

ADDENDUM

Client: Palmyra United Methodist Church

Project Name: New Building for Palmyra United Methodist Church

Project Number: 5356

Addendum Number: 01

Issued: 06-07-2019

This addendum becomes a part of the bidding and contract documents and modifies the drawings and specifications dated **May 17, 2019**. Acknowledge receipt of this addendum by noting such on the Contractor's Proposal (Bid) Form.

FAILURE TO DO SO MAY SUBJECT BIDDER TO DISQUALIFICATION

This addenda and all future addendums with a Plan Holders List will be also be posted on the website of Architechnics, Inc. and updated daily. Check the Current Projects tab on the site: www.architechnicsinc.com

ITEM	DESCRIPTION	NOTES
SPECIFICATIONS:		
Section 00 1116 - Invitation to Bid	Replace	Replace section attached. Bid due date revised.
Section 00 4113 - Bid Form	Replace	Replace section attached. Section 1.2.A.2 added -municipal fee allowance
Section 03 3000 - Cast in Place Concrete	Clarify, no change:	Section 3.13.A - Special inspections shall be provided by the owner.
Section 07 2413 - Polymer-Based Exterior Insulation Finish System	Add	Whole section was added to the Specifications
Section 07 4213.19 - Insulated Metal Wall Panels	Add	Whole section was added to the Specifications
Section 08 1113 - Hollow Metal Doors and Frames	Add	Whole section was added to the Specifications
Section 08 5413 - Fiberglass Windows	Add	Whole section was added to the Specifications

DRAWINGS:

A101	Add	Keyed Note 15 - describes the block out of the concrete slab for future electrical runs.
A103	Add	Downspouts at both the higher and lower roof. These are to be centered on the column grids.
A103	Clarify	Alternate A-6 was clarified to show that the roof, fascia and gutter profile would continue if the porte cochere was removed.
A201	Modify	Hollow metal doors are no longer supplied by the PEMB manufacturer. Gutters, downspouts and fascias are by the PEMB manufacturer.
A201	Remove	Kitchen windows have been removed on the North Elevation
A202	Add	Masonry Callouts for the Face Brick and Splitface CMU
A202	Add	Hollow metal doors are no longer supplied by the PEMB manufacturer. Gutters, downspouts and fascias are by the PEMB manufacturer.
A202	Clarify	Windows are graphically shown as Fixed now and not Double Hung.
A202	Modify	Exterior light locations were adjusted
A202	Add	Downspouts were added. These are to be centered on gridlines.
A302	Modify	Insulation requirements have been modified.
A303	Modify	Insulation requirements have been modified.
A401	Add	Additional handrail support was required

A402	Add	E.I.F.S. was added to the porte cochere in lieu of just gypsum board. See added SPEC Section 07 2413
A501	Modify	Insulation requirements have been modified.
E101	Add	(2)-1" empty conduits for future circuits.
E101	Modify	Relocate (2) exterior wall mounted light fixtures.
S001	Modify	Plywood: See specifications for grade and thickness
S002	Modify	Added sprinkler loading into design load schedule
S101	Add / Modify	Added stoop slabs at entry locations. Added reentrant corner slab reinforcing bars. Revised concrete pier designations, added structural notes
S201	Add	Added notes regarding roof purlin depth for Base Bid and Alternate Bid.
S301	Modify	Revised concrete pier schedule.
S303	Added	Added concrete pier details
S502	Added	Added Sheet S502 - Column Schedule
S601	Added / Modify	Added Details 3 and 4 on S601. Revised roof sheathing to 5/8" thick. Provided bearing elevations.

This addendum consists of 26 pages; Added, Replaced, and Clarified Specification Sections.; Drawings A101, A103, A201, A202, A302, A303, A402, A501, E101, S001, S002, S101, S201, S301, S303, S502, S601,

**DOCUMENT 00 1116
INVITATION TO BID**

1.1 PROJECT INFORMATION

- A. Notice to Bidders: Prequalified bidders are invited to submit bids for Project as described in this Document according to the Instructions to Bidders.
- B. Project Identification: Site Prep; Structural & Building Shell Bid Package with Minor MEP Infrastructure Systems.
 - 1. Project Location: Palmyra, Missouri.
- C. Owner: Palmyra United Methodist Church.
 - 1. Owner's Representative: Doug Aeilts.
- D. Architect: Architechnics, Inc., 510 Maine - 10th Floor, Quincy, Illinois, 62301.
- E. Project Description: Project consists of Building Shell and Site Prep Package.
- F. Construction Contract: Bids will be received for the following Work:
 - 1. General Contract (all trades).

1.2 BID SUBMITTAL AND OPENING

- A. Owner will receive sealed bids until the bid time and date at the location indicated below. Owner will consider bids prepared in compliance with the Instructions to Bidders issued by Owner, and delivered as follows:
 - 1. Bid Date: June 13, 2019.
 - 2. Bid Time: 2:00 p.m., local time.
 - 3. Location: Office of the Architect, 510 Maine - 10th Floor, Quincy, IL 62301.
- B. Bids will be thereafter privately opened.

1.3 BID SECURITY

- A. Bid security shall be submitted with each bid in the amount of 5 percent of the bid amount. No bids may be withdrawn for a period of 60 days after opening of bids. Owner reserves the right to reject any and all bids and to waive informalities and irregularities.

1.4 PREBID CONFERENCE

- A. A prebid conference for all bidders will be held at Palmyra United Methodist Church, 110 West Olive St, Palmyra, MO 63461 on May 29, 2019 at 9:00 am, local time. Prospective bidders are requested to attend.

1.5 DOCUMENTS

- A. Printed Procurement and Contracting Documents: Obtain after May 17, 2019 by contacting Architect. Documents will be provided to prime bidders only; only complete sets of documents will be issued. Documents will be ordered from reprographic company and mailed to bidder.
 - 1. Fee: \$200.00.
 - 2. Shipping: Additional shipping will apply.
- B. Online Procurement and Contracting Documents: Obtain access after May 17, 2019 by contacting the Architect. Online access will be provided to all registered bidders and suppliers. Online documents are available at no cost to bidders.

1.6 TIME OF COMPLETION

- A. Bidders shall begin the Work on receipt of the Notice to Proceed and shall complete the Work within the Contract Time.

1.7 BIDDER'S QUALIFICATIONS

- A. Bidders must be prequalified by Owner.
- B. Bidders must be properly licensed under the laws governing their respective trades and be able to obtain insurance and bonds required for the Work. A Performance Bond, a separate Labor and Material Payment Bond, and Insurance in a form acceptable to Owner will be required of the successful Bidder.

END OF DOCUMENT 00 1116

DOCUMENT 00 4113
BID FORM - STIPULATED SUM (SINGLE-PRIME CONTRACT)

1.1 BID INFORMATION

- A. Bidder: _____.
- B. Project Name: Site Prep, Structural Building Shell Bid Package with Minor MEP Infrastructure Systems.
- C. Project Location: Palmyra, Missouri.
- D. Owner: Palmyra United Methodist Church.
- E. Architect: Architechnics Inc.
- F. Architect Project Number: 5356.

1.2 CERTIFICATIONS AND BASE BID

- A. Base Bid, Single-Prime (All Trades) Contract: The undersigned Bidder, having carefully examined the Procurement and Contracting Requirements, Conditions of the Contract, Drawings, Specifications, and all subsequent Addenda, as prepared by Architechnics and Architect's consultants, having visited the site, and being familiar with all conditions and requirements of the Work, hereby agrees to furnish all material, labor, equipment and services, including all scheduled allowances, necessary to complete the construction of the above-named project, according to the requirements of the Procurement and Contracting Documents, for the stipulated sum of:
 - 1. _____ Dollars (\$_____).
 - 2. Contractor shall include an allowance for permit fees, municipal utility hook-up fees, etc of \$10,000.00 in their base bid stipulated sum. These fees will be paid by the contractor on behalf of the owner. If the total is less than \$10,000.00 shall be credited back to the owner in the form of a deductive change order. If the total is more than \$10,000.00 shall be added to the contract in the form of an additive change order.
 - 3. The above amount may be modified by amounts indicated by the Bidder on the attached Document 004322 "Unit Prices Form" and Document 004323 "Alternates Form."

1.3 ALTERNATE BIDS

- A. Alternate Bid 01: Roof
 - 1. _____ Dollars (\$_____).
- B. Alternate Bid 02:
 - 1. _____ Dollars (\$_____).
- C. Alternate Bid 03: Masonry

1. _____ Dollars (\$_____).

D. Alternate Bid 04: Clerestory Windows

1. _____ Dollars (\$_____).

E. Alternate Bid 05: Steeple

1. _____ Dollars (\$_____).

F. Alternate Bid 06: Covered Drop-Off

1. _____ Dollars (\$_____).

1.4 BID GUARANTEE

- A. The undersigned Bidder agrees to execute a contract for this Work in the above amount and to furnish surety as specified within 10 days after a written Notice of Award, if offered within 60 days after receipt of bids, and on failure to do so agrees to forfeit to Owner the attached cash, cashier's check, certified check, U.S. money order, or bid bond, as liquidated damages for such failure, in the following amount constituting five percent (5%) of the Base Bid amount above:

1. _____ Dollars
(\$_____).

- B. In the event Owner does not offer Notice of Award within the time limits stated above, Owner will return to the undersigned the cash, cashier's check, certified check, U.S. money order, or bid bond.

1.5 ACKNOWLEDGEMENT OF ADDENDA

- A. The undersigned Bidder acknowledges receipt of and use of the following Addenda in the preparation of this Bid:

1. Addendum No. 1, dated _____.
2. Addendum No. 2, dated _____.
3. Addendum No. 3, dated _____.
4. Addendum No. 4, dated _____.

1.6 BID SUPPLEMENTS

- A. The following supplements are a part of this Bid Form and are attached hereto.

1. Bid Form Supplement - Alternates.

1.7 SUBMISSION OF BID

- A. Respectfully submitted this ____ day of _____, 2019.

- B. Submitted By: _____ (Name of bidding firm or corporation).

- C. Authorized Signature:_____ (Handwritten signature).
- D. Title:_____ (Owner/Partner/President/Vice President).
- E. Street Address:_____.
- F. City, State, Zip:_____.
- G. Phone:_____.

END OF DOCUMENT 00 4113

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SECTION 07 2413
POLYMER-BASED EXTERIOR INSULATION AND FINISH SYSTEM

PART 1 - GENERAL

1.1 SUMMARY

- A. This document is intended to be used in preparing specifications for projects utilizing Cement Board MD Finish System by Dryvit. For complete product description and usage refer to:
- B. Dryvit Cement Board MD Data Sheet, DS480
- C. Dryvit Cement Board MD Installation Details, DS190

1.2 RELATED SECTIONS

- A. Wood Framing – Section 06 1100

1.3 REFERENCES

- A. AC59 Acceptance Criteria for Direct-Applied Exterior Finish Systems.
- B. AC148 Acceptance Criteria for Flashing Materials.
- C. ASTM B 117 (Federal Test Standard 141A Method 6061) Test Method of Salt Spray (Fog) Testing.
- D. ASTM C 79 Specification for Gypsum Sheathing Board.
- E. ASTM C 150 Specification for Portland Cement.
- F. ASTM C 297 Test Method for Tensile Strength of Flat Sandwich Constructions in Flatwise Plane.
- G. ASTM C 1177 Specification for Glass Mat Gypsum Substrate for Use as Sheathing.
- H. ASTM C 1325 Standard Specification for non-asbestos fiber-mat reinforced cementitious backer units.
- I. ASTM C 1516 Standard Practice for Application of Direct-Applied Exterior Finish Systems.
- J. ASTM D 968 (Federal Test Standard 141A Method 6191) Test Method for Abrasion Resistance of Organic Coatings by Falling Abrasive.
- K. ASTM D 2898 Standard Test Method for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing
- L. ASTM D 3273 Test Method for Resistance to Growth of Mold on Surfaces.
- M. ASTM E 84 Test Method for Surface Burning Characteristics of Building Materials.

- N. ASTM E 96 Test Methods for Water Vapor Transmission of Materials.
- O. ASTM G 23 (Federal Test Standard 141A Method 6151) Recommended Practice for Operating Exposure Apparatus (Carbon-Arc Type) With and Without Water, for Exposure of Nonmetallic Materials.

1.4 SUBMITTALS

- A. Submittal requirements by the contractor are to be indicated in the construction documents as required, including:
 - 1. Product literature, samples or mock up.
 - 2. Finish sample indicating color and texture for approval by architect/owner.

1.5 DESCRIPTION

- A. Cement Board MD Finish System consisting of Dryvit base coat with reinforcing mesh, and finish applied over an exterior cement board that is installed over a code approved water-resistive barrier and approved drainage medium. The substrate, cement board, and water-resistive barrier (unless the water-resistive barrier is manufactured by Dryvit) are not part of the system.
 - 1. Design Requirements:
 - a. A sheathing board substrate installed over structural framing prior to installation of a code approved water-resistive barrier shall be one of the following:
 - 1) Exterior sheathing having a water-resistant core with fiberglass mat facers meeting ASTM C 1177.
 - 2) Exterior fiber reinforced cement meeting ASTM C 1325 or calcium silicate boards.
 - 3) APA Exterior or Exposure 1 Rated Plywood, Grade C-D or better, nominal 1/2 in (12.7 mm), minimum, installed with the C face out.
 - 4) APA Exterior or Exposure 1 Fire Retardant Treated (FRT) Plywood, Grade C-D or better, nominal 1/2 in (12.7 mm), minimum, installed with the C face out.
 - 5) APA Exposure 1 Rated Oriented Strand Board (OSB) nominal 1/2 in (12.7 mm), minimum. NOTE: Applications over OSB sheathing requires a minimum of 2 coats of Backstop NT – Smooth or Spray. Backstop NT – Texture is not recommended for the field of wall application over OSB.
 - b. The outer layer sheathing shall be exterior cement board meeting ASTM C 1325, minimum 1/2 in (12.7 mm).
 - c. The roofing materials shall be loaded onto the roof and interior wallboard stocked in the building prior to the installation of the Cement Board MD Finish System.
 - d. Deflection of substrate systems shall not exceed L/360.
 - e. The slope of inclined surfaces shall not be less than 6:12 (27°) and the length shall not exceed 12 in (305 mm).
 - f. Expansion joints:
 - 1) Design and location of expansion/control joints in the substrate shall be determined by the project design professional and indicated on the contract

documents. As a minimum, joints in Cement Board MD Finish System are required at the following locations:

- a) Where expansion joints occur in the substrate system
- b) Where building expansion joints occur
- c) At floor lines in wood frame construction
- d) Where Cement Board MD Finish System abuts dissimilar materials
- e) Where the substrate changes
- f) Where significant structural movement occurs such as changes in roofline, building shape or structural system

g. Control joints:

- 1) Design and location of control joints shall be determined by the design professional. As a minimum, control joints shall be located at the following locations:
 - a) Corners of openings.
 - b) Such that wall lengths do not exceed 20 ft (6 m).
 - c) Length to width ratios of wall areas shall not exceed 2.5:1.

h. Sealants

- 1) Use and location of sealants is the responsibility of the project designer and shall be indicated on the contract documents.
- 2) Refer to Section 07 90 00.
- 3) Refer to Dryvit publication DS153 for a list of sealants that have been tested for compatibility with Dryvit products.

i. Vapor Retarders

- 1) Use and location of vapor retarders within a wall assembly is the responsibility of the project designer and shall comply with local building code requirements. Type and location shall be noted on the contract documents. Vapor retarders may be inappropriate in certain climatic zones and can result in condensation within the wall assembly when incorrectly used. Refer to Dryvit publication DS159 for additional information.

j. Flashing

- 1) Flashing: shall be provided at all roof-wall intersections, windows, doors, chimneys, decks, balconies, and other areas as necessary to prevent water penetration behind Cement Board MD Finish System.

k. Site Coated EPS Shapes and Starter Boards: Shall be coated on site utilizing the same materials (EPS, base material mixture, reinforcing mesh, and finish) as specified for the project.

l. Pre Base Coated EPS Shapes and Starter Boards: Shall be supplied by Acrocore or other approved shape manufacturer.

2. Performance Requirements: As a minimum, the Dryvit Cement Board MD Finish System products shall be tested as follows:

- a. ASTM B 117: Salt Spray Resistance – 300 hrs, no deleterious effects.
- b. ASTM C 297 Bond Strength – Failure in the substrate.

- c. ASTM D 968: Abrasion Resistance – 132 gal (500 L), no deleterious effects.
- d. ASTM D 3273 Mildew/Fungus Resistance – Passed.
- e. ASTM E 84 Flame Spread – Flame Spread Index less than 25, Smoke Developed less than 250.
- f. ASTM E 96 Water Vapor Transmission – Vapor Permeable.
- g. ASTM G 23 Accelerated Weathering – 2000 hrs, Passed.

1.6 QUALITY ASSURANCE

A. Qualifications:

- 1. Manufacturer: Shall be Dryvit Systems, Inc. or approved suppliers. All materials shall be obtained from Dryvit Systems, Inc. or its authorized distributors.
- 2. Material shall be manufactured at a facility covered by a current ISO 9001:2015 and ISO 14001:2015 certification. Certification of the facility shall be by a registrar accredited by the American National Standards Institute-Registrar Accreditation Board (ANSI-RAB).
- 3. Plastering Contractor:
 - a. Shall be knowledgeable in the proper installation of Cement Board MD Finish System components.
 - b. Shall have qualified and properly trained people to perform work.
 - c. Shall be licensed, bonded and insured.
 - d. Shall have experience in application of direct-applied exterior finish systems on projects of comparable scope.
- 4. Third Party Inspection
 - a. Owner's independent third-party inspection is recommended to verify installation according to code and contract documents. It is recommended that as a minimum, inspection items include installation of the water-resistive barrier, flashings and accessories, Cement Board MD Finish System materials and sealants. The intent is to verify that the installation has been performed in accordance with code requirements, contract requirements and this specification.
- 5. Machine Coated Dryvit EPS Shapes and Starter boards: Shall be supplied by Acrocore or other manufacturer that subscribes to the Dryvit third party certification and quality assurance program.

B. MOCK-UP

- 1. The contractor shall, before the project commences, provide the owner/architect with a mock-up for approval.
- 2. The mock-up shall be of suitable size as required to accurately represent each color and texture to be utilized on the project.
- 3. The mock-up shall be prepared with the same products, tools, equipment and techniques required for the actual applications. The finish used shall be from the same batch as that being used for the project.
- 4. The approved mock-up shall be available and maintained at the job site.

1.7 DELIVERY, STORAGE AND HANDLING

- A. All Dryvit materials shall be delivered to the job site in the original, unopened packages with labels intact.

- B. Upon arrival, materials shall be inspected for physical damage, freezing or overheating. Questionable materials shall not be used.
 - 1. Materials shall be stored at the job site, and at all times, in a cool, dry location, out of direct sunlight, protected from weather and other sources of damage. Minimum storage temperature shall be as follows:
 - a. DPR, PMR™, HDP™, Weatherlastic® and E™ Finishes, Color Prime™, Primus®, Genesis® and NCB™, 40 °F (4 °C).
 - b. For other products, refer to specific product data sheets.
 - 2. Maximum storage temperature shall not exceed 100 °F (38 °C). NOTE: Minimize exposure of materials to temperatures over 90 °F (32 °C). Finishes exposed to temperatures over 110 °F (43 °C) for even short periods may exhibit skinning, increased viscosity and should be inspected prior to use.
- C. Protect all products from inclement weather and direct sunlight.

1.8 PROJECT CONDITIONS

- A. Environmental Requirements
 - 1. Application of wet materials shall not take place during inclement weather unless appropriate protection is provided. Protect materials from inclement weather until they are completely dry.
 - 2. At the time of Dryvit product application, the air and wall surface temperatures shall be from 40 °F (4 °C) minimum to 100 °F (38 °C) maximum for the following products:
 - a. DPR, PMR, HDP, Weatherlastic and E Finishes, Color Prime, Primus, Genesis and NCB.
 - b. For other products, refer to specific product data sheets.
 - 3. These temperatures shall be maintained with adequate air ventilation and circulation for a minimum of 24 hours (48 hours for Weatherlastic Finishes, Ameristone, and TerraNeo) thereafter, or until the products are completely dry. Refer to published product data sheets for more specific information.

1.9 SEQUENCING AND SCHEDULING

- A. Installation of Cement Board MD Finish System shall be coordinated with other construction trades.

1.10 WARRANTY

- A. Dryvit Systems, Inc. shall provide a written limited materials warranty against defective material upon written request. Dryvit shall make no other warranties, expressed or implied. Dryvit does not warrant workmanship. Full details are available from Dryvit Systems, Inc.
- B. The applicator shall warrant workmanship separately. Dryvit shall not be responsible for workmanship associated with installation of the Cement Board MD Finish System.

1.11 DESIGN RESPONSIBILITY

- A. It is the responsibility of both the specifier and the purchaser to determine if a product is suitable for their intended use. The designer selected by the purchaser shall be responsible for all decisions pertaining to design, detail, structural capability, attachment details, shop drawings and the like. Dryvit has prepared guidelines in the form of specifications, application details, and product data sheets to facilitate the design process only. Dryvit is not liable for any errors or omissions in design, detail, structural capability, attachment details, shop drawings, or the like, whether based upon the information prepared by Dryvit or otherwise, or for any changes which purchasers, specifiers, designers, or their appointed representatives may make to Dryvit's published comments.

1.12 MAINTENANCE

- A. All Dryvit products are designed to require minimal maintenance. However, as with all building products, depending on location, some cleaning and minimal maintenance may be required. See Dryvit publication DS152 on Cleaning and Recoating.
- B. Sealants and flashings shall be inspected by the owner or their agent on a regular basis and repairs made as necessary.

PART 2 - PRODUCTS

2.1 MANUFACTURER:

- A. All components of the Cement Board MD Finish System shall be obtained from Dryvit or its authorized distributors.

2.2 MATERIALS

- A. Water-Resistive Barrier (not a component of the Dryvit finish system except for Backstop® NT™).
 - 1. Dryvit Backstop NT: A vapor permeable, flexible, polymer-based noncementitious water-resistive and air barrier coating available in Texture, Smooth, and Spray. See DS180 and DS181.
 - 2. Dryvit Backstop NT-VB: A Class 1 vapor retarder, available in trowel and spray versions. When specified, consider having a WVT analysis performed. See DS830 and DS831.
 - 3. Dryvit Grid Tape™: A 4 in (102 mm) wide, open weave fiberglass mesh tape used to reinforce sheathing joints and exposed edges of sheathing.
 - 4. Other code approved water-resistive barrier (when selected by others) is not a component of the Dryvit finish system.
- B. Dryvit MD Spacer™: A polyethylene spacer, which separates the exterior cement board from the sheathing substrate. If other spacers are used, they are not part of the Dryvit finish system.
- C. Exterior Cement Board (by others) and cement board fasteners (by others) are not components of the Dryvit finish system.
- D. Dryvit Base Coat

1. Cementitious: A liquid polymer based material, which is field mixed in a 1:1 ratio by weight with Portland Cement.
 - a. Shall be Genesis®.
 2. Ready mixed: A dry blend cementitious, polymer-based product, field mixed with water.
 - a. Shall be Genesis® DM.
 3. Sprayable: A dry blend cementitious, polymer-modified product, field mixed with water and specifically formulated for spray applications to provide longer pot life, less false set, extended open time and stronger wet grip.
 - a. Shall be Genesis® DMS.
- E. Machine Coated Dryvit EPS Shapes and Starter Boards: Shall be supplied by Acrocore or other manufacturer that subscribes to the Dryvit third party certification and quality assurance program.
- F. Reinforcing Mesh(es): Shall be a balanced open weave, glass fiber fabric treated for compatibility with other system materials.
1. Dryvit Detail Mesh®: 4.3 oz/yd² (146 g/m²), 9 1/2 in (241 mm) wide. Required at all exterior cement board joints and inside and outside corners.
 2. Dryvit Standard Mesh: 4.3 oz/yd² (146 g/m²). Shall be installed over the entire exterior cement board face.
- G. Dryvit Finish: Shall be the type, color and texture as selected by the owner/architect and shall be one or more of the following:
1. Standard DPR (Dirt Pickup Resistance): Water based, acrylic coatings with integral color and texture and formulated with DPR chemistry:
 - a. Quarzputz® DPR: Open-texture pattern.
 - b. Sandblast® DPR: Medium texture.
 - c. Freestyle® DPR: Fine texture.
 - d. Sandpebble® DPR: Pebble texture.
 - e. Sandpebble® DPR Fine: Fine pebble texture.
 2. Hydrophobic (HDP™) Finishes: 100% acrylic coating with integral color and texture and formulated with hydrophobic properties:
 - a. Quarzputz® HDP
 - b. Sandblast® HDP
 - c. Sandpebble® HDP
 - d. Sandpebble® Fine HDP
 3. E Finishes™: Water-based, lightweight acrylic coatings with integral color and texture and formulated with DPR chemistry:
 - a. Quarzputz® E
 - b. Sandpebble® E
 - c. Sandpebble® Fine E
 4. Specialty Finishes and Veneers:

- a. Ameristone™: Multi colored quartz aggregate.
 - b. Stone Mist®: Ceramically colored quartz aggregate.
 - c. Custom Brick™: Acrylic polymer finish used in conjunction with a proprietary template system to create the look of stone, brick, slate or tile.
 - d. TerraNeo®: 100% acrylic-based finish with large mica chips and multi-colored quartz aggregates.
 - e. NewBrick®: A lightweight insulated brick veneer for use on exterior walls.
5. Elastomeric DPR (Dirt Pickup Resistance) Finishes: Water-based, elastomeric acrylic finishes with integral color and texture and formulated with DPR chemistry:
- a. Weatherlastic® Quarzputz
 - b. Weatherlastic® Sandpebble
 - c. Weatherlastic® Sandpebble Fine
 - d. Weatherlastic® Adobe
6. Medallion Series PMR™ (Proven Mildew Resistance) Finishes: Water based, acrylic finishes with integral color and texture:
- a. Quarzputz® PMR
 - b. Sandblast® PMR
 - c. Freestyle® PMR
 - d. Sandpebble® PMR
 - e. Sandpebble® Fine PMR
7. Coatings, Primers and Sealers:
- a. Demandit® Smooth
 - b. Demandit® Sanded
 - c. Demandit® Advantage™
 - d. HDP Water-Repellent Coating
 - e. Weatherlastic® Smooth
 - f. Tuscan Glaze™
 - g. Color Prime™
 - h. Prymit®
 - i. SealClear™
- H. Expanded polystyrene (if applicable): Shall be 1 pcf nominal density meeting DS131. EPS must meet the specification of Dryvit Systems, Inc. and be produced by a manufacturer licensed by Dryvit.
- I. Accessories (by others) are not components of the Dryvit finish system.
- 1. Type, style and manufacturer shall be indicated on construction documents.
 - 2. In corrosive environments, accessories manufactured of PVC or zinc are recommended.
 - 3. Steel accessories shall meet ASTM C 841.
 - 4. PVC accessories shall meet ASTM D 1784 and C 1063.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Prior to installation of the Cement Board MD Finish System, it is the contractor's responsibility to ensure that:
1. The sheathing substrate is of a type listed in Section 1.05 A.2.a.
 2. The sheathing substrate and the exterior cement board surface are free of dust, loose particles, oil and other conditions that would affect the adhesion or installation of Cement Board MD Finish System materials.
 3. All fasteners are corrosion resistant and installed in a manner as to be flush with the surface of the cement board.
 4. All accessories including corner aids, control and expansion joints, casing beads, etc. are properly fastened and positioned according to contract drawings, manufacturer requirements and local building code requirements.
 5. The water-resistive barrier is of a proper type and, if sheet form, has been installed in a weatherboard fashion in accordance with building code and manufacturer's requirements.
 6. Doors, windows, decks, and other openings and penetrations have been properly flashed in accordance with manufacturer requirements, building code and contract documents.
 7. Metal roof flashing has been installed in accordance with Asphalt Roofing Manufacturers Association (ARMA) Standards.
 8. The cement board surface is flat within 1/4 in (6.4 mm) in 10 ft (3 m).
 9. The contractor shall notify the general contractor and/or owner and/or architect of all discrepancies. Do not proceed until unsatisfactory conditions are resolved.

3.2 PREPARATION

- A. The Cement Board MD Finish System materials shall be protected by permanent or temporary means from weather and other damage prior to, during, and following application, until dry.
- B. Protect adjoining work and property.

3.3 INSTALLATION

- A. Mixing:
1. Backstop NT: Due to shipping and storage, there may be some settling of materials. Prior to using, mix the material to a smooth homogeneous consistency.
 2. Dryvit base coat materials shall be mixed in accordance with current Dryvit printed Product Sheets.
 - a. Dryvit Genesis shall be mixed in a 1:1 ratio with Portland cement. The mix is allowed to set for 5 minutes and then remixed to break the set. Refer to Genesis product sheet DS417 for complete instructions.
 - b. Dryvit Genesis DM shall be mixed with water to a uniform consistency, allowed to set for 10 minutes and then remixed to break the set. Refer to Genesis DM product sheet DS452 for complete instructions.
 - c. Dryvit Genesis DMS shall be mixed with water to a uniform consistency, allowed to set for 5 minutes and then remixed to break the set. Refer to Genesis DMS product sheet DS471 for complete instructions.

3. Dryvit Finishes:
 - a. Dryvit Finishes are factory blended and require no additives. Mix each pail to a uniform consistency adding a small amount of water as needed to adjust workability. Ensure that the same amount of water is added to each pail of the same color.
 - b. Refer to the product data sheet for the specific finish being used for more complete instructions.
- B. Application of Backstop NT:
 1. Prepare the substrate sheathing so as to be free of foreign materials such as oil, dust, dirt, paint, wax, water repellents, moisture, frost and any other materials that may inhibit adhesion.
 2. Backstop NT can be applied using a roller, trowel, or spray equipment (with backrolling) over the approved substrates. Refer to Backstop NT Application Instructions, DS181.
- C. Installation of Dryvit MD Spacer:
 1. Secure the Dryvit MD Spacer to the substrate using corrosion resistant staples through the water-resistive barrier and into the substrate or framing. The spacer is 1/8 in (3.2 mm) thick by 3 in (76 mm) wide and is installed in continuous vertical strips spaced a maximum of 16 in (406 mm) on center installed over each framing member. Additionally, install the spacer flush with the vertical edge of all system terminations and changes in wall direction. If other spacers are used, follow manufacturers' instructions.
- D. Install the exterior cement board in accordance with manufacturer's instructions and project requirements.
 1. Align sheathing joints with the MD Spacer and install fasteners through the MD Spacer or other spacers as needed.
 2. Do not align joints with corners of wall penetrations.
 3. Exterior cement board joints shall be offset from sheathing board substrate joints.
- E. Foam shape application (if applicable)
 1. Adhere EPS shape to exterior cement board prior to applying the base coat.
 2. Install in accordance with current Dryvit printed Outsulation® System Application Instructions DS204.
- F. Application of Base Coat:
 1. Apply Genesis or Genesis DM over all exterior cement board joints and inside and outside corners and embed a 9 1/2 in (241 mm) wide strip of Dryvit Detail Reinforcing Mesh into the wet base coat mixture.
 2. Allow the base coat mixture to take up until firm to the touch.
 3. Apply a continuous layer of Genesis, Genesis DM or Genesis DMS over the exterior cement board face and embed a layer of Dryvit Standard Reinforcing Mesh into the wet base coat mixture such that the entire surface of the board is covered. The reinforced base coat shall be applied to a uniform thickness of approximately 1/16 in (1.6 mm) and be sufficient to embed the reinforcing mesh.
 4. All edges of reinforcing mesh shall be lapped a minimum of 2 1/2 inches (64 mm).
- G. Application of Finishes:

1. Allow the Genesis, Genesis DM or Genesis DMS to cure a minimum of 24 hours until completely dry.
 2. Ensure that the surface of the wall is clean, dry and free of any contaminants that may impair the adhesion of surface finish.
 3. Dryvit finishes may be either spray or trowel applied.
 4. Always apply the finish to a natural break to avoid visible cold joints.
 5. Always work the shady side of the wall or provide shading to avoid application in direct sunlight.
 6. Dryvit finishes shall be applied in accordance with published Dryvit instructions for the specific finish being used. Refer to the published product data sheet for the specified finish.
- H. The installation of Machine Coated Dryvit EPS Shapes and Starter Boards shall be in accordance with Dryvit Publication DS854.

3.4 FIELD QUALITY CONTROL

- A. The contractor shall be responsible for the proper application of the Cement Board MD Finish System materials.
- B. Dryvit assumes no responsibility for on-site inspections or application of its products.
- C. Independent third party inspection is required to verify installation according to code and contract documents. As a minimum, it is recommended that inspection items include installation of the water-resistive barrier, flashings, and accessories, Cement Board MD Finish System materials, and sealants.

3.5 CLEANING

- A. All excess Cement Board MD Finish System materials shall be removed from the job site by the contractor in accordance with contract provisions.
- B. All surrounding areas, where the Cement Board MD Finish System has been applied, shall be left free of debris and foreign substances resulting from the contractor's work.

3.6 PROTECTION

- A. The system shall be protected from weather and other damage until permanent protection in the form of flashings, sealants, etc. are installed.

END OF SECTION 07 2413

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SECTION 07 4213.19
INSULATED METAL WALL PANELS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Foamed-insulation-core metal wall panels.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of panel and accessory.
- B. Shop Drawings:
 - 1. Include fabrication and installation layouts of metal panels; details of edge conditions, joints, panel profiles, corners, anchorages, attachment system, trim, flashings, closures, and accessories; and special details.
 - 2. Accessories: Include details of the flashing, trim, and anchorage systems, at a scale of not less than 1-1/2 inches per 12 inches.
- C. Samples for Initial Selection: For each type of metal panel indicated with factory-applied color finishes.
 - 1. Include similar Samples of trim and accessories involving color selection.
- D. Samples for Verification: For each type of exposed finish, prepared on Samples of size indicated below.
 - 1. Metal Panels: 12 inches long by actual panel width. Include fasteners, closures, and other metal panel accessories.

1.3 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Product Test Reports: For each product, tests performed by a qualified testing agency.
- C. Sample Warranties: For special warranties.

1.4 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For metal panels to include in maintenance manuals.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver components, metal panels, and other manufactured items so as not to be damaged or deformed. Package metal panels for protection during transportation and handling.
- B. Unload, store, and erect metal panels in a manner to prevent bending, warping, twisting, and surface damage.
- C. Stack metal panels horizontally on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal panels to ensure dryness, with positive slope for drainage of water. Do not store metal panels in contact with other materials that might cause staining, denting, or other surface damage.
- D. Retain strippable protective covering on metal panels during installation.

1.7 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit assembly of metal panels to be performed according to manufacturers' written instructions and warranty requirements.

1.8 COORDINATION

- A. Coordinate metal panel installation with rain drainage work, flashing, trim, construction of soffits, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

1.9 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of metal panel systems that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Structural failures including rupturing, cracking, or puncturing.
 - b. Deterioration of metals and other materials beyond normal weathering.
 - 2. Warranty Period: Two years from date of Substantial Completion.
- B. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal panels that show evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.

