substitution Request are attached.
- Sample is attached. Sample will be sent if requested.

Manufacturer
provided information
on separate form.

4. QUALITY COMPARISON

Provide all necessary side-by-side comparative data as required to facilitate review of Substitution Request:

SPECIFIED PRODUCT

PROPOSED PRODUCT

Manufacturer: _____

Name / Brand: _____

Catalog No.: _____

Vendor: _____

Variations: _____

(Add Additional Sheets If Necessary)

Local Distributor or Supplier: _____

Maintenance Service Available: Yes No

Spare Parts Source: _____

Warranty: Yes No _____ Years

5. PREVIOUS INSTALLATIONS

Identification of at least three similar projects on which proposed substitution was used:

PROJECT #1:

Project: _____

Address: _____

Architect: _____

Owner: _____

Contractor: _____

Date Installed: _____

PROJECT #2:

Project: _____

Address: _____

Architect: _____

Owner: _____

Contractor: _____

Date Installed: _____

Manufacturer
provided information
on separate form.

6. EFFECT OF SUBSTITUTION

Proposed substitution affects other work or trades: No Yes (if Yes, explain)

Proposed substitution requires dimensional revisions or redesign of architectural, structural, M-E-P, life safety, or other work:

No Yes (if Yes, attach data explaining revisions)

7. STATEMENT OF CONFORMANCE OF REQUEST TO CONTRACT REQUIREMENTS

Contractor and Subcontractor have investigated the proposed substitution and hereby represent that:

- A. They have personally investigated the proposed substitution and believe that it is equal to or superior in all respects to specified product, except as stated above;
- B. The proposed substitution is in compliance with applicable codes and ordinances;
- C. The proposed substitution will provide same warranty as specified for specified product;
- D. They will coordinate the incorporation of the proposed substitution into the Work, and will include modifications to the Work as required to fully integrate the substitution;
- E. They have included complete cost data and implications of the substitution (attached);
- F. They will pay any redesign fees incurred by the Architect or any of the Architect's consultants, and any special inspection costs incurred by the Owner, caused by the use of this product;
- G. They waive all future claims for added cost or time to the Contract related to the substitution, or that become known after substitution is accepted.
- H. The Architect's approval, if granted, will be based upon reliance upon data submitted and the opinion, knowledge, information, and belief of the Architect at the time decision is rendered and Addendum is issued; and that Architect's approval therefore is interim in nature and subject to reevaluation and reconsideration as additional data, materials, workmanship, and coordination with other work are observed and reviewed.

Contractor: _____
(Name of Contractor)

Date: _____ By: _____

Subcontractor: _____
(Name of Subcontractor)

Date: _____ By: _____

Note: Unresponsive or incomplete requests will be rejected and returned without review.

8. ARCHITECT'S REVIEW AND ACTION

- Substitution is accepted.
- Substitution is accepted, with the following comments: _____

- Resubmit Substitution Request:
 - Provide more information in the following areas: _____
 - _____
 - _____
 - Provide proposal indicating amount of savings / credit to Owner
 - Bidding Contractor shall sign Bidder's Statement of Conformance
 - Bidding Subcontractor shall sign Bidder's Statement of Conformance

-Submitted product has insufficient number of local installations to review.
 -For consistency of operations and maintenance, substitutions are not allowed.


- Substitution is not accepted:
 - Substitution Request received too late.
 - Substitution Request received directly from subcontractor or supplier.
 - Substitution Request not submitted in accordance with requirements.
 - Substitution Request Form is not properly executed.
 - Substitution Request does not indicate what item is being proposed.
 - Insufficient information submitted to facilitate proper evaluation.
 - Proposed product does not appear to comply with specified requirements.
 - Proposed product will require substantial revisions to Contract Documents.

By:  _____
 Date: 2/5/19

Architect has relied upon the information provided by the Contractor, and makes no claim as to the accuracy, completeness, or validity of such information. If an accepted substitution is later found to be not in compliance with the Contract Documents, Contractor shall provide the specified product.

9. OWNER'S REVIEW AND ACTION

- Substitution is accepted; Architect to prepare Change Order.
- Substitution is not accepted.
- Owner will pay Architect directly for redesign fees.
- Include Architect's Additional Service fee for implementing the substitution in the Change Order.

By:  _____
 (Owner/Owner's Representative)
 Date: Jody Strickland 2/5/19

END OF FORM

Doors: 107A

1 Continuous Hinge (alum/glass door)	CFM83SLF-HD1		PE	087100
1 Mortise Lock (storeroom)	ML2057 NSA C6	626	RU	087100
1 Interchangeable Core	8500 AP	626	RU	087100
1 Electric Strike	1006CS	630	HS	087100
1 SMART Pac Bridge Rectifier	2005M3		HS	087100
1 Closer (surface, Unitrol)	DC8210 A11	689	RU	087100
1 Threshold (alum/glass door)	2005AP MSES25 x OW		PE	087100
1 Perimeter Gaskets (alum/glass door)	By Frame & Door Manufacturer		00	
1 Door Sweep (alum/glass door)	315CN TKSP8 x DW		PE	087100
1 Hardware by Security Contractor	Card Reader, DPS, Power Supply		OT	

Notes:

Set: 4.0

Doors: 120A

Addendum 3

1 Continuous Hinge	CFM83SLI-HD1		PE	087100
1 Mortise Lock (storeroom)	ML2057 NSA C6	626	RU	087100
4 Interchangeable Core	8500 AP	626	RU	087100
4 Electric Strike	1006CS	630	HS	087100
4 SMART Pac Bridge Rectifier	2005M3		HS	087100
1 Closer (surface, Unitrol)	DC8210 A11	689	RU	087100
1 Kick Plate	K1050 10" x DW-2" 4BE CSK	US32D	RO	087100
1 Threshold	171A MSES25 x OW		PE	087100
1 Rain Guard	346C TKSP8 x FW		PE	087100
1 Weatherstrip	332CS TKSP8 x H&J		PE	087100
1 Door Sweep w/ Drip	345APK TKSP8 x DW		PE	087100
4 Hardware by Security Contractor	Card Reader, DPS, Power Supply		OT	

Set: 4.1

Doors: 105A, 137A, 137C, 141A, 141B, 150A, 150B

1 Continuous Hinge	CFM83SLI-HD1		PE	087100
1 Exit Device (rim, passage)	ED5200A N910	626	RU	087100
1 Closer (surface)	DC8200/10 x arm to suit application	689	RU	087100
1 Kick Plate	K1050 10" x DW-2" 4BE CSK	US32D	RO	
1 Threshold	171A MSES25 x OW		PE	087100 1
1 Wall Stop	408/409 As Required	US32D	RO	087100
1 Gasketing (smoke/odor/light/sound)	S88BL x H&J		PE	087100

Notes: Door normally closed and latched, ingress by lever, free egress at all times.

Set: 4.2

SECTION 233516 - VEHICLE EXHAUST REMOVAL/FILTRATION SYSTEM

PART 1 - GENERAL

1.1 SYSTEM DESCRIPTION

A. General

1. The ambient overhead vehicle exhaust air filtration system shall be manufactured in MagneGrip Group 11449 Deerfield Rd. Cincinnati, OH 45244 (800) 875-5440 Air Hawk 3000XL.
2. The air filtration units and activation systems shall work together to eliminate, capture, reduce the vehicle exhaust produced by apparatus in addition to contaminants generated from other sources. Sources of bay contamination may consist of airborne engine vapors, apparatus leaking seals, diesel and gas exhaust, soot, gas, carbon monoxide, nitrous dioxide, turn-out gear-out gassing, power saw or any other on-board emergency gasoline or diesel powered equipment. The system must be capable of the capture of intermittent exhaust migration due to apparatus or other internal combustion equipment being run on the facility tarmac or apron. Additional toxins to be captured must include Volatile Organic Compounds (VOCs), particulate, and lung damaging dust.

B. System:

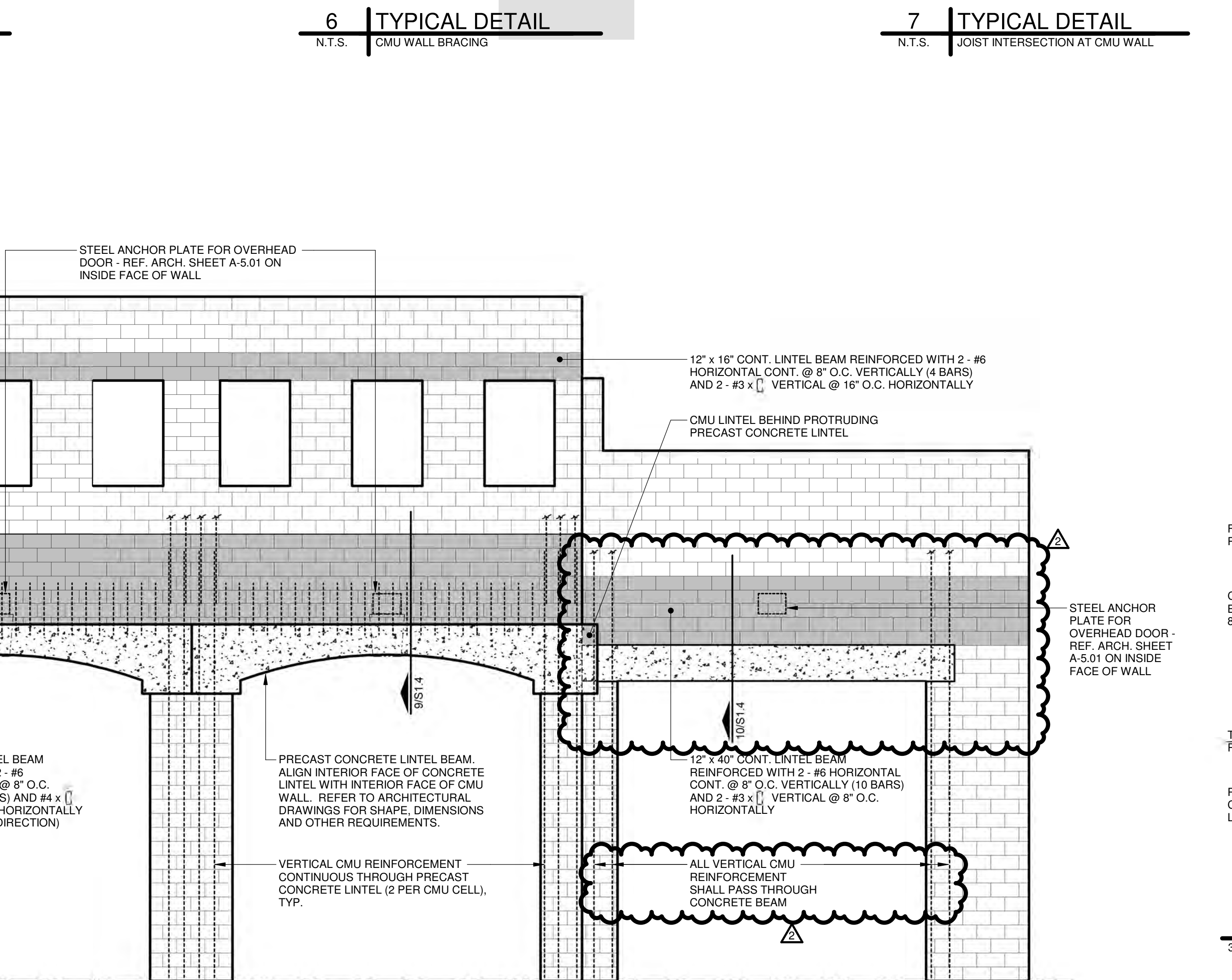
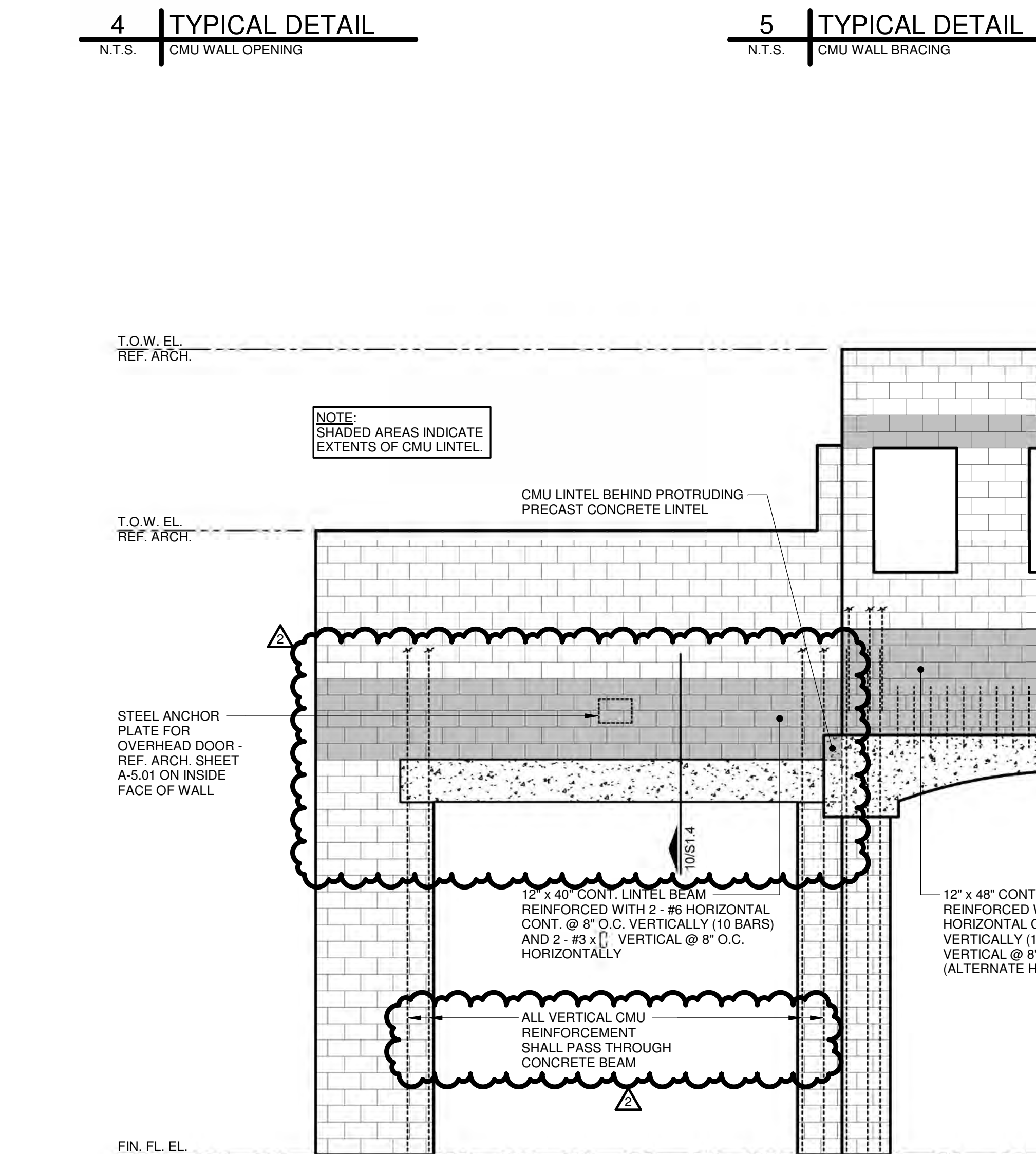
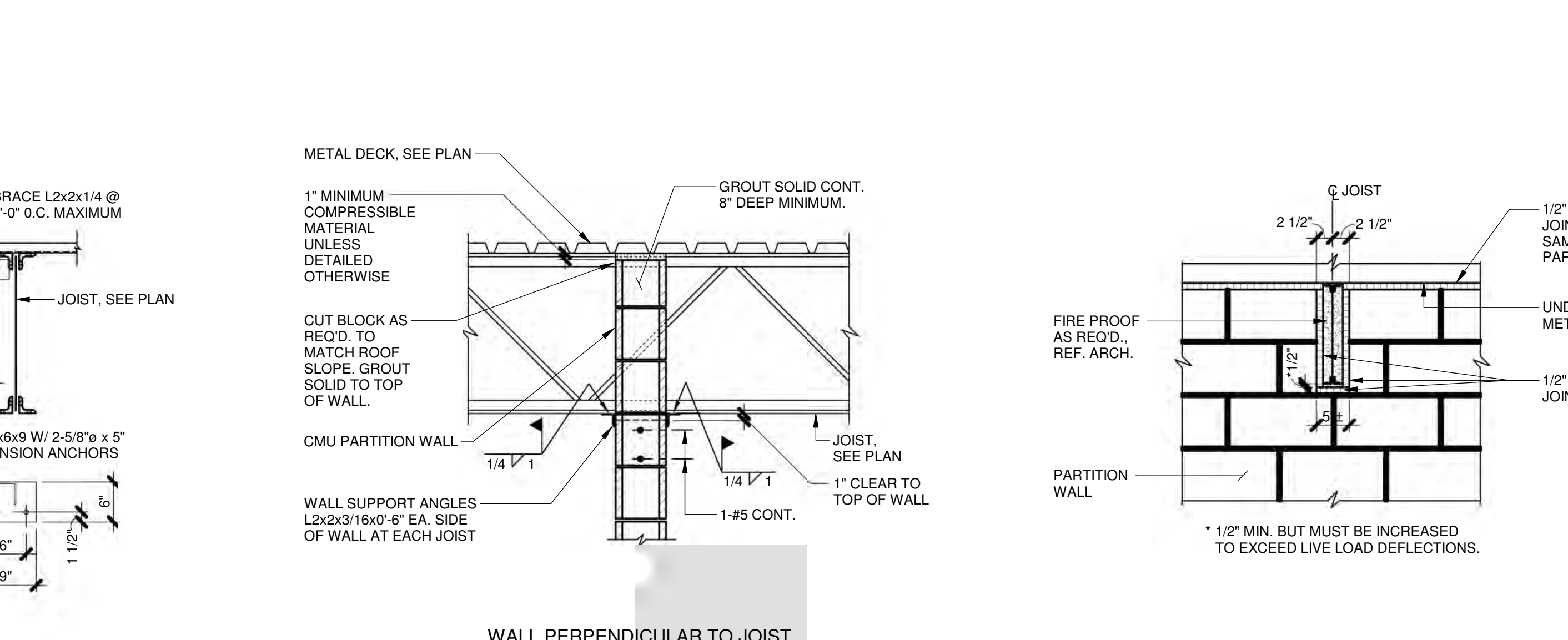
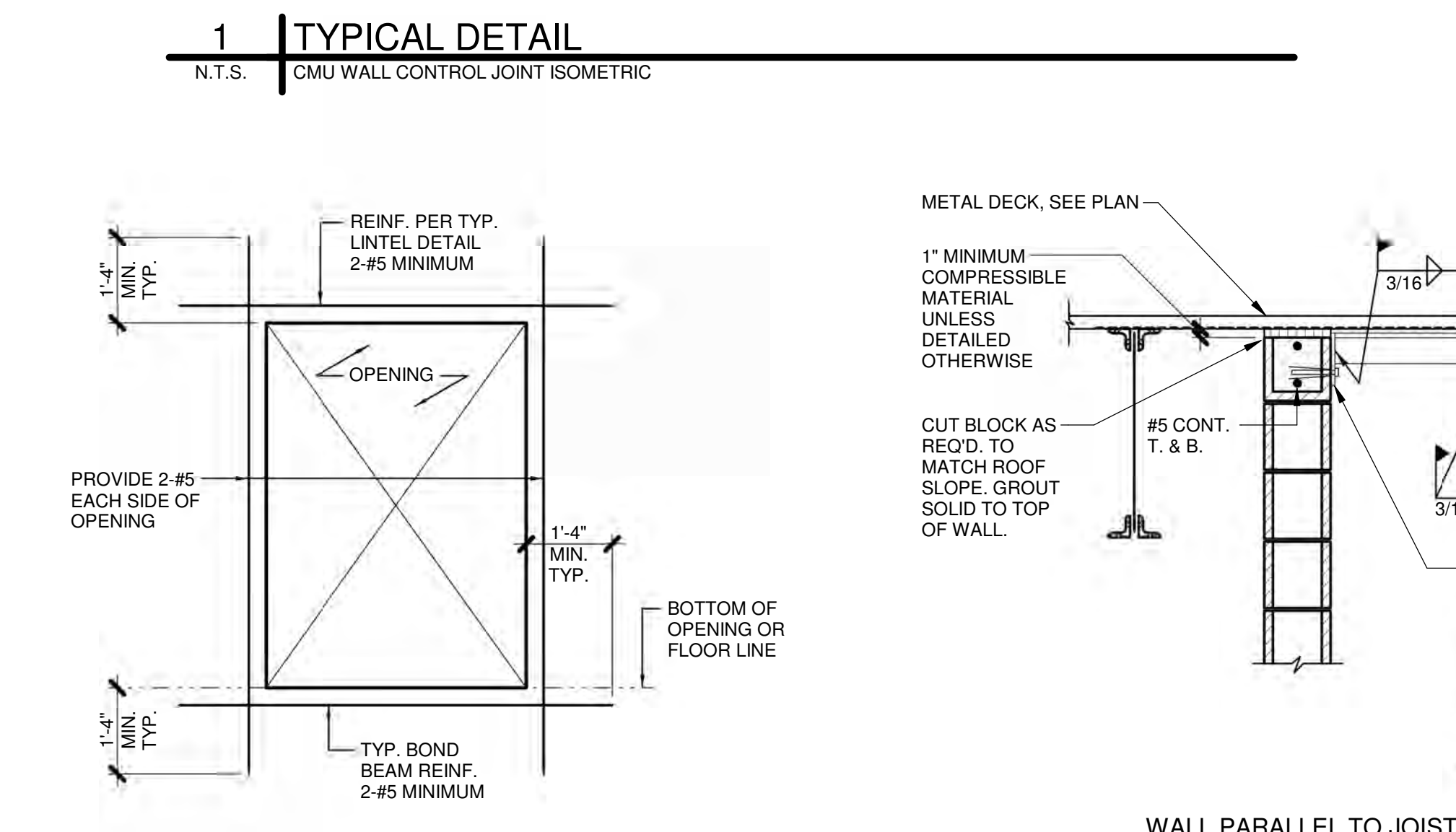
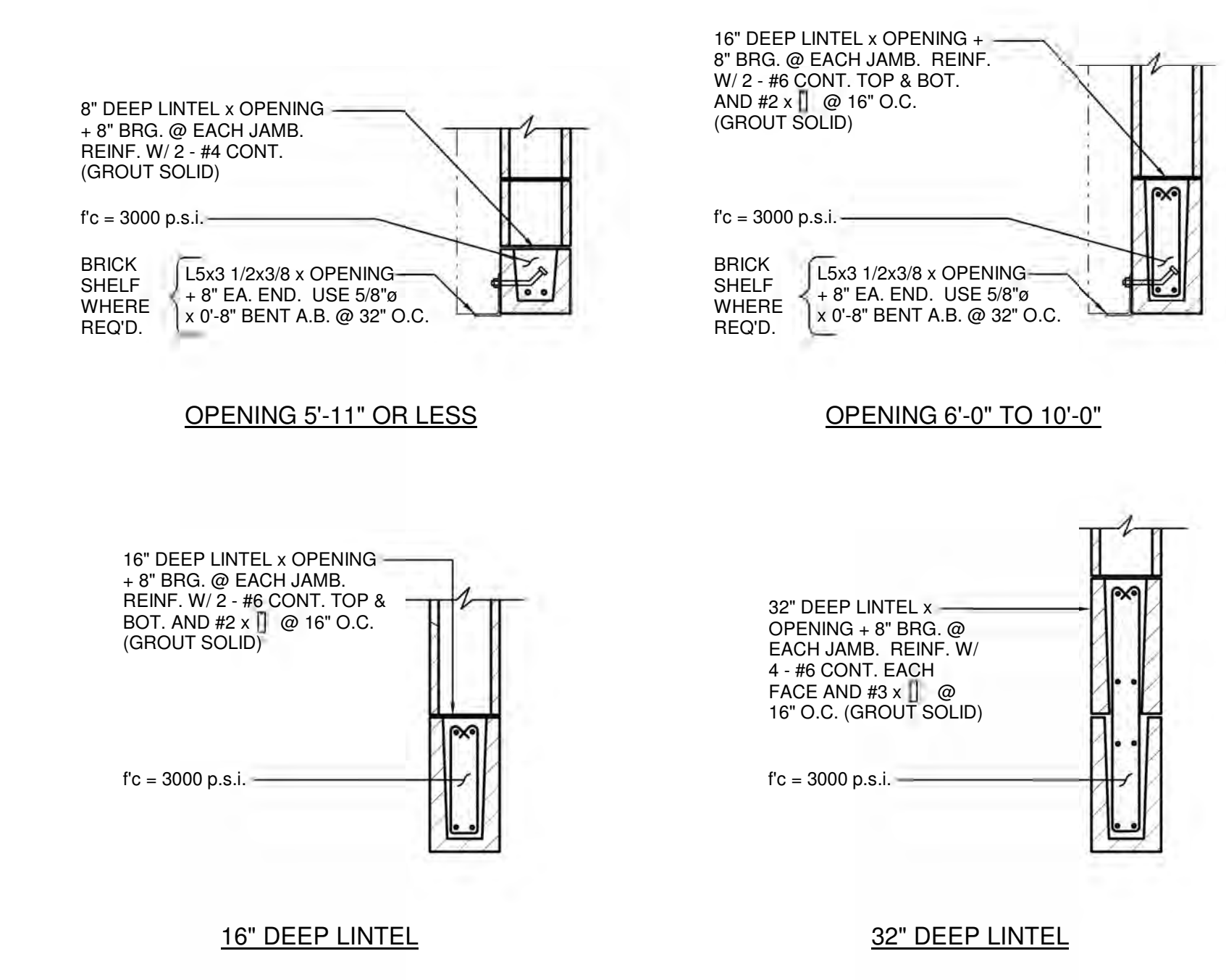
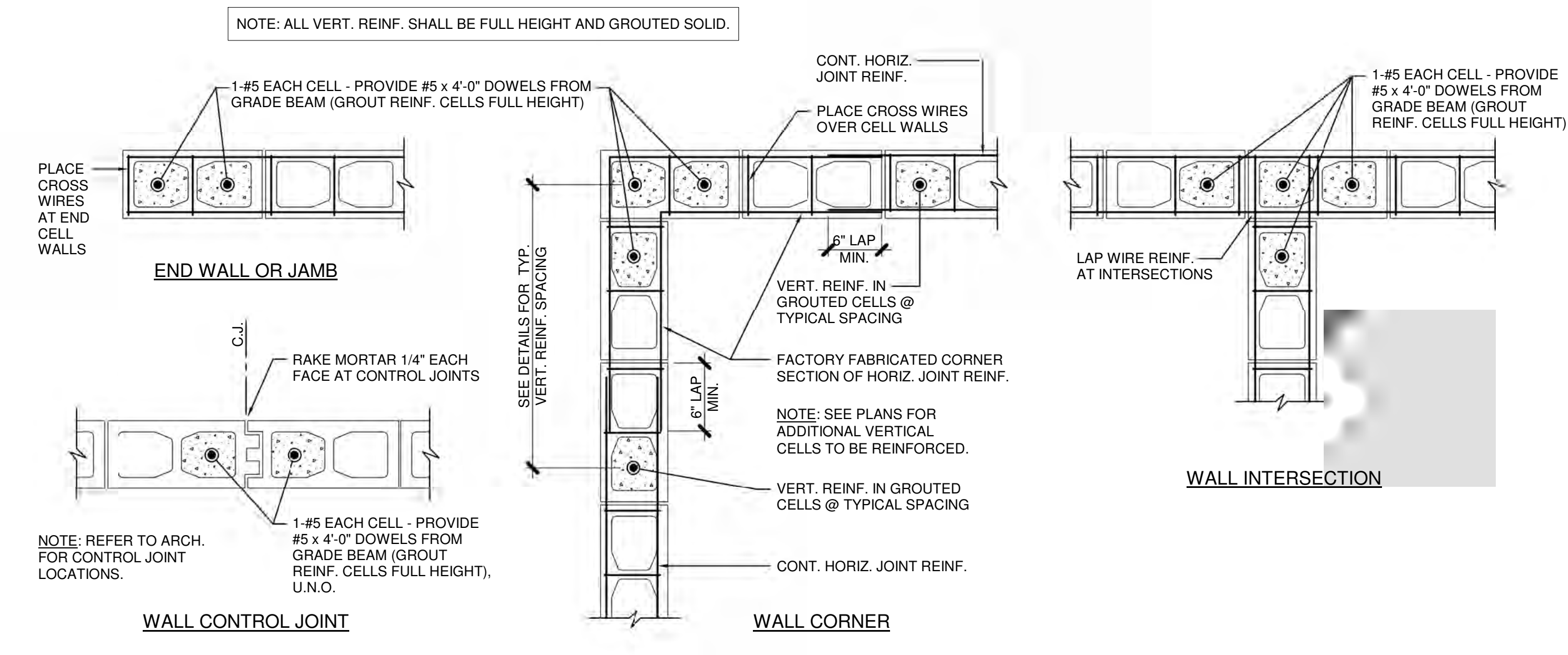
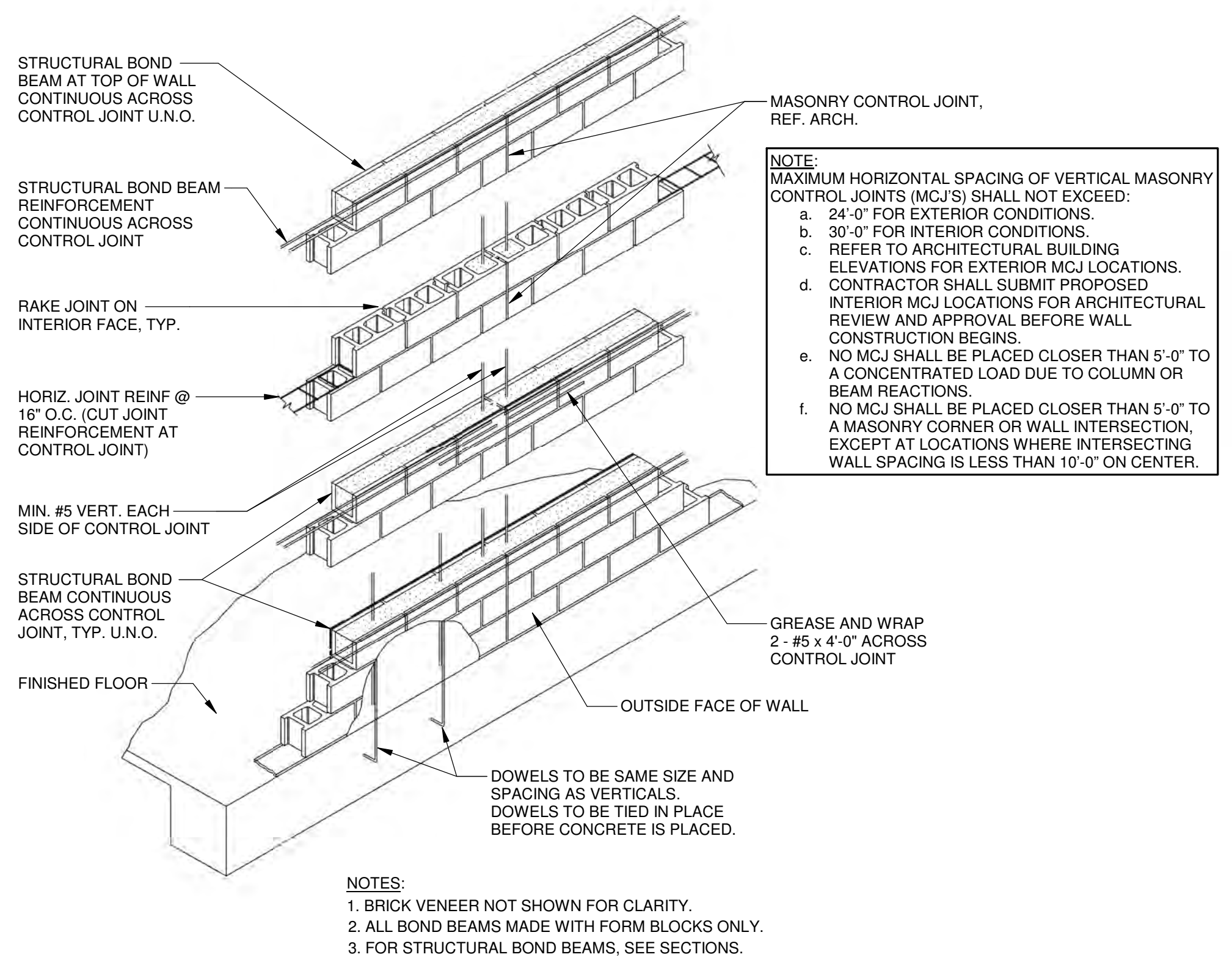
1. The air filtration system shall be a totally automatic activated system that also contains a manual override system. The system shall be hands free, to allow emergency personnel to respond to the emergency at hand. The system shall automatically activate when the bay doors open, when apparatus egress and ingress the fire station or by means of several other methods as stated within. The filtration system shall operate for a minimum of twenty (20) Minutes to complete station air cleaning. The system shall have the capability to increase this time to a maximum of one hundred (100) minutes on an initial activation. Additional manual override switches shall allow for each individual unit to operate on a 24/7 basis as deemed necessary by the end user initiate all units to operate on a predetermined set time; a reset to bypass the timer and terminate activation with a cascading down of units as they turn off.
2. The timer control shall be designed to sequentially start and stop the exhaust capture air filtration units to avoid power surges and contain only UL approved components. The timer control box shall be one hundred (100) percent low voltage (24V max) to eliminate shock hazards to personnel.

C. Test Data:

1. The system shall have documented evidence of having been successfully tested to meet regulatory health and safety standards in no less than two (2) active Fire/EMS departments. Each test shall have been conducted by a different independent testing laboratory under the direction of an independent industrial hygienist. One of the submitted test must show, with no exceptions, as a matter of personnel health and safety, that the system meets and/or surpasses federal regulatory standards for ACGIH, NFPA, BOCA, ASHRAE, EPA, OSHA, PEL (short term), TLV/STEL, and NIOSH. Test parameters shall include VOCs, NO₂, SO₂, CO, Particulates and Diesel Exhaust Particulates as one of the standards of measurement. The testing shall have been performed by a certified industrial hygienist and shall verify performance standards with the fire apparatus idling in bays, on the tarmac, and entering/exiting bays as would occur during normal station operation.

D. Equipment:

1. The filtration equipment shall be delivered and installed as a turnkey system with no requirement for station personnel involvement. The exhaust capture equipment will be self-contained three stage progressive filtration designed system. The system filtration media must be verified by the manufacturer to be capable of capturing vehicle exhaust with a blower and with a motor capable of a delivered volume of 3,000 cfm (cubic feet per minute) meeting NFPA and OSHA Standards.
2. Clean, filtered air shall be returned to the apparatus bay areas from the rear of the same system. There will be no heat/air loss or air exhausted to the outside atmosphere. The system equipment will not require building structural modifications. The system shall not



LOOSE STEEL ANGLE LINTEL SCHEDULE FOR VENEER MASONRY

CLEAR SPAN	EXTERIOR ANGLES FOR 4" MASONRY	NOTES
4'-0" OR LESS	3 1/2 x 3 1/2 x 5/16	1. PROVIDE 8" MINIMUM BEARING FOR ALL STEEL ANGLE LINTELS. PROVIDE CONTINUOUS LINTEL ANGLES BETWEEN ADJACENT EXTERIOR OPENINGS SEPARATED BY 2'-0" OR LESS. 2. THIS SCHEDULE APPLIES ONLY TO NON-LOAD BEARING WALLS. 3. LOOSE STEEL ANGLE LINTEL SIZES INDICATED WITHIN THIS SCHEDULE SHALL ONLY SUPPLEMENT INFORMATION FOUND ELSEWHERE IN THIS SET OF PLANS AND SHALL NOT SUPERSEDE LINTEL SIZES EXPLICITLY NOTED ON SECTIONS, DETAILS OR STRUCTURAL DRAWINGS. 4. ALL LINTEL ANGLES SHALL BE INSTALLED WITH LONG LEG VERTICAL. 5. ALL EXPOSED LINTELS SHALL BE HOT DIPPED GALVANIZED.
5'-0"	3 1/2 x 3 1/2 x 5/16	
6'-0"	4 x 3 1/2 x 5/16	
7'-0"	4 x 3 1/2 x 5/16	
8'-0"	5 x 3 1/2 x 5/16	
9'-0"	5 x 3 1/2 x 3/8	
10'-0"	6 x 3 1/2 x 3/8	

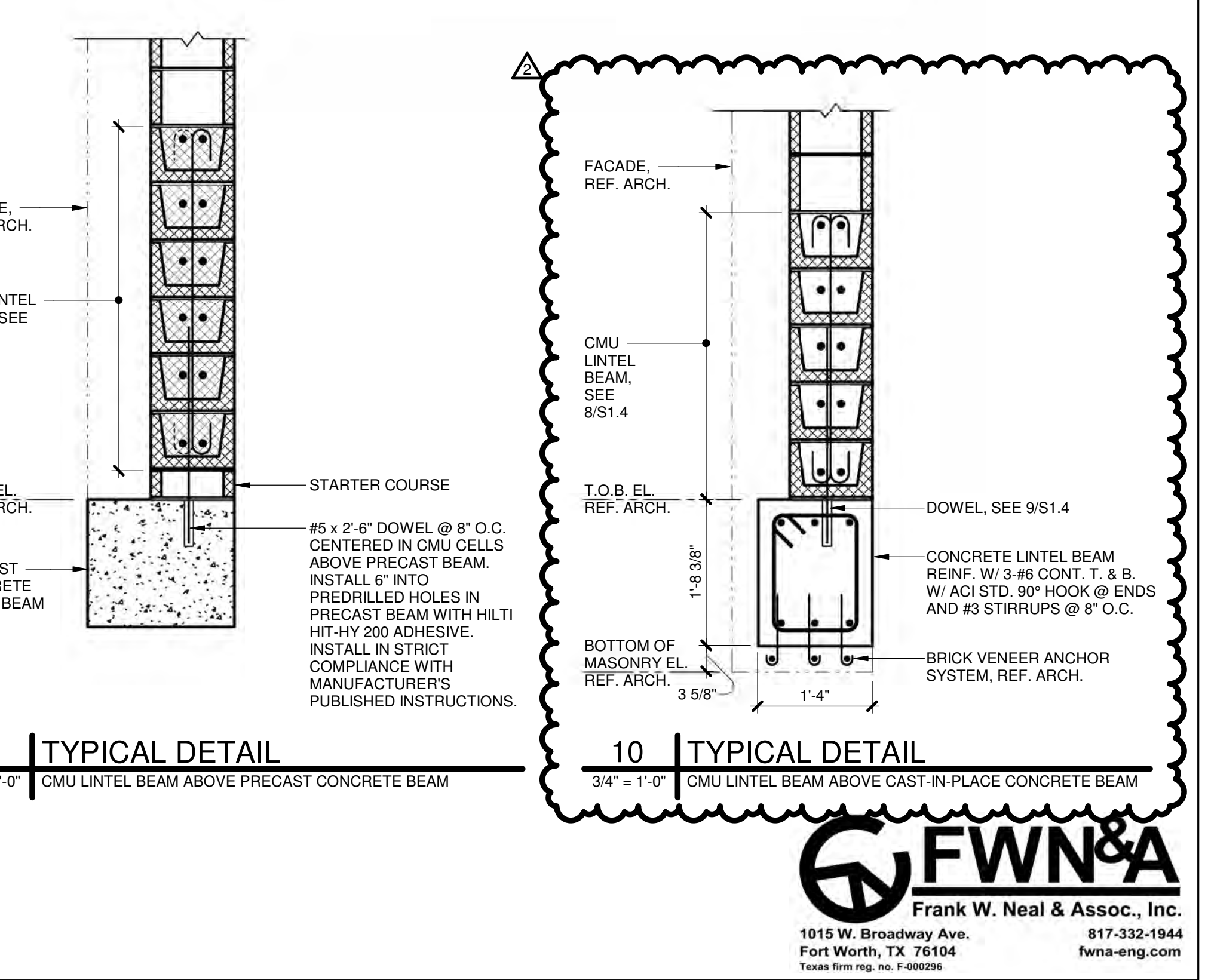
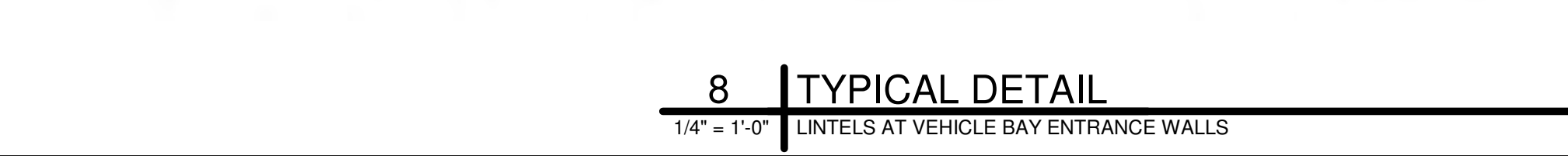
CMU LINTEL SCHEDULE

WALL THICKNESS	CLEAR OPENING SIZE	LINTEL DEPTH	MINIMUM BEARING	LINTEL REINFORCEMENT
8"	0'-0" TO 4'-0"	16"	8"	1-#5 TOP & BOT.
8"	>4'-0" TO 8'-0"	16"	8"	2-#5 TOP & BOT.
8"	>8'-0" TO 10'-0"	16"	12"	2-#5 TOP & BOT.
8"	>10'-0" TO 15'-0"	24"	16"	2-#5 TOP & BOT.
12"	0'-0" TO 6'-0"	24"	8"	2-#5 TOP & BOT.

DIAGRAMS

NOTES

1. CMU LINTEL SIZES INDICATED WITHIN THIS SCHEDULE SHALL ONLY SUPPLEMENT INFORMATION FOUND ELSEWHERE IN THIS SET OF PLANS AND SHALL NOT SUPERSEDE LINTEL SIZES EXPLICITLY NOTED ON SECTIONS, DETAILS OR STRUCTURAL DRAWINGS.



KIRKPATRICK ARCHITECTURE STUDIO
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www.k-a-studio.com

KIRKPATRICK ARCHITECTURE STUDIO
100 West Mulberry
Denton, Texas
76202-0101

DENTON FIRE DEPT.

CITY OF DENTON
STATION 3

REVISIONS:

No.	DATE	DESCRIPTION
1	06-02-2019	PERMIT
2	02-01-2019	ADDENDUM 3

CONTENTS:
TYPICAL DETAILS - MASONRY

DATE:
06/12/2018

SHEET:
S1.4

FWN&A
Frank W. Neal & Assoc., Inc.
1015 W. Broadway Ave. 817-332-1944
Fort Worth, TX 76104 fwna-eng.com
Texas Reg. No. 01-00296

FOUNDATION PLAN NOTES:

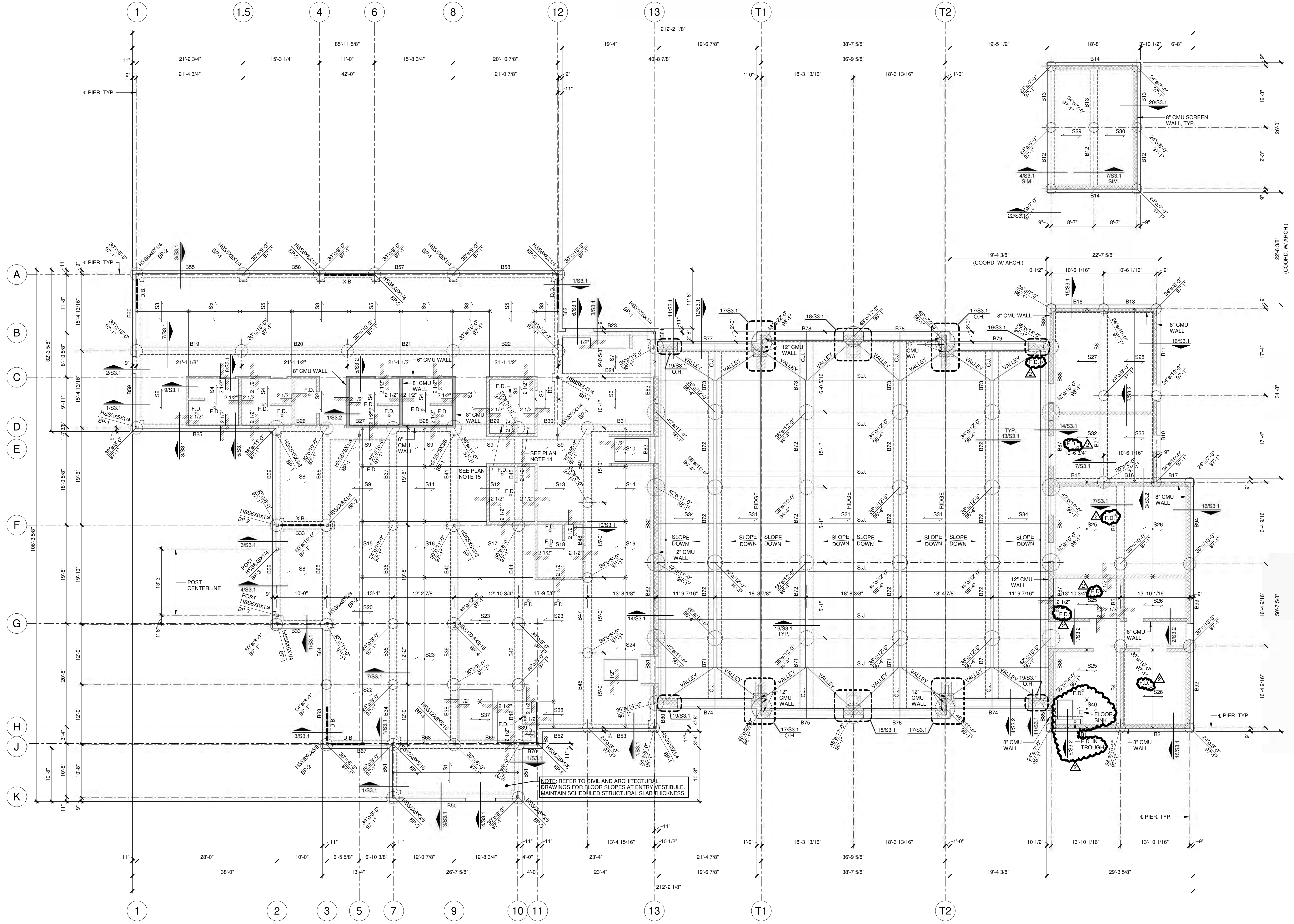
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO BEGINNING CONSTRUCTION.
- SEE SHEET S0.1 FOR GENERAL NOTES.
- SEE SHEET S1.1 FOR TYPICAL DETAILS NOT NOTED ON PLAN.
- SEE SHEET S1.2 FOR GRADE BEAM AND SLAB SCHEDULES.
- FINISH FLOOR DATUM ELEVATION = 100'-0" (ACTUAL ELEVATION = 679.00).
- FLOOR SLAB SHALL BE ONE-WAY SPAN STRUCTURAL SLAB. SEE SLAB SCHEDULE FOR THICKNESS, REINFORCEMENT AND ADDITIONAL INFORMATION.
- PROVIDE 2-#5 x 4'-0" DOWELS CENTERED IN SLAB AT ALL INTERIOR CORNERS.
- REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS AND EXTENTS OF MASONRY LEDGES.
- PIERS ARE CENTERED BENEATH GRADE BEAMS AND LOCATED AS DIMENSIONED ON PLAN. COLUMNS ARE CENTERED ON GRID LINE INTERSECTIONS UNLESS DIMENSIONED OTHERWISE ON PLAN.
- PIERS ARE NOTED ON PLAN THUS:
 30"Ø 9'-0" → PIER SHAFT DIAMETER / PENETRATION
 97'-1" → TOP OF PIER ELEVATION
- COLUMNS ARE NOTED ON PLAN THUS:
 HSS6X6X1/4 → COLUMN TYPE / SIZE
 BP-1 → BASE PLATE MARK. SEE SCHEDULE
- F.D. ON PLAN INDICATES A FLOOR DRAIN. COORDINATE WITH PLUMBING DRAWINGS. COORDINATE SLAB PENETRATIONS AND DEPRESSIONS WITH ARCHITECTURAL AND PLUMBING DRAWINGS.

- COORDINATE LAVATORY SLEEVE PENETRATIONS WITH PLUMBING DRAWINGS.
- 6"Ø VERTICAL SLEEVE THROUGH BEAM, COORDINATE EXACT LOCATION WITH PLUMBING DRAWINGS.
- ON PLAN INDICATES A NON LOAD-BEARING INTERIOR CMU PARTITION WALL. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION. REINFORCE WITH VERTICAL #4 @ 32" O.C. CENTERED IN WALL AND HORIZONTAL W17 LADDER TYPE JOINT REINFORCEMENT @ 16" O.C. AND PROVIDE CONT. 8" DEEP BOND BEAM REINFORCED WITH 2-#5 CONT. AT TOP OF WALL.
- ON PLAN INDICATES A STRUCTURAL CMU WALL. SEE PLAN FOR WALL WIDTH AND "CMU WALL REINFORCEMENT SCHEDULE" ON THIS SHEET FOR WALL REINFORCEMENT.
- ON PLAN INDICATES 6" AND 8" SAFE ROOM STRUCTURAL CMU WALLS. SEE PLAN FOR WALL WIDTH. REINFORCE WALLS WITH VERTICAL #4 @ 24" O.C. CENTERED IN WALLS AND HORIZONTAL W17 LADDER TYPE JOINT REINFORCEMENT @ 16" O.C. REFER TO NOTES IN "CMU WALL REINFORCEMENT SCHEDULE" ON THIS SHEET. GROUT ALL CELLS SOLID. SEE 151.4 FOR MASONRY CONSTRUCTION JOINT SPACING CRITERIA AND LIMITS. COORDINATE JOINT SPACING WITH ARCHITECT.
- ON PLAN INDICATES A CROSS BRACE FRAME. D.B. ON PLAN INDICATES A DIAGONAL BRACE FRAME. SEE SHEET S5.1 FOR DETAILS.
- REFER TO PLUMBING PLANS AND DETAILS FOR SUPPORT OF UNDER FLOOR SLAB HUNG PLUMBING PIPING.
- C.J. ON PLAN INDICATES A CONSTRUCTION JOINT. SEE DETAIL 5/S1.1.
- S.I. ON PLAN INDICATES A SAWN JOINT. SEE DETAIL 16/S1.1.

CMU WALL REINFORCEMENT SCHEDULE		
NOMINAL WALL THICKNESS	VERTICAL REINFORCEMENT	HORIZONTAL JOINT REINFORCEMENT
8"	#5 @ 32" O.C. CENTERED IN WALL	W1.7 LADDER TYPE @ 16" O.C.
12"	#5 @ 32" O.C. EACH FACE OF WALL	W1.7 LADDER TYPE @ 16" O.C.

NOTES

- ALL VERTICAL REINFORCEMENT SHALL BE PLACED IN FULLY GROUTED CELLS.
- LAP VERTICAL REINFORCEMENT 2'-6" MINIMUM AT SPLICES.



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



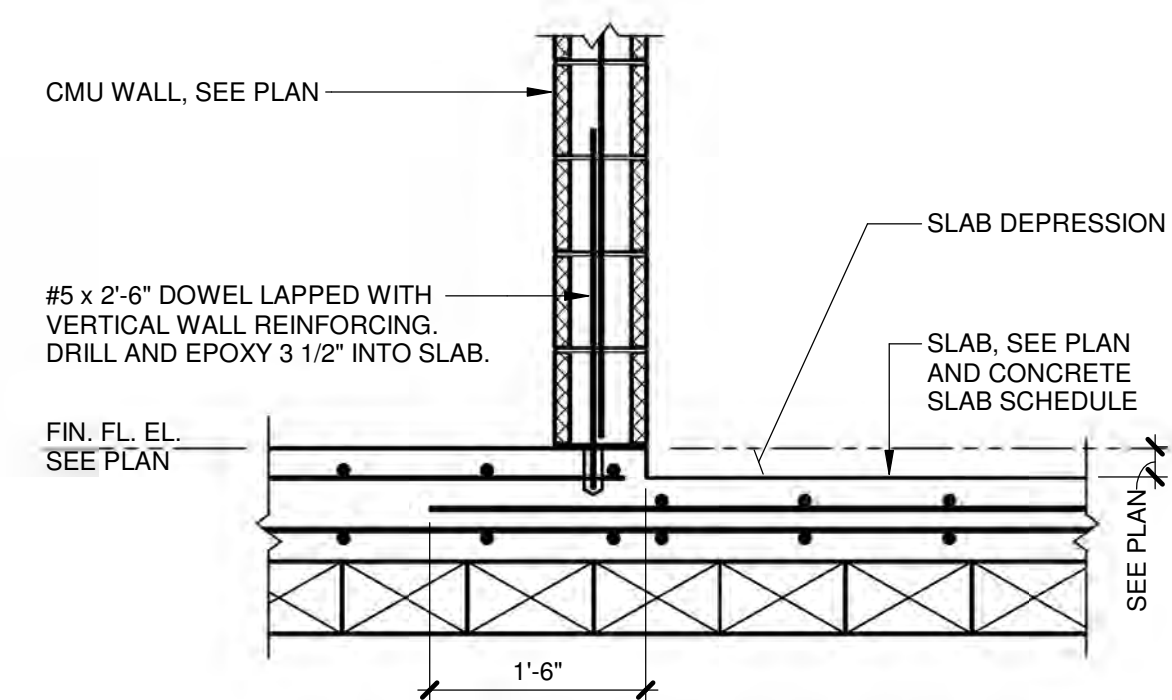
REVISIONS:

No.	DATE	DESCRIPTION
1	06-03-2019	PERMIT
2	02-01-2019	ADDENDUM 3

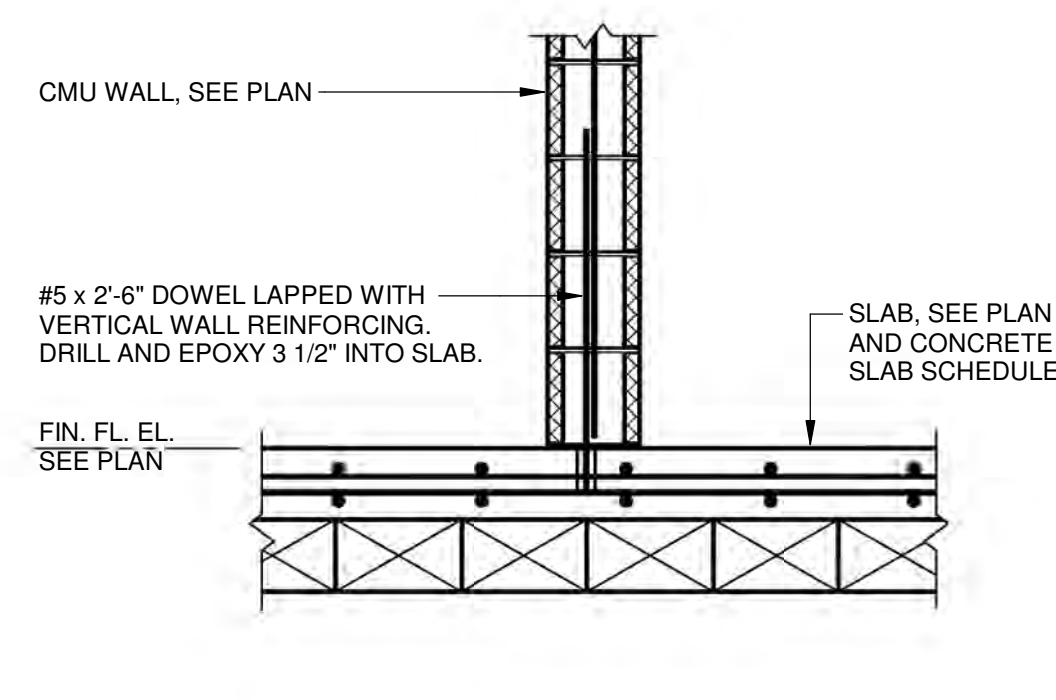
CONTENTS:
FOUNDATION PLAN

DATE:
06/12/2018

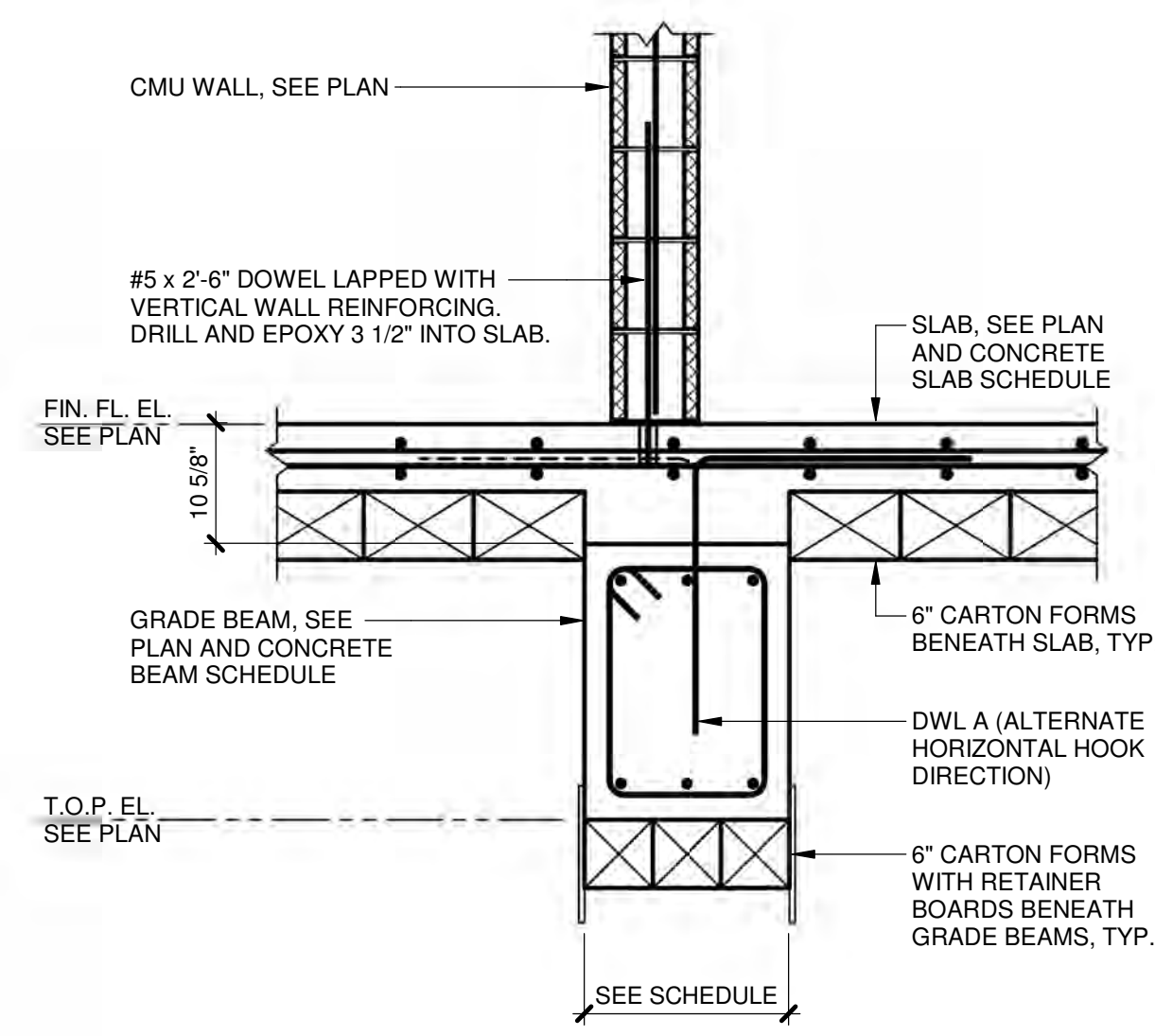
SHEET:
S2.1



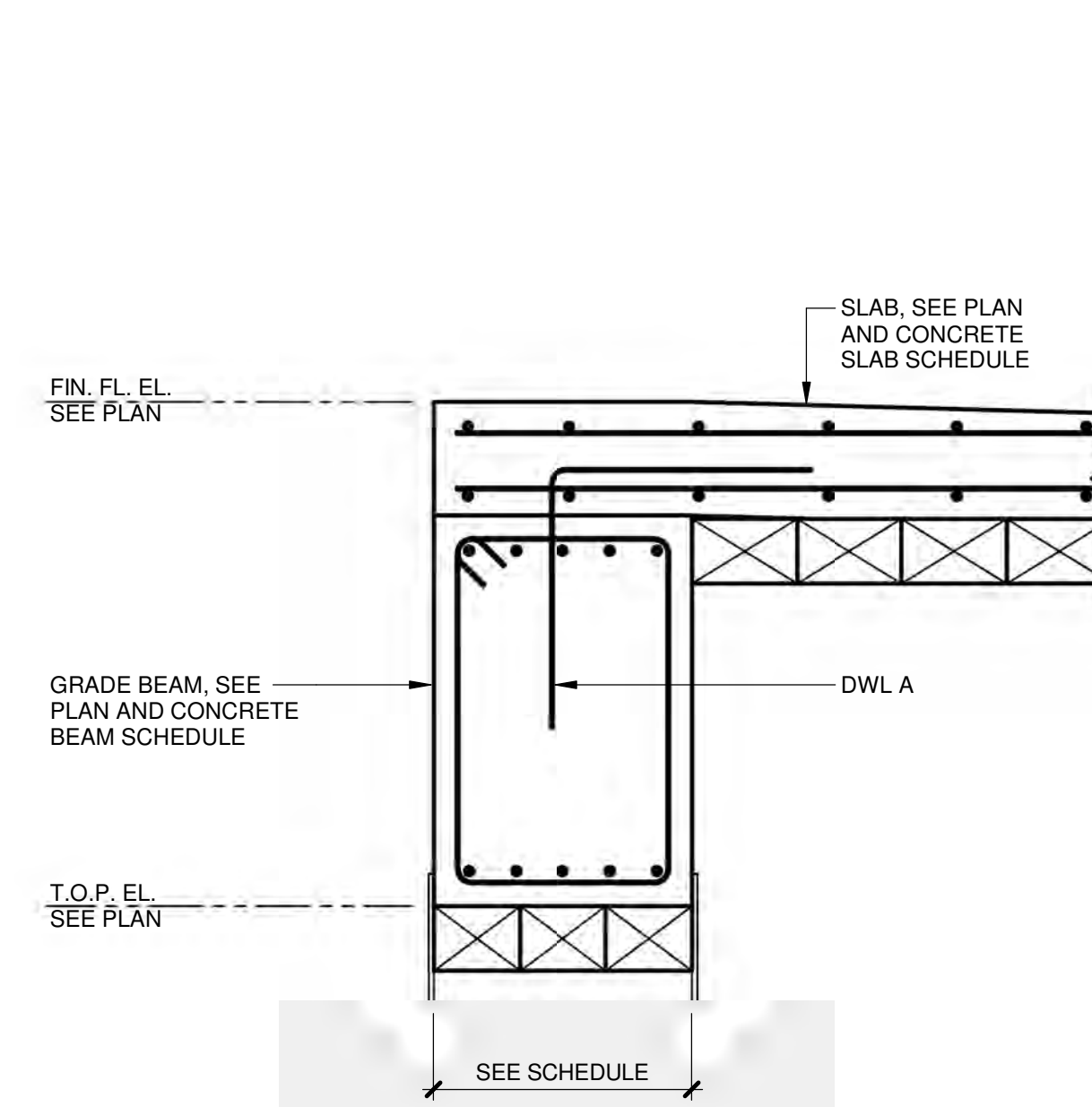
1 | DETAIL
3/4" = 1'-0" CMU WALL ADJACENT TO SLAB DEPRESSION



