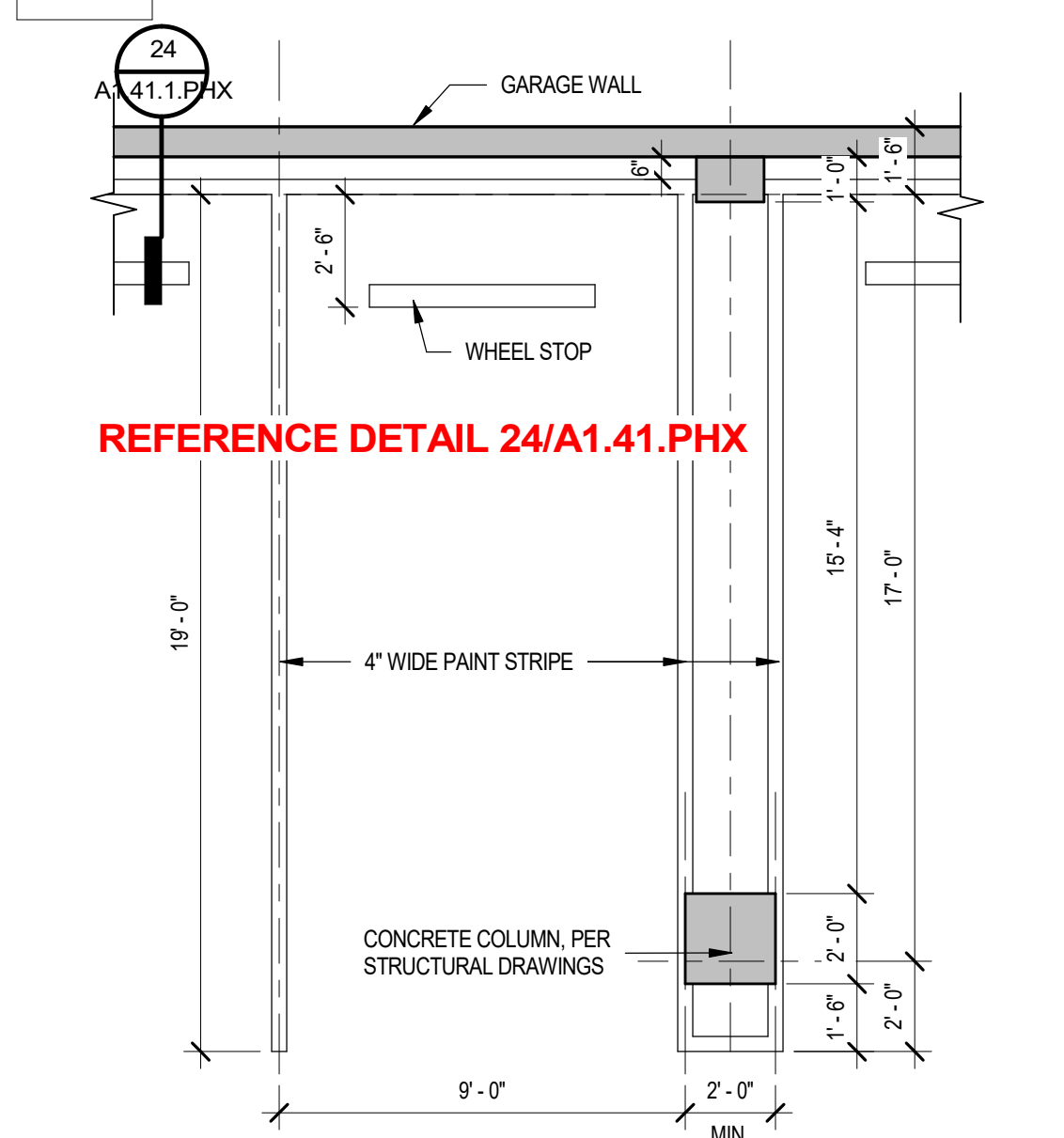
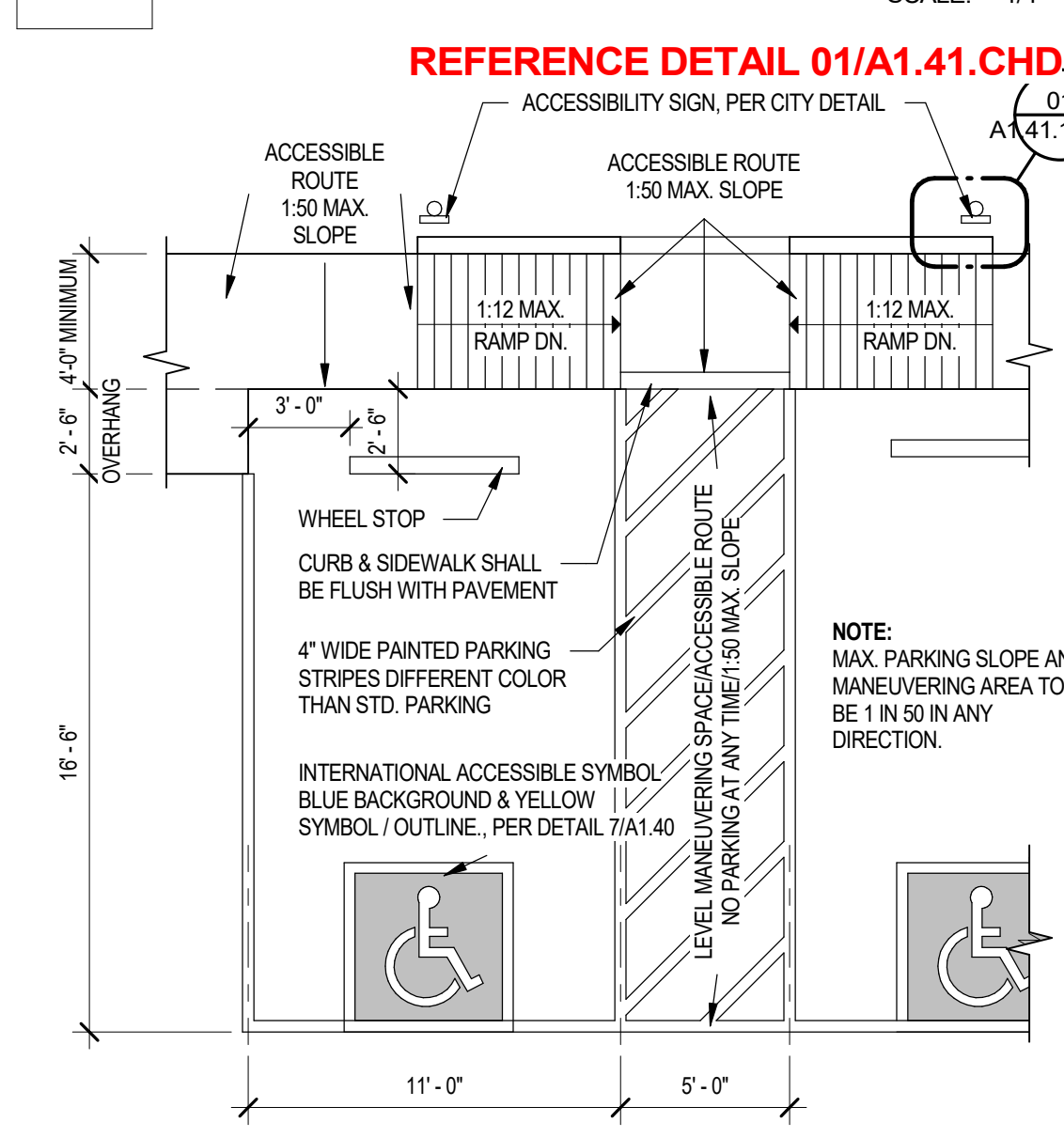


01 ACCESSIBLE PARKING SIGN (CITY OF CHANDLER)
SCALE: 1 1/2" = 1'-0"



02 TYPICAL PARKING SPACE AT GARAGE (CITY OF CHANDLER)
SCALE: 1/4" = 1'-0"



03 TYPICAL ACCESSIBLE PARKING STALL (CITY OF CHANDLER)
SCALE: 3/16" = 1'-0"

Project Name 1
Project Name 2
Street Address
City, state

Office of Rich Barber Architecture, LLC
ORB
WorldHQ@ORBArch.com

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CONSTRUCTION

AUANCE
RESIDENTIAL COMPANY
LEGACY HOSPITALITY

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Notice of alternate billing (or payment) cycle
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ALLIANCE RESIDENTIAL CHANDLER
2525 E. CAMELBACK RD., SUITE 500, PHOENIX, AZ 85016
(602) 778-2822
and the owner or its designated agent shall provide this written description of payment.

REVISIONS/SUBMITTALS	DATE	DESCRIPTION
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A1.41.1.CHD
SITE DETAILS CITY OF CHANDLER

Project Name 1
Project Name 2

Street Address
City, state



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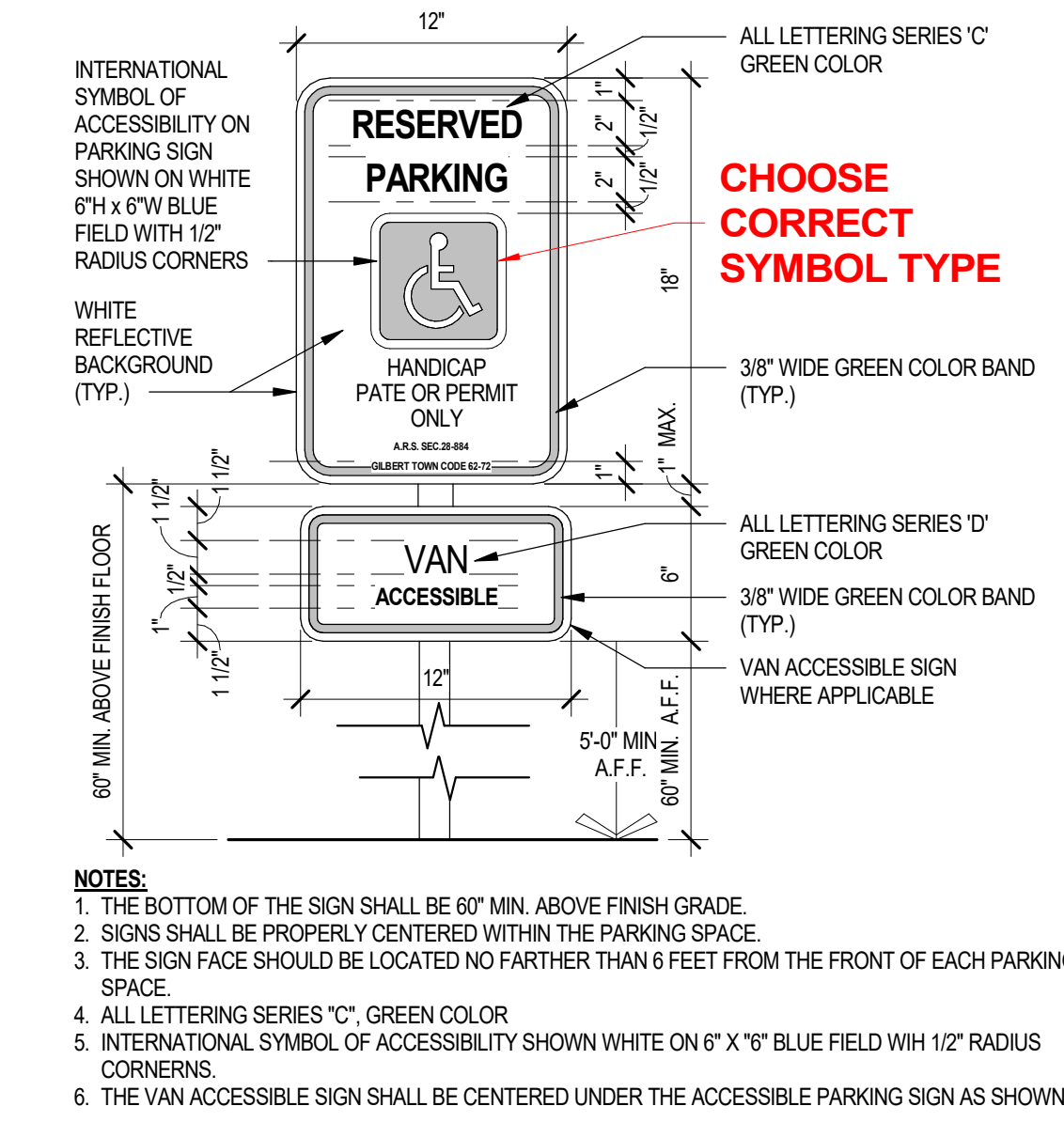
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REVISIONS/SUBMITTALS
DATE DESCRIPTION

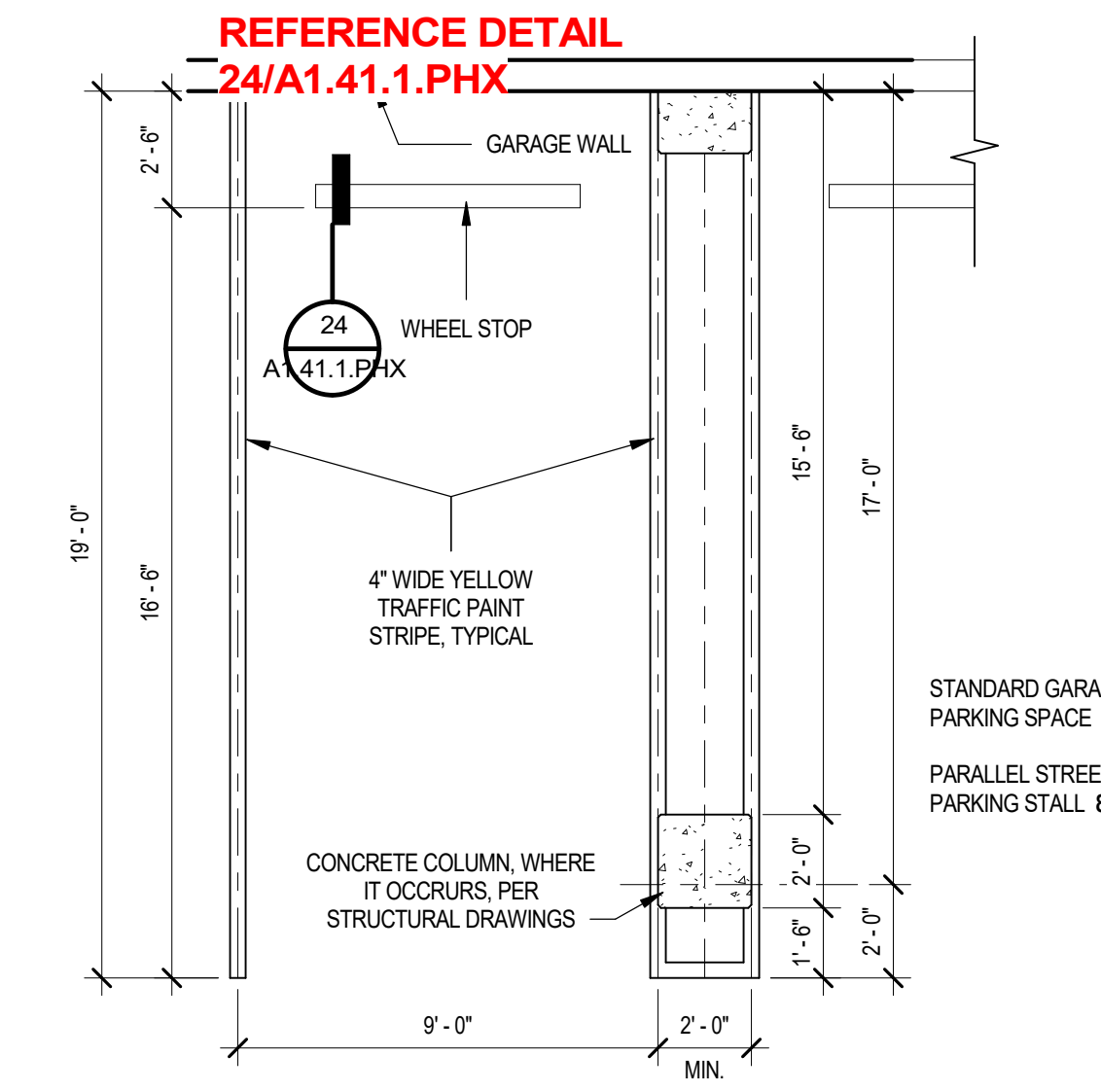
DATE: July 17, 2024 ORB #: 00-000

A1.41.1.FLG

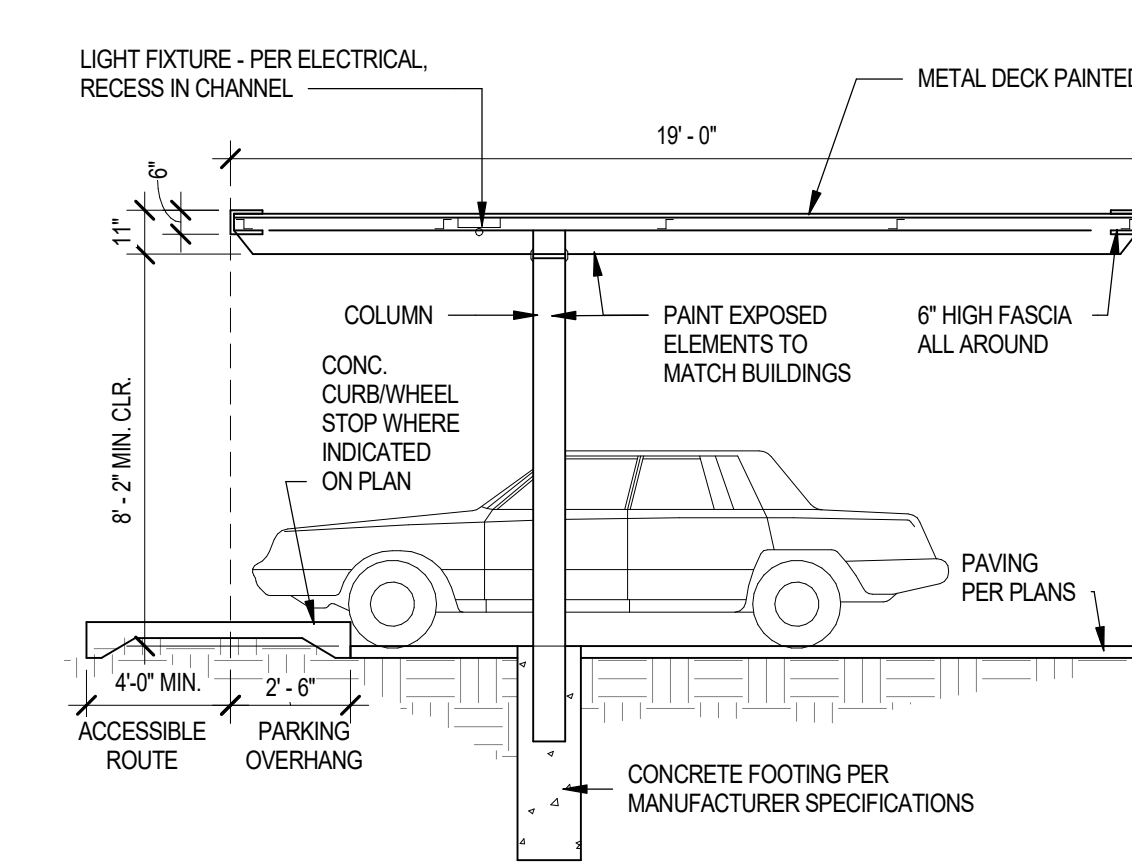
SITE DETAILS CITY OF FLAGSTAFF



01 ACCESSIBLE PARKING SIGN (CITY OF GILBERT)
SCALE: 1 1/2" = 1'-0"



02 TYPICAL PARKING SPACE AT GARAGE (CITY OF GILBERT)
SCALE: 1/4" = 1'-0"



04 TYPICAL CARPORT DETAIL CITY OF GILBERT
SCALE: 1/4" = 1'-0"

Project Name 1
Project Name 2
Street Address
City, state

Office of Rich Barber
ORB Architecture, LLC
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DATE: July 17, 2024 ORB #: 00-000

A1.41.1.GLB

SITE DETAILS CITY OF GILBERT

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DATE DESCRIPTION

DATE: July 17, 2024 ORB #: 00-000

A1.41.1.GLM

SITE DETAILS CITY OF GLENDALE

Project Name 1
Project Name 2

Street Address
City, state



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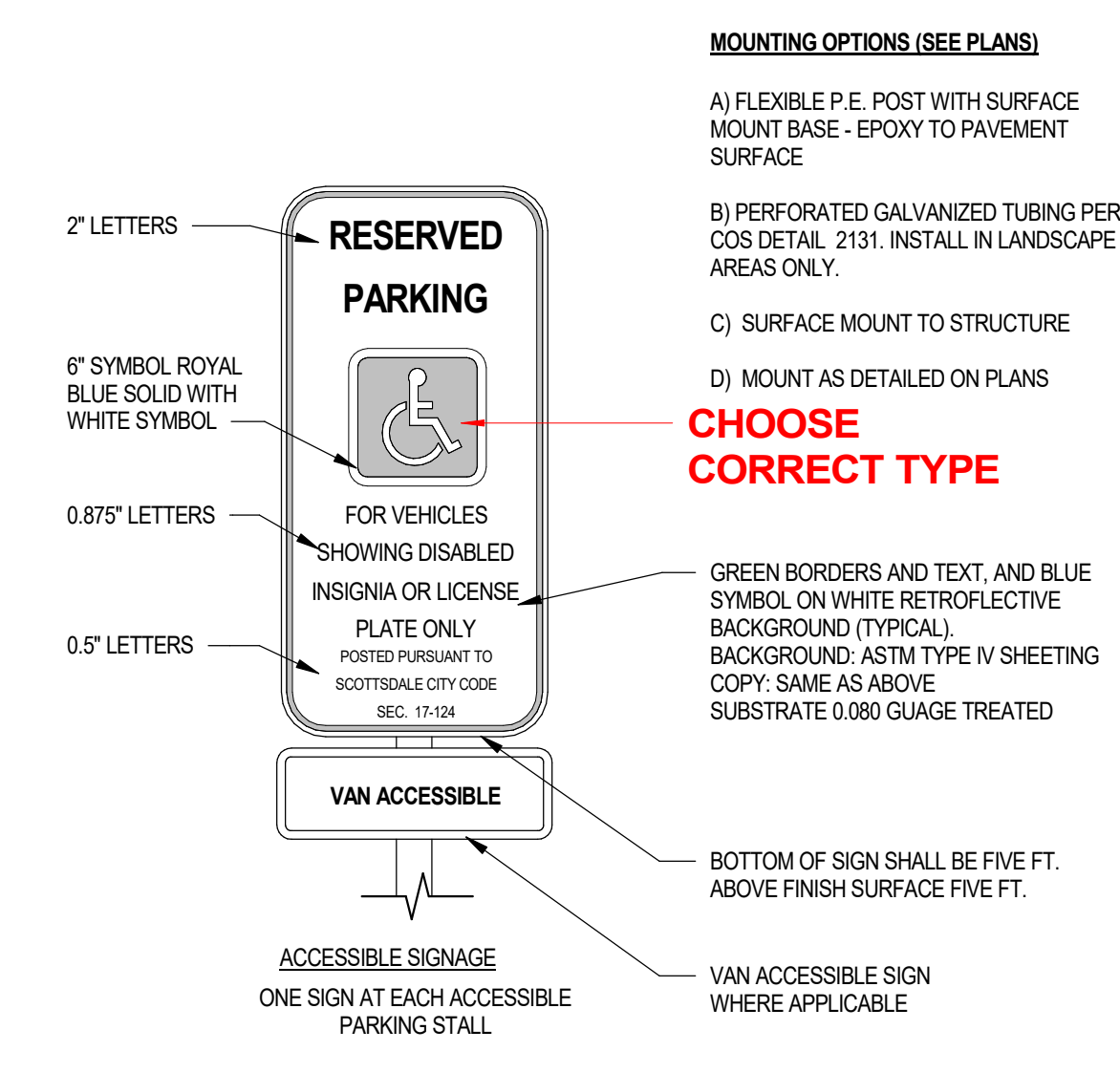
REVISIONS/SUBMITTALS
DATE DESCRIPTION

DATE: July 17, 2024 ORB #: 00-000

A1.41.1.MSA
SITE DETAILS CITY OF MESA

VERIFY ALL SITE DETAILS HAVE BEEN REVIEWED/ UPDATE FOR YOUR SITE AND YOUR JURISDICTION!

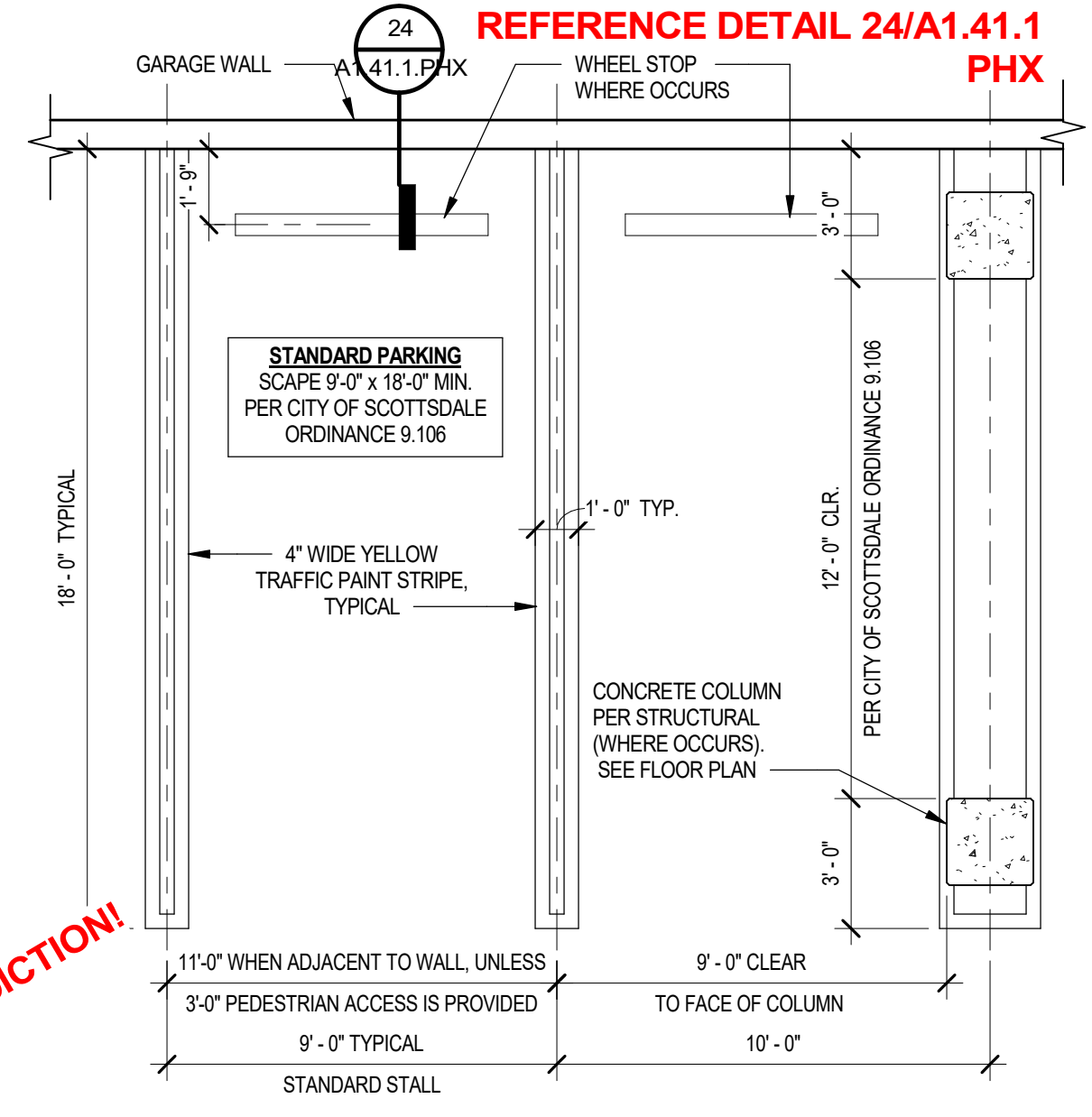
VERIFY ALL SITE DETAILS HAVE BEEN REVIEWED/ UPDATE FOR YOUR SITE AND YOUR JURISDICTION!



EXCERPT OF DETAIL 2124 OF CITY OF SCOTTSDALE STANDARD DETAILS

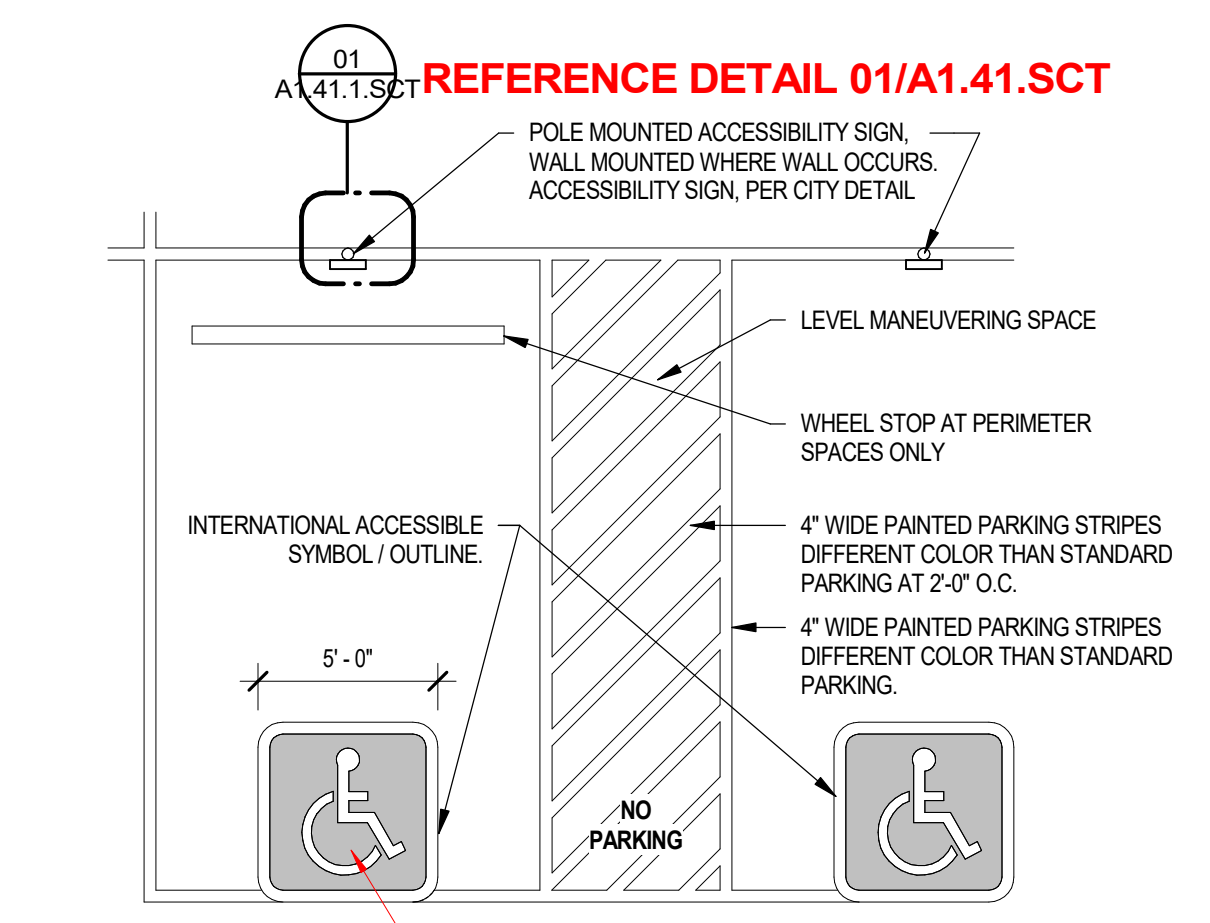
01 ACCESSIBLE PARKING SIGN - (CITY OF SCOTTSDALE)

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



02 TYPICAL PARKING SPACE AT GARAGE

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



03 TYPICAL ACCESSIBLE PARKING STALL AT GARAGE (CITY OF SCOTTSDALE)

SCALE: 3/16" = 1'-0"

Project Name 1
Project Name 2

Street Address
City, state

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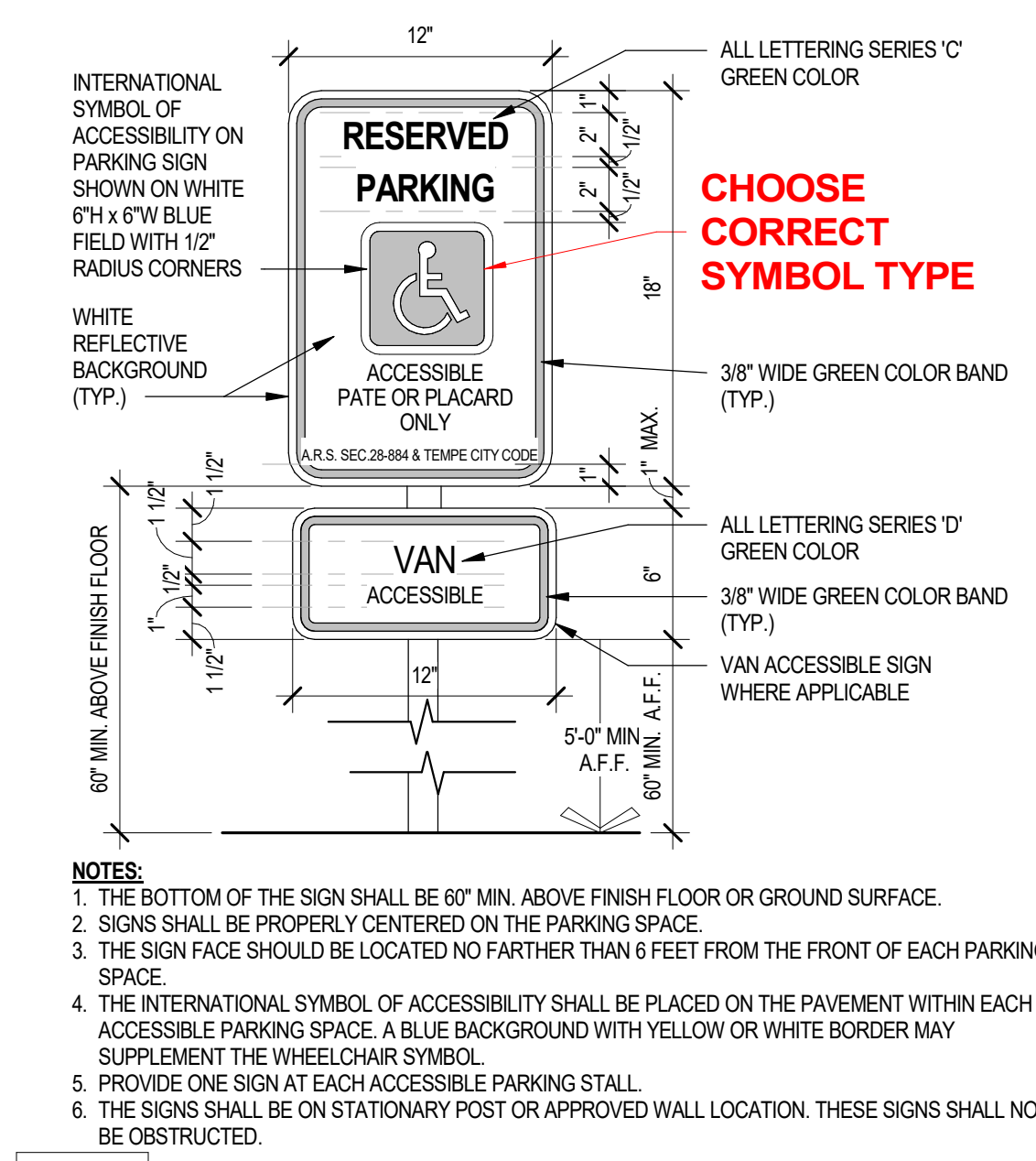
● ORB Architecture, LLC 2018

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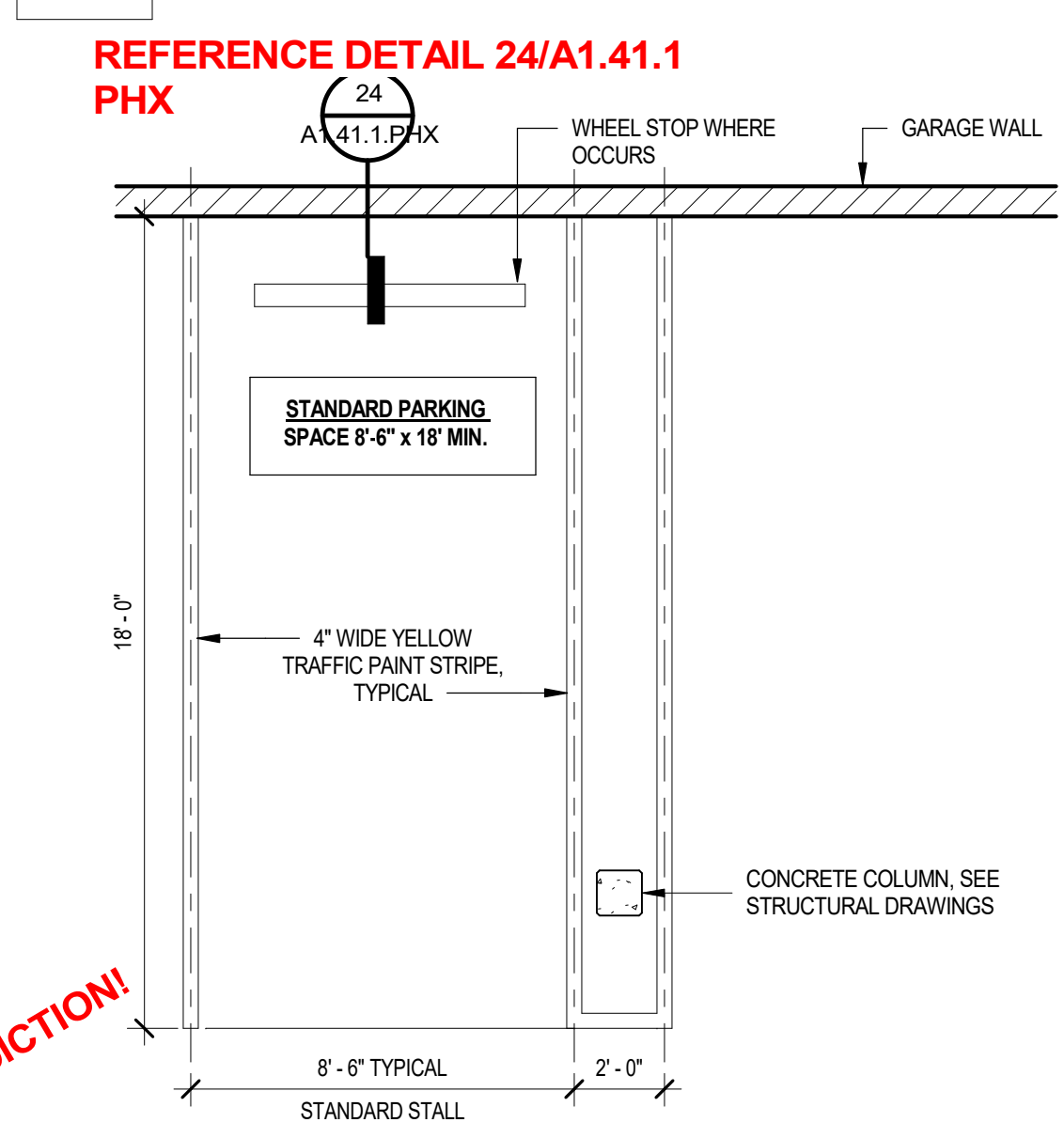
REVISIONS/SUBMITTALS

DATE	DESCRIPTION
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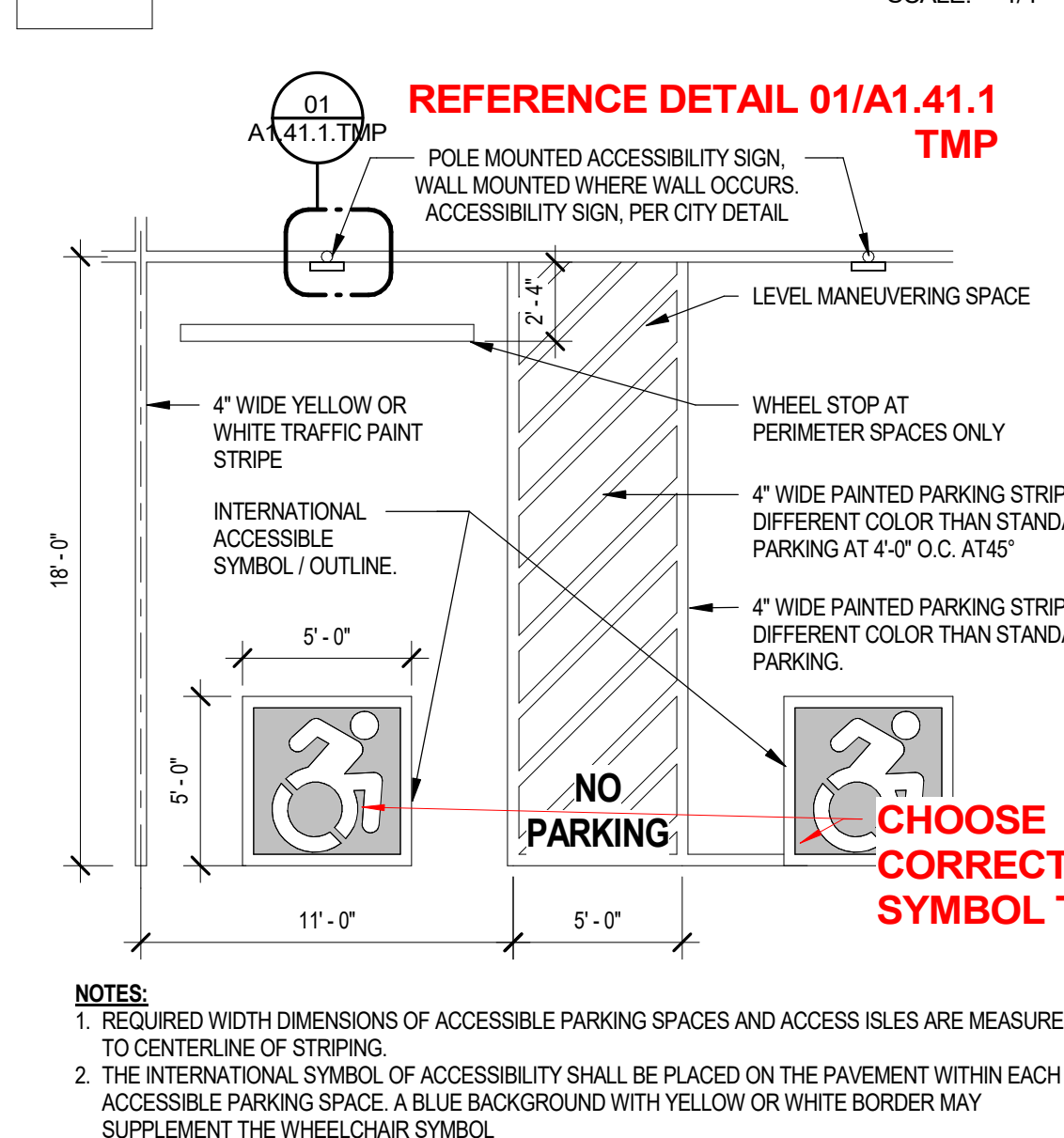
VERIFY ALL SITE DETAILS HAVE BEEN REVIEWED/ UPDATE FOR YOUR SITE AND YOUR JURISDICTION!



01 ACCESSIBLE PARKING SIGN (CITY OF TEMPE) SCALE: 1 1/2" = 1'-0"



02 TYPICAL STANDARD PARKING SPACE AT GARAGE (CITY OF TEMPE) SCALE: 1/4" = 1'-0"



03 TYPICAL ACCESSIBLE PARKING STALL AT GARAGE (CITY OF TEMPE) SCALE: 3/16" = 1'-0"

Project Name 1
Project Name 2
Street Address
City, state

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ORB
Architecture, LLC
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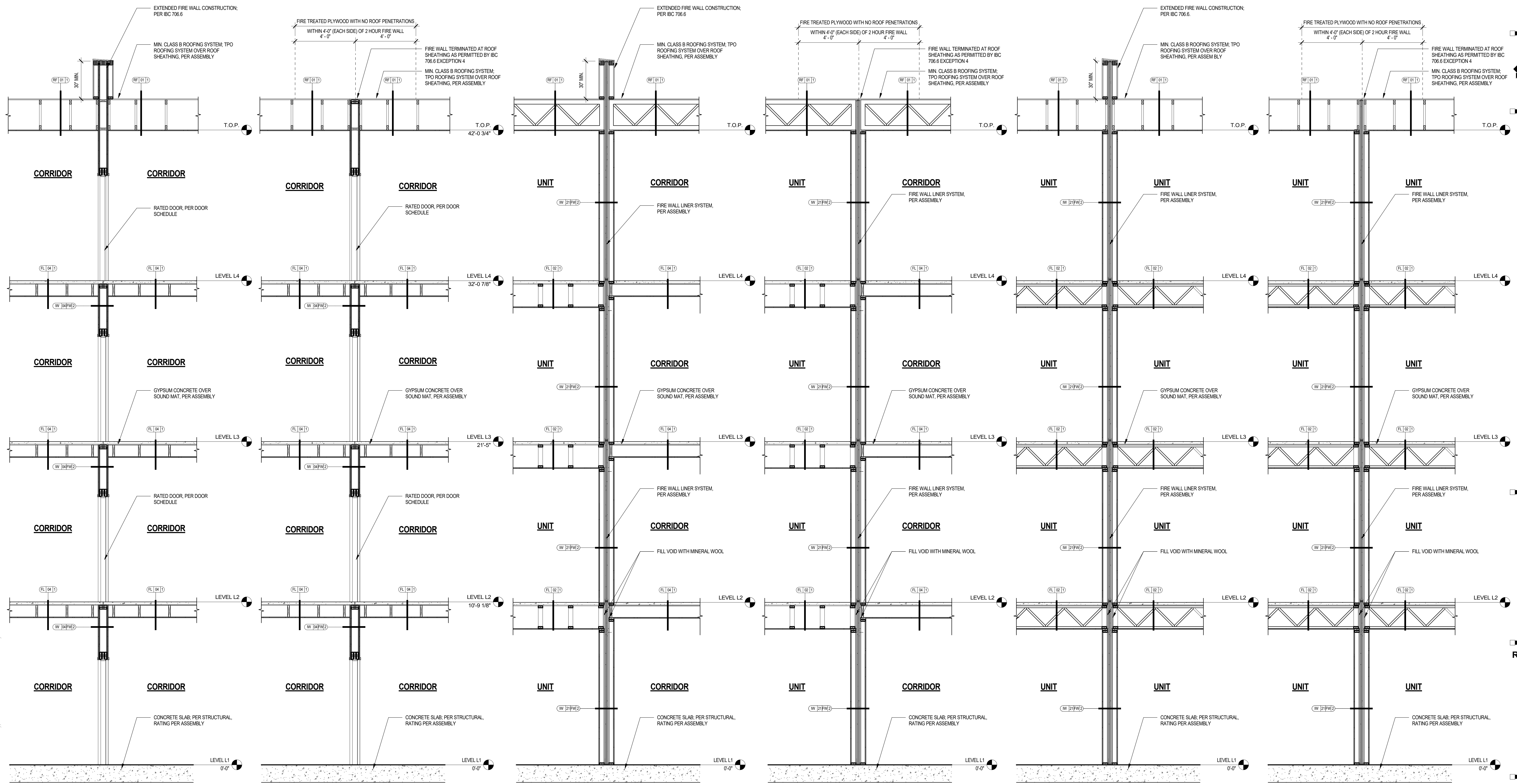
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(602) 778-2822
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REVISIONS/SUBMITTALS
DATE DESCRIPTION

DATE: July 17, 2024 ORB #: 00-000

A1.41.1.TSN
SITE DETAILS CITY OF TUCSON



24 2-HR FIRE WALL @ CORRIDOR / CORRIDOR CONNECTION EXTENDED 30" ABOVE ROOF SHEATHING
SCALE: 3/8" = 1'-0"

20 2-HR FIRE WALL @ CORRIDOR / CORRIDOR
SCALE: 3/8" = 1'-0"

16 2-HR FIRE WALL @ UNIT / CORRIDOR EXTENDED 30" ABOVE ROOF SHEATHING
SCALE: 3/8" = 1'-0"

12 2-HR FIRE WALL @ UNIT / CORRIDOR
SCALE: 3/8" = 1'-0"

08 2-HR FIRE WALL @ UNIT / UNIT EXTENDED 30" ABOVE ROOF SHEATHING
SCALE: 3/8" = 1'-0"

04 2-HR FIRE WALL @ UNIT / UNIT
SCALE: 3/8" = 1'-0"

Contractor must verify all dimensions at project before proceeding with this work. Do not reproduce these drawings and specifications without the expressed written permission of the Architect. The drawings and specifications are instruments of service and shall remain the property of the Architect whether the project for which they are made is executed or not. These drawings and specifications shall not be used by anyone on any other projects, for additions to this project, or for completion of this project by others except by the expressed written permission of the Architect.

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REVISIONS/SUBMITTALS	
DATE	DESCRIPTION

GENERAL FIRE PROTECTION NOTES

- PER IBC SECTION 708.4.2, IN COMBUSTIBLE CONSTRUCTION WHERE FIRE PARTITIONS DO NOT EXTEND TO THE UNDERSIDE OF THE FLOOR OR ROOF SHEATHING, DECK OR SLAB ABOVE, DRAFT STOPPING SHALL BE INSTALLED IN THE SPACE ABOVE AND ALONG THE LINE OF THE FIRE PARTITION PER SECTION 718.1 FOR FLOORS AND SECTION 718.4.1 FOR ATTICS (ATTIC AS DEFINED IN IBC CHAPTER 2, IS THE SPACE BETWEEN THE CEILING FRAMING OF THE TOP STORY AND THE UNDERSIDE OF THE ROOF). THE ATTIC SPACE SHALL BE SUBDIVIDED BY DRAFT STOPS INTO AREAS NOT EXCEEDING 3,000 SQUARE FEET OR ABOVE EVERY TWO DWELLING UNITS, WHICHEVER IS SMALLER PER IBC 708.4.2 - EXCEPTION 4.
- ALL THROUGH AND MEMBRANE PENETRATIONS OF FIRE RESISTIVE HORIZONTAL ASSEMBLIES AND FIRE RESISTANCE RATED WALL ASSEMBLIES SHALL BE PROTECTED BY MATERIALS AND INSTALLATION DETAILS THAT CONFORM TO UNDERWRITERS LABORATORIES LISTINGS FOR FIRESTOP SYSTEMS. REFER TO FIRESTOPPING DETAIL SHEETS FOR ADDITIONAL REQUIREMENTS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWING DETAILS FURNISHED BY THE MANUFACTURER OF THE FIRESTOP SYSTEM, WHICH SHOW COMPLETE CONFORMANCE TO THE UL LISTING, TO THE ARCHITECT, AND SUCH DRAWINGS SHALL BE AVAILABLE TO THE CITY INSPECTORS. THE DRAWINGS SHALL BE SPECIFIC FOR EACH PENETRATION WITH ALL VARIABLES DEFINED.
- CONCEALED INSTALLATION (2018 IBC SECTION 720.2): INSULATING MATERIALS, WHERE CONCEALED AS INSTALLED IN BUILDINGS OF ANY TYPE OF CONSTRUCTION, SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 450 EXCEPTION: CELLULOSE FIBER LOOSE-FILL INSULATION COMPLYING WITH THE REQUIREMENTS OF SECTION 720.6 SHALL NOT BE REQUIRED TO MEET A FLAME SPREAD INDEX REQUIREMENT BUT SHALL BE REQUIRED TO MEET A SMOKE DEVELOPED INDEX OF NOT MORE THAN 450 WHEN TESTED IN ACCORDANCE WITH CALULC S102.2.
- FAÇINGS (2018 IBC SECTION 720.2.1) - WHERE SUCH MATERIALS ARE INSTALLED IN CONCEALED SPACES IN BUILDINGS OF TYPES III, IV, OR V CONSTRUCTION, THE FLAME SPREAD AND SMOKE DEVELOPED LIMITATIONS DO NOT APPLY TO FAÇINGS, COVERINGS, AND LAYERS OF REFLECTIVE FOLI INSULATION THAT ARE INSTALLED BEHIND AND IN SUBSTANTIAL CONTACT WITH THE UNEXPOSED SURFACE OF THE CEILING, WALL OR FLOOR FINISH.
- LOOSE-FILL INSULATION (2018 IBC SECTION 720.4) - LOOSE-FILL INSULATION MATERIALS THAT CANNOT BE MOUNTED IN THE ASTM E84 OR UL 723 APPARATUS WITHOUT A SCREEN OR ARTIFICIAL SUPPORTS SHALL COMPLY WITH THE FLAME SPREAD AND SMOKE-DEVELOPED LIMITS OF SECTIONS 720.2 AND 720.3 WHEN TESTED IN ACCORDANCE WITH CANULC S102.2.
- CALKING AND SEALANTS - APPLY A BEAD OF SEALANT AROUND THE PARTITION PERIMETER, AND AT THE INTERFACE BETWEEN WOOD OR STEEL FRAMING AND GYPSUM BOARD PANELS TO CREATE AN AIR BARRIER.

GYPSUM ASSOCIATION GA 600-2021 - GENERAL EXPLANATORY NOTES - FIRE PERFORMANCE OF SYSTEMS

- NAILS** - NAILS SHALL COMPLY WITH ASTM STANDARD TERMINOLOGY OF NAILS FOR USE WITH WOOD AND WOOD-BASED MATERIALS OR ASTM C514 STANDARD SPECIFICATION FOR NAILS FOR THE APPLICATION OF GYPSUM WALLBOARD. OTHER NAILS, SUITABLE FOR THE INTENDED USE, AND HAVING DIMENSIONS NOT LESS THAN THOSE SPECIFIED IN THIS MANUAL, SHALL BE PERMITTED AS SUBSTITUTIONS.
- FASTENERS** - FASTENERS INSTALLED ALONG THE EDGES OF GYPSUM PANELS SHALL BE PLACED ALONG THE PAPER BOUND EDGES ON THE LONG DIMENSION OF THE PANEL. FASTENERS AT THE END SHALL BE PLACED ALONG MILL OR FIELD CUT ENDS ON THE SHORT DIMENSION. FASTENERS ON THE PERIMETER OF THE PANEL SHALL BE PLACED ALONG BOTH EDGES AND ENDS. INDICATED FASTENER SPACINGS ARE MAXIMUMS. CLOSER FASTENER SPACINGS MAY REDUCE THE STC.
- SCREWS** - SCREWS MEETING ASTM C1002 STANDARD SPECIFICATION FOR STEEL, SELF-PERCING TAPPING SCREWS FOR APPLICATION OF GYPSUM PANEL PRODUCTS OR METAL PLASTER BASES TO WOOD STUDS OR STEEL STUDS SHALL BE PERMITTED TO BE SUBSTITUTED FOR THE PRESCRIBED NAILS, ONE FOR ONE, WHEN THE LENGTH AND HEAD DIAMETER OF THE SCREWS EQUAL OR EXCEED THOSE OF THE NAILS SPECIFIED IN THE TESTED SYSTEM, AND THE SCREW SPACING DOES NOT EXCEED THE SPACING SPECIFIED FOR THE NAILS IN THE TESTED SYSTEM.
- SCREW SPACING TOLERANCE** - SCREWS SHALL BE SPACED AS INDICATED IN THE SYSTEM DETAIL, WITH NO ONE FASTENER EXCEEDING THE SPECIFIED SPACING BY MORE THAN 1 INCH.
- PANEL APPLICATION** - VERTICALLY APPLIED GYPSUM PANELS SHALL HAVE THE EDGES PARALLEL TO FRAMING MEMBERS. HORIZONTALLY APPLIED GYPSUM PANELS SHALL HAVE THE EDGES AT RIGHT ANGLES TO THE FRAMING MEMBERS. INTERMEDIATE VERTICAL FRAMING MEMBERS ARE THOSE BETWEEN THE VERTICAL EDGES OR ENDS OF THE PANELS.
- FINISHING** - UNLESS OTHERWISE SPECIFIED, THE FACE LAYERS OF ALL SYSTEMS, EXCEPT THOSE WITH PRE-DECORATED OR METAL COVERED SURFACES OR EXTERIOR GYPSUM SHEATHING PANELS, SHALL HAVE JOINTS TAPED WITH EITHER PAPER TAPE OR GLASS FIBER MESH TAPE (MINIMUM LEVEL 1 AS SPECIFIED IN GA-24, RECOMMENDED LEVELS OF FINISH FOR GYPSUM BOARD, GLASS MAT AND FIBER-REINFORCED GYPSUM PANELS) AND FASTENER HEADS TREATED. BASE LAYERS IN MULTI-LAYER SYSTEMS SHALL NOT BE REQUIRED TO HAVE JOINTS OR FASTENERS TAPED OR COVERED WITH JOINT COMPOUND.
- JOINT STAGGERING** - UNLESS OTHERWISE STATED IN THE DETAILED DESCRIPTION OF THE INDIVIDUAL SYSTEM, JOINTS SHALL BE STAGGERED AS FOLLOWS:
 - HORIZONTAL BUTT JOINTS ON OPPOSITE SIDES OF A PARTITION IN SINGLE-LAYER APPLICATIONS SHALL BE STAGGERED NOT LESS THAN 12 INCHES.
 - HORIZONTAL BUTT JOINTS IN ADJACENT LAYERS ON THE SAME SIDE OF A PARTITION IN MULTI-LAYER APPLICATIONS SHALL BE STAGGERED NOT LESS THAN 12 INCHES.
 - VERTICAL JOINTS ON OPPOSITE SIDES OF A PARTITION IN SINGLE LAYER APPLICATIONS SHALL NOT OCCUR ON THE SAME STUD.
- PARTITIONS** EXTENDING ABOVE THE CEILING - WHEN A FIRE-RESISTANCE RATED PARTITION EXTENDS ABOVE THE CEILING, THE GYPSUM PANEL JOINTS OCCURRING ABOVE THE CEILING NEED NOT BE TAPED AND FASTENERS NEED NOT BE COVERED WHEN ALL OF THE FOLLOWING CONDITIONS ARE MET:
 - THE CEILING IS PART OF A FIRE-RESISTANCE RATED FLOOR-CEILING SYSTEM.
 - ALL VERTICAL JOINTS OCCUR OVER FRAMING MEMBERS.
 - HORIZONTAL JOINTS ARE EITHER STAGGERED 24 INCHES ON CENTER ON OPPOSITE SIDES OF THE PARTITION OR ARE COVERED WITH STRIPS OF GYPSUM PANEL NOT LESS THAN 6 INCHES WIDE, OR THE PARTITION IS A TWO-LAYER SYSTEM WITH JOINTS STAGGERED 16 INCHES OR 24 INCHES ON CENTER, AND
 - THE PARTITION IS NOT PART OF A SMOKE OR SOUND CONTROL SYSTEM, WHERE JOINT TREATMENT IS DISCONTINUED AT OR JUST ABOVE THE CEILING LINE, THE VERTICAL JOINT SHALL BE CROSS TAPED AT THIS LOCATION TO REDUCE THE POSSIBILITY OF JOINT CRACKING.
- OUTLET BOXES** - METALLIC OUTLET BOXES SHALL BE PERMITTED TO BE INSTALLED IN WOOD AND STEEL STUD WALLS OR PARTITIONS HAVING GYPSUM PANEL FAÇINGS AND CLASSIFIED AS TWO-HOURS OR LESS. THE SURFACE AREA OF INDIVIDUAL BOXES SHALL NOT EXCEED 16 SQUARE INCHES. THE AGGREGATE SURFACE AREA OF THE BOXES SHALL NOT EXCEED 100 SQUARE INCHES IN ANY 100 SQUARE FEET. BOXES LOCATED ON OPPOSITE SIDES OF WALLS OR PARTITIONS SHALL BE IN SEPARATE STUD CAVITIES AND SHALL BE SEPARATED BY A MINIMUM HORIZONTAL DISTANCE OF 24 INCHES. APPROVED NON-METALLIC OUTLET BOXES SHALL BE PERMITTED AS ALLOWED BY LOCAL CODE. INSTALLING OUTLET BOXES IN SOUND CONTROL SYSTEM MAY REDUCE THE STC.
- WATER-RESISTANT PANELS** - WATER RESISTANT GYPSUM BACKING PANELS SHALL BE INSTALLED OVER OR AS PART OF THE FIRE RESISTANCE RATED SYSTEM IN AREAS TO RECEIVE CERAMIC OR PLASTIC WALL, TILE OR PLASTIC FINISHED WALL PANELS. WHEN FIRE OR SOUND RATINGS ARE NECESSARY, THE GYPSUM PANELS REQUIRED FOR THE RATING SHALL EXTEND DOWN TO THE FLOOR BEHIND FIXTURES SO THAT THE CONSTRUCTION WILL EQUAL THAT OF THE TESTED SYSTEM.
NOTE: THE USE OF WATER-RESISTANT GYPSUM BACKING PANELS AS A BASE FOR TILE IN WET AREAS IS REGULATED BY LOCAL CODES. CONSULT LOCAL BUILDING CODES FOR REQUIREMENTS.
- INSULATION IN WALLS** - WHEN NOT SPECIFIED AS A COMPONENT OF A FIRE TESTED WALL OR PARTITION SYSTEM, EITHER FACED OR UNFACED MINERAL FIBER, AS FIBER, OR CELLULOSE FIBER INSULATION OF A THICKNESS NOT EXCEEDING THAT OF THE CAVITY DEPTH SHALL BE PERMITTED TO BE ADDED WITHIN THE STUD CAVITY. ADDING INSULATION MAY IMPROVE THE STC.

- INSULATION IN CEILINGS** - IN FLOOR-CEILING SYSTEM, THE ADDITION OR DELETION OF MINERAL OR GLASS FIBER INSULATION IN CEILING JOIST SPACES COULD POSSIBLY REDUCE THE FIRE RESISTANCE RATING. THE ADDITION OF UP TO 16.34 INCHES OF 1 PCT GLASS FIBER INSULATION (R-40), EITHER FACED, OR UNFACED BATT, OR LOOSE FILL TO ANY 1' OR 2-HOUR FIRE RESISTANCE FLOOR-CEILING OR ROOF-CEILING SYSTEM HAVING A CAVITY DEEP ENOUGH TO ACCEPT THE INSULATION IS PERMITTED, PROVIDED THAT ONE ADDITIONAL LAYER OF EITHER 1/2" TYPE X OR 5/8" TYPE X GYPSUM PANELS IS APPLIED TO THE CEILING. THE ADDITIONAL LAYER OF GYPSUM PANEL SHALL BE APPLIED AS DESCRIBED FOR THE FACE LAYER OF THE TESTED SYSTEM, EXCEPT THAT THE FASTENER LENGTH SHALL BE INCREASED BY NOT LESS THAN THE THICKNESS OF THE ADDITIONAL LAYER OF GYPSUM PANEL.
- INSULATION TYPES** - IN EACH SYSTEM CONTAINING BATT OR BLANKET INSULATION THE INSULATION IS SPECIFIED TO BE EITHER MINERAL OR GLASS FIBER AND, FOR FIRE RESISTANCE, THE SYSTEM SHALL BE BUILT USING THE TYPE SPECIFIED. INSULATION SHALL BE PERMITTED TO BE EITHER FACED OR UNFACED.
- VAPOR RETARDERS** - A VAPOR RETARDER SHALL BE PERMITTED TO BE ADDED TO ANY FIRE RESISTANCE RATED SYSTEM. THE LOCATION OF THE VAPOR RETARDER SHALL BE DETERMINED BY THE DESIGN REQUIREMENT.
- SYSTEM GROUPING** - ALTHOUGH THE SYSTEMS ARE ARRANGED IN GENERAL GROUPINGS (I.E. WALLS AND INTERIOR PARTITIONS, FLOOR-CEILING, ROOF-CEILINGS, ETC.), THIS IS NOT INTENDED TO LIMIT THEIR USE ONLY TO THE SPECIFIC CATEGORY IN WHICH THEY APPEAR. FOR EXAMPLE, SYSTEMS LISTED AS SHAFT WALLS SHALL BE PERMITTED TO BE USED AS INTERIOR PARTITIONS. HOWEVER, SYSTEMS TESTED VERTICALLY (WALLS AND PARTITIONS) SHALL NOT BE PERMITTED TO BE ARBITRARILY USED IN A HORIZONTAL ORIENTATION.

- STEEL STUDS AND RUNNERS** - UNLESS OTHERWISE SPECIFIED IN THE DETAILED DESCRIPTION, THE GENERIC STEEL STUDS AND RUNNERS USED IN NON-LOAD BEARING WALLS AND PARTITIONS IN THIS MANUAL WERE FABRICATED FROM FLAT STEEL HAVING A BASE METAL THICKNESS OF NOT LESS THAN 0.0179 INCH-AND HAVE A RETURN LIP DIMENSION OF NOT LESS THAN 3/16 INCH.
NOTE: TO ENSURE THAT FIRE PERFORMANCE IS MET, CONSULT THE STEEL STUD MANUFACTURER FOR PERFORMANCE DATA AND RECOMMENDATIONS BEFORE SUBSTITUTING PROPRIETARY STEEL STUDS THAT EITHER ARE FABRICATED FROM STEEL HAVING A BASE METAL THICKNESS OF LESS THAN 0.0179 INCH OR HAVING A RETURN LIP DIMENSION LESS THAN 3/16 INCH.

- RESILIENT CHANNELS** - SINGLE FLANGED RESILIENT CHANNELS APPLIED TO CEILINGS SHALL BE ORIENTED WITH THE MOUNTING FLANGES FACING THE SAME DIRECTION. SINGLE-FLANGED RESILIENT CHANNELS APPLIED TO WALLS SHALL BE INSTALLED WITH THE MOUNTING FLANGES DOWN, THE CHANNEL AT THE FLOOR SHALL BE PERMITTED TO BE INVERTED AS NECESSARY TO FACILITATE ATTACHMENT OF THE BASE MOLDING.

- STUD SIZES AND DEPTH** - GREATER STUD SIZES (DEPTHS) SHALL BE PERMITTED TO BE USED IN METAL OR WOOD STUD SYSTEMS. METAL STUDS OF GREATER MIL THICKNESS THAN THOSE TESTED FOR FIRE PERFORMANCE SHALL BE PERMITTED. THE ASSIGNED FIRE RATING OF ANY LOAD-BEARING SYSTEM SHALL ALSO APPLY TO THE SAME SYSTEM WHEN USED AS A NON-LOAD BEARING SYSTEM. INDICATED STUD SPACINGS ARE MAXIMUMS IN REGARD TO THE FIRE PERFORMANCE OF THE SYSTEM ONLY. GREATER MIL THICKNESS STUDS OR CLOSER STUD SPACING MAY REDUCE THE STC. GREATER STUD DEPTH MAY IMPROVE THE STC.

- TRUSS SIZE AND DEPTHS** - SPECIFIED FLOOR-CEILING AND ROOF-CEILING FRAMING STUDS OR TRUSS DIMENSIONS ARE MINIMUMS. GREATER JOIST OR TRUSS SIZE (DEPTHS) SHALL BE PERMITTED TO BE USED IN METAL OR WOOD FRAMED SYSTEMS. INDICATED JOIST AND TRUSS SPACINGS ARE MAXIMUMS. CLOSER JOIST OR TRUSS SPACING MAY REDUCE THE STC. GREATER JOIST OR TRUSS DEPTH MAY IMPROVE THE STC.

- STUD ROW SPACING** - WITHIN DESIGN LIMITATIONS, THE DISTANCE BETWEEN PARALLEL ROWS OF STUDS, SUCH AS IN A CHASE WALL, SHALL BE PERMITTED TO BE INCREASED BEYOND THAT TESTED, WHEN STUD CAVITIES IN WALLS CONSTRUCTED OF PARALLEL ROWS OF STEEL STUDS EXCEED 6-1/2 INCHES AND CROSS BRACING IS REQUIRED. THE CROSS BRACING SHALL BE FABRICATED FROM STEEL STUDS. GREAT WALL DEPTH MAY IMPROVE THE STC, HOWEVER BRACING MAY REDUCE THE STC.

- SUSPENDED SYSTEMS** - SYSTEMS TESTED WITH METAL FURRING CHANNELS ATTACHED DIRECTLY TO THE BOTTOM CHORDS OF STEEL BEAMS, BAR JOISTS, OR WOOD TRUSSES OR FRAMING SHALL BE PERMITTED TO BE SUSPENDED. GENERALLY, FURRING CHANNELS ARE ATTACHED TO 1/2 INCH COLD ROLLED CARRYING CHANNELS 48 INCHES ON CENTER SUSPENDED FROM JOISTS BY 6 GA WIRE HANGERS SPACED NOT GREATER THAN 48 INCHES ON CENTER.

- CEILING SYSTEM DEPTH** - FLOOR-CEILING AND ROOF-CEILING SYSTEMS WHERE FIRE TESTED AT LESS THAN 36 INCHES TOTAL DEPTH, HOWEVER, THE TOTAL DEPTH OF THE SYSTEMS, WITH EITHER DIRECTLY ATTACHED OR SUSPENDED CEILING MEMBRANES, SHALL BE PERMITTED TO EXTEND GREATER THAN 36 INCHES.

- LAMINATING COMPOUND** - WHERE LAMINATING COMPOUND IS SPECIFIED, TAPING, ALL-PURPOSE, OR SETTING TYPE JOINT COMPOUNDS SHALL BE PERMITTED AS DICTATED BY THE SYSTEM.

- ADDITIONAL GYPSUM PANEL LAYERS** - ADDITIONAL LAYERS OF ANY TYPE OF GYPSUM PANELS SHALL BE PERMITTED TO BE ADDED TO ANY SYSTEM. ADDITIONAL LAYERS OF GYPSUM PANELS MAY IMPROVE THE STC.

- PANEL THICKNESS** - GYPSUM PANEL AND WOOD STRUCTURAL PANELS OF THE SAME TYPE MAY BE REPLACED BY THICKER PANELS OF THE SAME TYPE. LENGTH OF FASTENERS SHALL BE INCREASED ACCORDINGLY TO ACCOMMODATE THE INCREASED THICKNESS OF THE PANEL.

- ADDITION OF OTHER PANELS** - WHEN NOT SPECIFIED AS A COMPONENT OF A FIRE RESISTANCE RATED WALL OR PARTITION SYSTEM, CEMENTITIOUS BACKER UNITS AND/OR WOOD STRUCTURAL PANELS SHALL BE PERMITTED TO BE ADDED TO ONE OR BOTH SIDES, SUCH NON-GYPSUM PANELS SHALL BE PERMITTED TO BE APPLIED EITHER AS A BASE LAYER DIRECTLY TO THE FRAMING UNDER THE GYPSUM PANELS, AS A FACE LAYER (OVER THE FACE LAYER OF GYPSUM PANELS), OR BETWEEN LAYERS OF GYPSUM PANELS IN MULTI-LAYER SYSTEMS. WHERE SUCH NON-GYPSUM PANELS ARE APPLIED UNDER THE GYPSUM OR BETWEEN LAYERS OF GYPSUM PANELS, THE LENGTH OF THE FASTENERS SPECIFIED FOR THE ATTACHMENT OF THE GYPSUM PANEL APPLIED OVER THE NON-GYPSUM PANELS SHALL BE INCREASED BY NOT LESS THAN THE THICKNESS OF THE NON-GYPSUM PANELS. FASTENER SPACING FOR THE GYPSUM PANEL, AND THE NUMBER OF LAYERS OF GYPSUM PANELS SHALL BE AS SPECIFIED IN THE SYSTEM DESCRIPTION.

- PROPRIETARY SYSTEMS** - EACH PROPRIETARY SYSTEM LISTS SPECIFIC PRODUCTS THAT ARE ACCEPTABLE FOR USE IN THE SPECIFIC SYSTEM IN WHICH THEY ARE LISTED. CONSULT THE MANUFACTURER FOR INFORMATION ON ADDITIONAL PROPRIETARY PRODUCTS THAT ARE SUITABLE FOR USE IN SPECIFIC PROPRIETARY SYSTEMS.

- DISCREPANCIES WITH THE CODE** - WHEN DIFFERENCES OCCUR BETWEEN PROVISIONS OF THIS MANUAL AND THE APPROPRIATE BUILDING CODE OR REGULATION, INCLUDING PROVISIONS OF OTHER STANDARDS REFERENCED IN THE CODE OR REGULATION, THE MOST STRINGENT PROVISION SHALL APPLY.

ACOUSTICAL AND SOUND NOTES:

- SOUND TRANSMISSION CLASS (STC)** - SHOULD BE TESTED IN ACCORDANCE WITH ASTM E99, WHICH IS THE STANDARD TEST METHOD FOR LABORATORY MEASUREMENT OF AIRBORNE SOUND TRANSMISSION LOSS OF BUILDING PARTITIONS AND ELEMENTS.
- IMPACT INSULATION CLASS (IIC)** - SHOULD BE TESTED IN ACCORDANCE WITH ASTM E492, WHICH IS THE STANDARD TEST METHOD FOR LABORATORY MEASUREMENT UNDER CONTROLLED CONDITIONS. IT PROVIDES AN ESTIMATE OF THE IMPACT SOUND INSULATING PERFORMANCE OF A FLOOR/CEILING ASSEMBLY. THIS IS THE AMOUNT THAT IMPACT SOUND PRODUCED BY A STANDARD TAPPING MACHINE, STRIKING THE TOP SURFACE OF A FLOOR/CEILING ASSEMBLY IS REDUCED WHEN IT IS MEASURED IN THE ROOM BELOW.

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DATE DESCRIPTION

1ST BUILDING SUBMITTAL

DATE: July 17, 2024

ORB #: 00-000

A7.1.00

FIRE ASSEMBLIES - GENERAL NOTES

CODE COMPLIANCE RESEARCH REPORT CORR-0467

ISSUED DATE OCTOBER 14, 2022
REVISED DATE OCTOBER 05, 2023
RENEWAL DATE OCTOBER 31, 2023

REPORT HOLDER: OMEGA PRODUCTS INTERNATIONAL

EVALUATION SUBJECT: OMEGA DIAMOND WALL AND DIAMOND WALL PRO CEMENTITIOUS EXTERIOR STUCCO SYSTEMS

1.0 SCOPE OF EVALUATION - COMPLIANCE WITH THE FOLLOWING CODES: 2021 AND 2018 INTERNATIONAL BUILDING CODE (IBC) PROPERTIES EVALUATED: STRUCTURAL, DURABILITY, WEATHER PROTECTION, EXTERIOR WALLS IN TYPE I, II, III, IV AND V CONSTRUCTION. FIRE RESISTANCE RATED CONSTRUCTION AS DESCRIBED IN 5.2.4

2.0 STATEMENT OF COMPLIANCE: THE OMEGA DIAMOND WALL AND DIAMOND WALL PRO ONE-COAT STUCCO SYSTEMS COMPLY WITH THE CODES LISTED IN SECTION 1.1. FOR THE PROPERTIES STATED IN SECTION 1.2 AND USES STATED IN SECTION 1.3, WHEN INSTALLED AS DESCRIBED IN THIS REPORT, INCLUDING THE CONDITIONS OF USE STATED IN SECTION 6.0.

3.0 DESCRIPTION: 3.1 EXTERIOR WALL COVERING SYSTEM: THE OMEGA DIAMOND WALL AND DIAMOND WALL PRO ONE-COAT STUCCO SYSTEMS ARE PROPRIETARY COATINGS THAT ARE REINFORCED WITH WIRE FABRIC, METAL LATH, PLASTIC LATH, OR GLASS FIBER LATH AND APPLIED TO SUBSTRATES OF FOAM PLASTIC INSULATION BOARD, GYPSUM SHEATHING BOARD, FIBERBOARD, PLYWOOD, OR ORIENTED STRAND BOARD (OSB). THE SYSTEMS MAY ALSO BE APPLIED OVER CONCRETE OR MASONRY UNITS DIRECTLY, WITH OR WITHOUT LATH. WHERE REFERENCE IS MADE IN THIS REPORT TO THE DIAMOND WALL SYSTEM, THE ATTRIBUTE MAY ALSO BE APPLIED TO THE DIAMOND WALL PRO SYSTEM.

3.1 OMEGA DIAMOND WALL CONCENTRATE: DIAMOND WALL CONCENTRATE IS A FACTORY-PREPARED MIXTURE OF PORTLAND CEMENT COMPLYING WITH ASTM C150, CHIPPED FIBERS AND PROPRIETARY ADDITIVES FOR USE IN THE DIAMOND WALL SYSTEM. THE MIXTURE IS PACKAGED IN 80-POUND BAGS. ONE BAG IS MIXED WITH 4-1/2 TO 7 GALLONS OF WATER AND BETWEEN 160 TO 240 POUNDS OF SAND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

3.2 OMEGA DIAMOND WALL PRO: DIAMOND WALL PRO CONCENTRATE IS THE POLYMER-MODIFIED VERSION OF DIAMOND WALL CONCENTRATE FOR USE IN THE DIAMOND WALL PRO SYSTEM. THE DIAMOND WALL PRO SYSTEM USES THE SAME COMPONENTS AND MIXING RATIO AS THE DIAMOND WALL SYSTEM.

3.3 OMEGA DIAMOND WALL SANDED: DIAMOND WALL SANDED IS THE PRE-SANDED VERSION OF DIAMOND WALL. ONE 80-POUND BAG OF DIAMOND WALL SANDED IS MIXED WITH 1 TO 2 GALLONS OF WATER.

3.4 SAND: SAND MUST BE CLEAN AND FREE FROM DELETERIOUS AMOUNTS OF LOAM, CLAY, SILT, SOLUBLE SALTS AND ORGANIC MATTER. SAMPLING AND TESTING MUST COMPLY WITH ASTM C144 OR C387. SAND MUST BE GRAZED IN ACCORDANCE WITH ASTM C144 OR C387 OR WITH THE FOLLOWING LIMITS:

Table with 3 columns: Retained on U.S. Standard Sieve, Percent Retained by Weight - 2 Percent, and Manufactured Sand Min./Max. Rows include sieve sizes from No. 4 to No. 100.

3.5 INSULATION BOARD: 3.5.1 FOAM PLASTIC: EXPANDED POLYSTYRENE (EPS) AND EXTRUDED POLYSTYRENE (XPS) INSULATION BOARDS MUST COMPLY WITH ASTM C578. POLYISOCYANURATE INSULATION BOARDS MUST COMPLY WITH ASTM C1289, EXCEPT AS NOTED IN SECTION 3.5.1.3. THE FOAM PLASTIC BOARDS MUST HAVE A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 450 OR LESS. ALL BOARDS MUST BE RECOGNIZED IN A CURRENT RESEARCH REPORT ACCEPTABLE TO THE CODE OFFICIAL. SEE SECTION 8.0 FOR BOARD IDENTIFICATION.

3.5.1.1 EPS: EPS BOARDS MUST HAVE A NOMINAL DENSITY OF 1.5 PCF AND MUST COMPLY WITH ASTM C578 AS TYPE I. EPS BOARDS INSTALLED OVER OPEN FRAMING MUST BE 1-1/2 IN. THICK AND MUST HAVE 3/8-IN. TONGUES AND GROOVES ON HORIZONTAL JOINTS. SEE FIGURE 1 FOR JOINT DETAILS.

OVER SOLID SUBSTRATES: MINIMUM 1-1/2-IN. THICK, ASTM C578 TYPE I, OR X, BOARDS INSTALLED OVER WOOD-BASED SHEATHING AS DESCRIBED IN SECTION 3.9.1.

3.5.1.2 XPS: XPS BOARDS MUST BE ASTM C578 TYPE IV, OR X, BOARDS INSTALLED OVER OPEN FRAMING MUST BE 1-1/2-IN. THICK AND MUST HAVE 3/8-IN. TONGUES AND GROOVES ON HORIZONTAL JOINTS. SEE FIGURE 1 FOR JOINT DETAILS.

OVER SOLID SUBSTRATES: XPS BOARDS MAY BE SQUARE EGGED, MINIMUM 1-1/2-IN. THICK, MINIMUM 1 PCF DENSITY, EXCEPT WHEN USED AS PART OF THE WATER-RESISTIVE BARRIER OVER WOOD-BASED SHEATHING AS DESCRIBED IN SECTION 3.9.1.

AS AN ALTERNATIVE, 1-IN. THICK, 1.3 PCF DOW STYROFOAM STUCCOMATE BRAND XPS INSULATION BOARDS (SEE ICC-ES ESR-2142) MAY BE USED.

3.5.1.3 POLYISOCYANURATE: POLYISOCYANURATE FOAM PLASTIC BOARDS MUST COMPLY WITH ASTM C1289 TYPE II AND BE 1 IN. TO 1-1/2 IN. THICK, WHEN GOVERNED BY THE IBC, AND NOT BEING USED IN A FIRE-RATED OR NONCOMBUSTIBLE ASSEMBLY. THE INSULATION MAY HAVE A FLAME SPREAD INDEX OF 0 OR LESS, HORIZONTAL AND VERTICAL BOARD JOINTS MUST BE SUPPORTED BY FRAMING OR BLOCKING AND BE LIMITED TO NONFIRE-RESISTANCE-RATED CONSTRUCTION.

OVER SOLID SUBSTRATES: BOARDS HAVING A MINIMUM THICKNESS OF 1/2 IN. MAY BE USED, EXCEPT WHEN USED AS PART OF THE WATER-RESISTIVE BARRIER OVER WOOD-BASED SHEATHING AS DESCRIBED IN SECTION 3.9.1.

3.6 LATH: 3.6.1 WIRE FABRIC LATH: WIRE FABRIC LATH MUST COMPLY WITH ICC-ES AC101 AND BE MINIMUM NO. 20 GAUGE (0.035 IN.), 1-IN. GALVANIZED STEEL, WOVEN-WIRE FABRIC LATH. FURRING MUST COMPLY WITH THE FOLLOWING REQUIREMENTS:

- WHEN MAXIMUM TOTAL COATING THICKNESS IS 1/2 IN. OR LESS, THE BODY OF THE LATH MUST BE FURRED A MINIMUM OF 1/8 INCH FROM THE SUBSTRATE AFTER INSTALLATION.
• WHEN TOTAL COATING THICKNESS IS GREATER THAN 1/2 IN., NO. 17 GAUGE (0.056 IN.) BY 1-1/2-IN. WOVEN-WIRE FABRIC LATH MUST BE USED. THE BODY OF THE LATH MUST BE FURRED A MINIMUM OF 1/4 IN. FROM THE SUBSTRATE AFTER INSTALLATION.

3.6.2 METAL LATH: METAL LATH MUST COMPLY WITH ICC-ES AC101. FURRING REQUIREMENTS ARE AS SET FORTH IN SECTION 3.6.1.

3.7 SHEATHING: 3.7.1 GYPSUM BOARD: GYPSUM BOARD AND WATER-RESISTANT CORE GYPSUM SHEATHING MUST COMPLY WITH ASTM C 1396 OR GLASS-MAT GYPSUM SHEATHING PER C1177.

3.7.2 FIBERBOARD: MINIMUM 1/2-IN.-THICK FIBERBOARD MUST COMPLY AS ASTM C 208, TYPE IV, WALL SHEATHING IN ACCORDANCE WITH IBC SECTION 2303.1.8.

3.7.3 WOOD STRUCTURAL PANELS: WOOD STRUCTURAL PANELS MUST COMPLY WITH IBC SECTIONS 2303.1.5, 2304.4.1 OR IRC SECTION R602.3. PLYWOOD MUST BE EXTERIOR GRADE OR

EXPOSURE 1 AND COMPLY WITH DOC PS-1, AND OSB MUST BE EXPOSURE 1 AND COMPLY WITH DOC PS-2.

3.8 CALLING: ACRYLIC LATEX CALLING MATERIALS MUST COMPLY WITH ASTM C 834, OR POLYURETHANE, POLYURETHANE MODIFIED, POLYSILOFONE, OR SILYL-TERMINATED POLYETHER ELASTOMERIC SEALANT COMPLYING WITH ASTM C920.

3.9 WEATHER PROTECTION: 3.9.1 WATER-RESISTIVE BARRIER: APPLICATION OF THE WATER-RESISTIVE BARRIER MUST COMPLY WITH IBC SECTION 1403.2 OR IRC SECTION R703.2. THE WATER-RESISTIVE BARRIER MUST BE A MINIMUM OF ONE LAYER OF EITHER (1) NO. 15 ASPHALT FELT, COMPLYING WITH ASTM D 226, TYPE I, OR (2) A WATER-RESISTIVE BARRIER RECOGNIZED IN A CURRENT RESEARCH REPORT AS EQUIVALENT TO ASTM D 226, TYPE I OR BETTER.

WHEN APPLIED OVER ANY WOOD-BASED SHEATHING, THE WATER-RESISTIVE BARRIER MUST COMPLY WITH IBC SECTION 2510.6 OR IRC SECTION R703.2.3 OR BE ONE LAYER OF INSULATION BOARD, HAVING HORIZONTAL TONGUE-AND-GROOVE EDGES AS DESCRIBED IN SECTION 3.5.1. OVER ONE LAYER OF GRADE DRAFT BUILDING PAPER HAVING A MINIMUM WATER-RESISTANCE RATING OF 60 MINUTES, OR AN EQUIVALENT BARRIER RECOGNIZED IN A CURRENT RESEARCH REPORT.

3.9.2 VAPOR RETARDER: A VAPOR RETARDER COMPLYING WITH IBC SECTION 1404.3 OR IRC SECTION R702.7 MUST BE PROVIDED, UNLESS ITS OMISSION IS PERMITTED UNDER THE EXCEPTIONS NOTED IN IBC SECTION 1402.2 OR IRC SECTION R703.1.

3.9.3 FLASHING, TRIM AND ACCESSORIES: ALL FLASHING, TRIM, WEEP SCREENS AND CORNER REINFORCEMENT SHALL COMPLY WITH IBC SECTION 1404.4 AND IRC SECTION R703.4. RIGID FLASHING MUST COMPLY WITH SECTION 1404.4 OF THE IBC AND BE SLOPED TOWARDS THE EXTERIOR, WITH AN UP-TURNED LEG ON THE INTERIOR SIDE AND AT THE ENDS, FLASHING MUST EXTEND BEYOND THE SURFACE OF THE EXTERIOR WALL.

4.0 PERFORMANCE CHARACTERISTICS 4.1 WIND RESISTANCE: ALLOWABLE WIND LOAD FOR INSTALLATION OVER OPEN FRAMING FOR WOOD STUDS (MINIMUM SPECIFIC GRAVITY OF 0.50, SUCH AS DOUGLAS FIR-LARCH) OR MIN. NO. 25 GAUGE STEEL STUDS SPACED A MAXIMUM OF 24 INCHES ON CENTER IS 35 PSF POSITIVE OR NEGATIVE. ALLOWABLE WIND LOAD FOR INSTALLATION OVER OPEN FRAMING FOR WOOD STUDS (MINIMUM SPECIFIC GRAVITY OF 0.42, SUCH AS SPRUCE-PINE-FIR) SPACED A MAXIMUM OF 24 INCHES ON CENTER, IS 29 PSF POSITIVE OR NEGATIVE.

ALLOWABLE WIND LOAD FOR INSTALLATION OVER WOOD STRUCTURAL PANEL SHEATHING USING ALTERNATE FASTENER SPACING AND VARIOUS WOOD SPECIES SHOWN IN TABLES 2 AND 3, THE ALLOWABLE WIND LOAD IS 35 PSF POSITIVE OR NEGATIVE.

LATH MUST BE ATTACHED TO WOOD FRAMING WITH 1-1/2 IN. END AND SIDE LAPS USING NO. 11 GAGE GALVANIZED ROOFING NAILS OR NO. 16 GAGE CORROSION-RESISTANT STAPLES SPACED MAXIMUM 6 IN. ON CENTER, WITH MINIMUM 1-IN. PENETRATION INTO FRAMING EXCEPT WHEN FOLLOWING TABLES 2 OR 3.

LATH MUST BE APPLIED TO STEEL FRAMING WITH 1-1/2 IN. END AND SIDE LAPS USING MINIMUM NO. 8 TYPE 5 CORROSION-RESISTANT DRYWALL SCREWS WITH 1-IN. DIAMETER WASHERS, OR WITH NO. 8 CORROSION-RESISTANT SCREWS HAVING 3/8-IN. DIAMETER WASHERS SPACED AT 7 IN. ON CENTER, WITH MINIMUM 1/2-IN. PENETRATION OF STUDS.

SUPPORT FRAMING MUST BE ADEQUATE TO RESIST THE REQUIRED WIND LOAD, WITH A MAXIMUM ALLOWABLE DEFLECTION OF 1/240 OF THE SPAN.

ALLOWABLE WIND LOADS ARE APPLICABLE TO WIND DESIGN PRESSURE DERIVED FROM ALLOWABLE STRESS DESIGN WIND SPEED (V50) PER SECTION 1609.3.1 OF THE IBC.

5.0 INSTALLATION 5.1 GENERAL: THE DIAMOND WALL ONE-COAT STUCCO SYSTEMS MUST BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS, THE APPLICABLE CODE, AND THIS RESEARCH REPORT. A COPY OF THE INSTALLATION INSTRUCTIONS MUST BE AVAILABLE ON THE JOBSITE DURING INSTALLATION.

5.2 APPLICATION: 5.2.1 GENERAL: THE EXTERIOR CEMENTITIOUS COATING MAY BE APPLIED BY HAND, TROWELING OR MACHINE-SPRAYING, IN ONE COAT OR TWO COATS, TO A MINIMUM THICKNESS OF 3/8 IN., UNLESS NOTED OTHERWISE. THE COATING MUST BE BACKED BY FRAMING AROUND PENETRATIONS. THE LATH MUST BE EMBEDDED IN THE MINIMUM COATING THICKNESS AND MAY BE EXPOSED. THE FINISH COAT MUST BE APPLIED IN ACCORDANCE WITH OMEGA PRODUCTS INTERNATIONAL INSTRUCTIONS. FLASHING, CORNER REINFORCEMENT, METAL TRIM AND WEEP SCREENS MUST BE INSTALLED AS PER MANUFACTURER'S INSTRUCTIONS. THE COATING MUST BE APPLIED AT AMBIENT AIR TEMPERATURES BETWEEN 40°F AND 120°F.

THE COATING MUST BE APPLIED BY APPLICATORS APPROVED BY OMEGA PRODUCTS INTERNATIONAL. AN INSTALLATION CARD, AS SHOWN IN FIGURES 2 AND 3 OF THIS REPORT, MUST BE ON THE JOBSITE WITH THE NAME OF THE APPLICATOR AND THE PRODUCT TO BE USED BEFORE ANY WATER-RESISTIVE BARRIER OR EXTERIOR SHEATHING IS INSTALLED.

FOR INSTALLATION DETAILS, SEE THE OMEGA PRODUCTS INTERNATIONAL WEBSITE AT HYPERLINK 'HTTP://WWW.OMEGA-PRODUCTS.COM/WWW.OMEGA-PRODUCTS.COM'

5.2.2 APPLICATION ON FRAMED WALLS: INSULATED SYSTEMS MAY BE INSTALLED OVER OPEN FRAMING AND OVER SOLID SHEATHING. UNINSULATED SYSTEMS MUST BE INSTALLED OVER SOLID SHEATHING. SHEATHING MUST BE INSTALLED IN ACCORDANCE WITH THE CODE EXCEPT WHERE MORE RESTRICTIVE REQUIREMENTS ARE SPECIFIED IN SECTION 3.2.5 OR 3.2.6 OF THIS REPORT. WALL FRAMING MUST BE DESIGNED IN ACCORDANCE WITH THE APPLICABLE CODE.

5.2.3 APPLICATION OVER CONCRETE AND MASONRY: 5.2.3.1 GENERAL: THE WATER-RESISTIVE BARRIER MAY BE OMITTED WHEN THE STUCCO IS INSTALLED DIRECTLY OVER CONCRETE OR UNIT MASONRY SUBSTRATES.

5.2.3.2 APPLICATION WITHOUT LATH: SURFACE PREPARATION OF CONCRETE AND MASONRY MUST BE IN ACCORDANCE WITH IBC SECTION 2510.7. THE COATING MUST BE APPLIED DIRECTLY TO THE PREPARED SURFACE AT A MINIMUM NOMINAL THICKNESS OF 3/8 INCH IN ACCORDANCE WITH SECTION 5.2 OF THIS REPORT.

5.2.3.3 APPLICATION WITH LATH: LATHING AND FURRING USED TO RECEIVE STUCCO MUST BE INSTALLED OVER SOLID SHEATHING. UNINSULATED SYSTEMS MUST BE INSTALLED OVER SOLID SHEATHING. SHEATHING MUST BE INSTALLED IN ACCORDANCE WITH THE CODE EXCEPT WHERE MORE RESTRICTIVE REQUIREMENTS ARE SPECIFIED IN SECTION 3.2.5 OR 3.2.6 OF THIS REPORT. WALL FRAMING MUST BE DESIGNED IN ACCORDANCE WITH THE APPLICABLE CODE.

5.2.4 FIRE RESISTANCE RATED WALL ASSEMBLIES: SEE TABLE 4. 5.2.5 EXTERIOR WALLS OF TYPE I, II, III, OR V CONSTRUCTION: SEE TABLE 5.

5.2.6 DRAPAGE: 5.2.6.1 UNBANNED EPS: A WATER-RESISTIVE BARRIER DESCRIBED IN SECTION 3.9.1 IS REQUIRED AND MUST BE APPLIED BETWEEN THE EPS AND FRAMING.

5.2.6.2 SOLID SHEATHING: DRAPAGE IS PROVIDED EITHER BY EITHER OF THE FOLLOWING METHODS: • EPS INSULATION HAVING VERTICAL JOINTS, 1/4-IN.-WIDE BY 1/8-IN.-DEEP, SPACED BY A MAXIMUM OF 12 IN. ON THE BACK FACE OF THE BOARDS AS SHOWN IN FIGURE 11, TOGETHER WITH A WATER-RESISTIVE BARRIER DESCRIBED IN SECTION 3.9.1. • TYVEK® STUCCO WRAP® OR TYVEK® DRAIN WRAP (ICC-ES ESR-2375), INSTALLED BETWEEN THE FLAT EPS BOARDS AND THE SHEATHING.

5.2.7 MISCELLANEOUS: 5.2.7.1 INSPECTIONS: LATH INSPECTIONS SHALL BE MADE IN ACCORDANCE WITH IBC SECTION 1103.5 AND IRC SECTION R109.1.5.1.

5.2.7.2 CONTROL JOINTS: CONTROL JOINTS MUST BE INSTALLED AS SPECIFIED BY THE REGISTERED DESIGN PROFESSIONAL, DESIGNER, OR BUILDER IN THAT ORDER.

5.2.7.3 CURING: CURING MUST BE IN ACCORDANCE WITH OMEGA PRODUCTS INTERNATIONAL APPLICATION INSTRUCTIONS.

5.2.7.4 SOFFITS: FOR APPLICATION OF THE SYSTEM TO SOFFITS, THE COATING MUST BE APPLIED OVER METAL LATH COMPLYING WITH SECTION 3.6.2. METAL LATH FASTENING MUST COMPLY WITH ASTM C1063 OR IRC SECTION R703.7, EXCEPT THE FASTENER LENGTH MUST BE INCREASED BY THE THICKNESS OF ANY SUBSTRATE. LATH SELECTION MUST BE BASED ON ASTM C1063, TABLE 1.

5.2.7.5 SILLS: FOR APPLICATION OF THE SYSTEM TO WINDOW SILLS AND OTHER SIMILAR AREAS, SILLS WITH DEPTHS OF 8 INCHES OR LESS MAY HAVE THE COATING AND LATH APPLIED TO ANY SUBSTRATE PERMITTED IN THIS REPORT, PROVIDED THE CONTING LATH, WATER-RESISTIVE BARRIER AND SUBSTRATE ARE INSTALLED AS REQUIRED IN THIS REPORT. SILLS WITH DEPTHS EXCEEDING 6 INCHES MUST HAVE SUBSTRATES OF SOLID WOOD OR PLYWOOD. THE SUBSTRATE MUST BE FASTENED IN ACCORDANCE WITH THE CODE AND MUST BE COVERED WITH TWO LAYERS OF AN APPROVED WATER-RESISTIVE BARRIER. THE COATING, LATH, AND OPTIONAL EPS BOARD MUST BE APPLIED IN ACCORDANCE WITH SECTION 5.2.2 OF THIS REPORT.

6.0 CONDITIONS OF USE 6.1 INSTALLATION MUST COMPLY WITH THIS RESEARCH REPORT, THE MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS, AND THE APPLICABLE CODE. IN THE EVENT OF A CONFLICT, THIS REPORT GOVERNS.

6.2 INSTALLATION MUST BE BY QUALIFIED CONTRACTORS ACCEPTABLE TO OMEGA PRODUCTS INTERNATIONAL.

6.3 FOR WALLS WITH FOAM PLASTIC INSULATION, THE INTERIOR OF THE BUILDING MUST BE SEPARATED FROM THE EPS BOARD WITH A THERMAL BARRIER COMPLYING WITH IBC SECTION 2603.4 OR IRC SECTION R316.4, SUCH AS 1/2-IN.-THICK RIGID GYPSUM WALLBOARD APPLIED IN ACCORDANCE WITH THE APPLICABLE CODE.

6.4 AN INSTALLATION CARD, AS SHOWN IN FIGURE 2, MUST BE LEFT AT THE JOBSITE FOR THE OWNER, AND A COPY MUST BE FILED WITH THE BUILDING DEPARTMENT.

6.5 FOAM PLASTIC MUST NOT BE PLACED ON EXTERIOR WALLS OF WOOD CONSTRUCTION LOCATED WITHIN 6 INCHES OF THE GROUND IN AREAS WHERE HAZARD OF TERROR DAMAGE IS VERY HIGH IN ACCORDANCE WITH IBC SECTION 2603.8 OR IRC SECTION R316.4 OF THE IRC.

6.6 THE DIAMOND WALL ONE-COAT STUCCO SYSTEM COMPONENTS ARE MANUFACTURED UNDER A QUALITY CONTROL PROGRAM WITH INSPECTIONS BY INTERTEK TESTING SERVICES NA, INC.

7.0 SUPPORTING EVIDENCE 7.1 REPORTS OF TESTS IN ACCORDANCE WITH THE ICC-ES ACCEPTABLE CRITERIA FOR CEMENTITIOUS EXTERIOR WALL COATINGS (AC11), JANUARY 2013 (EDITORIALLY REVISED MAY 2018).

7.2 REPORTS OF TESTS IN ACCORDANCE WITH ASTM E119, ASTM E136 AND NFPA 285.

7.3 DOCUMENTATION OF AN INTERTEK APPROVED QUALITY CONTROL SYSTEM FOR THE MANUFACTURING OF PRODUCTS RECOGNIZED IN THIS REPORT.

8.0 IDENTIFICATION THE OMEGA DIAMOND WALL AND DIAMOND WALL PRO ONE-COAT STUCCO SYSTEMS ARE IDENTIFIED WITH THE MANUFACTURER'S NAME (OMEGA PRODUCTS INTERNATIONAL) AND ADDRESS, WEIGHT OF PACKAGED MIX, STORAGE INSTRUCTIONS, MAXIMUM AMOUNT OF WATER AND OTHER COMPONENTS THAT MAY BE ADDED AND CONDITIONS THAT MUST BE CONSIDERED IN DETERMINING ACTUAL CURING INSTRUCTIONS. THE PRODUCT NAME, THE INTERTEK MARK AS SHOWN BELOW, THE INTERTEK CONTROL NUMBER AND THE CODE COMPLIANCE RESEARCH REPORT NUMBER (CORR-0467), INSULATION BOARDS MUST BE LABELED IN ACCORDANCE WITH THEIR RESPECTIVE RESEARCH REPORT.

10.0 CODE COMPLIANCE RESEARCH REPORT USE 10.1 Approval of building products and/or materials can only be granted by a building official having legal authority in the specific jurisdiction where approval is sought.

10.2 Code Compliance Research Reports shall not be used in any manner that implies an endorsement of the product by Intertek.

10.3 Reference to the https://bdcodequery.intertek.com is recommended to ascertain the current version and status of this report.

Table 1 - PROPERTIES EVALUATED. Columns: 2021 INTERNATIONAL BUILDING CODE, 2021 INTERNATIONAL RESIDENTIAL CODE. Rows: WIND RESISTANCE, INSTALLATION, FIRE-RESISTANCE-RATED CONSTRUCTION, WEATHER PROTECTION, EXTERIOR WALLS OF TYPES I, II, III AND IV CONSTRUCTION.

Section numbers in earlier codes may differ.

TABLE 2 - LATH ATTACHMENT - WOOD STRUCTURAL PANEL SHEATHING OVER WOOD FRAMING WITH HALF-INCH FOAM PLASTIC INSULATION. Columns: WOOD SPECIES, SPECIFIC GRAVITY, FASTENER SPACING (INCHES) STAPLE GAGE. Rows: DOUGLAS FIR-LARCH, WESTERN HEMLOCK OR WESTERN HEMLOCK-SOUTH, HEM-FIR-SOUTH, HEM-FIR, SPRUCE-PINE-FIR, WESTERN WOODS.

Wood structural panel sheathing must be fastened to framing with fasteners at 6 inches on center. Fasteners must penetrate 1 inch into sheathing and framing. No. 11 gage roofing nails may be used as an alternative to No. 16 gage staples.

TABLE 3 - LATH ATTACHMENT - WOOD STRUCTURAL PANEL SHEATHING OVER WOOD FRAMING WITH ONE-INCH FOAM PLASTIC INSULATION. Columns: WOOD SPECIES, SPECIFIC GRAVITY, FASTENER SPACING (INCHES) STAPLE GAGE. Rows: Western hemlock, Western hemlock-south, Hem-fir-south, Hem-fir, Spruce-pine-fir, Western woods.

Wood structural panel sheathing must be fastened to framing with fasteners at 6 inches on center. Fasteners must penetrate 1 inch into sheathing and framing. No. 11 gage roofing nails may be used as an alternative to No. 16 gage staples.

TABLE 4 - ONE-HOUR FIRE-RESISTANCE-RATED ASSEMBLIES. Columns: System No., Interior Finish, Framing, Sheathing, Exterior Finish, Coating, Axial Loads. Rows: 1, 2, 3, 4, 5.