- b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
 - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
- 2. Finish Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide metal panel systems capable of withstanding the effects of the following loads, based on testing according to ASTM E 72:
 - 1. Wind Loads: As indicated on Drawings.
 - 2. Deflection Limits: For wind loads, no greater than 1/240 of the span.
- B. Air Infiltration: Air leakage of not more than 0.06 cfm/sq. ft. when tested according to ASTM E 283 at the following test-pressure difference:
 - 1. Test-Pressure Difference: 1.57 lbf/sq. ft..
- C. Water Penetration under Static Pressure: No water penetration when tested according to ASTM E 331 at the following test-pressure difference:
 - 1. Test-Pressure Difference: 2.86 lbf/sq. ft..
- D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 - 1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces .

2.2 FOAMED-INSULATION-CORE METAL WALL PANELS

- A. General: Provide factory-formed and -assembled metal wall panels fabricated from two metal facing sheets and insulation core foamed in place during fabrication, and with joints between panels designed to form weathertight seals. Include accessories required for weathertight installation.
 - 1. Insulation Core: Modified isocyanurate or polyurethane foam using a non-CFC blowing agent, with maximum flame-spread and smoke-developed indexes of 25 and 450, respectively.
 - a. Closed-Cell Content: 90 percent when tested according to ASTM D 6226.
 - b. Density: 2.0 to 2.6 lb/cu. ft. when tested according to ASTM D 1622.
 - c. Compressive Strength: Minimum 20 psi when tested according to ASTM D 1621.
 - d. Shear Strength: 26 psi when tested according to ASTM C 273/C 273M.
- B. Concealed-Fastener, Foamed-Insulation-Core Metal Wall Panels : Formed with tongue-and-groove panel edges; designed for sequential installation by interlocking panel edges and mechanically attaching panels to supports using concealed clips or fasteners.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. CENTRIA Architectural Systems.
 - b. Kingspan Insulated Panels.
 - c. MBCI.
 - d. Metl-Span.
2. Metallic-Coated Steel Sheet: Facings of zinc-coated (galvanized) steel sheet complying with ASTM A 653/A 653M, G90 coating designation, or aluminum-zinc alloy-coated steel sheet complying with ASTM A 792/A 792M, Class AZ50 coating designation; structural quality. Prepainted by the coil-coating process to comply with ASTM A 755/A 755M.
 - a. Nominal Thickness: 0.028 inch.
 - b. Exterior Finish: Two-coat fluoropolymer .
 - 1) Color: As selected by Architect from manufacturer's full range.
 - c. Interior Finish: .
 - 1) Color: As selected by Architect from manufacturer's full range.
3. Panel Coverage: 24" Horizontal nominal.
4. Panel Thickness: 2.5 inches .

2.3 MISCELLANEOUS MATERIALS

- A. Miscellaneous Metal Subframing and Furring: ASTM C 645, cold-formed, metallic-coated steel sheet, ASTM A 653/A 653M, G90 coating designation or ASTM A 792/A 792M, Class AZ50 aluminum-zinc-alloy coating designation unless otherwise indicated. Provide manufacturer's standard sections as required for support and alignment of metal panel system.
- B. Panel Accessories: Provide components required for a complete, weathertight panel system including trim, copings, fasciae, mullions, sills, corner units, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal panels unless otherwise indicated.
 1. Closures: Provide closures at eaves and rakes, fabricated of same metal as metal panels.
 2. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.
 3. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch- thick, flexible closure strips; cut or premolded to match metal panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.
- C. Flashing and Trim: Provide flashing and trim formed from same material as metal panels as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, bases, drips, sills, jambs, corners, endwalls, framed openings, rakes, fasciae, parapet caps, soffits, reveals, and fillers. Finish flashing and trim with same finish system as adjacent metal panels.
- D. Panel Fasteners: Self-tapping screws designed to withstand design loads. Provide exposed fasteners with heads matching color of metal panels by means of plastic caps or factory-applied coating. Provide EPDM or PVC sealing washers for exposed fasteners.

- E. Panel Sealants: Provide sealant type recommended by manufacturer that are compatible with panel materials, are nonstaining, and do not damage panel finish.
 - 1. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch wide and 1/8 inch thick.
 - 2. Joint Sealant: ASTM C 920; elastomeric polyurethane or silicone sealant; of type, grade, class, and use classifications required to seal joints in metal panels and remain weathertight; and as recommended in writing by metal panel manufacturer.
 - 3. Butyl-Rubber-Based, Solvent-Release Sealant: ASTM C 1311.

2.4 FABRICATION

- A. General: Fabricate and finish metal panels and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.
- B. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.
- C. Fabricate metal panel joints with factory-installed captive gaskets or separator strips that provide a weathertight seal and prevent metal-to-metal contact, and that minimize noise from movements.
- D. Sheet Metal Flashing and Trim: Fabricate flashing and trim to comply with manufacturer's recommendations and recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated.
 - 1. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.
 - 2. Seams for Aluminum: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.
 - 3. Seams for Other Than Aluminum: Fabricate nonmoving seams in accessories with flat-lock seams. Tin edges to be seamed, form seams, and solder.
 - 4. Sealed Joints: Form nonexpansion, but movable, joints in metal to accommodate sealant and to comply with SMACNA standards.
 - 5. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of accessories exposed to view.
 - 6. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal recommended in writing by metal panel manufacturer.
 - a. Size: As recommended by SMACNA's "Architectural Sheet Metal Manual" or metal wall panel manufacturer for application but not less than thickness of metal being secured.

2.5 FINISHES

- A. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

- B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.
- C. Steel Panels and Accessories:
1. Two-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 2. Three-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in both color coat and clear topcoat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 3. Mica Fluoropolymer: AAMA 621. Two-coat fluoropolymer finish with suspended mica flakes containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 4. Metallic Fluoropolymer: AAMA 621. Three-coat fluoropolymer finish with suspended metallic flakes containing not less than 70 percent PVDF resin by weight in both color coat and clear topcoat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 5. FEVE Fluoropolymer: AAMA 621. Two-coat fluoropolymer finish containing 100 percent fluorinated ethylene vinyl ether resin in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 6. Siliconized Polyester: Epoxy primer and silicone-modified, polyester-enamel topcoat; with a dry film thickness of not less than 0.2 mil for primer and 0.8 mil for topcoat.
 7. Concealed Finish: Apply pretreatment and manufacturer's standard white or light-colored acrylic or polyester backer finish consisting of prime coat and wash coat with a minimum total dry film thickness of 0.5 mil.
- D. Aluminum Panels and Accessories:
1. Two-Coat Fluoropolymer: AAMA 2605. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 2. Three-Coat Fluoropolymer: AAMA 2605. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in both color coat and clear topcoat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 3. Mica Fluoropolymer: AAMA 2605. Two-coat fluoropolymer finish with suspended mica flakes containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 4. Metallic Fluoropolymer: AAMA 2605. Three-coat fluoropolymer finish with suspended metallic flakes containing not less than 70 percent PVDF resin by weight in both color coat and clear topcoat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 5. FEVE Fluoropolymer: AAMA 2605. Two-coat fluoropolymer finish containing 100 percent fluorinated ethylene vinyl ether resin in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

6. Siliconized Polyester: Epoxy primer and silicone-modified, polyester-enamel topcoat; with a dry film thickness of not less than 0.2 mil for primer and 0.8 mil for topcoat.
7. Exposed Anodized Finish:
 - a. Clear Anodic Finish: AAMA 611, AA-M12C22A41, Class I, 0.018 mm or thicker.
 - b. Color Anodic Finish: AAMA 611, AA-M12C22A42/A44, Class I, 0.018 mm or thicker.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal panel supports, and other conditions affecting performance of the Work.
 1. Examine wall framing to verify that girts, angles, channels, studs, and other structural panel support members and anchorage have been installed within alignment tolerances required by metal wall panel manufacturer.
 2. Examine wall sheathing to verify that sheathing joints are supported by framing or blocking and that installation is within flatness tolerances required by metal wall panel manufacturer.
 - a. Verify that air- or water-resistive barriers have been installed over sheathing or backing substrate to prevent air infiltration or water penetration.
- B. Examine roughing-in for components and systems penetrating metal panels to verify actual locations of penetrations relative to seam locations of metal panels before installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Miscellaneous Supports: Install subframing, furring, and other miscellaneous panel support members and anchorages according to ASTM C 754 and metal panel manufacturer's written recommendations.

3.3 METAL PANEL INSTALLATION

- A. General: Install metal panels according to manufacturer's written instructions in orientation, sizes, and locations indicated. Install panels perpendicular to supports unless otherwise indicated. Anchor metal panels and other components of the Work securely in place, with provisions for thermal and structural movement.
 1. Shim or otherwise plumb substrates receiving metal panels.
 2. Flash and seal metal panels at perimeter of all openings. Fasten with self-tapping screws. Do not begin installation until air- or water-resistive barriers and flashings that will be concealed by metal panels are installed.
 3. Install screw fasteners in predrilled holes.
 4. Locate and space fasteners in uniform vertical and horizontal alignment.
 5. Install flashing and trim as metal panel work proceeds.

6. Locate panel splices over, but not attached to, structural supports. Stagger panel splices and end laps to avoid a four-panel lap splice condition.
 7. Align bottoms of metal panels and fasten with blind rivets, bolts, or self-tapping screws. Fasten flashings and trim around openings and similar elements with self-tapping screws.
 8. Provide weathertight escutcheons for pipe- and conduit-penetrating panels.
- B. Fasteners:
1. Steel Panels: Use stainless-steel fasteners for surfaces exposed to the exterior; use galvanized-steel fasteners for surfaces exposed to the interior.
 2. Aluminum Panels: Use aluminum or stainless-steel fasteners for surfaces exposed to the exterior; use aluminum or galvanized-steel fasteners for surfaces exposed to the interior.
- C. Metal Protection: Where dissimilar metals contact each other or corrosive substrates, protect against galvanic action as recommended in writing by metal panel manufacturer.
- D. Joint Sealers: Install gaskets, joint fillers, and sealants where indicated and where required for weathertight performance of metal wall panel assemblies. Provide types of gaskets, fillers, and sealants indicated by metal panel manufacturer; or, if not indicated, provide types recommended by metal wall panel manufacturer.
1. Seal metal wall panel end laps with double beads of tape or sealant, full width of panel. Seal side joints where recommended by metal wall panel manufacturer.
 2. Prepare joints and apply sealants to comply with requirements in Section 079200 "Joint Sealants."

3.4 INSULATED METAL WALL PANEL INSTALLATION

- A. General: Apply continuous ribbon of sealant to panel joint on concealed side of insulated metal wall panels as vapor seal; apply sealant to panel joint on exposed side of panels for weather seal.
1. Fasten foamed-insulation-core metal wall panels to supports with fasteners at each lapped joint at location and spacing and with fasteners recommended by manufacturer.
 2. Apply panels and associated items true to line for neat and weathertight enclosure. Avoid "panel creep" or application not true to line.
 3. Provide metal-backed washers under heads of exposed fasteners on weather side of insulated metal wall panels.
 4. Locate and space exposed fasteners in uniform vertical and horizontal alignment. Use proper tools to obtain controlled uniform compression for positive seal without rupture of washer.
 5. Provide sealant tape at lapped joints of insulated metal wall panels and between panels and protruding equipment, vents, and accessories.
 6. Apply a continuous ribbon of sealant tape to panel side laps and elsewhere as needed to make panels weathertight.
 7. Apply snap-on battens to exposed-fastener, insulated-core metal wall panel seams to conceal fasteners.
- B. Foamed-Insulation-Core Metal Wall Panels: Fasten metal wall panels to supports with concealed clips at each joint at location and spacing and with fasteners recommended by manufacturer. Fully engage tongue and groove of adjacent panels.
1. Install clips to supports with self-tapping fasteners.

- C. Accessory Installation: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.
 - 1. Install components required for a complete metal panel system including trim, copings, corners, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items. Provide types indicated by metal panel manufacturer; or, if not indicated, provide types recommended by metal panel manufacturer.
- D. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level. Install work with laps, joints, and seams that are permanently watertight.
 - 1. Install exposed flashing and trim that is without buckling and tool marks, and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and to achieve waterproof performance.
 - 2. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Where lapped expansion provisions cannot be used or would not be sufficiently waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).

3.5 CLEANING AND PROTECTION

- A. Remove temporary protective coverings and strippable films, if any, as metal panels are installed, unless otherwise indicated in manufacturer's written installation instructions. On completion of metal panel installation, clean finished surfaces as recommended by metal panel manufacturer. Maintain in a clean condition during construction.
- B. After metal panel installation, clear weep holes and drainage channels of obstructions, dirt, and sealant.
- C. Replace metal panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 07 4213.19

SECTION 08 1113
HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes:
 - 1. Exterior standard steel doors and frames.
- B. Related Requirements:
 - 1. See Drawings for door hardware for hollow-metal doors.

1.2 DEFINITIONS

- A. Minimum Thickness: Minimum thickness of base metal without coatings according to NAAMM-HMMA 803 or SDI A250.8.

1.3 COORDINATION

- A. Coordinate anchorage installation for hollow-metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.
- B. Coordinate requirements for installation of door hardware, electrified door hardware, and access control and security systems.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, core descriptions, fire-resistance ratings, and finishes.
- B. Shop Drawings: Include the following:
 - 1. Elevations of each door type.
 - 2. Details of doors, including vertical- and horizontal-edge details and metal thicknesses.
 - 3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
 - 4. Locations of reinforcement and preparations for hardware.
 - 5. Details of anchorages, joints, field splices, and connections.
 - 6. Details of accessories.
 - 7. Details of moldings, removable stops, and glazing.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver hollow-metal doors and frames palletized, packaged, or crated to provide protection during transit and Project-site storage. Do not use nonvented plastic.
 - 1. Provide additional protection to prevent damage to factory-finished units.
- B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.
- C. Store hollow-metal doors and frames vertically under cover at Project site with head up. Place on minimum 4-inch- high wood blocking. Provide minimum 1/4-inch space between each stacked door to permit air circulation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Ceco Door; ASSA ABLOY.
 - 2. Curries Company; ASSA ABLOY.
 - 3. Mesker Door Inc.
 - 4. Republic Doors and Frames.
 - 5. Steelcraft; an Allegion brand.

2.2 PERFORMANCE REQUIREMENTS

- A. Fire-Rated Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction for fire-protection ratings and temperature-rise limits indicated on Drawings, based on testing at positive pressure according to NFPA 252 or UL 10C.
 - 1. Smoke- and Draft-Control Door Assemblies: Listed and labeled for smoke and draft control by a qualified testing agency acceptable to authorities having jurisdiction, based on testing according to UL 1784 and installed in compliance with NFPA 105.
 - 2. Oversize Fire-Rated Door Assemblies: For units exceeding sizes of tested assemblies, provide certification by a qualified testing agency that doors comply with standard construction requirements for tested and labeled fire-rated door assemblies except for size.
- B. Thermally Rated Door Assemblies: Provide door assemblies with U-factor of not more than 0.50 deg Btu/F x h x sq. ft. when tested according to ASTM C 518.

2.3 INTERIOR STANDARD STEEL DOORS AND FRAMES

- A. Construct hollow-metal doors and frames to comply with standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.

B. Heavy-Duty Doors and Frames: SDI A250.8, Level 2; SDI A250.4, Level B..

1. Doors:
 - a. Type: As indicated in the Door and Frame Schedule.
 - b. Thickness: 1-3/4 inches .
 - c. Face: Uncoated steel sheet, minimum thickness of 0.042 inch .
 - d. Edge Construction: Model 1, Full Flush.
 - e. Edge Bevel: Provide manufacturer's standard beveled or square edges.
 - f. Fire-Rated Core: Manufacturer's standard laminated mineral board core for fire-rated and temperature-rise-rated doors.
2. Frames:
 - a. Materials: Uncoated steel sheet, minimum thickness of 0.053 inch .
 - b. Frames: Fabricated from same thickness material as adjacent door frame.
 - c. Construction: Knocked down Slip-on drywall or Face welded.
3. Exposed Finish: Prime.
 - a.

2.4 EXTERIOR STANDARD STEEL DOORS AND FRAMES

A. Construct hollow-metal doors and frames to comply with standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.

B. Heavy-Duty Doors and Frames: SDI A250.8, Level 2; SDI A250.4, Level B..

1. Doors:
 - a. Type: As indicated in the Door and Frame Schedule.
 - b. Thickness: 1-3/4 inches .
 - c. Face: Metallic-coated steel sheet, minimum thickness of 0.042 inch , with minimum A40 coating.
 - d. Edge Construction: Model 1, Full Flush.
 - e. Edge Bevel: Provide manufacturer's standard beveled or square edges.
 - f. Top Edge Closures: Close top edges of doors with flush closures of same material as face sheets. Seal joints against water penetration.
 - g. Bottom Edges: Close bottom edges of doors where required for attachment of weather stripping with end closures or channels of same material as face sheets. Provide weep-hole openings in bottoms of exterior doors to permit moisture to escape.
 - h. Core: Manufacturer's standard.
2. Frames:
 - a. Materials: Metallic-coated steel sheet, minimum thickness of 0.053 inch , with minimum A40 coating.
 - b. Construction: Face welded.
3. Exposed Finish: Prime.

2.5 FRAME ANCHORS

- A. Jamb Anchors:
 - 1. Type: Anchors of minimum size and type required by applicable door and frame standard, and suitable for performance level indicated.
 - 2. Quantity: Minimum of three anchors per jamb, with one additional anchor for frames with no floor anchor. Provide one additional anchor for each 24 inches of frame height above 7 feet.
 - 3. Postinstalled Expansion Anchor: Minimum 3/8-inch- diameter bolts with expansion shields or inserts, with manufacturer's standard pipe spacer.
- B. Material: ASTM A 879/A 879M, Commercial Steel (CS), 04Z coating designation; mill phosphatized.
 - 1. For anchors built into exterior walls, steel sheet complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M; hot-dip galvanized according to ASTM A 153/A 153M, Class B.

2.6 MATERIALS

- A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.
- B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.
- C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B.
- D. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.
- E. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hollow-metal frames of type indicated.
- F. Mineral-Fiber Insulation: ASTM C 665, Type I (blankets without membrane facing); consisting of fibers manufactured from slag or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively; passing ASTM E 136 for combustion characteristics.
- G. Glazing: Comply with requirements in Section 08 8000 "Glazing."

2.7 FABRICATION

- A. Door Astragals: Provide overlapping astragal on one leaf of pairs of doors where required by NFPA 80 for fire-performance rating or where indicated. Extend minimum 3/4 inch beyond edge of door on which astragal is mounted or as required to comply with published listing of qualified testing agency.
- B. Hollow-Metal Frames: Fabricate in one piece except where handling and shipping limitations require multiple sections. Where frames are fabricated in sections, provide alignment plates or angles at each joint, fabricated of metal of same or greater thickness as frames.

1. Frames: Provide closed tubular members with no visible face seams or joints, fabricated from same material as door frame. Fasten members at crossings and to jambs by welding, or by rigid mechanical anchors.
 2. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
- C. Hardware Preparation: Factory prepare hollow-metal doors and frames to receive templated mortised hardware, and electrical wiring; include cutouts, reinforcement, mortising, drilling, and tapping according to SDI A250.6, the Door Hardware Schedule, and templates.
1. Reinforce doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.
 2. Comply with BHMA A156.115 for preparing hollow-metal doors and frames for hardware.
- D. Glazed Lites: Provide stops and moldings around glazed lites where indicated. Form corners of stops and moldings with mitered hairline joints.
1. Provide stops and moldings flush with face of door, and with beveled stops unless otherwise indicated.
 2. Multiple Glazed Lites: Provide fixed and removable stops and moldings so that each glazed lite is capable of being removed independently.
 3. Provide fixed frame moldings on outside of exterior and on secure side of interior doors and frames. Provide loose stops and moldings on inside of hollow-metal doors and frames.
 4. Coordinate rabbet width between fixed and removable stops with glazing and installation types indicated.
 5. Provide stops for installation with countersunk flat- or oval-head machine screws spaced uniformly not more than 9 inches o.c. and not more than 2 inches o.c. from each corner.

2.8 STEEL FINISHES

- A. Prime Finish: Clean, pretreat, and apply manufacturer's standard primer.
1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with SDI A250.10; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.
- B. Factory Finish: Clean, pretreat, and apply manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat, complying with SDI A250.3.
1. Color and Gloss: As selected by Architect from manufacturer's full range.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces. Touch up factory-applied finishes where spreaders are removed.
- B. Drill and tap doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.

3.2 INSTALLATION

- A. General: Install hollow-metal doors and frames plumb, rigid, properly aligned, and securely fastened in place. Comply with approved Shop Drawings and with manufacturer's written instructions.
- B. Hollow-Metal Frames: Comply with SDI A250.11.
 - 1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces without damage to completed Work.
 - a. Where frames are fabricated in sections, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces. Touch-up finishes.
 - b. Install frames with removable stops located on secure side of opening.
 - 2. Fire-Rated Openings: Install frames according to NFPA 80.
 - 3. Floor Anchors: Secure with postinstalled expansion anchors.
 - a. Floor anchors may be set with power-actuated fasteners instead of postinstalled expansion anchors if so indicated and approved on Shop Drawings.
 - 4. Solidly pack mineral-fiber insulation inside frames.
 - 5. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with grout or mortar.
 - 6. In-Place Concrete or Masonry Construction: Secure frames in place with postinstalled expansion anchors. Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.
 - 7. Installation Tolerances: Adjust hollow-metal frames to the following tolerances:
 - a. Squareness: Plus or minus 1/16 inch , measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
 - b. Alignment: Plus or minus 1/16 inch , measured at jambs on a horizontal line parallel to plane of wall.
 - c. Twist: Plus or minus 1/16 inch , measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
 - d. Plumbness: Plus or minus 1/16 inch , measured at jambs at floor.
- C. Hollow-Metal Doors: Fit and adjust hollow-metal doors accurately in frames, within clearances specified below.
 - 1. Non-Fire-Rated Steel Doors: Comply with SDI A250.8.
 - 2. Fire-Rated Doors: Install doors with clearances according to NFPA 80.
 - 3. Smoke-Control Doors: Install doors according to NFPA 105.
- D. Glazing: Comply with installation requirements in Section 088000 "Glazing" and with hollow-metal manufacturer's written instructions.

3.3 CLEANING AND TOUCHUP

- A. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.

- B. Metallic-Coated Surface Touchup: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.
- C. Factory-Finish Touchup: Clean abraded areas and repair with same material used for factory finish according to manufacturer's written instructions.
- D. Touchup Painting: Cleaning and touchup painting of abraded areas of paint are specified in painting Sections.

END OF SECTION 08 1113

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**SECTION 08 5413
FIBERGLASS WINDOWS**

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes fiberglass-framed windows.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, glazing and fabrication methods, dimensions of individual components and profiles, hardware, and finishes for fiberglass windows.
- B. Shop Drawings: For fiberglass windows.
 - 1. Include plans, elevations, sections, hardware, accessories, insect screens, operational clearances, and details of installation, including anchor, flashing, and sealant installation.

1.3 INFORMATIONAL SUBMITTALS

1.4 QUALITY ASSURANCE

1.5 WARRANTY

- A. Manufacturer's Warranty: Manufacturer agrees to repair or replace fiberglass windows that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Failure to meet performance requirements.
 - b. Structural failures including excessive deflection, water leakage, and air infiltration.
 - c. Faulty operation of movable sash and hardware.
 - d. Deterioration of materials and finishes beyond normal weathering.
 - e. Failure of insulating glass.
 - 2. Warranty Period:
 - a. Window: 10 years from date of Substantial Completion.
 - b. Glazing Units: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations: Obtain fiberglass windows from single source from single manufacturer.

2.2 WINDOW PERFORMANCE REQUIREMENTS

- A. Product Standard: Comply with AAMA/WDMA/CSA 101/I.S.2/A440 for definitions and minimum standards of performance, materials, components, accessories, and fabrication unless more stringent requirements are indicated.
1. Window Certification: WDMA certified with label attached to each window.
- B. Thermal Transmittance: NFRC 100 maximum whole-window U-factor of 0.30 Btu/sq. ft. x h x deg F .
- C. Solar Heat-Gain Coefficient (SHGC): NFRC 200 maximum whole-window SHGC of 0.40 .
- D. Sound Transmission Class (STC): Rated for not less than 26 STC when tested for laboratory sound transmission loss according to ASTM E 90 and determined by ASTM E 413.

2.3 FIBERGLASS WINDOWS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Fibertec Window and Door Manufacturing.
 2. Marvin Windows.
 3. Milgard Manufacturing, Inc.
 4. Pella Corporation.
- B. Operating Types: Provide the following operating types in locations indicated on Drawings:
1. Fixed.
- C. Frames and Sashes: Pultruded fiberglass complying with AAMA/WDMA/CSA 101/I.S.2/A440 and with exposed exterior fiberglass surfaces finished with manufacturer's standard enamel coating complying with AAMA 613 .
1. Exterior Color: As selected by Architect from manufacturer's full range .
 2. Interior Finish: Matching exterior finish, in color selected by Architect from manufacturer's full range .
- D. Insulating-Glass Units: ASTM E 2190.
1. Glass: ASTM C 1036, Type 1, Class 1, q3.
 - a. Tint: Clear.
 - b. Kind: Fully tempered where indicated on Drawings.
 2. Lites: Two.

3. Filling: Fill space between glass lites with **air**.
 4. Low-E Coating: Sputtered on second surface.
- E. Glazing System: Manufacturer's standard factory-glazing system that produces weathertight seal.
- F. Weather Stripping: Provide full-perimeter weather stripping for each operable sash unless otherwise indicated.
- G. Fasteners: Noncorrosive and compatible with window members, trim, hardware, anchors, and other components.
1. Exposed Fasteners: Do not use exposed fasteners to greatest extent possible. For application of hardware, use fasteners that match finish hardware being fastened.

2.4 ACCESSORIES

2.5 FABRICATION

- A. Fabricate fiberglass windows in sizes indicated. Include a complete system for installing and anchoring windows.
- B. Glaze fiberglass windows in the factory.
- C. Weather strip each operable sash to provide weathertight installation.
- D. Window Assemblies: Provide fixed units in configuration indicated. Provide window frames, sashes, hardware, and other trim and components necessary for a complete, secure, and weathertight installation, including the following:
1. Angled mullion posts with interior and exterior trim.
 2. Angled interior and exterior extension and trim.
 3. Clear pine head and seat boards.
 4. Top and bottom plywood platforms.
 5. Exterior head and sill casings and trim.
 6. Support brackets.
- E. Complete fabrication, assembly, finishing, hardware application, and other work in the factory to greatest extent possible. Disassemble components only as necessary for shipment and installation. Allow for scribing, trimming, and fitting at Project site.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Verify rough opening dimensions, levelness of sill plate, and operational clearances.

- C. Examine wall flashings, vapor retarders, water and weather barriers, and other built-in components to ensure weathertight window installation.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

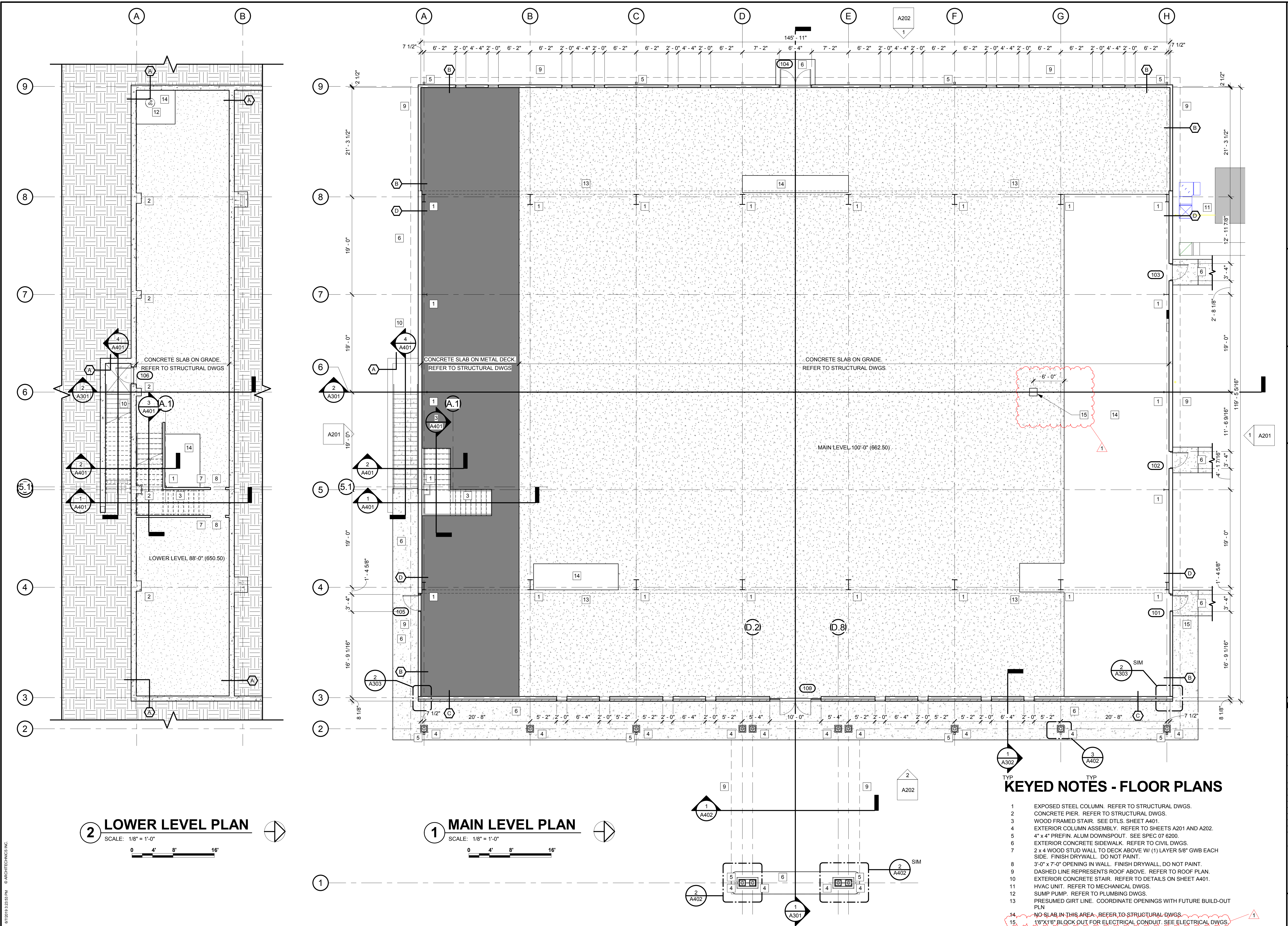
3.2 INSTALLATION

- A. Comply with manufacturer's written instructions for installing windows, hardware, accessories, and other components. For installation procedures and requirements not addressed in manufacturer's written instructions, comply with installation requirements in ASTM E 2112.
- B. Install windows level, plumb, square, true to line, without distortion, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction to produce weathertight construction.

3.3 ADJUSTING, CLEANING, AND PROTECTION

- A. Adjust operating sashes and hardware for a tight fit at contact points and weather stripping for smooth operation and weathertight closure.
- B. Clean exposed surfaces immediately after installing windows. Remove excess sealants, glazing materials, dirt, and other substances.
 - 1. Keep protective films and coverings in place until final cleaning.
- C. Remove and replace sashes if glass has been broken, chipped, cracked, abraded, or damaged during construction period.
- D. Protect window surfaces from contact with contaminating substances resulting from construction operations. If contaminating substances do contact window surfaces, remove contaminants immediately according to manufacturer's written instructions.

END OF SECTION 08 5413



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CURRENT DATE: 05/17/19

LICENSE EXPIRES: 12/31/19

CURRENT DATE: 05/17/19

LICENSE EXPIRES: 12/31/19

NEW BUILDING FOR:
PALMYRA UNITED METHODIST CHURCH
PALMYRA, MO 63461

CONSTRUCTION DOCUMENTS PHASE

FOR CONSTRUCTION

SET ISSUE DATE: 05/17/19

REVISIONS	
DATE	REMARKS
1 06/07/2019	ADDENDUM 01

PROJECT NUMBER: 6356

FLOOR PLANS

DWG. NO.
A101

ALTERNATES - SEE SPEC 01 2300

ROOF:

ALTERNATE BID A-1: STANDING SEAM ROOF SYSTEM. REFER TO SPEC SECTION 13 3419.

(BASE BID - EXPOSED FASTENER SYSTEM. REFER TO SPEC SECTION 13 3419.)

STEEPLE:

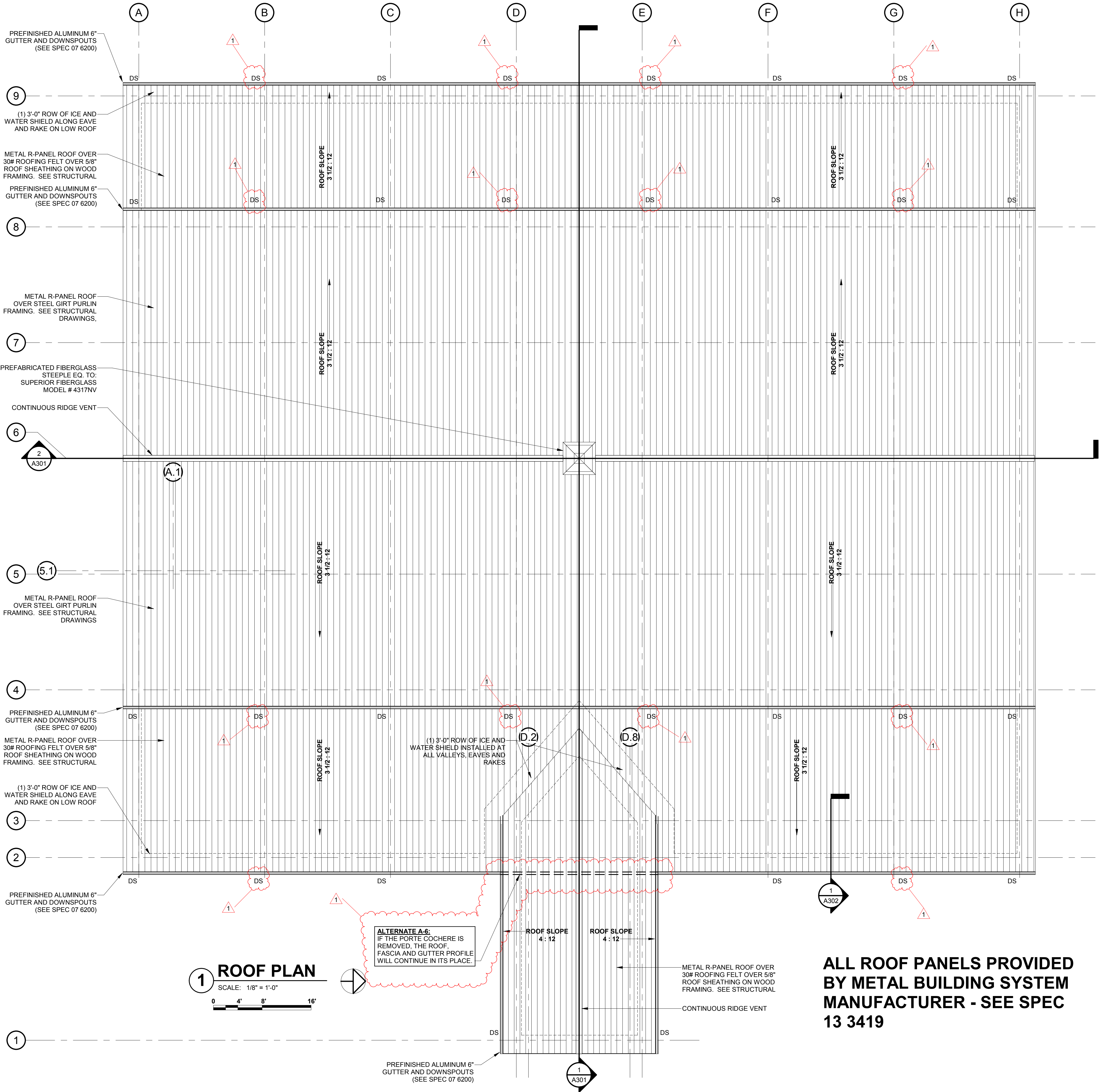
ALTERNATE BID A-5: OMIT THE STEEPLE IN ITS ENTIRETY. PROVIDE STRUCTURAL ROOF FRAMING FOR FUTURE INSTALLATION.