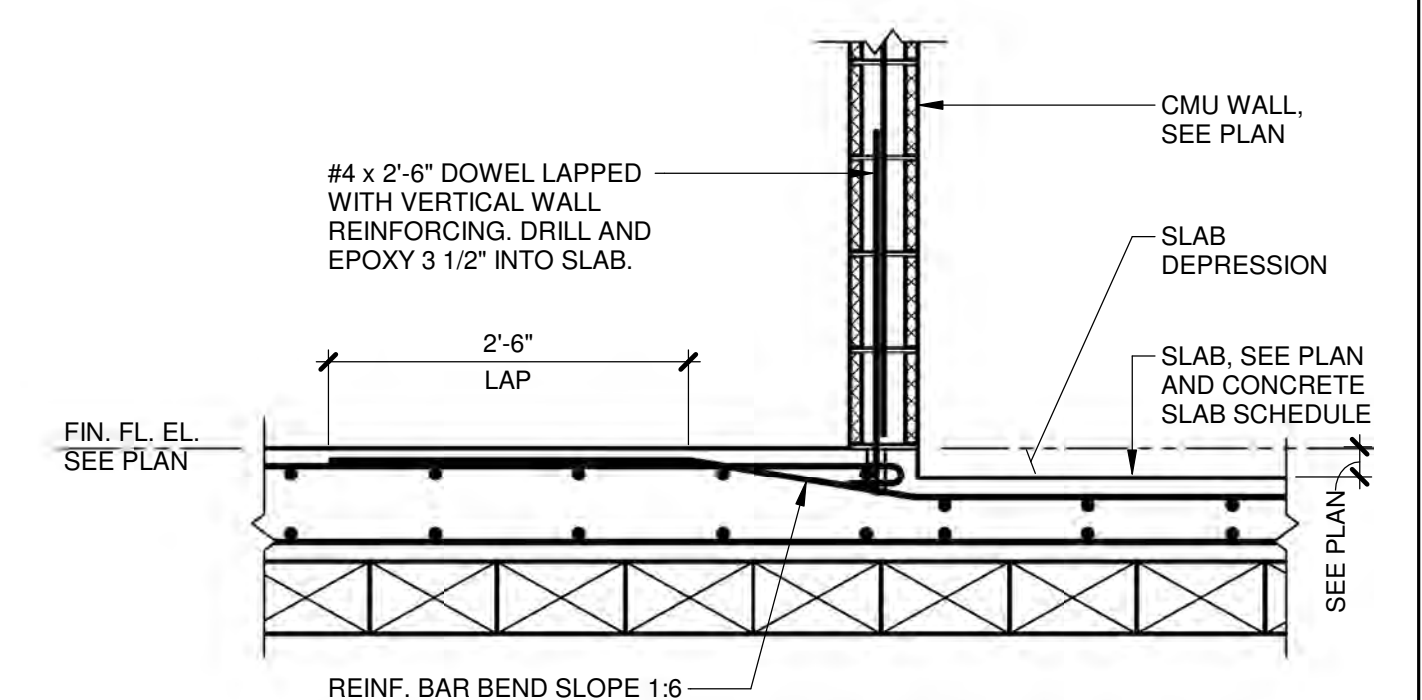
2 | DETAIL
3/4" = 1'-0" INTERIOR CMU WALL DOWELED INTO SLAB



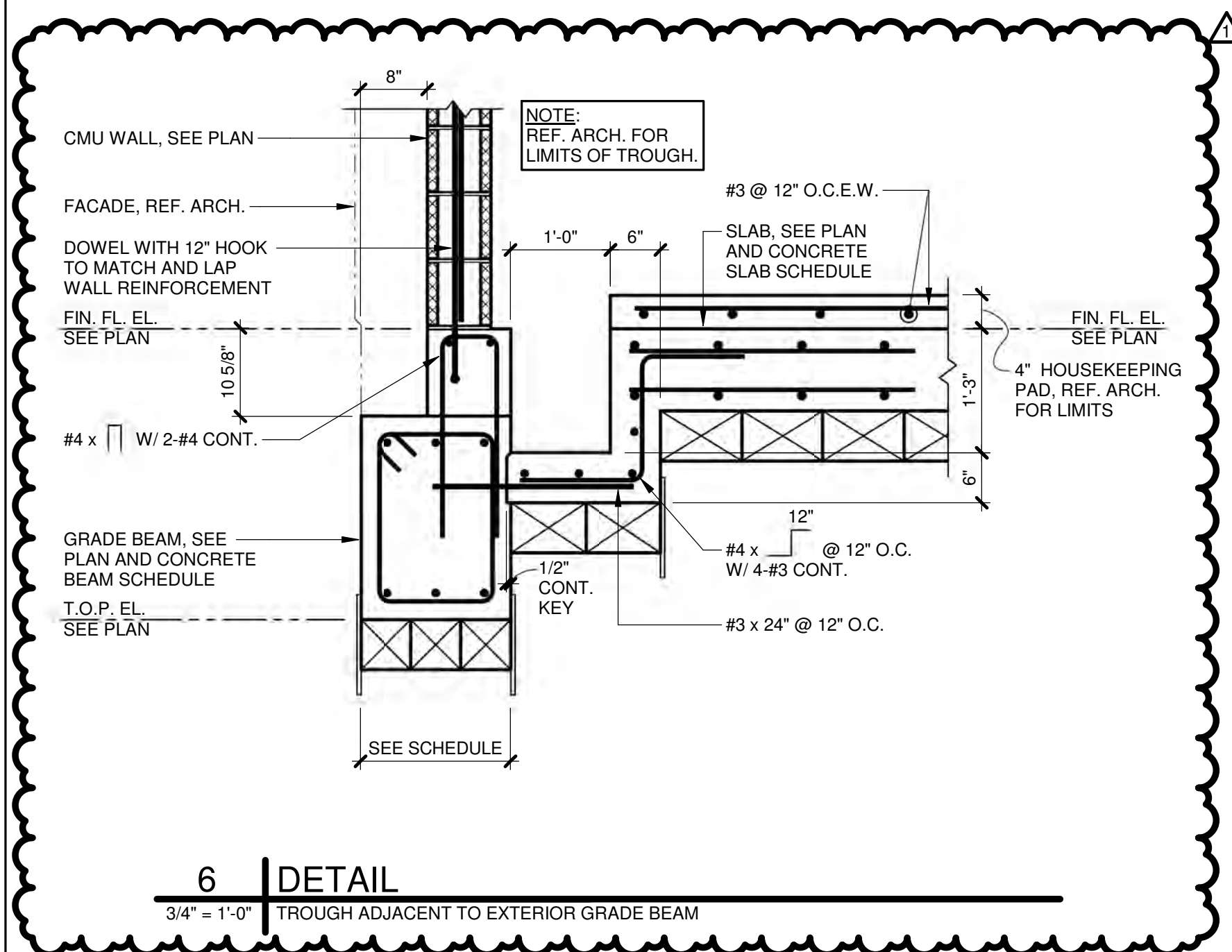
3 | DETAIL
3/4" = 1'-0" INTERIOR CMU WALL DOWELED INTO SLAB



4 | DETAIL
3/4" = 1'-0" SLAB AT VEHICLE BAY FOLDING DOOR OPENING



5 | DETAIL
3/4" = 1'-0" CMU WALL AT SAFE ROOM



6 | DETAIL
3/4" = 1'-0" TROUGH ADJACENT TO EXTERIOR GRADE BEAM



REVISIONS:

No.	DATE	DESCRIPTION
1	02-07-2019	ADDENDUM 3

CONTENTS:
FOUNDATION DETAILS

DATE:
06/12/2018

SHEET:
S3.2



REVIEW SET.
NOT FOR BIDDING,
CONSTRUCTION OR
REGULATORY
PURPOSES

REVISIONS		
NO.	DATE	DESCRIPTION
1	2 AUG 18	PERMIT
2	7 FEB 18	ADDENDUM 3

CONTENTS:
FINISH PLAN

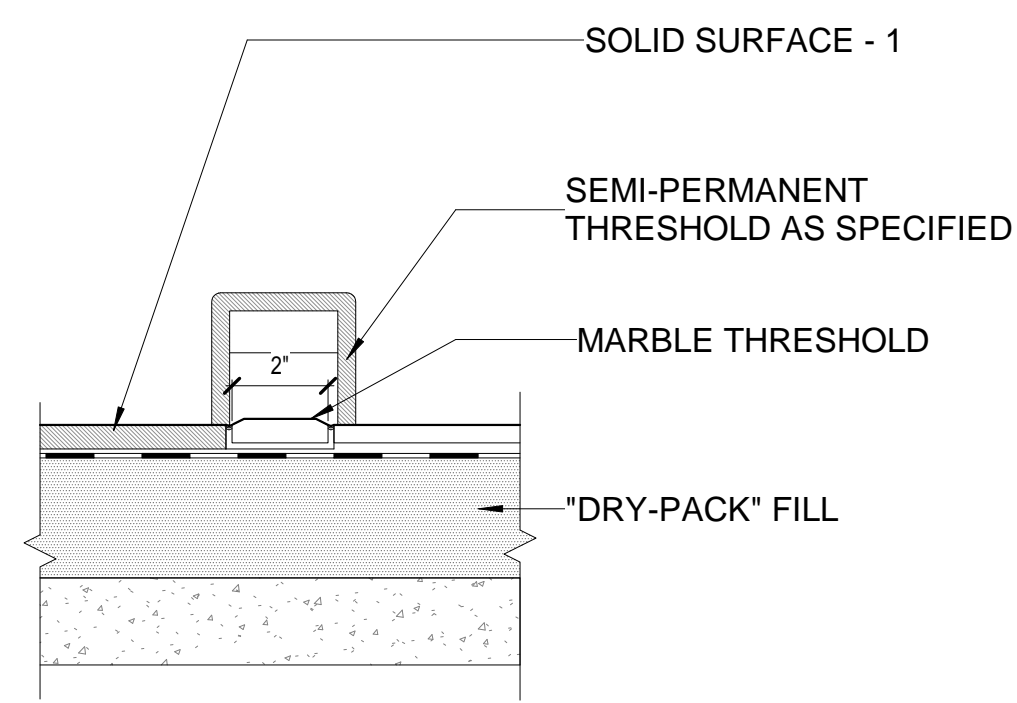
DATE:
2 AUGUST 2018

Issued for Bid

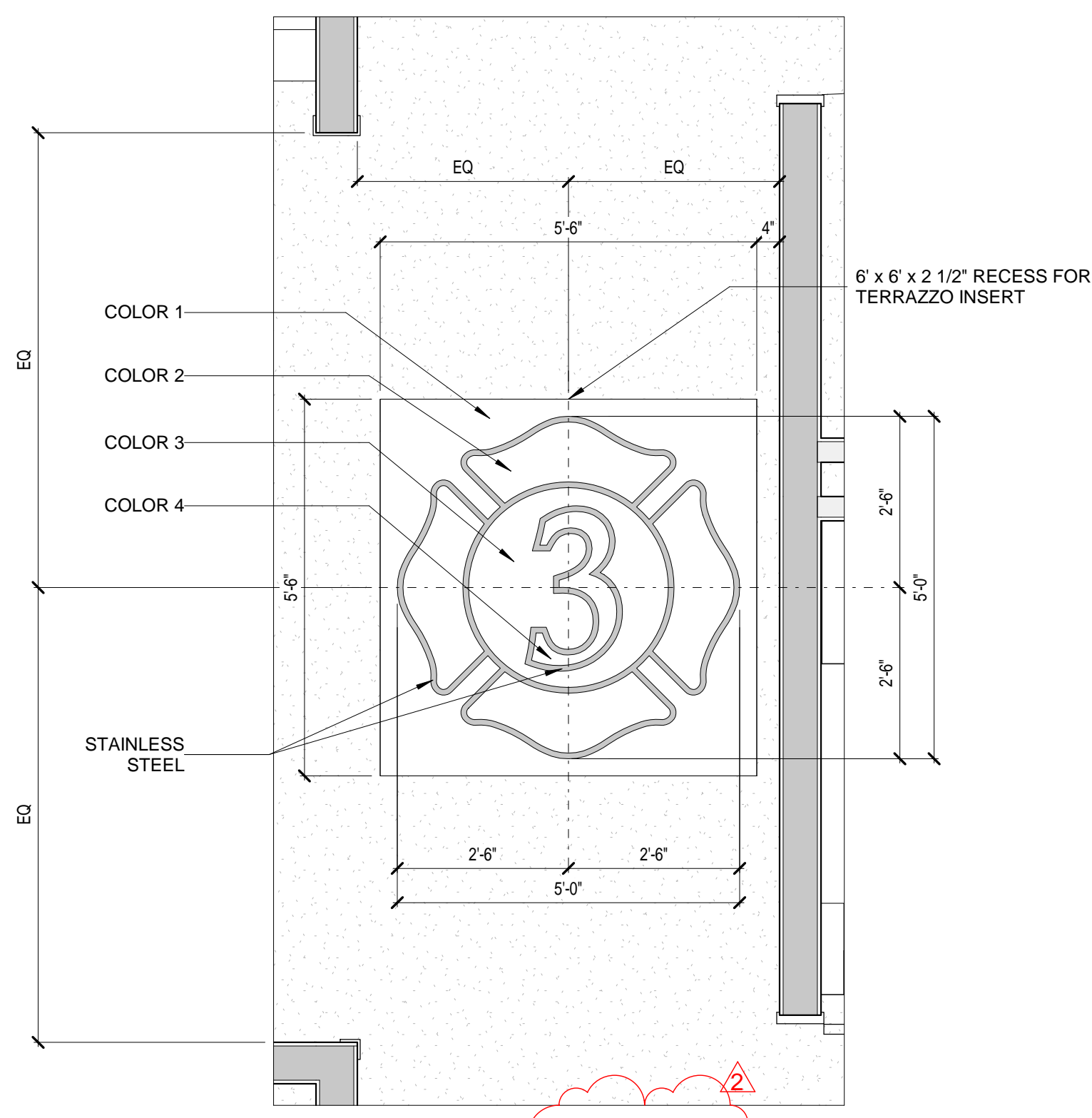
SHEET:

A-2.02

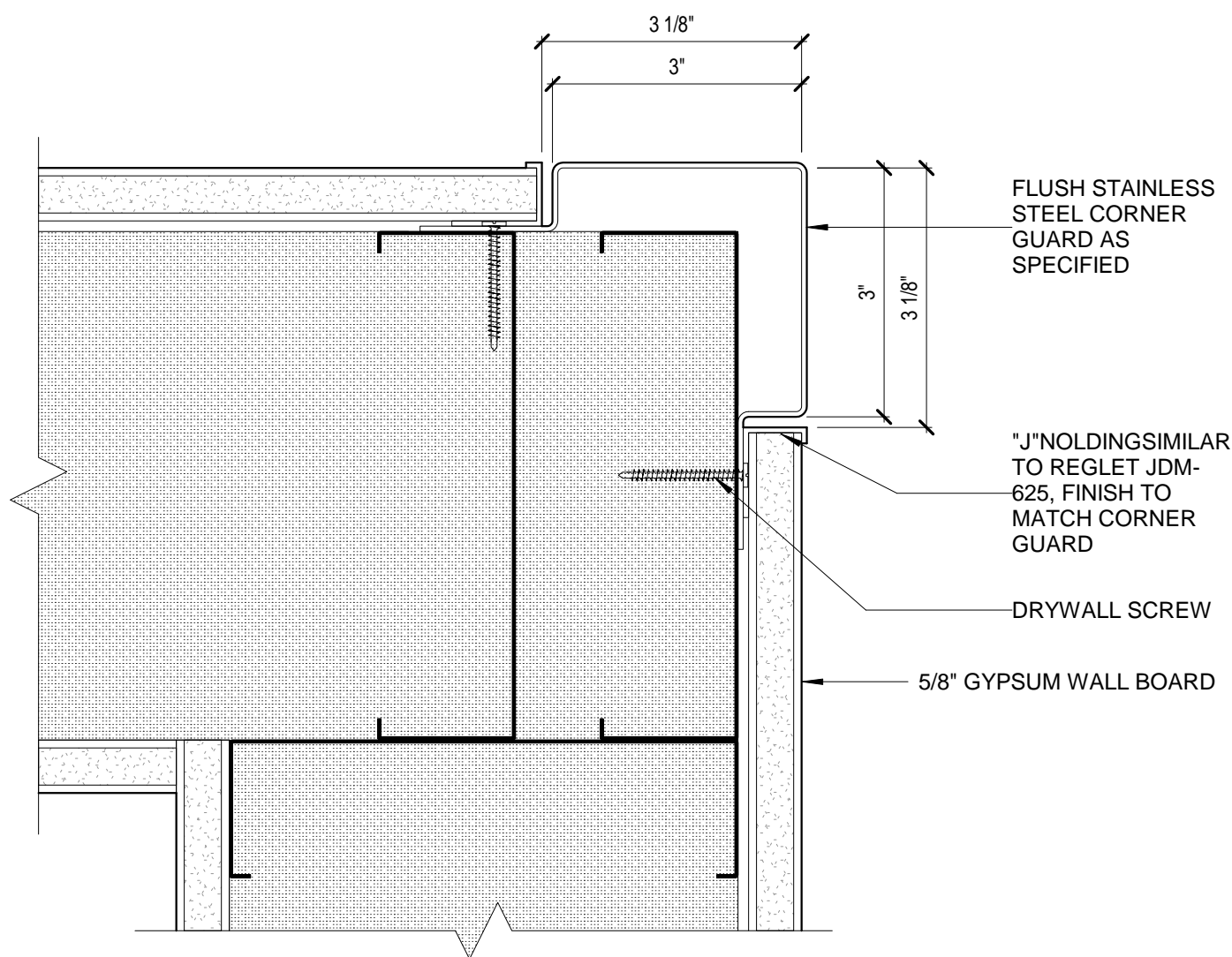
16 SHOWER CURB DETAIL
SCALE: 3" = 1'-0" A-2.02/1



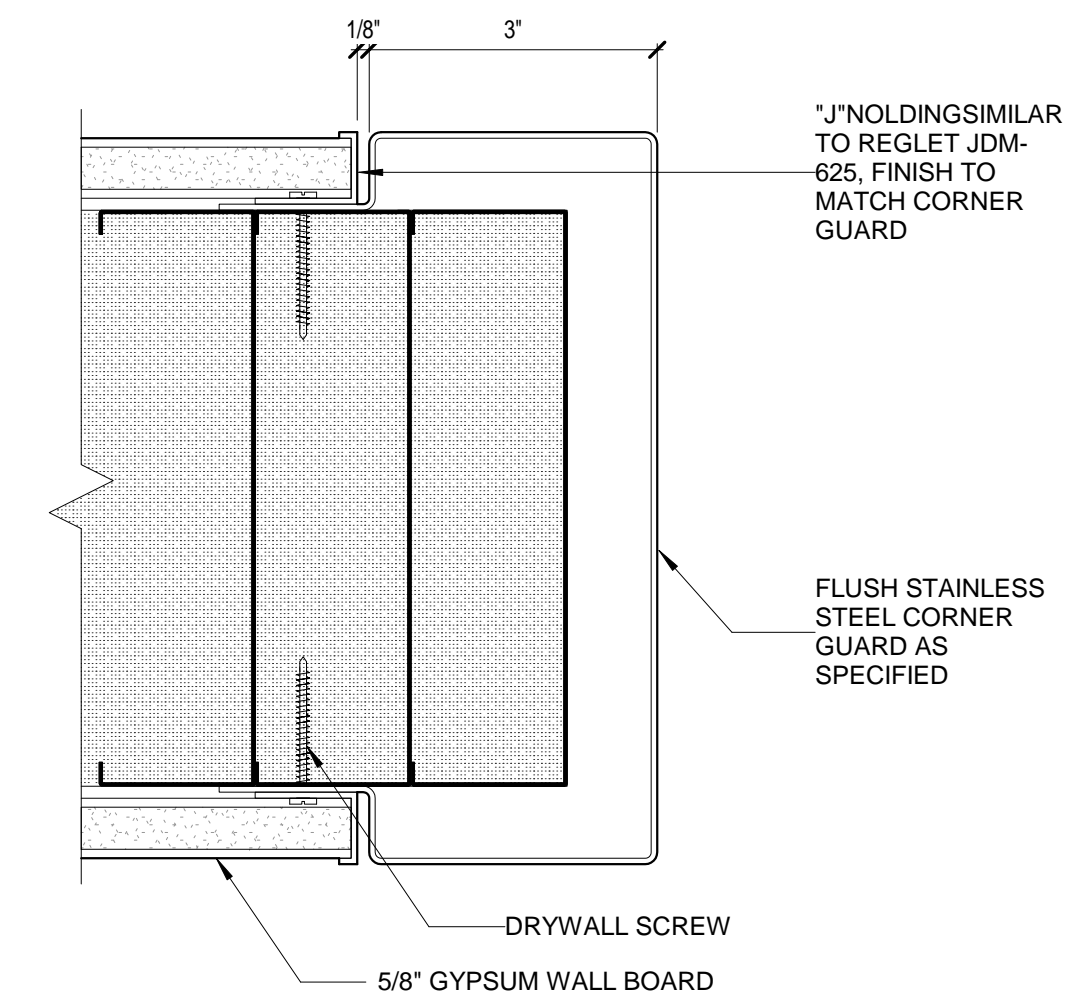
15 ENLARGED MALTESE CROSS
SCALE: 1/2" = 1'-0" A-2.02/1



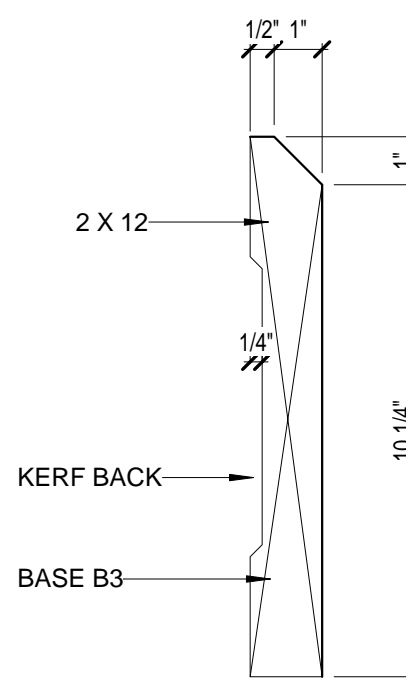
14 CORNER GUARD (C.G.) DETAIL
SCALE: 6" = 1'-0"



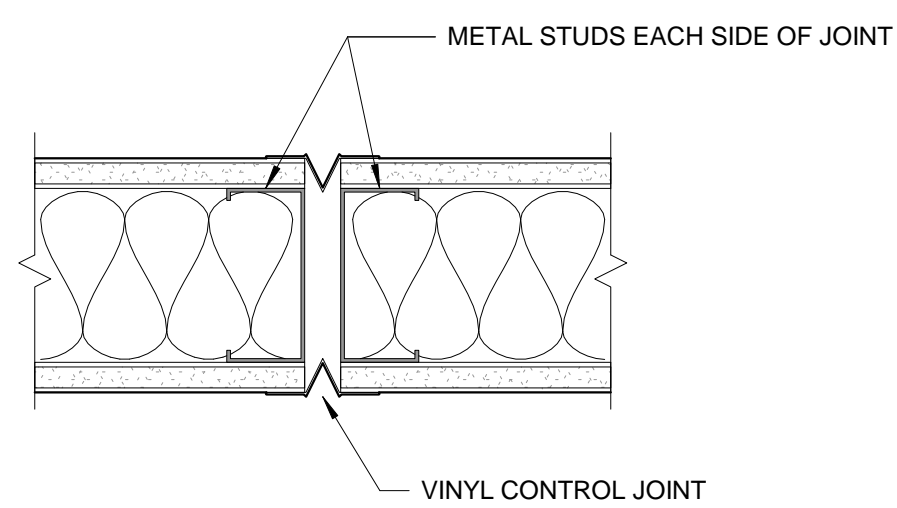
13 END GUARD (E.G.) DETAIL
SCALE: 6" = 1'-0" A-2.02/1



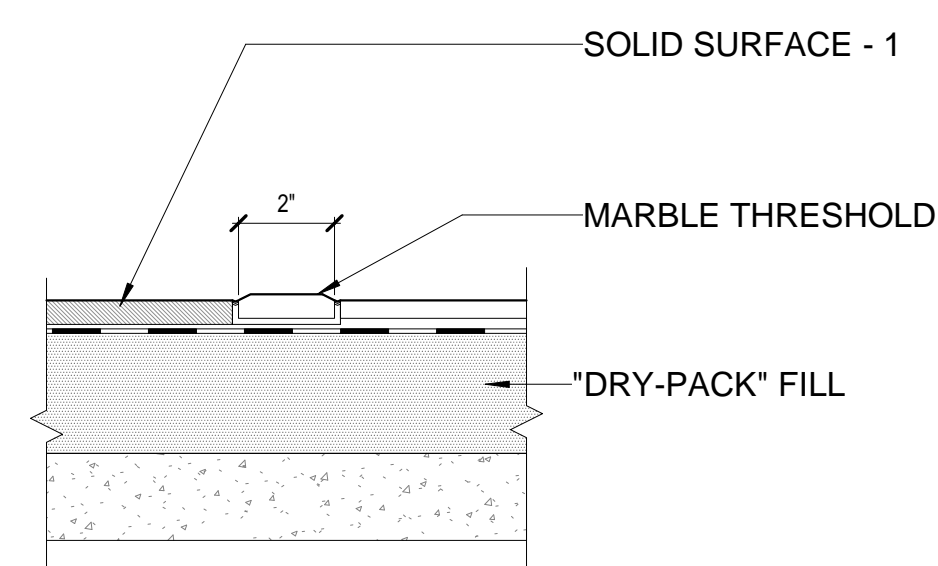
12 EXERCISE ROOM WALL BASE
SCALE: 3" = 1'-0" A-2.02/1



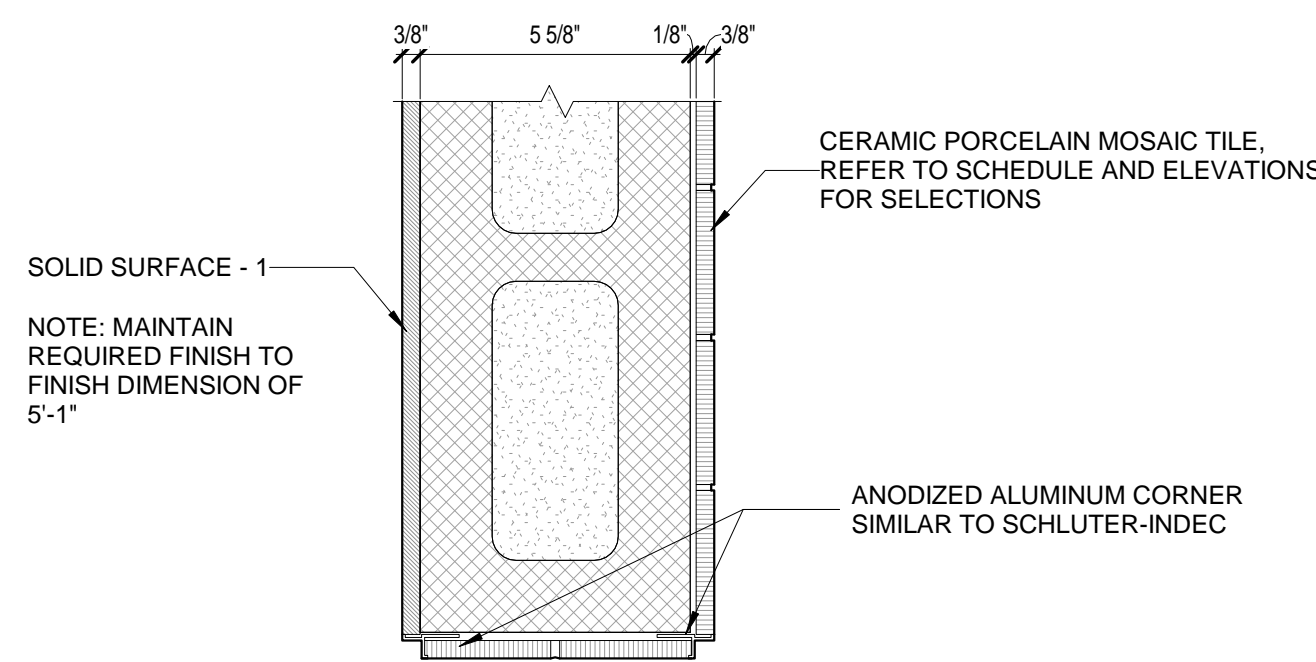
11 CONTROL JOINT
SCALE: 3" = 1'-0"



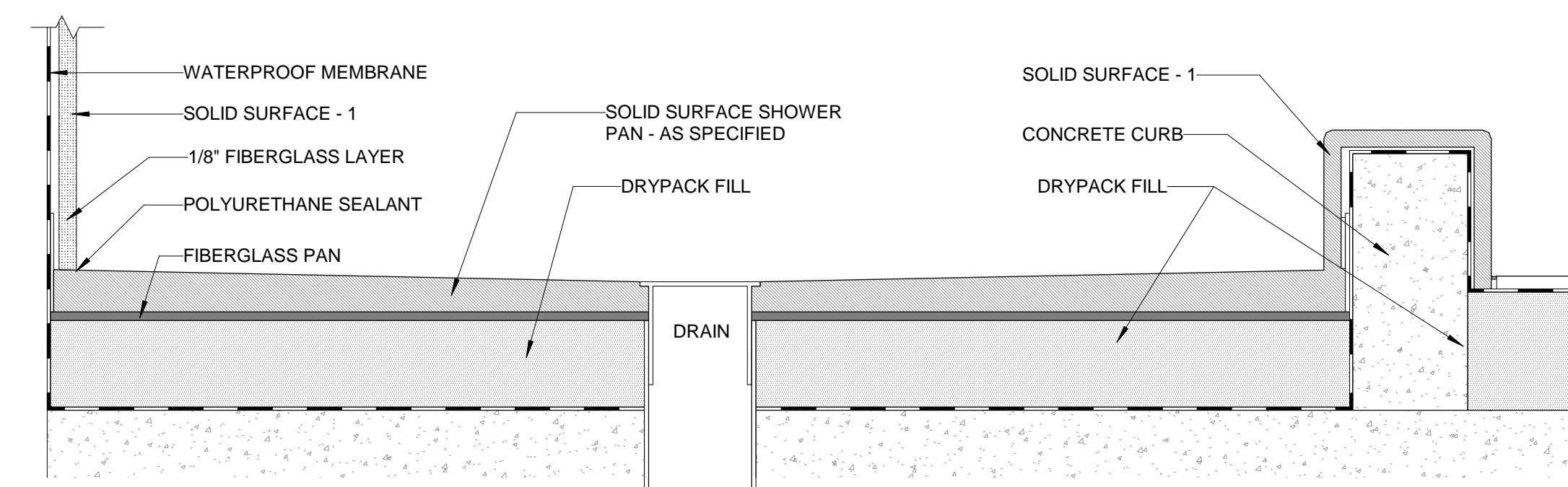
10 SHOWER CURB DETAIL
SCALE: 3" = 1'-0" A-2.02/1



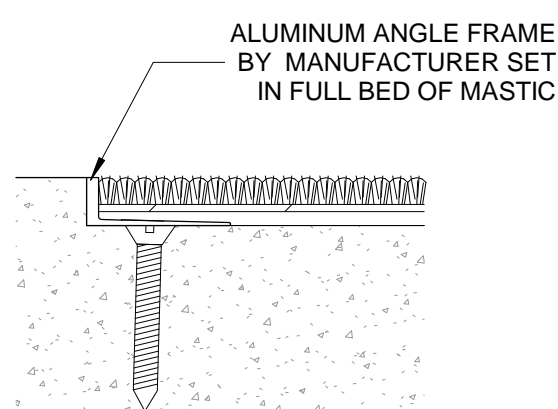
9 FINISH PLAN - SHOWER PLAN DETAIL
SCALE: 3" = 1'-0" A-2.02/1



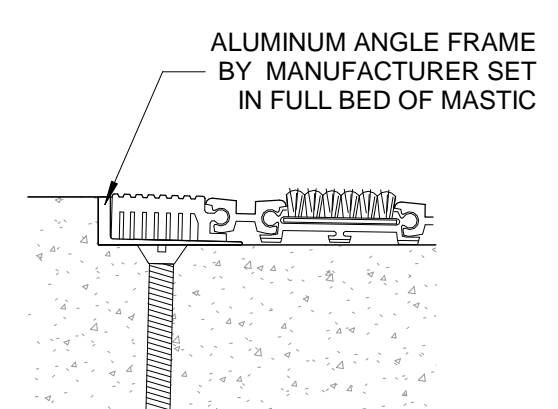
8 SHOWER CURB DETAIL
SCALE: 3" = 1'-0" A-2.02/1



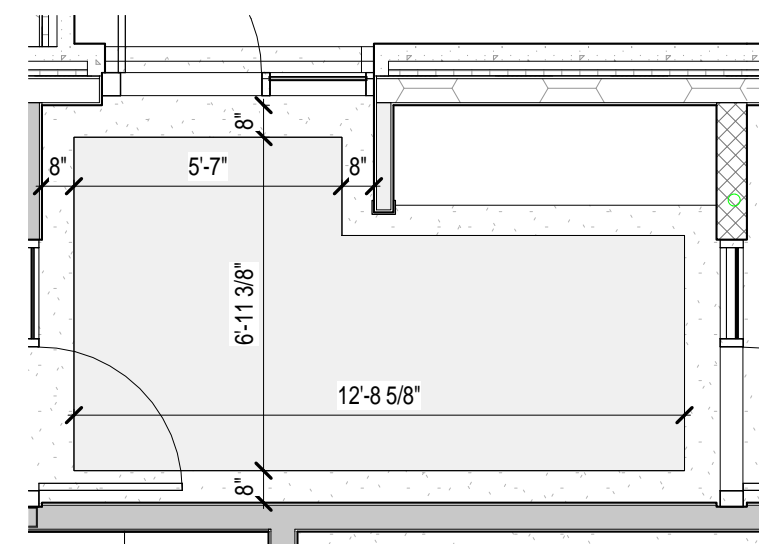
6 WALK-OFF MAT DETAIL
SCALE: 6" = 1'-0"



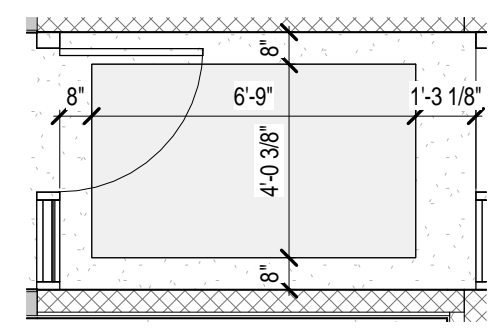
7 WALK-OFF MAT DETAIL
SCALE: 6" = 1'-0"



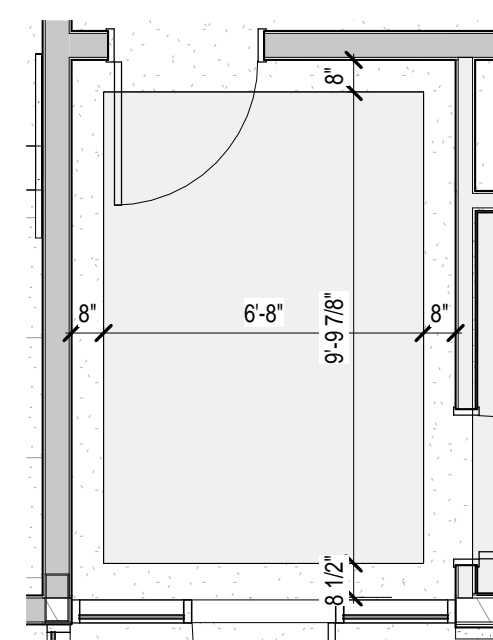
5 ENLARGED PLAN
SCALE: 1/4" = 1'-0" A-2.02/1



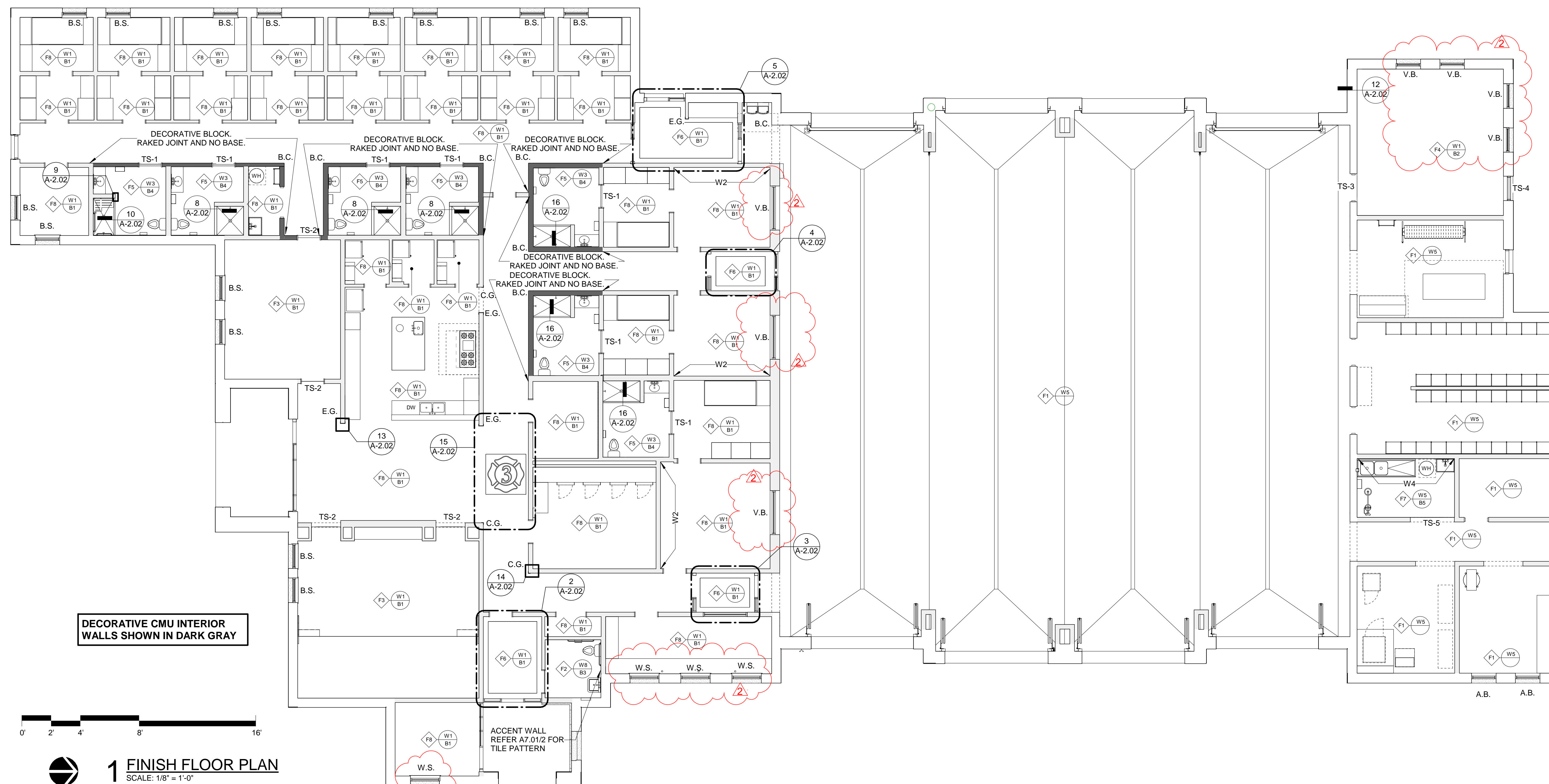
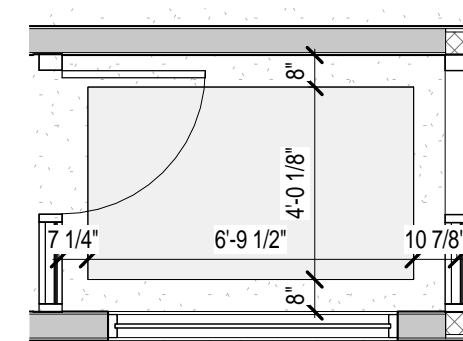
4 ENLARGED PLAN
SCALE: 1/4" = 1'-0" A-2.02/1



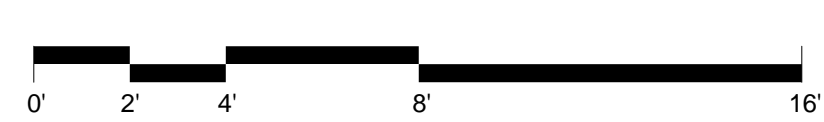
2 ENLARGED PLAN
SCALE: 1/4" = 1'-0" A-2.02/1



3 ENLARGED PLAN
SCALE: 1/4" = 1'-0" A-2.02/1



1 FINISH FLOOR PLAN
SCALE: 1/8" = 1'-0"



FINISH SCHEDULE

GENERAL NOTES

1. SYMBOLS:
 FLOOR FINISH
 CEILING FINISH
 WALL FINISH
 CHANGE IN FLOOR FINISH
 EXTENT OF WALL FINISH
 WALL BASE
2. ALL FINISHES ARE AS FOLLOWS UNLESS NOTED OTHERWISE:
 FLOORING - F8
 BASE - B1
 WALLS - W1
3. FLOORING TRANSITIONS AT DOORS TO OCCUR AT CENTER LINE OF DOOR
4. ALL RESTROOMS AND BATHROOMS TO RECEIVE WATERPROOFING MEMBRANE OVER ENTIRE FLOOR
5. ABBREVIATIONS:
 A.B. - ALUMINUM BLIND - SPEC. SECTION 12 21 12
 V.S. - VENETIAN BLIND - SPEC. SECTION 12 21 13
 W.S. - WINDOW SHADE - SPEC. SECTION 12 24 13
 B.S. - BLACK OUT SHADE - SPEC. SECTION 12 24 14
 A.T. - ALUMINUM THRESHOLD
 C.G. - CORNER GUARD (REFER 14A-2.02)
 E.G. - END WALL GUARD (REFER 13A-2.02)
 S. - MANUAL WINDOW SHADE
 B.C. - BULLNOSE CORNER (REFER A-2.02)
6. REFER 4/A-2.01 FOR LOCATION
7. REFER DOOR SCHEDULE FOR HOLLOW METAL DOOR AND FRAME PAINT COLOR
 A. ALL H.M.F. TO BE P-1 UNLESS NOTED OTHERWISE
8. ALL INTERIOR WOOD DOORS TO BE PL-1 UNLESS NOTED OTHERWISE
9. WINDOW LINTELS AT BRICK TYPE 'A' TO BE P-6
 WINDOW LINTELS AT BRICK TYPE 'B' TO BE P-8
 (TO MATCH CORRESPONDING BRICK COLOR)

FLOORING

- F1 POLISHED CONCRETE
 - F2 STONEPEAK SKY COLLECTION - "MOONSKY" 6" X 12" FIELD TILE
 - F3 J+J INVISION HIGHWIRE MODULAR 388 "BREATHTAKING" ASHLAR INSTALLATION
 - F4 MONDO SPORT IMPACT 008 - "BLACK"
 - F5 DALTILE VOLUME 1.0 - VL 72 "INTENSITY PEBBLES" 6" X 6" FIELD TILE
 - F6 C/S PEDISYSTEMS ENTRANCE FLOORING - PEDIMAT M1 9305 "ESPRESSO" CARPET INSERT
 - F7 DALTILE PORCEALTO - CD42 "GRIGIO SCURO" - 8" X 8" FIELD TILE - TEXTURED
 - F8 DYED POLISHED CONCRETE
- MILLWORK**
- MW1 3/4" HARDWOOD SPECIES WALNUT
 - MW2 HARDWOOD VENEER SPECIES AND CUT - WALNUT / QUARTER CUT
 - MW3 ST-1 CLEAR FINISH - SHERWIN WILLIAMS. SHERWOOD KEMVAR LF WATER WHITE CONVERSION VARNISH OR APPROVED EQUAL

BASE

- B1 ROPPE PINNACLE RUBBER BASE - 147 "LIGHT BROWN"
- B2 PAINT GRADE WOOD: SHERWIN WILLIAMS. 7019 "GAUNTLET GRAY"
- B3 STONEPEAK SKY COLLECTION - "MOONSKY" - 6" X 12" COVE BASE WITH 1" X 6" IN CORNER
- B4 DALTILE VOLUME 1.0 - VL 72 "INTENSITY PEBBLES" 6" X 12" COVE BASE WITH 1" X 6" IN CORNER AND 1" X 6" OUT CORNER
- B5 DALTILE PORCEALTO - CD42 "GRIGIO SCURO" - 6" X 12" COVE BASE - UNPOLISHED WITH 1" X 6" IN CORNER AND 1" X 6" OUT CORNER
- B6 PAINT GRADE WOOD: SHERWIN WILLIAMS. 7019 "GAUNTLET GRAY"

WALL

- W1 SHERWIN WILLIAMS. 6106 "KILIM BEIGE" - EGGSHELL
- W2 SHERWIN WILLIAMS. 6251 "OUTERSPACE" - EGGSHELL
- W3 DALTILE FABRIQUE P680 "GRIS LINEN" - 12" X 24" - UNPOLISHED - WALL TILE
- W4 DALTILE PORCEALTO - CD42 "GRIGIO SCURO" - 12" X 12" FIELD TILE - UNPOLISHED WITH 4" X 12" BULL NOSE AS SHOWN IN ELEVATIONS
- W5 SHERWIN WILLIAMS. 7023 "REQUISITE GRAY" SEMI-GLOSS
- W6 DALTILE FABRIQUE P686 "CREME LINEN" - 6" X 24" - UNPOLISHED - WALL TILE
- W7 DALTILE FABRIQUE P685 "BLANC LINEN" - 6" X 24" - UNPOLISHED - WALL TILE
- W8 DALTILE FABRIQUE P690 "GRIS LINEN" - 6" X 24" - UNPOLISHED - WALL TILE
- W9 MARLITE STANDARD FIBERGLASS REINFORCED PLASTIC (FRP) TEXTURE PANELS - PEBBLED SURFACE - #151 "LIGHT GREY"
- W10 DALTILE FABRIQUE P689 "NOIR LINEN" - 12" X 24" - UNPOLISHED - WALL TILE
- W11 DALTILE FABRIQUE P685 "BLANC LINEN" - 12" X 24" - UNPOLISHED - WALL TILE
- W12 DALTILE FABRIQUE P686 "CREME LINEN" - 12" X 24" - UNPOLISHED - WALL TILE

CEILING

- C1 ARMSTRONG MESA TILE - 24" X 24" X 3/4" - 680 "WHITE"
- C2 SHERWIN WILLIAMS. 7566 "WESTHIGHLAND WHITE" - EGGSHELL
- C3 SHERWIN WILLIAMS. 7024 "FUNCTIONAL GRAY" - EGGSHELL
- C4 SHERWIN WILLIAMS. 7017 "DORIAN GRAY"
- C5 SHERWIN WILLIAMS. WOODSCAPES HOUSE STAIN - SEMI-TRANSPARENT 3518 "HAWTHORNE" BEAMS ONLY

TRANSITION STRIP

- TS-1 CERAMIC TILE TO CONCRETE: MARBLE THRESHOLD GROUP A HONED FINISH
- TS-2 CARPET TO CONCRETE SLAB
- TS-3 SPORTS FLOORING TO CONCRETE SLAB: RUBBER REDUCER STRIP
- TS-4 SPORTS FLOORING TO EXIT: ALUMINUM THRESHOLD WITH CAP/TRACK T-MOLD SCHLUTER. RENDUJ
- TS-5 TILE TO CONCRETE SLAB: SCHLUTER. RENDUJ

PAINT NOTE: ARCHITECT TO CONFIRM PAINT COLORS IN FIELD

- P-1 SHERWIN WILLIAMS. 7027 "WELL-BRED BROWN"
- P-2 SHERWIN WILLIAMS. 6866 "HEARTHROB"
- P-3 SHERWIN WILLIAMS. 7019 "GAUNTLET GRAY"
- P-4 SHERWIN WILLIAMS. 6251 "OUTERSPACE"
- P-5 SHERWIN WILLIAMS. 7026 "GRIFFIN"
- P-6 SHERWIN WILLIAMS. 7594 "CARRIAGE DOOR"
- P-7 SHERWIN WILLIAMS. 7016 "MINDFUL GRAY"
- P-8 SHERWIN WILLIAMS. 7724 "CANOE"

GROUT

- G-1 MAPEI 02 "PEWTER" TO COORDINATE WITH: F3 AND B3
- G-2 MAPEI 11 "SAHARA BEIGE" TO COORDINATE WITH: W5, W6, W7 AND W8
- G-3 MAPEI 19 "PEARL GRAY" TO COORDINATE WITH: F6, F8, B4, B5 AND W4

QUARTZ

- QZ-1 CAESARSTONE. 3380 "ESPRESSO"
- QZ-2 CAESARSTONE. 9601 "OYSTER"

SOLID SURFACE

- SS-1 CORIAN "CLAM SHELL"
- SS-2 CORIAN "BONE"
- SS-3 CORIAN "CAMEO WHITE"

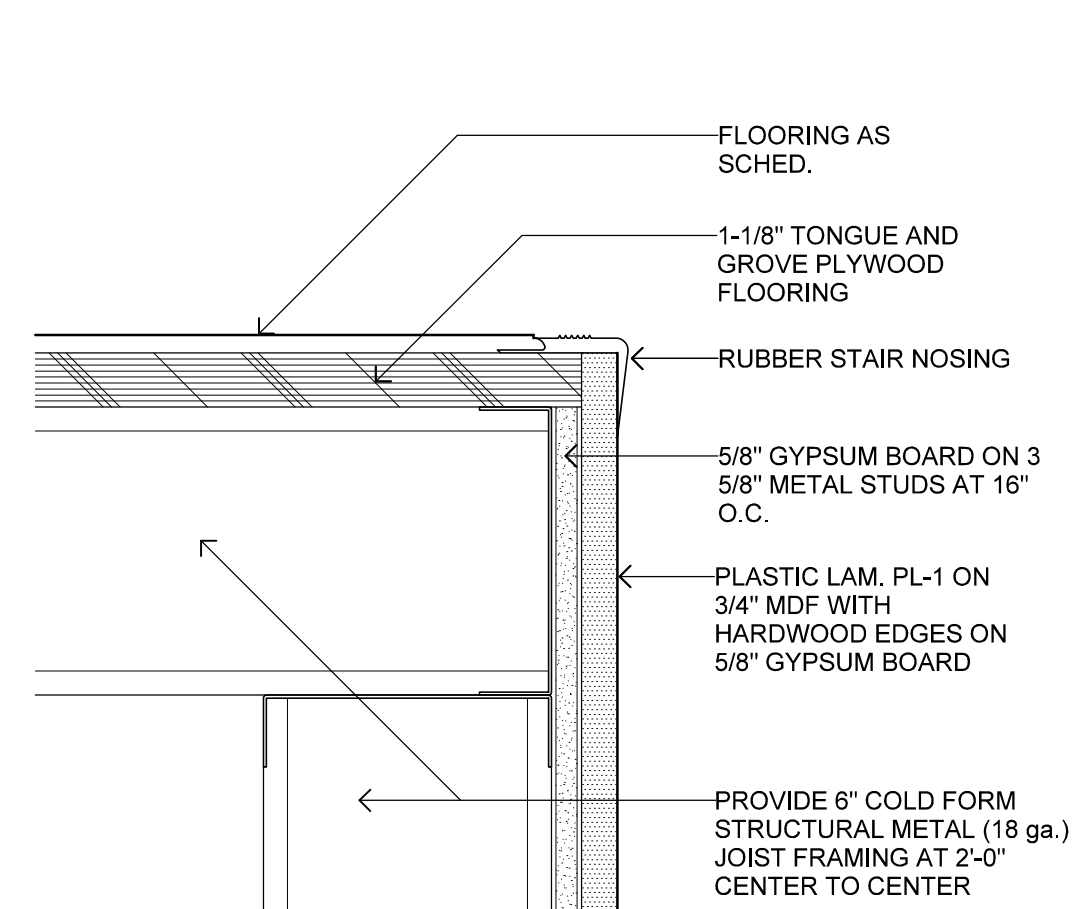
PLASTIC LAMINATE

- PL-1 WILSONART. 7960K-18 "STUDIO TEAK"
- PL-2 WILSONART. D90-60 "NORTH SEA"

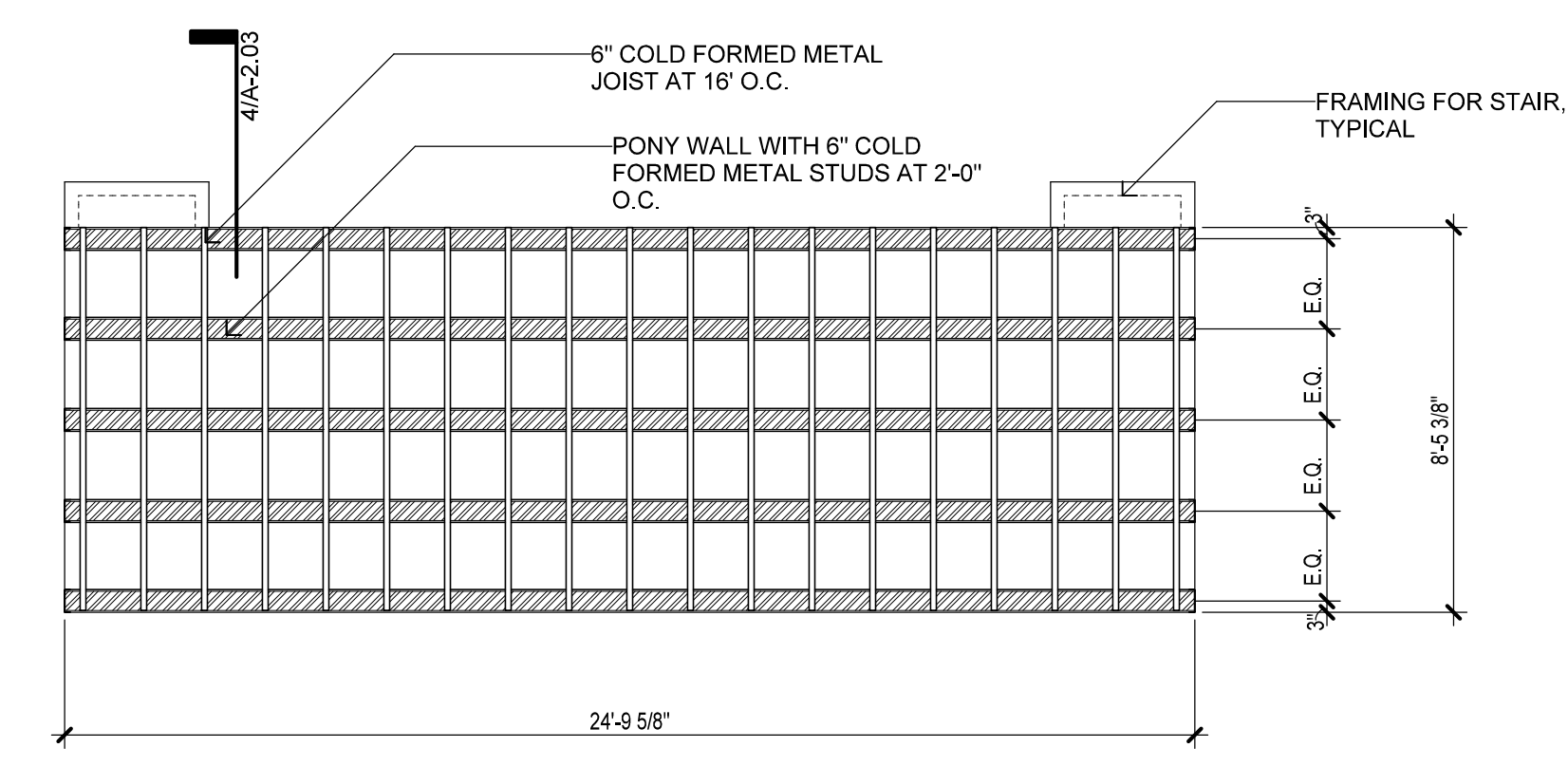
REFLECTED CEILING PLAN LEGEND

	4" SURFACE MOUNTED STRIP FIXTURE		CORD REEL
	WALL MOUNTED STRIP FIXTURE		COMPRESSED AIR HOSE REEL
	2 X 2 RECESSED LIGHT FIXTURE		CEILING FAN
	SKYLIGHT DIFFUSER		CEILING FAN WITH LIGHT KIT
	RECESSED DOWNLIGHT		CONCEALED SPRINKLER HEAD
	RECESSED ADJUSTABLE DOWNLIGHT		OCCUPANCY SENSOR
	CEILING MOUNTED LIGHT FIXTURE W GLOBE GUARD		WALLS TO DECK (DRAFTSTOP/MOTE SEAL ALL WALLS THROUGH DRAFTSTOP)
	PENDANT LIGHT FIXTURE		2 X 2 SUSPENDED ACOUSTICAL CEILING
	SURFACE MOUNTED WALL SCONCE		PAINTED GYPSUM BD. CEILING AND FLURR DOWN. REFER FINISH SCHEDULE FOR PAINT COLOR
	EXIT SIGN		D.E.F.S. SOFFIT
	EXTERIOR FLOOD LIGHT		ACCESS PANEL
	EMERGENCY EGRESS LIGHTING		FINISHED CEILING HEIGHT
	EXHAUST FAN		
	SUPPLY AIR GRILLE		
	RETURN AIR GRILLE		
	SMOKE DETECTOR		
	HEAT SENSOR		
	RECESSED SPEAKER		
	PENDANT MOUNTED SPEAKER		
	WALL MOUNTED SPEAKER		

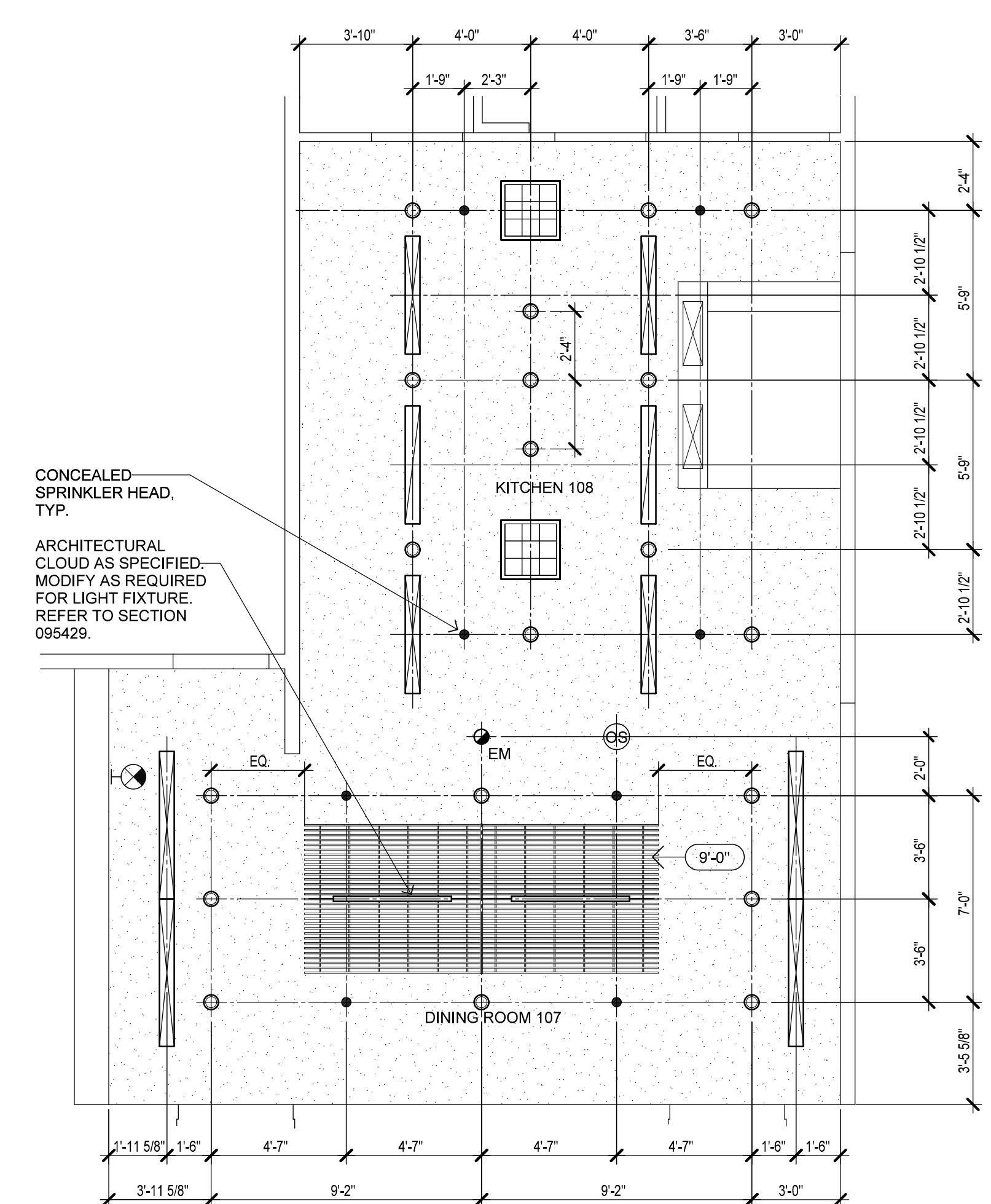
*NOT ALL SYMBOLS MAY BE USED



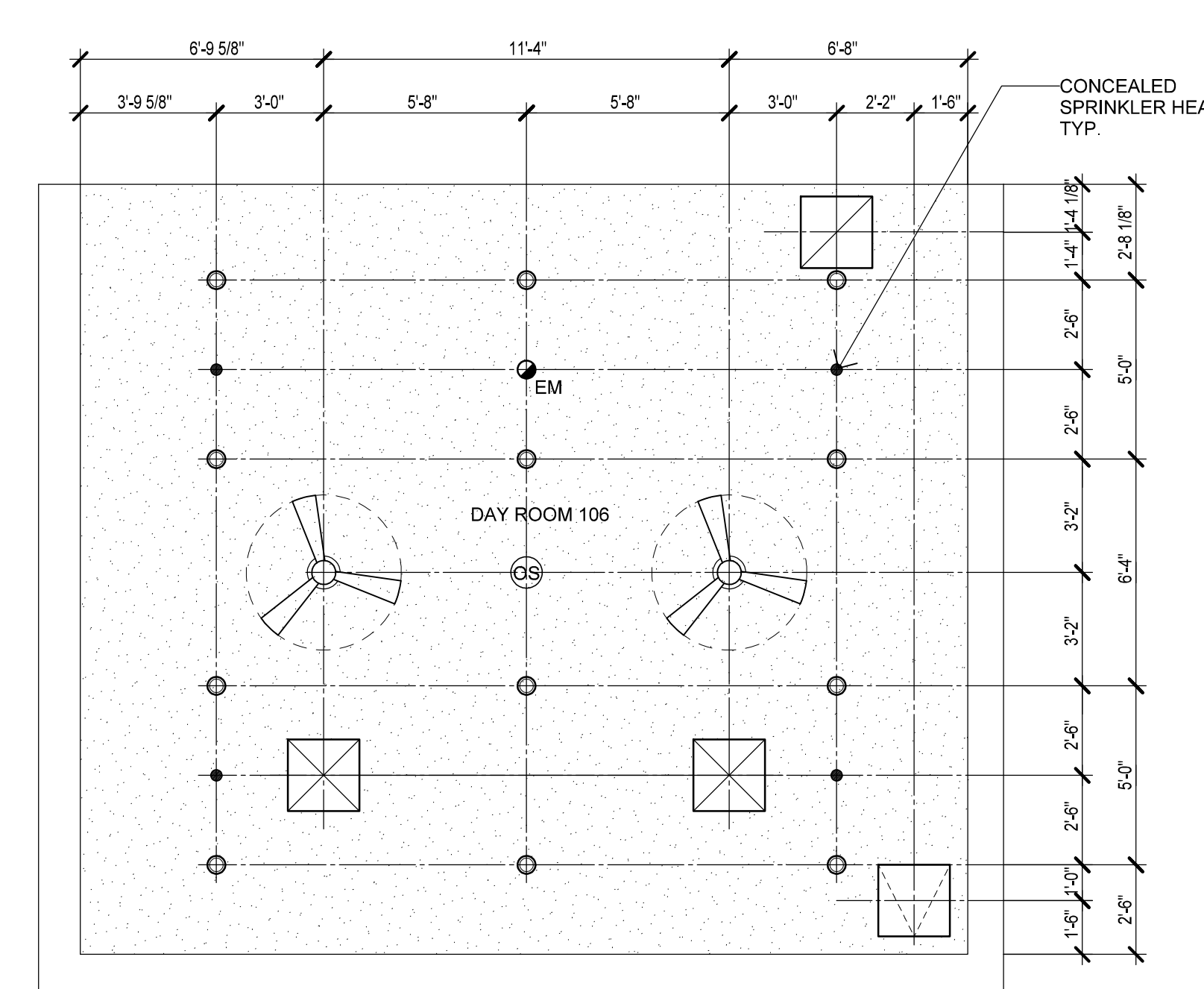
4 STAIR NOSING DETAIL
SCALE: 3" = 1'-0"



3 DAYROOM PLATFORM PLAN
SCALE: 1/4" = 1'-0"



2 ENLARGED RCP
SCALE: 1/4" = 1'-0"



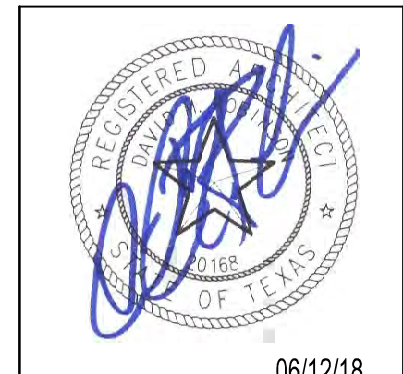
1 ENLARGED RCP
SCALE: 1/4" = 1'-0"

NOTE: FIRE PROTECTION CONTRACTOR TO COORDINATE SPRINKLER HEAD LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION. DESIGN INTENT IS TO ALIGN SPRINKLER HEADS WITH CEILING DEVICES.