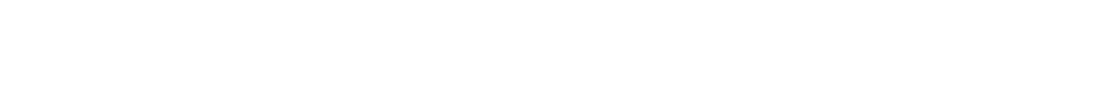
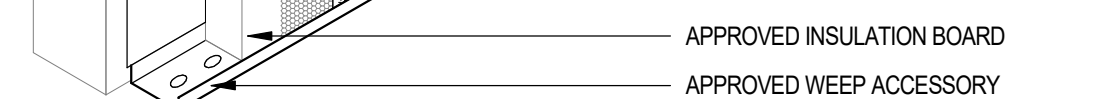
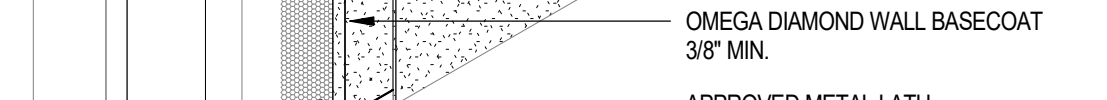
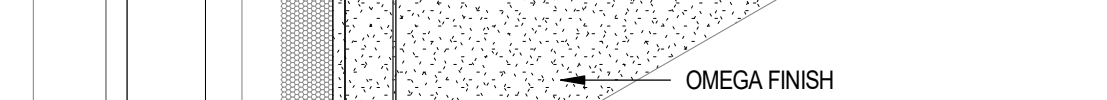
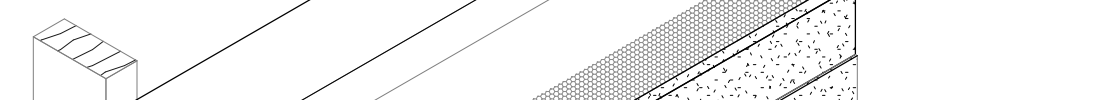
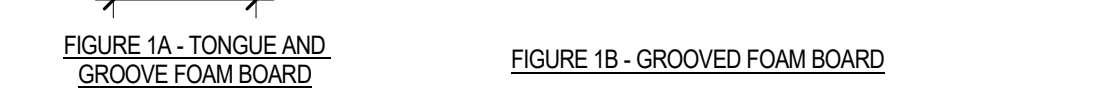
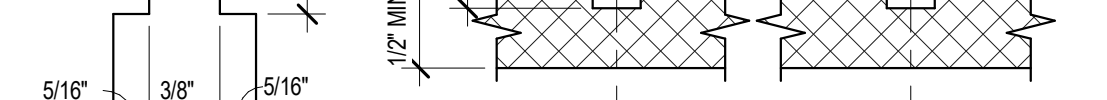
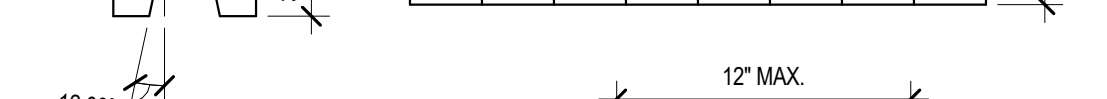
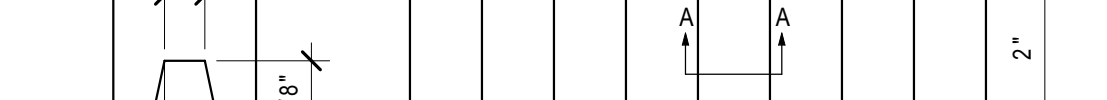
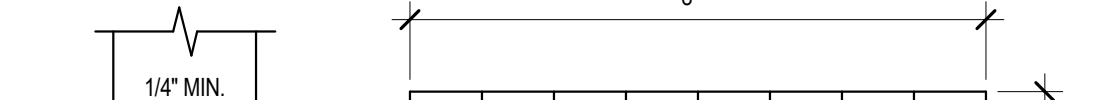
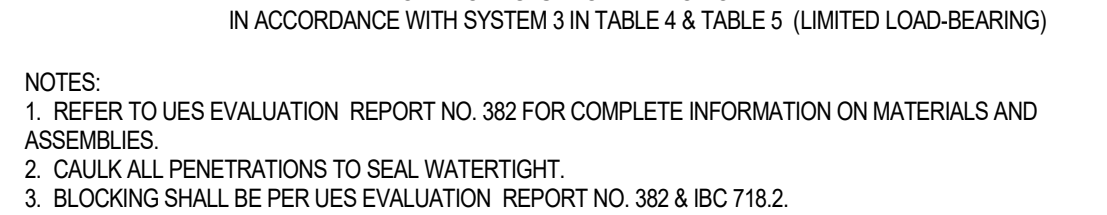
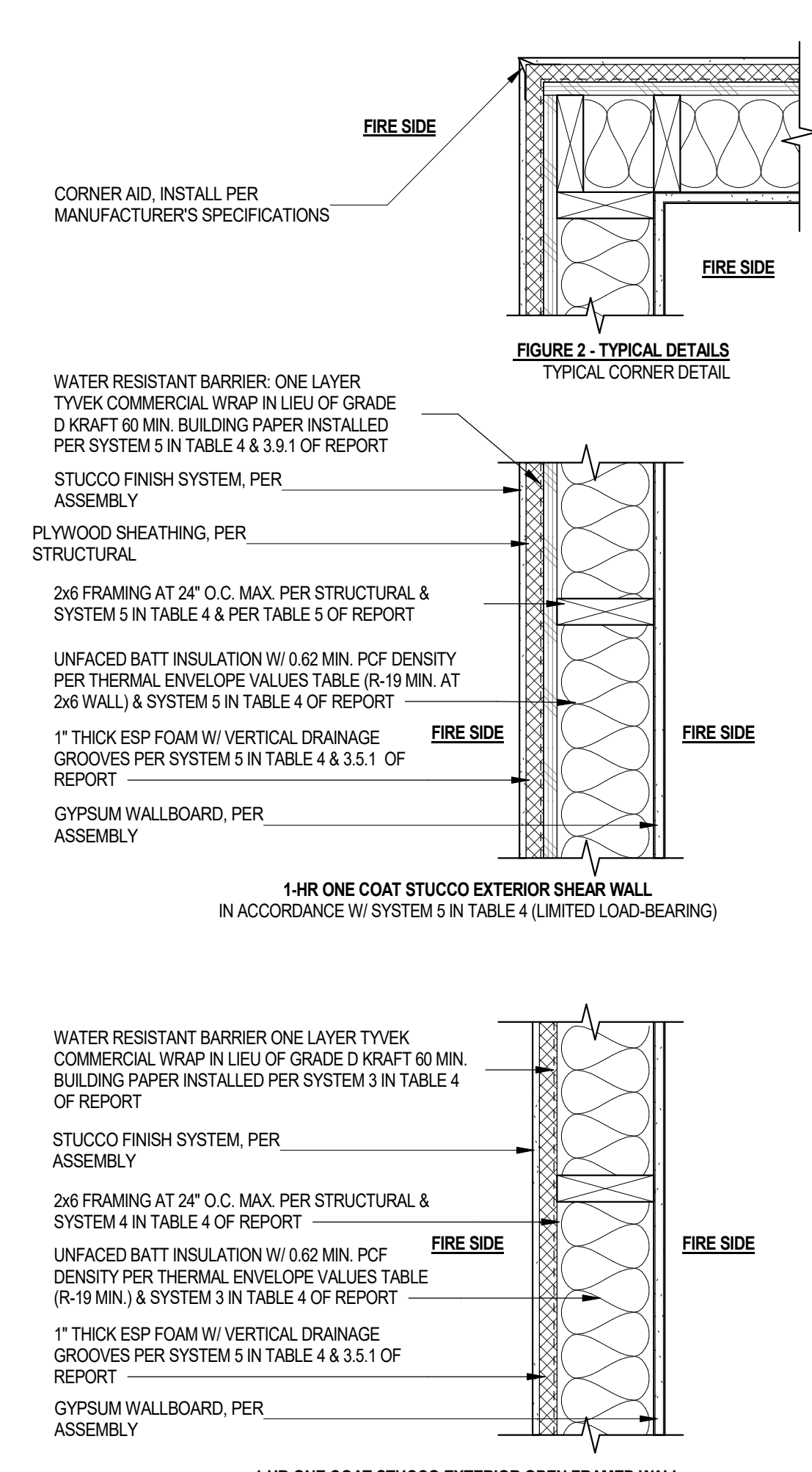
Note 1: All gypsum board joints must be taped and treated with joint compound in accordance with ASTM C 840. Fastener heads must be treated with joint compound in accordance with ASTM C 840.

Note 2: Axial loads applied to the wall assembly must be limited by the lesser of the following: • Design stress of 0.78 Fc calculated in accordance with Sections 3.6 and 3.7 of the NDS. • Design stress of 0.78 Fc at a maximum slenderness ratio (le/d) of 33 calculated in accordance with Sections 3.6 and 3.7 of the NDS.

Note 3: Axial loads applied to the wall assembly must be limited by the lesser of the following: • 1,100 pounds per stud. • Maximum 60 percent of the load calculated in accordance with Sections 3.6 and 3.7 of the NDS. • Design stress of 0.78 Fc calculated in accordance with Sections 3.6 and 3.7 of the NDS. • Design stress of 0.78 Fc at a maximum slenderness ratio (le/d) of 33 calculated in accordance with Sections 3.6 and 3.7 of the NDS.

Note 4: Axial loads applied to the wall assembly must be limited by the lesser of the following: • 1,100 pounds per stud. • For 2 x 4 construction, a maximum of 51.3 percent of the load calculated in accordance with Sections 3.6 and 3.7 of the NDS. • For 2 x 6 construction, a maximum of 44.7 percent of the load calculated in accordance with Sections 3.6 and 3.7 of the NDS. • Design stress of 0.78 Fc calculated in accordance with Sections 3.6 and 3.7 of the NDS. • Design stress of 0.78 Fc at a maximum slenderness ratio (le/d) of 33 calculated in accordance with Sections 3.6 and 3.7 of the NDS.

TABLE 5 - NFPA 285-COMPLYING ASSEMBLIES. Columns: Wall Component, Material Options. Rows: Interior Sheathing, Base Wall System (Select One), Floor Line Firestopping (Select One), Cavity Insulation (Select One), Exterior Sheathing (Select One), Water-Resistive Barrier (Select One), Rigid Foam Board (Select One), Lath (Select One), Stucco, Openings.



Project Name 1
Project Name 2
Street Address
City, state

Office of Rich Barber
ORB Architecture, LLC
WorldHQ@ORBArch.com

PRELIMINARY
NOT FOR
CONSTRUCTION

ADVANCE
RESIDENCY COMPANY
LEGACY HOSPITALITY

Contractor must verify all dimensions at project before proceeding with this work.

REVISIONS/ SUBMITTALS
DATE DESCRIPTION

DATE: July 17, 2024 ORB #: 00-000

A7.1.10
FIRE ASSEMBLIES - EXTERIOR WOOD FRAMING - 1 COAT STUCCO

1-HR KOTE STUCCO EXTERIOR WALL - WOOD FRAMING

1-HR STUCCO EXTERIOR WALL - WOOD FRAMING

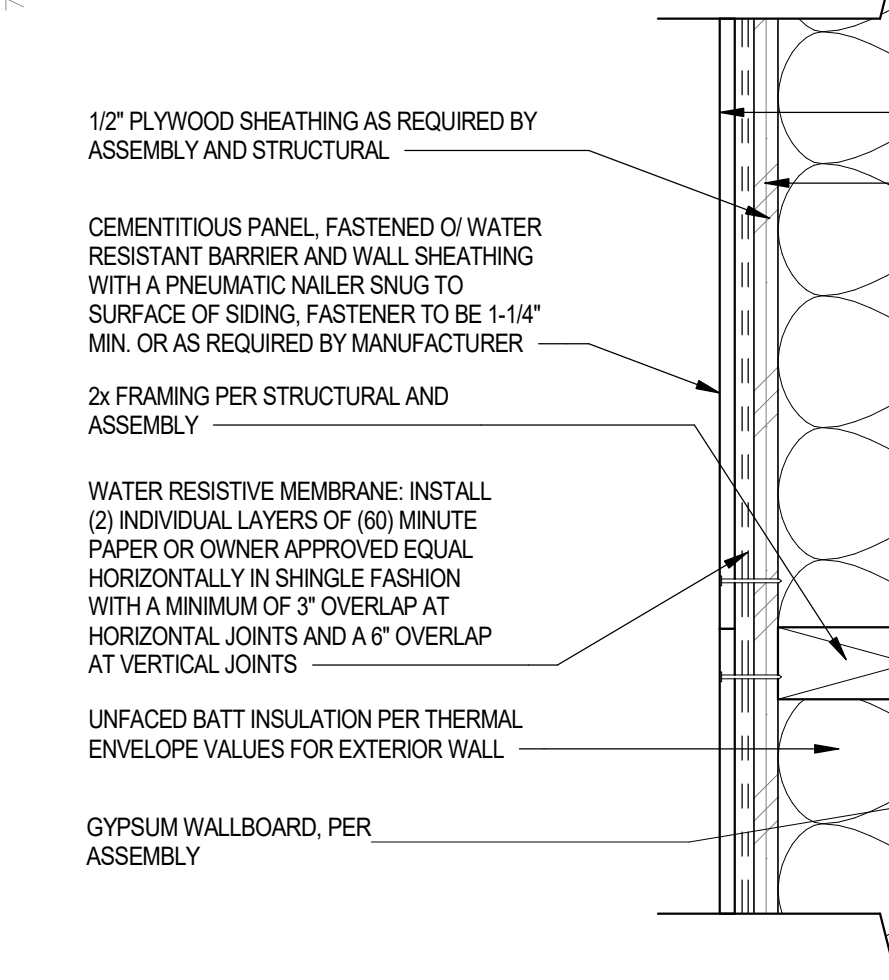
UES EVALUATION REPORT NO. 382

CORR EVALUATION REPORT NO. 0467

1/17/2024 9:54:56 AM

1-HR CEMENTITIOUS BOARD SIDING EXTERIOR WALL
PROPRIETARY ASSEMBLY - January 29, 2024
FIRE TEST: BXUV - FIRE RESISTANCE RATINGS - ANSULU 263 DESIGN NO U366
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.

ARCHITECTURAL CONSTRUCTION DETAIL
NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURERS WRITTEN SPECIFICATIONS.



DESIGN NO. U366
BXUV - FIRE RESISTANCE RATINGS - ANSULU 263 CERTIFIED FOR UNITED STATES

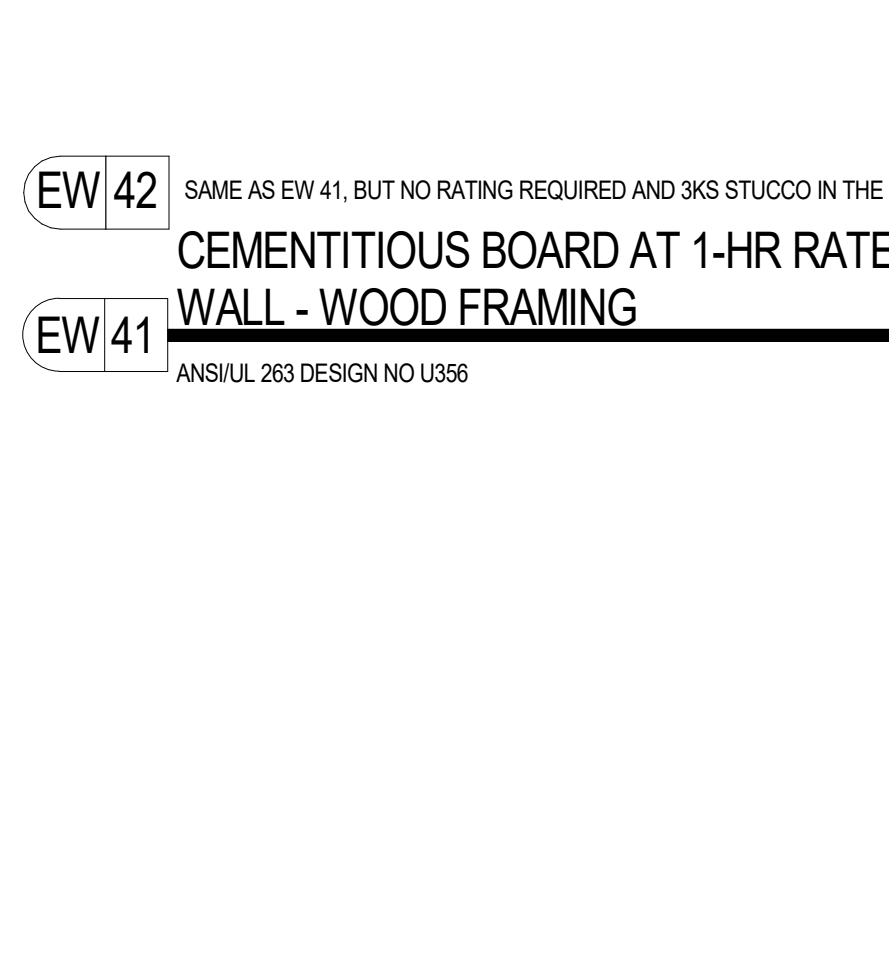
- FRAMING MEMBERS** - NOM 2 BY 4 IN, SPACED 16 IN, OC WITH TWO 2 BY 4 IN TOP AND ONE 2 BY 4 IN BOTTOM PLATES. STUDS LATERALLY BRACED BY WOOD STRUCTURAL PANEL SHEATHING (ITEM 5). WHEN MINERAL AND FIBER BOARDS (ITEM 5A) ARE CONSIDERED AS BRACING FOR THE STUDS, THE LOAD IS RESTRICTED TO 70% OF ALLOWABLE AXIAL LOAD. WALLS EFFECTIVELY FIRE STOPPED AT TOP AND BOTTOM OF WALL.
- GYPSON WALLBOARD** - ANY 5/8 IN THICK UL CLASSIFIED GYPSON BOARD THAT IS ELIGIBLE FOR USE IN DESIGN NOS. L501, G512 OR U366. NOM 5/8 IN THICK, 4 FT WIDE, APPLIED VERTICALLY AND NAILED TO STUDS AND BEARING PLATES 7 IN OC WITH 60 CEMENT-COATED NAILS, 1-7/8 IN LONG WITH 1/4 IN DIAM HEAD. WHEN ITEM STEEL FRAMING MEMBERS (ITEM 7) OR ANY ALTERNATE CLIPS, IS USED, GYPSON PANELS ATTACHED TO FURRING CHANNELS WITH 1 IN LONG TYPE 8 BULGE-HEAD STEEL SCREWS SPACED 12 IN OC.
- GYPSON BOARD** - AS AN ALTERNATE TO ITEM 2) - 5/8 IN THICK GYPSON PANELS, WITH BEVELED SQUARE OR TAPERED EDGES, APPLIED EITHER HORIZONTALLY OR VERTICALLY. GYPSON PANELS FASTENED TO FRAMING WITH 1-1/4 IN LONG TYPE W COARSE THREAD GYPSON PANEL STEEL SCREWS SPACED A MAX 8 IN OC, WITH LAST SCREW 1 IN FROM EDGE OF BOARD. WHEN USED IN WIDTHS OF OTHER THAN 8 IN, GYPSON BOARDS ARE TO BE INSTALLED HORIZONTALLY. AMERICAN GYPSON CO. - TYPES AGX-1 (FINISH RATING 25 MIN), M-GLASS (FINISH RATING 25 MIN), AG-C (FINISH RATING 25 MIN), LIGHTROC (FINISH RATING 25 MIN). NATIONAL GYPSON CO. - TYPE FSK, FSK, FSKM-C, FSL, FSXL, FSKG-C, TYPE FSW-3, TYPE FSW-5, TYPE FSW-6, TYPE FSK-C, TYPE FSK-C, TYPE FSK-C, 6XP-C.
- JOINTS AND NAILHEADS** - GYPSON BOARD JOINTS COVERED WITH TAPE AND JOINT COMPOUND. NAIL HEADS COVERED WITH JOINT COMPOUND.
- BATTS AND BLANKETS** - FACED OR UNFACED MINERAL FIBER INSULATION, 3-1/2 IN THICK, NOM 3.0 PCF. PRESSURE FIT IN THE WALL CAVITY BETWEEN STUD, PLATES, AND CROSS BRACING. INSULATION MAY BE APPLIED IN MULTIPLE LAYERS TO ACHIEVE FINAL THICKNESS. SEE BATTS AND BLANKETS (BZJZ) CATEGORY FOR NAMES OF CLASSIFIED MANUFACTURERS.
- BUILDING UNITS** - PRESSURE-TREATED, FIRE-RETARDANT PLYWOOD INSTALLED VERTICALLY NAILED TO THE WOOD FRAMING WITH 1-7/8 IN LONG, 6D NAILS, SPACED 6 IN OC ON THE PERIMETER AND 12 IN OC IN THE FIELD. VERTICAL AND HORIZONTAL JOINTS ARE BACKED BY FRAMING. PANELS PROVIDED IN NOMINAL SIZE OF 48 IN WIDE BY 96 IN LONG BY 1/2 IN THICK. HOVER TREATED WOOD PRODUCTS INC. - Pyro-Guard treated plywood.
- EXTERIOR FACING** - ANY EXTERIOR FACING, AS AUTHORIZED BY THE AUTHORITY HAVING JURISDICTION AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS ARE ALLOWED. EXTERIOR FACINGS MAY INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING EXAMPLES:
- CEMENTITIOUS STUCCO** - PORTLAND CEMENT OR SYNTHETIC STUCCO SYSTEMS (E.G. EFS) WITH SELF-FURRING METAL LATH OR ADHESIVE BASE COAT. THICKNESS FROM 3/8 IN TO 3/4 IN, DEPENDING ON SYSTEM.

EW 24 SAME AS EW 23, BUT NO RATING REQUIRED AND EFS BOTH SIDE.

EW 23 2-HR EIFS EXTERIOR WALL - WOOD FRAMING
ANSULU 263 DESIGN NO V314 SCALE: 3" = 1'-0"

2-HR CEMENTITIOUS BOARD SIDING - EXTERIOR WALL
PROPRIETARY ASSEMBLY - May 25, 2022
FIRE TEST: BXUV - FIRE RESISTANCE RATINGS - ANSULU 263 DESIGN NO V314
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.

ARCHITECTURAL CONSTRUCTION DETAIL
NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURERS WRITTEN SPECIFICATIONS.



DESIGN NO. V314
BXUV - FIRE RESISTANCE RATINGS - ANSULU 263 CERTIFIED FOR UNITED STATES

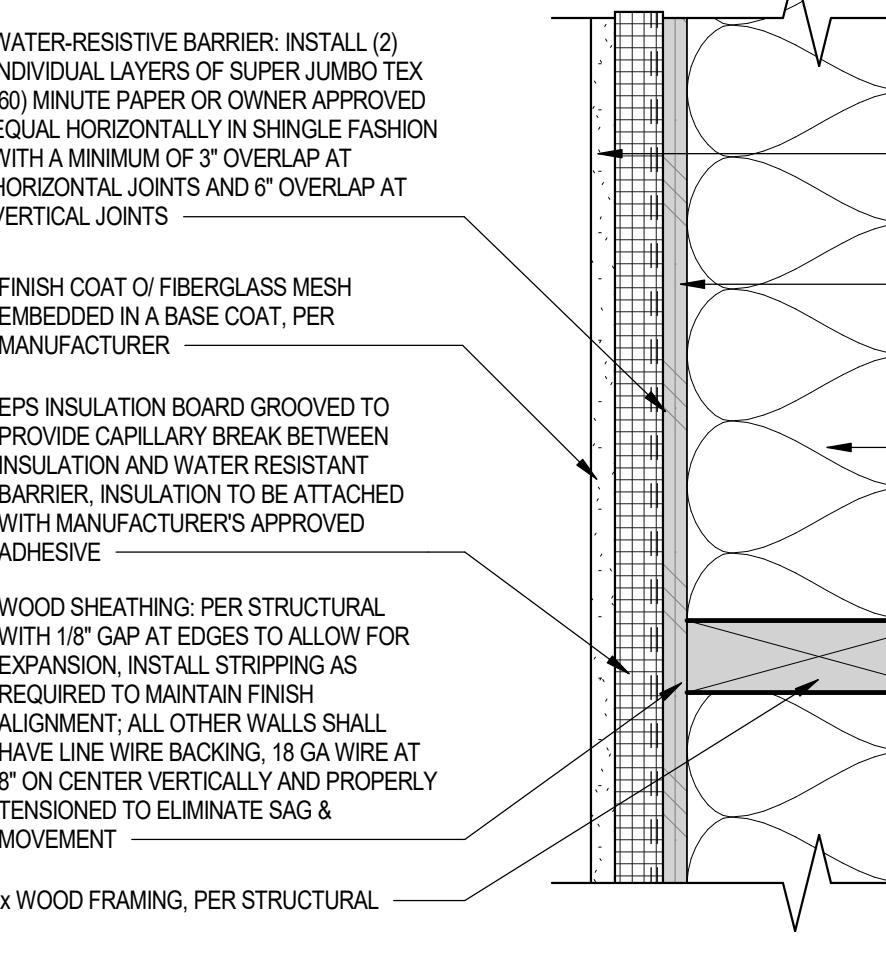
- FRAMING MEMBERS** - PRESSURE-TREATED, FIRE-RETARDANT WOOD STUDS - NOMINAL 2 BY 4 IN, SPACED 16 IN, OC EFFECTIVELY FIRE STOPPED, AS AN OPTION, PRESSURE-TREATED, FIRE-RETARDANT WOOD STUDS NOMINAL 2 BY 4 IN, SPACED 24 IN, OC EFFECTIVELY FIRE-STOPPED. HOVER TREATED WOOD PRODUCTS INC. - Pyro-Guard treated lumber.
- GYPSON WALLBOARD** - NOM 5/8 IN THICK, 4 FT WIDE, TWO LAYERS APPLIED VERTICALLY. BASE LAYER NAILED TO WOOD STUDS AND BEARING PLATES 8 IN OC WITH 60 CEMENT-COATED NAILS, 1-7/8 IN LONG, 0.0915 IN SHANK DIAM, AND 1/4 IN DIAM HEAD. THE FACE LAYER, WITH JOINTS STAGGERED FROM BASE LAYER, NAILED TO THE STUDS AND BEARING PLATES OVER THE BASE LAYER, 8 IN OC WITH 60 CEMENT-COATED NAILS, 2-3/8 IN LONG, 0.113 IN SHANK DIAM, 9/32 IN DIAM HEAD. AMERICAN GYPSON CO. - TYPE AGX-1 (FINISH RATING 25 MIN), M-GLASS (FINISH RATING 25 MIN), AG-C (FINISH RATING 25 MIN), LIGHTROC (FINISH RATING 25 MIN). NATIONAL GYPSON CO. - TYPE FSK, FSK, FSKM-C, FSL, FSXL, FSKG-C, TYPE FSW-3, TYPE FSW-5, TYPE FSW-6, TYPE FSK-C, TYPE FSK-C, TYPE FSK-C, 6XP-C.
- JOINTS AND NAILHEADS** - GYPSON BOARD JOINTS COVERED WITH TAPE AND JOINT COMPOUND. NAIL HEADS COVERED WITH JOINT COMPOUND.
- BATTS AND BLANKETS** - FACED OR UNFACED MINERAL FIBER INSULATION, 3-1/2 IN THICK, NOM 3.0 PCF. PRESSURE FIT IN THE WALL CAVITY BETWEEN STUD, PLATES, AND CROSS BRACING. INSULATION MAY BE APPLIED IN MULTIPLE LAYERS TO ACHIEVE FINAL THICKNESS. SEE BATTS AND BLANKETS (BZJZ) CATEGORY FOR NAMES OF CLASSIFIED MANUFACTURERS.
- BUILDING UNITS** - PRESSURE-TREATED, FIRE-RETARDANT PLYWOOD INSTALLED VERTICALLY NAILED TO THE WOOD FRAMING WITH 1-7/8 IN LONG, 6D NAILS, SPACED 6 IN OC ON THE PERIMETER AND 12 IN OC IN THE FIELD. VERTICAL AND HORIZONTAL JOINTS ARE BACKED BY FRAMING. PANELS PROVIDED IN NOMINAL SIZE OF 48 IN WIDE BY 96 IN LONG BY 1/2 IN THICK. HOVER TREATED WOOD PRODUCTS INC. - Pyro-Guard treated plywood.
- EXTERIOR FACING** - ANY EXTERIOR FACING, AS AUTHORIZED BY THE AUTHORITY HAVING JURISDICTION AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS ARE ALLOWED. EXTERIOR FACINGS MAY INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING EXAMPLES:
- FIBER CEMENT SIDING** - FIBER CEMENT LATH OR VERTICAL SIDING, MINIMUM 5/16 IN THICK, FASTENED TO STUDS THROUGH THE BUILDING UNITS, ITEM 5, WITH NAILS OR SCREWS, IN THE LOCATIONS SPECIFIED BY THE MANUFACTURER.

EW 44 SAME AS EW 43, EXCEPT USE 12 INCH STUCCO SYSTEM OVER 12 INCH SHEATHING INSTEAD OF INTERIOR GYPSON WALLBOARD. NO RATING REQUIRED.

EW 43 CEMENTITIOUS BOARD AT 2-HR RATED EXTERIOR WALL - WOOD FRAMING
ANSULU 263 DESIGN NO V314 SCALE: 3" = 1'-0"

2-HR EIFS EXTERIOR WALL
PROPRIETARY ASSEMBLY - May 25, 2022
FIRE TEST: BXUV - FIRE RESISTANCE RATINGS - ANSULU 263 DESIGN NO V314
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.

ARCHITECTURAL CONSTRUCTION DETAIL
NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURERS WRITTEN SPECIFICATIONS.



DESIGN NO. V314
BXUV - FIRE RESISTANCE RATINGS - ANSULU 263 CERTIFIED FOR UNITED STATES

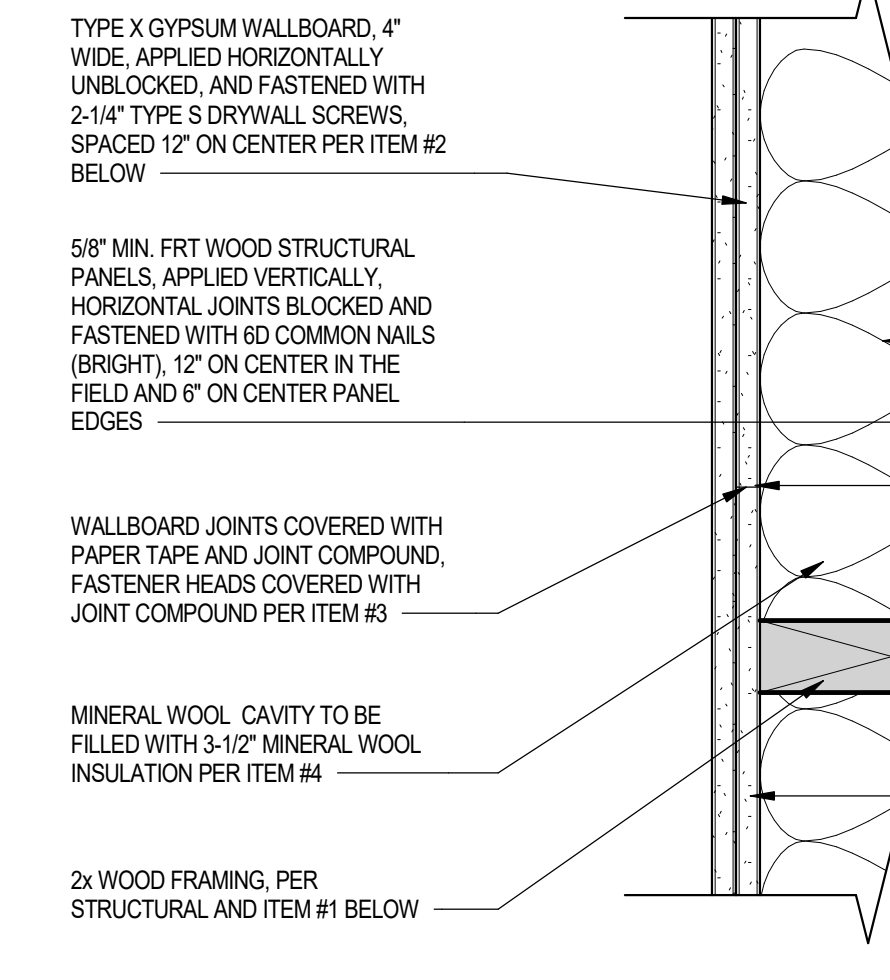
- FRAMING MEMBERS** - PRESSURE-TREATED, FIRE-RETARDANT WOOD STUDS - NOMINAL 2 BY 4 IN, SPACED 16 IN, OC EFFECTIVELY FIRE STOPPED, AS AN OPTION, PRESSURE-TREATED, FIRE-RETARDANT WOOD STUDS NOMINAL 2 BY 4 IN, SPACED 24 IN, OC EFFECTIVELY FIRE-STOPPED. HOVER TREATED WOOD PRODUCTS INC. - Pyro-Guard treated lumber.
- GYPSON WALLBOARD** - NOM 5/8 IN THICK, 4 FT WIDE, TWO LAYERS APPLIED VERTICALLY. BASE LAYER NAILED TO WOOD STUDS AND BEARING PLATES 8 IN OC WITH 60 CEMENT-COATED NAILS, 1-7/8 IN LONG, 0.0915 IN SHANK DIAM, AND 1/4 IN DIAM HEAD. THE FACE LAYER, WITH JOINTS STAGGERED FROM BASE LAYER, NAILED TO THE STUDS AND BEARING PLATES OVER THE BASE LAYER, 8 IN OC WITH 60 CEMENT-COATED NAILS, 2-3/8 IN LONG, 0.113 IN SHANK DIAM, 9/32 IN DIAM HEAD. AMERICAN GYPSON CO. - TYPE AGX-1 (FINISH RATING 25 MIN), M-GLASS (FINISH RATING 25 MIN), AG-C (FINISH RATING 25 MIN), LIGHTROC (FINISH RATING 25 MIN). NATIONAL GYPSON CO. - TYPE FSK, FSK, FSKM-C, FSL, FSXL, FSKG-C, TYPE FSW-3, TYPE FSW-5, TYPE FSW-6, TYPE FSK-C, TYPE FSK-C, TYPE FSK-C, 6XP-C.
- JOINTS AND NAILHEADS** - GYPSON BOARD JOINTS COVERED WITH TAPE AND JOINT COMPOUND. NAIL HEADS COVERED WITH JOINT COMPOUND.
- BATTS AND BLANKETS** - FACED OR UNFACED MINERAL FIBER INSULATION, 3-1/2 IN THICK, NOM 3.0 PCF. PRESSURE FIT IN THE WALL CAVITY BETWEEN STUD, PLATES, AND CROSS BRACING. INSULATION MAY BE APPLIED IN MULTIPLE LAYERS TO ACHIEVE FINAL THICKNESS. SEE BATTS AND BLANKETS (BZJZ) CATEGORY FOR NAMES OF CLASSIFIED MANUFACTURERS.
- BUILDING UNITS** - PRESSURE-TREATED, FIRE-RETARDANT PLYWOOD INSTALLED VERTICALLY NAILED TO THE WOOD FRAMING WITH 1-7/8 IN LONG, 6D NAILS, SPACED 6 IN OC ON THE PERIMETER AND 12 IN OC IN THE FIELD. VERTICAL AND HORIZONTAL JOINTS ARE BACKED BY FRAMING. PANELS PROVIDED IN NOMINAL SIZE OF 48 IN WIDE BY 96 IN LONG BY 1/2 IN THICK. HOVER TREATED WOOD PRODUCTS INC. - Pyro-Guard treated plywood.
- EXTERIOR FACING** - ANY EXTERIOR FACING, AS AUTHORIZED BY THE AUTHORITY HAVING JURISDICTION AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS ARE ALLOWED. EXTERIOR FACINGS MAY INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING EXAMPLES:
- CEMENTITIOUS STUCCO** - PORTLAND CEMENT OR SYNTHETIC STUCCO SYSTEMS (E.G. EFS) WITH SELF-FURRING METAL LATH OR ADHESIVE BASE COAT. THICKNESS FROM 3/8 IN TO 3/4 IN, DEPENDING ON SYSTEM.

EW 24 SAME AS EW 23, BUT NO RATING REQUIRED AND EFS BOTH SIDE.

EW 23 2-HR EIFS EXTERIOR WALL - WOOD FRAMING
ANSULU 263 DESIGN NO V314 SCALE: 3" = 1'-0"

2-HR WRAP PROJECT GARAGE EXTERIOR WALL
PROPRIETARY ASSEMBLY - May 25, 2022
FIRE TEST: BXUV - FIRE RESISTANCE RATINGS - ANSULU 263 DESIGN NO V314
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.

ARCHITECTURAL CONSTRUCTION DETAIL
NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURERS WRITTEN SPECIFICATIONS.



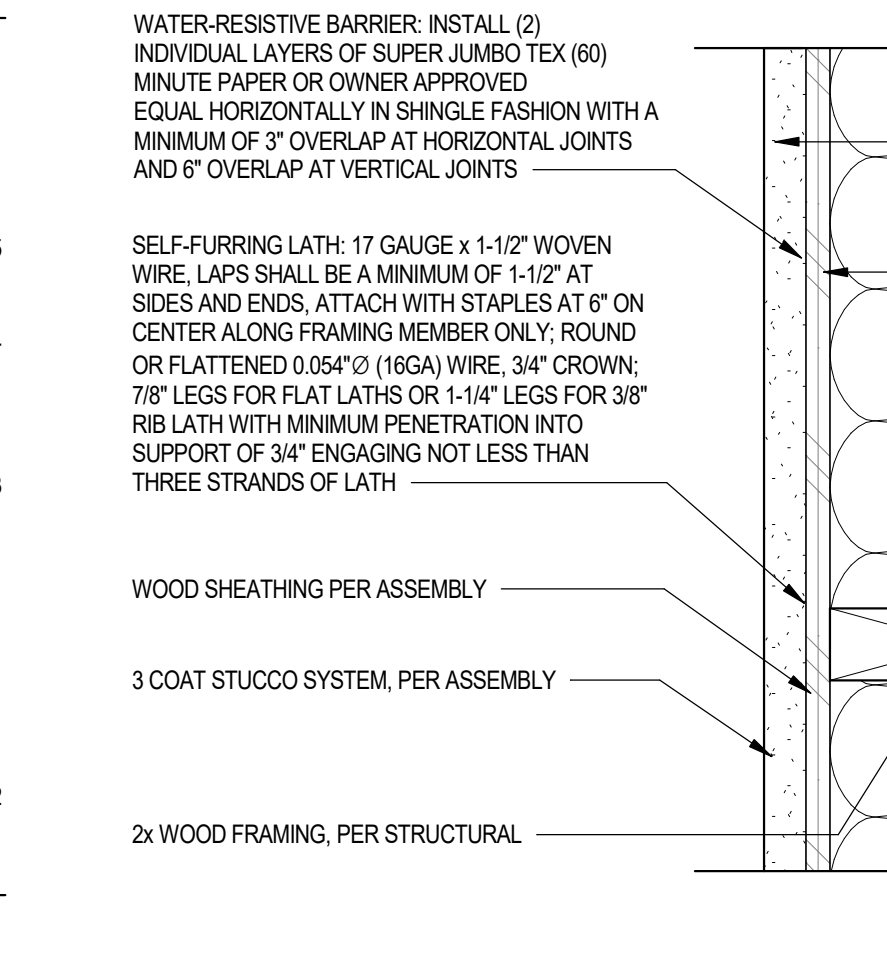
DESIGN NO. V314
BXUV - FIRE RESISTANCE RATINGS - ANSULU 263 CERTIFIED FOR UNITED STATES

- FRAMING MEMBERS** - NOM 2 BY 4 IN, SPACED 16 IN, OC WITH TWO 2 BY 4 IN TOP AND ONE 2 BY 4 IN BOTTOM PLATES. STUDS LATERALLY BRACED BY WOOD STRUCTURAL PANEL SHEATHING (ITEM 5). WHEN MINERAL AND FIBER BOARDS (ITEM 5A) ARE CONSIDERED AS BRACING FOR THE STUDS, THE LOAD IS RESTRICTED TO 70% OF ALLOWABLE AXIAL LOAD. WALLS EFFECTIVELY FIRE STOPPED AT TOP AND BOTTOM OF WALL.
- GYPSON WALLBOARD** - ANY 5/8 IN THICK UL CLASSIFIED GYPSON BOARD THAT IS ELIGIBLE FOR USE IN DESIGN NOS. L501, G512 OR U366. NOM 5/8 IN THICK, 4 FT WIDE, APPLIED VERTICALLY AND NAILED TO STUDS AND BEARING PLATES 7 IN OC WITH 60 CEMENT-COATED NAILS, 1-7/8 IN LONG WITH 1/4 IN DIAM HEAD. WHEN ITEM STEEL FRAMING MEMBERS (ITEM 7) OR ANY ALTERNATE CLIPS, IS USED, GYPSON PANELS ATTACHED TO FURRING CHANNELS WITH 1 IN LONG TYPE 8 BULGE-HEAD STEEL SCREWS SPACED 12 IN OC.
- JOINTS AND NAILHEADS** - GYPSON BOARD JOINTS COVERED WITH TAPE AND JOINT COMPOUND. NAIL HEADS COVERED WITH JOINT COMPOUND.
- BATTS AND BLANKETS** - FACED OR UNFACED MINERAL FIBER INSULATION, 3-1/2 IN THICK, NOM 3.0 PCF. PRESSURE FIT IN THE WALL CAVITY BETWEEN STUD, PLATES, AND CROSS BRACING. INSULATION MAY BE APPLIED IN MULTIPLE LAYERS TO ACHIEVE FINAL THICKNESS. SEE BATTS AND BLANKETS (BZJZ) CATEGORY FOR NAMES OF CLASSIFIED MANUFACTURERS.
- BUILDING UNITS** - PRESSURE-TREATED, FIRE-RETARDANT PLYWOOD INSTALLED VERTICALLY NAILED TO THE WOOD FRAMING WITH 1-7/8 IN LONG, 6D NAILS, SPACED 6 IN OC ON THE PERIMETER AND 12 IN OC IN THE FIELD. VERTICAL AND HORIZONTAL JOINTS ARE BACKED BY FRAMING. PANELS PROVIDED IN NOMINAL SIZE OF 48 IN WIDE BY 96 IN LONG BY 1/2 IN THICK. HOVER TREATED WOOD PRODUCTS INC. - Pyro-Guard treated plywood.

EW 18 GARAGE 2-HR FRAMED WALL
ANSULU 263 DESIGN NO V314 SCALE: 3" = 1'-0"

1-HR STUCCO EXTERIOR WALL - RATED BOTH SIDES
PROPRIETARY ASSEMBLY - August 4, 2023
FIRE TEST: BXUV/U366 - FIRE RESISTANCE RATINGS - ANSULU 263 DESIGN NO. U348
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.

ARCHITECTURAL CONSTRUCTION DETAIL
NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURERS WRITTEN SPECIFICATIONS.



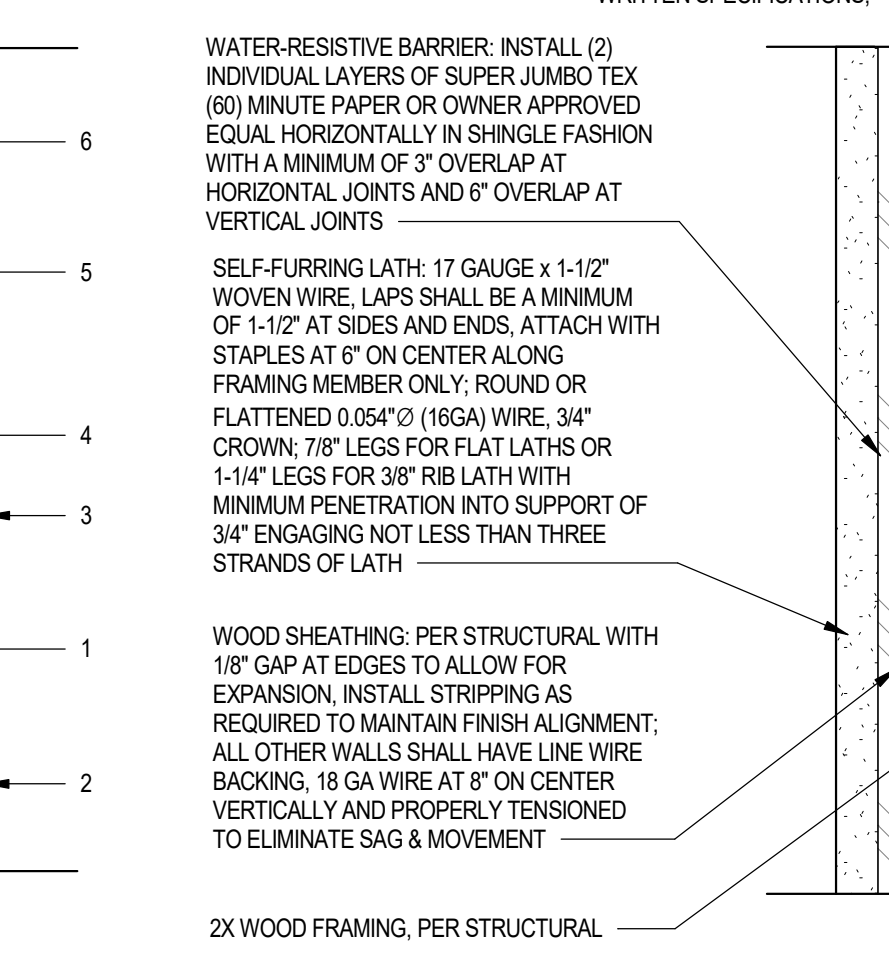
DESIGN NO. U348
BXUV - FIRE RESISTANCE RATINGS - ANSULU 263 CERTIFIED FOR UNITED STATES

- FRAMING MEMBERS** - NOM 2 BY 4 IN, SPACED 16 IN, OC WITH TWO 2 BY 4 IN TOP AND ONE 2 BY 4 IN BOTTOM PLATES. STUDS LATERALLY BRACED BY WOOD STRUCTURAL PANEL SHEATHING (ITEM 5). WHEN MINERAL AND FIBER BOARDS (ITEM 5A) ARE CONSIDERED AS BRACING FOR THE STUDS, THE LOAD IS RESTRICTED TO 70% OF ALLOWABLE AXIAL LOAD. WALLS EFFECTIVELY FIRE STOPPED.
- GYPSON WALLBOARD** - ANY 5/8 IN THICK UL CLASSIFIED GYPSON BOARD THAT IS ELIGIBLE FOR USE IN DESIGN NOS. L501, G512 OR U366. NOM 5/8 IN THICK, 4 FT WIDE, APPLIED VERTICALLY AND NAILED TO STUDS AND BEARING PLATES 7 IN OC WITH 60 CEMENT-COATED NAILS, 1-7/8 IN LONG WITH 1/4 IN DIAM HEAD. WHEN ITEM STEEL FRAMING MEMBERS (ITEM 7) OR ANY ALTERNATE CLIPS, IS USED, GYPSON PANELS ATTACHED TO FURRING CHANNELS WITH 1 IN LONG TYPE 8 BULGE-HEAD STEEL SCREWS SPACED 12 IN OC.
- JOINTS AND NAILHEADS** - WALLBOARD JOINTS COVERED WITH TAPE AND JOINT COMPOUND. NAIL HEADS COVERED WITH JOINT COMPOUND.
- BATTS AND BLANKETS** - FACED OR UNFACED MINERAL FIBER INSULATION, 3-1/2 IN THICK, NOM 3.0 PCF. PRESSURE FIT IN THE WALL CAVITY BETWEEN STUD, PLATES, AND CROSS BRACING. INSULATION MAY BE APPLIED IN MULTIPLE LAYERS TO ACHIEVE FINAL THICKNESS. SEE BATTS AND BLANKETS (BZJZ) CATEGORY FOR NAMES OF CLASSIFIED MANUFACTURERS.
- BUILDING UNITS** - PRESSURE-TREATED, FIRE-RETARDANT PLYWOOD INSTALLED VERTICALLY NAILED TO THE WOOD FRAMING WITH 1-7/8 IN LONG, 6D NAILS, SPACED 6 IN OC ON THE PERIMETER AND 12 IN OC IN THE FIELD. VERTICAL AND HORIZONTAL JOINTS ARE BACKED BY FRAMING. PANELS PROVIDED IN NOMINAL SIZE OF 48 IN WIDE BY 96 IN LONG BY 1/2 IN THICK. HOVER TREATED WOOD PRODUCTS INC. - Pyro-Guard treated plywood.
- EXTERIOR FACINGS** - (NOT SHOWN) - REQUIRED FOR 1 HOUR RATING ON THE EXTERIOR FACE. THE FOLLOWING EXTERIOR FACING SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS.
- CEMENTITIOUS STUCCO** - PORTLAND CEMENT WITH SELF-FURRING METAL LATH. MINIMUM THICKNESS OF 3/8 IN, WITH A MIX RATIO OF 14 FOR SCRATCH COAT AND 1:5 FOR BROWN COAT, BY VOLUME, CEMENT TO SAND.

EW 16 1-HR STUCCO EXTERIOR WALL RATED FOR BOTH SIDES - WOOD FRAMING
ANSULU 263 DESIGN NO U348 SCALE: 3" = 1'-0"

1-HR STUCCO EXTERIOR WALL - RATED BOTH SIDES
PROPRIETARY ASSEMBLY - August 4, 2023
FIRE TEST: BXUV/U366 - FIRE RESISTANCE RATINGS - ANSULU 263 DESIGN NO. U348
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.

ARCHITECTURAL CONSTRUCTION DETAIL
NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURERS WRITTEN SPECIFICATIONS.



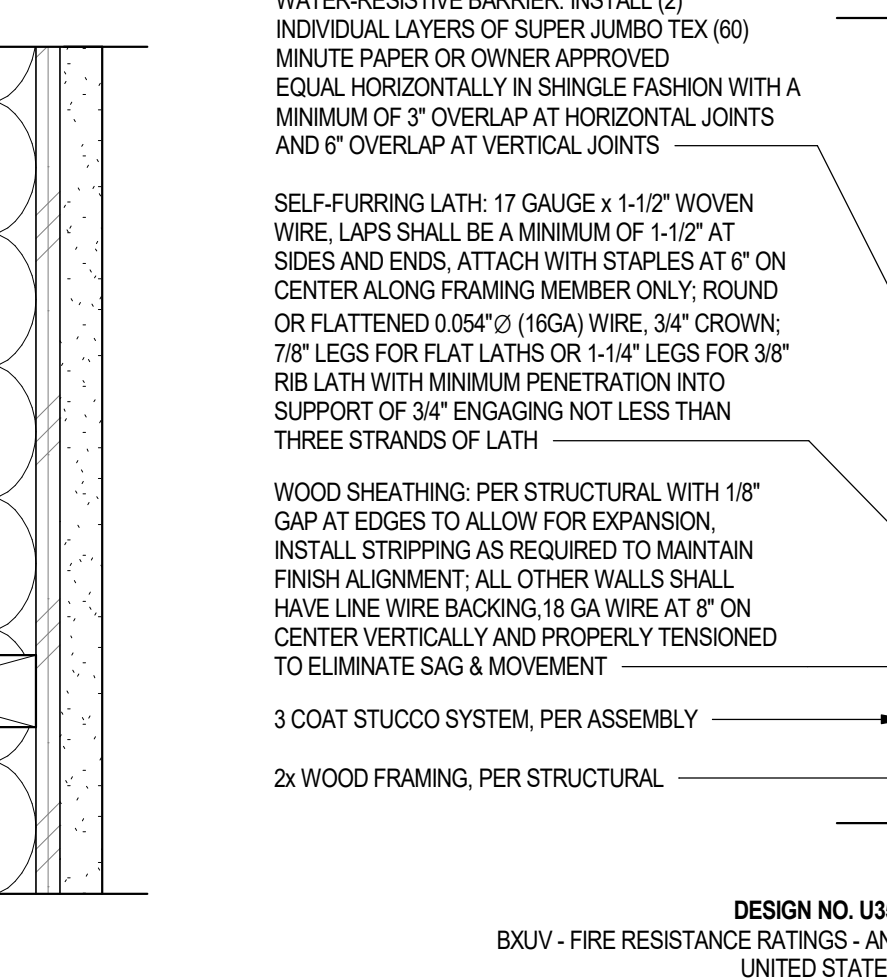
DESIGN NO. U348
BXUV - FIRE RESISTANCE RATINGS - ANSULU 263 CERTIFIED FOR UNITED STATES

- FRAMING MEMBERS** - NOM 2 BY 4 IN, SPACED 16 IN, OC WITH TWO 2 BY 4 IN TOP AND ONE 2 BY 4 IN BOTTOM PLATES. STUDS LATERALLY BRACED BY WOOD STRUCTURAL PANEL SHEATHING (ITEM 5). WHEN MINERAL AND FIBER BOARDS (ITEM 5A) ARE CONSIDERED AS BRACING FOR THE STUDS, THE LOAD IS RESTRICTED TO 70% OF ALLOWABLE AXIAL LOAD. WALLS EFFECTIVELY FIRE STOPPED.
- GYPSON WALLBOARD** - ANY 5/8 IN THICK UL CLASSIFIED GYPSON BOARD THAT IS ELIGIBLE FOR USE IN DESIGN NOS. L501, G512 OR U366. NOM 5/8 IN THICK, 4 FT WIDE, APPLIED VERTICALLY AND NAILED TO STUDS AND BEARING PLATES 7 IN OC WITH 60 CEMENT-COATED NAILS, 1-7/8 IN LONG WITH 1/4 IN DIAM HEAD. WHEN ITEM STEEL FRAMING MEMBERS (ITEM 7) OR ANY ALTERNATE CLIPS, IS USED, GYPSON PANELS ATTACHED TO FURRING CHANNELS WITH 1 IN LONG TYPE 8 BULGE-HEAD STEEL SCREWS SPACED 12 IN OC.
- JOINTS AND NAILHEADS** - WALLBOARD JOINTS COVERED WITH TAPE AND JOINT COMPOUND. NAIL HEADS COVERED WITH JOINT COMPOUND.
- BATTS AND BLANKETS** - FACED OR UNFACED MINERAL FIBER INSULATION, 3-1/2 IN THICK, NOM 3.0 PCF. PRESSURE FIT IN THE WALL CAVITY BETWEEN STUD, PLATES, AND CROSS BRACING. INSULATION MAY BE APPLIED IN MULTIPLE LAYERS TO ACHIEVE FINAL THICKNESS. SEE BATTS AND BLANKETS (BZJZ) CATEGORY FOR NAMES OF CLASSIFIED MANUFACTURERS.
- BUILDING UNITS** - PRESSURE-TREATED, FIRE-RETARDANT PLYWOOD INSTALLED VERTICALLY NAILED TO THE WOOD FRAMING WITH 1-7/8 IN LONG, 6D NAILS, SPACED 6 IN OC ON THE PERIMETER AND 12 IN OC IN THE FIELD. VERTICAL AND HORIZONTAL JOINTS ARE BACKED BY FRAMING. PANELS PROVIDED IN NOMINAL SIZE OF 48 IN WIDE BY 96 IN LONG BY 1/2 IN THICK. HOVER TREATED WOOD PRODUCTS INC. - Pyro-Guard treated plywood.
- EXTERIOR FACINGS** - (NOT SHOWN) - REQUIRED FOR 1 HOUR RATING ON THE EXTERIOR FACE. THE FOLLOWING EXTERIOR FACING SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS.
- CEMENTITIOUS STUCCO** - PORTLAND CEMENT WITH SELF-FURRING METAL LATH. MINIMUM THICKNESS OF 3/8 IN, WITH A MIX RATIO OF 14 FOR SCRATCH COAT AND 1:5 FOR BROWN COAT, BY VOLUME, CEMENT TO SAND.

EW 13 1-HR STUCCO EXTERIOR WALL - STUCCO BOTH SIDES
ANSULU 263 DESIGN NO U366 SCALE: 3" = 1'-0"

1-HR STUCCO EXTERIOR WALL - RATED BOTH SIDES
PROPRIETARY ASSEMBLY - January 29, 2024
FIRE TEST: BXUV - FIRE RESISTANCE RATINGS - ANSULU 263 DESIGN NO U366
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.

ARCHITECTURAL CONSTRUCTION DETAIL
NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURERS WRITTEN SPECIFICATIONS.



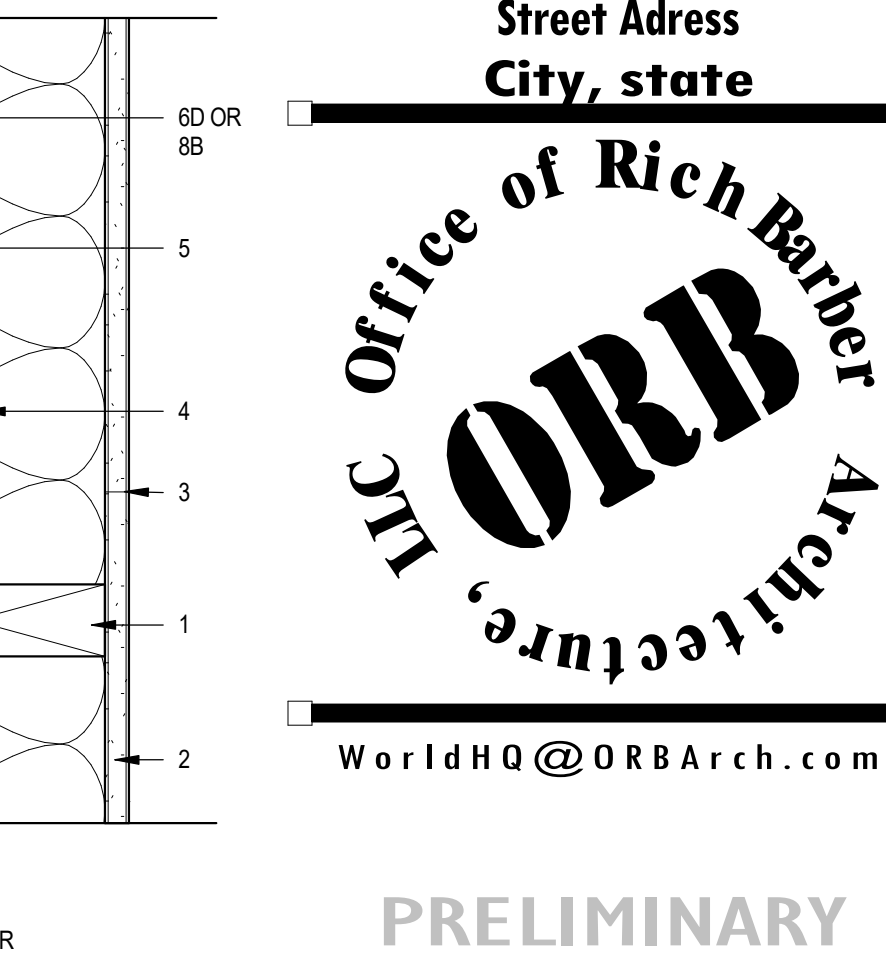
DESIGN NO. U366
BXUV - FIRE RESISTANCE RATINGS - ANSULU 263 CERTIFIED FOR UNITED STATES

- FRAMING MEMBERS** - NOM 2 BY 4 IN, SPACED 16 IN, OC WITH TWO 2 BY 4 IN TOP AND ONE 2 BY 4 IN BOTTOM PLATES. STUDS LATERALLY BRACED BY WOOD STRUCTURAL PANEL SHEATHING (ITEM 5). WHEN MINERAL AND FIBER BOARDS (ITEM 5A) ARE CONSIDERED AS BRACING FOR THE STUDS, THE LOAD IS RESTRICTED TO 70% OF ALLOWABLE AXIAL LOAD. WALLS EFFECTIVELY FIRE STOPPED AT TOP AND BOTTOM OF WALL.
- GYPSON WALLBOARD** - ANY 5/8 IN THICK UL CLASSIFIED GYPSON BOARD THAT IS ELIGIBLE FOR USE IN DESIGN NOS. L501, G512 OR U366. NOM 5/8 IN THICK, 4 FT WIDE, APPLIED VERTICALLY AND NAILED TO STUDS AND BEARING PLATES 7 IN OC WITH 60 CEMENT-COATED NAILS, 1-7/8 IN LONG WITH 1/4 IN DIAM HEAD. WHEN ITEM STEEL FRAMING MEMBERS (ITEM 7) OR ANY ALTERNATE CLIPS, IS USED, GYPSON PANELS ATTACHED TO FURRING CHANNELS WITH 1 IN LONG TYPE 8 BULGE-HEAD STEEL SCREWS SPACED 12 IN OC.
- JOINTS AND NAILHEADS** - GYPSON BOARD JOINTS COVERED WITH TAPE AND JOINT COMPOUND. NAIL HEADS COVERED WITH JOINT COMPOUND.
- BATTS AND BLANKETS** - FACED OR UNFACED MINERAL FIBER INSULATION, 3-1/2 IN THICK, PRESSURE FIT TO FILL WALL CAVITIES BETWEEN STUDS AND PLATES. MINERAL FIBER INSULATION TO BE UNFACED AND TO HAVE A MIN DENSITY OF 3 PCF. GLASS FIBER INSULATION TO BE FACED WITH ALUMINUM FOL OR KRAFT PAPER AND TO HAVE A MIN DENSITY OF 0.9 PCF (MIN R-13 THERMAL INSULATION RATING). SEE BATTS AND BLANKETS (BZJZ) CATEGORY IN THE BUILDING MATERIALS DIRECTORY AND BATTS AND BLANKETS (BZJZ) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF CLASSIFIED COMPANIES.
- WOOD STRUCTURAL PANEL SHEATHING** - MIN 7/16 IN THICK, 4 FT WIDE WOOD STRUCTURAL PANELS, MIN GRADE "CD" OR "SHEATHING" INSTALLED WITH LONG DIMENSION OF SHEET (STRENGTH AXIS) OR FACE GRAIN OF PLYWOOD PARALLEL WITH OR PERPENDICULAR TO STUDS. VERTICAL JOINTS CENTERED ON STUDS. HORIZONTAL JOINTS BACKED WITH NOM 2 BY 4 IN WOOD BLOCKING, ATTACHED TO STUDS ON EXTERIOR SIDE OF WALL WITH 60 CEMENT COATED BOX NAILS SPACED 8 IN OC AT PERIMETER OF PANELS AND 12 IN OC ALONG INTERIOR STUDS.
- EXTERIOR FACINGS** - (NOT SHOWN) - INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS. ONE OF THE FOLLOWING EXTERIOR FACINGS IS TO BE APPLIED OVER THE SHEATHING.
- CEMENTITIOUS STUCCO** - PORTLAND CEMENT OR SYNTHETIC STUCCO SYSTEMS WITH SELF-FURRING METAL LATH OR ADHESIVE BASE COAT. THICKNESS FROM 3/8 TO 3/4 IN, DEPENDING ON SYSTEM.

EW 11 1-HR STUCCO EXTERIOR WALL - WOOD FRAMING
ANSULU 263 DESIGN NO U366 SCALE: 3" = 1'-0"

1-HR STUCCO EXTERIOR WALL - RATED BOTH SIDES
PROPRIETARY ASSEMBLY - January 29, 2024
FIRE TEST: BXUV - FIRE RESISTANCE RATINGS - ANSULU 263 DESIGN NO U366
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.

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DESIGN NO. U366
BXUV - FIRE RESISTANCE RATINGS - ANSULU 263 CERTIFIED FOR UNITED STATES

- FRAMING MEMBERS** - NOM 2 BY 4 IN, SPACED 16 IN, OC WITH TWO 2 BY 4 IN TOP AND ONE 2 BY 4 IN BOTTOM PLATES. STUDS LATERALLY BRACED BY WOOD STRUCTURAL PANEL SHEATHING (ITEM 5). WHEN MINERAL AND FIBER BOARDS (ITEM 5A) ARE CONSIDERED AS BRACING FOR THE STUDS, THE LOAD IS RESTRICTED TO 70% OF ALLOWABLE AXIAL LOAD. WALLS EFFECTIVELY FIRE STOPPED AT TOP AND BOTTOM OF WALL.
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- EXTERIOR FACINGS** - (NOT SHOWN) - INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS. ONE OF THE FOLLOWING EXTERIOR FACINGS IS TO BE APPLIED OVER THE SHEATHING.
- CEMENTITIOUS STUCCO** - PORTLAND CEMENT OR SYNTHETIC STUCCO SYSTEMS WITH SELF-FURRING METAL LATH OR ADHESIVE BASE COAT. THICKNESS FROM 3/8 TO 3/4 IN, DEPENDING ON SYSTEM.

EW 11 1-HR STUCCO EXTERIOR WALL - WOOD FRAMING
ANSULU 263 DESIGN NO U366 SCALE: 3" = 1'-0"

Project Name 1
Project Name 2

Street Address
City, state

ORR Architecture, LLC
WorldHQ@ORRArch.com

PRELIMINARY
NOT FOR CONSTRUCTION

AURANCE
RESIDENTIAL COMPANY
LEGACY HOSPITALITY

PER IBC 2018 BUILDING CODES
VERIFY W/ICITY APPLICABLE

PER IBC 2018 BUILDING CODES
VERIFY W/ICITY APPLICABLE

PER IBC 2018 BUILDING CODES
VERIFY W/ICITY APPLICABLE

Contractor must verify all dimensions at project before proceeding with this work. Do not proceed with construction until the complete information of this contract is received. The contractor shall be responsible for obtaining all necessary permits and licenses. The contractor shall be responsible for obtaining all necessary permits and licenses. The contractor shall be responsible for obtaining all necessary permits and licenses.

Revision table with columns: REVISIONS, DATE, DESCRIPTION.

REVISIONS/SUBMITTALS
DATE DESCRIPTION

DATE: July 17, 2024 ORR #: 00-000

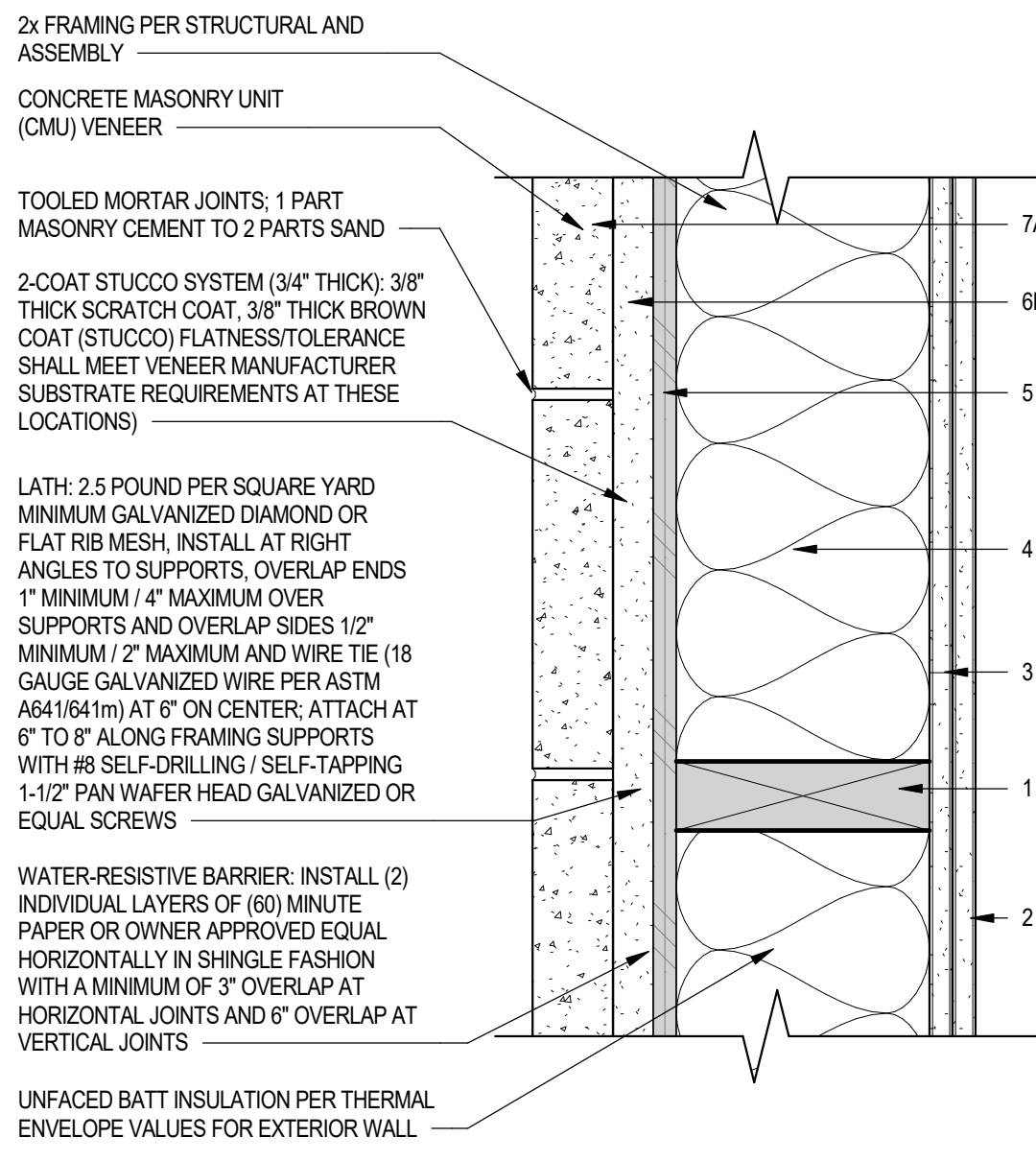
A7.1.11
FIRE ASSEMBLIES - EXTERIOR WOOD FRAMING

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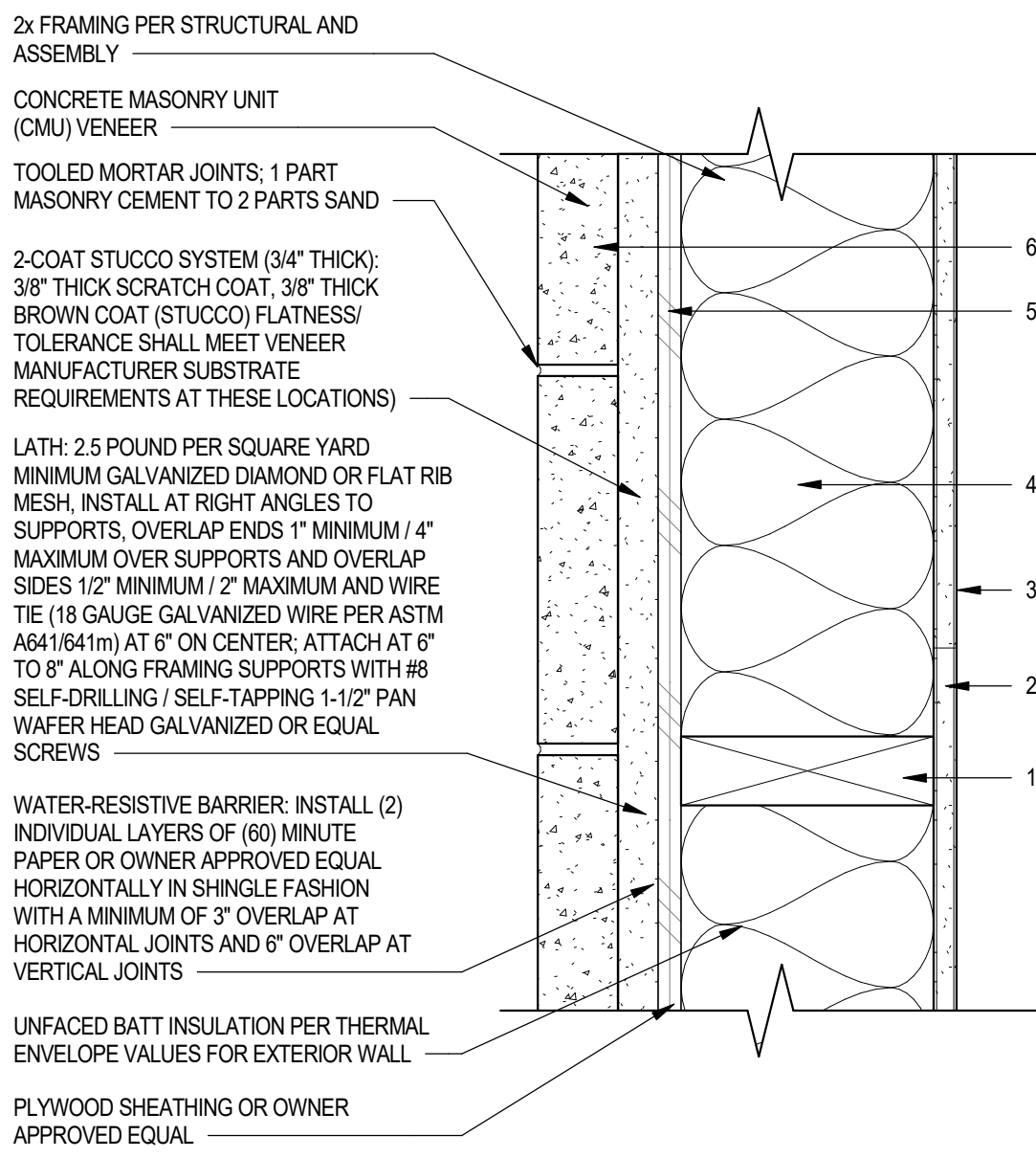
2-HR CMU VENEER - EXTERIOR WALL
PROPRIETARY ASSEMBLY - May 25, 2022
FIRE TEST: BUJV - FIRE RESISTANCE RATINGS - ANSUL 263 DESIGN NO V314
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.

ARCHITECTURAL CONSTRUCTION DETAIL
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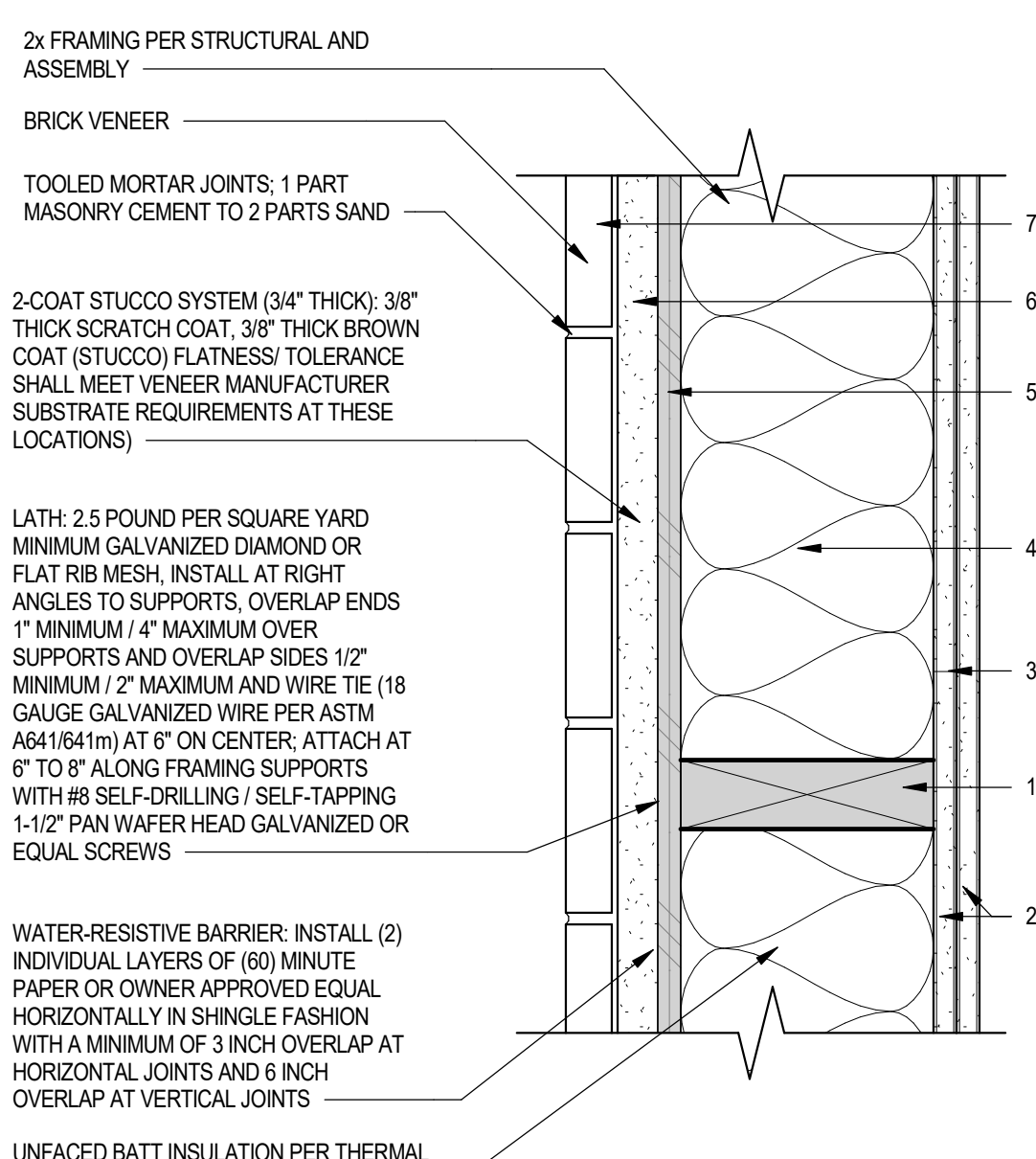
1-HR CMU VENEER - EXTERIOR WALL
PROPRIETARY ASSEMBLY - January 29, 2024
FIRE TEST: BUJV - FIRE RESISTANCE RATINGS - ANSUL 263 DESIGN NO U356
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.

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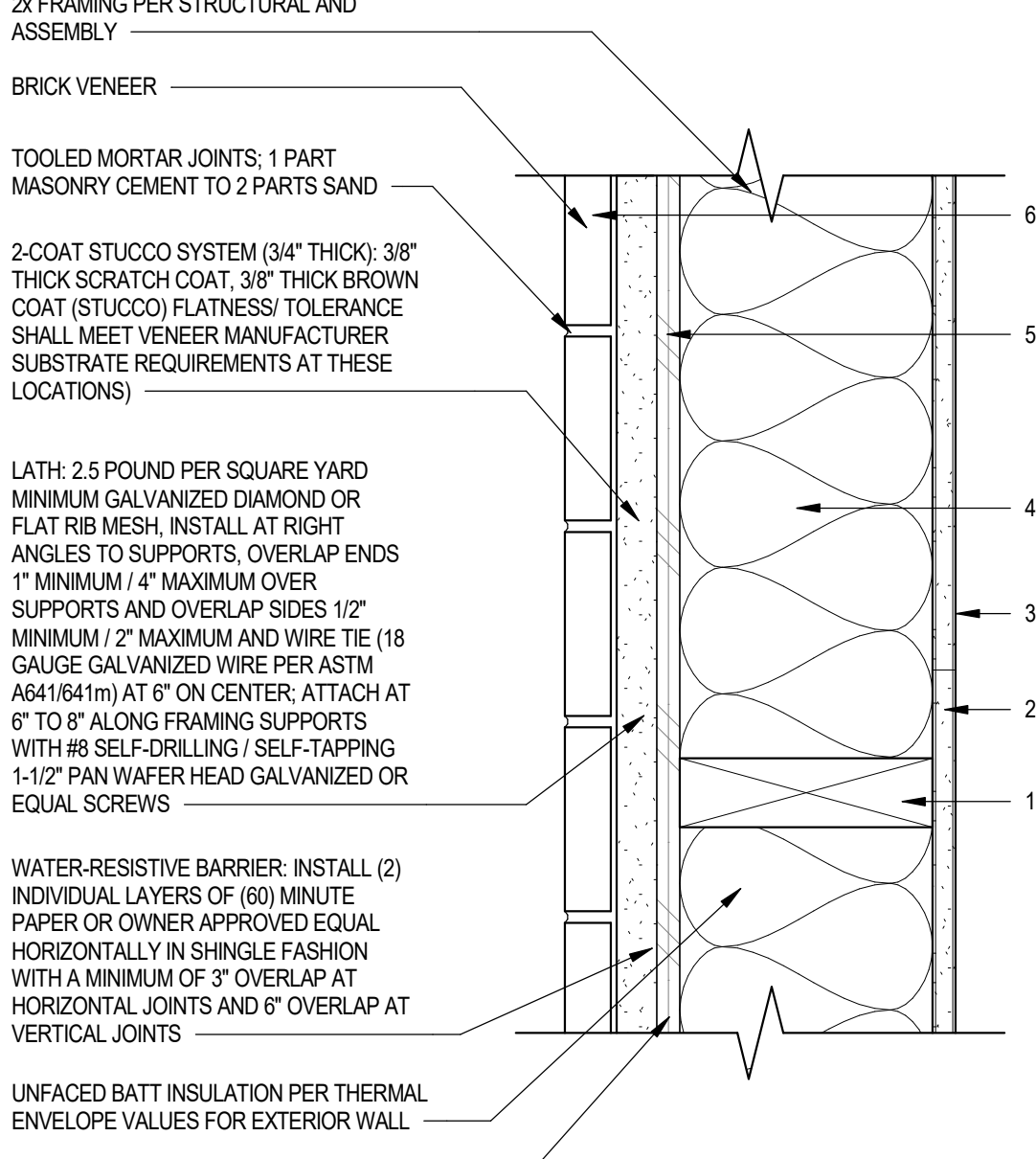
2-HR BRICK VENEER - EXTERIOR WALL
PROPRIETARY ASSEMBLY - May 25, 2022
FIRE TEST: BUJV - FIRE RESISTANCE RATINGS - ANSUL 263 DESIGN NO V314
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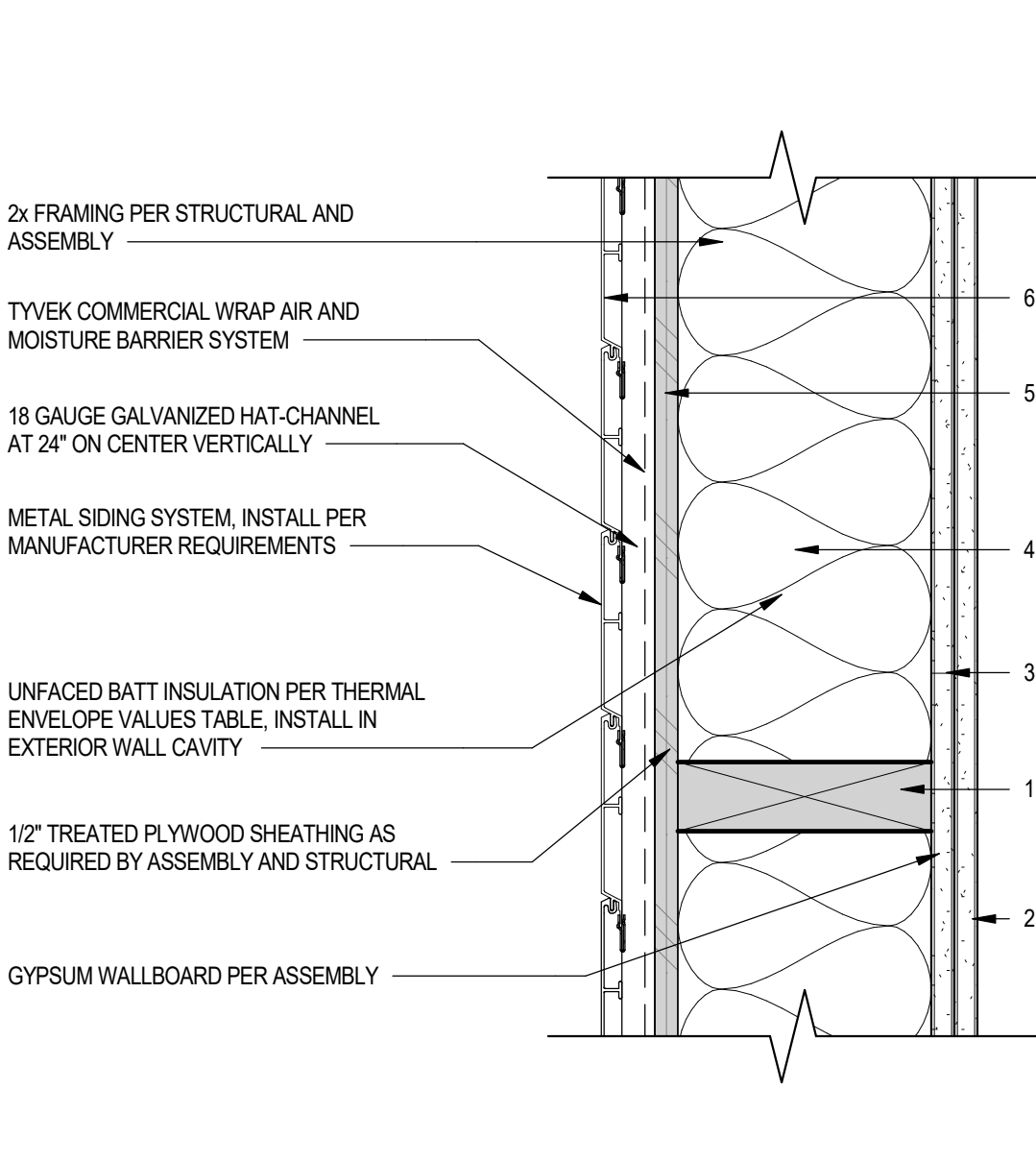
1-HR BRICK VENEER - EXTERIOR WALL
PROPRIETARY ASSEMBLY - January 29, 2024
FIRE TEST: BUJV - FIRE RESISTANCE RATINGS - ANSUL 263 DESIGN NO U356
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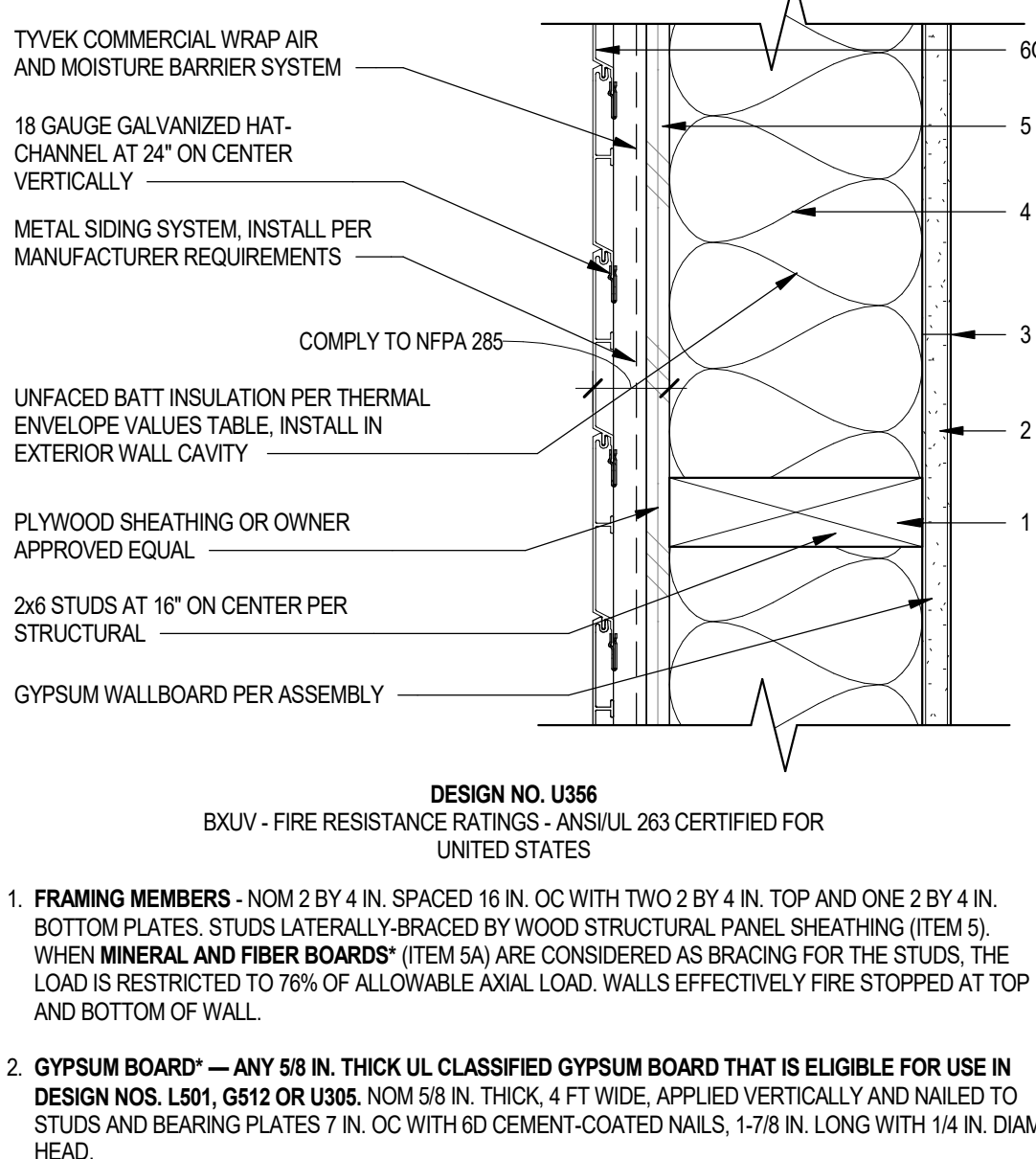
2-HR METAL SIDING EXTERIOR WALL
PROPRIETARY ASSEMBLY - May 25, 2022
FIRE TEST: BUJV - FIRE RESISTANCE RATINGS - ANSUL 263 DESIGN NO V314
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1-HR METAL SIDING EXTERIOR WALL
PROPRIETARY ASSEMBLY - January 29, 2024
FIRE TEST: BUJV - FIRE RESISTANCE RATINGS - ANSUL 263 DESIGN NO U356
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DESIGN NO. V314
BUJV - FIRE RESISTANCE RATINGS - ANSUL 263 CERTIFIED FOR
UNITED STATES

1. WOOD STUDS - PRESSURE-TREATED, FIRE-RETARDANT WOOD STUDS - NOMINAL 2 BY 4 IN. SPACED 16 IN. OC EFFECTIVELY FIRE STOPPED AS AN OPTION, PRESSURE-TREATED, FIRE-RETARDANT WOOD STUDS NOMINAL 2 BY 6 IN. SPACED 24 IN. OC EFFECTIVELY FIRE STOPPED. HOOVER TREATED WOOD PRODUCTS INC. - Pyno-Guard® treated lumber

2. GYPSUM WALLBOARD - NOM 5/8 IN. THICK, 4 FT. WIDE, TWO LAYERS APPLIED VERTICALLY, BASE LAYER NAILED TO WOOD STUDS AND BEARING PLATES 6 IN. OC. WITH 60 CEMENT COATED NAILS, 1-7/8 IN. LONG, 0.0915 IN. SHANK DIAM AND 1/4 IN. DIAM. HEAD. THE FACE LAYER, WITH JOINTS STAGGERED, FROM BASE LAYER, NAILED TO THE STUDS AND BEARING PLATES OVER THE BASE LAYER. STUDS AND BEARING PLATES 2,3/8 IN. LONG, 0.113 IN. SHANK DIAM, 9/32 IN. DIAM. HEAD. AMERICAN GYPSUM CO. - TYPE AGX-1, AG-C, LIGHTROC. NATIONAL GYPSUM CO. - Type FSW, FSK, FSMR-C, FSL, FSLX, FSK-G, Type FSW-G, Type FSW-5, Type FSW-6, Type FSK-C, Type FSW-C, xP-C

3. JOINTS AND NAILHEADS - GYPSUM BOARD JOINTS COVERED WITH TAPE AND JOINT COMPOUND. NAL HEADS COVERED WITH JOINT COMPOUND.

4. BATTS AND BLANKETS - FACED OR UNFACED MINERAL FIBER INSULATION, 3-1/2 IN. THICK, NOM 3.0 PCF. PRESSURE FIT IN THE WALL CAVITY BETWEEN STUD, PLATES, AND CROSS BRACING. INSULATION MAY BE APPLIED IN MULTIPLE LAYERS TO ACHIEVE FINAL THICKNESS. SEE BATTS AND BLANKETS' (BZZJ) CATEGORY FOR NAMES OF CLASSIFIED MANUFACTURERS.

5. BUILDING UNITS - PRESSURE-TREATED, FIRE-RETARDANT PLYWOOD INSTALLED VERTICALLY NAILED TO THE WOOD FRAMING WITH 1-7/8 IN. LONG, 6D NAILS, SPACED 6 IN. OC. ON THE PERIMETER AND 12 IN. OC. IN THE FIELD. VERTICAL AND HORIZONTAL JOINTS ARE BACKED BY FRAMING. PANELS PROVIDED IN NOMINAL SIZE OF 48 IN. WIDE BY 96 IN. LONG BY 15/32 IN. THICK. HOOVER TREATED WOOD PRODUCTS INC. - Pyno-Guard treated plywood

6. EXTERIOR FACING - ANY EXTERIOR FACING, AS AUTHORIZED BY THE AUTHORITY HAVING JURISDICTION AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS ARE ALLOWED. EXTERIOR FACINGS MAY INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING EXAMPLES

6E. CEMENTITIOUS STUCCO - PORTLAND CEMENT OR SYNTHETIC STUCCO SYSTEMS (E.G. EPS) WITH SELF-FURRING METAL LATH OR ADHESIVE BASE COAT. THICKNESS FROM 3/8 IN. TO 3/4 IN. DEPENDING ON SYSTEM

7. EXTERIOR FACING - ONE OF THE FOLLOWING EXTERIOR FACINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTION

7A. BRICK - BRICK VENEER MEETING THE REQUIREMENTS OF LOCAL CODE AGENCIES. BRICK VENEER ATTACHED TO THE STUDS WITH CORRUGATED METAL WALL TIES ATTACHED TO EACH STUD WITH 6D CEMENT COATED NAILS, EVERY SIXTH COURSE OF BRICKS.

DESIGN NO. U356
BUJV - FIRE RESISTANCE RATINGS - ANSUL 263 CERTIFIED FOR
UNITED STATES

1. 1. FRAMING MEMBERS - NOM 2 BY 4 IN. SPACED 16 IN. OC WITH TWO BY 4 IN. TOP AND ONE 2 BY 4 IN. BOTTOM PLATES. STUDS LATERALLY BRACED BY WOOD STRUCTURAL PANEL SHEATHING (ITEM 5), WHEN MINERAL AND FIBER BOARDS' (ITEM 5A) ARE CONSIDERED AS BRACING FOR THE STUDS, THE LOAD IS RESTRICTED TO 76% OF ALLOWABLE AXIAL LOAD. WALLS EFFECTIVELY FIRE STOPPED AT TOP AND BOTTOM OF WALL.

2. GYPSUM WALLBOARD - ANY 5/8 IN. THICK UL CLASSIFIED GYPSUM BOARD THAT IS ELIGIBLE FOR USE IN DESIGN NOS. L501, G512 OR U356. NOM 5/8 IN. THICK, 4 FT. WIDE, APPLIED VERTICALLY AND NAILED TO STUDS AND BEARING PLATES 6 IN. OC WITH 60 CEMENT COATED NAILS, 1-7/8 IN. LONG WITH 1/4 IN. DIAM. HEAD.

3. GYPSUM BOARD - (AS AN ALTERNATE TO ITEM 2) - 5/8 IN. THICK GYPSUM PANELS, WITH BEVELED, SQUARE, OR TAPERED EDGES, APPLIED EITHER HORIZONTALLY OR VERTICALLY. GYPSUM PANELS FASTENED TO FRAMING WITH 1-1/4 IN. LONG TYPE W COARSE THREAD GYPSUM PANEL STEEL SCREWS SPACED A MAX 8 IN. OC. WITH LAST SCREW 1 IN. FROM EDGE OF BOARD. WHEN USED IN WIDTHS OF OTHER THAN 48 IN., GYPSUM BOARDS ARE TO BE INSTALLED HORIZONTALLY.

AMERICAN GYPSUM CO. - Types AGX-1 (finish rating 25 min.), M-Glass (finish rating 25 min.), AG-C (finish rating 25 min.), Lightroc (finish rating 25 min.) NATIONAL GYPSUM CO. - Type FSK, Type FSK-G, Type FSW, Type FSW-3, Type FSW-5, Type FSW-G, Type FSK-C, Type FSW-C, Type FSMR-C, Type FSL, Type FSL

3. JOINTS AND FASTENER HEADS - (NOT SHOWN) - GYPSUM BOARD JOINTS COVERED WITH TAPE AND JOINT COMPOUND. FASTENER HEADS COVERED WITH JOINT COMPOUND.

4. BATTS AND BLANKETS - MINERAL FIBER OR GLASS FIBER INSULATION, 3-1/2 IN. THICK, PRESSURE FIT TO FILL WALL CAVITIES BETWEEN STUDS AND PLATES. MINERAL FIBER INSULATION TO BE UNFACED AND TO HAVE A MIN DENSITY OF 3 PCF. GLASS FIBER INSULATION TO BE FACED WITH ALUMINUM FOL OR RAFT PAPER AND TO HAVE A MIN DENSITY OF 0.9 PCF (MIN R-13 THERMAL INSULATION RATING). SEE BATTS AND BLANKETS' (BZZJ) CATEGORY IN THE BUILDING MATERIALS DIRECTORY AND BATTS AND BLANKETS' (BZZJ) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF CLASSIFIED COMPANIES.

5. WOOD STRUCTURAL PANEL SHEATHING - MIN 7/16 IN. THICK, 4 FT. WIDE WOOD STRUCTURAL PANELS, MIN GRADE "C-D" OR "SHEATHING" INSTALLED WITH LONG DIMENSION OF SHEET (STRENGTH AXIS) OR FACE GRAIN OF PLYWOOD PARALLEL WITH OR PERPENDICULAR TO STUDS. VERTICAL JOINTS CENTERED ON STUDS. HORIZONTAL JOINTS BACKED WITH NOM 2 BY 4 IN. WOOD BLOCKING, ATTACHED TO STUDS ON EXTERIOR SIDE OF WALL WITH 6D CEMENT COATED BOX NAILS SPACED 6 IN. OC AT PERIMETER OF PANELS AND 12 IN. OC ALONG INTERIOR STUDS.

6. EXTERIOR FACINGS - INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. ONE OF THE FOLLOWING EXTERIOR FACINGS IS TO BE APPLIED OVER THE SHEATHING:

J. CEMENTITIOUS BACKER UNITS - 1/2 IN. OR 5/8 IN., MIN. 3/2 IN. WIDE - APPLIED VERTICALLY OR HORIZONTALLY WITH VERTICAL JOINTS CENTERED OVER STUDS. FASTENED TO STUDS AND RUNNERS WITH CEMENT BOARD SCREWS OF ADEQUATE LENGTH TO PENETRATE STUD BY A MINIMUM 3/4 IN. SPACED A MAX OF 8 IN. OC. HORIZONTAL JOINTS NEED NOT BE BACKED BY FRAMING. WHEN CEMENTITIOUS BACKER UNITS ARE USED, THE RATING IS APPLICABLE WITH EXPOSURE ON EITHER FACE. CEMENTITIOUS BACKER UNITS FOR USE AS SUBSTRATE FOR EXTERIOR FINISHES SUCH AS CERAMIC TILE, SLATE, MARBLE, NATURAL STONE, MANUFACTURED STONE, THIN BRICK, OR PORTLAND CEMENT OR SYNTHETIC STUCCO. NATIONAL GYPSUM CO. - Type PermaBase

DESIGN NO. V314
BUJV - FIRE RESISTANCE RATINGS - ANSUL 263 CERTIFIED FOR
UNITED STATES

1. WOOD STUDS - PRESSURE-TREATED, FIRE-RETARDANT WOOD STUDS - NOMINAL 2 BY 4 IN. SPACED 16 IN. OC EFFECTIVELY FIRE STOPPED. AS AN OPTION, PRESSURE-TREATED, FIRE-RETARDANT WOOD STUDS NOMINAL 2 BY 6 IN. SPACED 24 IN. OC EFFECTIVELY FIRE STOPPED. HOOVER TREATED WOOD PRODUCTS INC. - Pyno-Guard® treated lumber

2. GYPSUM WALLBOARD - NOM 5/8 IN. THICK, 4 FT. WIDE, TWO LAYERS APPLIED VERTICALLY, BASE LAYER NAILED TO WOOD STUDS AND BEARING PLATES 6 IN. OC. WITH 60 CEMENT COATED NAILS, 1-7/8 IN. LONG, 0.0915 IN. SHANK DIAM AND 1/4 IN. DIAM. HEAD. THE FACE LAYER, WITH JOINTS STAGGERED, FROM BASE LAYER, NAILED TO THE STUDS AND BEARING PLATES OVER THE BASE LAYER. 8 IN. OC WITH 8D CEMENT COATED NAILS, 2-3/8 IN. LONG, 0.113 IN. SHANK DIAM, 9/32 IN. DIAM. HEAD. AMERICAN GYPSUM CO. - TYPE AGX-1, AG-C, LIGHTROC. NATIONAL GYPSUM CO. - Type FSW, FSK, FSMR-C, FSL, FSLX, FSK-G, Type FSW-G, Type FSW-5, Type FSW-6, Type FSK-C, Type FSW-C, xP-C

3. JOINTS AND NAILHEADS - GYPSUM BOARD JOINTS COVERED WITH TAPE AND JOINT COMPOUND. NAL HEADS COVERED WITH JOINT COMPOUND.

4. BATTS AND BLANKETS - FACED OR UNFACED MINERAL FIBER INSULATION, 3-1/2 IN. THICK, NOM 3.0 PCF. PRESSURE FIT IN THE WALL CAVITY BETWEEN STUD, PLATES, AND CROSS BRACING. INSULATION MAY BE APPLIED IN MULTIPLE LAYERS TO ACHIEVE FINAL THICKNESS. SEE BATTS AND BLANKETS' (BZZJ) CATEGORY FOR NAMES OF CLASSIFIED MANUFACTURERS.

5. BUILDING UNITS - PRESSURE-TREATED, FIRE-RETARDANT PLYWOOD INSTALLED VERTICALLY NAILED TO THE WOOD FRAMING WITH 1-7/8 IN. LONG, 6D NAILS, SPACED 6 IN. OC. ON THE PERIMETER AND 12 IN. OC. IN THE FIELD. VERTICAL AND HORIZONTAL JOINTS ARE BACKED BY FRAMING. PANELS PROVIDED IN NOMINAL SIZE OF 48 IN. WIDE BY 96 IN. LONG BY 15/32 IN. THICK. HOOVER TREATED WOOD PRODUCTS INC. - Pyno-Guard treated plywood

6. EXTERIOR FACING - ANY EXTERIOR FACING, AS AUTHORIZED BY THE AUTHORITY HAVING JURISDICTION AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS ARE ALLOWED. EXTERIOR FACINGS MAY INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING EXAMPLES

6E. CEMENTITIOUS STUCCO - PORTLAND CEMENT OR SYNTHETIC STUCCO SYSTEMS (E.G. EPS) WITH SELF-FURRING METAL LATH OR ADHESIVE BASE COAT. THICKNESS FROM 3/8 IN. TO 3/4 IN. DEPENDING ON SYSTEM

7. EXTERIOR FACING - ONE OF THE FOLLOWING EXTERIOR FACINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

7A. BRICK - BRICK VENEER MEETING THE REQUIREMENTS OF LOCAL CODE AGENCIES. BRICK VENEER ATTACHED TO THE STUDS WITH CORRUGATED METAL WALL TIES ATTACHED TO EACH STUD WITH 6D CEMENT COATED NAILS, EVERY SIXTH COURSE OF BRICKS.

DESIGN NO. U356
BUJV - FIRE RESISTANCE RATINGS - ANSUL 263 CERTIFIED FOR
UNITED STATES

1. FRAMING MEMBERS - NOM 2 BY 4 IN. SPACED 16 IN. OC WITH TWO BY 4 IN. TOP AND ONE 2 BY 4 IN. BOTTOM PLATES. STUDS LATERALLY BRACED BY WOOD STRUCTURAL PANEL SHEATHING (ITEM 5), WHEN MINERAL AND FIBER BOARDS' (ITEM 5A) ARE CONSIDERED AS BRACING FOR THE STUDS, THE LOAD IS RESTRICTED TO 76% OF ALLOWABLE AXIAL LOAD. WALLS EFFECTIVELY FIRE STOPPED AT TOP AND BOTTOM OF WALL.

2. GYPSUM BOARD - ANY 5/8 IN. THICK UL CLASSIFIED GYPSUM BOARD THAT IS ELIGIBLE FOR USE IN DESIGN NOS. L501, G512 OR U356. NOM 5/8 IN. THICK, 4 FT. WIDE, APPLIED VERTICALLY AND NAILED TO STUDS AND BEARING PLATES 6 IN. OC WITH 60 CEMENT COATED NAILS, 1-7/8 IN. LONG WITH 1/4 IN. DIAM HEAD.

3. GYPSUM BOARD - (AS AN ALTERNATE TO ITEM 2) - 5/8 IN. THICK GYPSUM PANELS, WITH BEVELED, SQUARE, OR TAPERED EDGES, APPLIED EITHER HORIZONTALLY OR VERTICALLY. GYPSUM PANELS FASTENED TO FRAMING WITH 1-1/4 IN. LONG TYPE W COARSE THREAD GYPSUM PANEL STEEL SCREWS SPACED A MAX 8 IN. OC. WITH LAST SCREW 1 IN. FROM EDGE OF BOARD. WHEN USED IN WIDTHS OF OTHER THAN 48 IN., GYPSUM BOARDS ARE TO BE INSTALLED HORIZONTALLY.

AMERICAN GYPSUM CO. - Types AGX-1 (finish rating 25 min.), M-Glass (finish rating 25 min.), AG-C (finish rating 25 min.), Lightroc (finish rating 25 min.) NATIONAL GYPSUM CO. - Type FSK, Type FSK-G, Type FSW, Type FSW-3, Type FSW-5, Type FSW-G, Type FSK-C, Type FSW-C, Type FSMR-C, Type FSL, Type FSL

3. JOINTS AND FASTENER HEADS - (NOT SHOWN) - GYPSUM BOARD JOINTS COVERED WITH TAPE AND JOINT COMPOUND. FASTENER HEADS COVERED WITH JOINT COMPOUND.

4. BATTS AND BLANKETS - MINERAL FIBER OR GLASS FIBER INSULATION, 3-1/2 IN. THICK, PRESSURE FIT TO FILL WALL CAVITIES BETWEEN STUDS AND PLATES. MINERAL FIBER INSULATION TO BE UNFACED AND TO HAVE A MIN DENSITY OF 3 PCF. GLASS FIBER INSULATION TO BE FACED WITH ALUMINUM FOL OR RAFT PAPER AND TO HAVE A MIN DENSITY OF 0.9 PCF (MIN R-13 THERMAL INSULATION RATING). SEE BATTS AND BLANKETS' (BZZJ) CATEGORY IN THE BUILDING MATERIALS DIRECTORY AND BATTS AND BLANKETS' (BZZJ) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF CLASSIFIED COMPANIES.

5. WOOD STRUCTURAL PANEL SHEATHING - MIN 7/16 IN. THICK, 4 FT. WIDE WOOD STRUCTURAL PANELS, MIN GRADE "C-D" OR "SHEATHING" INSTALLED WITH LONG DIMENSION OF SHEET (STRENGTH AXIS) OR FACE GRAIN OF PLYWOOD PARALLEL WITH OR PERPENDICULAR TO STUDS. VERTICAL JOINTS CENTERED ON STUDS. HORIZONTAL JOINTS BACKED WITH NOM 2 BY 4 IN. WOOD BLOCKING, ATTACHED TO STUDS ON EXTERIOR SIDE OF WALL WITH 6D CEMENT COATED BOX NAILS SPACED 6 IN. OC AT PERIMETER OF PANELS AND 12 IN. OC ALONG INTERIOR STUDS.

6. EXTERIOR FACINGS - INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. ONE OF THE FOLLOWING EXTERIOR FACINGS IS TO BE APPLIED OVER THE SHEATHING:

E. BRICK VENEER - ANY TYPE ON NOM 4 IN. WIDE BRICK VENEER. WHEN BRICK VENEER IS USED, THE RATING IS APPLICABLE WITH EXPOSURE ON EITHER FACE. BRICK VENEER FASTENED WITH CORRUGATED METAL WALL TIES ATTACHED OVER SHEATHING TO WOOD STUDS WITH 6D NAIL PER TIE. TIES SPACED NOT MORE THAN EIGHT SIXTH COURSE OF BRICK AND MAX 32 IN. OC HORIZONTALLY. ONE IN. AIR SPACE PROVIDED BETWEEN BRICK VENEER AND SHEATHING.