(BASE BID - INSTALL THE STEEPLE AS INDICATED ON DRAWING SHEETS A201 AND A202)

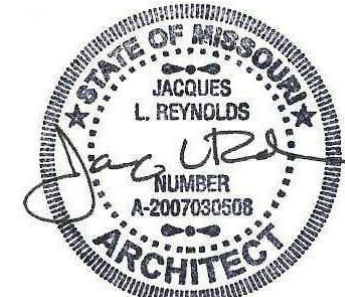
COVERED DROP-OFF:

ALTERNATE BID A-6: REMOVE THE COVERED DROP-OFF AS INDICATED ON ELEVATION 2/A202.

(BASE BID - INSTALL THE COVERED DROP OFF AS INDICATED ON ELEVATION 2/A202)



CURRENT DATE: 05/17/19



LICENSE EXPIRES: 12/31/19

CURRENT DATE: 05/17/19



LICENSE EXPIRES: 12/31/19

NEW BUILDING FOR:
**PALMYRA UNITED METHODIST
CHURCH**
PALMYRA, MO 63461

CONSTRUCTION
DOCUMENTS
PHASE

FOR CONSTRUCTION

SET ISSUE DATE: 05/17/19

REVISIONS	DATE	REMARKS
1	06/07/2019	ADDENDUM 01

PROJECT NUMBER: 6356

ROOF PLAN

DWG. NO.

A103

ALTERNATES - SEE SPEC 01 2300

ROOF:

ALTERNATE BID A-1: STANDING SEAM ROOF SYSTEM. REFER TO SPEC SECTION 13 3419.

(BASE BID - EXPOSED FASTENER SYSTEM. REFER TO SPEC SECTION 13 3419.)

EXTERIOR WALL CLADDING:

ALTERNATE BID A-2: INSULATED METAL PANEL SYSTEM. REFER TO SPEC SECTION 13 3419.

(BASE BID - SINGLE SKIN METAL PANEL W/ EXPOSED FASTENERS. REFER TO SPEC SECTION 13 3419.)

MASONRY:

ALTERNATE BID A-3: PARTIAL HEIGHT MASONRY AS INDICATED ON DTL. XXX WITH SINGLE SKIN METAL PANEL ABOVE.

(BASE BID - FULL HEIGHT MASONRY AS INDICATED ON ELEVATION 2/A202.)

STEEPLE:

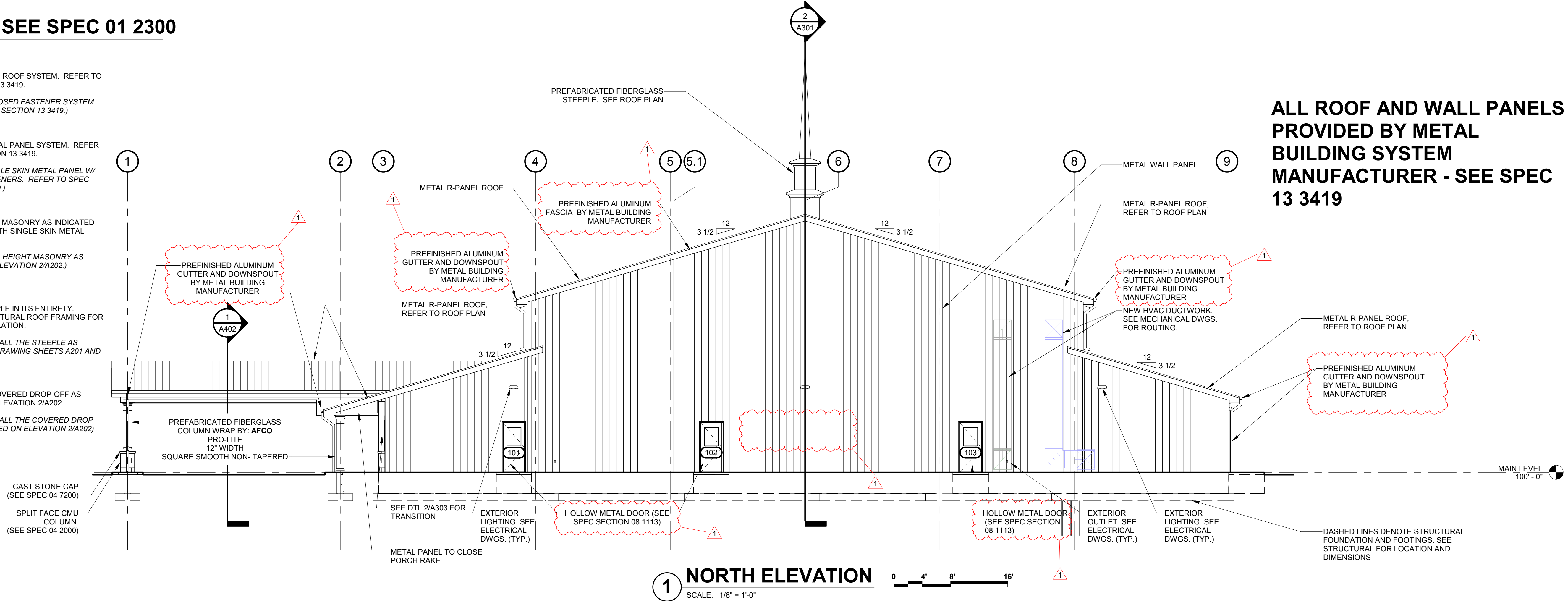
ALTERNATE BID A-5: OMIT THE STEEPLE IN ITS ENTIRETY. PROVIDE STRUCTURAL ROOF FRAMING FOR FUTURE INSTALLATION.

(BASE BID - INSTALL THE STEEPLE AS INDICATED ON DRAWING SHEETS A201 AND A202.)

COVERED DROP-OFF:

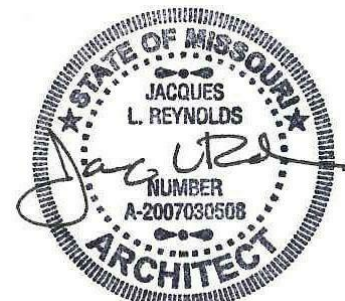
ALTERNATE BID A-6: REMOVE THE COVERED DROP-OFF AS INDICATED ON ELEVATION 2/A202.

(BASE BID - INSTALL THE COVERED DROP OFF AS INDICATED ON ELEVATION 2/A202.)



ALL ROOF AND WALL PANELS PROVIDED BY METAL BUILDING SYSTEM MANUFACTURER - SEE SPEC 13 3419

CURRENT DATE: 05/17/19



LICENSE EXPIRES: 12/31/19

CURRENT DATE: 05/17/19



LICENSE EXPIRES: 12/31/19

NEW BUILDING FOR:
PALMYRA UNITED METHODIST CHURCH
PALMYRA, MO 63461

CONSTRUCTION DOCUMENTS PHASE

FOR CONSTRUCTION

SET ISSUE DATE: 05/17/19

REVISIONS	DATE	REMARKS
1	06/07/20	ADDENDUM 01

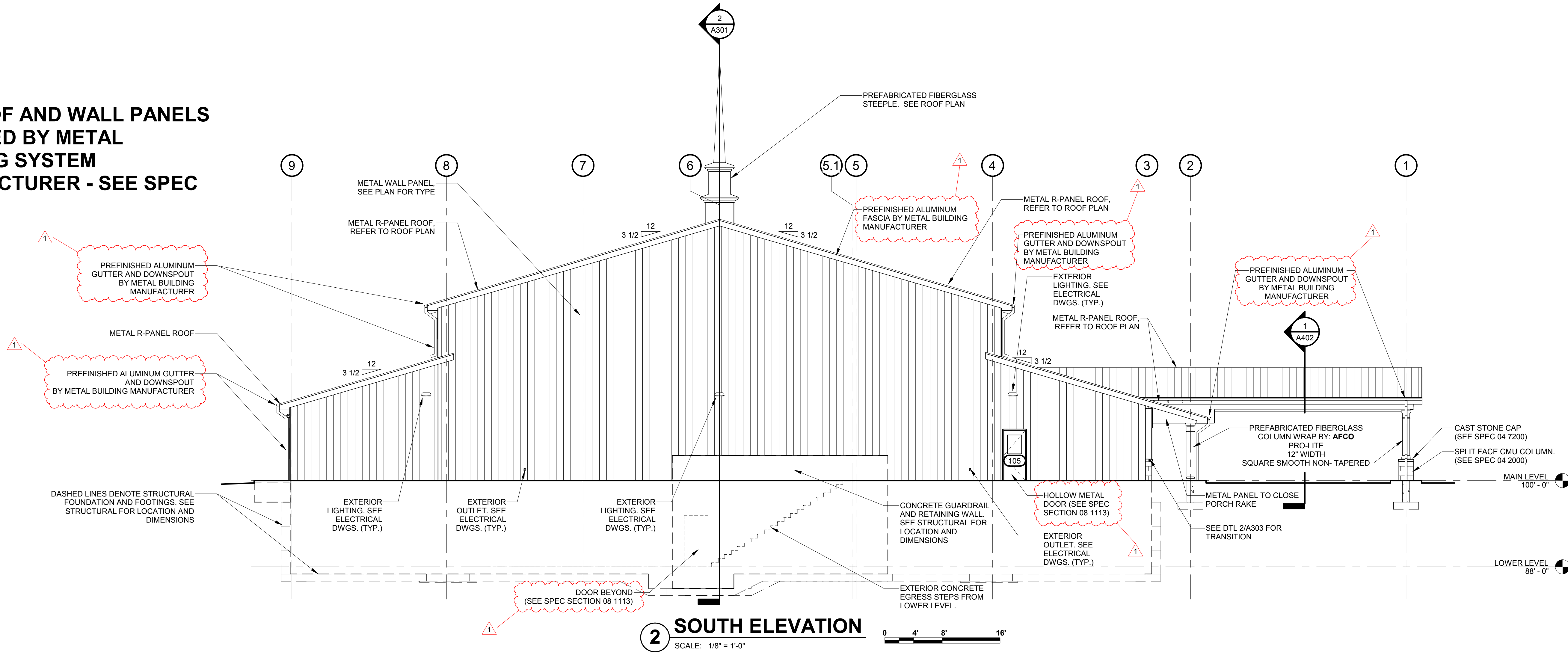
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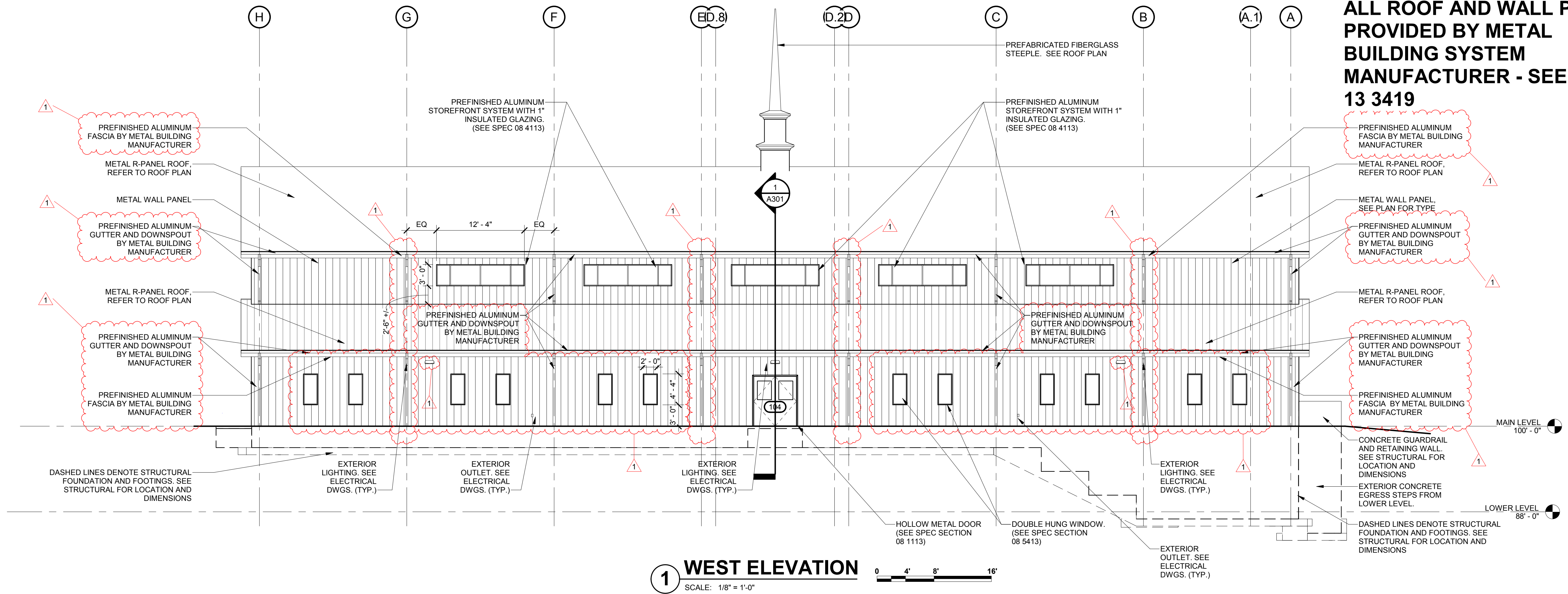
EXTERIOR ELEVATIONS

DWG. NO.

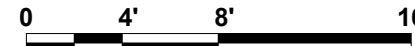
A201

ALL ROOF AND WALL PANELS PROVIDED BY METAL BUILDING SYSTEM MANUFACTURER - SEE SPEC 13 3419

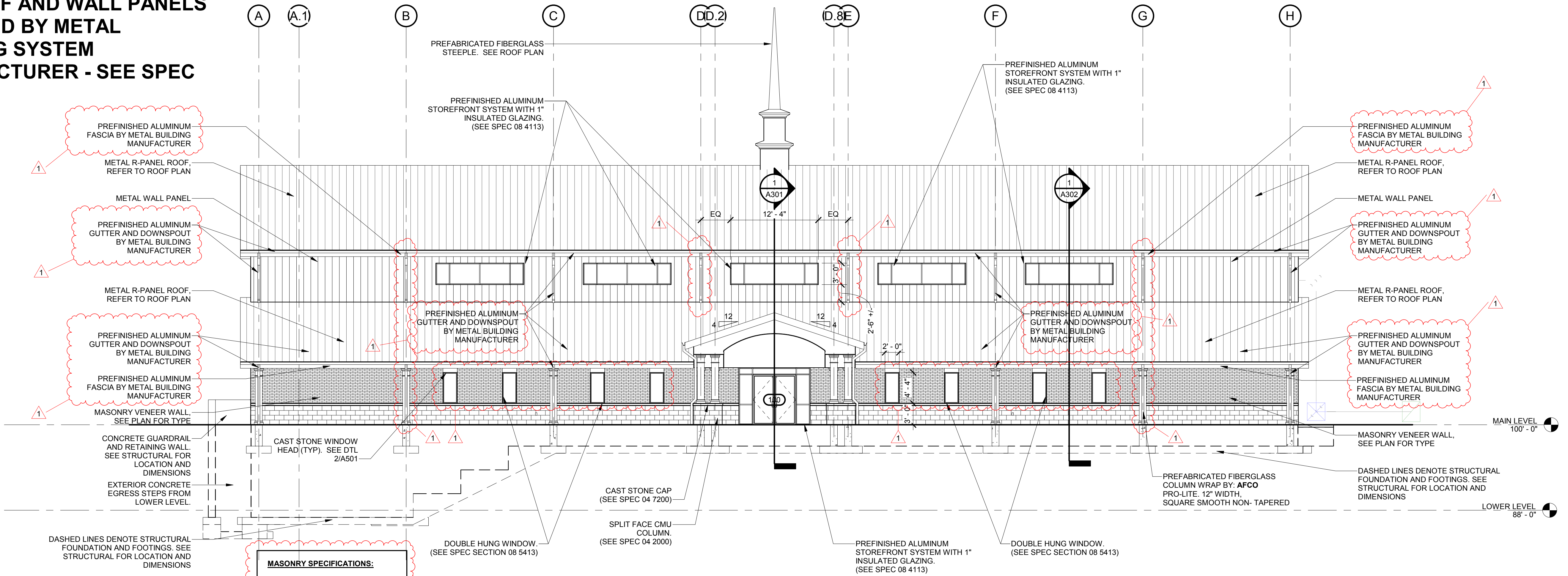




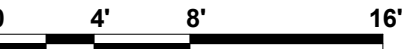
1 WEST ELEVATION
SCALE: 1/8" = 1'-0"



**ALL ROOF AND WALL PANELS
PROVIDED BY METAL
BUILDING SYSTEM
MANUFACTURER - SEE SPEC
13 3419**



2 EAST ELEVATION
SCALE: 1/8" = 1'-0"

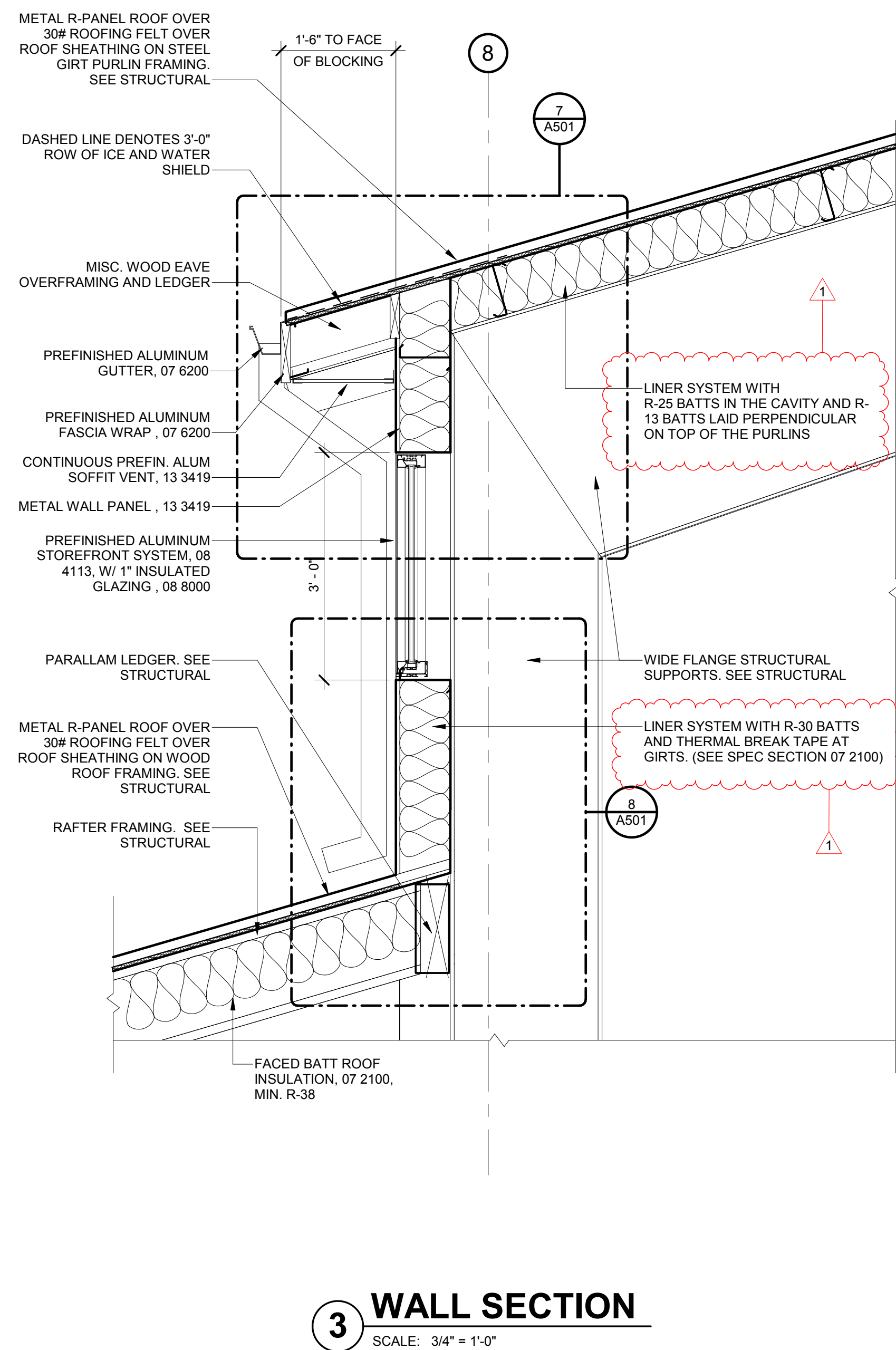
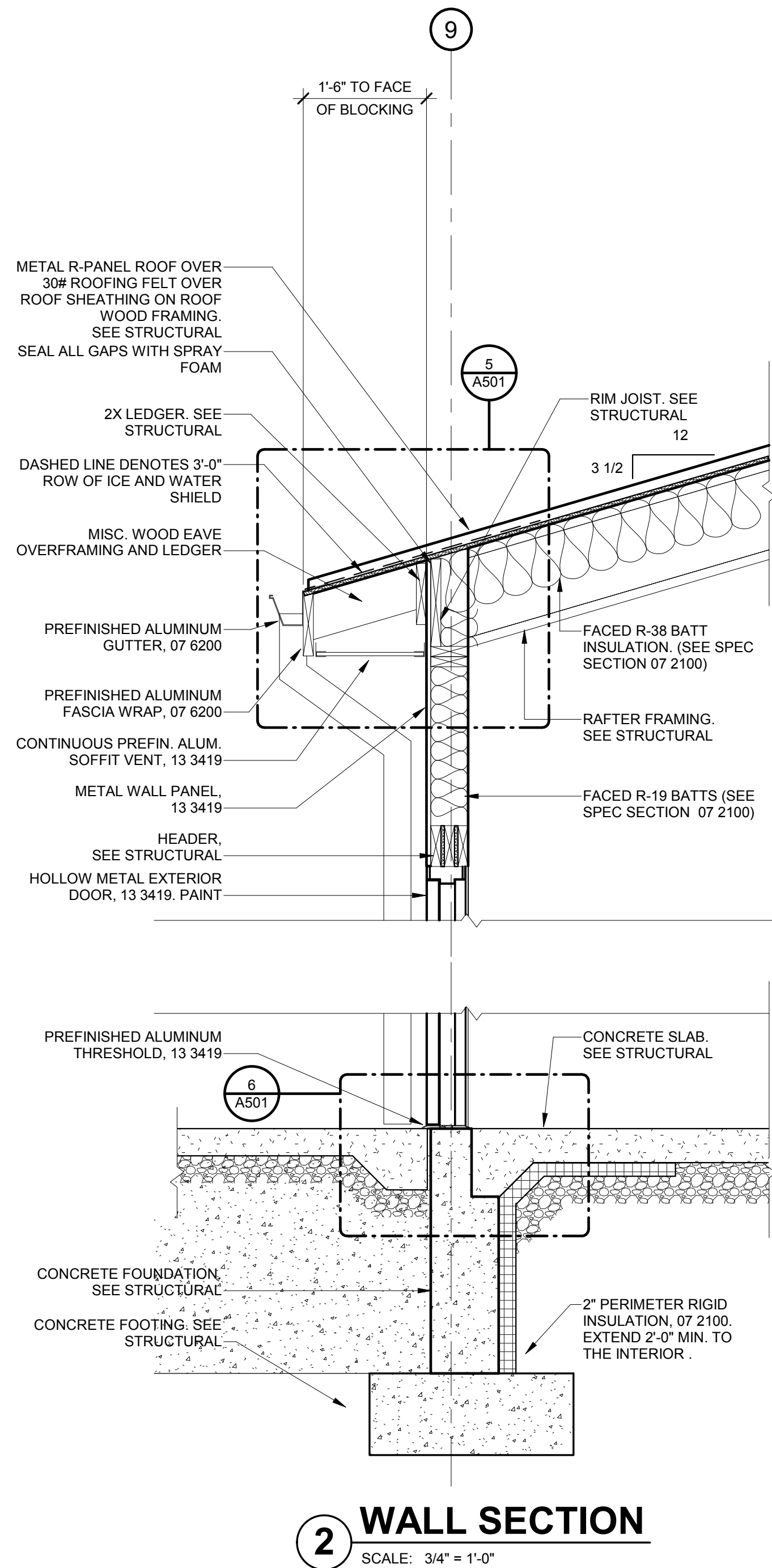
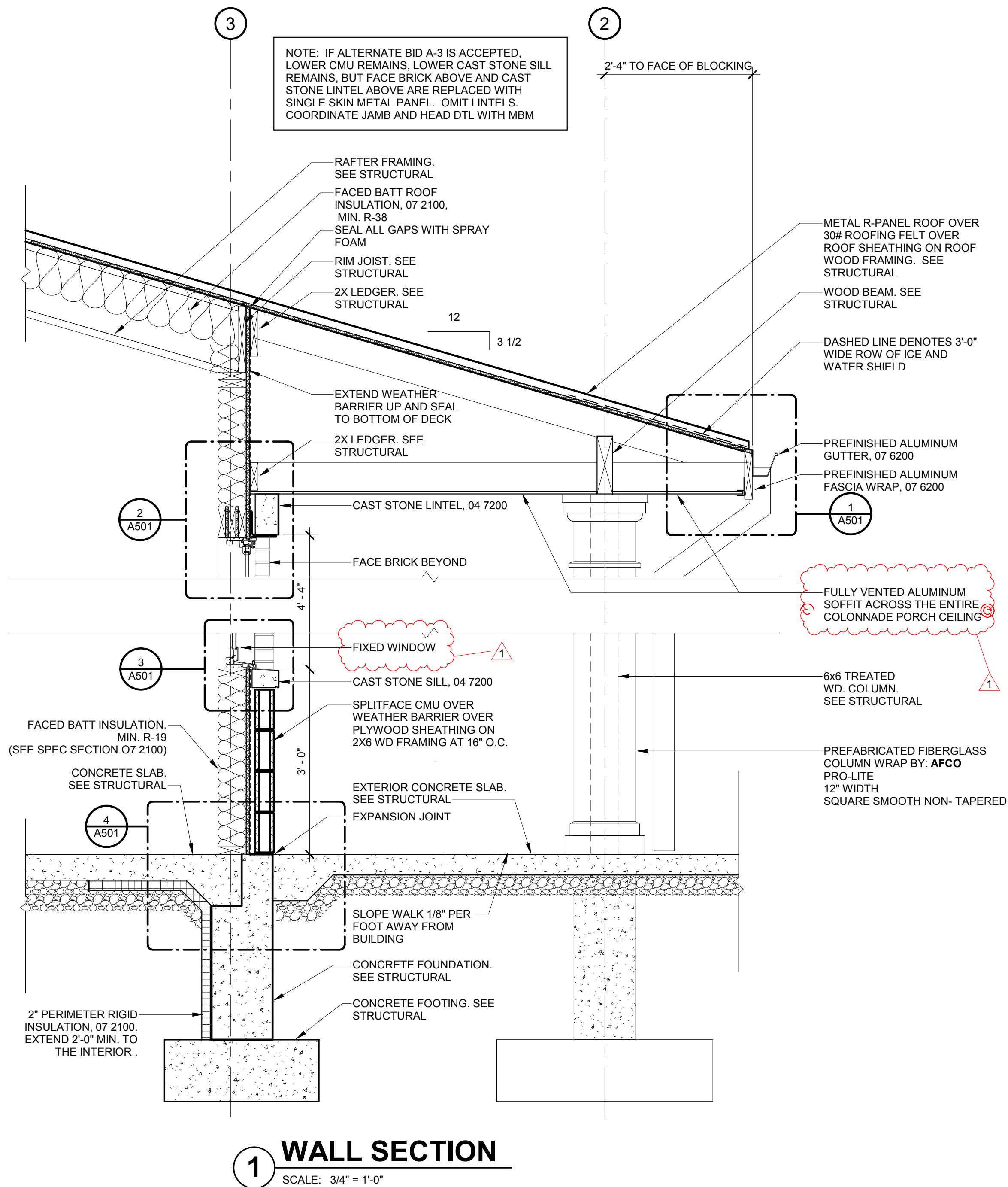


MASONRY SPECIFICATIONS:
FACE BRICK - KODIAK VELOUR
SIOUX CITY BRICK
SPLITFACE CMU - LIMESTONE
MIDWEST BLOCK AND BRICK

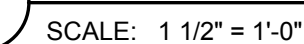
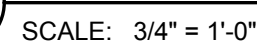
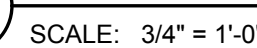
ALTERNATES - SEE SPEC 01 2300
REFER TO SHEET G003 FOR DESCRIPTIONS

REVISIONS	DATE	REMARKS
1	06/07/20	ADDENDUM 01

ALL ROOF AND WALL PANELS
PROVIDED BY METAL BUILDING
SYSTEM MANUFACTURER - SEE
SPEC 13 3419



REVISIONS	DATE	REMARKS
1	06/07/20	ADDENDUM 01



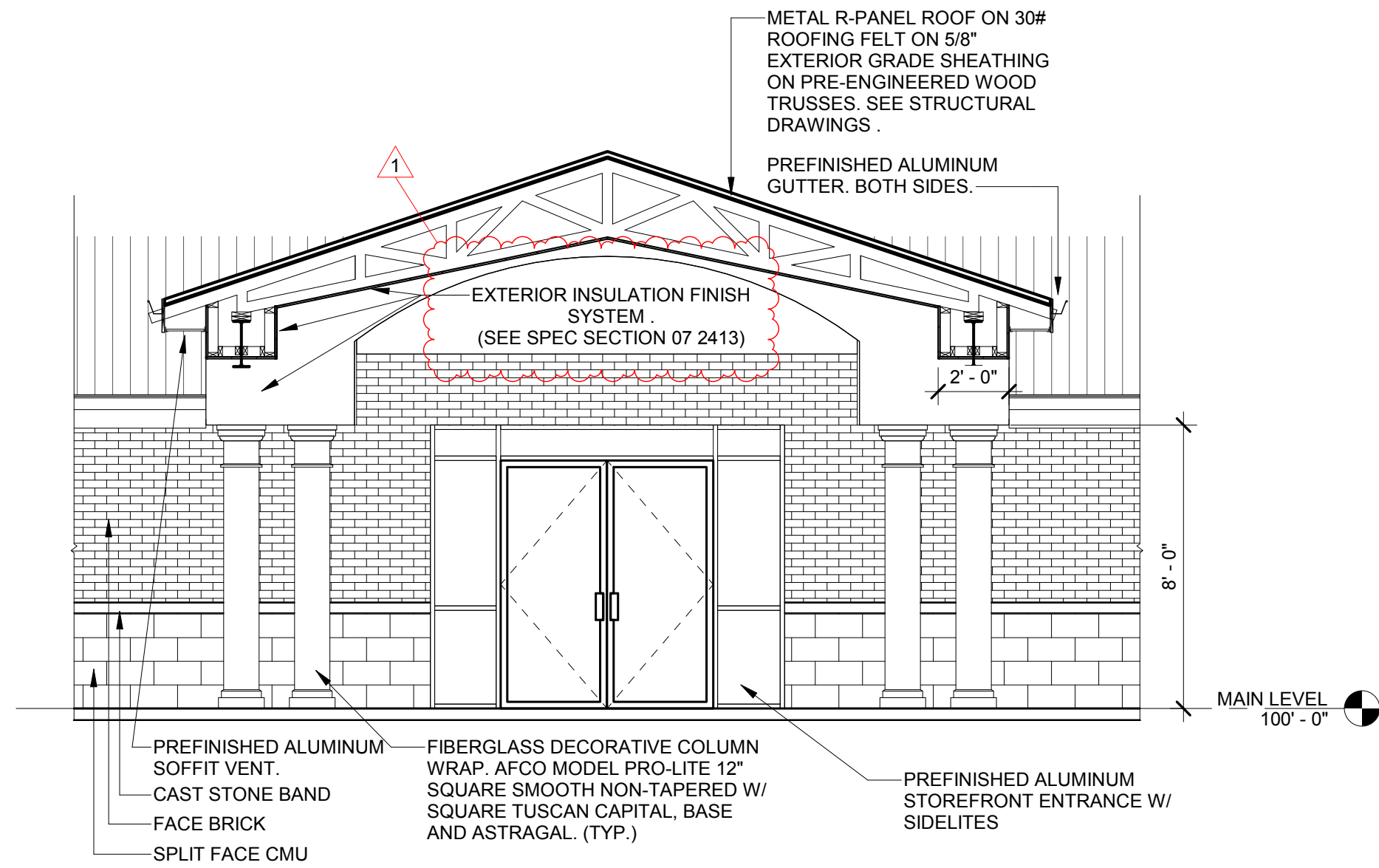
PALMYRA, MO 63461

FOR CONSTRUCTION

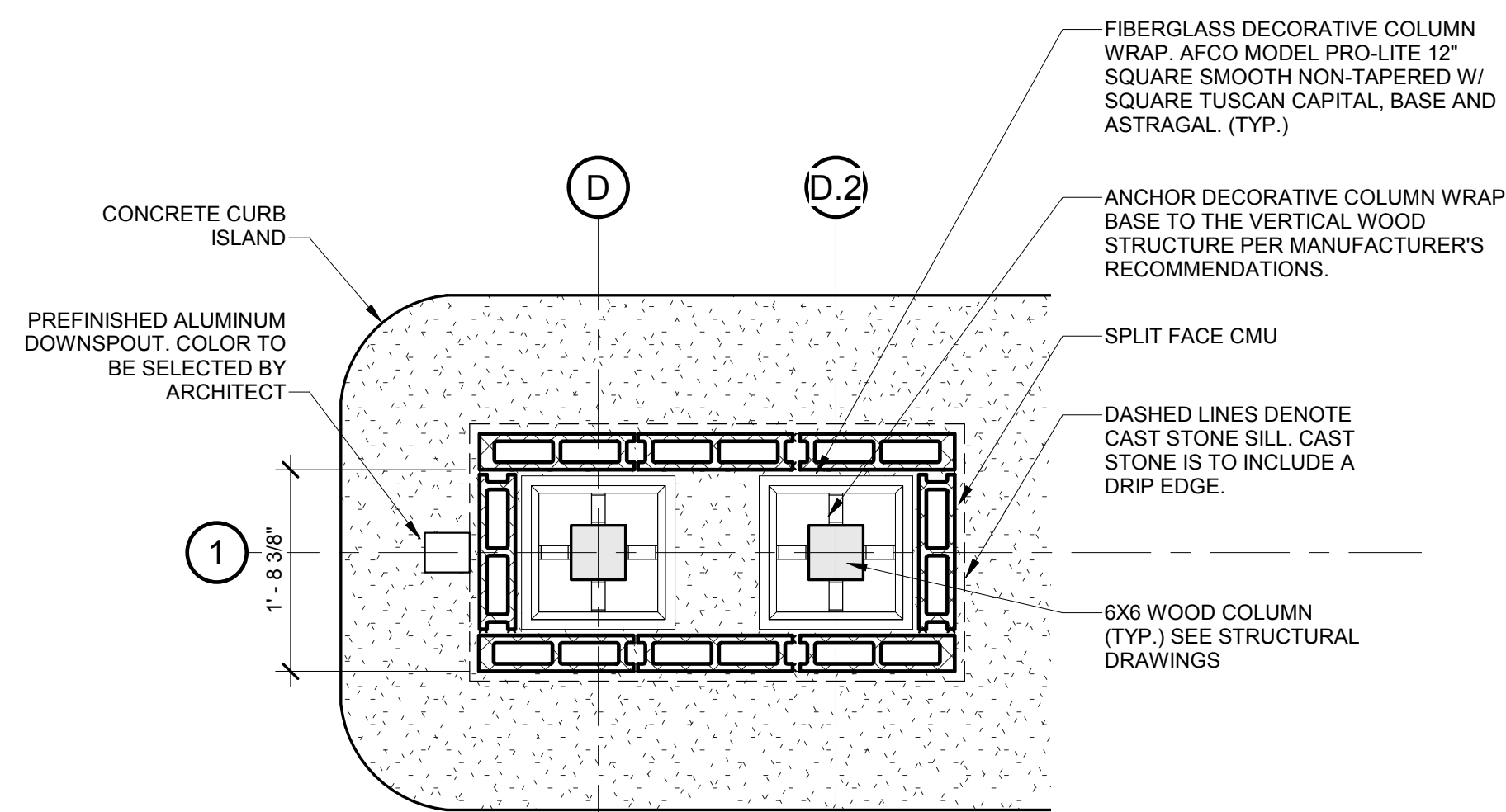
DWG. NO.