NOTE: FIRE PROTECTION CONTRACTOR TO COORDINATE SPRINKLER HEAD LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION. DESIGN INTENT IS TO ALIGN SPRINKLER HEADS WITH CEILING DEVICES.

NOTE: A/V CONTRACTOR TO COORDINATE SPEAKER LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION. DESIGN INTENT IS TO ALIGN SPEAKERS WITH CEILING DEVICES.

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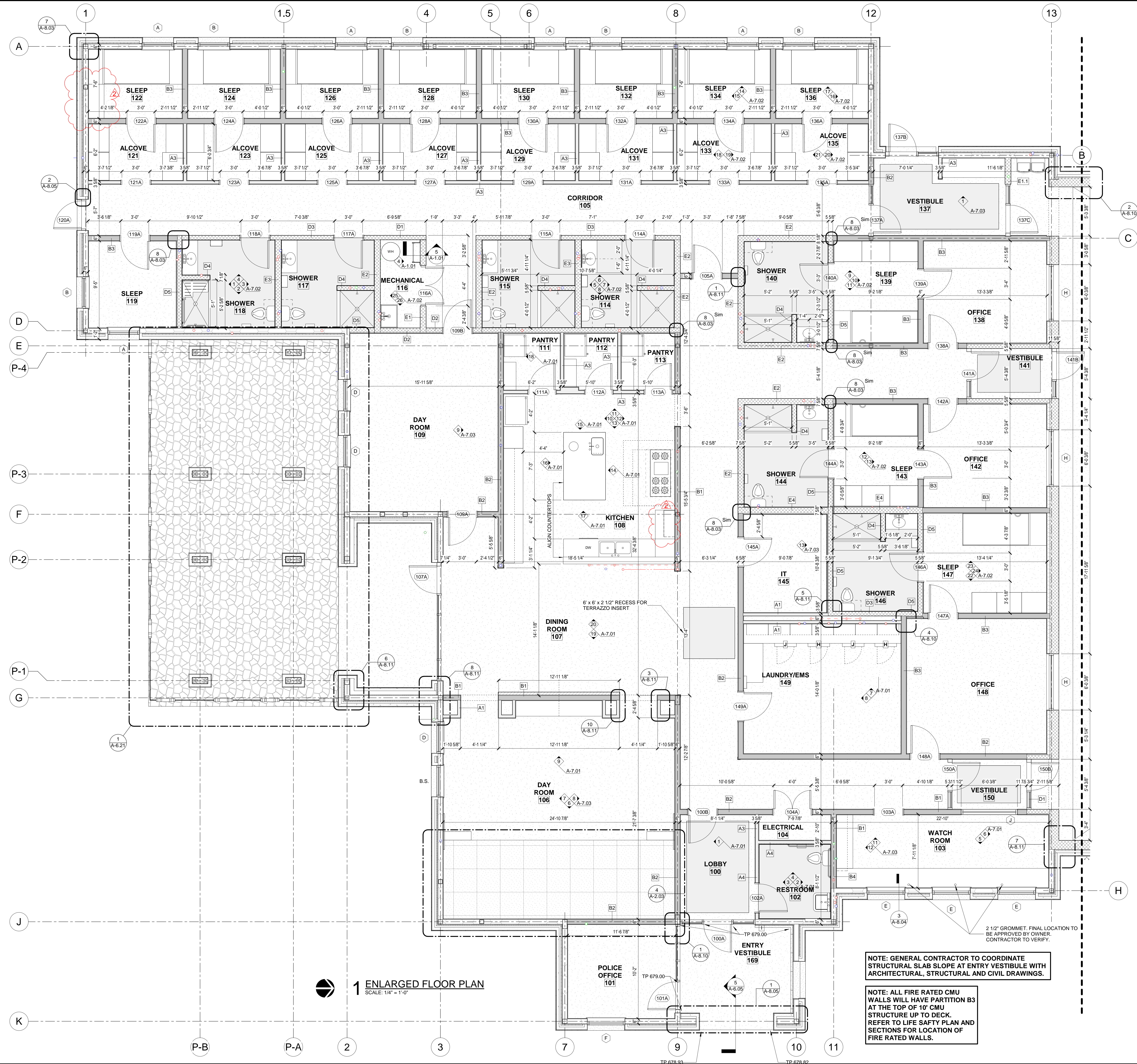
REVISIONS:

No.	DATE	DESCRIPTION
1	08/02/18	PERMIT
2	08/19/18	REV FOR BID
3	02/07/19	ADDENDUM 03

CONTENTS:
FINISH PLAN SCHEDULE AND DETAILS

DATE:
12 JUNE 2018

SHEET:
A-2.03



1 ENLARGED FLOOR PLAN
SCALE: 1/4" = 1'-0"

NOTE: GENERAL CONTRACTOR TO COORDINATE STRUCTURAL SLAB SLOPE AT ENTRY VESTIBULE WITH ARCHITECTURAL, STRUCTURAL AND CIVIL DRAWINGS.

NOTE: ALL FIRE RATED CMU WALLS WILL HAVE PARTITION B3 AT THE TOP OF 10' CMU STRUCTURE UP TO DECK. REFER TO LIFE SAFETY PLAN AND SECTIONS FOR LOCATION OF FIRE RATED WALLS.

2 1/2" GROMMET. FINAL LOCATION TO BE APPROVED BY OWNER. CONTRACTOR TO VERIFY.



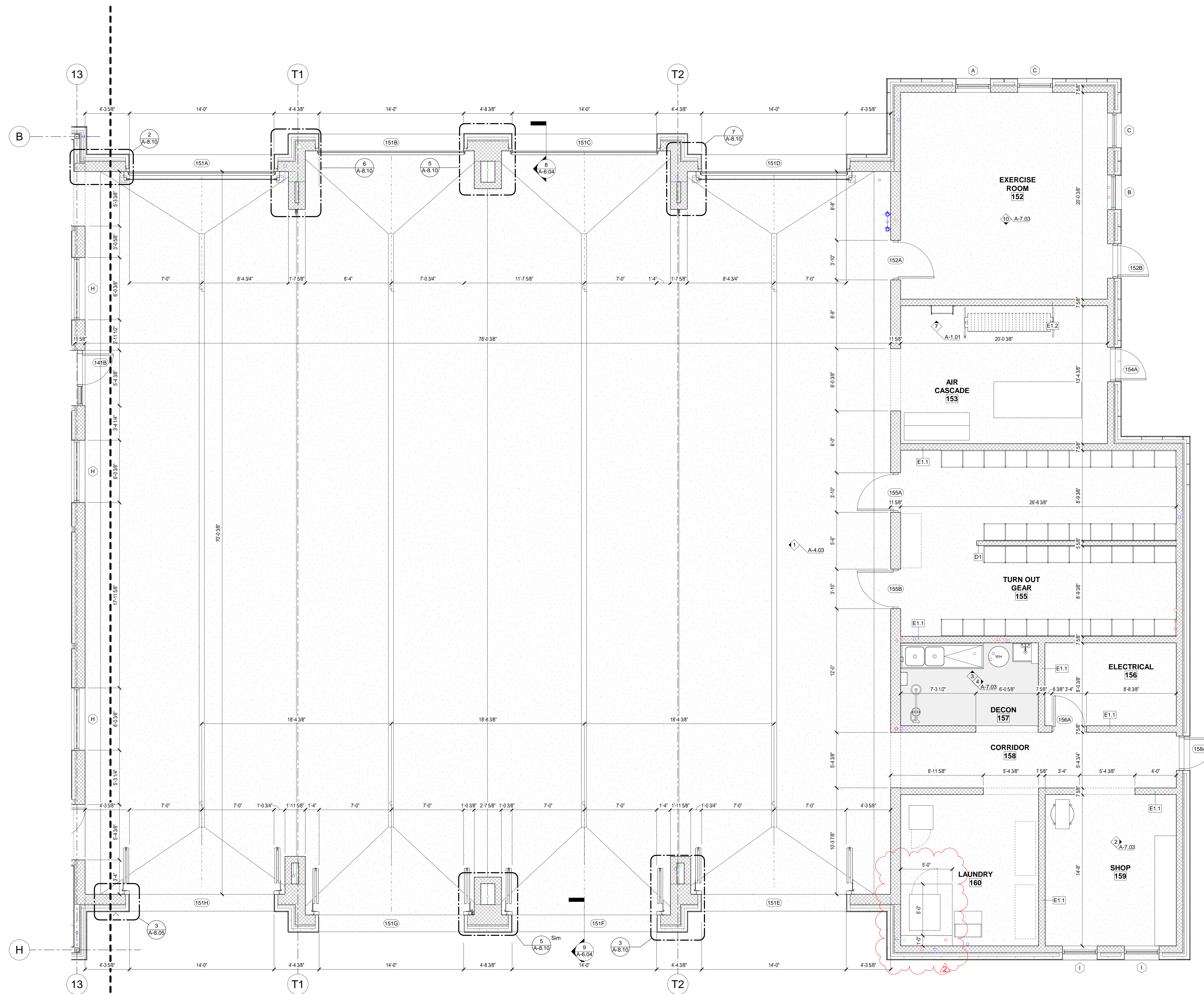
REVIEW SET.
NOT FOR BIDDING,
CONSTRUCTION OR
REGULATORY
PURPOSES

REVISIONS		
NO.	DATE	DESCRIPTION
1	2 AUG 18	PERMIT
2	7 FEB 18	ADDENDUM 3

CONTENTS:
ENLARGED PLAN

DATE:
2 AUGUST 2018

SHEET:
A-3.01



1 ENLARGED FLOOR PLAN
SCALE: 1/4" = 1'-0"

@BLDATELONG
 @BLTIME
 @BWPOLLUMINEXT



REVIEW SET.
 NOT FOR BIDDING,
 CONSTRUCTION OR
 REGULATORY
 PURPOSES

NO.	DATE	DESCRIPTION
1	2 AUG 18	PERMIT
2	7 FEB 18	ADDENDUM 3

CONTENTS:
 ENLARGED PLAN

DATE:
 2 AUGUST 2018

Issued for Bid

SHEET:
 A-3.02



REVIEW SET.
 NOT FOR BIDDING,
 CONSTRUCTION OR
 REGULATORY
 PURPOSES

REVISIONS		
NO.	DATE	DESCRIPTION
1	19 SEP 18	BID REVISIONS
2	7 FEB 18	ADDENDUM 3

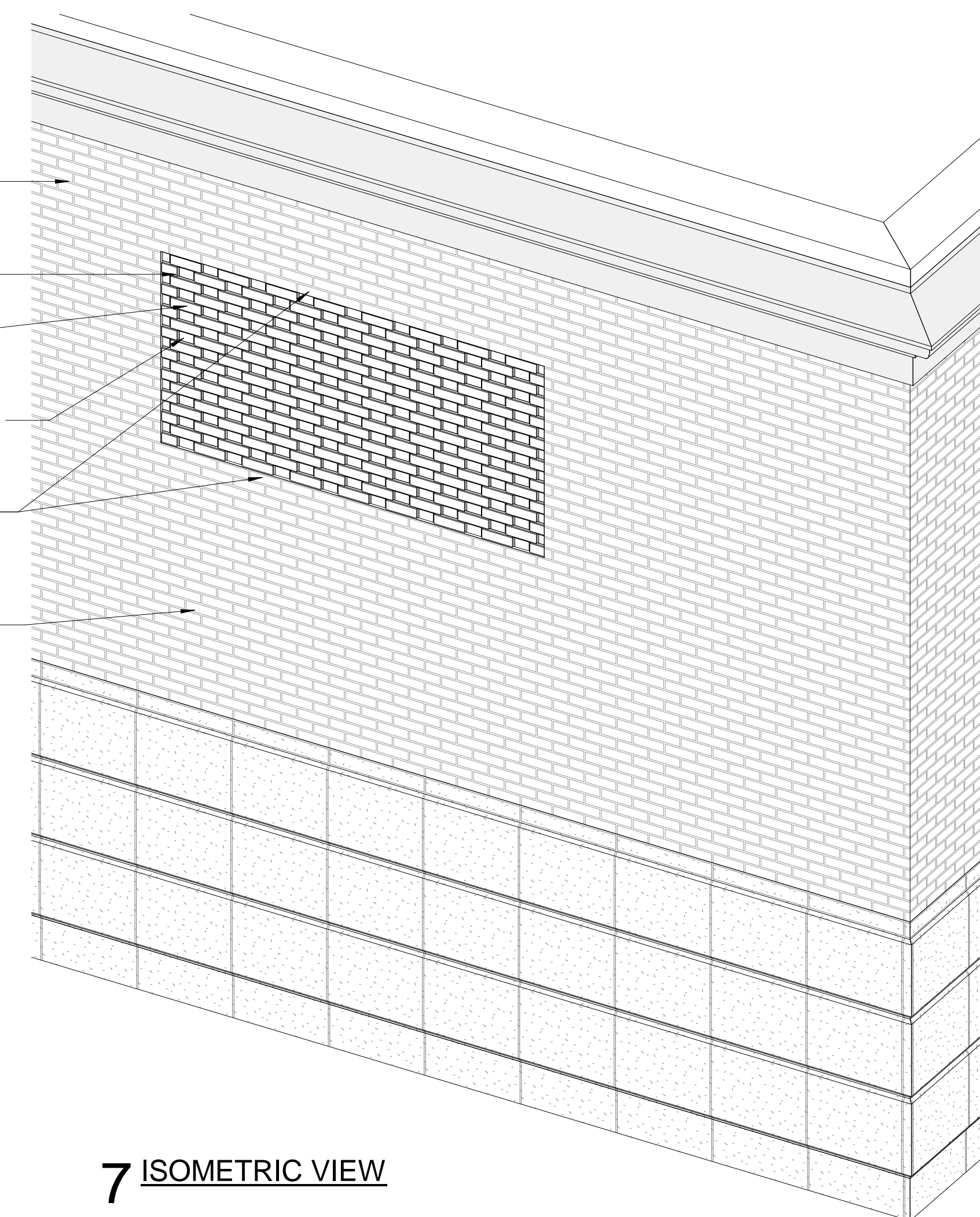
CONTENTS:
 ENLARGED EXTERIOR
 ELEVATIONS

DATE:
 2 AUGUST 2018

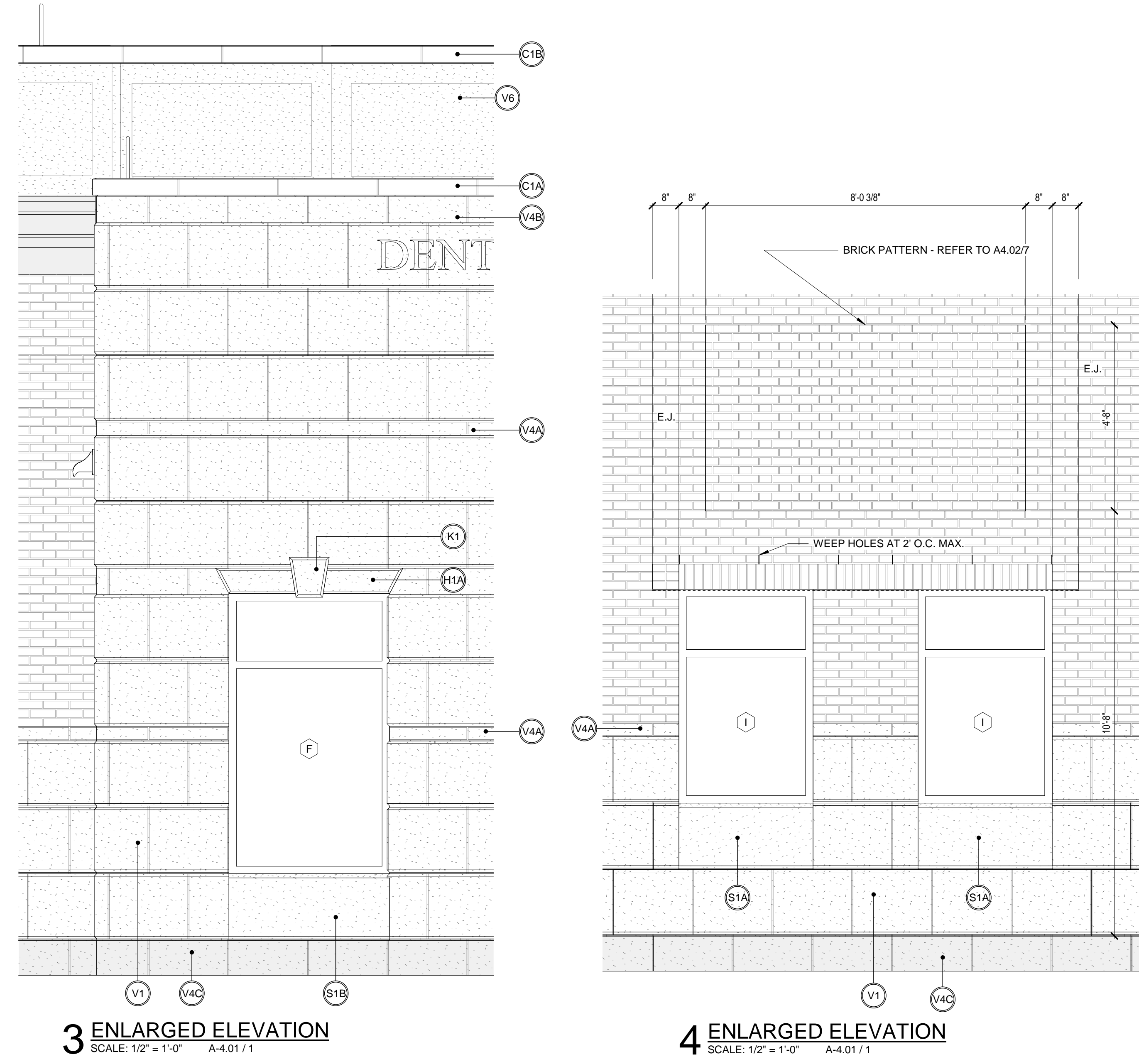
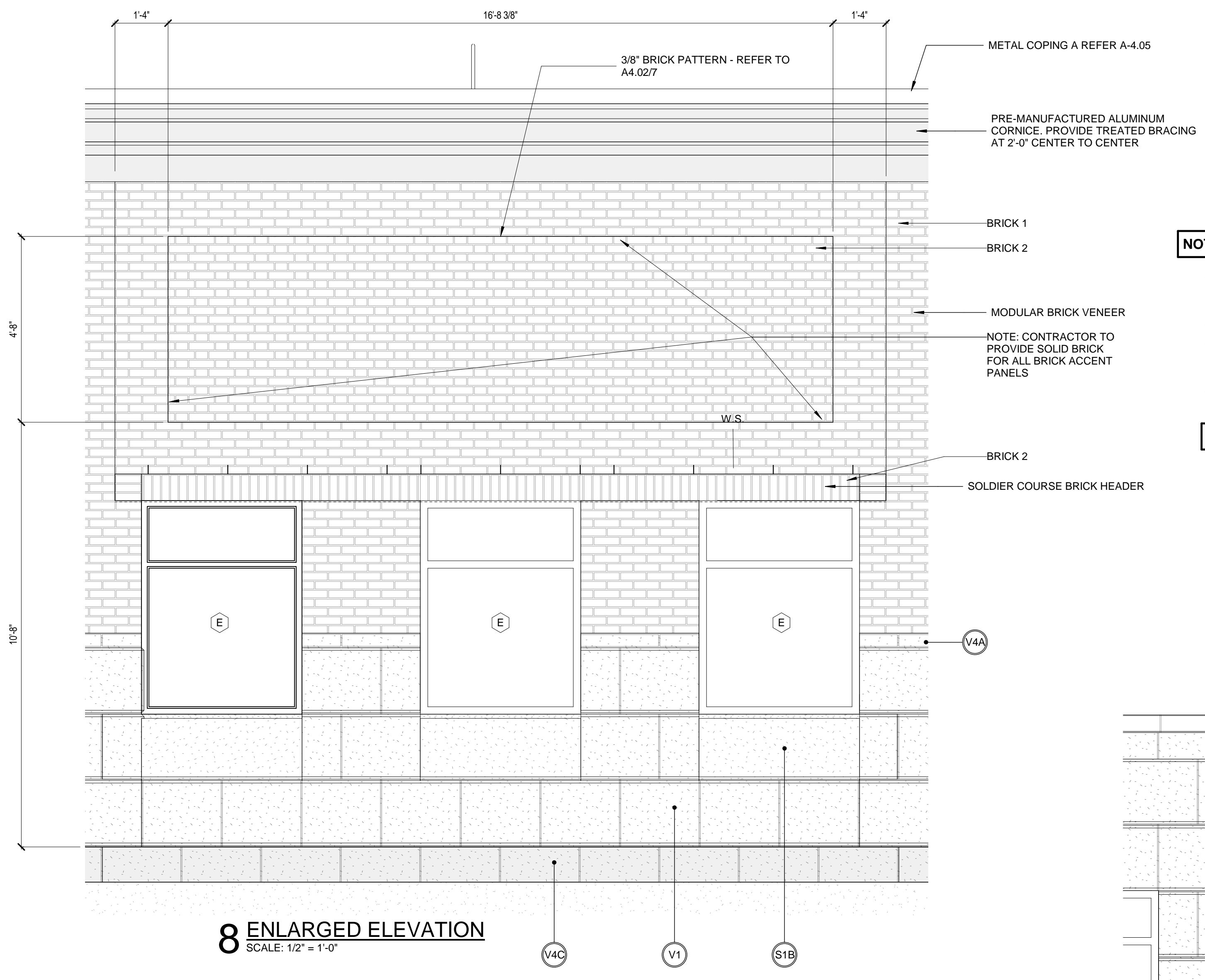
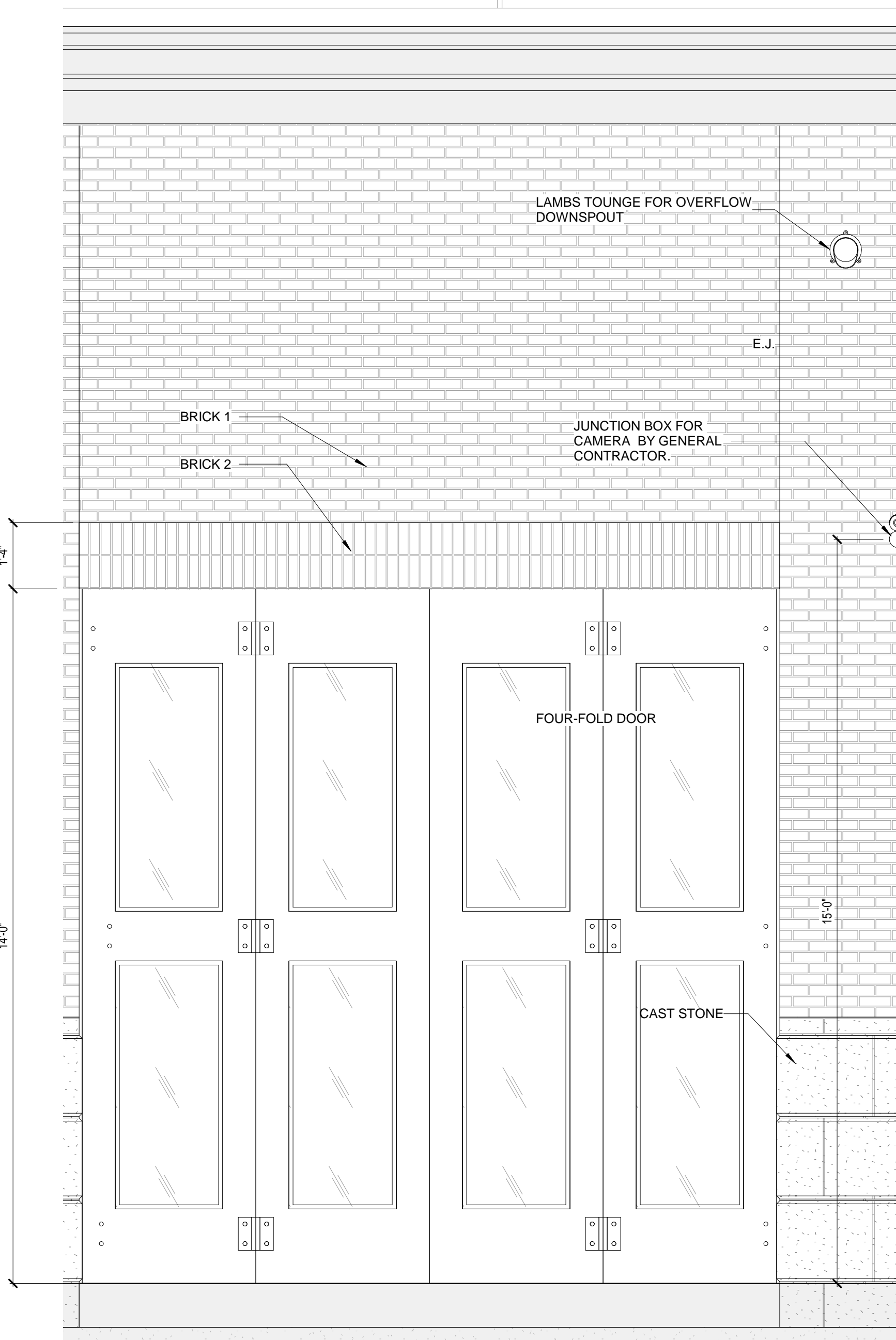
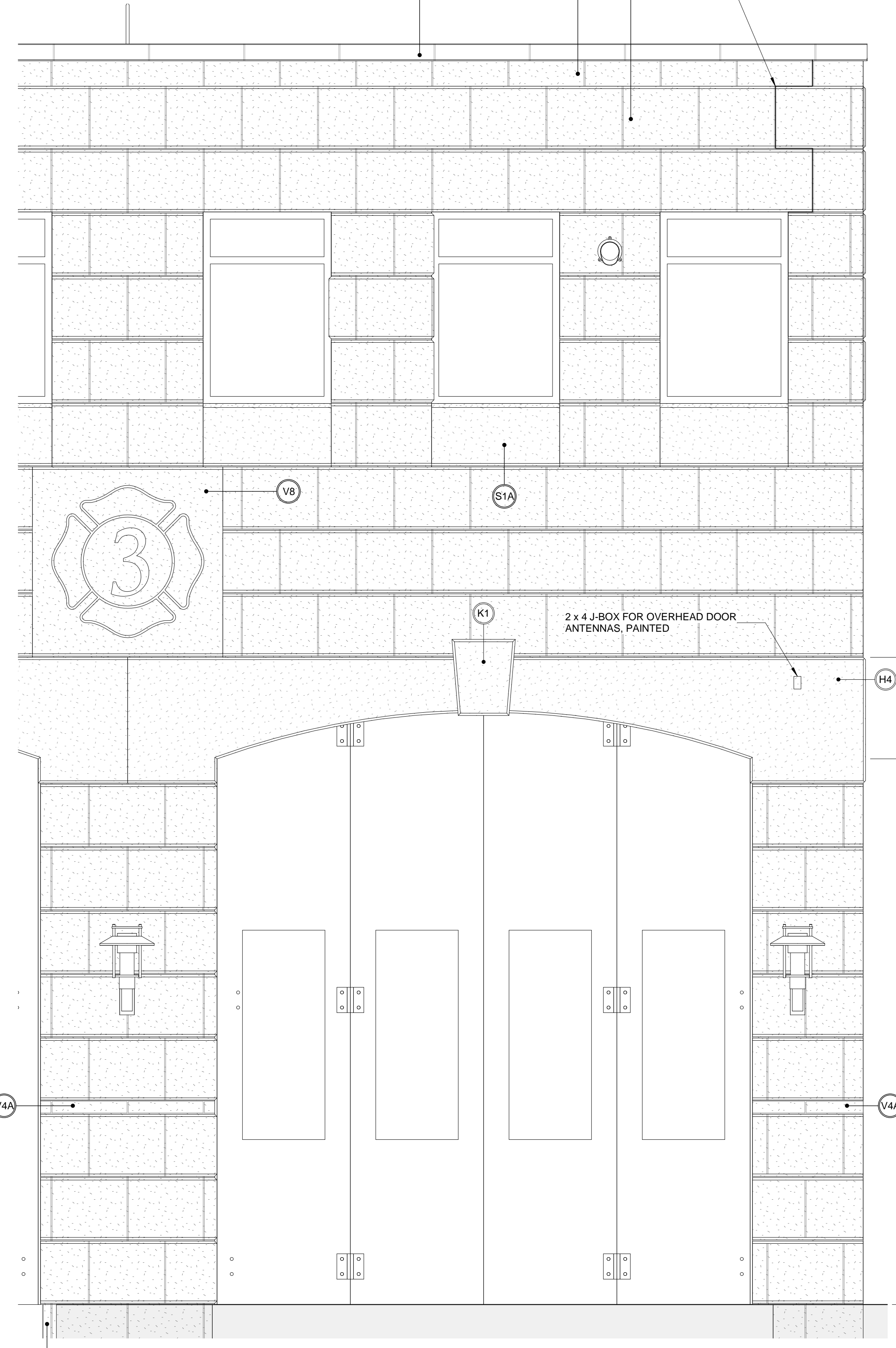
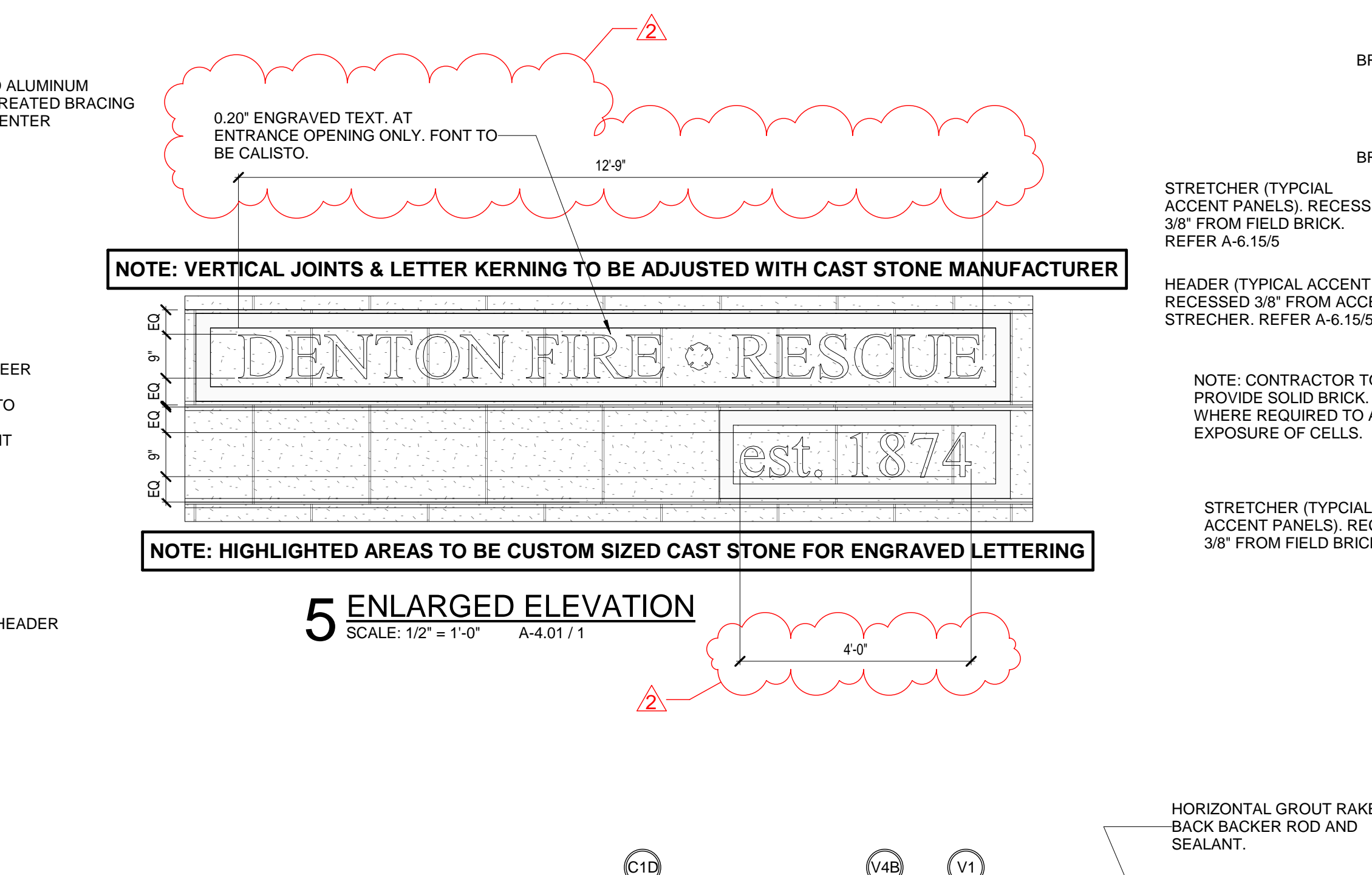
ADDENDUM 3

SHEET:

A-4.02



7 ISOMETRIC VIEW





REVIEW SET.
 NOT FOR BIDDING,
 CONSTRUCTION OR
 REGULATORY
 PURPOSES

REVISIONS	
NO.	DATE
1	2 AUG 18
2	7 FEB 18

CONTENTS:
 PARTITION TYPES

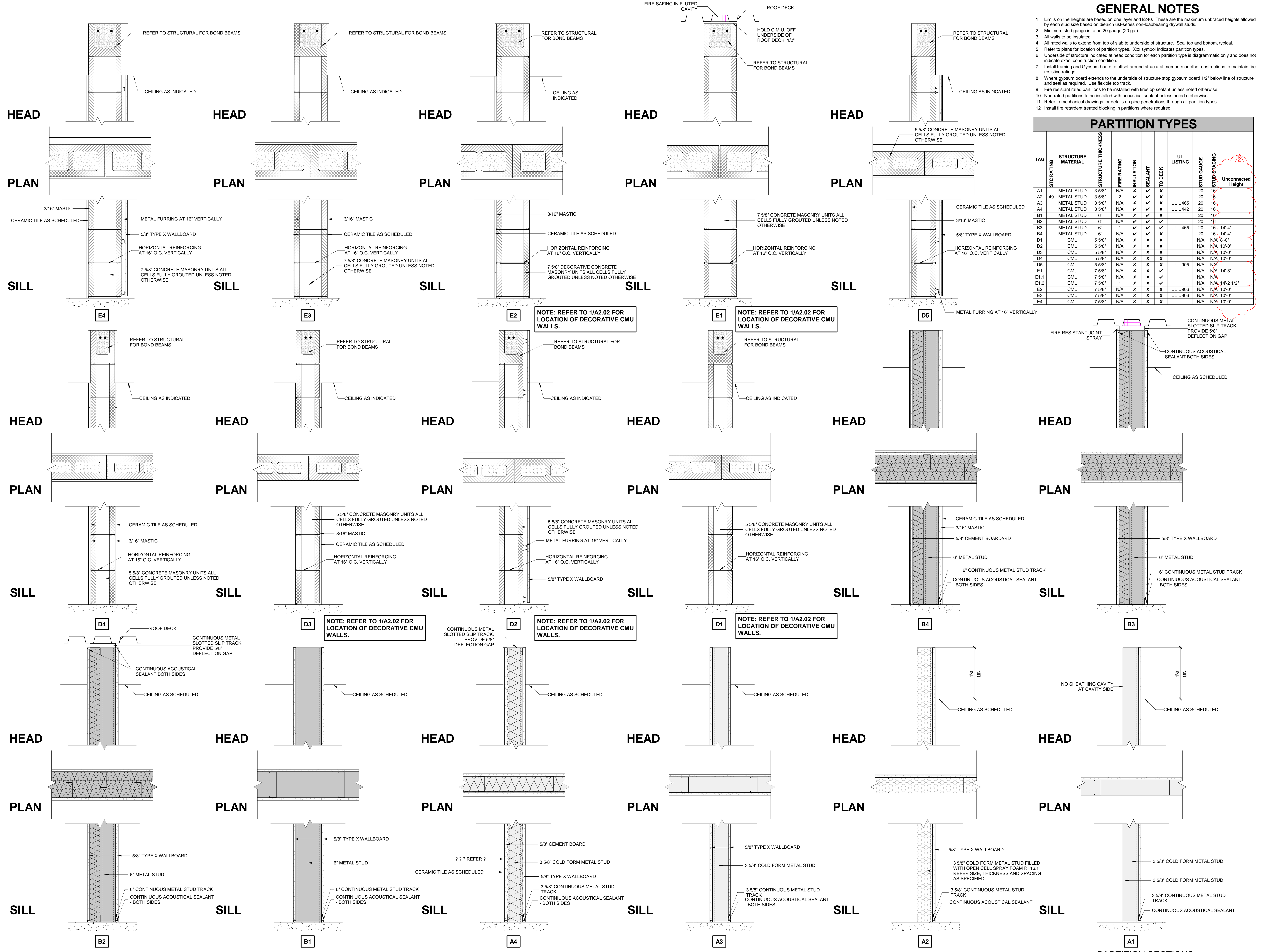
DATE:
 2 AUGUST 2018

GENERAL NOTES

- Limits on the heights are based on one layer and U240. These are the maximum unbraced heights allowed by each stud size based on detrich us-series non-loadbearing drywall studs.
- Minimum stud gauge is to be 20 gauge (20 ga.)
- All walls to be insulated.
- All rated walls to extend from top of slab to underside of structure. Seal top and bottom, typical.
- Refer to plans for location of partition types. Xxx symbol indicates partition types.
- Underside of structure indicated at head condition for each partition type is diagrammatic only and does not indicate exact construction condition.
- Install framing and Gypsum board to offset around structural members or other obstructions to maintain fire resistive ratings.
- Where gypsum board extends to the underside of structure stop gypsum board 1/2" below line of structure and seal as required. Use flexible top track.
- Fire resistant rated partitions to be installed with firestop sealant unless noted otherwise.
- Non-rated partitions to be installed with acoustical sealant unless noted otherwise.
- Refer to mechanical drawings for details on pipe penetrations through all partition types.
- Install fire retardant treated blocking in partitions where required.

PARTITION TYPES

TAG	STRUCTURE MATERIAL	STRUCTURE THICKNESS	FIRE RATING	INSULATION	SEALANT	TO DECK	UL LISTING	STUD GAUGE	STUD SPACING	Unconnected Height
A1	METAL STUD	3 5/8"	N/A	X	X	X		20	16"	
A2	49 METAL STUD	3 5/8"	2	X	X	X		20	16"	
A3	METAL STUD	3 5/8"	N/A	X	X	X	UL U465	20	16"	
A4	METAL STUD	3 5/8"	N/A	X	X	X	UL U442	20	16"	
B1	METAL STUD	6"	N/A	X	X	X		20	16"	
B2	METAL STUD	6"	N/A	X	X	X		20	16"	
B3	METAL STUD	6"	N/A	X	X	X	UL U465	20	16"	14'-4"
B4	METAL STUD	6"	N/A	X	X	X		20	16"	14'-4"
D1	CMU	5 5/8"	N/A	X	X	X		N/A	N/A	8'-0"
D2	CMU	5 5/8"	N/A	X	X	X		N/A	N/A	10'-0"
D3	CMU	5 5/8"	N/A	X	X	X		N/A	N/A	10'-0"
D4	CMU	5 5/8"	N/A	X	X	X		N/A	N/A	10'-0"
D5	CMU	5 5/8"	N/A	X	X	X	UL U905	N/A	N/A	10'-0"
E1	CMU	7 5/8"	N/A	X	X	X		N/A	N/A	14'-8"
E1.1	CMU	7 5/8"	N/A	X	X	X		N/A	N/A	N/A
E1.2	CMU	7 5/8"	1	X	X	X		N/A	N/A	14'-2 1/2"
E2	CMU	7 5/8"	N/A	X	X	X	UL U906	N/A	N/A	10'-0"
E3	CMU	7 5/8"	N/A	X	X	X	UL U906	N/A	N/A	10'-0"
E4	CMU	7 5/8"	N/A	X	X	X		N/A	N/A	10'-0"



PARTITION SECTIONS

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



REVIEW SET.
 NOT FOR BIDDING,
 CONSTRUCTION OR
 REGULATORY
 PURPOSES

NO.	DATE	DESCRIPTION
1	7 FEB 18	ADDENDUM 3

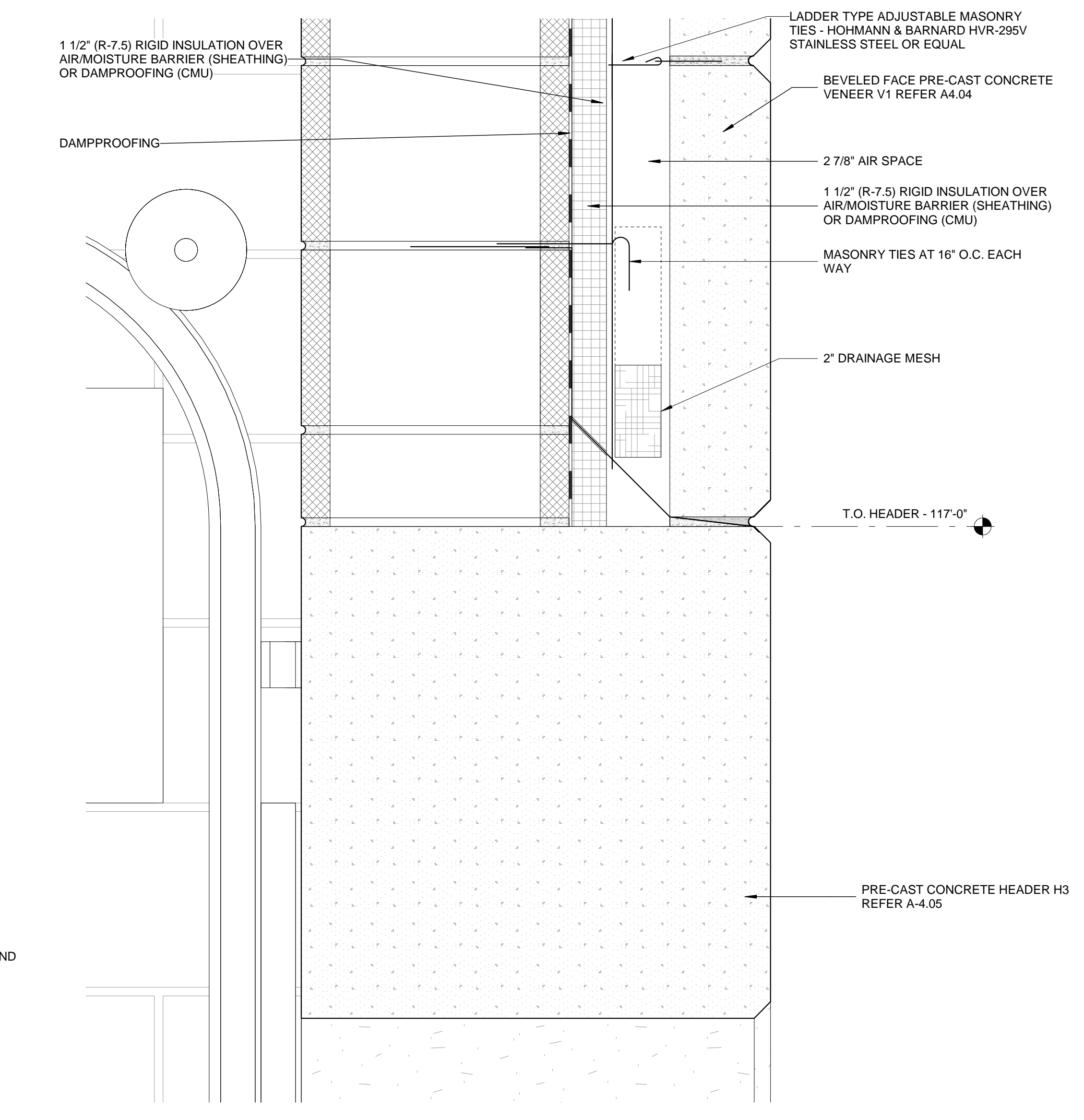
CONTENTS:
 SECTION DETAILS

DATE:
 28 JUNE 2018

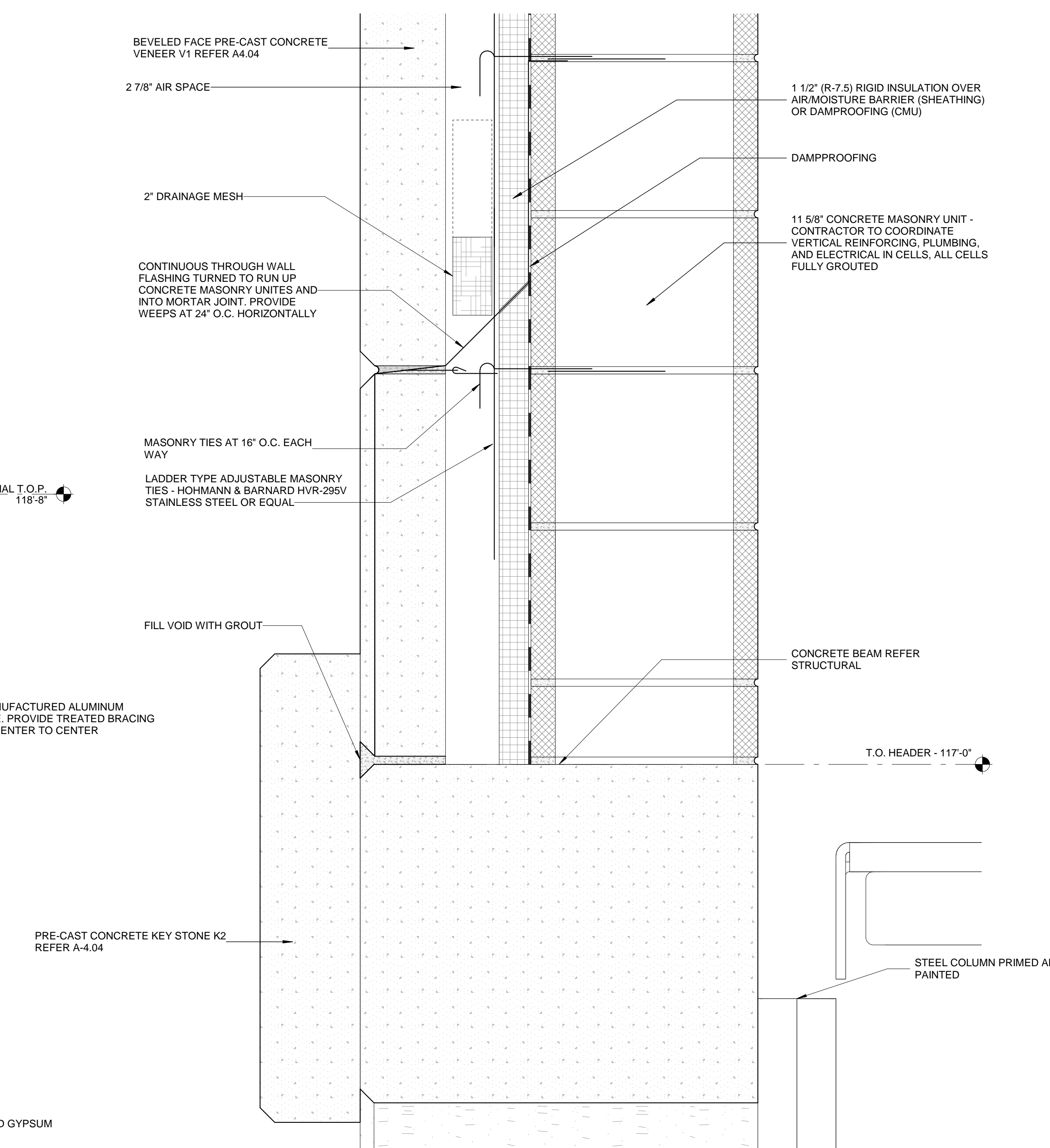
ADDENDUM 3

SHEET:

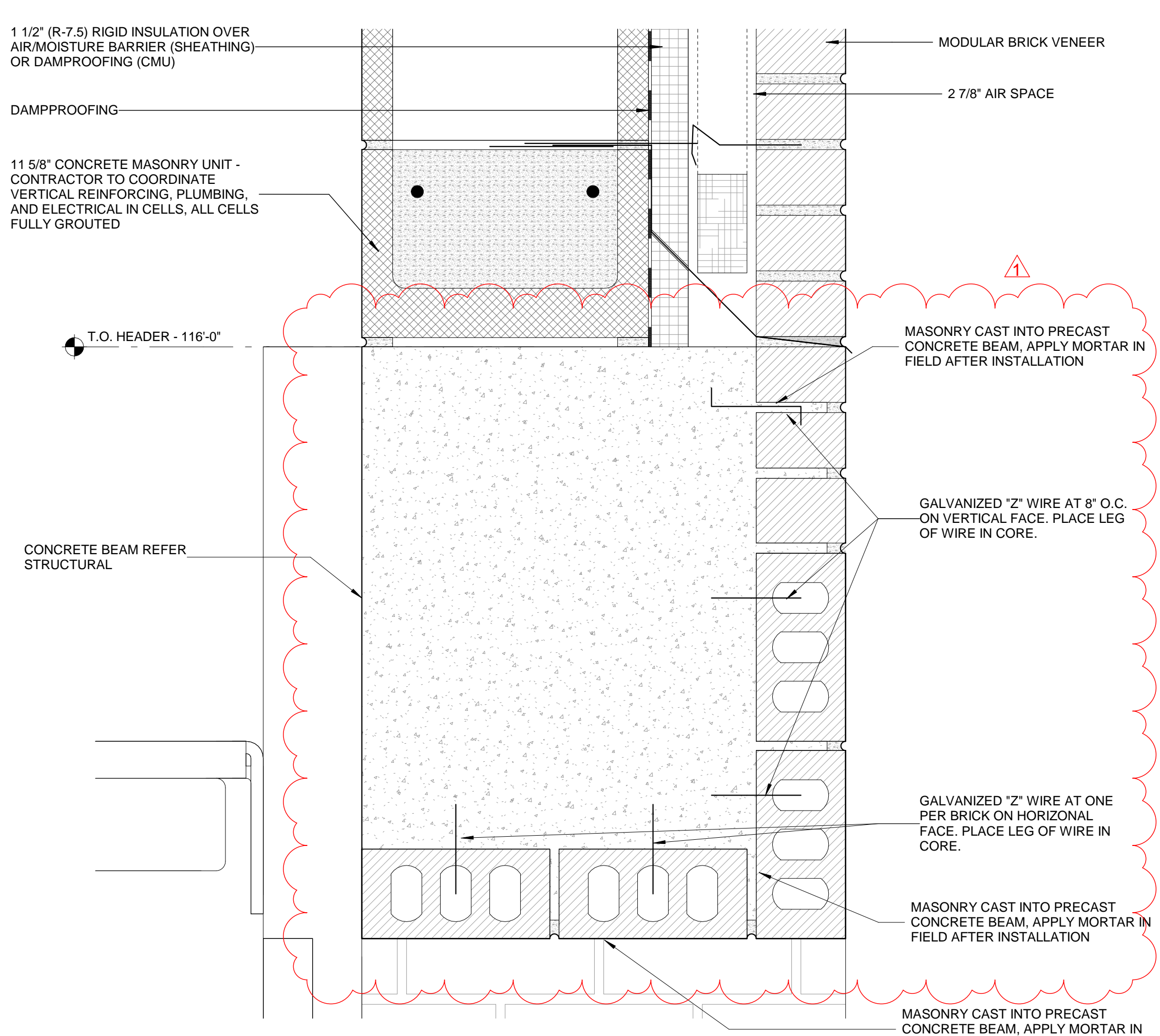
A-6.14



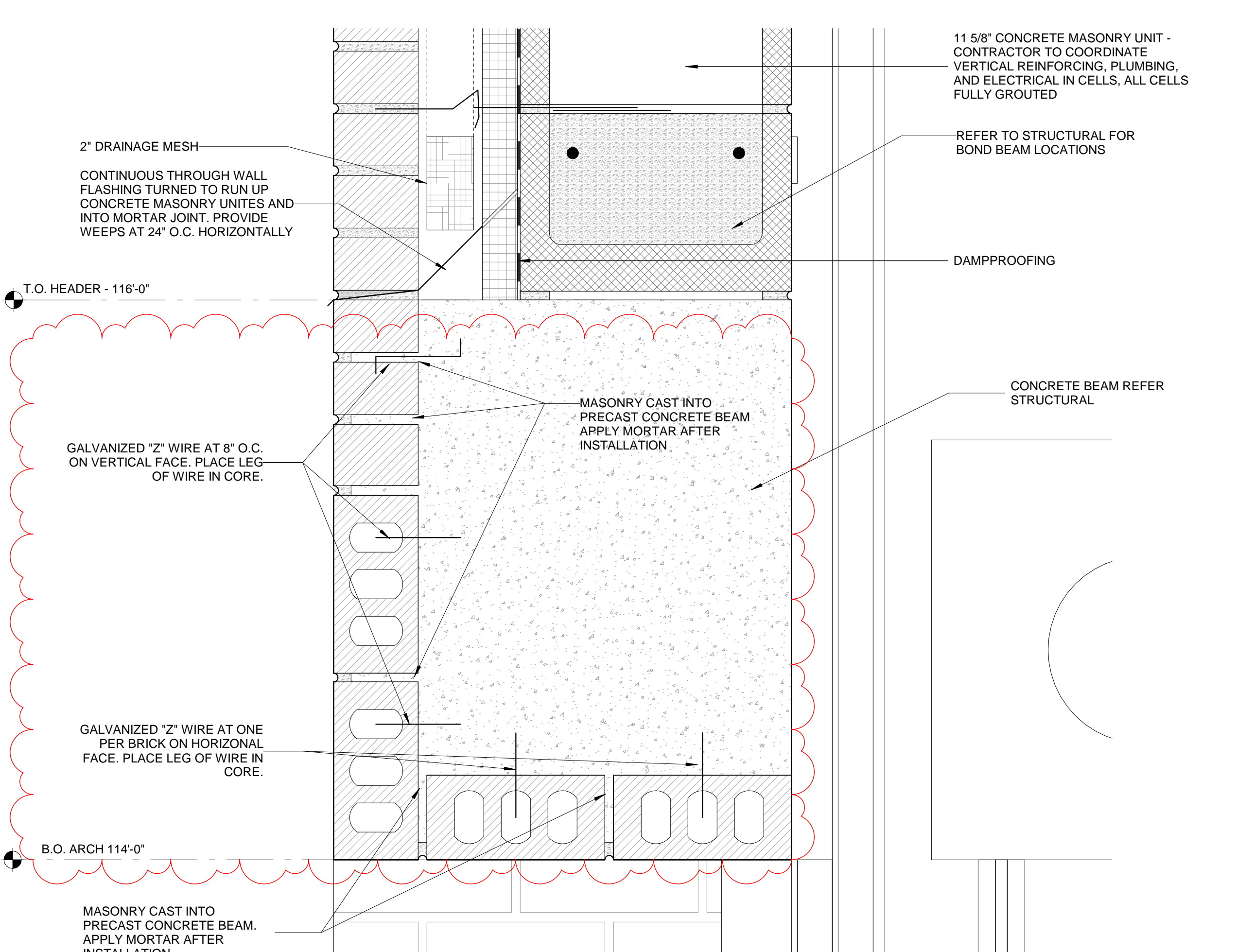
3 SECTION DETAIL
 SCALE: 3" = 1'-0" A-6.04 / 8



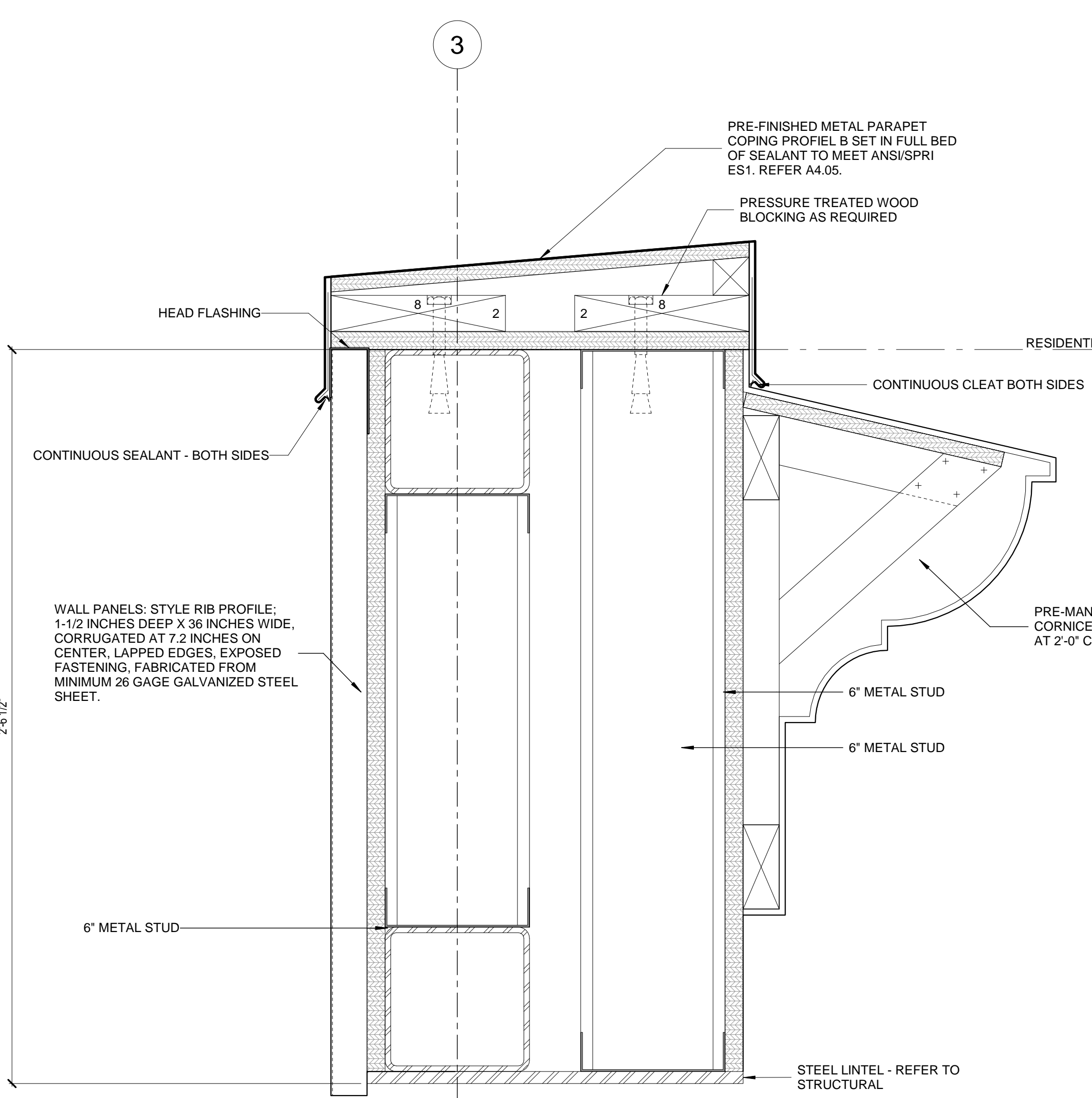
4 SECTION DETAIL
 SCALE: 3" = 1'-0" A-6.04 / 9