EW 64 SAME AS EW 63 EXCEPT USE 1/2\"/>

CMU VENEER AT 2-HR RATED EXTERIOR WALL - WOOD FRAMING

EW 63 ANSUL 263 DESIGN NO V314 SCALE: 3\"/>

EW 62 SAME AS EW 61 EXCEPT USE 1/2\"/>

CMU VENEER AT 1-HR RATED EXTERIOR WALL - WOOD FRAMING

EW 61 ANSUL 263 DESIGN NO U356 SCALE: 3\"/>

EW 59 SAME AS EW 58 EXCEPT USE 1/2\"/>

BRICK VENEER AT EXTERIOR 2-HR RATED WALL - WOOD FRAMING

EW 58 ANSUL 263 DESIGN NO V314 SCALE: 3\"/>

EW 57 SAME AS EW 56 EXCEPT USE 1/2\"/>

BRICK VENEER AT EXTERIOR 1-HR RATED WALL - WOOD FRAMING

EW 56 ANSUL 263 DESIGN NO U356 SCALE: 3\"/>

EW 54 SAME AS EW 53, EXCEPT USE 1/2\"/>

METAL SIDING AT 2-HR RATED EXTERIOR WALL - WOOD FRAMING

EW 53 ANSUL 263 DESIGN NO V314 SCALE: 3\"/>

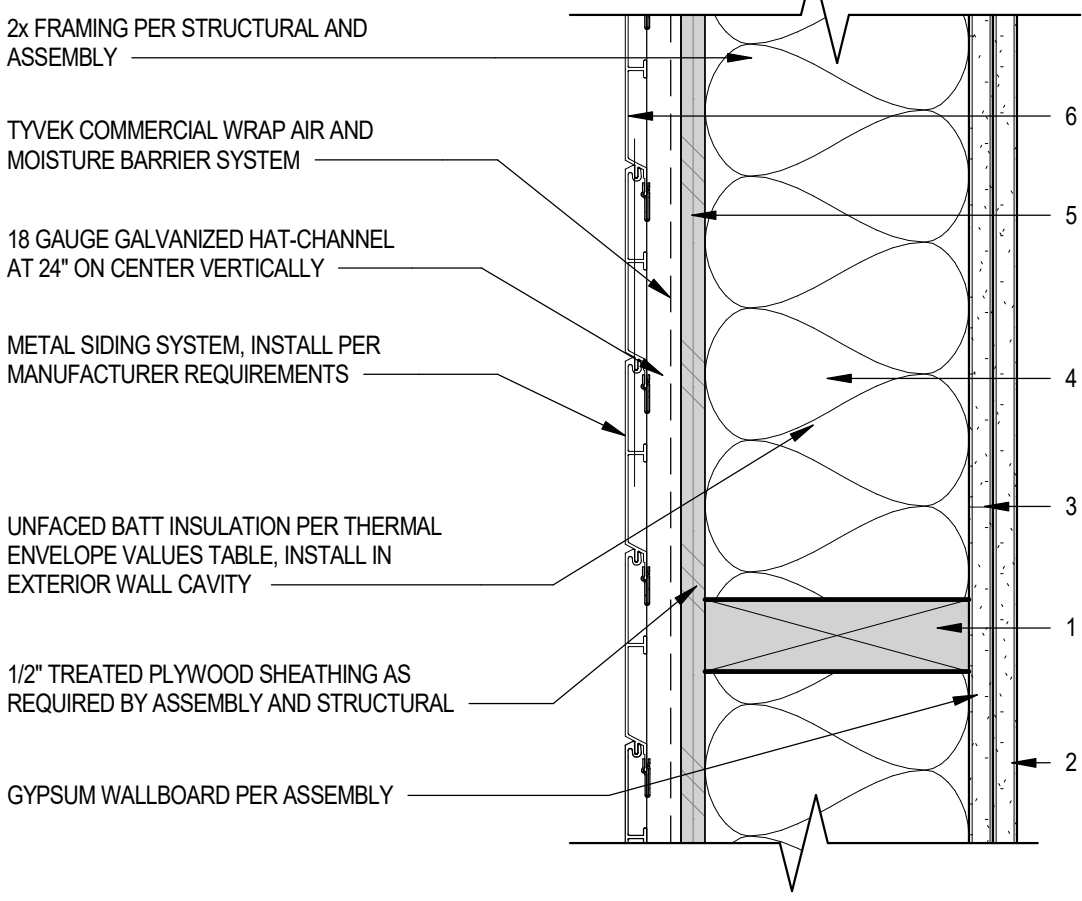
EW 52 SAME AS EW 51, EXCEPT USE 1/2\"/>

METAL SIDING AT 1-HR RATED EXTERIOR WALL - WOOD FRAMING

EW 51 ANSUL 263 DESIGN NO U356 SCALE: 3\"/>

1-HR METAL SIDING EXTERIOR WALL PROPRIETARY ASSEMBLY FIRE TEST: GA WFR30 NO SOUND RATING REQUIRED AT EXTERIOR WALLS

ARCHITECTURAL CONSTRUCTION DETAIL
NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURER'S
WRITTEN SPECIFICATIONS



GYPSUM WALLBOARD, GLASS MAT GYPSUM SUBSTRATE, WOOD STUDS

EXTERIOR SIDE, ONE LAYER 5/8\"/>

INTERIOR SIDE, ONE LAYER 5/8\"/>

RESISTANT GYPSUM BACKING BOARD, GYPSUM WALLBOARD, WATER-RESISTANT GYPSUM BACKING BOARD, OR GYPSUM VENEER BASE APPLIED PARALLEL OR AT RIGHT ANGLES TO STUDS WITH 8D COATED NAILS, 17/8\"/>

JOINTS STAGGERED ON OPPOSITE SIDES. (LOAD-BEARING)

PROPRIETARY GYPSUM PANEL PRODUCTS	APPROX. WEIGHT:
AMERICAN GYPSUM COMPANY LLC - 5/8\"/>	7.5 Pbf (Fib)
CERTANTEED GYPSUM INC. - 5/8\"/>	
CONTINENTAL BUILDING PRODUCTS OPERATING COMPANY, LLC - 5/8\"/>	
GEORGIA-PACIFIC GYPSUM LLC - 5/8\"/>	
NATIONAL GYPSUM COMPANY - 5/8\"/>	
PABCO® GYPSUM - 5/8\"/>	
UNITED STATES GYPSUM COMPANY - 5/8\"/>	

EW 52 SAME AS EW 53, EXCEPT USE 1/2\"/>

METAL SIDING AT 1-HR RATED EXTERIOR WALL - WOOD FRAMING

EW 51 GYPSUM ASSOCIATION CA FILE NO. WP #130 SCALE: 3\"/>

Project Name 1 Project Name 2

Street Address
City, state



PRELIMINARY
NOT FOR
CONSTRUCTION



LEGACY HOSPITALITY

Contractor must verify all dimensions at project before proceeding with this work. Do not repeat these dimensions and specifications unless the expressed written permission of the Architect. The general and specific conditions of this contract shall remain the property of the Architect unless the parties to which they are made is executed in writing. All drawings and specifications shall be used by program users for their projects. For additional information, contact the Architect. (This contract is available from the owner or the Architect.)

Notice of alternate billing (or payment) cycle: This contract allows (they allow) the owner to request the submission of bills or estimates in billing cycles other than thirty days. (This contract may allow the owner to make payment on some alternative schedule after a specified date approved or indicated on extension). A written description of such other billing (contract) cycle shall be provided to the Architect. (This contract is available from the owner or the Architect.)

Have the Owner or its designated agent provide this information to the Architect.

REVISIONS/SUBMITTALS

DATE DESCRIPTION

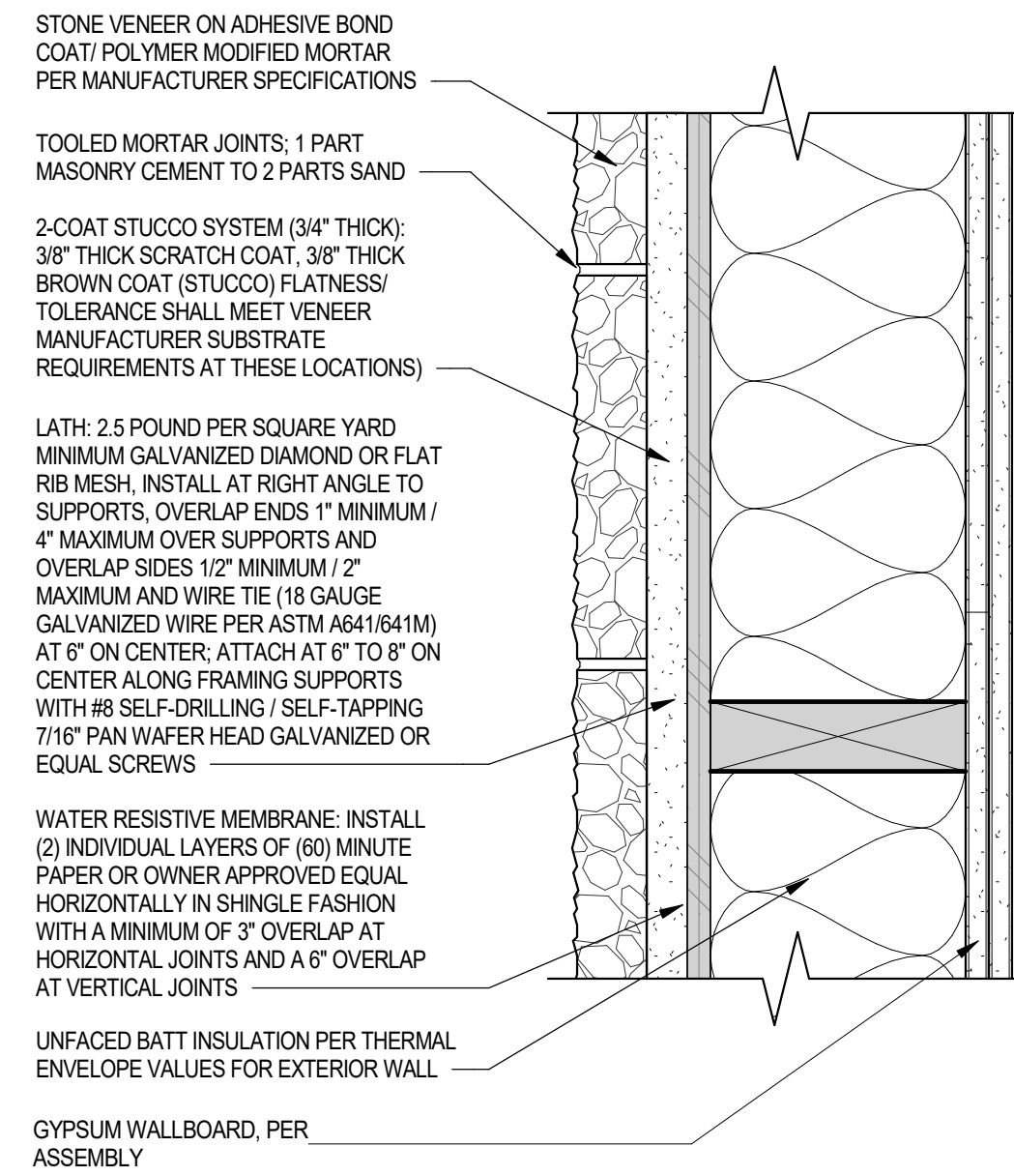
DATE: July 17, 2024 ORB #: 00-000

A7.1.12

FIRE ASSEMBLIES - EXTERIOR WOOD FRAMING

2-HR STONE VENEER - EXTERIOR WALL
PROPRIETARY ASSEMBLY - May 25, 2022
FIRE TEST: BXUV - FIRE RESISTANCE RATINGS - ANSUL 263 DESIGN NO V314
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.

ARCHITECTURAL CONSTRUCTION DETAIL
NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURERS WRITTEN SPECIFICATIONS

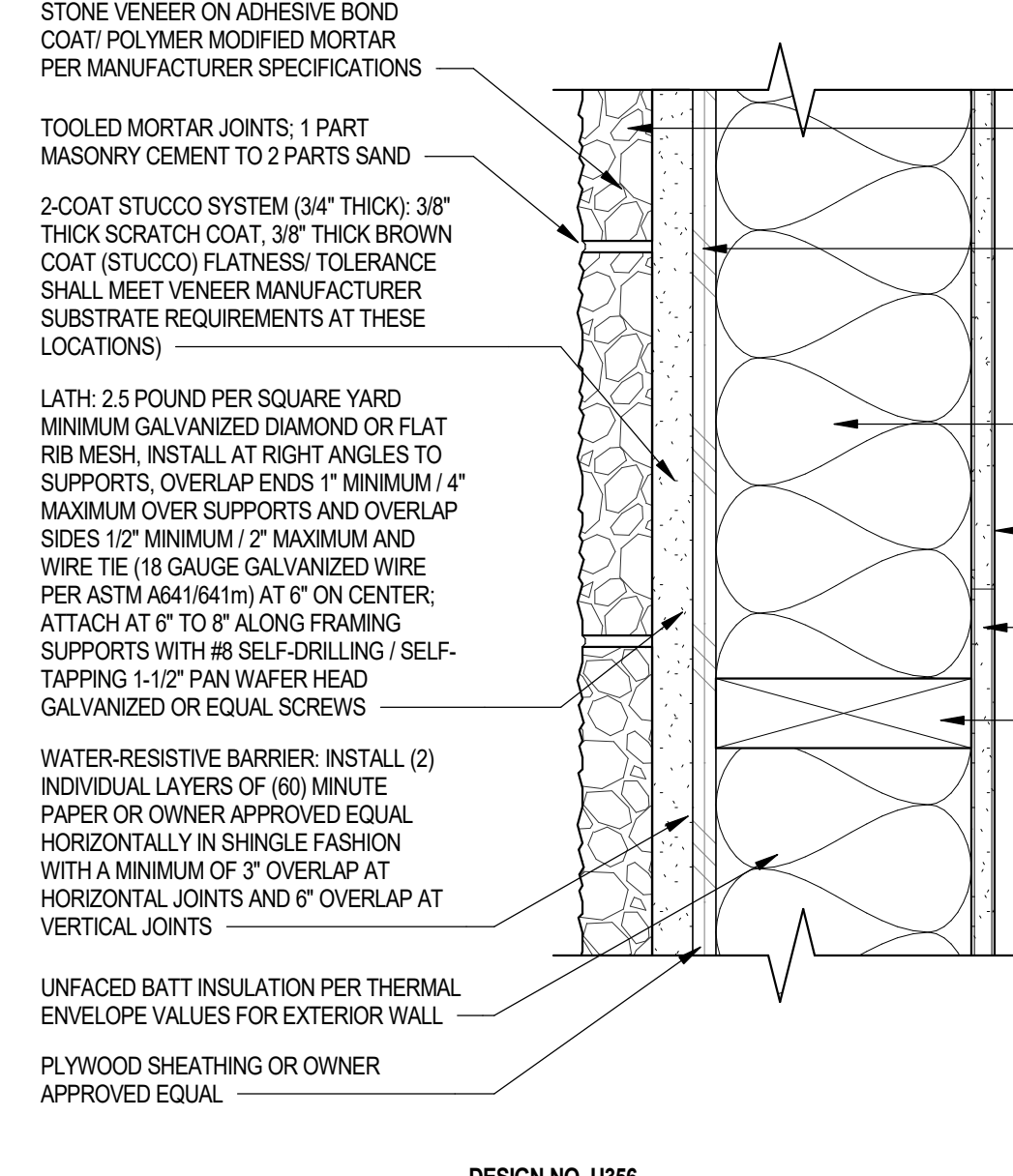


- DESIGN NO. V314
BXUV - FIRE RESISTANCE RATINGS - ANSUL 263 CERTIFIED FOR UNITED STATES
1. WOOD STUDS - PRESSURE-TREATED, FIRE-RETARDANT WOOD STUDS - NOMINAL 2 BY 4 IN., SPACED 16 IN. OC EFFECTIVELY FIRE STOPPED. AS AN OPTION, PRESSURE-TREATED, FIRE-RETARDANT WOOD STUDS - NOMINAL 2 BY 4 IN., SPACED 24 IN. OC EFFECTIVELY FIRE-STOPPED.
2. GYPSUM WALLBOARD - NOM 5/8 IN. THICK 4 FT. WIDE, TWO LAYERS APPLIED VERTICALLY, BASE LAYER NAILED TO WOOD STUDS AND BEARING PLATES 6 IN. OC. WITH 60 CEMENT COATED NAILS, 1-7/8 IN. LONG, 0.0915 IN. SHANK DIAM. AND 1/4 IN. DIAM. HEAD. THE FACE LAYER, WITH JOINTS STAGGERED FROM BASE LAYER, NAILED TO THE STUDS AND BEARING PLATES OVER THE BASE LAYER, 8 IN. OC. WITH 60 CEMENT COATED NAILS, 2-3/8 IN. LONG, 0.113 IN. SHANK DIAM. 9/32 IN. DIAM. HEAD.
3. JOINTS AND NAILHEADS - GYPSUM BOARD JOINTS COVERED WITH TAPE AND JOINT COMPOUND. NAIL HEADS COVERED WITH JOINT COMPOUND.
4. BATTS AND BLANKETS - FACED OR UNFACED MINERAL FIBER INSULATION, 3-1/2 IN. THICK, NOM 3.0 PCF. PRESSURE FIT IN THE WALL CAVITY BETWEEN STUD, PLATES, AND CROSS BRACING. INSULATION MAY BE APPLIED IN MULTIPLE LAYERS TO ACHIEVE FINAL THICKNESS.
5. BUILDING UNITS - PRESSURE-TREATED, FIRE-RETARDANT PLYWOOD INSTALLED VERTICALLY NAILED TO THE WOOD FRAMING WITH 1-7/8 IN. LONG, 6D NAILS, SPACED 6 IN. OC. ON THE PERIMETER AND 12 IN. OC. IN THE FIELD. VERTICAL AND HORIZONTAL JOINTS ARE BACKED BY FRAMING. PANELS PROVIDED IN NOMINAL SIZE OF 48 IN. WIDE BY 96 IN. LONG BY 15/32 IN. THICK.
6. EXTERIOR FACING - ANY EXTERIOR FACING, AS AUTHORIZED BY THE AUTHORITY HAVING JURISDICTION AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS ARE ALLOWED. EXTERIOR FACINGS MAY INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING EXAMPLES
7. EXTERIOR FACING - ONE OF THE FOLLOWING EXTERIOR FACINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS:
7A. BRICK - BRICK VENEER, MEETING THE REQUIREMENTS OF LOCAL CODE AGENCIES. BRICK VENEER ATTACHED TO THE STUDS WITH CORRUGATED METAL WALL TIES ATTACHED TO EACH STUD WITH 8D CEMENT COATED NAILS, EVERY SIXTH COURSE OF BRICKS.

EW 74 SAME AS EW 73 EXCEPT USE 1/2" STUCCO SYSTEM OVER 1/2" SHEATHING INSTEAD OF INTERIOR GYPSUM WALLBOARD, NO RATINGS REQUIRED
STONE VENEER AT 2-HR RATED EXTERIOR WALL - WOOD FRAMING
ANSUL 263 DESIGN NO V314 SCALE: 3" = 1'-0"

1-HR STONE VENEER - EXTERIOR WALL
PROPRIETARY ASSEMBLY - January 29, 2024
FIRE TEST: BXUV - FIRE RESISTANCE RATINGS - ANSUL 263 DESIGN NO U356
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.

ARCHITECTURAL CONSTRUCTION DETAIL
NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURERS WRITTEN SPECIFICATIONS

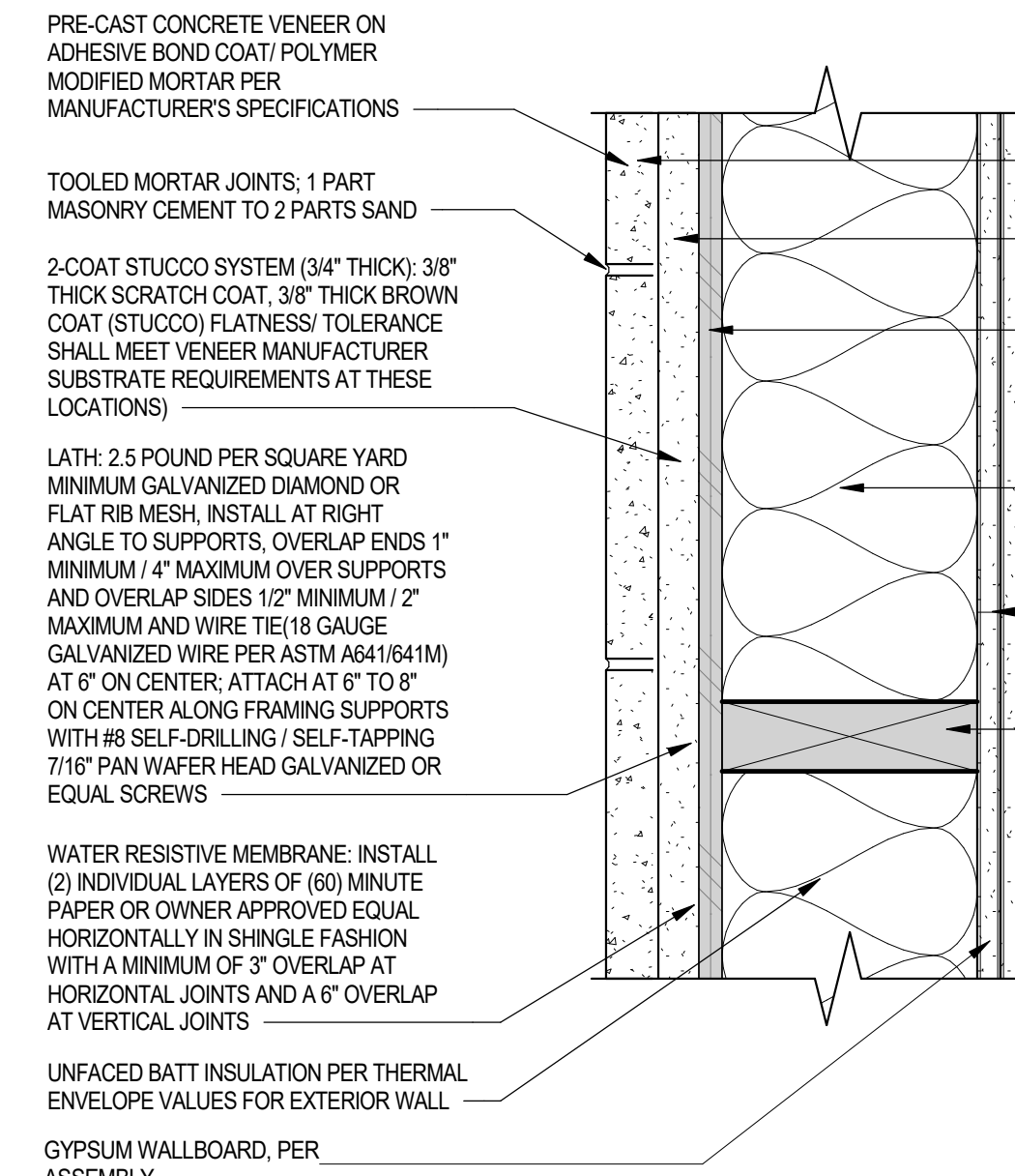


- DESIGN NO. U356
BXUV - FIRE RESISTANCE RATINGS - ANSUL 263 CERTIFIED FOR UNITED STATES
1. FRAMING MEMBERS - NOM 2 BY 4 IN., SPACED 16 IN. OC WITH TWO 2 BY 4 IN. TOP AND ONE 2 BY 4 IN. BOTTOM PLATES. STUDS LATERALLY-BRACED BY WOOD STRUCTURAL PANEL SHEATHING (ITEM 5). WHEN MINERAL AND FIBER BOARDS (ITEM 5A) ARE CONSIDERED AS BRACING FOR THE STUDS, THE LOAD IS RESTRICTED TO 76% OF ALLOWABLE AXIAL LOAD. WALLS EFFECTIVELY FIRE STOPPED AT TOP AND BOTTOM OF WALL.
2. GYPSUM BOARD - ANY 5/8 IN. THICK UL CLASSIFIED GYPSUM BOARD THAT IS ELIGIBLE FOR USE IN DESIGN NOS. L501, G512 OR U356, NOM 5/8 IN. THICK, 4 FT. WIDE, APPLIED VERTICALLY AND NAILED TO STUDS AND BEARING PLATES 6 IN. OC. WITH 60 CEMENT COATED NAILS, 1-7/8 IN. LONG, 0.0915 IN. SHANK DIAM. AND 1/4 IN. DIAM. HEAD.
3. JOINTS AND FASTENER HEADS - (NOT SHOWN) - GYPSUM BOARD JOINTS COVERED WITH TAPE AND JOINT COMPOUND. FASTENER HEADS COVERED WITH JOINT COMPOUND.
4. BATTS AND BLANKETS - MINERAL FIBER OR GLASS FIBER INSULATION, 3-1/2 IN. THICK, PRESSURE FIT TO FILL WALL CAVITIES BETWEEN STUDS AND PLATES. MINERAL FIBER INSULATION TO BE UNFACED AND TO HAVE A MIN DENSITY OF 2 PCF. GLASS FIBER INSULATION TO BE FACED WITH ALUMINUM FOL OR KRAFT PAPER AND TO HAVE A MIN DENSITY OF 0.9 PCF (MIN R-5 THERMAL INSULATION RATING). SEE BATTS AND BLANKETS (BKNV) CATEGORY IN THE BUILDING MATERIALS DIRECTORY AND BATTS AND BLANKETS (BZJZ) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF CLASSIFIED COMPANIES.
5. WOOD STRUCTURAL PANEL SHEATHING - MIN 7/16 IN. THICK, 4 FT. WIDE WOOD STRUCTURAL PANELS, MIN GRADE "C" OR "D" OR "SHEATHING" INSTALLED WITH LONG DIMENSION OF SHEET (STRENGTH AXIS) OR FACE GRAIN OF PLYWOOD PARALLEL WITH OR PERPENDICULAR TO STUDS. VERTICAL JOINTS CENTERED ON STUDS. HORIZONTAL JOINTS BACKED WITH NOM 2 BY 4 IN. WOOD BLOCKING, ATTACHED TO STUDS ON EXTERIOR SIDE OF WALL WITH 60 CEMENT COATED BOX NAILS SPACED 6 IN. OC AT PERIMETER OF PANELS AND 12 IN. OC ALONG INTERIOR STUDS.
6. EXTERIOR FACINGS - INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS. ONE OF THE FOLLOWING EXTERIOR FACINGS IS TO BE APPLIED OVER THE SHEATHING:
J. CEMENTITIOUS BACKER UNITS - 1/2 IN. OR 5/8 IN., MIN. 12 IN. WIDE - APPLIED VERTICALLY OR HORIZONTALLY WITH VERTICAL JOINTS CENTERED OVER STUDS. FASTENED TO STUDS AND RUNNERS WITH CEMENT BOARD SCREWS OF ADEQUATE LENGTH TO PENETRATE STUD BY A MINIMUM 3/4 IN., SPACED A MAX OF 8 IN. OC. HORIZONTAL JOINTS NEED NOT BE BACKED BY FRAMING. WHEN CEMENTITIOUS BACKER UNITS ARE USED, THE RATING IS APPLICABLE WITH EXPOSURE ON EITHER FACE. CEMENTITIOUS BACKER UNITS FOR USE AS SUBSTRATE FOR EXTERIOR FINISHES SUCH AS CERAMIC TILE, SLATE, MARBLE, NATURAL STONE, MANUFACTURED STONE, THIN BRICK, OR PORTLAND CEMENT OR SYNTHETIC STUCCO.

EW 72 SAME AS EW 71 EXCEPT USE 1/2" STUCCO SYSTEM OVER 1/2" SHEATHING INSTEAD OF INTERIOR GYPSUM WALLBOARD, NO RATINGS REQUIRED
STONE VENEER AT 1-HR RATED EXTERIOR WALL - WOOD FRAMING
ANSUL 263 DESIGN NO U356 SCALE: 3" = 1'-0"

2-HR CONCRETE VENEER - EXTERIOR WALL
PROPRIETARY ASSEMBLY - May 25, 2022
FIRE TEST: BXUV - FIRE RESISTANCE RATINGS - ANSUL 263 DESIGN NO V314
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.

ARCHITECTURAL CONSTRUCTION DETAIL
NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURERS WRITTEN SPECIFICATIONS

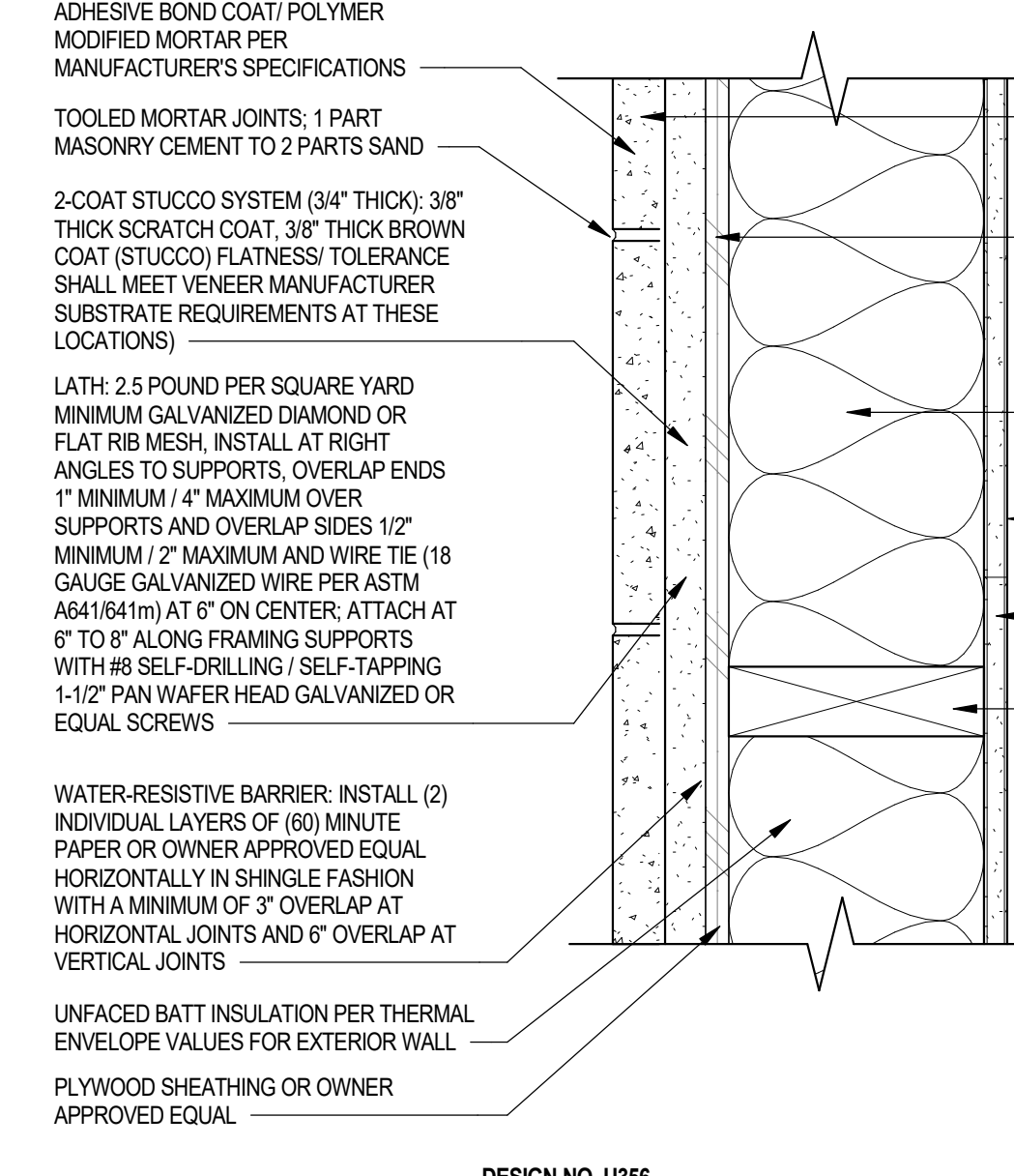


- DESIGN NO. V314
BXUV - FIRE RESISTANCE RATINGS - ANSUL 263 CERTIFIED FOR UNITED STATES
1. WOOD STUDS - PRESSURE-TREATED, FIRE-RETARDANT WOOD STUDS - NOMINAL 2 BY 4 IN., SPACED 16 IN. OC EFFECTIVELY FIRE STOPPED. AS AN OPTION, PRESSURE-TREATED, FIRE-RETARDANT WOOD STUDS - NOMINAL 2 BY 4 IN., SPACED 24 IN. OC EFFECTIVELY FIRE-STOPPED.
2. GYPSUM WALLBOARD - NOM 5/8 IN. THICK 4 FT. WIDE, TWO LAYERS APPLIED VERTICALLY, BASE LAYER NAILED TO WOOD STUDS AND BEARING PLATES 6 IN. OC. WITH 60 CEMENT COATED NAILS, 1-7/8 IN. LONG, 0.0915 IN. SHANK DIAM. AND 1/4 IN. DIAM. HEAD. THE FACE LAYER, WITH JOINTS STAGGERED FROM BASE LAYER, NAILED TO THE STUDS AND BEARING PLATES OVER THE BASE LAYER, 8 IN. OC. WITH 60 CEMENT COATED NAILS, 2-3/8 IN. LONG, 0.113 IN. SHANK DIAM. 9/32 IN. DIAM. HEAD.
3. JOINTS AND NAILHEADS - GYPSUM BOARD JOINTS COVERED WITH TAPE AND JOINT COMPOUND. NAIL HEADS COVERED WITH JOINT COMPOUND.
4. BATTS AND BLANKETS - FACED OR UNFACED MINERAL FIBER INSULATION, 3-1/2 IN. THICK, NOM 3.0 PCF. PRESSURE FIT IN THE WALL CAVITY BETWEEN STUD, PLATES, AND CROSS BRACING. INSULATION MAY BE APPLIED IN MULTIPLE LAYERS TO ACHIEVE FINAL THICKNESS.
5. BUILDING UNITS - PRESSURE-TREATED, FIRE-RETARDANT PLYWOOD INSTALLED VERTICALLY NAILED TO THE WOOD FRAMING WITH 1-7/8 IN. LONG, 6D NAILS, SPACED 6 IN. OC. ON THE PERIMETER AND 12 IN. OC. IN THE FIELD. VERTICAL AND HORIZONTAL JOINTS ARE BACKED BY FRAMING. PANELS PROVIDED IN NOMINAL SIZE OF 48 IN. WIDE BY 96 IN. LONG BY 15/32 IN. THICK.
6. EXTERIOR FACING - ANY EXTERIOR FACING, AS AUTHORIZED BY THE AUTHORITY HAVING JURISDICTION AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS ARE ALLOWED. EXTERIOR FACINGS MAY INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING EXAMPLES
7. EXTERIOR FACING - ONE OF THE FOLLOWING EXTERIOR FACINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS:
7A. BRICK - BRICK VENEER, MEETING THE REQUIREMENTS OF LOCAL CODE AGENCIES. BRICK VENEER ATTACHED TO THE STUDS WITH CORRUGATED METAL WALL TIES ATTACHED TO EACH STUD WITH 8D CEMENT COATED NAILS, EVERY SIXTH COURSE OF BRICKS.

EW 69 SAME AS EW 68 EXCEPT USE 1/2" STUCCO SYSTEM OVER 1/2" SHEATHING INSTEAD OF INTERIOR GYPSUM WALLBOARD, NO RATINGS REQUIRED
CONCRETE VENEER AT 2-HR RATED EXTERIOR WALL - WOOD FRAMING
ANSUL 263 DESIGN NO V314 SCALE: 3" = 1'-0"

1-HR CONCRETE VENEER - EXTERIOR WALL
PROPRIETARY ASSEMBLY - January 29, 2024
FIRE TEST: BXUV - FIRE RESISTANCE RATINGS - ANSUL 263 DESIGN NO U356
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.

ARCHITECTURAL CONSTRUCTION DETAIL
NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURERS WRITTEN SPECIFICATIONS



- DESIGN NO. U356
BXUV - FIRE RESISTANCE RATINGS - ANSUL 263 CERTIFIED FOR UNITED STATES
1. FRAMING MEMBERS - NOM 2 BY 4 IN., SPACED 16 IN. OC WITH TWO 2 BY 4 IN. TOP AND ONE 2 BY 4 IN. BOTTOM PLATES. STUDS LATERALLY-BRACED BY WOOD STRUCTURAL PANEL SHEATHING (ITEM 5). WHEN MINERAL AND FIBER BOARDS (ITEM 5A) ARE CONSIDERED AS BRACING FOR THE STUDS, THE LOAD IS RESTRICTED TO 76% OF ALLOWABLE AXIAL LOAD. WALLS EFFECTIVELY FIRE STOPPED AT TOP AND BOTTOM OF WALL.
2. GYPSUM BOARD - ANY 5/8 IN. THICK UL CLASSIFIED GYPSUM BOARD THAT IS ELIGIBLE FOR USE IN DESIGN NOS. L501, G512 OR U356, NOM 5/8 IN. THICK, 4 FT. WIDE, APPLIED VERTICALLY AND NAILED TO STUDS AND BEARING PLATES 6 IN. OC. WITH 60 CEMENT COATED NAILS, 1-7/8 IN. LONG WITH 1/4 IN. DIAM HEAD.
3. JOINTS AND FASTENER HEADS - (NOT SHOWN) - GYPSUM BOARD JOINTS COVERED WITH TAPE AND JOINT COMPOUND. FASTENER HEADS COVERED WITH JOINT COMPOUND.
4. BATTS AND BLANKETS - MINERAL FIBER OR GLASS FIBER INSULATION, 3-1/2 IN. THICK, PRESSURE FIT TO FILL WALL CAVITIES BETWEEN STUDS AND PLATES. MINERAL FIBER INSULATION TO BE UNFACED AND TO HAVE A MIN DENSITY OF 2 PCF. GLASS FIBER INSULATION TO BE FACED WITH ALUMINUM FOL OR KRAFT PAPER AND TO HAVE A MIN DENSITY OF 0.9 PCF (MIN R-5 THERMAL INSULATION RATING). SEE BATTS AND BLANKETS (BKNV) CATEGORY IN THE BUILDING MATERIALS DIRECTORY AND BATTS AND BLANKETS (BZJZ) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF CLASSIFIED COMPANIES.
5. WOOD STRUCTURAL PANEL SHEATHING - MIN 7/16 IN. THICK, 4 FT. WIDE WOOD STRUCTURAL PANELS, MIN GRADE "C" OR "D" OR "SHEATHING" INSTALLED WITH LONG DIMENSION OF SHEET (STRENGTH AXIS) OR FACE GRAIN OF PLYWOOD PARALLEL WITH OR PERPENDICULAR TO STUDS. VERTICAL JOINTS CENTERED ON STUDS. HORIZONTAL JOINTS BACKED WITH NOM 2 BY 4 IN. WOOD BLOCKING, ATTACHED TO STUDS ON EXTERIOR SIDE OF WALL WITH 60 CEMENT COATED BOX NAILS SPACED 6 IN. OC AT PERIMETER OF PANELS AND 12 IN. OC ALONG INTERIOR STUDS.
6. EXTERIOR FACINGS - INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS. ONE OF THE FOLLOWING EXTERIOR FACINGS IS TO BE APPLIED OVER THE SHEATHING:
J. CEMENTITIOUS BACKER UNITS - 1/2 IN. OR 5/8 IN., MIN. 12 IN. WIDE - APPLIED VERTICALLY OR HORIZONTALLY WITH VERTICAL JOINTS CENTERED OVER STUDS. FASTENED TO STUDS AND RUNNERS WITH CEMENT BOARD SCREWS OF ADEQUATE LENGTH TO PENETRATE STUD BY A MINIMUM 3/4 IN., SPACED A MAX OF 8 IN. OC. HORIZONTAL JOINTS NEED NOT BE BACKED BY FRAMING. WHEN CEMENTITIOUS BACKER UNITS ARE USED, THE RATING IS APPLICABLE WITH EXPOSURE ON EITHER FACE. CEMENTITIOUS BACKER UNITS FOR USE AS SUBSTRATE FOR EXTERIOR FINISHES SUCH AS CERAMIC TILE, SLATE, MARBLE, NATURAL STONE, MANUFACTURED STONE, THIN BRICK, OR PORTLAND CEMENT OR SYNTHETIC STUCCO.

EW 67 SAME AS EW 66 EXCEPT USE 1/2" STUCCO SYSTEM OVER 1/2" SHEATHING INSTEAD OF INTERIOR GYPSUM WALLBOARD, NO RATINGS REQUIRED
CONCRETE VENEER AT 1-HR RATED EXTERIOR WALL - WOOD FRAMING
ANSUL 263 DESIGN NO U356 SCALE: 3" = 1'-0"

Project Name 1
Project Name 2
Street Address
City, State



WorldHQ@ORBArch.com

PRELIMINARY
NOT FOR
CONSTRUCTION



Contractor must verify all dimensions at project before proceeding with this work. Do not reproduce these drawings and specifications without the expressed written permission of the Architect. The drawings and specifications shall be used by anyone who shall remain the property of the Architect whether the project for which they are made is executed or not. These drawings and specifications shall not be used for any other projects, for additions to this project, or for completion of this project by others, except by the expressed written permission of the Architect.

Notice of alternate billing (or payment) cycle
This contract states (may state) the owner to require the submission of billings or estimates in billing cycles other than thirty days. This contract may allow the owner to make payment on some alternative schedule other than thirty days. A written description of such other billing (or payment) cycle applicable to this project is available from the owner or the owner's designated agent at:
2025 E. CAMBRIDGE RD., SUITE 500, PHOENIX, AZ 85016
(602) 778-2802
And the owner or its designated agent shall provide this information upon request.

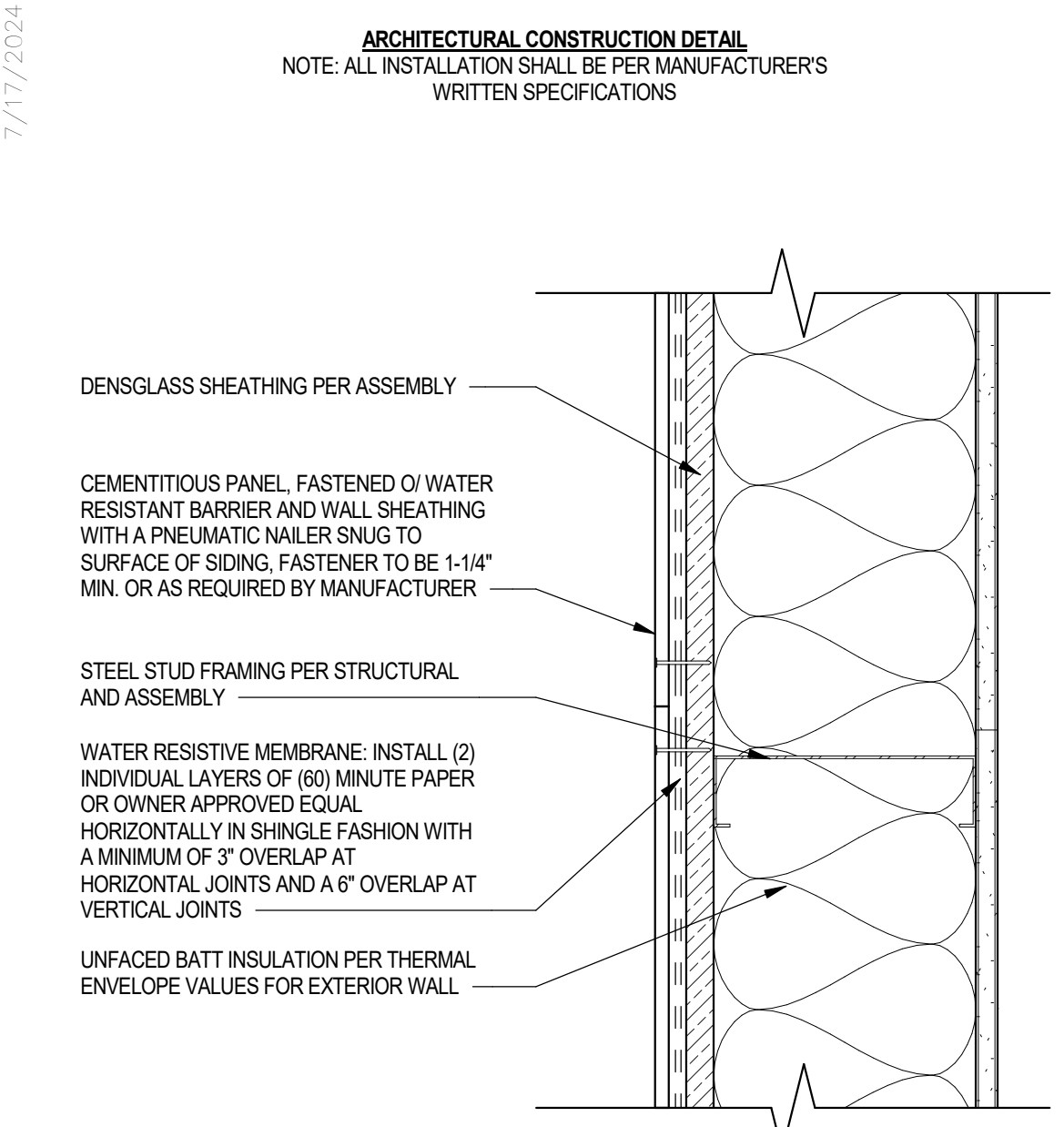
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DATE: July 17, 2024 ORB #: 00-000

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FIRE ASSEMBLIES - EXTERIOR WOOD FRAMING

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1-HR CEMENTITIOUS BOARD SIDING EXTERIOR WALL
PROPRIETARY ASSEMBLY - UNITED STATES GYPSUM CO - June 2021
FIRE TEST: GA WP 8006



DESIGN NO. WP 8006
GYPSUM WALLBOARD, GLASS MAT GYPSUM PANELS STEEL STUDS, INSULATION
THICKNESS: 4-3/4" (FIRE)
APPROX. WEIGHT: 6 PSF (FIRE)
FIRE TEST: UL R3090, 01N&2103, 0124-022; UL R2717, 07N&0879, 9-19-08; UL R1519, 4786528206, 4-29-15; UL DESIGN U425

EXTERIOR SIDE - ONE LAYER 5/8 INCH PROPRIETARY TYPE X GLASS MAT GYPSUM SUBSTRATE (SHEATHING) APPLIED PARALLEL TO 3-1/2 INCH, 33 MIL STEEL STUDS 24 INCH ON CENTER WITH 1/2 INCH TYPE S-12 SELF-DRILLING, CORROSION RESISTANT, BULGE HEAD, SCREWS 1/2 INCH ON CENTER STUDS ATTACHED TO BOTH VERTICAL EDGES OF FLOOR AND CEILING RUNNERS EITHER BY WELDING OR WITH 1/2 INCH TYPE S-2 PAN HEAD SCREWS. MINERAL OR GLASS FIBER INSULATION FRICTION FIT INTO THE STUD SPACE. EXTERIOR CLADDING TO BE ATTACHED THROUGH GLASS MAT GYPSUM PANEL TO STUDS.

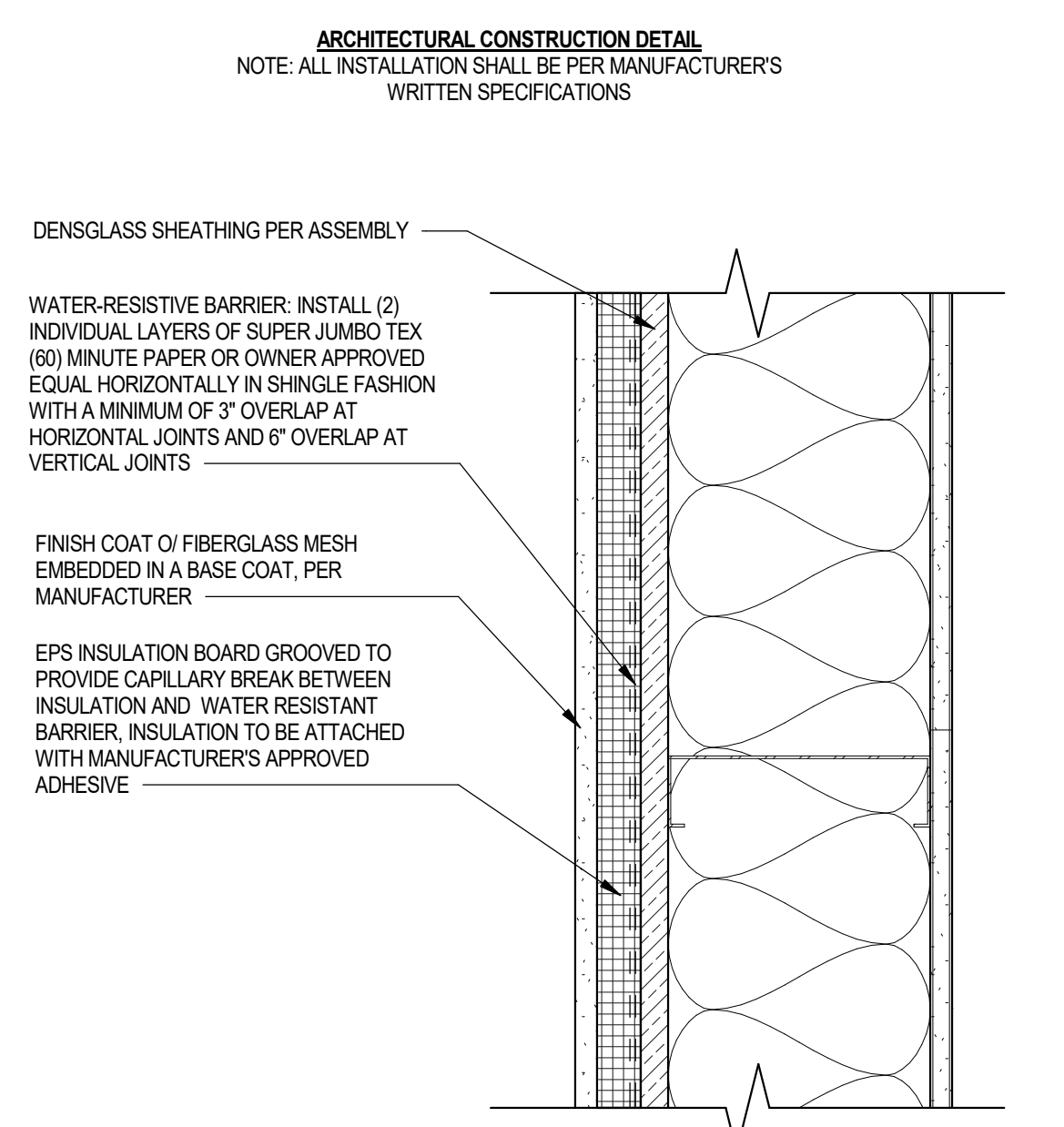
INTERIOR SIDE - ONE LAYER 5/8 INCH PROPRIETARY TYPE X GYPSUM WALLBOARD APPLIED PARALLEL TO STUDS WITH 1/2 INCH TYPE S-12 SCREWS 12 INCH ON CENTER.

BRACING - ALL DESIGN DETAILS ENHANCING THE STRUCTURAL INTEGRITY OF THE WALL ASSEMBLY, INCLUDING THE AXIAL DESIGN LOAD OF THE STUDS, SHALL BE AS SPECIFIED BY THE STEEL STUD DESIGNER AND/OR PRODUCER, AND SHALL MEET THE REQUIREMENTS OF ALL APPLICABLE LOCAL CODE AGENCIES, WHERE REQUIRED FOR LATERAL SUPPORT OF STUDS. SUPPORT MAY BE PROVIDED BY MEANS OF STEEL STRIPS, CHANNELS OR OTHER SIMILAR MEANS AS SPECIFIED IN THE STRUCTURAL DESIGN. TESTED AT 100 PERCENT OF DESIGN LOAD. (LOAD BEARING)

- PROPRIETARY GYPSUM PANEL PRODUCTS**
CERTAINTED GYPSUM INC.
516 Certain Teed® Type X Gypsum Board
516 Certain Teed® GlassMat® Sheathing Type X Gypsum Panels
GEORGIA-PACIFIC GYPSUM LLC
516 ToughRock® Fireguard® Gypsum Board
516 DensShield® Fireguard® Sheathing
PABCO GYPSUM
516 FLAME CURB® Type X
516 PABCO® Glass® Sheathing Type X
UNITED STATES GYPSUM COMPANY
516 Sheetrock® Brand EcoSmart Panels Firecode® X
516 Sheetrock® Brand UltraLight Glass-Mat Sheathing Firecode® X

EM 42 SAME AS EM 41 EXCEPT USE 1/2" STUCCO SYSTEM OVER 1/2" SHEATHING INSTEAD OF INTERIOR GYPSUM WALLBOARD, NO RATING REQUIRED
CEMENTITIOUS BOARD AT 1-HR RATED EXTERIOR WALL - METAL FRAMING
GA WP 8006 SCALE: 3" = 1'-0"

1-HR EIFS BOARD SIDING EXTERIOR WALL
PROPRIETARY ASSEMBLY - UNITED STATES GYPSUM CO - June 2021
FIRE TEST: GA WP 8006



DESIGN NO. WP 8006
GYPSUM WALLBOARD, GLASS MAT GYPSUM PANELS STEEL STUDS, INSULATION
THICKNESS: 4-3/4" (FIRE)
APPROX. WEIGHT: 6 PSF (FIRE)
FIRE TEST: UL R3090, 01N&2103, 0124-022; UL R2717, 07N&0879, 9-19-08; UL R1519, 4786528206, 4-29-15; UL DESIGN U425

EXTERIOR SIDE - ONE LAYER 5/8 INCH PROPRIETARY TYPE X GLASS MAT GYPSUM SUBSTRATE (SHEATHING) APPLIED PARALLEL TO 3-1/2 INCH, 33 MIL STEEL STUDS 24 INCH ON CENTER WITH 1/2 INCH TYPE S-12 SELF-DRILLING, CORROSION RESISTANT, BULGE HEAD, SCREWS 1/2 INCH ON CENTER STUDS ATTACHED TO BOTH VERTICAL EDGES OF FLOOR AND CEILING RUNNERS EITHER BY WELDING OR WITH 1/2 INCH TYPE S-2 PAN HEAD SCREWS. MINERAL OR GLASS FIBER INSULATION FRICTION FIT INTO THE STUD SPACE. EXTERIOR CLADDING TO BE ATTACHED THROUGH GLASS MAT GYPSUM PANEL TO STUDS.

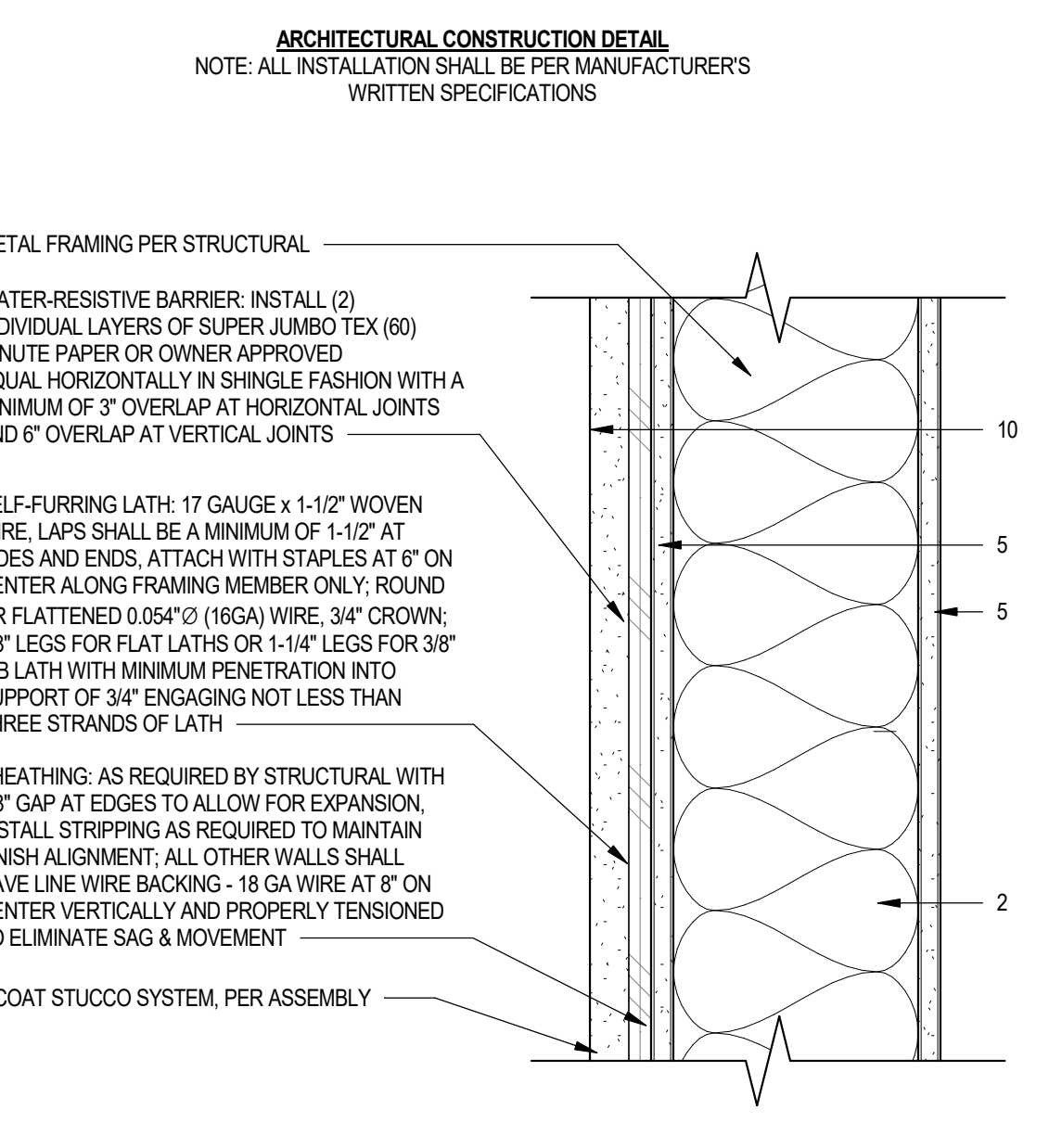
INTERIOR SIDE - ONE LAYER 5/8 INCH PROPRIETARY TYPE X GYPSUM WALLBOARD APPLIED PARALLEL TO STUDS WITH 1/2 INCH TYPE S-12 SCREWS 12 INCH ON CENTER.

BRACING - ALL DESIGN DETAILS ENHANCING THE STRUCTURAL INTEGRITY OF THE WALL ASSEMBLY, INCLUDING THE AXIAL DESIGN LOAD OF THE STUDS, SHALL BE AS SPECIFIED BY THE STEEL STUD DESIGNER AND/OR PRODUCER, AND SHALL MEET THE REQUIREMENTS OF ALL APPLICABLE LOCAL CODE AGENCIES, WHERE REQUIRED FOR LATERAL SUPPORT OF STUDS. SUPPORT MAY BE PROVIDED BY MEANS OF STEEL STRIPS, CHANNELS OR OTHER SIMILAR MEANS AS SPECIFIED IN THE STRUCTURAL DESIGN. TESTED AT 100 PERCENT OF DESIGN LOAD. (LOAD BEARING)

- PROPRIETARY GYPSUM PANEL PRODUCTS**
CERTAINTED GYPSUM INC.
516 Certain Teed® Type X Gypsum Board
516 Certain Teed® GlassMat® Sheathing Type X Gypsum Panels
GEORGIA-PACIFIC GYPSUM LLC
516 ToughRock® Fireguard® Gypsum Board
516 DensShield® Fireguard® Sheathing
PABCO GYPSUM
516 FLAME CURB® Type X
516 PABCO® Glass® Sheathing Type X
UNITED STATES GYPSUM COMPANY
516 Sheetrock® Brand EcoSmart Panels Firecode® X
516 Sheetrock® Brand UltraLight Glass-Mat Sheathing Firecode® X

EM 22 SAME AS EM 21 EXCEPT USE 1/2" STUCCO SYSTEM OVER 1/2" SHEATHING INSTEAD OF INTERIOR GYPSUM WALLBOARD, NO RATING REQUIRED
1-HR EIFS RATED EXTERIOR WALL - METAL FRAMING
GA WP 8006 SCALE: 3" = 1'-0"

1-HR STUCCO EXTERIOR WALL - RATED BOTH SIDES
PROPRIETARY ASSEMBLY - August 4, 2023
FIRE TEST: BULV U348 - FIRE RESISTANCE RATINGS - ANSUL 263 DESIGN NO. U348
SOUND RATING: NOT REQUIRED AT EXTERIOR WALLS
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.



DESIGN NO. U348
BULV - FIRE RESISTANCE RATINGS - ANSUL 263 CERTIFIED FOR UNITED STATES

1A. STEEL STUDS AND FLOOR AND CEILING TRACKS - TOP AND BOTTOM TRACKS OF WALL ASSEMBLIES SHALL CONSIST OF STEEL MEMBERS, MIN NO. 20 MSG (0.029 IN. MIN BARE METAL THICKNESS) STEEL OR MIN NO. 20 MSG (0.029 IN. THICK GAUSS STEEL OR NO. 20 MSG (0.029 IN. THICK) FRAMED STEEL. THAT PROVIDE A SOUND STRUCTURAL CONNECTION BETWEEN STEEL STUDS, AND TO ADJACENT ASSEMBLIES SUCH AS FLOOR, CEILING AND OTHER WALLS. FASTENERS SPACED NOT GREATER THAN 24 IN. OC.

2. GYPSUM WALLBOARD - ANY 5/8 IN. THICK UL CLASSIFIED GYPSUM BOARD THAT IS ELIGIBLE FOR USE IN DESIGN NOS. L501, L512 OR U305, NOM. 5/8 IN. THICK, 4 FT. WIDE, APPLIED VERTICALLY, AND NAILED TO STUDS AND BEARING PLATES 1/2 IN. OC. WITH 60 GEMENT COATED NAILS, 1/8 IN. LONG, 0.0915 IN. SHANK DIA. AND 1/4 IN. DIA. HEAD. WHEN STEEL FRAMING IS SUBSTITUTED FOR WOOD FRAMING, 1 IN. LONG TYPE S STEEL SCREWS ARE USED IN LIEU OF NAILS.

3. JOINTS AND NAHLHEADS - WALLBOARD JOINTS COVERED WITH TAPE AND JOINT COMPOUND. NAIL HEADS COVERED WITH JOINT COMPOUND.

4. BATTS AND BLANKETS - FACED OR UNFACED MINERAL FIBER INSULATION, 3-1/2 IN. THICK, NOM. 3.0 PCF. PRESSURE FIT IN THE WALL CAVITY BETWEEN STUDS, PLATES, AND CROSS BRACING. IF 2 BY 6 IN. STUDS (ITEM 1) ARE USED, MIN. 5-1/2 IN. OF UNFACED MINERAL FIBER INSULATION, NOM. 3.0 PCF. PRESSURE FIT IN THE WALL CAVITY BETWEEN STUDS, PLATES, AND CROSS BRACING. INSULATION MAY BE APPLIED IN MULTIPLE LAYERS TO ACHIEVE FINAL THICKNESS.

5. BUILDING UNITS - BUILDING UNITS PLACED WITH THE LAMINATE FACE AGAINST OR LAMINATE FACE AWAY FROM AND NAILED TO, THE WOOD FRAMING WITH 1-7/8 IN. LONG, 60 NAILS, SPACED 16 IN. OC. ON THE PERIMETER AND 12 IN. OC. IN THE FIELD. WHEN STEEL FRAMING IS SUBSTITUTED FOR WOOD FRAMING, TYPE S STEEL SCREWS ARE USED IN LIEU OF NAILS WITH A MINIMUM PENETRATION LENGTH THROUGH THE STEEL STUD OF 3/8 IN.

6. EXTERIOR FINISHES - REQUIRED FOR 1 HOUR RATING ON THE EXTERIOR FACE. THE FOLLOWING EXTERIOR FINISHING SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS:

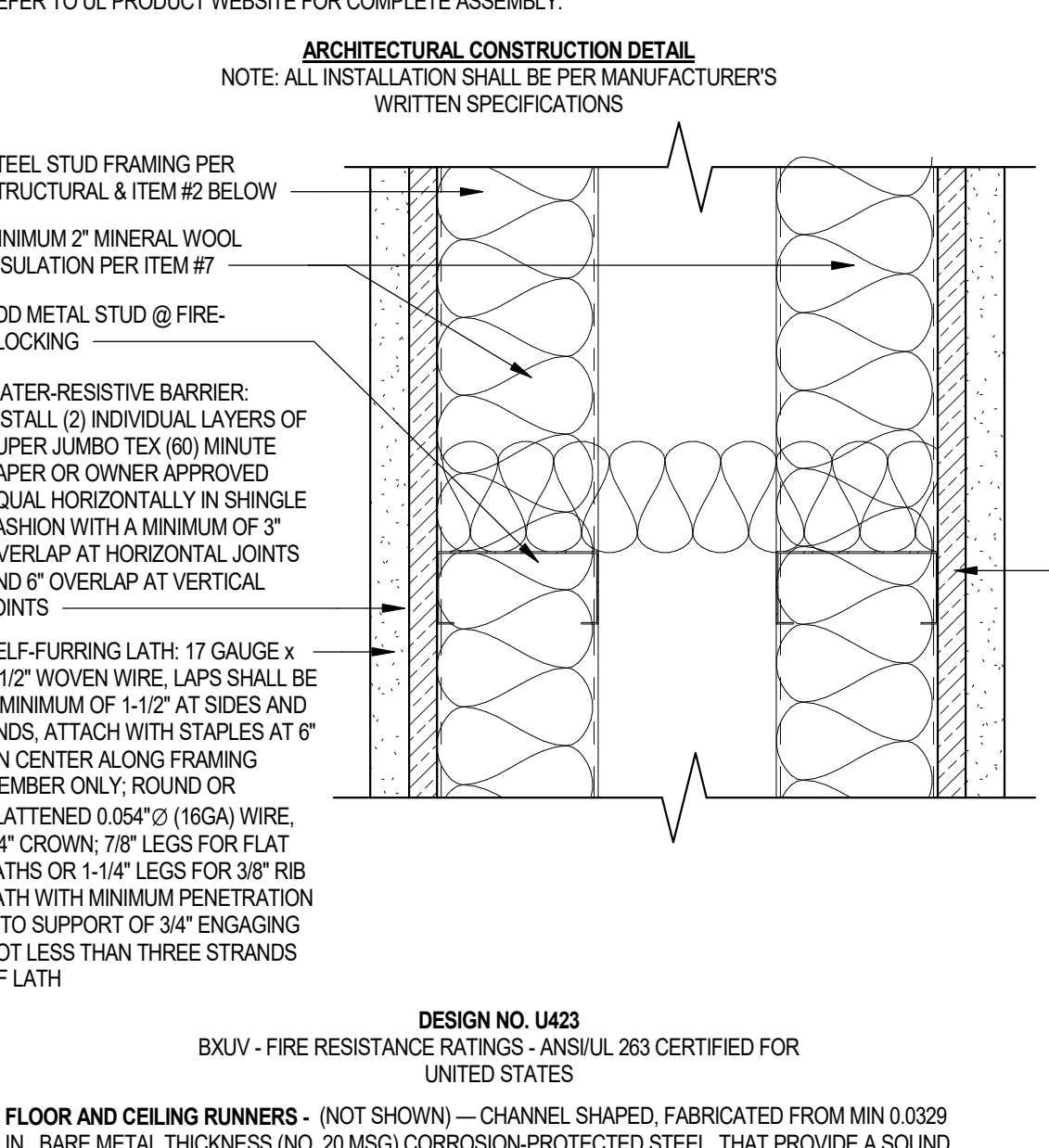
8B. CEMENTITIOUS STUCCO - PORTLAND CEMENT WITH SELF-FURRING METAL LATH, MINIMUM THICKNESS OF 3/4 IN. WITH A MIX RATIO OF 1:4 FOR SCRATCH COAT AND 1:5 FOR BROWN COAT. BY VOLUME, CEMENT TO SAND.

9. JOINT TAPE AND COMPOUND - VINYL OR CASER, DRY OR PREMIXED JOINT COMPOUND APPLIED IN TWO COATS TO JOINTS AND SCREW HEADS OF OUTER LAYERS. PAPER TAPE, NOM. 2 IN. WIDE, EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS OF OUTER LAYERS. PAPER TAPE AND JOINT COMPOUND MAY BE OMITTED WHEN GYPSUM BOARDS ARE SUPPLIED WITH SQUARE EDGES.

10. SIDING, BRICK, OR STUCCO - (OPTIONAL, NOT SHOWN) - ALUMINUM, VINYL OR STEEL SIDING, BRICK VENEER OR STUCCO, MEETING THE REQUIREMENTS OF LOCAL CODE AGENCIES. BRICK VENEER ATTACHED TO STUDS WITH CORRUGATED METAL WALL TIES ATTACHED TO EACH STUD WITH STEEL SCREWS, NOT MORE THAN EACH SIXTH COURSE OF BRICK.

EM 16 ANSUL 263 DESIGN NO. U348 SCALE: 3" = 1'-0"

1-HR UNIT SEPARATION EXTERIOR WALL
PROPRIETARY ASSEMBLY - February 16, 2024
BULV - FIRE RESISTANCE RATINGS - ANSUL 263 DESIGN NO. U423
SOUND RATING: NOT REQUIRED AT EXTERIOR WALLS
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.



DESIGN NO. U423
BULV - FIRE RESISTANCE RATINGS - ANSUL 263 CERTIFIED FOR UNITED STATES

1. FLOOR AND CEILING RUNNERS - (NOT SHOWN) - CHANNEL SHAPED, FABRICATED FROM MIN. 0.029 IN. BARE METAL THICKNESS (NO. 20 MSG) CORROSION-PROTECTED STEEL. THAT PROVIDE A SOUND STRUCTURAL CONNECTION BETWEEN STEEL STUDS AND ADJACENT ASSEMBLIES SUCH AS FLOORS, CEILING AND OTHER WALLS. ATTACHED TO FLOOR AND CEILING ASSEMBLIES WITH STEEL FASTENERS SPACED NOT GREATER THAN 24 IN. OC.

2. STEEL STUDS - MIN. 0.029 IN. BARE METAL THICKNESS (NO. 20 MSG) CORROSION-PROTECTED STEEL STUDS, MIN. 3-1/2 IN. WIDE, COLD FORMED, DESIGNED IN ACCORDANCE WITH THE CURRENT EDITION OF THE SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS BY THE AMERICAN IRON AND STEEL INSTITUTE (AISI). ALL DESIGN DETAILS ENHANCING THE STRUCTURAL INTEGRITY OF THE WALL ASSEMBLY, INCLUDING THE AXIAL DESIGN LOAD OF THE STUDS, SHALL BE AS SPECIFIED BY THE STEEL STUD DESIGNER AND/OR PRODUCER, AND SHALL MEET THE REQUIREMENTS OF ALL APPLICABLE LOCAL CODE AGENCIES. THE MAX STUD SPACING SHALL NOT EXCEED 24 IN. OC.

3. LATERAL SUPPORT MEMBERS - (NOT SHOWN) - WHERE REQUIRED FOR LATERAL SUPPORT OF STUDS, SUPPORT SHALL BE PROVIDED BY MEANS OF STEEL STRIPS, CHANNELS OR OTHER SIMILAR MEANS AS SPECIFIED IN THE DESIGN OF A PARTICULAR STEEL STUD WALL SYSTEM.

4. GYPSUM BOARD - GYPSUM PANELS WITH BEVELED, SQUARE OR TAPERED EDGES, APPLIED VERTICALLY OR HORIZONTALLY. VERTICAL JOINTS CENTERED OVER STUDS AND STAGGERED ONE STUD CAVITY ON OPPOSITE SIDES OF STUDS. VERTICAL JOINTS IN ADJACENT LAYERS (MULTILAYER SYSTEMS) STAGGERED ONE STUD CAVITY. HORIZONTAL JOINTS NEED NOT BE BACKED BY STEEL FRAMING. HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS ON OPPOSITE SIDES OF STUDS NEED NOT BE STAGGERED WHEN LOAD IS REDUCED TO 90 PERCENT OF MAX STUD CAPACITY. WHEN LOAD IS AT 100 PERCENT, HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS ON OPPOSITE SIDES OF STUDS STAGGERED A MIN OF 12 IN. HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS ON OPPOSITE SIDES OF STUDS NEED NOT BE STAGGERED AT 100 PERCENT LOAD WITH TYPE ULX. HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS IN ADJACENT LAYERS (MULTILAYER SYSTEMS) STAGGERED A MIN. OF 12 IN. HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS IN ADJACENT LAYERS (MULTILAYER SYSTEMS) WITH TYPE ULX NEED NOT BE STAGGERED. WHEN USED IN WIDTHS OTHER THAN 48 IN., GYPSUM PANELS TO BE INSTALLED HORIZONTALLY. THE THICKNESS AND NUMBER OF LAYERS AND PERCENT OF DESIGN LOAD FOR THE 45 MIN., 1-HR., 1-1/2 HR. AND 2-HR. RATINGS ARE AS FOLLOWS:

RATING	NO. OF LAYERS & THICKNESS OF PANELS EACH SIDE	% OF DESIGN LOAD
1 HR	1 LAYERS, 5/8 IN. THICK	100

UNITED STATES GYPSUM CO - 5/8 in. thick Type AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SCX, SHX, ULX, ULX, WRX, or WRX, 3/4 in. thick Types AR, IP-AR or IP-X3, ULTRACODE

6. FASTENERS - (NOT SHOWN) - FOR USE WITH ITEM 5 - TYPE S-12 STEEL SCREWS USED TO ATTACH PANELS TO RUNNERS (ITEM 1) OR 1A) AND STUDS (ITEM 2) OR FURRING CHANNELS (ITEM 8). TWO LAYER SYSTEMS: FIRST LAYER - 1 IN. LONG FOR 12 IN. AND 5/8 IN. THICK PANELS OR 1-1/4 IN. LONG FOR 3/4 IN. THICK PANELS. SPACED 8 IN. OC. WHEN PANELS ARE APPLIED HORIZONTALLY, OR 12 IN. OC. WHEN PANELS ARE APPLIED VERTICALLY. SINGLE LAYER SYSTEM WITH TYPE ULX: 1 IN. LONG, SPACED 12 IN. OC. ALONG THE PERIMETER AND IN THE FIELD WHEN PANELS ARE APPLIED HORIZONTALLY OR VERTICALLY. TWO LAYER SYSTEMS: FIRST LAYER - 1 IN. LONG FOR 12 IN. AND 5/8 IN. THICK PANELS OR 1-1/4 IN. LONG FOR 3/4 IN. THICK PANELS. SPACED 16 IN. OC. SECOND LAYER - 1-5/8 IN. LONG FOR 12 IN. AND 5/8 IN. THICK PANELS OR 2-1/4 IN. LONG FOR 3/4 IN. THICK PANELS. SPACED 16 IN. OC. WITH SCREWS OFFSET 8 IN. FROM FIRST LAYER. THREE-LAYER SYSTEMS: FIRST LAYER - 1 IN. LONG FOR 12 IN. AND 5/8 IN. THICK PANELS, SPACED 24 IN. OC. SECOND LAYER - 1-5/8 IN. LONG FOR 12 IN. THICK PANELS, SPACED 24 IN. OC. THIRD LAYER - 2-1/4 IN. LONG FOR 12 IN. THICK PANELS, SPACED 12 IN. OC. SCREWS OFFSET 8 IN. FROM FIRST LAYER.

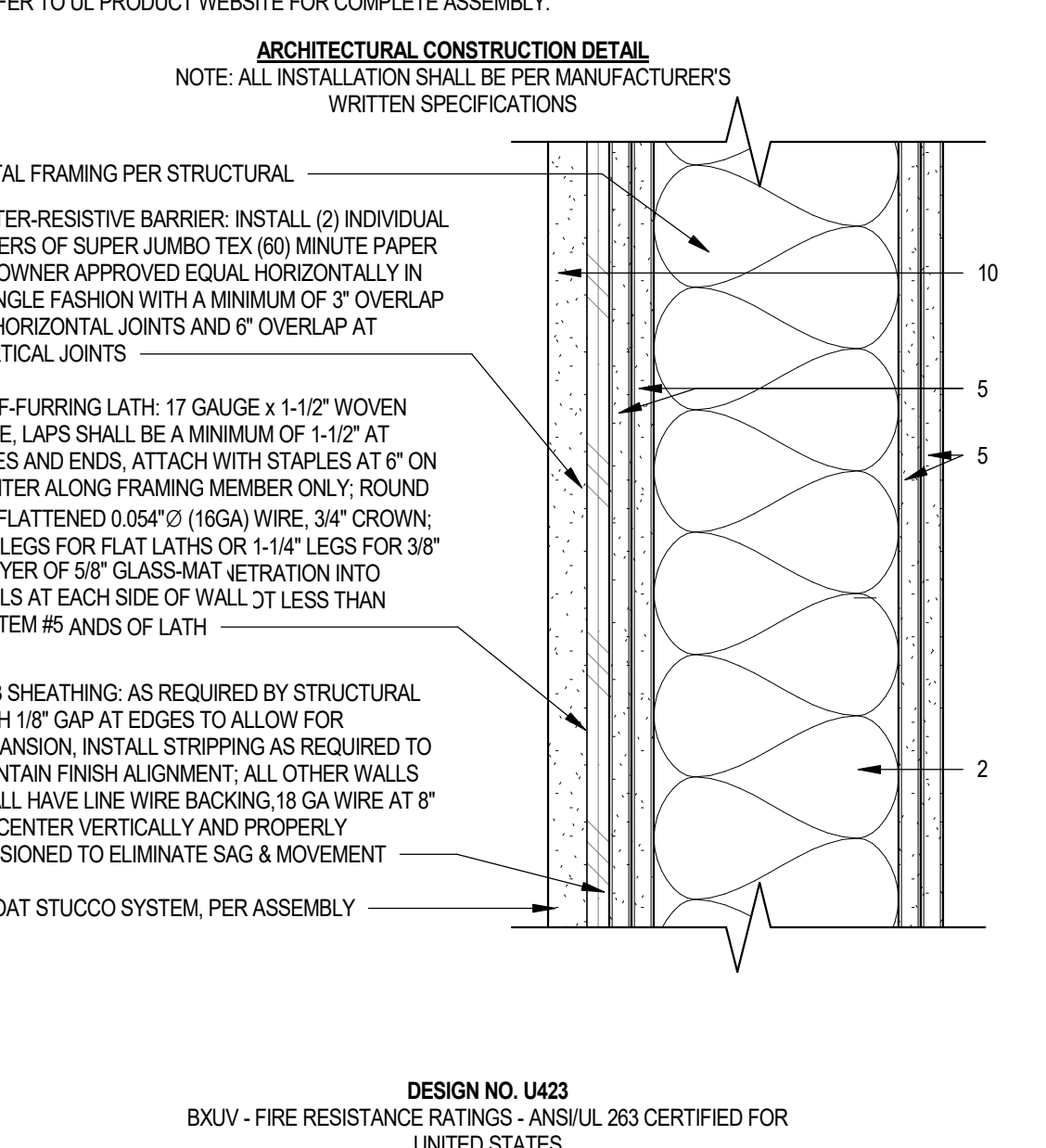
7. BATTS AND BLANKETS - (REQUIRED AS INDICATED UNDER ITEM 5) - NOM. 2 IN. THICK MINERAL WOOL BATTS. FRICTION FITTED BETWEEN STUDS AND RUNNERS. SEE BATTS AND BLANKETS (BKNV OR BZC2) CATEGORIES FOR NAMES OF CLASSIFIED COMPANIES.

8. JOINT TAPE AND COMPOUND - VINYL OR CASER, DRY OR PREMIXED JOINT COMPOUND APPLIED IN TWO COATS TO JOINTS AND SCREW HEADS OF OUTER LAYERS. PAPER TAPE, NOM. 2 IN. WIDE, EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS OF OUTER LAYERS. PAPER TAPE AND JOINT COMPOUND MAY BE OMITTED WHEN GYPSUM BOARDS ARE SUPPLIED WITH SQUARE EDGES.

10. SIDING, BRICK, OR STUCCO - (OPTIONAL, NOT SHOWN) - ALUMINUM, VINYL OR STEEL SIDING, BRICK VENEER OR STUCCO, MEETING THE REQUIREMENTS OF LOCAL CODE AGENCIES. BRICK VENEER ATTACHED TO STUDS WITH CORRUGATED METAL WALL TIES ATTACHED TO EACH STUD WITH STEEL SCREWS, NOT MORE THAN EACH SIXTH COURSE OF BRICK.

EM 14 ANSUL 263 DESIGN NO. U423 SCALE: 3" = 1'-0"

2-HR STUCCO EXTERIOR WALL
PROPRIETARY ASSEMBLY - February 16, 2024
BULV - FIRE RESISTANCE RATINGS - ANSUL 263 DESIGN NO. U423
SOUND RATING: NOT REQUIRED AT EXTERIOR WALLS
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.



DESIGN NO. U423
BULV - FIRE RESISTANCE RATINGS - ANSUL 263 CERTIFIED FOR UNITED STATES

1. FLOOR AND CEILING RUNNERS - (NOT SHOWN) - CHANNEL SHAPED, FABRICATED FROM MIN. 0.029 IN. BARE METAL THICKNESS (NO. 20 MSG) CORROSION-PROTECTED STEEL. THAT PROVIDE A SOUND STRUCTURAL CONNECTION BETWEEN STEEL STUDS AND ADJACENT ASSEMBLIES SUCH AS FLOORS, CEILING AND OTHER WALLS. ATTACHED TO FLOOR AND CEILING ASSEMBLIES WITH STEEL FASTENERS SPACED NOT GREATER THAN 24 IN. OC.

2. STEEL STUDS - MIN. 0.029 IN. BARE METAL THICKNESS (NO. 20 MSG) CORROSION-PROTECTED STEEL STUDS, MIN. 3-1/2 IN. WIDE, COLD FORMED, DESIGNED IN ACCORDANCE WITH THE CURRENT EDITION OF THE SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS BY THE AMERICAN IRON AND STEEL INSTITUTE (AISI). ALL DESIGN DETAILS ENHANCING THE STRUCTURAL INTEGRITY OF THE WALL ASSEMBLY, INCLUDING THE AXIAL DESIGN LOAD OF THE STUDS, SHALL BE AS SPECIFIED BY THE STEEL STUD DESIGNER AND/OR PRODUCER, AND SHALL MEET THE REQUIREMENTS OF ALL APPLICABLE LOCAL CODE AGENCIES. THE MAX STUD SPACING SHALL NOT EXCEED 24 IN. OC.

3. LATERAL SUPPORT MEMBERS - (NOT SHOWN) - WHERE REQUIRED FOR LATERAL SUPPORT OF STUDS, SUPPORT SHALL BE PROVIDED BY MEANS OF STEEL STRIPS, CHANNELS OR OTHER SIMILAR MEANS AS SPECIFIED IN THE DESIGN OF A PARTICULAR STEEL STUD WALL SYSTEM.

4. GYPSUM BOARD - GYPSUM PANELS WITH BEVELED, SQUARE OR TAPERED EDGES, APPLIED VERTICALLY OR HORIZONTALLY. VERTICAL JOINTS CENTERED OVER STUDS AND STAGGERED ONE STUD CAVITY ON OPPOSITE SIDES OF STUDS. VERTICAL JOINTS IN ADJACENT LAYERS (MULTILAYER SYSTEMS) STAGGERED ONE STUD CAVITY. HORIZONTAL JOINTS NEED NOT BE BACKED BY STEEL FRAMING. HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS ON OPPOSITE SIDES OF STUDS NEED NOT BE STAGGERED WHEN LOAD IS REDUCED TO 90 PERCENT OF MAX STUD CAPACITY. WHEN LOAD IS AT 100 PERCENT, HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS ON OPPOSITE SIDES OF STUDS STAGGERED A MIN OF 12 IN. HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS ON OPPOSITE SIDES OF STUDS NEED NOT BE STAGGERED AT 100 PERCENT LOAD WITH TYPE ULX. HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS IN ADJACENT LAYERS (MULTILAYER SYSTEMS) STAGGERED A MIN. OF 12 IN. HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS IN ADJACENT LAYERS (MULTILAYER SYSTEMS) WITH TYPE ULX NEED NOT BE STAGGERED. WHEN USED IN WIDTHS OTHER THAN 48 IN., GYPSUM PANELS TO BE INSTALLED HORIZONTALLY. THE THICKNESS AND NUMBER OF LAYERS AND PERCENT OF DESIGN LOAD FOR THE 45 MIN., 1-HR., 1-1/2 HR. AND 2-HR. RATINGS ARE AS FOLLOWS:

RATING	NO. OF LAYERS & THICKNESS OF PANELS EACH SIDE	% OF DESIGN LOAD
2 HR	2 LAYERS, 5/8 IN. THICK	100

UNITED STATES GYPSUM CO - 5/8 in. thick Type AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SCX, SHX, ULX, ULX, WRX, or WRX, 3/4 in. thick Types AR, IP-AR or IP-X3, ULTRACODE

6. FASTENERS - (NOT SHOWN) - FOR USE WITH ITEM 5 - TYPE S-12 STEEL SCREWS USED TO ATTACH PANELS TO RUNNERS (ITEM 1) AND STUDS (ITEM 2) OR FURRING CHANNELS (ITEM 8). TWO LAYER SYSTEMS: FIRST LAYER - 1 IN. LONG FOR 12 IN. AND 5/8 IN. THICK PANELS OR 1-1/4 IN. LONG FOR 3/4 IN. THICK PANELS. SPACED 8 IN. OC. WHEN PANELS ARE APPLIED HORIZONTALLY, OR 12 IN. OC. WHEN PANELS ARE APPLIED VERTICALLY. SINGLE LAYER SYSTEM WITH TYPE ULX: 1 IN. LONG, SPACED 12 IN. OC. ALONG THE PERIMETER AND IN THE FIELD WHEN PANELS ARE APPLIED HORIZONTALLY OR VERTICALLY. TWO LAYER SYSTEMS: FIRST LAYER - 1 IN. LONG FOR 12 IN. AND 5/8 IN. THICK PANELS OR 1-1/4 IN. LONG FOR 3/4 IN. THICK PANELS. SPACED 16 IN. OC. SECOND LAYER - 1-5/8 IN. LONG FOR 12 IN. AND 5/8 IN. THICK PANELS OR 2-1/4 IN. LONG FOR 3/4 IN. THICK PANELS. SPACED 16 IN. OC. WITH SCREWS OFFSET 8 IN. FROM FIRST LAYER. THREE-LAYER SYSTEMS: FIRST LAYER - 1 IN. LONG FOR 12 IN. AND 5/8 IN. THICK PANELS, SPACED 24 IN. OC. SECOND LAYER - 1-5/8 IN. LONG FOR 12 IN. THICK PANELS, SPACED 24 IN. OC. THIRD LAYER - 2-1/4 IN. LONG FOR 12 IN. THICK PANELS, SPACED 12 IN. OC. SCREWS OFFSET 8 IN. FROM FIRST LAYER.

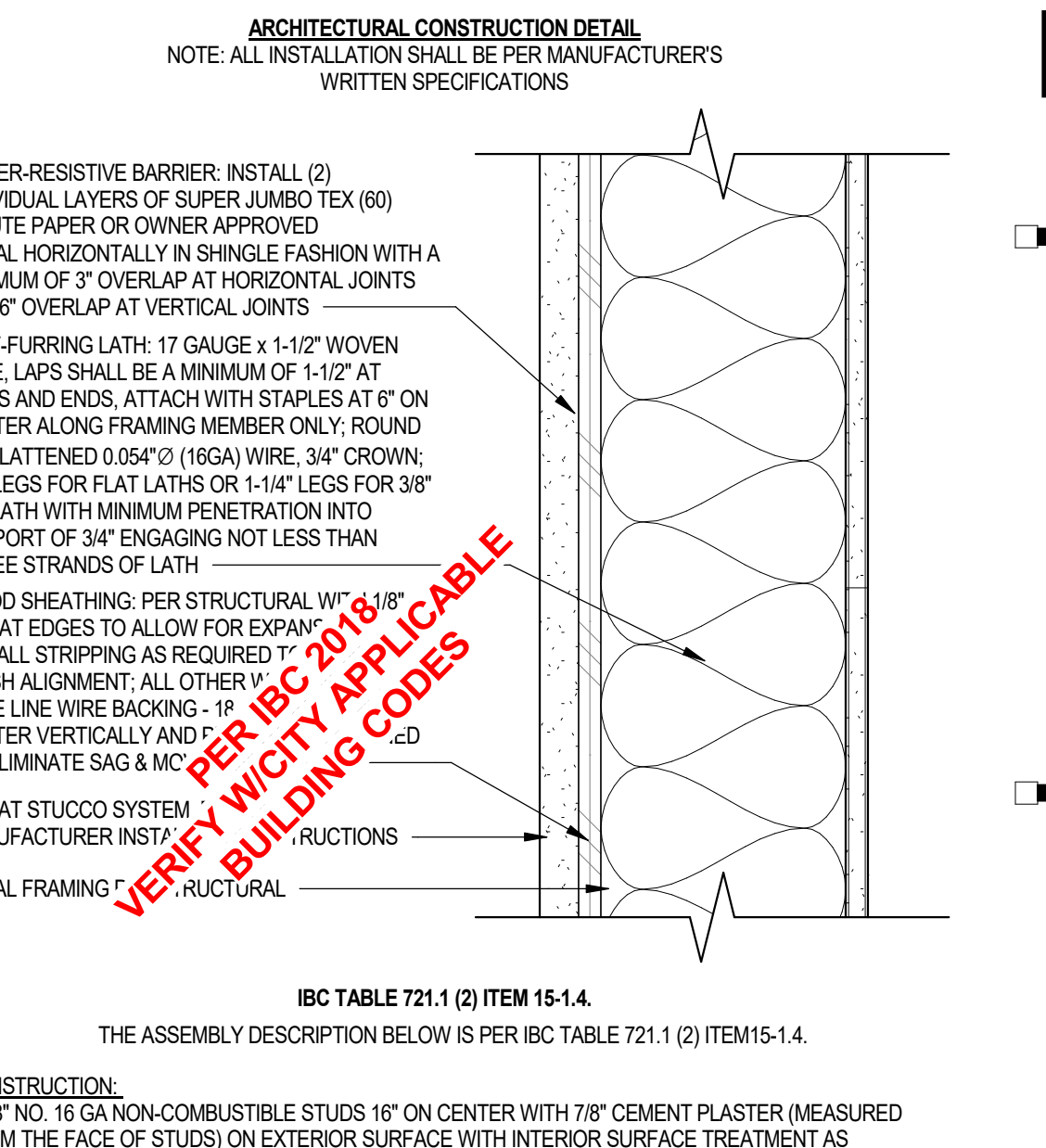
7. BATTS AND BLANKETS - (REQUIRED AS INDICATED UNDER ITEM 5) - NOM. 2 IN. THICK MINERAL WOOL BATTS. FRICTION FITTED BETWEEN STUDS AND RUNNERS. SEE BATTS AND BLANKETS (BKNV OR BZC2) CATEGORIES FOR NAMES OF CLASSIFIED COMPANIES.

8. JOINT TAPE AND COMPOUND - VINYL OR CASER, DRY OR PREMIXED JOINT COMPOUND APPLIED IN TWO COATS TO JOINTS AND SCREW HEADS OF OUTER LAYERS. PAPER TAPE, NOM. 2 IN. WIDE, EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS OF OUTER LAYERS. PAPER TAPE AND JOINT COMPOUND MAY BE OMITTED WHEN GYPSUM BOARDS ARE SUPPLIED WITH SQUARE EDGES.

10. SIDING, BRICK, OR STUCCO - (OPTIONAL, NOT SHOWN) - ALUMINUM, VINYL OR STEEL SIDING, BRICK VENEER OR STUCCO, MEETING THE REQUIREMENTS OF LOCAL CODE AGENCIES. BRICK VENEER ATTACHED TO STUDS WITH CORRUGATED METAL WALL TIES ATTACHED TO EACH STUD WITH STEEL SCREWS, NOT MORE THAN EACH SIXTH COURSE OF BRICK.

EM 12 ANSUL 263 DESIGN NO. U423 SCALE: 3" = 1'-0"

1-HR STUCCO EXTERIOR WALL
GENERIC ASSEMBLY
FIRE TEST - IBC 721.1(2) 15-1.4
SOUND RATING: NOT REQUIRED AT EXTERIOR WALLS



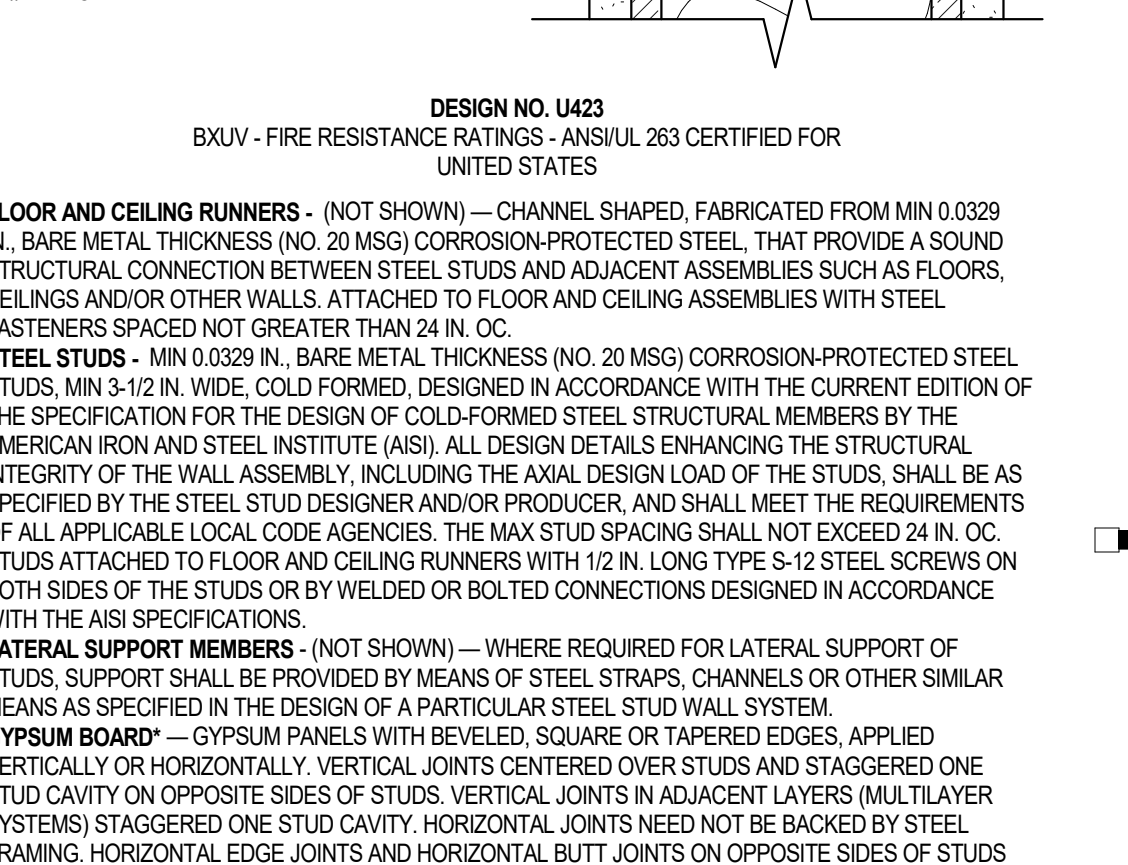
IBC TABLE 721.1 (2) ITEM 15-1.4
THE ASSEMBLY DESCRIPTION BELOW IS PER IBC TABLE 721.1 (2) ITEM 15-1.4.

CONSTRUCTION
5/8" NO. 16 GA NON-COMBUSTIBLE STUDS 18" ON CENTER WITH 1/2" CEMENT PLASTER (MEASURED TO FACE OF STUDS) ON EXTERIOR SURFACE WITH INTERIOR SURFACE TREATMENT AS REQUIRED FOR INTERIOR, NON-BEARING, NON-COMBUSTIBLE STUDS PARTITIONS IN THIS TABLE. PLASTER MIX 1:4 FOR SCRATCH COAT AND 1:5 FOR BROWN COAT. BY VOLUME, CEMENT TO SAND.

NOTES
- PER GENERAL EXPLANATORY NOTES NO. 1.1 OF THE GYPSUM ASSOCIATION RESISTANCE DESIGN MANUAL, WHEN NOT SPECIFIED AS A COMPONENT OF A FIRE TESTED WALL OR PARTITION SYSTEM, MINERAL FIBER, GLASS FIBER, OR CELLULOSE FIBER INSULATION OF A THICKNESS NOT EXCEEDING THAT OF THE STUD DEPTH SHALL BE PERMITTED TO BE ADDED WITHIN THE STUD CAVITY.
- INSTALL SEALANT AT ALL JOINTS BETWEEN GYPSUM BOARD AND CONCRETE SLAB AT BOTH SIDES OF WALL.
- NOTE: PER GYPSUM ASSOCIATION, GENERAL EXPLANATORY NOTES ITEM 4, SCREWS MEETING ASTM C 1002 SHALL BE PERMITTED TO BE SUBSTITUTED FOR THE PRESCRIBED NAILS ONE FOR ONE, WHEN THE LENGTH AND HEAD DIMENSIONS OF THE SCREWS EQUAL OR EXCEED THOSE OF THE NAILS SPECIFIED IN THE TESTED SYSTEM AND THE SCREW SPACING SPECIFIED FOR THE NAILS IN THE TESTED SYSTEM.

EM 12 SAME AS EM 11 EXCEPT USE 1/2" STUCCO SYSTEM OVER 1/2" SHEATHING INSTEAD OF INTERIOR GYPSUM WALLBOARD, NO RATING REQUIRED
EM 11 BC 721.1(2) 15-1.4 SCALE: 3" = 1'-0"

1-HR UNIT SEPARATION EXTERIOR WALL
PROPRIETARY ASSEMBLY - PROPRIETARY ASSEMBLY - February 16, 2024
BULV - FIRE RESISTANCE RATINGS - ANSUL 263 DESIGN NO. U423
SOUND RATING: NOT REQUIRED AT EXTERIOR WALLS
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.



DESIGN NO. U423
BULV - FIRE RESISTANCE RATINGS - ANSUL 263 CERTIFIED FOR UNITED STATES

1. FLOOR AND CEILING RUNNERS - (NOT SHOWN) - CHANNEL SHAPED, FABRICATED FROM MIN. 0.029 IN. BARE METAL THICKNESS (NO. 20 MSG) CORROSION-PROTECTED STEEL. THAT PROVIDE A SOUND STRUCTURAL CONNECTION BETWEEN STEEL STUDS AND ADJACENT ASSEMBLIES SUCH AS FLOORS, CEILING AND OTHER WALLS. ATTACHED TO FLOOR AND CEILING ASSEMBLIES WITH STEEL FASTENERS SPACED NOT GREATER THAN 24 IN. OC.

2. STEEL STUDS - MIN. 0.029 IN. BARE METAL THICKNESS (NO. 20 MSG) CORROSION-PROTECTED STEEL STUDS, MIN. 3-1/2 IN. WIDE, COLD FORMED, DESIGNED IN ACCORDANCE WITH THE CURRENT EDITION OF THE SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS BY THE AMERICAN IRON AND STEEL INSTITUTE (AISI). ALL DESIGN DETAILS ENHANCING THE STRUCTURAL INTEGRITY OF THE WALL ASSEMBLY, INCLUDING THE AXIAL DESIGN LOAD OF THE STUDS, SHALL BE AS SPECIFIED BY THE STEEL STUD DESIGNER AND/OR PRODUCER, AND SHALL MEET THE REQUIREMENTS OF ALL APPLICABLE LOCAL CODE AGENCIES. THE MAX STUD SPACING SHALL NOT EXCEED 24 IN. OC.

EM 12 ANSUL 263 DESIGN NO. U423 SCALE: 3" = 1'-0"

Project Name 1
Project Name 2
Street Address
City, state
Office of Rich Barber Architecture, LLC
WorldHQ@ORBArch.com

PRELIMINARY NOT FOR CONSTRUCTION

ADVANCE RESIDENCY COMPANY
LEGACY HOSPITALITY

EM 12 SAME AS EM 11 EXCEPT USE 1/2" STUCCO SYSTEM OVER 1/2" SHEATHING INSTEAD OF INTERIOR GYPSUM WALLBOARD, NO RATING REQUIRED
EM 11 BC 721.1(2) 15-1.4 SCALE: 3" = 1'-0"

1-HR UNIT SEPARATION EXTERIOR WALL
PROPRIETARY ASSEMBLY - PROPRIETARY ASSEMBLY - February 16, 2024
BULV - FIRE RESISTANCE RATINGS - ANSUL 263 DESIGN NO. U423
SOUND RATING: NOT REQUIRED AT EXTERIOR WALLS
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.



DESIGN NO. U423
BULV - FIRE RESISTANCE RATINGS - ANSUL 263 CERTIFIED FOR UNITED STATES

1. FLOOR AND CEILING RUNNERS - (NOT SHOWN) - CHANNEL SHAPED, FABRICATED FROM MIN. 0.029 IN. BARE METAL THICKNESS (NO. 20 MSG) CORROSION-PROTECTED STEEL. THAT PROVIDE A SOUND STRUCTURAL CONNECTION BETWEEN STEEL STUDS AND ADJACENT ASSEMBLIES SUCH AS FLOORS, CEILING AND OTHER WALLS. ATTACHED TO FLOOR AND CEILING ASSEMBLIES WITH STEEL FASTENERS SPACED NOT GREATER THAN 24 IN. OC.

2. STEEL STUDS - MIN. 0.029 IN. BARE METAL THICKNESS (NO. 20 MSG) CORROSION-PROTECTED STEEL STUDS, MIN. 3-1/2 IN. WIDE, COLD FORMED, DESIGNED IN ACCORDANCE WITH THE CURRENT EDITION OF THE SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS BY THE AMERICAN IRON AND STEEL INSTITUTE (AISI). ALL DESIGN DETAILS ENHANCING THE STRUCTURAL INTEGRITY OF THE WALL ASSEMBLY, INCLUDING THE AXIAL DESIGN LOAD OF THE STUDS, SHALL BE AS SPECIFIED BY THE STEEL STUD DESIGNER AND/OR PRODUCER, AND SHALL MEET THE REQUIREMENTS OF ALL APPLICABLE LOCAL CODE AGENCIES. THE MAX STUD SPACING SHALL NOT EXCEED 24 IN. OC.

3. LATERAL SUPPORT MEMBERS - (NOT SHOWN) - WHERE REQUIRED FOR LATERAL SUPPORT OF STUDS, SUPPORT SHALL BE PROVIDED BY MEANS OF STEEL STRIPS, CHANNELS OR OTHER SIMILAR MEANS AS SPECIFIED IN THE DESIGN OF A PARTICULAR STEEL STUD WALL SYSTEM.