A401

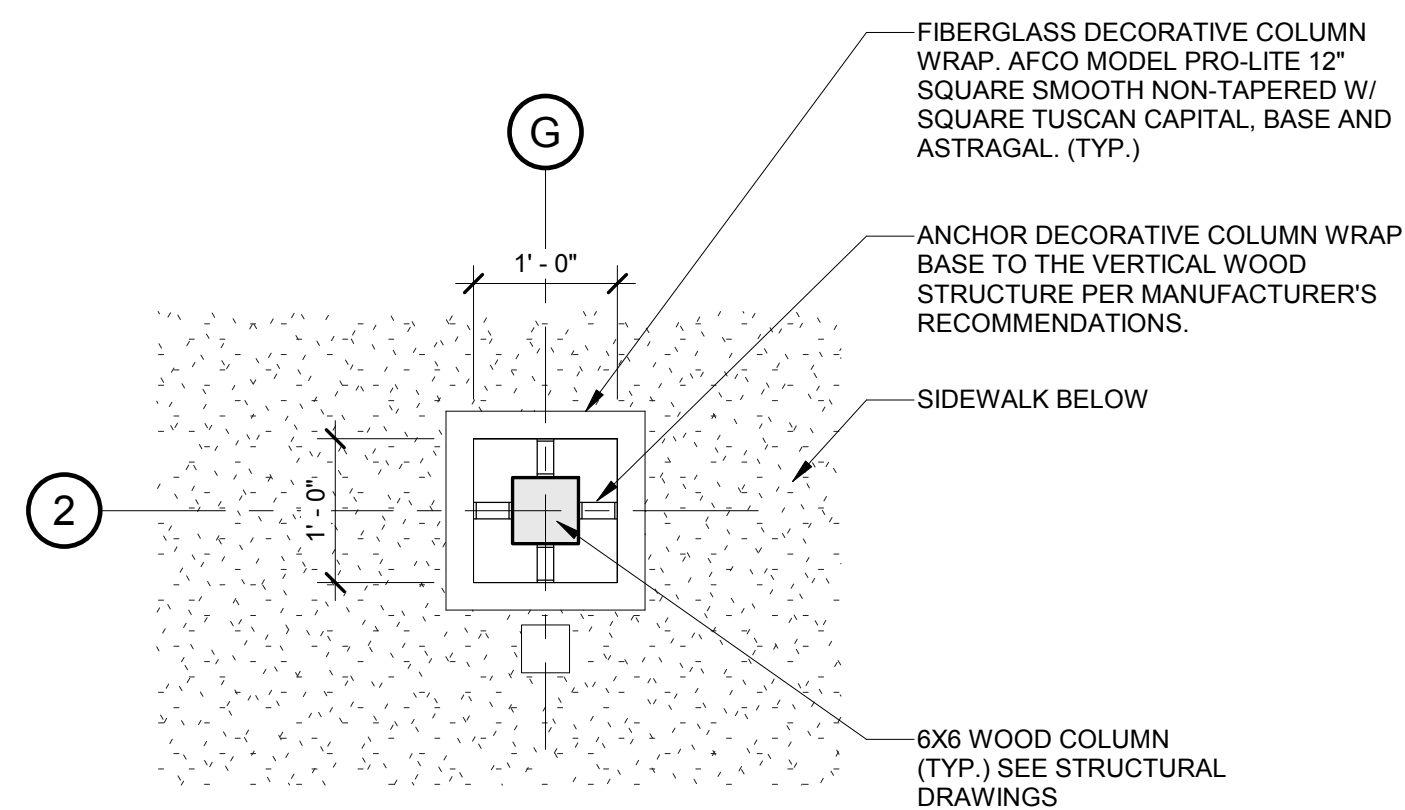




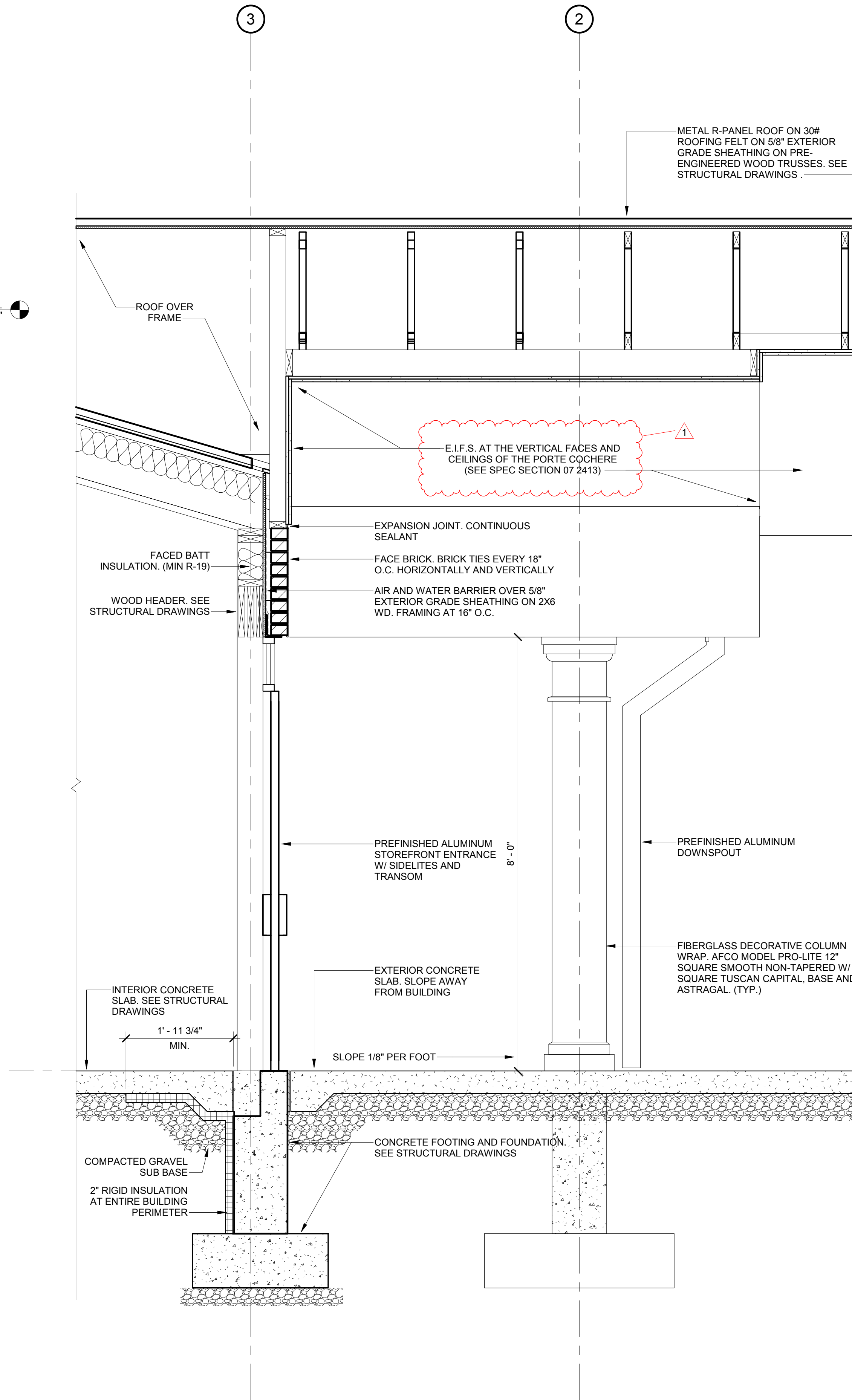
1 CANOPY SECTION
SCALE: 1/4" = 1'-0"



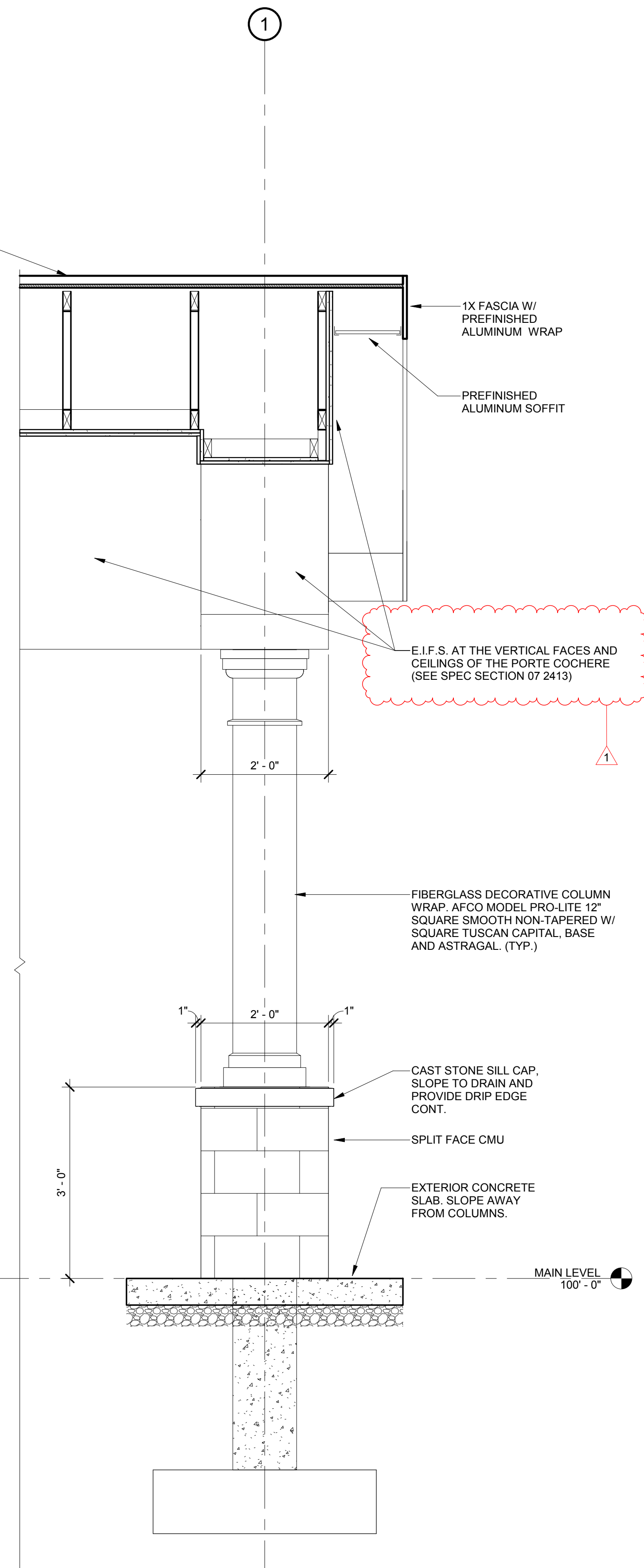
2 CANOPY COLUMN DETAIL
SCALE: 3/4" = 1'-0"



3 TYPICAL COLUMN DETAIL
SCALE: 3/4" = 1'-0"

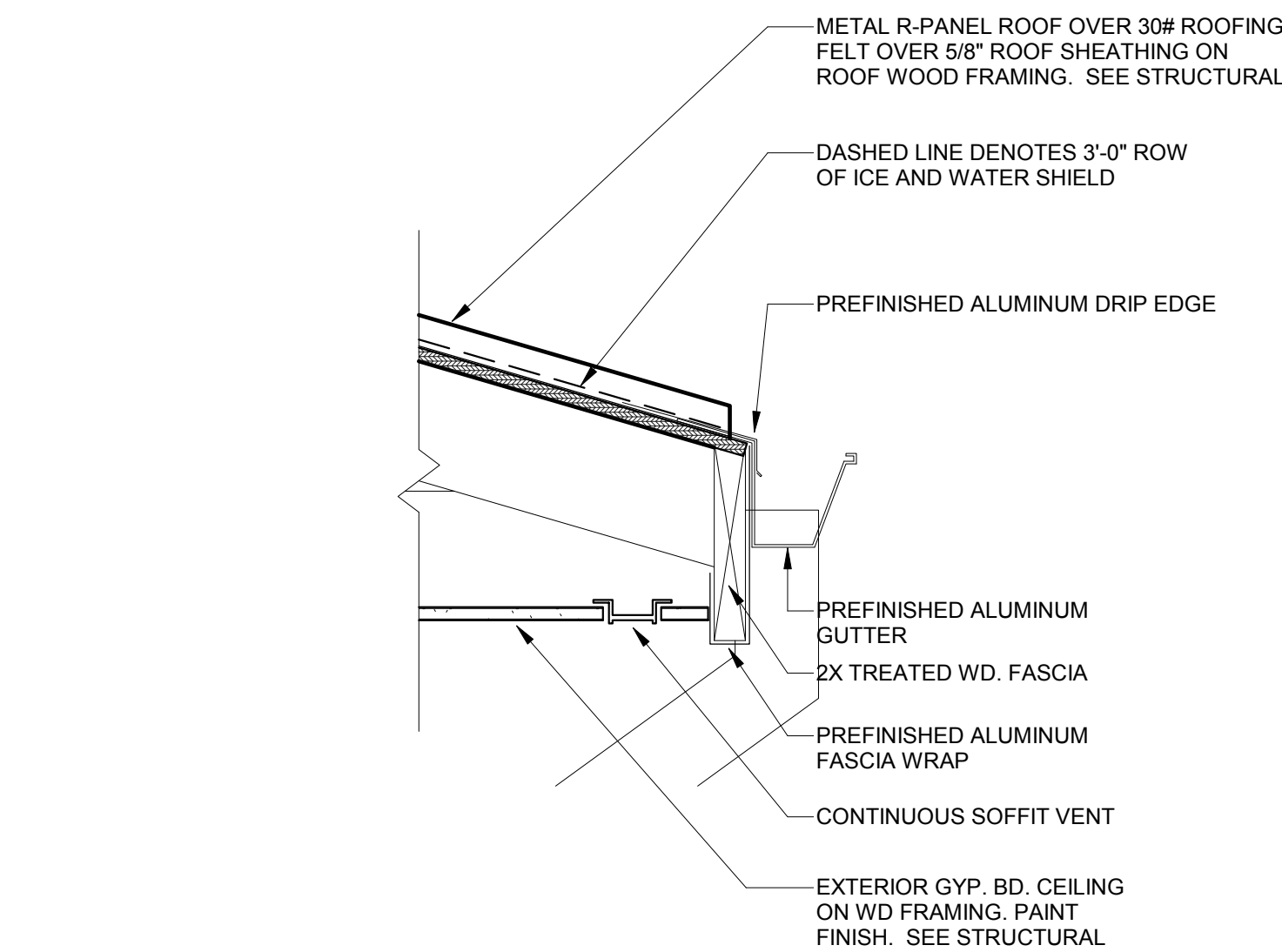


4 CANOPY SECTION
SCALE: 3/4" = 1'-0"



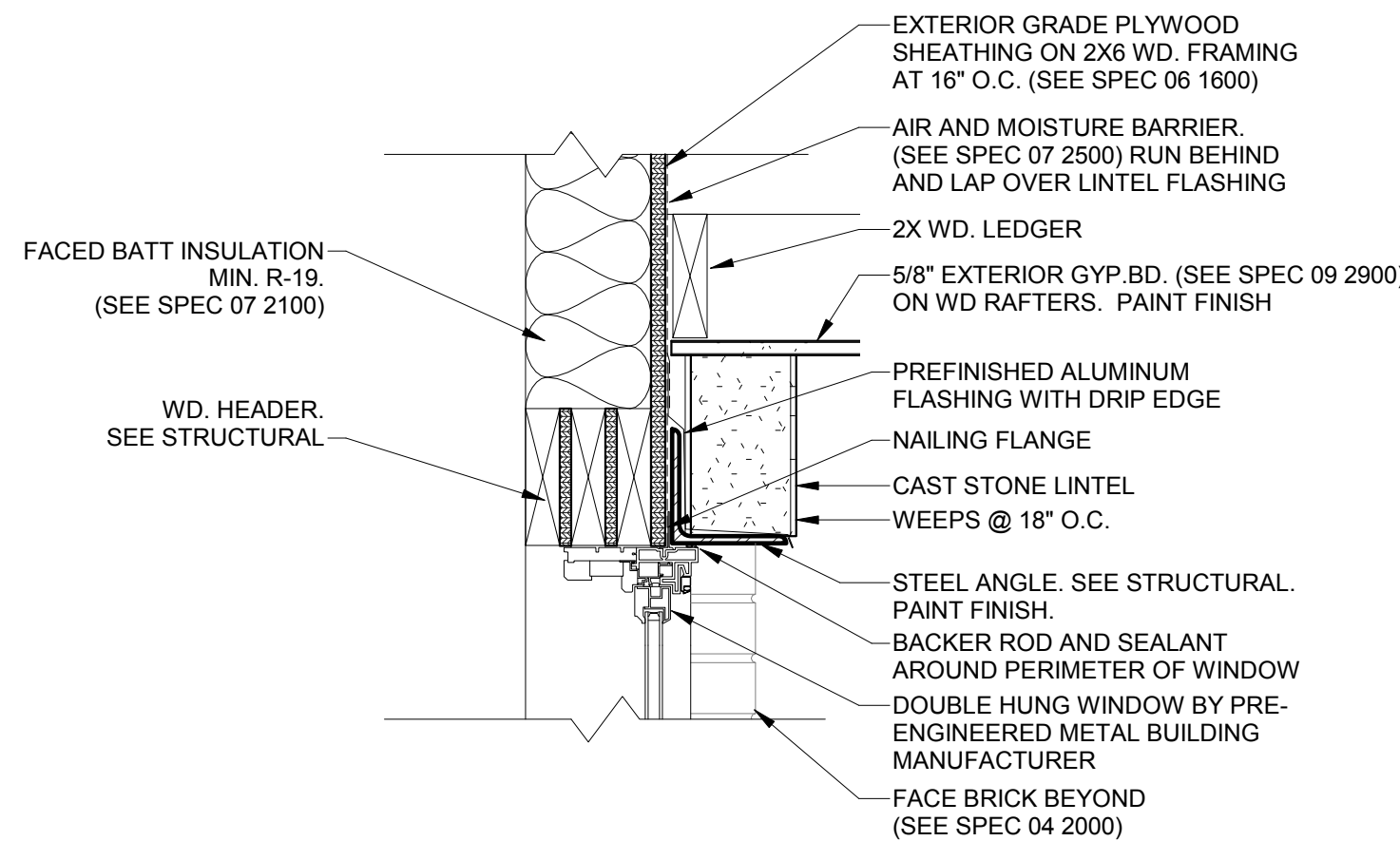
5 CANOPY SECTION
SCALE: 3/4" = 1'-0"

REVISIONS	DATE	REMARKS
1	06/07/20	ADDENDUM 01



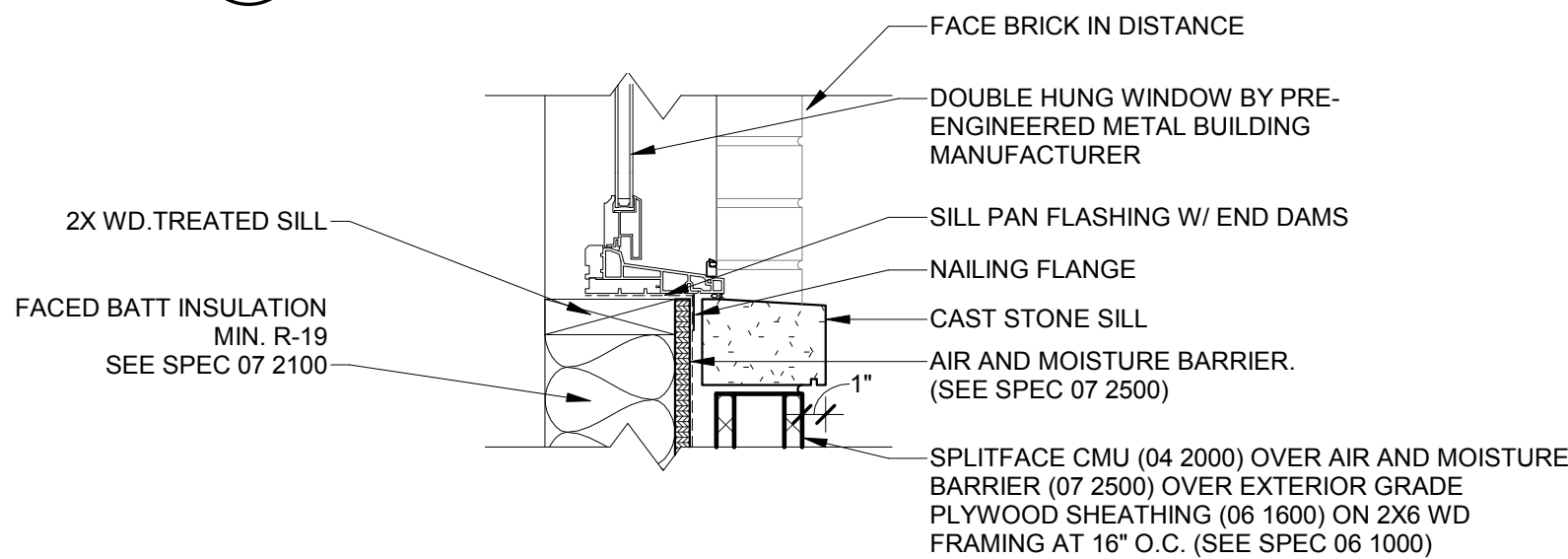
1 DETAIL @ ROOF EDGE

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



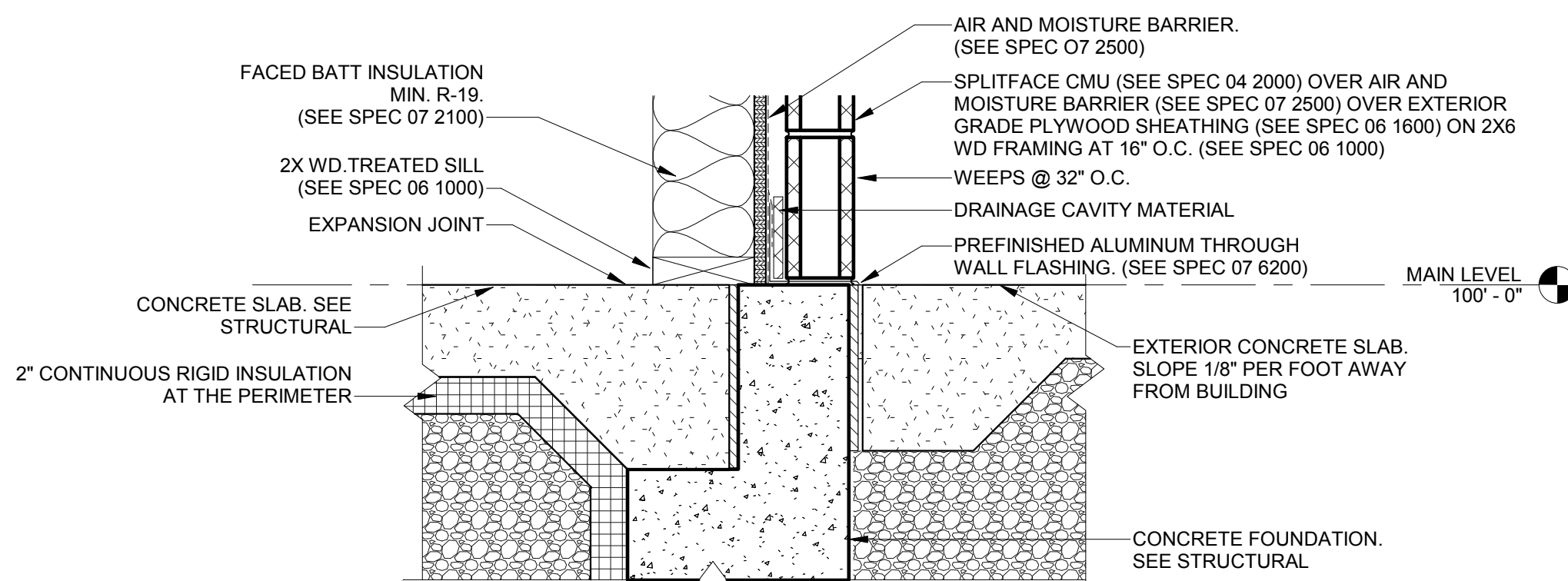
2 DETAIL @ WINDOW HEAD

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



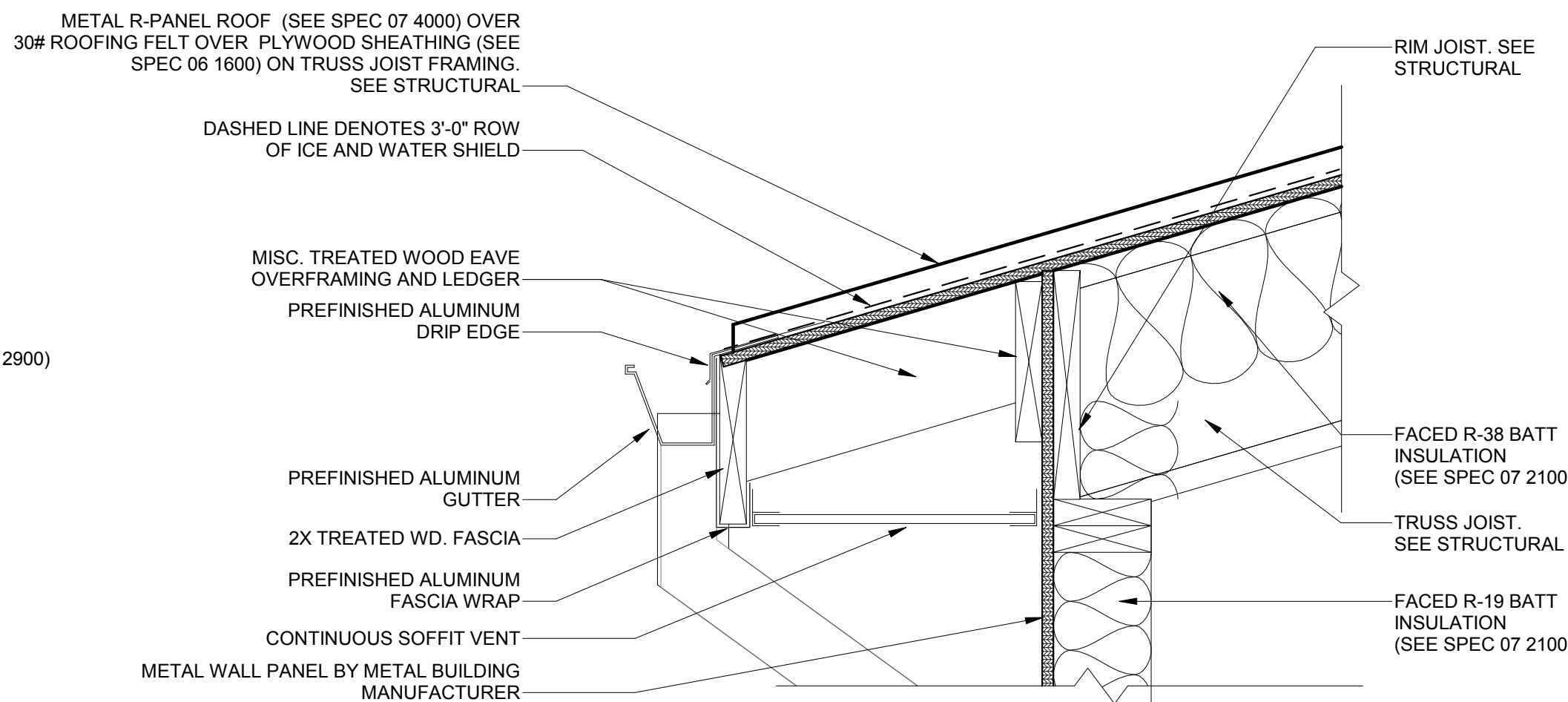
3 DETAIL @ WINDOW SILL

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



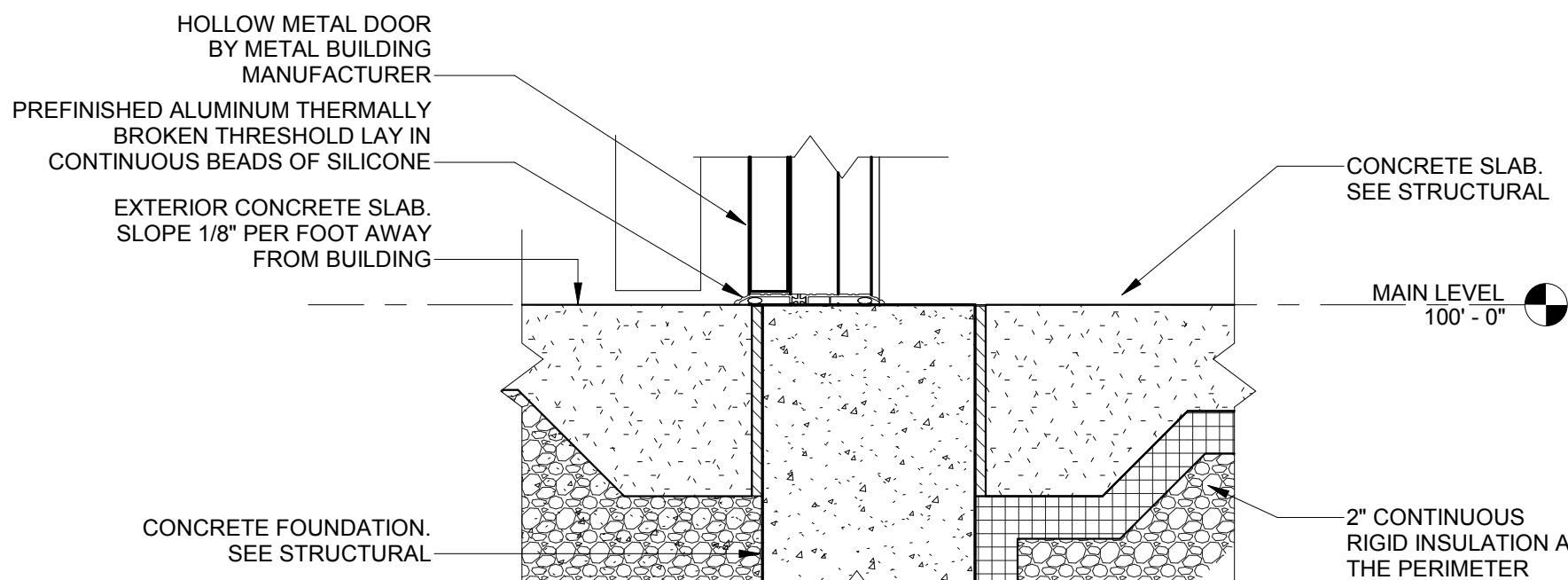
4 DETAIL @ WALL BASE

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



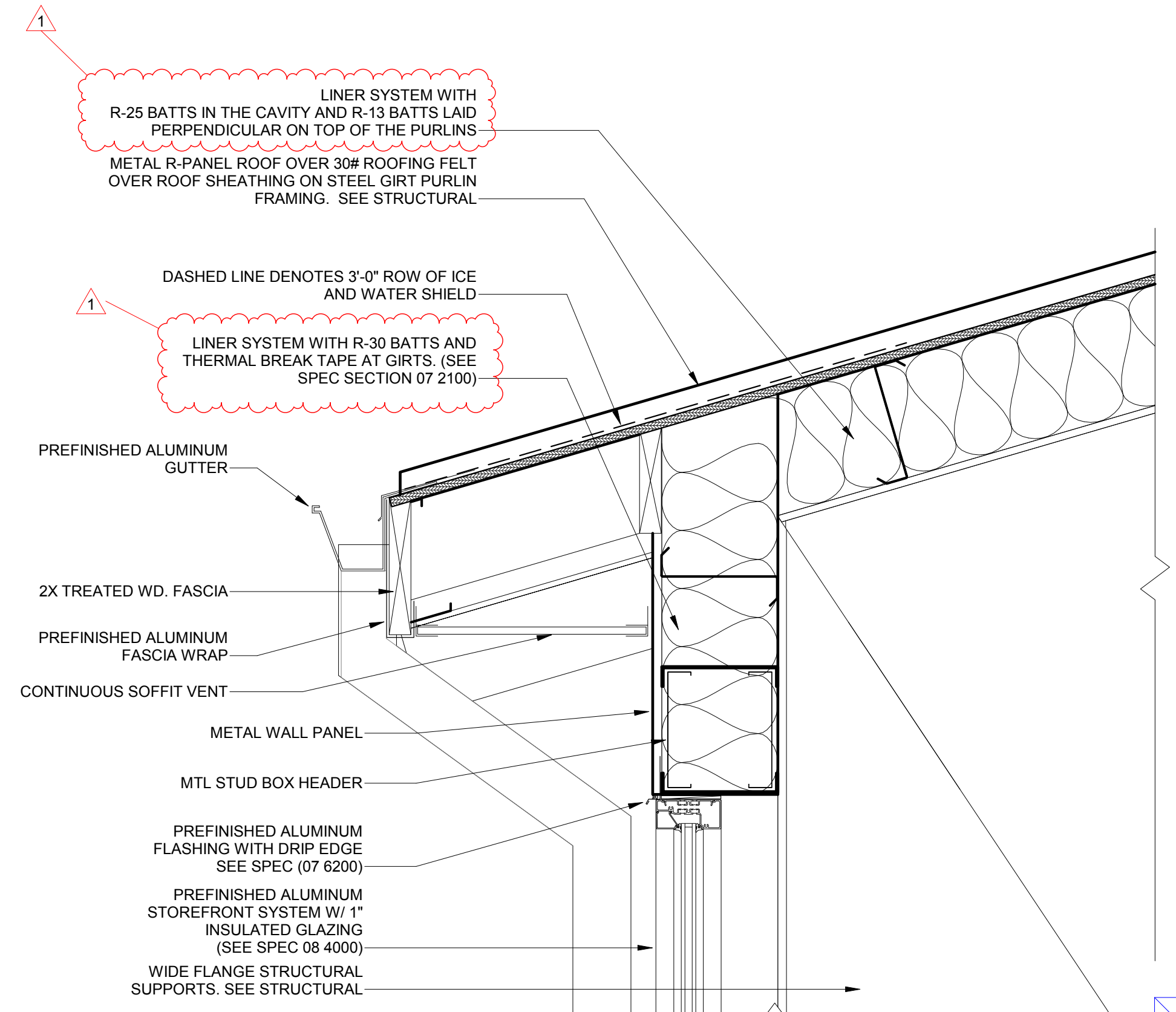
5 DETAIL @ ROOF EDGE (WEST)