1 SECTION DETAIL
 SCALE: 3" = 1'-0" A-6.05 / 1



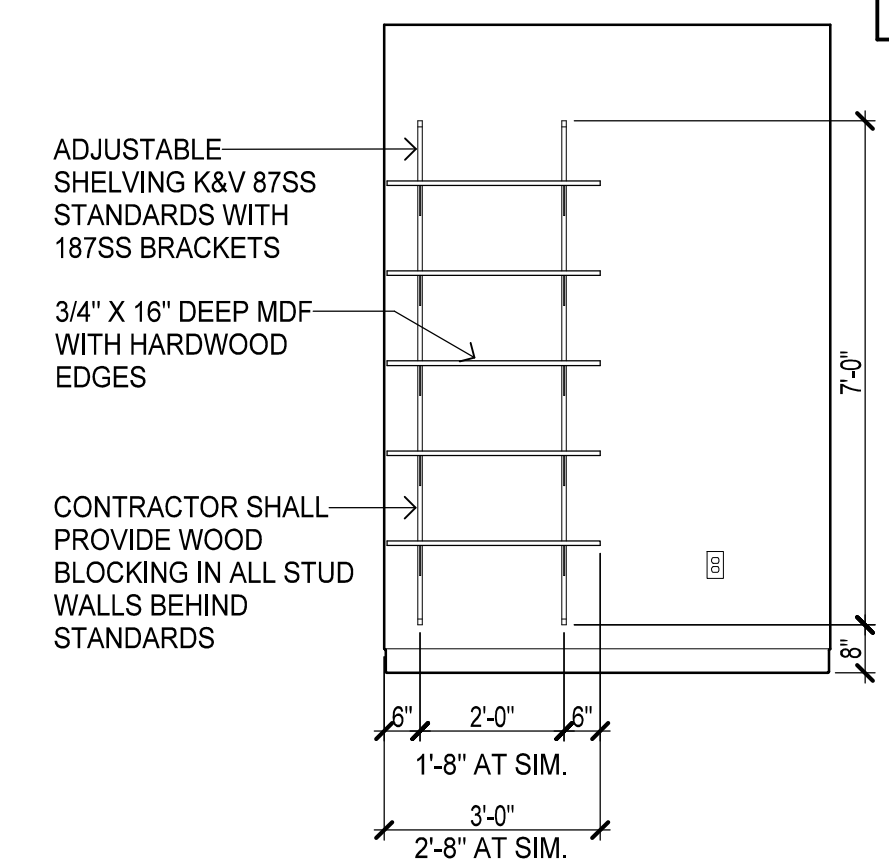
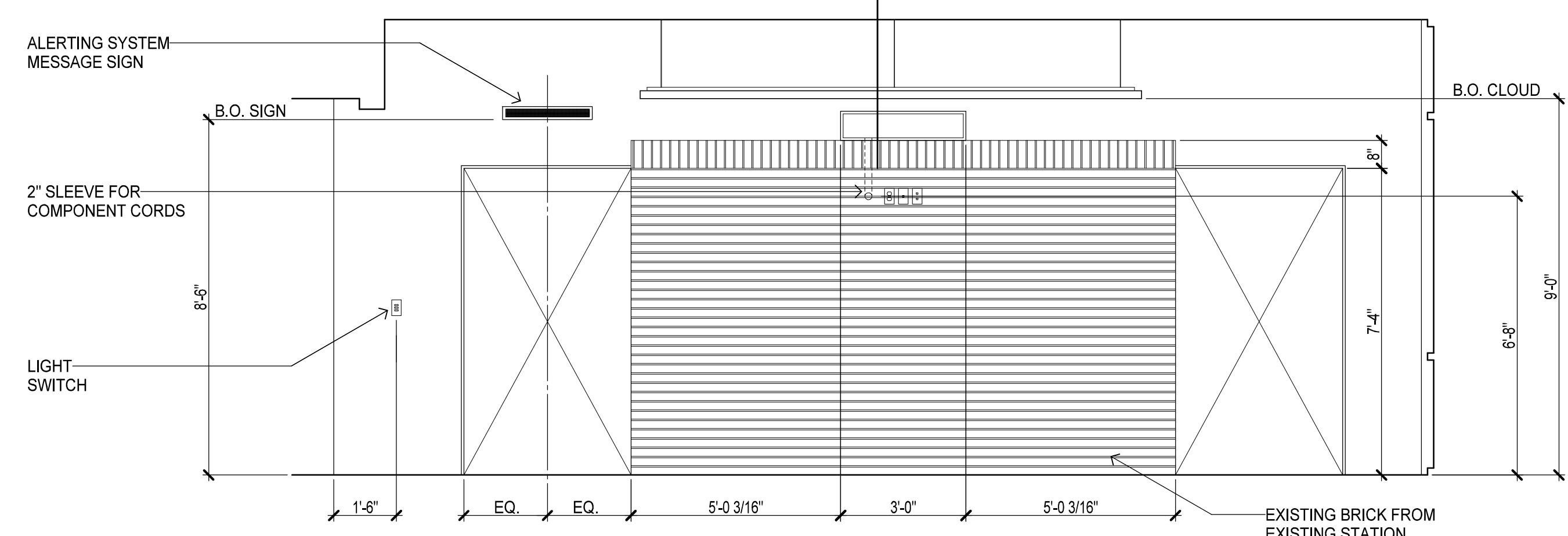
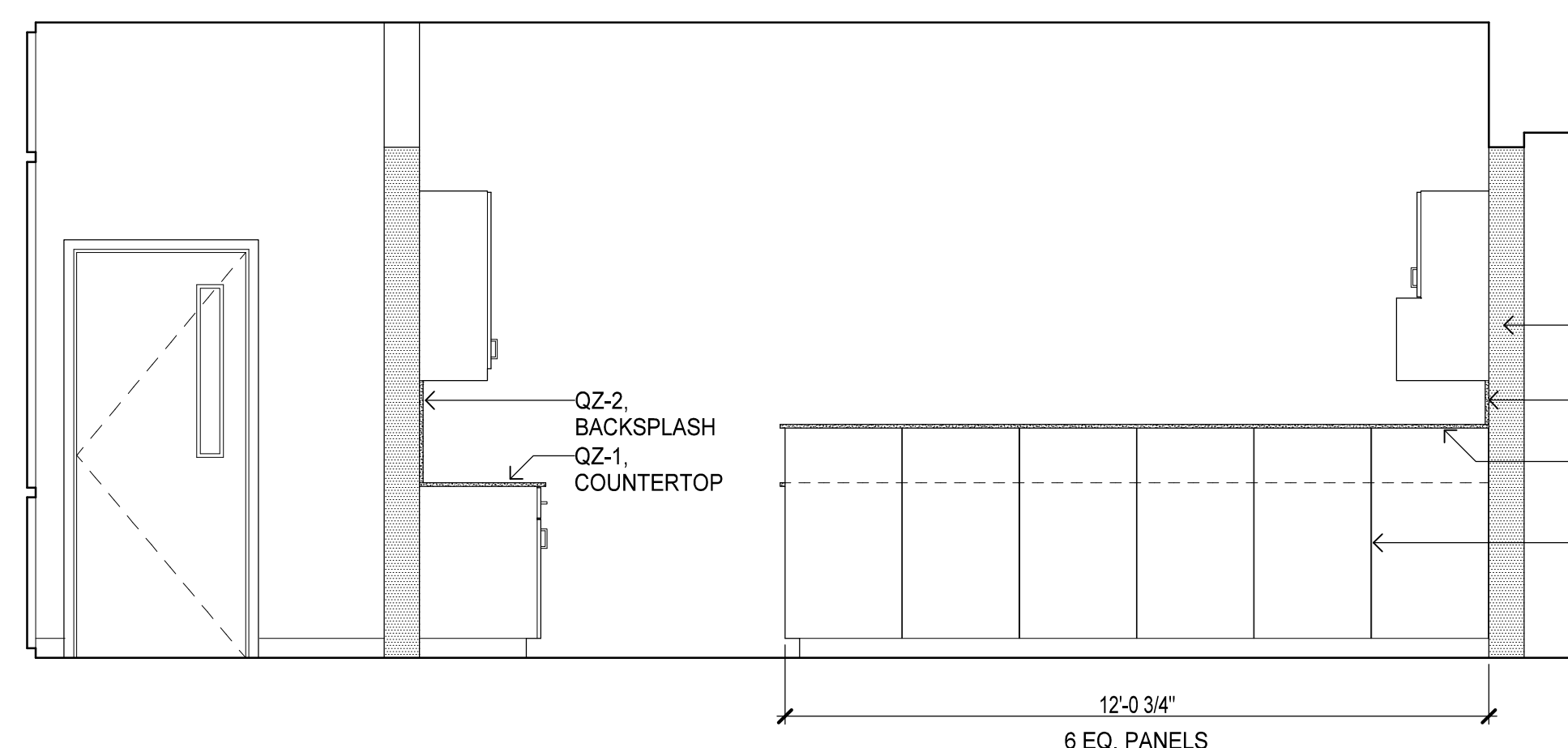
2 SECTION DETAIL
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5 WALL SECTION
 SCALE: 3" = 1'-0" A-6.02 / 6

GENERAL NOTES

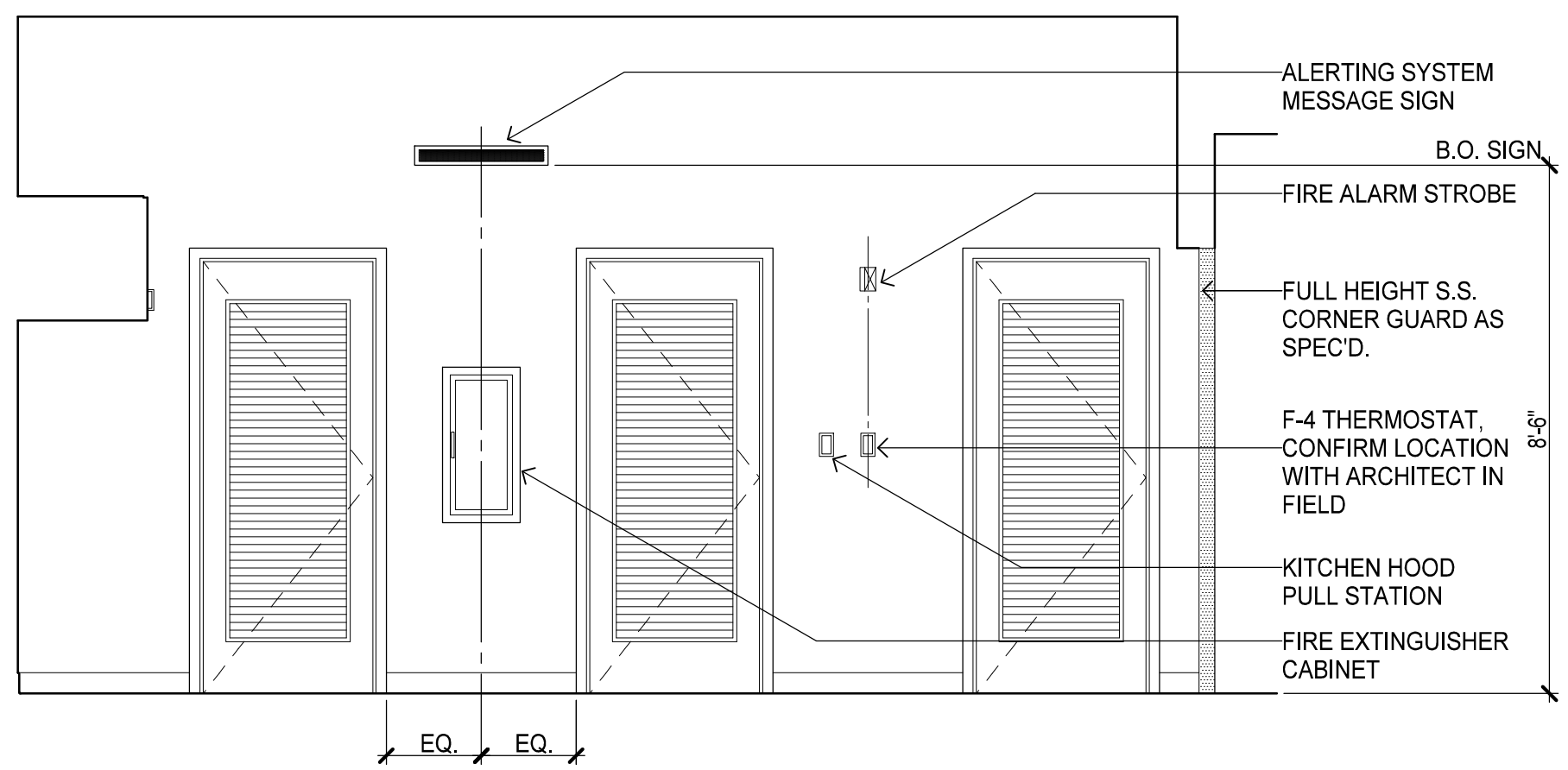
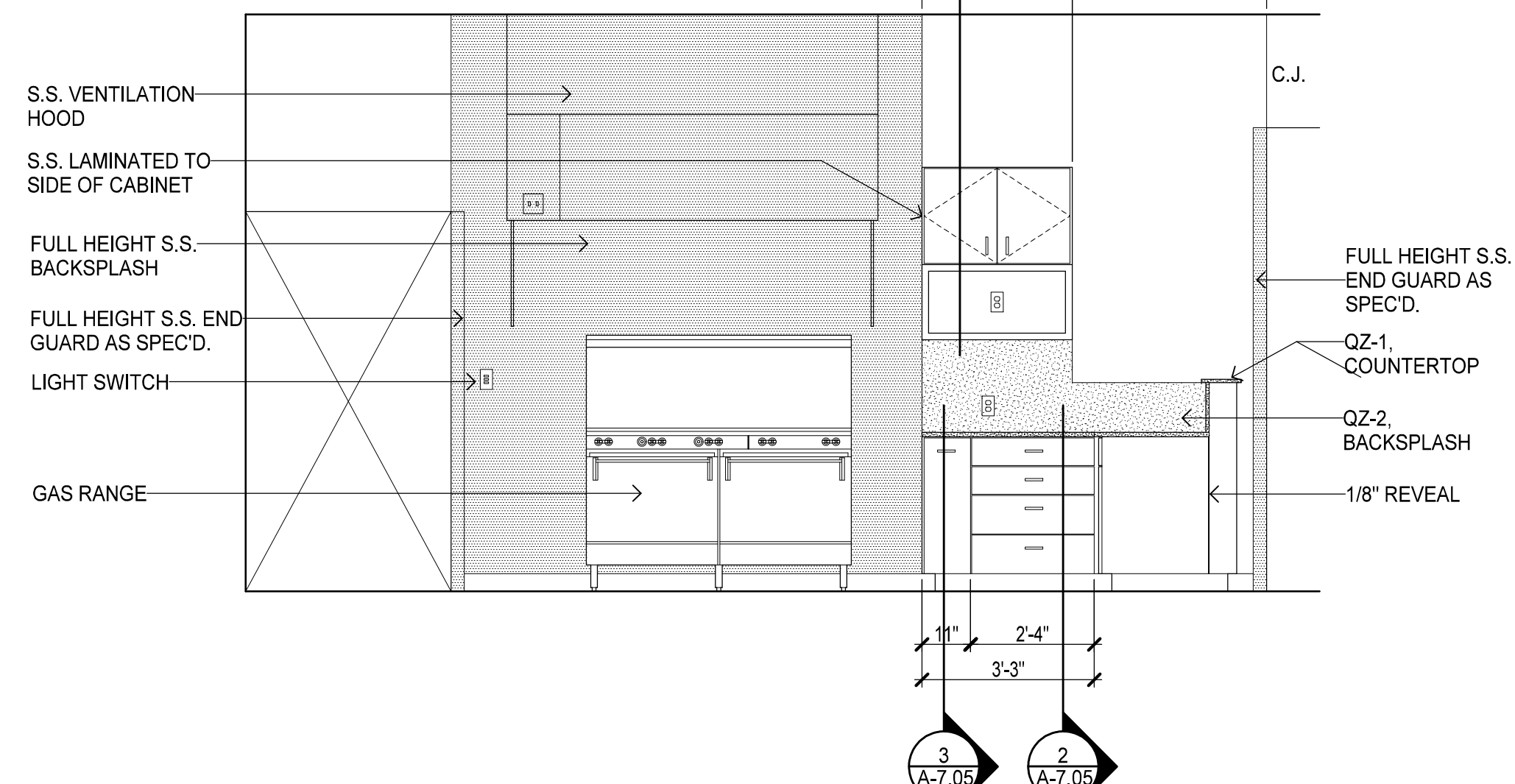
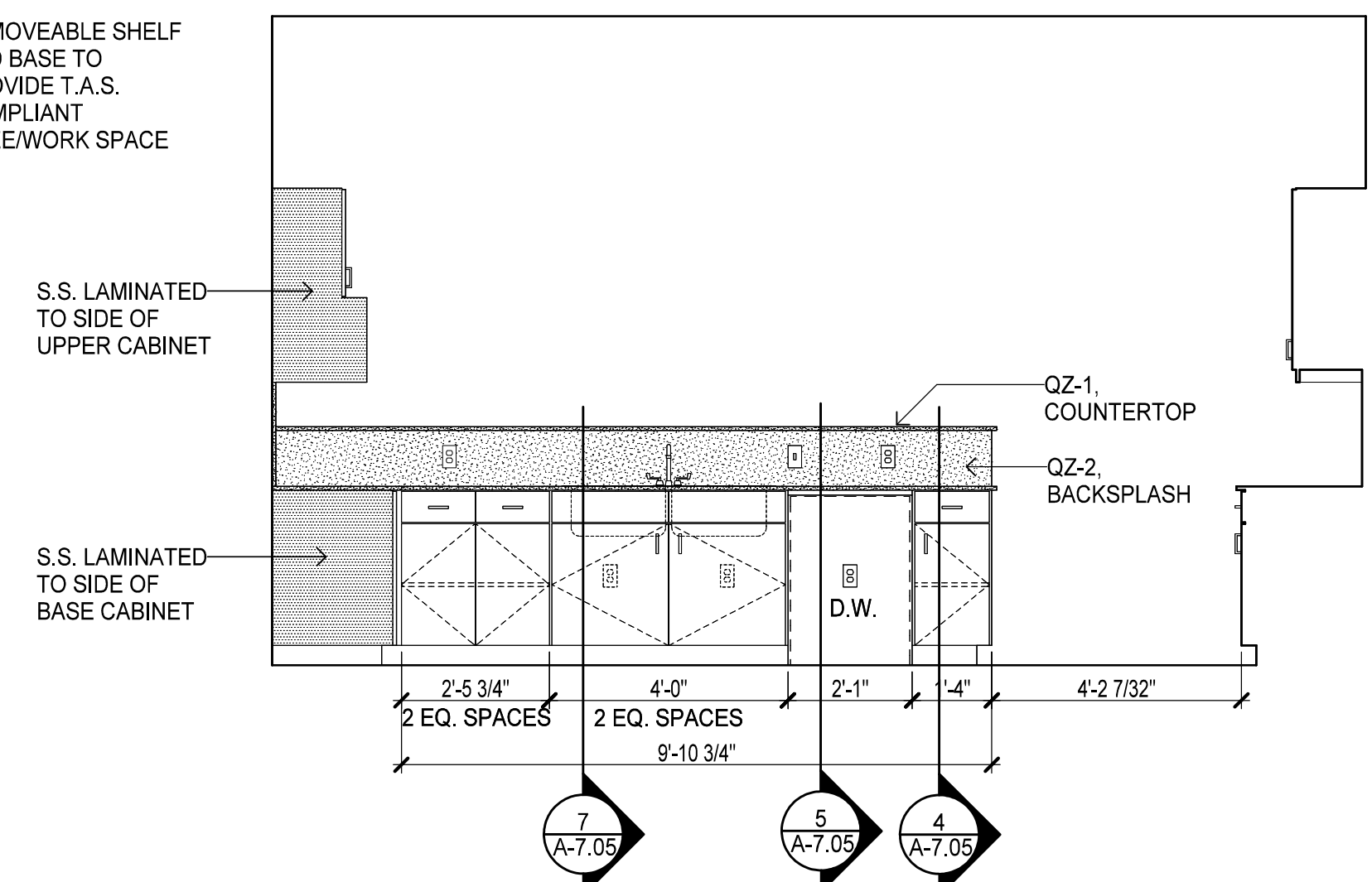
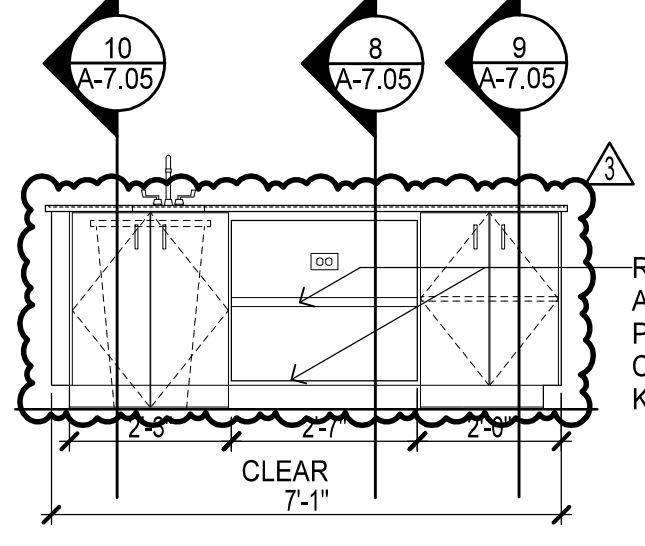
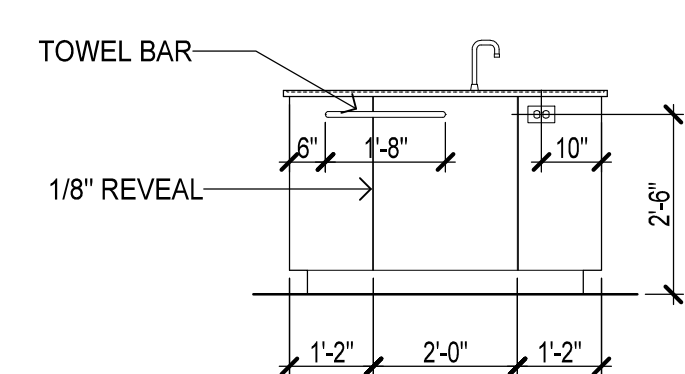
1. U.N.O., ALL BASE AND UPPER CABINETS TO RECEIVE PL-1
2. U.N.O., ALL COUNTERTOPS AND BACKSPASHES TO RECEIVE PL-2
3. IN KITCHEN R108, DINING R107, DAY R106, ALL MILLWORK TO RECEIVE MW-2



20 DINING 107
SCALE: 3/8" = 1'-0"

19 DINING 107
SCALE: 3/8" = 1'-0"

18 PANTRY 111/112/113
SCALE: 3/8" = 1'-0"



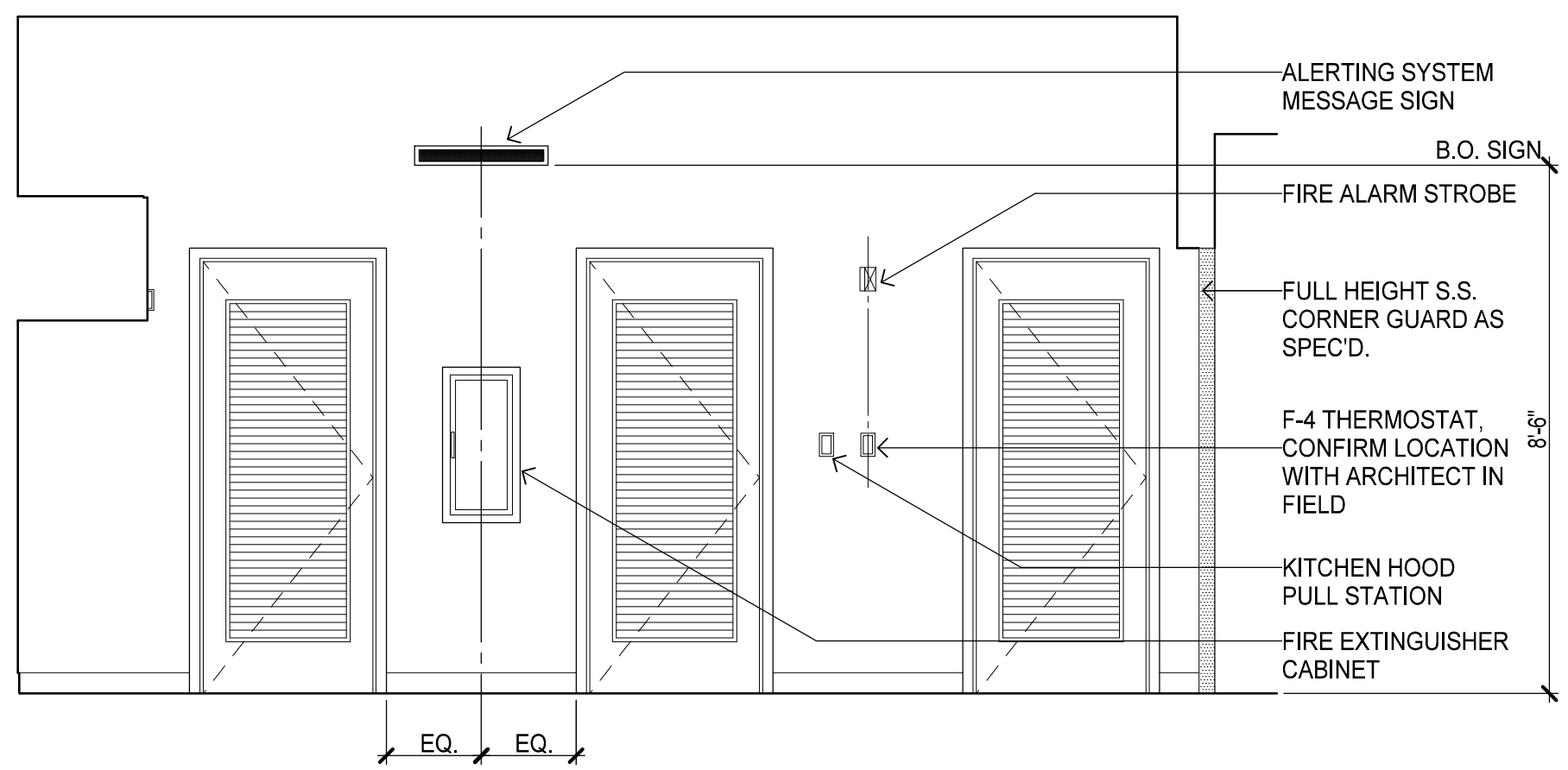
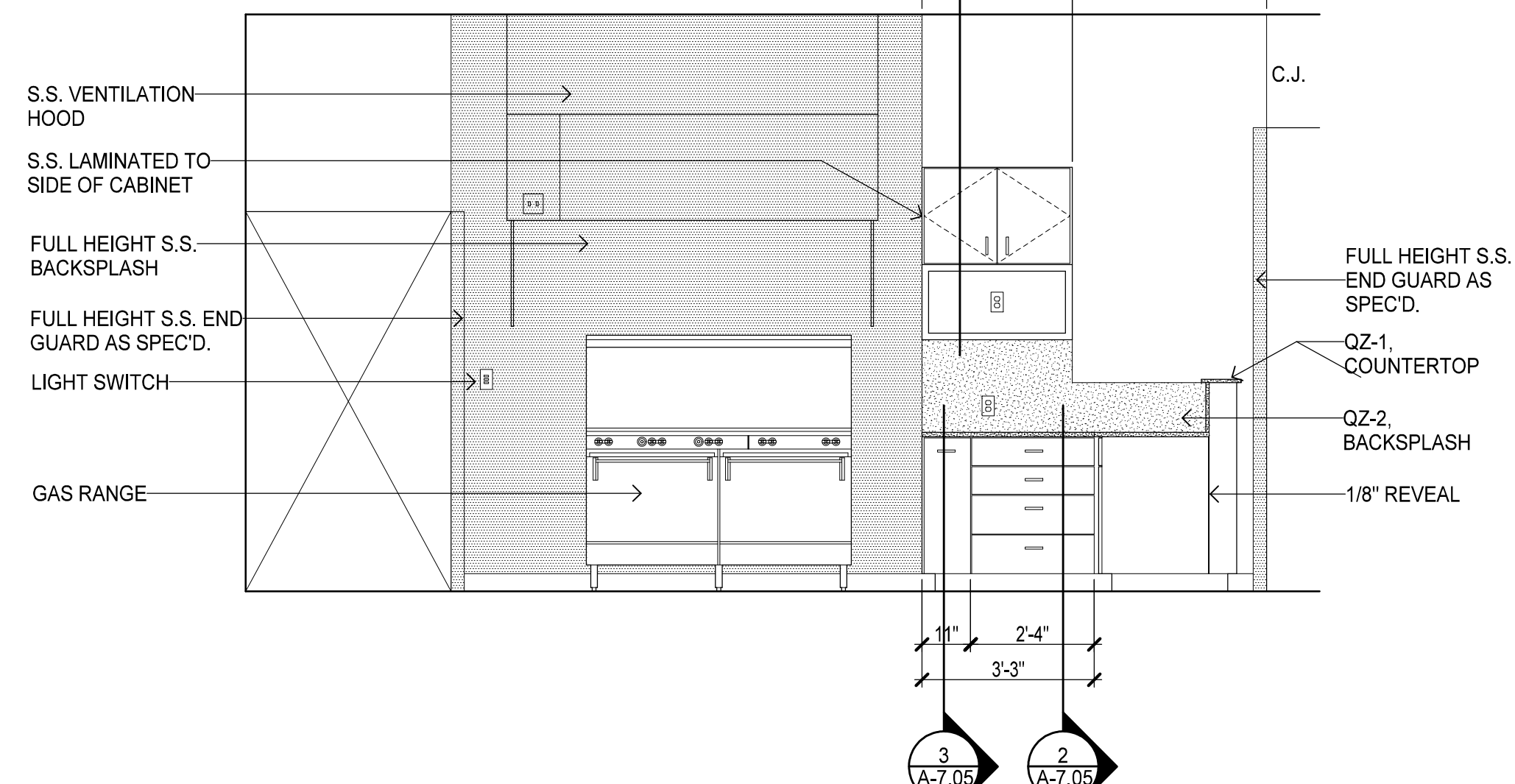
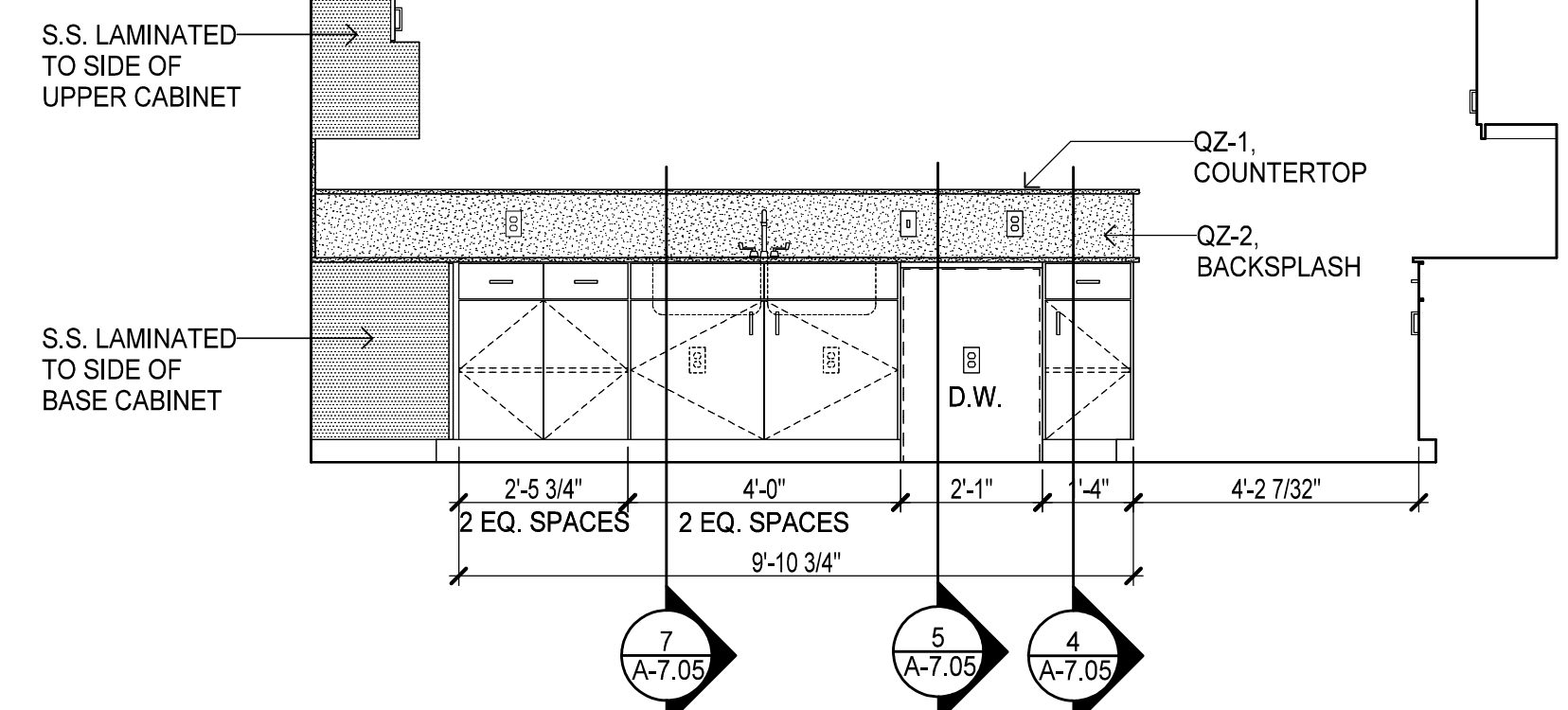
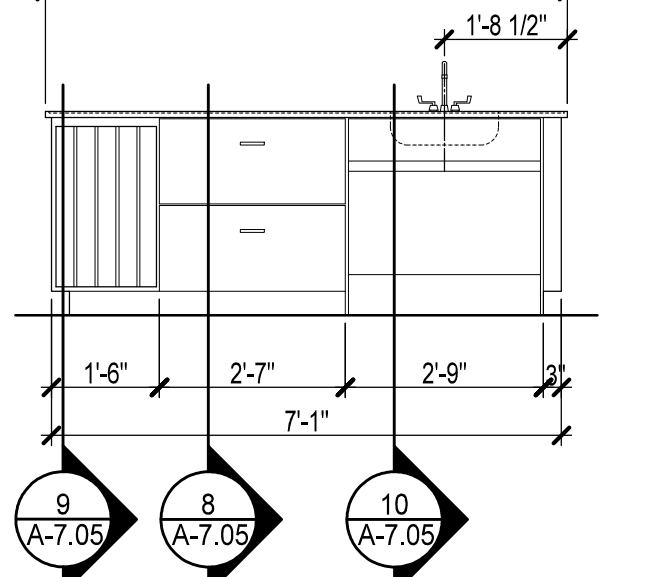
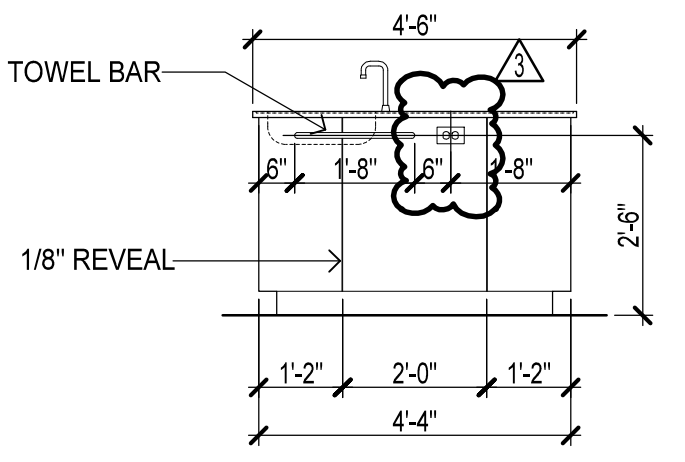
17 KITCHEN 108
SCALE: 3/8" = 1'-0"

16 KITCHEN 108
SCALE: 3/8" = 1'-0"

13 KITCHEN 108
SCALE: 3/8" = 1'-0"

12 KITCHEN 108
SCALE: 3/8" = 1'-0"

11 KITCHEN 108
SCALE: 3/8" = 1'-0"



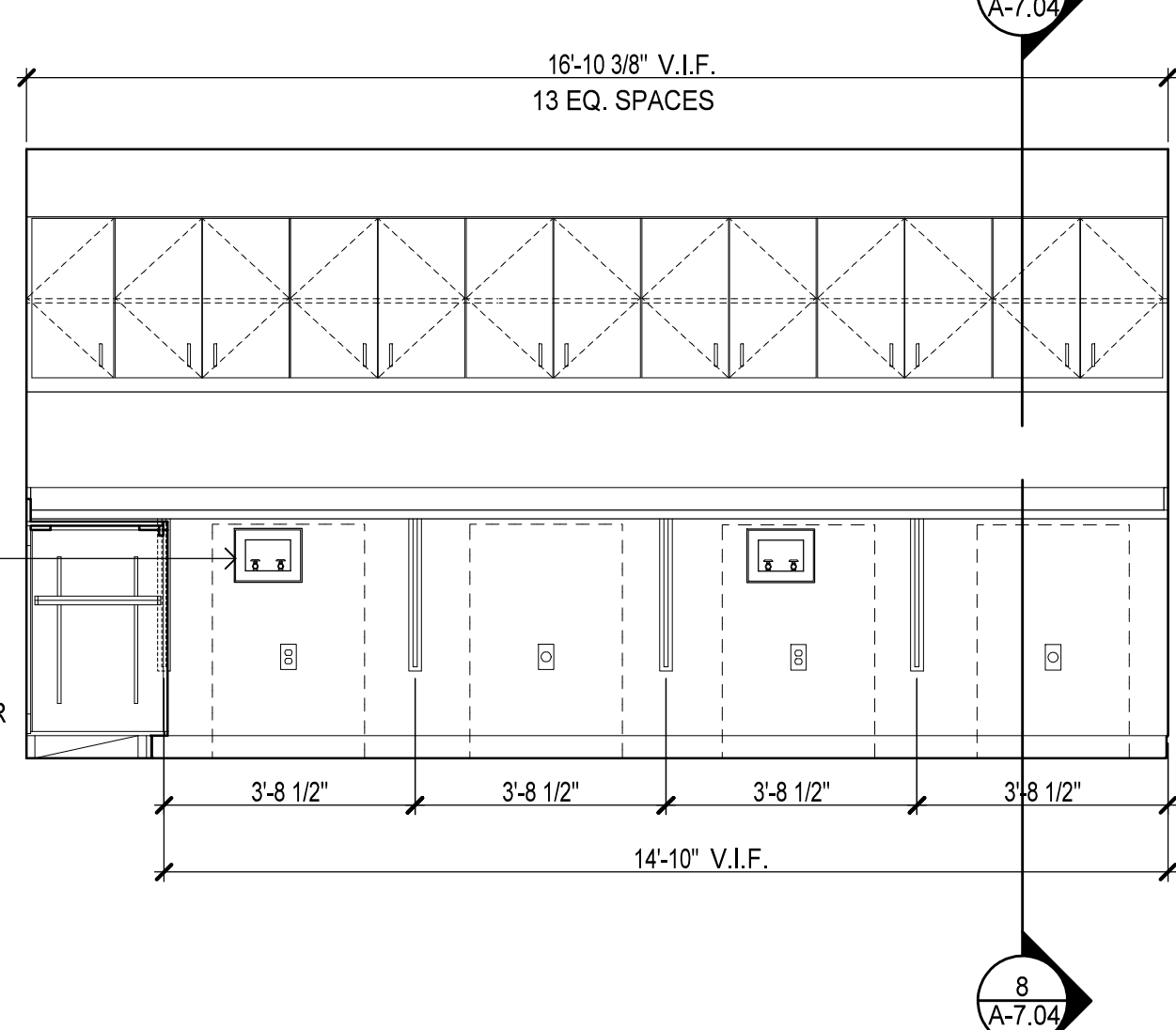
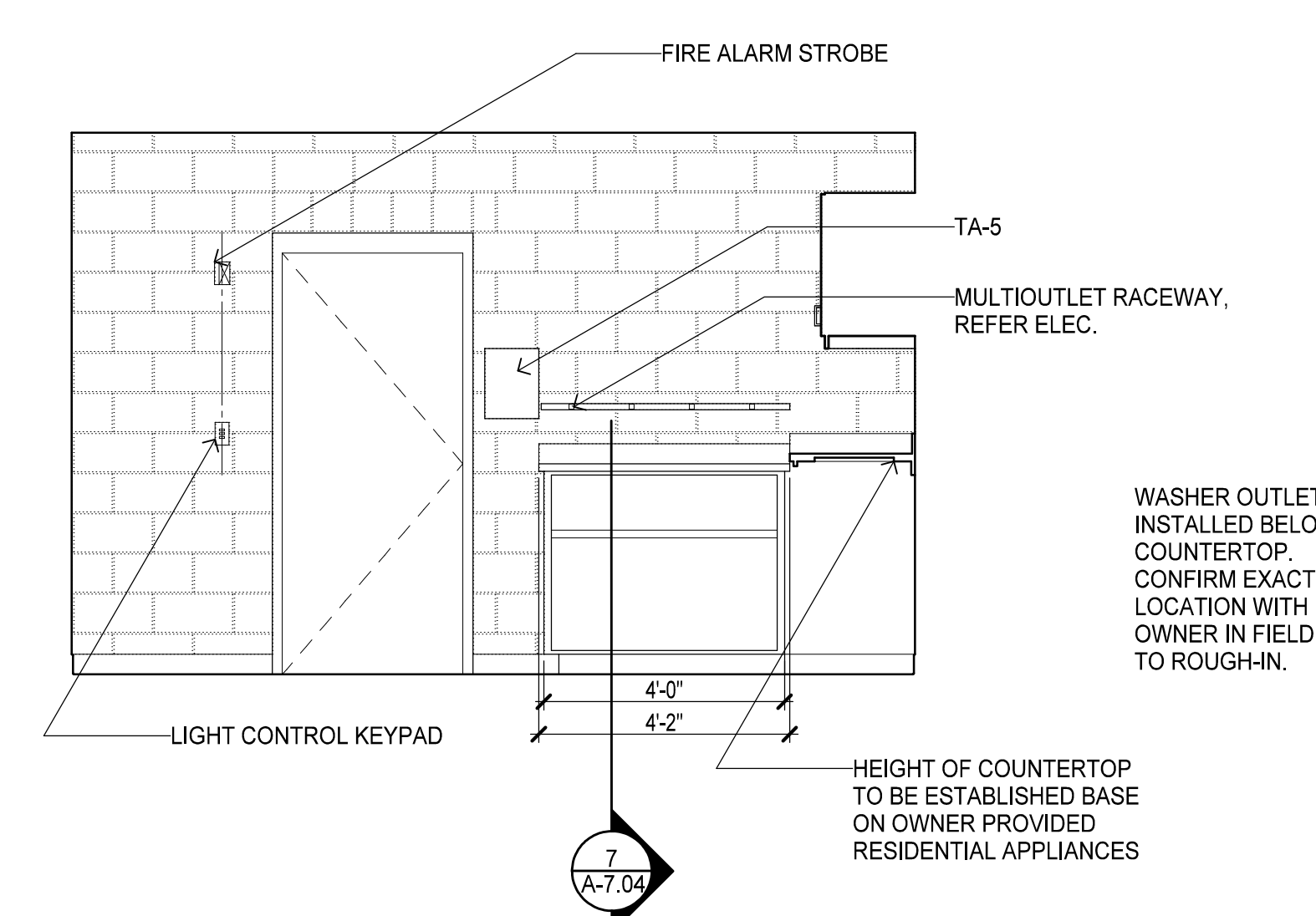
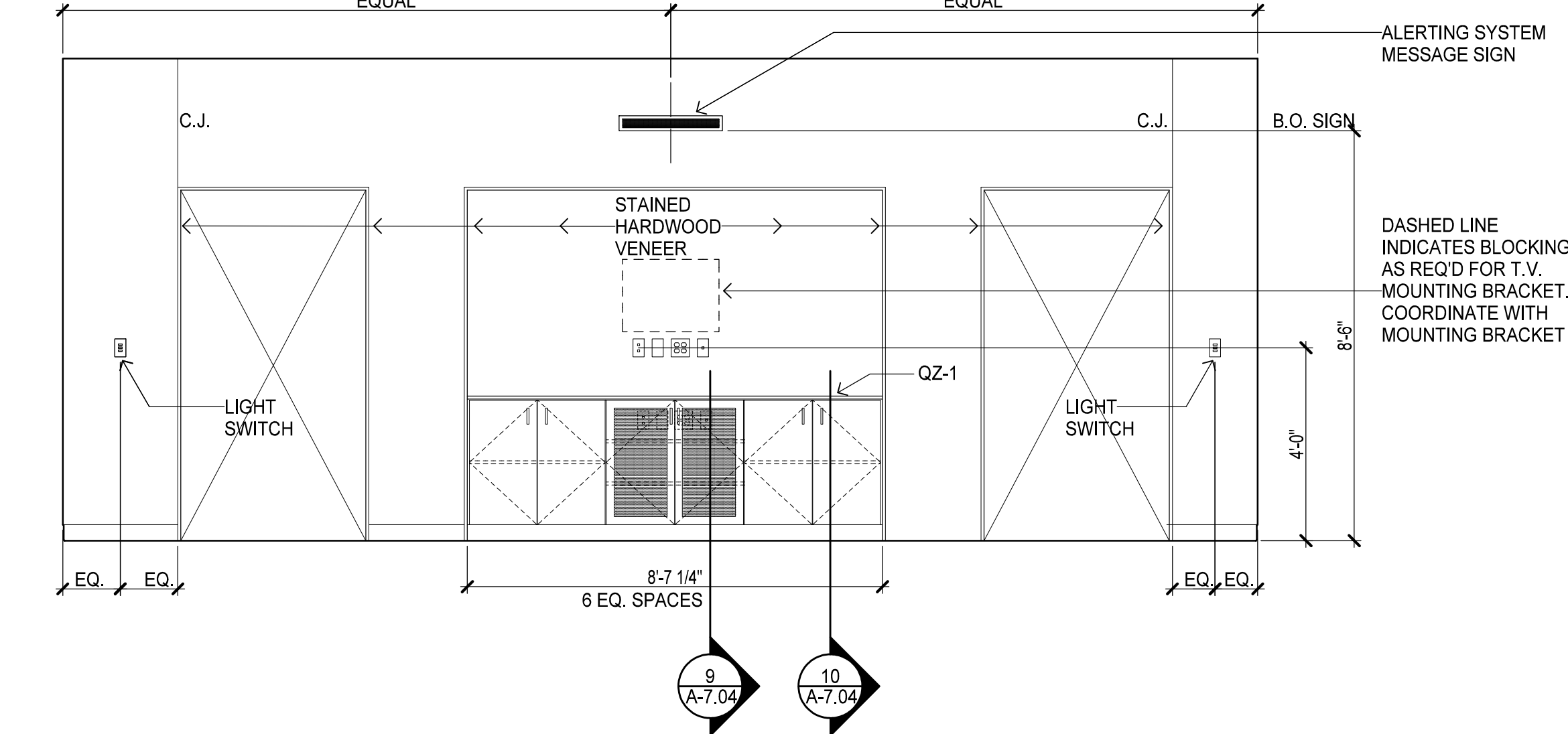
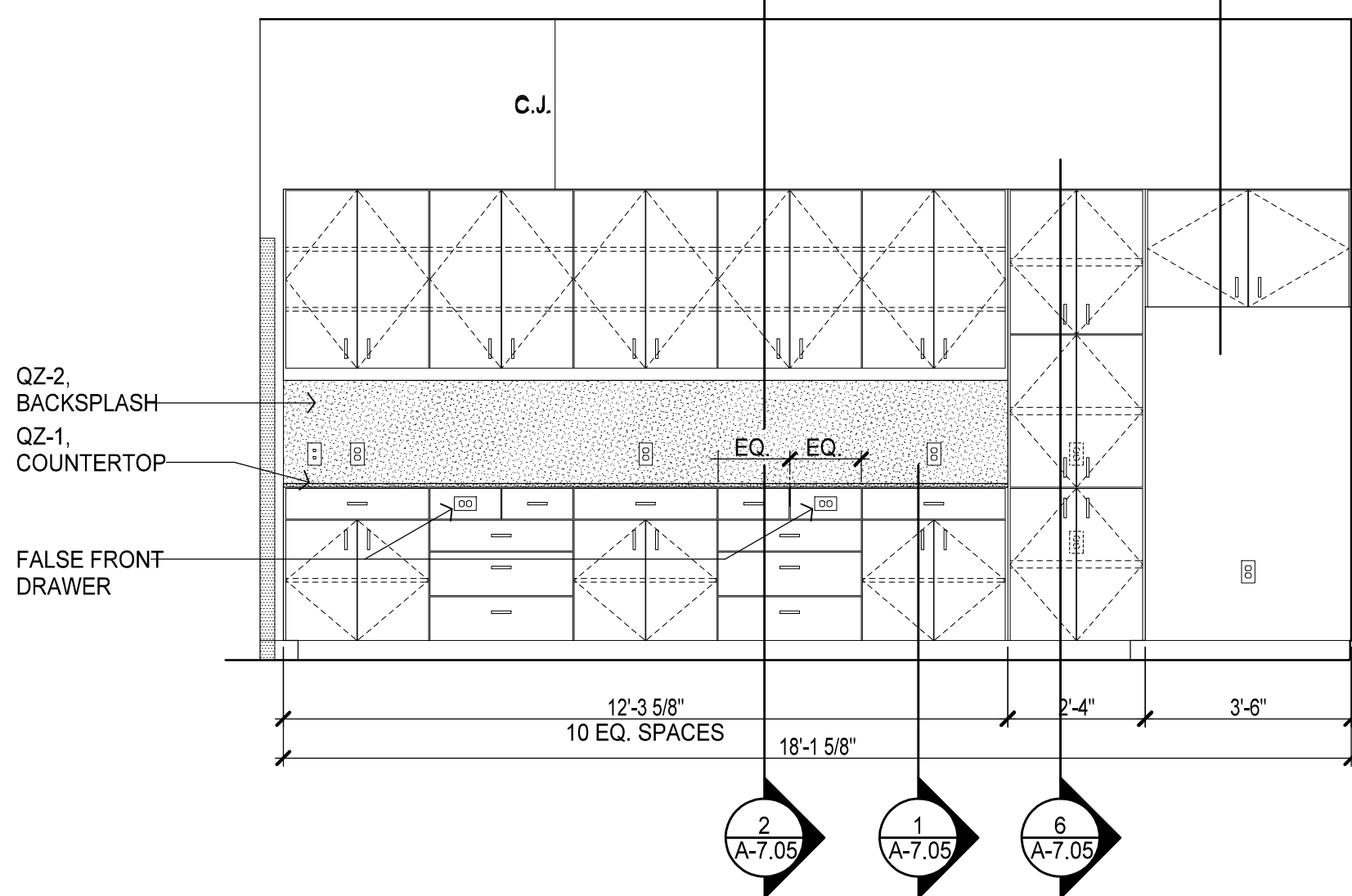
15 KITCHEN 108
SCALE: 3/8" = 1'-0"

14 KITCHEN 108
SCALE: 3/8" = 1'-0"

13 KITCHEN 108
SCALE: 3/8" = 1'-0"

12 KITCHEN 108
SCALE: 3/8" = 1'-0"

11 KITCHEN 108
SCALE: 3/8" = 1'-0"

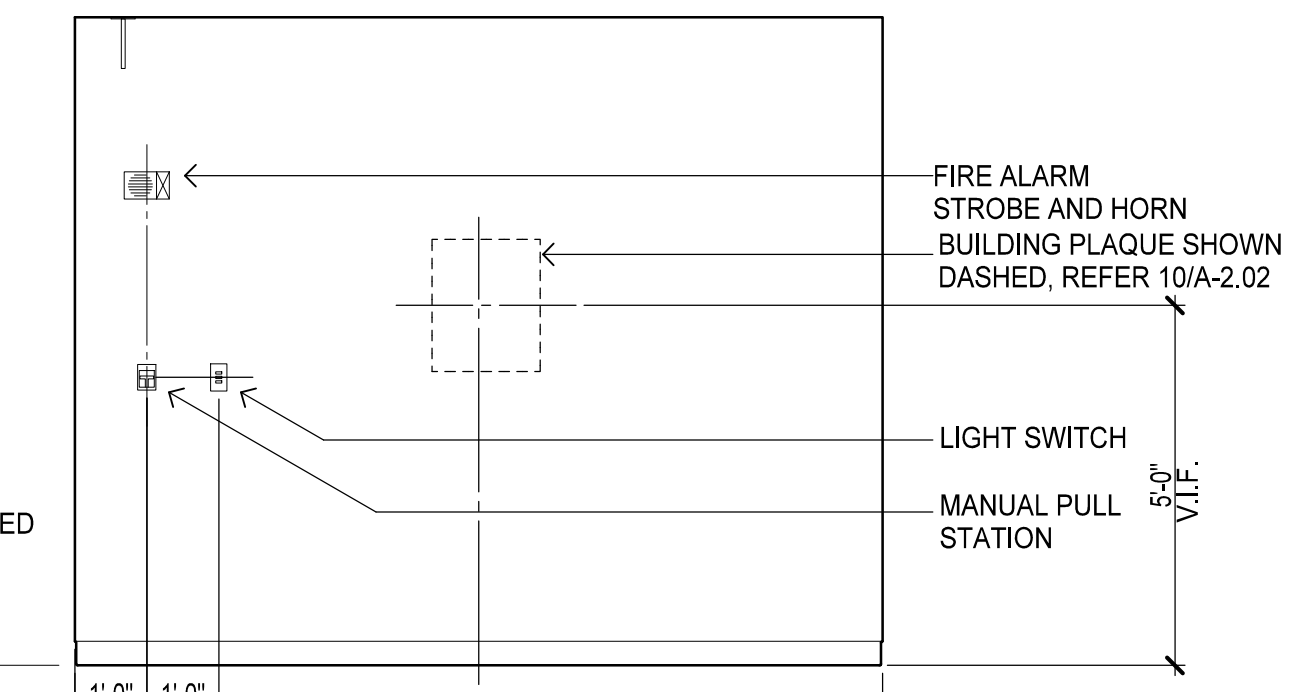
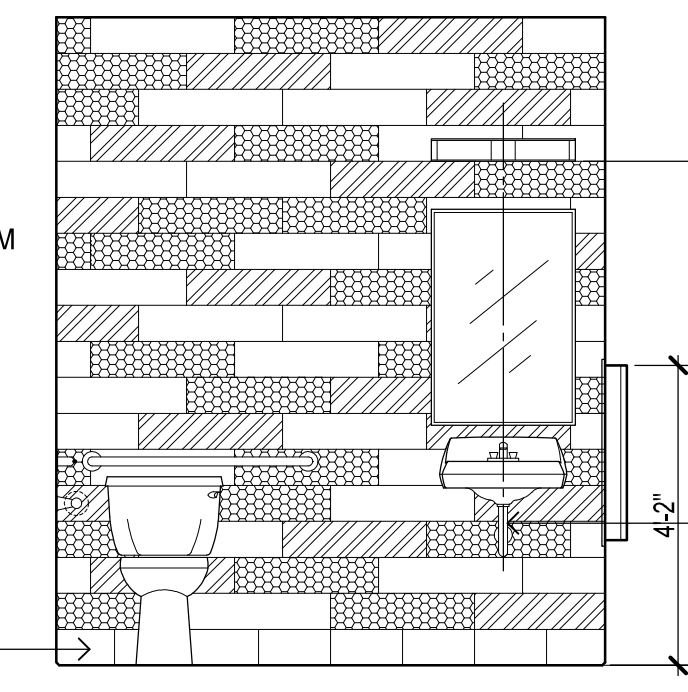
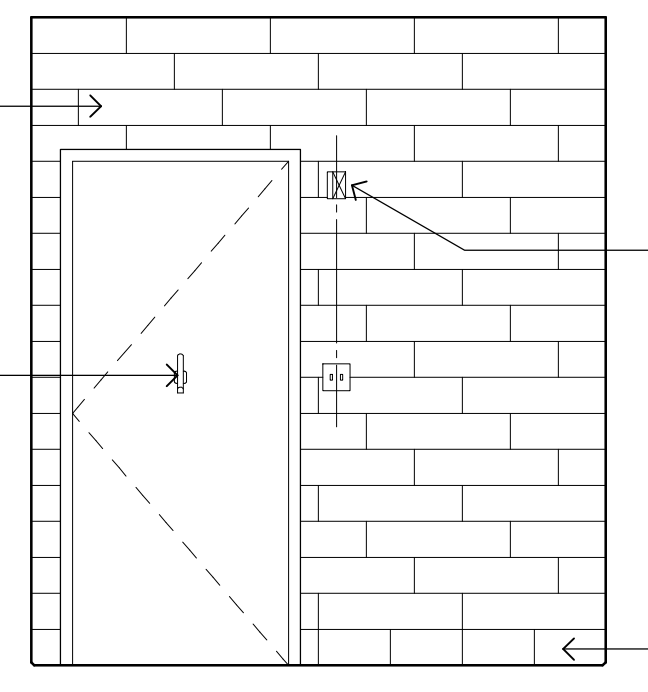
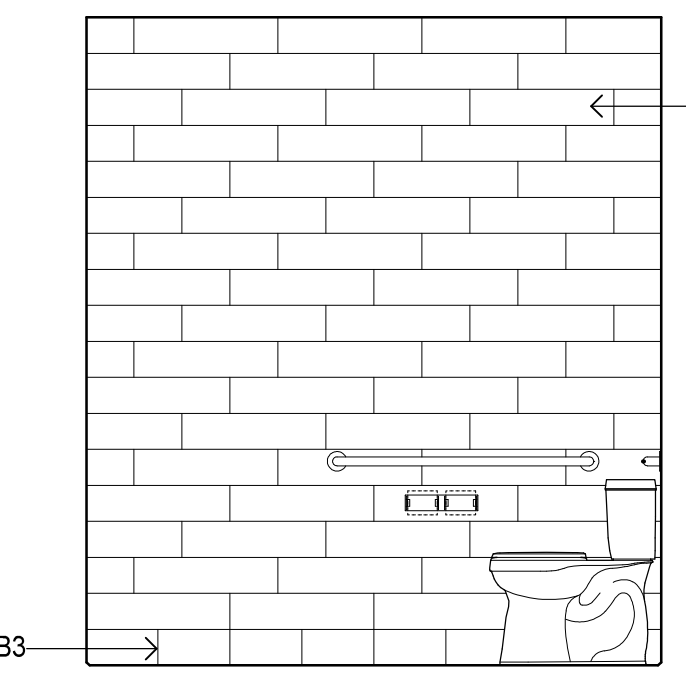
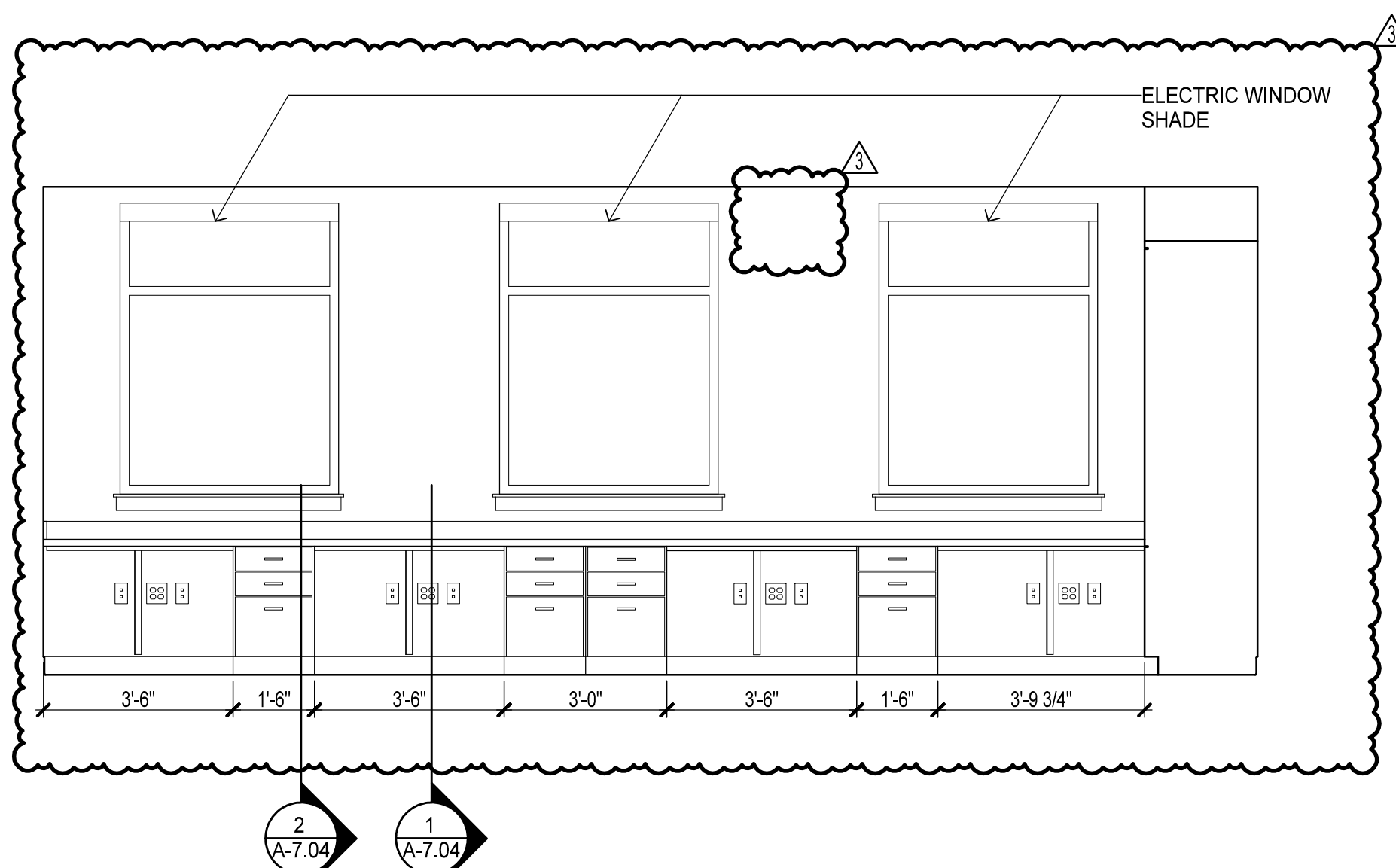
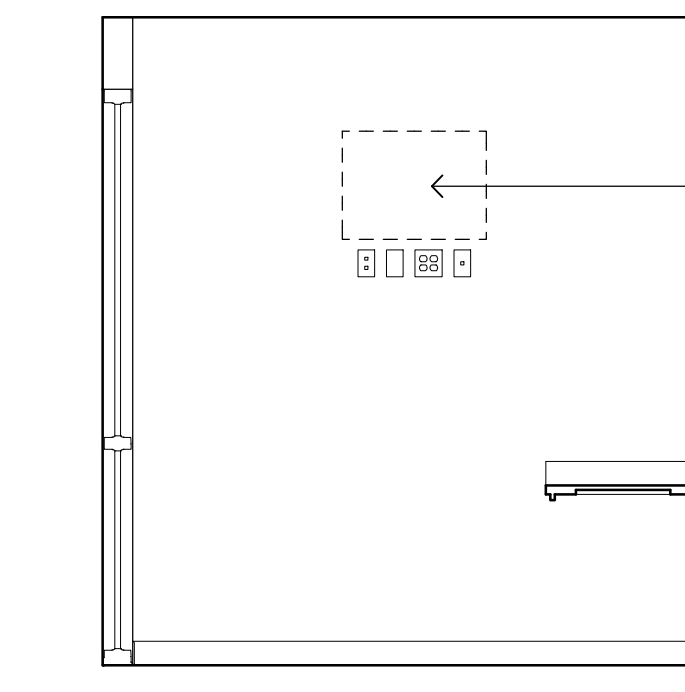