4. GYPSUM BOARD - GYPSUM PANELS WITH BEVELED, SQUARE OR TAPERED EDGES, APPLIED VERTICALLY OR HORIZONTALLY. VERTICAL JOINTS CENTERED OVER STUDS AND STAGGERED ONE STUD CAVITY ON OPPOSITE SIDES OF STUDS. VERTICAL JOINTS IN ADJACENT LAYERS (MULTILAYER SYSTEMS) STAGGERED ONE STUD CAVITY. HORIZONTAL JOINTS NEED NOT BE BACKED BY STEEL FRAMING. HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS ON OPPOSITE SIDES OF STUDS NEED NOT BE STAGGERED WHEN LOAD IS REDUCED TO 90 PERCENT OF MAX STUD CAPACITY. WHEN LOAD IS AT 100 PERCENT, HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS ON OPPOSITE SIDES OF STUDS STAGGERED A MIN OF 12 IN. HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS ON OPPOSITE SIDES OF STUDS NEED NOT BE STAGGERED AT 100 PERCENT LOAD WITH TYPE ULX. HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS IN ADJACENT LAYERS (MULTILAYER SYSTEMS) STAGGERED A MIN. OF 12 IN. HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS IN ADJACENT LAYERS (MULTILAYER SYSTEMS) WITH TYPE ULX NEED NOT BE STAGGERED. WHEN USED IN WIDTHS OTHER THAN 48 IN., GYPSUM PANELS TO BE INSTALLED HORIZONTALLY. THE THICKNESS AND NUMBER OF LAYERS AND PERCENT OF DESIGN LOAD FOR THE 45 MIN., 1-HR., 1-1/2 HR. AND 2-HR. RATINGS ARE AS FOLLOWS:

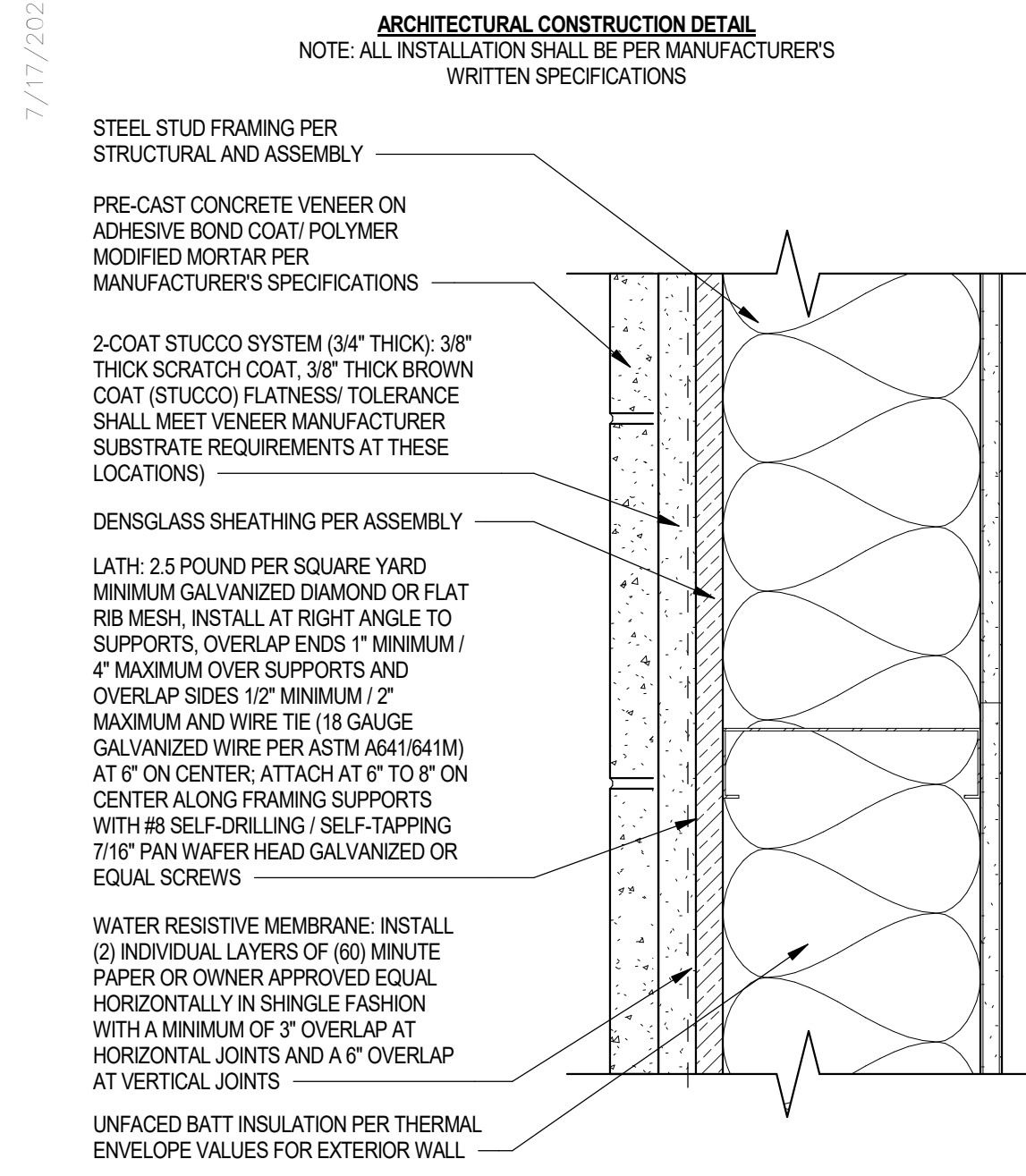
RATING	NO. OF LAYERS & THICKNESS OF PANELS EACH SIDE	% OF DESIGN LOAD
1 HR	1 LAYERS, 5/8 IN. THICK	100

UNITED STATES GYPSUM CO - 5/8 in. thick Type AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SCX, SHX, ULX, ULX, WRX, or WRX, 3/4 in. thick Types AR, IP-AR or IP-X3, ULTRACODE

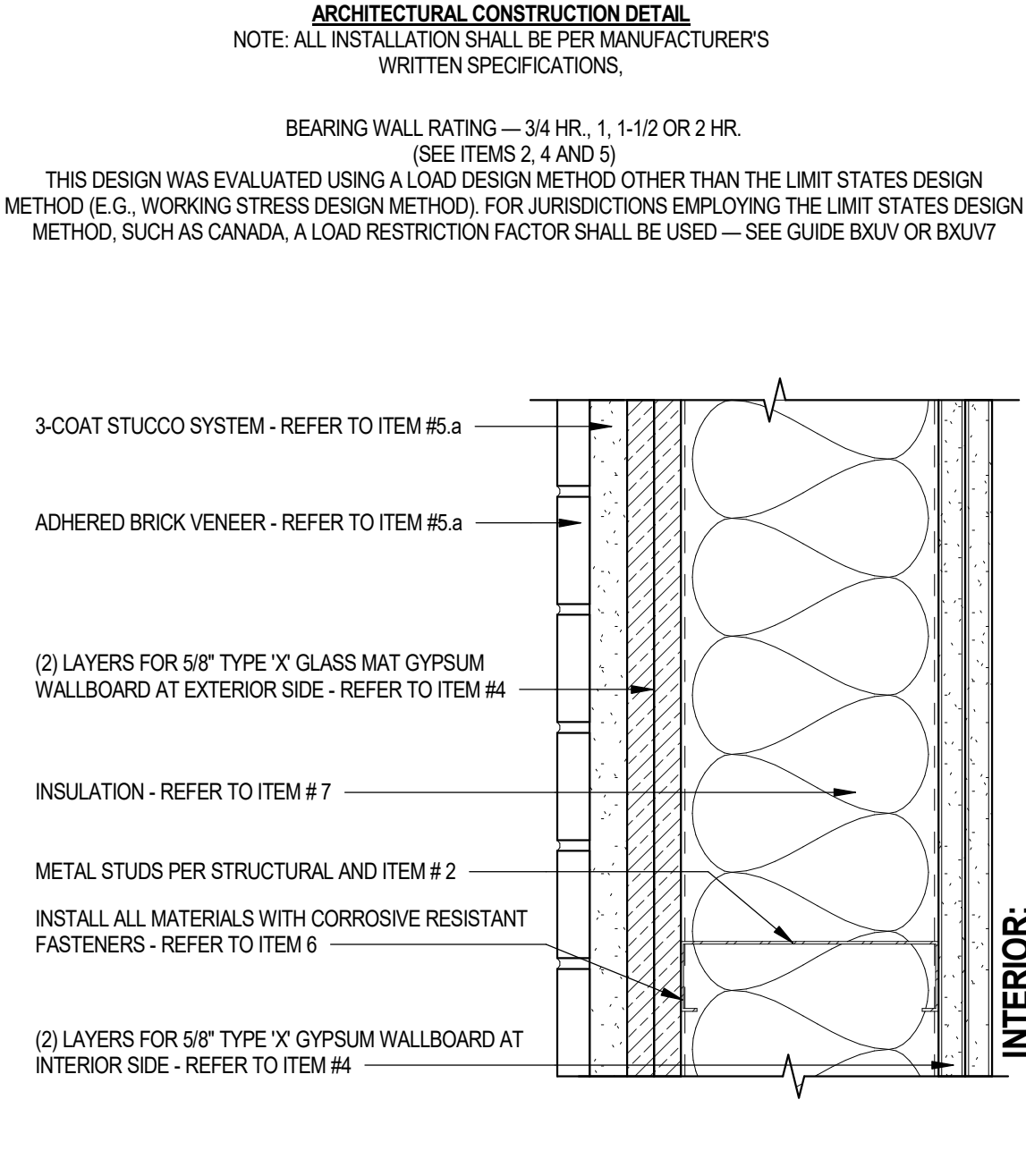
6. FASTENERS - (NOT SHOWN) - FOR USE WITH ITEM 5 - TYPE S-12 STEEL SCREWS USED TO ATTACH PANELS TO RUNNERS (

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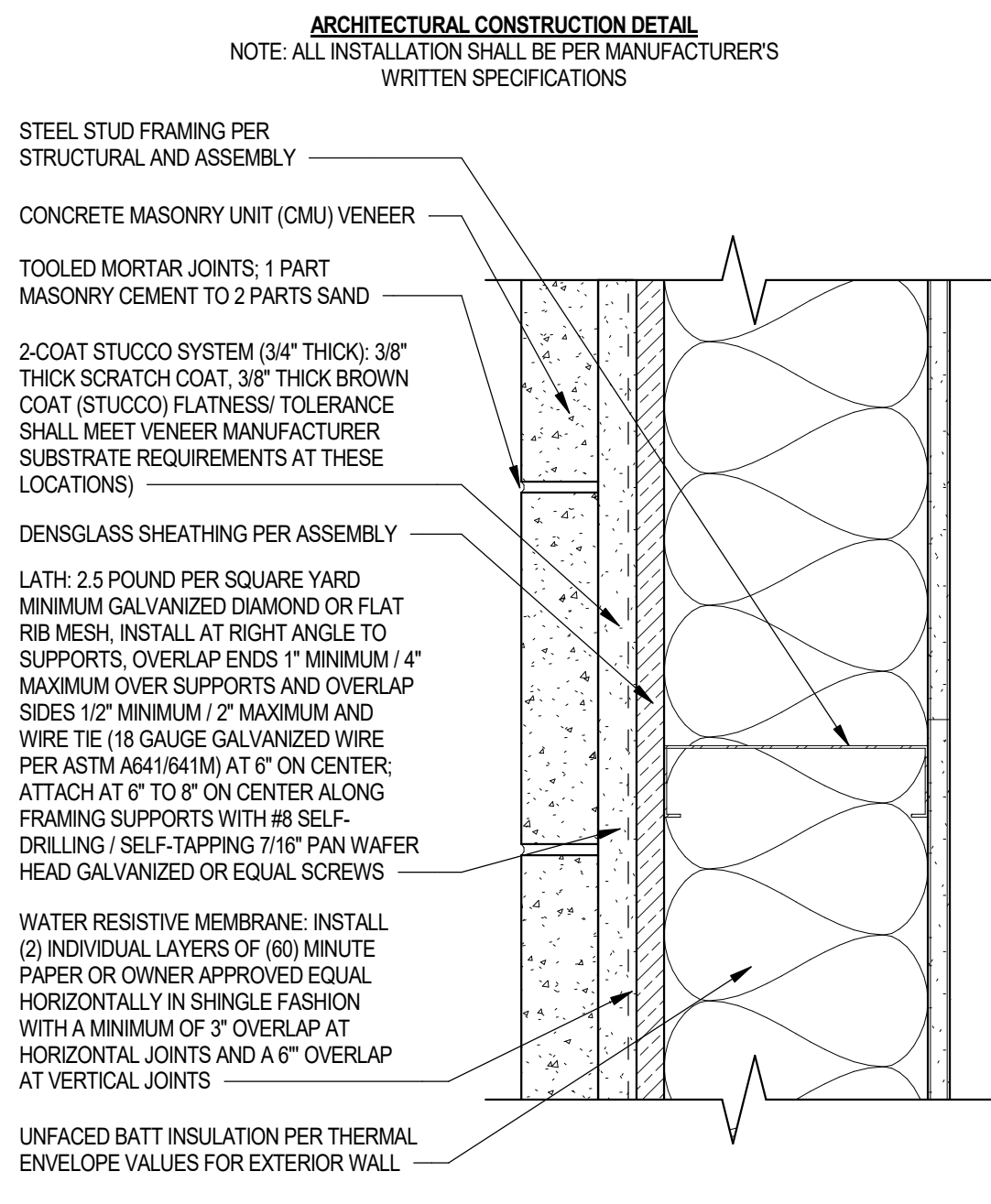
1-HR CONCRETE VENEER EXTERIOR WALL
PROPRIETARY ASSEMBLY - UNITED STATES GYPSUM CO - June 2021
FIRE TEST: GA WP 8006



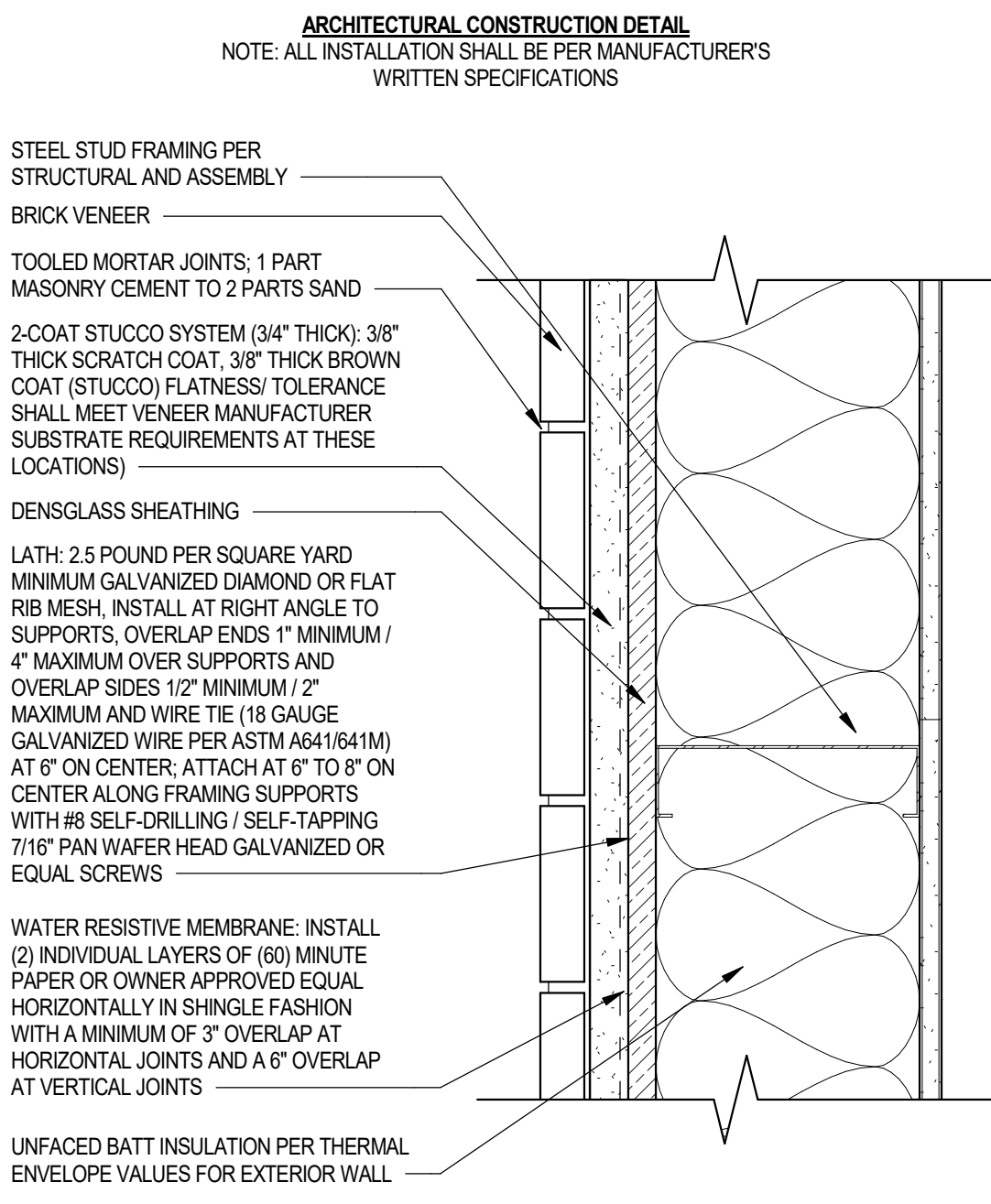
2-HR BRICK VENEER EXTERIOR WALL
PROPRIETARY ASSEMBLY - February 16, 2024
FIRE TEST: BXUV U425 - FIRE-RESISTANCE RATINGS - ANSUL 263 DESIGN NO. U425
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.



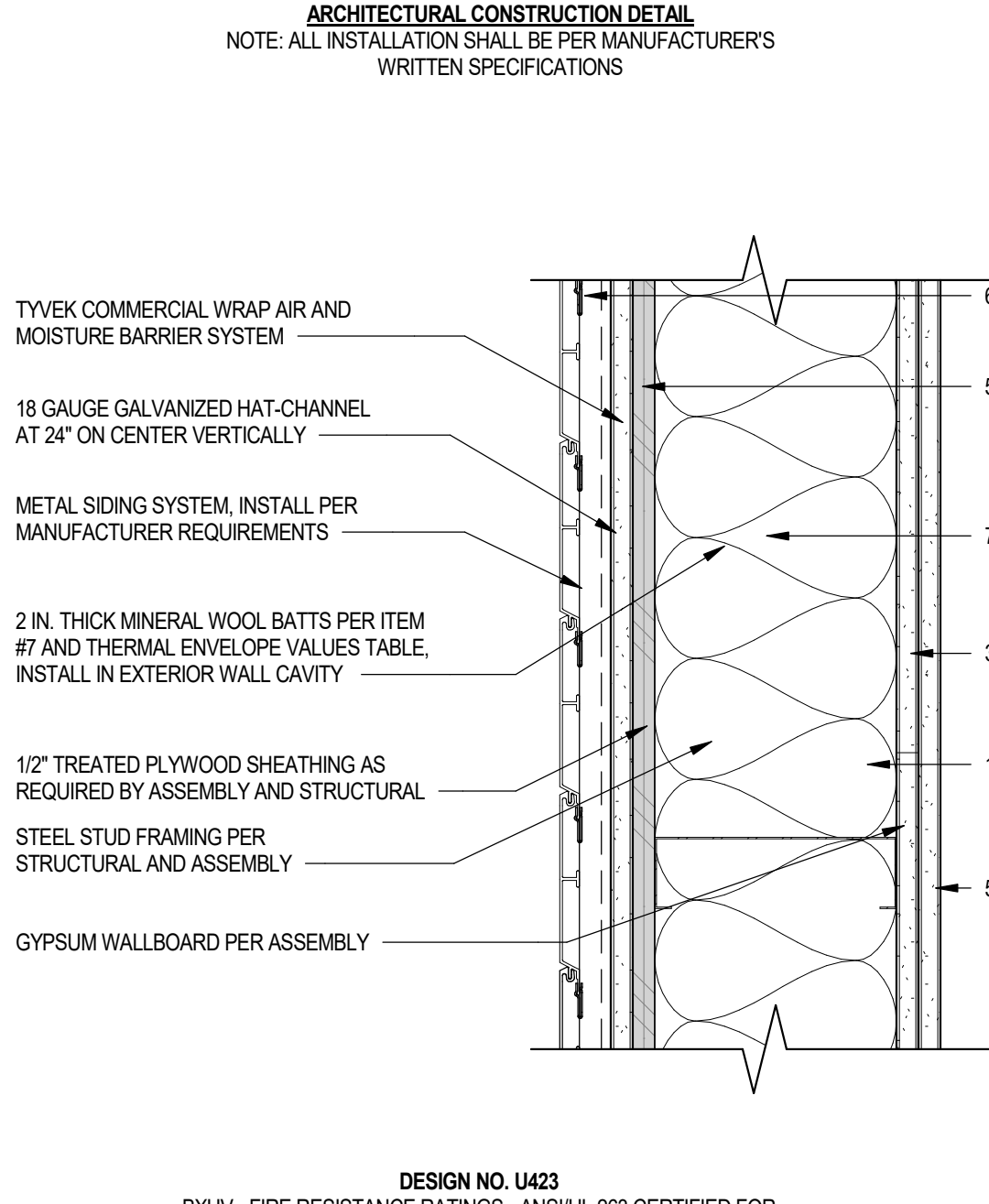
1-HR CMU VENEER EXTERIOR WALL
PROPRIETARY ASSEMBLY - UNITED STATES GYPSUM CO March 16, 2023
FIRE TEST: GA WP 8006



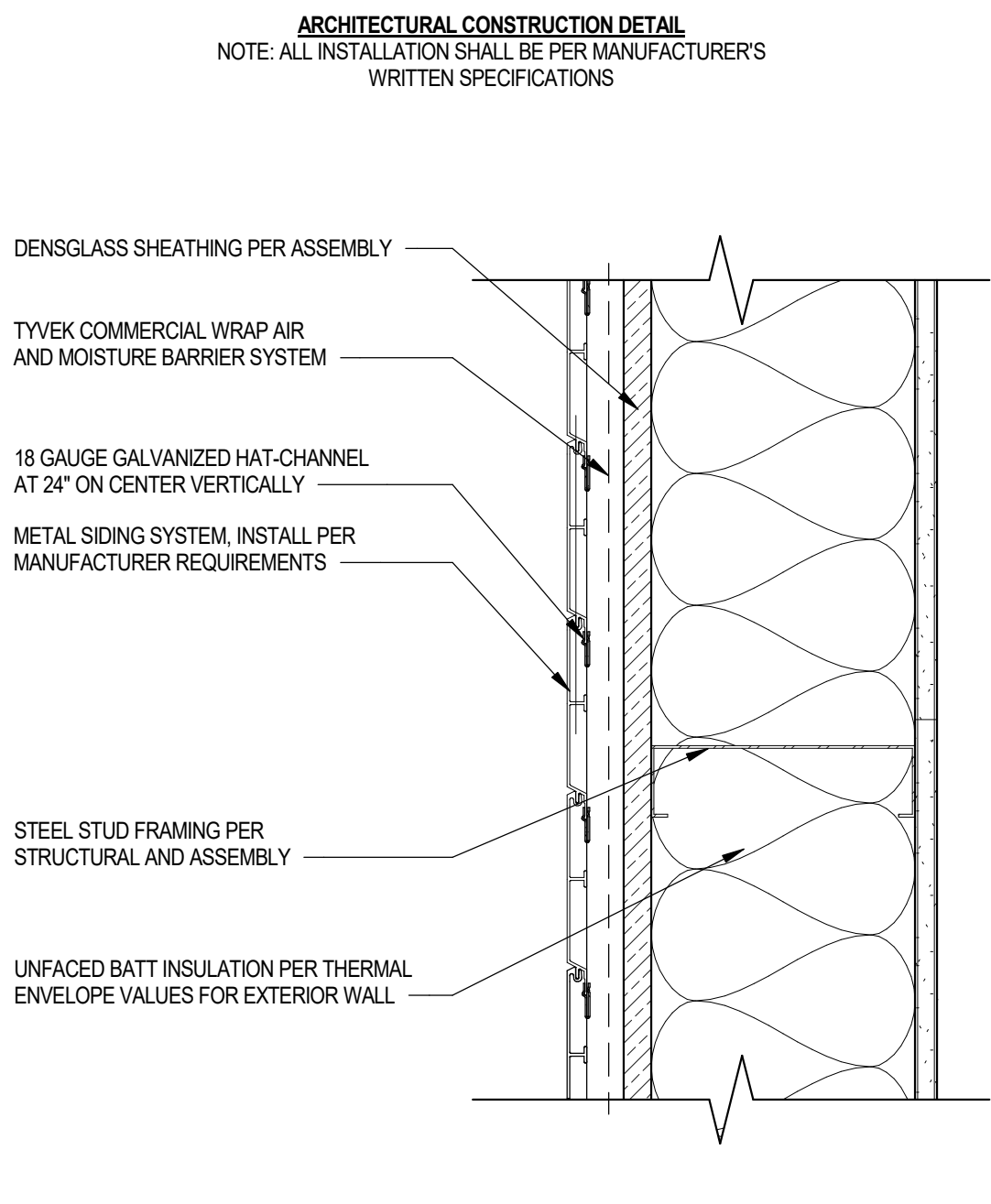
1-HR BRICK VENEER EXTERIOR WALL
PROPRIETARY ASSEMBLY - UNITED STATES GYPSUM CO - June 2021
FIRE TEST: GA WP 8006



2-HR METAL SIDING EXTERIOR WALL
PROPRIETARY ASSEMBLY - February 16, 2024
FIRE TEST: BXUV - FIRE RESISTANCE RATINGS - ANSUL 263 DESIGN NO U423
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.



1-HR METAL SIDING EXTERIOR WALL
PROPRIETARY ASSEMBLY - UNITED STATES GYPSUM CO - June 2021
FIRE TEST: GA WP 8006



- 1. STEEL FLOOR AND CEILING TRACKS** - (NOT SHOWN) - TOP AND BOTTOM TRACKS OF WALL ASSEMBLIES SHALL CONSIST OF STEEL MEMBERS, MINIMUM NO. 20 MSG (0.0320 INCH MINIMUM BARE METAL THICKNESS) STEEL, OR MINIMUM NO. 20 MSG (0.036 INCH THICK) GALVANIZED STEEL, OR NO. 20 MSG (0.033 INCH THICK) FRAMED STEEL, THAT PROVIDE A SOUND STRUCTURAL CONNECTION BETWEEN STEEL STUDS, AND TO ADJACENT ASSEMBLIES SUCH AS A FLOOR, CEILING, AND/OR OTHER WALLS. ATTACHED TO FLOOR AND CEILING ASSEMBLIES WITH STEEL FASTENERS SPACED NOT GREATER THAN 24 INCH ON CENTER.
- 2. STEEL STUDS** - MINIMUM 3-1/2 INCH WIDE, NO. 20 MSG (0.0320 INCH MINIMUM BARE METAL THICKNESS) CORROSION PROTECTED COLD-FORMED STEEL AS DESCRIBED IN ACCORDANCE WITH THE CURRENT EDITION OF THE SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS BY THE AMERICAN IRON AND STEEL INSTITUTE. ALL DESIGN DETAILS ENHANCING THE STRUCTURAL INTEGRITY OF THE WALL ASSEMBLY, INCLUDING THE AXIAL DESIGN LOAD OF THE STUDS, SHALL BE AS SPECIFIED BY THE STEEL STUD DESIGNER AND/OR PRODUCER, AND SHALL MEET THE REQUIREMENTS OF ALL APPLICABLE LOCAL CODE AGENCIES. THE MAXIMUM STUD SPACING OF WALL ASSEMBLIES SHALL NOT EXCEED 24 INCH ON CENTER OR 16 INCH ON CENTER WHEN ITEM 5 IS USED. STUDS ATTACHED TO FLOOR AND CEILING TRACKS WITH 1/2 INCH LONG TYPE 5-12 STEEL SCREWS ON BOTH SIDES OF STUDS OR BY WELDED OR BOLTED CONNECTIONS DESIGNED IN ACCORDANCE WITH THE AISI SPECIFICATIONS.
- 3. LATERAL SUPPORT MEMBERS** - (NOT SHOWN) - WHERE REQUIRED FOR LATERAL SUPPORT OF STUDS, SUPPORT MAY BE PROVIDED BY MEANS OF STEEL STRIPS, CHANNELS OR OTHER SIMILAR MEANS AS SPECIFIED IN THE DESIGN OF A PARTICULAR STEEL STUD WALL SYSTEM.
- 4. GYPSUM WALLBOARD** - ANY 1/2 INCH THICK UL CLASSIFIED GYPSUM WALLBOARD THAT IS ELIGIBLE FOR USE IN DESIGN NO. 3515, ANY 5/8 INCH THICK UL CLASSIFIED GYPSUM WALLBOARD THAT IS ELIGIBLE FOR USE IN DESIGN NOS. L501, G512, OR U305. GYPSUM WALLBOARD BEARING THE UL CLASSIFICATION MARKING AS TO FIRE RESISTANCE, APPLIED VERTICALLY WITH JOINTS BETWEEN LAYERS STAGGERED. OUTER LAYER OF 3 LAYER CONSTRUCTION MAY BE APPLIED HORIZONTALLY UNLESS SPECIFIED BELOW. THE THICKNESS AND NUMBER OF LAYERS AND PERCENT OF DESIGN LOAD FOR THE 45 MINUTE, 1-HOUR, 1-1/2-HOUR AND 2-HOUR RATINGS ARE AS FOLLOWS:

INTERIOR OR EXTERIOR WALLS (FIRE FROM EITHER SIDE)		
RATING HR.	WALLBOARD PROTECTION ON INTERIOR SIDE OF WALL - NO. OF LAYERS & THICKNESS OF BOARD IN EACH LAYER	% OF DESIGN LOAD
2 HR	2 LAYERS, 5/8 IN. THICK	80%

- 1. FLOOR AND CEILING RUNNERS** - (NOT SHOWN) - CHANNEL SHAPED, FABRICATED FROM MIN 0.0320 IN. BARE METAL THICKNESS AND 20 MSG CORROSION-PROTECTED STEEL, THAT PROVIDE A SOUND STRUCTURAL CONNECTION BETWEEN STEEL STUDS AND ADJACENT ASSEMBLIES SUCH AS FLOORS, CEILINGS AND/OR OTHER WALLS. ATTACHED TO FLOOR AND CEILING ASSEMBLIES WITH STEEL FASTENERS SPACED NOT GREATER THAN 24 IN. OC.
- 2. STEEL STUDS** - MIN 0.0320 IN. BARE METAL THICKNESS (NO. 20 MSG) CORROSION-PROTECTED STEEL STUDS, MIN 3-1/2 IN. WIDE, COLD FORMED, DESIGNED IN ACCORDANCE WITH THE CURRENT EDITION OF THE SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS BY THE AMERICAN IRON AND STEEL INSTITUTE (AISI). ALL DESIGN DETAILS ENHANCING THE STRUCTURAL INTEGRITY OF THE WALL ASSEMBLY, INCLUDING THE AXIAL DESIGN LOAD OF THE STUDS, SHALL BE AS SPECIFIED BY THE STEEL STUD DESIGNER AND/OR PRODUCER, AND SHALL MEET THE REQUIREMENTS OF ALL APPLICABLE LOCAL CODE AGENCIES. THE MAX STUD SPACING SHALL NOT EXCEED 24 IN. OC. STUDS ATTACHED TO FLOOR AND CEILING RUNNERS WITH 1/2 IN. LONG TYPE 5-12 STEEL SCREWS ON BOTH SIDES OF THE STUDS OR BY WELDED OR BOLTED CONNECTIONS DESIGNED IN ACCORDANCE WITH THE AISI SPECIFICATIONS.
- 3. LATERAL SUPPORT MEMBERS** - (NOT SHOWN) - WHERE REQUIRED FOR LATERAL SUPPORT OF STUDS, SUPPORT SHALL BE PROVIDED BY MEANS OF STEEL STRIPS, CHANNELS OR OTHER SIMILAR MEANS AS SPECIFIED IN THE DESIGN OF A PARTICULAR STEEL STUD WALL SYSTEM.
- 4. WOOD STRUCTURAL PANEL SHEATHING** - (OPTIONAL, FOR USE WITH ITEM 5 ONLY) - (NOT SHOWN) - 1/4\"/>
- 5. GYPSUM BOARD** - GYPSUM PANELS WITH BEVELED, SQUARE OR TAPERED EDGES, APPLIED VERTICALLY OR HORIZONTALLY. VERTICAL JOINTS CENTERED OVER STUDS AND STAGGERED ONE STUD CAVITY ON OPPOSITE SIDES OF STUDS. HORIZONTAL JOINTS IN ADJACENT LAYERS (MULTILAYER SYSTEMS) STAGGERED ONE STUD CAVITY. HORIZONTAL JOINTS NEED NOT BE BACKED BY STEEL FRAMING. HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS ON OPPOSITE SIDES OF STUDS NEED NOT BE STAGGERED WHEN LOAD IS REDUCED TO 80 PERCENT OF MAX STUD CAPACITY. WHEN LOAD IS AT 100 PERCENT, HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS ON OPPOSITE SIDES OF STUDS STAGGERED A MIN OF 12 IN. HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS IN ADJACENT LAYERS (MULTILAYER SYSTEMS) STAGGERED A MIN OF 12 IN. HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS IN ADJACENT LAYERS (MULTILAYER SYSTEMS) WITH TYPE ULX NEED NOT BE STAGGERED. WHEN USED IN WIDTHS OTHER THAN 48 IN., GYPSUM PANELS TO BE INSTALLED HORIZONTALLY. THE THICKNESS AND NUMBER OF LAYERS AND PERCENT OF DESIGN LOAD FOR THE 45 MIN, 1 HR, 1-1/2 HR, AND 2 HR RATINGS ARE AS FOLLOWS:

RATING	NO. OF LAYERS & THKNS OF PANELS EACH SIDE	% OF DESIGN LOAD
2 HR	2 LAYERS, 5/8 IN THICK	100

- 1. FLOOR AND CEILING RUNNERS** - (NOT SHOWN) - CHANNEL SHAPED, FABRICATED FROM MIN 0.0320 IN. BARE METAL THICKNESS AND 20 MSG CORROSION-PROTECTED STEEL, THAT PROVIDE A SOUND STRUCTURAL CONNECTION BETWEEN STEEL STUDS AND ADJACENT ASSEMBLIES SUCH AS FLOORS, CEILINGS AND/OR OTHER WALLS. ATTACHED TO FLOOR AND CEILING ASSEMBLIES WITH STEEL FASTENERS SPACED NOT GREATER THAN 24 IN. OC.
- 2. STEEL STUDS** - MIN 0.0320 IN. BARE METAL THICKNESS (NO. 20 MSG) CORROSION-PROTECTED STEEL STUDS, MIN 3-1/2 IN. WIDE, COLD FORMED, DESIGNED IN ACCORDANCE WITH THE CURRENT EDITION OF THE SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS BY THE AMERICAN IRON AND STEEL INSTITUTE (AISI). ALL DESIGN DETAILS ENHANCING THE STRUCTURAL INTEGRITY OF THE WALL ASSEMBLY, INCLUDING THE AXIAL DESIGN LOAD OF THE STUDS, SHALL BE AS SPECIFIED BY THE STEEL STUD DESIGNER AND/OR PRODUCER, AND SHALL MEET THE REQUIREMENTS OF ALL APPLICABLE LOCAL CODE AGENCIES. THE MAX STUD SPACING SHALL NOT EXCEED 24 IN. OC. STUDS ATTACHED TO FLOOR AND CEILING RUNNERS WITH 1/2 IN. LONG TYPE 5-12 STEEL SCREWS ON BOTH SIDES OF THE STUDS OR BY WELDED OR BOLTED CONNECTIONS DESIGNED IN ACCORDANCE WITH THE AISI SPECIFICATIONS.
- 3. LATERAL SUPPORT MEMBERS** - (NOT SHOWN) - WHERE REQUIRED FOR LATERAL SUPPORT OF STUDS, SUPPORT SHALL BE PROVIDED BY MEANS OF STEEL STRIPS, CHANNELS OR OTHER SIMILAR MEANS AS SPECIFIED IN THE DESIGN OF A PARTICULAR STEEL STUD WALL SYSTEM.
- 4. WOOD STRUCTURAL PANEL SHEATHING** - (OPTIONAL, FOR USE WITH ITEM 5 ONLY) - (NOT SHOWN) - 1/4\"/>
- 5. GYPSUM BOARD** - GYPSUM PANELS WITH BEVELED, SQUARE OR TAPERED EDGES, APPLIED VERTICALLY OR HORIZONTALLY. VERTICAL JOINTS CENTERED OVER STUDS AND STAGGERED ONE STUD CAVITY ON OPPOSITE SIDES OF STUDS. HORIZONTAL JOINTS IN ADJACENT LAYERS (MULTILAYER SYSTEMS) STAGGERED ONE STUD CAVITY. HORIZONTAL JOINTS NEED NOT BE BACKED BY STEEL FRAMING. HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS ON OPPOSITE SIDES OF STUDS NEED NOT BE STAGGERED WHEN LOAD IS REDUCED TO 80 PERCENT OF MAX STUD CAPACITY. WHEN LOAD IS AT 100 PERCENT, HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS ON OPPOSITE SIDES OF STUDS STAGGERED A MIN OF 12 IN. HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS IN ADJACENT LAYERS (MULTILAYER SYSTEMS) STAGGERED A MIN OF 12 IN. HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS IN ADJACENT LAYERS (MULTILAYER SYSTEMS) WITH TYPE ULX NEED NOT BE STAGGERED. WHEN USED IN WIDTHS OTHER THAN 48 IN., GYPSUM PANELS TO BE INSTALLED HORIZONTALLY. THE THICKNESS AND NUMBER OF LAYERS AND PERCENT OF DESIGN LOAD FOR THE 45 MIN, 1 HR, 1-1/2 HR, AND 2 HR RATINGS ARE AS FOLLOWS:

RATING	NO. OF LAYERS & THKNS OF PANELS EACH SIDE	% OF DESIGN LOAD
2 HR	2 LAYERS, 5/8 IN THICK	100

- 1. FLOOR AND CEILING RUNNERS** - (NOT SHOWN) - CHANNEL SHAPED, FABRICATED FROM MIN 0.0320 IN. BARE METAL THICKNESS AND 20 MSG CORROSION-PROTECTED STEEL, THAT PROVIDE A SOUND STRUCTURAL CONNECTION BETWEEN STEEL STUDS AND ADJACENT ASSEMBLIES SUCH AS FLOORS, CEILINGS AND/OR OTHER WALLS. ATTACHED TO FLOOR AND CEILING ASSEMBLIES WITH STEEL FASTENERS SPACED NOT GREATER THAN 24 IN. OC.
- 2. STEEL STUDS** - MIN 0.0320 IN. BARE METAL THICKNESS (NO. 20 MSG) CORROSION-PROTECTED STEEL STUDS, MIN 3-1/2 IN. WIDE, COLD FORMED, DESIGNED IN ACCORDANCE WITH THE CURRENT EDITION OF THE SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS BY THE AMERICAN IRON AND STEEL INSTITUTE (AISI). ALL DESIGN DETAILS ENHANCING THE STRUCTURAL INTEGRITY OF THE WALL ASSEMBLY, INCLUDING THE AXIAL DESIGN LOAD OF THE STUDS, SHALL BE AS SPECIFIED BY THE STEEL STUD DESIGNER AND/OR PRODUCER, AND SHALL MEET THE REQUIREMENTS OF ALL APPLICABLE LOCAL CODE AGENCIES. THE MAX STUD SPACING SHALL NOT EXCEED 24 IN. OC. STUDS ATTACHED TO FLOOR AND CEILING RUNNERS WITH 1/2 IN. LONG TYPE 5-12 STEEL SCREWS ON BOTH SIDES OF THE STUDS OR BY WELDED OR BOLTED CONNECTIONS DESIGNED IN ACCORDANCE WITH THE AISI SPECIFICATIONS.
- 3. LATERAL SUPPORT MEMBERS** - (NOT SHOWN) - WHERE REQUIRED FOR LATERAL SUPPORT OF STUDS, SUPPORT SHALL BE PROVIDED BY MEANS OF STEEL STRIPS, CHANNELS OR OTHER SIMILAR MEANS AS SPECIFIED IN THE DESIGN OF A PARTICULAR STEEL STUD WALL SYSTEM.
- 4. WOOD STRUCTURAL PANEL SHEATHING** - (OPTIONAL, FOR USE WITH ITEM 5 ONLY) - (NOT SHOWN) - 1/4\"/>
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RATING	NO. OF LAYERS & THKNS OF PANELS EACH SIDE	% OF DESIGN LOAD
2 HR	2 LAYERS, 5/8 IN THICK	100

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RATING	NO. OF LAYERS & THKNS OF PANELS EACH SIDE	% OF DESIGN LOAD
2 HR	2 LAYERS, 5/8 IN THICK	100

GYPSUM ASSOC. FILE NO. WP 8006

THICKNESS:	4-3/4 (FIRE)
APPROX. WEIGHT:	6 PSF (FIRE)
FIRE TEST:	UL R3600, 01M21103, 012-402; UL R217, 07M08079, 9-19-08; UL R1319, 478832806, 4-29-15; UL DESIGN U425

FIRE DESIGN:

EXTERIOR SIDE - ONE LAYER 5/8 INCH PROPRIETARY TYPE X GLASS MAT GYPSUM SUBSTRATE (SHEATHING) APPLIED PARALLEL TO 3-1/2 INCH, 33 MIL STEEL STUDS 24 INCH ON CENTER WITH 1/2 INCH TYPE 5-12, SELF-DRILLING, CORROSION RESISTANT, BUGLE HEAD, SCREWS 12 INCH ON CENTER STUDS ATTACHED TO BOTH VERTICAL, LESS OF FLOOR AND CEILING RUNNERS EITHER BY WELDING OR WITH 1/2 INCH TYPE 5-2 PAN HEAD SCREWS, MINERAL OR GLASS FIBER INSULATION FRICTION FIT INTO THE STUD SPACE. EXTERIOR CLADDING TO BE ATTACHED THROUGH GLASS MAT GYPSUM PANEL TO STUDS.

INTERIOR SIDE - ONE LAYER 5/8 INCH PROPRIETARY TYPE X GYPSUM WALLBOARD APPLIED PARALLEL TO STUDS WITH 1/2 INCH TYPE 5-12 SCREWS 12 INCH ON CENTER.

BRACING - ALL DESIGN DETAILS ENHANCING THE STRUCTURAL INTEGRITY OF THE WALL ASSEMBLY, INCLUDING THE AXIAL DESIGN LOAD OF THE STUDS, SHALL BE AS SPECIFIED BY THE STEEL STUD DESIGNER AND/OR PRODUCER, AND SHALL MEET THE REQUIREMENTS OF ALL APPLICABLE LOCAL CODE AGENCIES, WHERE REQUIRED FOR LATERAL SUPPORT OF STUDS, SUPPORT MAY BE PROVIDED BY MEANS OF STEEL STRIPS, CHANNELS OR OTHER SIMILAR MEANS AS SPECIFIED IN THE STRUCTURAL DESIGN, TESTED AT 100 PERCENT OF DESIGN LOAD. (LOAD-BEARING)

PROPRIETARY GYPSUM PANEL PRODUCTS

CERTAINTED GYPSUM INC.
5/8" Certan Teesh® Type X Gypsum Board
5/8" Certan Teesh® GlassRo® Sheathing Type X Gypsum Panels

GEORGIA-PACIFIC GYPSUM LLC
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PABCO® GYPSUM
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UNITED STATES GYPSUM COMPANY
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5/8" Sheetrock® Brand UltraLight Glass-Mat Sheathing Firecode® X

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INTERIOR SIDE - ONE LAYER 5/8 INCH PROPRIETARY TYPE X GYPSUM WALLBOARD APPLIED PARALLEL TO STUDS WITH 1/2 INCH TYPE 5-12 SCREWS 12 INCH ON CENTER.

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GYPSUM ASSOC. FILE NO. WP 8006

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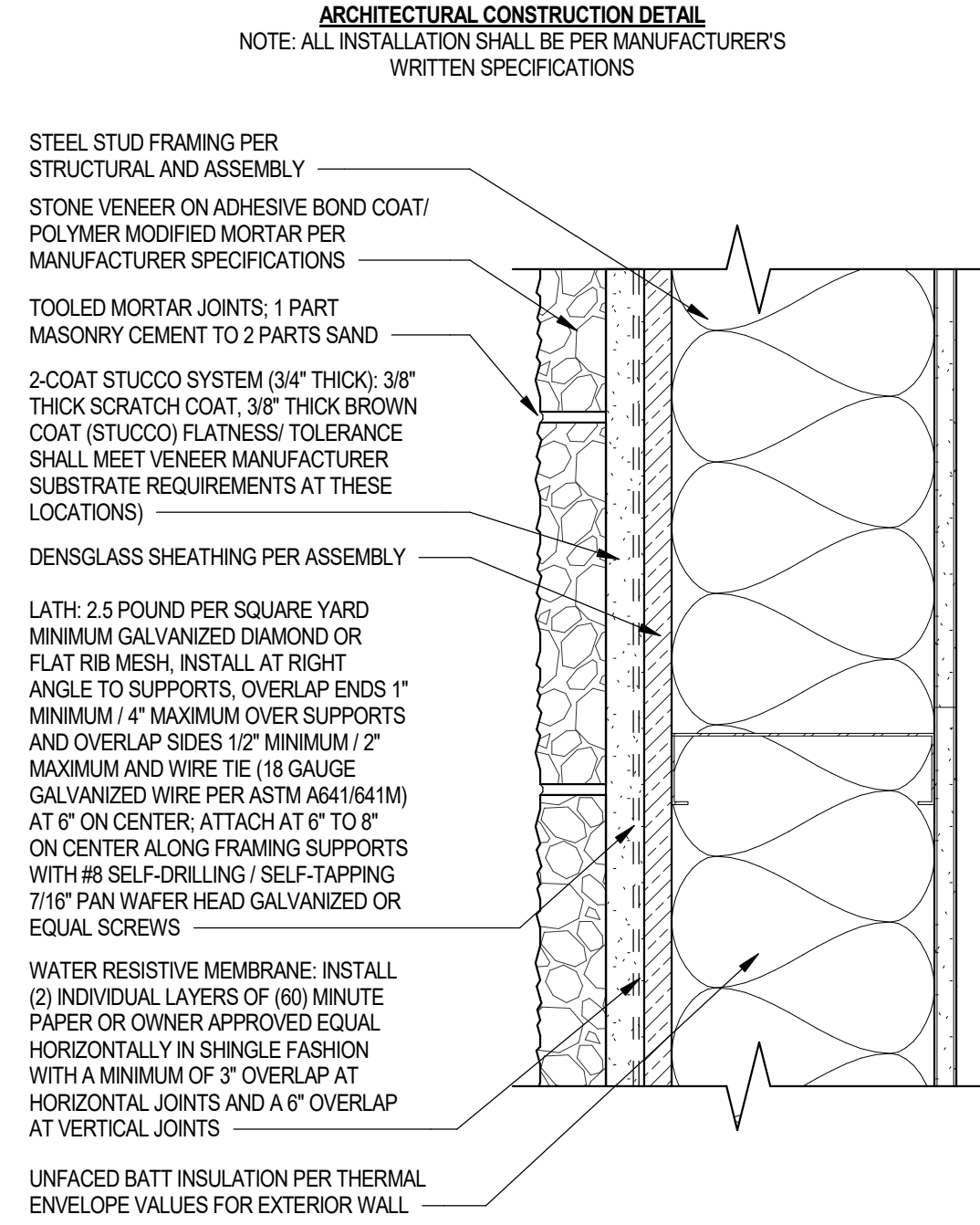
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UNITED STATES GYPSUM COMPANY
5/8" Sheetrock® Brand EcoSmart Panels Firecode® X
5/8" Sheetrock® Brand UltraLight Glass-Mat Sheathing Firecode® X

- UNITED STATES GYPSUM CO** - 1/2 in. thick Type C, PCX, IPC-AR, or WRC; 5/8 in. thick Type AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SCX, SHX, ULX, LUX, WRC, or WRC; 3/4 in. thick Types AR, IP-AR or IP-X3, ULTRACORE
- 6. FASTENERS** - (NOT SHOWN) - FOR USE WITH ITEM 5 - TYPE 5-12 STEEL SCREWS USED TO ATTACH PANELS TO RUNNERS (ITEM 1 OR 1A) AND STUDS (ITEM 2 OR 2A) OR FURRING CHANNELS (ITEM 8). SINGLE LAYER SYSTEMS: 1 IN. LONG FOR 3/4 IN. THICK PANELS OR 1-1/4 IN. LONG FOR 3/4 IN. THICK PANELS, SPACED 8 IN. OC WHEN PANELS ARE APPLIED HORIZONTALLY, OR 12 IN. OC WHEN PANELS ARE APPLIED VERTICALLY. TWO LAYER SYSTEMS: FIRST LAYER - 1 IN. LONG FOR 1/2 AND 5/8 IN. THICK PANELS OR 1-1/4 IN. LONG FOR 3/4 IN. THICK PANELS, SPACED 16 IN. OC. SECOND LAYER - 1-5/8 IN. LONG FOR 1/2 IN. AND 5/8 IN. THICK PANELS OR 2-1/4 IN. LONG FOR 3/4 IN. THICK PANELS, SPACED 16 IN. OC WITH SCREWS OFFSET 8 IN. FROM FIRST LAYER.
 - 7. BATTS AND BLANKETS** - REQUIRED AS INDICATED UNDER ITEM 5) - NOM 2 IN. THICK MINERAL WOOL BATTS, FRICTION FITTED BETWEEN STUDS AND RUNNERS. SEE BATTS AND BLANKETS (BKV OR BZL) CATEGORIES FOR NAMES OF CLASSIFIED COMPANIES.
 - 8. FURRING CHANNELS** - (OPTIONAL ON ONE OR BOTH SIDES, NOT SHOWN, FOR SINGLE OR DOUBLE LAYER SYSTEMS) - RESILIENT FURRING CHANNELS FABRICATED FROM MIN 25 MSG CORROSION-PROTECTED STEEL, SPACED VERTICALLY A MAX OF 24 IN. OC. FLANGE PORTION ATTACHED TO EACH INTERSECTING STUD WITH 1/2 IN. LONG TYPE

1-HR STONE VENEER EXTERIOR WALL
PROPRIETARY ASSEMBLY - UNITED STATES GYPSUM CO - June 2021
FIRE TEST: GA WP 8006



GYPSUM ASSOC. FILE NO. WP 8006
GYPSUM WALLBOARD, GLASS MAT GYPSUM PANELS, STEEL STUDS, INSULATION

THICKNESS: 4-3/4" (FIRE)
APPROX. WEIGHT: 6 PSF (FIRE)

FIRE TEST: UL R3660, 01NK21103, 012-4-02; UL R2717, 07NK08079, 8-19-08; UL R1319, 4788832806, 4-29-15; UL DESIGN U425

FIRE DESIGN:

EXTERIOR SIDE - ONE LAYER 5/8 INCH PROPRIETARY TYPE X GLASS MAT GYPSUM SUBSTRATE (SHEATHING) APPLIED PARALLEL TO 3-1/2 INCH, 33 MIL STEEL STUDS 24 INCH ON CENTER WITH 1 INCH TYPE S-12, SELF-DRILLING, CORROSION RESISTANT, BUGLE HEAD, SCREWS 1/2 INCH ON CENTER STUDS ATTACHED TO BOTH VERTICAL, LESS OF FLOOR AND CEILING RUNNERS EITHER BY WELDING OR WITH 1/2 INCH TYPE S-2 PAN HEAD SCREWS, MINERAL OR GLASS FIBER INSULATION FRICTION FIT INTO THE STUD SPACE. EXTERIOR CLADDING TO BE ATTACHED THROUGH GLASS MAT GYPSUM PANEL TO STUDS.

INTERIOR SIDE - ONE LAYER 5/8 INCH PROPRIETARY TYPE X GYPSUM WALLBOARD APPLIED PARALLEL TO STUDS WITH 1 INCH TYPE S-12 SCREWS 12 INCH ON CENTER.

BRACING - ALL DESIGN DETAILS ENHANCING THE STRUCTURAL INTEGRITY OF THE WALL ASSEMBLY, INCLUDING THE AXIAL DESIGN LOAD OF THE STUDS, SHALL BE AS SPECIFIED BY THE STEEL STUD DESIGNER AND/OR PRODUCER, AND SHALL MEET THE REQUIREMENTS OF ALL APPLICABLE LOCAL CODE AGENCIES. WHERE REQUIRED FOR LATERAL SUPPORT OF STUDS, SUPPORT MAY BE PROVIDED BY MEANS OF STEEL STRAPS, CHANNELS OR OTHER SIMILAR MEANS AS SPECIFIED IN THE STRUCTURAL DESIGN. TESTED AT 100 PERCENT OF DESIGN LOAD. (LOAD BEARING)

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 - 5/8" Certan Tees® Glastech Sheathing Type X Gypsum Panels
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 - UNITED STATES GYPSUM COMPANY
 - 5/8" Sheetrock® Brand EcoSmart Panels Firecode® X
 - 5/8" Sheetrock® Brand Ultra-Light Glass-Mat Sheathing Firecode® X

EM 72 SAME AS EM 71 EXCEPT USE 1/2" STUCCO SYSTEM OVER 1/2" SHEATHING INSTEAD OF INTERIOR GYPSUM WALLBOARD, NO RATING REQUIRED

EM 71 STONE VENEER AT 1-HR RATED EXTERIOR WALL - METAL FRAMING
GA WP 8006 SCALE: 3" = 1'-0"

Project Name 1
Project Name 2

Street Address
City, state



PRELIMINARY
NOT FOR
CONSTRUCTION



Contractor must verify all dimensions of project before proceeding with this work. Do not reproduce these drawings and specifications without the expressed written permission of the Architect. The drawings and specifications are instruments of service and shall remain the property of the Architect whether the project for which they are made is executed or not. These drawings and specifications shall not be used by anyone on any other projects, for additions to this project, or for completion of this project by others except by the expressed written permission of the Architect.

● ORB Architecture, LLC 2018

Notice of alternate billing (or payment) cycle
This contract allows (may allow) the owner to require the submission of bills or estimates in billing cycles other than thirty days. (This contract may allow the owner to make payment on some alternative schedule after verification and approval of bills or estimates). A written description of such other billing (and/or) cycle applies to the project is available from the owner or the owner's designated agent at ALLIANCE RESIDENTIAL COMPANY, 2525 E. CAMELBACK RD., SUITE 500, PHOENIX, AZ 85016 (602) 778-2822 and the owner or its designated agent shall provide this written description on request.

REVISIONS/SUBMITTALS

DATE	DESCRIPTION
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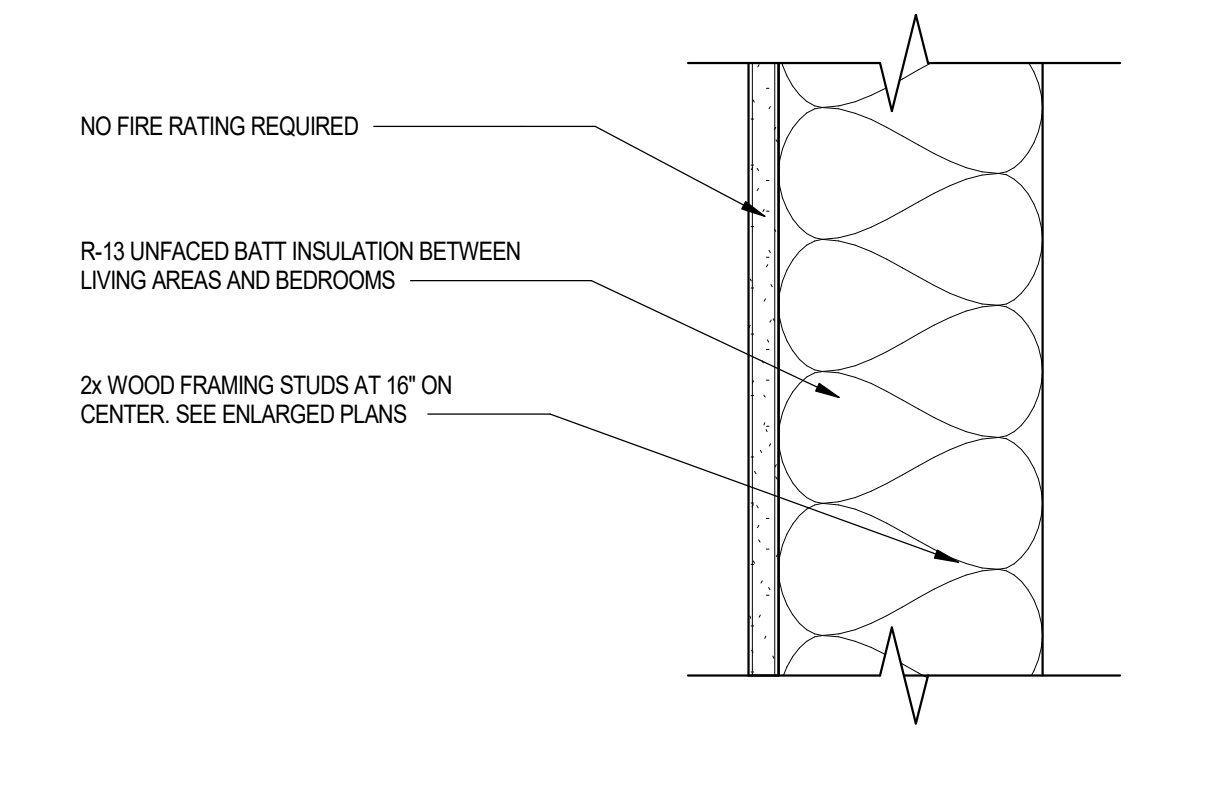
DATE: July 17, 2024 ORB #: 00-000

A7.1.22
FIRE ASSEMBLIES - EXTERIOR METAL FRAMING

7/17/2024 8:55:35 AM

TYPICAL ONE SIDED WALL - WOOD FRAMING
NO RATING REQUIRED

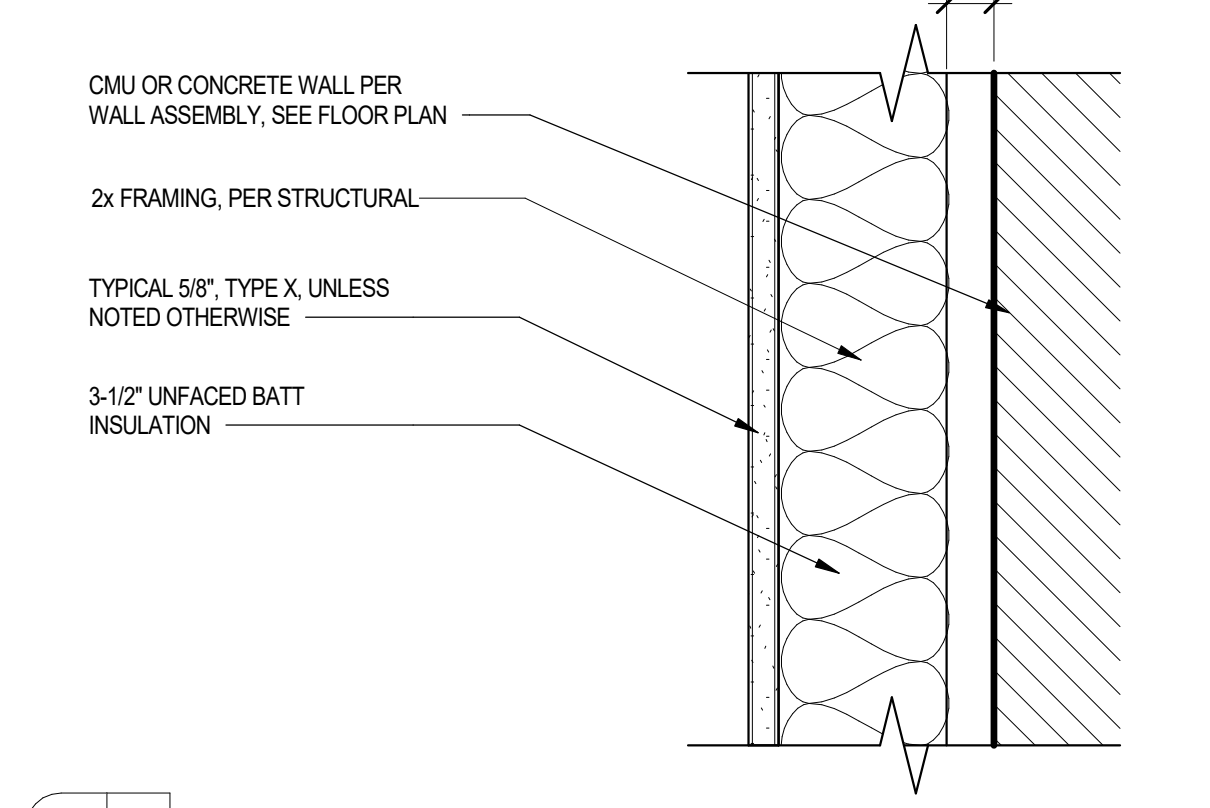
ARCHITECTURAL CONSTRUCTION DETAIL
NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURERS WRITTEN SPECIFICATIONS



IW 07 INTERIOR WALL - WOOD FRAMING
SCALE: 3/8" = 1'-0"

TYPICAL FURRING WALL
NO RATING REQUIRED

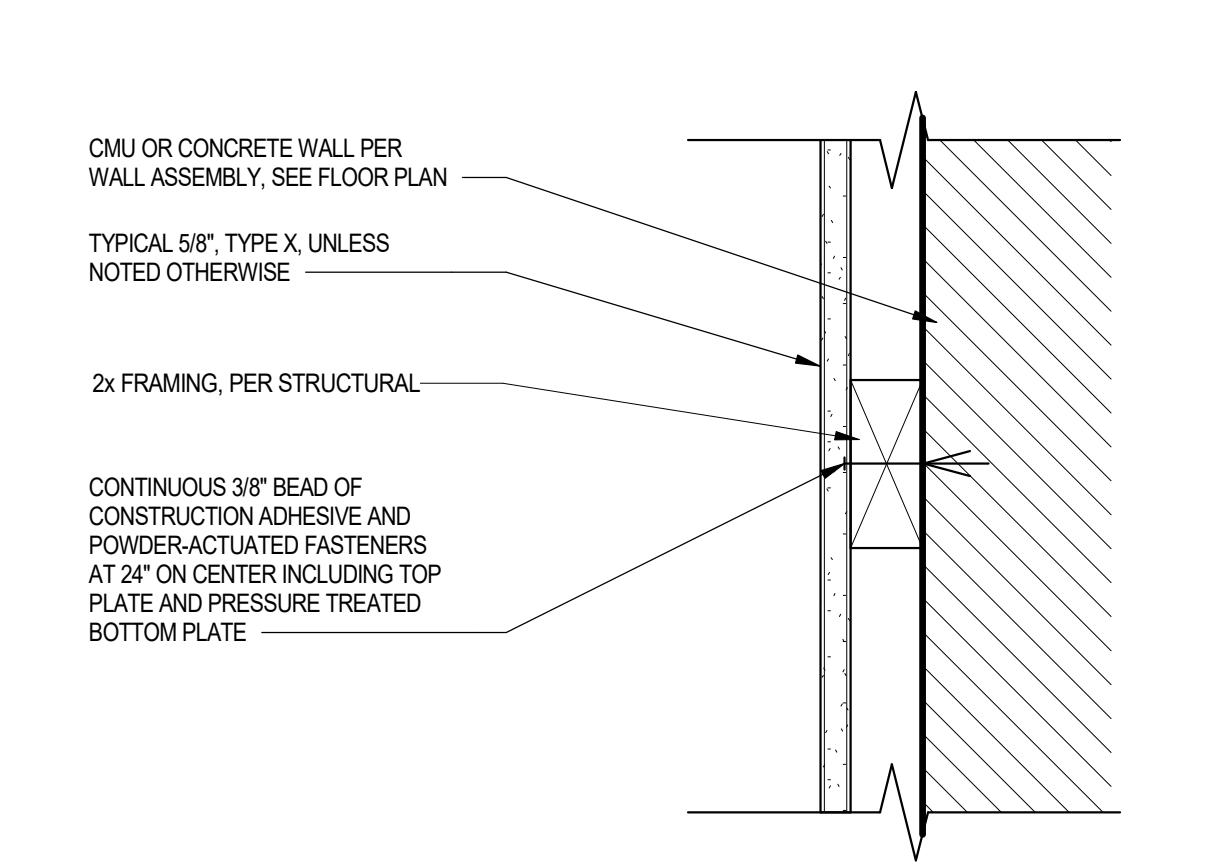
ARCHITECTURAL CONSTRUCTION DETAIL
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FR 02 SAME AS FR 01, EXCEPT USE 2 GYPSUM LAYERS INSTEAD
FR 01 TYPICAL FURRING WALL
SCALE: 3/8" = 1'-0"

TYPICAL FURRING WALL - FLAT STUD
NO RATING REQUIRED

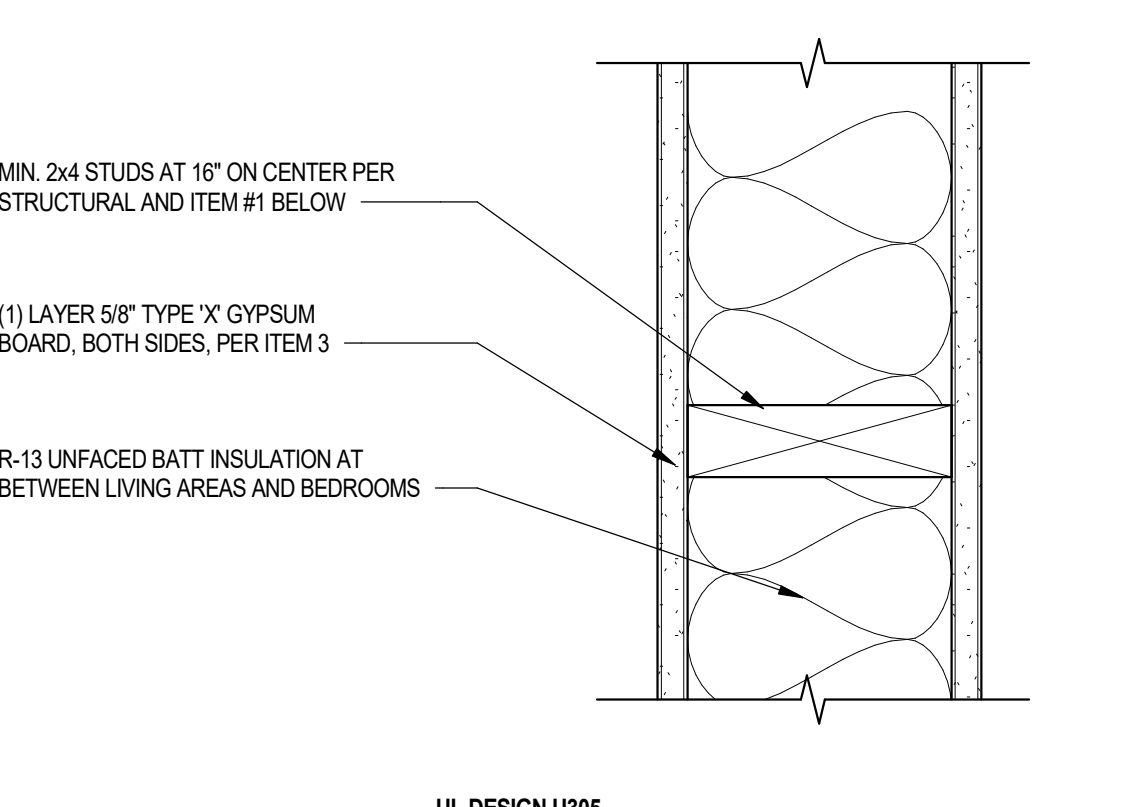
ARCHITECTURAL CONSTRUCTION DETAIL
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FR 03 FLAT WOOD STUD FURRING AT EXPOSED CMU/CONCRETE WALLS
SCALE: 3/8" = 1'-0"

1HR TYPICAL WALL - WOOD FRAMING
PROPRIETARY ASSEMBLY - February 8, 2024
FIRE TEST - UL DESIGN U305
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.

ARCHITECTURAL CONSTRUCTION DETAIL
NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURERS WRITTEN SPECIFICATIONS



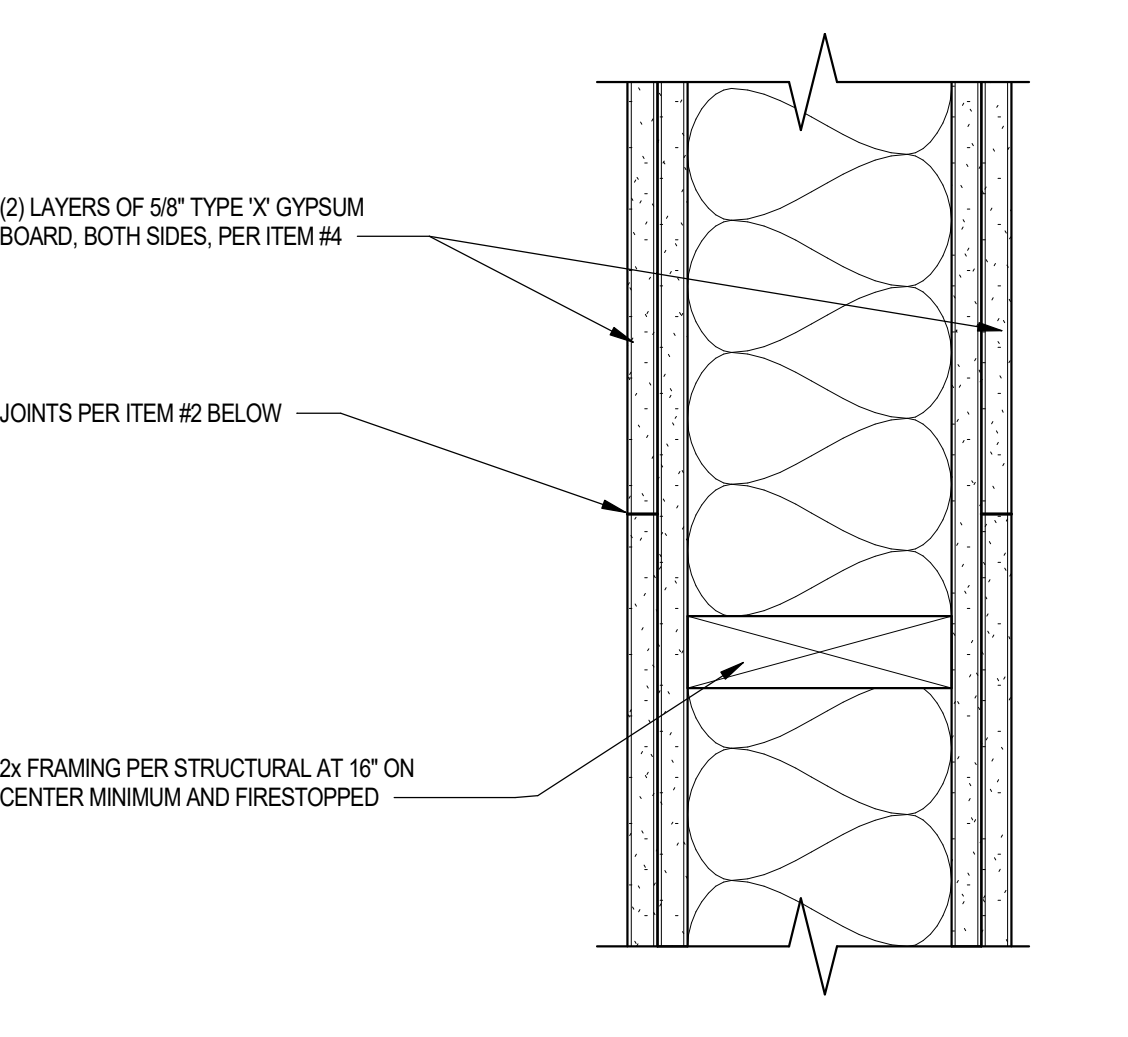
UL DESIGN U305
EXLUV - FIRE RESISTANCE RATINGS - ANSUL 263 CERTIFIED FOR UNITED STATES

- WOOD STUDS** - NOMINAL 2x4 INCH SPACED 16 INCH ON CENTER MAXIMUM, EFFECTIVELY FIRESTOPPED.
- JOINTS AND NAIL HEADS** - JOINTS COVERED WITH JOINT COMPOUND AND PAPER TAPE. JOINT COMPOUND AND PAPER TAPE MAY BE OMITTED WHEN SQUARE EDGE BOARDS ARE USED, AS AN ALTERNATE. NOM 332 IN THICK GYPSUM VENEER PLASTER MAY BE APPLIED TO THE ENTIRE SURFACE OF CLASSIFIED VENEER BASEBOARD WITH THE JOINTS REINFORCED WITH PAPER TAPE. NAIL HEADS EXPOSED OR COVERED WITH JOINT COMPOUND.
- GYPSUM WALLBOARD** - 5/8 IN. THICK PAPER OR VINYL SURFACED, WITH BEVELED, SQUARE, OR TAPERED EDGES, APPLIED EITHER HORIZONTALLY OR VERTICALLY. GYPSUM PANELS NAILED 7 IN. OC WITH 60 CEMENT COATED NAILS - 1/8 IN. LONG, 0.0915 IN. SHANK DIAM AND 1564 IN. DIAM HEADS. WHEN USED IN WIDTHS OTHER THAN 48 IN., GYPSUM PANELS ARE TO BE INSTALLED HORIZONTALLY. AMERICAN GYPSUM CO - Types AGX-1 (finish rating 23 min.) Type AGX-11 (finish rating 26 min.), PABCO BUILDING PRODUCTS L.L.C. DBA PABCO GYPSUM - PG-11 UNITED STATES GYPSUM CO - Type 4R (finish rating 24 min.), GEORGIA-PACIFIC GYPSUM L.L.C. - Type X, Type DS
- GYPSUM BOARD** - (AS AN ALTERNATE TO ITEM 3) - 5/8 IN. THICK GYPSUM PANELS, WITH BEVELED, SQUARE, OR TAPERED EDGES, APPLIED EITHER HORIZONTALLY OR VERTICALLY. GYPSUM PANELS FASTENED TO FRAMING WITH 1-1/4 IN. LONG TYPE W COARSE THREAD GYPSUM PANEL STEEL SCREWS SPACED A MAX. 8 IN. OC, WITH LAST SCREW 1 IN. FROM EDGE OF BOARD. WHEN USED IN WIDTHS OF OTHER THAN 48 IN., GYPSUM BOARDS ARE TO BE INSTALLED HORIZONTALLY.
- BATTS AND BLANKETS** - (OPTIONAL) - GLASS FIBER OR MINERAL WOOL INSULATION, PLACED TO COMPLETELY OR PARTIALLY FILL THE STUD CAVITIES. CERTAINTED CORP - JONES MANVILLE, KNAUF INSULATION LLC, MANSON INSULATION INC, ROCKWOOL - TYPES ACoustical FIRE BATTS AND TYPE AFB, MIN. DENSITY 1.69 PCF / 27.0 KG/M3, ROCK WOOL MANUFACTURING CO - DELTA BOARD, THERMABER INC - TYPE SAFB, SAFB FF
- NON-BEARING WALL PARTITION INTERSECTION** - (OPTIONAL) - TWO NOMINAL 2 BY 4 IN. STUDS OR NOMINAL 2 BY 6 IN. STUDS NAILED TOGETHER WITH TWO 3 IN. LONG 1/8 NAILS SPACED A MAX. 16 IN. OC, VERTICALLY AND FASTENED TO ONE SIDE OF THE MINIMUM 2 BY 4 IN. STUD WITH 3 IN. LONG 1/8 NAILS SPACED A MAX. 16 IN. OC, VERTICALLY. INTERSECTION BETWEEN PARTITION WOOD STUDS TO BE FLUSH WITH THE 2 BY 4 IN. STUDS. THE WALL PARTITION WOOD STUDS ARE TO BE FRAMED BY WITH A SECOND 2 BY 4 IN. WOOD STUD FASTENED WITH 3 IN. LONG 1/8 NAILS SPACED A MAX. 16 IN. OC, VERTICALLY. MAXIMUM ONE NON-BEARING WALL PARTITION INTERSECTION PER STUD CAVITY. NON-BEARING WALL PARTITION STUD DEPTH SHALL BE AT A MINIMUM EQUAL TO THE DEPTH OF THE BEARING WALL.

IW 03 1-HR INTERIOR WALL - WOOD FRAMING
ANSUL 263 DESIGN NO U305
SCALE: 3/8" = 1'-0"

2HR WALL
PROPRIETARY ASSEMBLY - February 16, 2024
FIRE TEST - UL DESIGN U301
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.

ARCHITECTURAL CONSTRUCTION DETAIL
NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURERS WRITTEN SPECIFICATIONS



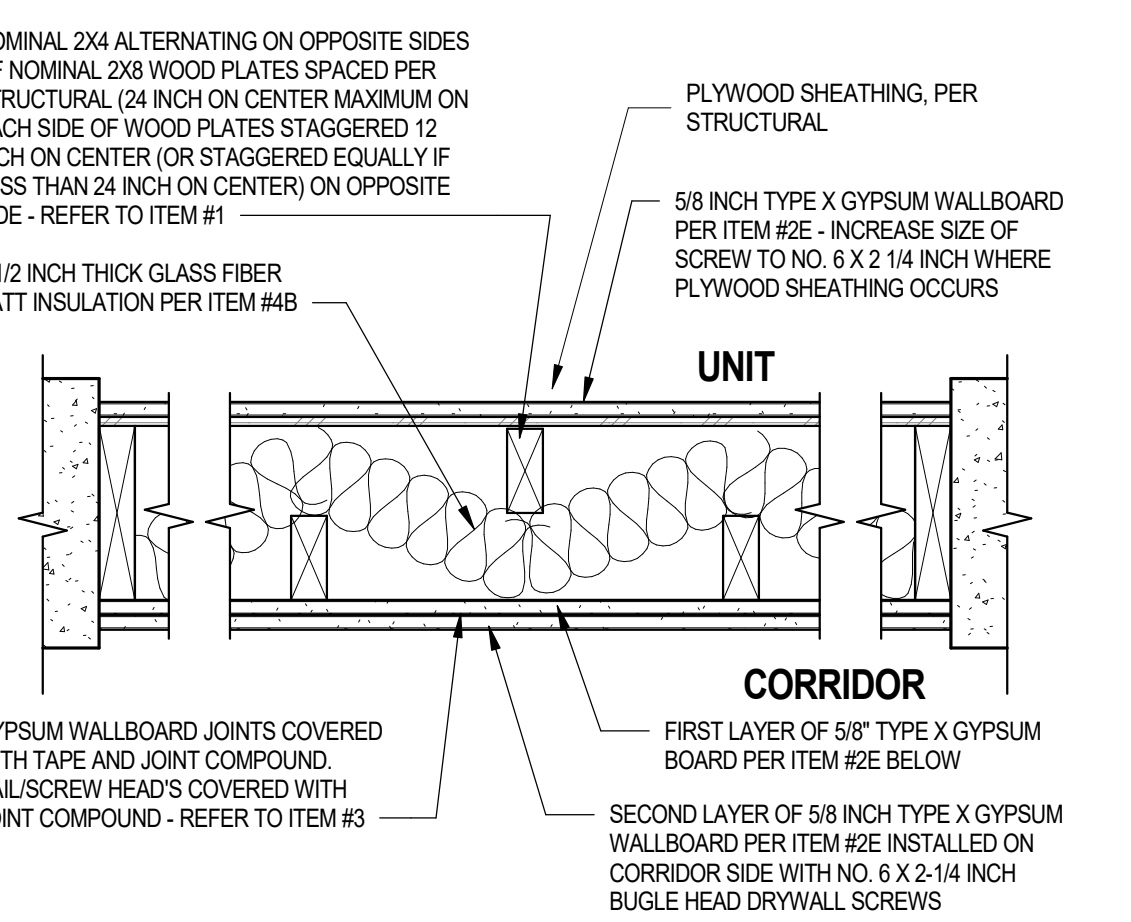
UL DESIGN U301
EXLUV - FIRE RESISTANCE RATINGS - ANSUL 263 CERTIFIED FOR UNITED STATES

- WOOD STUDS** - NOM 2 BY 4 IN. ALTERNATING ON OPPOSITE SIDES OF NOM 2 BY 6 IN. WOOD PLATES, SPACED 24 IN. OC MAX ON EACH SIDE OF WOOD PLATES, STAGGERED 12 IN. OC (OR STAGGERED EQUALLY IF LESS THAN 24 IN. OC) ON OPPOSITE SIDE.
- GYPSUM BOARD** - 5/8 IN. THICK GYPSUM BOARD, PAPER OR VINYL FACED WITH BEVELED, SQUARE, TAPERED OR ROUNDED EDGES. GYPSUM BOARD NAILED TO EACH STUD 7 IN. OC WITH 60 CEMENT COATED NAILS - 1/8 IN. LONG, 0.0915 IN. SHANK DIAM AND 1564 IN. DIAM HEAD. AS AN ALTERNATE, NO. 6 BUGLE HEAD DRYWALL SCREWS, 1/8 IN. LONG, MAY BE SUBSTITUTED FOR THE 60 CEMENT COATED NAILS WHEN USED IN WIDTHS OTHER THAN 48 IN. GYPSUM BOARD TO BE INSTALLED HORIZONTALLY. BATTS AND BLANKETS PLACED IN STUD CAVITY AS DESCRIBED IN ITEM #4B. WHEN STEEL FRAMING MEMBERS (ITEM 5) ARE USED, GYPSUM BOARD ATTACHED TO FURRING CHANNELS WITH 1 IN. LONG TYPE S BUGLE-HEAD STEEL SCREWS SPACED 12 IN. OC.
- JOINTS AND NAIL HEADS** - WALLBOARD JOINTS COVERED WITH PAPER TAPE AND JOINT COMPOUND. FASTENER HEADS COVERED WITH JOINT COMPOUND. GYPSUM PLASTER NOT MORE THAN 1/8 IN. THICK MAY BE APPLIED OVER THE WALLBOARD IN ADDITION TO THE SPECIFIED JOINT TREATMENT.
- BATTS AND BLANKETS** - (NOT SHOWN) - OPTIONAL GLASS FIBER INSULATION.
- NON-BEARING WALL PARTITION INTERSECTION** - (OPTIONAL) - TWO NOMINAL 2 BY 4 IN. STUD OR NOMINAL 2 BY 6 IN. STUD NAILED TOGETHER WITH TWO 3 IN. LONG 1/8 NAILS SPACED A MAX. 16 IN. OC, VERTICALLY AND FASTENED TO ONE SIDE OF THE MINIMUM 2 BY 4 IN. STUD WITH 3 IN. LONG 1/8 NAILS SPACED A MAX. 16 IN. OC, VERTICALLY. INTERSECTION BETWEEN PARTITION WOOD STUDS TO BE FLUSH WITH THE 2 BY 4 IN. STUDS. THE WALL PARTITION WOOD STUDS ARE TO BE FRAMED BY WITH A SECOND 2 BY 4 IN. WOOD STUD FASTENED WITH 3 IN. LONG 1/8 NAILS SPACED A MAX. 16 IN. OC, VERTICALLY. MAXIMUM ONE NON-BEARING WALL PARTITION INTERSECTION PER STUD CAVITY. NON-BEARING WALL PARTITION STUD DEPTH SHALL BE AT A MINIMUM EQUAL TO THE DEPTH OF THE BEARING WALL.

IW 04 2-HR INTERIOR WALL - WOOD FRAMING
ANSUL 263 DESIGN NO U301
SCALE: 3/8" = 1'-0"

1HR CORRIDOR WALL WITH QUIETROCK - WOOD FRAMING
PROPRIETARY ASSEMBLY - January 30, 2024
FIRE TEST - Design No. U340
SOUND RATING: 65 STC PER IBC RC TL-04-051
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.

ARCHITECTURAL CONSTRUCTION DETAIL
NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURERS WRITTEN SPECIFICATIONS



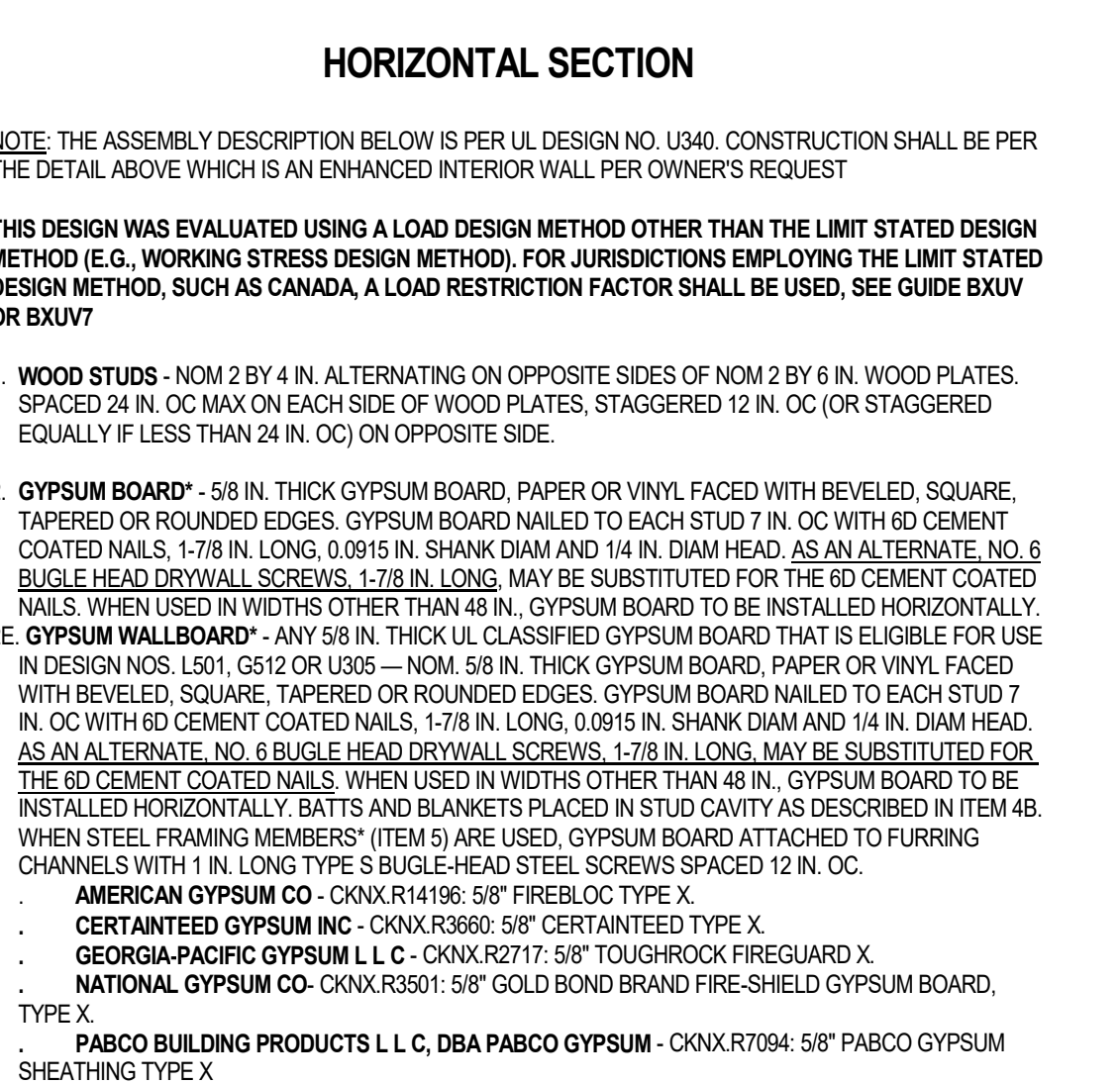
UL DESIGN U309
EXLUV - FIRE RESISTANCE RATINGS - ANSUL 263 CERTIFIED FOR UNITED STATES

- WOOD STUDS** - NOM 2 BY 4 IN. SPACED 24 IN. OC, EFFECTIVELY FIRESTOPPED.
- GYPSUM WALLBOARD** - 5/8 IN. THICK, 4 FT. WIDE, APPLIED EITHER HORIZONTALLY OR VERTICALLY. NAILED TO STUDS AND BEARING PLATES WITH 60 CEMENT COATED NAILS MIN. 1/8 IN. LONG, 0.0915 IN. SHANK DIAM AND 1/4 IN. DIAM HEADS SPACED 7 IN. OC. FINISH RATING 27 MIN. WHEN USED IN WIDTHS OTHER THAN 48 IN., GYPSUM BOARD TO BE INSTALLED HORIZONTALLY. WHEN STEEL FRAMING MEMBERS (ITEMS 5 OR ANY ALTERNATE CLIPS) ARE USED, WALLBOARD ATTACHED TO FURRING CHANNELS WITH 1 IN. LONG TYPE S BUGLE-HEAD STEEL SCREWS SPACED 12 IN. OC. PABCO BUILDING PRODUCTS L.L.C. DBA PABCO GYPSUM - TYPE C, PG-9, PG-11, PG-C, PGS-VRS, PGI UNIT SIDE: PABCO BUILDING PRODUCTS LLC 5/8" FLAME CURB TYPE X CORRIDOR SIDE: PABCO BUILDING PRODUCTS LLC 5/8" FLAME CURB TYPE C
- GYPSUM BOARD** - CORRIDOR SIDE - (AS AN ALTERNATE TO ITEM 2) - NOMINAL 2 BY 4 IN. THICK, 4 FT. WIDE PANELS, APPLIED VERTICALLY TO STUDS AND BEARING PLATES ON ONE SIDE OF THE ASSEMBLY WITH 1-5/8 IN. LONG TYPE S SCREWS SPACED 12 IN. OC AT PERIMETER OF PANELS AND 8 IN. OC IN THE FIELD. HORIZONTAL JOINTS OF VERTICALLY APPLIED PANELS NEED NOT BE BACKED BY STUDS. PANEL JOINTS COVERED WITH PAPER TAPE AND TWO LAYERS OF JOINT COMPOUND. SCREWS/HEADS COVERED WITH TWO LAYERS OF JOINT COMPOUND. BATTS AND BLANKETS PLACED IN STUD CAVITY AS DESCRIBED IN ITEM 4E. NOT EVALUATED FOR USE WITH STEEL FRAMING MEMBERS, FURRING CHANNELS OR FIBER SPRAYED.
- JOINTS AND FASTENER HEADS** - WALLBOARD JOINTS COVERED WITH PAPER TAPE AND JOINT COMPOUND. FASTENER HEADS COVERED WITH JOINT COMPOUND. GYPSUM PLASTER NOT MORE THAN 1/8 IN. THICK MAY BE APPLIED OVER THE WALLBOARD IN ADDITION TO THE SPECIFIED JOINT TREATMENT.
- BATTS AND BLANKETS** - (NOT SHOWN) - OPTIONAL GLASS FIBER INSULATION.
- NON-BEARING WALL PARTITION INTERSECTION** - (OPTIONAL) - TWO NOMINAL 2 BY 4 IN. STUD OR NOMINAL 2 BY 6 IN. STUD NAILED TOGETHER WITH TWO 3 IN. LONG 1/8 NAILS SPACED A MAX. 16 IN. OC, VERTICALLY AND FASTENED TO ONE SIDE OF THE MINIMUM 2 BY 4 IN. STUD WITH 3 IN. LONG 1/8 NAILS SPACED A MAX. 16 IN. OC, VERTICALLY. INTERSECTION BETWEEN PARTITION WOOD STUDS TO BE FLUSH WITH THE 2 BY 4 IN. STUDS. THE WALL PARTITION WOOD STUDS ARE TO BE FRAMED BY WITH A SECOND 2 BY 4 IN. WOOD STUD FASTENED WITH 3 IN. LONG 1/8 NAILS SPACED A MAX. 16 IN. OC, VERTICALLY. MAXIMUM ONE NON-BEARING WALL PARTITION INTERSECTION PER STUD CAVITY. NON-BEARING WALL PARTITION STUD DEPTH SHALL BE AT A MINIMUM EQUAL TO THE DEPTH OF THE BEARING WALL.

IW 02 1-HR CORRIDOR WALL WITH QUIETROCK - WOOD FRAMING
ANSUL 263 DESIGN NO U309
SCALE: 3/8" = 1'-0"

2HR WALL
PROPRIETARY ASSEMBLY - February 16, 2024
FIRE TEST - UL DESIGN U301
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.

ARCHITECTURAL CONSTRUCTION DETAIL
NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURERS WRITTEN SPECIFICATIONS



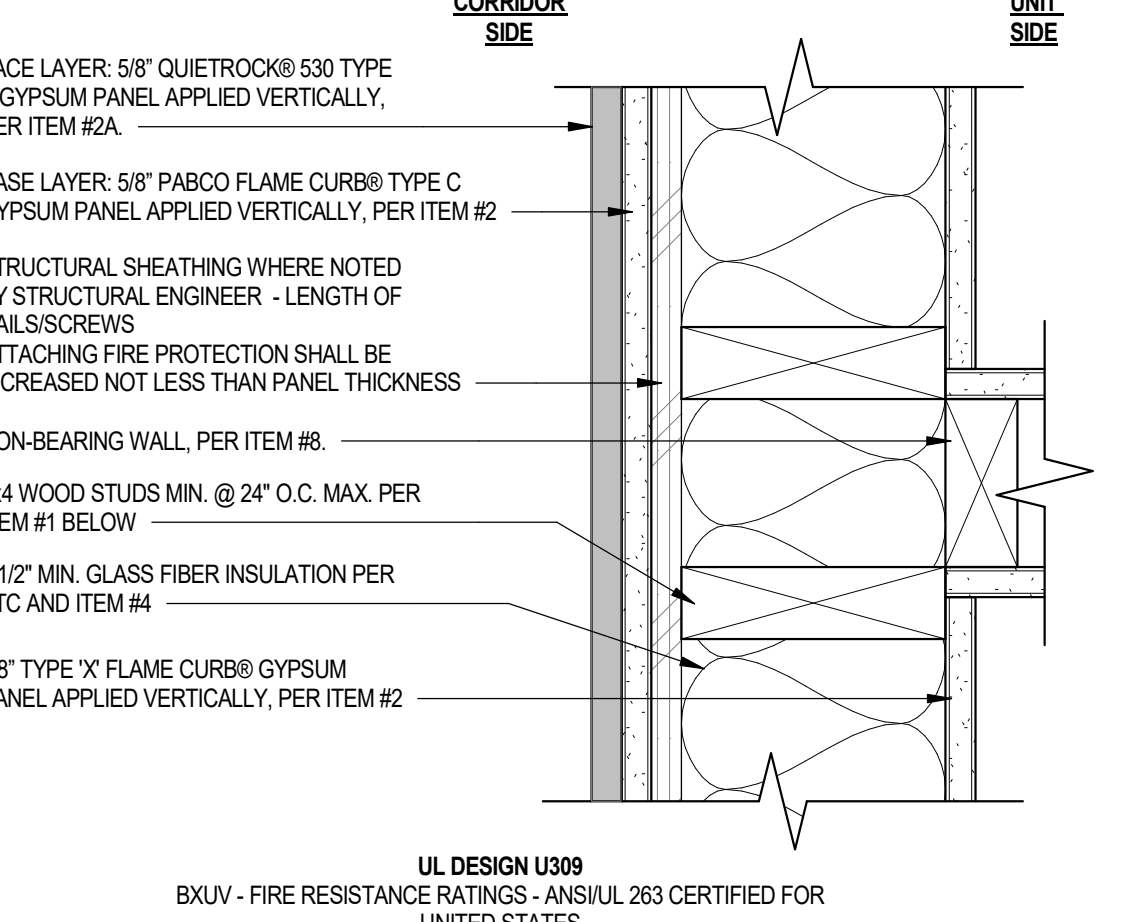
UL DESIGN U301
EXLUV - FIRE RESISTANCE RATINGS - ANSUL 263 CERTIFIED FOR UNITED STATES

- WOOD STUDS** - NOM 2 BY 4 IN. ALTERNATING ON OPPOSITE SIDES OF NOM 2 BY 6 IN. WOOD PLATES, SPACED 24 IN. OC MAX ON EACH SIDE OF WOOD PLATES, STAGGERED 12 IN. OC (OR STAGGERED EQUALLY IF LESS THAN 24 IN. OC) ON OPPOSITE SIDE.
- GYPSUM BOARD** - 5/8 IN. THICK GYPSUM BOARD, PAPER OR VINYL FACED WITH BEVELED, SQUARE, TAPERED OR ROUNDED EDGES. GYPSUM BOARD NAILED TO EACH STUD 7 IN. OC WITH 60 CEMENT COATED NAILS - 1/8 IN. LONG, 0.0915 IN. SHANK DIAM AND 1564 IN. DIAM HEAD. AS AN ALTERNATE, NO. 6 BUGLE HEAD DRYWALL SCREWS, 1/8 IN. LONG, MAY BE SUBSTITUTED FOR THE 60 CEMENT COATED NAILS WHEN USED IN WIDTHS OTHER THAN 48 IN. GYPSUM BOARD TO BE INSTALLED HORIZONTALLY. BATTS AND BLANKETS PLACED IN STUD CAVITY AS DESCRIBED IN ITEM #4B. WHEN STEEL FRAMING MEMBERS (ITEM 5) ARE USED, GYPSUM BOARD ATTACHED TO FURRING CHANNELS WITH 1 IN. LONG TYPE S BUGLE-HEAD STEEL SCREWS SPACED 12 IN. OC.
- JOINTS AND NAIL HEADS** - WALLBOARD JOINTS COVERED WITH PAPER TAPE AND JOINT COMPOUND. FASTENER HEADS COVERED WITH JOINT COMPOUND. GYPSUM PLASTER NOT MORE THAN 1/8 IN. THICK MAY BE APPLIED OVER THE WALLBOARD IN ADDITION TO THE SPECIFIED JOINT TREATMENT.
- BATTS AND BLANKETS** - (REQUIRED FOR USE WITH WALL AND PARTITION FACINGS AND ACCESSORIES, ITEM 2D) AND GYPSUM BOARD ITEM 2E) - GLASS FIBER INSULATION, NOM 3 1/2 IN. THICK, MIN. DENSITY OF 1.0 PCF, WITH A FLAME SPREAD OF 4 IN. STUD WITH 3 IN. LONG 1/8 NAILS SPACED A MAX. 16 IN. OC, VERTICALLY. INTERSECTION BETWEEN PARTITION WOOD STUDS TO BE FLUSH WITH THE 2 BY 4 IN. STUDS. THE WALL PARTITION WOOD STUDS ARE TO BE FRAMED BY WITH A SECOND 2 BY 4 IN. WOOD STUD FASTENED WITH 3 IN. LONG 1/8 NAILS SPACED A MAX. 16 IN. OC, VERTICALLY. MAXIMUM ONE NON-BEARING WALL PARTITION INTERSECTION PER STUD CAVITY. NON-BEARING WALL PARTITION STUD DEPTH SHALL BE AT A MINIMUM EQUAL TO THE DEPTH OF THE BEARING WALL.
- NON-BEARING WALL PARTITION INTERSECTION** - (OPTIONAL) - TWO NOMINAL 2 BY 4 IN. STUD OR NOMINAL 2 BY 6 IN. STUD NAILED TOGETHER WITH TWO 3 IN. LONG 1/8 NAILS SPACED A MAX. 16 IN. OC, VERTICALLY AND FASTENED TO ONE SIDE OF THE MINIMUM 2 BY 4 IN. STUD WITH 3 IN. LONG 1/8 NAILS SPACED A MAX. 16 IN. OC, VERTICALLY. INTERSECTION BETWEEN PARTITION WOOD STUDS TO BE FLUSH WITH THE 2 BY 4 IN. STUDS. THE WALL PARTITION WOOD STUDS ARE TO BE FRAMED BY WITH A SECOND 2 BY 4 IN. WOOD STUD FASTENED WITH 3 IN. LONG 1/8 NAILS SPACED A MAX. 16 IN. OC, VERTICALLY. MAXIMUM ONE NON-BEARING WALL PARTITION INTERSECTION PER STUD CAVITY. NON-BEARING WALL PARTITION STUD DEPTH SHALL BE AT A MINIMUM EQUAL TO THE DEPTH OF THE BEARING WALL.

IW 02 1-HR CORRIDOR WALL - WOOD FRAMING - BEARING
ALT 3 UL DESIGN NO U340
SCALE: 1 1/2" = 1'-0"

1HR CORRIDOR WALL WITH QUIETROCK - WOOD FRAMING
PROPRIETARY ASSEMBLY - PABCO - January 30, 2024
FIRE TEST - Design No. U309
SOUND RATING: 65 STC PER IBC RC TL-04-051
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.

ARCHITECTURAL CONSTRUCTION DETAIL
NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURERS WRITTEN SPECIFICATIONS



UL DESIGN U309
EXLUV - FIRE RESISTANCE RATINGS - ANSUL 263 CERTIFIED FOR UNITED STATES

- WOOD STUDS** - NOM 2 BY 4 IN. SPACED 24 IN. OC, EFFECTIVELY FIRESTOPPED.
- GYPSUM WALLBOARD** - 5/8 IN. THICK, 4 FT. WIDE, APPLIED EITHER HORIZONTALLY OR VERTICALLY. NAILED TO STUDS AND BEARING PLATES WITH 60 CEMENT COATED NAILS MIN. 1/8 IN. LONG, 0.0915 IN. SHANK DIAM AND 1/4 IN. DIAM HEADS SPACED 7 IN. OC. FINISH RATING 27 MIN. WHEN USED IN WIDTHS OTHER THAN 48 IN., GYPSUM BOARD TO BE INSTALLED HORIZONTALLY. WHEN STEEL FRAMING MEMBERS (ITEMS 5 OR ANY ALTERNATE CLIPS) ARE USED, WALLBOARD ATTACHED TO FURRING CHANNELS WITH 1 IN. LONG TYPE S BUGLE-HEAD STEEL SCREWS SPACED 12 IN. OC. PABCO BUILDING PRODUCTS L.L.C. DBA PABCO GYPSUM - TYPE C, PG-9, PG-11, PG-C, PGS-VRS, PGI UNIT SIDE: PABCO BUILDING PRODUCTS LLC 5/8" FLAME CURB TYPE X CORRIDOR SIDE: PABCO BUILDING PRODUCTS LLC 5/8" FLAME CURB TYPE C
- GYPSUM BOARD** - CORRIDOR SIDE - (AS AN ALTERNATE TO ITEM 2) - NOMINAL 2 BY 4 IN. THICK, 4 FT. WIDE PANELS, APPLIED VERTICALLY TO STUDS AND BEARING PLATES ON ONE SIDE OF THE ASSEMBLY WITH 1-5/8 IN. LONG TYPE S SCREWS SPACED 12 IN. OC AT PERIMETER OF PANELS AND 8 IN. OC IN THE FIELD. HORIZONTAL JOINTS OF VERTICALLY APPLIED PANELS NEED NOT BE BACKED BY STUDS. PANEL JOINTS COVERED WITH PAPER TAPE AND TWO LAYERS OF JOINT COMPOUND. SCREWS/HEADS COVERED WITH TWO LAYERS OF JOINT COMPOUND. BATTS AND BLANKETS PLACED IN STUD CAVITY AS DESCRIBED IN ITEM 4E. NOT EVALUATED FOR USE WITH STEEL FRAMING MEMBERS, FURRING CHANNELS OR FIBER SPRAYED.
- JOINTS AND FASTENER HEADS** - WALLBOARD JOINTS COVERED WITH PAPER TAPE AND JOINT COMPOUND. FASTENER HEADS COVERED WITH JOINT COMPOUND. GYPSUM PLASTER NOT MORE THAN 1/8 IN. THICK MAY BE APPLIED OVER THE WALLBOARD IN ADDITION TO THE SPECIFIED JOINT TREATMENT.
- BATTS AND BLANKETS** - (NOT SHOWN) - OPTIONAL GLASS FIBER INSULATION.
- NON-BEARING WALL PARTITION INTERSECTION** - (OPTIONAL) - TWO NOMINAL 2 BY 4 IN. STUD OR NOMINAL 2 BY 6 IN. STUD NAILED TOGETHER WITH TWO 3 IN. LONG 1/8 NAILS SPACED A MAX. 16 IN. OC, VERTICALLY AND FASTENED TO ONE SIDE OF THE MINIMUM 2 BY 4 IN. STUD WITH 3 IN. LONG 1/8 NAILS SPACED A MAX. 16 IN. OC, VERTICALLY. INTERSECTION BETWEEN PARTITION WOOD STUDS TO BE FLUSH WITH THE 2 BY 4 IN. STUDS. THE WALL PARTITION WOOD STUDS ARE TO BE FRAMED BY WITH A SECOND 2 BY 4 IN. WOOD STUD FASTENED WITH 3 IN. LONG 1/8 NAILS SPACED A MAX. 16 IN. OC, VERTICALLY. MAXIMUM ONE NON-BEARING WALL PARTITION INTERSECTION PER STUD CAVITY. NON-BEARING WALL PARTITION STUD DEPTH SHALL BE AT A MINIMUM EQUAL TO THE DEPTH OF THE BEARING WALL.

IW 02 1-HR CORRIDOR WALL WITH QUIETROCK - WOOD FRAMING
ANSUL 263 DESIGN NO U309
SCALE: 3/8" = 1'-0"

1HR CORRIDOR WALL WITH QUIETROCK - WOOD FRAMING
PROPRIETARY ASSEMBLY - PABCO - January 30, 2024
FIRE TEST - Design No. U309
SOUND RATING: 65 STC PER IBC RC TL-04-051
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.

ARCHITECTURAL CONSTRUCTION DETAIL
NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURERS WRITTEN SPECIFICATIONS



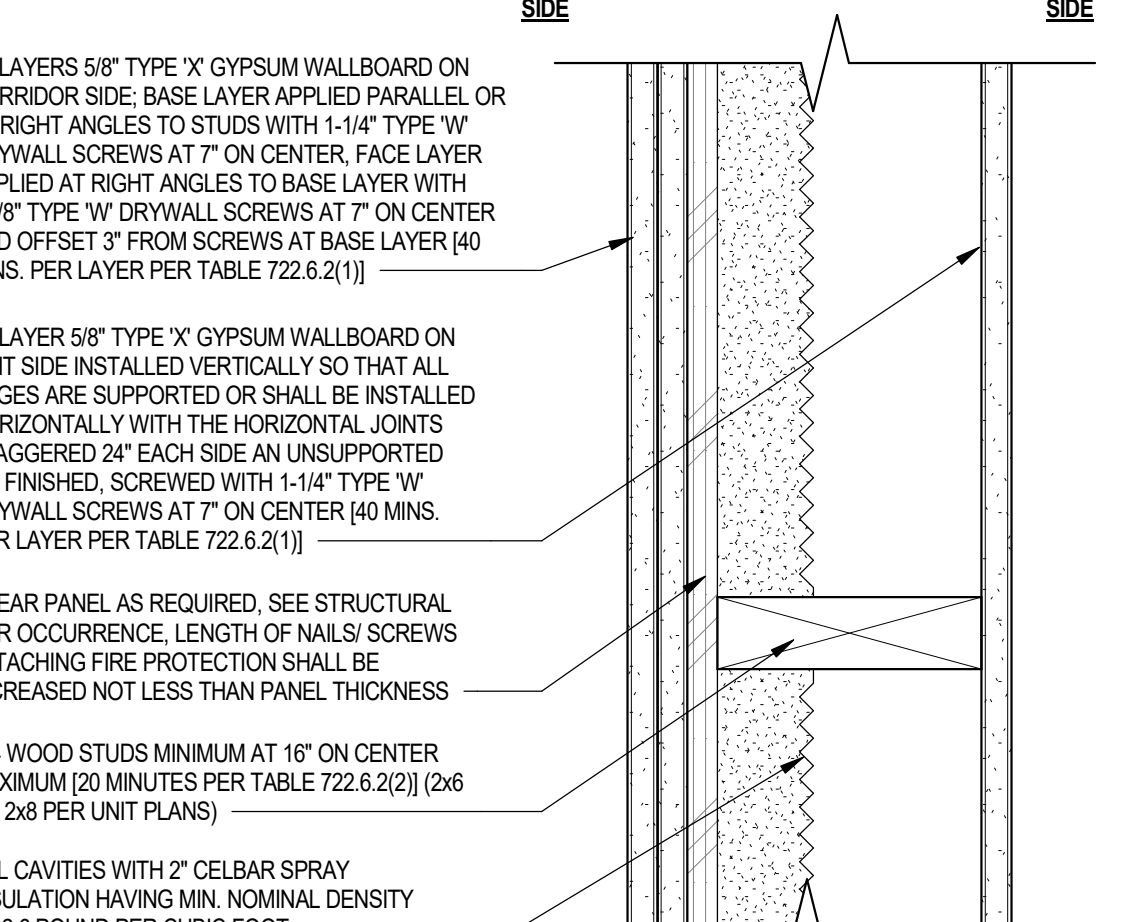
UL DESIGN U309
EXLUV - FIRE RESISTANCE RATINGS - ANSUL 263 CERTIFIED FOR UNITED STATES

- WOOD STUDS** - NOM 2 BY 4 IN. SPACED 24 IN. OC, EFFECTIVELY FIRESTOPPED.
- GYPSUM WALLBOARD** - 5/8 IN. THICK, 4 FT. WIDE, APPLIED EITHER HORIZONTALLY OR VERTICALLY. NAILED TO STUDS AND BEARING PLATES WITH 60 CEMENT COATED NAILS MIN. 1/8 IN. LONG, 0.0915 IN. SHANK DIAM AND 1/4 IN. DIAM HEADS SPACED 7 IN. OC. FINISH RATING 27 MIN. WHEN USED IN WIDTHS OTHER THAN 48 IN., GYPSUM BOARD TO BE INSTALLED HORIZONTALLY. WHEN STEEL FRAMING MEMBERS (ITEMS 5 OR ANY ALTERNATE CLIPS) ARE USED, WALLBOARD ATTACHED TO FURRING CHANNELS WITH 1 IN. LONG TYPE S BUGLE-HEAD STEEL SCREWS SPACED 12 IN. OC. PABCO BUILDING PRODUCTS L.L.C. DBA PABCO GYPSUM - TYPE C, PG-9, PG-11, PG-C, PGS-VRS, PGI UNIT SIDE: PABCO BUILDING PRODUCTS LLC 5/8" FLAME CURB TYPE X CORRIDOR SIDE: PABCO BUILDING PRODUCTS LLC 5/8" FLAME CURB TYPE C
- GYPSUM BOARD** - CORRIDOR SIDE - (AS AN ALTERNATE TO ITEM 2) - NOMINAL 2 BY 4 IN. THICK, 4 FT. WIDE PANELS, APPLIED VERTICALLY TO STUDS AND BEARING PLATES ON ONE SIDE OF THE ASSEMBLY WITH 1-5/8 IN. LONG TYPE S SCREWS SPACED 12 IN. OC AT PERIMETER OF PANELS AND 8 IN. OC IN THE FIELD. HORIZONTAL JOINTS OF VERTICALLY APPLIED PANELS NEED NOT BE BACKED BY STUDS. PANEL JOINTS COVERED WITH PAPER TAPE AND TWO LAYERS OF JOINT COMPOUND. SCREWS/HEADS COVERED WITH TWO LAYERS OF JOINT COMPOUND. BATTS AND BLANKETS PLACED IN STUD CAVITY AS DESCRIBED IN ITEM 4E. NOT EVALUATED FOR USE WITH STEEL FRAMING MEMBERS, FURRING CHANNELS OR FIBER SPRAYED.
- JOINTS AND FASTENER HEADS** - WALLBOARD JOINTS COVERED WITH PAPER TAPE AND JOINT COMPOUND. FASTENER HEADS COVERED WITH JOINT COMPOUND. GYPSUM PLASTER NOT MORE THAN 1/8 IN. THICK MAY BE APPLIED OVER THE WALLBOARD IN ADDITION TO THE SPECIFIED JOINT TREATMENT.
- BATTS AND BLANKETS** - (NOT SHOWN) - OPTIONAL GLASS FIBER INSULATION.
- NON-BEARING WALL PARTITION INTERSECTION** - (OPTIONAL) - TWO NOMINAL 2 BY 4 IN. STUD OR NOMINAL 2 BY 6 IN. STUD NAILED TOGETHER WITH TWO 3 IN. LONG 1/8 NAILS SPACED A MAX. 16 IN. OC, VERTICALLY AND FASTENED TO ONE SIDE OF THE MINIMUM 2 BY 4 IN. STUD WITH 3 IN. LONG 1/8 NAILS SPACED A MAX. 16 IN. OC, VERTICALLY. INTERSECTION BETWEEN PARTITION WOOD STUDS TO BE FLUSH WITH THE 2 BY 4 IN. STUDS. THE WALL PARTITION WOOD STUDS ARE TO BE FRAMED BY WITH A SECOND 2 BY 4 IN. WOOD STUD FASTENED WITH 3 IN. LONG 1/8 NAILS SPACED A MAX. 16 IN. OC, VERTICALLY. MAXIMUM ONE NON-BEARING WALL PARTITION INTERSECTION PER STUD CAVITY. NON-BEARING WALL PARTITION STUD DEPTH SHALL BE AT A MINIMUM EQUAL TO THE DEPTH OF THE BEARING WALL.