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



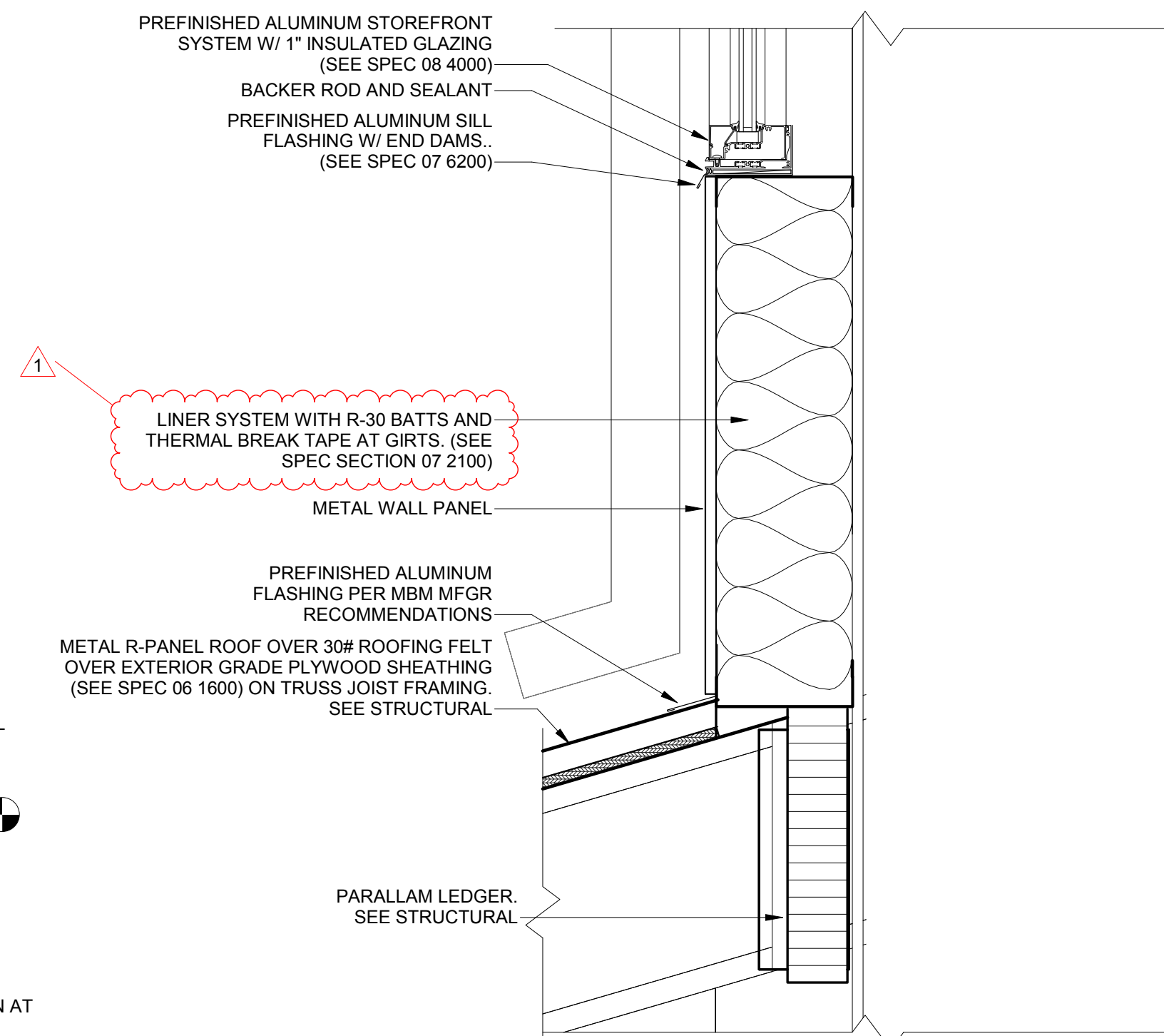
6 DETAIL @ DOOR THRESHOLD

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



7 DETAIL @ ROOF EDGE (HIGH ROOF)

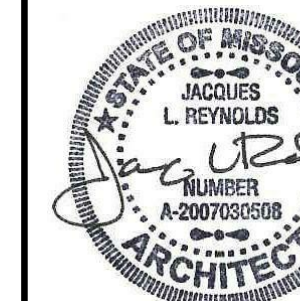
SCALE: 1 1/2" = 1'-0"



8 DETAIL @ ROOF TRANSITION

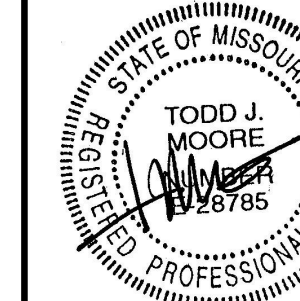
SCALE: 1 1/2" = 1'-0"

CURRENT DATE: 05/17/19



LICENSE EXPIRES: 12/31/19

CURRENT DATE: 05/17/19



LICENSE EXPIRES: 12/31/19

NEW BUILDING FOR:
PALMYRA UNITED METHODIST CHURCH
PALMYRA, MO 63461

CONSTRUCTION DOCUMENTS PHASE

FOR CONSTRUCTION

SET ISSUE DATE: 05/17/19

REVISIONS	DATE	REMARKS
1	06/07/20	ADDENDUM 01

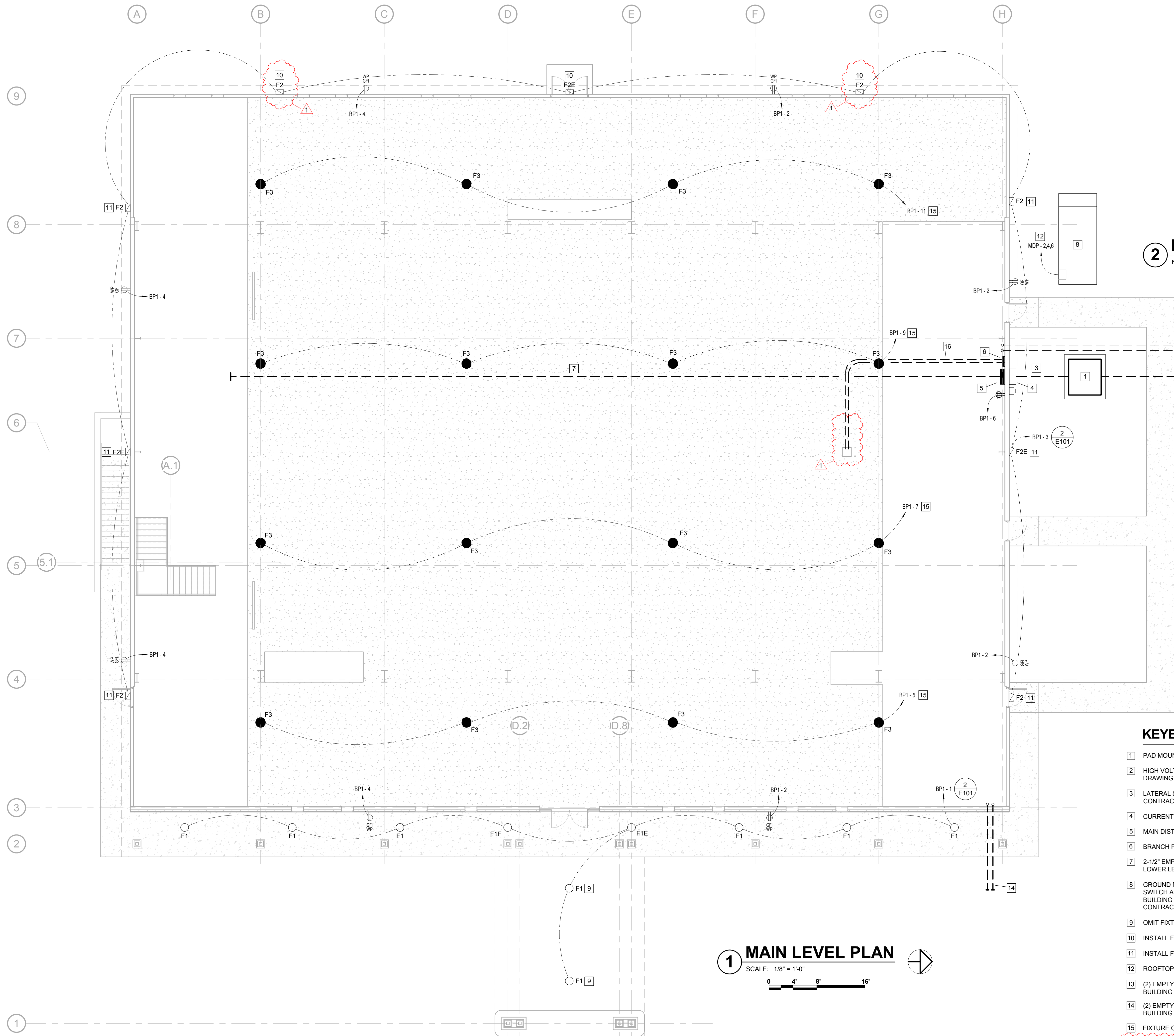
PROJECT NUMBER: 6356

DETAILS

DWG. NO.

A501

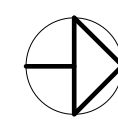
6/20/19 3:25:39 PM © ARCHITECHNICS, INC.



1 MAIN LEVEL PLAN

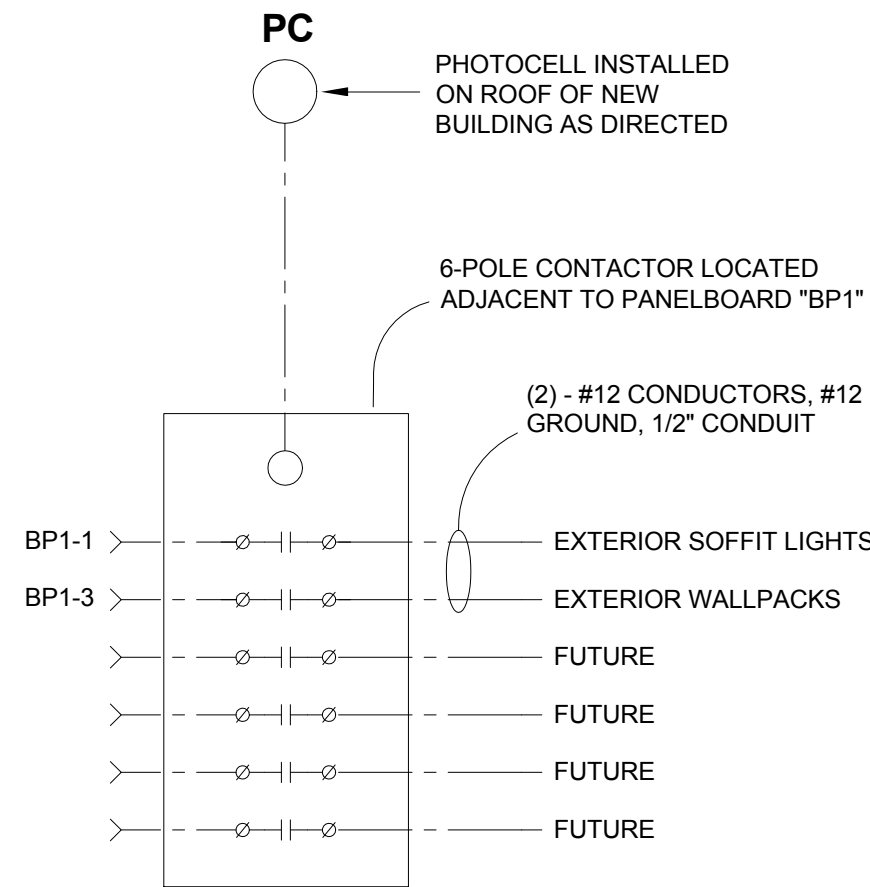
SCALE: 1/8" = 1'-0"

0 4' 8' 16'



2 LIGHTING CONTROL DIAGRAM

NOT TO SCALE

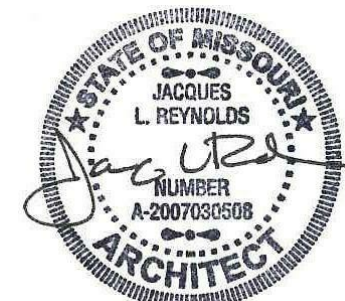


KEYED NOTES (THIS DRAWING ONLY)

- PAD MOUNTED TRANSFORMER FURNISHED AND INSTALLED BY UTILITY COMPANY.
- HIGH VOLTAGE UNDERGROUND SERVICE BY UTILITY COMPANY, SEE SITE PLAN DRAWING C3.0 FOR CONTINUATION.
- LATERAL SERVICE ENTRANCE FROM TRANSFORMER SECONDARY LUGS BY CONTRACTOR - (2) SETS EACH: (4) #350KCM CONDUCTORS, 3-1/2" CONDUIT.
- CURRENT TRANSFORMERS, METER, AND ENCLOSURES BY UTILITY COMPANY.
- MAIN DISTRIBUTION PANELBOARD "MDP", SEE SCHEDULE ON DRAWINGS.
- BRANCH PANELBOARD "BP1", SEE SCHEDULE ON DRAWINGS.
- 2-1/2" EMPTY CONDUIT BELOW FLOOR FOR FUTURE PANELBOARD, EXTEND TO LOWER LEVEL CEILING SPACE AND CAP.
- GROUND MOUNTED 25 TON ROOFTOP UNIT WITH FACTORY INSTALLED DISCONNECT SWITCH AND SMOKE DETECTOR. INSTALL 1/2" EMPTY CONDUIT FROM UNIT TO INSIDE BUILDING FOR THERMOSTAT CONTROL WIRING (CONTROL WIRING BY MECHANICAL CONTRACTOR).
- OMIT FIXTURE IN COVERED DROP-OFF CANOPY UNDER ALTERNATE BID A-6.
- INSTALL FIXTURE 9'-0" ABOVE FINISHED FLOOR.
- INSTALL FIXTURE 12'-0" ABOVE FINISHED FLOOR.
- ROOFTOP UNIT CIRCUIT: (3) #1/0 CONDUCTORS, #6 GROUND, 2" CONDUIT.
- (2) EMPTY 3" CONDUITS FOR FUTURE TELEPHONE, CATV, ETC., TERMINATE INSIDE BUILDING 12" ABOVE FLOOR AND CAP.
- (2) EMPTY 2" CONDUITS FOR FUTURE PARKING LOT LIGHTS, TERMINATE INSIDE BUILDING 12" ABOVE FLOOR AND CAP.
- FIXTURE CONTROL VIA CIRCUIT BREAKER IN PANELBOARD BP1.
- (2) - 1" EMPTY CONDUITS BELOW FLOOR FOR FUTURE CIRCUITS.

ARCHITECHNICS
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CURRENT DATE: 05/17/19



LICENSE EXPIRES: 12/31/19

CURRENT DATE: 05/17/19



LICENSE EXPIRES: 12/31/19

NEW BUILDING FOR:
PALMYRA UNITED METHODIST CHURCH
PALMYRA, MO 63461

CONSTRUCTION DOCUMENTS PHASE

FOR CONSTRUCTION

SET ISSUE DATE: 05/17/19

REVISIONS	DATE	REMARKS
1	06/07/2019	ADDENDUM 01

PROJECT NUMBER: 6356

MAIN LEVEL PLAN

DWG. NO.

E101

GENERAL NOTES

1. STRUCTURAL DRAWINGS ARE TO BE COORDINATED AND USED IN CONJUNCTION WITH THE ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS. SEE MECHANICAL DRAWINGS FOR EQUIPMENT PADS, BASES, SUPPORTS, AND DUCT PENETRATIONS.
2. ARCHITECTONICS, INC. SHALL NOT BE RESPONSIBLE FOR, NOR HAVE CONTROL OR CHARGE OF CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES FOR THE SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THIS PROJECT, AND SHALL NOT BE RESPONSIBLE FOR CONTRACTOR'S FAILURE TO CARRY OUT HIS WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
3. ARCHITECTONICS, INC. SHALL NOT BE RESPONSIBLE FOR, NOR HAVE CONTROL OVER, THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS, ANY OF THEIR AGENTS, OR EMPLOYEES, OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
4. THE CONTRACTOR SHALL PROVIDE AND BE RESPONSIBLE FOR ALL TEMPORARY SHORING AND BRACING REQUIRED FOR THE CONSTRUCTION OF THIS PROJECT. ALL SHORING AND BRACING MEMBERS AND CONNECTIONS SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT THE IMPOSED LOADS. TEMPORARY MEMBERS AND CONNECTIONS SHALL NOT BE REMOVED UNTIL ALL PERMANENT MEMBERS ARE IN PLACE AND FINAL CONNECTIONS ARE MADE.
5. CONTRACTOR SHALL VERIFY IN FIELD ALL DIMENSIONS, ELEVATIONS AND MEMBER SIZES AS SHOWN ON THE CONTRACT DRAWINGS FOR THE EXISTING CONSTRUCTION, PRIOR TO THE DETAILING OR FABRICATION OF ANY NEW STRUCTURAL ELEMENT. CONTRACTOR SHALL DOCUMENT ANY CONSTRUCTION-RELATED DISCREPANCIES. CONTRACTOR SHALL FURNISH THE ABOVE INFORMATION IN THE FORM OF DETAILED SKETCHES TO THE ARCHITECT / STRUCTURAL ENGINEER FOR REVIEW (28) CALENDAR DAYS PRIOR TO THE SCHEDULED START OF ANY DETAILING OR FABRICATION.
6. THE CONTRACTOR SHALL PROVIDE ALL MEASURES AND PRECAUTIONS NECESSARY TO PREVENT DAMAGE AND SETTLEMENT OF EXISTING OR NEW CONSTRUCTION INSIDE OR OUTSIDE THE PROJECT LIMITS DURING EXCAVATION AND FOUNDATION CONSTRUCTION. ANY DAMAGE TO NEW OR EXISTING CONSTRUCTION INSIDE OR OUTSIDE OF THE PROJECT LIMITS, CAUSED BY CONSTRUCTION TECHNIQUES IS THE RESPONSIBILITY OF THE CONTRACTOR.
7. NO FIELD MODIFICATIONS TO ANY STRUCTURAL COMPONENTS SHALL BE MADE WITHOUT PRIOR APPROVAL BY THE ARCHITECT / STRUCTURAL ENGINEER. THIS INCLUDES, BUT IS NOT LIMITED TO REVISIONS DUE TO MISLOCATION, MISFIT, OR ANY OTHER CONSTRUCTION ERRORS.
8. NO OPENING SHALL BE PLACED IN ANY STRUCTURAL MEMBER (OTHER THAN AS INDICATED ON APPROVED SHOP DRAWINGS) UNTIL THE LOCATION HAS BEEN APPROVED BY THE ARCHITECT / STRUCTURAL ENGINEER.
9. PROVIDE SLEEVE LAYOUTS FOR ALL PENETRATIONS THROUGH STRUCTURAL MEMBERS (ALL TRADES ARE INCLUDED). LAYOUTS ARE TO BE SUBMITTED TO THE ARCHITECT / STRUCTURAL ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION.
10. SUPPORT ALL ROOF MOUNTED EQUIPMENT OR EQUIPMENT SUSPENDED FROM FLOORS OR THE ROOF ONLY ON/FROM BEAMS DESIGNATED FOR SUCH PURPOSE. IF NO SUPPORT HAS BEEN DESIGNATED, OR IF A QUESTION ARISES, NOTIFY ARCHITECT / STRUCTURAL ENGINEER PRIOR TO ERECTION OF EQUIPMENT.
11. ALL DETAILS, SECTIONS, AND NOTES ON THE DRAWINGS ARE INTENDED TO BE TYPICAL FOR SIMILAR SITUATIONS ELSEWHERE, UNLESS OTHERWISE NOTED. FOR DETAILS AND DIMENSIONS NOT INDICATED ON THE STRUCTURAL DRAWINGS, SEE THE ARCHITECTURAL DRAWINGS.
12. MATERIALS AND EQUIPMENT SHALL BE STORED AND TRANSPORTED IN A MANNER SO AS NOT TO EXCEED THE ALLOWABLE FLOOR OR ROOF LOADING INDICATED IN THE "SCHEDULE OF BUILDING DESIGN LOADS" ON THE CONSTRUCTION DOCUMENTS OR THE ALLOWABLE CAPACITY OF THE CONSTRUCTED MEMBER, WHICHEVER IS SMALLER.
- SHOP DRAWINGS**
1. ALL SHOP DRAWING SUBMITTALS SHALL BE AS DESCRIBED IN THE PROJECT SPECIFICATIONS OR IN THESE NOTES IF THERE IS NO PROJECT SPECIFICATION.
2. SHOP DRAWINGS AND RELATED MATERIALS PREPARED BY SUPPLIERS AND SUBCONTRACTORS SHALL BE REVIEWED BY THE GENERAL CONTRACTOR PRIOR TO SUBMITTING TO THE ARCHITECT / STRUCTURAL ENGINEER. THE GENERAL CONTRACTOR SHALL REVIEW ALL SUBMISSIONS FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS, MEANS, METHODS, TECHNIQUES, SEQUENCES, AND OPERATION OF CONSTRUCTION, TECHNICAL CONTENT, COORDINATION OF TRADES, DIMENSIONAL ACCURACY, SAFETY PRECAUTIONS AND PROGRAMS INCIDENTAL THERETO, ALL OF WHICH ARE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR. THE GENERAL CONTRACTOR SHALL APPROVE AND SO STAMP EACH SUBMISSION
3. THE STRUCTURAL DRAWINGS SHALL NOT BE USED AS THE BACKGROUNDS FOR THE PRODUCTION OF ANY SHOP DRAWINGS THAT ARE SUBMITTED FOR REVIEW.
4. SUBMIT (1) ONE REPRODUCIBLE AND (1) PRINT FOR REVIEW. (1) ONE REPRODUCIBLE WILL BE RETURNED UPON COMPLETION OF REVIEW. MULTIPLE COPIES OF DRAWINGS WILL NOT BE MARKED-UP WITH REVIEW COMMENTS.
5. ANY DEVIATIONS FROM THE ORIGINAL DESIGN OR DESIGN CRITERIA AS SPECIFIED ON THE CONTRACT DOCUMENTS OF THE PROJECT SHALL BE NOTED (BUBBLED, NOTE, ETC.) ON THE SHOP DRAWINGS THAT ARE SUBMITTED FOR APPROVAL.
6. ALL CHANGES TO RESUBMITTED SHOP DRAWINGS SHALL BE BUBBLED.
- FOUNDATIONS**
1. FOUNDATION DESIGN IS BASED ON THE SUBSURFACE SOIL INVESTIGATION PERFORMED BY GEOTECHNICS, DATED MARCH 14, 2019. CONTRACTOR SHALL FOLLOW ALL REQUIREMENTS SPECIFIED IN THIS REPORTS.
2. FOUNDATION STRUCTURE IS BASED ON THE USE OF CONTINUOUS STRIP FOOTINGS APPLYING A MAXIMUM PRESSURE OF 2,000 POUNDS PER SQUARE FOOT TO THE SOIL OR ISOLATED SPREAD FOOTINGS APPLYING A MAXIMUM PRESSURE OF 2,000 POUNDS PER SQUARE FOOT TO THE SOIL.
3. ALL ENGINEERED FILL IS TO BE COMPACTED TO ACHIEVE THIS BEARING PRESSURE AS VERIFIED BY FIELD TESTING BY A LICENSED GEOTECHNICAL ENGINEER. IF FIELD CONDITIONS DO NOT PROVIDE THIS MINIMUM VALUE, THE ARCHITECT AND ARCHITECT / STRUCTURAL ENGINEER SHOULD BE NOTIFIED IMMEDIATELY.

FOUNDATIONS (CONT'D)

4. PER THE ABOVE REFERENCED REPORT, THE LATERAL EARTH PRESSURE IS AS FOLLOWS:
- A. PASSIVE EARTH PRESSURE (NET ALLOWABLE) = 200 PSF/FOOT
5. SHOULD UNSUITABLE BEARING CONDITIONS BE ENCOUNTERED DURING EXCAVATION, NOTIFY THE OWNER, ARCHITECT, AND ARCHITECT / STRUCTURAL ENGINEER BEFORE CONTINUING WITH CONSTRUCTION.
6. THE CONCRETE FOR EACH ISOLATED FOOTING SHALL BE PLACED IN ONE (1) CONTINUOUS PLACEMENT.
7. ALL SLABS-ON-GRADE SHALL BE PLACED OVER AN EXTREME LOW PERMEANCE VAPOR BARRIER, 15 MIL MINIMUM THICKNESS, OVER A SUBSUBBASE AS SPECIFIED BY THE GEOTECHNICAL ENGINEER FOR THE PROJECT. EXISTING SUBBASE WILL BE COMPACTED IN PLACE OR WILL BE CUT OUT AND REPLACED WITH AN ENGINEERED FILL AS SPECIFIED BY A GEOTECHNICAL ENGINEER.
8. THE CONTRACTOR MUST PROVIDE SURFACE DRAINAGE AND PUMPS TO PROTECT ALL EXCAVATION FROM FLOODING. FLOODING OF ANY EXCAVATION AFTER APPROVAL OF THE SUBGRADE WILL BE CAUSE FOR COMPLETE RE-PREPARATION AND RE-APPROVAL OF THE SUBGRADE.
9. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY MEASURES TO PREVENT ANY WATER, FROST OR ICE FROM PENETRATING ANY FOOTING OR SLAB SUBGRADE BEFORE AND AFTER PLACING OF CONCRETE AND UNTIL SUCH SUBGRADES ARE FULLY PROTECTED BY THE PERMANENT BUILDING STRUCTURE.
10. THE CONTRACTOR SHALL REVIEW ALL EXISTING SITE CONDITIONS AND THE SUBSURFACE SOILS EXPLORATION REPORT AND ESTABLISH SPECIFIC "CONSTRUCTION PROCEDURES AND SEQUENCES" FOR THE EXCAVATION, COMPACTION, FILL AND INSTALLATION OF THE NEW BUILDING FOUNDATION. SUBMIT THESE FOR REVIEW TO THE OWNER'S SOIL TESTING LABORATORY, OWNER'S REPRESENTATIVE, ARCHITECT / STRUCTURAL ENGINEER, THE CONTRACTOR'S DESIGN, MEANS AND METHODS FOR FOUNDATION CONSTRUCTION SHALL MINIMIZE SETTLEMENT OF ADJACENT CONSTRUCTION. THE CONTRACTOR SHALL BEAR SOLE RESPONSIBILITY FOR ALL REMEDIAL WORK RESULTING FROM SUCH SETTLEMENT.
11. RECORDS OF ANY EXISTING SUBGRADE INTERFERENCES OTHER THAN THOSE INTERFERENCES SHOWN OR INDICATED ON THE CONSTRUCTION DOCUMENTS, ARE NOT CURRENTLY AVAILABLE. DURING EXCAVATION WORK, INTERFERENCES MAY BE DISCOVERED. CONTRACTOR SHALL DOCUMENT CONSTRUCTION-RELATED DIMENSIONS OF ALL INTERFERENCES. CONTRACTOR TO FURNISH THE ABOVE INFORMATION IN THE FORM OF DETAILED SKETCHES TO THE ARCHITECT / STRUCTURAL ENGINEER FOR REVIEW.
12. REFER TO THE TESTING AND INSPECTION SECTION OF THESE NOTES FOR THE FOUNDATION TESTING AND INSPECTION REQUIREMENTS.

STRUCTURAL CONCRETE

1. CONCRETE MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN CONCRETE INSTITUTE PUBLICATIONS.
- A. ACI 301 - "SPECIFICATIONS FOR STRUCTURAL CONCRETE A FOR BUILDINGS"
- B. ACI 302 - "RECOMMENDED PRACTICE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION"
- C. ACI 304 - "ACI MANUAL OF CONCRETE INSPECTION"
- D. ACI 311 - "RECOMMENDED PRACTICE FOR MEASURING, MIXING, TRANSPORTING AND PLACING CONCRETE"
- E. ACI 316 - "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT"
- F. ACI 318 - "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE"
- G. ACI 347 - "RECOMMENDED PRACTICE FOR CONCRETE FORMWORK"
2. PROVIDE CONCRETE TO OBTAIN THE FOLLOWING MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS:
- A. SPREAD FOOTINGS.....f_c = 4000 PSI
- B. WALL FOOTINGS.....f_c = 4000 PSI
- C. PIERS.....f_c = 4000 PSI
- D. INTERIOR SLABS-ON-GRADE.....f_c = 4000 PSI
- E. EXTERIOR SLABS-ON-GRADE.....f_c = 4000 PSI
3. EXTERIOR FLATWORK, STAIRS, RAMPS, ETC. SHALL HAVE A WATER/CEMENT RATIO ≤ 0.40
4. LABORATORY TEST REPORTS OR MATERIAL CERTIFICATES FOR CONCRETE MATERIALS AND MIX DESIGN TEST DATA, IN CONFORMANCE WITH ACI STANDARDS, SHALL BE SUBMITTED FOR REVIEW FOR EACH TYPE OF CONCRETE TO BE USED. EACH SUBMITTED MIX DESIGN SHALL IDENTIFY THE APPLICATION FOR WHICH THE MIX WILL BE USED.
5. ALL CONCRETE SHALL BE NORMAL WEIGHT UNLESS NOTED OTHERWISE.
6. ALL CONCRETE ELEMENTS SUBJECT TO FREEZING AND THAWING DURING CONSTRUCTION OR OVER THE SERVICE LIFE OF THE STRUCTURE SHALL CONTAIN AN AIR ENTRAINMENT ADMIXTURE AS SPECIFIED IN ACI-318, PART 3.
7. NO CALCIUM CHLORIDE SHALL BE USED IN ANY CONCRETE.
8. THE CONTRACTOR SHALL SUBMIT CHECKED, DETAILED REINFORCEMENT SHOP DRAWINGS SHOWING THE LOCATIONS AND DETAILING OF ALL FOOTINGS, WALL PIER, BEAMS, COLUMNS, SLABS, CONSTRUCTION JOINTS, CONTROL JOINTS, ETC. PRIOR TO FABRICATION. DETAILS SHALL INCLUDE STEEL SIZES, LAPS, SPACING AND PLACEMENT.
9. THE MINIMUM CONCRETE COVER FOR CAST-IN-PLACE (NON-PRESTRESSED) CONCRETE SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
- A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH.....3"
- B. CONCRETE EXPOSED TO EARTH OR WEATHER:
- i. NO. 6 THROUGH NO. 18 BARS.....2"
- ii. NO. 5 BAR, W31 OR D31 WIRE, AND SMALLER.....1 1/2"
- C. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
- i. SLABS, WALLS, JOISTS: NO. 14 AND NO. 18 BARS.....1 1/2" NO. 11 BAR AND SMALLER.....3/4"
- ii. BEAMS, COLUMNS: PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS.....1 1/2"
- iii. SHELLS: FOLDED PLATE MEMBERS: NO. 6 THROUGH NO. 18 BARS.....2" NO. 5 BAR, W31 OR D31 WIRE, AND SMALLER.....1 1/2"
10. PROVIDE ADEQUATE BOLSTERS, HI-CHAIRS, SUPPORT BARS, ETC., TO MAINTAIN SPECIFIED CLEARANCES BETWEEN ALL REINFORCING BARS. PROVIDE CONTINUOUS #4 SPACER BARS IN WALLS AND SLABS TO SUPPORT DOWELS.