10 KITCHEN 113
SCALE: 3/8" = 1'-0"

9 DAY 106
SCALE: 3/8" = 1'-0"

8 LAUNDRY/EMS 149
SCALE: 3/8" = 1'-0"

7 LAUNDRY/EMS 149
SCALE: 3/8" = 1'-0"



6 WATCH 103
SCALE: 3/8" = 1'-0"

5 WATCH 103
SCALE: 3/8" = 1'-0"

4 RESTRM. 102
SCALE: 3/8" = 1'-0"

3 RESTRM. 102
SCALE: 3/8" = 1'-0"

2 RESTRM. 102
SCALE: 3/8" = 1'-0"

1 LOBBY 100
SCALE: 3/8" = 1'-0"



REVISIONS:

No.	DATE	DESCRIPTION
1	08/02/18	PERMIT
2	09/19/18	REV. FOR BID
3	02/07/19	ADDENDUM 3

CONTENTS:
INTERIOR ELEVATIONS

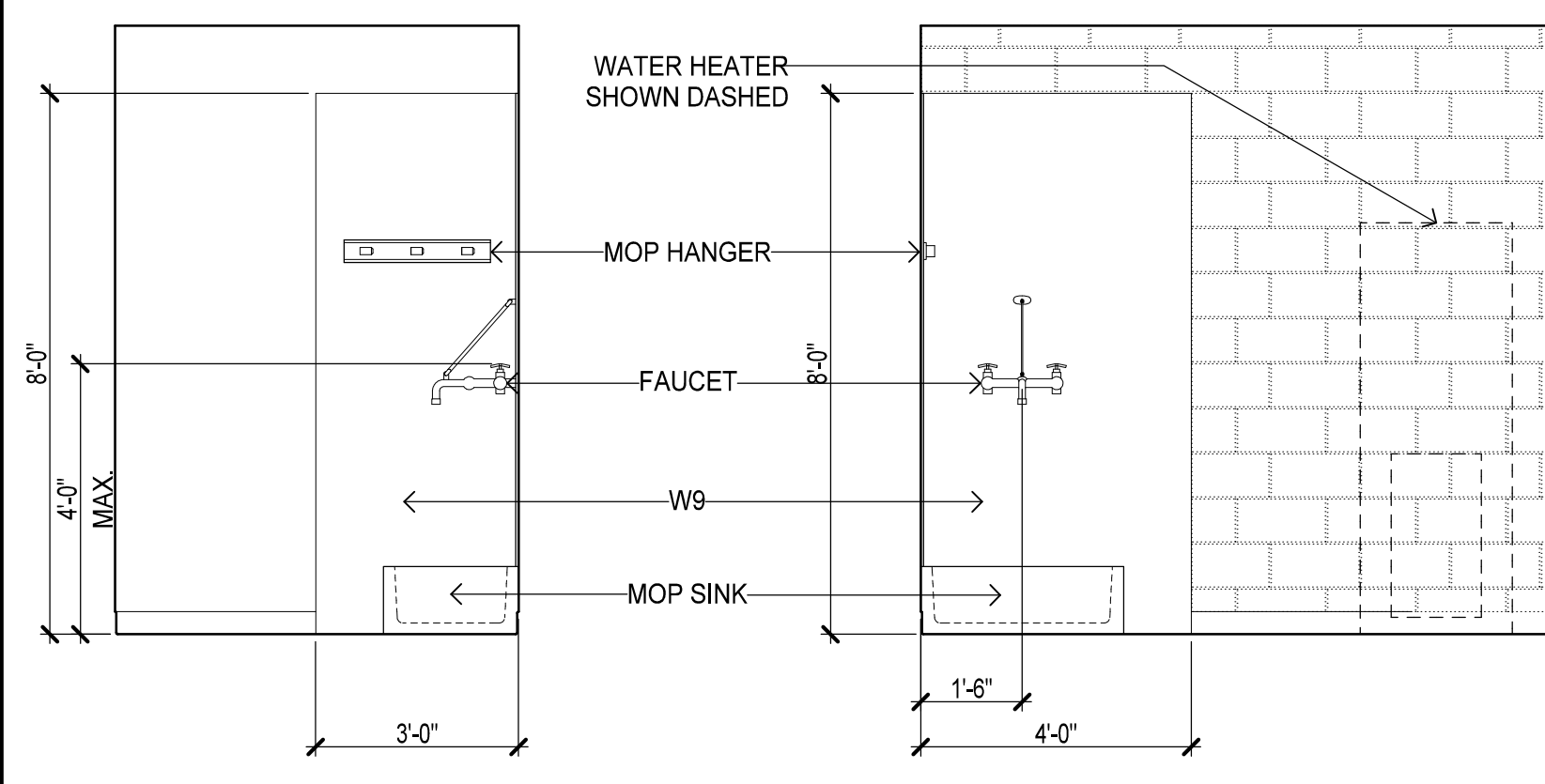
DATE:
12 JUNE 2018

SHEET:
A-7.01

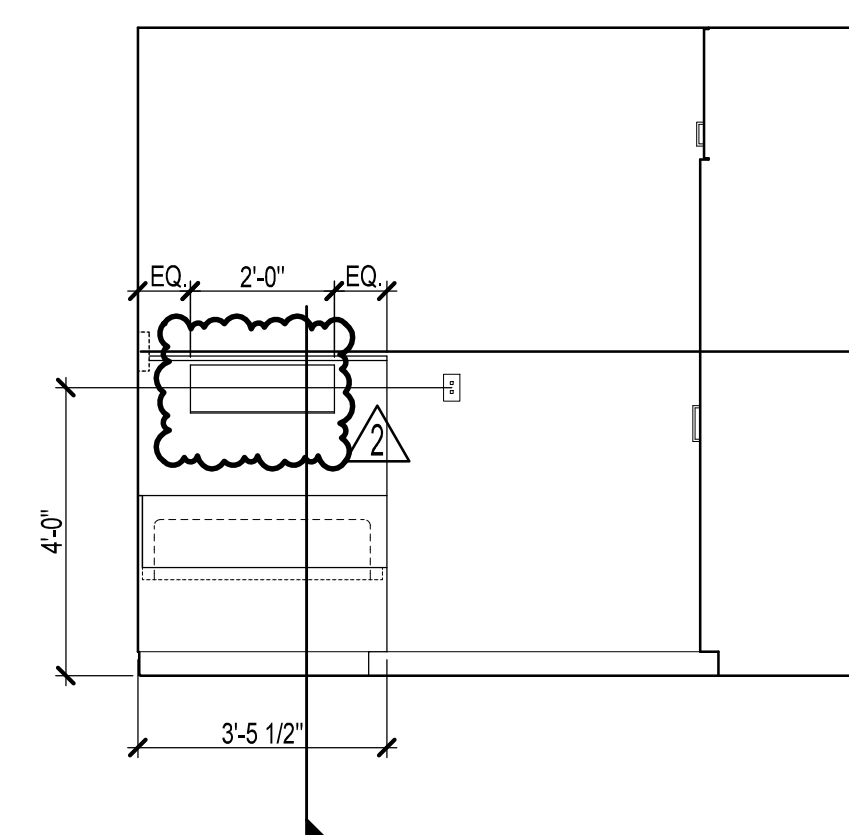
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GENERAL NOTES

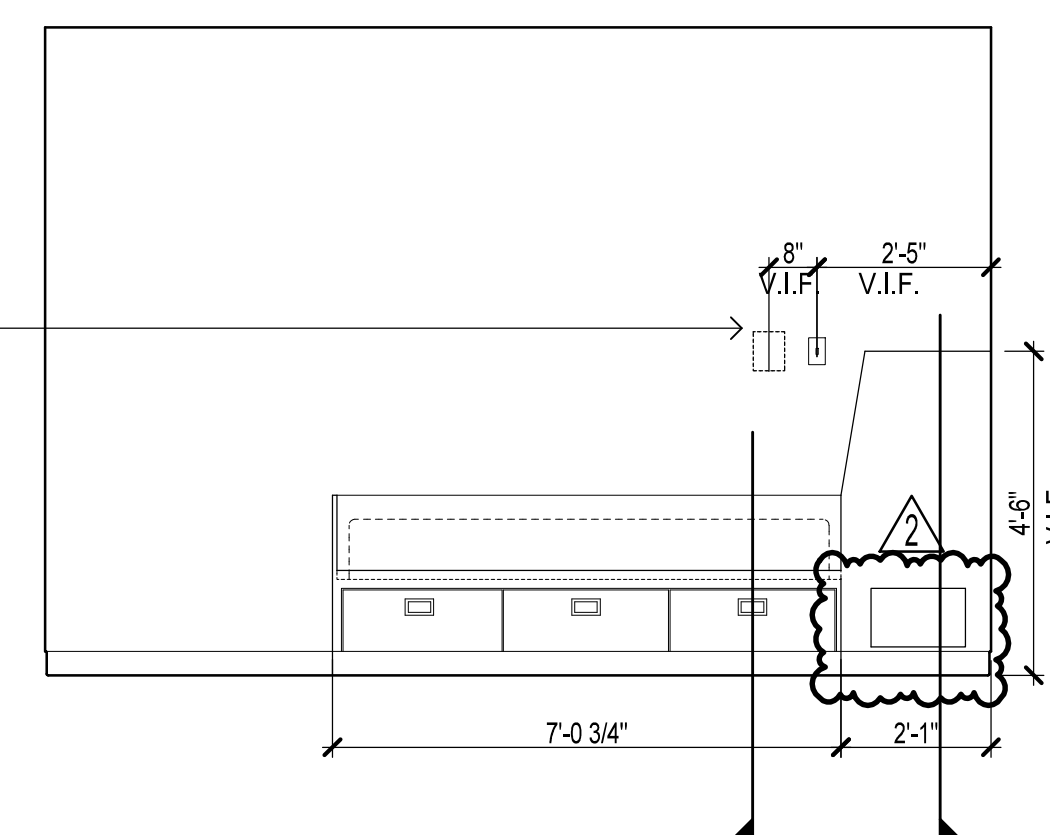
1. U.N.O. ALL BASE AND UPPER CABINETS TO RECEIVE PL-1
2. U.N.O. ALL COUNTERTOPS AND BACKSPASHES TO RECEIVE PL-2
3. PROVIDE SPACING AS REQUIRED BETWEEN DOORS AND/OR LOCKERS THAT ALLOWS EACH DOOR TO OPEN COMPLETELY WITHOUT CONFLICTING WITH ADJACENT DOOR.
4. IN KITCHEN R108, DINING R106, DAY R106, ALL MILLWORK TO RECEIVE MW-2



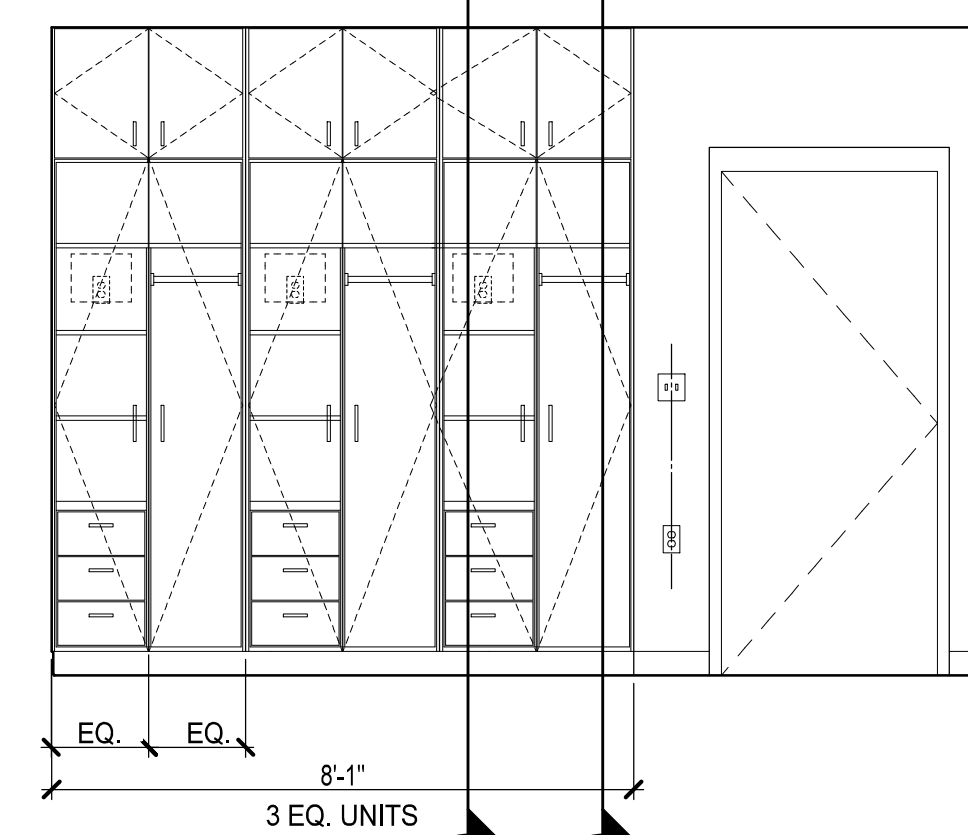
26 MECH. 116
SCALE: 3/8" = 1'-0"



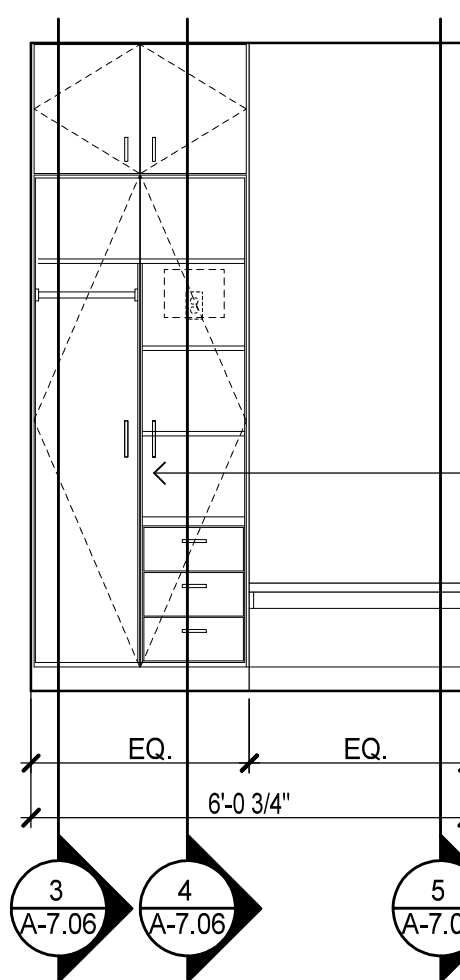
24 SLEEP 147
SCALE: 3/8" = 1'-0"



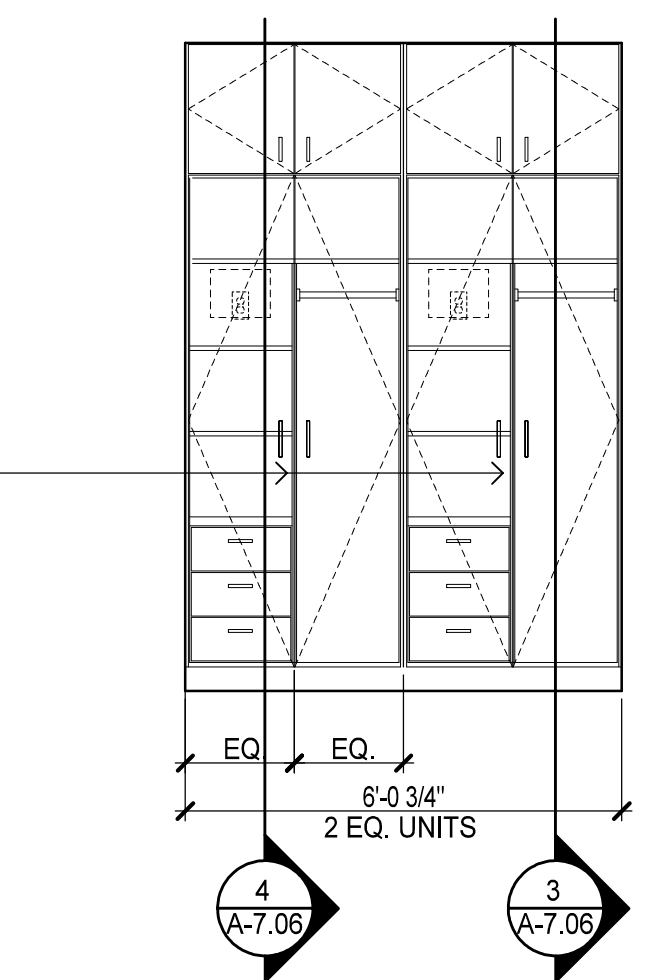
23 SLEEP 147
SCALE: 3/8" = 1'-0"



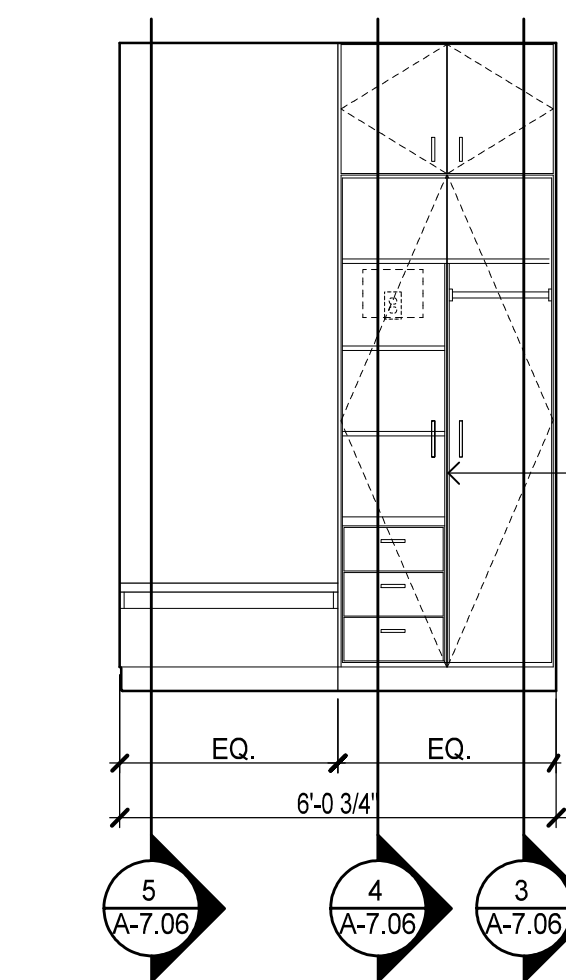
22 SLEEP 147
SCALE: 3/8" = 1'-0"



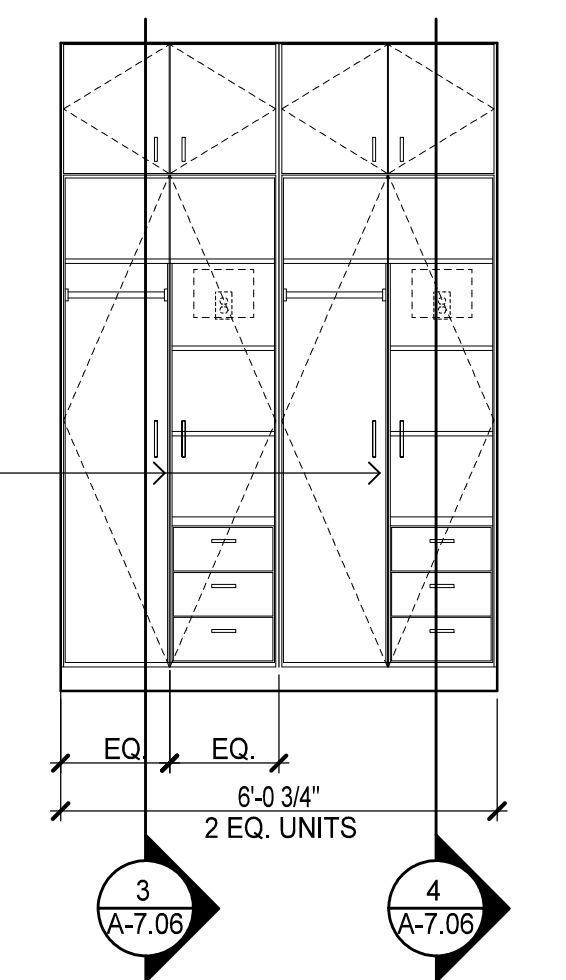
21 ALCOVE 123 / 127 / 131 / 135
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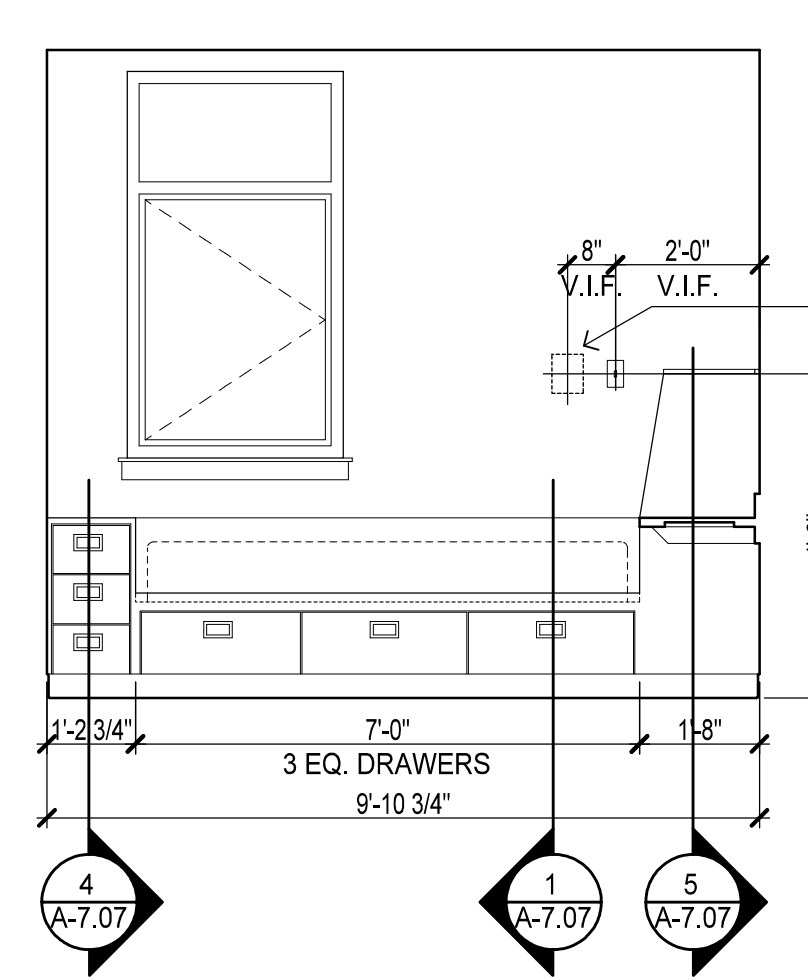
20 ALCOVE 123 / 127 / 131 / 135
SCALE: 3/8" = 1'-0"



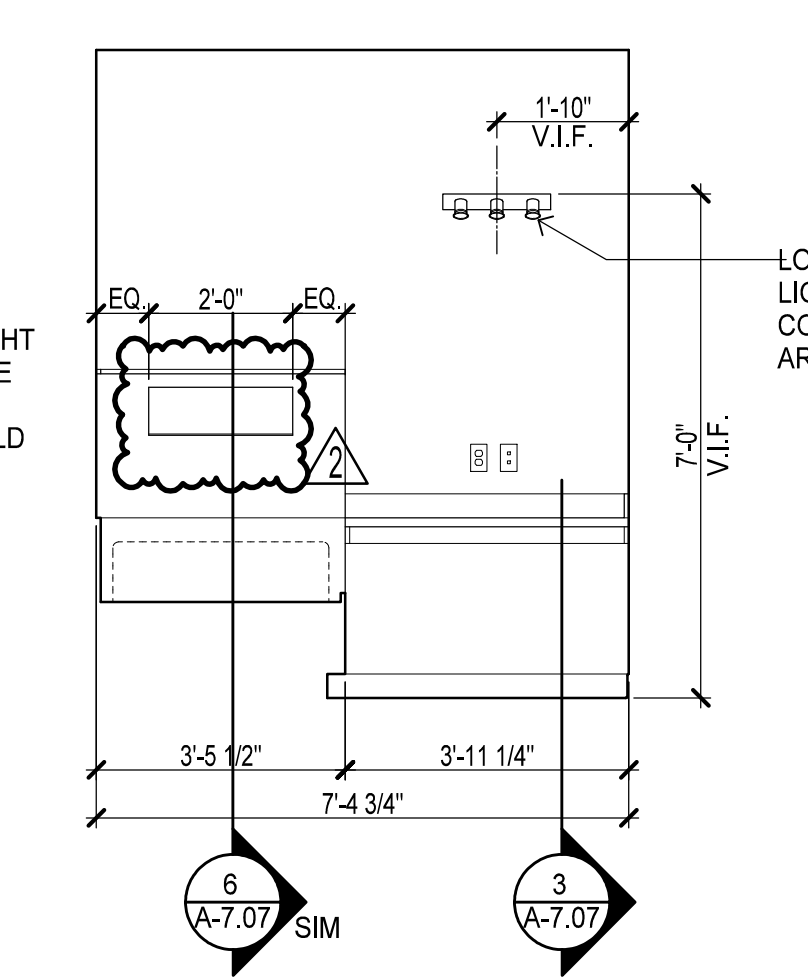
19 ALCOVE 121 / 125 / 129 / 133
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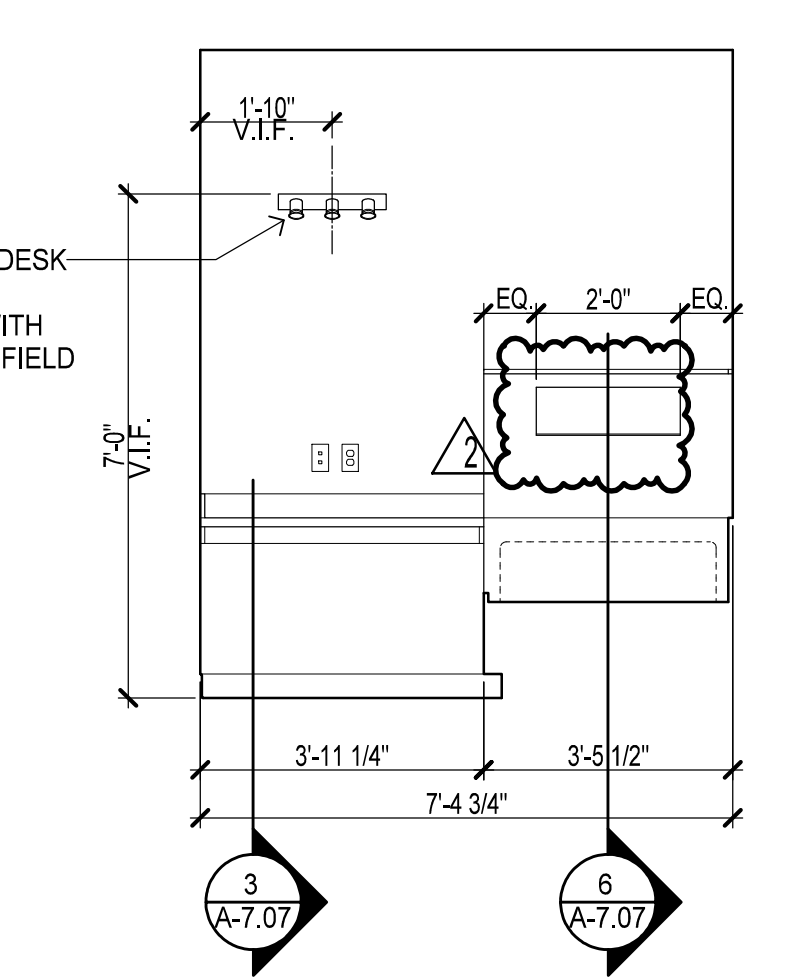
18 ALCOVE 121 / 125 / 129 / 133
SCALE: 3/8" = 1'-0"



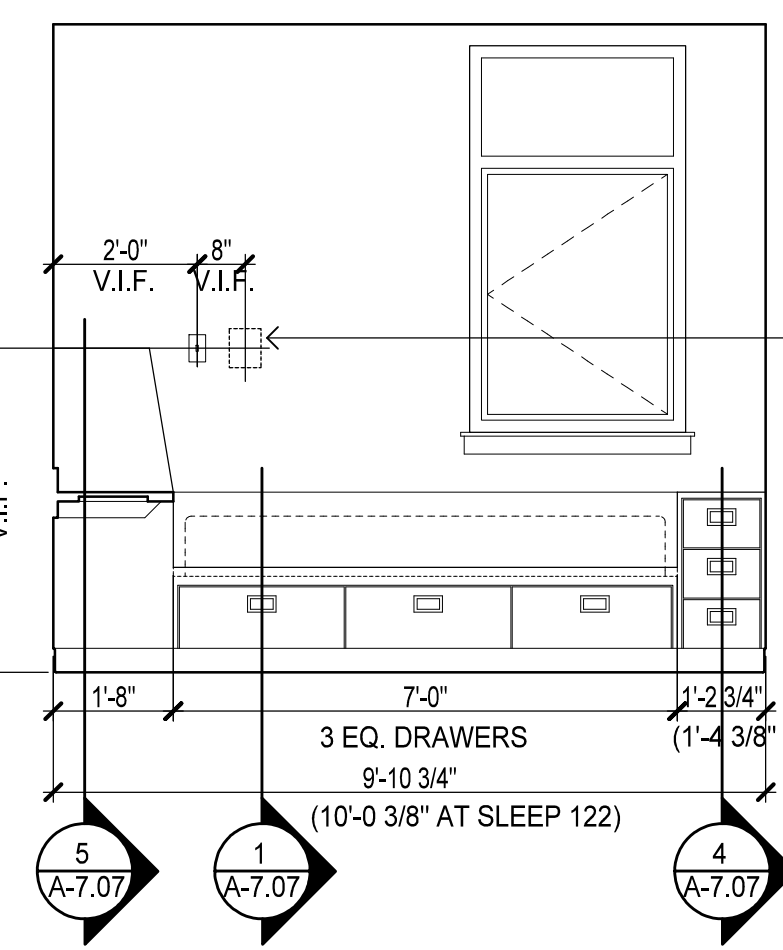
17 SLEEP 124 / 128 / 132 / 136
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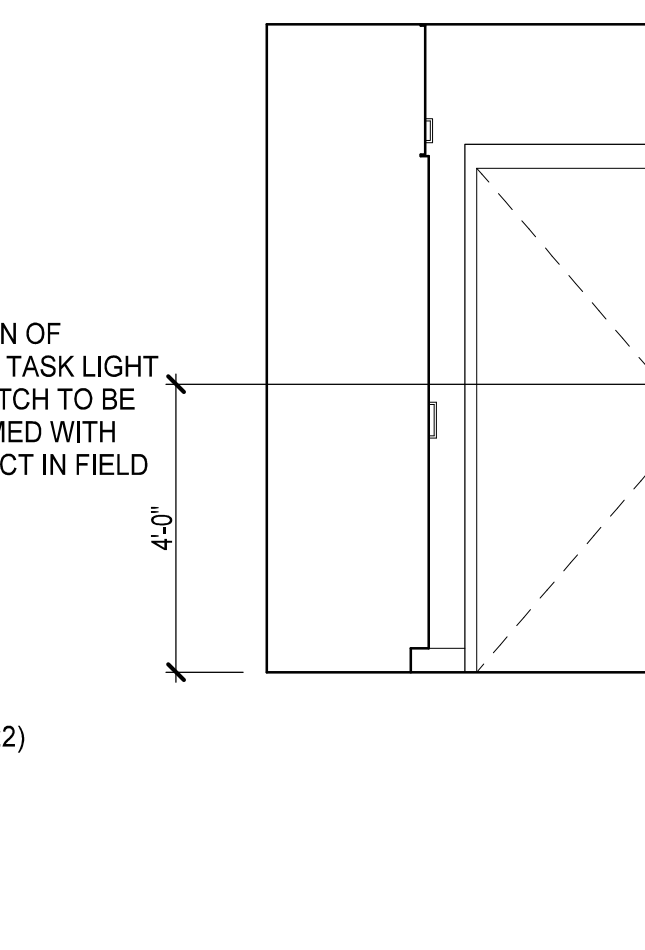
16 SLEEP 124 / 128 / 132 / 136
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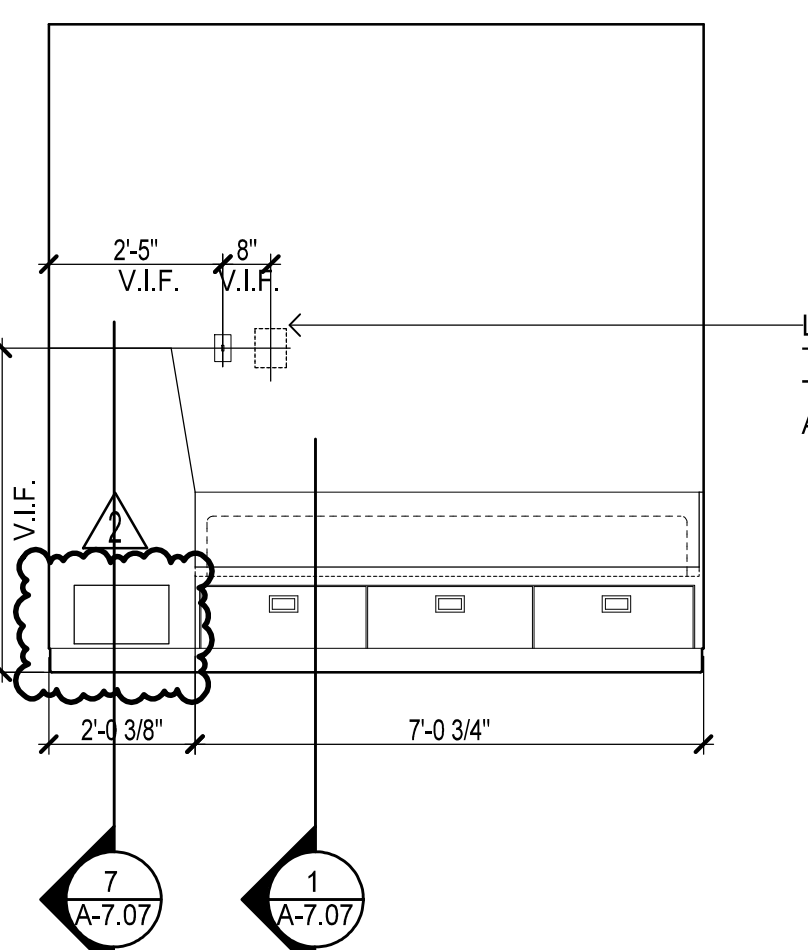
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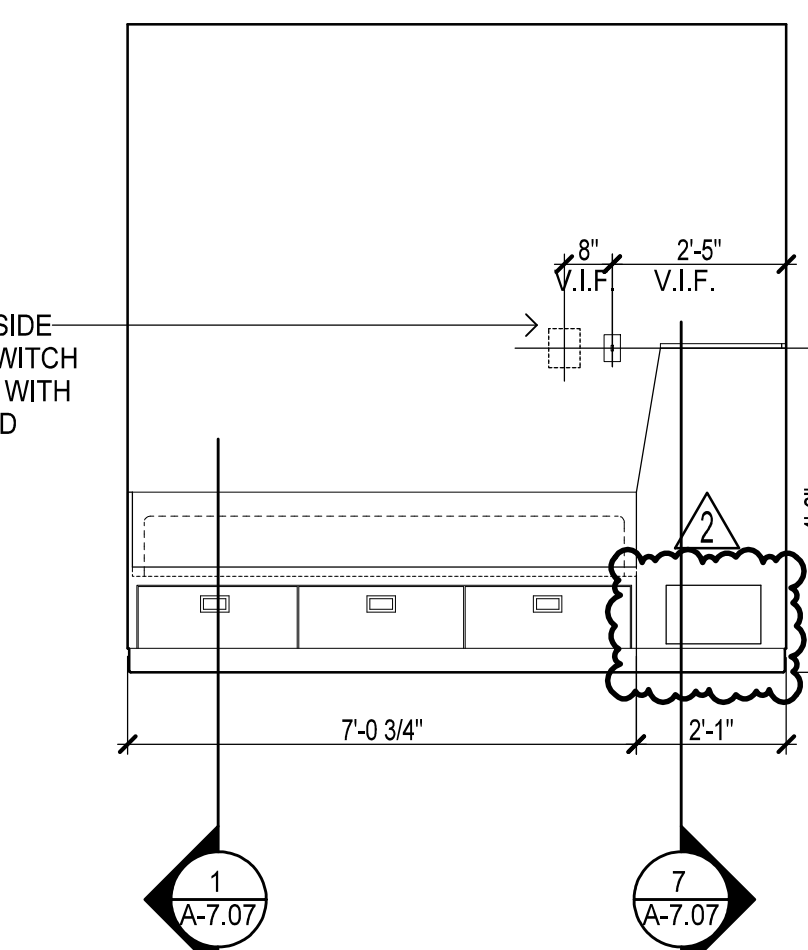
14 SLEEP 122 / 126 / 130 / 134
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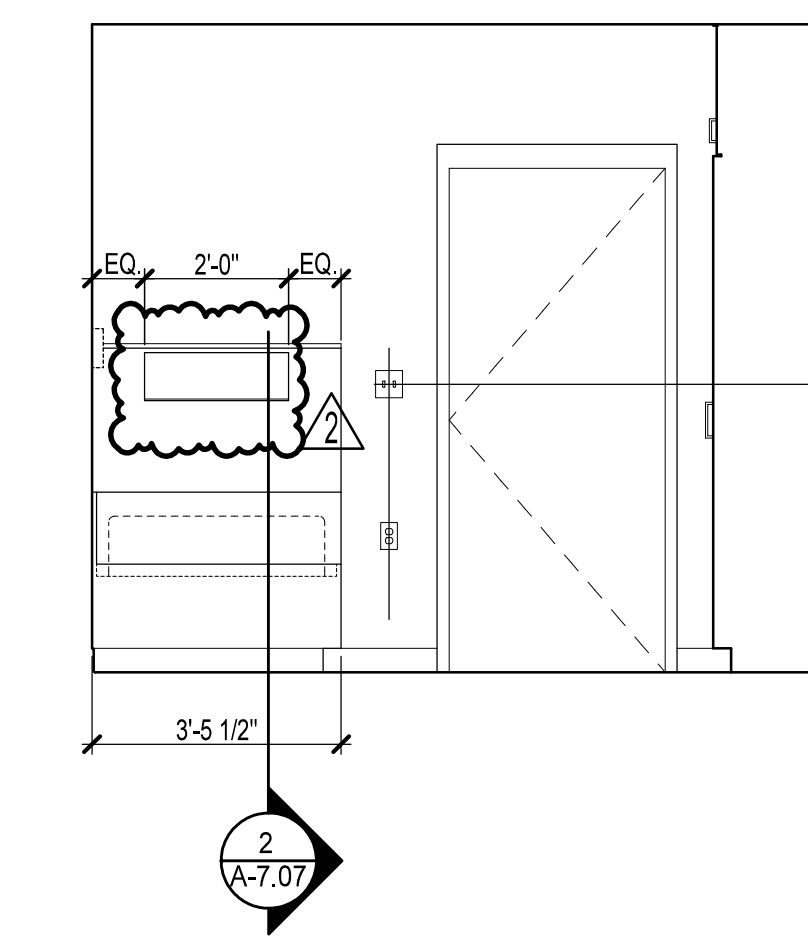
13 SLEEP 139
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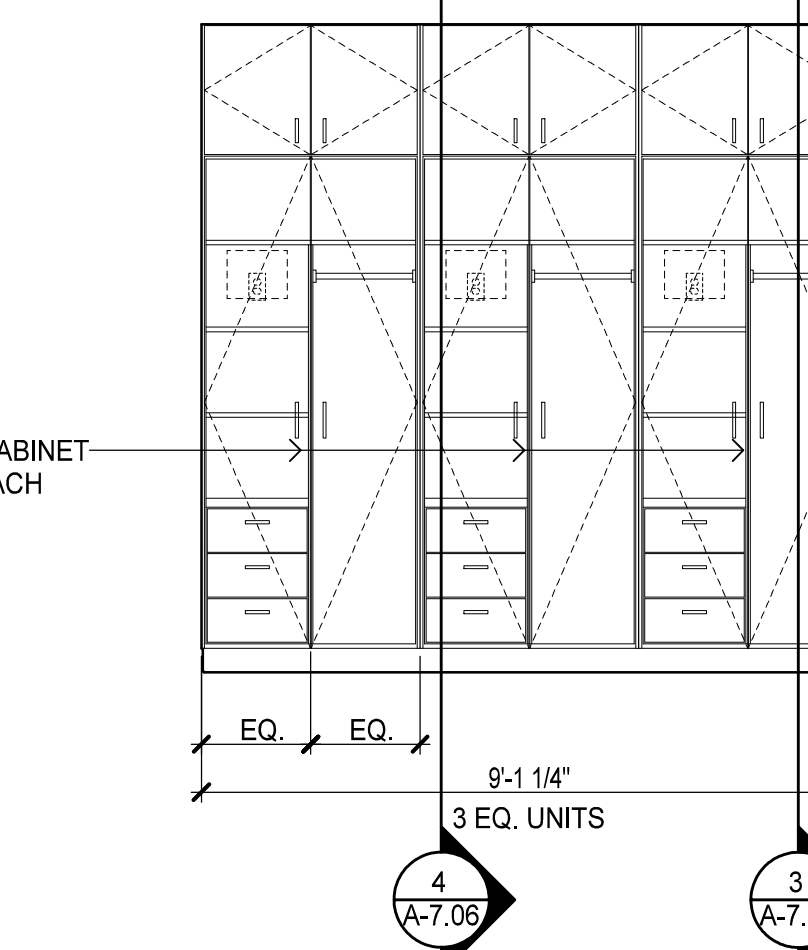
12 SLEEP 143
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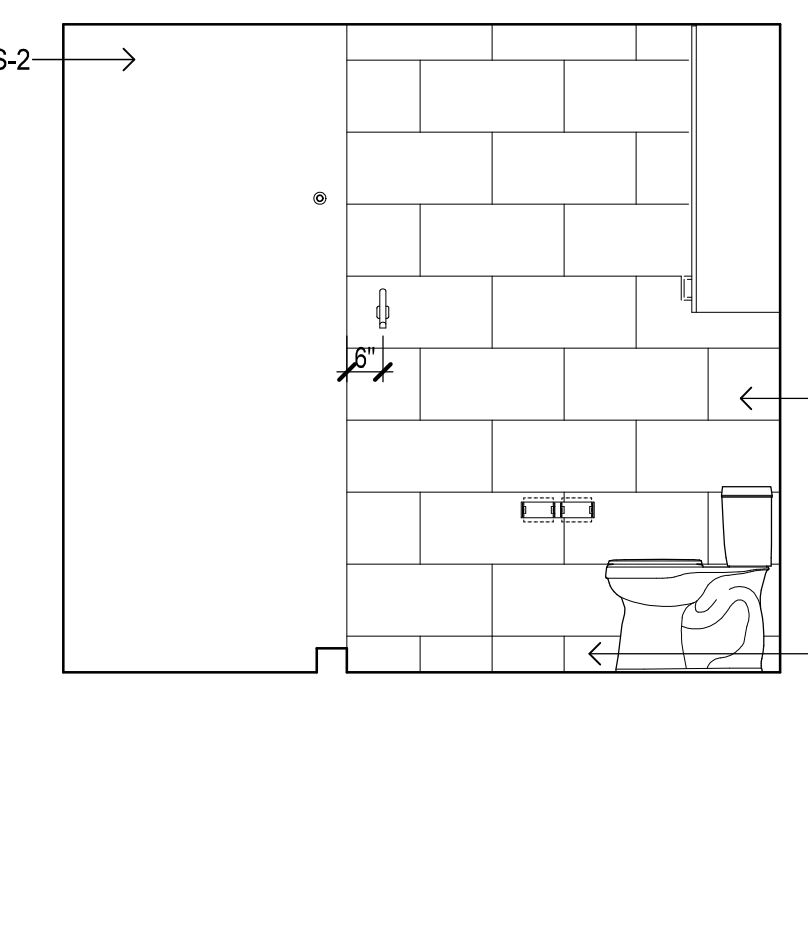
11 SLEEP 139
SCALE: 3/8" = 1'-0"



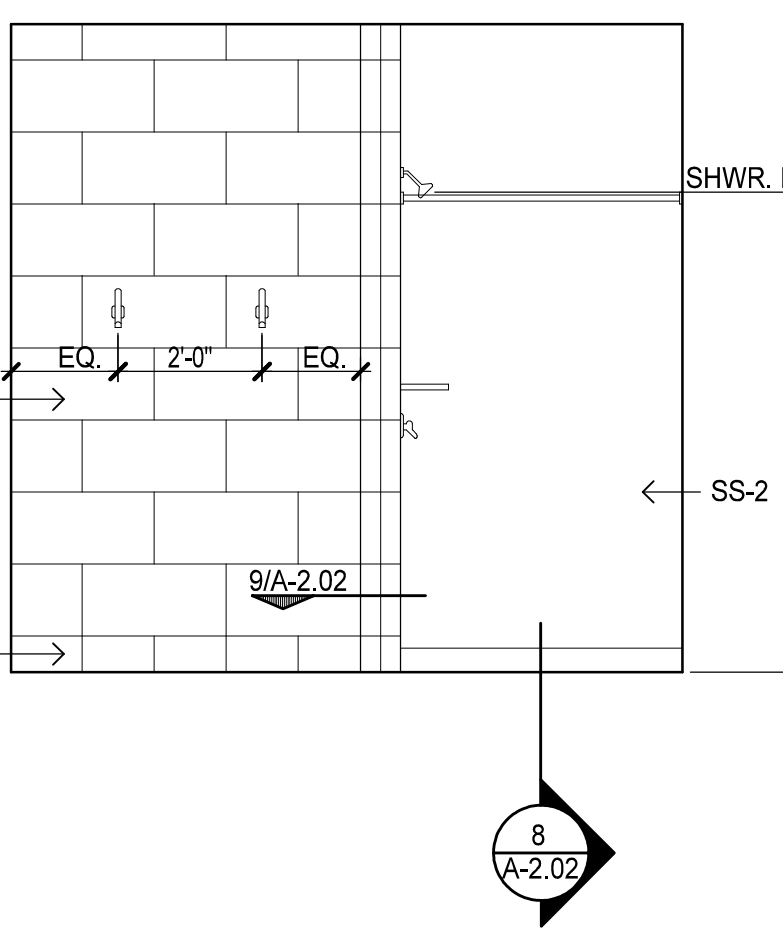
10 SLEEP 143
SCALE: 3/8" = 1'-0"



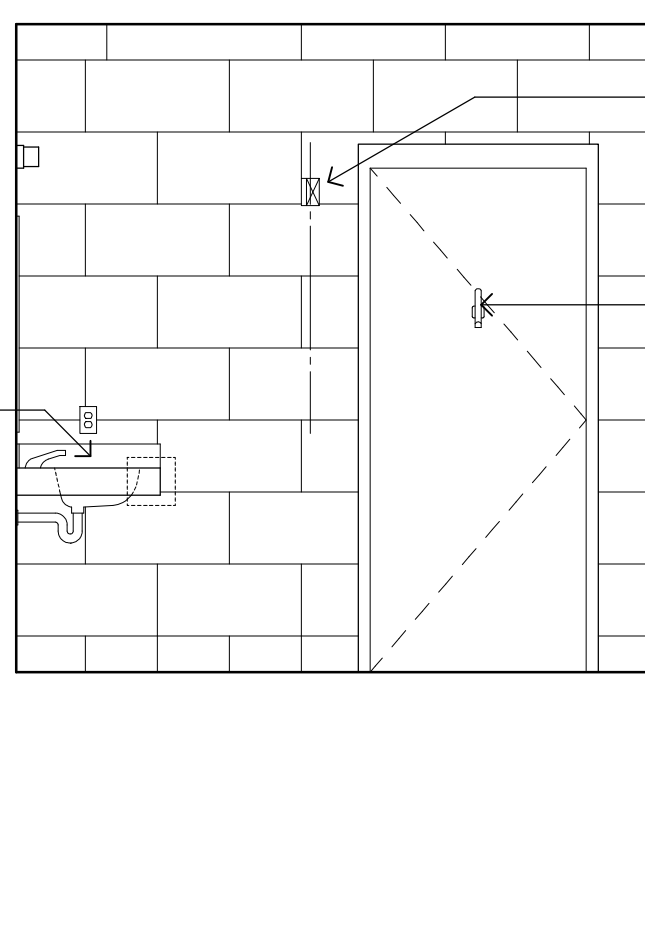
9 SLEEP 139 / 143
SCALE: 3/8" = 1'-0"



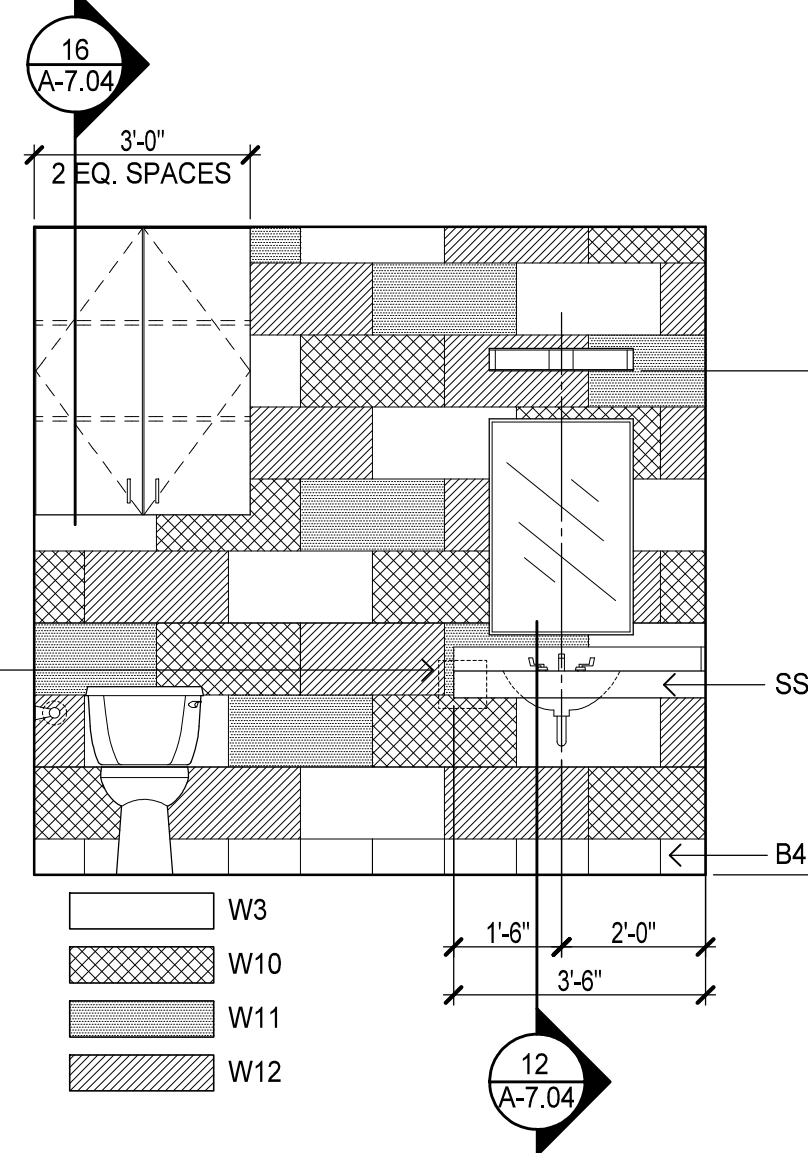
8 SHOWER RM. 114 / 115 / 117
SCALE: 3/8" = 1'-0"



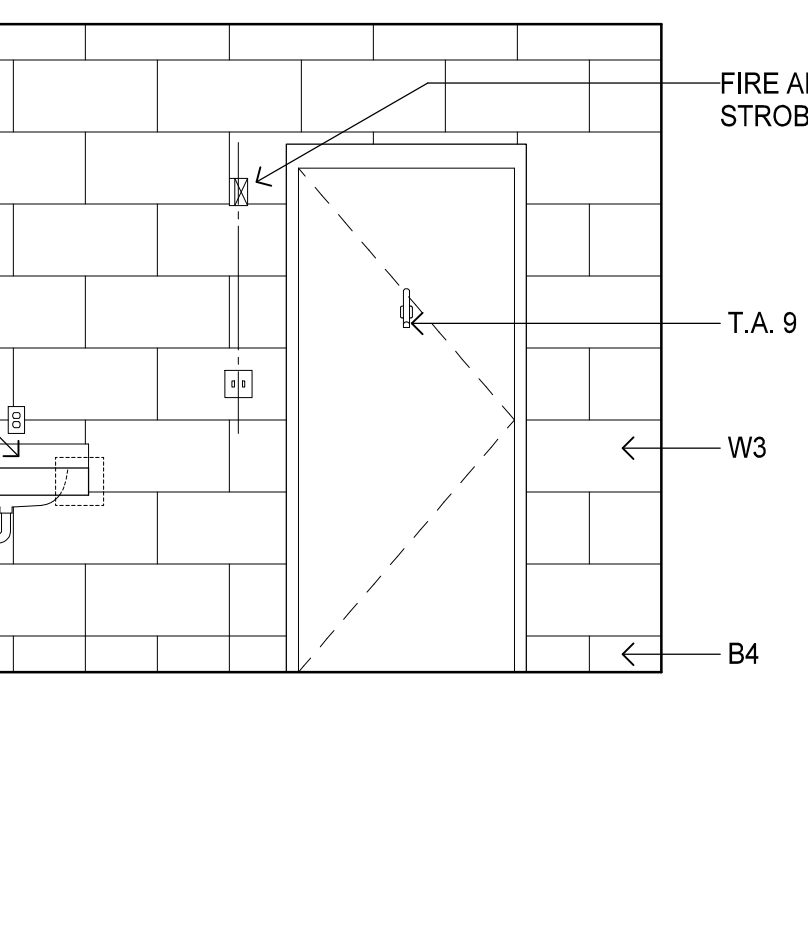
7 SHOWER RM. 114 / 115 / 117
SCALE: 3/8" = 1'-0"



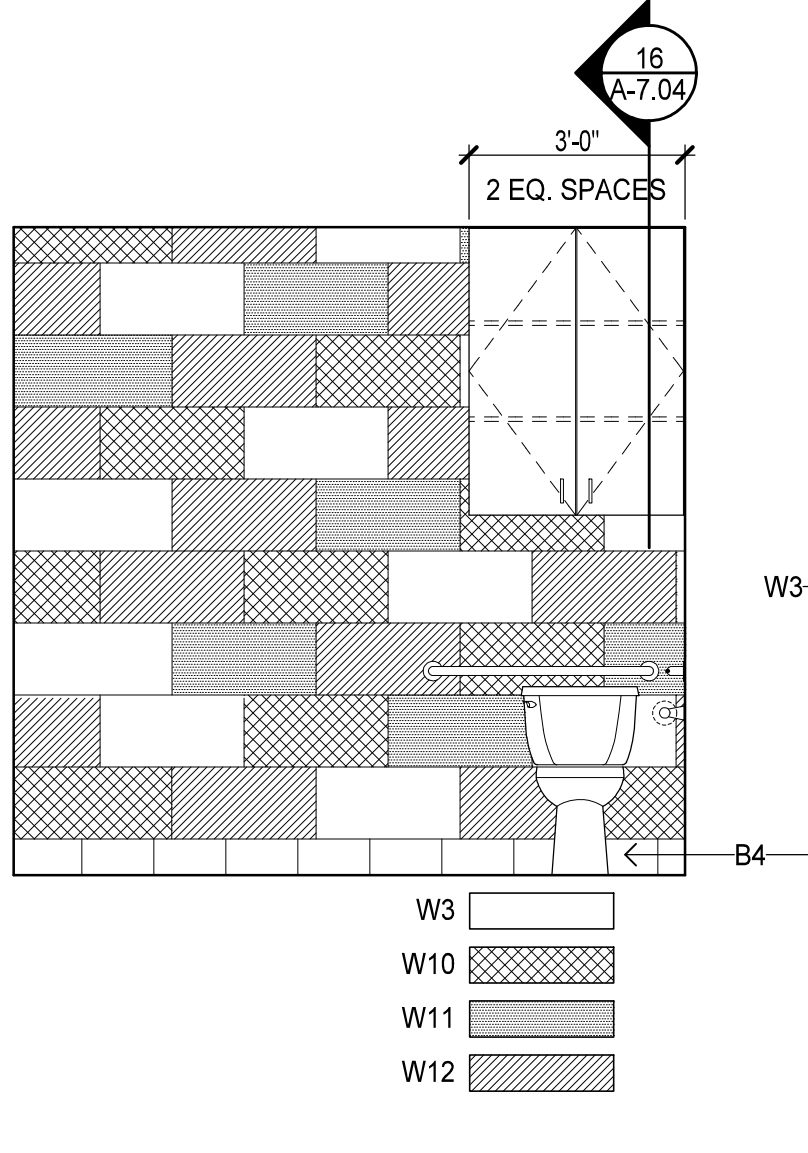
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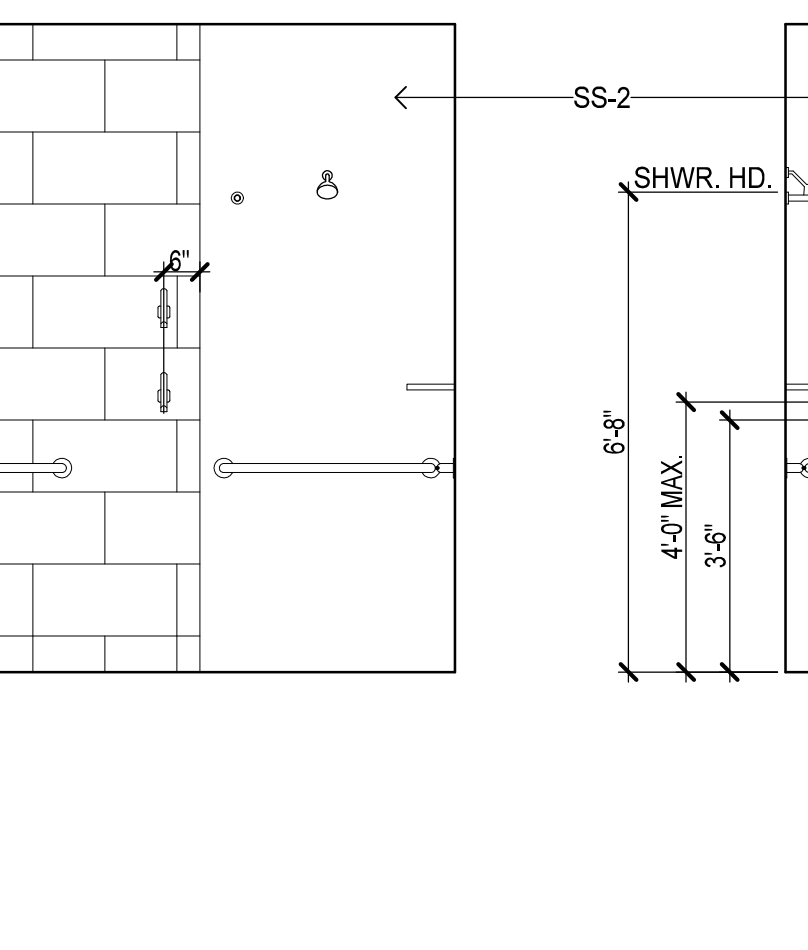
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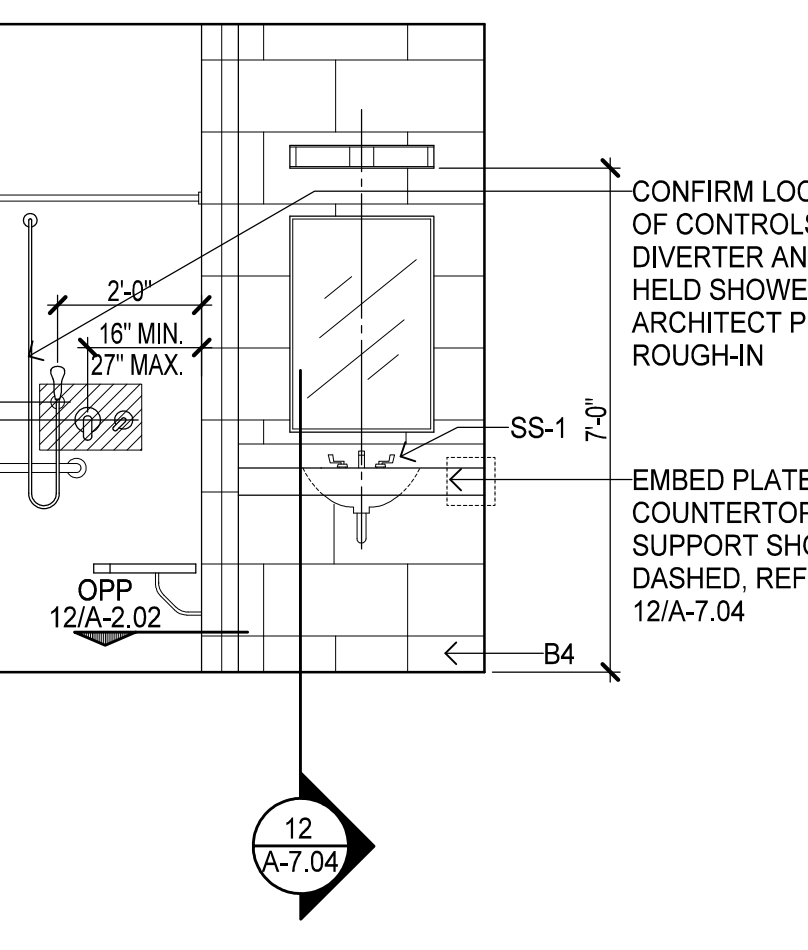
4 SHOWER RM. 118 / 140 / 144 / 146
SCALE: 3/8" = 1'-0"