IW 02 1-HR CORRIDOR WALL WITH QUIETROCK - WOOD FRAMING
ALT 2 ANSUL 263 DESIGN NO U309
SCALE: 3/8" = 1'-0"

1HR CORRIDOR WALL - WOOD FRAMING
GENERIC ASSEMBLY - PABCO - January 30, 2024
FIRE TEST - IBC TABLE 722.2.1(2)
SOUND RATING: 50 STC -RAL TL-90-42 BY RIVERBANK ACOUSTICAL LABORATORIES

ARCHITECTURAL CONSTRUCTION DETAIL
NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURERS WRITTEN SPECIFICATIONS



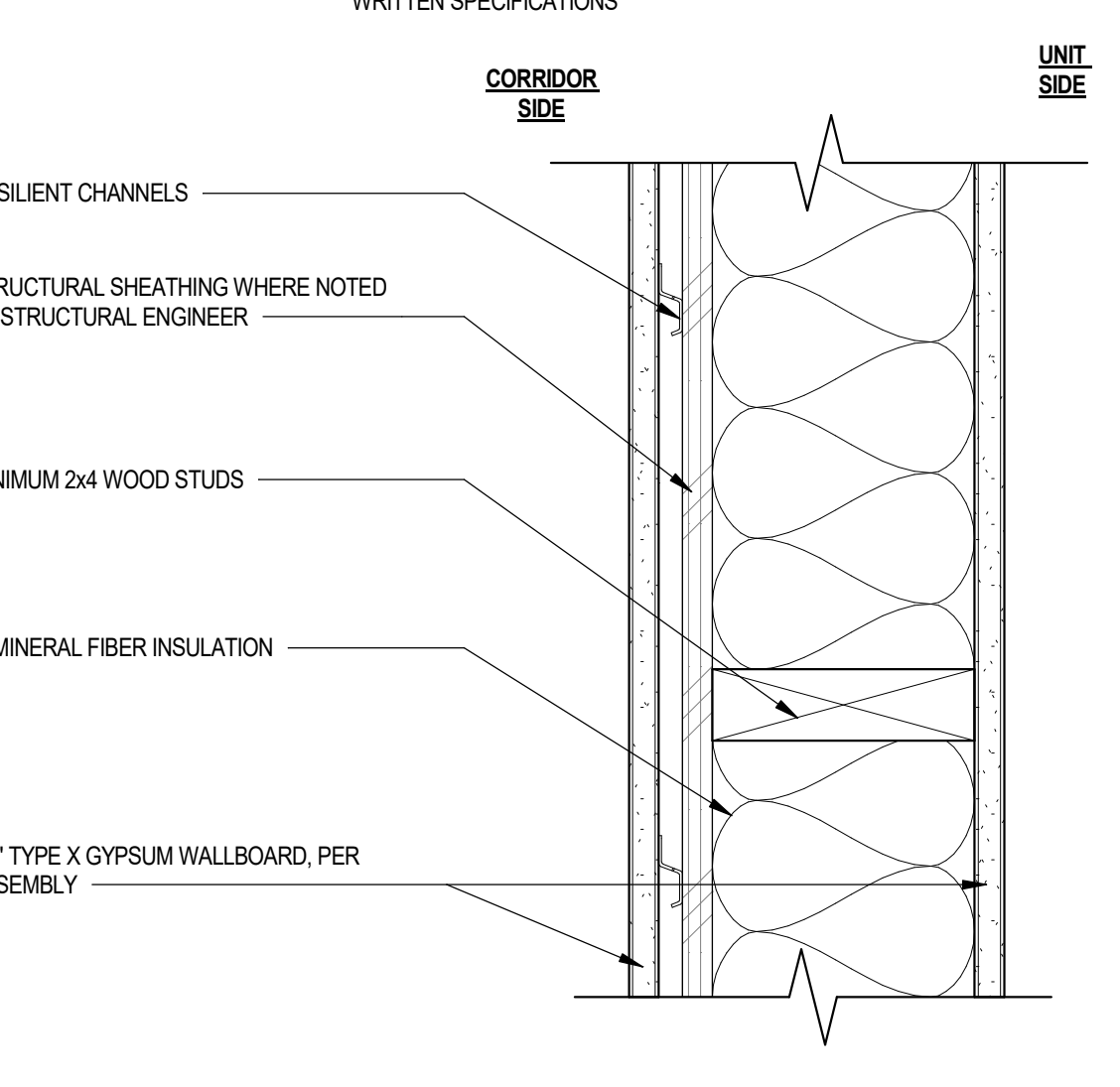
UL DESIGN U309
EXLUV - FIRE RESISTANCE RATINGS - ANSUL 263 CERTIFIED FOR UNITED STATES

- WOOD STUDS** - NOM 2 BY 4 IN. SPACED 24 IN. OC, EFFECTIVELY FIRESTOPPED.
- GYPSUM WALLBOARD** - 5/8 IN. THICK, 4 FT. WIDE, APPLIED EITHER HORIZONTALLY OR VERTICALLY. NAILED TO STUDS AND BEARING PLATES WITH 60 CEMENT COATED NAILS MIN. 1/8 IN. LONG, 0.0915 IN. SHANK DIAM AND 1/4 IN. DIAM HEADS SPACED 7 IN. OC. FINISH RATING 27 MIN. WHEN USED IN WIDTHS OTHER THAN 48 IN., GYPSUM BOARD TO BE INSTALLED HORIZONTALLY. WHEN STEEL FRAMING MEMBERS (ITEMS 5 OR ANY ALTERNATE CLIPS) ARE USED, WALLBOARD ATTACHED TO FURRING CHANNELS WITH 1 IN. LONG TYPE S BUGLE-HEAD STEEL SCREWS SPACED 12 IN. OC. PABCO BUILDING PRODUCTS L.L.C. DBA PABCO GYPSUM - TYPE C, PG-9, PG-11, PG-C, PGS-VRS, PGI UNIT SIDE: PABCO BUILDING PRODUCTS LLC 5/8" FLAME CURB TYPE X CORRIDOR SIDE: PABCO BUILDING PRODUCTS LLC 5/8" FLAME CURB TYPE C
- GYPSUM BOARD** - CORRIDOR SIDE - (AS AN ALTERNATE TO ITEM 2) - NOMINAL 2 BY 4 IN. THICK, 4 FT. WIDE PANELS, APPLIED VERTICALLY TO STUDS AND BEARING PLATES ON ONE SIDE OF THE ASSEMBLY WITH 1-5/8 IN. LONG TYPE S SCREWS SPACED 12 IN. OC AT PERIMETER OF PANELS AND 8 IN. OC IN THE FIELD. HORIZONTAL JOINTS OF VERTICALLY APPLIED PANELS NEED NOT BE BACKED BY STUDS. PANEL JOINTS COVERED WITH PAPER TAPE AND TWO LAYERS OF JOINT COMPOUND. SCREWS/HEADS COVERED WITH TWO LAYERS OF JOINT COMPOUND. BATTS AND BLANKETS PLACED IN STUD CAVITY AS DESCRIBED IN ITEM 4E. NOT EVALUATED FOR USE WITH STEEL FRAMING MEMBERS, FURRING CHANNELS OR FIBER SPRAYED.
- JOINTS AND FASTENER HEADS** - WALLBOARD JOINTS COVERED WITH PAPER TAPE AND JOINT COMPOUND. FASTENER HEADS COVERED WITH JOINT COMPOUND. GYPSUM PLASTER NOT MORE THAN 1/8 IN. THICK MAY BE APPLIED OVER THE WALLBOARD IN ADDITION TO THE SPECIFIED JOINT TREATMENT.
- BATTS AND BLANKETS** - (NOT SHOWN) - OPTIONAL GLASS FIBER INSULATION.
- NON-BEARING WALL PARTITION INTERSECTION** - (OPTIONAL) - TWO NOMINAL 2 BY 4 IN. STUD OR NOMINAL 2 BY 6 IN. STUD NAILED TOGETHER WITH TWO 3 IN. LONG 1/8 NAILS SPACED A MAX. 16 IN. OC, VERTICALLY AND FASTENED TO ONE SIDE OF THE MINIMUM 2 BY 4 IN. STUD WITH 3 IN. LONG 1/8 NAILS SPACED A MAX. 16 IN. OC, VERTICALLY. INTERSECTION BETWEEN PARTITION WOOD STUDS TO BE FLUSH WITH THE 2 BY 4 IN. STUDS. THE WALL PARTITION WOOD STUDS ARE TO BE FRAMED BY WITH A SECOND 2 BY 4 IN. WOOD STUD FASTENED WITH 3 IN. LONG 1/8 NAILS SPACED A MAX. 16 IN. OC, VERTICALLY. MAXIMUM ONE NON-BEARING WALL PARTITION INTERSECTION PER STUD CAVITY. NON-BEARING WALL PARTITION STUD DEPTH SHALL BE AT A MINIMUM EQUAL TO THE DEPTH OF THE BEARING WALL.

IW 02 1-HR CORRIDOR WALL - WOOD FRAMING
IBC TABLE 722.2.1(2)
SCALE: 3/8" = 1'-0"

1HR CORRIDOR WALL WITH RESILIENT CHANNELS - WOOD FRAMING
GENERIC ASSEMBLY - June 2021
FIRE TEST - GA FILE NO. WP 242
SOUND RATING: 50-54 STC
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.

ARCHITECTURAL CONSTRUCTION DETAIL
NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURERS WRITTEN SPECIFICATIONS



UL DESIGN U309
EXLUV - FIRE RESISTANCE RATINGS - ANSUL 263 CERTIFIED FOR UNITED STATES

- WOOD STUDS** - NOM 2 BY 4 IN. SPACED 24 IN. OC, EFFECTIVELY FIRESTOPPED.
- GYPSUM WALLBOARD** - 5/8 IN. THICK, 4 FT. WIDE, APPLIED EITHER HORIZONTALLY OR VERTICALLY. NAILED TO STUDS AND BEARING PLATES WITH 60 CEMENT COATED NAILS MIN. 1/8 IN. LONG, 0.0915 IN. SHANK DIAM AND 1/4 IN. DIAM HEADS SPACED 7 IN. OC. FINISH RATING 27 MIN. WHEN USED IN WIDTHS OTHER THAN 48 IN., GYPSUM BOARD TO BE INSTALLED HORIZONTALLY. WHEN STEEL FRAMING MEMBERS (ITEMS 5 OR ANY ALTERNATE CLIPS) ARE USED, WALLBOARD ATTACHED TO FURRING CHANNELS WITH 1 IN. LONG TYPE S BUGLE-HEAD STEEL SCREWS SPACED 12 IN. OC. PABCO BUILDING PRODUCTS L.L.C. DBA PABCO GYPSUM - TYPE C, PG-9, PG-11, PG-C, PGS-VRS, PGI UNIT SIDE: PABCO BUILDING PRODUCTS LLC 5/8" FLAME CURB TYPE X CORRIDOR SIDE: PABCO BUILDING PRODUCTS LLC 5/8" FLAME CURB TYPE C
- GYPSUM BOARD** - CORRIDOR SIDE - (AS AN ALTERNATE TO ITEM 2) - NOMINAL 2 BY 4 IN. THICK, 4 FT. WIDE PANELS, APPLIED VERTICALLY TO STUDS AND BEARING PLATES ON ONE SIDE OF THE ASSEMBLY WITH 1-5/8 IN. LONG TYPE S SCREWS SPACED 12 IN. OC AT PERIMETER OF PANELS AND 8 IN. OC IN THE FIELD. HORIZONTAL JOINTS OF VERTICALLY APPLIED PANELS NEED NOT BE BACKED BY STUDS. PANEL JOINTS COVERED WITH PAPER TAPE AND TWO LAYERS OF JOINT COMPOUND. SCREWS/HEADS COVERED WITH TWO LAYERS OF JOINT COMPOUND. BATTS AND BLANKETS PLACED IN STUD CAVITY AS DESCRIBED IN ITEM 4E. NOT EVALUATED FOR USE WITH STEEL FRAMING MEMBERS, FURRING CHANNELS OR FIBER SPRAYED.
- JOINTS AND FASTENER HEADS** - WALLBOARD JOINTS COVERED WITH PAPER TAPE AND JOINT COMPOUND. FASTENER HEADS COVERED WITH JOINT COMPOUND. GYPSUM PLASTER NOT MORE THAN 1/8 IN. THICK MAY BE APPLIED OVER THE WALLBOARD IN ADDITION TO THE SPECIFIED JOINT TREATMENT.
- BATTS AND BLANKETS** - (NOT SHOWN) - OPTIONAL GLASS FIBER INSULATION.
- NON-BEARING WALL PARTITION INTERSECTION** - (OPTIONAL) - TWO NOMINAL 2 BY 4 IN. STUD OR NOMINAL 2 BY 6 IN. STUD NAILED TOGETHER WITH TWO 3 IN. LONG 1/8 NAILS SPACED A MAX. 16 IN. OC, VERTICALLY AND FASTENED TO ONE SIDE OF THE MINIMUM 2 BY 4 IN. STUD WITH 3 IN. LONG 1/8 NAILS SPACED A MAX. 16 IN. OC, VERTICALLY. INTERSECTION BETWEEN PARTITION WOOD STUDS TO BE FLUSH WITH THE 2 BY 4 IN. STUDS. THE WALL PARTITION WOOD STUDS ARE TO BE FRAMED BY WITH A SECOND 2 BY 4 IN. WOOD STUD FASTENED WITH 3 IN. LONG 1/8 NAILS SPACED A MAX. 16 IN. OC, VERTICALLY. MAXIMUM ONE NON-BEARING WALL PARTITION INTERSECTION PER STUD CAVITY. NON-BEARING WALL PARTITION STUD DEPTH SHALL BE AT A MINIMUM EQUAL TO THE DEPTH OF THE BEARING WALL.

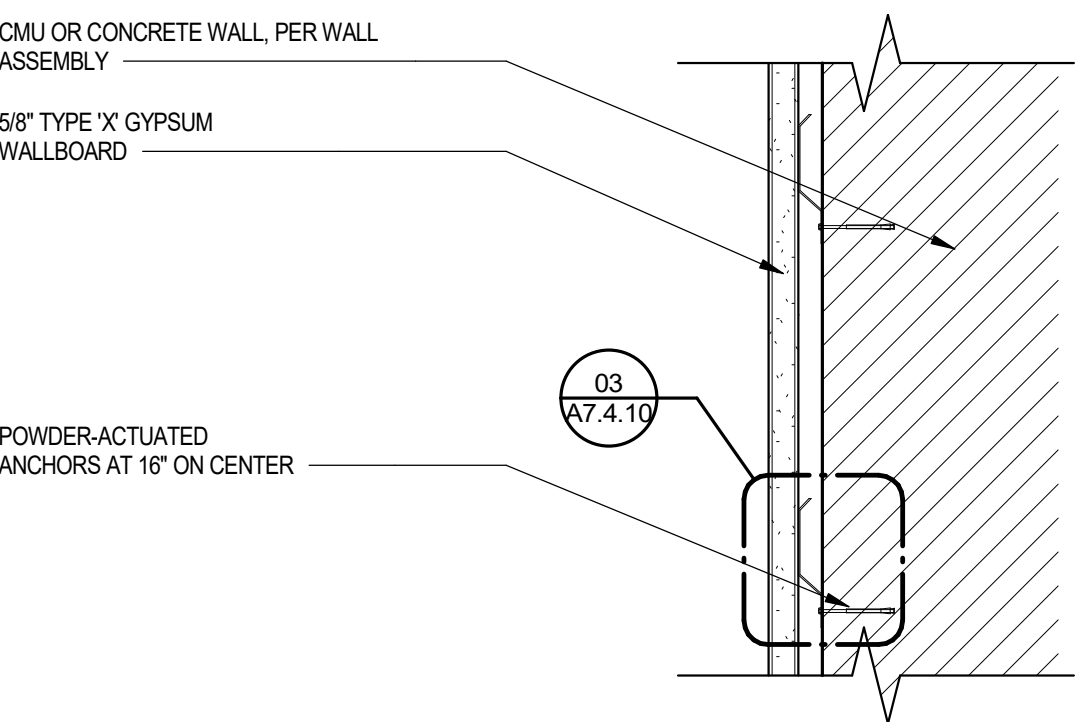
IW 02 1-HR CORRIDOR WALL WITH RESILIENT CHANNEL - WOOD FRAMING
ALT 1 GA NP 242
SCALE: 3/8" = 1'-0"

1HR UNIT DEMISING WALL - WOOD FRAMING
PROPRIETARY ASSEMBLY - UNITED STATES GYPSUM CO - June 2021
FIRE TEST - GYPSUM ASSOC. FILE NO. WP 5512
SOUND RATING: 65 STC PER IBC RC TL-90-266
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.

ARCHITECTURAL CONSTRUCTION DETAIL
NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURERS WRITTEN SPECIFICATIONS

RC CHANNEL FURRING AT EXPOSED CMU/ CONCRETE WALL
NO RATING REQUIRED

ARCHITECTURAL CONSTRUCTION DETAIL
NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURERS WRITTEN SPECIFICATIONS



FR 06 SAME AS FR 07, EXCEPT 2 LAYERS OF GYPSUM

RC CHANNEL FURRING AT EXPOSED CMU/CONC. WALL

FR 07

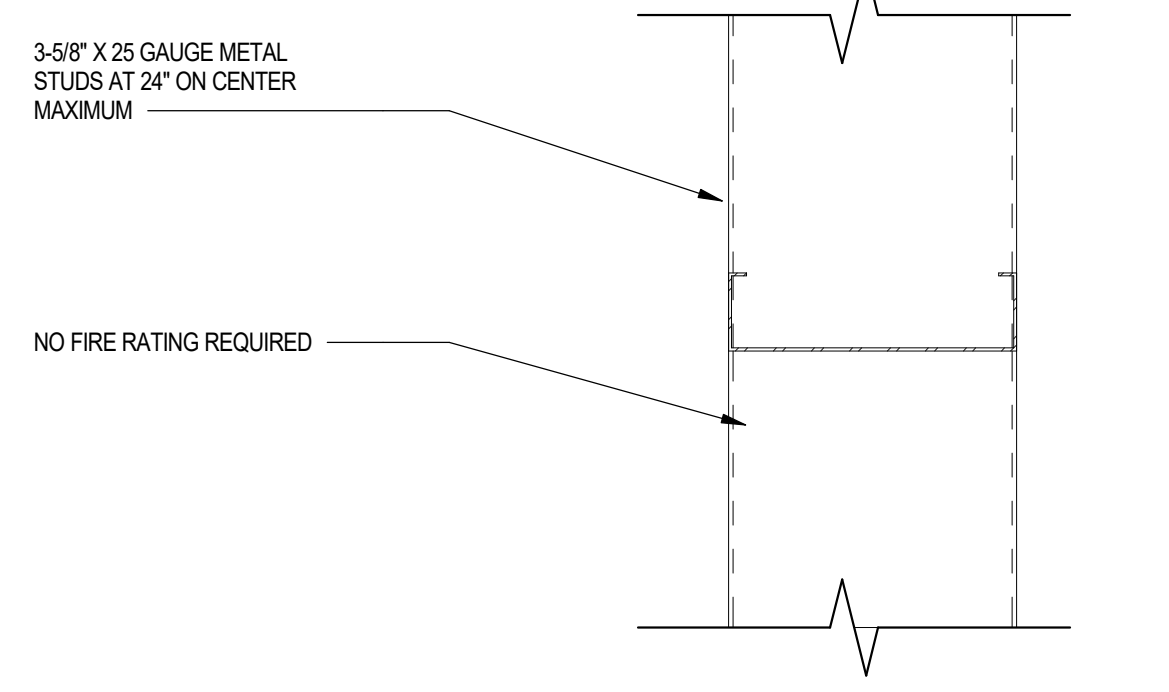
SCALE: 3" = 1'-0"

SET-OUT WALL CONSTRUCTION-METAL FRAMING

IM-07 (IBC 2018 SECTION 803.15.2) SCALE: 3" = 1'-0"

METAL FRAMING
(IBC 2018 SECTION 803.15.2)

ARCHITECTURAL CONSTRUCTION DETAIL
NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURERS WRITTEN SPECIFICATIONS

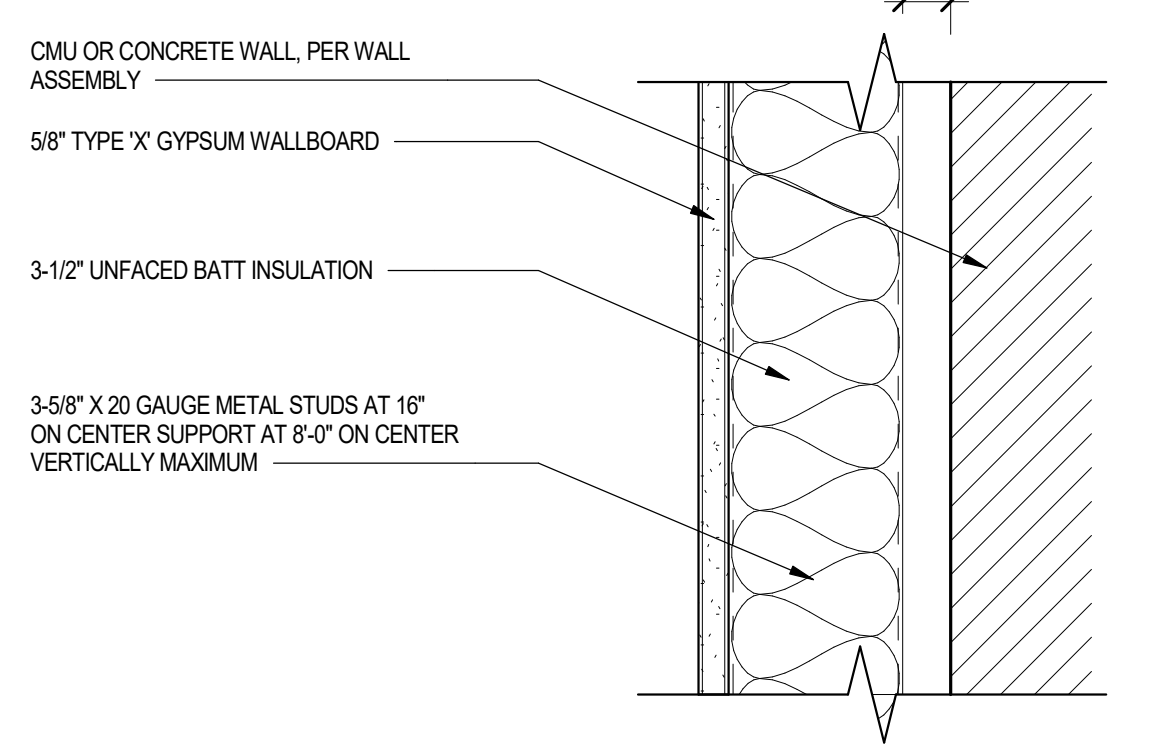


SET-OUT WALL CONSTRUCTION-METAL FRAMING

IM-08 (IBC 2018 SECTION 803.15.2) SCALE: 3" = 1'-0"

FURRING AT EXPOSED CMU/ CONCRETE WALL - METAL FRAMING
NO RATING REQUIRED

ARCHITECTURAL CONSTRUCTION DETAIL
NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURERS WRITTEN SPECIFICATIONS



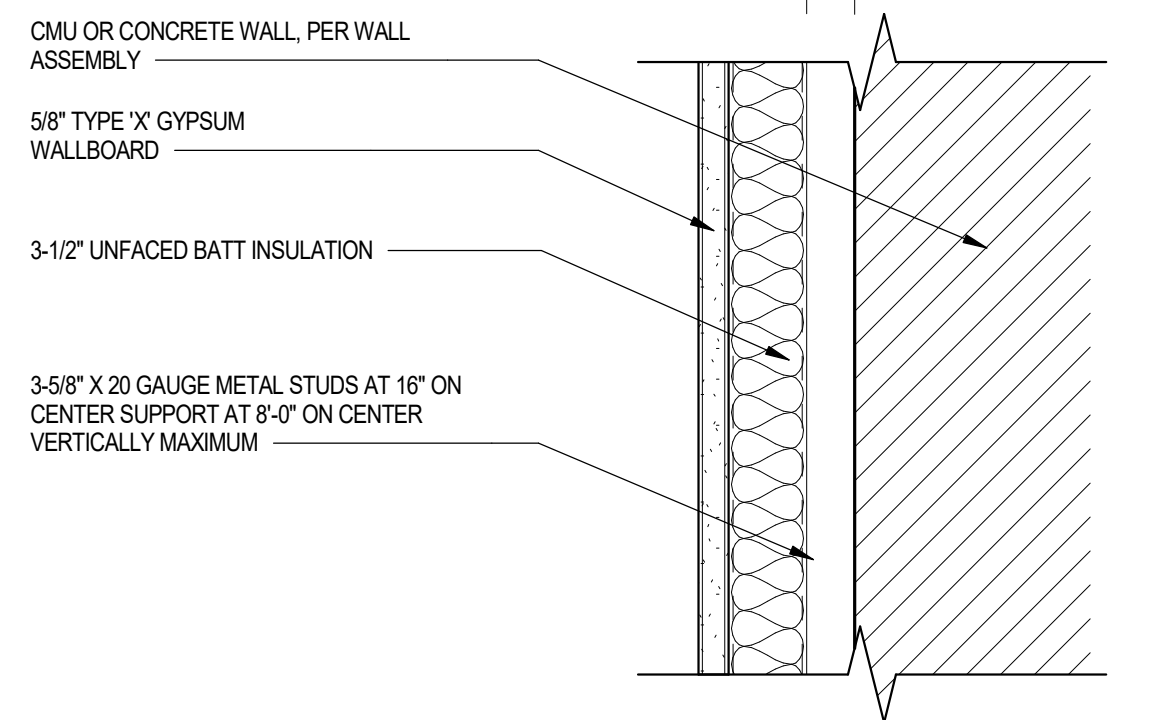
FR 02 SAME AS FW 01, EXCEPT USE 2 GYPSUM LAYERS INSTEAD

METAL STUD FURRING AT CMU/CONC. WALL

FR 01 SCALE: 3" = 1'-0"

FURRING AT EXPOSED CMU/ CONCRETE WALL - FLAT STUD
NO RATING REQUIRED

ARCHITECTURAL CONSTRUCTION DETAIL
NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURERS WRITTEN SPECIFICATIONS



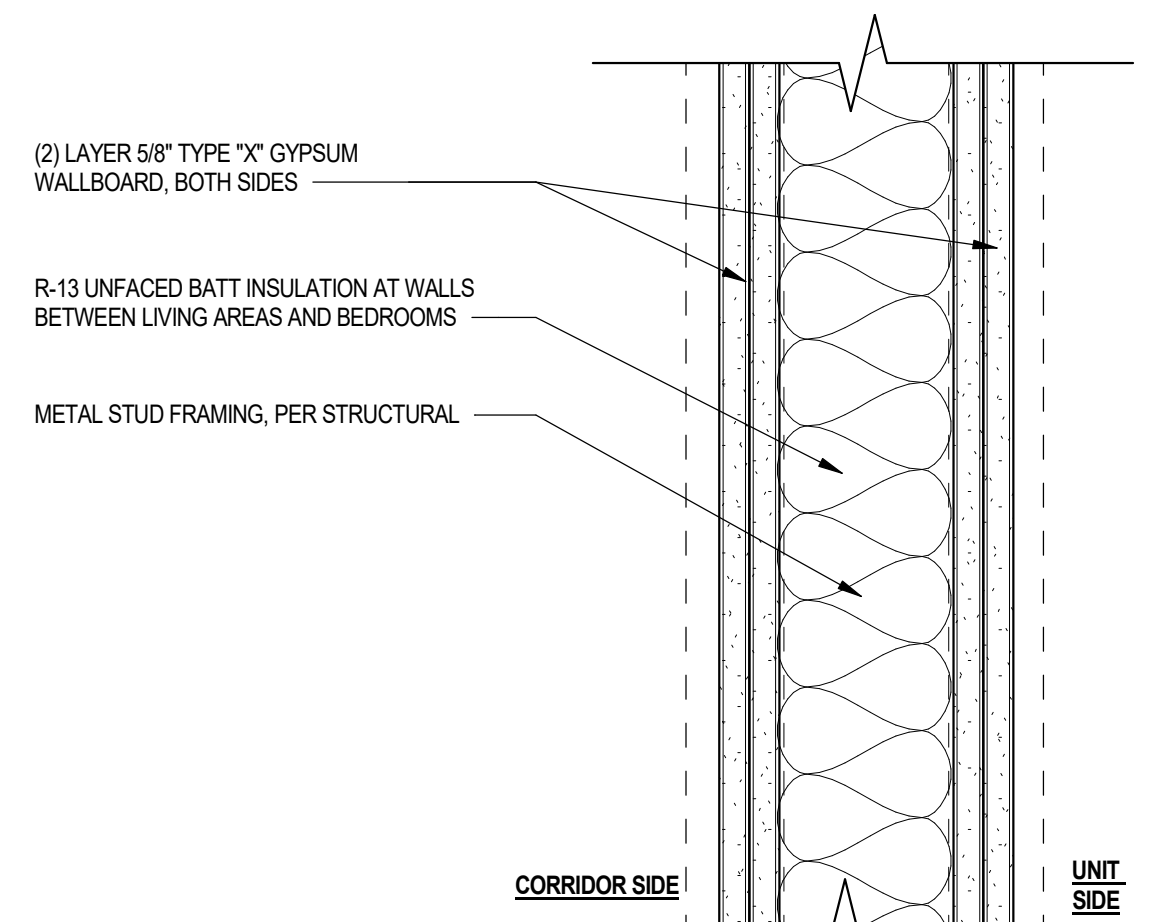
FR 04 SAME AS FW 04, EXCEPT USE 2 GYPSUM LAYERS INSTEAD

FLAT METAL STUD FURRING AT CMU/CONC. WALL

FR 03 SCALE: 3" = 1'-0"

2HR 3HR WALL - METAL FRAMING
PROPRIETARY ASSEMBLY, UNITED STATES GYPSUM CO. - December 28, 2023
FIRE TEST - UL DESIGN U423
SOUND RATING: 48 STC
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.

ARCHITECTURAL CONSTRUCTION DETAIL
NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURERS WRITTEN SPECIFICATIONS



DESIGN GA FILE NO. U423
EXLX - FIRE RESISTANCE RATINGS - ANSUL 263 CERTIFIED FOR UNITED STATES

NOTE: THE ASSEMBLY DESCRIPTION BELOW IS PER UL DESIGN U423. CONSTRUCTION SHALL BE PER DETAIL WHICH IS AN ENHANCED AREA SEPARATION WALL ASSEMBLY PER OWNER'S REQUEST AREA

- 1. FLOOR AND CEILING RUNNERS - (NOT SHOWN) - CHANNEL SHAPED, FABRICATED FROM MIN 0.0239 IN. BARE METAL THICKNESS (NO. 20 MSG) CORROSION-PROTECTED STEEL, THAT PROVIDE A SOUND STRUCTURAL CONNECTION BETWEEN STEEL STUDS AND ADJACENT ASSEMBLIES SUCH AS FLOORS, CEILING AND/OR OTHER WALLS. ATTACHED TO FLOOR AND CEILING ASSEMBLIES WITH STEEL FASTENERS SPACED NOT GREATER THAN 24 IN. OC.
- 2. STEEL STUDS - MINIMUM 0.0239 IN. BARE METAL THICKNESS (NO. 20 MSG) CORROSION-PROTECTED STEEL STUDS, MIN 3-1/2 IN. WIDE, COLD FORMED, DESIGNED IN ACCORDANCE WITH THE CURRENT EDITION OF THE SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS BY THE AMERICAN IRON AND STEEL INSTITUTE (AISI), ALL DESIGN DETAILS ENHANCING THE STRUCTURAL INTEGRITY OF THE WALL ASSEMBLY, INCLUDING THE AXIAL DESIGN LOAD OF THE STUDS, SHALL BE AS SPECIFIED BY THE STEEL STUD DESIGNER AND/OR PRODUCER, AND SHALL MEET THE REQUIREMENTS OF ALL APPLICABLE LOCAL CODE AGENCIES. THE MAX STUD SPACING SHALL NOT EXCEED 24 IN. OC. STUDS ATTACHED TO FLOOR AND CEILING RUNNERS WITH 1/2 IN. LONG TYPE S-12 STEEL SCREWS ON BOTH SIDES OF THE STUDS OR BY WELDED OR BOLTED CONNECTIONS DESIGNED IN ACCORDANCE WITH THE AISI SPECIFICATIONS.
- 3. LATERAL SUPPORT MEMBERS - (NOT SHOWN) - WHERE REQUIRED FOR LATERAL SUPPORT OF STUDS, SUPPORT SHALL BE PROVIDED BY MEANS OF STEEL STRIPS, CHANNELS OR OTHER SIMILAR MEANS AS SPECIFIED IN THE DESIGN OF A PARTICULAR STEEL STUD WALL SYSTEM.
- 4. GYPSUM WALLBOARD - GYPSUM PANELS WITH BEVELED, SQUARE OR TAPERED EDGES, APPLIED VERTICALLY OR HORIZONTALLY. VERTICAL JOINTS CENTERED OVER STUDS AND STAGGERED ONE STUD CAVITY ON OPPOSITE SIDES OF STUDS. VERTICAL JOINTS IN ADJACENT LAYERS (MULTILAYER SYSTEMS) STAGGERED ONE STUD CAVITY. HORIZONTAL JOINTS NEED NOT BE BACKED BY STEEL FRAMING. HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS ON OPPOSITE SIDES OF STUDS NEED NOT BE STAGGERED WHEN LOAD IS REDUCED TO 90 PERCENT OF MAX STUD CAPACITY. WHEN LOAD IS AT 100 PERCENT, HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS ON OPPOSITE SIDES OF STUDS STAGGERED A MIN OF 12 IN. HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS ON OPPOSITE SIDES OF STUDS NEED NOT BE STAGGERED AT 100 PERCENT LOAD WITH TYPE ULX HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS IN ADJACENT LAYERS (MULTILAYER SYSTEMS) STAGGERED A MIN OF 12 IN. HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS IN ADJACENT LAYERS (MULTILAYER SYSTEMS) WITH TYPE ULX NEED NOT BE STAGGERED. WHEN USED IN WIDTHS OTHER THAN 48 IN., GYPSUM PANELS TO BE INSTALLED HORIZONTALLY. THE THICKNESS AND NUMBER OF LAYERS AND PERCENT OF DESIGN LOAD FOR THE 45 MIN, 1 HR, 1-1/2 HR, AND 2 HR RATINGS ARE AS FOLLOWS:

TABLE 1
INTERIOR OR EXTERIOR WALLS (FIRE FROM EITHER SIDE)

RATING	WALLBOARD PROTECTION BOTH SIDES OF WALL - NUMBER OF LAYERS AND THICKNESS OF BOARD IN EACH LAYER	PERCENT OF DESIGN LOAD
2 HOUR	2 LAYER, 5/8 INCH THICK	100
2 HOUR	3 LAYER, 1/2 INCH THICK	100

UNITED STATES GYPSUM CO. - 5/8 INCH THICK TYPE AR, SGX

- 6. FASTENERS - (NOT SHOWN) - FOR USE WITH ITEM 5 - TYPE S-12 STEEL SCREWS USED TO ATTACH PANELS TO RUNNERS (ITEM 1) OR 1A) AND STUDS (ITEM 2) OR 2A) OR FURRING CHANNELS (ITEM 6).
- 7A. BATTS AND BLANKETS - PLACED IN STUD CAVITIES. ANY GLASS FIBER OR MINERAL WOOL INSULATION BEARING THE UL CLASSIFICATION MARKING AS TO SURFACE BURNING CHARACTERISTICS AND/OR FIRE RESISTANCE. SEE BATTS AND BLANKETS (BZZ) CATEGORIES FOR NAMES OF CLASSIFIED COMPANIES.
- 8. JOINT TAPE AND COMPOUND - VINYL OR CASEIN, DRY OR PREMIUM, JOINT COMPOUND APPLIED IN TWO COATS TO JOINTS AND SCREW HEADS OF OUTER LAYERS. PAPER TAPE, NOM 2 IN. WIDE, EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS OF OUTER LAYERS. PAPER TAPE AND JOINT COMPOUND MAY BE OMITTED WHEN GYPSUM BOARDS ARE SUPPLIED WITH SQUARE EDGES.

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL CERTIFICATION MARK

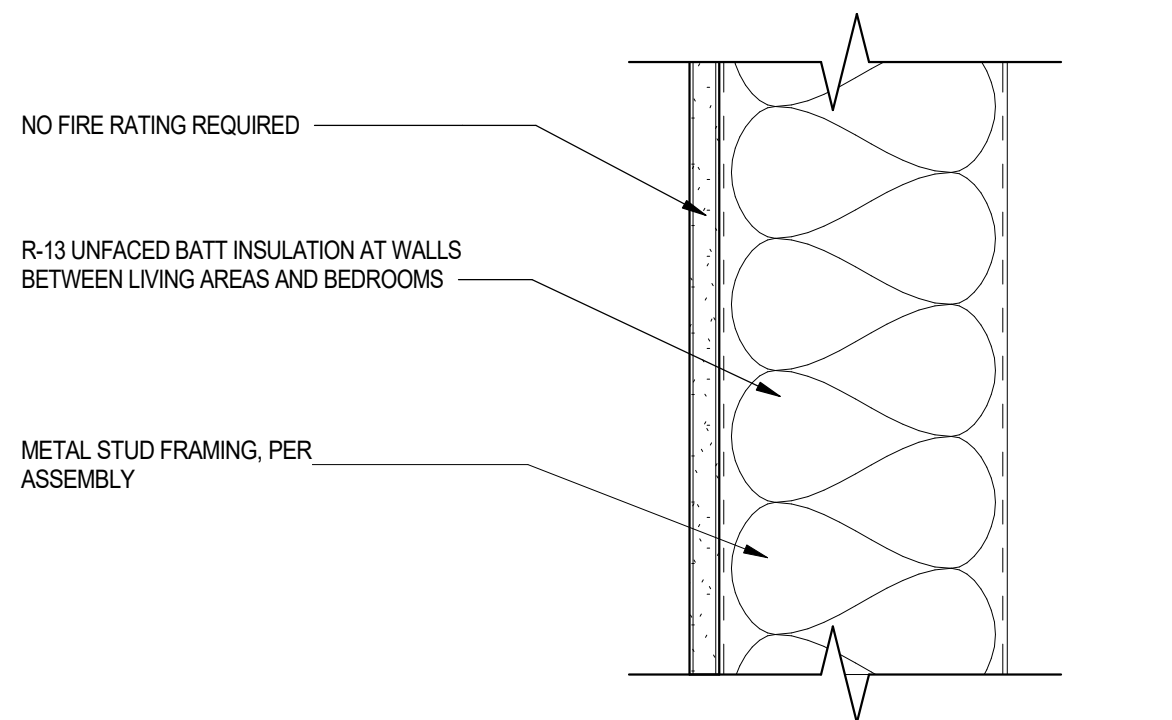
IM 05 SAME AS IM 04, EXCEPT 3-HOUR RATED; SEE TABLE ABOVE

2HR METAL FRAME PARTITION

IM 04 ANSUL 263 DESIGN NO U423 SCALE: 3" = 1'-0"

TYPICAL ONE SIDED WALL - METAL FRAMING
NO-RATING REQUIRED

ARCHITECTURAL CONSTRUCTION DETAIL
NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURERS WRITTEN SPECIFICATIONS

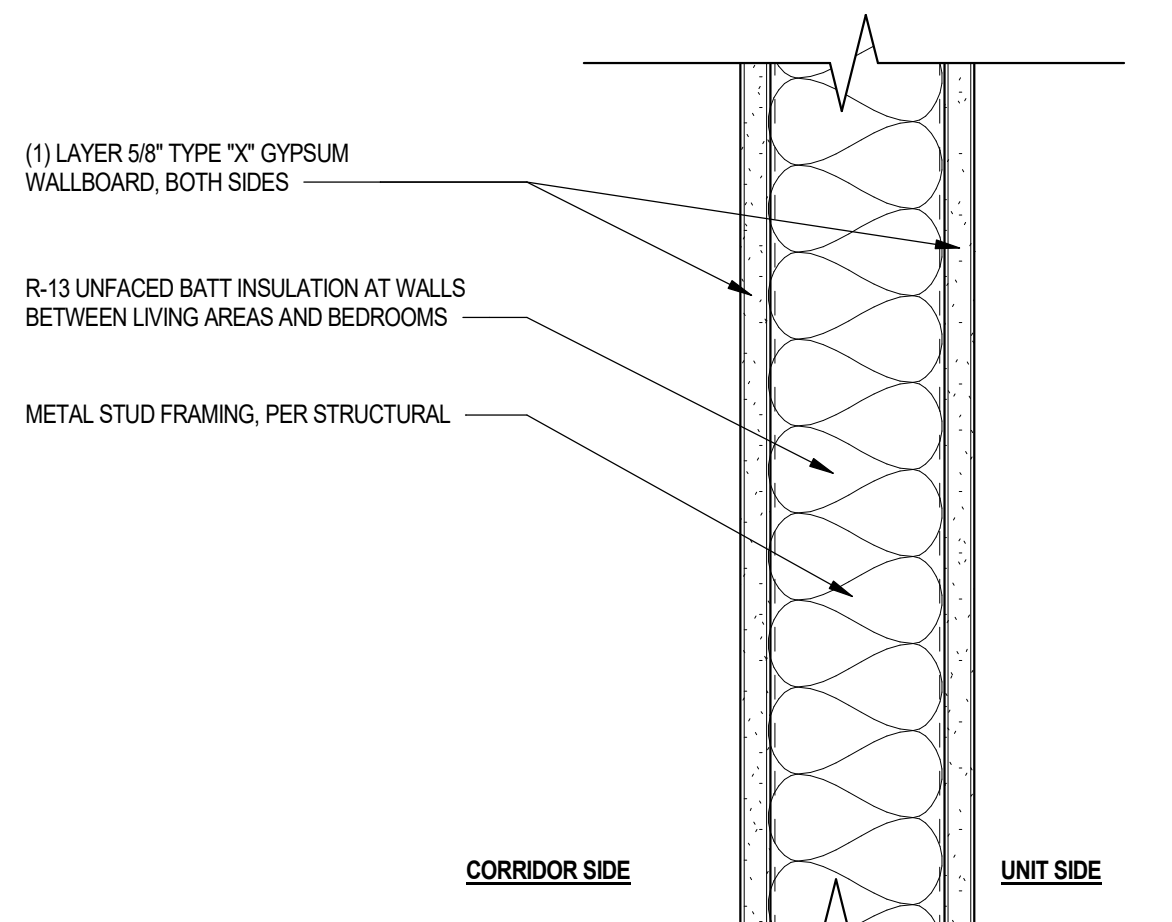


TYPICAL ONE SIDED WALL - METAL FRAMING

IM 07 SCALE: 3" = 1'-0"

1HR TYPICAL WALL - METAL FRAMING
PROPRIETARY ASSEMBLY, UNITED STATES GYPSUM CO. - December 28, 2023
FIRE TEST - UL DESIGN U423
SOUND RATING: 48 STC
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.

ARCHITECTURAL CONSTRUCTION DETAIL
NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURERS WRITTEN SPECIFICATIONS



DESIGN GA FILE NO. U423
EXLX - FIRE RESISTANCE RATINGS - ANSUL 263 CERTIFIED FOR UNITED STATES

NOTE: THE ASSEMBLY DESCRIPTION BELOW IS PER UL DESIGN U423. CONSTRUCTION SHALL BE PER DETAIL WHICH IS AN ENHANCED AREA SEPARATION WALL ASSEMBLY PER OWNER'S REQUEST AREA

- 1. FLOOR AND CEILING RUNNERS - (NOT SHOWN) - CHANNEL SHAPED, FABRICATED FROM MIN 0.0239 IN. BARE METAL THICKNESS (NO. 20 MSG) CORROSION-PROTECTED STEEL, THAT PROVIDE A SOUND STRUCTURAL CONNECTION BETWEEN STEEL STUDS AND ADJACENT ASSEMBLIES SUCH AS FLOORS, CEILING AND/OR OTHER WALLS. ATTACHED TO FLOOR AND CEILING ASSEMBLIES WITH STEEL FASTENERS SPACED NOT GREATER THAN 24 IN. OC.
- 2. STEEL STUDS - MINIMUM 0.0239 IN. BARE METAL THICKNESS (NO. 20 MSG) CORROSION-PROTECTED STEEL STUDS, MIN 3-1/2 IN. WIDE, COLD FORMED, DESIGNED IN ACCORDANCE WITH THE CURRENT EDITION OF THE SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS BY THE AMERICAN IRON AND STEEL INSTITUTE (AISI), ALL DESIGN DETAILS ENHANCING THE STRUCTURAL INTEGRITY OF THE WALL ASSEMBLY, INCLUDING THE AXIAL DESIGN LOAD OF THE STUDS, SHALL BE AS SPECIFIED BY THE STEEL STUD DESIGNER AND/OR PRODUCER, AND SHALL MEET THE REQUIREMENTS OF ALL APPLICABLE LOCAL CODE AGENCIES. THE MAX STUD SPACING SHALL NOT EXCEED 24 IN. OC. STUDS ATTACHED TO FLOOR AND CEILING RUNNERS WITH 1/2 IN. LONG TYPE S-12 STEEL SCREWS ON BOTH SIDES OF THE STUDS OR BY WELDED OR BOLTED CONNECTIONS DESIGNED IN ACCORDANCE WITH THE AISI SPECIFICATIONS.
- 3. LATERAL SUPPORT MEMBERS - (NOT SHOWN) - WHERE REQUIRED FOR LATERAL SUPPORT OF STUDS, SUPPORT SHALL BE PROVIDED BY MEANS OF STEEL STRIPS, CHANNELS OR OTHER SIMILAR MEANS AS SPECIFIED IN THE DESIGN OF A PARTICULAR STEEL STUD WALL SYSTEM.
- 4. GYPSUM WALLBOARD - GYPSUM PANELS WITH BEVELED, SQUARE OR TAPERED EDGES, APPLIED VERTICALLY OR HORIZONTALLY. VERTICAL JOINTS CENTERED OVER STUDS AND STAGGERED ONE STUD CAVITY ON OPPOSITE SIDES OF STUDS. VERTICAL JOINTS IN ADJACENT LAYERS (MULTILAYER SYSTEMS) STAGGERED ONE STUD CAVITY. HORIZONTAL JOINTS NEED NOT BE BACKED BY STEEL FRAMING. HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS ON OPPOSITE SIDES OF STUDS NEED NOT BE STAGGERED WHEN LOAD IS REDUCED TO 90 PERCENT OF MAX STUD CAPACITY. WHEN LOAD IS AT 100 PERCENT, HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS ON OPPOSITE SIDES OF STUDS STAGGERED A MIN OF 12 IN. HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS ON OPPOSITE SIDES OF STUDS NEED NOT BE STAGGERED AT 100 PERCENT LOAD WITH TYPE ULX HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS IN ADJACENT LAYERS (MULTILAYER SYSTEMS) STAGGERED A MIN OF 12 IN. HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS IN ADJACENT LAYERS (MULTILAYER SYSTEMS) WITH TYPE ULX NEED NOT BE STAGGERED. WHEN USED IN WIDTHS OTHER THAN 48 IN., GYPSUM PANELS TO BE INSTALLED HORIZONTALLY. THE THICKNESS AND NUMBER OF LAYERS AND PERCENT OF DESIGN LOAD FOR THE 45 MIN, 1 HR, 1-1/2 HR, AND 2 HR RATINGS ARE AS FOLLOWS:

TABLE 1
INTERIOR OR EXTERIOR WALLS (FIRE FROM EITHER SIDE)

RATING	WALLBOARD PROTECTION BOTH SIDES OF WALL - NUMBER OF LAYERS AND THICKNESS OF BOARD IN EACH LAYER	PERCENT OF DESIGN LOAD
1 HOUR	1 LAYER, 5/8 INCH THICK	100

UNITED STATES GYPSUM CO. - 5/8 INCH THICK TYPE AR, SGX

- 6. FASTENERS - (NOT SHOWN) - FOR USE WITH ITEM 5 - TYPE S-12 STEEL SCREWS USED TO ATTACH PANELS TO RUNNERS (ITEM 1) OR 1A) AND STUDS (ITEM 2) OR 2A) OR FURRING CHANNELS (ITEM 6).
- 7A. BATTS AND BLANKETS - PLACED IN STUD CAVITIES. ANY GLASS FIBER OR MINERAL WOOL INSULATION BEARING THE UL CLASSIFICATION MARKING AS TO SURFACE BURNING CHARACTERISTICS AND/OR FIRE RESISTANCE. SEE BATTS AND BLANKETS (BZZ) CATEGORIES FOR NAMES OF CLASSIFIED COMPANIES.
- 8. JOINT TAPE AND COMPOUND - VINYL OR CASEIN, DRY OR PREMIUM, JOINT COMPOUND APPLIED IN TWO COATS TO JOINTS AND SCREW HEADS OF OUTER LAYERS. PAPER TAPE, NOM 2 IN. WIDE, EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS OF OUTER LAYERS. PAPER TAPE AND JOINT COMPOUND MAY BE OMITTED WHEN GYPSUM BOARDS ARE SUPPLIED WITH SQUARE EDGES.

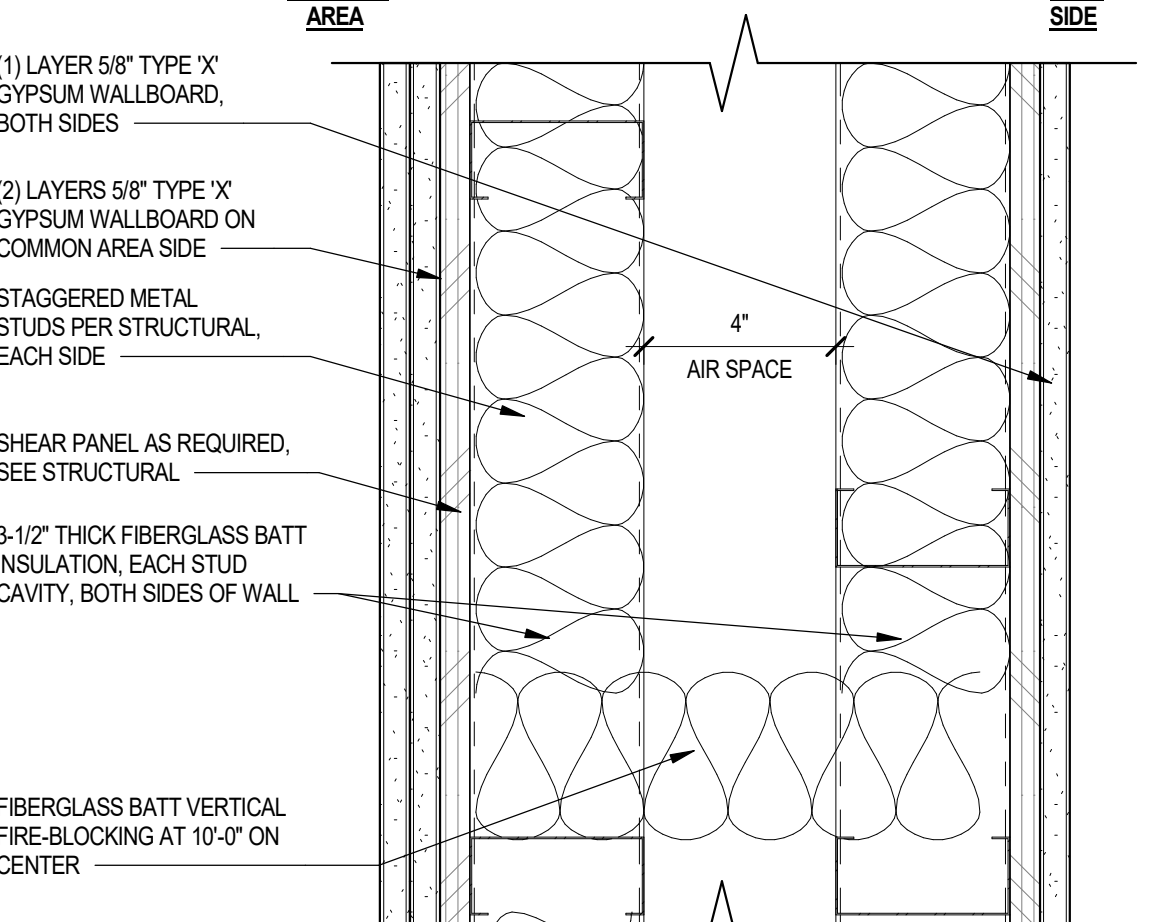
* INDICATES SUCH PRODUCTS SHALL BEAR THE UL CERTIFICATION MARK

1-HR INTERIOR WALL - METAL FRAMING

IM 03 ANSUL 263 DESIGN NO U423 SCALE: 3" = 1'-0"

1HR UNIT DEMISING WALL AT COMMON AREAS - METAL STUD WALL, ENHANCED STC
PROPRIETARY ASSEMBLY, CERTAINTED - June 2021
FIRE TEST - GA FILE NO. WP 0953
SOUND RATING: 60-64 STC

ARCHITECTURAL CONSTRUCTION DETAIL
NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURERS WRITTEN SPECIFICATIONS



DESIGN NO. WP 0953
WALLS AND INTERIOR PARTITIONS, NON COMBUSTIBLE

NOTE: THE ASSEMBLY DESCRIPTION BELOW IS PER GA WP 0953. CONSTRUCTION SHALL BE PER DETAIL WHICH IS AN ENHANCED AREA SEPARATION WALL ASSEMBLY PER OWNER'S REQUEST

- GYPSUM WALLBOARD, STEEL STUDS
- FIRE DESIGN - ONE LAYER 5/8 INCH PROPRIETARY TYPE X GYPSUM WALLBOARD OR GYPSUM VENEER BASE APPLIED PARALLEL OR AT RIGHT ANGLES TO EACH SIDE OF A DOUBLE ROW OF 2-1/2 INCH, 15 ML STEEL STUDS STAGGERED 24 INCH ON CENTER AND NOT LESS THAN 1 INCH APART WITH 1 INCH TYPE S SCREWS 8 INCH ON CENTER.
- VERTICAL JOINTS CENTERED OVER STUDS AND STAGGERED ONE STUD CAVITY ON OPPOSITE SIDES OF STUDS. HORIZONTAL JOINTS ON OPPOSITE SIDES NEED NOT BE STAGGERED OR BACKED. LATERAL BRACING ON BOTH SIDES OF THE WALL NOT MORE THAN 5 FEET ON CENTER VERTICALLY. (NLB)
- PROPRIETARY GYPSUM PANEL PRODUCTS
CERTAINTED GYPSUM MC - 5/8" CERTAINTED® TYPE X GYPSUM BOARD
- SOUND DESIGN - SOUND TESTED WITH A SECOND LAYER OF 5/8 INCH PROPRIETARY TYPE X GYPSUM WALLBOARD ON ONE SIDE AND 3-1/2 INCH GLASS FIBER INSULATION ON BOTH SIDES IN CAVITY.

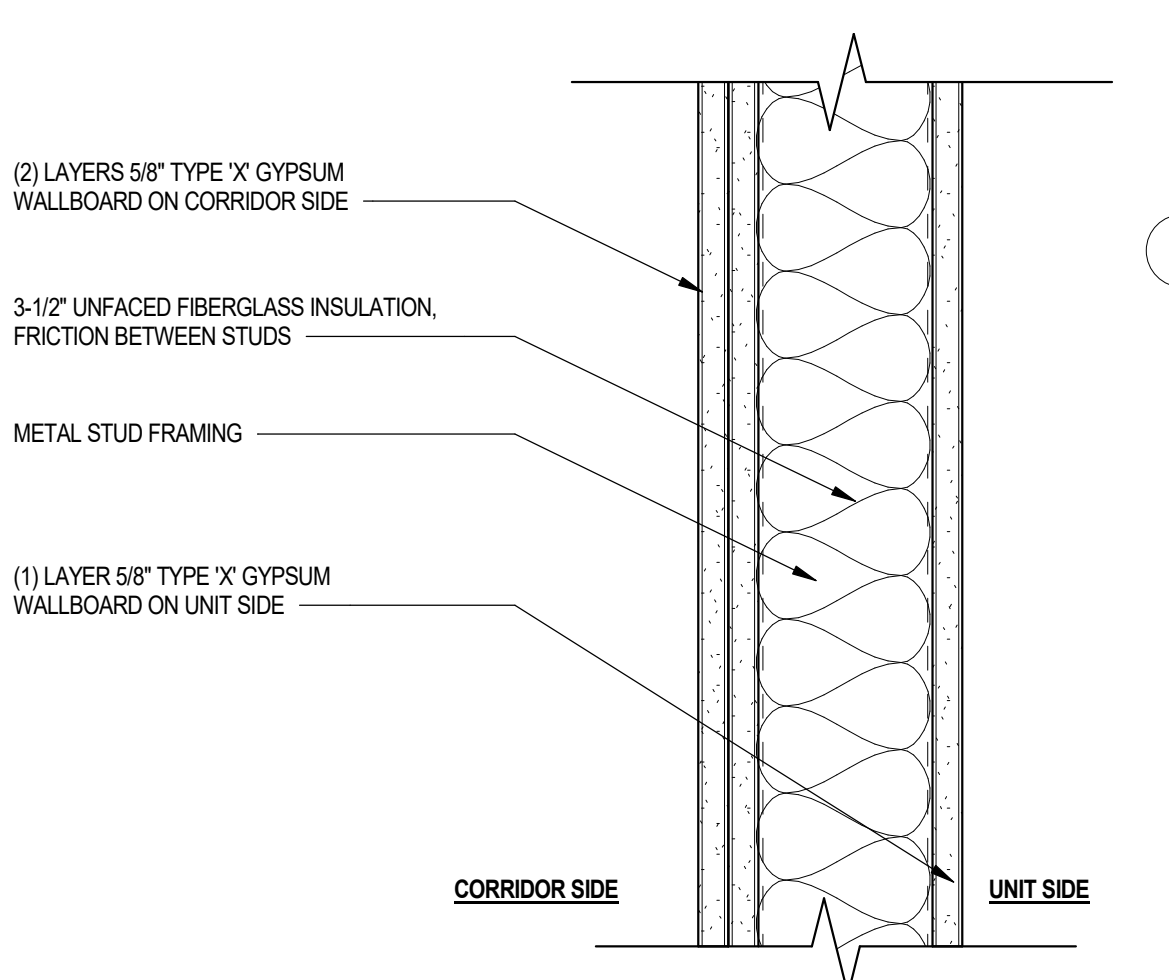
THICKNESS: 5/8 INCH (FIRE) 7/8 INCH (SOUND)
APPROXIMATE WEIGHT: 8 PSF (FIRE) 7.5 PSF (SOUND)
FIRE TEST: UL R360, 07N21428, 2-14-08 UL DESIGN V469
SOUND TEST: IGC 2017/063, 6-6-17

1-HR INTERIOR UNIT SEPARATION WALL - METAL FRAMING-ENHANCED ACOUSTICS

IM 01E GA WP 0953 SCALE: 3" = 1'-0"

1HR CORRIDOR WALL - METAL FRAMING
GENERIC ASSEMBLY
FIRE TEST - GA FILE NO. WP 1052
SOUND RATING: 50-54 STC

ARCHITECTURAL CONSTRUCTION DETAIL
NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURERS WRITTEN SPECIFICATIONS



DESIGN GA FILE NO. WP 1052
WALLS AND INTERIOR PARTITIONS, NON COMBUSTIBLE

GYPSUM WALLBOARD, STEEL STUDS

FIRE DESIGN - ONE LAYER 5/8 INCH TYPE X GYPSUM WALLBOARD OR GYPSUM VENEER BASE APPLIED PARALLEL OR AT RIGHT ANGLES TO EACH SIDE OF 3-5/8 INCH, 19 ML STEEL STUDS 24 INCH ON CENTER WITH 1 INCH TYPE S SCREWS 8 INCH ON CENTER AT VERTICAL JOINTS AND 12 INCH ON CENTER AT WALL PERIMETER AND INTERMEDIATE STUDS. FACE LAYER 5/8 INCH TYPE X GYPSUM WALLBOARD OR GYPSUM VENEER BASE APPLIED PARALLEL OR AT RIGHT ANGLES TO ONE SIDE WITH 1-5/8 INCH TYPE S SCREWS 12 INCH ON CENTER.

JOINTS STAGGERED 24 INCH EACH LAYER AND SIDE. (NLB)

SOUND DESIGN:
SOUND TESTED WITH 3-1/2 INCH GLASS FIBER FRICTION FIT IN STUD SPACE.

THICKNESS: 5-1/2 INCH (FIRE AND SOUND)

APPROX. WEIGHT: 8 PSF (FIRE) 8.2 PSF (SOUND)

FIRE TEST: SEE WP 1350 (FM WP-45, 6-19-48; OSU T-1770, 8-61; ULC 797484, 797500, 797497, 8-21-81, ULC DESIGN W415)

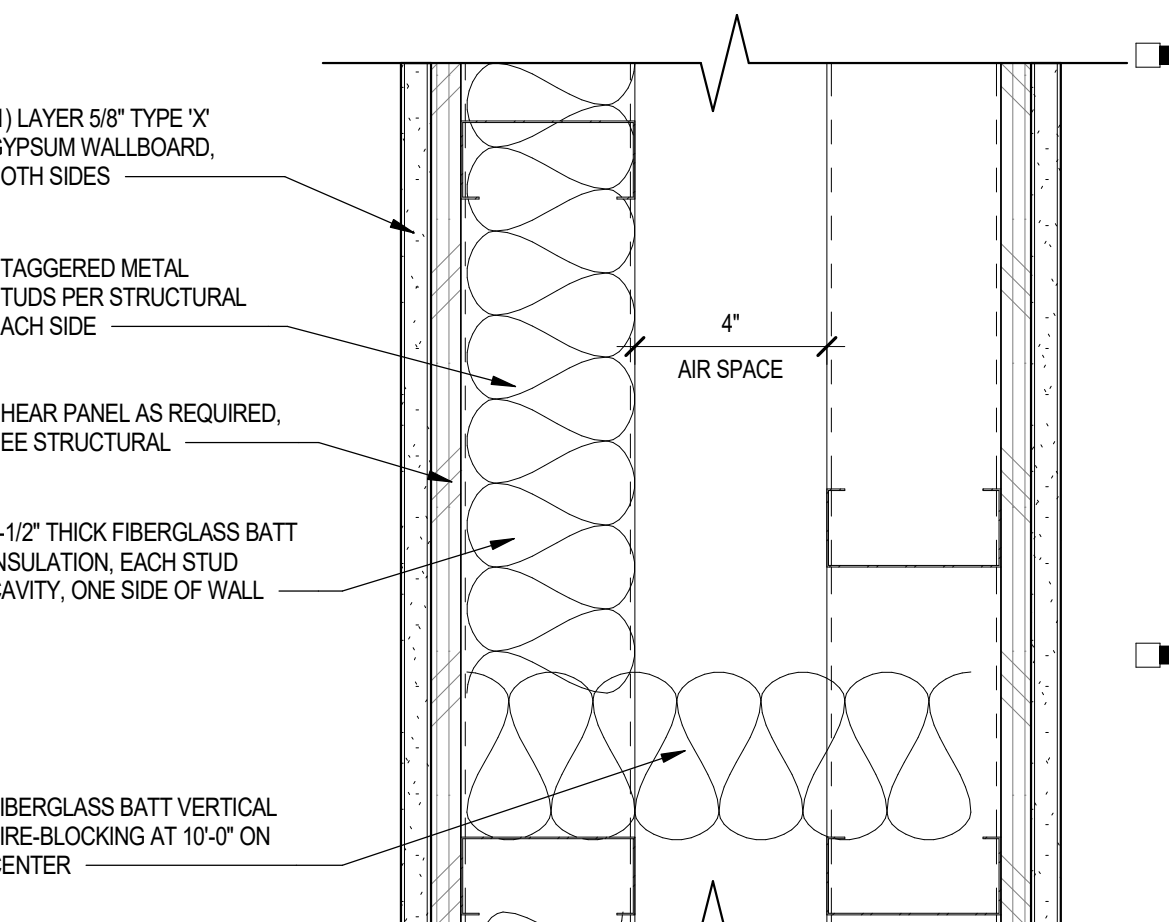
SOUND TEST: RAL-TL1-075, 3-23-11

1-HR CORRIDOR WALL - METAL FRAMING

IM 02E GA WP 1052 SCALE: 3" = 1'-0"

1HR UNIT DEMISING WALL - METAL STUD WALL
PROPRIETARY ASSEMBLY, November 14, 2023
FIRE TEST - UL DESIGN NO. U493
SOUND RATING: 54 STC
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.

ARCHITECTURAL CONSTRUCTION DETAIL
NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURERS WRITTEN SPECIFICATIONS



NONBEARING WALL RATING - 1 OR 2 HOUR (SEE ITEMS 5, 5A, 5B)
* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

DESIGN NO. U493
EXLX - FIRE RESISTANCE RATINGS - ANSUL 263 CERTIFIED FOR UNITED STATES

- 1. FLOOR AND CEILING RUNNERS - (FOR USE WITH ITEM 5 AND 5A) - CHANNEL SHAPED, ATTACHED TO FLOOR AND CEILING IN TWO ROWS, 4 MIN IN APART, WITH STEEL FASTENERS SPACED 24 IN. OC. RUNNERS FABRICATED FROM MIN NO. 20 MSG GALV STEEL, 1-1/4 IN. WIDE AND 2-1/2 IN. DEEP.
- 2. STEEL STUDS - (FOR USE WITH ITEM 5 AND 5A) - CHANNEL SHAPED, SUPPLIED WITH CUTOUTS, FRICTION-FITTED TO FLOOR AND CEILING RUNNERS AND SPACED MAX 24 IN. OC. STUDS CUT 1/2 IN. LESS THAN ASSEMBLY HEIGHT AND EVENLY STAGGERED BETWEEN THE TWO ROWS OF FLOOR AND CEILING RUNNERS. STUDS FABRICATED FROM MIN NO. 20 MSG GALV STEEL, MIN 2-1/2 IN. DEEP BY 1-1/4 IN. WIDE, WITH 3/8 IN. FOLDED BACK RETURN FLANGE EDGS.
- 3. LATERAL BRACING - THE BRACING SHALL BE IN ACCORDANCE WITH THE SSMA TECHNICAL NOTE DATED MARCH 2000 REFERENCING UNSHEATHED FLANGE BRACING.
- 4. BATTS AND BLANKETS - OPTIONAL - GLASS FIBER BATTS MAY BE FRICTION-FITTED TO COMPLETELY FILL THE STUD CAVITIES ON ONE OR BOTH ROWS OF STUDS. SEE BATTS AND BLANKETS CATEGORY (BZZ) FOR NAMES OF MANUFACTURERS.
- 5. GYPSUM BOARD - NOM 5/8 IN. THICK, 4 FT. WIDE, GYPSUM PANELS WITH BEVELED, SQUARE OR TAPERED EDGES, APPLIED VERTICALLY OR HORIZONTALLY. SINGLE LAYER INSTALLED ON EACH SIDE OF THE STEEL STUDS FOR THE 1-HR SYSTEM, TWO LAYERS INSTALLED ON EACH SIDE OF THE STUDS FOR THE 2-HR SYSTEM. VERTICAL JOINTS CENTERED OVER STUDS AND STAGGERED ONE STUD CAVITY ON OPPOSITE SIDES OF STUDS. VERTICAL JOINTS IN ADJACENT LAYERS (2-HR SYSTEM) STAGGERED ONE STUD CAVITY. HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS NEED NOT BE BACKED BY FRAMING. HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS ON OPPOSITE SIDES OF STUDS NEED NOT BE STAGGERED. HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS IN ADJACENT LAYERS (2-HR SYSTEM) STAGGERED A MINIMUM OF 6 IN. HORIZONTAL EDGE JOINTS AND HORIZONTAL BUTT JOINTS IN ADJACENT LAYERS (2-HR SYSTEM) NEED NOT BE STAGGERED FOR THE SINGLE LAYER SYSTEM WITH ULX PANELS ATTACHED TO STEEL STUDS AND FLOOR RUNNERS WITH 1 IN. LONG TYPE S SCREWS SPACED 8 IN. OC. WHEN APPLIED VERTICALLY OR HORIZONTALLY. HORIZONTAL JOINTS NEED NOT BE STAGGERED ON OPPOSITE SIDES OF STUDS. FOR THE DOUBLE LAYER SYSTEM, BASE LAYER PANELS ATTACHED TO STEEL STUDS AND FLOOR RUNNERS WITH 1 IN. LONG TYPE S SCREWS SPACED 12 IN. OC. WHEN APPLIED VERTICALLY OR HORIZONTALLY. HORIZONTAL JOINTS NEED NOT BE STAGGERED ON OPPOSITE SIDES OF STUDS. FOR THE DOUBLE LAYER SYSTEM, BASE LAYER PANELS ATTACHED TO STEEL STUDS AND FLOOR RUNNERS WITH 1-5/8 IN. LONG TYPE S STEEL SCREWS SPACED 12 IN. WHEN USED IN WIDTHS OTHER THAN 48 IN., GYPSUM PANELS TO BE INSTALLED HORIZONTALLY.
- 6. JOINT TAPE AND COMPOUND - (NOT SHOWN) - OUTER LAYER JOINTS COVERED WITH JOINT COMPOUND AND PAPER OR MESH TAPE. SCREW HEADS COVERED WITH JOINT COMPOUND, PAPER TAPE AND JOINT COMPOUND MAY BE OMITTED WHEN GYPSUM BOARDS ARE SUPPLIED WITH SQUARE EDGES.

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

1-HR UNIT SEPARATION WALL-METAL FRAMING

IM 01 ANSUL 263 DESIGN NO U493 SCALE: 3" = 1'-0"

Project Name 1
Project Name 2
Street Address
City, state
Office of Rich Barber Architecture, LLC
ORB
WorldHQ@ORBArch.com

PRELIMINARY
NOT FOR
CONSTRUCTION

ADVANCE
RESIDENCE COMPANY
LEGACY HOSPITALITY

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This contract states (they state) the owner to require the submission of billings or estimates in billing cycles other than thirty days. (This contract may allow the owner to make payment on some alternative schedule other than thirty days, but this contract does not allow the owner to make payment on some other billing cycle.) Cycle description of such other billing (estimate) cycle shall be in the owner's designated project at: ADVANCE RESIDENCE COMPANY, 2505 E. CAMBRIDGE RD, SUITE 500, PHOENIX, AZ 85016 (602) 778-2800. Note: the owner or its designated agent shall provide this information to the contractor upon request.

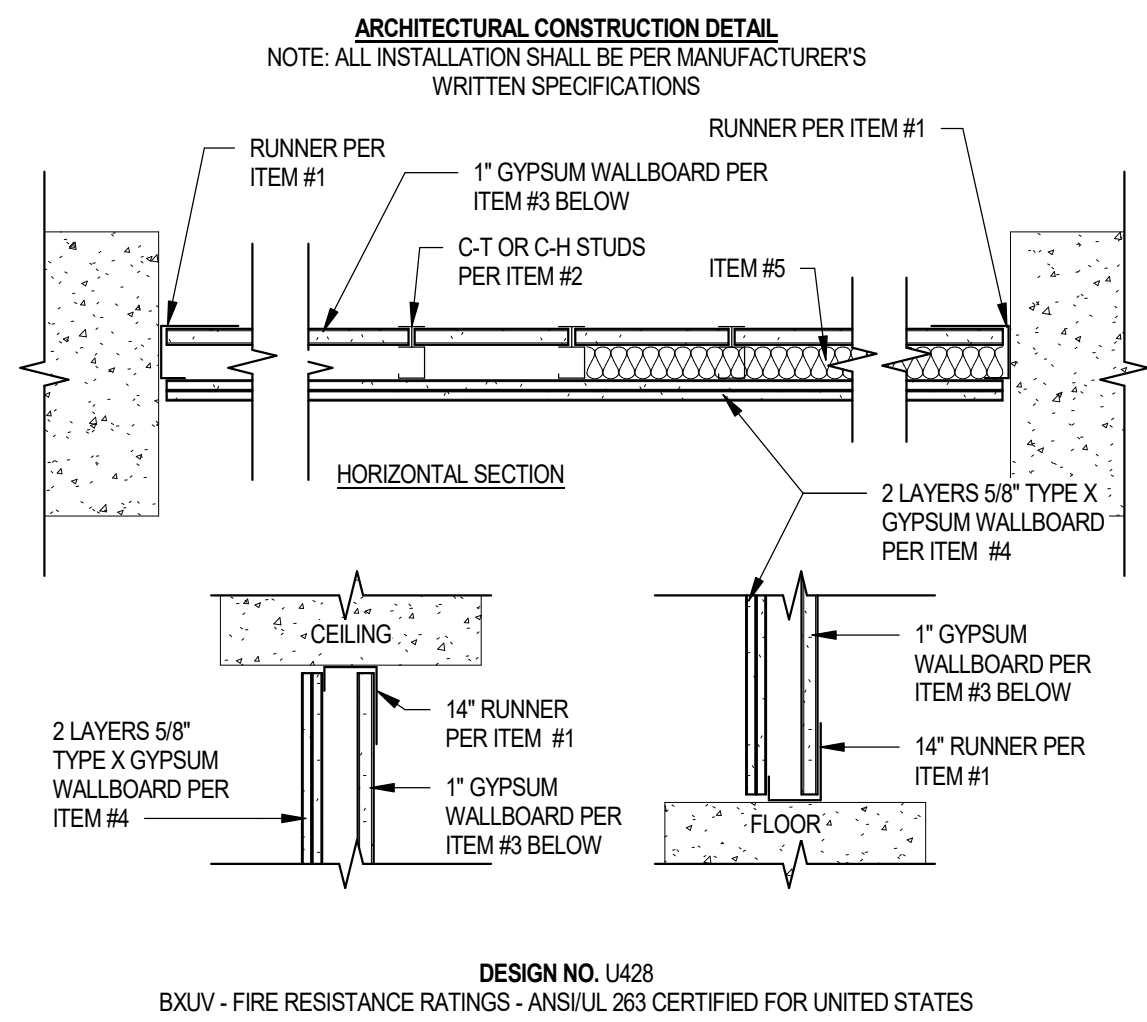
REVISIONS/SUBMITTALS

DATE	DESCRIPTION
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DATE: July 17, 2024 ORB #: 00-000

A7.1.31
FIRE ASSEMBLIES - INTERIOR METAL FRAMING

2-HR FIRE SHAFT WALL - METAL WALL
PROPRIETARY ASSEMBLY - UL SOLUTIONS - August 4, 2023
FIRE TEST: BXUJ - FIRE RESISTANCE RATINGS - ANSUL 263 DESIGN NO U428
SOUND RATINGS - 50 STC MIN
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.



DESIGN NO. U428
BXUJ - FIRE RESISTANCE RATINGS - ANSUL 263 CERTIFIED FOR UNITED STATES

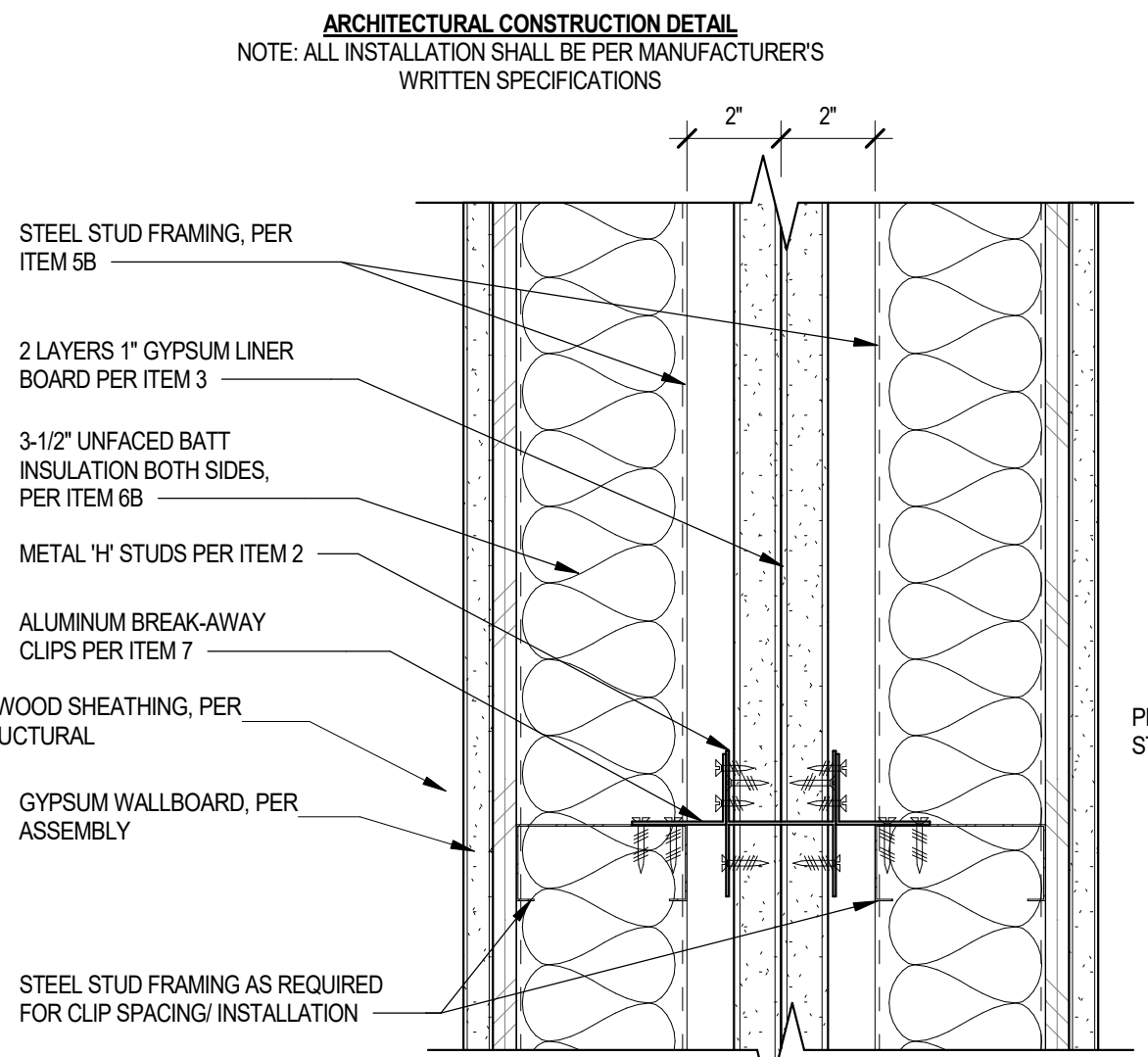
2-HOUR SHAFT WALL - NON-BEARING
INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

- 1. FLOOR AND CEILING RUNNER - "J" SHAPED RUNNERS, MIN. 2-1/2 IN. WIDE WITH UNEQUAL LEGS OF 1 IN. AND 2-1/4 IN. FABRICATED FROM MIN. 25 MSG GALV STEEL...
2. STEEL STUDS - "C" OR "C-H" SHAPED STUDS 1-5/8 IN. WIDE BY MIN. 2-1/2 IN. DEEP...
3. GYPSUM WALLBOARD - 1/2 IN. THICK GYPSUM WALLBOARD LINER PANELS...
4. GYPSUM WALLBOARD - 1/2 OR 5/8 IN. THICK 4 FT WIDE...
5. BATTIS AND BLANKETS - AS AN ALTERNATE TO ITEMS 6 AND 6A...

ACOUSTICS - STC 48 ESTIMATED FOR SH 02 BASED ON UGS - 170427

SH 04 2-HOUR SHAFT WALL - NON-BEARING - SAME AS SH 02 EXCEPT USING 4" STUDS IN LIEU OF 2-1/2" STUDS
SH 02 2-HR FIRE SHAFT WALL - NONBEARING
ANSUL 263 DESIGN NO U428 SCALE: 1" = 1'-0"

2-HR FIRE WALL - METAL WALL
PROPRIETARY ASSEMBLY - UL SOLUTIONS - January 29, 2024
FIRE TEST: BXUJ - FIRE RESISTANCE RATINGS - ANSUL 263 DESIGN NO U347 - OPTION B
SOUND RATINGS - 50 STC MIN
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.



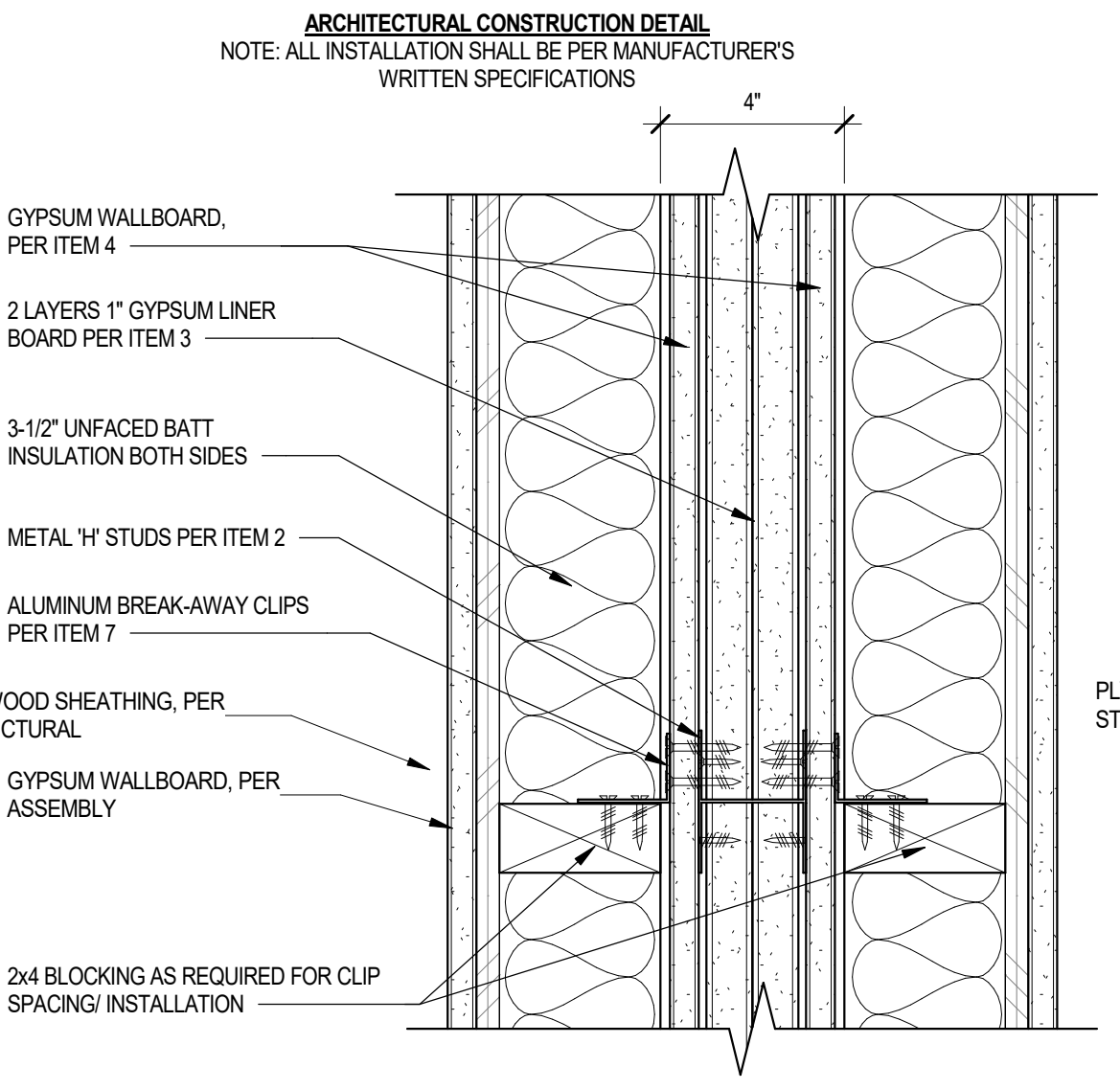
DESIGN NO. U347
BXUJ - FIRE RESISTANCE RATINGS - ANSUL 263 CERTIFIED FOR UNITED STATES

NOTE: THE ASSEMBLY DESCRIPTION BELOW IS PER UL DESIGN U347. CONSTRUCTION SHALL BE PER DETAIL WHICH IS AN ENHANCED AREA SEPARATION WALL ASSEMBLY PER OWNER'S REQUEST

- *INSTALL AS ENHANCED IN ASSEMBLY UL U347 OPTION B FOR SHAFT CONFIGURATION
*INSTALL AS DESCRIBED IN ASSEMBLY UL U347 OPTION B FOR FIRE WALL CONFIGURATIONS
SEPARATION WALL: (NON-BEARING, MAXIMUM HEIGHT - 66 FEET. SEE ITEM 6)
1. STEEL TRACK - FLOOR, SIDEWALL OR TOP WALL TRACK, NOM 2 IN WIDE CHANNEL SHAPED WITH NOM 1 IN LONG LEGS...
2. STEEL STUDS - "H" SHAPED STUDS FORMED FROM NO. 25 MSG GALV STEEL...
3. GYPSUM WALLBOARD - TWO LAYERS OF 1/2 IN. THICK GYPSUM WALLBOARD LINER PANELS...
4. AIR SPACE - MINIMUM 3/4 IN. AIR SPACE...
5. WOOD STUDS - (AS AN ALTERNATE TO ITEMS 5A AND 5B, FOR USE IN CONFIGURATION B ONLY, NOT SHOWN)...

FW 25 2-HR FIRE WALL AND SHAFTS - METAL FRAMING
ANSUL 263 DESIGN NO U347 SCALE: 3" = 1'-0"

3-HR FIRE WALL
PROPRIETARY ASSEMBLY - UL SOLUTIONS - October 07, 2019
FIRE TEST: BXUJ - FIRE RESISTANCE RATINGS - ANSUL 263 DESIGN NO W454
SOUND RATINGS - 50 STC MIN
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.



DESIGN NO. W454
BXUJ - FIRE RESISTANCE RATINGS - ANSUL 263 CERTIFIED FOR UNITED STATES

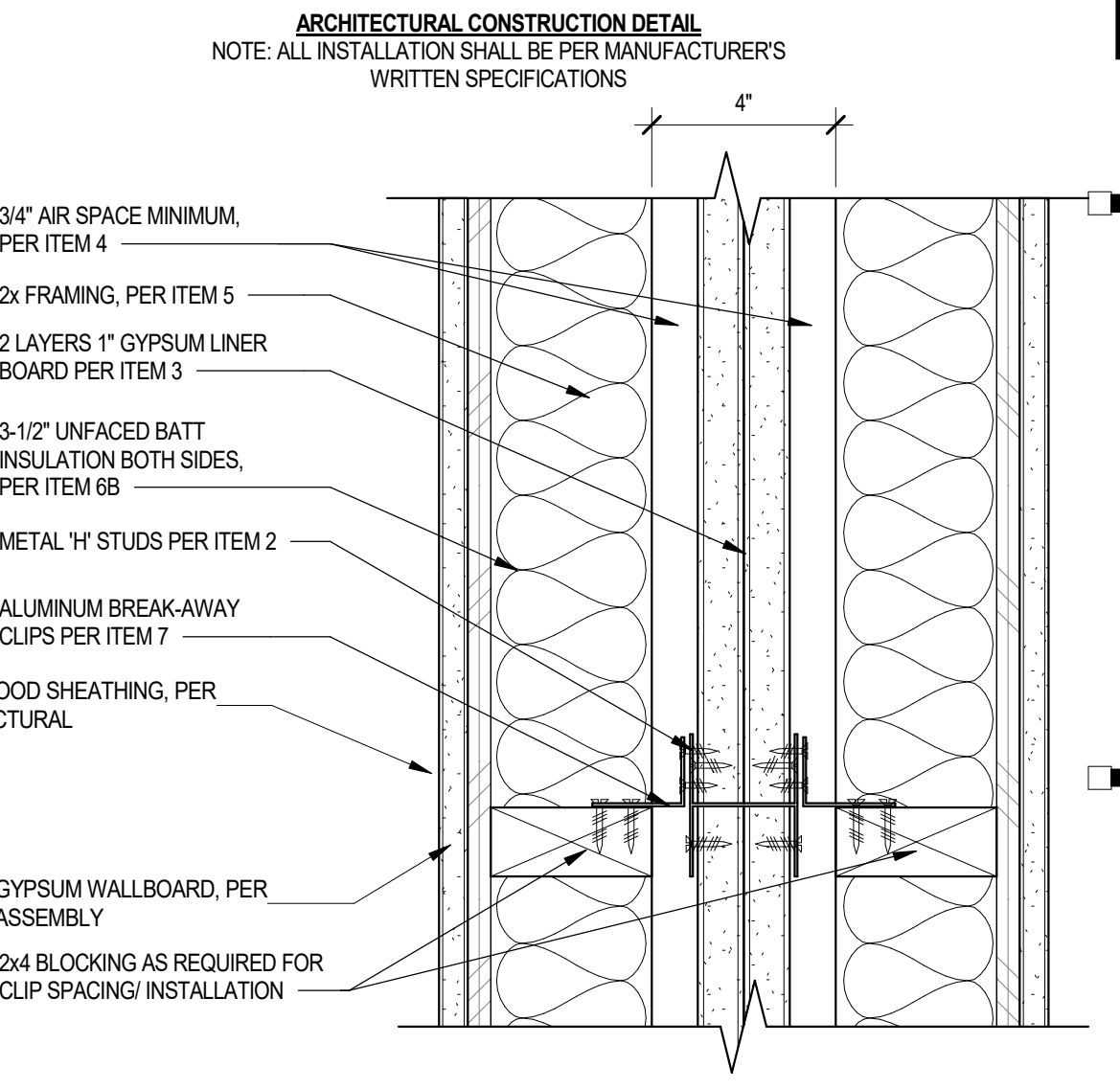
NOTE: SOUND RATING WITH 3-1/2" (89 MM) GLASS FIBER INSULATION IN STUDY CAVITY ON EACH SIDE

- SEPARATION WALL: (NON-BEARING, MAX HEIGHT - 70 FT)
1. STEEL TRACK - FLOOR, SIDEWALL OR TOP WALL TRACK, NOM 2 IN WIDE CHANNEL SHAPED WITH NOM 1 IN LONG LEGS...
2. STEEL STUDS - "H" SHAPED STUDS FORMED FROM NO. 25 MSG GALV STEEL...
3. GYPSUM WALLBOARD - TWO LAYERS OF 1/2 IN. THICK GYPSUM WALLBOARD LINER PANELS...
4. GYPSUM WALLBOARD - 5/8 IN. THICK GYPSUM PANELS WITH BEVELED, SQUARE OR TAPERED EDGES...
5. WOOD STUDS - FOR BEARING OR NONBEARING WALL RATING - NOM 2 BY 4 IN. MAX SPACING 24 IN. OC...
6. ATTACHMENT CLIPS - ALUMINUM ANGLE, 0.049 IN. THICK, 2 IN. WIDE WITH 2 IN. AND 2-1/2 IN. LEGS...
7. BATTIS AND BLANKETS - (OPTIONAL, NOT SHOWN) - GLASS FIBER OR MINERAL WOOL INSULATION...

*BEARING THE UL CLASSIFICATION MARK
NOTE: INSTALL SEALANT OR OWNER APPROVED EQUAL BETWEEN BASE OF GYPSUM WALLBOARD AND CONCRETE SLAB AT BOTH SIDES OF WALL.

FW 24 3-HR FIRE WALL - WOOD FRAMING
ANSUL 263 DESIGN NO W454 SCALE: 3" = 1'-0"

2-HR FIRE WALL
PROPRIETARY ASSEMBLY - UL SOLUTIONS - January 29, 2024
FIRE TEST: BXUJ - FIRE RESISTANCE RATINGS - ANSUL 263 DESIGN NO U347
SOUND RATINGS - 50 STC MIN
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.



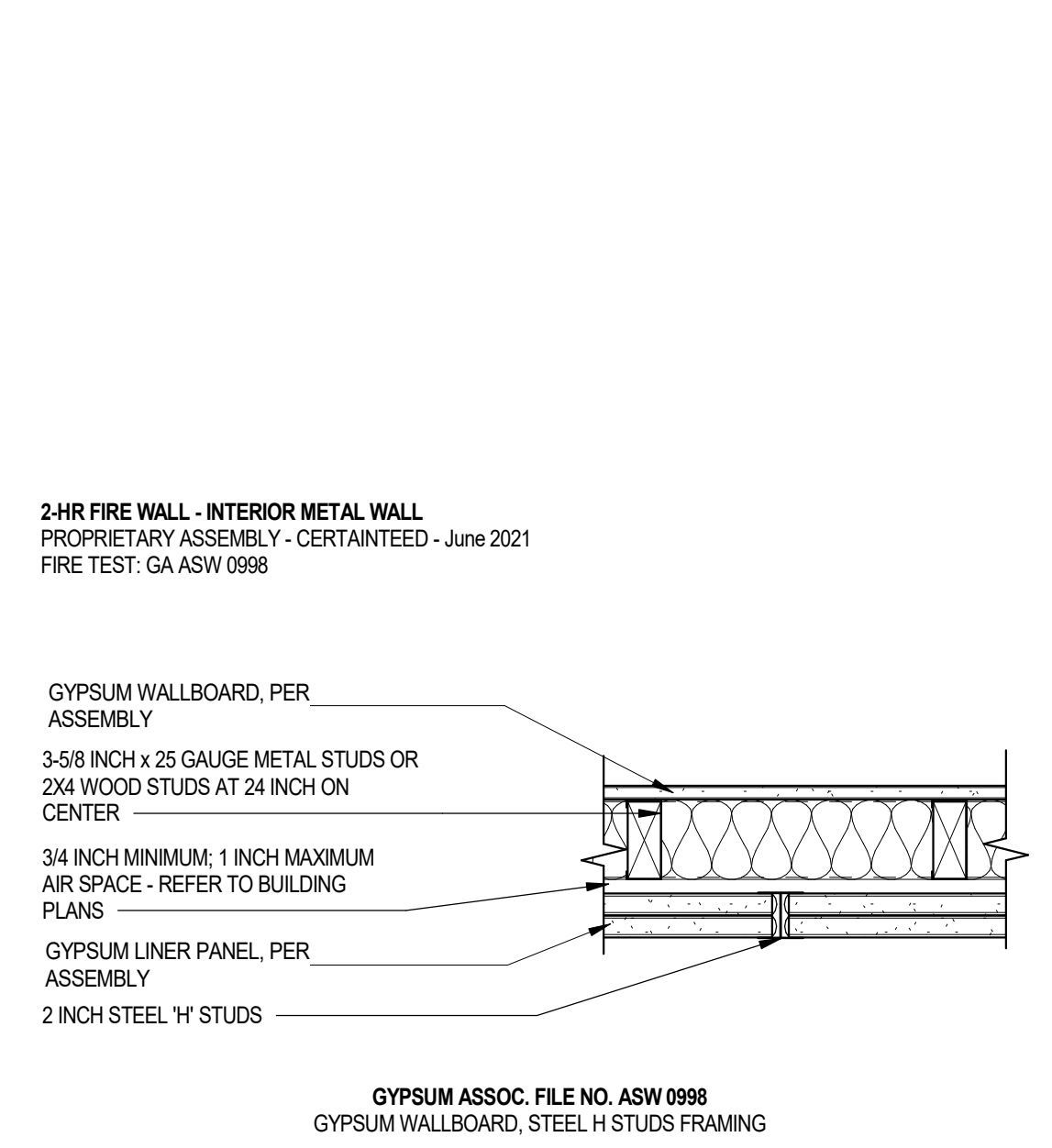
DESIGN NO. U347
BXUJ - FIRE RESISTANCE RATINGS - ANSUL 263 CERTIFIED FOR UNITED STATES

NOTE: THE ASSEMBLY DESCRIPTION BELOW IS PER UL DESIGN U347 CONFIGURATION D. CONSTRUCTION SHALL BE PER DETAIL WHICH IS AN ENHANCED AREA SEPARATION WALL ASSEMBLY PER OWNER'S REQUEST

- SEPARATION WALL: (NON-BEARING, MAXIMUM HEIGHT - 66 FEET. SEE ITEM 6)
1. STEEL TRACK - FLOOR, SIDEWALL OR TOP WALL TRACK, NOM 2 IN WIDE CHANNEL SHAPED WITH NOM 1 IN LONG LEGS...
2. STEEL STUDS - "H" SHAPED STUDS FORMED FROM NO. 25 MSG GALV STEEL...
3. GYPSUM WALLBOARD - TWO LAYERS OF 1/2 IN. THICK GYPSUM WALLBOARD LINER PANELS...
4. AIR SPACE - MINIMUM 3/4 IN. AIR SPACE...
5. WOOD STUDS - FOR BEARING OR NONBEARING WALL RATING - NOM 2 BY 4 IN. MAX SPACING 24 IN. OC...
6. BATTIS AND BLANKETS - AS AN ALTERNATE TO ITEMS 6 AND 6A...
7. ALUMINUM CLIPS - ALUMINUM ANGLE, 0.049 IN. THICK, 2 IN. WIDE WITH 2 IN. AND 2-1/2 IN. LEGS...
8. STIC RATING - THE STIC RATING OF THE WALL ASSEMBLY IS 51 WHEN IT IS CONSTRUCTED AS DESCRIBED BY ITEMS 1 THROUGH 8, EXCEPT A ITEM 5, ABOVE - WOOD STUDS - SHALL BE SPACED 16 IN. OC...
9. NON-BEARING WALL PARTITION INTERSECTION - (OPTIONAL) WALL SYSTEM CONSISTING OF NOMINAL 2 BY 4 IN. STUD OR NOMINAL 2 BY 6 IN. STUD...
NOTE: INSTALL SEALANT OR OWNER APPROVED EQUAL BETWEEN BASE OF GYPSUM WALLBOARD AND CONCRETE SLAB AT BOTH SIDES OF WALL.

FW 21 2-HR FIRE WALL - WOOD FRAMING
ANSUL 263 DESIGN NO U347 SCALE: 3" = 1'-0"

2-HR FIRE WALL - INTERIOR METAL WALL
PROPRIETARY ASSEMBLY - CERTANTEED - June 2021
FIRE TEST: GA ASW 0998



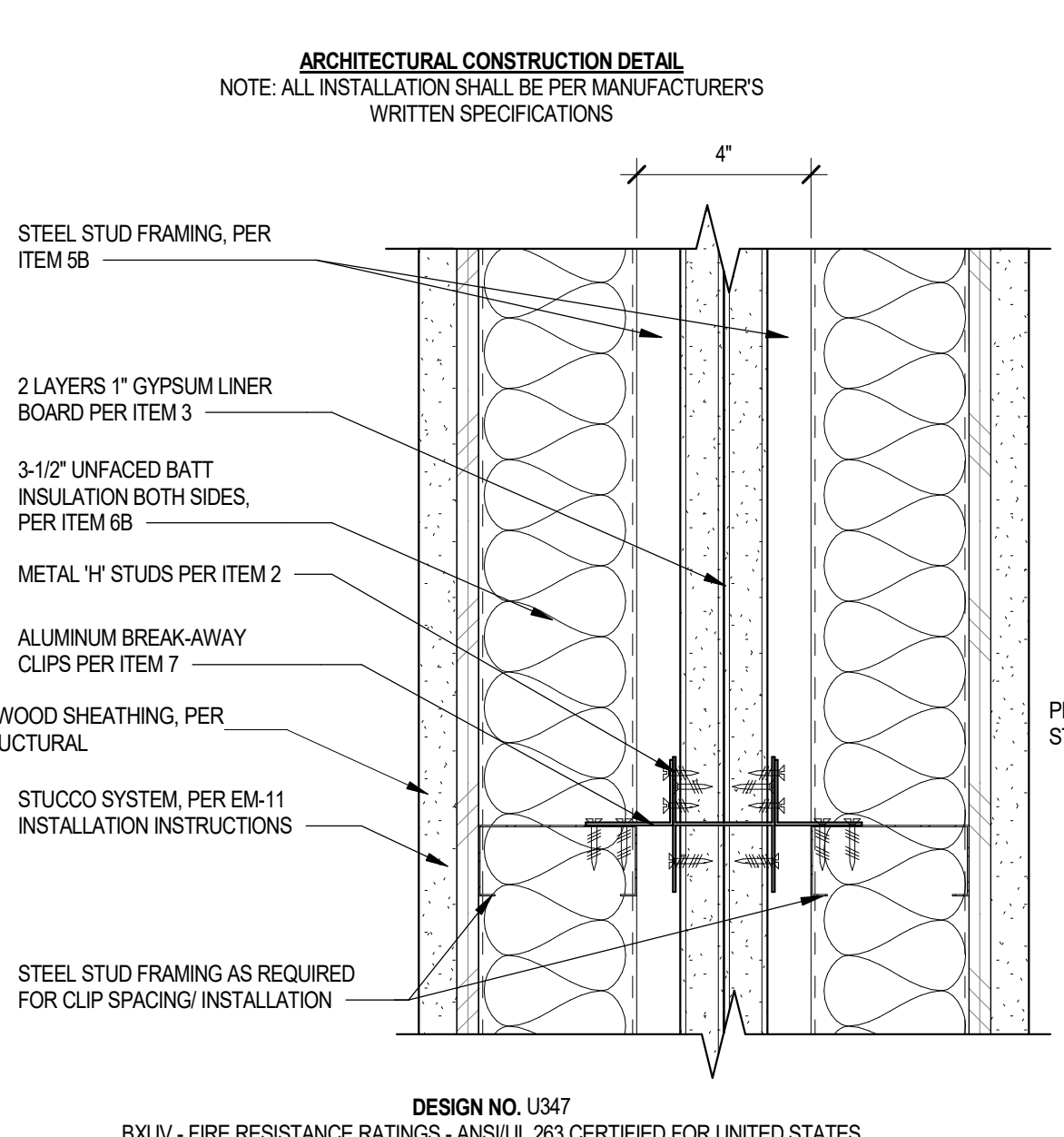
GYPSUM ASSOC. FILE NO. ASW 0998
GYPSUM WALLBOARD, STEEL H STUDS FRAMING

- FIRE DESIGN - TWO LAYERS 1/2 INCH PROPRIETARY TYPE 'X' GYPSUM PANELS INSERTED BETWEEN 2 INCH FLOOR AND CEILING RUNNERS WITH 2 INCH STEEL H STUDS BETWEEN ADJACENT PAIRS OF GYPSUM PANELS...
SOUND DESIGN - SOUND TESTED WITH 2X4 STUD WALL FACED WITH 1/2 INCH GYPSUM WALLBOARD EACH SIDE OF SYSTEM AND 3-1/2 INCH GLASS FIBER INSULATION IN STUD SPACE...
PROPRIETARY GYPSUM BOARD
NATIONAL GYPSUM COMPANY - 1" GOLD BOND BRAND FIRE-SHIELD SHAFTLINER
THICKNESS - 3-1/2 INCH (FIRE) 11-3/4 INCH (SOUND)
APPROXIMATE WEIGHT - 9 PSF (FIRE & SOUND)
FIRE TEST - UL F551, 90WZ2096, 67-65, UL DESIGN U347, WHI 694-0200-5, 10-12 & 24-45
SOUND TEST - RAL T109-119, 11-7-05

ALTERNATE ASSEMBLY

SH 02.1 FIRE RATED SHAFT WALL
GA FILE NO. ASW 0998 - GA-600-2021 SCALE: 1 1/2" = 1'-0"

2-HR FIRE WALL - EXTERIOR METAL WALL
PROPRIETARY ASSEMBLY - UL SOLUTIONS - January 29, 2024
FIRE TEST: BXUJ - FIRE RESISTANCE RATINGS - ANSUL 263 DESIGN NO U347
SOUND RATINGS - 50 STC MIN
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.



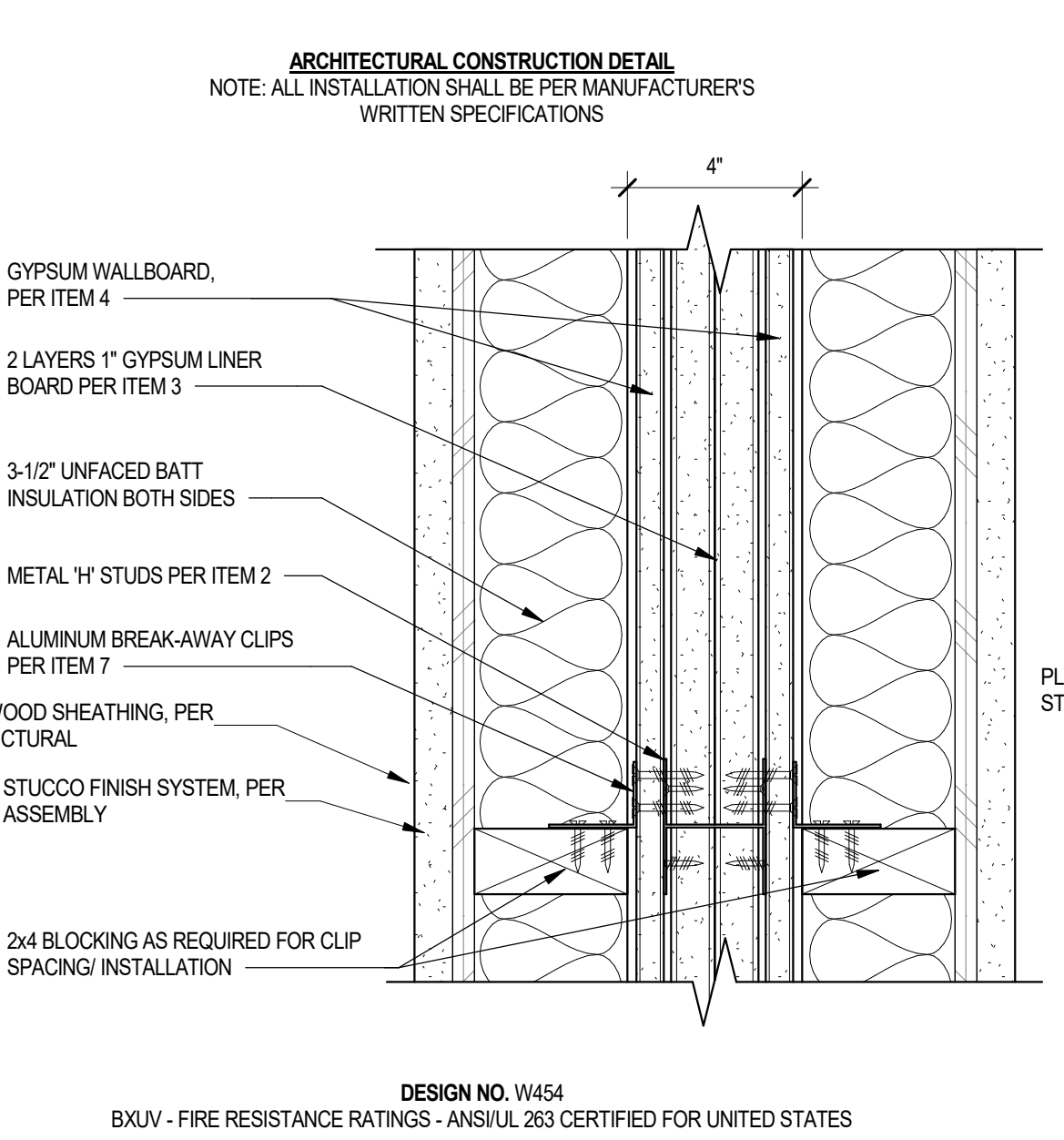
DESIGN NO. U347
BXUJ - FIRE RESISTANCE RATINGS - ANSUL 263 CERTIFIED FOR UNITED STATES

NOTE: THE ASSEMBLY DESCRIPTION BELOW IS PER UL DESIGN U347. CONSTRUCTION SHALL BE PER DETAIL WHICH IS AN ENHANCED AREA SEPARATION WALL ASSEMBLY PER OWNER'S REQUEST AREA

- SEPARATION WALL: (NON-BEARING, MAXIMUM HEIGHT - 66 FEET. SEE ITEM 6)
1. STEEL TRACK - FLOOR, SIDEWALL OR TOP WALL TRACK, NOM 2 IN WIDE CHANNEL SHAPED WITH NOM 1 IN LONG LEGS...
2. STEEL STUDS - "H" SHAPED STUDS FORMED FROM NO. 25 MSG GALV STEEL...
3. GYPSUM WALLBOARD - TWO LAYERS OF 1/2 IN. THICK GYPSUM WALLBOARD LINER PANELS...
4. AIR SPACE - MINIMUM 3/4 IN. AIR SPACE...
5. WOOD STUDS - FOR BEARING OR NONBEARING WALL RATING - NOM 2 BY 4 IN. MAX SPACING 24 IN. OC...
6. BATTIS AND BLANKETS - AS AN ALTERNATE TO ITEMS 6 AND 6A...
7. ALUMINUM CLIPS - ALUMINUM ANGLE, 0.049 IN. THICK, 2 IN. WIDE WITH 2 IN. AND 2-1/2 IN. LEGS...
NOTE: INSTALL SEALANT OR OWNER APPROVED EQUAL BETWEEN BASE OF GYPSUM WALLBOARD AND CONCRETE SLAB AT BOTH SIDES OF WALL.