STRUCTURAL CONCRETE (CONT'D)

11. PROVIDE PLASTIC TIPPED ACCESSORIES FOR REINFORCEMENT AT ALL FACES OF EXPOSED CONCRETE, INTERIOR OR EXTERIOR.
12. ALL FIELD BENDING OF REINFORCEMENT SHALL BE DONE COLD. HEATING OF BARS WILL NOT BE PERMITTED.
13. ALL CONSTRUCTION JOINTS, EXCLUDING SLAB-ON-GRADE CONSTRUCTION JOINTS, SHALL BE WIRE BRUSHED, CLEANED, MOISTENED AND A CONCRETE SLURRY APPLIED IMMEDIATELY PRIOR TO PLACING NEW CONCRETE.
14. CONTROL AND CONSTRUCTION JOINTS IN NON-STRUCTURAL SLABS-ON-GRADE SHALL BE PROVIDED AS SHOWN ON DRAWINGS AND DETAILS. CONTROL JOINTS SHALL BE SPACED AT A MAXIMUM OF 15'-0" ON CENTER IN ANY DIRECTION. SAWED CONTROL JOINTS SHALL BE OF THE SOFT-CUT TYPE, 0.25 TIMES THE SLAB THICKNESS DEEP, AND CUT AS SOON AS PRACTICAL WITHOUT DISLOGGING THE COARSE AGGREGATE AS PART OF THE FINISHING OPERATION. CONTRACTOR SHALL SUBMIT DETAILED SHOP DRAWINGS INDICATING ALL CONTROL JOINTS FOR ALL SLAB-ON-GRADE CONSTRUCTION FOR REVIEW PRIOR TO CONSTRUCTING ALL SLABS-ON-GRADE.
15. CONCRETE SLABS-ON-GRADE SHALL BE A MINIMUM OF 5 INCH THICKNESS UNLESS NOTED OTHERWISE. CONCRETE FOR SLAB-ON-GRADE CONSTRUCTION SHALL USE A DESIGN MIX THAT INCORPORATES 1-1/2" MAXIMUM SIZE AGGREGATE, WELL GRADED AND TYPE I OR TYPE II CEMENT. THE MIX SHALL CONTAIN NO ADMIXTURES THAT EXACERBATE SHRINKAGE. PLACEMENT SLUMP FOR THE CONCRETE AT THE POINT OF PLACEMENT SHALL BE INDICATED IN THE PROJECT SPECIFICATION.
16. CONSTRUCTION JOINTS SHALL CONTAIN 1/4"x4-1/2" DIAMOND DOWEL PLATES SPACED AT 18" ON CENTER AND PLACED AT 1/2 OF THE SLAB DEPTH PERPENDICULAR TO THE PLANE OF THE JOINT.
17. AT EXPOSED CONCRETE ELEMENTS, SEE PROJECT SPECIFICATIONS FOR TYPE OF CONCRETE FINISHING REQUIRED.
18. AT ALL EXPOSED TO VIEW CONCRETE ELEMENTS (i.e. BEAMS, GIRDERS, COLUMNS, TOP OF RETAINING WALLS, ETC.), PROVIDE 3/4" CHAMFER AT EDGES.
19. PITCH ALL SLABS TO DRAINS WHERE DRAINS ARE INDICATED ON CONTRACT DRAWINGS.
20. ADDITIONAL BARS SHALL BE PROVIDED AT ALL OPENINGS IN SLABS-ON-GRADE AND CONCRETE WALLS. AT ALL OPENINGS, PROVIDE MINIMUM OF (2) - #4 BARS AT EACH SIDE EXTENDING 2'-0 BEYOND EACH SIDE OF OPENING.
21. ADDITIONAL BARS PROVIDED: CORNER BARS MATCHING TO HORIZONTAL BARS SHALL BE PROVIDED AT ALL WALL CORNERS AND INTERSECTIONS.
22. AT SLABS-ON-GRADE PROVIDE ADDITIONAL REINFORCING AT RE-ENTRANT CORNERS. PROVIDE MINIMUM OF (2) - #4 BARS, 4'-0 LONG CENTERED ABOUT CORNER.
23. NO ALUMINUM OF ANY TYPE SHALL BE ALLOWED IN THE CONCRETE WORK, UNLESS COATED TO PREVENT ALUMINUM CONCRETE REACTION.
24. IN NO CASE SHALL EMBEDDED CONDUIT BE PLACED ABOVE REINFORCING IN SLAB-ON-GRADE CONSTRUCTION. MINIMUM SPACING OF ADJACENT CONDUITS SHALL BE 3 TIMES THE DIAMETER OR WIDTH OF THE LARGEST CONDUIT. MAXIMUM OUTSIDE DIAMETER OF EMBEDDED CONDUIT SHALL BE NO LARGER THAN ONE-THIRD OF THE SLAB THICKNESS.
25. UNLESS OTHERWISE NOTED ON THE DRAWINGS, SLEEVES FOR PIPES AND CONDUITS PENETRATING GRADE BEAMS AND CONCRETE WALLS SHALL BE STEEL PIPE SLEEVES OF NOMINAL DIAMETER 2 INCHES LARGER THAN THE NOMINAL SIZE OF THE PIPE PENETRATING THE STRUCTURAL MEMBER. THE THICKNESS OF THE SLEEVE SHALL CONFORM TO SCHEDULE 40 BUT NEED NOT BE MORE THAN 3/8 INCH. ALL SUCH SLEEVE LOCATIONS SHALL BE REVIEWED BY THE ARCHITECT/ENGINEER PRIOR TO INSTALLATION.
26. PROVIDE WATERSTOPS AT ALL CONSTRUCTION JOINTS LOCATED BELOW GRADE AS SHOWN ON THE DRAWINGS.
27. REFER TO THE SPECIFICATION FOR FLOOR FLATNESS AND FLOOR LEVELNESS REQUIREMENTS.
28. NO CONSTRUCTION SHALL BE MADE WITHOUT REINFORCEMENT. UNLESS OTHERWISE NOTED, THE FOLLOWING PERCENTAGE OF THE GROSS CROSS SECTIONAL AREA SHALL BE PROVIDED AS MINIMUM REINFORCEMENT:
- A. SLABS: TOP & BOTTOM0.20%
- B. BEAMS: TOP & BOTTOM0.33% STIRRUPS.....#3@D* (D=MEMBER DEPTH)
- C. COLUMNS: VERTICAL1.00% TIES.....#3@10"
- D. WALLS: VERTICAL0.12% (#5s) HORIZONTAL0.20% (#5s)
- E. FOOTINGS: HORIZONTAL0.18% (#5s)
29. ALL REINFORCING STEEL SHALL BE HIGH STRENGTH NEW BILLET STEEL, CONFORMING TO ASTM A615 GRADE 60 UNLESS NOTED OTHERWISE.
29. ALL BAR DETAILING AND ACCESSORIES TO BE FURNISHED SHALL CONFORM TO TYPICAL DETAILS IN THE LATEST ACI STANDARD 315 DETAILING MANUAL, EXCEPT AS OTHERWISE SHOWN, NOTED, OR SPECIFIED.
30. WELDED WIRE FABRIC SHALL CONFORM TO ASTM SPECIFICATIONS A185. ALL WELDED WIRE FABRIC SHALL BE LAPPED TWO PANELS AT EDGES AND ENDS, AND TIED SECURELY. AT EXTERIOR SLABS PROVIDE EPOXY COATED WELDED WIRE FABRIC CONFORMING TO ASTM A884, CLASS A.
31. DETAILING AND ACCESSORIES SHALL CONFORM TO THE ACI DETAILING MANUAL AND TO THE CRSI MANUAL OF STANDARD PRACTICE. CURRENT EDITIONS, UNLESS OTHERWISE NOTED BELOW, ON THE DRAWINGS, OR IN THE SPECIFICATIONS.
32. ALL HOOKS SHALL BE "STANDARD" AS PER ACI STANDARD.

STRUCTURAL CONCRETE (CONT'D)

BAR SIZE	f _c	SLAB/BEAM		WALL		COLUMN VERTICAL
		TOP	OTHER	VERT.	HORIZ.	
#4	4000	26"	21"	21"	26"	-
	5000	24"	19"	19"	24"	
	6000	23"	17"	17"	23"	
#5	4000	33"	25"	25"	33"	19"
	5000	30"	23"	23"	30"	
	6000	28"	21"	21"	28"	
#6	4000	39"	30"	30"	39"	23"
	5000	36"	28"	28"	36"	
	6000	33"	25"	25"	33"	
#7	4000	71"	55"	55"	71"	27"
	5000	64"	50"	50"	64"	
	6000	59"	45"	45"	59"	
#8	4000	81"	63"	63"	81"	30"
	5000	73"	56"	56"	73"	
	6000	67"	51"	51"	67"	
#9	4000	91"	71"	71"	91"	34"
	5000	82"	63"	63"	82"	
	6000	75"	58"	58"	75"	
#10	4000	102"	78"	78"	102"	38"
	5000	90"	71"	71"	90"	
	6000	82"	64"	64"	82"	
#11	4000	111"	86"	86"	111"	42"
	5000	99"	77"	77"	99"	
	6000	91"	71"	71"	91"	

- NOTES:**
- A. TOP BARS ARE HORIZONTAL BARS PLACED SUCH THAT MORE THAN 12" OF CONCRETE IS CAST IN THE MEMBER BELOW THE SPLICE.
- B. FOR EPOXY COATED BARS MULTIPLY THE LAP LENGTHS SHOWN IN THE TABLE ABOVE BY 1.3 FOR TOP BARS AND 1.5 FOR OTHER BARS.
- C. WHERE BARS OF DIFFERENT SIZE ARE TO BE SPICED, THE SPLICE LENGTH FOR ALL BARS SHALL BE THAT REQUIRED FOR THE LARGER BAR.
- D. SPLICE LENGTHS SHALL BE SPECIFICALLY DIMENSIONED AT ALL LOCATIONS ON THE SHOP DRAWINGS.
- E. FOR CONCRETE STRENGTH BETWEEN LISTED VALUES, USE MINIMUM SPLICE LENGTH OF HIGHER LISTED VALUE.
34. CONTINUOUS TOP AND BOTTOM BARS, OTHER THAN IN FOOTINGS, WHEN SHOWN IN CROSS SECTION ONLY, SHALL BE LAPPED AS FOLLOWS:
- A. TOP BARS AT MID SPANS
- B. BOTTOM BARS CENTERED OVER SUPPORTS.
35. EPOXY ADHESIVE EMBEDDED DOWELS SHALL USE HILTI HY 150 ADHESIVE WITH THE FOLLOWING MINIMUM EMBEDMENT DEPTHS, UNLESS NOTED OTHERWISE:

#3 - 3"	#8 - 9"
#4 - 5"	#9 - 10"
#5 - 6"	#10 - 12"
#6 - 7"	#11 - 14"
#7 - 8"	

36. REFER TO THE TESTING AND INSPECTION SECTION OF THESE NOTES FOR THE CONCRETE TESTING AND INSPECTION REQUIREMENTS.

POST INSTALLED ANCHORS

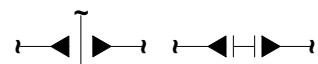
1. WHERE EPOXY SYSTEM IS INDICATED ON THE PLANS OR DETAILS, USE HILTI HY-200 ADHESIVE IN CONCRETE AND HILTI HY-70 IN SOLID GROUTED MASONRY UNLESS NOTED OTHERWISE. THE CONTRACTOR MAY SUBMIT SUBSTITUTE EPOXY SYSTEMS FOR APPROVAL PROVIDED THEY MEET OR EXCEED THE CAPACITY OF HILTI HY-200 OR THE HILTI HY-70 ADHESIVE SYSTEM.
2. DRILL HOLES TO EPOXY MANUFACTURER'S RECOMMENDED SIZE. CLEAN HOLES WITH A CIRCULAR WIRE OR NYLON BRUSH AND BLOW OUT WITH COMPRESSED AIR.
3. WHERE MECHANICAL EXPANSION ANCHORS ARE INDICATED ON THE PLANS OR DETAILS, USE HILTI KWIK BOLT-III IN CONCRETE UNLESS NOTED OTHERWISE. THE CONTRACTOR MAY SUBMIT SUBSTITUTE EXPANSION ANCHOR SYSTEMS FOR APPROVAL PROVIDED THEY MEET OR EXCEED THE CAPACITY OF HILTI KWIK BOLT III's.
4. POST INSTALLED ANCHORS MUST BE INSTALLED USING THE SPACING AND EDGE DISTANCES GIVEN ON THE PLANS OR DETAILS. IF FIELD CONDITIONS DICTATE THAT THE ANCHOR SPACING OR EDGE DISTANCES BE MODIFIED, THE CONTRACTOR OR SHALL SUBMIT A FIELD SKETCH TO THE ARCHITECT / STRUCTURAL ENGINEER FOR REVIEW PRIOR TO MAKING ANY MODIFICATIONS.

STRUCTURAL STEEL

1. FURNISH STRUCTURAL STEEL IN ACCORDANCE WITH AISC SPECIFICATIONS FOR THE DESIGN (ASD OR LRFD), FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS AND AISC CODE OF STANDARD PRACTICE, LATEST EDITIONS.
2. THE STEEL FABRICATOR/ERECTOR SHALL VERIFY IN FIELD ALL DIMENSIONS, ELEVATIONS AND MEMBER SIZES AS SHOWN ON THE CONTRACT DRAWINGS FOR THE EXISTING CONSTRUCTION, PRIOR TO THE DETAILING OR FABRICATION OF ANY NEW STRUCTURAL ELEMENT. THE STEEL FABRICATOR/ERECTOR SHALL DOCUMENT ANY CONSTRUCTION RELATED DISCREPANCIES. THE STEEL FABRICATOR/ERECTOR SHALL FURNISH THE ABOVE INFORMATION IN THE FORM OF DETAILED SKETCHES TO THE ARCHITECT / STRUCTURAL ENGINEER FOR REVIEW. THERE SHALL BE RESOLUTION TO THE NOTED DISCREPANCIES PRIOR TO FABRICATION OF ANY NEW STRUCTURAL ELEMENTS.
3. STRUCTURAL STEEL SHALL BE AS INDICATED BELOW U.N.O.:
- | STRUCTURAL SHAPE/MATERIAL | ASTM SPECIFICATION |
|-------------------------------|--------------------|
| W SHAPE..... | A992 |
| CHANNELS..... | A36 |
| ANGLES..... | A36 |
| STEEL PIPE..... | A53, GRADE B |
| ROUND HSS..... | A500, GRADE B |
| SQUARE & RECTANGULAR HSS..... | A500, GRADE B |
| PLATE MATERIAL..... | A36 |
| ANCHOR BOLT ASSEMBLIES..... | F1554, GRADE 36 |

STRUCTURAL STEEL (CONT'D)

4. ALL STRUCTURAL STEEL FRAMEWORK INCLUDED IN THESE DOCUMENTS ARE CLASSIFIED AS NON-SELF-SUPPORTING. ALL CONNECTIONS SPECIFIED HEREIN ARE BASED ON LOADING CONDITIONS OF THE FULLY COMPLETED STRUCTURE IN ITS ENTIRETY INCLUDING THE FUNCTIONS OF THE COLUMN BASE PLATES AND ANCHOR BOLTS. INSTABILITIES CAN BE EXPECTED DURING THE ERECTION PROCESS DUE TO LACK OF INSTALLED ROOF, FLOOR, WALL AND SLAB DIAPHRAGMS AS WELL AS STEEL BRACINGS, CONNECTION RIDGITIES AND OTHER SUCH STABILIZING ELEMENTS. THE GENERAL CONTRACTOR SHALL IDENTIFY THE SEQUENCE AND SCHEDULING OF CONSTRUCTION ITEMS AND COORDINATE THE ACTIVITIES OF ALL TRADES INCLUDING THE STEEL FABRICATOR AND ERECTOR. THE ERECTOR SHALL SUBMIT AN ERECTION PLAN AND A TEMPORARY BRACING SCHEME TO THE CONTRACTOR AND OWNER WHICH IS FOR RECORD PURPOSES ONLY. THIS SUBMITTAL WILL NOT BE REVIEWED AND IS NOT A DESIGN FUNCTION OF THE ARCHITECT / STRUCTURAL ENGINEER OF RECORD.
5. THE FABRICATOR/ERECTOR SHALL SUBMIT TO THE ARCHITECT/STRUCTURAL ENGINEER, FOR REVIEW, ENGINEERED AND CHECKED DRAWINGS SHOWING FABRICATION DETAILS, FIELD ASSEMBLY DETAILS AND ERECTION DIAGRAM FOR ALL STRUCTURAL STEEL ELEMENTS.
6. ALL BEAMS AND JOISTS SHALL BE FABRICATED WITH THE NATURAL GRAIN PARALLEL. PROVIDE FABRICATED CAMBERS AS INDICATED ON THE DRAWINGS.
7. AFTER NOTED OTHERWISE, ALL STEEL SHALL BE CLEANED OF ALL RUST, LOOSE MILL SCALE, AND OTHER FOREIGN MATERIALS. STEEL SHALL BE PRIME AND PAINTED AS OUTLINED IN THE PROJECT SPECIFICATIONS. STEEL TO RECEIVE SPRAY-ON FIREPROOFING SHALL NOT BE PRIMED OR PAINTED.
8. WELDING SHALL BE PERFORMED WITH E70XX LOW HYDROGEN ELECTRODES. ALL WELDING SHALL BE PERFORMED BY CERTIFIED/QUALIFIED WELDERS AND SHALL CONFORM TO THE AWS D1.1, "STRUCTURAL WELDING CODE-STEEL," LATEST EDITION.
9. MINIMUM FILLET WELD SIZE SHALL COMPLY WITH THE AISC SPECIFICATION REQUIREMENTS, BUT SHALL NOT BE LESS THAN 3/16 INCH UNLESS NOTED OTHERWISE.
10. ALL BOLTS, NUTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF "AISC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS," LATEST EDITION. ALL BOLT HOLES SHALL BE "SHORT SLOTTED," UNLESS NOTED OTHERWISE.
11. ALL STEEL BEAM AND GIRDER CONNECTIONS SHALL BE SIMPLE SHEAR CONNECTIONS UTILIZING HIGH STRENGTH BOLTS IN BEARING-TYPE CONNECTIONS WITH THREADS EXCLUDED FROM THE SHEAR PLANE UNLESS NOTED OTHERWISE. BOLTS ARE TO BE TIGHTENED TO THE "SNUG TIGHT" CONDITION UNLESS NOTED AS "SLIP CRITICAL (SC)". BOLTS DESIGNATED AS "SLIP CRITICAL" ARE TO BE TIGHTENED PER THE ABOVE MENTIONED BOLT SPECIFICATION.
12. BOLTED CONNECTIONS SHALL USE A MINIMUM OF (2) 3/4"-Ø BOLTS UNLESS NOTED OTHERWISE.
13. PROVIDE CONNECTIONS AS DETAILED ON THE DESIGN DRAWINGS. ALTERNATE CONNECTION DESIGNS MAY BE SUBMITTED BY THE CONTRACTOR. THE ALTERNATE DESIGNS MUST BE PROPERLY ENGINEERED AND CALCULATIONS SEALED BY A QUALIFIED ARCHITECT / STRUCTURAL ENGINEER LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED. THE DESIGN BY THE SPECIALTY ARCHITECT / STRUCTURAL ENGINEER AND THE REVIEW BY THE ARCHITECT / STRUCTURAL ENGINEER OF RECORD OF ANY ALTERNATE CONNECTIONS WILL BE AT THE CONTRACTOR'S EXPENSE.
14. BEAM TO GIRDER AND BEAM OR GIRDER TO COLUMN MOMENT CONNECTIONS ARE DESIGNATED ON THE PLANS AS THUS:



15. THERE SHALL BE NO FIELD CUTTING OF STRUCTURAL STEEL MEMBERS FOR THE WORK OF OTHER TRADES WITHOUT THE PRIOR APPROVAL OF THE ARCHITECT / STRUCTURAL ENGINEER OF RECORD.

16. STEEL WORK TO SLOPE IN ACCORDANCE WITH ELEVATIONS GIVEN ON STRUCTURAL DRAWINGS.
18. REFER TO ARCHITECTURAL DRAWINGS FOR MISCELLANEOUS STEEL NOT SHOWN ON STRUCTURAL DRAWINGS.
19. ALL STEEL INDICATED TO BE ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS) SHALL CONFORM TO THE AESS REQUIREMENTS OF THE AISC CODE OF STANDARD PRACTICE.
20. PAINT SYSTEM FOR "EXPOSED TO OUTSIDE ATMOSPHERE" STRUCTURAL STEEL COMPONENTS:
- A. SURFACE PREPARATION - CLEAN SURFACES PER SSPC SP NO. 6 POWER TOOL CLEANING.
- B. PRIME COAT: MINIMUM DRY FILM THICKNESS = 1.75 MILS. SHOP PRIME SURFACES OF STEEL AS REQUIRED BY PROJECT SPECIFICATIONS. USE PRIME COAT COMPATIBLE WITH FIREPROOFING SYSTEM WHERE APPLICABLE.
- C. FINISH COAT: SEE PROJECT SPECIFICATIONS.

21. REFER TO THE TESTING AND INSPECTION SECTION OF THESE NOTES FOR THE STRUCTURAL STEEL TESTING AND INSPECTION REQUIREMENTS.

PLYWOOD

1. SEE SPECIFICATIONS FOR ALL STRUCTURAL PLYWOOD GRADES. ALL PLYWOOD SHALL BE IDENTIFIED WITH THE GRADE TRADEMARK OF THE AMERICAN PLYWOOD ASSOCIATION.
2. ALL STRUCTURAL PLYWOOD NOTED ON THE DRAWINGS SHALL CONFORM TO THE FOLLOWING:
- A. ROOF SHEATHING - SEE SPECIFICATIONS.
- B. WALL SHEATHING - SEE SPECIFICATIONS.
3. UNLESS OTHERWISE NOTED, PLYWOOD SHALL BE COMMON. APPROVED FASTENERS TO BE SUBSTITUTED SHALL BE EQUIVALENT IN LATERAL AND WITHDRAWAL STRENGTH TO THE SIZE COMMON NAIL SPECIFIED.
4. ROOF SHEATHING: PLYWOOD ROOF SHEATHING SHALL BE LAID WITH THE GRAIN OF THE OUTER PLIES PERPENDICULAR TO THE FRAMING MEMBERS AND END JOINTS SHALL BE STAGGERED. EDGE BLOCKING OF UNWARRANTED EDGES OF PLYWOOD SHEATHING MAY BE OMITTED. PLYCLIPS OR APPROVED EQUAL CONNECTORS SHALL BE INSTALLED AT MIDSPAN BETWEEN EACH SUPPORT WHEN RAFTER SPACING EXCEEDS 16".
5. WALL SHEATHING: WALL SHEATHING MAY BE APPLIED HORIZONTALLY OR VERTICALLY. BLOCK ALL UNSUPPORTED EDGES OF PLYWOOD SHEATHING. TYPICAL NAILING SHALL BE #10 SCREW AT 8" O.C. ALL EDGES, AND #10 SCREW AT 12" O.C. ALL INTERMEDIATE SUPPORTS, UNLESS OTHERWISE NOTED.

PLYWOOD SHEATHING (CONT'D)

6. PLYWOOD ROOF DIAPHRAGM NAILING REQUIREMENTS
- I. NAIL AT 6"o.c. AT ALL PLYWOOD SHEATHING PANEL EDGES AND ALL FRAMING MEMBERS WITH 10d NAILS. (1 5/8" MIN. PENETRATION)
- II. NAIL AT 12"o.c. TO ALL INTERMEDIATE FRAMING MEMBERS IN PANEL FIELD WITH 10d NAILS. (1 5/8" MIN. PENETRATION)
- III. PLYWOOD SHALL BE PLACED WITH THE FACE GRAIN PERPENDICULAR TO SUPPORTS AND WITH END JOINTS STAGGERED.
- IV. PLYWOOD SHALL BE INSTALLED TO PROVIDE MINIMUM TWO-SPAN CONDITION.
- PREFABRICATED METAL-PLATE CONNECTED WOOD TRUSSES**
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE ENGINEERING DESIGN OF ALL PREFABRICATED METAL-PLATE CONNECTED WOOD TRUSSES, INCLUDING ANY REQUIRED TEMPORARY OR PERMANENT LATERAL BRACING.
2. MATERIALS
- A. PREFABRICATED METAL PLATE CONNECTED WOOD TRUSSES
- I. SPECIES: VARIES
- II. GRADE: VARIES
- III. MODULUS OF ELASTICITY: 1,500,000 PSI (MIN.)
- IV. MINIMUM WORKING STRESS
- A. EXTREME FIBER IN BENDING, FB: 975 PSI
- B. TENSION PARALLEL TO GRAIN, FT: 625 PSI
- C. COMPRESSION PARALLEL TO GRAIN, FC: 1300 PSI
- D. COMPRESSION PERPENDICULAR TO GRAIN, FC: 405 PSI
- E. HORIZONTAL SHEAR, FV: 175 PSI
3. DESIGN SHALL BE BASED ON THE INFORMATION PROVIDED ON THE CONTRACT DOCUMENTS AND IN ACCORDANCE WITH THE "NATIONAL DESIGN STANDARD FOR METAL-PLATE CONNECTED WOOD TRUSS CONSTRUCTION," TRUSS PLATE INSTITUTE AND THE "NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION," NATIONAL FOREST PRODUCTS ASSOCIATION.
4. THE CONTRACTOR SHALL SUPPLY SIGNED AND SEALED SHOP DRAWINGS AND CALCULATIONS AS OUTLINED IN THE PROJECT SPECIFICATIONS.
5. TRUSS ENDS AND BEARING LOCATIONS SHALL BE CONNECTED TO SUPPORTS WITH METAL ANCHORS.
6. TRUSSES SHALL BE FABRICATED IN ACCORDANCE WITH THE "NATIONAL DESIGN STANDARD FOR METAL-PLATE CONNECTED WOOD TRUSS CONSTRUCTION," TRUSS PLATE INSTITUTE
7. TRUSSES SHALL BE HANDLED DURING ERECTION IN ACCORDANCE WITH RECOMMENDED PRACTICES SET FORTH IN "HANDLING, INSTALLING AND BRACING WOOD TRUSSES HIB-91," TRUSS PLATE INSTITUTE
8. TRUSSES SHALL BE BRACED AS REQUIRED DURING ERECTION TO PREVENT TOPPLING OR DOMINING.
9. THE TRUSS MANUFACTURER SHALL INDICATE ON THE SHOP DRAWINGS THE LOCATIONS AND SIZES OR BRACING REQUIRED TO TRANSFER TRUSS MEMBER BUCKLING FORCES TO THE STRUCTURE. UPON REVIEW OF THE SHOP DRAWINGS, STRUCTURAL ENGINEER WILL INDICATE METHOD OF ATTACHMENT AND ADDITIONAL BRACING NEEDED TO TRANSFER MEMBER BUCKLING FORCES TO THE STRUCTURE. CONTRACTOR SHALL INCLUDE IN AND NOTE IN SUBMITTED BID, ALLOWANCE FOR ADDITIONAL BRACING, SIZE TO BE DETERMINED AFTER REVIEW OF SUBMITTAL OF METAL-PLATE CONNECTED TRUSS SHOP DRAWINGS.

TIMBER

1. THE DESIGN AND WORKMANSHIP OF ALL WOOD FRAMING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ANSIFOPNA NATIONAL DESIGN SPECIFICATION.
2. ALL LUMBER SHALL BE KILN DRIED TO HAVE A MAXIMUM MOISTURE CONTENT OF 15% UNLESS NOTED OTHERWISE.
3. CONNECTIONS OF ALL 2x MATERIAL TO OTHER 2x MATERIAL OR OTHER WOOD MEMBERS SHALL BE AS INDICATED BELOW, UNLESS OTHERWISE NOTED ON THE DRAWINGS, AS NOTED IN THE SPECIFICATIONS OR NOTED WITHIN THE NAILING SCHEDULE BELOW.
- A. 2x4, 2x6 - (3) 10d NAILS MIN.
- B. 2x8, 2x10, 2x12 - (4) 10d NAILS MIN.
4. MATERIALS
- A. ALL FIELD CUT LUMBER (U.N.O.)
- I. SPECIES: SOUTHERN PINE OR BETTER (U.N.O.)
- II. GRADE: NO. 2 OR BETTER
- III. MODULUS OF ELASTICITY: 1,600,000 PSI
- IV. MINIMUM WORKING STRESS
- a. EXTREME FIBER IN BENDING, FB: 1000 PSI
- b. TENSION PARALLEL TO GRAIN, FT: 625 PSI
- c. COMPRESSION PARALLEL TO GRAIN, FC: 1650 PSI
- d. COMPRESSION PERPENDICULAR TO GRAIN, FC: 565 PSI
- e. HORIZONTAL SHEAR, FV: 175 PSI
- B. HARDWARE
- I. CONNECTIONS FOR WOOD CONSTRUCTION
- a. GALVANIZED METAL, GAUGES AND DIMENSIONS AS INDICATED, MANUFACTURED BY SIMPSON OR APPROVED EQUAL.
- II. NAILS
- a. COATED COMMONS
5. THERE SHALL BE NO FIELD CUTTING OF STRUCTURAL TIMBER MEMBERS FOR THE WORK OF OTHER TRADES WITHOUT THE PRIOR REVIEW AND APPROVAL OF THE STRUCTURAL ENGINEER.
6. NO WOOD TREATMENTS OR OR PRESERVATIVES SHALL BE USED WITHOUT PRIOR REVIEW BY THE ARCHITECT AND STRUCTURAL ENGINEER.
7. ALL WOOD IN CONTACT WITH CONCRETE SHALL BE PRESSURE TREATED IN CONFORMANCE WITH THE REQUIREMENTS OF AWPA. FIELD CUTS OR DRILLING IN PRESSURE TREATED LUMBER SHALL BE THOROUGHLY BRUSHED AND COATED WITH A COMPATIBLE PRESERVATIVE LIQUID.

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CURRENT DATE:

05/17/19

LICENSE EXPIRES: 12/31/19

CURRENT DATE:

05/17/19

LICENSE EXPIRES: 12/31/19

NEW BUILDING FOR:

PALMYRA UNITED METHODIST CHURCH

PALMYRA, MO 63461

CONSTRUCTION DOCUMENTS PHASE

TESTING AND INSPECTIONS

1. ALL TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DESIGN CODE REFERENCED IN ITEM 1. OF THE STRUCTURAL LOADING SECTION OF THESE NOTES.
2. ALL TESTING SHALL BE PERFORMED BY A QUALIFIED TESTING AGENCY HIRED BY THE OWNER.
3. THE ARCHITECT / STRUCTURAL ENGINEER SHALL BE NOTIFIED OF ANY ITEM FOUND NOT TO BE IN COMPLIANCE WITH THE DESIGN INTENT OF THESE DOCUMENTS.

FOUNDATIONS

4. ALL FOUNDATION EXCAVATIONS SHALL BE OBSERVED AND TESTED BY A REPRESENTATIVE OF A QUALIFIED GEOTECHNICAL ENGINEERING FIRM. DAILY REPORTS OF OBSERVATIONS SHALL BE PREPARED. ALL REPORTS ARE TO BE SUBMITTED TO THE ARCHITECT / STRUCTURAL ENGINEER FOR REVIEW. THE REQUIRED TEST TYPE AND FREQUENCY SHALL BE AS SPECIFIED IN THE PROJECT SPECIFICATIONS.

CONCRETE

5. ALL CONCRETE PLACED ON THE PROJECT SHALL BE TESTED FOR SLUMP, AIR CONTENT AND STRENGTH. THE FREQUENCY OF TESTING SHALL BE AS SPECIFIED IN THE PROJECT SPECIFICATION.
6. REINFORCEMENT PLACEMENT SHALL BE INSPECTED BY THE OWNER'S TESTING LABORATORY PRIOR TO ALL CONCRETE POURS. SEE THE SPECIFICATIONS FOR REQUIREMENTS.

TESTING AND INSPECTIONS (CONT'D)

STRUCTURAL STEEL

7. THE OWNER'S TESTING AGENCY SHALL PERFORM ALL SHOP AND FIELD INSPECTION AND TESTING AS OUTLINED BELOW. REPORTS ARE TO BE SUBMITTED TO THE OWNER, ARCHITECT / STRUCTURAL ENGINEER AND CONTRACTOR FOR REVIEW. THE STRUCTURAL STEEL FABRICATOR AND ERECTOR SHALL SCHEDULE ALL WORK TO ALLOW THE FOLLOWING TESTING REQUIREMENTS.
- A. ALL WELDS SHALL BE VISUALLY INSPECTED. 15% AT RANDOM SHALL BE MEASURED.
- B. FILLET WELDS FOR BEAM AND GIRDER SHEAR CONNECTION PLATES, 15% AT RANDOM, SHALL BE CHECKED BY MAGNETIC PARTICLE FOR FINAL PASS ONLY.
- C. 100% OF ALL FULL PENETRATION WELDS SHALL BE ULTRASONICALLY TESTED.
- D. 25% OF THE BOLTS, NO LESS THAN (2) BOLTS, IN EACH "SLIP CRITICAL" CONNECTIONS SHALL BE CHECKED BY CALIBRATED TORQUE WRENCH.
- E. FOR NON-"SLIP CRITICAL" CONNECTIONS, INSPECT CONNECTION TO INSURE THE PLIES OF THE CONNECTED ELEMENTS HAVE BEEN BROUGHT INTO SNUG CONTACT.
- F. ULTRASONICALLY TEST FOR LAMINATIONS IN ALL COLUMN FLANGES GREATER THAN 1.5 INCHES THICK AT ALL MOMENTS CONNECTION AREAS.

PALMYRA UNITED METHODIST CHURCH DESIGN CRITERIA

1. BUILDING CODES:
A. IBC 2009
C. ASCE 7-05
2. DESIGN LOADS:
A. OCCUPANCY CATEGORY III
B. DEAD LOADS:
1. STANDING SEAM METAL ROOF AT METAL BUILDING SYSTEM
a. STANDING SEAM ROOFING = 3 PSF
b. INSULATION = 2 PSF
c. PURLIN FRAMING = 2 PSF
d. MECHANICAL, ELECTRICAL & PLUMBING = 5 PSF
e. SPRINKLER SYSTEM = 4 PSF
f. CEILING = 2 PSF
2. WOOD JOIST FRAMING WITH PLYWOOD SHEATHING
a. STANDING SEAM ROOFING = 3 PSF
b. INSULATION = 2 PSF
c. PLYWOOD SHEATHING = 2 PSF
d. ENGINEERED WOOD FRAMING = 3 PSF
e. MECHANICAL, ELECTRICAL & PLUMBING = 5 PSF
f. SPRINKLER SYSTEM = 4 PSF
g. CEILING = 2 PSF
C. ROOF LIVE LOAD = 20 PSF (TABLE 4-1)
D. ROOF SNOW LOADS:
1. GROUND SNOW LOAD P_g = 20 PSF
2. THERMAL FACTOR C_t = 1.0
3. EXPOSURE FACTOR C_e = 1.0
4. IMPORTANCE FACTOR I_s = 1.1
4. FLAT ROOF SNOW LOAD P_f = 22 PSF (MINIMUM)
5. RAIN-ON-SNOW SURCHARGE = 5 PSF
6. DRIFTING AND SLIDING LOADS - PER ASCE 7-05.
E. PONDING
1. PONDING IS NOT APPLICABLE FOR ROOF SLOPES 1/4" OR GREATER
F. WIND LOADING - ANALYTICAL PROCEDURE
1. BASIC WIND SPEED (3 SECOND GUST) = 90 MPH
2. EXPOSURE CATEGORY C
3. IMPORTANCE FACTOR I_w = 1.15
4. DIRECTIONAL FACTOR K_d = 0.85
5. TOPOGRAPHIC FACTOR K_{zt} = 1.0
6. INTERNAL PRESSURE COEFFICIENT GC_{PI} = +/- 0.18 (PARTIALLY ENCLOSED)
7. MAIN WIND FORCE RESISTING SYSTEM PRESSURES:
a. PER ASCE 7-05 MAIN FORCE RESISTING SYSTEM: SECTION 6.5.12.2.
8. DESIGN PRESSURES FOR COMPONENTS AND CLADDING:
a. PER ASCE 7-05 COMPONENTS AND CLADDING METHOD 2.
G. SEISMIC LOADING - EQUIVALENT LATERAL FORCE PROCEDURE:
1. IMPORTANCE FACTOR I_e = 1.25
2. SITE CLASS C
3. S_{DS} = 0.148 (S_s = 0.185)
4. S_{D1} = 0.095 (S_1 = 0.083)
5. SEISMIC DESIGN CATEGORY B
6. DESIGN COEFFICIENTS AND FACTORS FOR SEISMIC FORCE-RESISTING SYSTEMS
a. ASCE 7-05 - TABLE 12.2-1
i. RESISTING SYSTEM - STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE.
ii. RESPONSE COEFFICIENT, R = 3.0
iii. DEFLECTION AMPLIFICATION FACTOR C_d = 3.0
iv. SYSTEM OVERSTRENGTH FACTOR X_o = 3.0
7. COMPONENT DESIGN PER ASCE 7-05

SCHEDULE OF BUILDING DESIGN LOADS

LOCATION	FLOOR	FLOOR AREA	FLOOR / ROOF CONSTRUCTION	SUPERIMPOSED DEAD LOAD (psf)	PART'N LOAD (psf)	LIVE LOAD (psf)	REMARKS
MAIN BUILDING	1ST	LOBBY	5" SLAB-ON-GRADE	15	-	100	
		PUBLIC AREAS & CORRIDORS	"	15	-	100	
		OFFICE	"	15	20	50	
		STORAGE	"	15	-	125	
		STAIRS / LADDERS	"	-	-	100	
		STAGE	"	15	-	100	
		CLASSROOM	"	15	-	40	
		MECHANICAL	"	15	-	125	MECHANICAL UNIT WEIGHTS
	ROOF	TYPICAL	*	**	-	22	SNOW DRIFT
	CANOPY ROOF	ENTRANCE CANOPY	OPEN WEB TRUSSES / PLYWOOD SHEATHING	5	-	22	SNOW DRIFT

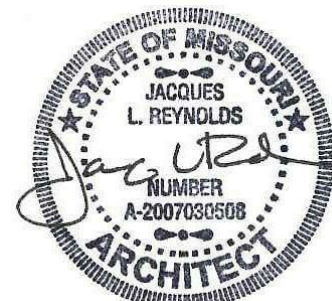
- NOTES:
1. DURING CONSTRUCTION ALL CONSTRUCTION LOADS ON ANY AREA OF THE FLOOR SHALL NOT EXCEED THE LOADS SHOWN IN THE TABLE.
2. 5" SLAB-ON-GRADE = 63 PSF
3. SUPERIMPOSED DEAD LOADS NOTED ABOVE DO NOT INCLUDE SELF WEIGHT OF STEEL JOIST FRAMING.
4. * - INDICATES EITHER:
1. STEEL PURLINS ON PRE-ENGINEERED METAL BUILDING SYSTEM - RIGID METAL FRAME OR
2. ENGINEERED WOOD JOISTS WITH PLYWOOD SHEATHING.
5. ** - SEE BUILDIGN DESIGN LOADS FOR APPLICABLE DEAD LOADS.