3 SHOWER RM. 118 / 140 / 144 / 146
SCALE: 3/8" = 1'-0"



2 SHOWER RM. 118 / 140 / 144 / 146
SCALE: 3/8" = 1'-0"

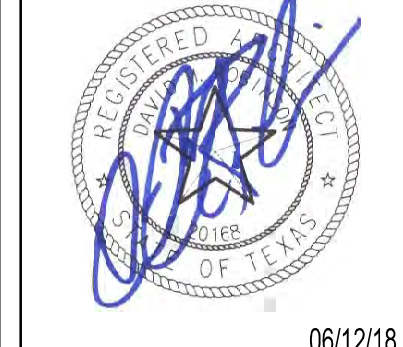


1 SHOWER RM. 118 / 140 / 144 / 146
SCALE: 3/8" = 1'-0"

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FIRE STATION No. 3
1204 McCormick St. DENTON, TX



REVISIONS:

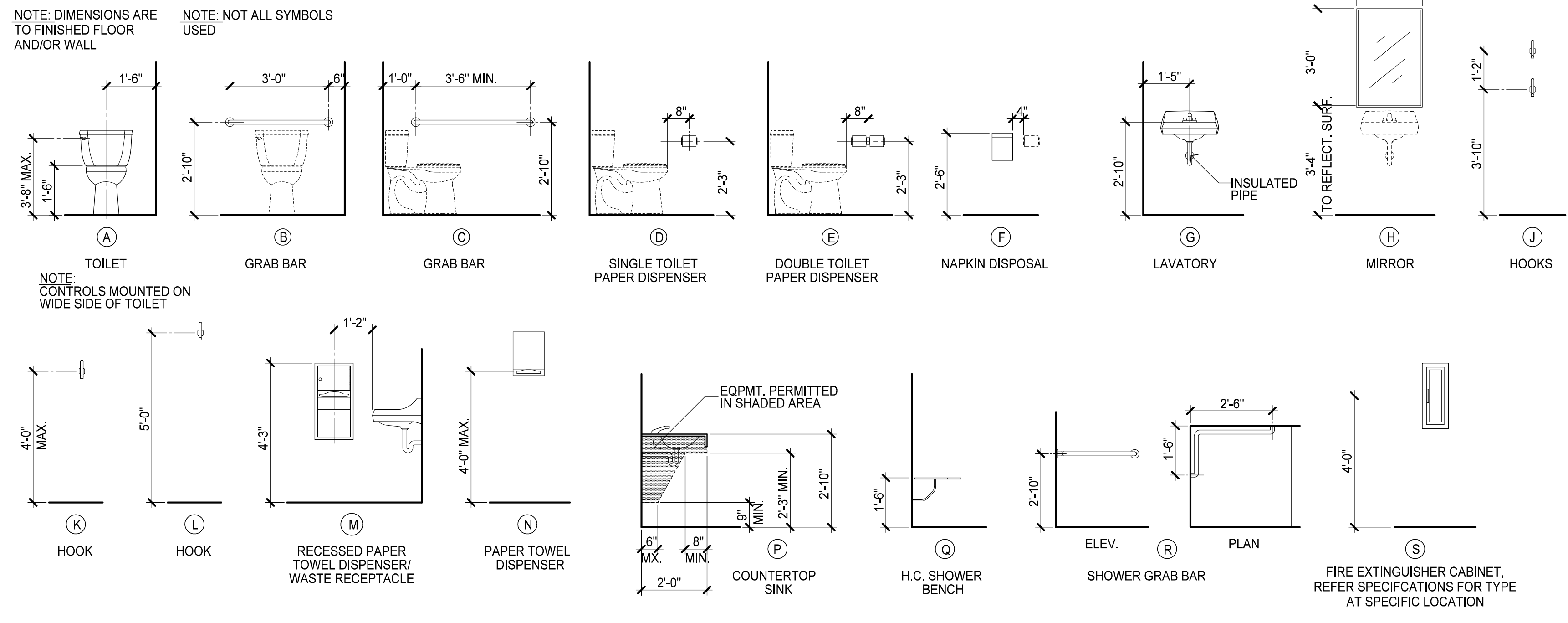
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2	12/07/19	ADDENDUM 3

CONTENTS:
INTERIOR ELEVATIONS

DATE:
12 JUNE 2018

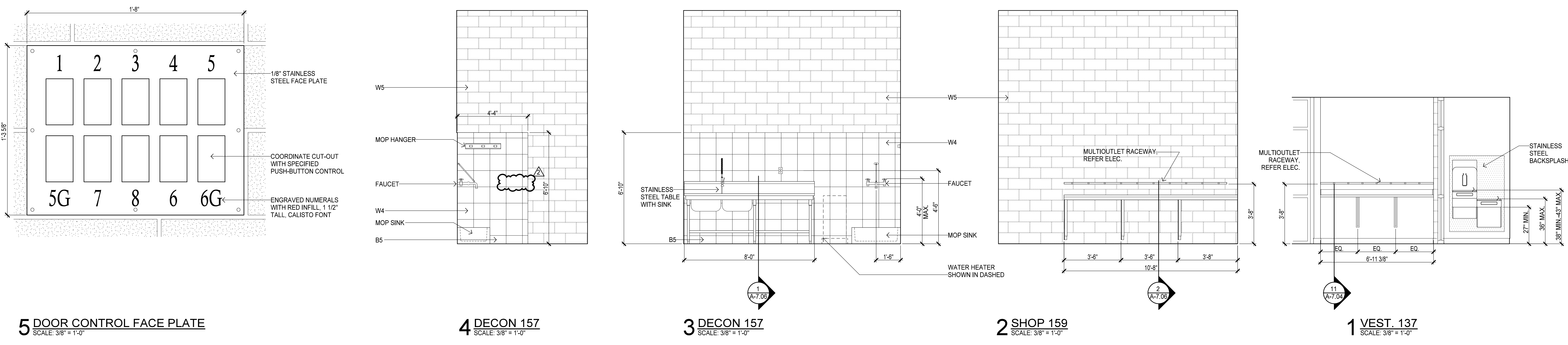
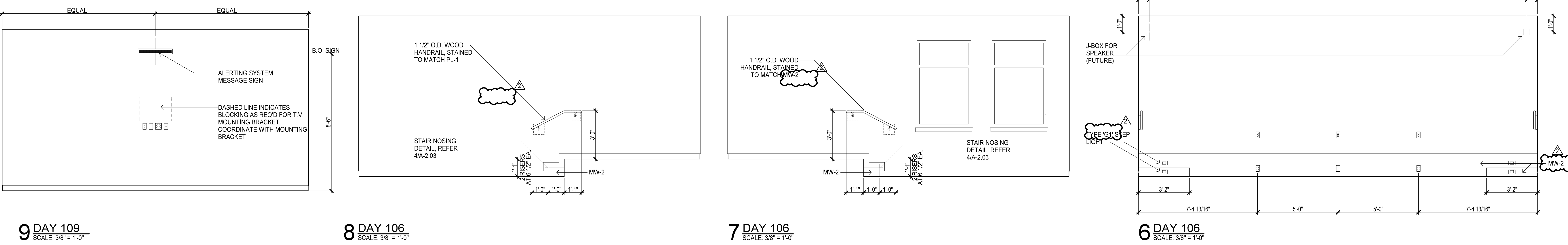
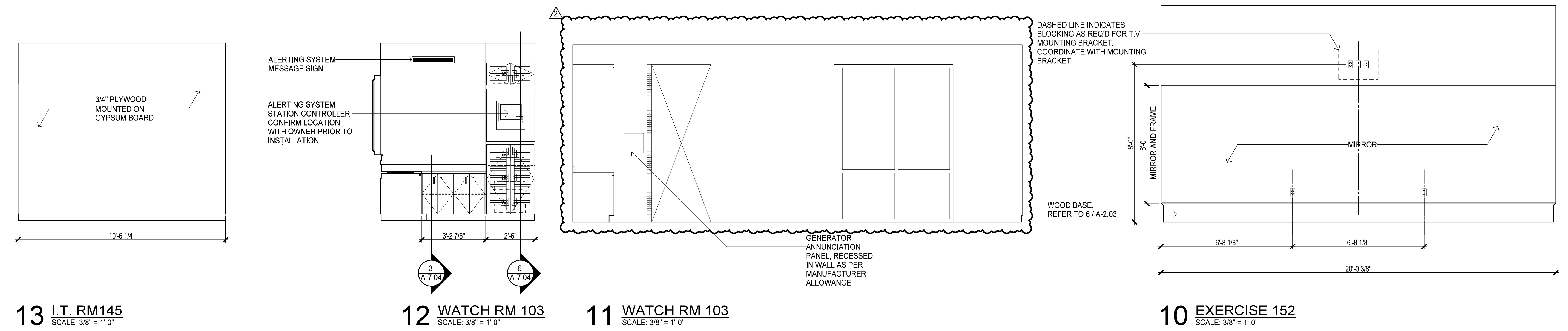
SHEET:
A-7.02

TYPICAL MOUNTING HEIGHTS



GENERAL NOTES

1. U.N.O., ALL BASE AND UPPER CABINETS TO RECEIVE PL-1
2. U.N.O., ALL COUNTERTOPS AND BACKSPASHES TO RECEIVE PL-2
3. IN KITCHEN R108, DINING R107, DAY R108, ALL MILLWORK TO RECEIVE MW-2



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100 West Mulberry
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76201
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FIRE STATION No. 3
1204 McCormick St. DENTON, TX

06/12/18

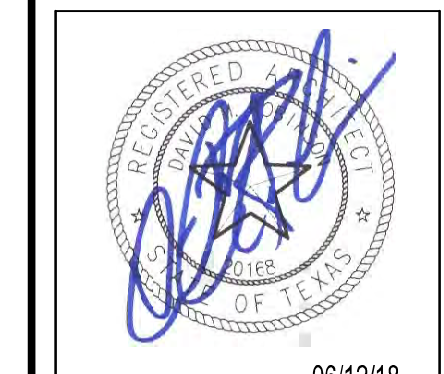
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1	09/19/18	REV. FOR BID
2	02/07/19	ADDENDUM 3

CONTENTS:
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DATE:
12 JUNE 2018

SHEET:
A-7.03

Wednesday, February 06, 2019 10:52 AM
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REVISIONS:

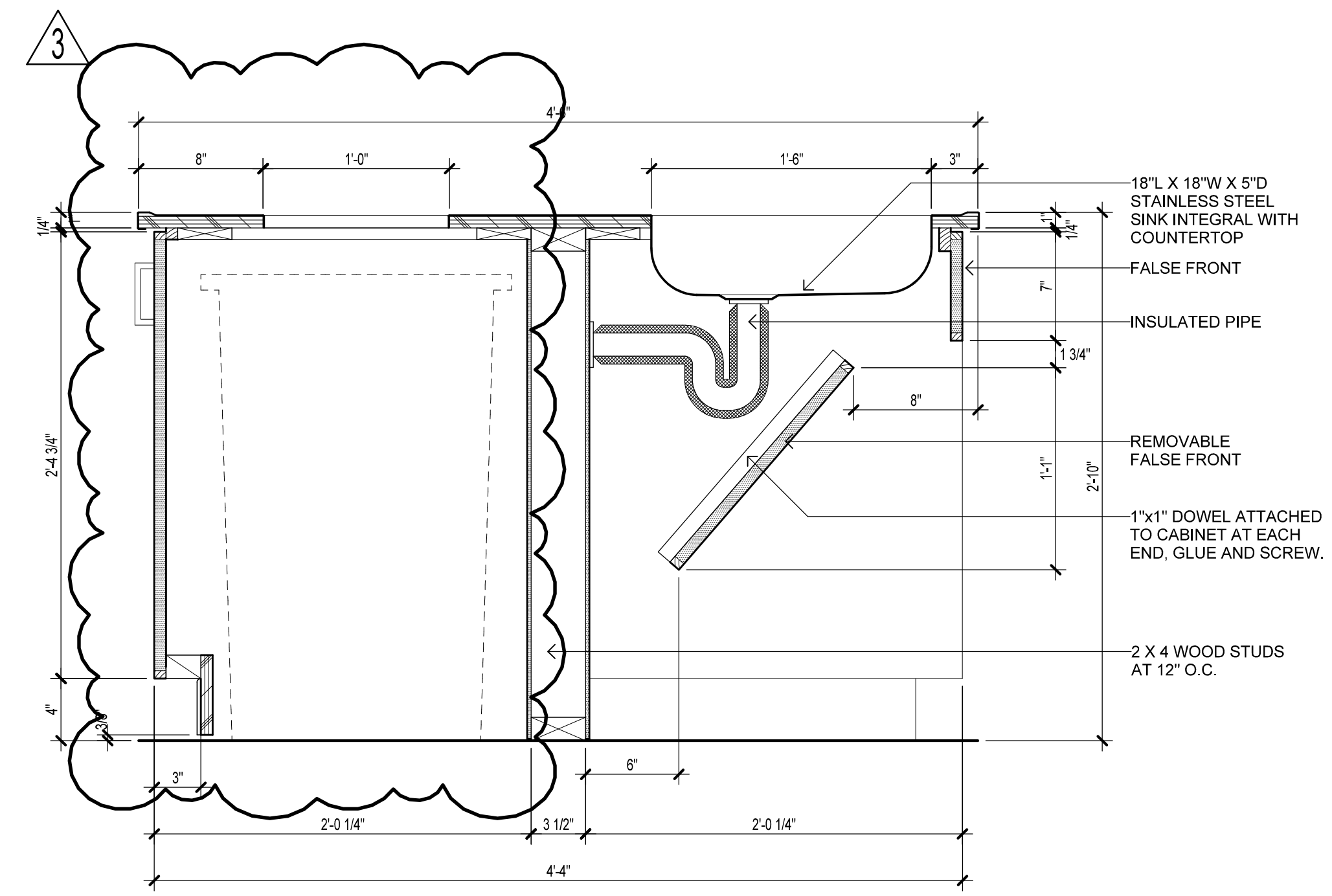
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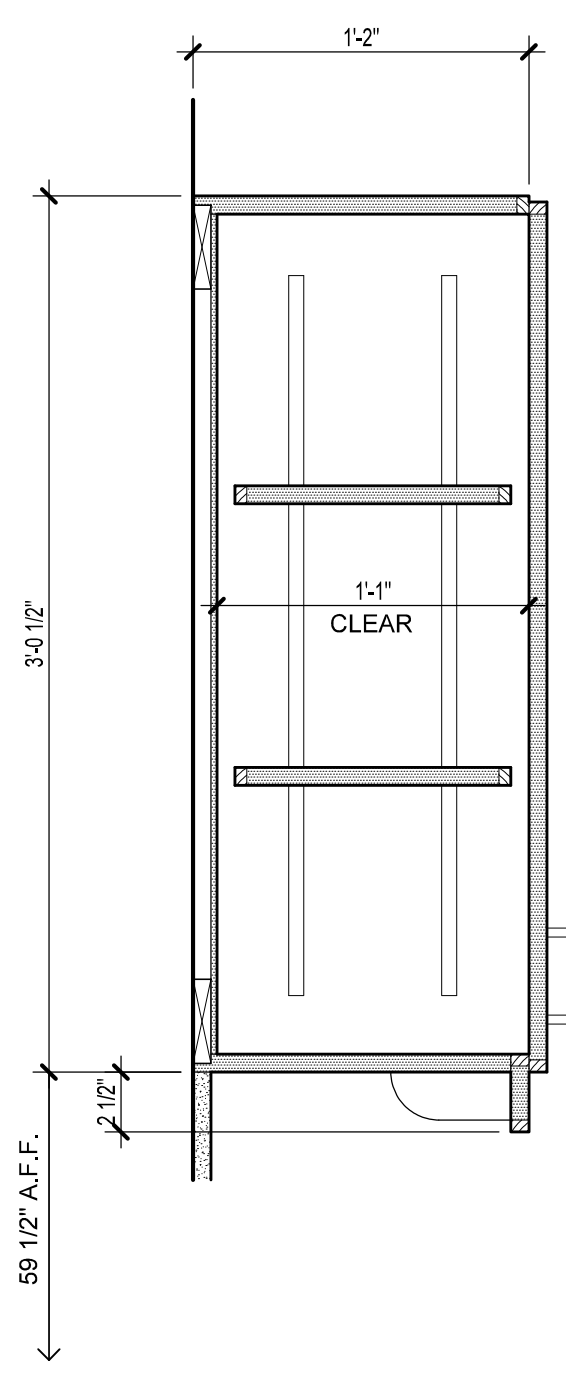
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DATE:
12 JUNE 2018

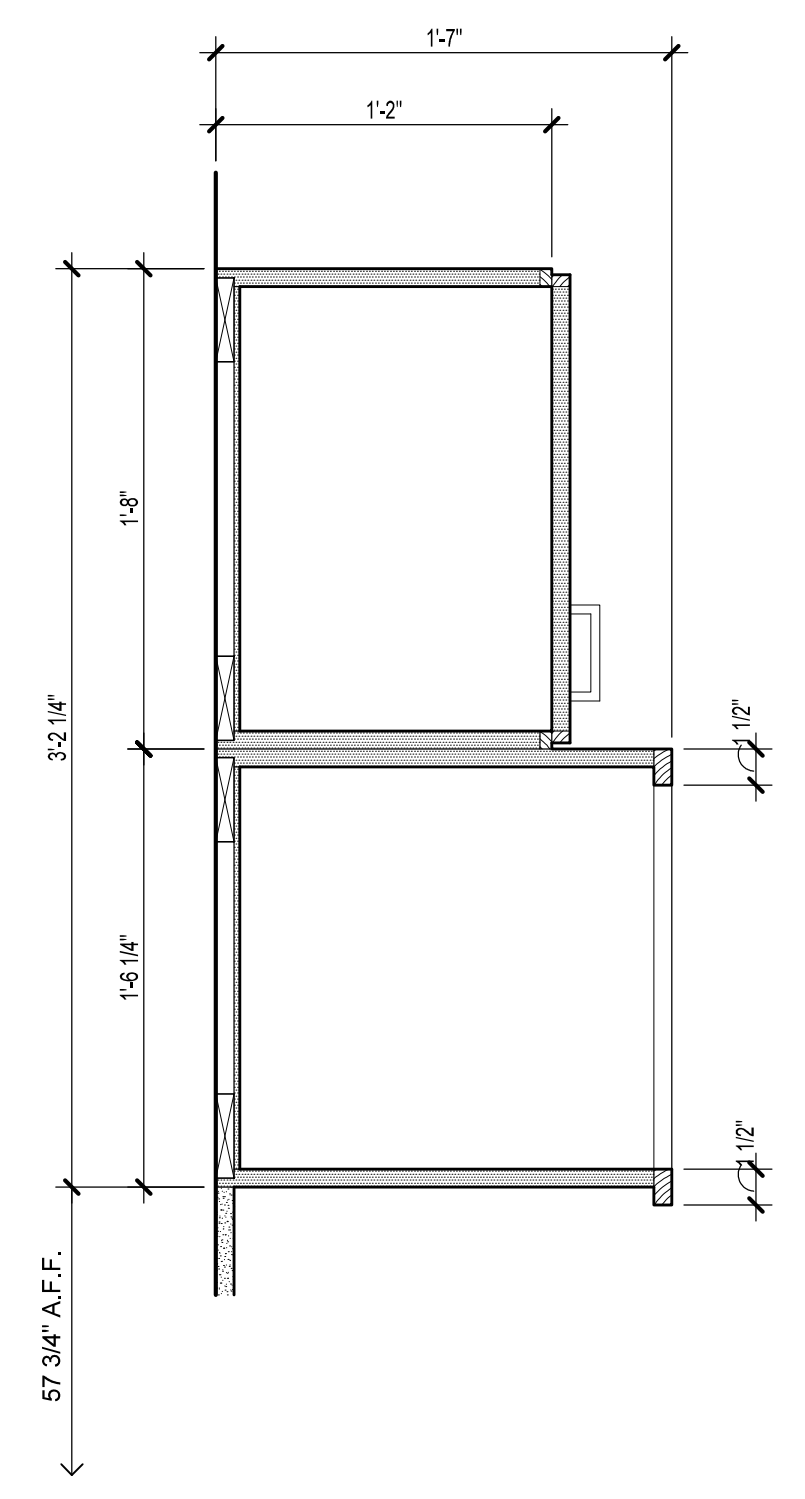
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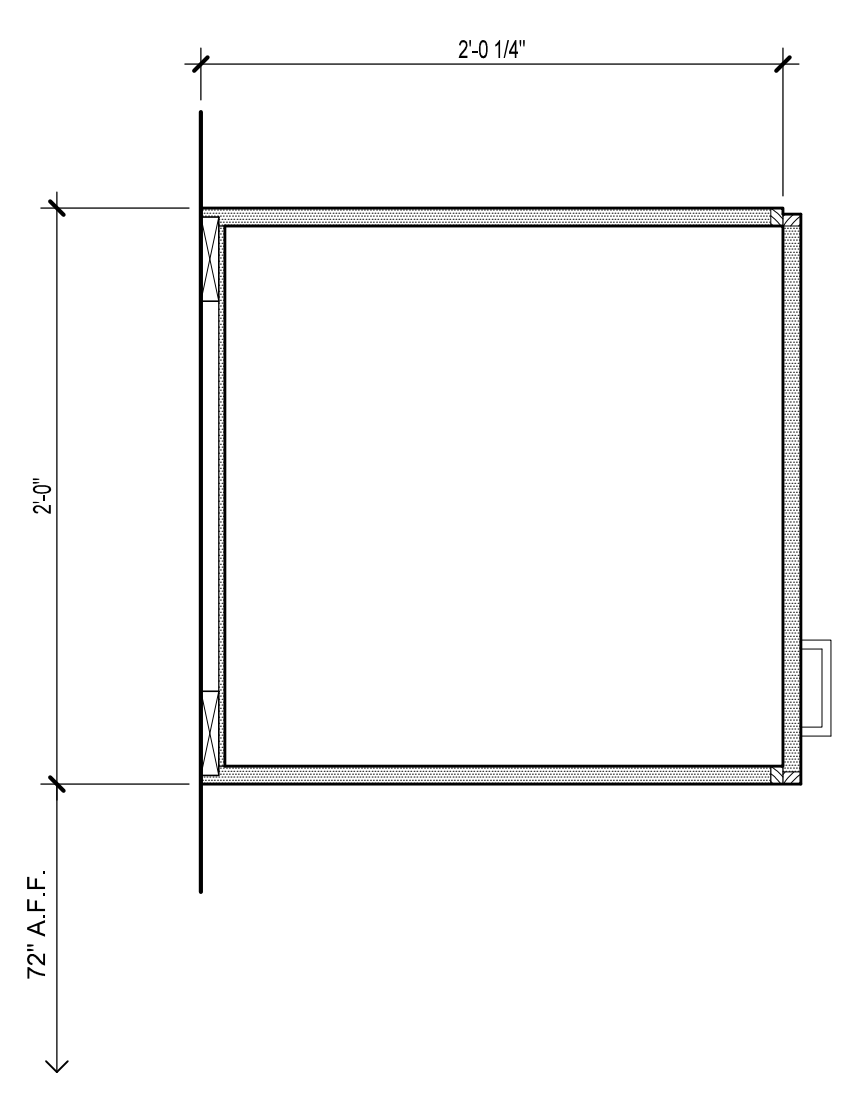
10 KITCHEN ISLAND
SCALE: 1 1/2" = 1'-0"



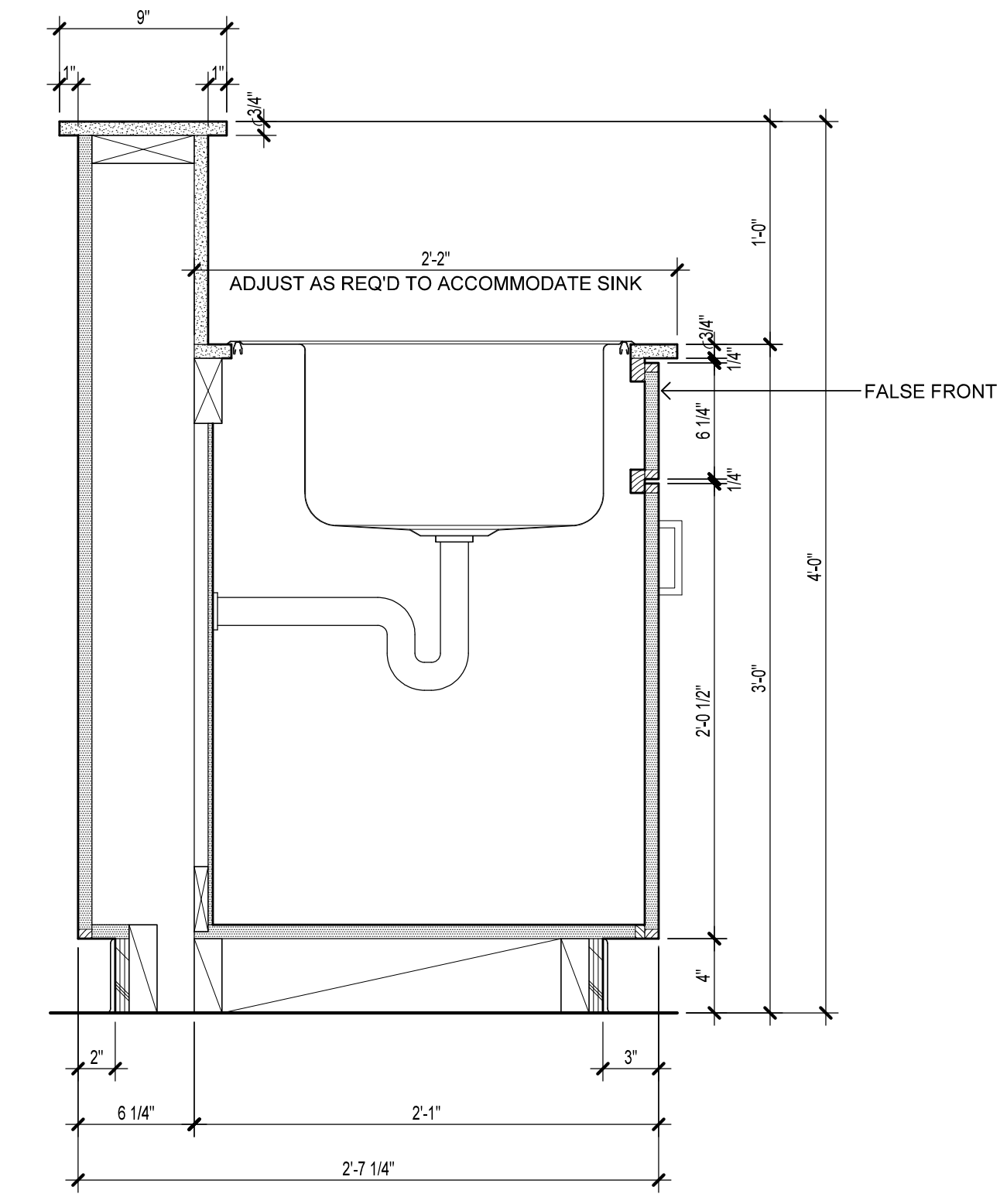
11 UPPER CABINET
SCALE: 1 1/2" = 1'-0"



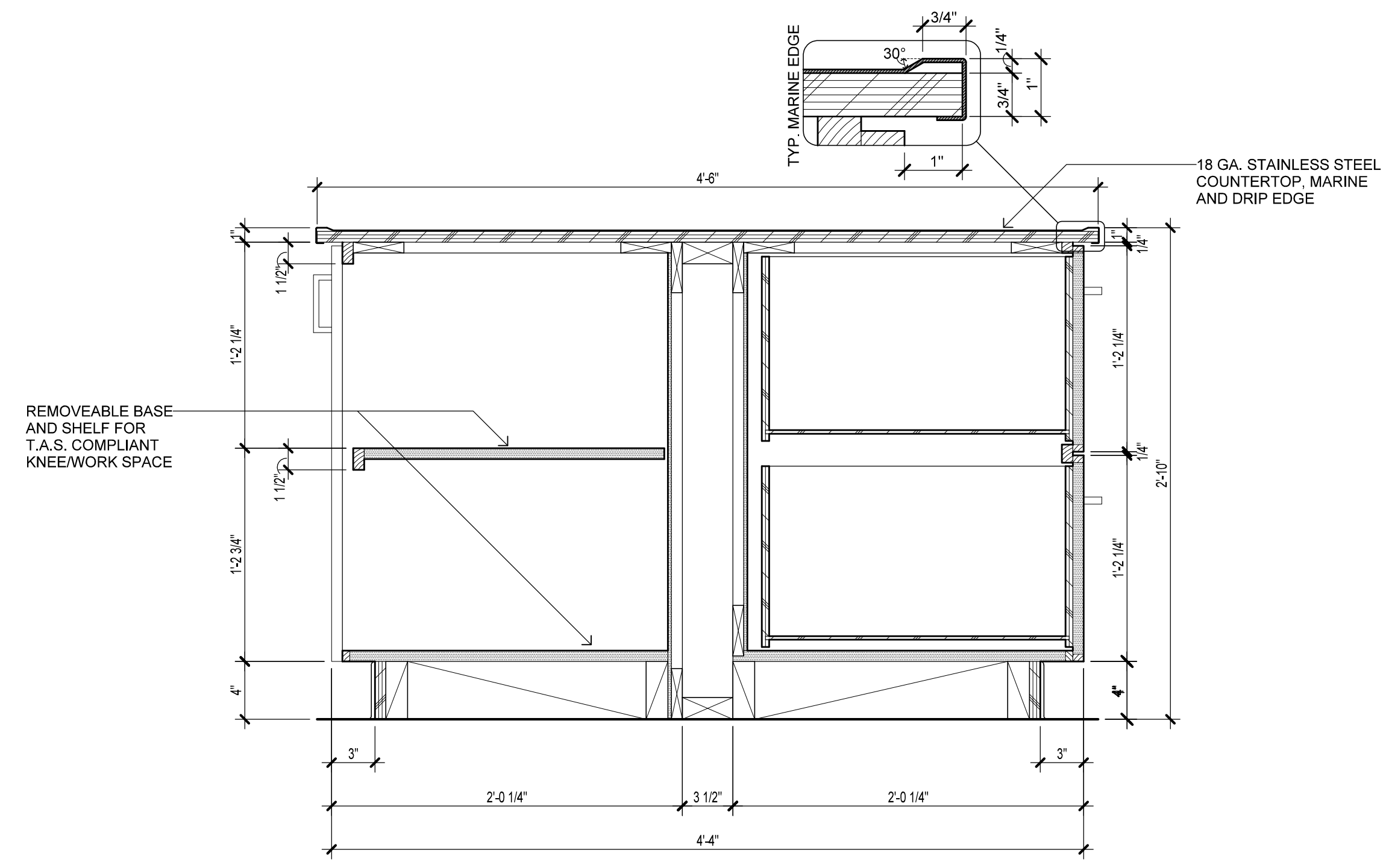
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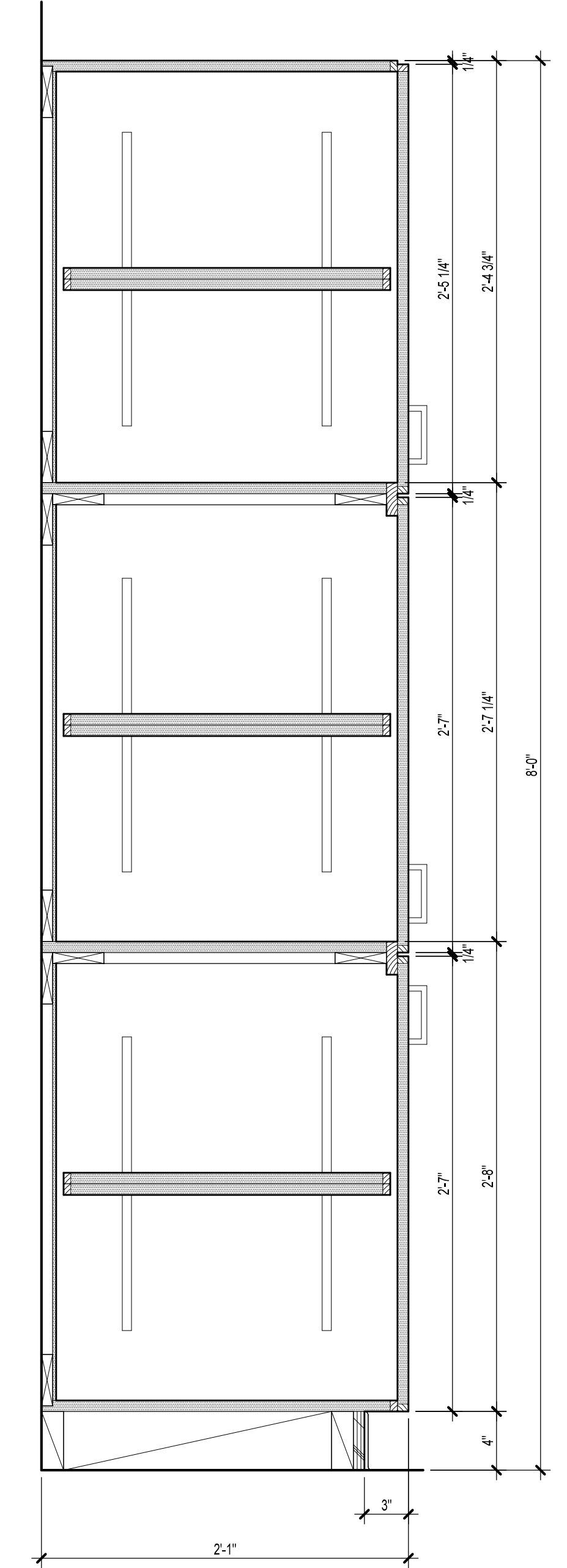
13 UPPER CABINET
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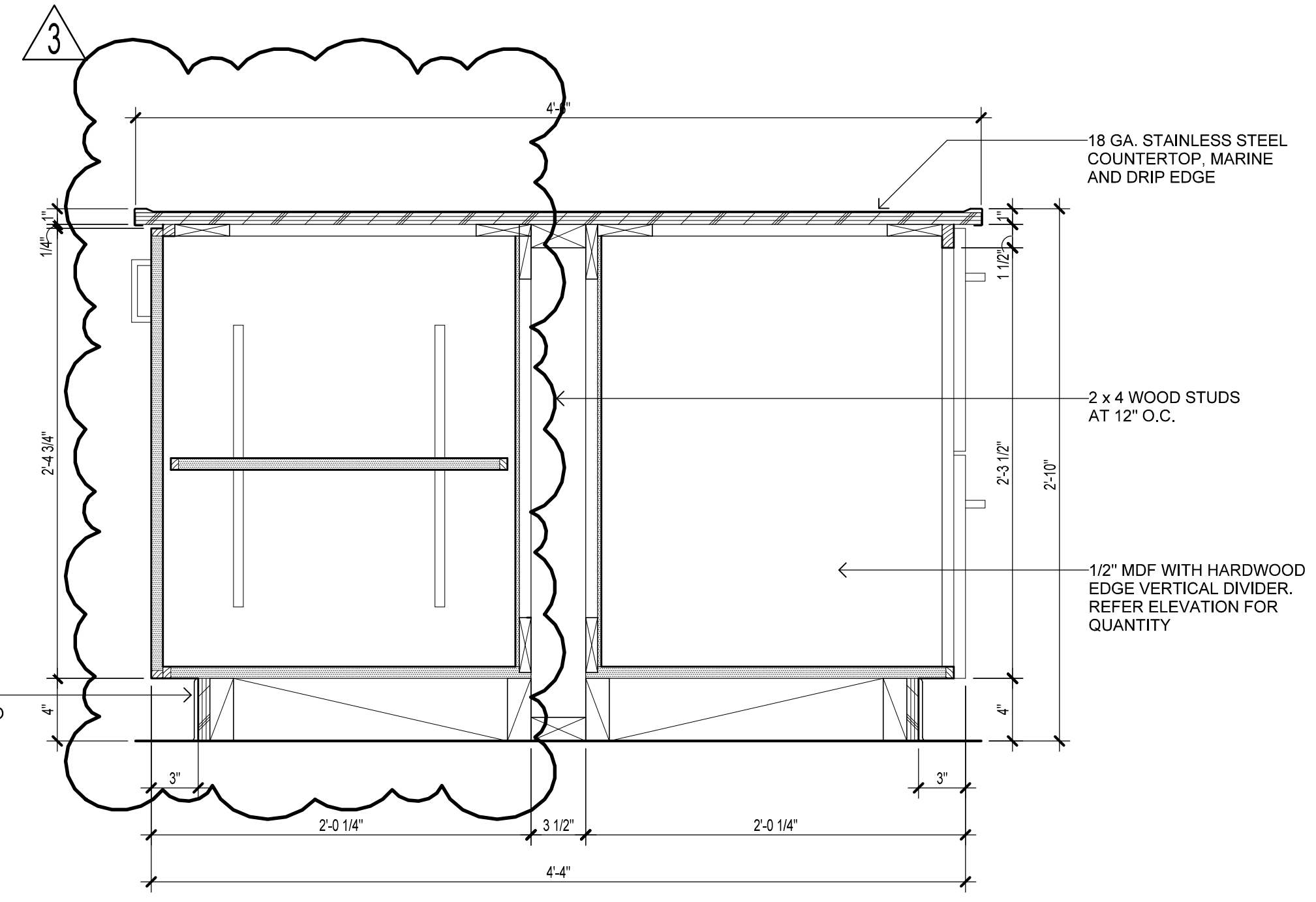
7 BASE CABINET
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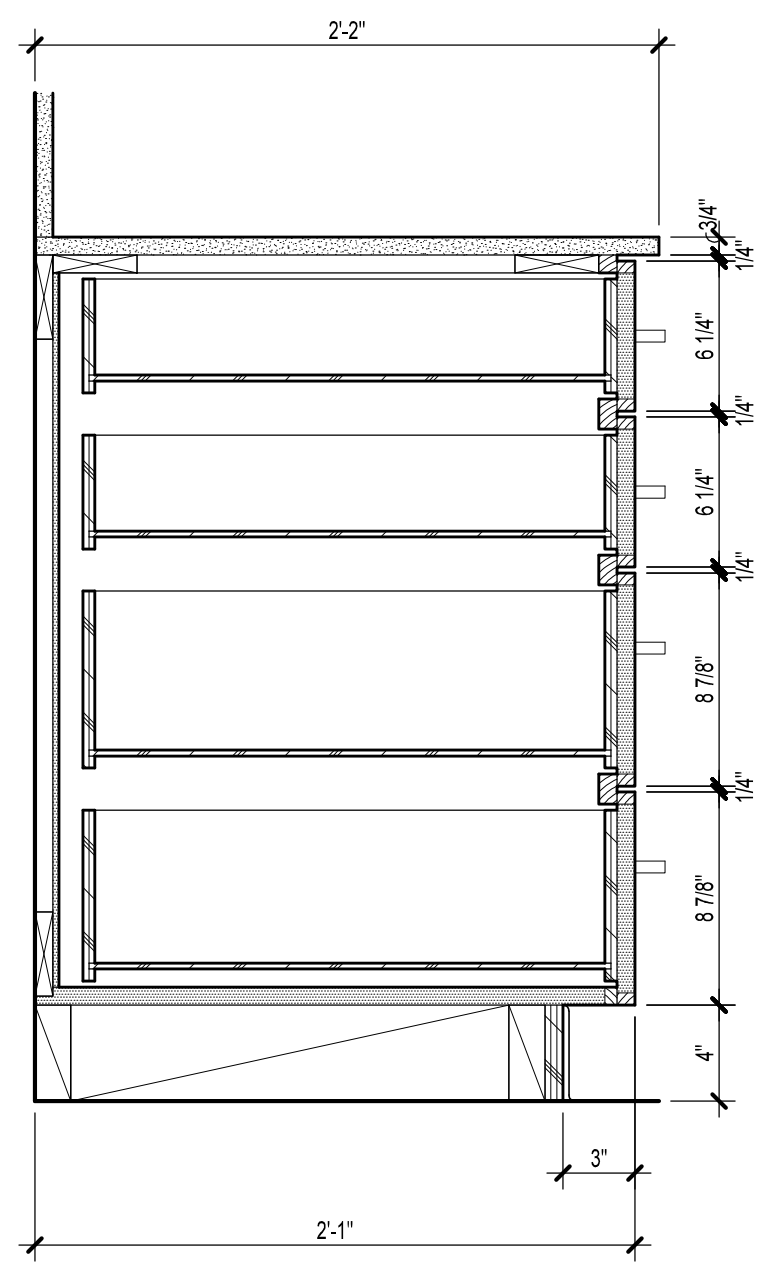
8 KITCHEN ISLAND
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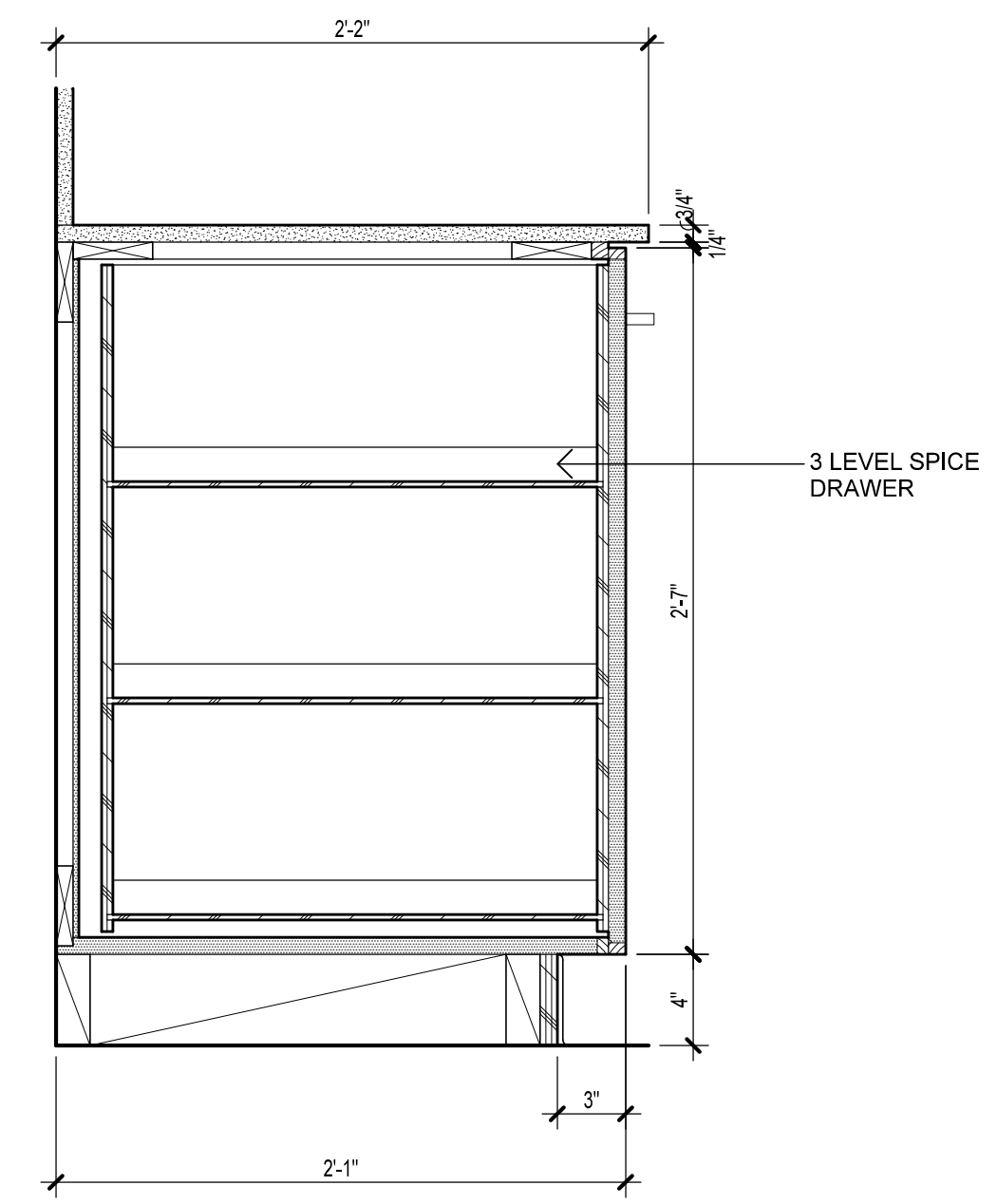
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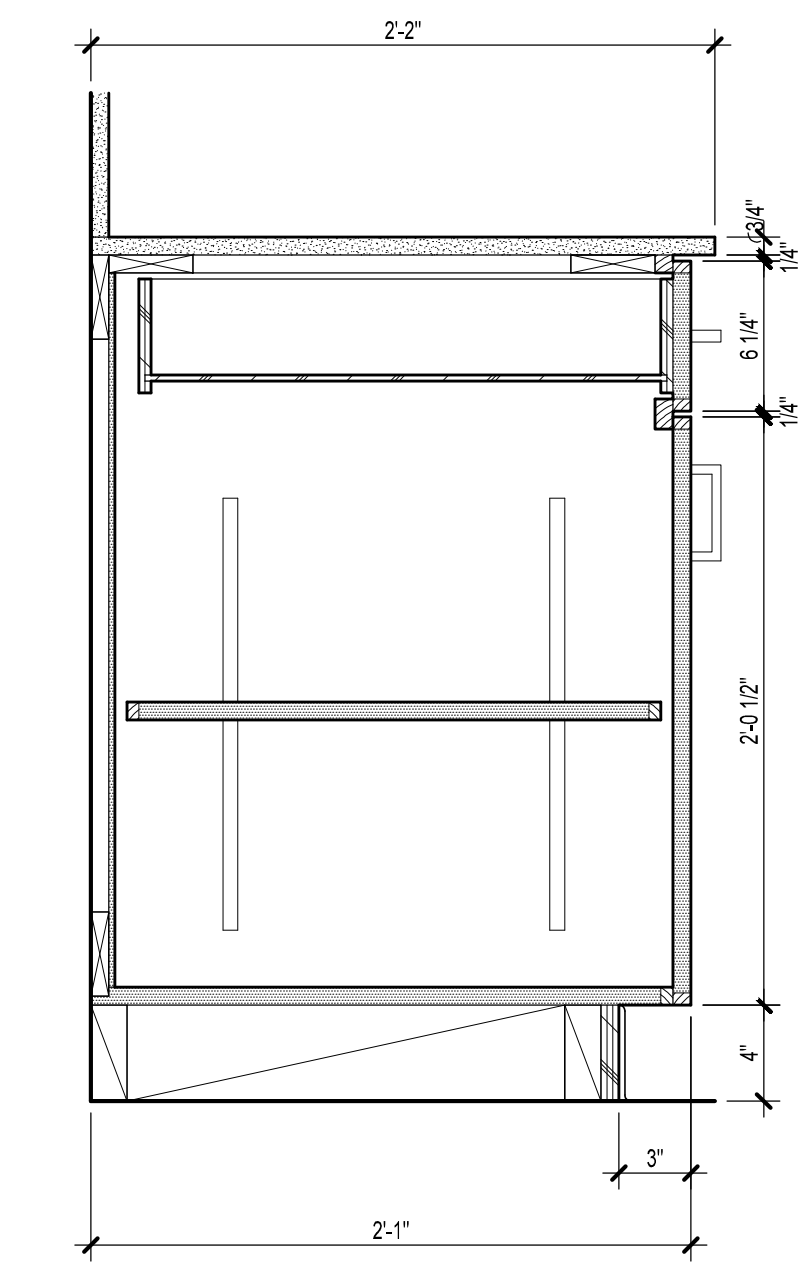
9 KITCHEN ISLAND
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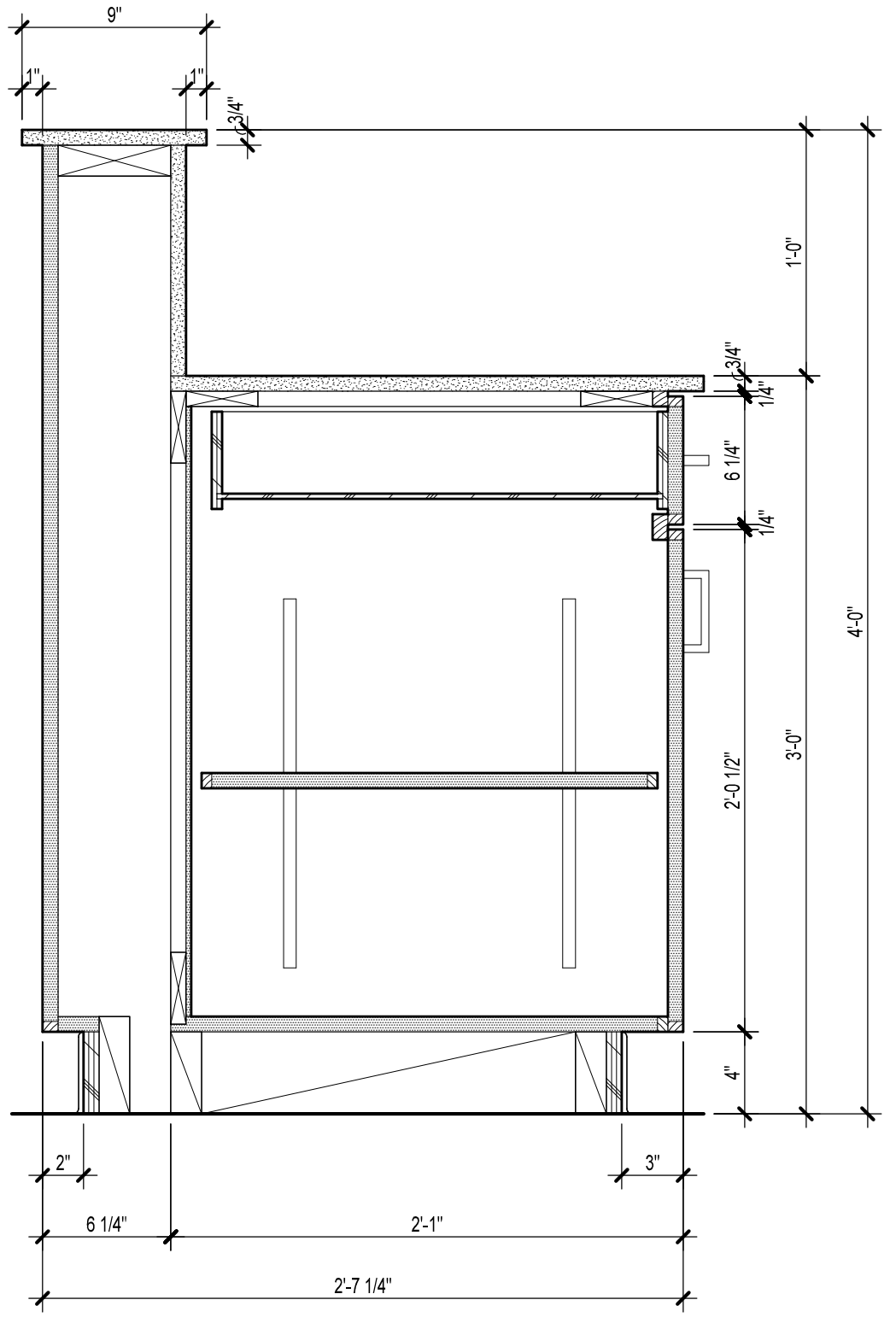
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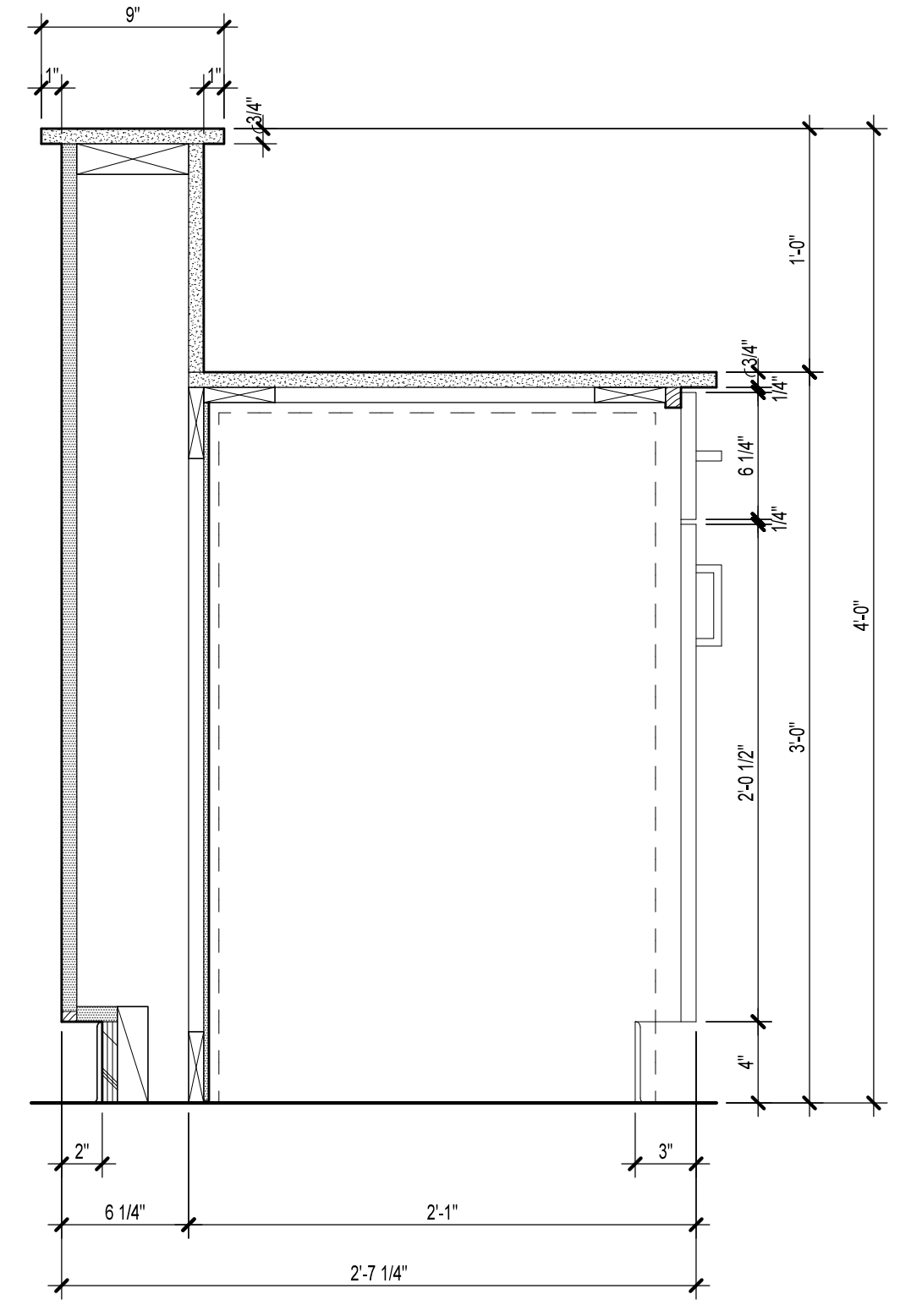
3 BASE CABINET
SCALE: 1 1/2" = 1'-0"



1 BASE CABINET
SCALE: 1 1/2" = 1'-0"



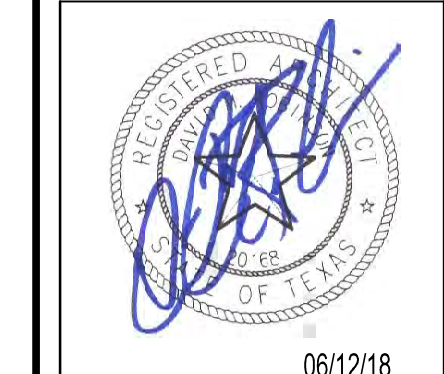
4 BASE CABINET
SCALE: 1 1/2" = 1'-0"



5 BASE CABINET
SCALE: 1 1/2" = 1'-0"

- GENERAL MILLWORK NOTES**
- ALL EXPOSED FACES TO RECEIVE HIGH PRESSURE PLASTIC LAMINATE FINISH.
 - ALL BASE AND UPPER CABINETS TO HAVE 1/4" MDF BACKING WITH 1X4 TYPICAL FRAMING.
 - ALL BASE CABINETS TO HAVE 2X BASE FRAMING.
 - ALL CABINET DOORS TO BE 3/4" MDF WITH HARDWOOD EDGES.
 - ALL CABINET DRAWER FACES TO BE 3/4" MDF WITH HARDWOOD EDGES, CABINET DRAWERS TO BE 1/2" BIRCH SIDES AND 1/4" BIRCH BOTTOMS.
 - ALL ADJUSTABLE SHELVES TO BE ONE OR TWO LAYERS OF 3/4" MDF WITH HARDWOOD EDGES. REFER TO SECTIONS FOR SHELF THICKNESS.
 - ALL BASE AND UPPER CABINETS WITH ADJUSTABLE SHELVES TO HAVE K&W #265 RECESSED SHELF STANDARDS W/ #266 ADJUSTABLE SUPPORTS.
 - ALL FIXED SHELVES TO BE 3/4" MDF WITH HARDWOOD EDGES.
 - UPPER CABINETS TO HAVE UNDER COUNTER LIGHT WHERE SHOWN - REFER TO ELECTRICAL PLAN.
 - IN DRY AREAS, COUNTERTOPS TO BE 3/4" MDF COUNTERTOP WITH 3/4" HARDWOOD DRIP EDGE.
 - IN WET AREAS (BATHROOMS AND KITCHEN), COUNTERTOPS TO BE 3/4" PLYWOOD.
 - EXCEPT FOR KITCHEN, ALL BACKSPASHES TO BE 3/4" MDF WITH HARDWOOD EDGE.
 - ALL TOEKICKS TO BE 3/4" PLYWOOD.
 - ALL INTERIOR SURFACES TO RECEIVE HIGH PRESSURE PLASTIC LAMINATE, WHITE.
 - PROVIDE WOOD BLOCKING BEHIND ALL UPPER CABINETS, COUNTERS AND SHELF STANDARDS.