FW 26 2-HR FIRE WALL AT EXTERIOR WALL - METAL FRAMING
ANSUL 263 DESIGN NO U347 SCALE: 3" = 1'-0"

3-HR FIRE WALL - EXTERIOR WALL
PROPRIETARY ASSEMBLY - UL SOLUTIONS - October 07, 2019
FIRE TEST: BXUJ - FIRE RESISTANCE RATINGS - ANSUL 263 DESIGN NO W454
SOUND RATINGS - 50 STC MIN
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.



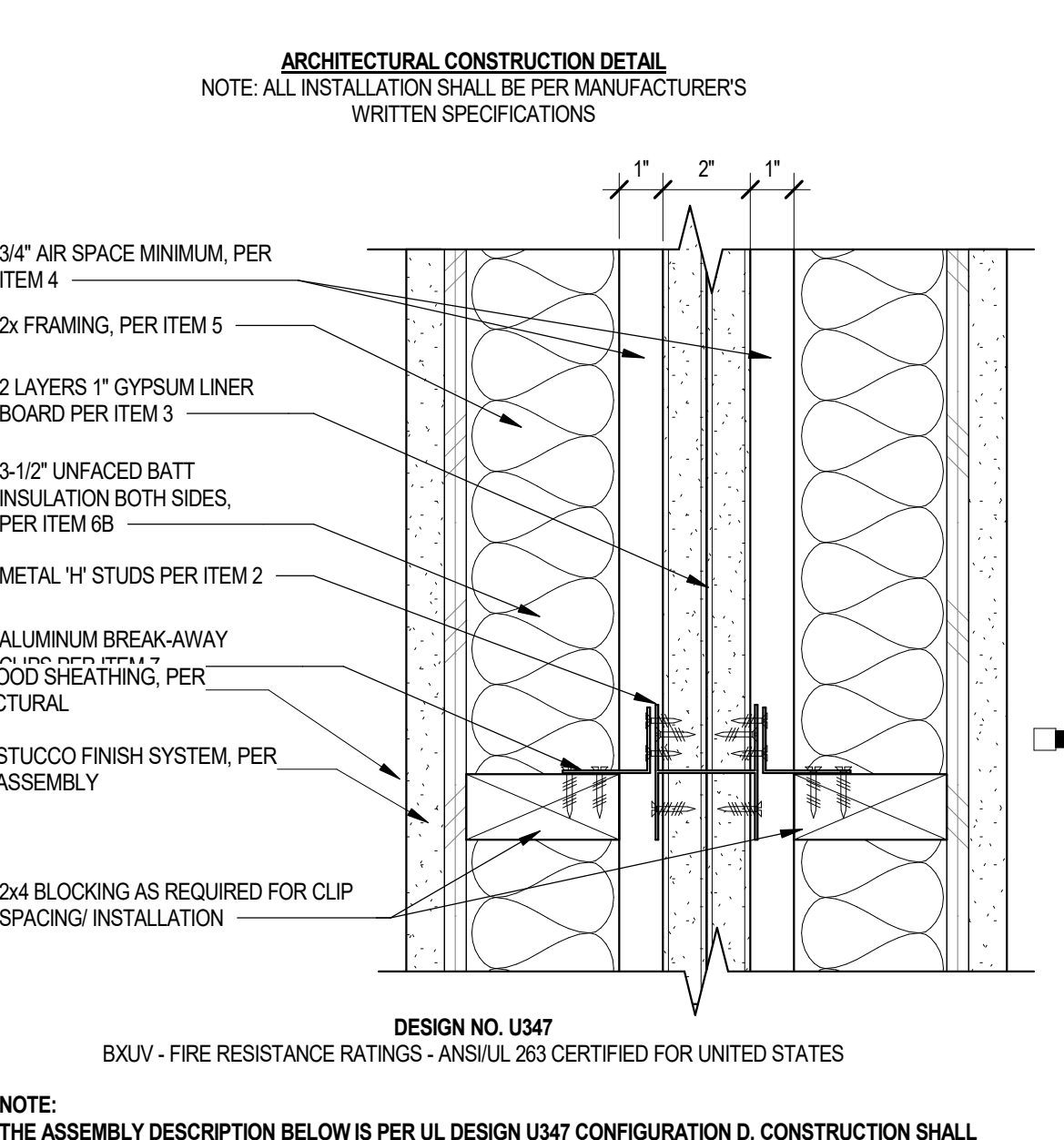
DESIGN NO. W454
BXUJ - FIRE RESISTANCE RATINGS - ANSUL 263 CERTIFIED FOR UNITED STATES

NOTE: SOUND RATING WITH 3-1/2" (89 MM) GLASS FIBER INSULATION IN STUDY CAVITY ON EACH SIDE

- SEPARATION WALL: (NON-BEARING, MAX HEIGHT - 70 FT)
1. STEEL TRACK - NOT SHOWN - FLOOR, SIDEWALL OR TOP WALL TRACK, NOM 2 IN WIDE CHANNEL SHAPED WITH NOM 1 IN LONG LEGS...
2. STEEL STUDS - "H" SHAPED STUDS FORMED FROM NO. 25 MSG GALV STEEL...
3. GYPSUM WALLBOARD - TWO LAYERS OF 1/2 IN. THICK GYPSUM WALLBOARD LINER PANELS...
4. GYPSUM WALLBOARD - 5/8 IN. THICK GYPSUM PANELS WITH BEVELED, SQUARE OR TAPERED EDGES...
5. WOOD STUDS - FOR BEARING OR NONBEARING WALL RATING - NOM 2 BY 4 IN. MAX SPACING 24 IN. OC...
6. ATTACHMENT CLIPS - ALUMINUM ANGLE, 0.049 IN. THICK, 2 IN. WIDE WITH 2 IN. AND 2-1/2 IN. LEGS...
7. BATTIS AND BLANKETS - (OPTIONAL, NOT SHOWN) - GLASS FIBER OR MINERAL WOOL INSULATION...
NOTE: INSTALL SEALANT OR OWNER APPROVED EQUAL BETWEEN BASE OF GYPSUM WALLBOARD AND CONCRETE SLAB AT BOTH SIDES OF WALL.

FW 24 3-HR FIRE WALL AT PATIOS/BALCONIES - WOOD FRAMING
ANSUL 263 DESIGN NO W454 SCALE: 3" = 1'-0"

2-HR FIRE WALL
PROPRIETARY ASSEMBLY - UL SOLUTIONS - January 29, 2024
FIRE TEST: BXUJ - FIRE RESISTANCE RATINGS - ANSUL 263 DESIGN NO U347
SOUND RATINGS - 50 STC MIN
REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.



DESIGN NO. U347
BXUJ - FIRE RESISTANCE RATINGS - ANSUL 263 CERTIFIED FOR UNITED STATES

NOTE: THE ASSEMBLY DESCRIPTION BELOW IS PER UL DESIGN U347 CONFIGURATION D. CONSTRUCTION SHALL BE PER DETAIL WHICH IS AN ENHANCED AREA SEPARATION WALL ASSEMBLY PER OWNER'S REQUEST

- SEPARATION WALL: (NON-BEARING, MAXIMUM HEIGHT - 66 FEET. SEE ITEM 6)
1. STEEL TRACK - FLOOR, SIDEWALL OR TOP WALL TRACK, NOM 2 IN WIDE CHANNEL SHAPED WITH NOM 1 IN LONG LEGS...
2. STEEL STUDS - "H" SHAPED STUDS FORMED FROM NO. 25 MSG GALV STEEL...
3. GYPSUM WALLBOARD - TWO LAYERS OF 1/2 IN. THICK GYPSUM WALLBOARD LINER PANELS...
4. AIR SPACE - MINIMUM 3/4 IN. AIR SPACE...
5. WOOD STUDS - FOR BEARING OR NONBEARING WALL RATING - NOM 2 BY 4 IN. MAX SPACING 24 IN. OC...
6. BATTIS AND BLANKETS - AS AN ALTERNATE TO ITEMS 6 AND 6A...
7. ALUMINUM CLIPS - ALUMINUM ANGLE, 0.049 IN. THICK, 2 IN. WIDE WITH 2 IN. AND 2-1/2 IN. LEGS...
8. STIC RATING - THE STIC RATING OF THE WALL ASSEMBLY IS 51 WHEN IT IS CONSTRUCTED AS DESCRIBED BY ITEMS 1 THROUGH 8, EXCEPT A ITEM 5, ABOVE - WOOD STUDS - SHALL BE SPACED 16 IN. OC...
9. NON-BEARING WALL PARTITION INTERSECTION - (OPTIONAL) WALL SYSTEM CONSISTING OF NOMINAL 2 BY 4 IN. STUD OR NOMINAL 2 BY 6 IN. STUD...
NOTE: INSTALL SEALANT OR OWNER APPROVED EQUAL BETWEEN BASE OF GYPSUM WALLBOARD AND CONCRETE SLAB AT BOTH SIDES OF WALL.

FW 22 2-HR FIRE WALL AT EXTERIOR WALL - WOOD FRAMING
ANSUL 263 DESIGN NO U347 SCALE: 3" = 1'-0"

Project Name 1
Project Name 2
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ORB
WorldHQ@ORBArch.com

PRELIMINARY
NOT FOR
CONSTRUCTION

AUANCE
RESIDENCY COMPANY
LEGACY HOSPITALITY

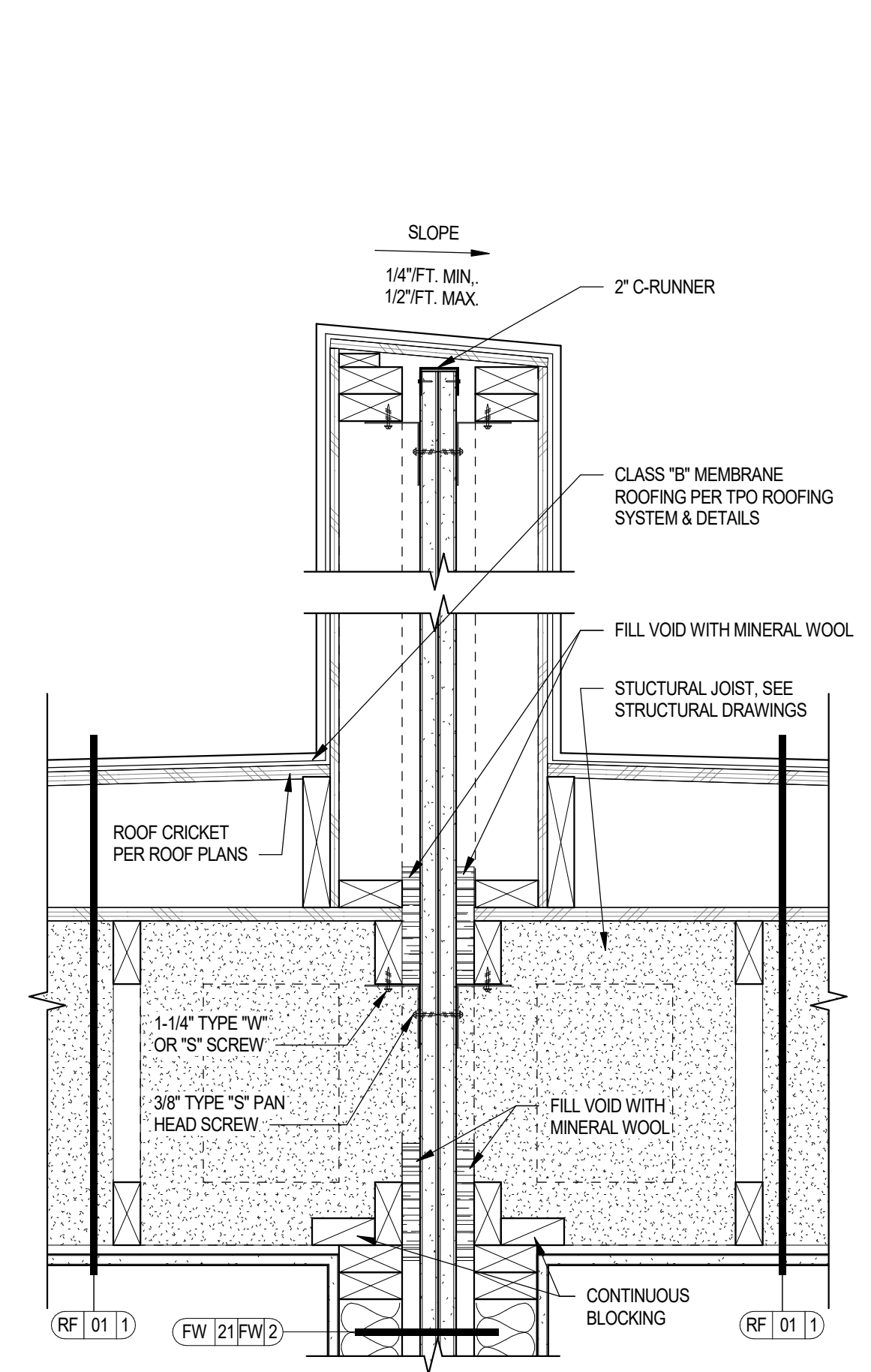
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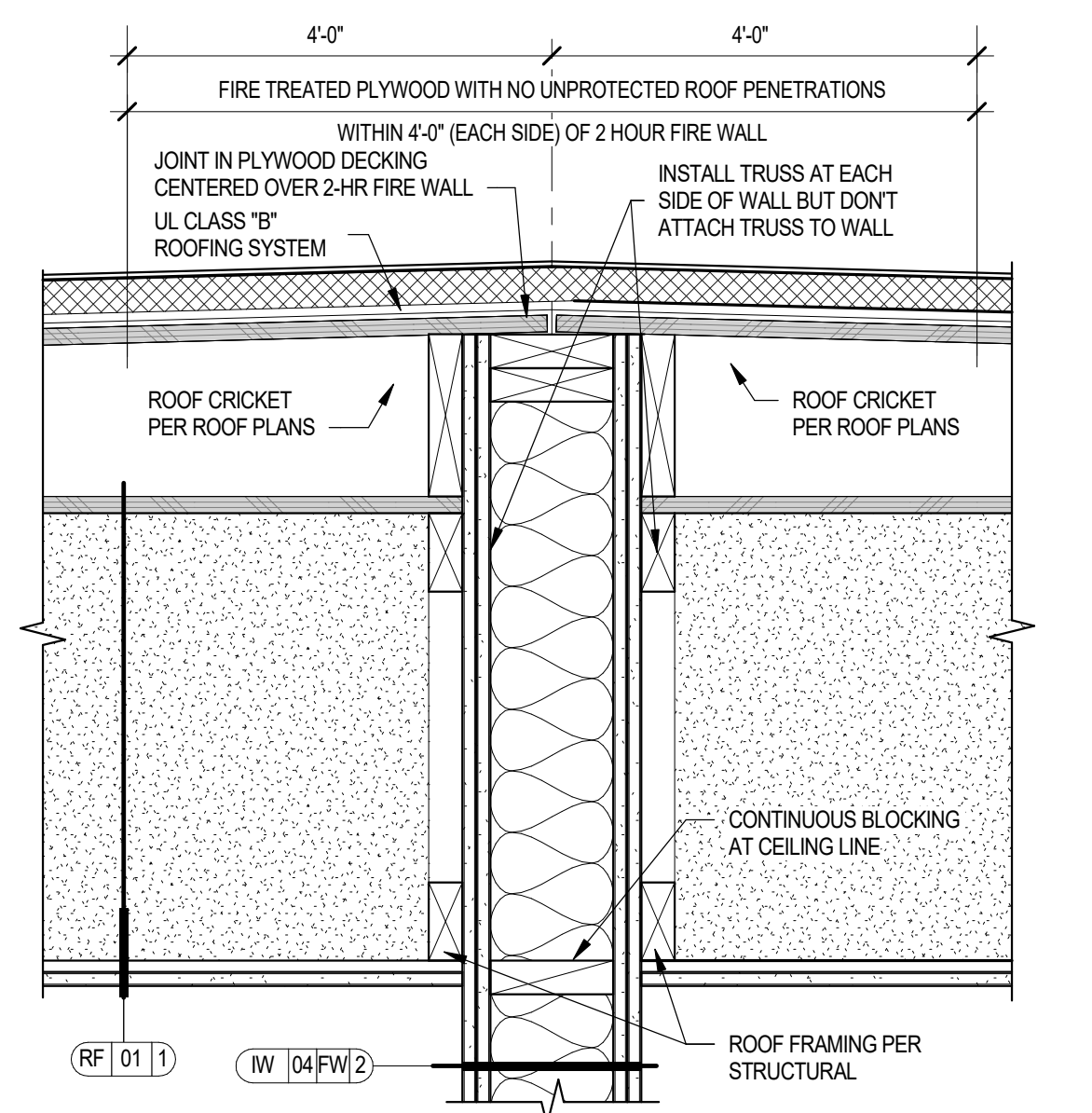
REVISIONS/SUBMITTALS
DATE DESCRIPTION

DATE: July 17, 2024 ORB #: 00-000

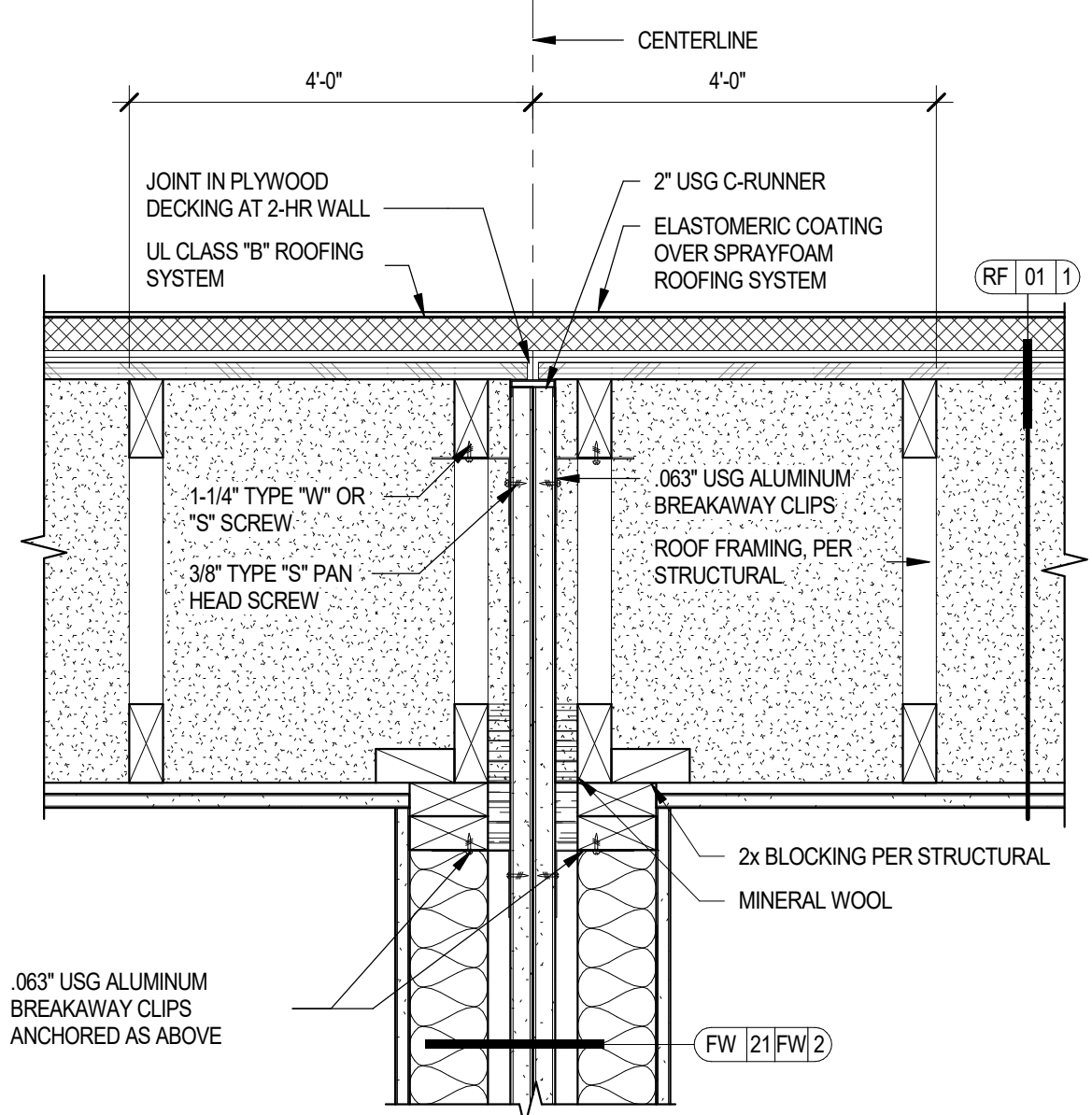
A7.1.40
FIRE ASSEMBLIES - SHAFT & FIRE WALLS



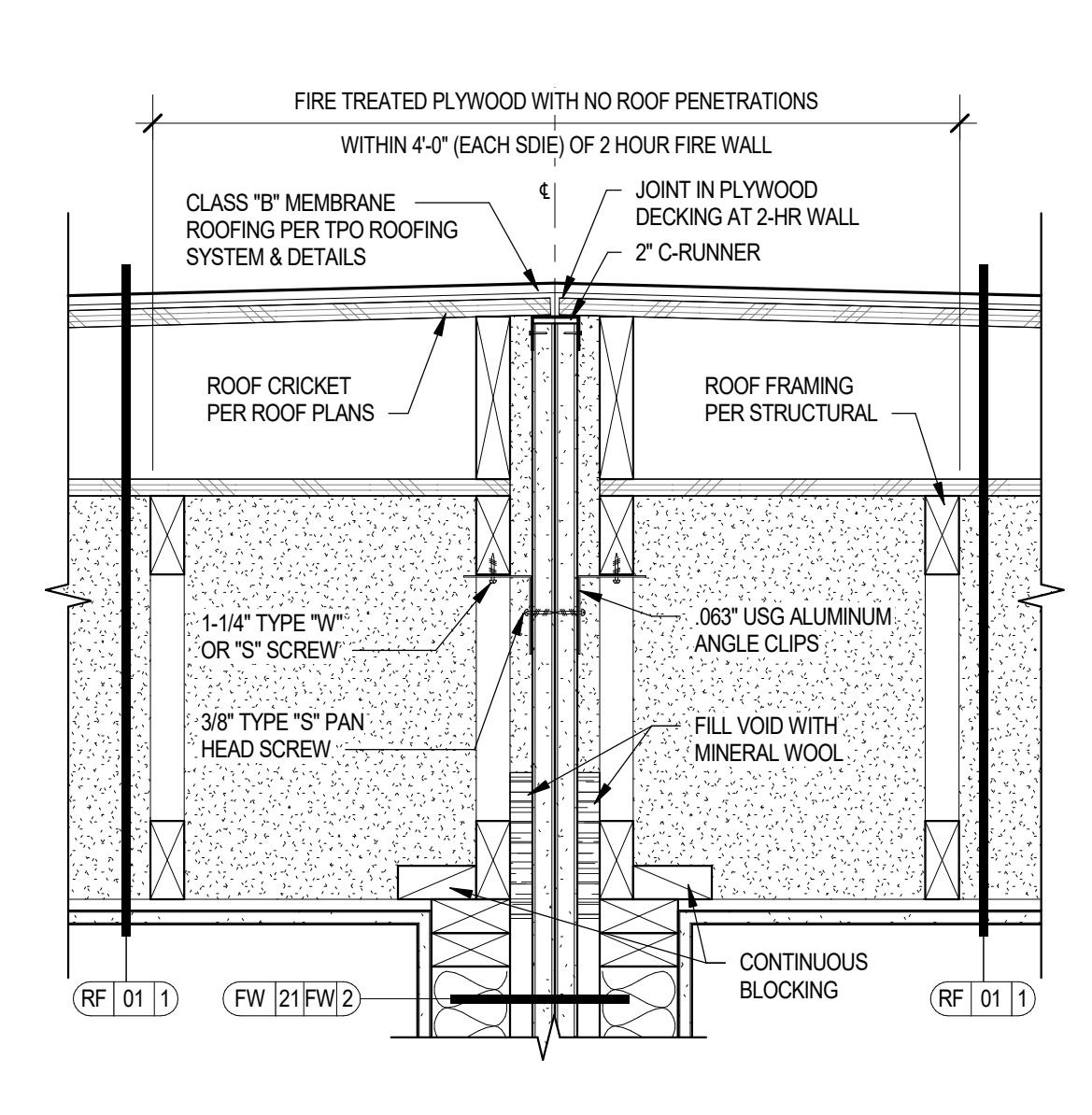
17 2-HR FIRE WALL AT 1-HR ROOF/CEILING - AT SPRAYFOAM ROOFING SYSTEM SCALE: 1 1/2" = 1'-0"



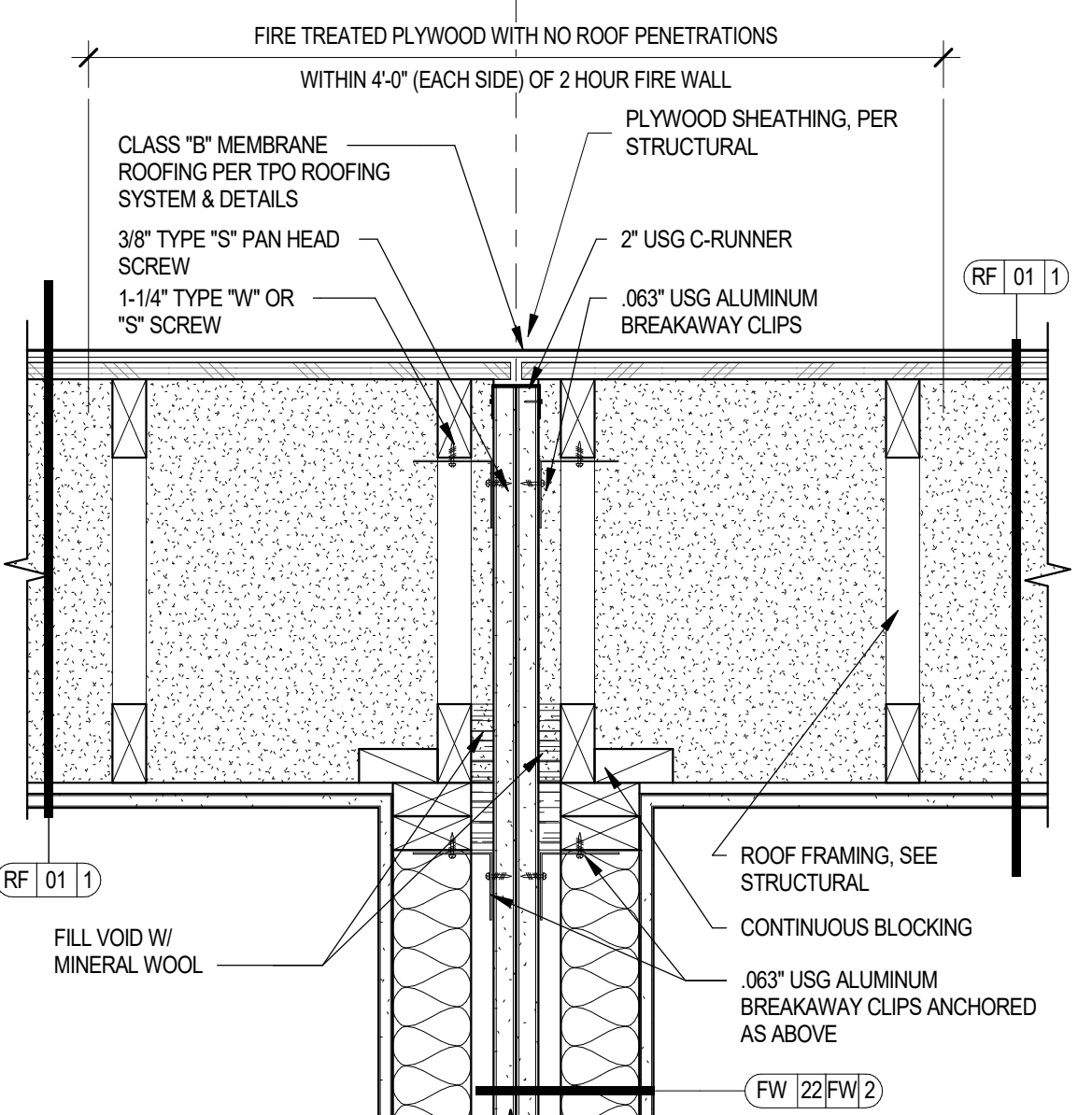
13 2-HR FIRE WALL AT 1-HR ROOF/CEILING AT CRICKET - AT SPRAYFOAM ROOFING SYSTEM SCALE: 1 1/2" = 1'-0"



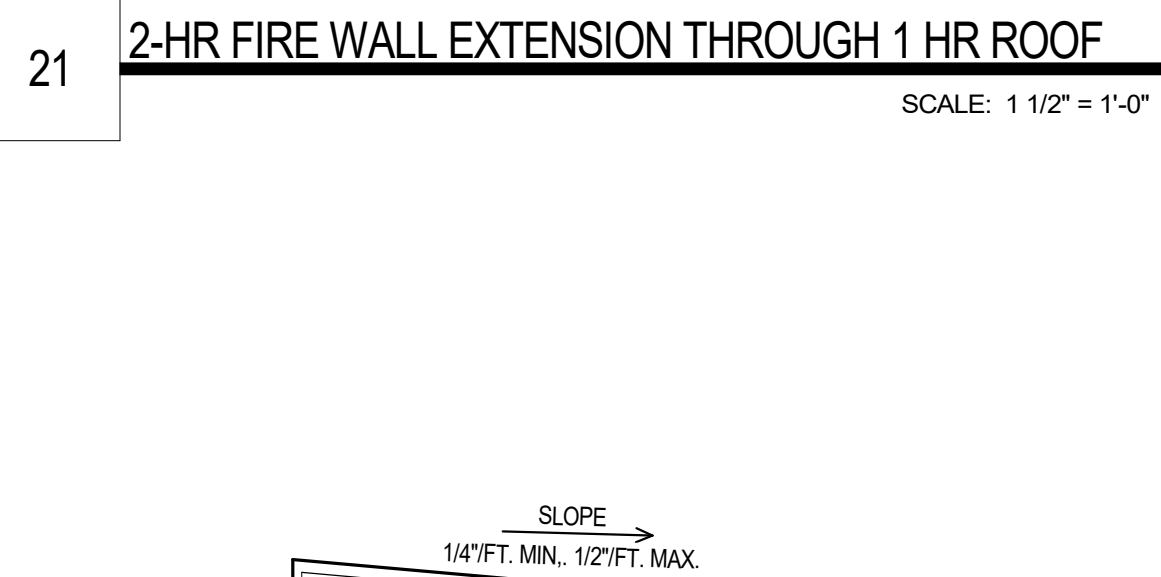
09 2-HR FIRE WALL AT 1-HR ROOF/CEILING - AT SPRAYFOAM ROOFING SYSTEM SCALE: 1 1/2" = 1'-0"



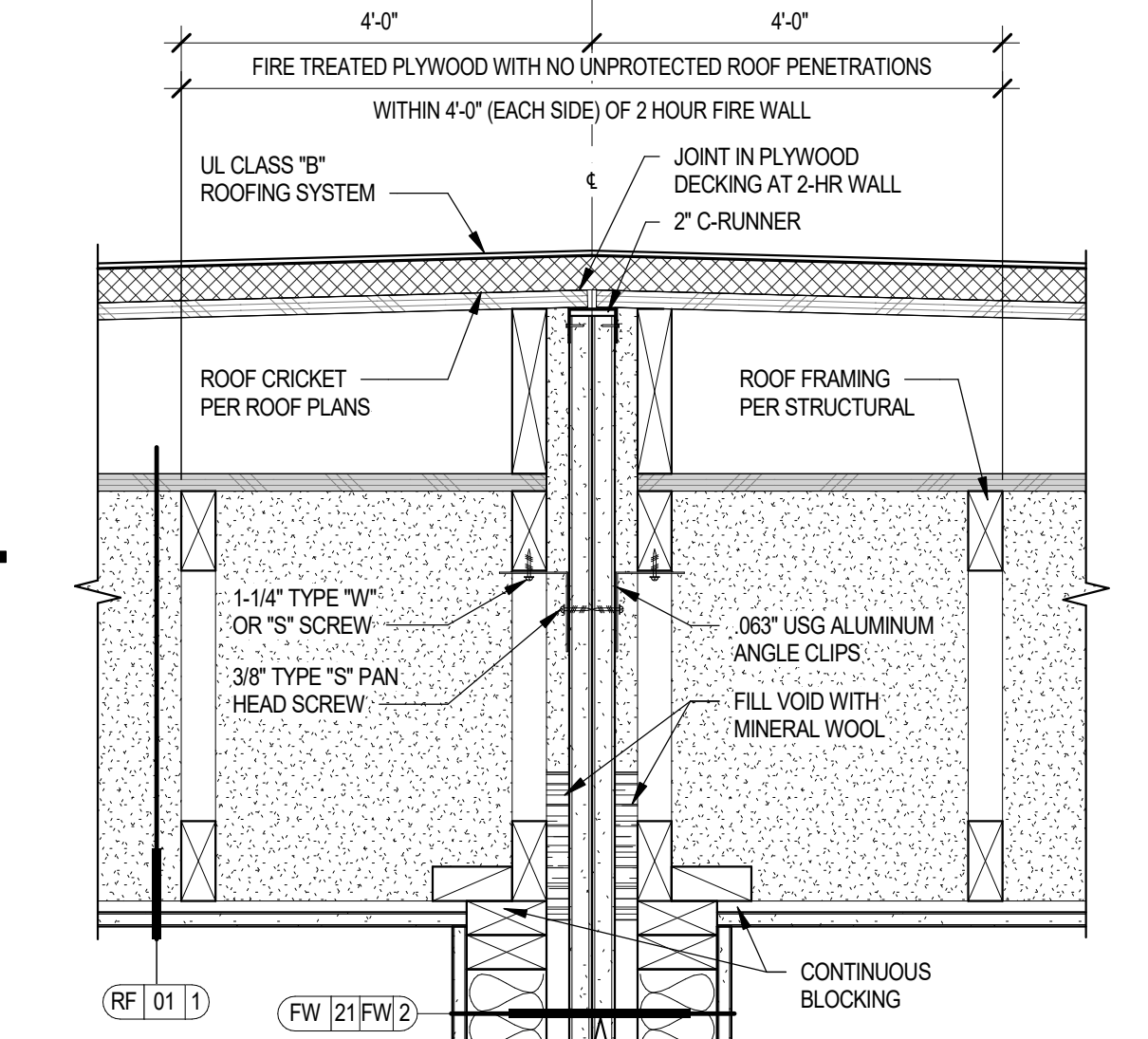
05 2-HR FIRE WALL AT 1-HR ROOF/CEILING AT CRICKET SCALE: 1 1/2" = 1'-0"



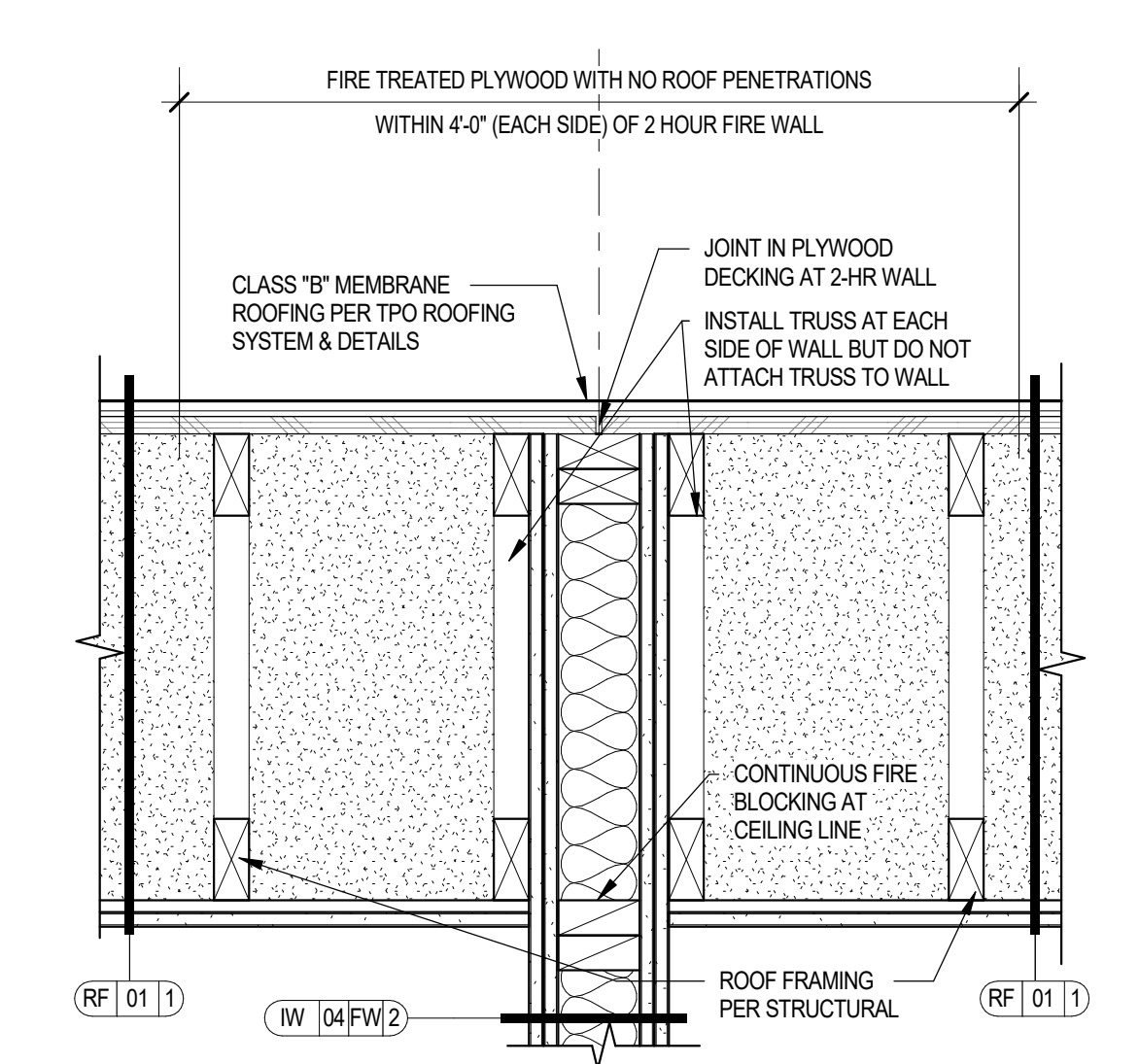
01 2-HR FIRE WALL AT 1-HR ROOF/CEILING SCALE: 1 1/2" = 1'-0"



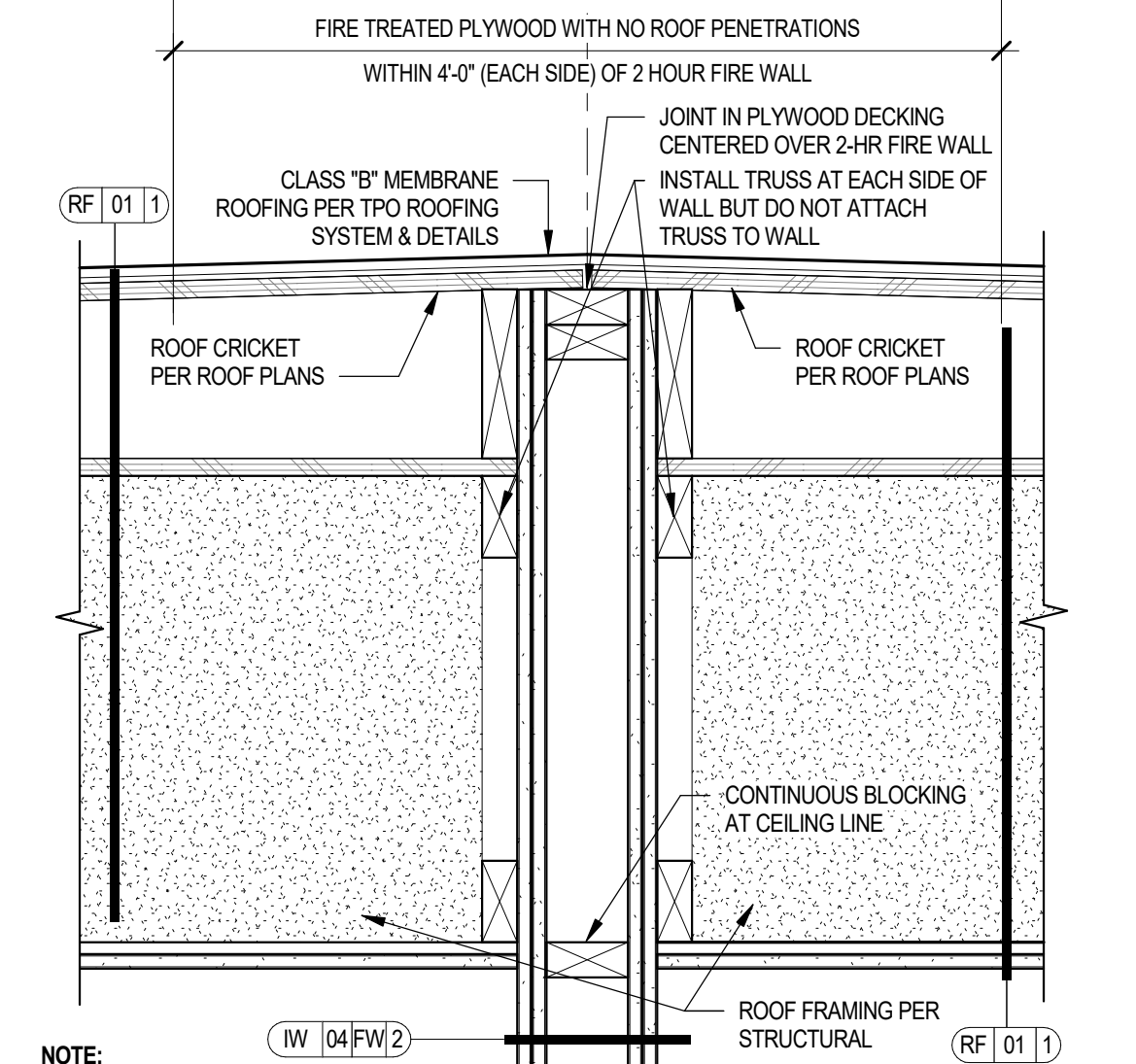
21 2-HR FIRE WALL EXTENSION THROUGH 1 HR ROOF SCALE: 1 1/2" = 1'-0"



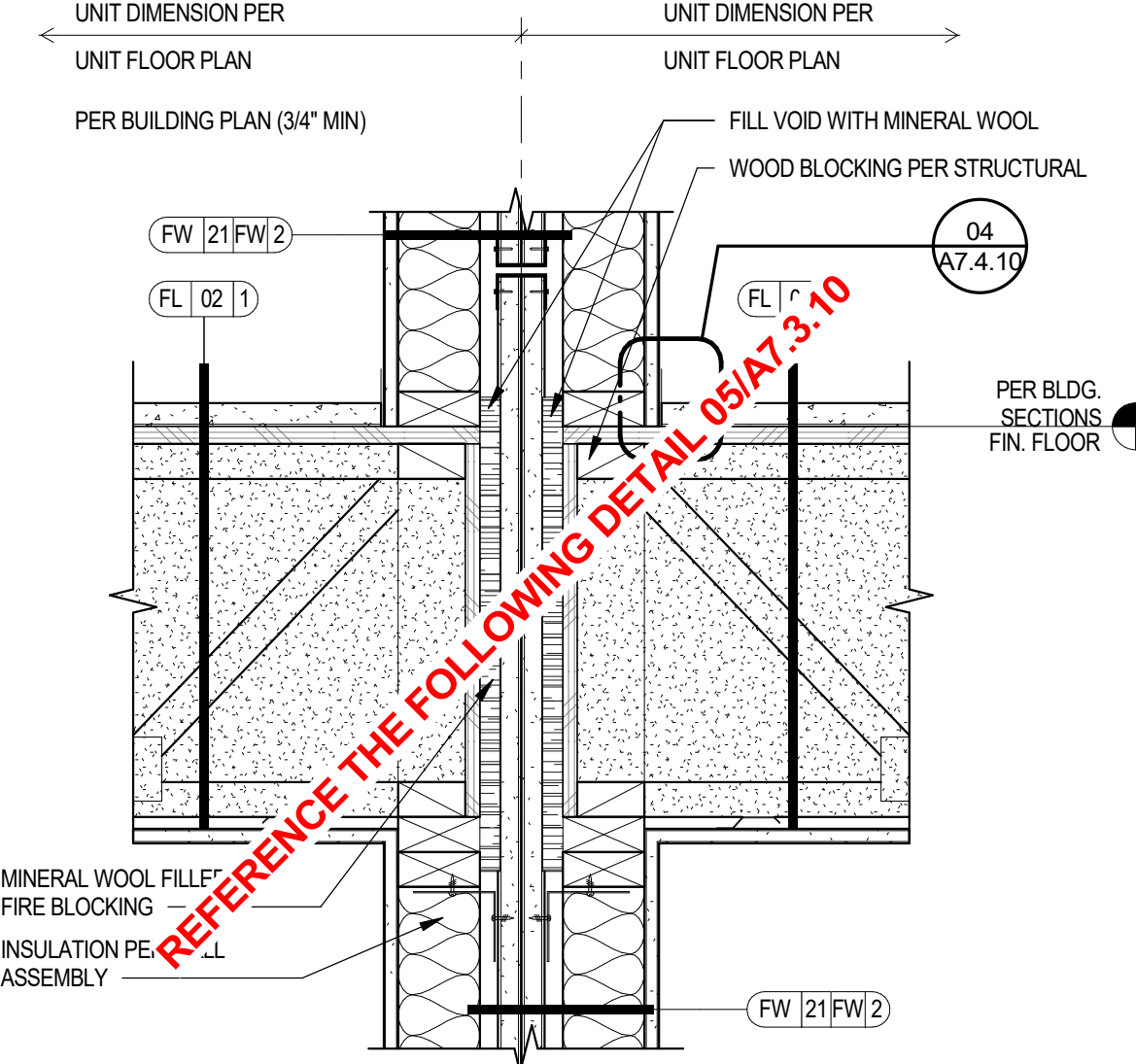
18 2-HR FIRE WALL AT 1-HR ROOF/CEILING AT CRICKET - AT SPRAYFOAM ROOFING SYSTEM SCALE: 1 1/2" = 1'-0"



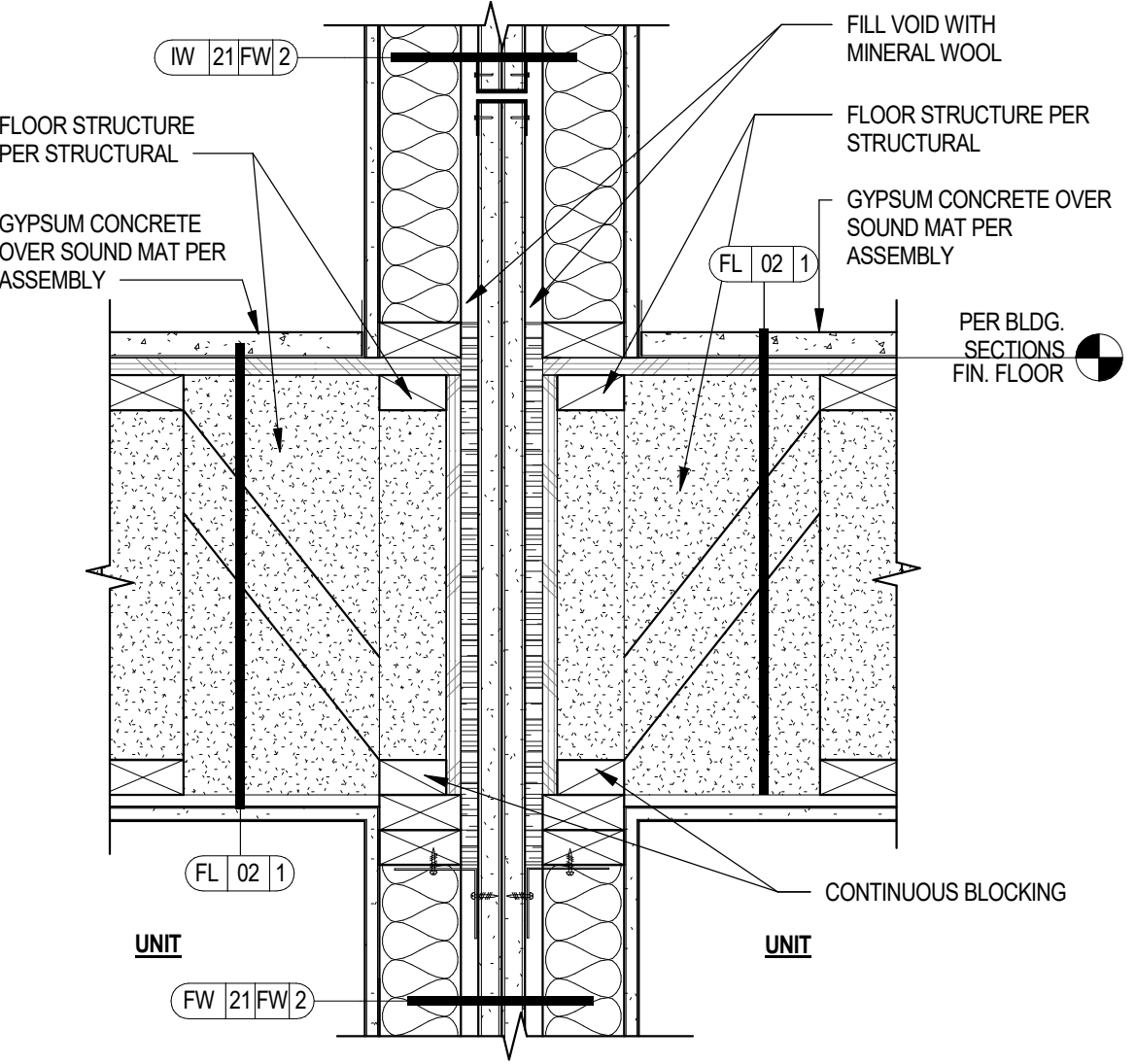
14 2-HR FIRE WALL AT 1-HR ROOF/CEILING SCALE: 1 1/2" = 1'-0"



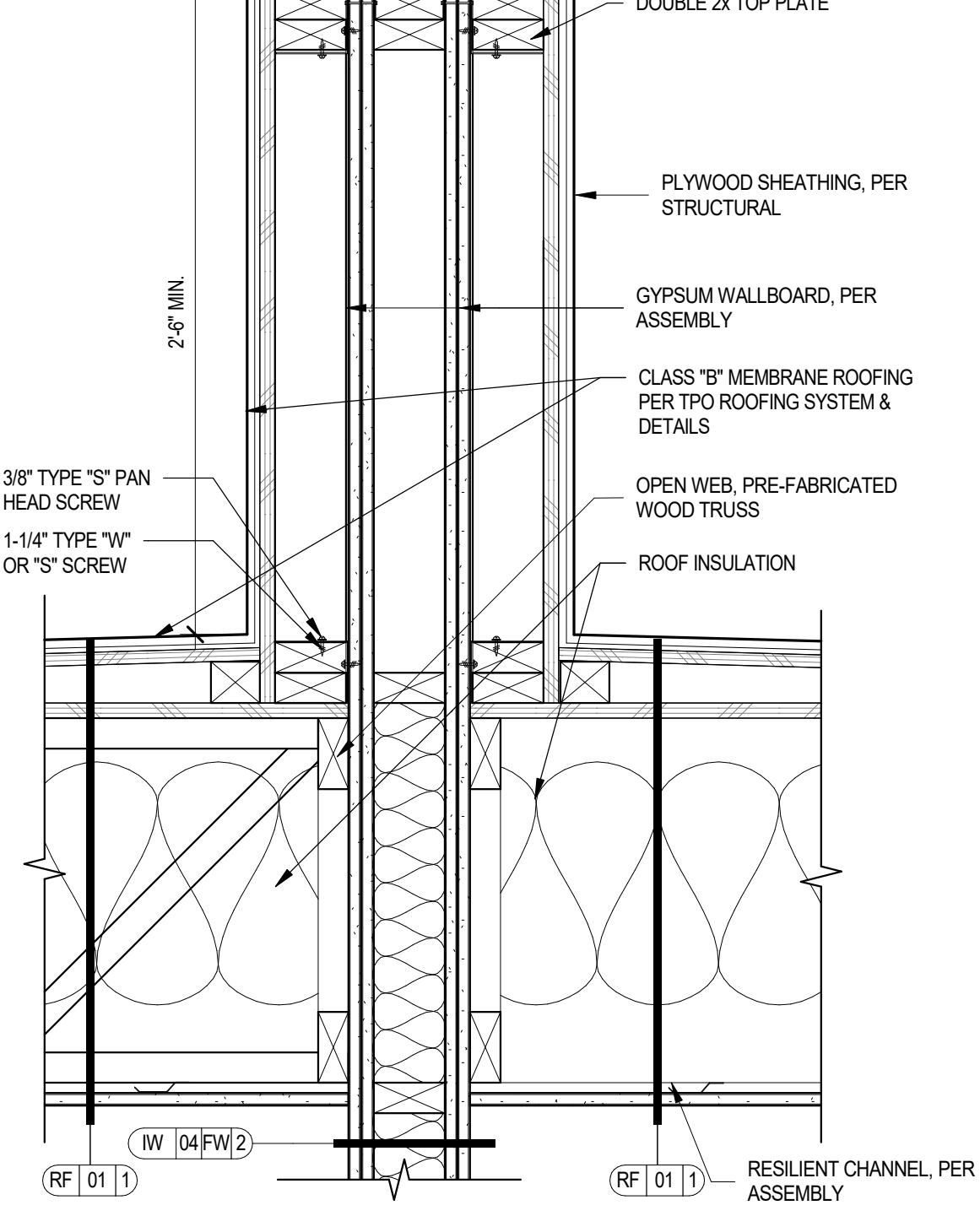
10 2-HR FIRE WALL AT 1-HR ROOF/CEILING AT CRICKET SCALE: 1 1/2" = 1'-0"



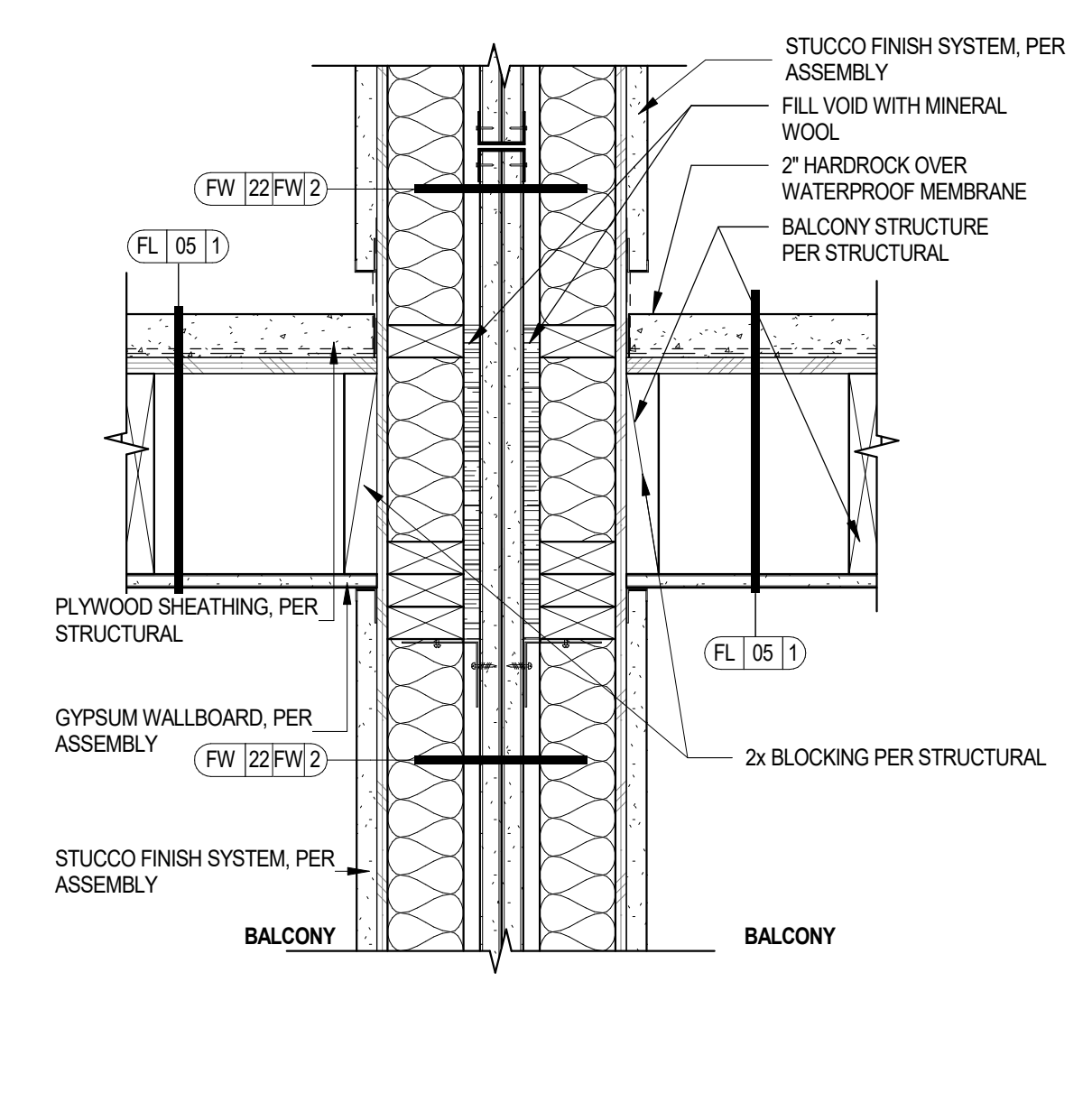
06 2-HR FIRE WALL AT 1-HR FLOOR / CEILING PERPENDICULAR TO FLOOR TRUSSES SCALE: 1 1/2" = 1'-0"



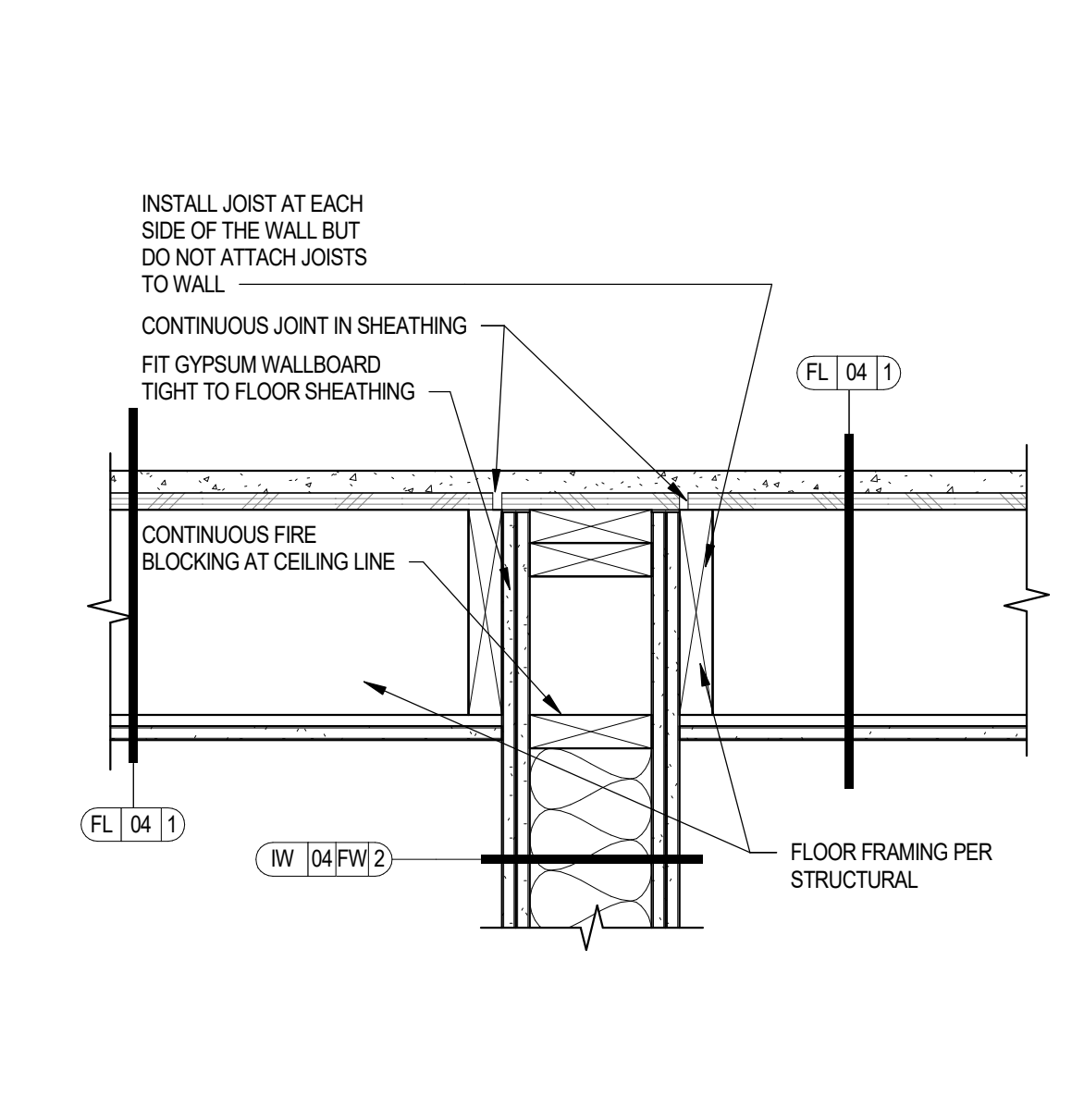
02 2-HR FIRE WALL AT 1-HR FLOOR / CEILING PARALLEL TO FLOOR TRUSSES SCALE: 1 1/2" = 1'-0"



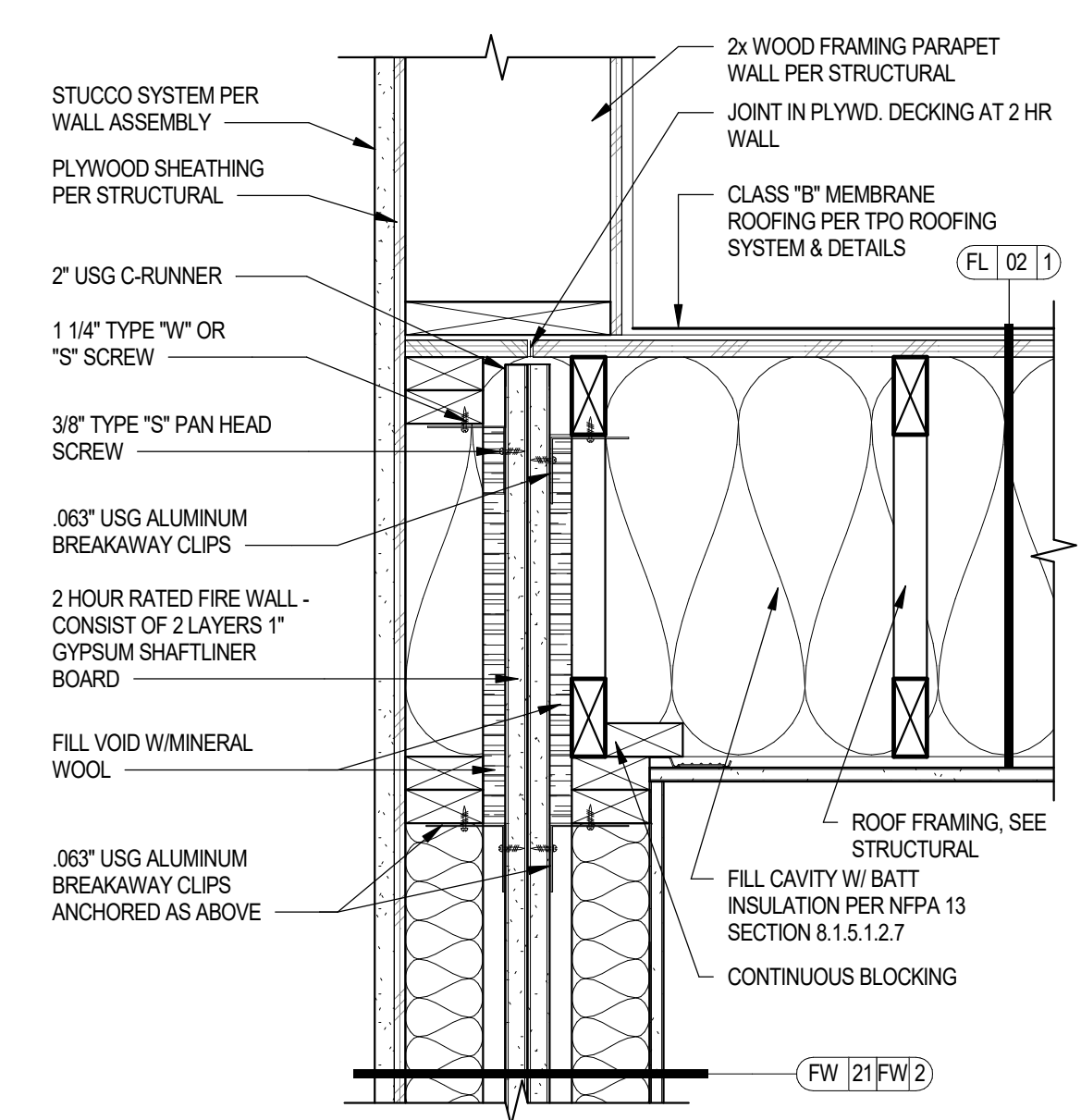
23 2-HR FIRE WALL EXTENSION THROUGH 1 HR ROOF SCALE: 1 1/2" = 1'-0"



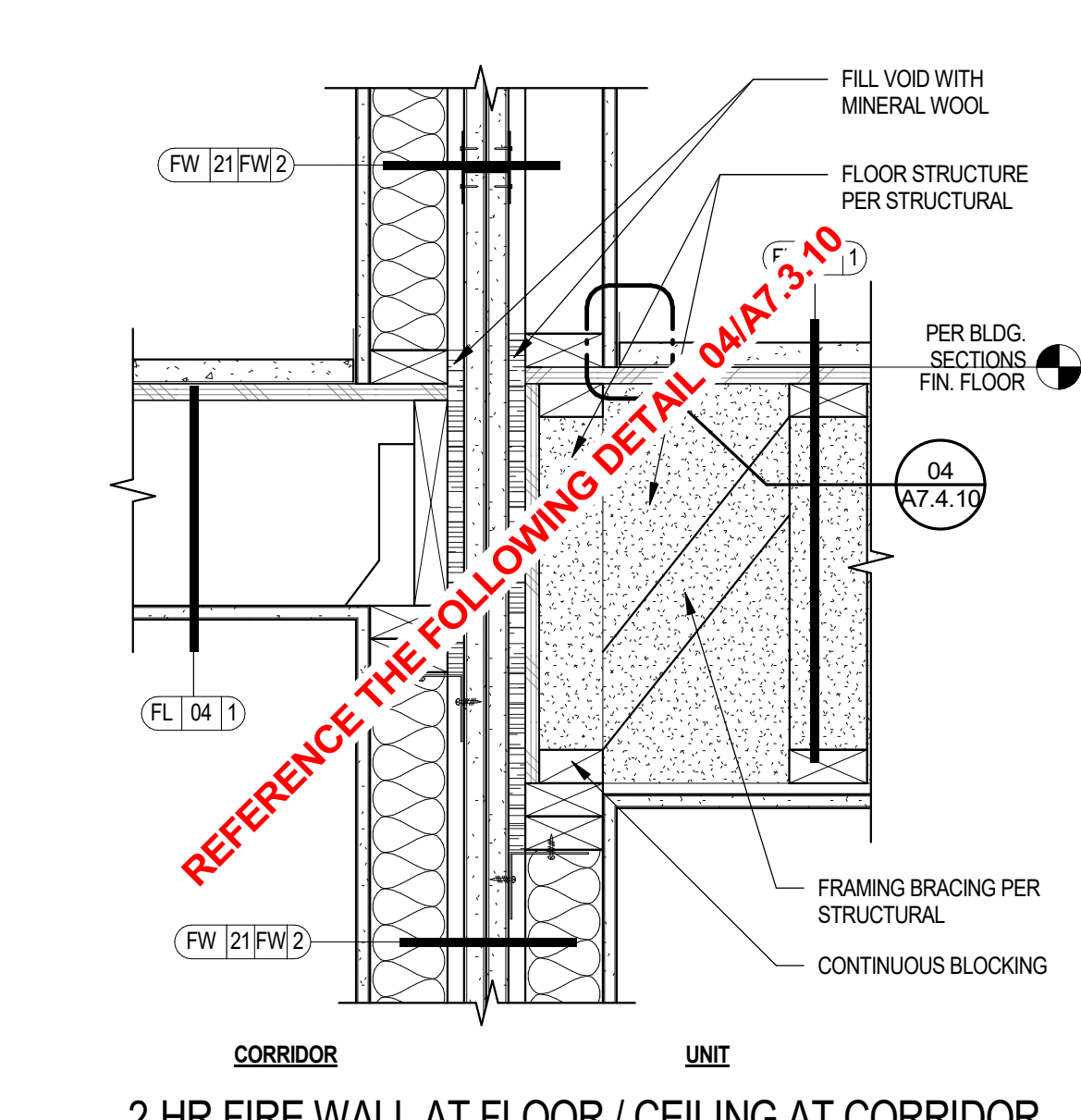
19 2-HR FIRE WALL AT BALCONY SCALE: 1 1/2" = 1'-0"



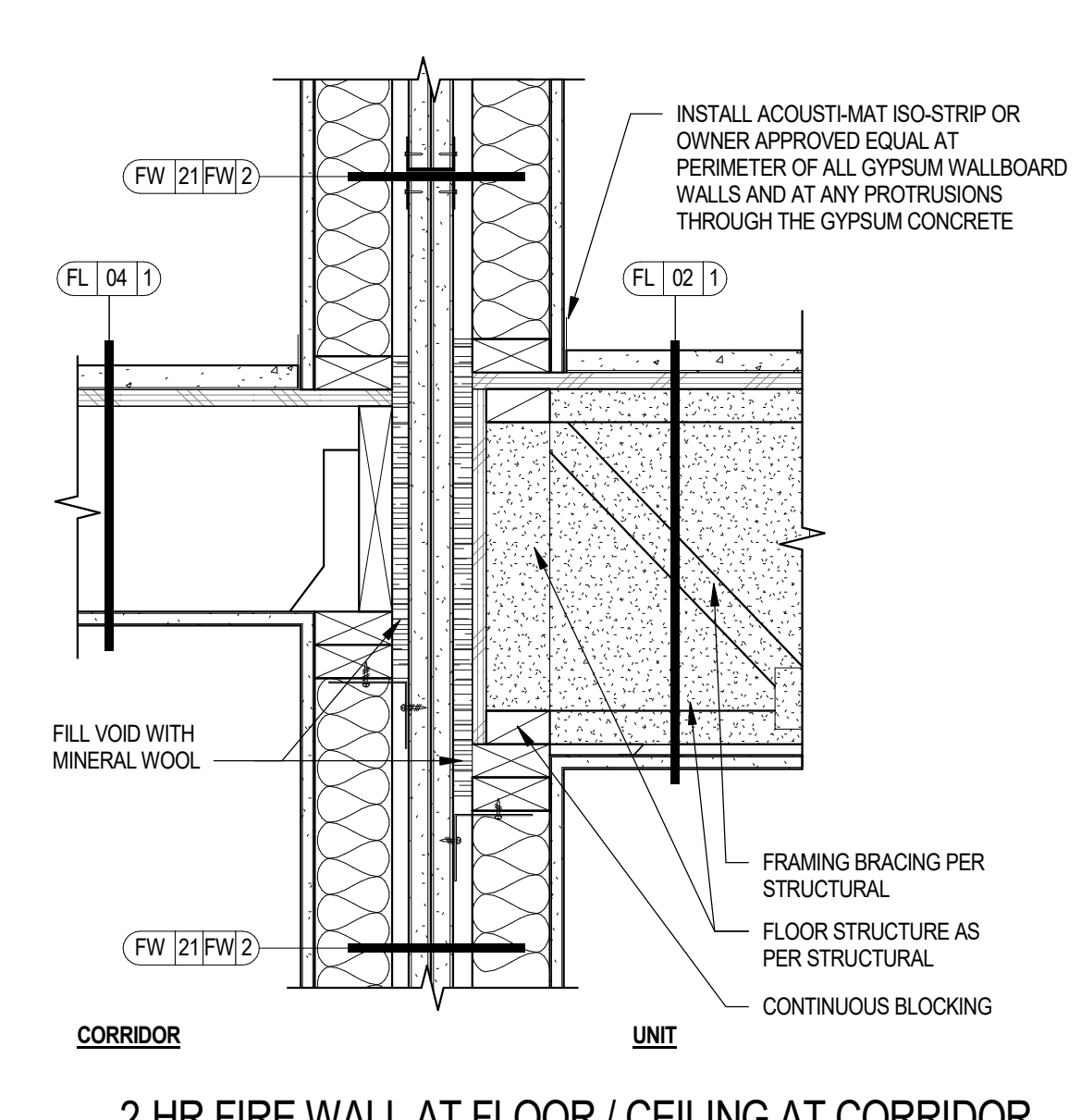
15 2-HR FIRE WALL AT 1-HR CORRIDOR FLOOR / CEILING SCALE: 1 1/2" = 1'-0"



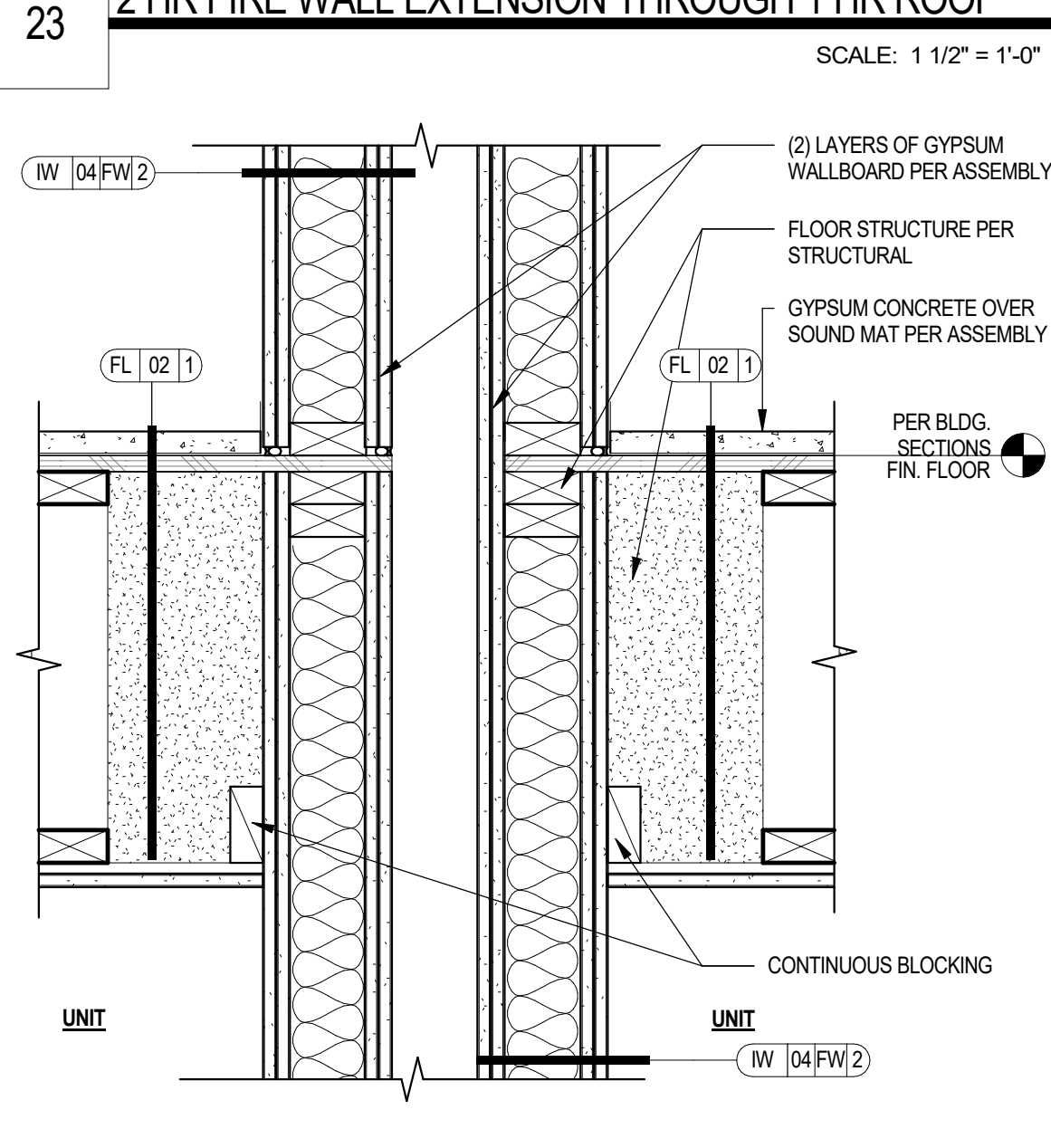
11 2-HR FIRE WALL EXTERIOR AT 1-HR ROOF/CEILING SCALE: 1 1/2" = 1'-0"



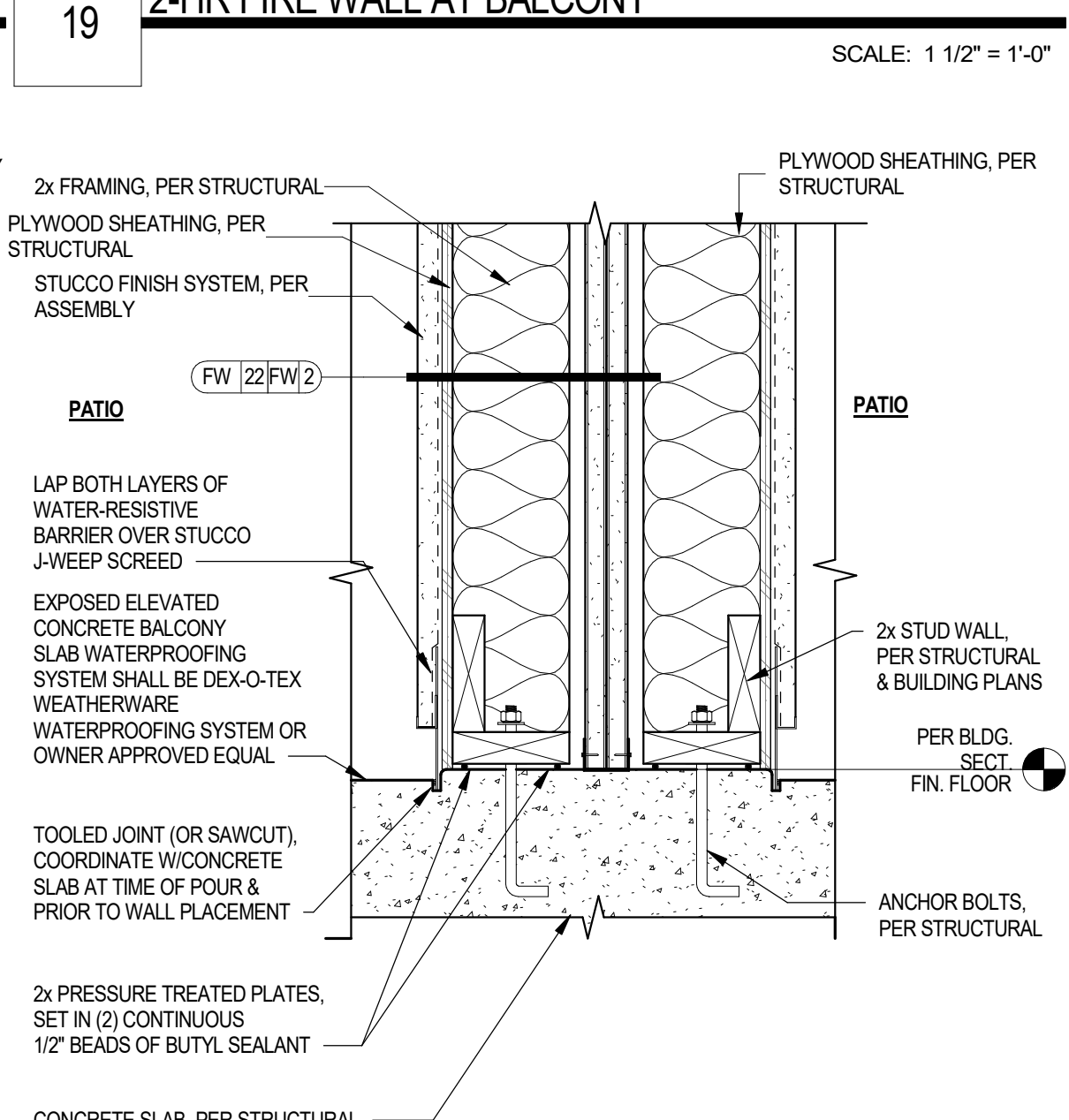
07 2-HR FIRE WALL AT FLOOR / CEILING AT CORRIDOR PERPENDICULAR FLOOR TRUSSES SCALE: 1 1/2" = 1'-0"



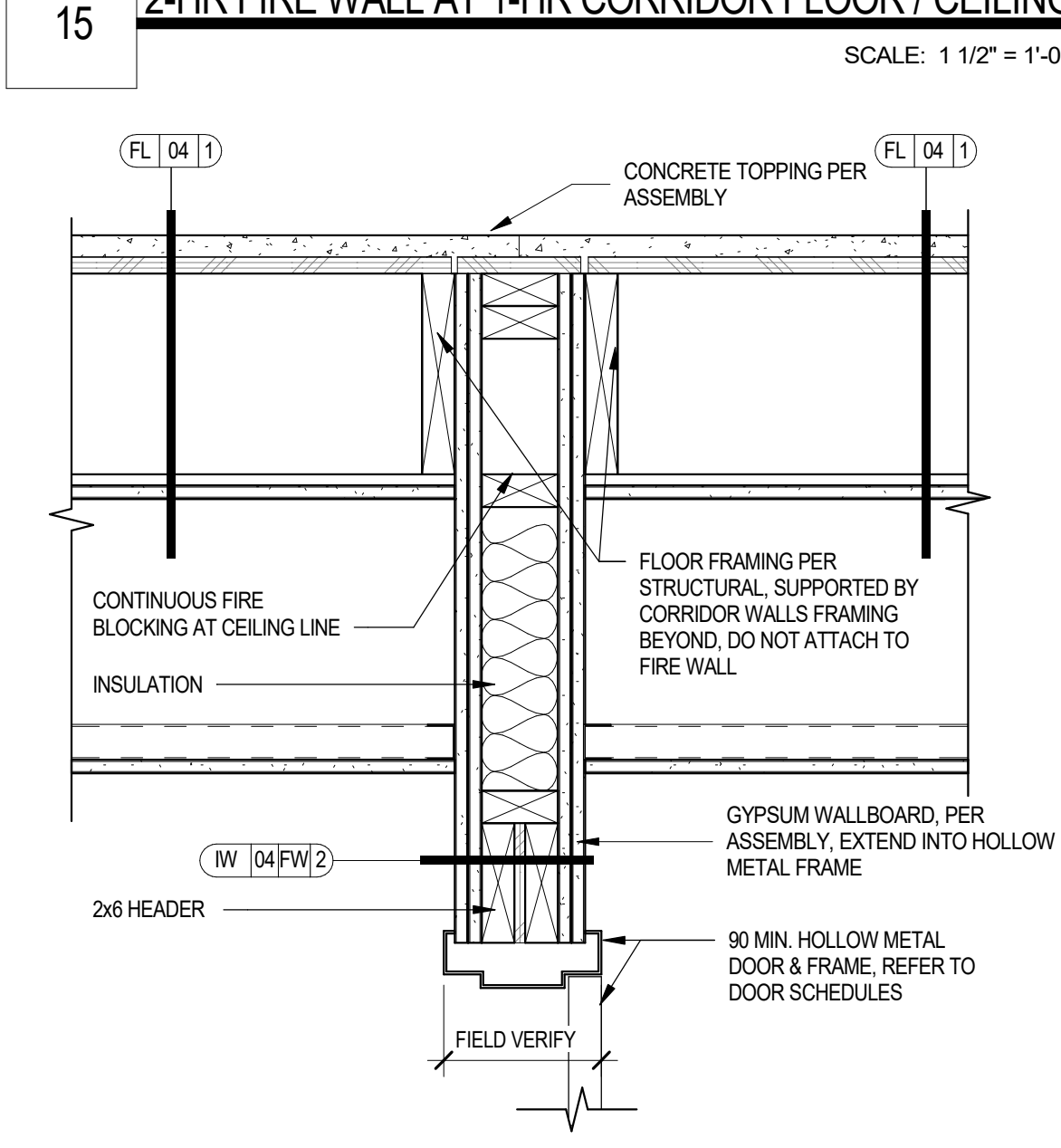
03 2-HR FIRE WALL AT FLOOR / CEILING AT CORRIDOR PARALLEL FLOOR TRUSSES SCALE: 1 1/2" = 1'-0"



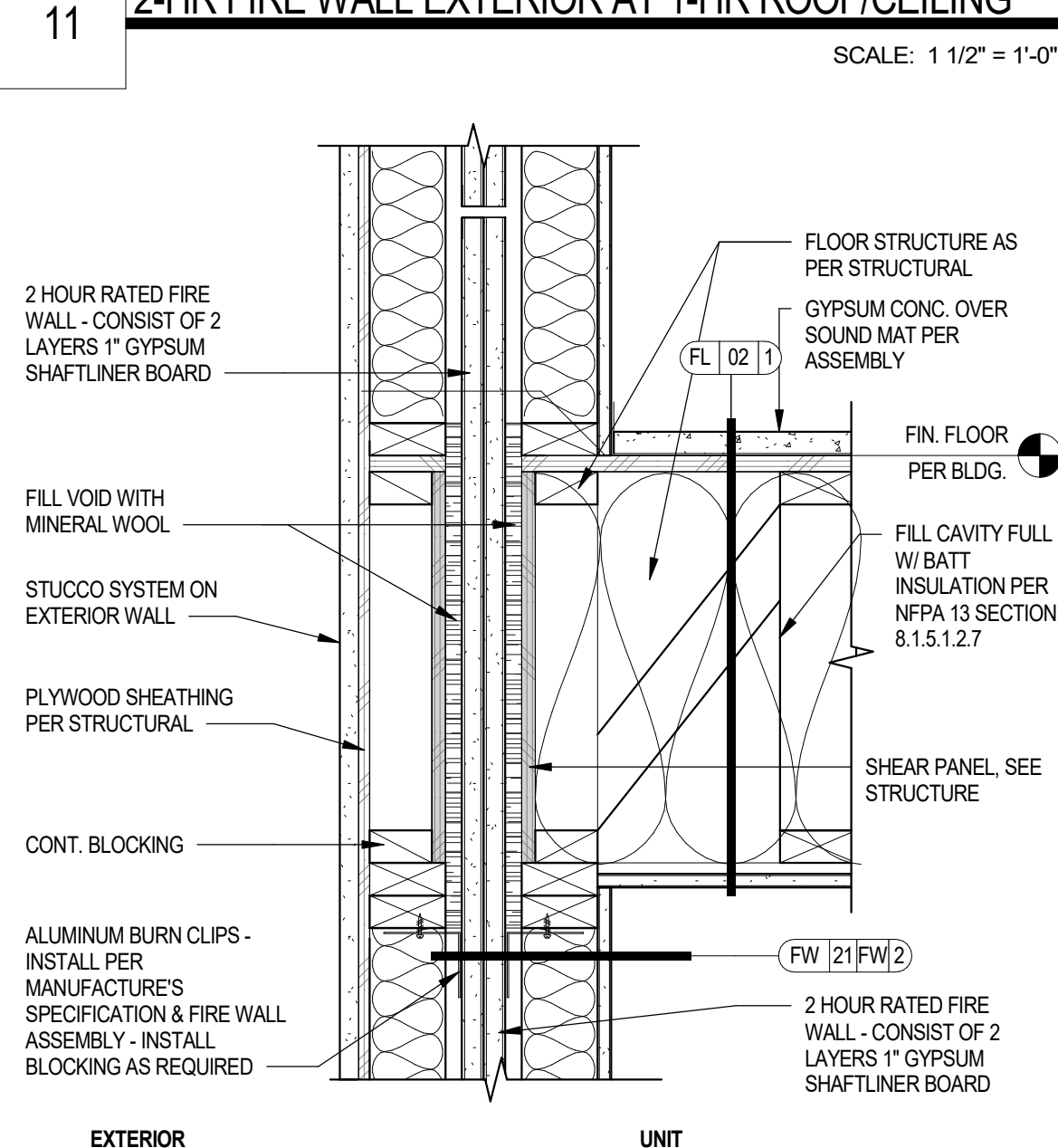
24 2-HR FIRE WALL AT 1-HR FLOOR / CEILING PARALLEL TO FLOOR TRUSSES SCALE: 1 1/2" = 1'-0"



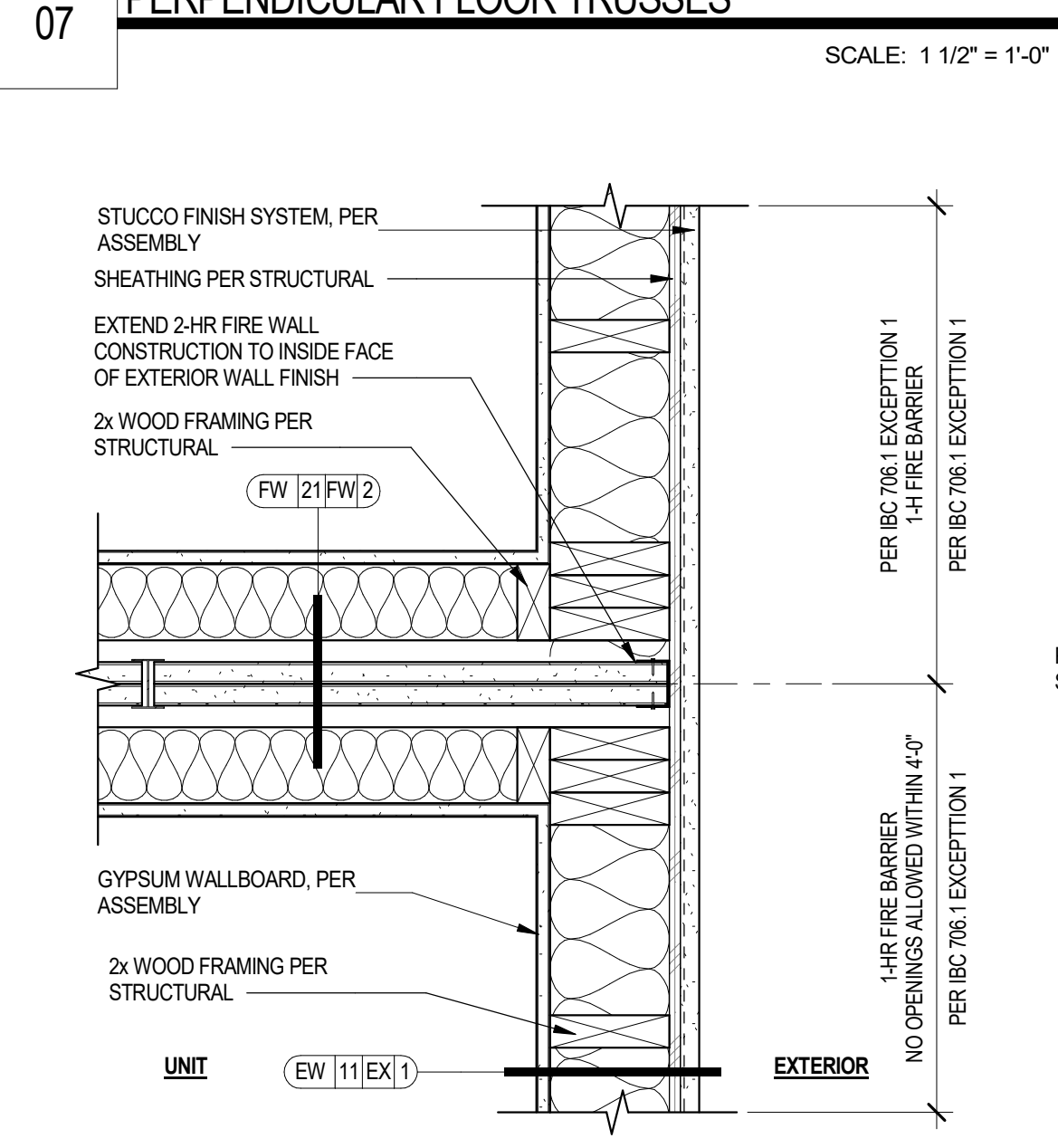
20 2-HR FIRE WALL - EXTERIOR SCALE: 1 1/2" = 1'-0"



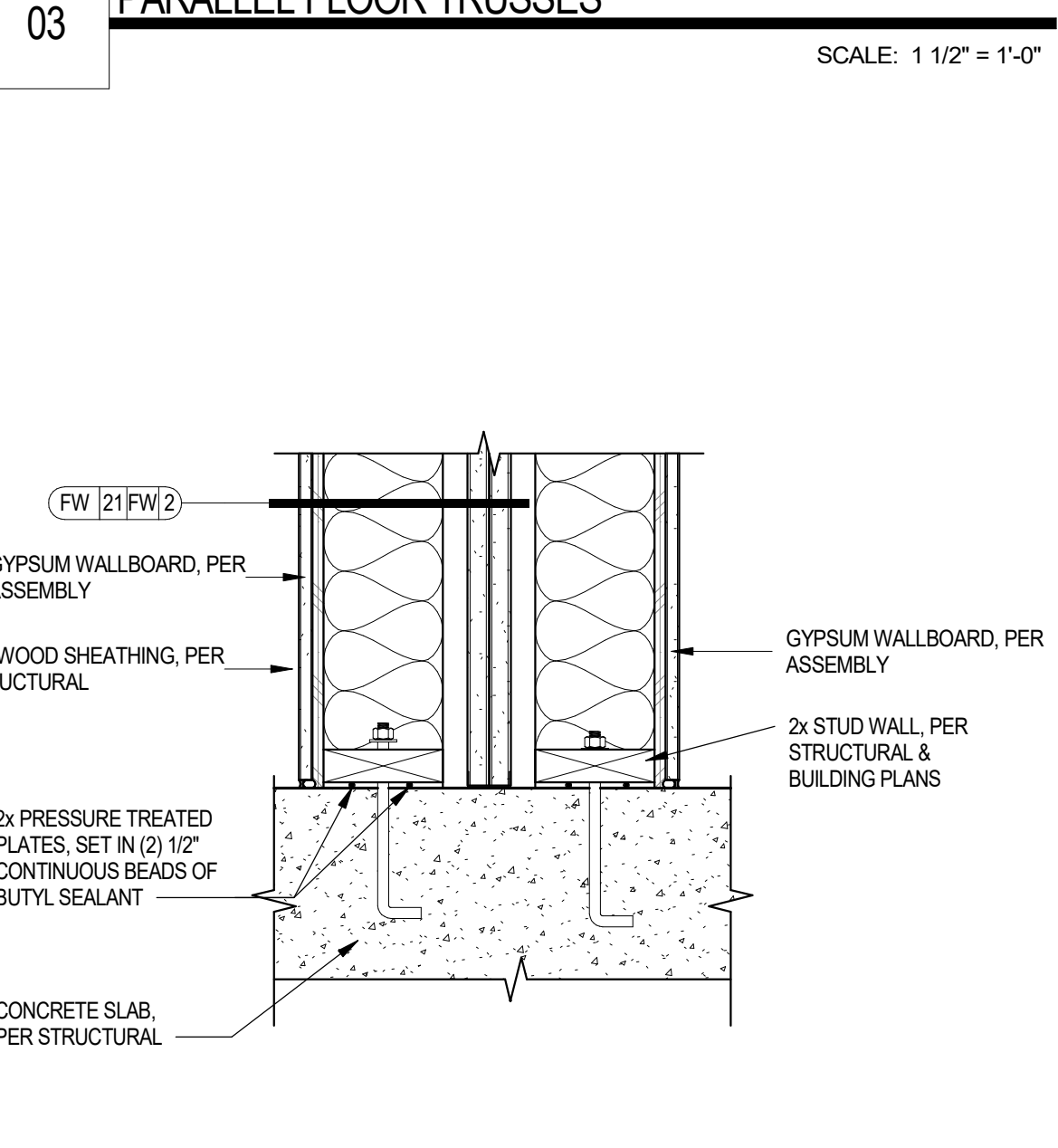
16 HOLLOW METAL DOOR HEAD AT FIRE WALL SCALE: 1 1/2" = 1'-0"



12 2-HR FIRE WALL EXTERIOR AT 1-HR FLOOR / CEILING PARALLEL TO FLOOR TRUSSES SCALE: 1 1/2" = 1'-0"



08 2-HR FIRE WALL TERMINATION AT EXTERIOR WALL - PLAN VIEW SCALE: 1 1/2" = 1'-0"



04 2-HR FIRE WALL AT SLAB - INTERIOR SCALE: 1 1/2" = 1'-0"

Project Name 1
Project Name 2
Street Address
City, state
Office of Rich Barber Architecture, LLC
ORB
WorldHQ@ORBArch.com

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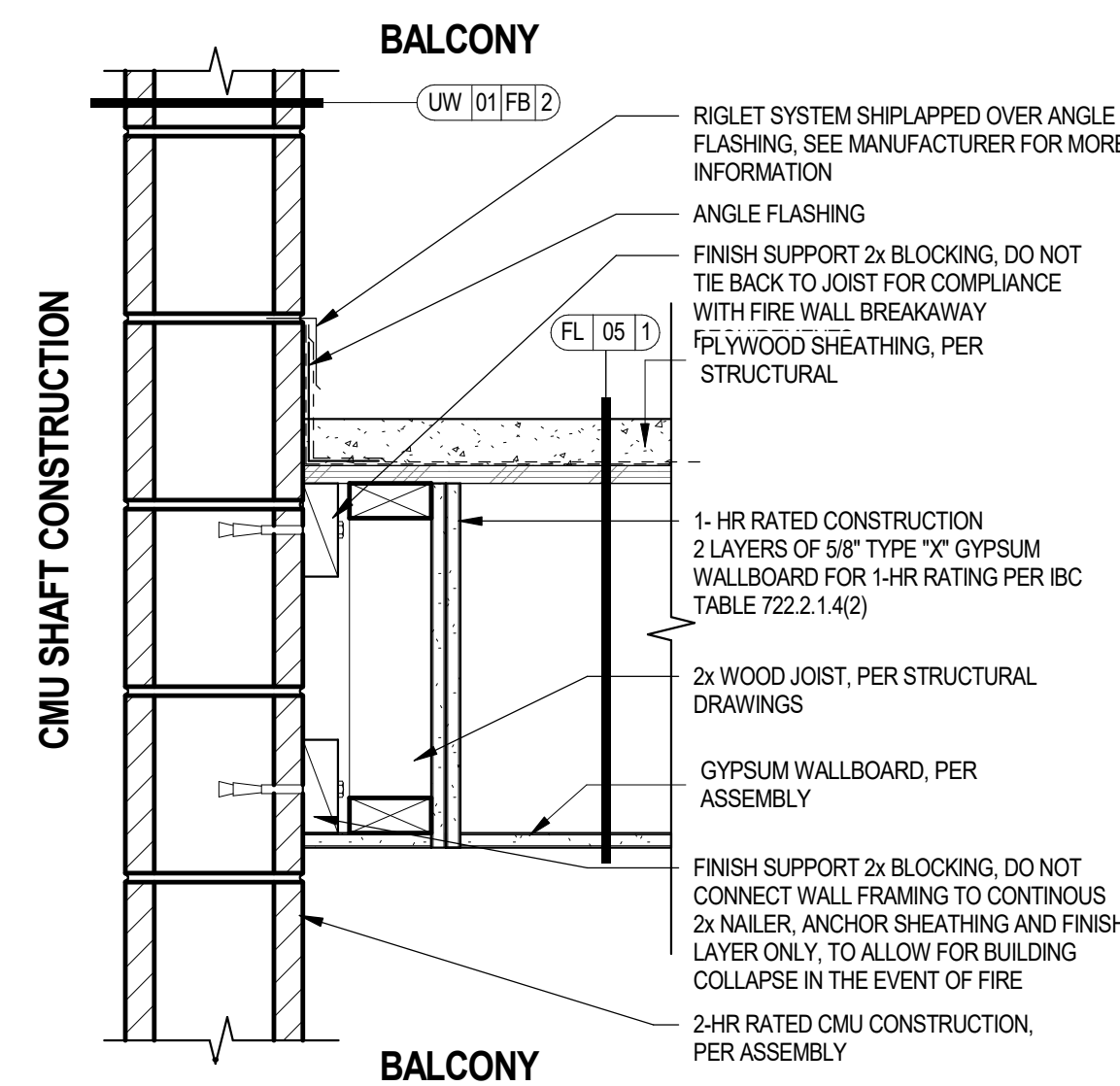
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This contract shall (only when) the owner to require the submission of bills or estimates in billing cycles other than thirty days. (This contract may allow the owner to make payment on some alternative schedule other than thirty days and approved in writing by the Architect. A written description of such other billing (estimate) cycle schedule is to be included in the contract. The owner's designated agent is ADVANCE RESIDENTIAL COMPANY, 2505 S. CAMELBACK RD., SUITE 500, PHOENIX, AZ 85016. (602) 778-2800. See the cover or its designated agent shall provide this information to the contractor and the contractor shall provide this information to the contractor and the contractor shall provide this information to the contractor.)