BUILDING DEFLECTION LIMITS

LOCATION	LIMITS	LOAD CASE / COMBINATION	RAFTERS L /	PURLINS L /	RAFTERS L /	REMARKS
MAIN BUILDING	ROOF LIMITS					
		LIVE	240	240	60	
		SNOW	240	240	60	
		WIND (SERVICE)	240	240	60	
		TOTAL GRAVITY	240	240	60	
		TOTAL UPLIFT	NA	240	60	
	FRAME LIMITS		SIDESWAY H /	PORTAL FRAME SIDEWAY - H /		
		LIVE	180			
		SNOW	180			
		WIND (SERVICE)	180			
		SEISMIC DRIFT	40	40		
		SERVICE-LEVEL CRANE	NA	NA		
		PORTAL WIND (SERVICE)	NA	60		
		TOTAL GRAVITY	180			
		SERVICE SEISMIC	180	50		
	WALL LIMITS		LIMIT L /			
		TOTAL WIND (PANELS)	60			
		TOTAL WIND (GIRTS)	90			
		TOTAL WIND (COLUMNS)	180			

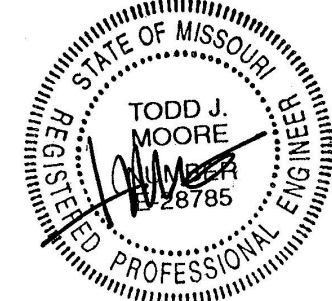
- NOTES:
1. LOADS, LOAD COMBINATIONS AND FORCES SHALL BE PER THE ASCE 7-05.

CURRENT DATE: 05/17/19



LICENSE EXPIRES: 12/31/19

CURRENT DATE: 05/17/19



LICENSE EXPIRES: 12/31/19

CONSTRUCTION DOCUMENTS PHASE

FOR CONSTRUCTION

SET ISSUE DATE: 05/17/19

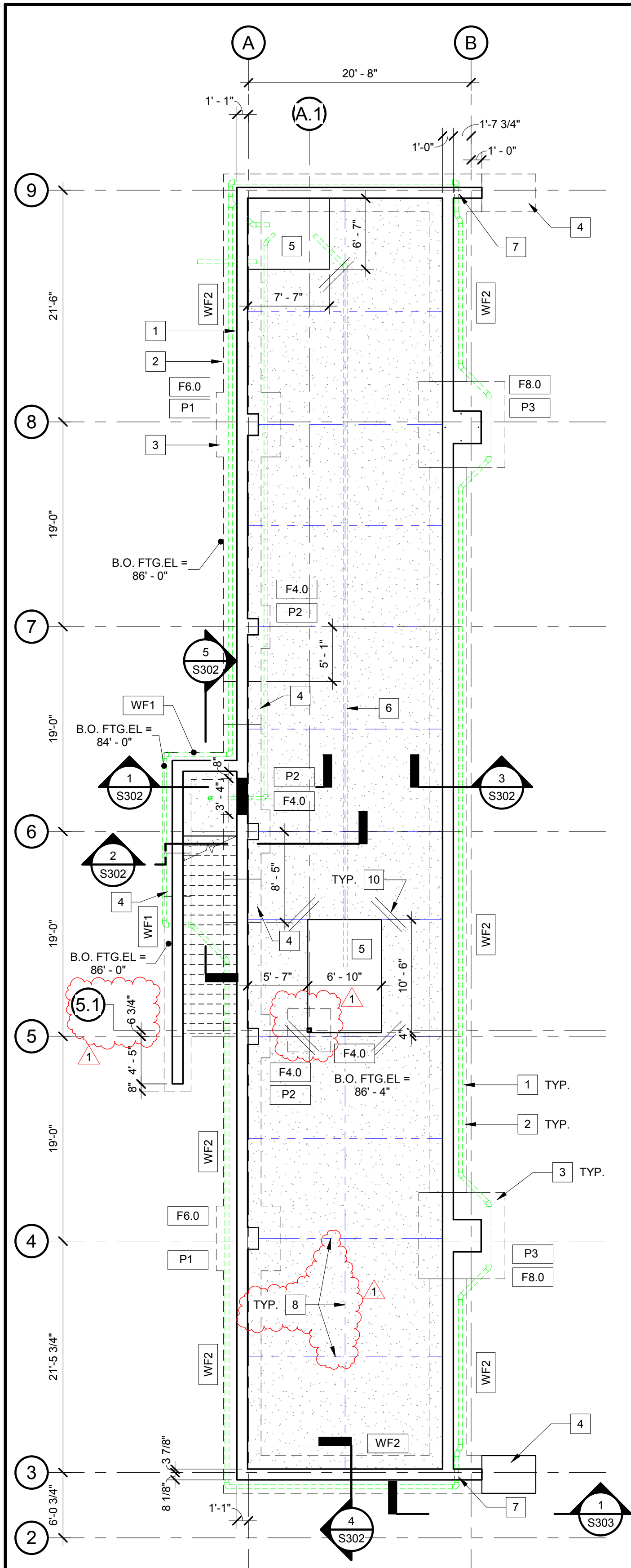
REVISIONS	
DATE	REMARKS
1 06/07/2019	ADDENDUM 01

PROJECT NUMBER: 6356

STRUCTURAL NOTES

DWG. NO.

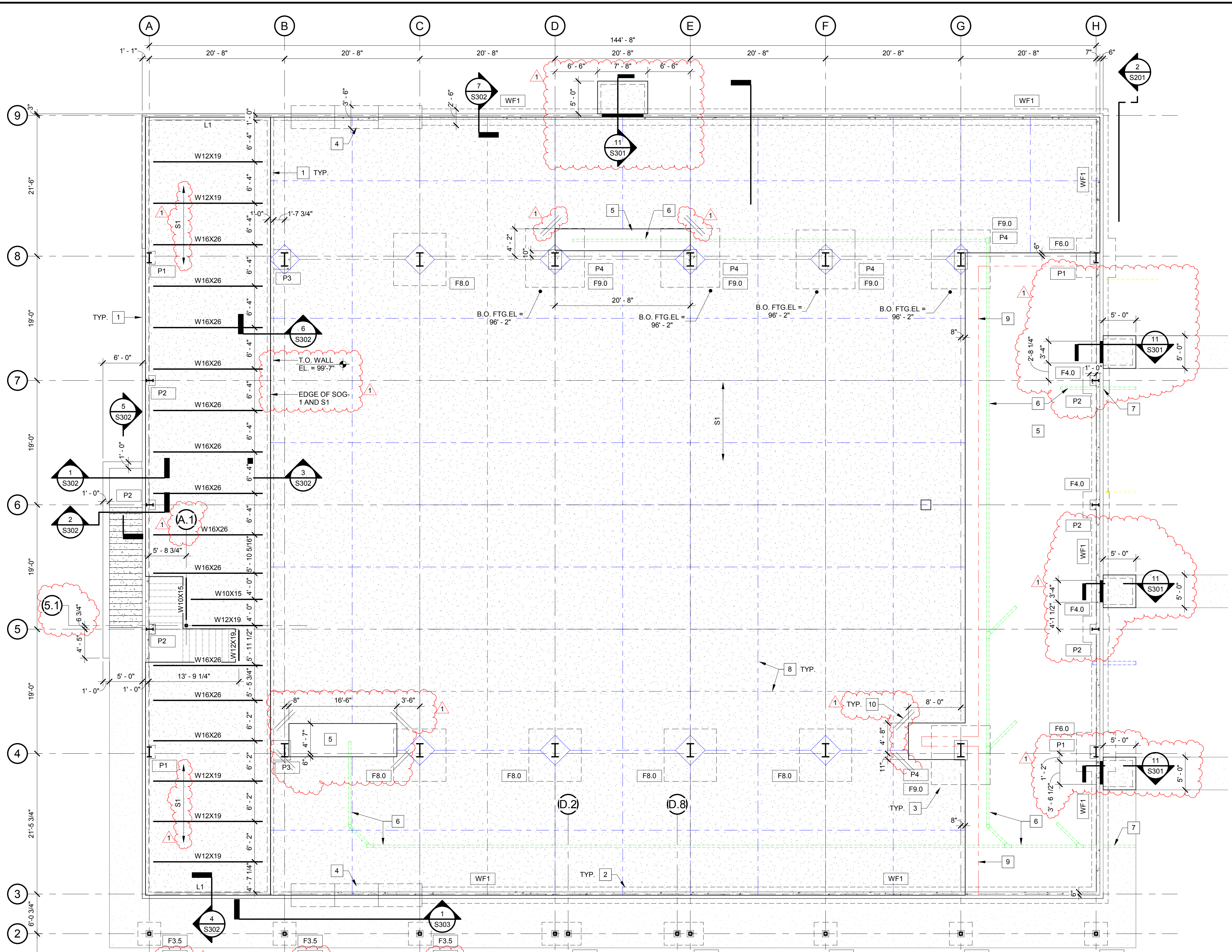
S002



LOWER LEVEL FOUNDATION PLAN

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

- NOTES:
1. T.O. CONCRETE SLAB EL. = 88'-0" (650.50')
 2. B.O. FOOTING EL. = 86'-0" (U.N.O.)
 3. SEE COLUMN SCHEDULE FOR COLUMN SIZE.



MAIN LEVEL FRAMING AND FOUNDATION PLAN

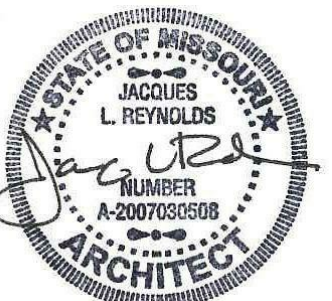
SCALE: 1/8" = 1'-0"

- NOTES:
1. T.O. CONCRETE SLAB EL. = 100'-0" (662.50')
 2. T.O. WALL EL. = 100'-0" (U.N.O.)
 3. B.O. FOOTING EL. = 96'-0" (U.N.O.)
 4. T.O. CONCRETE PIER EL. = 99'-2" (U.N.O.)
 5. SEE COLUMN SCHEDULE FOR COLUMN SIZE.
 6. S.O.G.-1 INDICATES A 5" THICK INTERIOR CONCRETE SLAB-ON-GRADE WITH (1) LAYER 6x6 W2.1xW2.1 W.W.F. INSTALLED OVER A 15 MIL VAPOR BARRIER AND 6" OF XXXX OVER COMPACTED SUBGRADE.
 7. S1 - INDICATES A 3" CONCRETE TOPPING SLAB OVER 2" 20 GA. COMPOSITE METAL FLOOR DECK WITH (1) LAYER 6x6 W2.1xW2.1 W.W.F. 5" TOTAL SLAB THICKNESS.)
 8. FX.0 - INDICATES CAST-IN-PLACE CONCRETE FOOTING. SEE PLANS, SCHEDULE AND DETAILS FOR SIZE AND REINFORCING.
 9. PX - INDICATES CAST-IN-PLACE CONCRETE PIER. SEE PLANS, SCHEDULE AND DETAILS FOR SIZE AND REINFORCING.
 10. WFX - INDICATES CAST-IN-PLACE CONCRETE WALL FOOTING. SEE PLANS AND SCHEDULE FOR SIZE AND REINFORCING.
 11. L1 - INDICATES STEEL ANGLE EMBEDMENT - L3x3x1/4 WITH 5/8" DIA H.A.S. @ 18" O.C.

KEYED NOTES - FOUNDATION PLAN

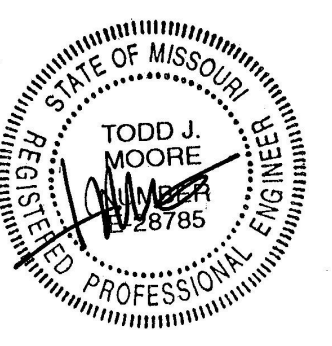
1. CAST-IN-PLACE CONCRETE FOUNDATION WALL.
2. CAST-IN-PLACE CONCRETE WALL FOOTING. SEE PLAN AND SCHEDULE FOR SIZE AND REINFORCING.
3. CAST-IN-PLACE CONCRETE SPREAD FOOTING. SEE PLAN AND SCHEDULE FOR SIZE AND REINFORCING.
4. CAST-IN-PLACE CONCRETE STEPPED FOOTING.
5. BOX OUT PORTION OF CONCRETE SLAB-ON-GRADE FOR FUTURE BUILD OUT PLUMBING INSTALLATION. PROVIDE CONSTRUCTION JOINT DIAMOND DOWELS AT PERIMETER OF OPENING (DETAIL 2/S301).
6. UNDERGROUND PLUMBING. SEE PLUMBING DRAWINGS.
7. PROVIDE SLEEVE IN FOUNDATION WALL FOR PERIMETER FOUNDATION DRAIN. COORDINATE WITH G.C. AND PLUMBING CONTRACTOR.
8. CONCRETE SLAB ON GRADE CONTROL OR CONSTRUCTION JOINTS. SEE DETAILS AND NOTES FOR DEPTH AND SPACING.
9. EXTEND BELOW SLAB VAPOR BARRIER A MINIMUM OF 24" PAST EDGE OF CONCRETE FOR FUTURE LAP SPLICE.
10. PROVIDE ADDITIONAL BARS AT CORNERS OF SLAB BLOCKOUTS. (2#5x48" EACH CORNER (TYP.))

CURRENT DATE: 05/17/19



LICENSE EXPIRES: 12/31/19

CURRENT DATE: 05/17/19



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PALMYRA, MO 63461

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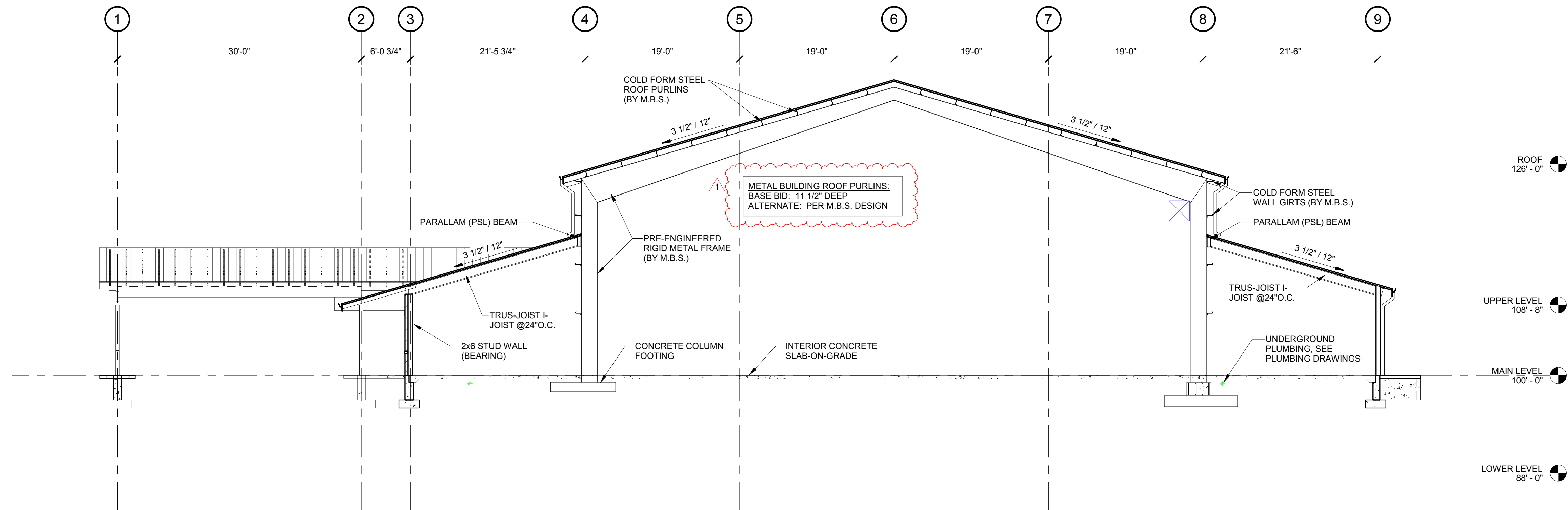
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1 06/07/2019	ADDENDUM 01

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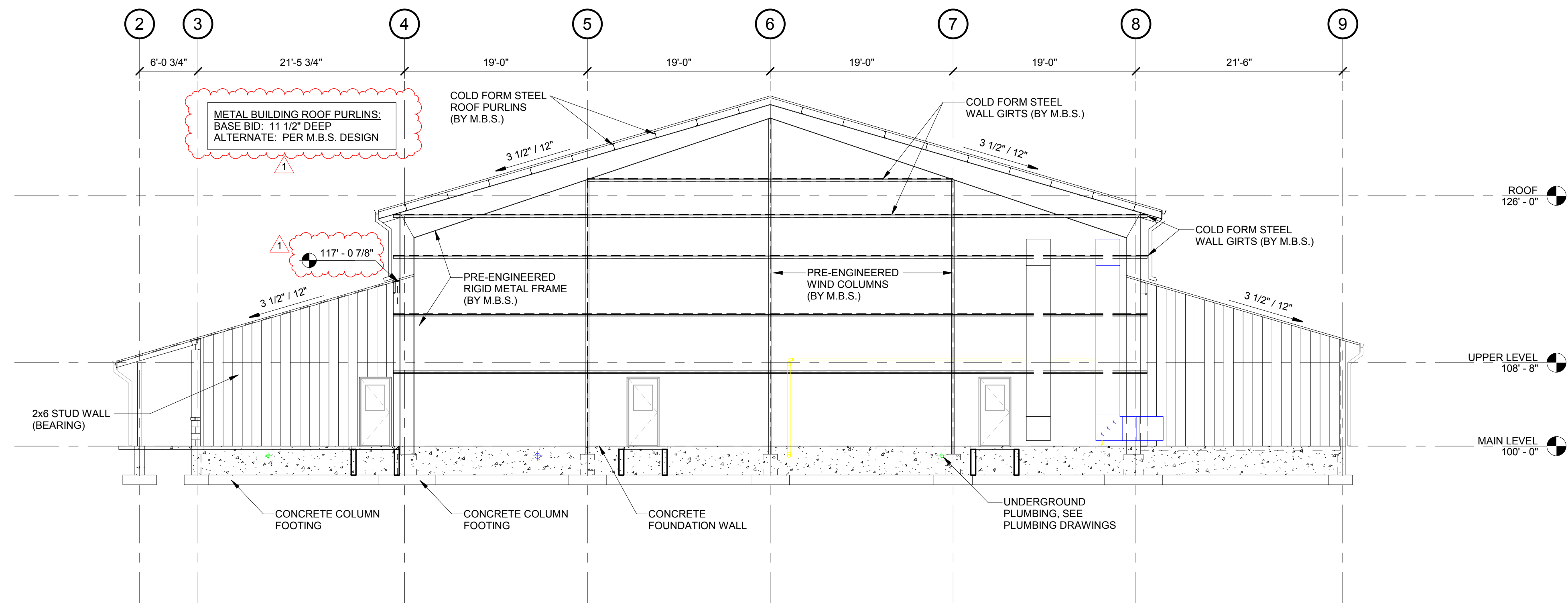
FOUNDATION PLAN

DWG. NO.

S101

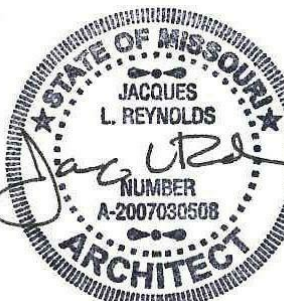


1 BUILDING SECTION
SCALE: 1/8" = 1'-0"



2 BUILDING END WALL ELEVATION
SCALE: 1/8" = 1'-0"

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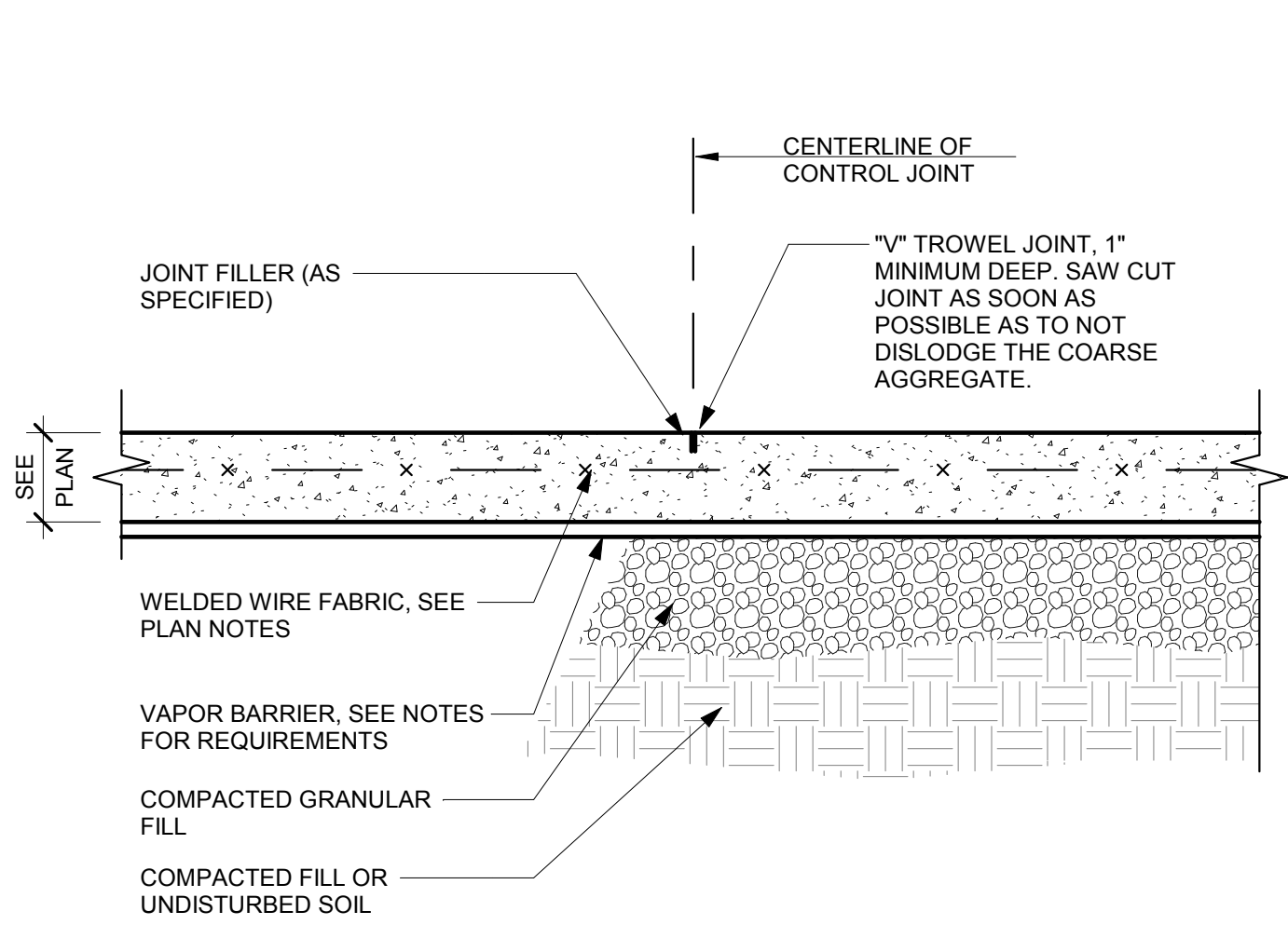
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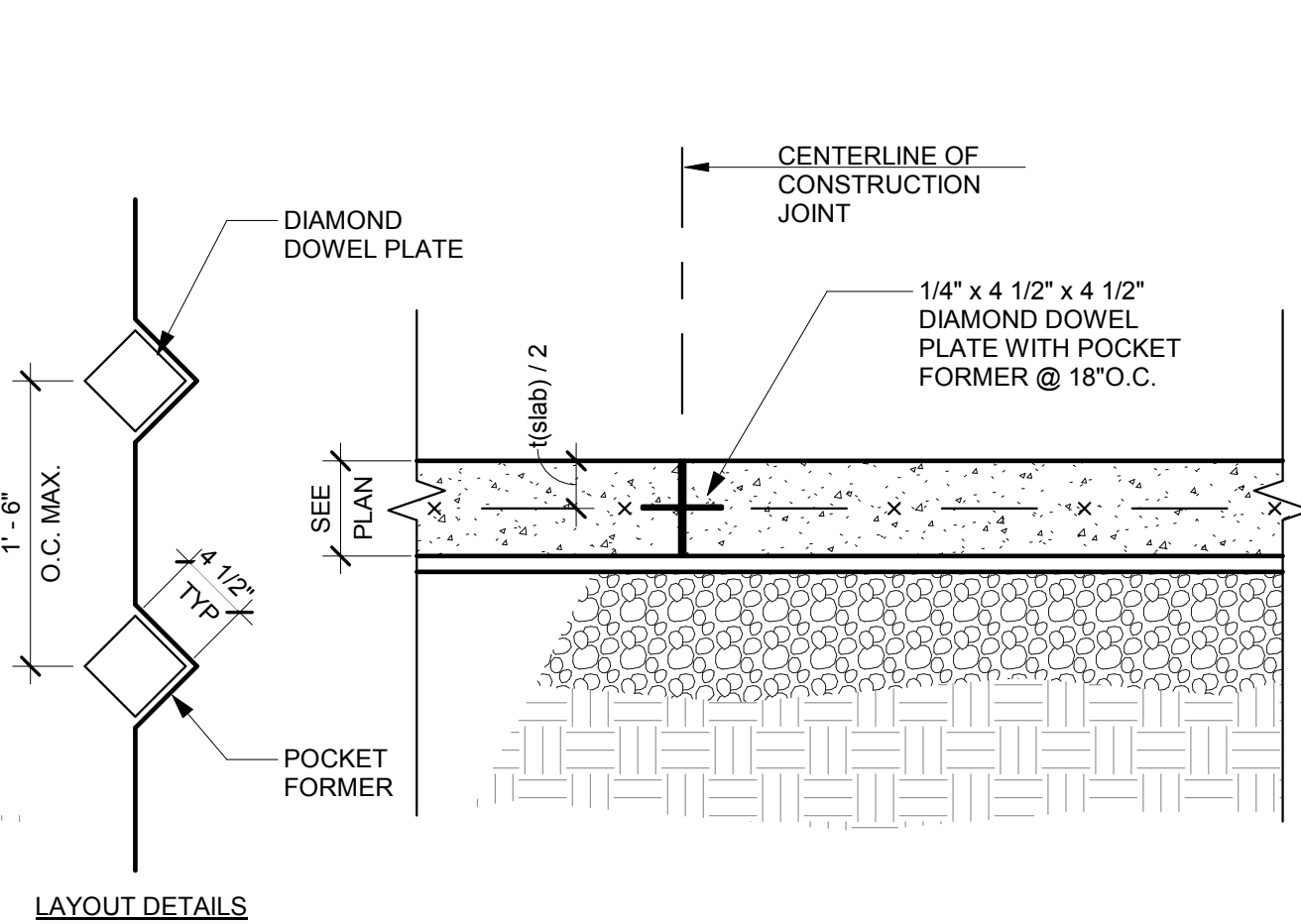
STRUCTURAL SECTIONS

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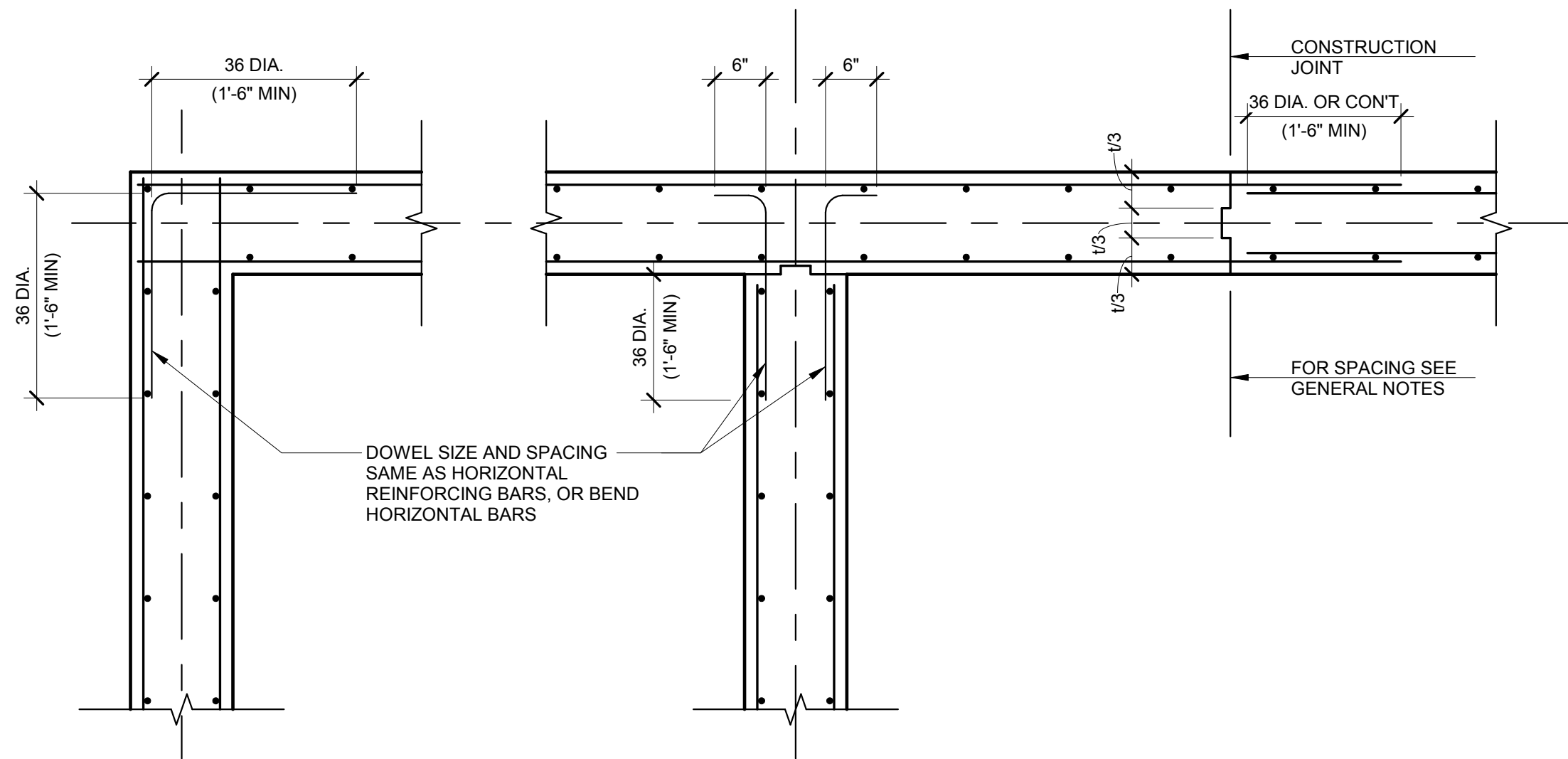
S201



1 TYPICAL SLAB-ON-GRADE DETAIL
SCALE: 1" = 1'-0"



2 TYPICAL SLAB-ON-GRADE DETAIL
SCALE: 1" = 1'-0"



3 TYP. CONC. WALL CORNER, INTERSECTION AND CONSTRUCTION JOINT DETAILS
SCALE: 3/4" = 1'-0"

FOOTING SCHEDULE						$f_{bearing} = 2,000 \text{ psf}$
FOOTING MARK	WIDTH - W (FT)	LENGTH - L (FT)	THICKNESS (FT)	BOTTOM REINFORCING	TOP REINFORCING	REMARKS
F3.5	3'-6"	3'-6"	1'-0"	(4) #5 EACH WAY	----	
F3.5A	3'-6"	6'-0"	1'-0"	(4) #5 LONG (7) #5 SHORT	----	
F4.0	4'-0"	4'-0"	1'-0"	(5) #5 EACH WAY	----	
F6.0	6'-0"	6'-0"	1'-0"	(7) #6 EACH WAY	----	
F8.0	8'-0"	8'-0"	1'-4"	(9) #6 EACH WAY	(9) #6 EACH WAY	
F9.0	9'-0"	9'-0"	1'-4"	(10) #6 EACH WAY	(10) #6 EACH WAY	
WF1	2'-6"		1'-0"	(3) #5 CONT #5 @ 12" (TRANS.)		
WF2	3'-6"		1'-0"	(4) #5 CONT #5 @ 12" (TRANS.)		

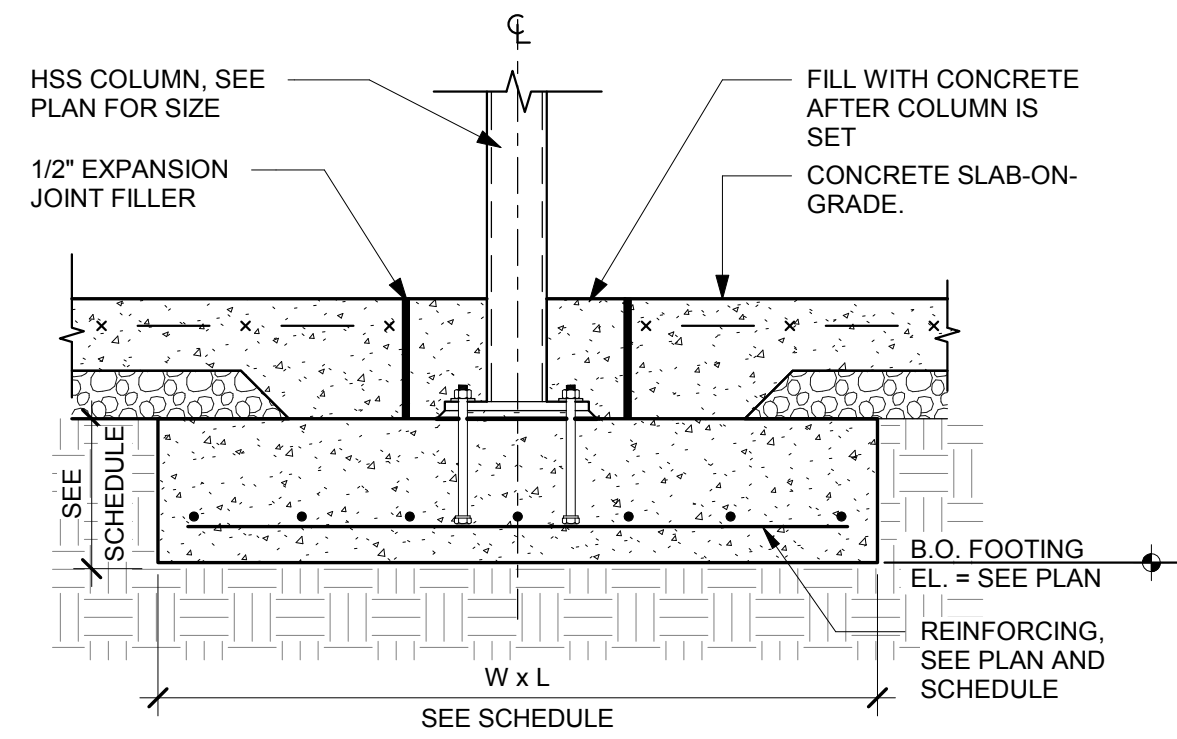
GENERAL FOOTING NOTES:

1. ADD 6" TO WIDTH AND LENGTH OF FOOTING IF BANK POURING FOOTING. SIZE INDICATED ABOVE IS FOR DESIGN PURPOSES.
2. SEE PLAN FOR BOTTOM OF FOOTING ELEVATION.