Wednesday, February 08, 2018 10:32 AM
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REVISIONS:

No.	DATE	DESCRIPTION
1	09/19/18	REV. FOR BID
2	02/07/19	ADDENDUM 3

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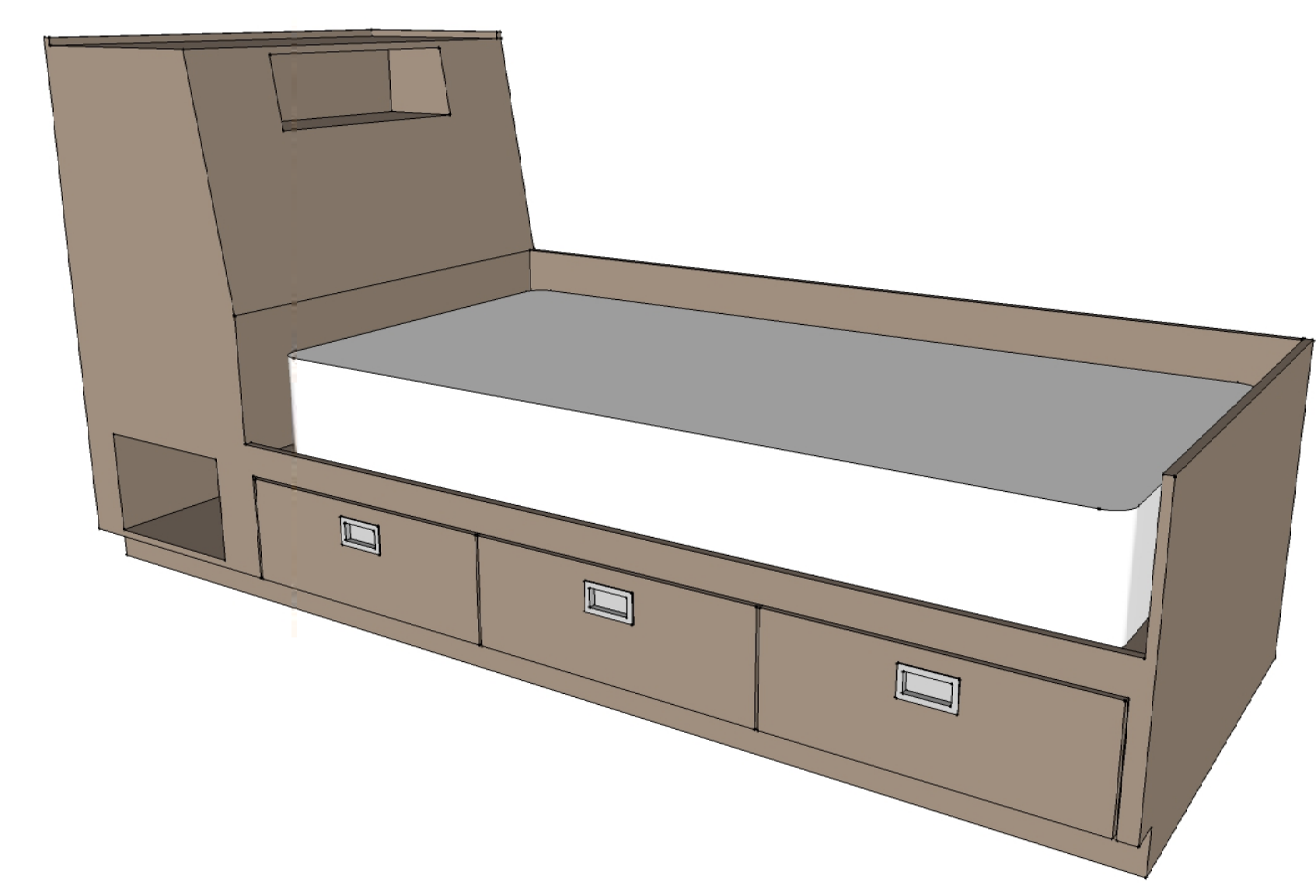
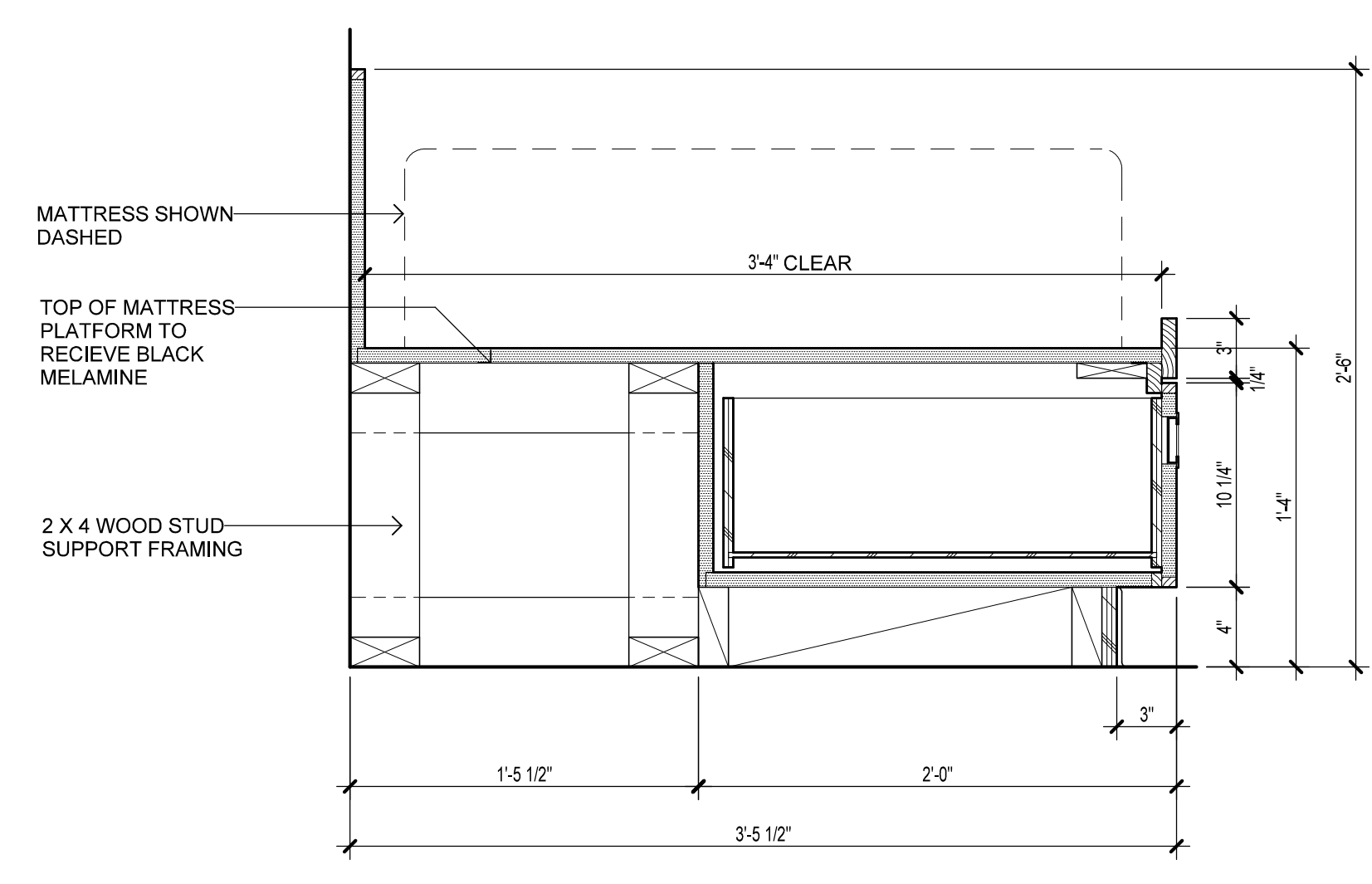
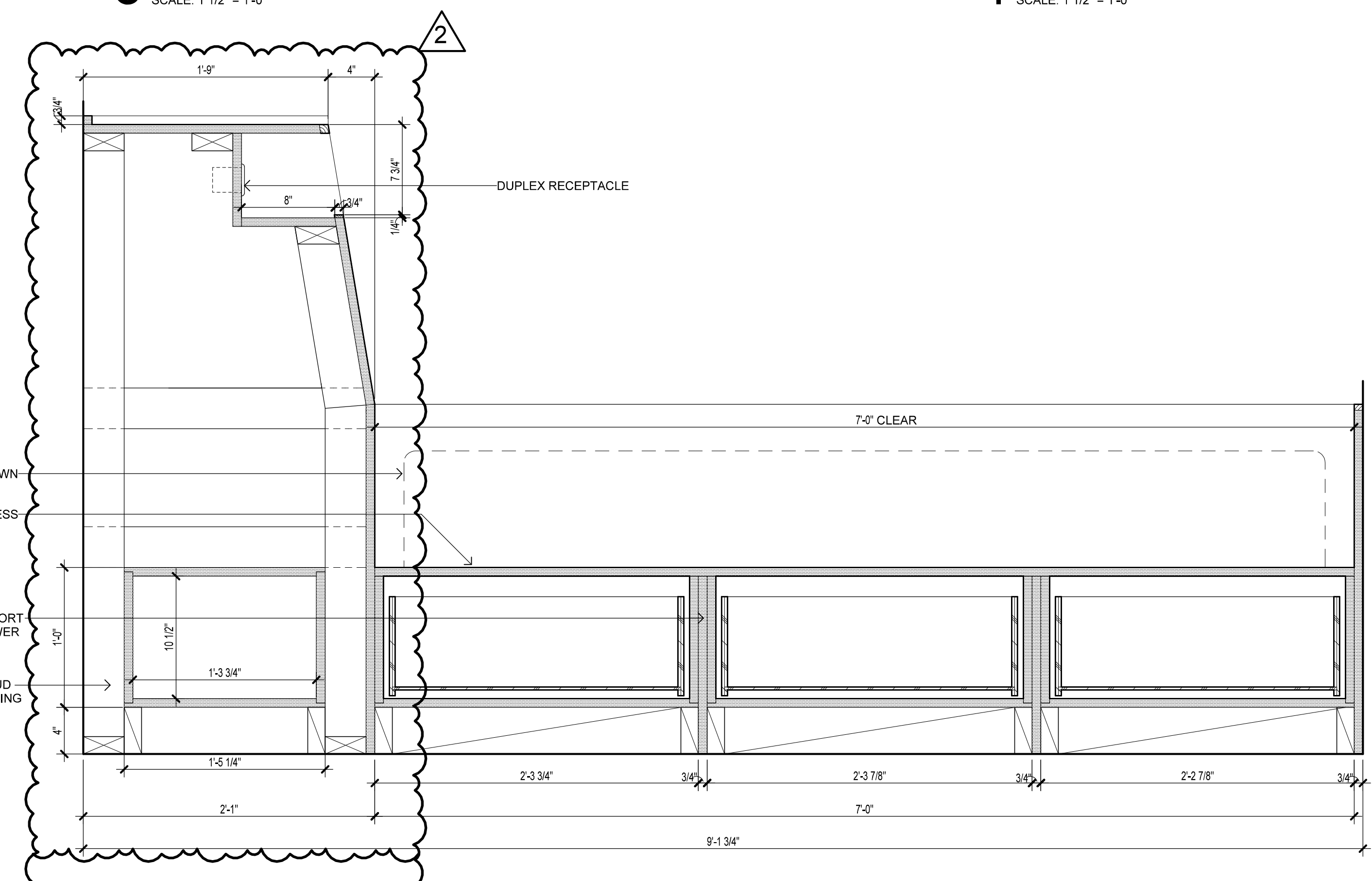
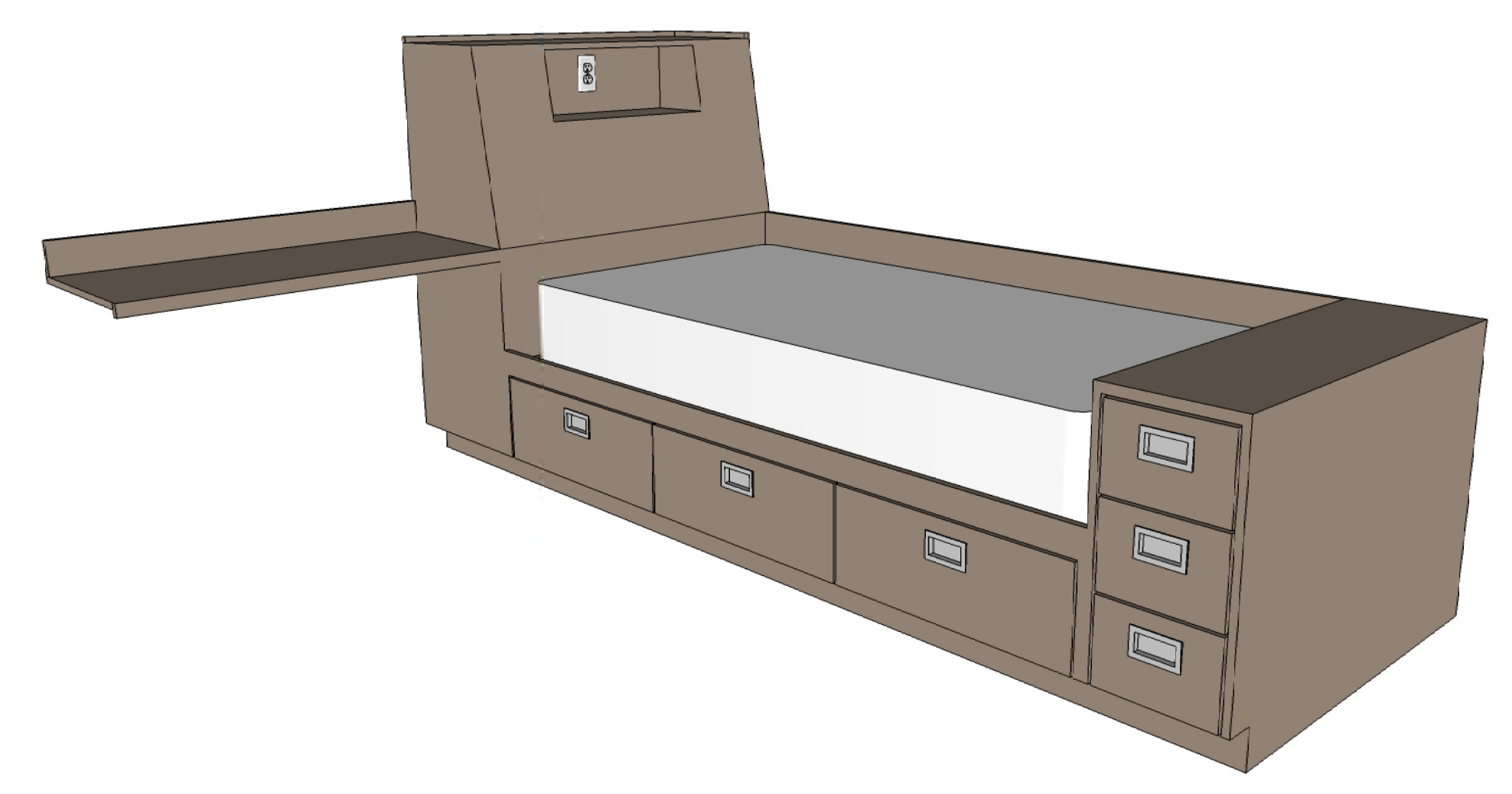
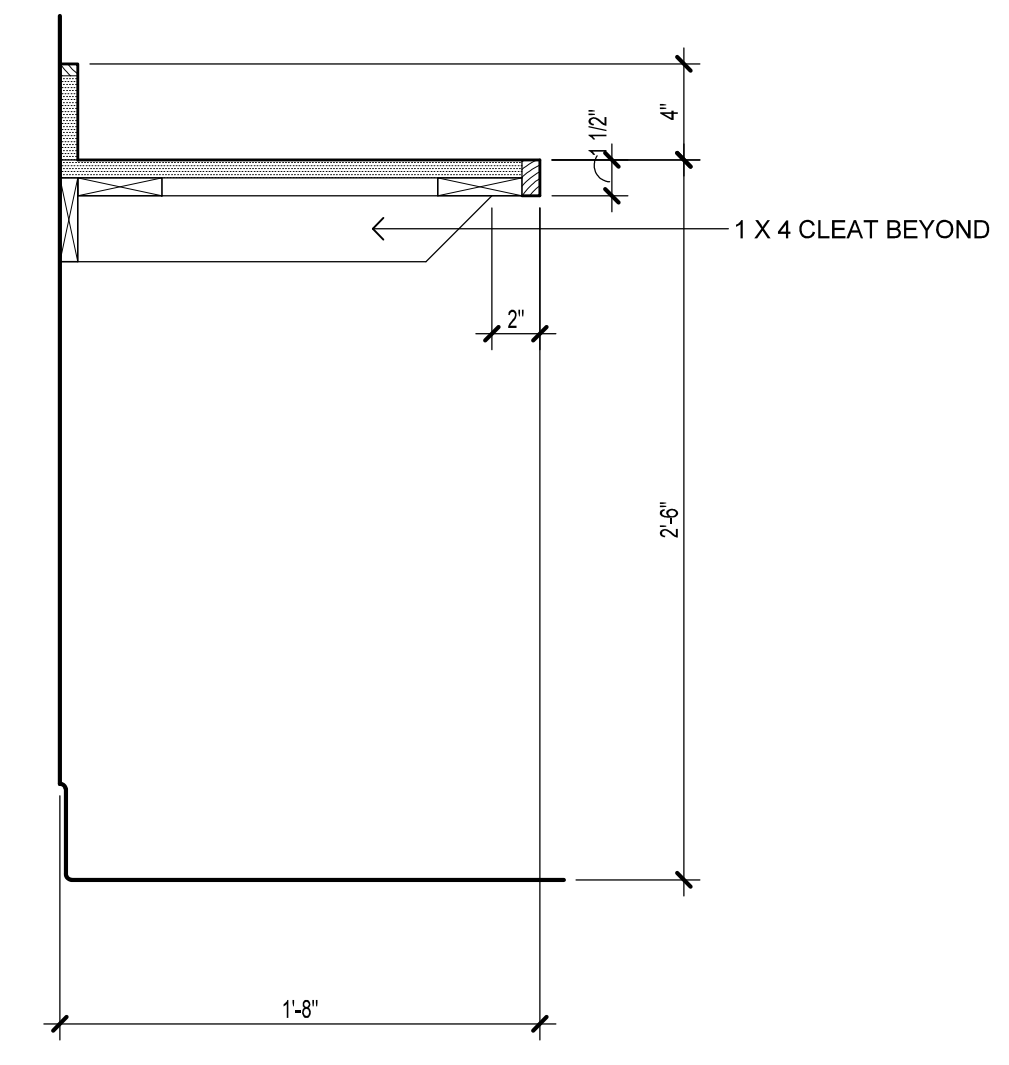
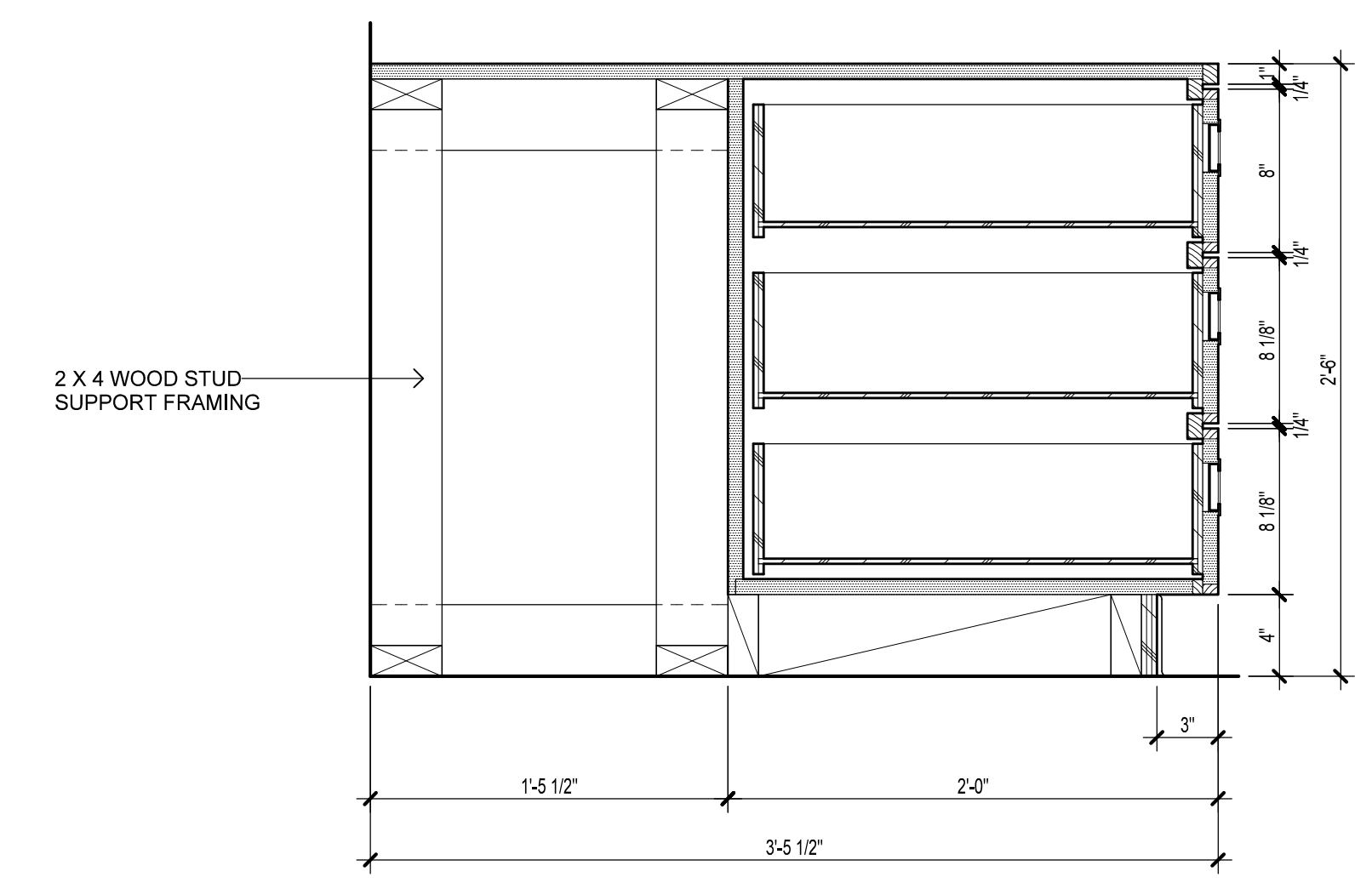
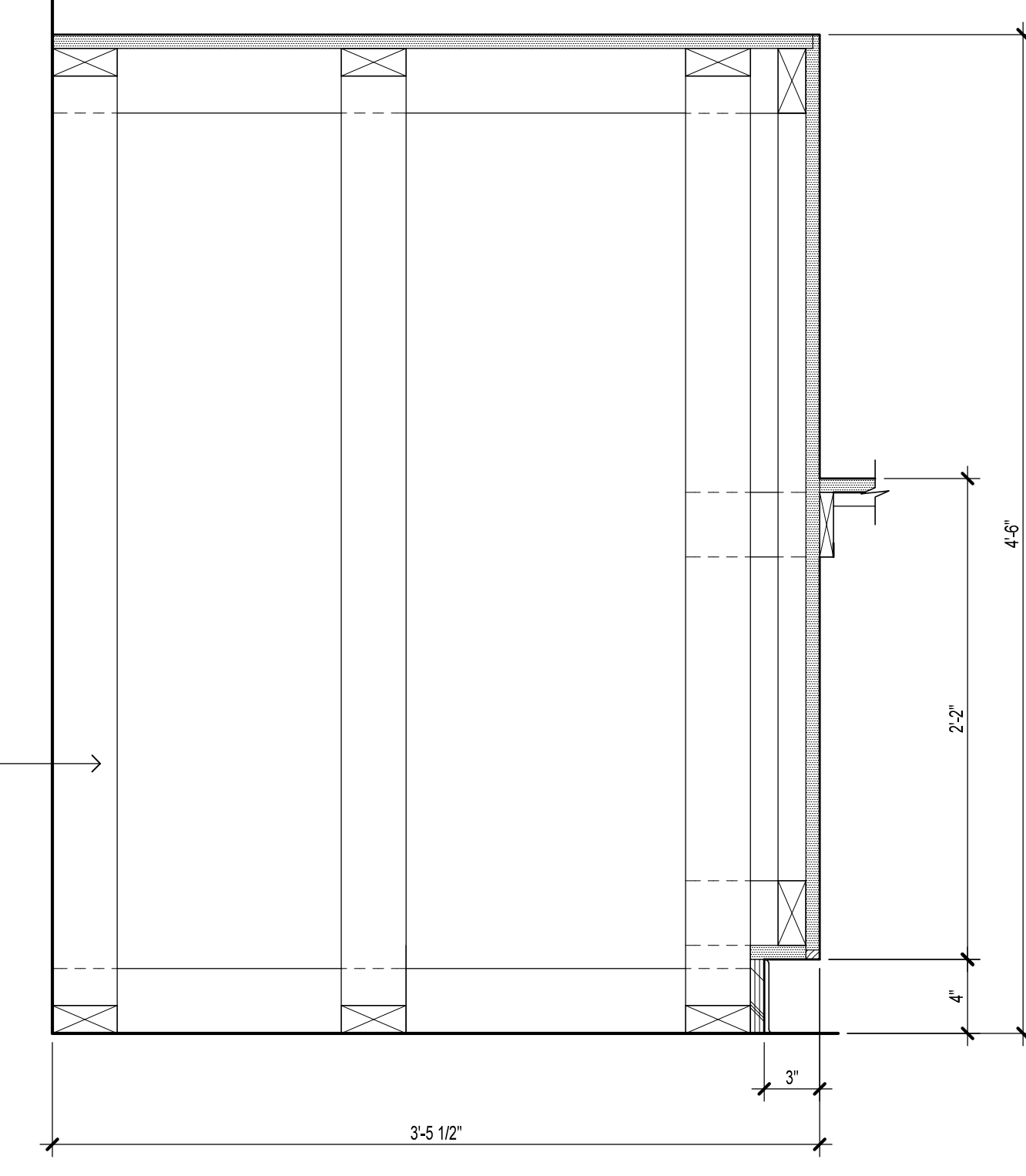
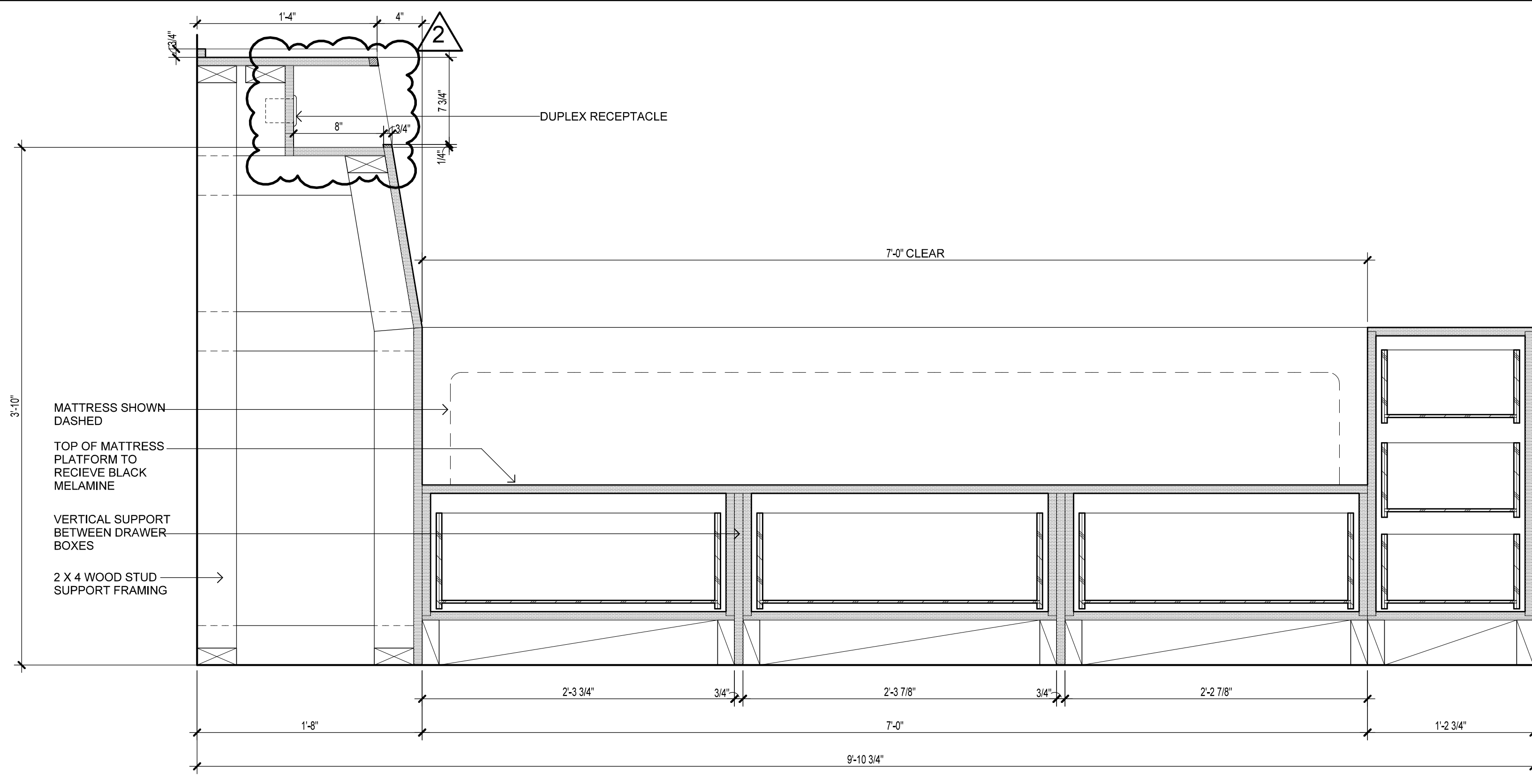
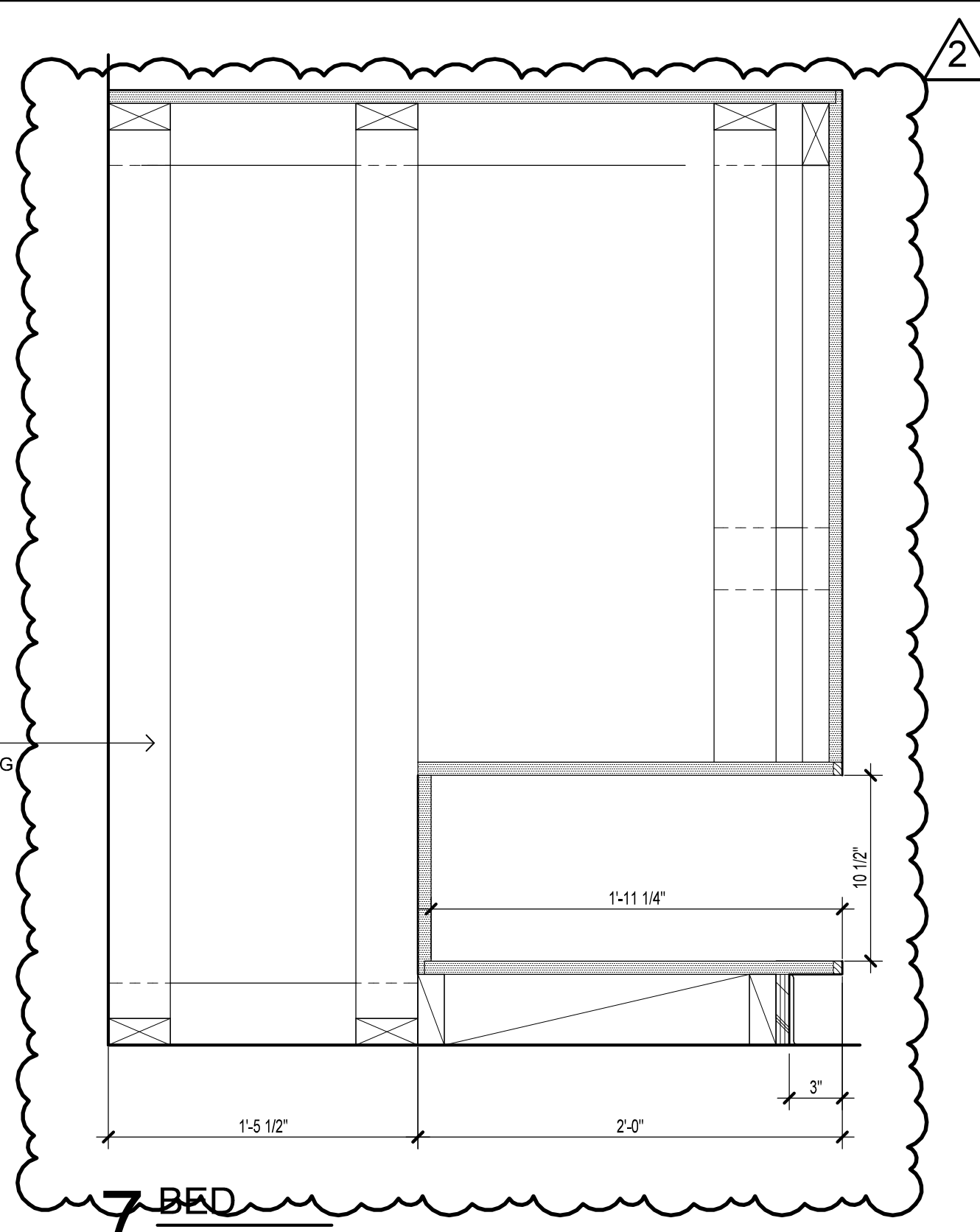
DATE:
 12 JUNE 2018

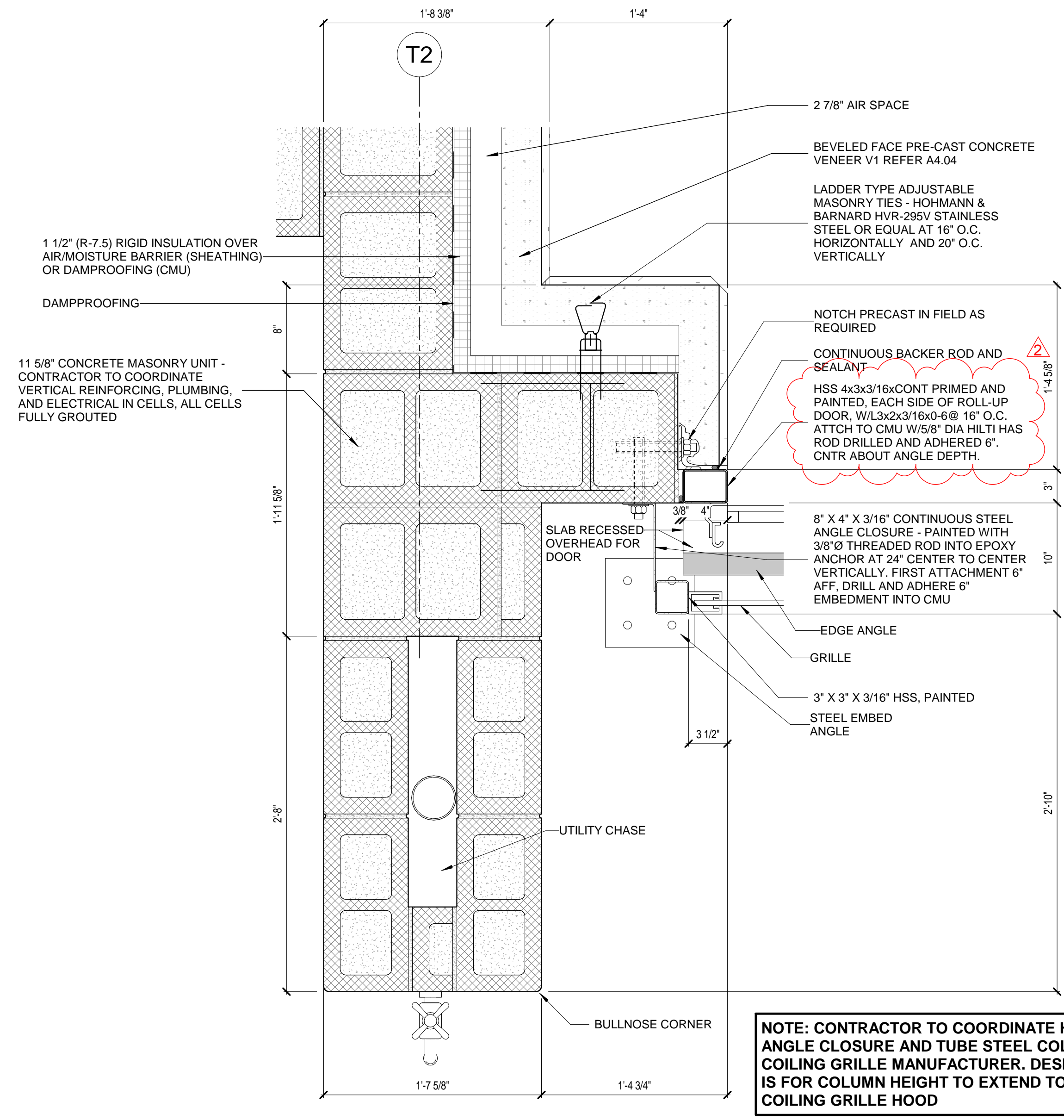
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A-7.07

GENERAL MILLWORK NOTES

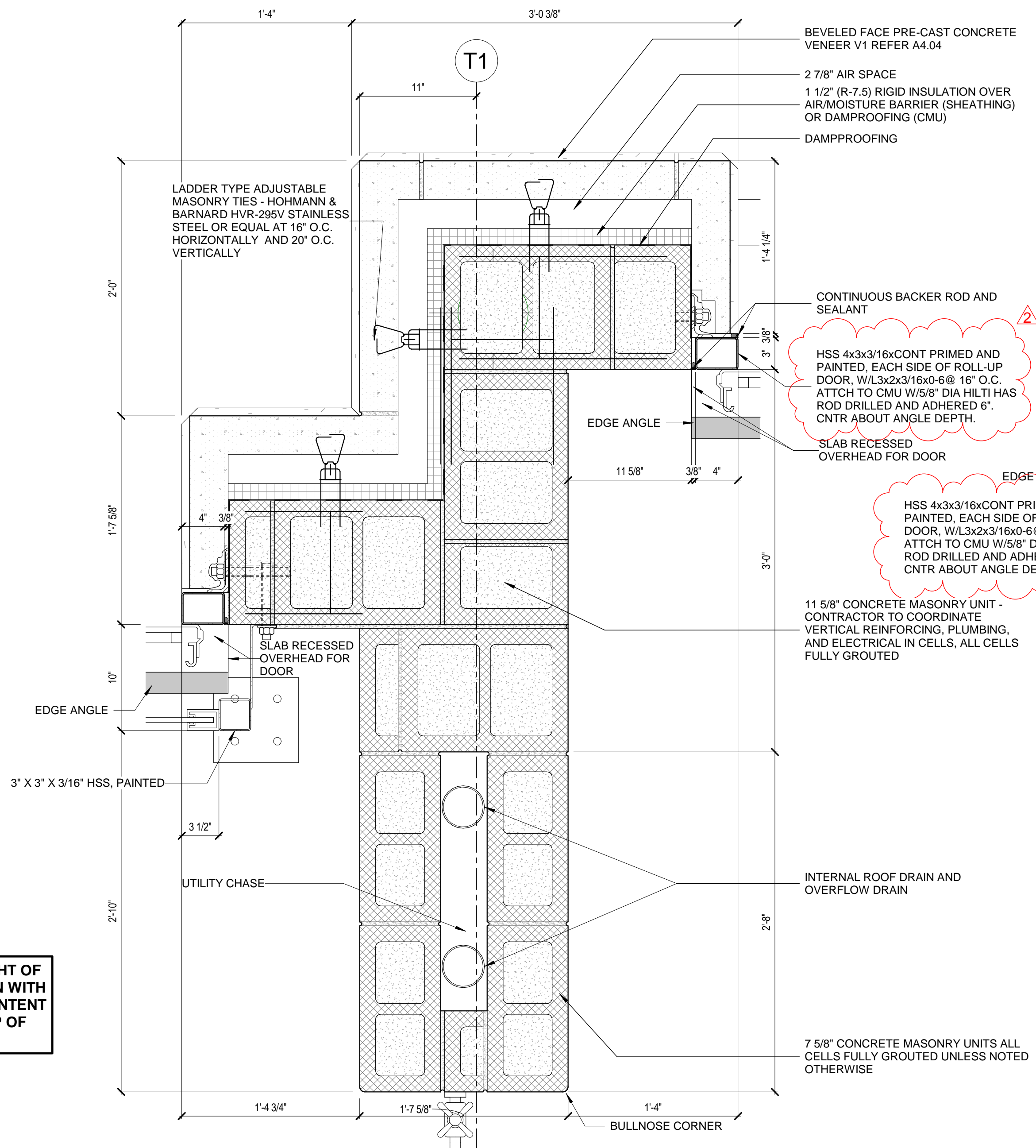
- 1 ALL EXPOSED FACES TO RECEIVE HIGH PRESSURE PLASTIC LAMINATE FINISH.
- 2 ALL BASE AND UPPER CABINETS TO HAVE 1/4" MDF BACKING WITH 1X4 TYPICAL FRAMING.
- 3 ALL BASE CABINETS TO HAVE 2X BSE FRAMING.
- 4 ALL CABINET DOORS TO BE 3/4" MDF WITH HARDWOOD EDGES.
- 5 ALL CABINET DRAWER FACES TO BE 3/4" MDF WITH HARDWOOD EDGES. CABINET DRAWERS TO BE 1/2" BIRCH SIDES AND 1/4" BIRCH BOTTOMS.
- 6 ALL ADJUSTABLE SHELVES TO BE ONE OR TWO LAYERS OF 3/4" MDF WITH HARDWOOD EDGES. REFER TO SECTIONS FOR SHELF THICKNESS.
- 7 ALL BASE AND UPPER CABINETS WITH ADJUSTABLE SHELVES TO HAVE K&V #255 RECESSED SHELF STANDARDS W #256 ADJUSTABLE SUPPORTS.
- 8 ALL FIXED SHELVES TO BE 3/4" MDF WITH HARDWOOD EDGES.
- 9 UPPER CABINETS TO HAVE UNDER COUNTER LIGHT WHERE SHOWN - REFER TO ELECTRICAL PLAN
- 10 IN DRY AREAS, COUNTERTOPS TO BE 3/4" MDF COUNTERTOP WITH 3/4" HARDWOOD DRIP EDGE.
- 11 IN WET AREAS (BATHROOMS AND KITCHEN), COUNTERTOPS TO BE 3/4" PLYWOOD.
- 12 EXCEPT FOR KITCHEN, ALL BACKPLASHES TO BE 3/4" MDF WITH HARDWOOD EDGE.
- 13 ALL TOEKICKS TO BE 3/4" PLYWOOD.
- 14 ALL INTERIOR SURFACES TO RECEIVE HIGH PRESSURE PLASTIC LAMINATE, WHITE.
- 15 PROVIDE WOOD BLOCKING BEHIND ALL UPPER CABINETS, COUNTERS AND SHELF STANDARDS.



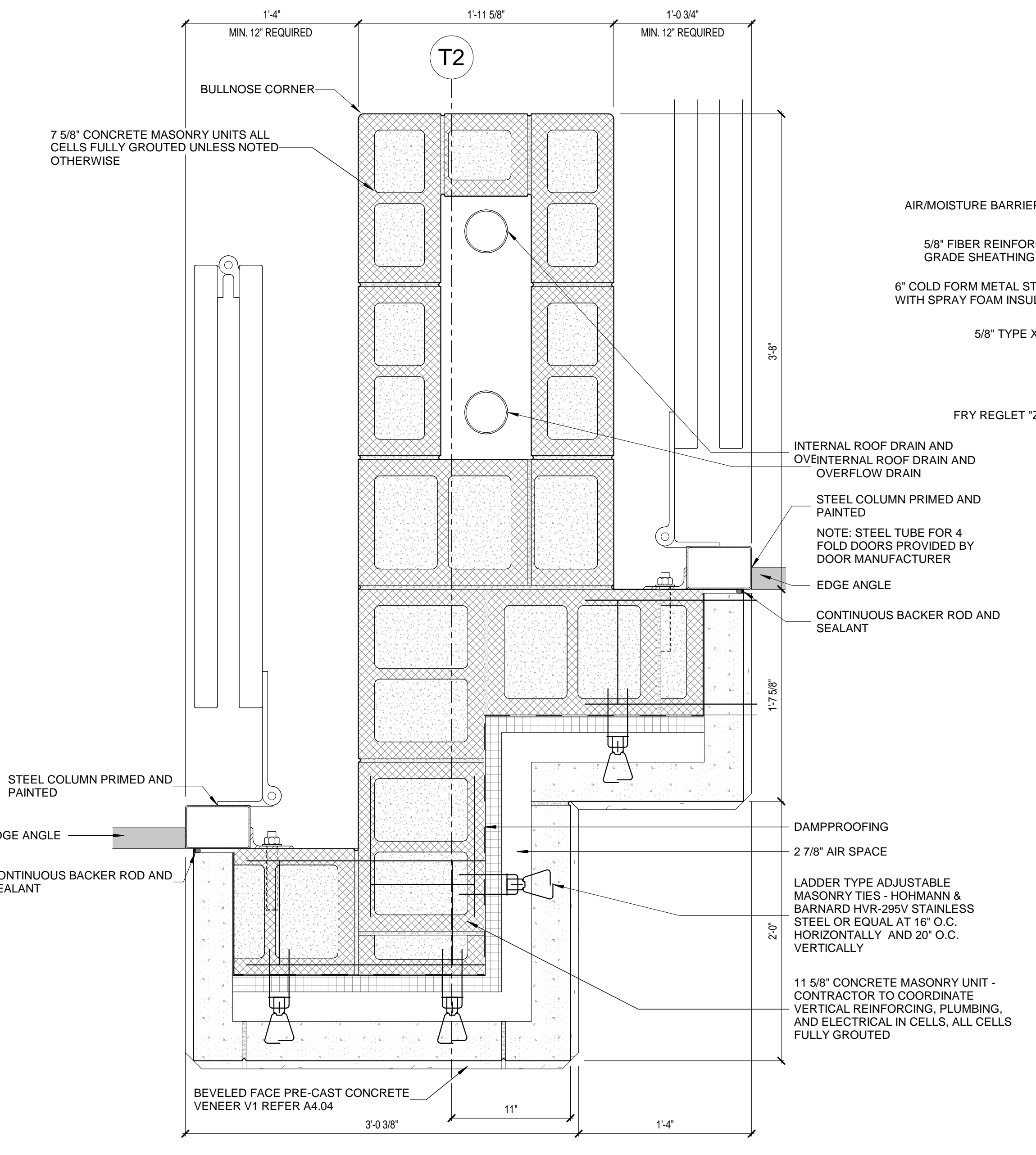


7 DOOR JAMB DETAIL - 4
SCALE: 1 1/2" = 1'-0" A-3.02 / 1

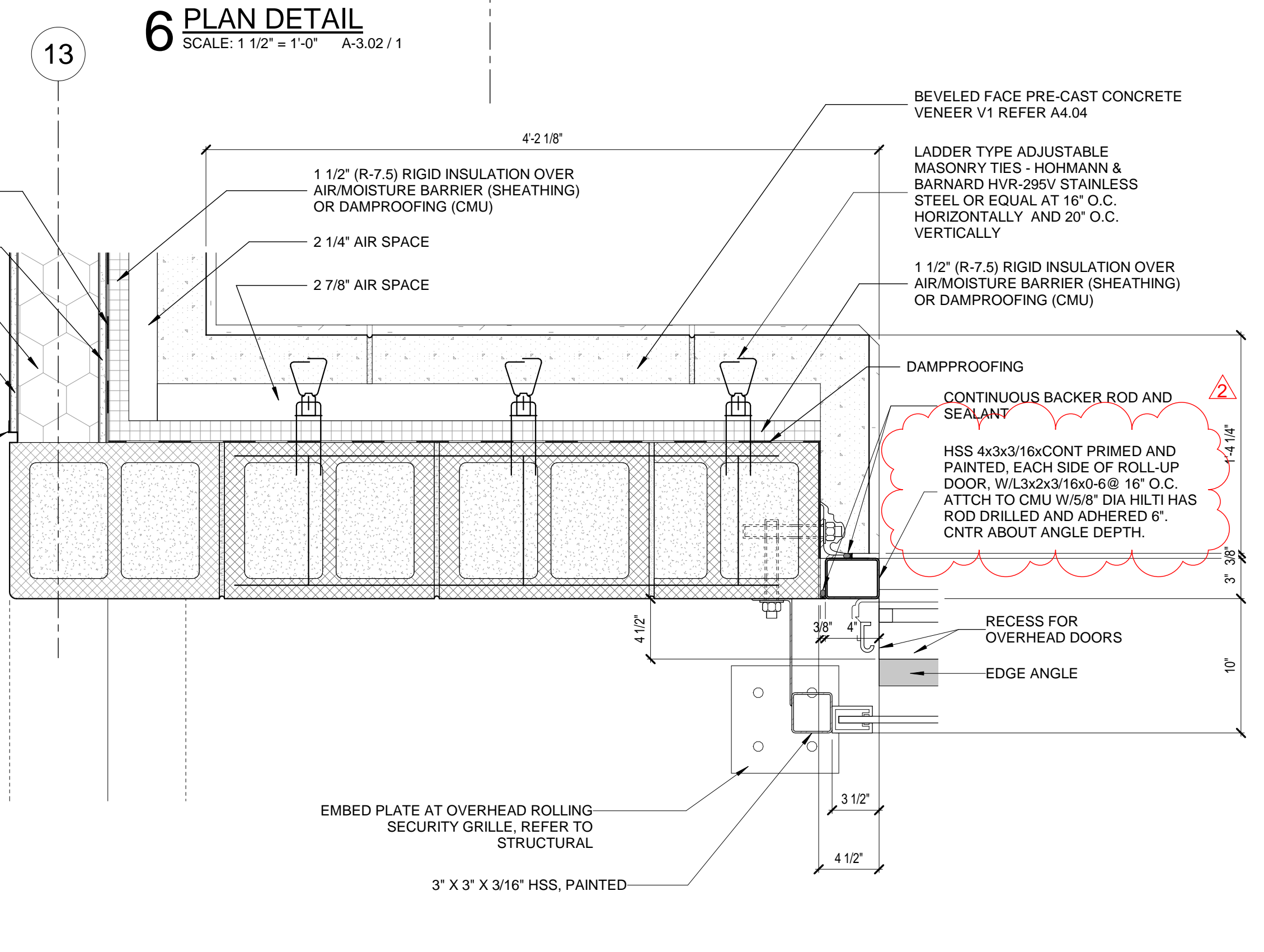
NOTE: CONTRACTOR TO COORDINATE HEIGHT OF ANGLE CLOSURE AND TUBE STEEL COLUMN WITH COILING GRILLE MANUFACTURER. DESIGN INTENT IS FOR COLUMN HEIGHT TO EXTEND TO TOP OF COILING GRILLE HOOD



5 PLAN DETAIL
SCALE: 1 1/2" = 1'-0" A-3.01 / 1

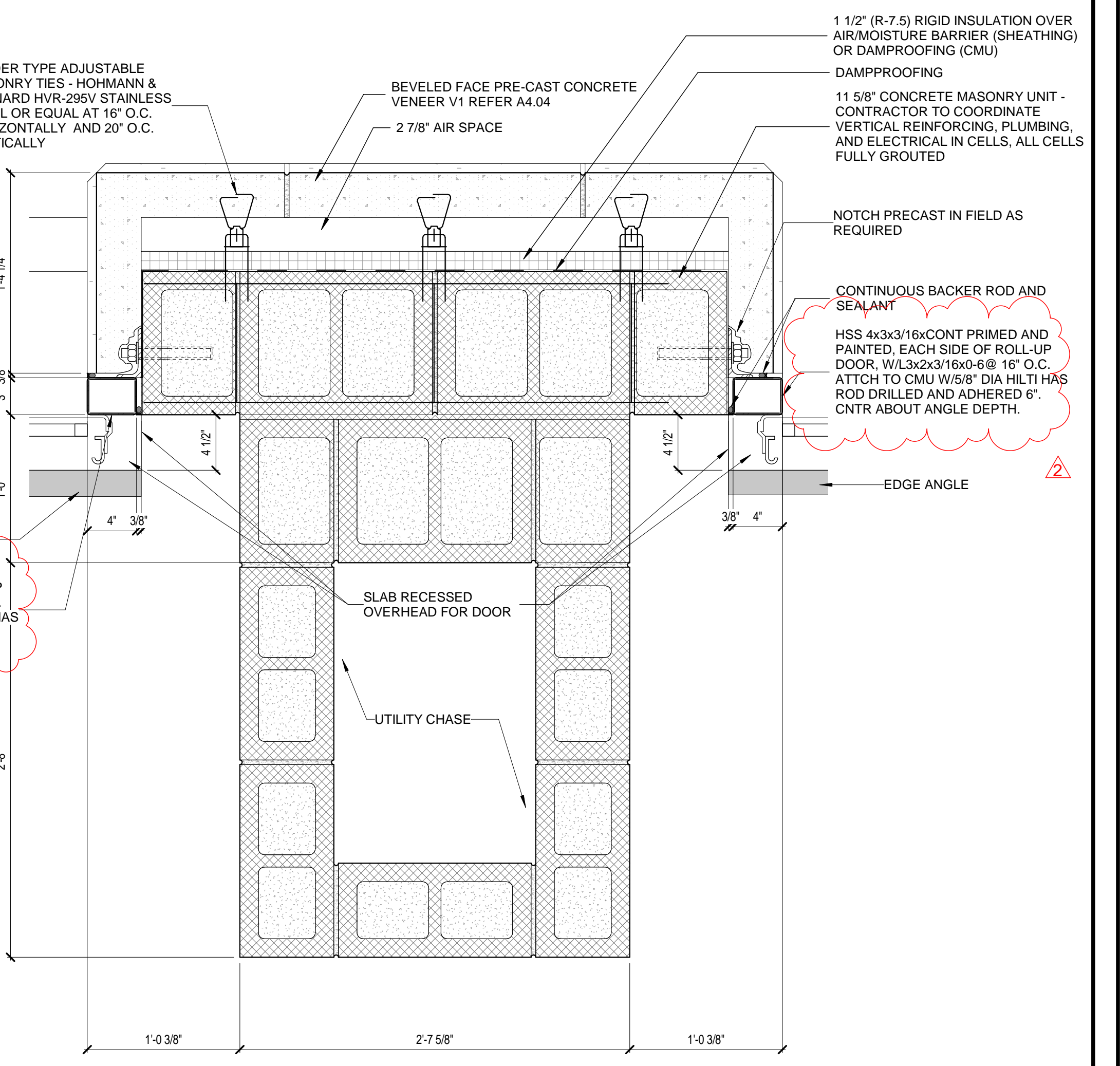


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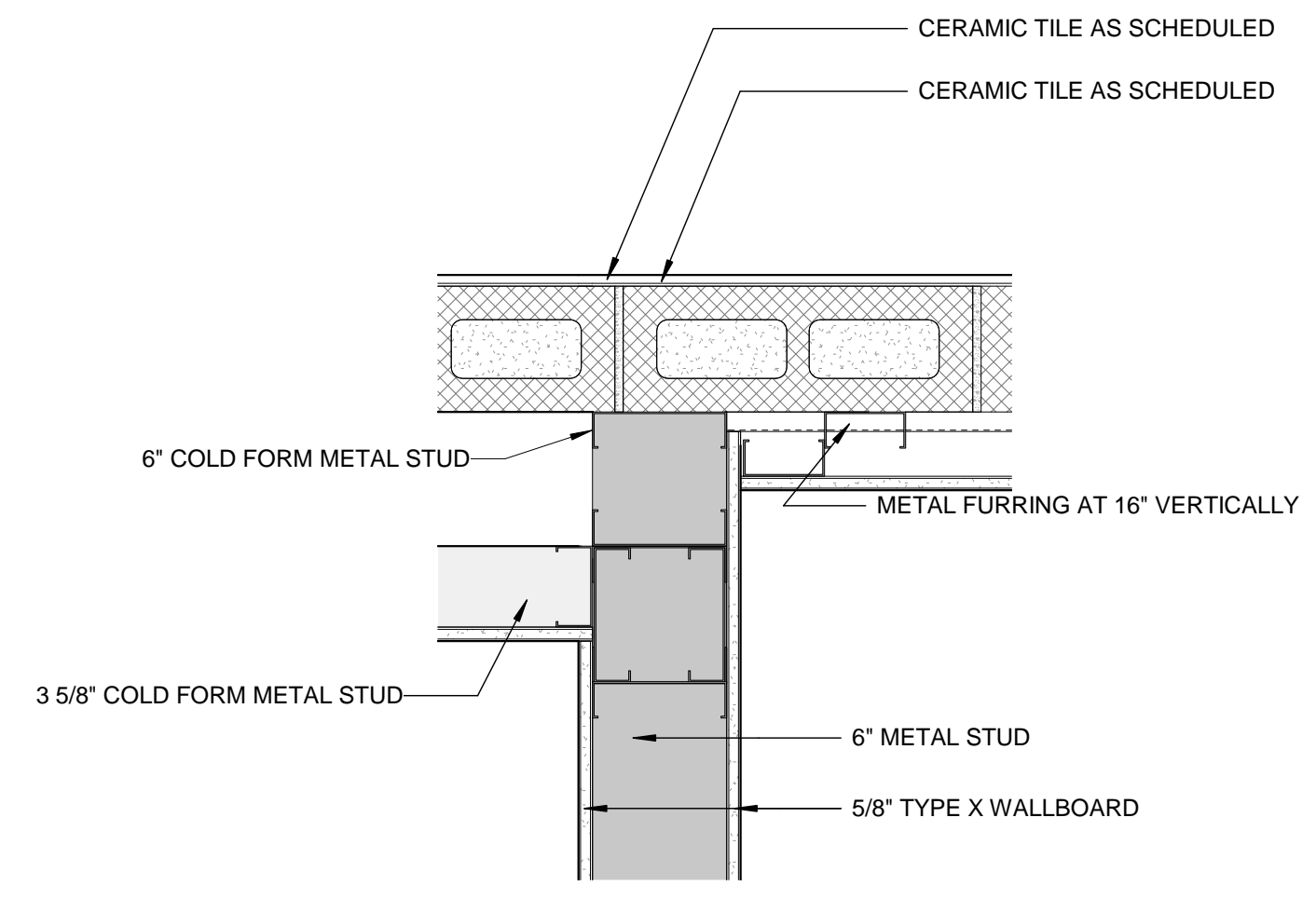


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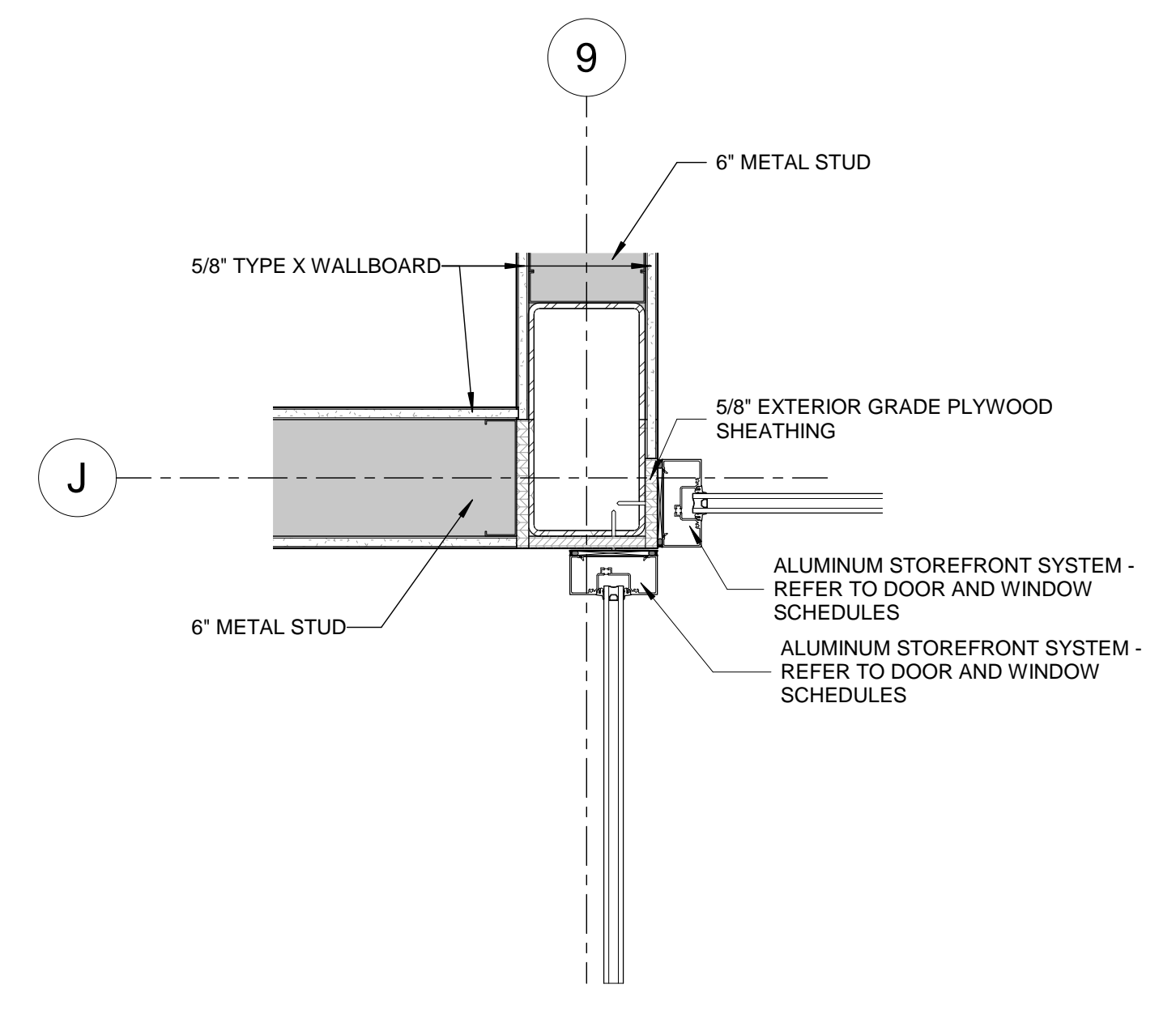
NOTE: CONTRACTOR TO COORDINATE HEIGHT OF ANGLE CLOSURE AND TUBE STEEL COLUMN WITH COILING GRILLE MANUFACTURER. DESIGN INTENT IS FOR COLUMN HEIGHT TO EXTEND TO TOP OF COILING GRILLE HOOD.