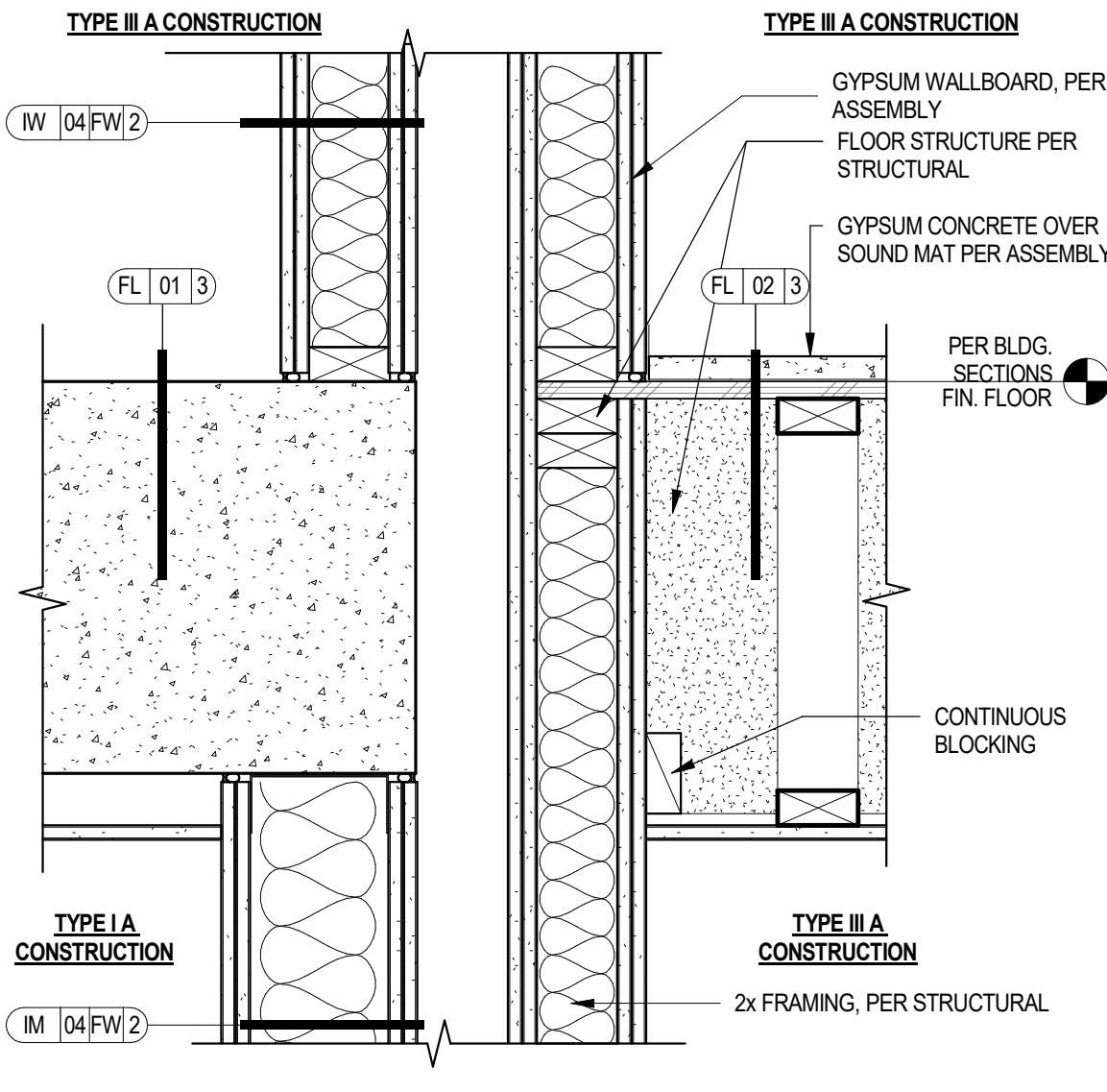
REVISIONS/SUBMITTALS

DATE	DESCRIPTION

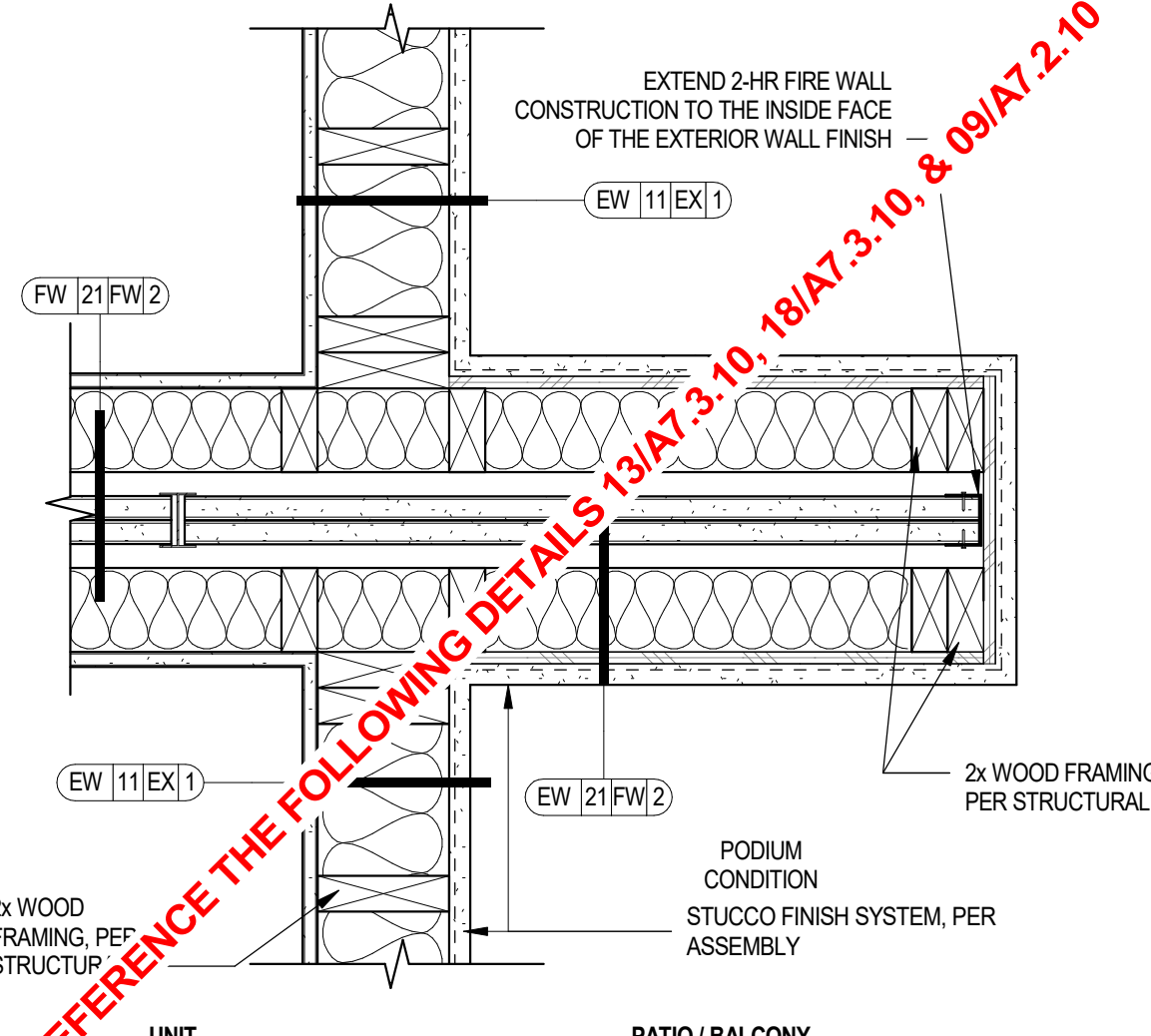
DATE: July 17, 2024 ORB #: 00-000
A7.1.41
FIRE ASSEMBLIES - 2-HR FIRE WALLS
DETAILS



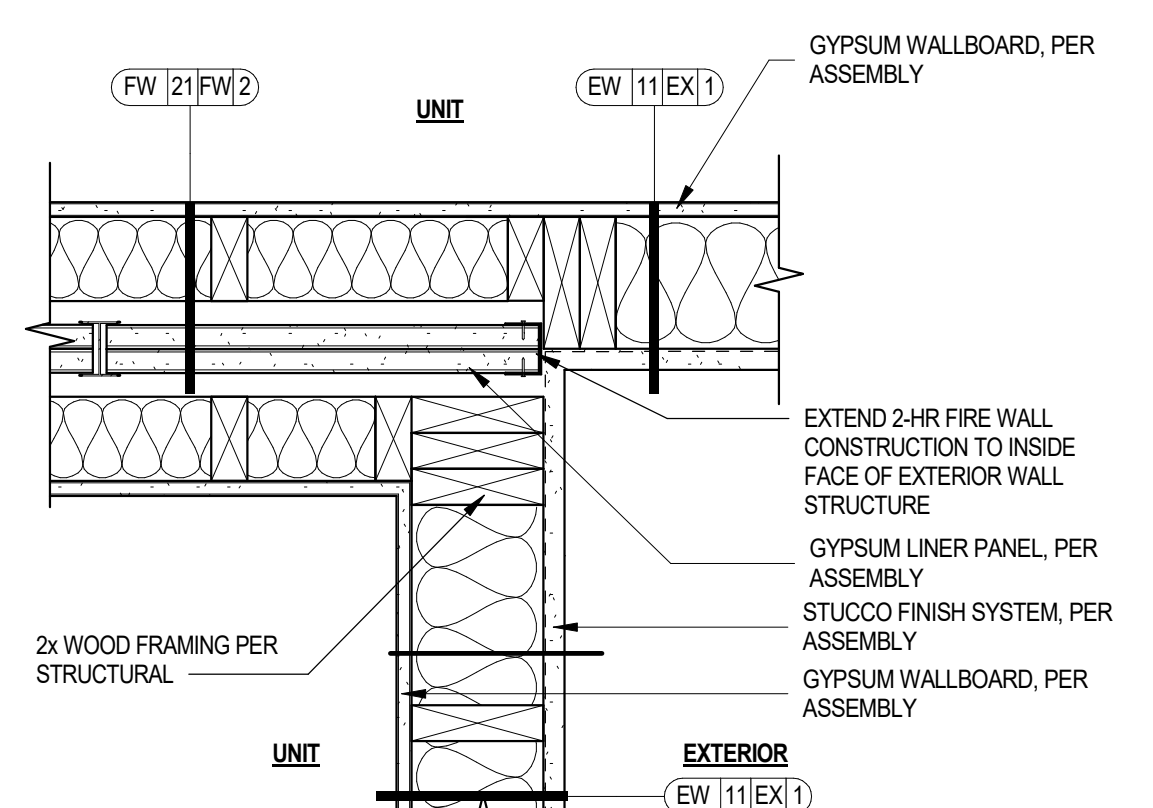
05 2-HR FIRE WALL EXTERIOR TERMINATION AT CMU AND BALCONY CONDITION
SCALE: 1 1/2" = 1'-0"



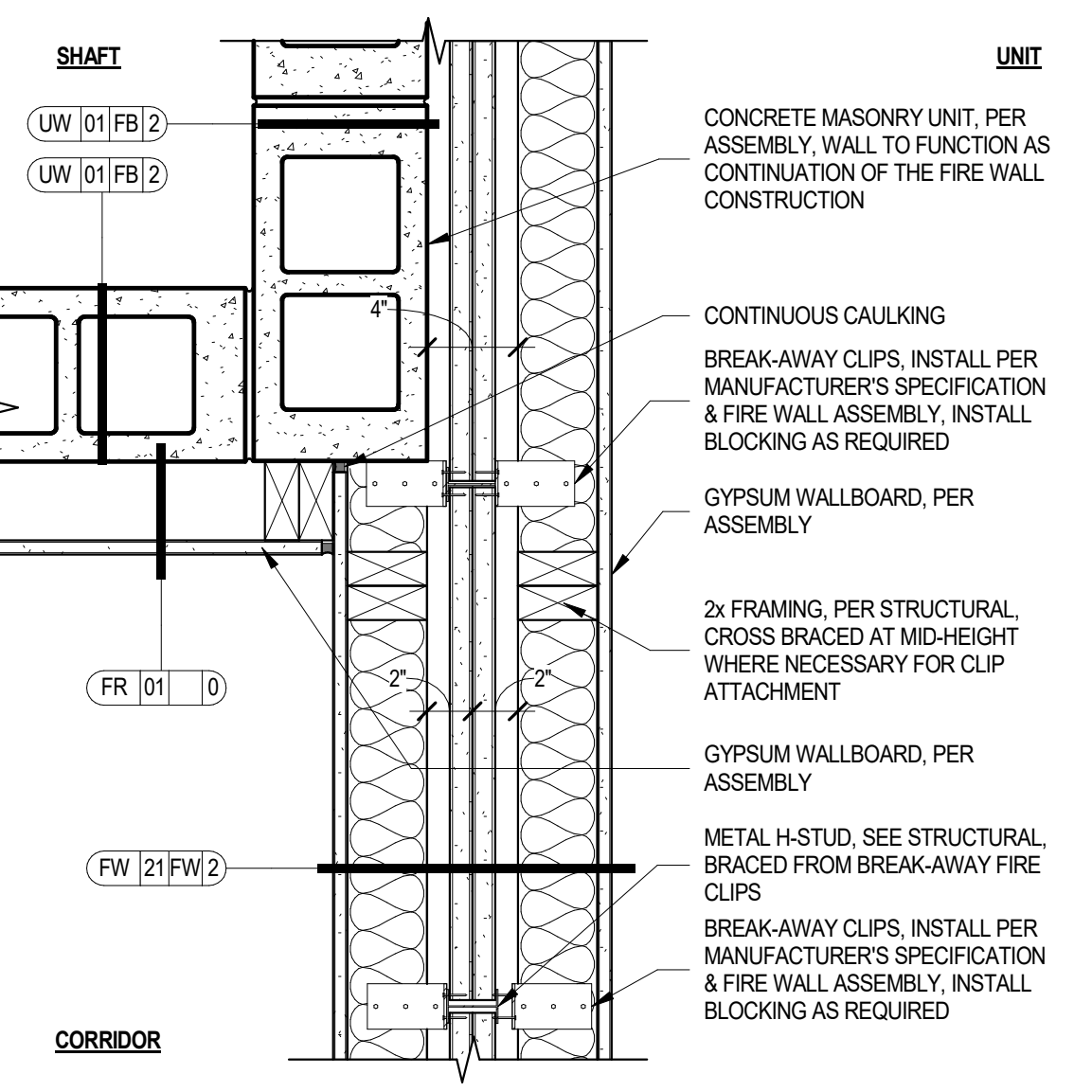
01 2-HR FIRE WALL AT 1-HR FLOOR / CEILING PARALLEL TO FLOOR TRUSSES
SCALE: 1 1/2" = 1'-0"



02 2-HR FIRE WALL AT BALCONY EXTERIOR WALL - PLAN VIEW
SCALE: 1 1/2" = 1'-0"



03 2-HR FIRE WALL TERMINATION AT PATIO / BALCONY - PLAN VIEW
SCALE: 1 1/2" = 1'-0"



04 2-HR FIRE WALL TERMINATION AT CMU SHAFT - PLAN VIEW
SCALE: 1 1/2" = 1'-0"

Project Name 1
Project Name 2
Street Address
City, state

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ORB
Architecture, LLC
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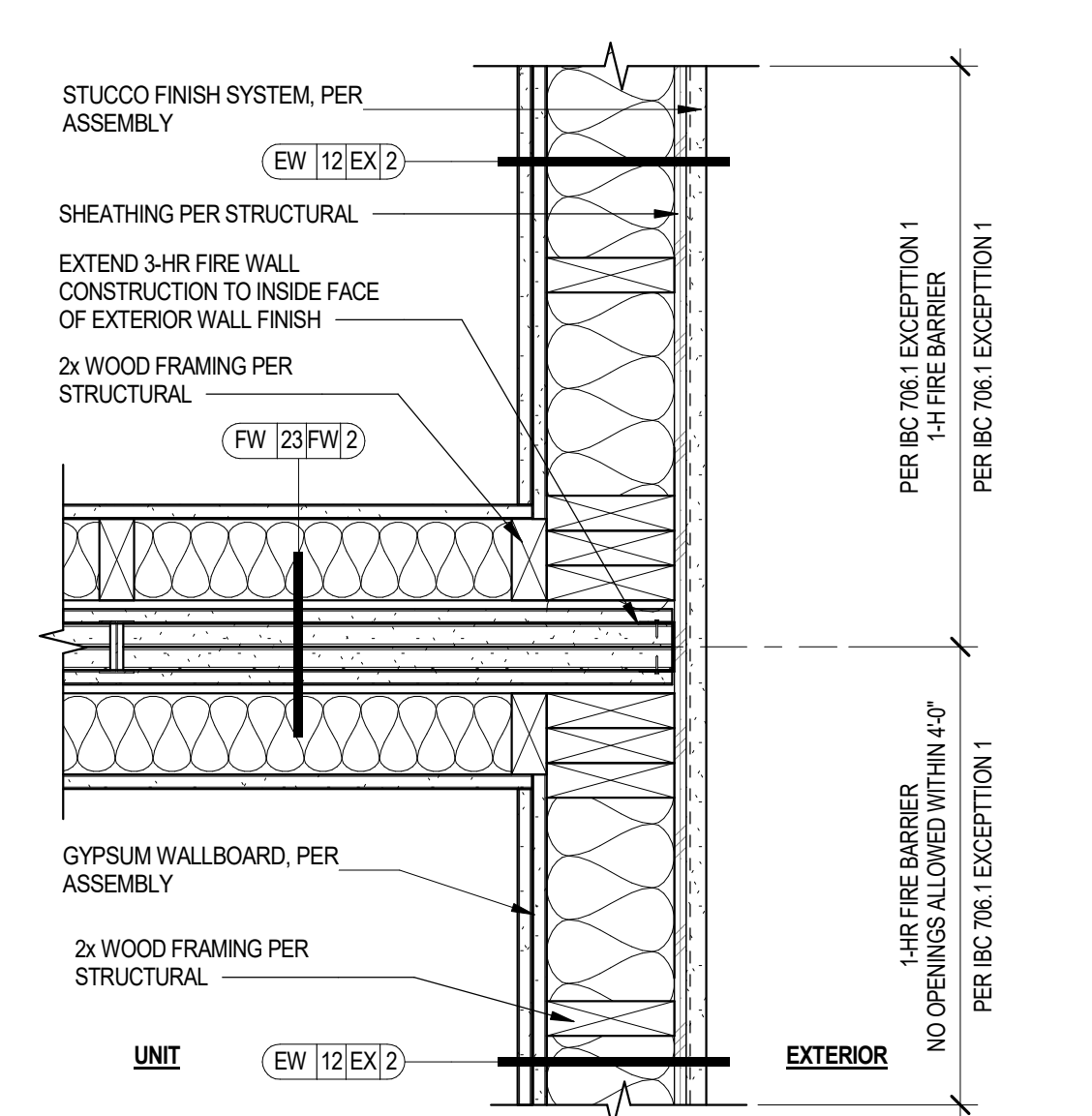
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ADVANCE RESIDENTIAL COMPANY
2525 E. CAMELBACK RD., SUITE 500, PHOENIX, AZ 85016
(602) 778-2822
Ask the owner or his designated agent shall provide this written description of payment.

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DATE DESCRIPTION

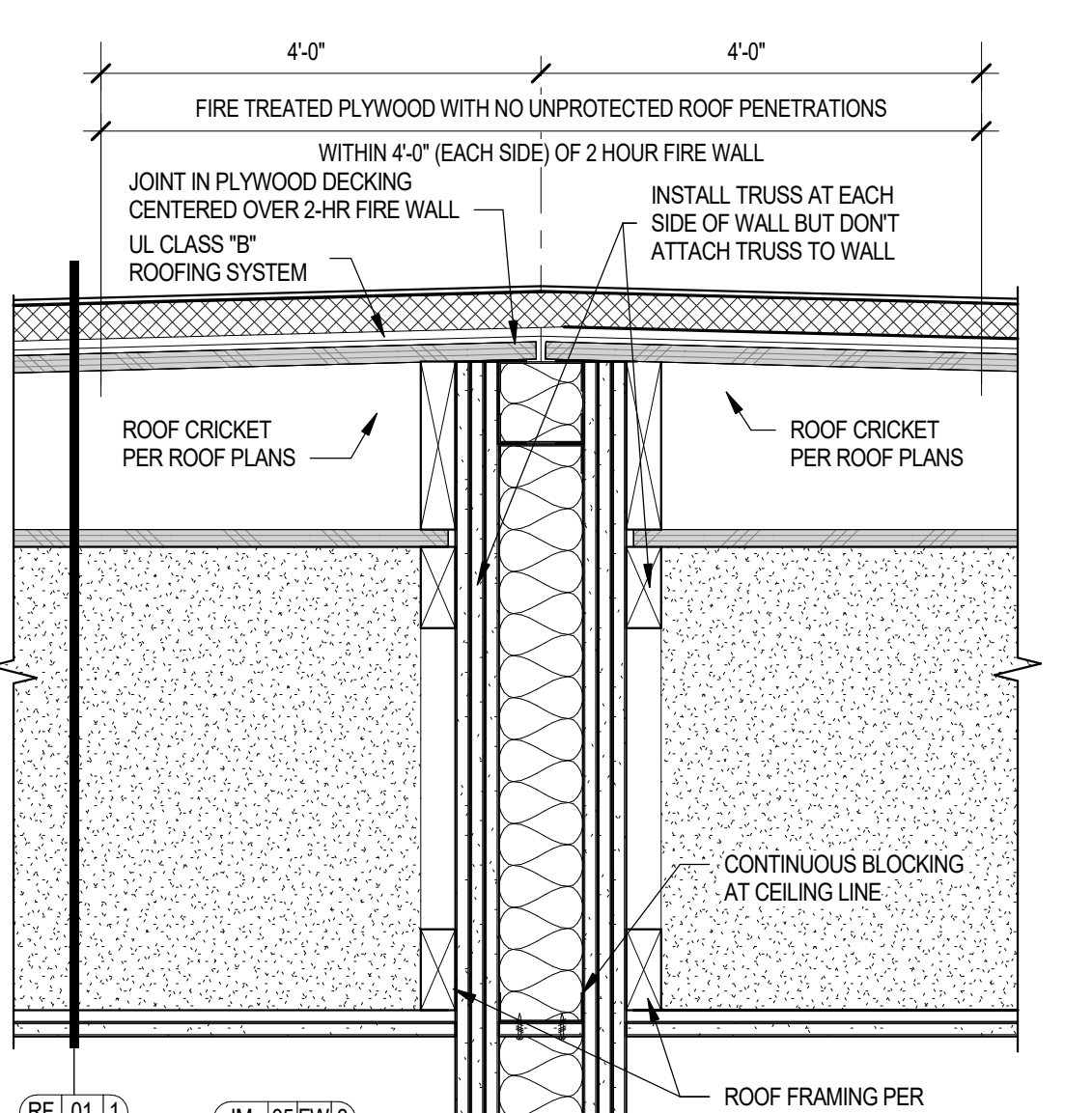
DATE: July 17, 2024 ORB #: 00-000

A7.1.42
FIRE ASSEMBLIES - 2-HR FIRE WALLS
DETAILS

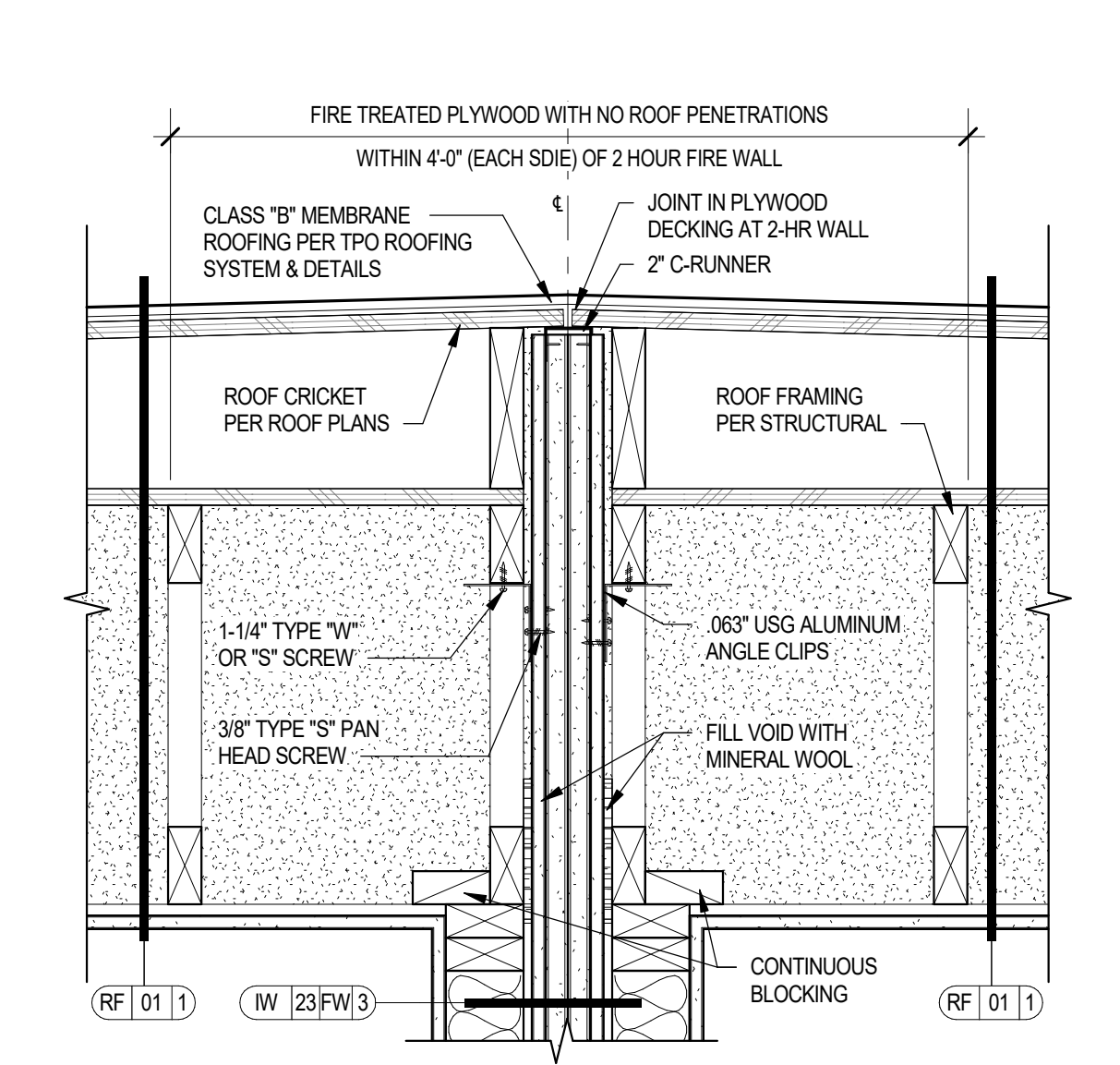
7/17/2024 9:55:41 AM
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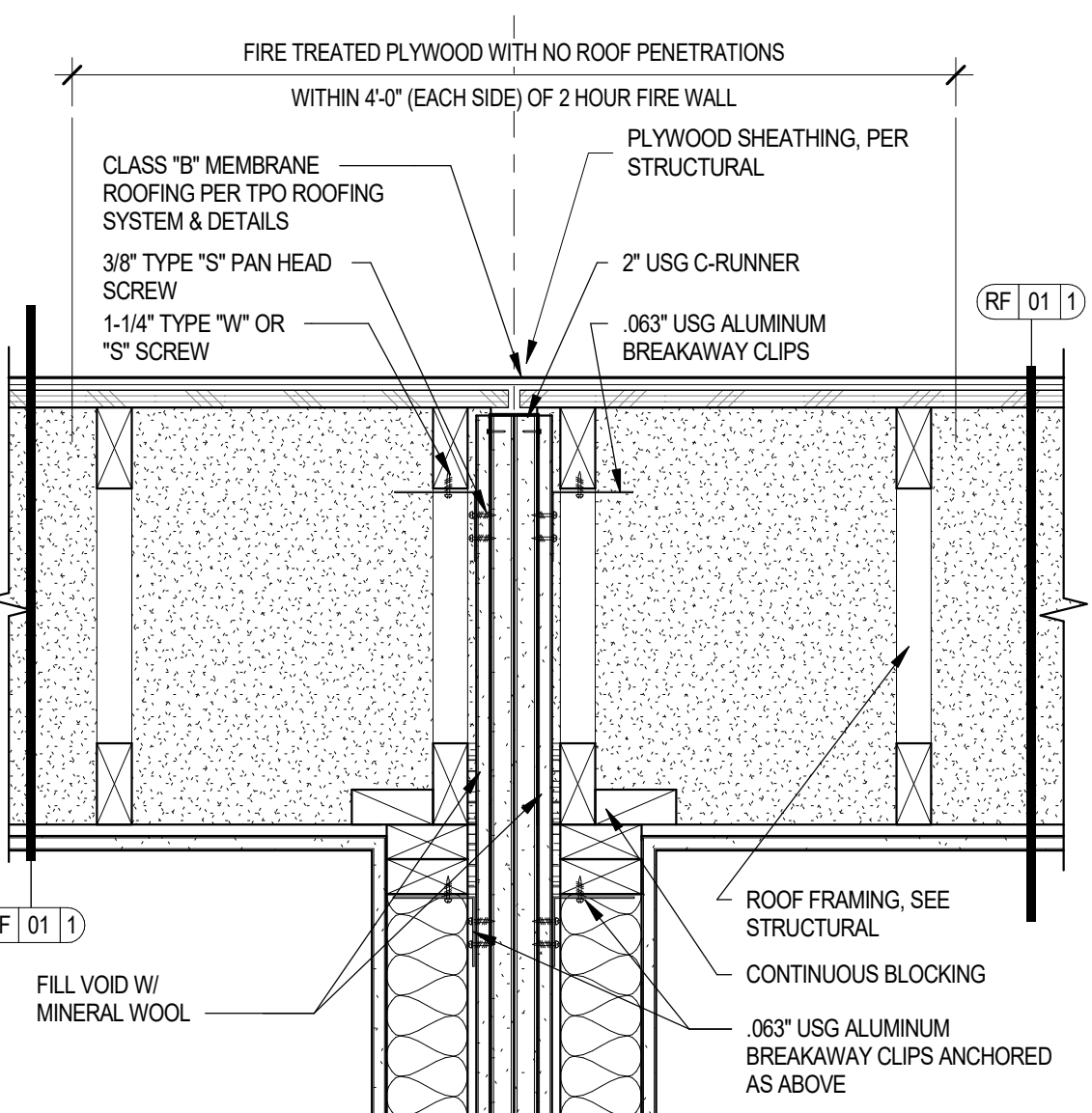
21 3-HR FIRE WALL TERMINATION AT 2-HR EXTERIOR WALL - PLAN VIEW
SCALE: 1 1/2" = 1'-0"



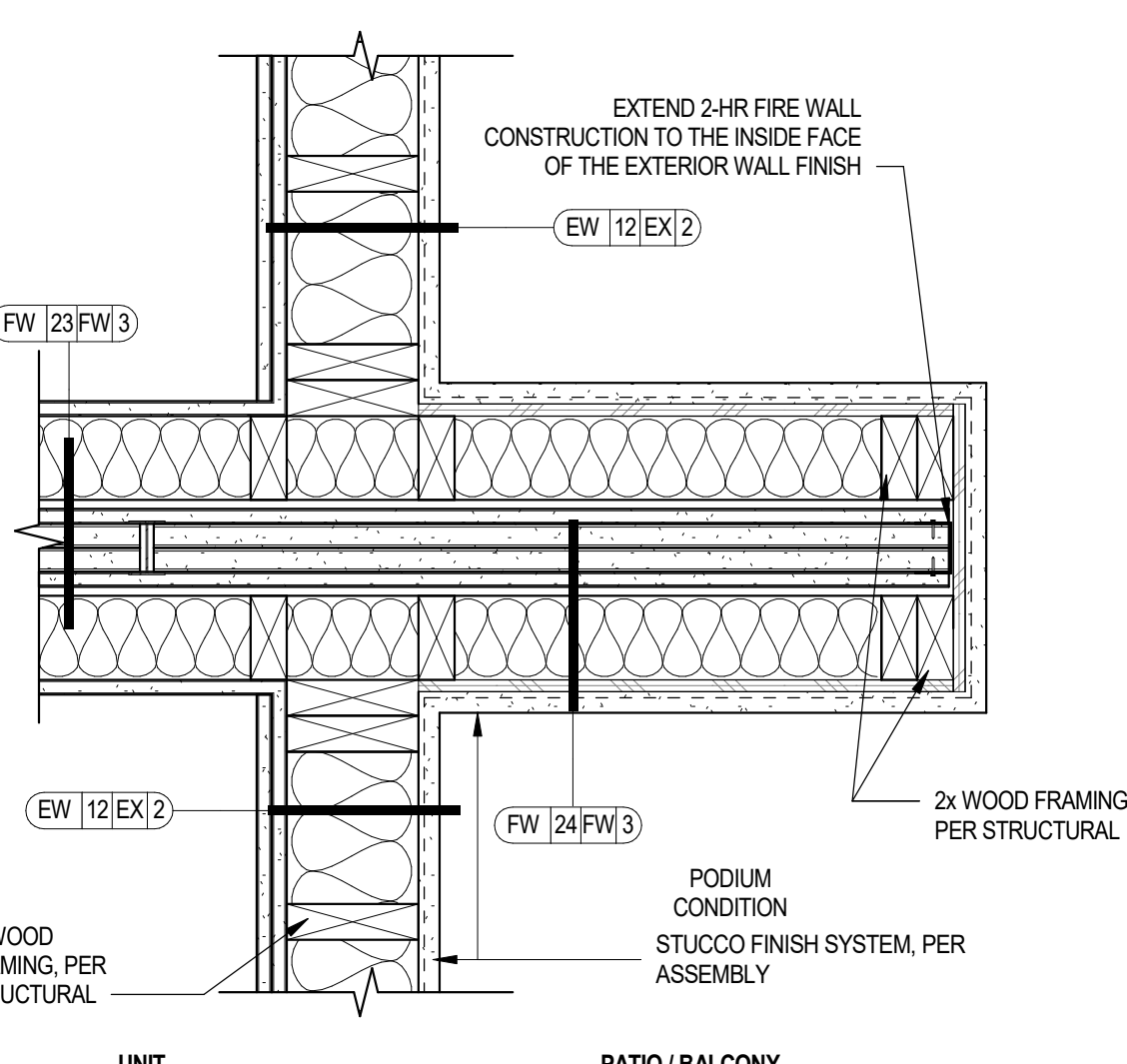
17 3-HR FIRE WALL (MTL. FRAME) AT 1-HR ROOF/CEILING AT CRICKET - AT SPRAYFOAM ROOFING SYSTEM
SCALE: 1 1/2" = 1'-0"



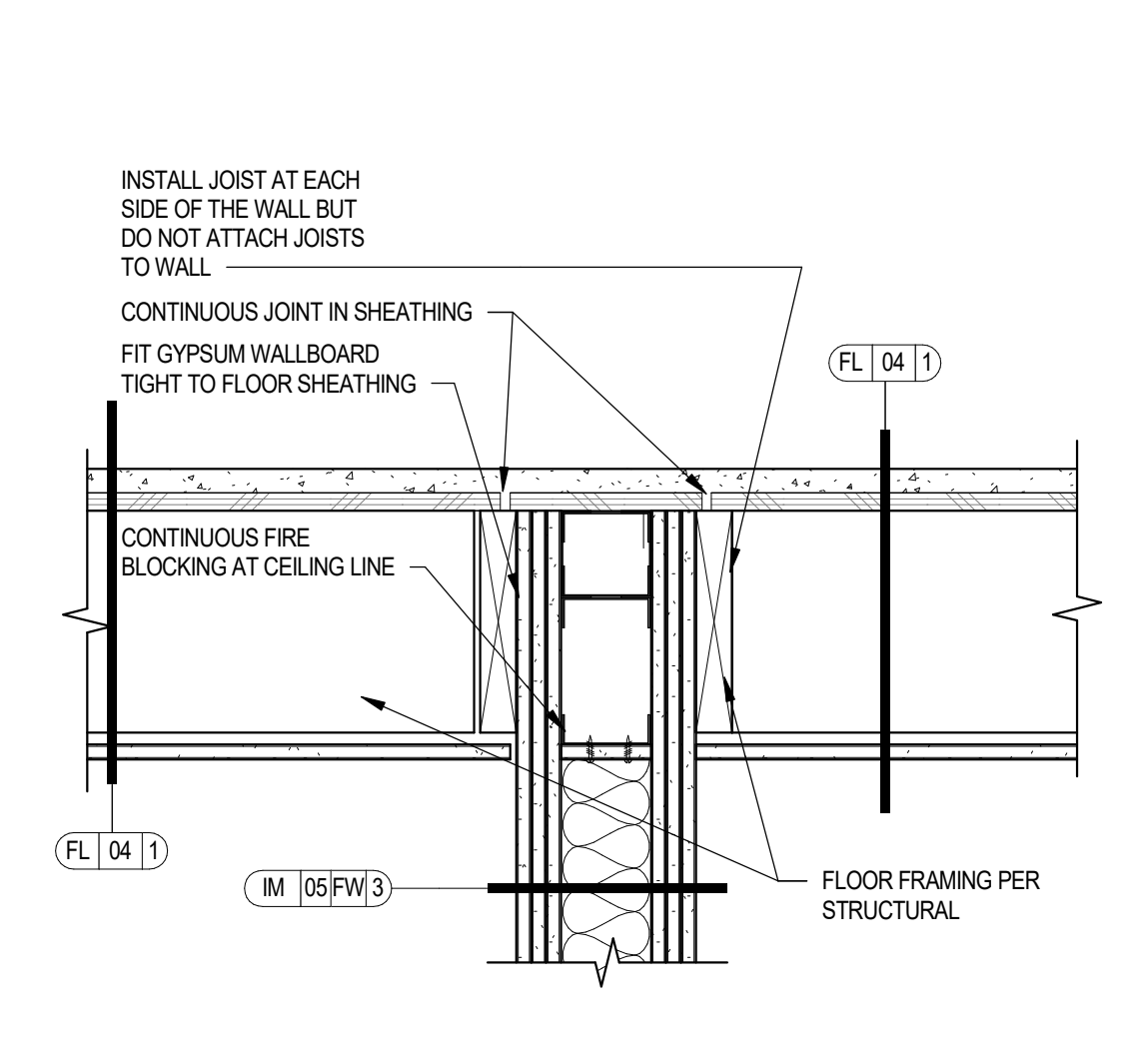
13 3-HR FIRE WALL AT 1-HR ROOF/CEILING AT CRICKET
SCALE: 1 1/2" = 1'-0"



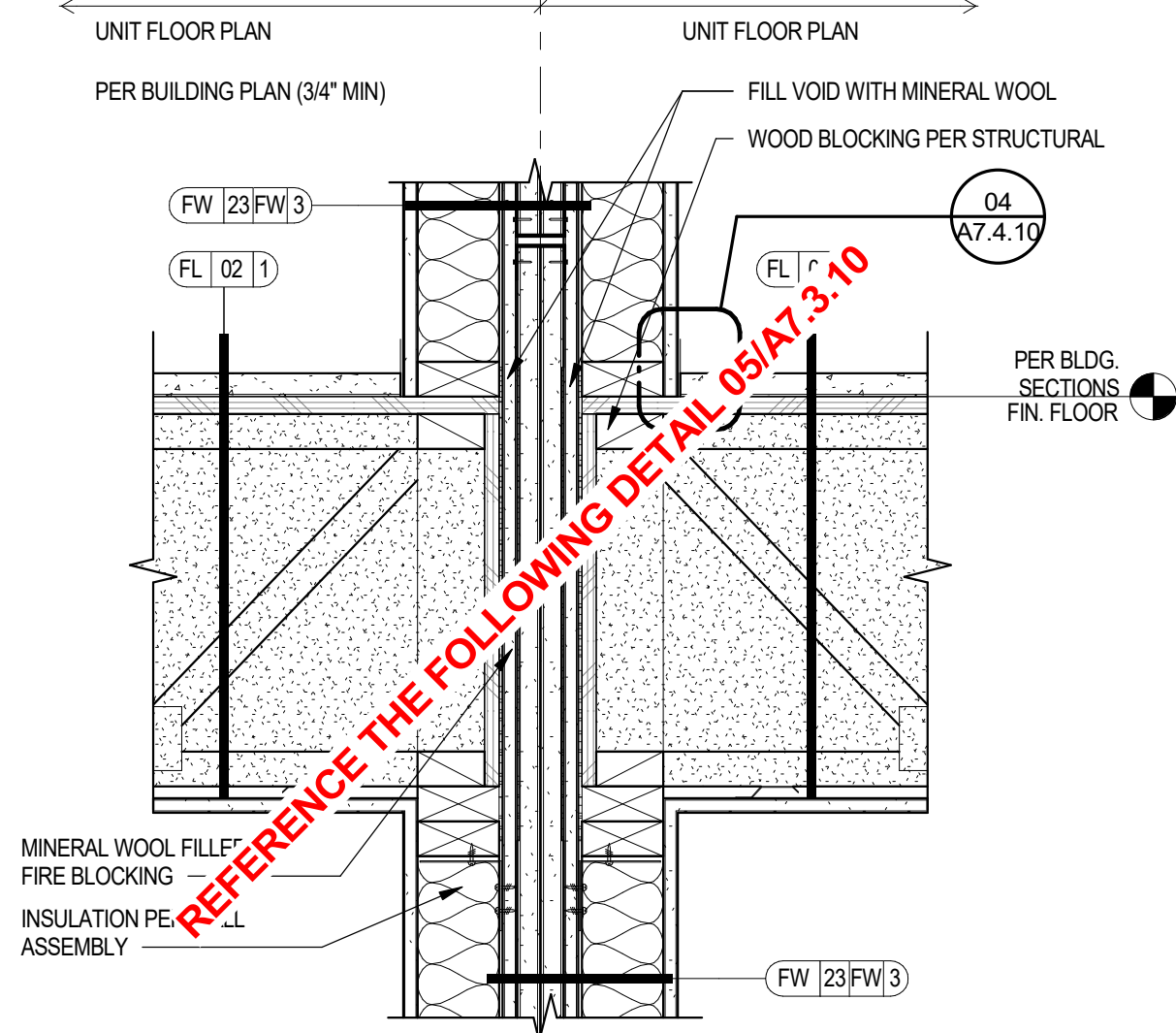
09 3-HR FIRE WALL AT 1-HR ROOF/CEILING
SCALE: 1 1/2" = 1'-0"



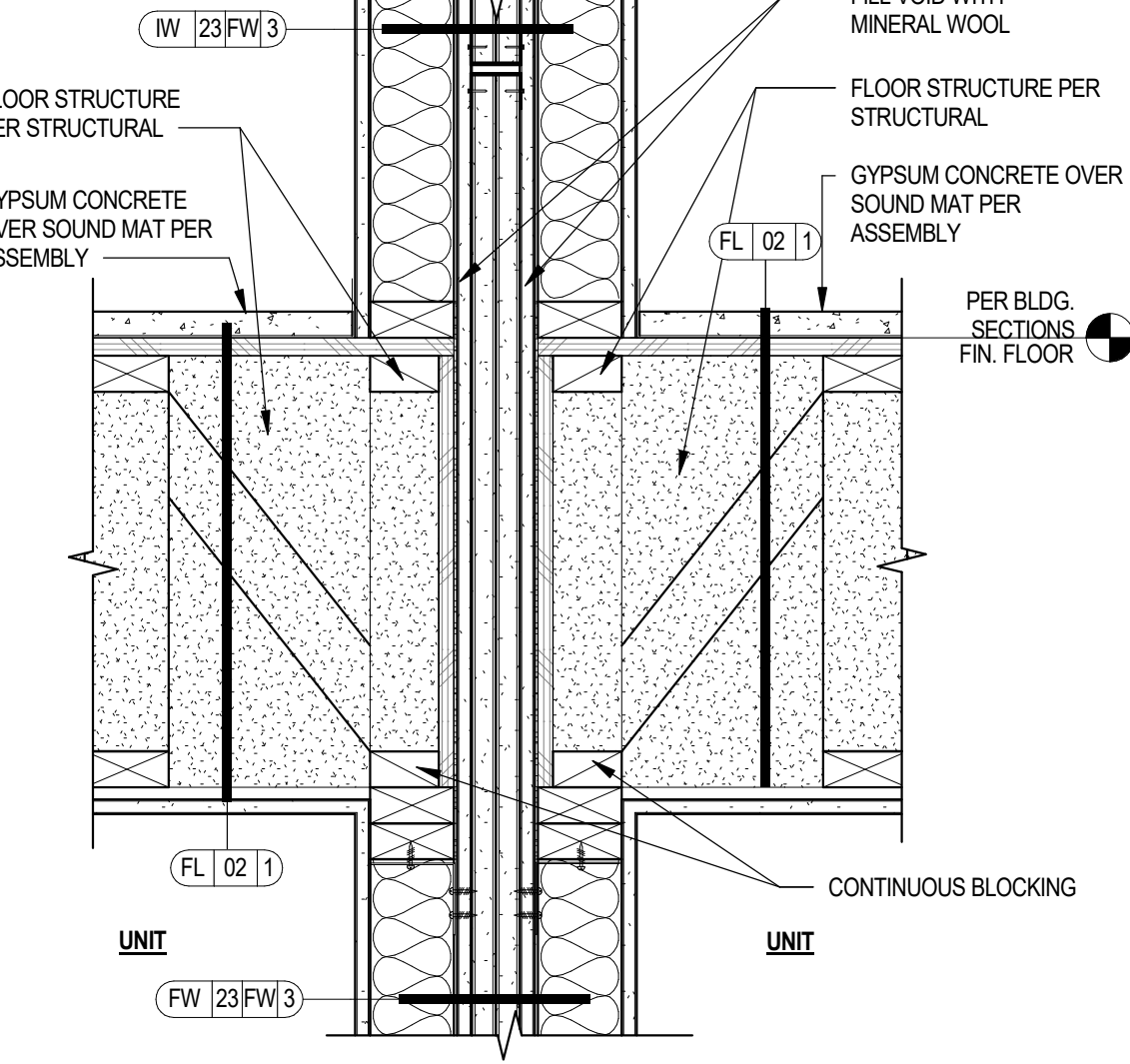
22 3-HR FIRE WALL AT BALCONY EXTERIOR WALL - PLAN VIEW
SCALE: 1 1/2" = 1'-0"



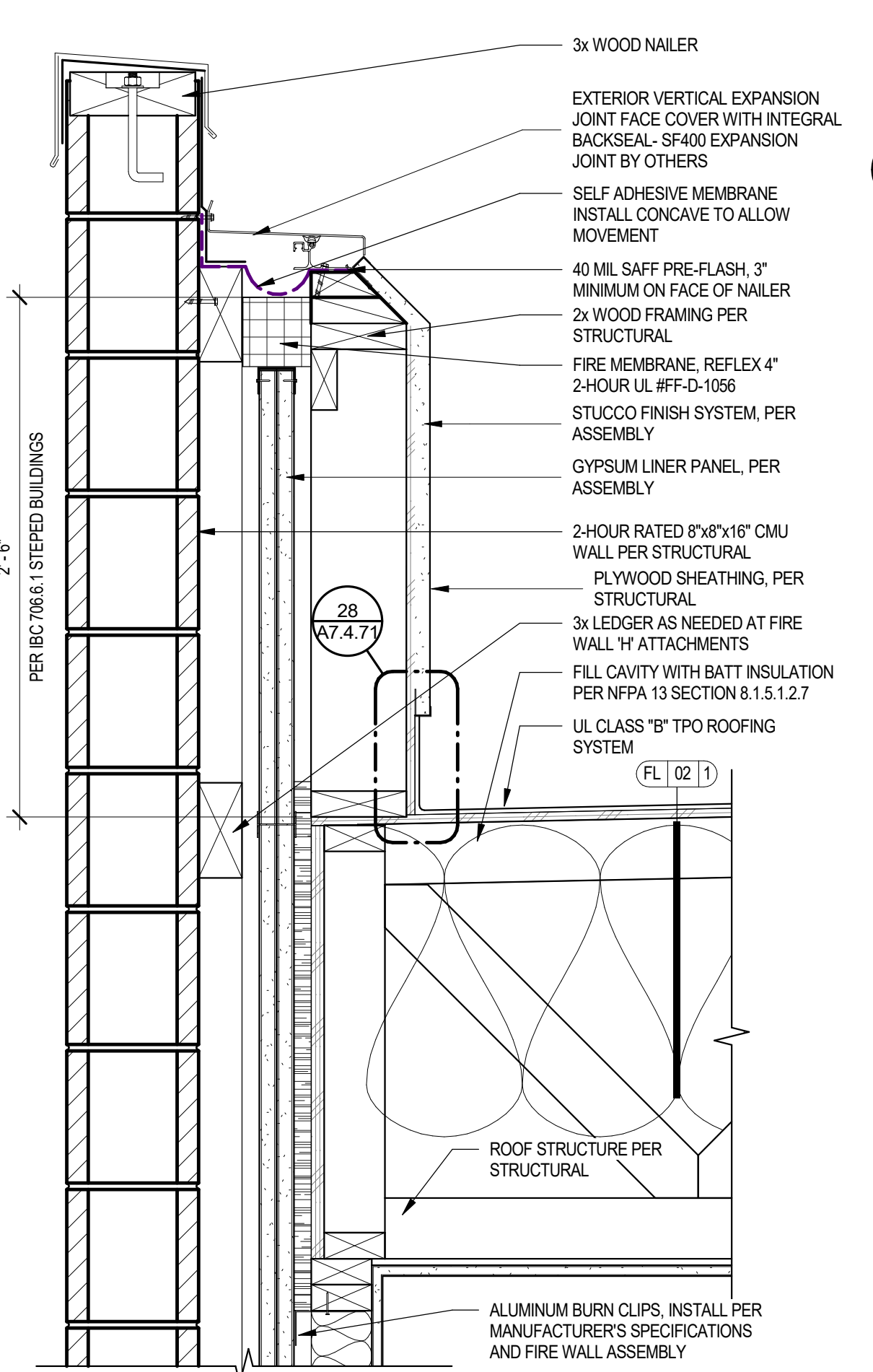
18 3-HR FIRE WALL AT 1-HR CORRIDOR FLOOR / CEILING
SCALE: 1 1/2" = 1'-0"



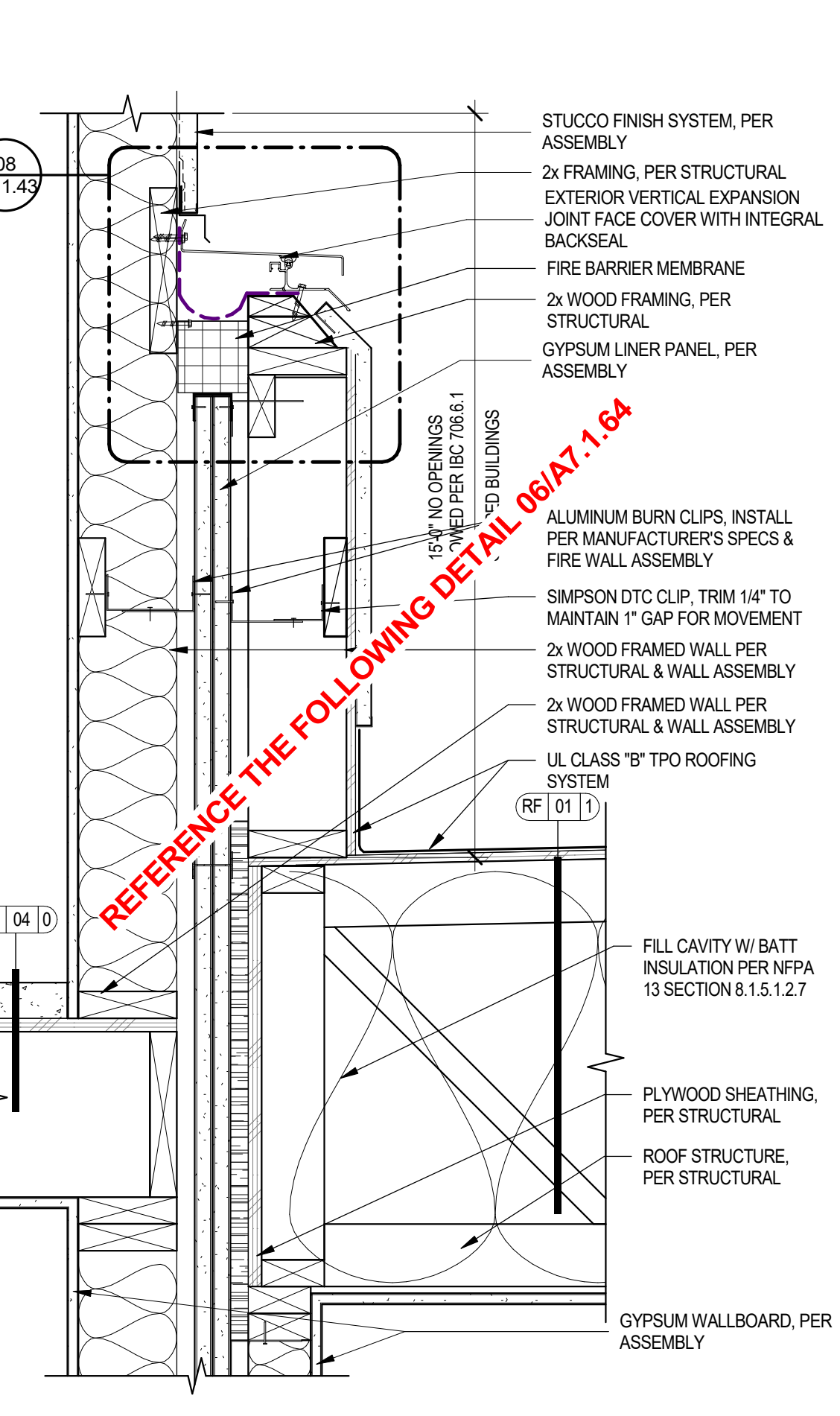
14 3-HR FIRE WALL AT 1-HR FLOOR / CEILING PERPENDICULAR TO FLOOR TRUSSES
SCALE: 1 1/2" = 1'-0"



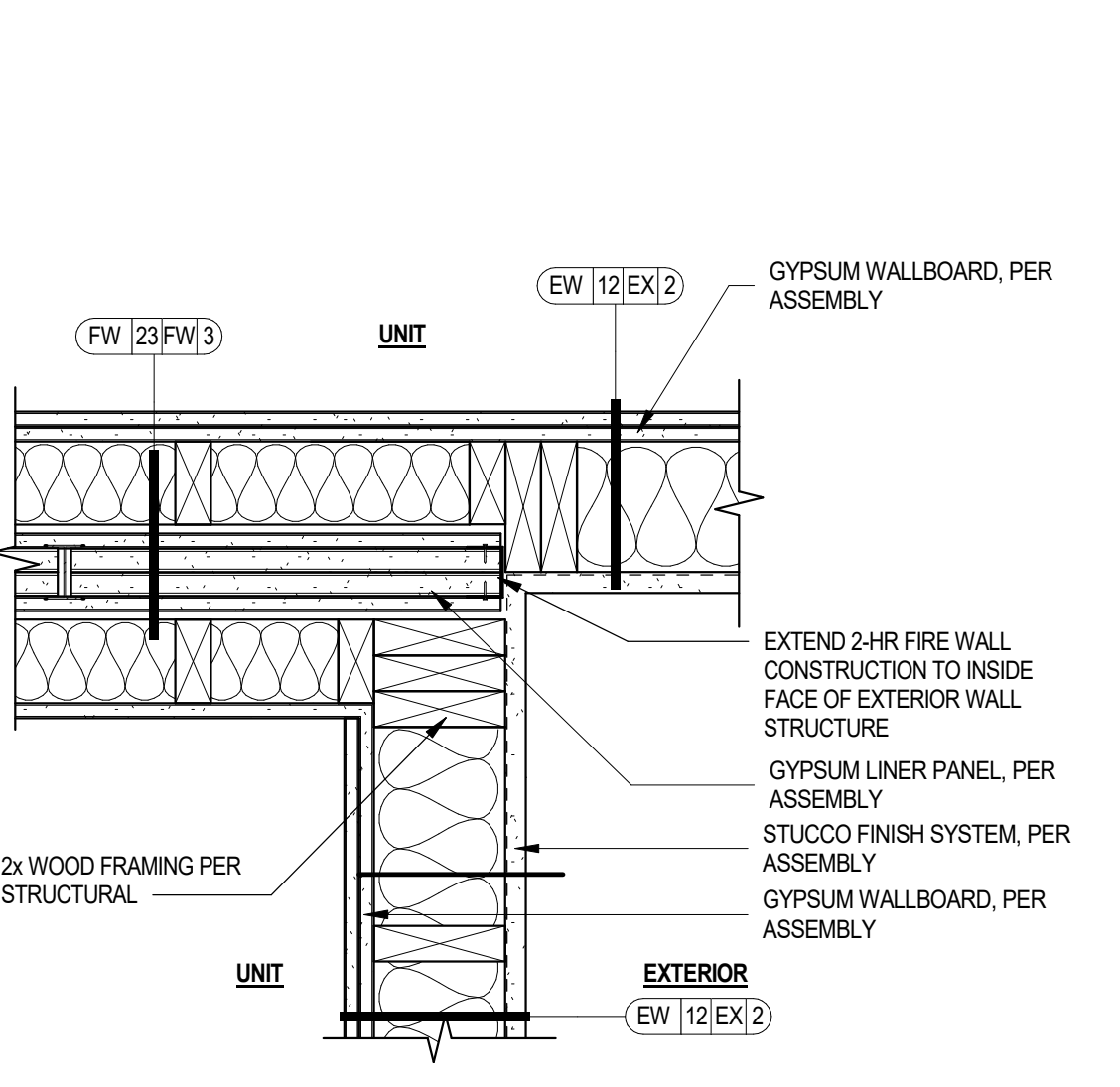
10 3-HR FIRE WALL AT 1-HR FLOOR / CEILING PARALLEL TO FLOOR TRUSSES
SCALE: 1 1/2" = 1'-0"



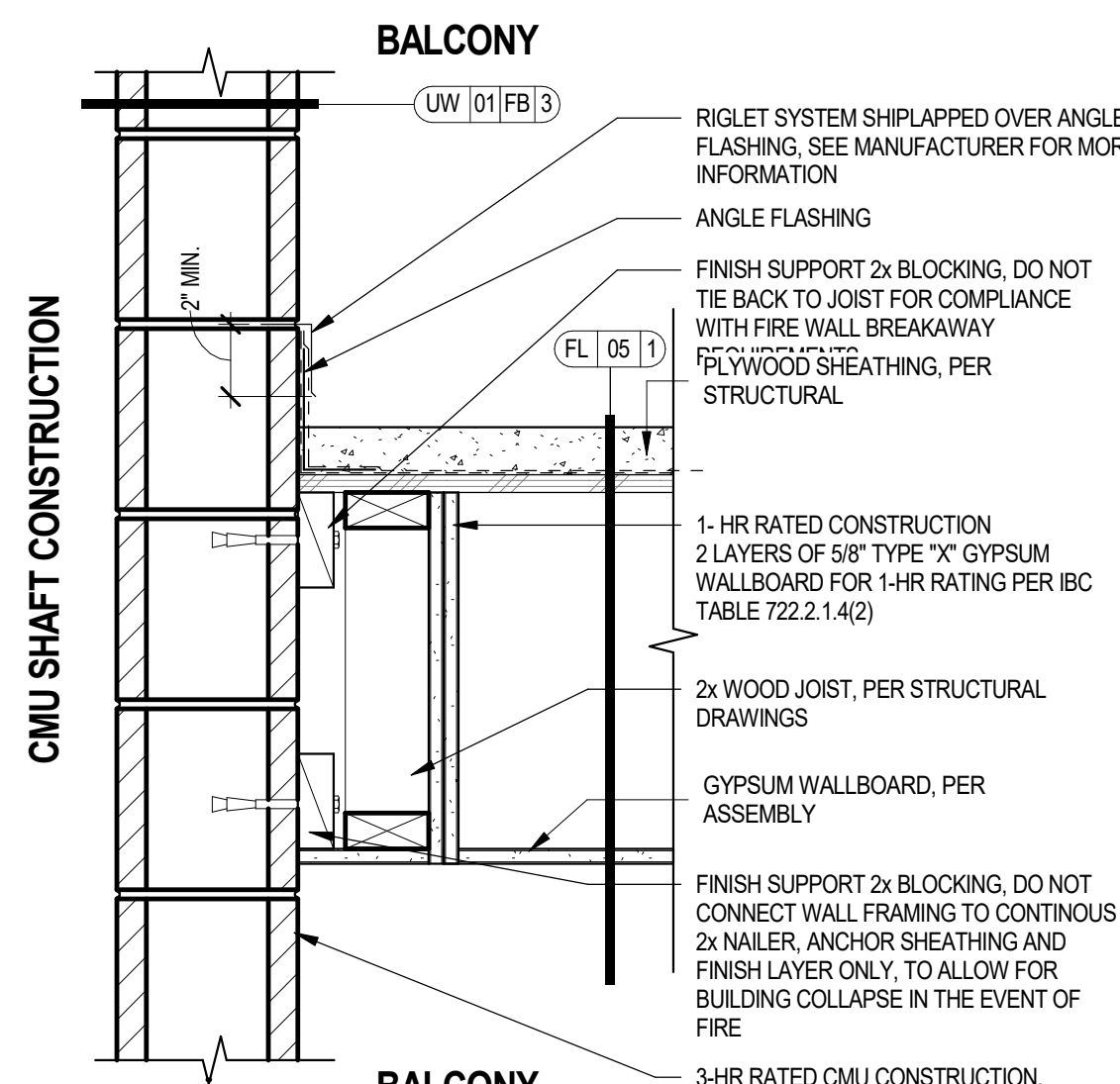
05 2-HR FIRE WALL / EXPANSION JOINT AT FLOOR / CEILING AT CMU WALL
SCALE: 1 1/2" = 1'-0"



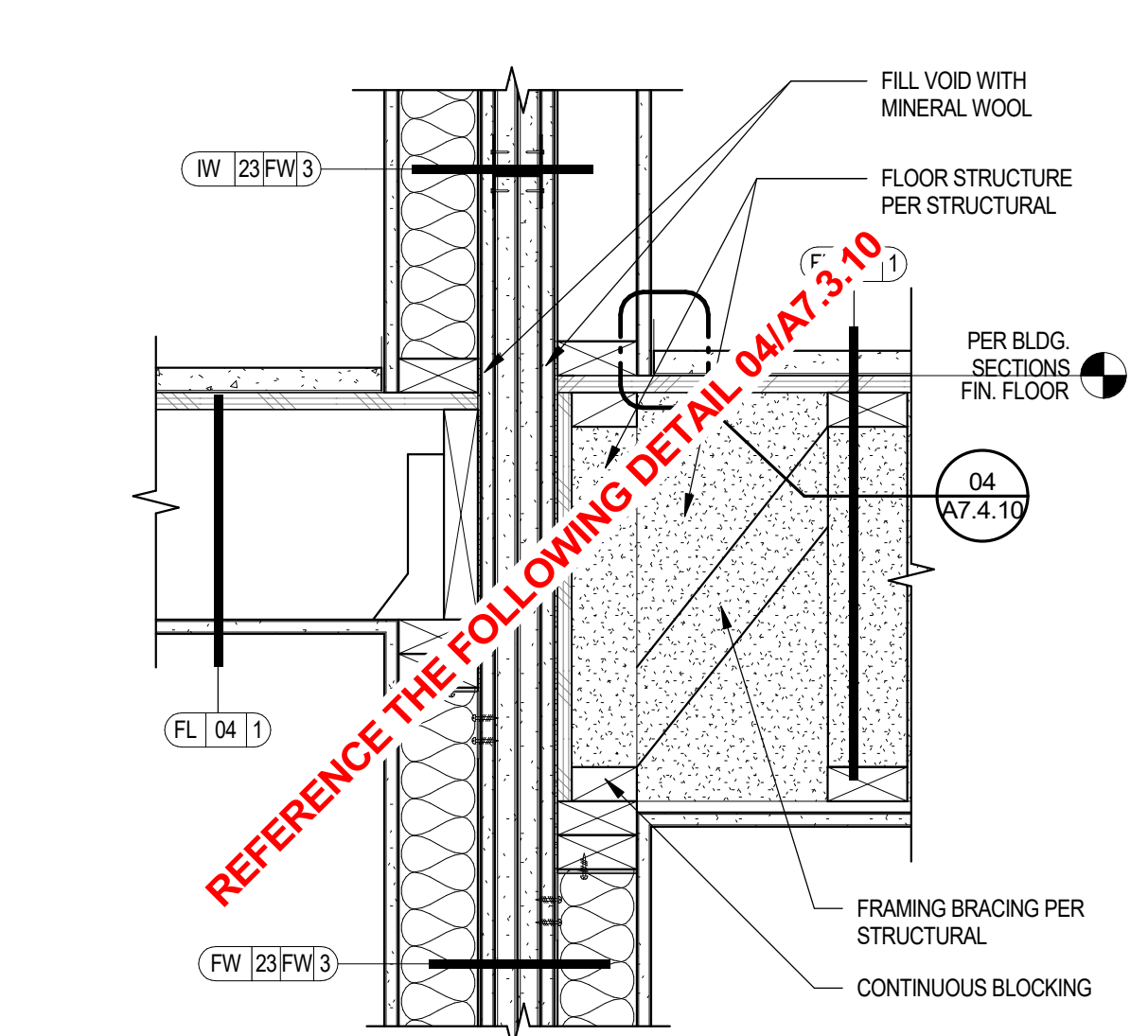
01 2-HR FIRE WALL / EXPANSION JOINT AT FLOOR / CEILING AT CMU WALL
SCALE: 1 1/2" = 1'-0"



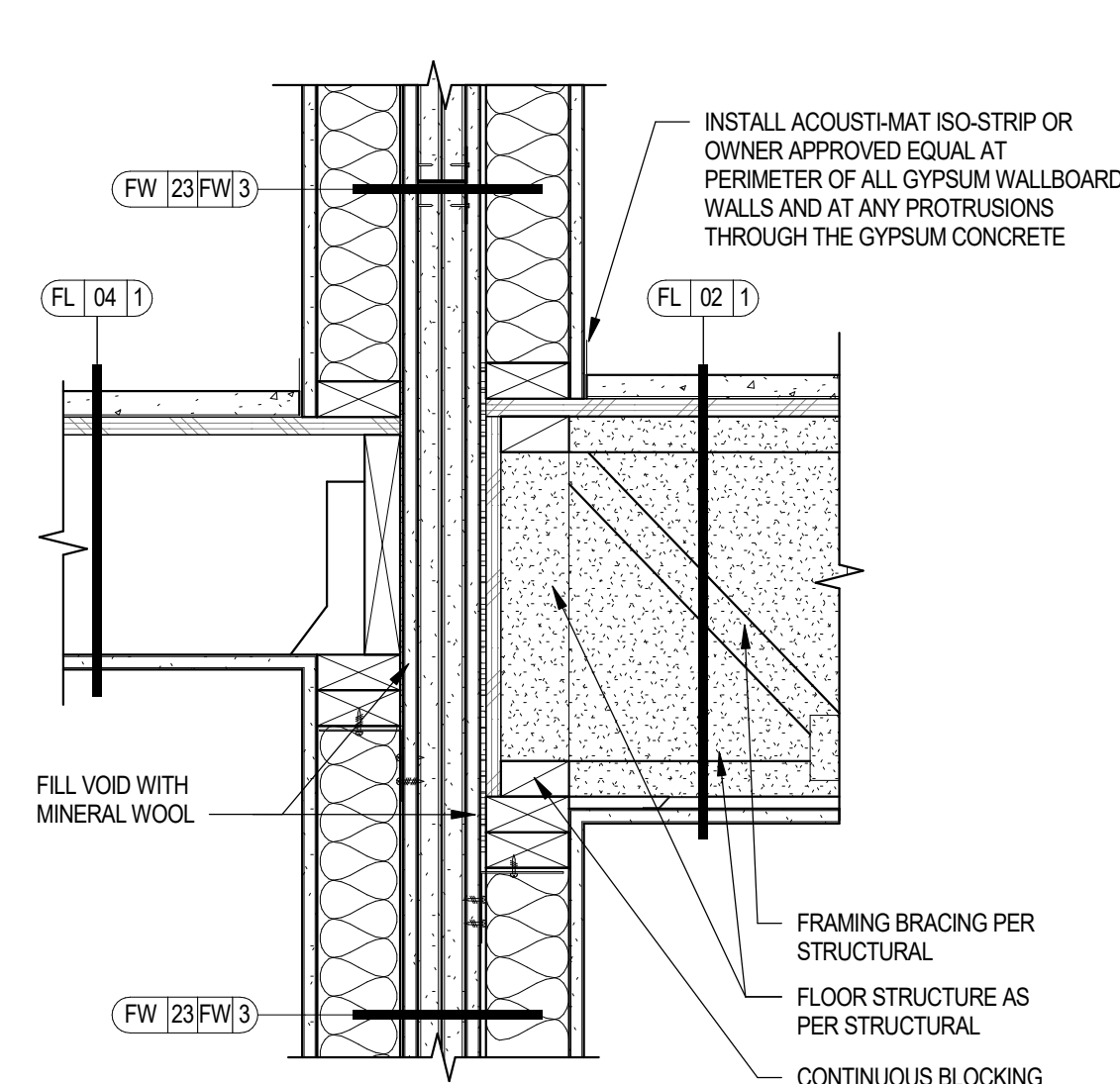
23 3-HR FIRE WALL TERMINATION AT PATIO / BALCONY - PLAN VIEW
SCALE: 1 1/2" = 1'-0"



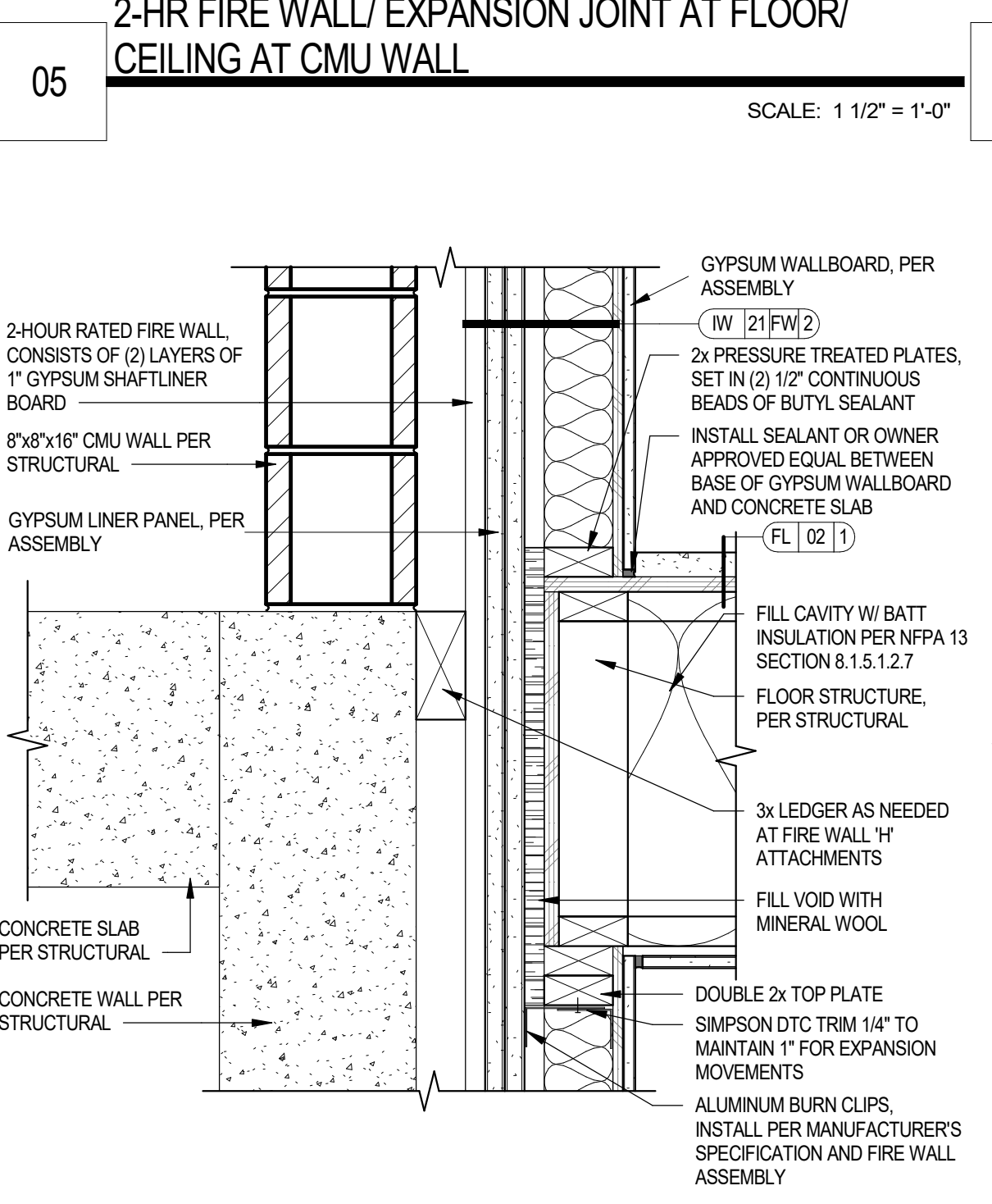
19 3-HR FIRE WALL EXTERIOR TERMINATION AT CMU AND BALCONY CONDITION
SCALE: 1 1/2" = 1'-0"



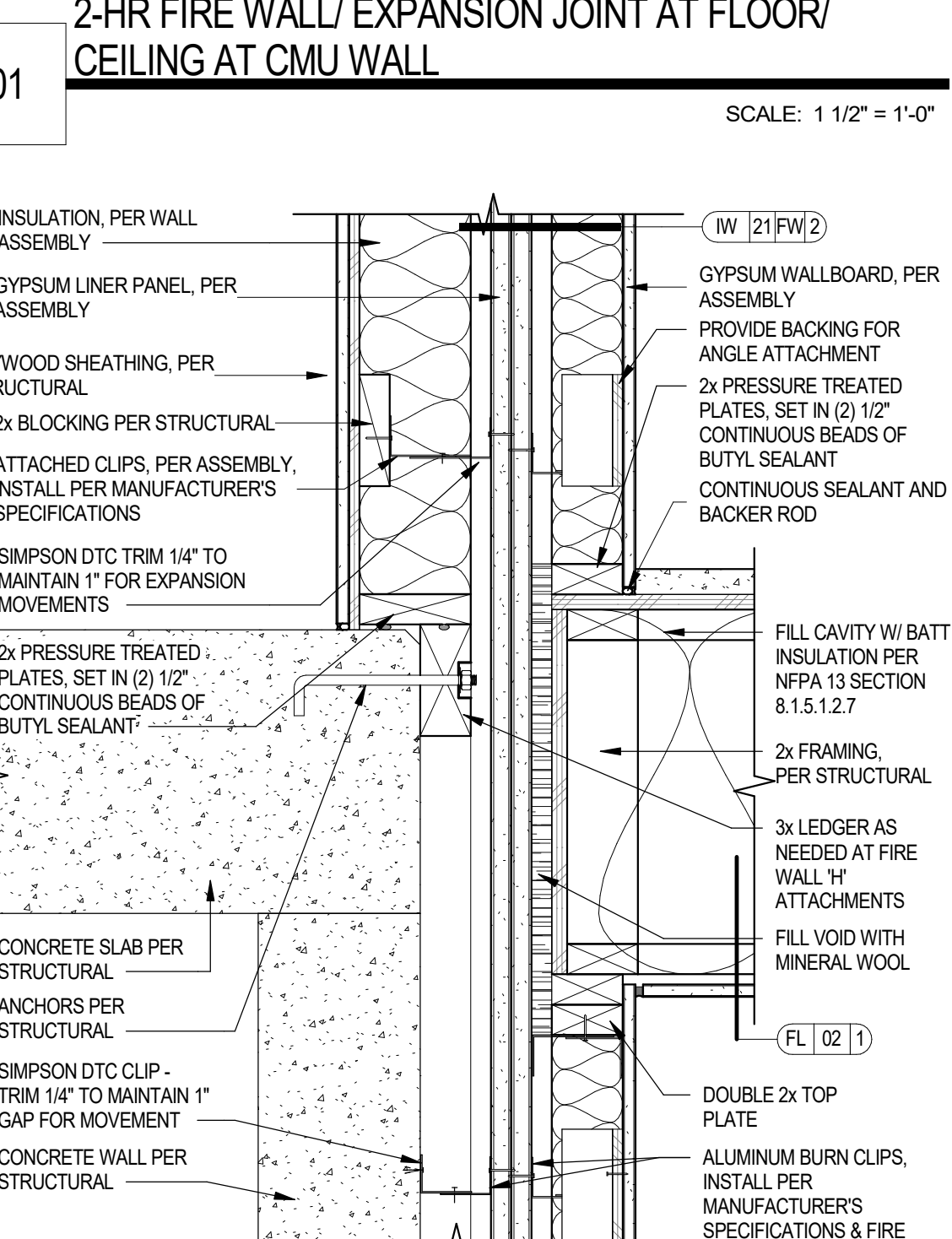
15 3-HR FIRE WALL AT FLOOR / CEILING AT CORRIDOR PERPENDICULAR FLOOR TRUSSES
SCALE: 1 1/2" = 1'-0"



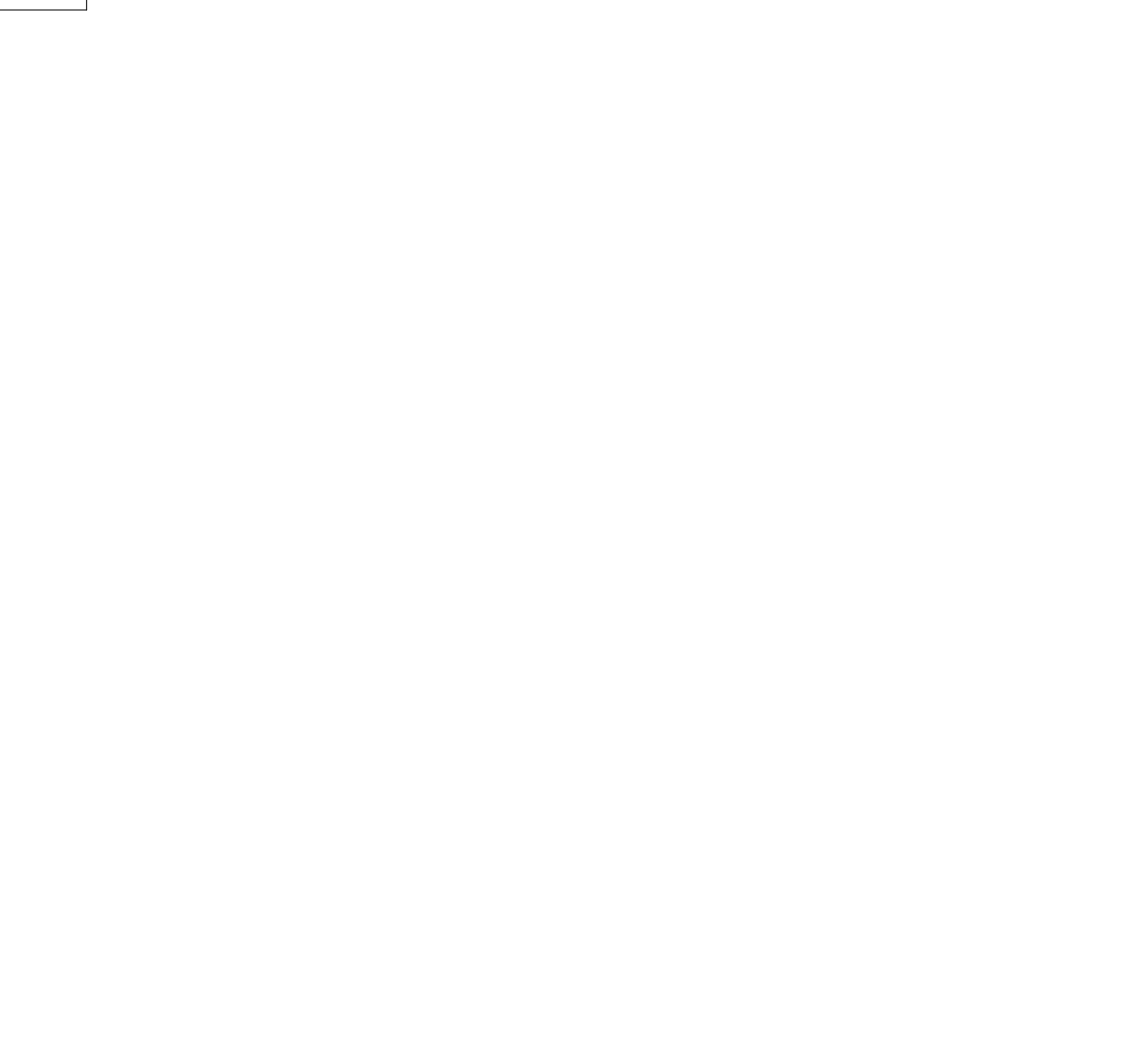
11 3-HR FIRE WALL AT FLOOR / CEILING AT CORRIDOR PARALLEL FLOOR TRUSSES
SCALE: 1 1/2" = 1'-0"



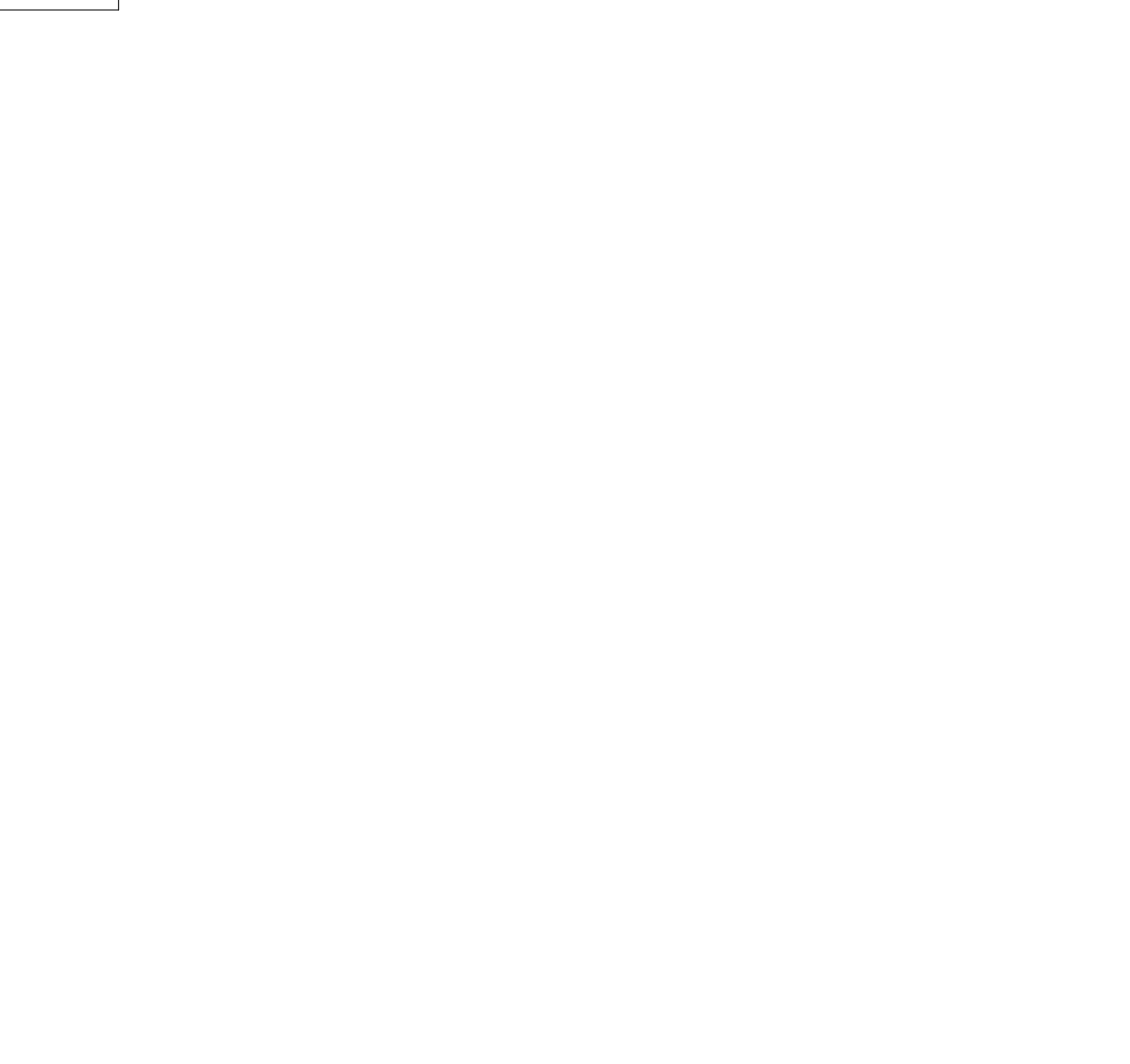
06 2-HR FIRE WALL / EXPANSION JOINT AT FLOOR / CEILING AT CMU WALL
SCALE: 1 1/2" = 1'-0"



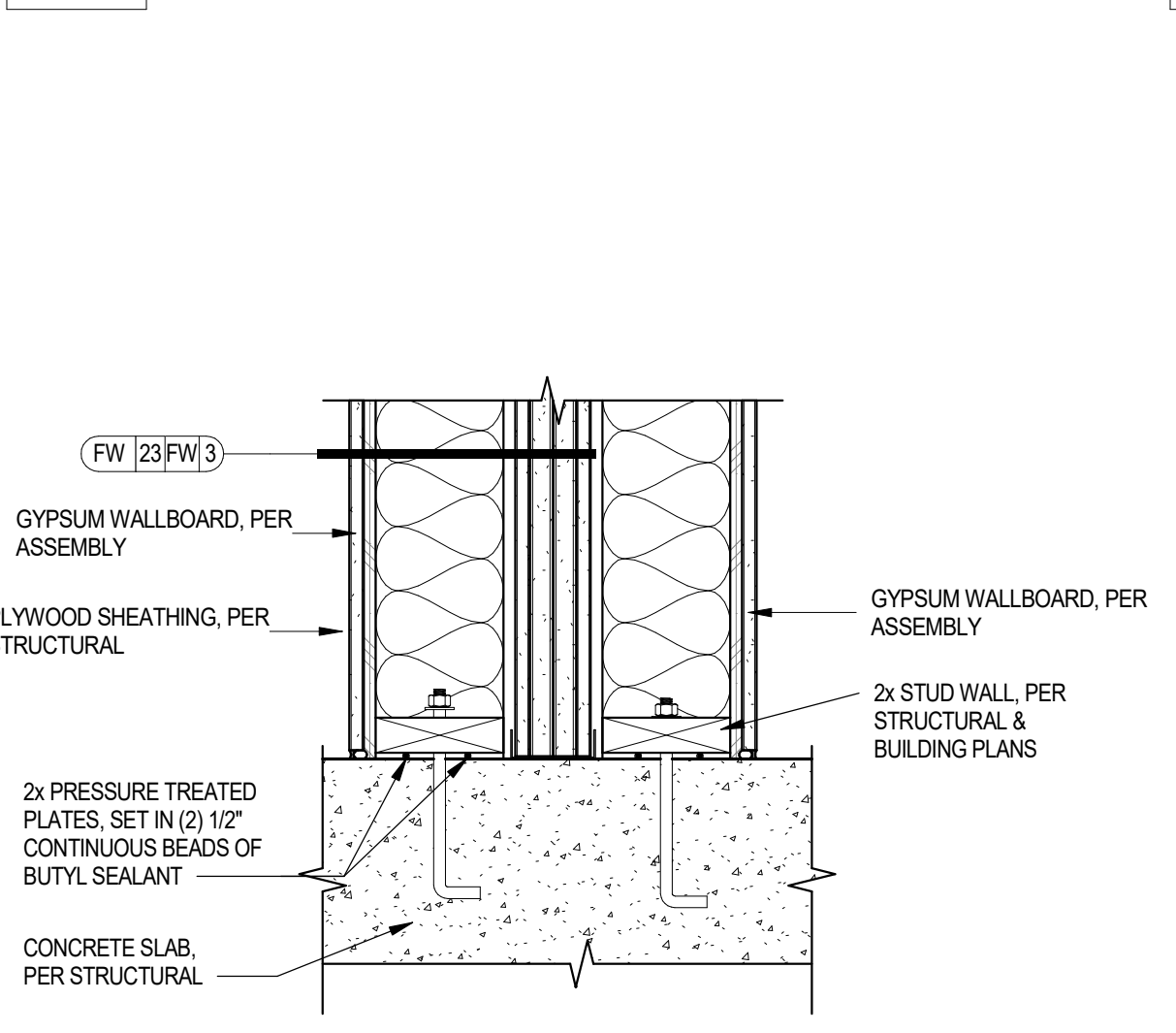
02 2-HR FIRE WALL / EXPANSION JOINT AT FLOOR / CEILING AT CMU WALL
SCALE: 1 1/2" = 1'-0"



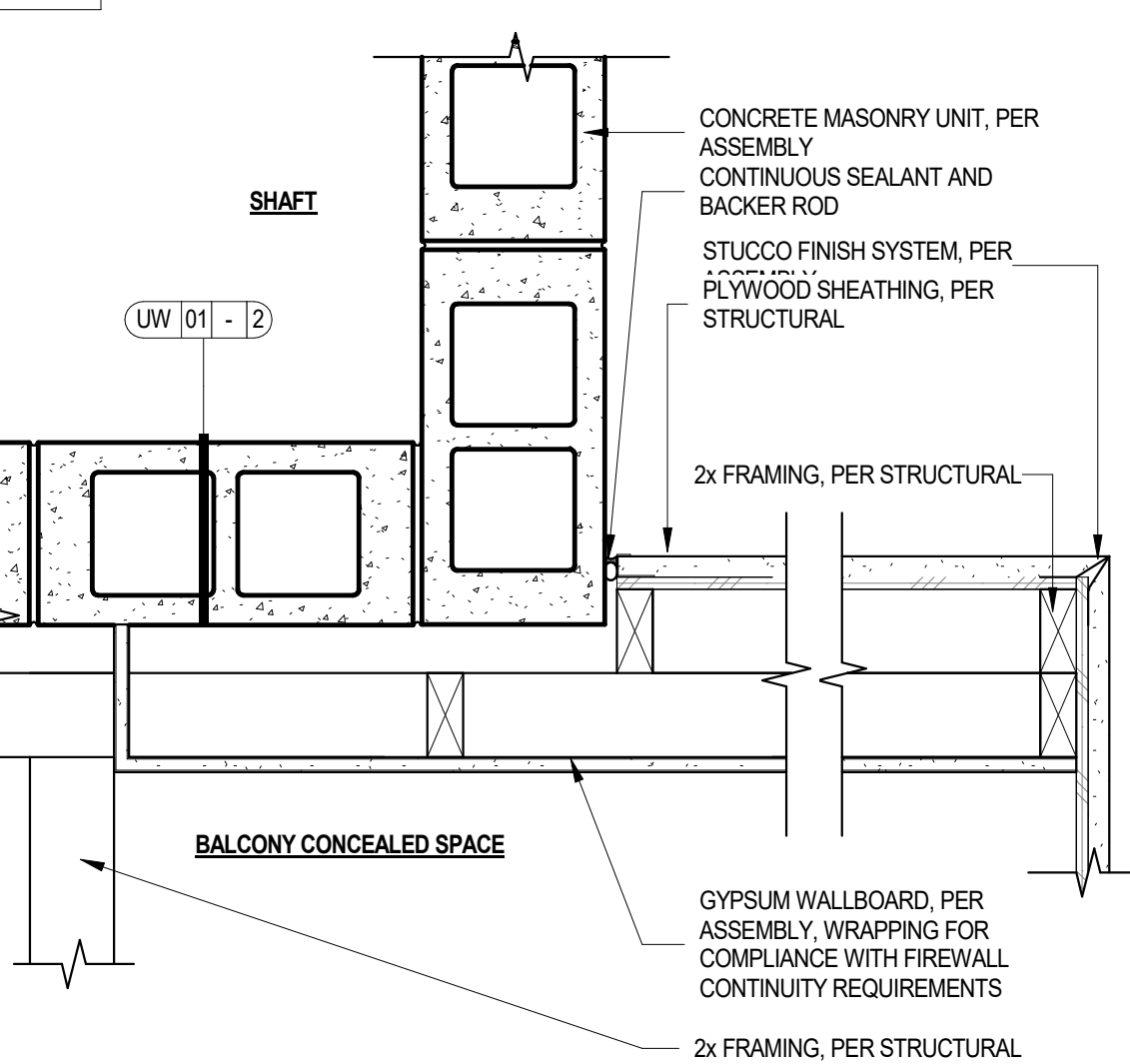
16 3-HR FIRE WALL AT SLAB - INTERIOR
SCALE: 1 1/2" = 1'-0"



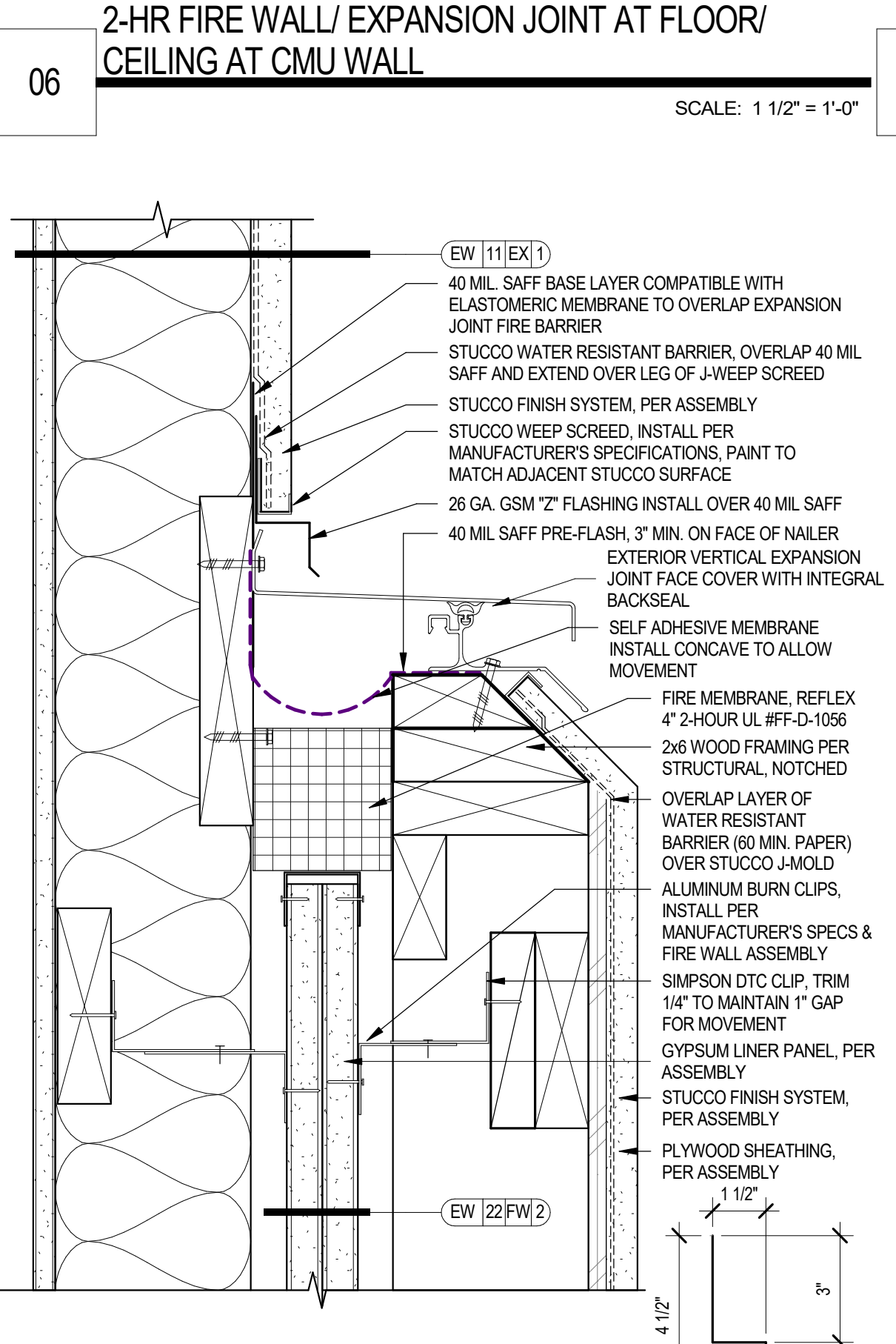
12 2-HR FIRE WALL EXTERIOR TERMINATION AT CMU AND BALCONY CONDITION - CONCEALED SPACE
SCALE: 1 1/2" = 1'-0"



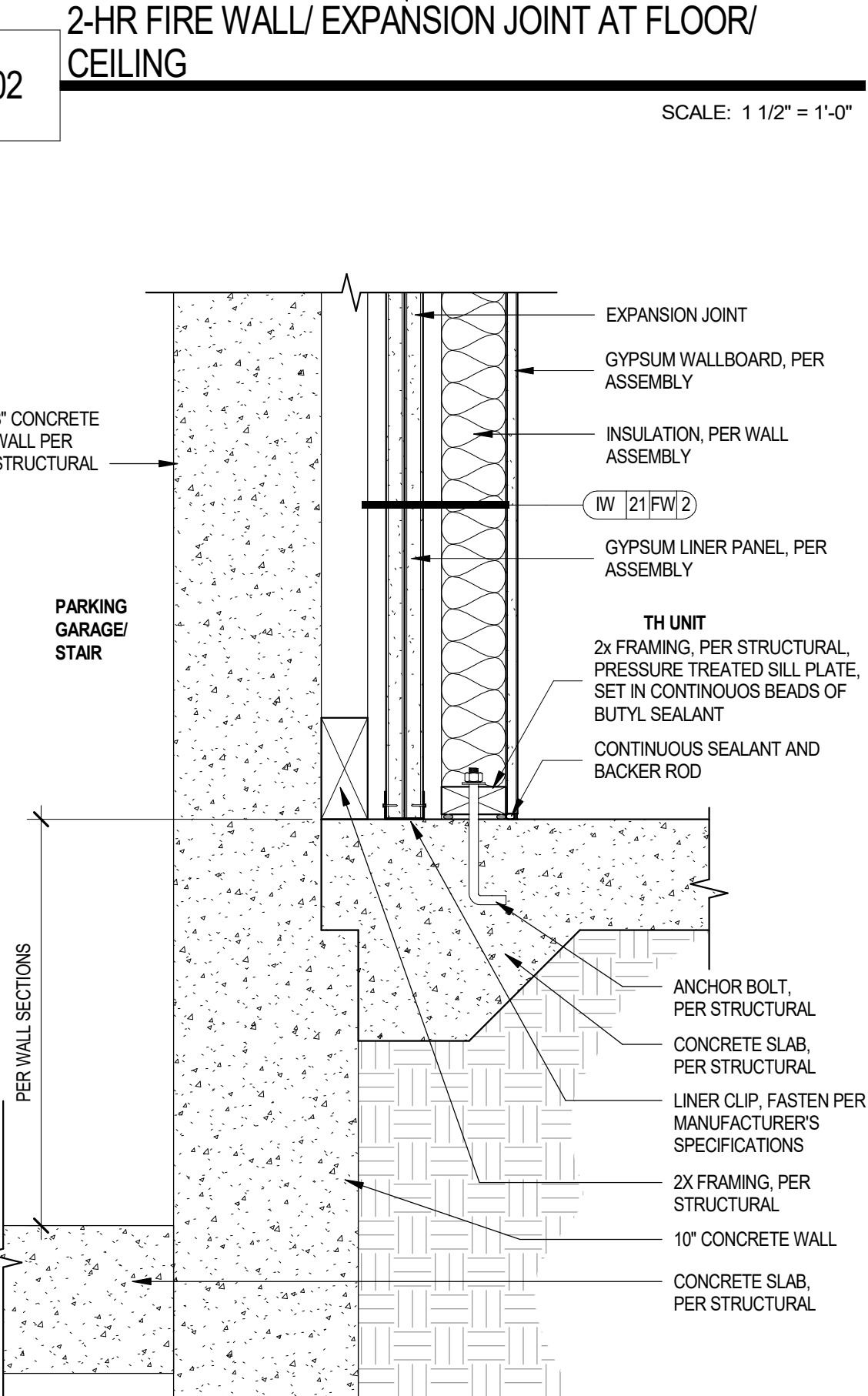
08 2-HR FIRE WALL AT STEPPED BUILDING PARAPET (WOOD FRAMED)
SCALE: 3" = 1'-0"



04 2-HR FIRE WALL / EXPANSION JOINT AT STEPPED SLAB
SCALE: 1 1/2" = 1'-0"



08 2-HR FIRE WALL / EXPANSION JOINT AT STEPPED SLAB
SCALE: 1 1/2" = 1'-0"



04 2-HR FIRE WALL / EXPANSION JOINT AT STEPPED SLAB
SCALE: 1 1/2" = 1'-0"

Project Name 1
Project Name 2
Street Address
City, state
Office of Rich Barber Architecture, LLC
ORB
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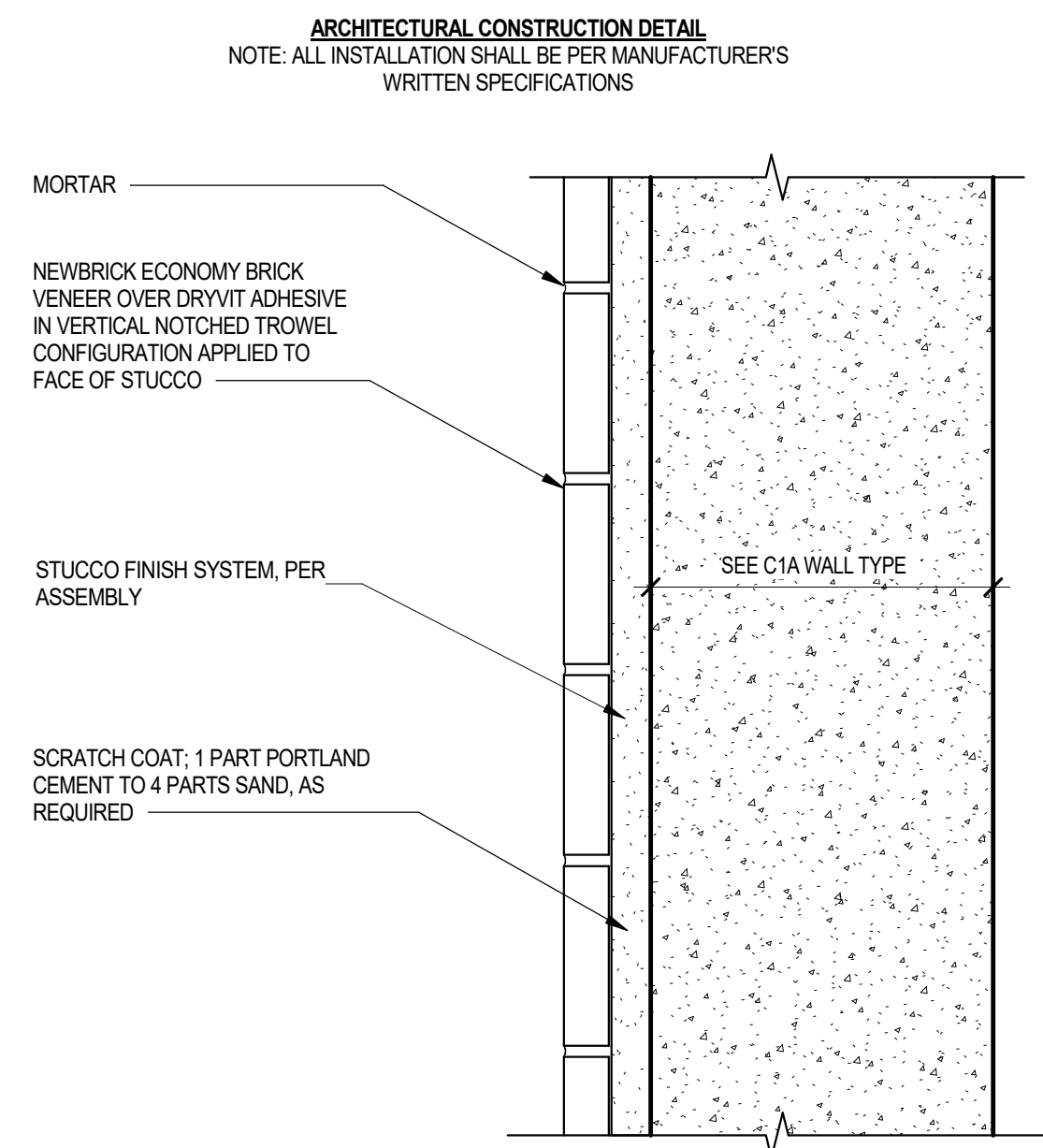
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REVISIONS/SUBMITTALS

DATE	DESCRIPTION
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DATE: July 17, 2024 ORB #: 00-000
A7.1.43
FIRE ASSEMBLIES - 2-HR FIRE WALL/EXP. JOINT - 3-HR FIRE WALL

CONCRETE WALL WITH FACINGS OR ACCESSORIES - BRICK VENEER
GENERIC ASSEMBLY
FIRE TEST: IBC TABLE 721.1(2) 4-1.1
NO SOUND RATING REQUIRED AT EXTERIOR WALLS



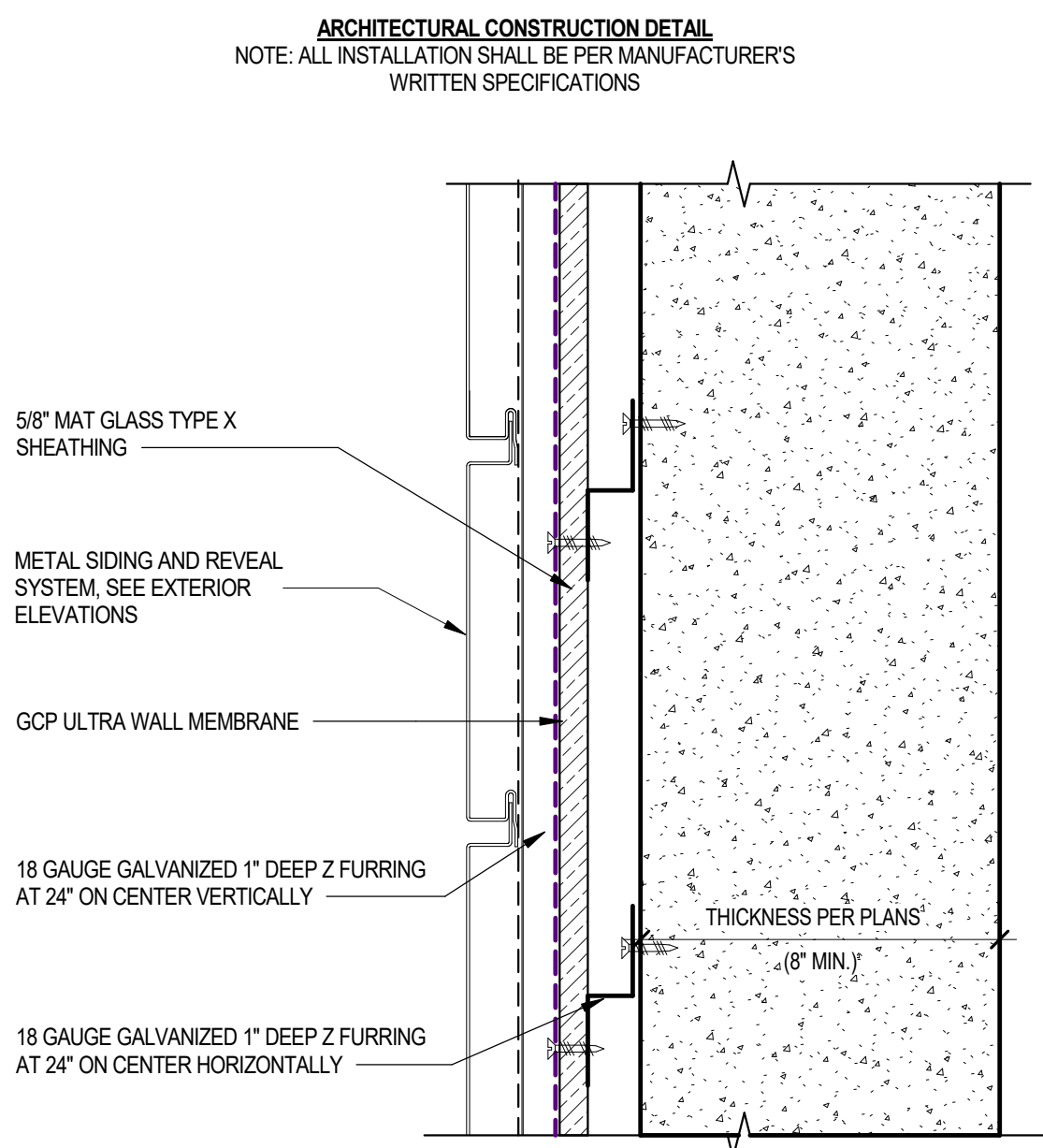
IBC TABLE 721.1(2) 4-1.1
THE ASSEMBLY DESCRIPTION BELOW IS PER IBC TABLE 721.1(2) 4-1.1

	MINIMUM FINISHED THICKNESS FACE TO FACE (INCHES)			
	4 HOURS	3 HOURS	2 HOURS	1 HOURS
4 SOLID CONCRETE (SEE NOTES h.) 4-1.1				
SILICEOUS AGGREGATE CONCRETE	7.0	6.2	5.0	3.5
CARBONATE AGGREGATE CONCRETE	6.6	5.7	4.6	3.2
SAND-LIGHTWEIGHT CONCRETE	5.4	4.6	3.8	2.7
LIGHTWEIGHT CONCRETE	5.1	4.4	3.6	2.5

NOTES:
h. THE EQUIVALENT THICKNESS SHALL BE PERMITTED TO INCLUDE THE THICKNESS OF CEMENT PLASTER OR 1.5 TIMES THE THICKNESS OF GYPSUM PLASTER APPLIED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 25.
i. CONCRETE WALLS SHALL BE REINFORCED WITH HORIZONTAL AND VERTICAL TEMPERATURE REINFORCEMENT AS REQUIRED BY CHAPTER 19.