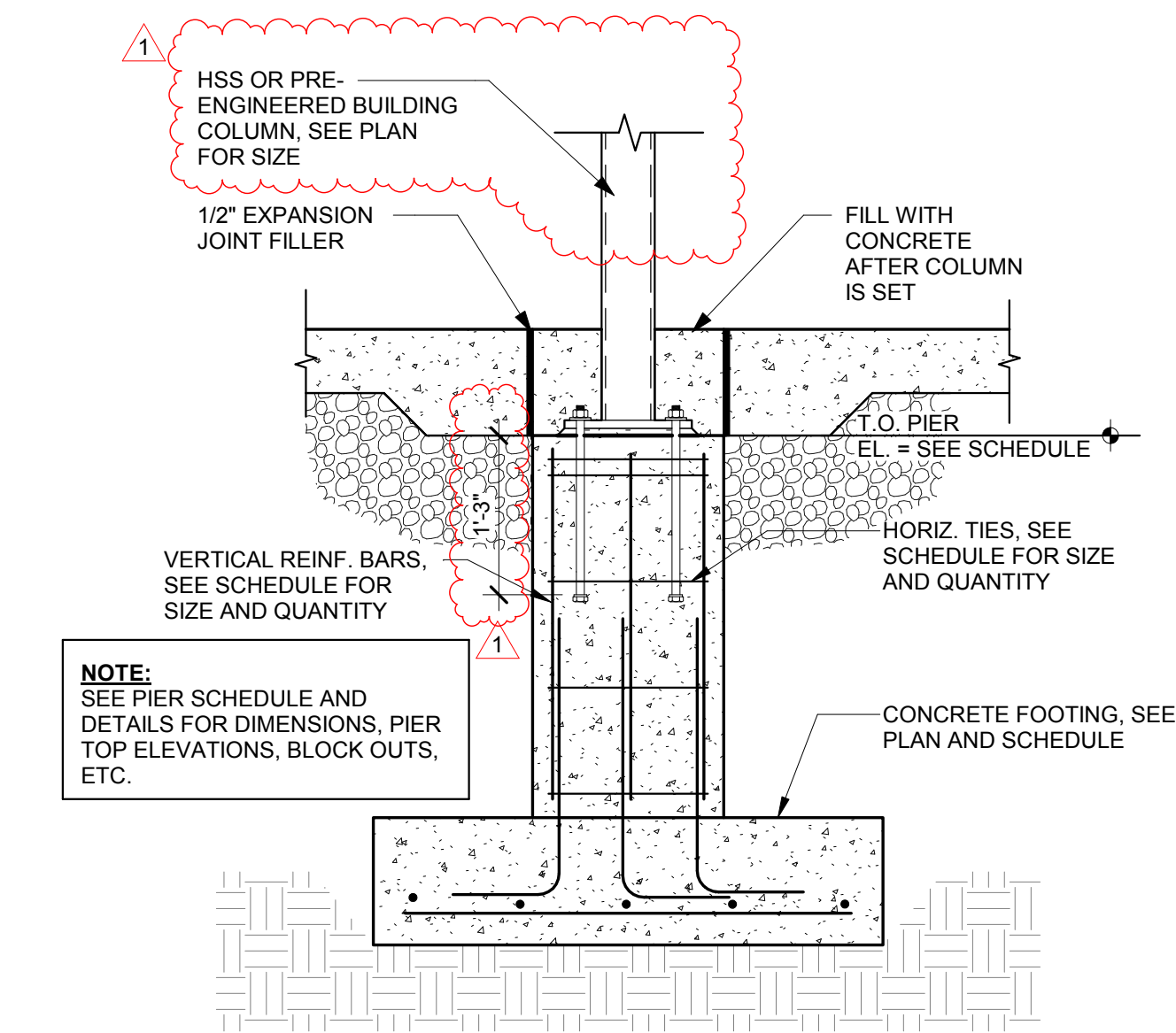
4 FOOTING SCHEDULE
SCALE: 1" = 1'-0"

PIER SCHEDULE					
PIER MARK	WIDTH	LENGTH	VERTICAL REINF. BARS, EXTEND INTO FOOTING	HORIZ. TIES	T.O. PIER (U.N.O.)
P1	2'-0"	2'-0"	(8) #8	#4 @ 10" AND (3) AT TOP	99'-2"
P2	2'-0"	1'-6"	(6) #8	#4 @ 10" AND (3) AT TOP	99'-2"
P3	3'-7"	3'-0"	(12) #9	#4 @ 10" AND (3) AT TOP	99'-2"
P4	2'-0"	3'-0"	(8) #9	#4 @ 10" AND (3) AT TOP	99'-2"
P5	1'-0"	1'-0"	(4) #6	#4 @ 10" AND (3) AT TOP	100'-0"

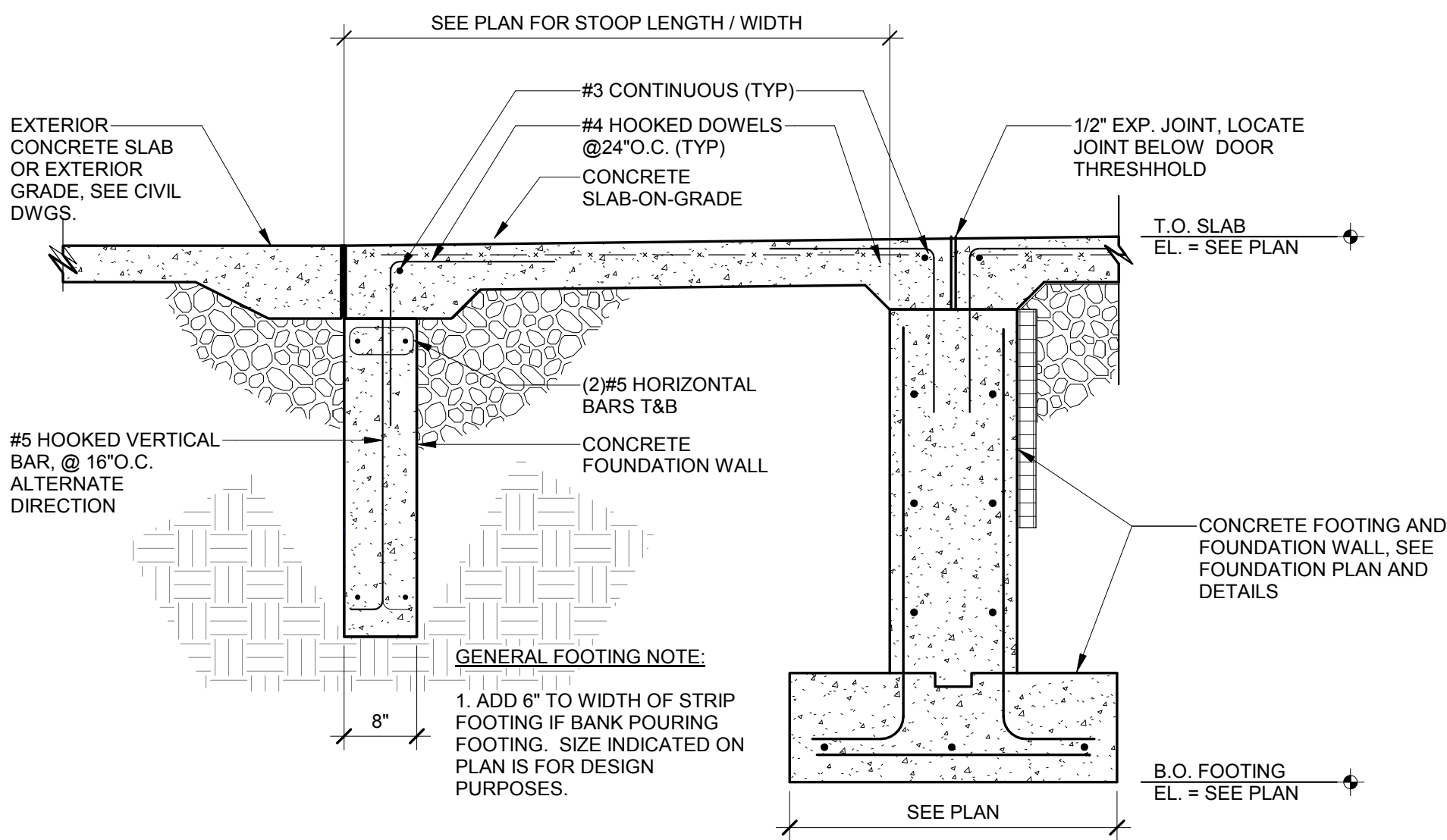
5 PIER SCHEDULE
SCALE: 3/4" = 1'-0"



6 TYPICAL CONCRETE FOOTING DETAIL
SCALE: 3/4" = 1'-0"

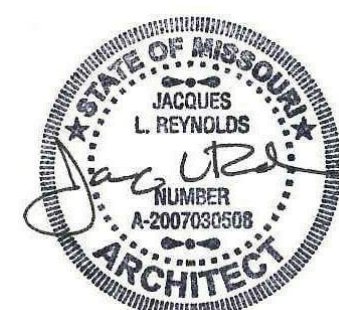


10 TYPICAL PIER/FOOTING DETAIL
SCALE: 3/4" = 1'-0"



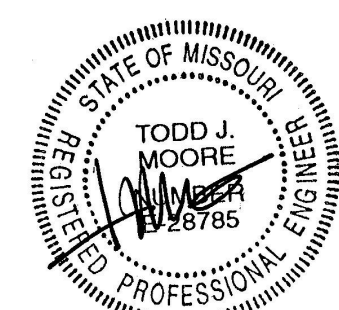
11 CONCRETE STOOP FOUNDATION
SCALE: 3/4" = 1'-0"

CURRENT DATE: 05/17/19



LICENSE EXPIRES: 12/31/19

CURRENT DATE: 05/17/19



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NEW BUILDING FOR:
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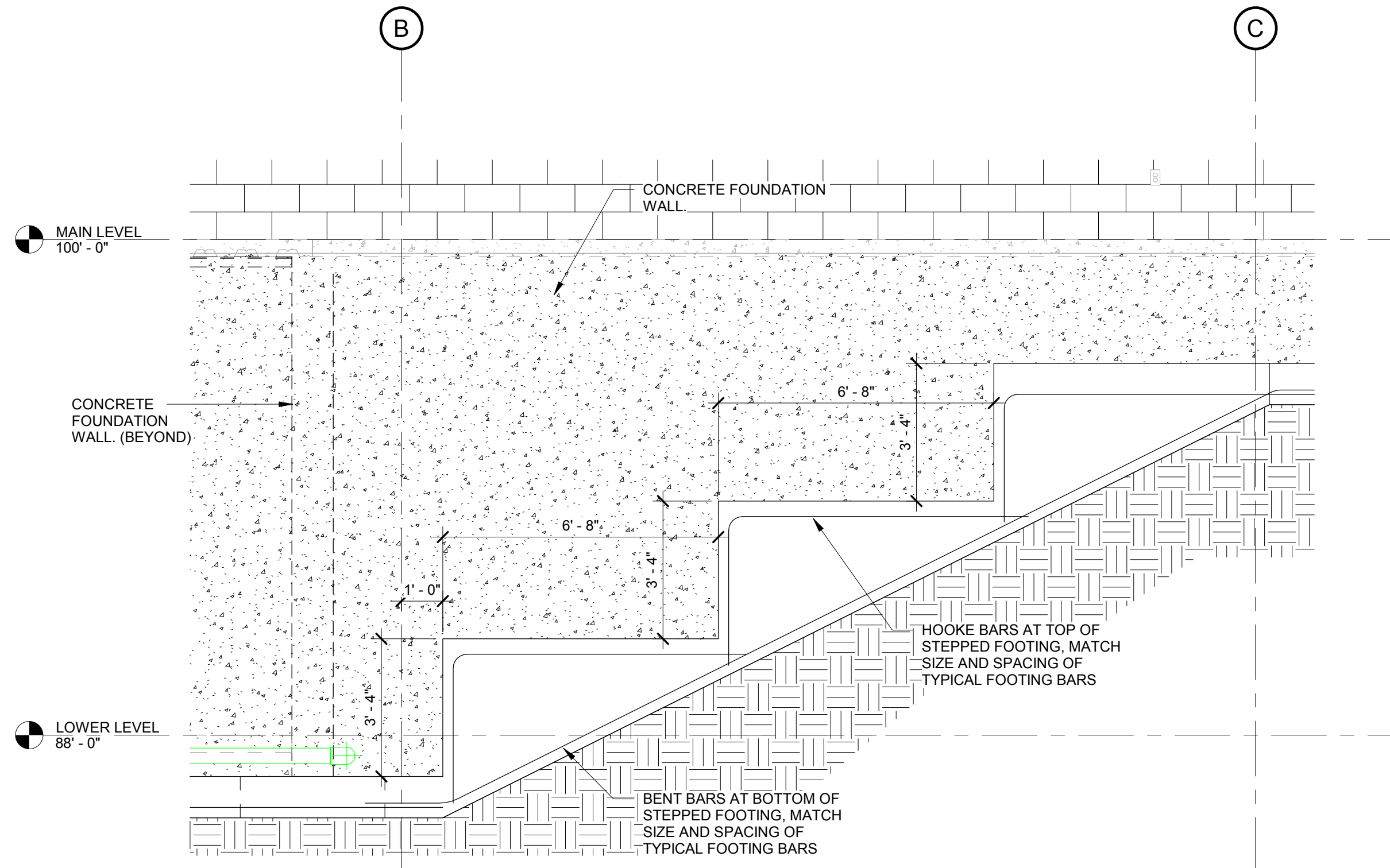
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FOUNDATION / CONCRETE DETAILS

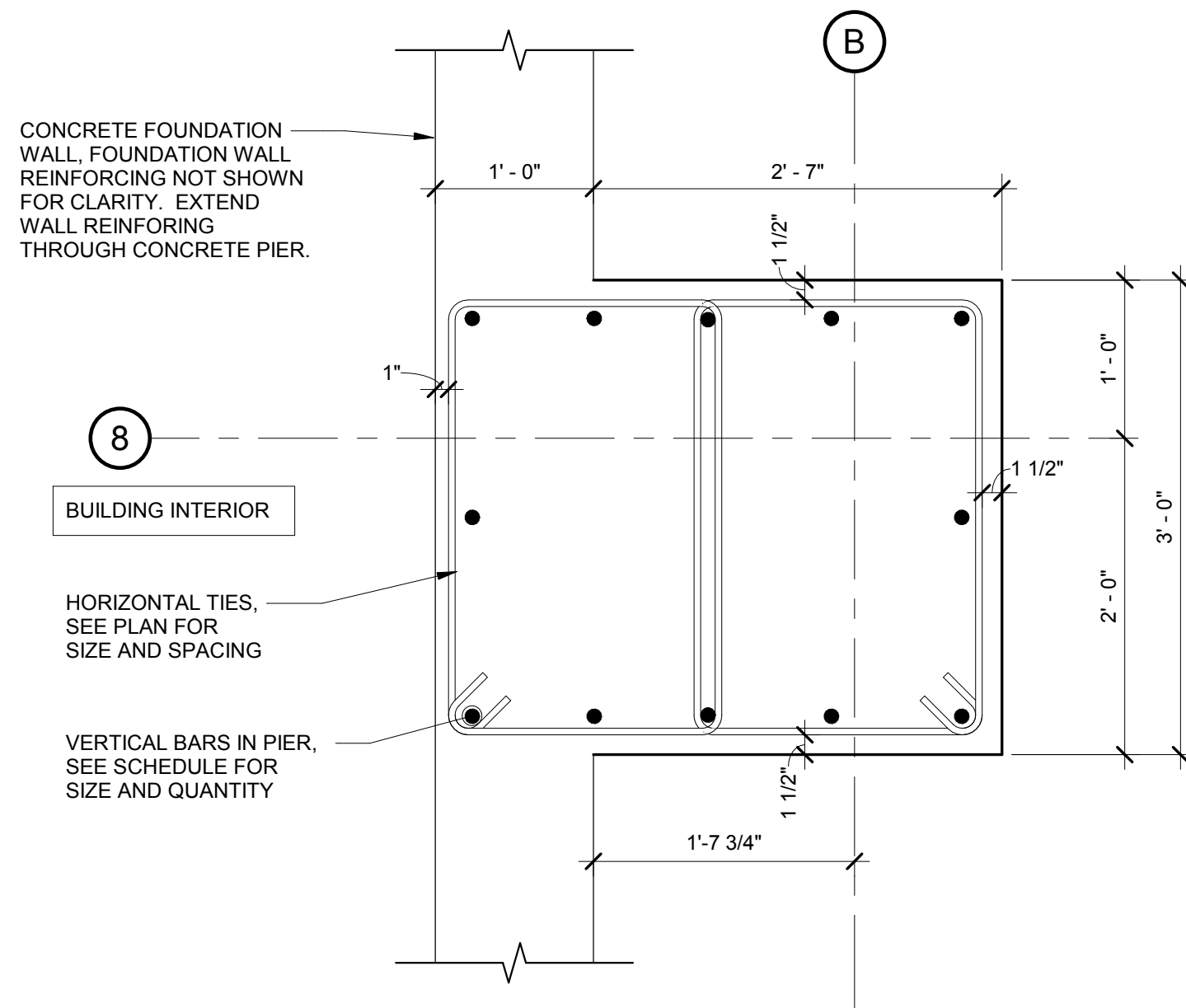
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S301

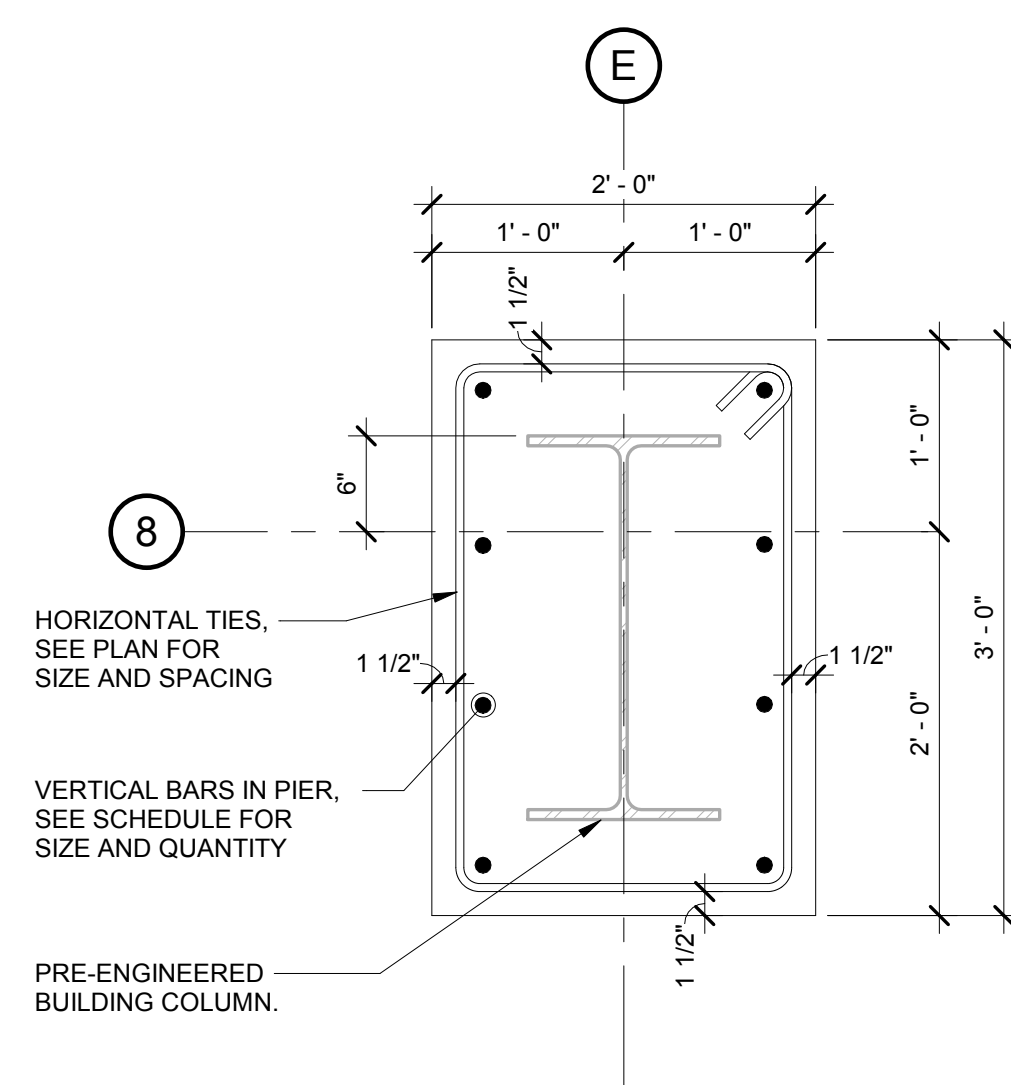
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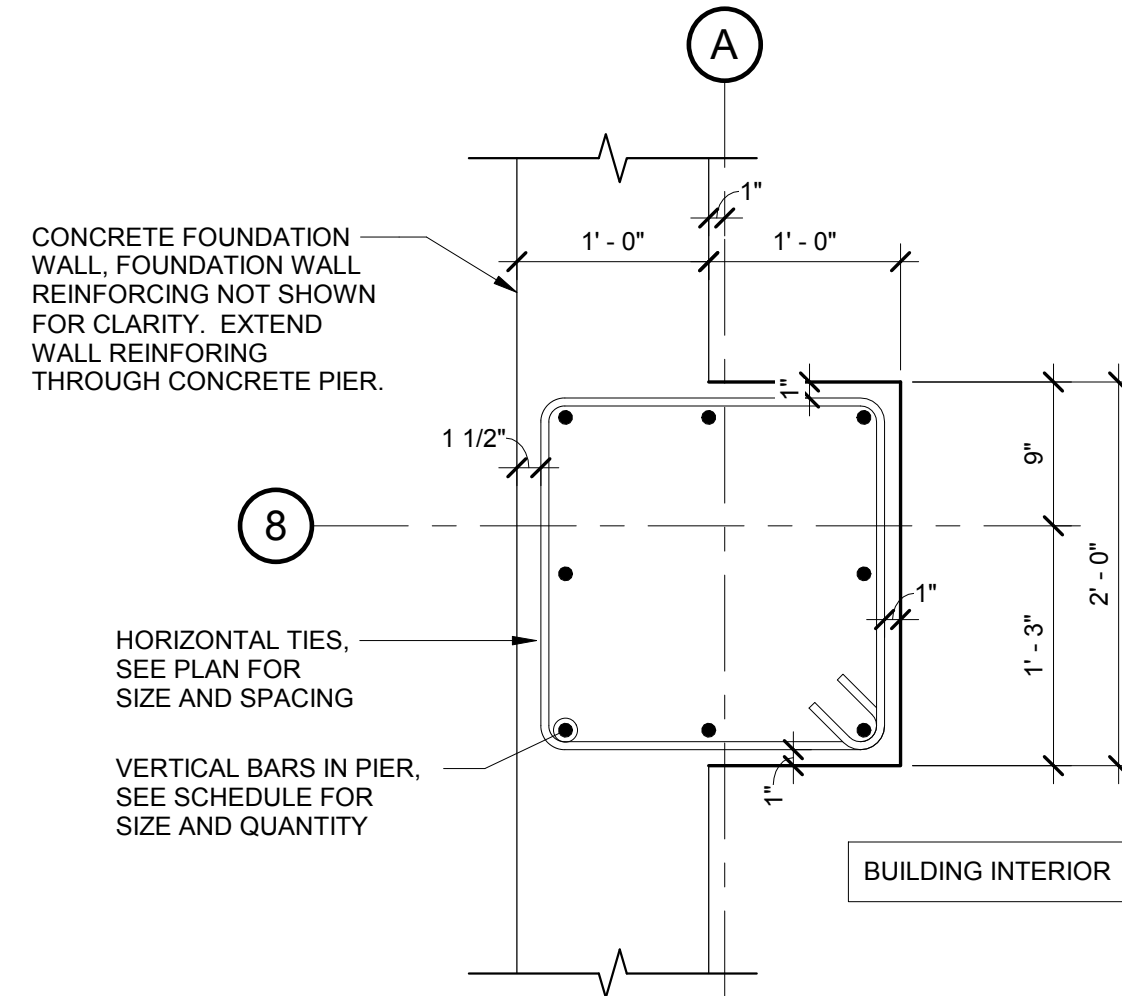
1 STEPPED FOOTING ELEVATION
SCALE: 3/8" = 1'-0"



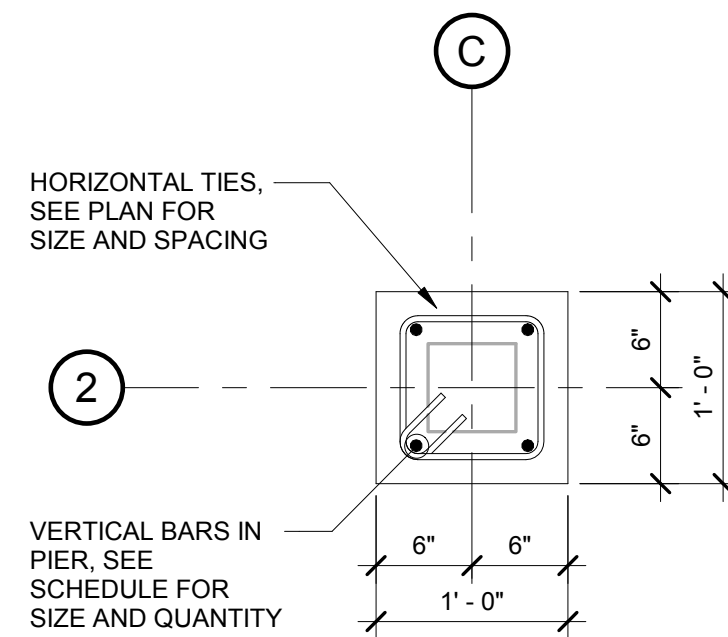
4 CONCRETE PIER - P3
SCALE: 1" = 1'-0"



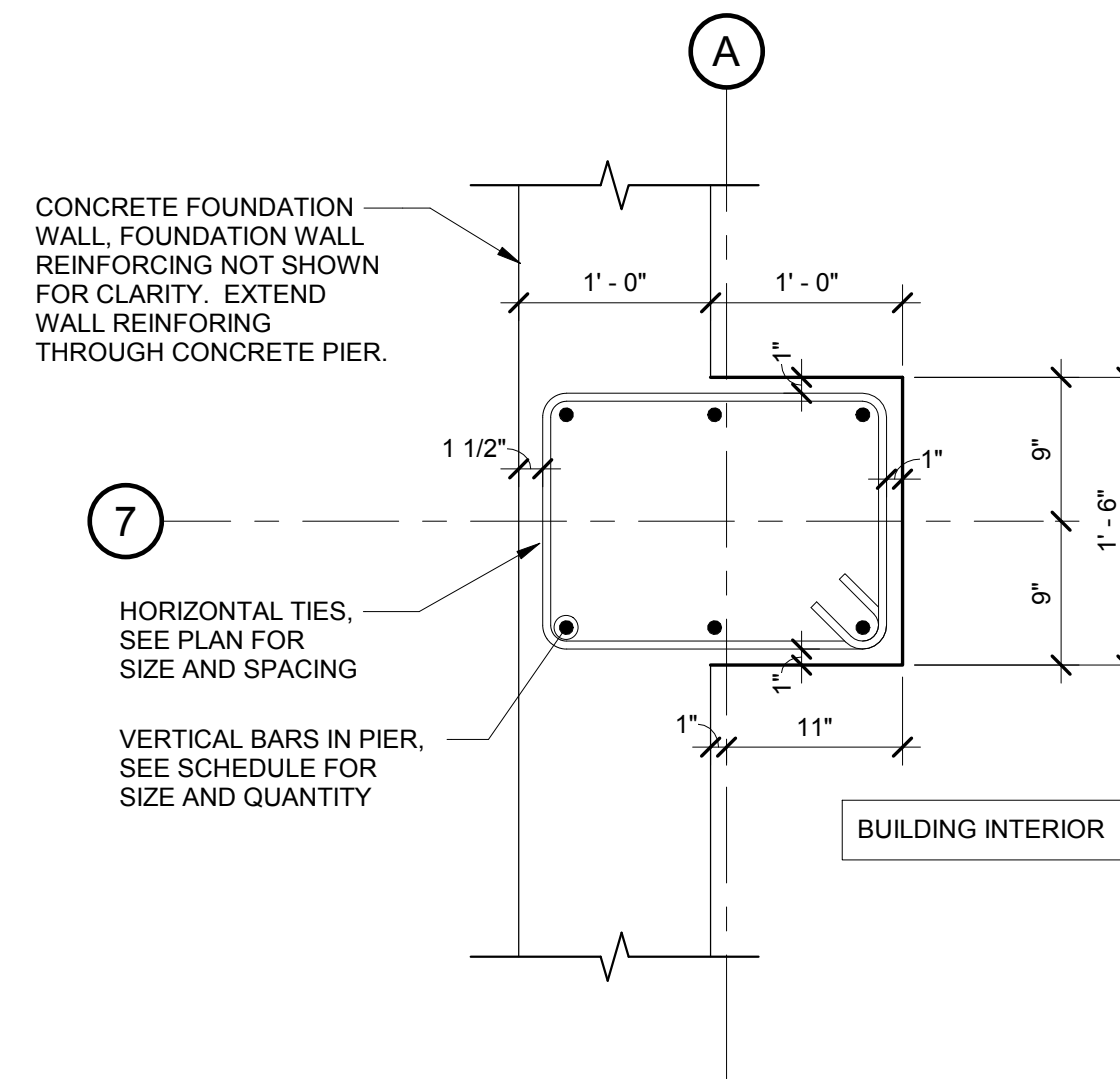
5 CONCRETE PIER - P4
SCALE: 1" = 1'-0"



2 CONCRETE PIER - P1
SCALE: 1" = 1'-0"



6 CONCRETE PIER - P5
SCALE: 1" = 1'-0"



3 CONCRETE PIER - P2
SCALE: 1" = 1'-0"

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ROOF												ROOF
126' - 0"												126' - 0"
MAIN LEVEL	8x6	W18 COL (MBM)	W12 COL (MBM)	W12 COL (MBM)		W 24 COL (MBM)	W 24 COL (MBM)	W 24 COL (MBM)	W18 COL (MBM)	W12 COL (MBM)		MAIN LEVEL
100' - 0"												100' - 0"
LOWER LEVEL					HSS4X5/16							LOWER LEVEL
88' - 0"												88' - 0"
Column Locations	A-2, B-2, C-2, D-1, D-2, D-2-1, D-2-2, D-8-1, D-8-2, E-1, E-2, F-2, G-2, H-2	A-4, A-8	A-5, A-7	A-6	A-1-5.1	B-4, B-8	C-4, C-8, D-4, E-4, F-4	D-8, E-8, F-8, G-4, G-8	H-4, H-8	H-5, H-7	H-6	

COLUMN SCHEDULE

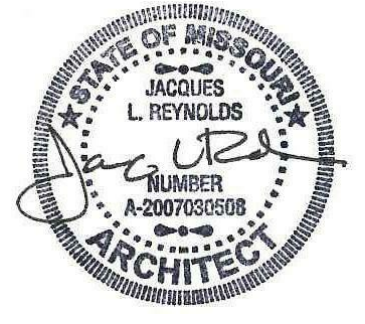
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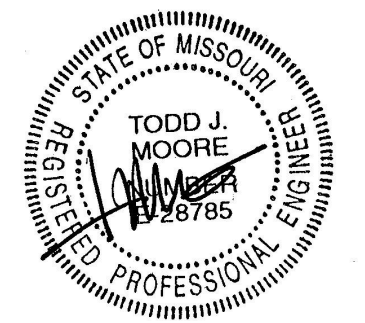
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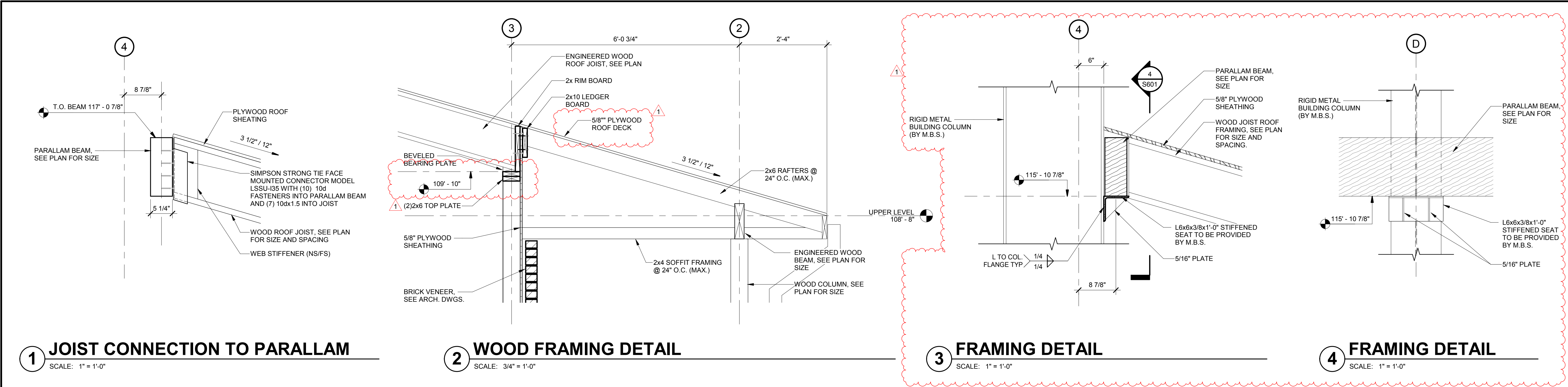
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COLUMN SCHEDULE

DWG. NO. S502



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STATE OF MISSOURI

TODD J. MOORE

REGISTERED ARCHITECT

NUMBER A-200705058

EXPIRES 12/31/19

LICENSE EXPIRES: 12/31/19

CURRENT DATE: 05/17/19

STATE OF MISSOURI

TODD J. MOORE

REGISTERED ARCHITECT

NUMBER A-200705058

EXPIRES 12/31/19

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NEW BUILDING FOR:

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WOOD DETAILS

DWG. NO. S601