5 PLAN DETAIL
SCALE: 1 1/2" = 1'-0" A-3.01 / 1



4 PLAN DETAIL
SCALE: 1 1/2" = 1'-0" A-3.01 / 1



1 PLAN DETAIL
SCALE: 1 1/2" = 1'-0" A-3.01 / 1

@BLDTECHNOLOGY
 @BLTME
 @BWPOLLUMINEEXT



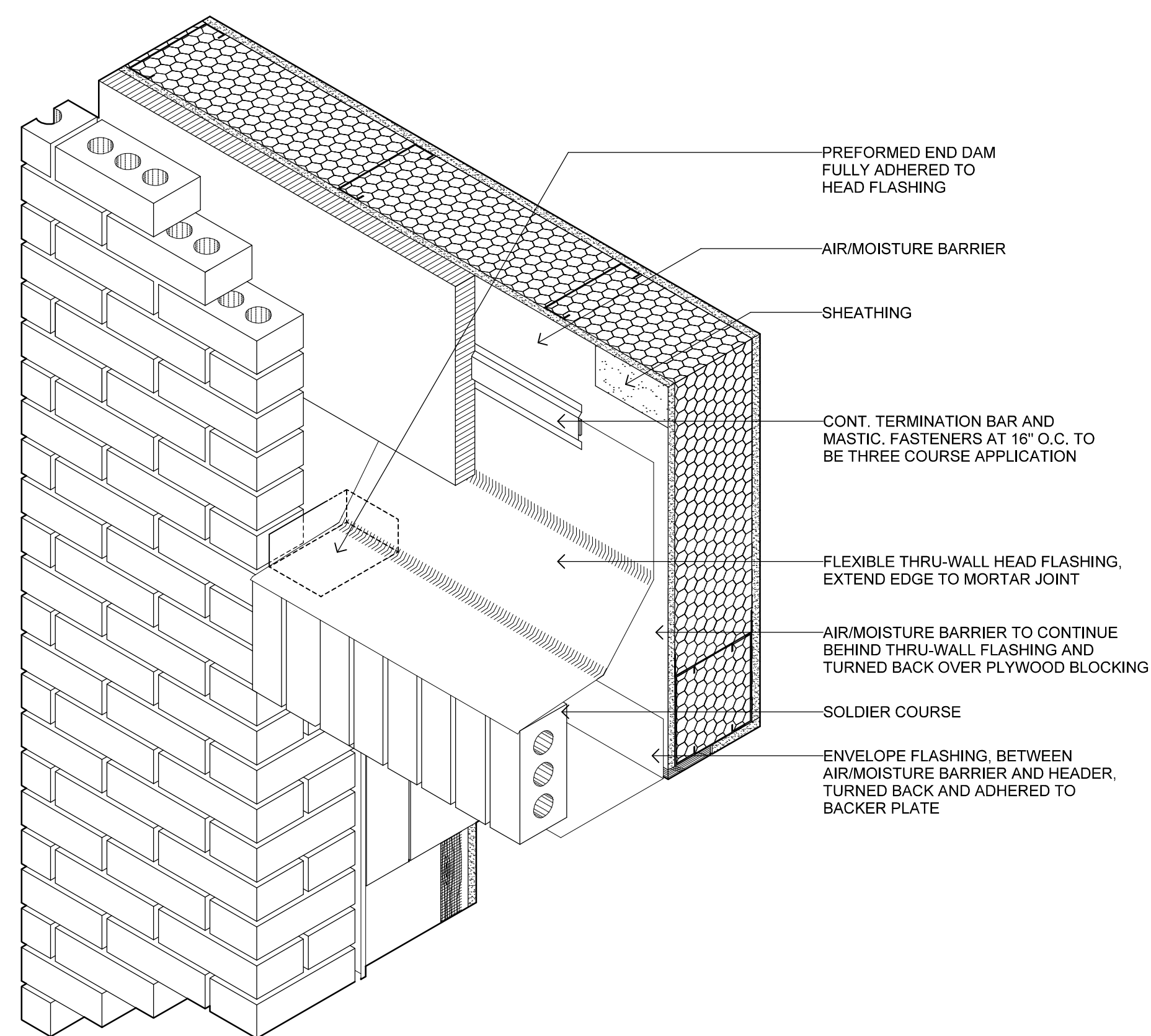
REVIEW SET.
 NOT FOR BIDDING,
 CONSTRUCTION OR
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 PURPOSES

REVISIONS		
NO.	DATE	DESCRIPTION
1	2 AUG 18	PERMIT
2	7 FEB 18	ADDENDUM 3

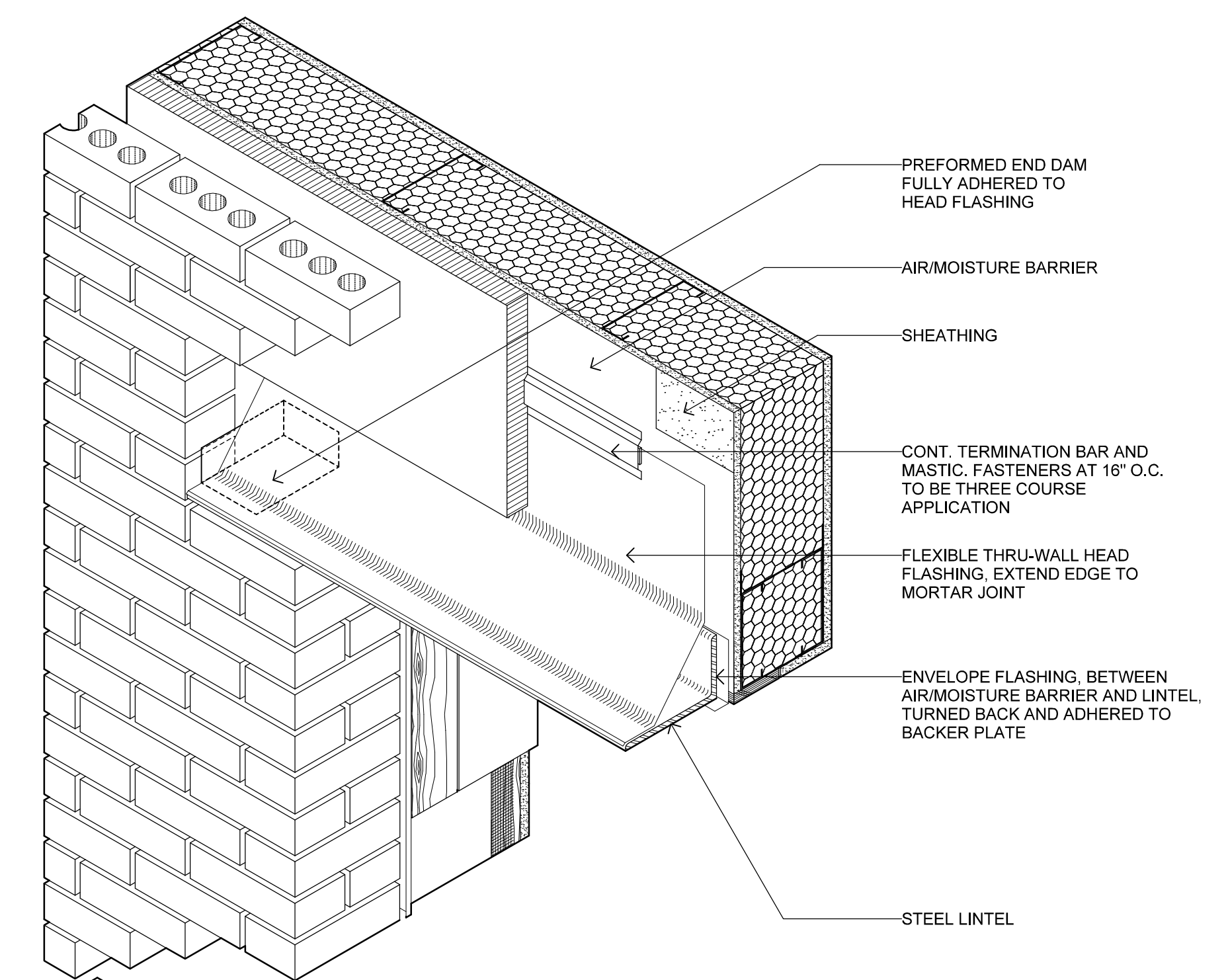
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PLAN DETAILS

DATE:
 2 AUGUST 2018
 Issued for Bid

SHEET:
A-8.10



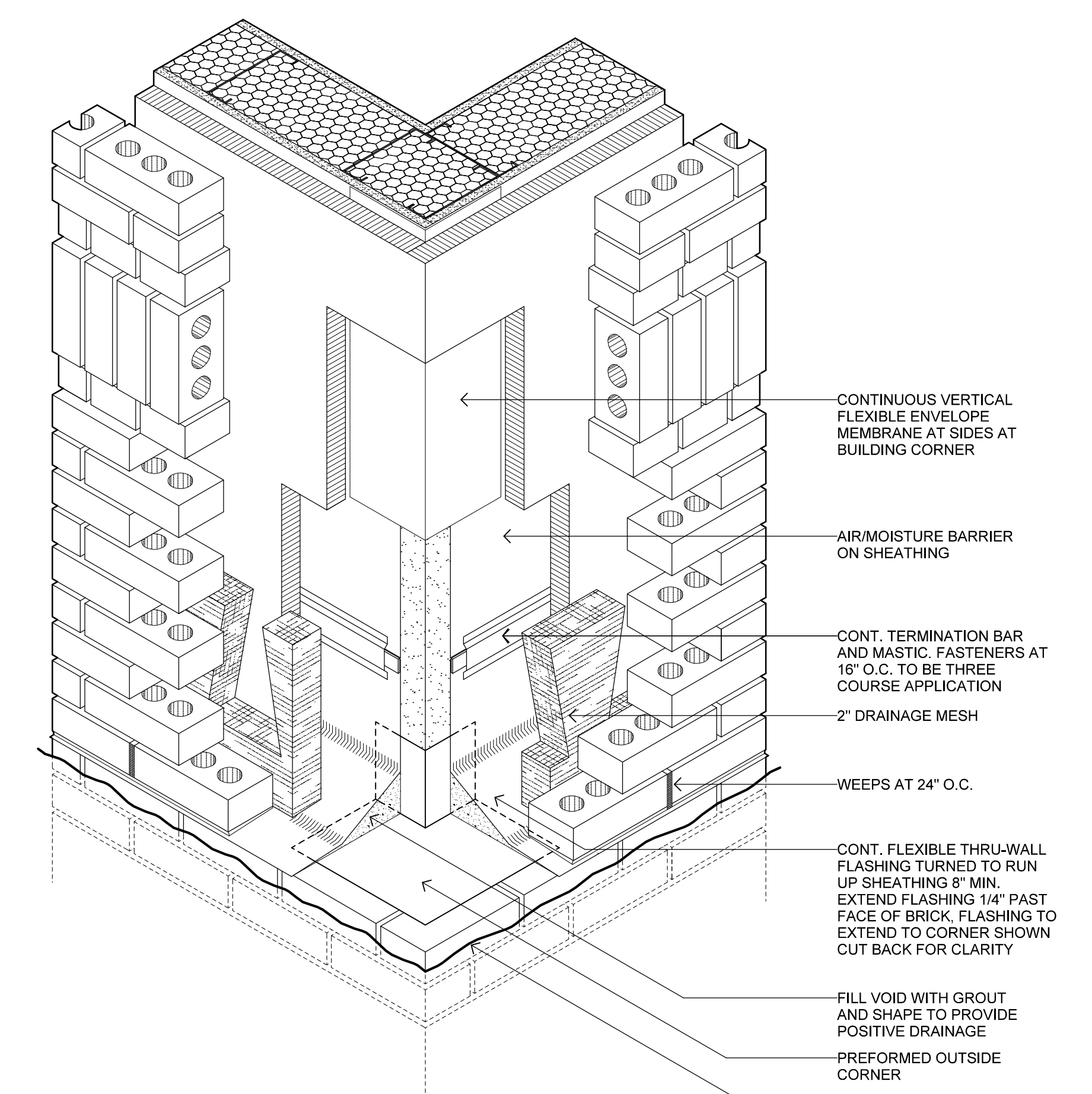
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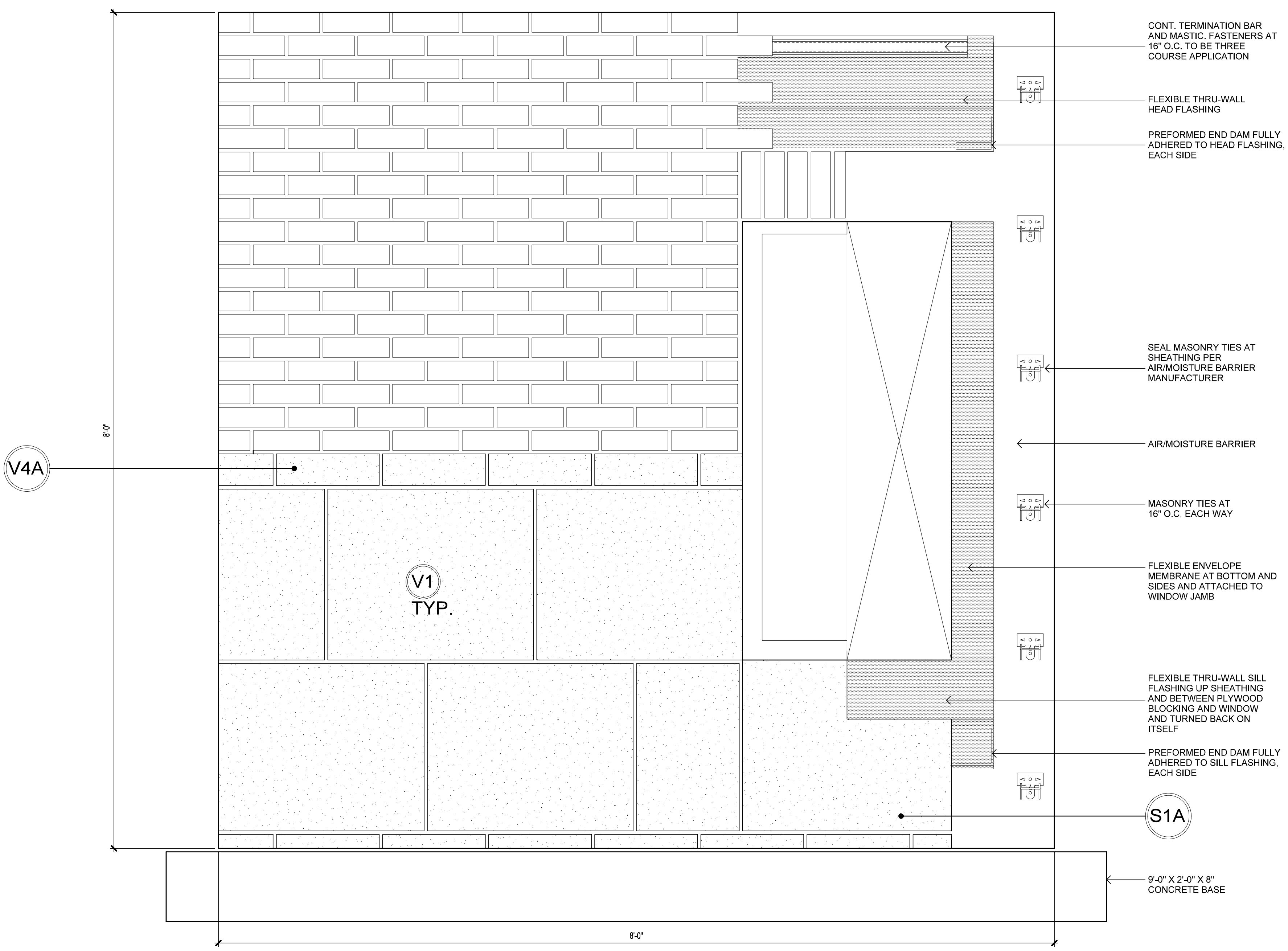
(A)

3 TYP. WINDOW FLASHING DETAIL
SCALE: 1 1/2" = 1'-0"

NOTE: REFER MANUFACTURER FOR TYPICAL INSTALLATION DETAILS



1 TYP. FLASHING AT CORNER
SCALE: 1 1/2" = 1'-0"

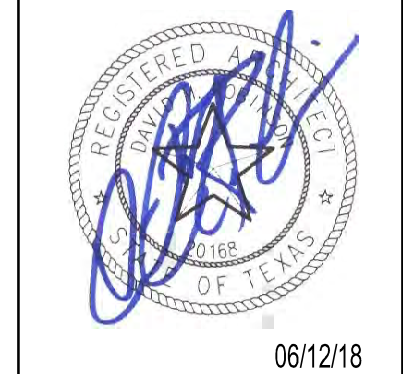
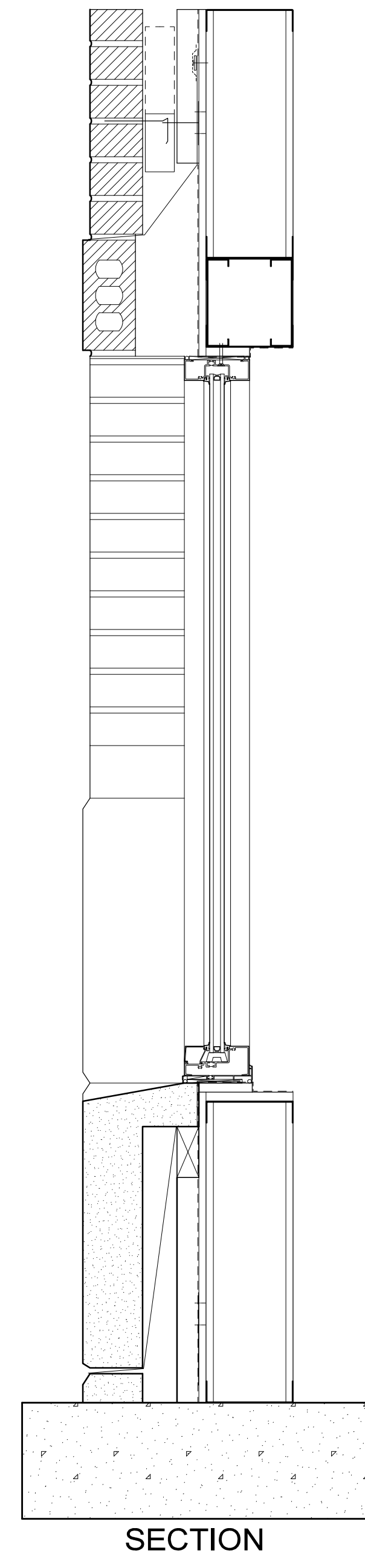


2 MOCK-UP ELEVATION
SCALE: 1 1/2" = 1'-0"

NOTE: INTENT OF MOCK-UP IS TO SHOW MATERIAL SELECTION AND ENVELOPE DETAILS. PROVIDE 6" METAL STUD AND SHEATHING BACK UP. REFER TYPICAL DETAILS.

NOTE: BASIS OF DESIGN-WINDOW AND WALL PENETRATIONS INSTALLED, FLASHED AND WATER TESTED PRIOR TO INSTALLATION OF VENEER.

NOTE: DRAWING ARE DIAGRAMMATIC IN NATURE REFER TO PLANS, ELEVATIONS AND SECTIONS.



REVISIONS:

No.	DATE	DESCRIPTION
1	02/07/19	ADDENDUM 3

CONTENTS:
TYP. FLASHING DETAILS
MOCK-UP

DATE:
12 JUNE 2018

SHEET:
A-9.01



Table with 3 columns: No., DATE, DESCRIPTION. Includes revision 1 on 2/8/19 with description ADD#3.

CONTENTS: MECHANICAL SCHEDULES

DATE: 06/12/18

SHEET: MP0.2

VRF HEAT RECOVERY REFRIGERANT BOXES table with columns for Design, Serves, Outdoor Unit, Box Size, Max Tons, Max Total Cap./Port, Zone Port Count, Electrical (V/PH, MCA, MOCP), MFG, Model Number, and Remarks.

- NOTES:
1. REFRIGERANT R-410A.
2. PROVIDE BALL ISOLATION VALVES ON EACH ZONE DISCHARGE AND BOX INTAKE REFRIGERANT LINES FOR SOLINOID SERVICE OR REPLACEMENT.
3. UNITS SHALL NOT EXCEED TOTAL MAXIMUM CAPACITIES AT DESIGN CONDITIONS.

AIR BALANCE SCHEDULE table showing airflow for VRF units and fans. Includes columns for TAG, CFM Supply, CFM Return, CFM OSA, Transfer Air, CFM Exhaust, and % OA.

- NOTES:
1) BUILDING AIR BALANCE: 305 CFM POSITIVE PRESSURE

ROOF VENTILATOR SCHEDULE table with columns for Mark, Services, Maximum CFM, Min. Perimeter Intake Area, Max P.D., Min Throat Area, Duct Size, Manufacturer, Model No., Op. Weight, and Remarks.

- NOTES:
1. PROVIDE BIRDSCREEN
2. PROVIDE COUNTED/WEIGHTED BACKDRAFT DAMPER WITH FELTED BLADE STRIKES.
3. 12" HIGH GALV. ROOF CURB, SLOPED TO MATCH ROOF PITCH.
4. MULTIPLE UNITS HAVE THE SAME DESIGNATION. VERIFY EXACT NUMBER OF UNITS WITH THE FLOOR PLANS. ALL MARKS MAY NOT BE UTILIZED.

HOOD SCHEDULE table with columns for Mark, Location, Services, Hood Type, Hood Size, Exhaust Air Flow (CFM, Duct Size, Hood APD), Makeup Air Flow (CFM, Duct Size, Hood APD), Manufacturer, Model No., Op. Weight, and Remarks.

- NOTES:
1. PROVIDE UL LISTED HOOD FOR USE OVER 450°F SURFACE TEMPERATURE AND ANSUL FIRE CONTROL SYSTEM IN ACCORDANCE WITH 2012 INTERNATIONAL FIRE CODE SECTION 904.
2. PROVIDE INSULATED SUPPLY PLENUM.
3. PROVIDE INTEGRAL 3" AIR SPACE - BACK SIDE OF HOOD.
4. MINIMUM 18GA. TYPE 430 STAINLESS STEEL HOOD AND SKIRT TO CEILING.
5. PROVIDE CLEANABLE ALUMINUM BAFFLE TYPE FILTERS
6. PROVIDE INTEGRAL FLOURESCENT LIGHTS AND GREASE CUP AT BOTTOM OF TROUGH.
7. PROVIDE FIELD WRAPPER 23" HIGH. REFER INTERIOR ELEVATIONS ON ARCHITECTURAL FOR EXTENT OF BACKSPLASH.
8. PROVIDE A WALL-CANOPY STYLE EXHAUST HOOD.

UNIT/RADIANT HEATER SCHEDULE table with columns for Mark, CFM, Length, Capacity, Nat. Gas Heating Data (Input, Min/Max Pressure, Stages), Fan Data (HP, RPM, Volts, Phase), Manufacturer, Model No., Op. Weight, and Remarks.

- NOTES:
1. PROVIDE MANUFACTURERS TWO STAGE THERMOSTAT, REMOTE MOUNTED AS SHOWN ON PLANS.
2. PROVIDE INTEGRAL CONTROL VOLTAGE TRANSFORMER, RELAYS AND CONTROLS FOR A SINGLE POINT ELECTRICAL CONNECTION.
3. PROVIDE ALL SAFETIES
4. PROVIDE MANUFACTURERS MOUNTING BRACKET.
5. PROVIDE MANUFACTURERS CONCENTRIC VENTING KITS WITH COMBINATION MAKE-UP / EXHAUST ROOF CAPS.
6. UNIT/RADIANT HEATER SHALL BE SUPPORTED FROM STRUCTURE ABOVE.
7. PROVIDE UNIT MOUNTED DISCONNECT.
8. INSTALL RADIANT HEATER AT A MINIMUM OF 15'-6" A.F.F. OR AT A HEIGHT SUFFICIENT TO CLEAR VEHICLES, WHICHEVER IS GREATER.
9. PROVIDE HEAT SHIELD OR DEFLECTORS FROM THE MANUFACTURER TO PREVENT CORD REEL DROPS. DEFLECTORS SHALL BE A CUSTOM FABRICATION FROM THE MANUFACTURER FOR 60' LONG HEATERS.
10. PROVIDE MANUFACTURERS SINGLE STAGE THERMOSTAT, REMOTE MOUNTED AS SHOWN ON PLANS.

VRF OUTDOOR UNIT SCHEDULE table with columns for Design, Type, Serves, Ambient Temp, Nominal Cap, Comb %, MFG, Model Number, Efficiencies (EER, IEEER, SCHE), Electrical (V/PH, MCA, MOCP), Op. Weight, and Remarks.

- NOTES:
1. PROVIDE MINIMUM 18 GA. GALVANIZED STEEL ROOF CURB.
2. SIZE AND INSTALL REFRIGERANT LINES IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS AND PER "PIPING HANDBOOK".
3. PROVIDE NEMA 3R RATED DISCONNECT SWITCH FOR EACH UNIT OR MODULE.
4. PROVIDE MANUFACTURERS 10 YEAR COMPRESSOR & PARTS WARRANTY.
5. PROVIDE MANUFACTURERS RECOMMENDED SERVICE AND OPERATIONAL CLEARANCES - NOT LESS THAN 36" CLEAR.
6. UNIT SHALL PROVIDE COOLING TO 23F WITHOUT LOW AMBIENT KIT.
7. PROVIDE ANTI-SHORT CYCLE TIMER.
8. PROVIDE CONTROL PANEL LABEL LISTING THE SHORT CIRCUIT RATING (SCCR IN KAIC) REFER TO ELEC. POWER TO MECH. SCHEDULE FOR RATING REQMTS.
9. PROVIDE HAIL GUARDS.

VRF INDOOR UNIT SCHEDULE table with columns for Design, Serves, Outdoor Unit, Type, Nominal Tonnage, Total CFM, OA CFM, SP IN W.G., Cooling/Heating, Total Cap, Sensible Cap, Heating, Electrical (V/PH, MCA, MOCP), MFG, Model Number, and Remarks.

- NOTES:
1. REFRIGERANT R-410A.
2. BUILT-IN DRAIN PUMP.
3. PROVIDE OUTSIDE AIR CONNECTIONS FOR ALL CASSETTES.
4. UNITS SHALL MEET SENSIBLE CAPACITIES AND CFMS AT DESIGN CONDITIONS. NOMINAL TONNAGE WILL NOT BE ACCEPTED.
5. UNITS SHALL BE ABLE TO PRODUCE SCHEDULED AIRFLOW EVEN WHEN CONDENSING UNIT CONNECTION RATIO IS GREATER THAN 130%.
6. EXPOSED LINE SET MUST BE INSTALLED IN WALL ESCUTCHEON.

FAN SCHEDULE table with columns for Design, Serves, Type, CFM, Drive, E.S.P., Max Fan RPM, Motor (HP, Volts, Phase, Starter), Max Sones, Manufacturer, Model Number, Remarks, and Operating Weight.

- OPTIONS & ACCESSORIES:
1. SUPPORT WITH VIBRATION ISOLATORS.
2. UNIT MOUNTED SPEED CONTROL RHEOSTAT (SCR) SWITCH.
3. MANUFACTURERS ROOF CAP.
4. PROVIDE 2" 30% EFF (MERV 8) PLEATED THROW AWAY FILTERS.
5. 12" HIGH GALV. ROOF CURB, SLOPED TO MATCH ROOF PITCH.
6. GRAVITY BACKDRAFT DAMPER.
7. NEMA 3R EXTERNALLY MOUNTED WEATHERPROOF DISCONNECT SWITCH
8. IEEE RATED PREMIUM EFFICIENCY ELECTRIC MOTOR (1.5 HP AND GREATER)
9. BIRDSCREEN
10. 2-POSITION MOTORIZED DAMPER
11. UL 782 GREASE LISTING WITH GREASE DRAIN AND COLLECTION BOTTLE.
12. HINGED, VENTED CURB EXTENSION TO MEET 40" DISCHARGE CLEARANCE ABOVE ROOF LEVEL.
13. BELT GUARD

- CONTROL / INTERLOCK:
A. WALL SWITCH W/PLOT LIGHT (1/2 HP & LESS)
B. MANUAL STARTER SWITCH W/PLOT LIGHT (3/4 HP & GREATER)
C. MOTOR STARTER @ FAN & REMOTE START/STOP PUSH BUTTON (3/4 HP & GREATER)
D. EMS / BAS - START / STOP / STATUS
E. THERMOSTAT (START FAN ON A TEMP. RISE)
F. ELECTRIC PANEL SWITCH
G. CONTROL & INTERLOCK AS NOTED
H. TIME CLOCK, 7 DAY PROGRAMMABLE
J. INTERLOCK WITH LIGHT SWITCH OR MOTION SENSOR RELAY.
K. PROGRAMMABLE CURRENT SENSING RELAY, WIRE TO EMS, ALARM ON FAILURE
L. RUN FAN 24/7, PROVIDE EMS ALARM ON FAILURE
M. FIRE ALARM SYSTEM / PANEL
N. VFD WITH DUCT STATIC PRESSURE SENSOR
P. LINE VOLTAGE THERMOSTAT SET AT 90F.
Q. KSF-1 & KEF-1 SHALL BE INTERLOCKED. KITCHEN HOOD SYSTEM SHALL TURN ON BY SWITCH. PROVIDE A LOW VOLTAGE INTERLOCK.

FAN FILTER BOX SCHEDULE table with columns for Design, Location, Drive, CFM, TSP, Electrical Data (Motor HP, MCA, MOCP, V/PH), MFG, Model Number, Op. Weight, and Remarks.

- NOTES:
1. PROVIDE HIGH EFFICIENCY "GREEN MOTOR".
2. PROVIDE MERV 8 PRE-FILTER, MERV 16 FINAL FILTERS AND CARBON X/LUMINA CHEMICAL FILTERS SPECIFICALLY DESIGNED FOR DIESEL ENGINE EXHAUST.
3. REFER TO SEQUENCE OF OPERATION FOR MODES OF OPERATION AND TIE-IN TO CITY OF DENTONS ENVIROMATICS DDC CONTROL SYSTEM.
4. ALL UNITS SHALL BE ELECTRO-STATICALLY PAINTED TO MATCH C3.
5. PROVIDE UV-LIGHTING IN BUNKER GEAR ROOM ONLY. 254NM (GERMICIDAL) 20 WATT 70 SQUARE FOOT TITANIUM-DIOXIDE CORE.
6. MOUNTING HEIGHT 14'-0" A/F/F/ TO BOTTOM OF UNIT.



REVISIONS:

No.	DATE	DESCRIPTION
1	7.19.18	PERMIT
2	2.8.19	ADD #3

CONTENTS:

FLOOR PLAN -
PRESSURE PIPE

DATE:
06/12/2018

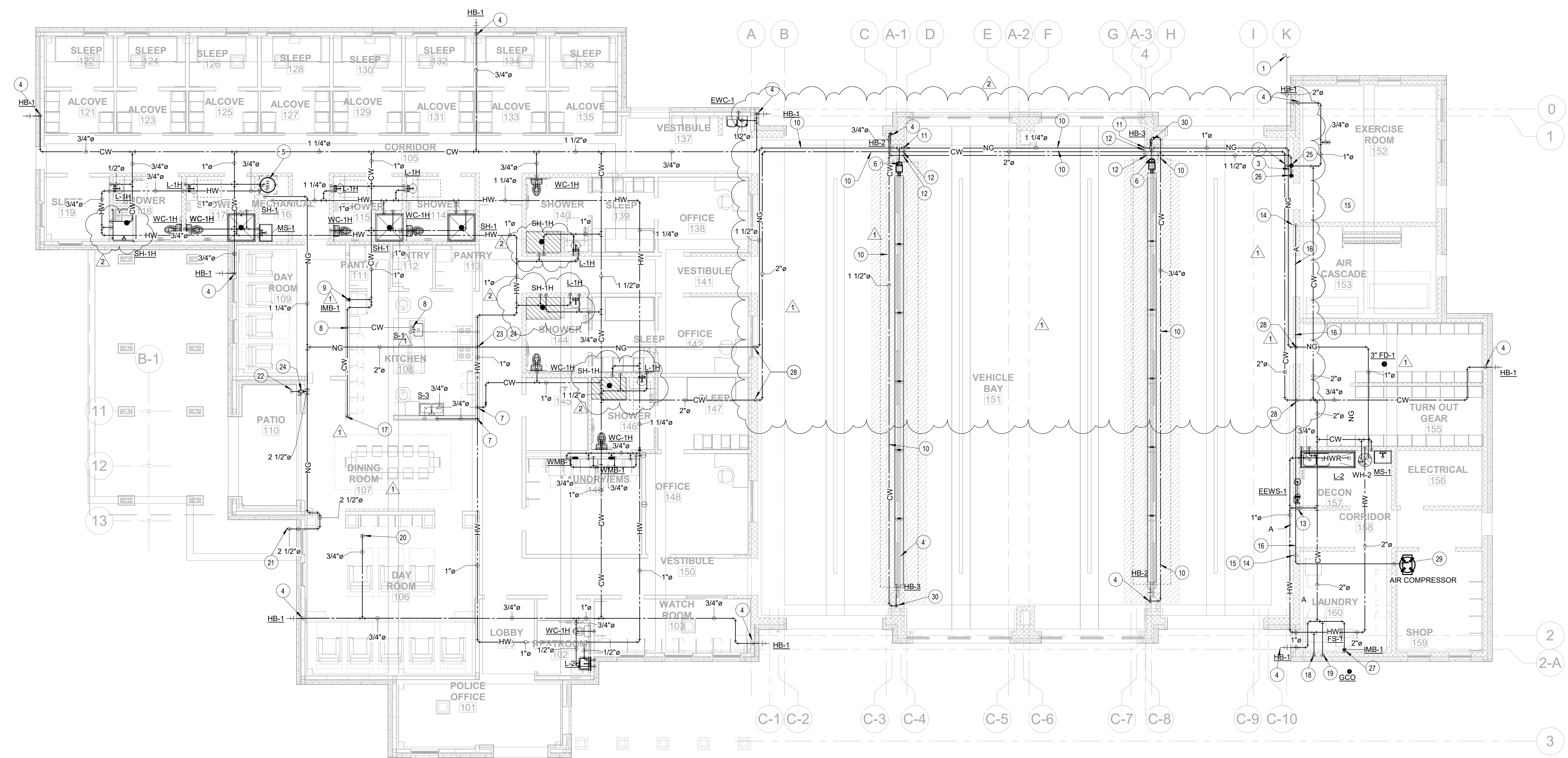
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P3.1

GENERAL NOTES:

- REFER TO MP-0.0 FOR GENERAL PLUMBING NOTES, ABBREVIATIONS, AND SYMBOLS.
- COORDINATE ALL PIPING AND FIXTURES WITH ALL OTHER TRADES BEFORE WORK IS TO BEGIN.
- NO EXPOSED PIPING UNLESS APPROVED BY ARCHITECT.
- ALL SANITARY PIPING TO BE AT A 1/8" SLOPE, UNLESS NOTED OTHERWISE.
- ALL PLUMBING ELECTRICAL DEVICES REQUIRING POWER SHALL BE COORDINATED BY THE CONTRACTOR.
- THERE SHALL BE NO PIPING ROUTED OVER ELECTRICAL/UT ROOMS.
- TRAP PRIMERS/TRAP GUARDS SHALL BE PROVIDED FOR ALL FLOOR DRAINS AND FLOOR SINKS EXCEPT FOR SHOWER DRAINS AND FLOOR SINK AT ICE MAKER.
- PROVIDE 1-1/4" DOUBLE CHECK FOR HB-3 WATER SUPPLY SYSTEM. DOUBLE CHECK SHALL BE LOCATED IN ACCESSIBLE PLACE AND CONFIRMED BY AHJ PRIOR TO INSTALLATION.
- INFRARED HEATERS ARE SUPPLIED AND INSTALLED BY MECHANICAL CONTRACTOR AND CONNECTED TO THE NATURAL GAS BY THIS CONTRACTOR.
- HOSE BIBS IN THE BAY AREAS SHALL SHARE A SEPARATE LINE FROM THE REST OF THE SYSTEM AND WILL HAVE A BACKFLOW PREVENTION DEVICE AT THE BRANCH.
- THE FOLLOWING WILL NEED BACKFLOW PREVENTION: COFFEE BREWER, ICE MACHINE, AND EXTRACTOR
- ALL UNDERFLOOR PIPING TO BE SUSPENDED. REFER TO P4.202
- FOR HC SHOWERS, INSTALL DIVERTER, VALVE, AND HANDHELD BY BENCH WHILE SHOWER HEAD IS TO BE LOCATED ON THE OPPOSITE WALL OF THE BENCH.

NOTES BY SYMBOL "O":

- CONNECT TO EXISTING DOMESTIC LINE. INSTALL WATER METER WHERE NECESSARY. VERIFY LOCATION AND SIZE UPON FIELD SURVEY. SEE CIVIL FOR CONTINUATION.
- 2" CW MAIN UP TO RPV. INSTALL RPV PER MANUFACTURER'S RECOMMENDATIONS.
- 2" CW MAIN UP FROM RPV.
- 3/4" CW DOWN TO HB.
- INSTALL WH PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE STAINLESS STEEL DRAIN PAN WITH WELDED SEAMS.
- ROUTE NG TO RADIANT HEATER. INSTALL ISOLATION VALVE AND INSTALL HEATER PER MANUFACTURER'S RECOMMENDATION.
- ROUTE 1/2" CW AND 3/4" HW UNDER CABINET INSIDE HALF WALL TO S-3 AND DISHWASHER.
- ROUTE 1/2" CW AND 1/2" HW BELOW GRADE AND UP INSIDE ISLAND TO S-1.
- PROVIDE A 3/4" CW SHUT-OFF VALVE DOWN TO REFRIGERATOR WITH RPZ AND WATER FILTRATION SYSTEM SECURED TO WALL IN HORIZONTAL POSITION (SEE DETAIL).
- OFFSET PIPING UP AND KEEP TIGHT TO STRUCTURAL ABOVE THE VEHICLE BAYS AND COORDINATE PIPING ROUTING WITH ARCHITECT PRIOR TO INSTALLATION.
- NG UP AND ACROSS HIGH BAY.
- CW UP AND ACROSS HIGH BAY.
- ROUTE HW AND CW DOWN TO EEW-1. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. INSTALL MIXING VALVE TO SUPPLY TEPID WATER DEMANDS PER CODE.
- HOSE REEL MOUNTED AT 110" A.F.F. BASIS OF DESIGN. REEL CRAFT RIBBON CUP WITH #60989 WALL MOUNTED SPRING BRACKET. PROVIDE 75 FEET -1/2" DIA. HOSE WITH HOSE BUMPER.
- 3/4" COMPRESSED AIR WITH SHUT-OFF VALVE TO WALL MOUNTED HOSE REEL.
- COMPRESSED AIR HORIZONTAL PIPING TO RUN IN CMU WALL.
- 1/2" CW WITH SHUT-OFF VALVE DOWN TO COFFEE MAKER CONNECTION. PROVIDE 10 MICRON FILTER BELOW COUNTER AND DOUBLE CHECK VALVE.
- 2" HW DOWN TO WASHER EXTRACTOR.
- 2" CW DOWN TO WASHER EXTRACTOR.
- 3/4" CW UP TO RH-1.
- GAS METER SET TO DELIVER 930 CFH AT 0.5 PSI.
- NG DOWN TO CONNECTION FOR GAS GRILL (100CFH). PROVIDE PIPING WITH AN ACCESSIBLE REMOVABLE CAP AND PLUG VALVE. INSTALL GAS RESET SWITCH FOR GAS SHUT-OFF VALVE.
- NG DOWN TO STOVE (200 CFH). PROVIDE PIPING WITH AN ACCESSIBLE QUICK CONNECT AND PLUG VALVE. INSTALL GAS RESET SWITCH FOR GAS SHUT-OFF FOR STOVE BY THERMOSTAT.
- NORMALLY OPEN GAS SOLENOID VALVES FOR GAS GRILLE AND GAS RANGE. IT SHALL BE INSTALLED TO ONLY CLOSE WHEN THE BUILDING'S FIRE ALARMS ACTIVATE. IT SHALL REMAIN OPEN WHEN ALERT SYSTEM ACTIVATES.
- CONNECT INCOMING DOMESTIC WATER TO VERTICAL RPZ (EQUAL TO ZURB MODELR 475475V). INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- ROUTE 1-1/2" CW LINE TO VERTICAL BACKFLOW DEVICE TO HOSE BIBS IN BAY. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- 1/2" CW WITH SHUT-OFF VALVE DOWN TO ICE MAKER CONNECTION.
- RUN PIPING VERTICALLY IN WALL.
- 1" COMPRESSED AIR DOWN TO AIR COMPRESSOR. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- 1-1/2" CW DOWN TO HB-3.



1 FLOOR PLAN - PRESSURE PIPE
1/8" = 1'-0"

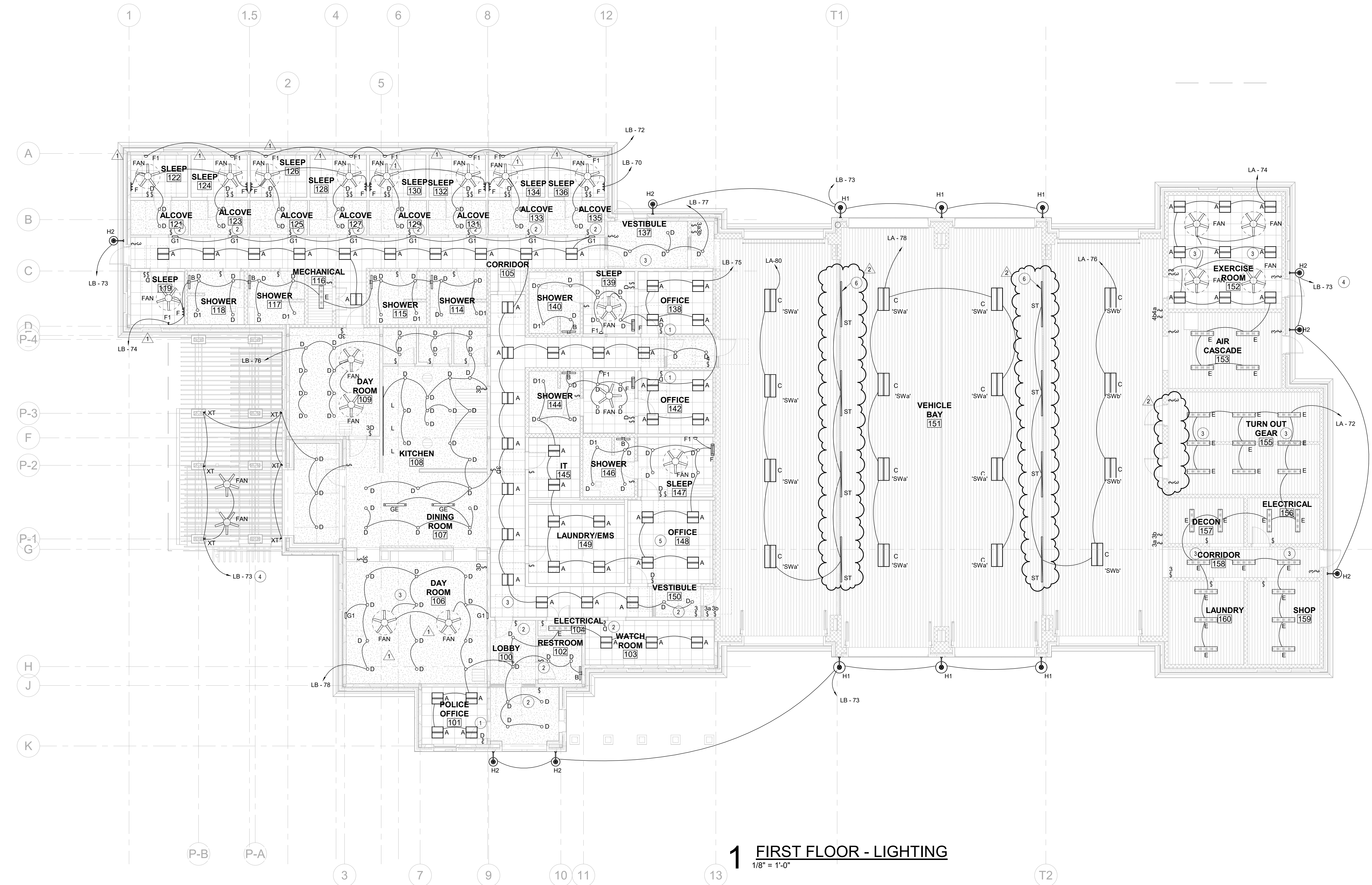


GENERAL NOTES:

1. REFER TO ARCHITECTURAL CEILING PLAN FOR EXACT LOCATION OF ALL LIGHT FIXTURES.
2. REFER TO ARCHITECTURAL ELEVATIONS FOR FINAL MOUNTING HEIGHTS OF ALL WALL MOUNTED LIGHT FIXTURES, UNLESS NOTED OTHERWISE. ARCHITECTURAL ELEVATIONS SHALL DICTATE MOUNTING HEIGHTS OF ALL FIXTURES.
3. COORDINATE FINAL PLACEMENT OF LIGHT FIXTURES IN ALL MECHANICAL SPACES WITH THE FINAL INSTALLED LOCATIONS OF ALL MECHANICAL DUCTWORK AND PIPING.
4. PROVIDE A SEPARATE NEUTRAL CONDUCTOR FOR EACH CIRCUIT. OCCUPANCY SENSORS SHALL BE CONNECTED AHEAD OF LOCAL OVERRIDE SWITCHES.
5. EMERGENCY FIXTURES TO BE CONNECTED TO CENTRAL BATTERY UNIT CB1 - SIGNTX CBS-500.

NOTES BY SYMBOL "O":

1. PROVIDE SWITCH MOUNTED VACANCY SENSOR.
2. PROVIDE SWITCH MOUNTED OCCUPANCY SENSOR.
3. PROVIDE CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR.
4. FIXTURES ON THIS CIRCUIT TO BE CONTROLLED VIA PHOTOCELL/TIMECLOCK.
5. PROVIDE CEILING MOUNTED DUAL TECHNOLOGY VACANCY SENSOR.
6. MOUNT FIXTURES TO SHINE UP TO ILLUMINATE UPPER BAY.



1 FIRST FLOOR - LIGHTING
1/8" = 1'-0"



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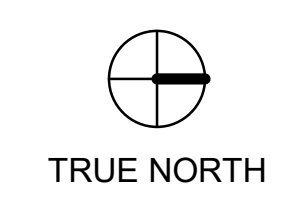
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No.	DATE	DESCRIPTION
1	7/19/18	PERMIT
2	2/6/19	ADDENDUM #3

CONTENTS:
FLOOR PLANS - LIGHTING

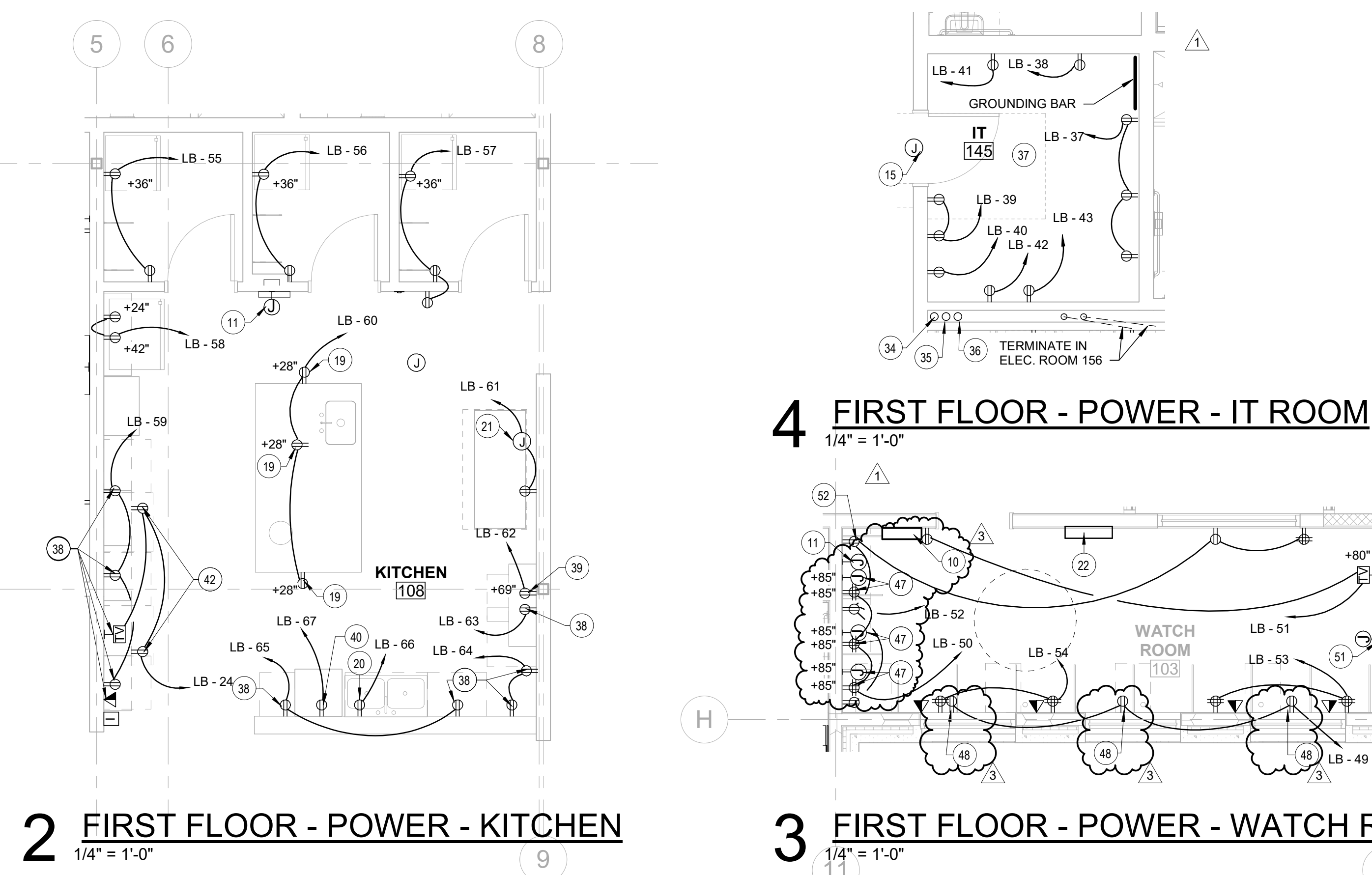
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06/12/2018

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DATE PLOTTED: 06/12/2018 10:00 AM



2 FIRST FLOOR - POWER - KITCHEN
1/4" = 1'-0"

4 FIRST FLOOR - POWER - IT ROOM
1/4" = 1'-0"

3 FIRST FLOOR - POWER - WATCH ROOM
1/4" = 1'-0"



5 TYPICAL OVERHEAD DOOR CONTROL
N.T.S.

GENERAL NOTES:

1. VERIFY ALL MOUNTING HEIGHTS OF RECEPTACLES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
2. VERIFY AND COORDINATE EXACT ELECTRICAL REQUIREMENTS OF ALL EQUIPMENT WITH MANUFACTURER'S RECOMMENDATIONS PRIOR TO INSTALLATION OF EQUIPMENT.
3. ALL CONDUIT AND/OR WIRING SHALL BE INSTALLED BETWEEN THE BOTTOM AND TOP OF CORD OF JOIST. DO NOT INSTALL CONDUIT WITHIN 3" OF ANY AC UNITS UNLESS THE CONDUIT AND/OR WIRING SERVES THE AC UNIT.
4. WHERE RECEPTACLES AND TELEPHONE/DATA OUTLETS ARE SHOWN GROUPED TOGETHER, CONTRACTOR SHALL MOUNT DEVICES AS CLOSE TOGETHER AS POSSIBLE.
5. PROVIDE MINIMUM OF (6) 3/4" AND (2) 1-1/2" CONDUITS FROM EACH FLUSH MOUNTED PANEL STUBBED UP INTO ACCESSIBLE CEILING SPACE FOR FUTURE.
6. CONTRACTOR SHALL PROVIDE A SEPARATE NEUTRAL CONDUCTOR FOR EACH BRANCH CIRCUIT.
7. REFER TO ALL VENDOR DRAWINGS FOR EXACT JUNCTION BOX REQUIREMENTS AND MOUNTING HEIGHTS.
8. ALL POWER WIRING SHALL BE RUN IN CONDUIT. NO EXPOSED WIRING ALLOWED.
9. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL DEVICES, WIRING, CONDUIT, ETC. FOR A COMPLETE INSTALLATION, INCLUDING INFRASTRUCTURE FOR ALL LOW VOLTAGE DEVICES INCLUDING JUNCTION BOXES, CONDUIT WITH PULL STRINGS, ETC. REFER TO DRAWINGS ES-1 FOR AUDIOVISUAL/SECURITY LAYOUT.
10. PROVIDE GFI RECEPTACLES OR GFCI BREAKERS FOR ALL RECEPTACLES IN KITCHEN AND RESTROOMS.

NOTES BY SYMBOL "O":

1. PROVIDE JUNCTION BOXES WITH 3/4" CONDUIT TO DOOR CONTROL STATION FOR ELECTRIC EYE SENSORS. COORDINATE EXACT LOCATION AND HEIGHT WITH DOOR MANUFACTURER AND TRUCK BUMPER HEIGHT.
2. PROVIDE JUNCTION BOX ABOVE DOOR WITH 3/4" CONDUIT TO DOOR CONTROL STATION FOR INTERIOR PRESENCE SENSOR.
3. 2x4 JUNCTION BOX FOR TRANSMITTER AT 7'-0" A.F.F. TRANSFORMER FOR TRANSMITTER TO BE MOUNTED ON WALL AND POWERED FROM DUPLEX ABOVE TRUSSES.
4. ELECTRICAL CORD REELS. PROVIDE DEDICATED 20A/1P RECEPTACLE MOUNTED TO THE BOTTOM OF JOIST SPACE ABOVE FOR CONNECTION TO CORD REELS. REEL TO HAVE MINIMUM OF 50' OF 12/3 HEAVY DUTY CORD AND KELLEEM GRIP STRAIN RELIEF AT OUTLET. OUTLET TO BE ROUNDED WITH 18" EXTENSION. BASIS OF DESIGN: CONNECTOR AT END OF CORD. HUBBELL HBL596C. REEL HUBBELL HBL45123229. COORDINATE FINAL LOCATION PRIOR TO ROUGH-IN.
5. ALL EQUIPMENT WITHIN THE VEHICLE BAY SHALL BE PAINTED FINISH TO BE SELECTED BY ARCHITECT.
6. INSTALL ALL RECEPTACLES, JUNCTION BOXES, SWITCHES, DOOR CONTROLS AND MISC. ELECTRICAL DEVICES AT 48" A.F.F. UNLESS OTHERWISE NOTED.
7. ALL CONDUIT WITHIN VEHICLE BAYS TO BE CONCEALED BELOW 18'-0" A.F.F. WITHIN WALL OR SLAB.
8. ALL ELECTRICAL FEEDERS AND CONDUITS TRaversING THE VEHICLE BAY AREA SHALL BE UNDERGROUND UNLESS NOTED OTHERWISE. ONLY CONDUIT ALLOWED IN CEILING WILL BE BRANCH CIRCUIT CONDUIT PER NEC 300.21(A).
9. RECEPTACLE AT 42" SHALL BE MOUNTED FLUSH WITHIN MILLWORK. PROVIDE RECEPTACLE WITH (2) INTEGRAL USB CHARGING PORTS. COORDINATE WITH MILLWORK CONTRACTOR. RECEPTACLE AT 62" SHALL BE WALL MOUNTED AND USE PORT CENTERED ABOVE BED. RECEPTACLE AT 48" SHALL BE AT DESK WITH (2) USB CHARGING PORTS. GENERATOR ANNUNCIATION PANEL. REFER TO ARCHITECTURAL DRAWINGS AT 03 FOR EXACT LOCATION AND HEIGHTS.
10. PROVIDE 120V, 1-PHASE POWER FOR DOOR HARDWARE.
11. MOUNT DISCONNECT FOR DOOR OPENER MOTOR APPROXIMATELY 18" BELOW MOTOR TYPICAL FOR ALL BAY DOORS.
12. PROVIDE 2"x4" J-BOX AND 1" CONDUIT TO DOOR CONTROL STATIONS FOR PANEL DOOR ANTENNA. PROVIDE PATHWAY TO TWO DOORS FOR EACH J-BOX. REFER TO ARCHITECTURAL DRAWING FOR EXACT LOCATION AND HEIGHT.
13. PROVIDE JUNCTION BOX FOR FUTURE USE WITH BLANK PLATE AND 1" CONDUIT WITH PULL STRING TO PULL BOX 10'-8" AFF ON OPPOSITE SIDE OF WALL AND TO STUB OUT AT ABOVE BOTTOM CORD OF TRUSS IN VEHICLE BAY.
14. PROVIDE 120V, 1-PHASE POWER FOR DOOR HARDWARE.
15. INSTALL J-BOX ABOVE CEILING FOR WI-FI ACCESS POINT.
16. POWER FOR SMOKE DETECTOR. REFER TO DRAWING ES.2.
17. PROVIDE BACK BOX AND CONDUIT TO ACCESSIBLE CEILING BACK BOX AND CONDUIT BY ELECTRICAL CONTRACTOR. SPEAKER, WIRING AND INSTALLATION BY AV CONTRACTOR.
18. RECEPTACLES LOCATED IN KITCHEN ISLAND, ROUTE 1" CONDUIT TO NEAREST WALL AND STUB CONDUIT 6" ABOVE ACCESSIBLE CEILING. COORDINATE ROUTING OF RACEWAY LOCATED WITHIN THE MILLWORK VENDOR. COORDINATE CONDUIT STUB UP LOCATION WITH KITCHEN ISLAND PRIOR TO ROUGH-IN.
19. IN SINK DISPOSAL. PROVIDE SINGLE POLE SINGLE THROW SWITCH ABOVE COUNTER FOR CONTROL OF SIMPLEX RECEPTACLE. COORDINATE FINAL LOCATION WITH MILLWORK PRIOR TO ROUGH-IN. POWER FOR KITCHEN HOOD.
20. MASTER VEHICLE BAY DOOR CONTROL PANEL. RECESSED.
21. 2x4 JUNCTION BOX FOR RECEIVER AT 7'-0" AFF. ALIGN WITH TRANSMITTER. TRANSFORMER FOR RECEIVER TO PLUG INTO DUPLEX ABOVE TRUSSES.
22. PROVIDE CUSTOM MADE, 20"X15"X5/8"X4" RECESSED PANEL TO HOUSE DOOR CONTROLS. REFER TO DETAIL S ON DRAWING AT 03.
23. ENTERTAINMENT CENTER. PROVIDE QUADREX RECEPTACLE. COAXIAL CABLE, DATA, AND ADDITIONAL 1-1/2" EMPTY CONDUIT FOR FUTURE ITEMS. ROUTE EMPTY CONDUIT UP THE WALL AND STUB 6" ABOVE ACCESSIBLE CEILING. MOUNT IN 3-GANG STEEL JUNCTION BOX. BASIS OF DESIGN IS: ARLINGTON CATALOG #VB5507. DEVICES TO BE LOCATED BEHIND TV AND WITHIN MILLWORK. REFER TO ARCHITECTURAL ELEVATIONS FOR REPLACEMENT HEIGHTS. STACK DEVICES SO AS TO ROUTE CONDUIT FROM LOWEST SIMILAR BOXES TO HIGHER BOXES AND THEN TO ACCESSIBLE CEILING.
24. PROVIDE POWER FOR SECURITY GRILLS. PROVIDE 3/4" CONDUIT FROM MOTOR TO CONTROL STATION ON WALL FOR CONTROL WIRING.
25. INSTALL J-BOX AT UNDERSIDE OF ROOF STRUCTURE FOR WI-FI ACCESS POINT.
26. MOUNT RECEPTACLE IN RISER OF STEP. PROVIDE DUPLEX WITH INTRFRAL USB CHARGER.
27. PROVIDE (2) 3" UNDERGROUND CONDUITS (ONE SPARE). ROUTE AS SHOWN. PROVIDE 24" CEILING HEIGHTS IN ELECTRICAL 156. PROVIDE PULL STRING (1) SPARE CONDUIT AT I.T. ROOM. RUN CONDUIT UP IN CHASE TO TRAY IN I.T. ROOM. COORDINATE WITH I.T. DEPARTMENT.
28. PROVIDE (3) 3" UNDERGROUND CONDUITS AS SHOWN FOR PANEL BOARD FEEDER, (1) SPARE.
29. POWER FOR IRRIGATION CONTROLLER.
30. 2x4 JUNCTION BOX FOR RECEIVER AT 9'-0" AFF. ALIGN WITH TRANSMITTER. TRANSFORMER FOR RECEIVER TO PLUG INTO DUPLEX ABOVE TRUSSES.
31. ALL DATA CABLES IN THIS AREA PULLED TO A PULL BOX AT CEILING HEIGHT AND THEN DOWN IN CONDUIT TO RUN UNDER SLAB TO I.T. ROOM 145.
32. 4" CONDUIT STUB UP LOCATION FOR INCOMING FIBER CABLE. REFER TO SITE PLAN FOR CONNECTION.
33. 4" INCOMING TELEVISION AND CABLE CONDUIT.
34. 4" CONDUIT STUB UP LOCATION FOR FUTURE USE. REFER TO SITE PLAN E1.0 FOR CONTINUATION.
35. PROVIDE 3/4" PLYWOOD ON ALL WALLS FROM 2' A.F.F. TO CEILING. PLYWOOD SHALL BE SFC CERTIFIED AND NOT CONTAIN FORMALDEHYDES.
36. INSTALL ABOVE COUNTER. COORDINATE WITH MILLWORK CONTRACTOR.
37. RECEPTACLE FOR MICROWAVE OVEN. COORDINATE EXACT LOCATION WITH MILLWORK CONTRACTOR.
38. RECEPTACLE FOR DISHWASHER.
39. PROVIDE GFCI BREAKER.
40. INSTALL RECEPTACLE IN FALLS FRONT DRAWER. COORDINATE WITH MILLWORK CONTRACTOR. REFER TO DRAWING 3A7.02.
41. PROVIDE OUTLET MOUNTED TO TRUSS FOR HEATER.
42. PROVIDE 2"x4" J-BOX AND 1" CONDUIT TO DOOR OPERATOR FOR SECTIONAL DOOR ANTENNA. PROVIDE PATHWAY TO TWO DOORS FOR EACH J-BOX. REFER TO ARCHITECTURAL DRAWING FOR EXACT LOCATION AND HEIGHT.
43. RECEPTACLE AT 60" A.F.F. FOR GATE CONTROLLER.
44. PROVIDE 30 AMP, 120V RECEPTACLE FOR VEHICLE CHARGING. NEMA TYPE TT-30R. PROVIDE #8 WIRE. COORDINATE EXACT CONFIGURATION WITH FIRE STATION VEHICLES.
45. PROVIDE JUNCTION BOX WITH (1) 1" CONDUIT TO ACCESSIBLE CEILING. COORDINATE HEIGHTS OF DEVICE WITH OWNER/ARCHITECT.
46. PROVIDE POWER ABOVE CEILING FOR ELECTRICALLY OPERATED WINDOW SHADES. PROVIDE A SINGLE GANG BOX FOR SWITCH TO OPERATE ALL SIMULTANEOUSLY. COORDINATE LOCATION OF SWITCH WITH OWNER.
47. TRANSFORMER. RECEIVER TO BE MOUNTED ON BRACKET MOUNTED TO PILASTER. TRANSFORMER FOR RECEIVER TO PLUG INTO DUPLEX ABOVE TRUSSES.
48. PROVIDE JUNCTION BOXES WITH 3/4" CONDUIT MOTOR CONTROL FOR ELECTRIC EYE SENSORS. COORDINATE EXACT LOCATION AND HEIGHT WITH DOOR MANUFACTURER AND TRUCK BUMPER HEIGHT.
49. PROVIDE 4"x4" J-BOX IN WALL AT 18" A.F.F. ROUTE (2) 1" CONDUITS TO ABOVE CEILING.
50. PROVIDE ONE (1) 3" CONDUIT FROM BLANK BOX (16" AFF) TO ABOVE CEILING.
51. LEGS AND WIREMESH STEEL 200 SHIMMER. 3/16" MINUS STEEL. GB-B HARDWIRED. INSTALL AT 44" A.F.F. REFER TO ARCHITECTURAL DRAWING A-7.06.
52. PROVIDE 24" WOOD THROUGH SLAB BOX.
53. PLACE A 2" x 6" COPPER GROUND BAR ABOVE CEILING AND CONNECT TO GROUND BAR IN I.T. ROOM 145. COORDINATE EXACT LOCATION WITH I.T. DEPARTMENT.

1 FIRST FLOOR - POWER
1/8" = 1'-0"

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1	7/19/18	PERMIT
2	11/19/18	ADDENDUM #1
3	2/6/19	ADDENDUM #3

CONTENTS:
FLOOR PLANS - POWER

DATE:
06/12/2018

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DATELONG
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