PER IBC 2018 BUILDING CODES
VERIFY WICITY APPLICABLE

CONCRETE WALL WITH FACINGS OR ACCESSORIES - METAL SIDING
GENERIC ASSEMBLY
FIRE TEST: IBC TABLE 721.1(2) 4-1.1
NO SOUND RATING REQUIRED AT EXTERIOR WALLS



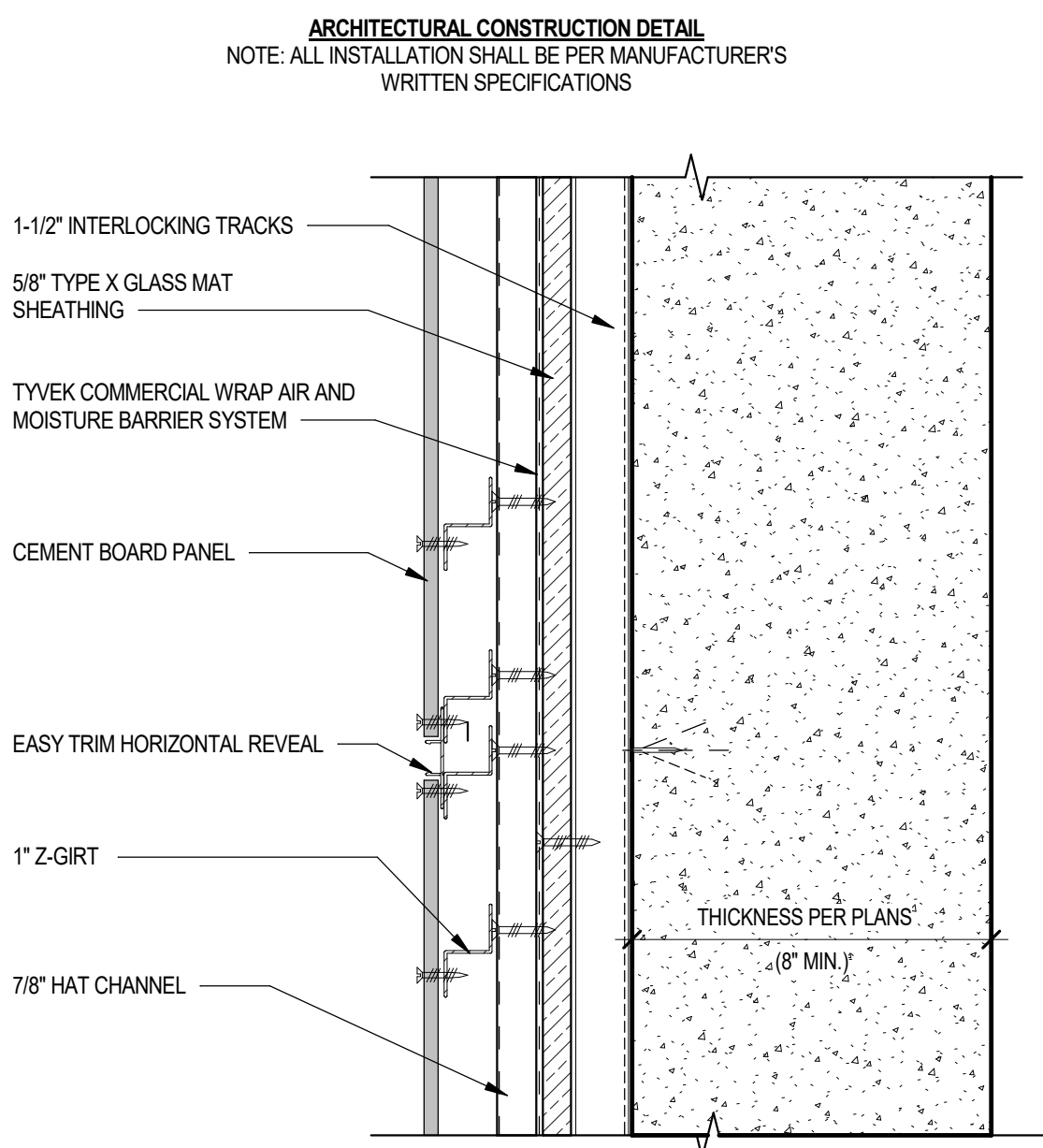
IBC TABLE 721.1(2) 4-1.1
THE ASSEMBLY DESCRIPTION BELOW IS PER IBC TABLE 721.1(2) 4-1.1

	MINIMUM FINISHED THICKNESS FACE TO FACE (INCHES)			
	4 HOURS	3 HOURS	2 HOURS	1 HOURS
4 SOLID CONCRETE (SEE NOTES h.) 4-1.1				
SILICEOUS AGGREGATE CONCRETE	7.0	6.2	5.0	3.5
CARBONATE AGGREGATE CONCRETE	6.6	5.7	4.6	3.2
SAND-LIGHTWEIGHT CONCRETE	5.4	4.6	3.8	2.7
LIGHTWEIGHT CONCRETE	5.1	4.4	3.6	2.5

NOTES:
h. THE EQUIVALENT THICKNESS SHALL BE PERMITTED TO INCLUDE THE THICKNESS OF CEMENT PLASTER OR 1.5 TIMES THE THICKNESS OF GYPSUM PLASTER APPLIED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 25.
i. CONCRETE WALLS SHALL BE REINFORCED WITH HORIZONTAL AND VERTICAL TEMPERATURE REINFORCEMENT AS REQUIRED BY CHAPTER 19.

PER IBC 2018 BUILDING CODES
VERIFY WICITY APPLICABLE

CONCRETE WALL WITH FACINGS OR ACCESSORIES - STUCCO FINISH
GENERIC ASSEMBLY
FIRE TEST: IBC TABLE 721.1(2) 4-1.1
NO SOUND RATING REQUIRED AT EXTERIOR WALLS



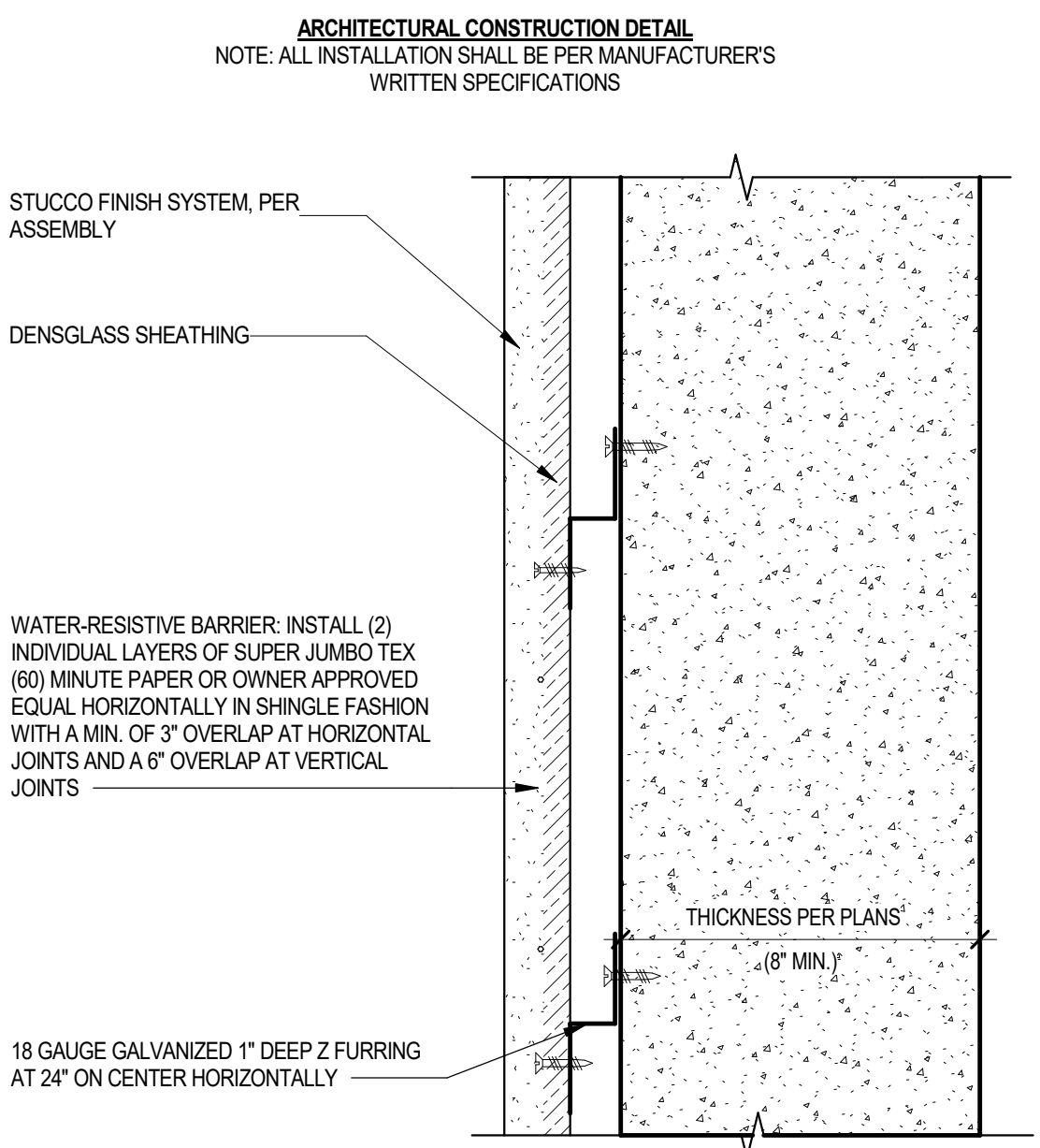
IBC TABLE 721.1(2) 4-1.1
THE ASSEMBLY DESCRIPTION BELOW IS PER IBC TABLE 721.1(2) 4-1.1

	MINIMUM FINISHED THICKNESS FACE TO FACE (INCHES)			
	4 HOURS	3 HOURS	2 HOURS	1 HOURS
4 SOLID CONCRETE (SEE NOTES h.) 4-1.1				
SILICEOUS AGGREGATE CONCRETE	7.0	6.2	5.0	3.5
CARBONATE AGGREGATE CONCRETE	6.6	5.7	4.6	3.2
SAND-LIGHTWEIGHT CONCRETE	5.4	4.6	3.8	2.7
LIGHTWEIGHT CONCRETE	5.1	4.4	3.6	2.5

NOTES:
h. THE EQUIVALENT THICKNESS SHALL BE PERMITTED TO INCLUDE THE THICKNESS OF CEMENT PLASTER OR 1.5 TIMES THE THICKNESS OF GYPSUM PLASTER APPLIED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 25.
i. CONCRETE WALLS SHALL BE REINFORCED WITH HORIZONTAL AND VERTICAL TEMPERATURE REINFORCEMENT AS REQUIRED BY CHAPTER 19.

PER IBC 2018 BUILDING CODES
VERIFY WICITY APPLICABLE

CONCRETE WALL WITH FACINGS OR ACCESSORIES - STUCCO FINISH
GENERIC ASSEMBLY
FIRE TEST: IBC TABLE 721.1(2) 4-1.1
NO SOUND RATING REQUIRED AT EXTERIOR WALLS



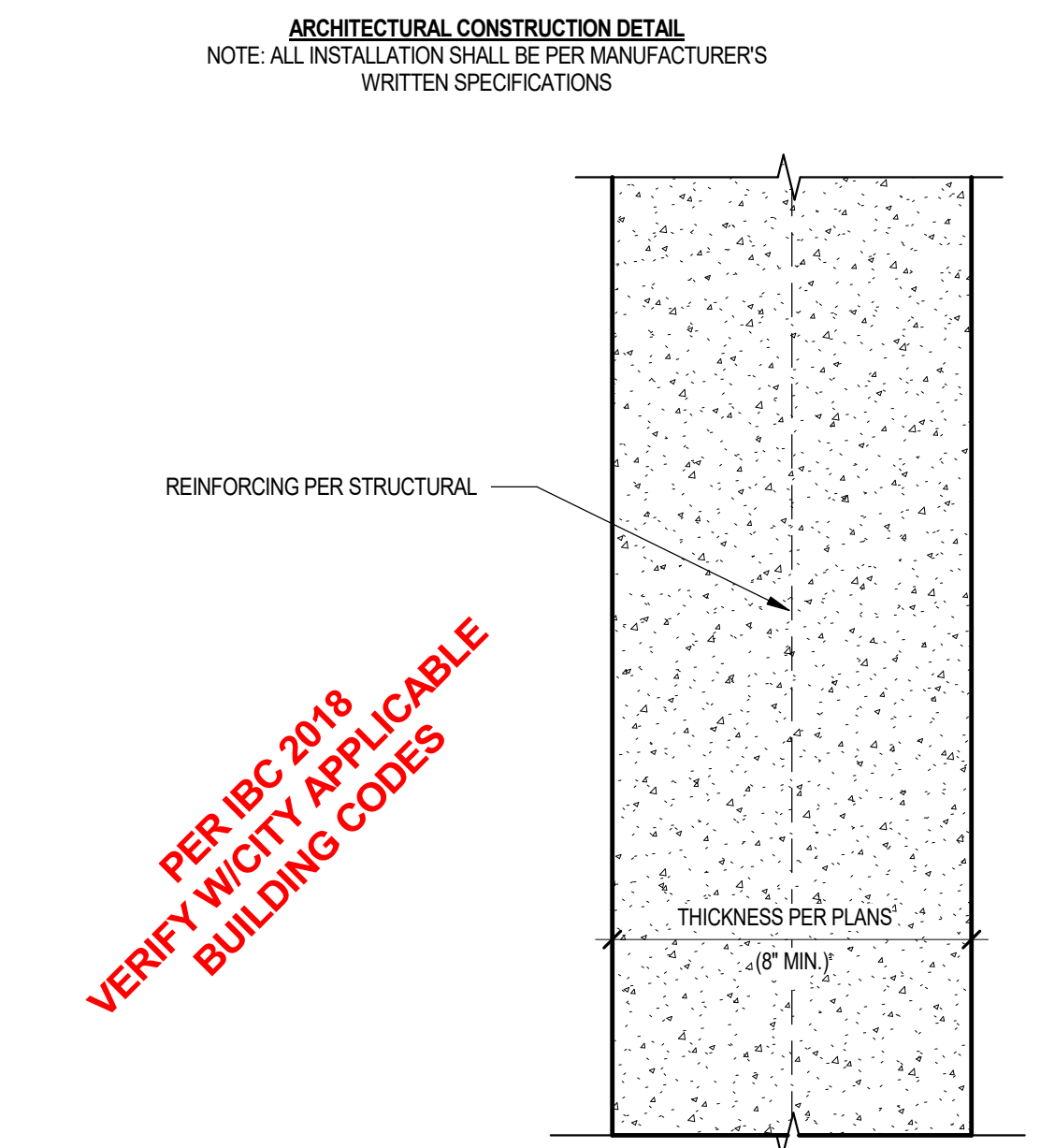
IBC TABLE 721.1(2) 4-1.1
THE ASSEMBLY DESCRIPTION BELOW IS PER IBC TABLE 721.1(2) 4-1.1

	MINIMUM FINISHED THICKNESS FACE TO FACE (INCHES)			
	4 HOURS	3 HOURS	2 HOURS	1 HOURS
4 SOLID CONCRETE (SEE NOTES h.) 4-1.1				
SILICEOUS AGGREGATE CONCRETE	7.0	6.2	5.0	3.5
CARBONATE AGGREGATE CONCRETE	6.6	5.7	4.6	3.2
SAND-LIGHTWEIGHT CONCRETE	5.4	4.6	3.8	2.7
LIGHTWEIGHT CONCRETE	5.1	4.4	3.6	2.5

NOTES:
h. THE EQUIVALENT THICKNESS SHALL BE PERMITTED TO INCLUDE THE THICKNESS OF CEMENT PLASTER OR 1.5 TIMES THE THICKNESS OF GYPSUM PLASTER APPLIED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 25.
i. CONCRETE WALLS SHALL BE REINFORCED WITH HORIZONTAL AND VERTICAL TEMPERATURE REINFORCEMENT AS REQUIRED BY CHAPTER 19.

PER IBC 2018 BUILDING CODES
VERIFY WICITY APPLICABLE

CONCRETE WALL WITH FACINGS OR ACCESSORIES - SOLID CONCRETE WALL
GENERIC ASSEMBLY
FIRE TEST: IBC TABLE 721.1(2) 4-1.1
NO SOUND RATING REQUIRED AT EXTERIOR WALLS



IBC TABLE 721.1(2) 4-1.1
THE ASSEMBLY DESCRIPTION BELOW IS PER IBC TABLE 721.1(2) 4-1.1

	MINIMUM FINISHED THICKNESS FACE TO FACE (INCHES)			
	4 HOURS	3 HOURS	2 HOURS	1 HOURS
4 SOLID CONCRETE (SEE NOTES h.) 4-1.1				
SILICEOUS AGGREGATE CONCRETE	7.0	6.2	5.0	3.5
CARBONATE AGGREGATE CONCRETE	6.6	5.7	4.6	3.2
SAND-LIGHTWEIGHT CONCRETE	5.4	4.6	3.8	2.7
LIGHTWEIGHT CONCRETE	5.1	4.4	3.6	2.5

NOTES:
h. THE EQUIVALENT THICKNESS SHALL BE PERMITTED TO INCLUDE THE THICKNESS OF CEMENT PLASTER OR 1.5 TIMES THE THICKNESS OF GYPSUM PLASTER APPLIED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 25.
i. CONCRETE WALLS SHALL BE REINFORCED WITH HORIZONTAL AND VERTICAL TEMPERATURE REINFORCEMENT AS REQUIRED BY CHAPTER 19.

PER IBC 2018 BUILDING CODES
VERIFY WICITY APPLICABLE

CW56 BRICK VENEER AT RATED CONCRETE WALL
2018 IBC TABLE 721.1(2) 4-1.1 SCALE: 3" = 1'-0"

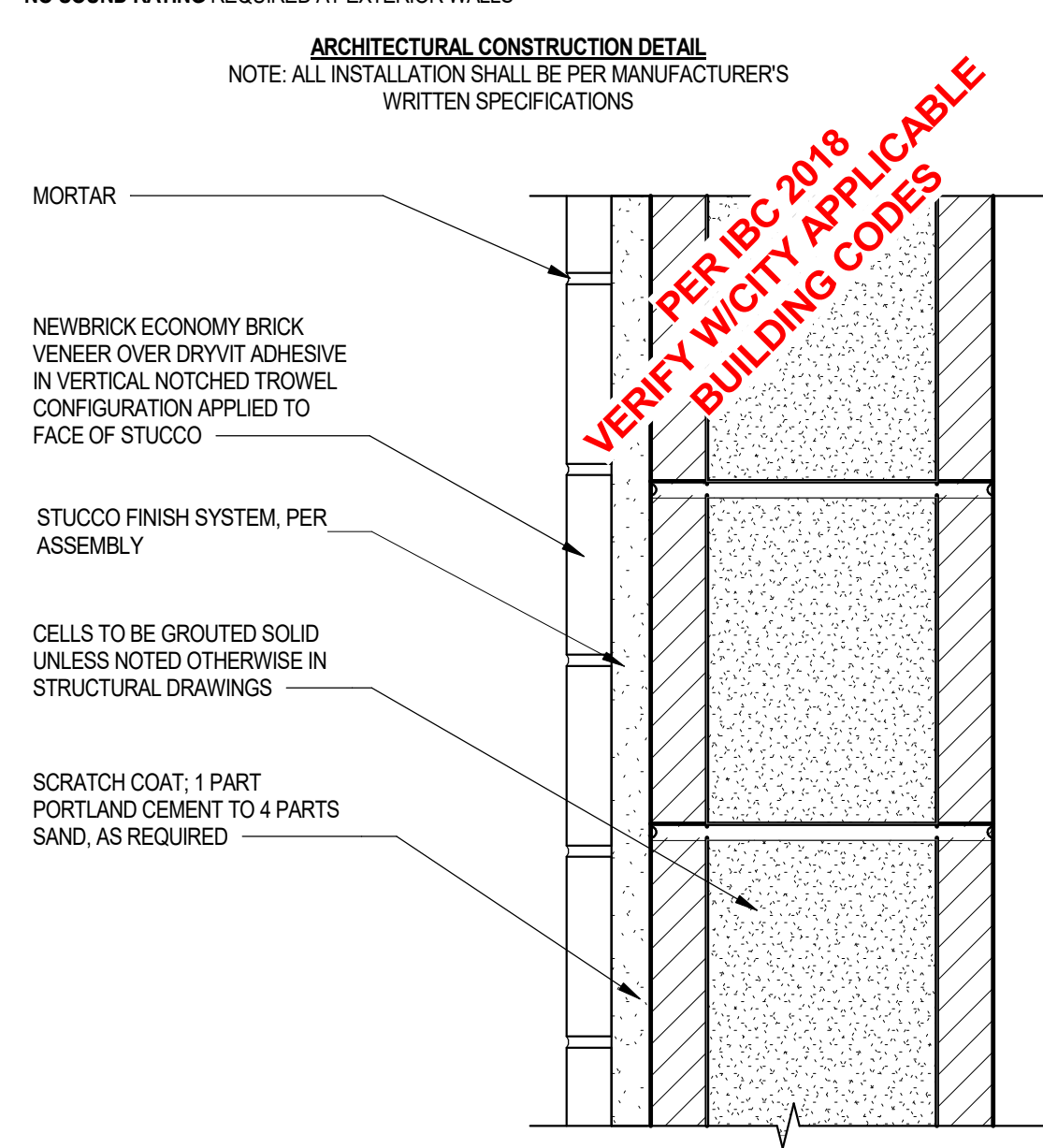
CW51 METAL SIDING AT RATED CONCRETE WALL
2018 IBC TABLE 721.1(2) 4-1.1 SCALE: 3" = 1'-0"

CW41 CEMENT BOARD PANEL SYSTEM AT CONC. SHEAR WALL (PLAN VIEW)
2018 IBC TABLE 721.1(2) 4-1.1 SCALE: 3" = 1'-0"

CW11 STUCCO AT RATED CONCRETE WALL
2018 IBC TABLE 721.1(2) 4-1.1 SCALE: 3" = 1'-0"

CW01 SOLID CONCRETE WALL
2018 IBC TABLE 721.1(2) 4-1.1 SCALE: 3" = 1'-0"

CMU WALL WITH FACINGS OR ACCESSORIES - BRICK VENEER
GENERIC ASSEMBLY
FIRE TEST: IBC TABLE 721.1(2) 4-1.1
NO SOUND RATING REQUIRED AT EXTERIOR WALLS



IBC TABLE 721.1(2) 4-1.1
THE ASSEMBLY DESCRIPTION BELOW IS PER IBC TABLE 721.1(2) 4-1.1

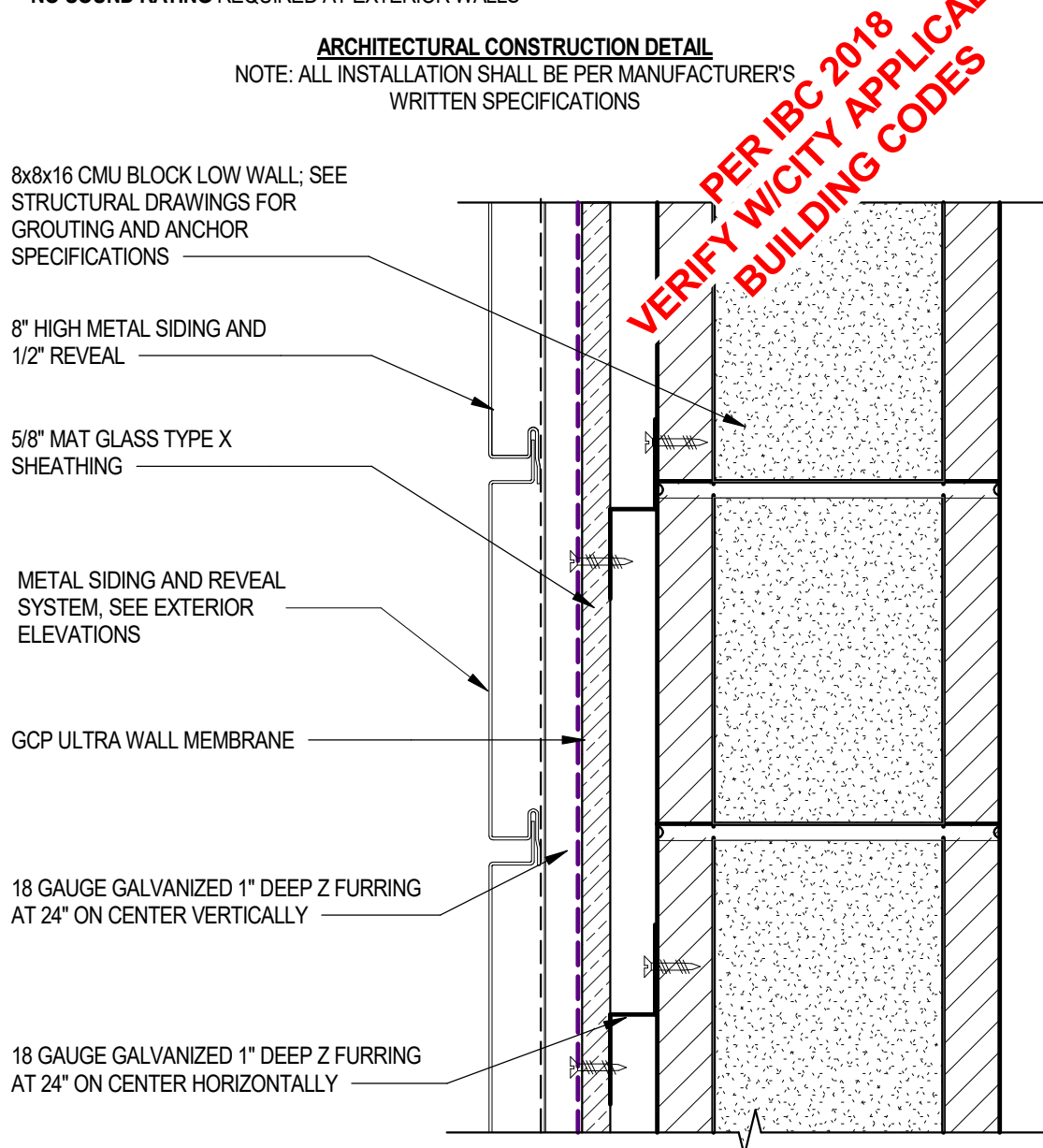
MATERIAL	ITEM #	CONSTRUCTION	MINIMUM FINISHED THICKNESS FACE-TO-FACE (b)		
			3 HOURS	2 HOURS	1 HOUR
CONCRETE MASONRY UNITS	3-1.1 (f) (g)	EXPANDED SLAG OR PUMICE	4.0	3.2	2.1
	3-1.2 (f) (g)	EXPANDED CLAY, SHALE OR SLATE	4.4	3.6	2.6
	3-1.3 (f)	LIMESTONE, CINDERS OR AIR-COOLED SLAG	5.0	4.0	2.7
	3-1.4 (f) (g)	CALCAREOUS OR SILICEOUS GRAVEL	5.3	4.2	2.8

(b) THICKNESS SHOWN FOR BRICK AND CLAY TILE IS NOMINAL THICKNESS UNLESS PLASTERED, IN WHICH CASE THICKNESS ARE NET. THICKNESS SHOWN FOR CONCRETE MASONRY AND CLAY MASONRY IS EQUIVALENT THICKNESS DEFINED IN SECTION 722.3.1 FOR CONCRETE MASONRY AND SECTION 722.4.1.1 FOR CLAY MASONRY. WHERE ALL CELLS ARE SOLID GROUDED OR FILLED WITH SILICONE-TREATED PERLITE LOOSE-FILL INSULATION, VERMICULITE LOOSE-FILL INSULATION, OR EXPANDED CLAY, SHALE OR SLATE LIGHTWEIGHT AGGREGATE, THE EQUIVALENT THICKNESS SHALL BE THE THICKNESS OF THE BLOCK OR BRICK USING SPECIFIED DIMENSIONS AS DEFINED IN CHAPTER 21. EQUIVALENT THICKNESS SHALL INCLUDE THE THICKNESS OF APPLIED PLASTER AND LATH OR GYPSUM WALLBOARD, WHERE SPECIFIED.
(f) THE FIRE-RESISTANCE TIME PERIOD FOR CONCRETE MASONRY UNITS MEETING THE EQUIVALENT THICKNESSES REQUIRED FOR A 2-HOUR FIRE-RESISTANCE RATING IN ITEM 3, AND HAVING A THICKNESS OF NOT LESS THAN 4.00 INCHES IS 4 HOURS WHEN CORES THAT ARE NOT GROUDED ARE FILLED WITH SILICONE-TREATED PERLITE LOOSE-FILL INSULATION, VERMICULITE LOOSE-FILL INSULATION, OR EXPANDED CLAY, SHALE OR SLATE LIGHTWEIGHT AGGREGATE, SAND OR SLAG HAVING A MAXIMUM PARTICLE SIZE OF 3/8 INCH.
(g) THE FIRE-RESISTANCE RATING OF CONCRETE MASONRY UNITS COMPOSED OF A COMBINATION OF AGGREGATE TYPES OR WHERE PLASTER IS APPLIED DIRECTLY TO THE CONCRETE MASONRY SHALL BE DETERMINED IN ACCORDANCE WITH 402.2.16. LIGHTWEIGHT AGGREGATES SHALL HAVE A MAXIMUM COMBINED DENSITY OF 65 POUNDS PER CUBIC FOOT.

2018 IBC SECTIONS:
722.3.1.2 UNGROUTED OR PARTIALLY GROUDED CONSTRUCTION.
(f) SHALL BE THE VALUE OBTAINED FOR THE CONCRETE MASONRY UNIT DETERMINED IN ACCORDANCE WITH ASTM C140.
722.3.1.3 SOLID GROUDED CONSTRUCTION. THE EQUIVALENT THICKNESS, T(e), OF SOLID GROUDED CONCRETE MASONRY UNITS IS THE ACTUAL THICKNESS OF THE UNIT.

UW56 BRICK VENEER AT EXTERIOR MASONRY WALL
2018 IBC TABLE 721.1(2) 3-1.1 - 3-1.4 SCALE: 3" = 1'-0"

CMU WALL WITH FACINGS OR ACCESSORIES - METAL SIDING
GENERIC ASSEMBLY
FIRE TEST: IBC TABLE 721.1(2) 4-1.1
NO SOUND RATING REQUIRED AT EXTERIOR WALLS



IBC TABLE 721.1(2) 4-1.1
THE ASSEMBLY DESCRIPTION BELOW IS PER IBC TABLE 721.1(2) 4-1.1

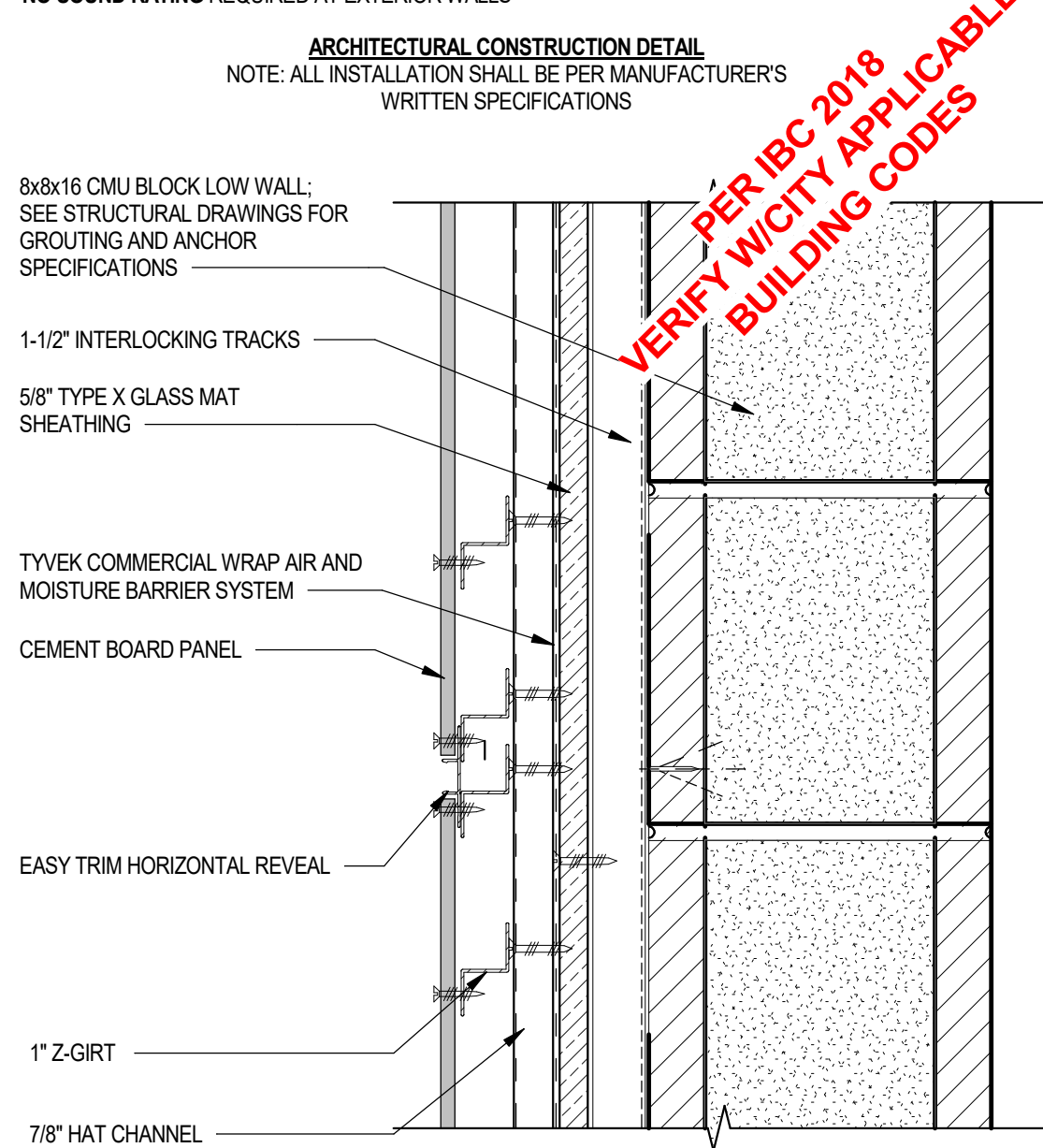
MATERIAL	ITEM #	CONSTRUCTION	MINIMUM FINISHED THICKNESS FACE-TO-FACE (b)		
			3 HOURS	2 HOURS	1 HOUR
CONCRETE MASONRY UNITS	3-1.1 (f) (g)	EXPANDED SLAG OR PUMICE	4.0	3.2	2.1
	3-1.2 (f) (g)	EXPANDED CLAY, SHALE OR SLATE	4.4	3.6	2.6
	3-1.3 (f)	LIMESTONE, CINDERS OR AIR-COOLED SLAG	5.0	4.0	2.7
	3-1.4 (f) (g)	CALCAREOUS OR SILICEOUS GRAVEL	5.3	4.2	2.8

(b) THICKNESS SHOWN FOR BRICK AND CLAY TILE IS NOMINAL THICKNESS UNLESS PLASTERED, IN WHICH CASE THICKNESS ARE NET. THICKNESS SHOWN FOR CONCRETE MASONRY AND CLAY MASONRY IS EQUIVALENT THICKNESS DEFINED IN SECTION 722.3.1 FOR CONCRETE MASONRY AND SECTION 722.4.1.1 FOR CLAY MASONRY. WHERE ALL CELLS ARE SOLID GROUDED OR FILLED WITH SILICONE-TREATED PERLITE LOOSE-FILL INSULATION, VERMICULITE LOOSE-FILL INSULATION, OR EXPANDED CLAY, SHALE OR SLATE LIGHTWEIGHT AGGREGATE, THE EQUIVALENT THICKNESS SHALL BE THE THICKNESS OF THE BLOCK OR BRICK USING SPECIFIED DIMENSIONS AS DEFINED IN CHAPTER 21. EQUIVALENT THICKNESS SHALL INCLUDE THE THICKNESS OF APPLIED PLASTER AND LATH OR GYPSUM WALLBOARD, WHERE SPECIFIED.
(f) THE FIRE-RESISTANCE TIME PERIOD FOR CONCRETE MASONRY UNITS MEETING THE EQUIVALENT THICKNESSES REQUIRED FOR A 2-HOUR FIRE-RESISTANCE RATING IN ITEM 3, AND HAVING A THICKNESS OF NOT LESS THAN 4.00 INCHES IS 4 HOURS WHEN CORES THAT ARE NOT GROUDED ARE FILLED WITH SILICONE-TREATED PERLITE LOOSE-FILL INSULATION, VERMICULITE LOOSE-FILL INSULATION, OR EXPANDED CLAY, SHALE OR SLATE LIGHTWEIGHT AGGREGATE, SAND OR SLAG HAVING A MAXIMUM PARTICLE SIZE OF 3/8 INCH.
(g) THE FIRE-RESISTANCE RATING OF CONCRETE MASONRY UNITS COMPOSED OF A COMBINATION OF AGGREGATE TYPES OR WHERE PLASTER IS APPLIED DIRECTLY TO THE CONCRETE MASONRY SHALL BE DETERMINED IN ACCORDANCE WITH 402.2.16. LIGHTWEIGHT AGGREGATES SHALL HAVE A MAXIMUM COMBINED DENSITY OF 65 POUNDS PER CUBIC FOOT.

2018 IBC SECTIONS:
722.3.1.2 UNGROUTED OR PARTIALLY GROUDED CONSTRUCTION.
(f) SHALL BE THE VALUE OBTAINED FOR THE CONCRETE MASONRY UNIT DETERMINED IN ACCORDANCE WITH ASTM C140.
722.3.1.3 SOLID GROUDED CONSTRUCTION. THE EQUIVALENT THICKNESS, T(e), OF SOLID GROUDED CONCRETE MASONRY UNITS IS THE ACTUAL THICKNESS OF THE UNIT.

UW51 METAL SIDING OVER EXTERIOR MASONRY WALL
2018 IBC TABLE 721.1(2) 3-1.1 - 3-1.4 SCALE: 3" = 1'-0"

CMU WALL WITH FACINGS OR ACCESSORIES - CEMENT BOARD SIDING
GENERIC ASSEMBLY
FIRE TEST: IBC TABLE 721.1(2) 4-1.1
NO SOUND RATING REQUIRED AT EXTERIOR WALLS



IBC TABLE 721.1(2) 4-1.1
THE ASSEMBLY DESCRIPTION BELOW IS PER IBC TABLE 721.1(2) 4-1.1

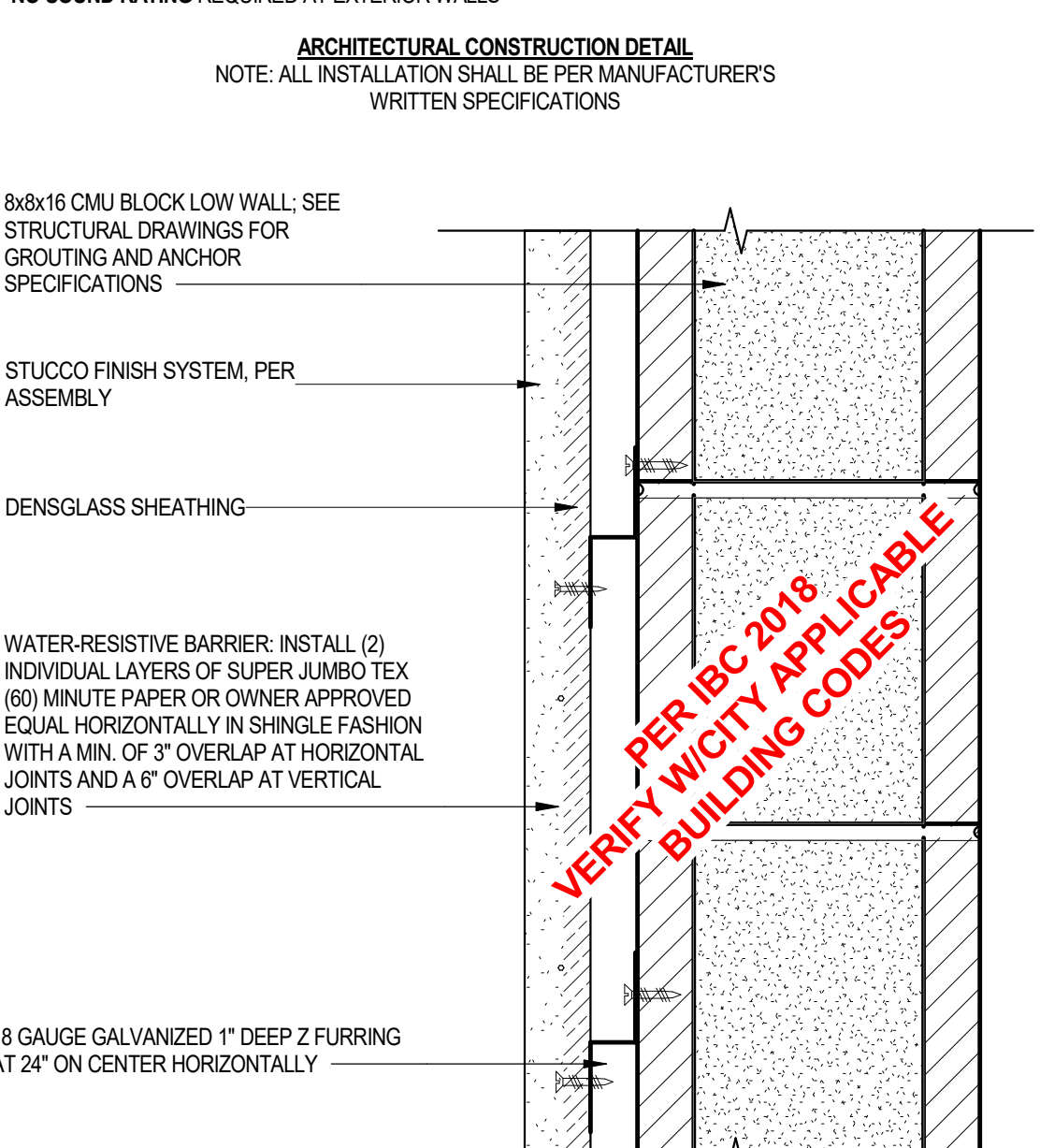
MATERIAL	ITEM #	CONSTRUCTION	MINIMUM FINISHED THICKNESS FACE-TO-FACE (b)		
			3 HOURS	2 HOURS	1 HOUR
CONCRETE MASONRY UNITS	3-1.1 (f) (g)	EXPANDED SLAG OR PUMICE	4.0	3.2	2.1
	3-1.2 (f) (g)	EXPANDED CLAY, SHALE OR SLATE	4.4	3.6	2.6
	3-1.3 (f)	LIMESTONE, CINDERS OR AIR-COOLED SLAG	5.0	4.0	2.7
	3-1.4 (f) (g)	CALCAREOUS OR SILICEOUS GRAVEL	5.3	4.2	2.8

(b) THICKNESS SHOWN FOR BRICK AND CLAY TILE IS NOMINAL THICKNESS UNLESS PLASTERED, IN WHICH CASE THICKNESS ARE NET. THICKNESS SHOWN FOR CONCRETE MASONRY AND CLAY MASONRY IS EQUIVALENT THICKNESS DEFINED IN SECTION 722.3.1 FOR CONCRETE MASONRY AND SECTION 722.4.1.1 FOR CLAY MASONRY. WHERE ALL CELLS ARE SOLID GROUDED OR FILLED WITH SILICONE-TREATED PERLITE LOOSE-FILL INSULATION, VERMICULITE LOOSE-FILL INSULATION, OR EXPANDED CLAY, SHALE OR SLATE LIGHTWEIGHT AGGREGATE, THE EQUIVALENT THICKNESS SHALL BE THE THICKNESS OF THE BLOCK OR BRICK USING SPECIFIED DIMENSIONS AS DEFINED IN CHAPTER 21. EQUIVALENT THICKNESS SHALL INCLUDE THE THICKNESS OF APPLIED PLASTER AND LATH OR GYPSUM WALLBOARD, WHERE SPECIFIED.
(f) THE FIRE-RESISTANCE TIME PERIOD FOR CONCRETE MASONRY UNITS MEETING THE EQUIVALENT THICKNESSES REQUIRED FOR A 2-HOUR FIRE-RESISTANCE RATING IN ITEM 3, AND HAVING A THICKNESS OF NOT LESS THAN 4.00 INCHES IS 4 HOURS WHEN CORES THAT ARE NOT GROUDED ARE FILLED WITH SILICONE-TREATED PERLITE LOOSE-FILL INSULATION, VERMICULITE LOOSE-FILL INSULATION, OR EXPANDED CLAY, SHALE OR SLATE LIGHTWEIGHT AGGREGATE, SAND OR SLAG HAVING A MAXIMUM PARTICLE SIZE OF 3/8 INCH.
(g) THE FIRE-RESISTANCE RATING OF CONCRETE MASONRY UNITS COMPOSED OF A COMBINATION OF AGGREGATE TYPES OR WHERE PLASTER IS APPLIED DIRECTLY TO THE CONCRETE MASONRY SHALL BE DETERMINED IN ACCORDANCE WITH 402.2.16. LIGHTWEIGHT AGGREGATES SHALL HAVE A MAXIMUM COMBINED DENSITY OF 65 POUNDS PER CUBIC FOOT.

2018 IBC SECTIONS:
722.3.1.2 UNGROUTED OR PARTIALLY GROUDED CONSTRUCTION.
(f) SHALL BE THE VALUE OBTAINED FOR THE CONCRETE MASONRY UNIT DETERMINED IN ACCORDANCE WITH ASTM C140.
722.3.1.3 SOLID GROUDED CONSTRUCTION. THE EQUIVALENT THICKNESS, T(e), OF SOLID GROUDED CONCRETE MASONRY UNITS IS THE ACTUAL THICKNESS OF THE UNIT.

UW41 METAL SIDING OVER EXTERIOR MASONRY WALL
2018 IBC TABLE 721.1(2) 3-1.1 - 3-1.4 SCALE: 3" = 1'-0"

CMU WALL WITH FACINGS OR ACCESSORIES - STUCCO FINISH
GENERIC ASSEMBLY
FIRE TEST: IBC TABLE 721.1(2) 4-1.1
NO SOUND RATING REQUIRED AT EXTERIOR WALLS



IBC TABLE 721.1(2) 4-1.1
THE ASSEMBLY DESCRIPTION BELOW IS PER IBC TABLE 721.1(2) 4-1.1

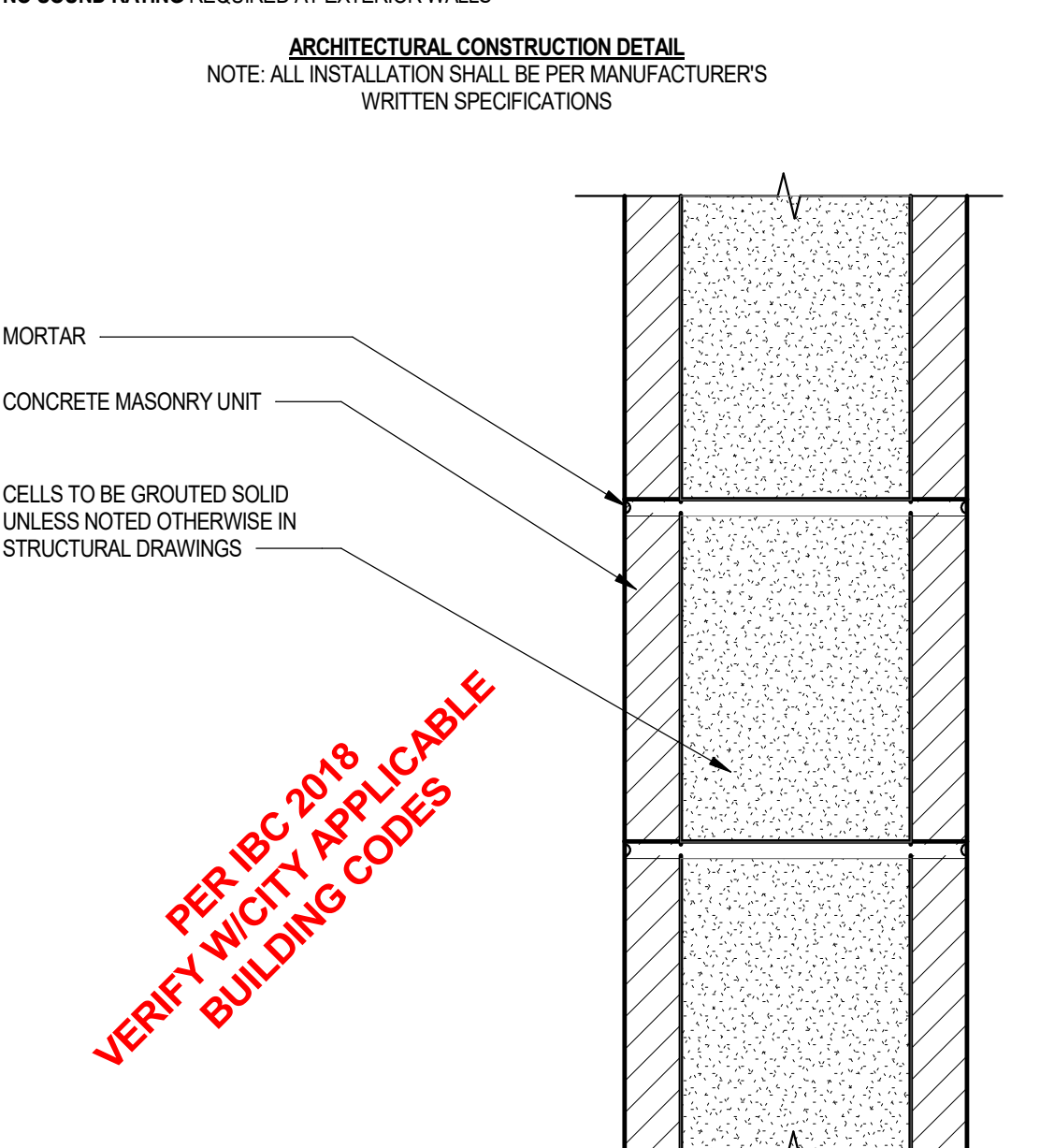
MATERIAL	ITEM #	CONSTRUCTION	MINIMUM FINISHED THICKNESS FACE-TO-FACE (b)		
			3 HOURS	2 HOURS	1 HOUR
CONCRETE MASONRY UNITS	3-1.1 (f) (g)	EXPANDED SLAG OR PUMICE	4.0	3.2	2.1
	3-1.2 (f) (g)	EXPANDED CLAY, SHALE OR SLATE	4.4	3.6	2.6
	3-1.3 (f)	LIMESTONE, CINDERS OR AIR-COOLED SLAG	5.0	4.0	2.7
	3-1.4 (f) (g)	CALCAREOUS OR SILICEOUS GRAVEL	5.3	4.2	2.8

(b) THICKNESS SHOWN FOR BRICK AND CLAY TILE IS NOMINAL THICKNESS UNLESS PLASTERED, IN WHICH CASE THICKNESS ARE NET. THICKNESS SHOWN FOR CONCRETE MASONRY AND CLAY MASONRY IS EQUIVALENT THICKNESS DEFINED IN SECTION 722.3.1 FOR CONCRETE MASONRY AND SECTION 722.4.1.1 FOR CLAY MASONRY. WHERE ALL CELLS ARE SOLID GROUDED OR FILLED WITH SILICONE-TREATED PERLITE LOOSE-FILL INSULATION, VERMICULITE LOOSE-FILL INSULATION, OR EXPANDED CLAY, SHALE OR SLATE LIGHTWEIGHT AGGREGATE, THE EQUIVALENT THICKNESS SHALL BE THE THICKNESS OF THE BLOCK OR BRICK USING SPECIFIED DIMENSIONS AS DEFINED IN CHAPTER 21. EQUIVALENT THICKNESS SHALL INCLUDE THE THICKNESS OF APPLIED PLASTER AND LATH OR GYPSUM WALLBOARD, WHERE SPECIFIED.
(f) THE FIRE-RESISTANCE TIME PERIOD FOR CONCRETE MASONRY UNITS MEETING THE EQUIVALENT THICKNESSES REQUIRED FOR A 2-HOUR FIRE-RESISTANCE RATING IN ITEM 3, AND HAVING A THICKNESS OF NOT LESS THAN 4.00 INCHES IS 4 HOURS WHEN CORES THAT ARE NOT GROUDED ARE FILLED WITH SILICONE-TREATED PERLITE LOOSE-FILL INSULATION, VERMICULITE LOOSE-FILL INSULATION, OR EXPANDED CLAY, SHALE OR SLATE LIGHTWEIGHT AGGREGATE, SAND OR SLAG HAVING A MAXIMUM PARTICLE SIZE OF 3/8 INCH.
(g) THE FIRE-RESISTANCE RATING OF CONCRETE MASONRY UNITS COMPOSED OF A COMBINATION OF AGGREGATE TYPES OR WHERE PLASTER IS APPLIED DIRECTLY TO THE CONCRETE MASONRY SHALL BE DETERMINED IN ACCORDANCE WITH 402.2.16. LIGHTWEIGHT AGGREGATES SHALL HAVE A MAXIMUM COMBINED DENSITY OF 65 POUNDS PER CUBIC FOOT.

2018 IBC SECTIONS:
722.3.1.2 UNGROUTED OR PARTIALLY GROUDED CONSTRUCTION.
(f) SHALL BE THE VALUE OBTAINED FOR THE CONCRETE MASONRY UNIT DETERMINED IN ACCORDANCE WITH ASTM C140.
722.3.1.3 SOLID GROUDED CONSTRUCTION. THE EQUIVALENT THICKNESS, T(e), OF SOLID GROUDED CONCRETE MASONRY UNITS IS THE ACTUAL THICKNESS OF THE UNIT.

UW11 STUCCO OVER EXTERIOR MASONRY WALL
2018 IBC TABLE 721.1(2) 3-1.1 - 3-1.4 SCALE: 3" = 1'-0"

CMU WALL
GENERIC ASSEMBLY
FIRE TEST: IBC TABLE 721.1(2) 4-1.1
NO SOUND RATING REQUIRED AT EXTERIOR WALLS



IBC TABLE 721.1(2) 4-1.1
THE ASSEMBLY DESCRIPTION BELOW IS PER IBC TABLE 721.1(2) 4-1.1

MATERIAL	ITEM #	CONSTRUCTION	MINIMUM FINISHED THICKNESS FACE-TO-FACE (b)		
			3 HOURS	2 HOURS	1 HOUR
CONCRETE MASONRY UNITS	3-1.1 (f) (g)	EXPANDED SLAG OR PUMICE	4.0	3.2	2.1
	3-1.2 (f) (g)	EXPANDED CLAY, SHALE OR SLATE	4.4	3.6	2.6
	3-1.3 (f)	LIMESTONE, CINDERS OR AIR-COOLED SLAG	5.0	4.0	2.7
	3-1.4 (f) (g)	CALCAREOUS OR SILICEOUS GRAVEL	5.3	4.2	2.8

(b) THICKNESS SHOWN FOR BRICK AND CLAY TILE IS NOMINAL THICKNESS UNLESS PLASTERED, IN WHICH CASE THICKNESS ARE NET. THICKNESS SHOWN FOR CONCRETE MASONRY AND CLAY MASONRY IS EQUIVALENT THICKNESS DEFINED IN SECTION 722.3.1 FOR CONCRETE MASONRY AND SECTION 722.4.1.1 FOR CLAY MASONRY. WHERE ALL CELLS ARE SOLID GROUDED OR FILLED WITH SILICONE-TREATED PERLITE LOOSE-FILL INSULATION, VERMICULITE LOOSE-FILL INSULATION, OR EXPANDED CLAY, SHALE OR SLATE LIGHTWEIGHT AGGREGATE, THE EQUIVALENT THICKNESS SHALL BE THE THICKNESS OF THE BLOCK OR BRICK USING SPECIFIED DIMENSIONS AS DEFINED IN CHAPTER 21. EQUIVALENT THICKNESS SHALL INCLUDE THE THICKNESS OF APPLIED PLASTER AND LATH OR GYPSUM WALLBOARD, WHERE SPECIFIED.
(f) THE FIRE-RESISTANCE TIME PERIOD FOR CONCRETE MASONRY UNITS MEETING THE EQUIVALENT THICKNESSES REQUIRED FOR A 2-HOUR FIRE-RESISTANCE RATING IN ITEM 3, AND HAVING A THICKNESS OF NOT LESS THAN 4.00 INCHES IS 4 HOURS WHEN CORES THAT ARE NOT GROUDED ARE FILLED WITH SILICONE-TREATED PERLITE LOOSE-FILL INSULATION, VERMICULITE LOOSE-FILL INSULATION, OR EXPANDED CLAY, SHALE OR SLATE LIGHTWEIGHT AGGREGATE, SAND OR SLAG HAVING A MAXIMUM PARTICLE SIZE OF 3/8 INCH.
(g) THE FIRE-RESISTANCE RATING OF CONCRETE MASONRY UNITS COMPOSED OF A COMBINATION OF AGGREGATE TYPES OR WHERE PLASTER IS APPLIED DIRECTLY TO THE CONCRETE MASONRY SHALL BE DETERMINED IN ACCORDANCE WITH 402.2.16. LIGHTWEIGHT AGGREGATES SHALL HAVE A MAXIMUM COMBINED DENSITY OF 65 POUNDS PER CUBIC FOOT.

2018 IBC SECTIONS:
722.3.1.2 UNGROUTED OR PARTIALLY GROUDED CONSTRUCTION.
(f) SHALL BE THE VALUE OBTAINED FOR THE CONCRETE MASONRY UNIT DETERMINED IN ACCORDANCE WITH ASTM C140.
722.3.1.3 SOLID GROUDED CONSTRUCTION. THE EQUIVALENT THICKNESS, T(e), OF SOLID GROUDED CONCRETE MASONRY UNITS IS THE ACTUAL THICKNESS OF THE UNIT.

UW01 CMU WALL
2018 IBC TABLE 721.1(2) 3-1.1 - 3-1.4 SCALE: 3" = 1'-0"

Project Name 1
Project Name 2
Street Address
City, state
Office of Rich Barber Architecture, LLC
ORB
WorldHQ@ORBArch.com

PRELIMINARY
NOT FOR
CONSTRUCTION

ADVANCE
RESIDENTIAL COMPANY
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REVISIONS/SUBMITTALS
DATE DESCRIPTION

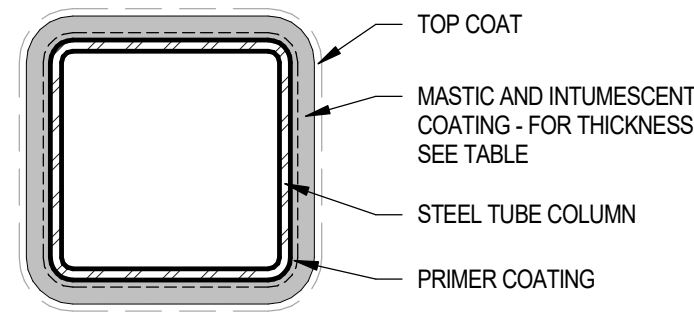
DATE: July 17, 2024 ORB #: 00-000
A7.1.50
FIRE ASSEMBLIES - COLUMNS AND CMU & CONCRETE WALLS

RATED COLUMN
 May 12, 2022
 FIRE TEST: UL DESIGN V634
 REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.

DESIGN NO. V634
 BXUV - FIRE RESISTANCE RATINGS - ANSI UL 263 CERTIFIED FOR UNITED STATES

- STEEL TUBE COLUMN** — STEEL RECTANGULAR TUBE (ST) OR PIPE (SP) COLUMNS WITH THE MINIMUM SIZES SHOWN IN THE TABLES BELOW.
- PRIMER COATING** — 60 MICRON (2 MIL) THICKNESS OF A TWO COMPONENT EPOXY PRIMER OR 60 MICRON (2 MIL) THICKNESS OF AN ALKYL PRIMER OR 60 MICRON (2 MIL) THICKNESS OF AN ACRYLIC PRIMER OR 60 MICRON (2 MIL) THICKNESS OF A POLYURETHANE PRIMER.
- MASTIC & INTUMESCENT COATING** — COATING SPRAY OR BRUSH APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AT THE MINIMUM AVERAGE DRY THICKNESS SHOWN IN THE THICKNESS BELOW. THE THICKNESS SHOWN DOES NOT INCLUDE PRIMER THICKNESS.
- TOP COAT (NOT SHOWN)** — THE FOLLOWING TOPCOATS SHALL BE USED FOR COMPLIANCE WITH EXTERIOR ENVIRONMENTAL EXPOSURE REQUIREMENT. SOLVENT BASED 2 PACK TOPCOAT TYPE HENSOTOP 2K PU APPLIED AT A DRY FILM THICKNESS OF 100 MICRONS (4 MIL) OR ACRYLIC POLYURETHANE TOPCOAT TYPE HI SOLIDS POLYURETHANE 250 APPLIED AT A DRY FILM THICKNESS OF 100 MICRONS (4 MIL) OR WATERBASED URETHANE TOPCOAT TYPE ACROLON 100HS AT A DRY FILM THICKNESS OF 100 MICRONS (4 MIL).

ARCHITECTURAL CONSTRUCTION DETAIL
 NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURER'S WRITTEN SPECIFICATIONS



NOTE:
 SPECIAL INSPECTION REQUIRED FOR INTUMESCENT FIRE-RESISTING COATING PER **IBC 1706.15 MASTIC AND INTUMESCENT FIRE-RESISTANT COATING**
 REFER TO STRUCTURAL.

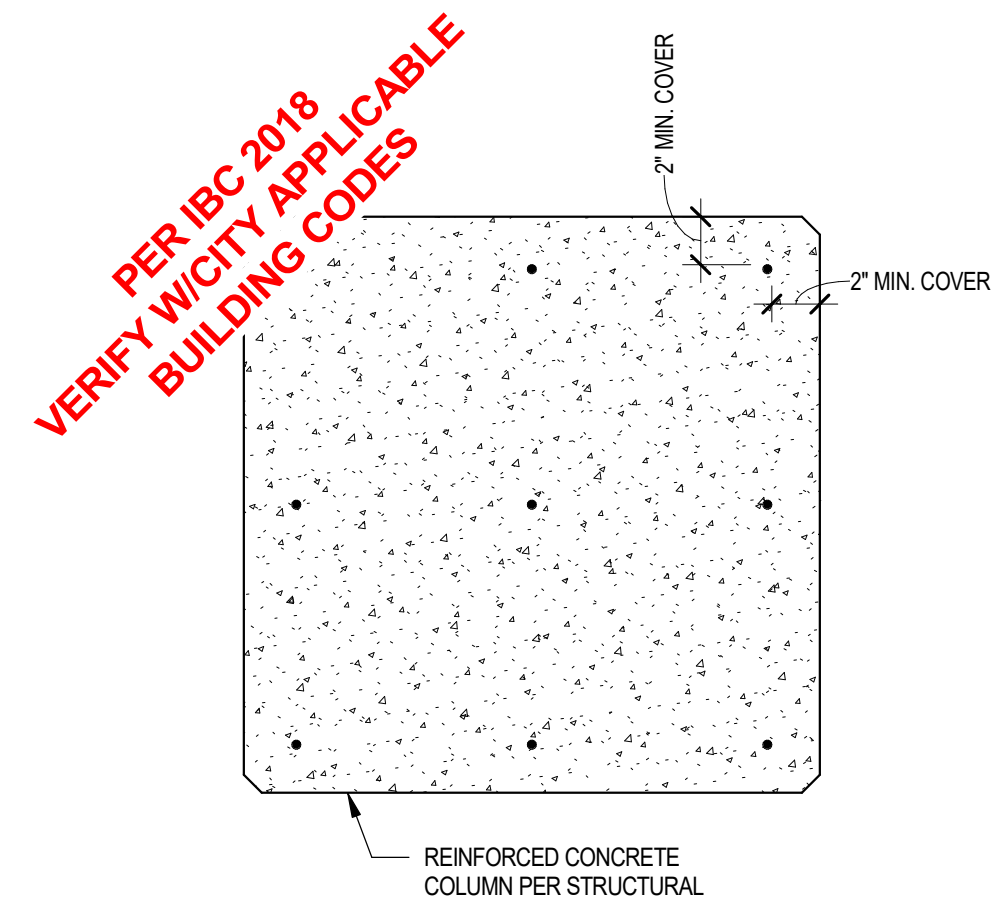
INTUMESCENT COATING THICKNESS					
MEMBER TYPE	MEMBER DESIGNATION	FIRE RATING	SECTION FACTOR	REQUIRED (DRY FILM THICKNESS) DFT (MILS)	REQUIRED (WET FILM THICKNESS) WFT
SQUARE HOLLOW SECTIONS	4x4x5/16	1-HR	0.29	112	160
SQUARE HOLLOW SECTIONS	4x4x1/4	1-HR	0.23	144	206
SQUARE HOLLOW SECTIONS	5x5x1/4	1-HR	0.22	144	206
SQUARE HOLLOW SECTIONS	5x5x3/8	1-HR	0.33	97	139
SQUARE HOLLOW SECTIONS	7x7x3/8	1-HR	0.34	93	133
SQUARE HOLLOW SECTIONS	10x10x3/8	1-HR	0.34	93	133

CC 03 1-HR RATED STEEL COLUMN W/INTUMESCENT COATING

SCALE: 3" = 1'-0"

CMU WALL WITH FACINGS OR ACCESSORIES - METAL SIDING
 GENERIC ASSEMBLY
 FIRE TEST: IBC TABLE 721.102(N)6, 3-1-1 - 3-1-4
 NO SOUND RATING REQUIRED AT EXTERIOR WALLS

ARCHITECTURAL CONSTRUCTION DETAIL
 NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURER'S WRITTEN SPECIFICATIONS



EXCERPT FROM TABLE 722.2.4 MINIMUM DIMENSION OF CONCRETE COLUMNS (INCHES)

TYPE OF CONCRETE	FIRE RESISTANCE RATING (HOURS)	
	2"	3"
SILICEOUS	10	12
CARBONATE	10	11
SAND - LIGHTWEIGHT	9	10 1/2

NOTE: FOR SI: 1 INCH = 25 MM

a. THE MINIMUM DIMENSION IS PERMITTED TO BE REDUCED TO 8 INCHES FOR RECTANGULAR COLUMNS WITH TWO PARALLEL SIDES NOT LESS THAN 36 INCHES IN LENGTH.

PER IBC 722.2.4.2 MINIMUM COVER FOR RC COLUMNS. THE MINIMUM THICKNESS OF CONCRETE COVER TO THE MAIN LONGITUDINAL REINFORCEMENT IN COLUMNS, REGARDLESS OF THE TYPE OF AGGREGATE USED IN THE CONCRETE AND THE SPECIFIED COMPRESSIVE STRENGTH OF CONCRETE, F'c, SHALL NOT BE LESS THAN 1 INCH (25mm) TIMES THE NUMBER OF HOURS OF REQUIRED FIRE RESISTANCE OR 2 INCHES (51 mm), WHICHEVER IS LESS.

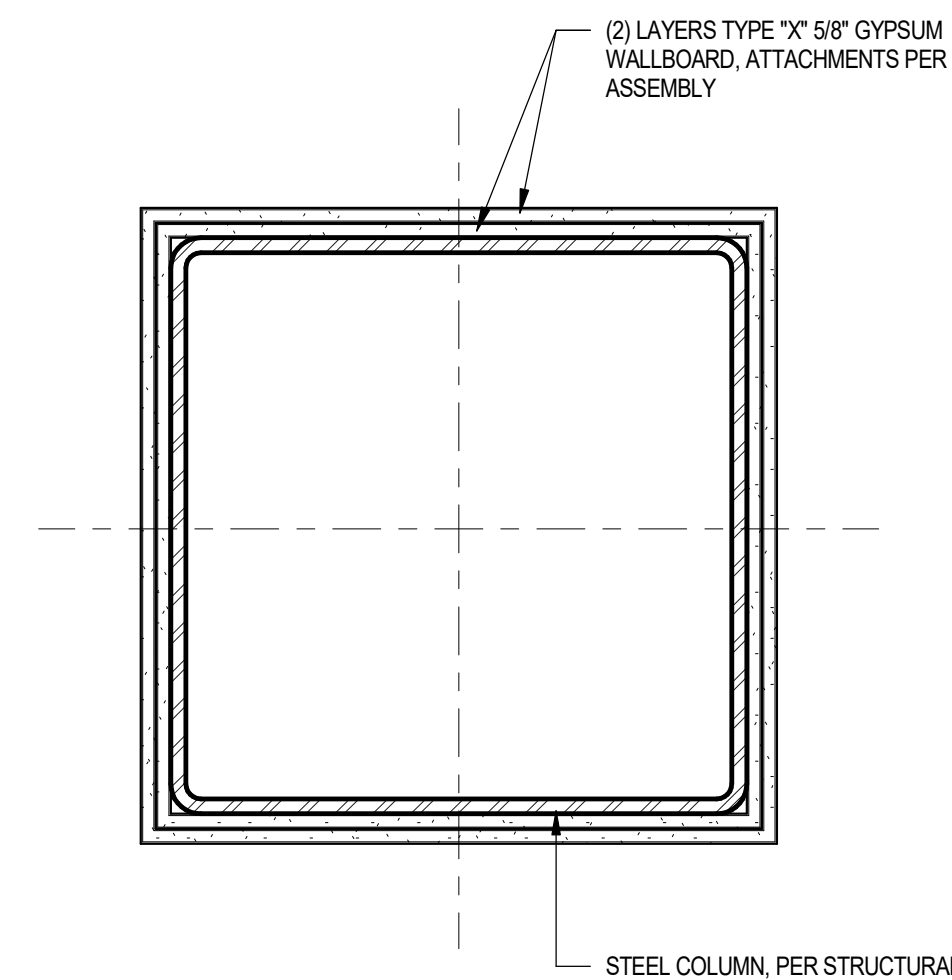
CC 01 CONCRETE COLUMN FIRE RATING & CONCRETE COVER FOR 3HR RATED COLUMN

2018 IBC TABLE 722.2.4

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

1-HR RATED STEEL COLUMN
 GENERIC ASSEMBLY - June 2021
 FIRE TEST: GA FILE NO. CM 1450

ARCHITECTURAL CONSTRUCTION DETAIL
 NOTE: ALL INSTALLATION SHALL BE PER MANUFACTURER'S WRITTEN SPECIFICATIONS



DESIGN NO. WP 806
 GYPSUM WALLBOARD, GLASS MAT GYPSUM PANELS STEEL STUDS, INSULATION

FIRE TEST: UL NC505(1-8), 71NK2639, 12-23-75; UL NC535, 71NK1518, UL Design X526

FIRE DESIGN:

BASE LAYER 1/2" TYPE X GYPSUM WALLBOARD APPLIED AROUND TS4X4X0.188 TUBE STEEL COLUMN AND HELD IN PLACE WITH PAPER MASKING TAPE. SECOND LAYER 1/2" TYPE X GYPSUM WALLBOARD APPLIED AROUND COLUMN AND HELD IN PLACE WITH PAPER MASKING TAPE. FACE LAYER EITHER NO. 24 MSS GALVANIZED STEEL COLUMN COVER CONSISTING OF TWO L-SHAPED SECTIONS WITH SNAP-LOCK SHEET STEEL JOINTS OR NO. 22 MSS GALVANIZED STEEL COLUMN COVERS CONSISTING OF TWO L-SHAPED SECTIONS WITH LAP JOINTS FASTENED WITH NO. 8X1/2" SHEET METAL SCREWS 12" O.C.

HORIZONTAL JOINTS STAGGERED 24" BETWEEN LAYERS.

CC 02 1-HR RATED STEEL COLUMN

GA CM 1450

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

Project Name 1
Project Name 2

Street Address
 City, state



PRELIMINARY
NOT FOR
CONSTRUCTION



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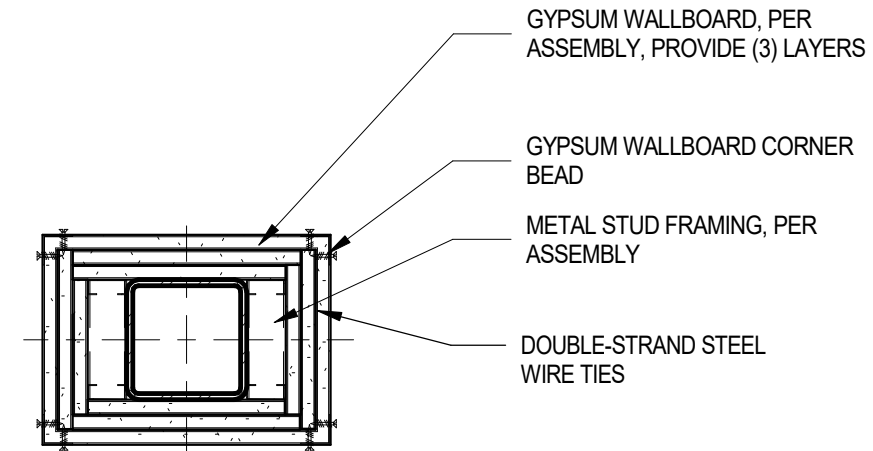
Notice of alternate billing (or payment) cycle
 This contract states (may allow) the owner to require the submission of billings or estimates in billing cycles other than thirty days. (This contract may allow the owner to make payment on some alternative schedule after verification and approval of billings and estimates). A written description of such other billing (and/or) cycle applicable to this project is available from the owner or the owner's designated agent at ALLIANCE RESIDENTIAL COMPANY, 2525 E. CAMBRIDGE RD., SUITE 500, PHOENIX, AZ 85016 (602) 778-2822. Ask the owner or its designated agent what provide this written description of payment.

REVISIONS/SUBMITTALS

DATE DESCRIPTION

DATE: July 17, 2024 ORB #: 00-000

A7.1.51
 FIRE ASSEMBLIES - CONCRETE & STEEL COLUMNS



BASED ON IBC TABLE 721.1(1) ITEM 17.3:
THREE LAYERS OF 5/8" TYPE X GYPSUM WALLBOARD, EACH LAYER SCREW ATTACHED TO 1-5/8" STEEL STUDS 0.018" THICK (NO. 25 CARBON SHEET STEEL GAUGE) AT EACH CORNER OF COLUMN. MIDDLE LAYER ALSO SECURED WITH (0.049" NO. 18 B.W. GAUGE) DOUBLE-STRAND STEEL WIRE TIES, 24" ON CENTER. SCREWS ARE NO. 6 BY 1" SPACED 24" ON CENTER FOR INNER LAYER, NO. 6 BY 1-5/8" SPACED 12" ON CENTER FOR MIDDLE LAYER AND NO. 8 BY 2-1/4" SPACED 12" ON CENTER FOR OUTER LAYER.

Project Name 1 Project Name 2

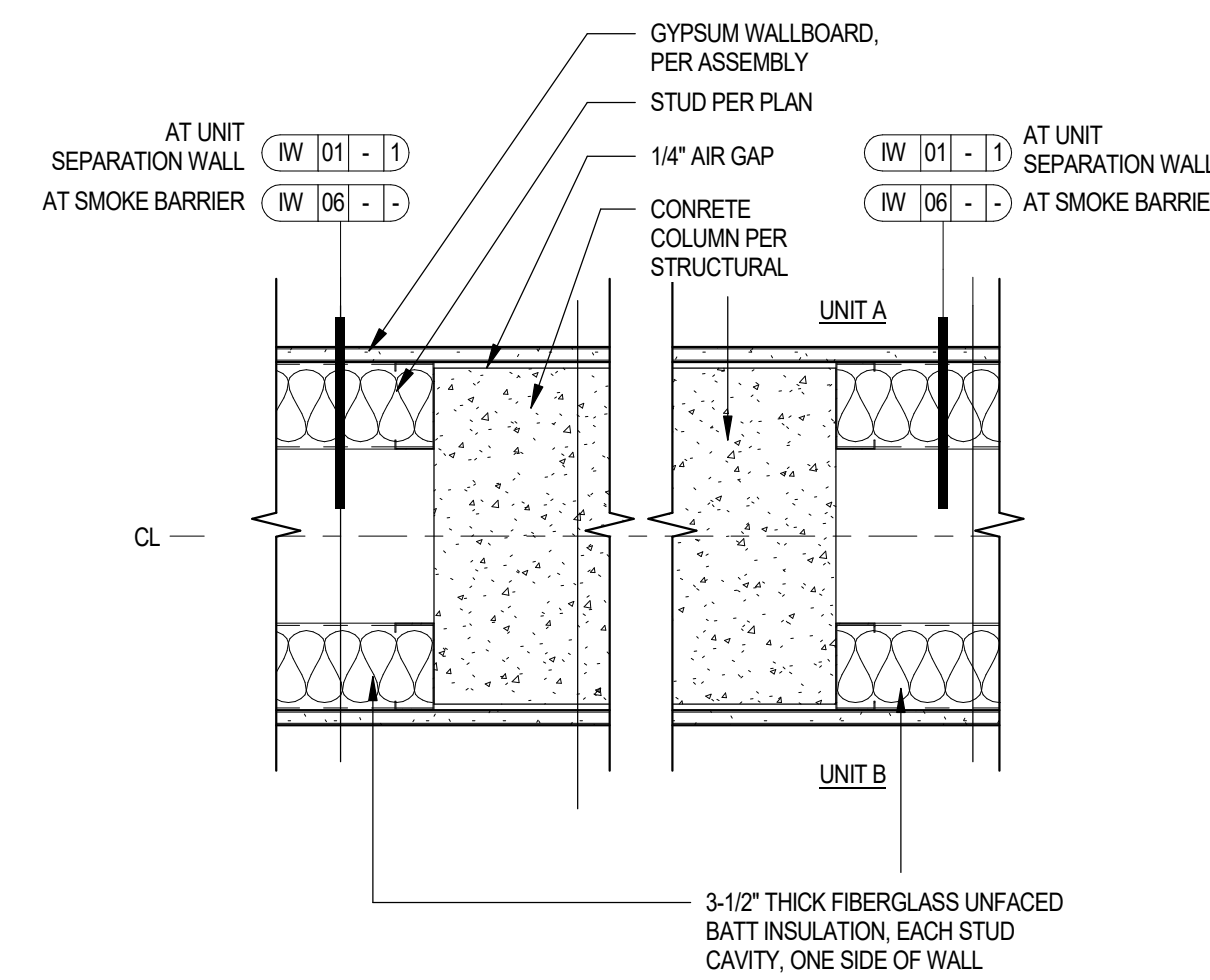
Street Address
City, state



WorldHQ@ORBArch.com

01 3 HR FIRE RATED PROTECTION AT COLUMN WITH GYPSUM BOARD

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

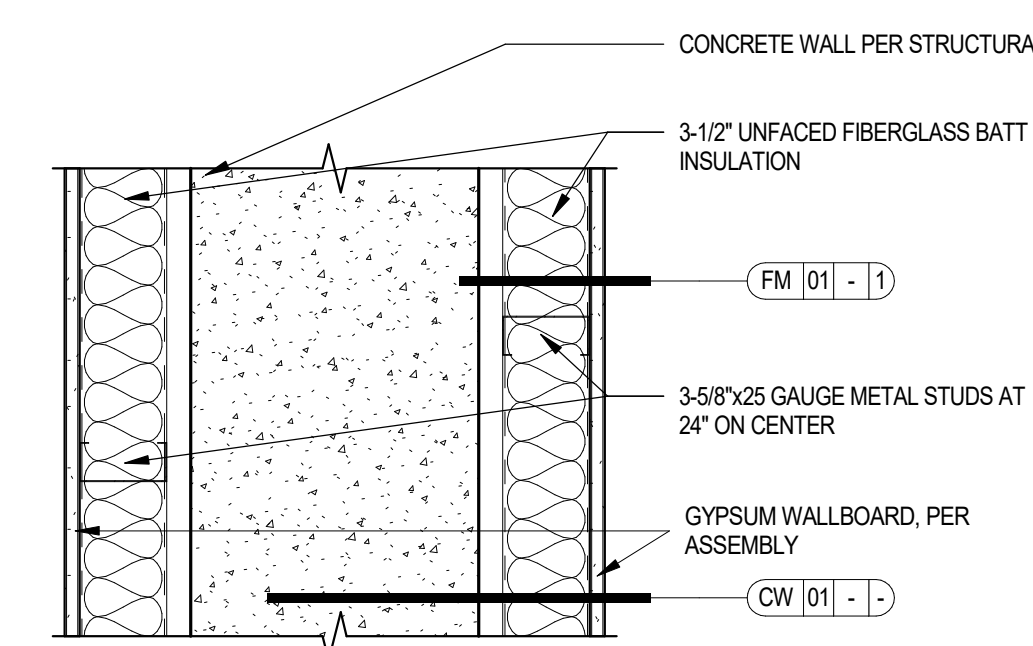


PRELIMINARY
NOT FOR
CONSTRUCTION



02 1-HR WALL AT CONCRETE COLUMN - METAL FRAMING

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

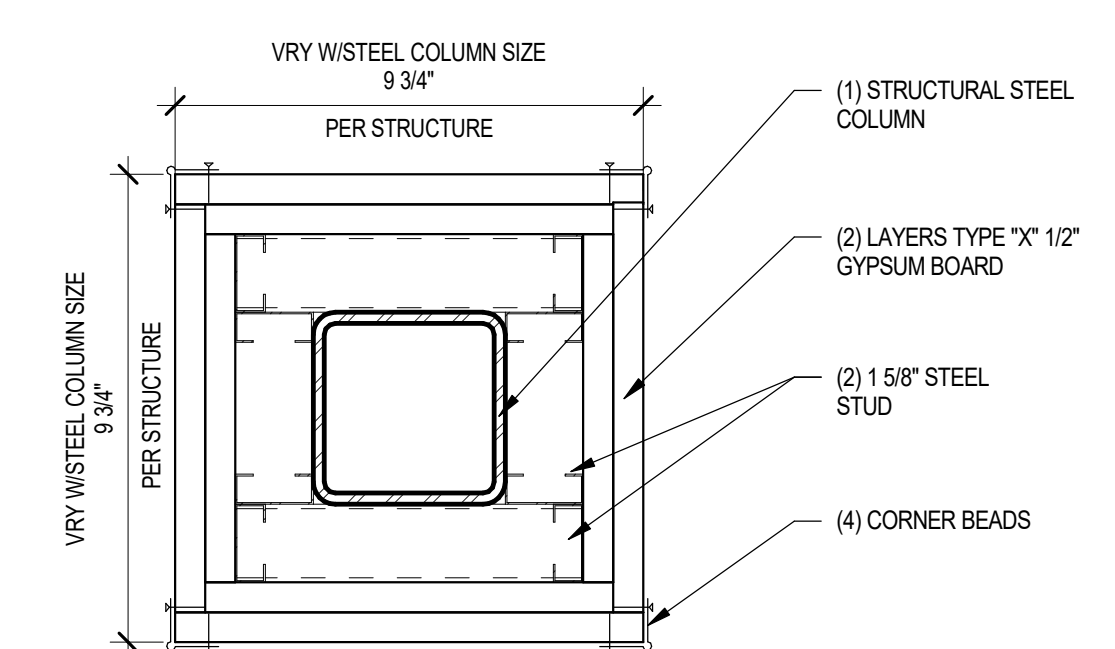


NOTE:
ALL ASSEMBLIES FORMING SMOKE BARRIERS OR SMOKE PARTITIONS SHALL BE SEALED TO PREVENT THE PASSAGE OF SMOKE AS REQUIRED BY CODE

SW 02 1-HOUR SMOKE BARRIER AT SHEAR WALL

03 1-HR UNIT SEPARATION WALL AT CONC. SHEAR WALL

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



NOTE:
CONSTRUCT PER COLUMN PROTECTION DETAIL

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ALLIANCE RESIDENTIAL COMPANY
2525 E. CAMERLACK RD., SUITE 500, PHOENIX, AZ 85016
(602) 778-2822
Only the owner or his designated agent shall provide this written description of payment.

REVISIONS/SUBMITTALS

DATE	DESCRIPTION
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DATE: July 17, 2024 ORB #: 00-000

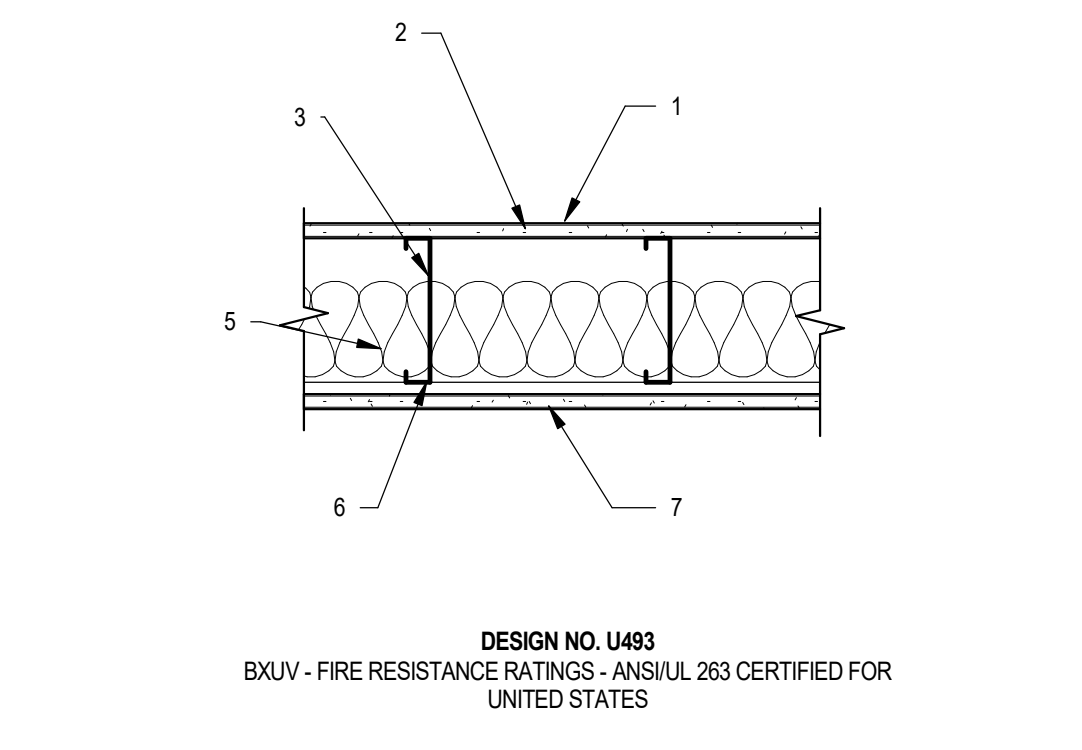
A7.1.52

FIRE RATED COLUMN PROTECTION

04 1HR FIRE RATED STEEL COLUMN GYP. PROTECTION SQUARE PROFILE

SCALE: 3" = 1'-0"

1-HR ROOF/CEILING ASSEMBLY - FILLED WITH INSULATION
PROPRIETARY ASSEMBLY, June 20, 2023
FIRE TEST: UL DESIGN NO. P561
SOUND RATING: REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.



DESIGN NO. U485
BXU-V, FIRE RESISTANCE RATINGS - ANSUL 263 CERTIFIED FOR UNITED STATES

- 1. ROOF COVERING - CONSISTING OF HOT-MOPPED OR COLD APPLICATION MATERIALS WHICH PROVIDE CLASS A, B OR C COVERINGS, DIRECTLY APPLIED TO STRUCTURAL CEMENT-FIBER UNIT(ITEM 2). SEE ROOFING MATERIALS AND SYSTEMS DIRECTORY-ROOF COVERING MATERIALS (TEVT).
2. ROOFING SYSTEM - 1-HOUR RATING
3. STRUCTURAL CEMENT-FIBER UNITS - NOM 3/4 IN. THICK, WITH LONG EDGES TONGUE AND GROOVED LONG DIMENSION OF PANELS TO BE PERPENDICULAR TO JOISTS WITH END JOINTS STAGGERED A MIN OF 2 FT AND CENTERED OVER THE JOISTS. PANELS SECURED TO STEEL JOISTS WITH 1-5/8 IN. LONG NO. 8 SELF-DRILLING, SELF-COUNTERSINKING STEEL SCREWS SPACED A MAX OF 12 IN. ON THE FIELD WITH A SCREW LOCATED 1 IN. AND 2 IN. FROM EACH EDGE, AND 8 IN. ON THE PERIMETER WITH A SCREW LOCATED 2 IN. FROM EACH EDGE, LOCATED 1/2 IN. FROM THE SIDE EDGES OF THE PANEL.

AS AN ALTERNATE TO THE 1-5/8" LONG NO. 8 FASTENER, THE FOLLOWING POWER-ACTUATED PINS MAY BE USED FOR MIN. 1/8" THICK, UNRESTRAINED BEAM RATED BEAM RATING HOUR
HLTI PIN MODEL: X4J 23M WITH A MIN. 0.107 SHANK DIAMETER MIN. 1-1/4" LONG, DEWALT PIN MODEL 5085PFW WITH A MIN. 0.137 SHANK DIAMETER MIN. 1-1/4" LONG OR AEROSMITH MODEL 5204PFG WITH A MIN. 0.145 SHANK DIAMETER MIN. 1-1/4" LONG.

UNRESTRAINED ASSEMBLY RATING IS 1 HOUR WHEN ITEM 3A OR 3B IS USED.
- UNITED STATES GYPSUM CO - TYPES STRUCTO-CRETE, USGSP

- 3. STRUCTURAL STEEL MEMBERS - CHANNEL-SHAPED, MIN 10 IN. DEEP WITH MIN 1-5/8 IN. WIDE FLANGES AND 1/2 IN. LONG STIFFENING FLANGES, FABRICATED FROM MIN NO. 16 MSG GALV STEEL, MIN YIELD STRENGTH OF 50,000 PSI, JOISTS SPACED MAX 24 IN. OC, SUPPLIED WITH APPROPRIATE RIM TRACKS OF SAME SIZE AND GAUGE.

- 3A. STRUCTURAL STEEL MEMBERS - (NOT SHOWN) - AS AN ALTERNATE TO ITEM 3 - FOR MAXIMUM CLEAR SPANS NOT EXCEEDING 8 FT, CHANNEL-SHAPED, MIN 10 IN. DEEP WITH MIN 1-5/8 IN. WIDE FLANGES AND 3/8 IN. LONG STIFFENING FLANGES, FABRICATED FROM MIN NO. 18 MSG GALV STEEL, MIN YIELD STRENGTH OF 33,000 PSI, JOISTS SPACED MAX 24 IN. OC, SUPPLIED WITH APPROPRIATE RIM TRACKS OF SAME SIZE AND GAUGE.

- 3B. STRUCTURAL STEEL MEMBERS - (NOT SHOWN) - AS AN ALTERNATE TO ITEM 3 - CHANNEL-SHAPED, MIN 8 IN. DEEP WITH MIN 1-5/8 IN. WIDE FLANGES AND 1/2 IN. LONG STIFFENING FLANGES, FABRICATED FROM MIN NO. 16 MSG GALV STEEL, MIN YIELD STRENGTH OF 33,000 PSI, JOISTS SPACED MAX 24 IN. OC, SUPPLIED WITH APPROPRIATE RIM TRACKS OF SAME SIZE AND GAUGE.

- 4. JOIST BRIDGING - (NOT SHOWN) - FOR USE WITH ITEM 3 AND 3B - INSTALLED IMMEDIATELY AFTER JOISTS ARE ERECTED AND BEFORE CONSTRUCTION LOADS ARE APPLIED, THE BRIDGING CONSISTING OF RIM TRACK SECTIONS CUT TO LENGTH AND PLACED BETWEEN OUTER SUPPORTS, ADJACENT TO OPENINGS AND AT MID SPAN WITH 8 FT OC MAX SPACING. BRIDGING CHANNELS ARE SCREW-ATTACHED AT EACH END TO JOIST WEB USING ANGLE CLIPS. WRAPPING OF 1-1/2 IN. BY 20-GA GALVANIZED STEEL IS SCREW-ATTACHED TO BOTTOM JOIST FLANGE BETWEEN BRIDGING CHANNELS.

- 4A. JOIST BRIDGING - (NOT SHOWN) - FOR USE WITH ITEM 3A - INSTALLED IMMEDIATELY AFTER JOISTS ARE ERECTED AND BEFORE CONSTRUCTION LOADS ARE APPLIED, THE BRIDGING CONSISTING OF RIM TRACK SECTIONS CUT TO LENGTH, WITH TWO 4 IN. LONG FOLDED BACK FLANGES, AND PLACED BETWEEN OUTER SUPPORTS, ADJACENT TO OPENINGS AND AT MID SPAN WITH 10 FT OC MAX SPACING. BRIDGING CHANNELS ARE SCREW-ATTACHED TO EACH OF THE FOUR TOP AND BOTTOM JOIST FLANGES WITH TWO NO. 8 BY 1/2 IN. LONG WAFER HEAD STEEL SCREWS.

- 4B. JOIST BRIDGING - (NOT SHOWN) - FOR USE WITH ITEM 3A AND 3B - 1-1/2 IN. WIDE STRIPS FORMED OF 20 MSG - THE STRUCTURAL BRIDGING IS INSTALLED PERPENDICULAR TO AND ON THE BOTTOM SURFACE OF THE JOISTS AT MID-SPAN WITH ONE #10 X 3/4 IN. LONG HEX HEAD STEEL SCREW AT EACH INTERFACE.

- 5. BATTS AND BLANKETS* - GLASS FIBER INSULATION, MIN 3-1/2 IN. THICK, BEARING THE UL CLASSIFICATION MARKING FOR SURFACE BURNING CHARACTERISTICS, MIN DENSITY OF 0.5 PCF, THE INSULATION SHALL BE FITTED IN THE CONCEALED SPACE, DRAPED OVER THE RESILIENT CHANNEL (ITEM 6) OR STEEL FRAME MEMBERS (ITEM 6A) AND GYPSUM BOARD (ITEM 8) CEILING MEMBRANE. SEE BATTS AND BLANKETS (BKW) CATEGORY IN THE BUILDING MATERIALS DIRECTORY FOR NAMES OF MANUFACTURERS.

- 6. RESILIENT CHANNELS - FORMED OF NO. 25 MSG GALV STEEL, 1/2 IN. DEEP, SPACED MAX 12 IN. OC, PERPENDICULAR TO JOISTS, CHANNEL SPLICES LOCATED BENEATH JOISTS AND OVERLAPPED AN IN. CHANNELS SECURED TO EACH JOIST WITH ONE 1/2 IN. LONG TYPE S-1 ZLOW PROFILE STEEL SCREW, TWO CHANNELS, SPACED 6 IN. OC, ORIENTED OPPOSITE EACH OTHER (BOARD END JOINT AS SHOWN ON THE ILLUSTRATION ABOVE. ADDITIONAL CHANNELS SHALL EXTEND MIN 6 IN. BEYOND EACH SIDE EDGE OF BOARD.

- 7. GYPSUM WALLBOARD* - ONE LAYER OF NOM 5/8 IN. THICK BY 48 IN. WIDE GYPSUM PANELS INSTALLED WITH LONG DIMENSION PERPENDICULAR TO RESILIENT/FURRING CHANNELS, GYPSUM PANELS SECURED TO RESILIENT/FURRING CHANNELS WITH 1 IN. LONG TYPE S-BIGLE HEAD SCREWS SPACED 8 IN. OC, WITH SCREWS LOCATED 4 IN. FROM AND ON EACH SIDE OF THE GYPSUM PANEL, MID-SPAN, AND 1-1/2 IN. FROM SIDE EDGES OF THE BOARD. END JOINTS SECURED TO BOTH RESILIENT/FURRING CHANNELS AS SHOWN IN END JOINT DETAIL. WHEN STEEL FRAMING MEMBERS (ITEM 6A OR 6B) ARE USED, THE BUTT JOINTS IN THE GYPSUM PANEL SHALL BE SUPPORTED BY TWO FURRING CHANNELS. THE TWO FURRING CHANNELS SHALL BE SPACED APPROXIMATELY 3-1/2 IN. OC, AND BE ATTACHED TO UNDERSIDE OF THE JOIST WITH ONE R50-1, R50-1 (2.75) OR GENE CLIP AT EACH END OF THE CHANNEL.
- UNITED STATES GYPSUM CO - TYPES C, IP-X2, IPC-AR, ULX

- 8. FINISHING SYSTEM - VINYL DRY OR PREMIUM JOINT COMPOUND, APPLIED IN TWO COATS TO JOINTS AND SCREW HEADS, NOM 2 IN. WIDE PAPER TAPE EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS AS AN ALTERNATE, NOM 1/32 IN. THICK VENEER PLASTER MAY BE APPLIED TO THE ENTIRE SURFACE OF GYPSUM PANELS.

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

1-HR ROOF/CEILING ASSEMBLY - FILLED WITH INSULATION
UL DESIGN NO. P561
SCALE: 1 1/2" = 1'-0"

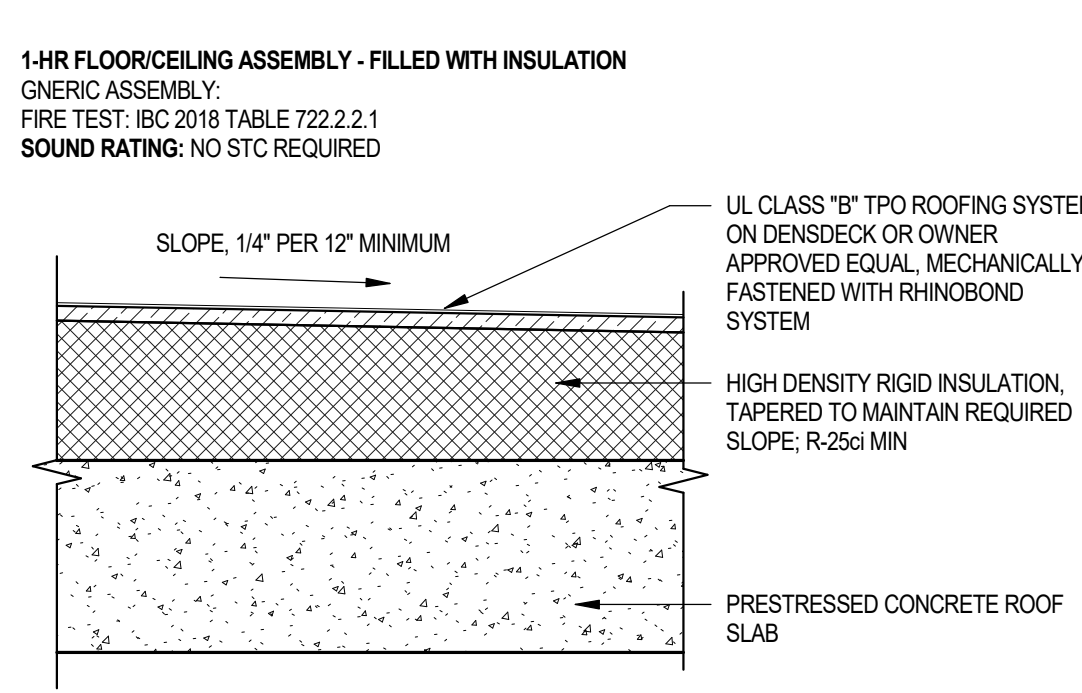
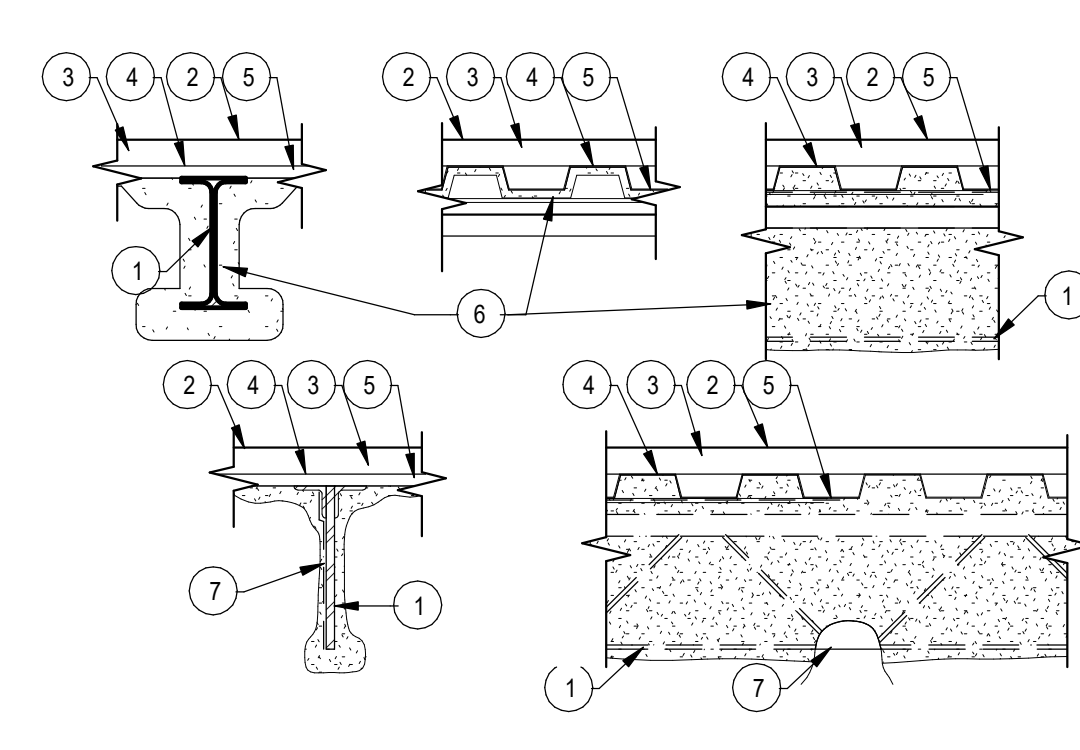


TABLE 722.2.1 MINIMUM SLAB THICKNESS, IN.
CONCRETE TYPE FIRE RESISTANCE RATING (HOURS)
1 1 1/2 2 3 4

ROOF ASSEMBLY ABOVE POST TENSION CONCRETE SLAB
UL DESIGN NO. P561
SCALE: 1 1/2" = 1'-0"

3-HR ROOF/CEILING - W2X FRAMING AT SOFFITS
PROPRIETARY ASSEMBLY, November 25, 2019
FIRE TEST: UL DESIGN NO. 571
SOUND RATING: REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.



1. STEEL SUPPORTS - W6 IN MINIMUM SIZE STEEL BEAM, 10K1, 12K1 OR 14K1 MINIMUM SIZE STEEL JOISTS, NOTE: WHEN 10K1 OR 12K1 JOISTS ARE USED, THEY WILL BE LIMITED TO A MAXIMUM TENSILE STRESS OF 26,000 PSI.

- 2. ROOF COVERING - CONSISTING OF HOT MOPPED, COLD APPLICATION OR SINGLE-PLY MATERIALS, COMPATIBLE WITH INSULATION DESCRIBED HEREIN WHICH PROVIDE CLASS A OR C COVERINGS. SEE ROOFING MATERIALS AND SYSTEMS DIRECTORY-ROOF COVERING MATERIALS (TEVT), MECHANICALLY ATTACH WATERPROOFING SYSTEM WITH RYNO BOND FASTENING SYSTEM. SEE MANUFACTURER SPECIFICATIONS.

- 3. ROOF INSULATION - CONSISTING OF BUILDING UNITS, FOAMED PLASTIC OR MINERAL FIBER BOARDS, APPLIED IN ONE OR MORE LAYERS, WHEN MULTIPLE LAYERS ARE USED, END AND JOINT SURFACES SHALL BE OFFSET BY A MINIMUM OF 1/2 INCH IN BOTH DIRECTIONS IN ORDER TO AVOID ALL JOINTS. SEE CATEGORY FOR NAMES OF COMPANIES PROVIDING CLASSIFIED PRODUCTS - BUILDING UNITS (BZXU), FOAMED PLASTIC (CCW) OR MINERAL AND FIBER BOARDS (GERZ). ROOF INSULATION SHALL BE COMPATIBLE WITH ROOF COVERING MATERIALS CLASS A, B OR C SYSTEMS. SEE ROOFING MATERIALS AND SYSTEMS DIRECTORY-ROOF COVERING MATERIALS (TEVT), MECHANICALLY FASTENED WITH RYNO BOND SYSTEM.

- 4. ADHESIVE - (OPTIONAL) - MAY BE APPLIED TO STEEL ROOF DECK UNITS OR BETWEEN INSULATION LAYERS AT A MAX APPLICATION RATE OF 0.4 GALLON PER 100 SQUARE FOOT SEE ADHESIVES (BYWR) CATEGORY FOR NAMES OF MANUFACTURERS.

- 5. STEEL ROOF DECK - (UNCLASSIFIED) - FLUDED, NO. 22 MSG MINIMUM GALVANIZED 1-1/2 INCH DEEP WITH 3-1/2 INCH WIDE FLUTES SPACED 2 INCH ON CENTER ENDS OVERLAPPED A MINIMUM 1-1/2 INCH AND WELDED TO SUPPORTS, 12 INCH ON CENTER MAXIMUM ADJACENT UNITS BUTT-PUNCHED, WELDED OR FASTENED WITH NO. 12 BY 1/2 INCH LONG SELF-DRILLING, SELF-TAPPING STEEL SCREWS.

- 6. SPRAY-APPLIED FIRE RESISTIVE MATERIALS - APPLIED BY MIXING WITH WATER AND SPRAYING TO THE BEAM (OR JOIST) AND DECK SURFACES IN ONE OR MORE COATS TO THE FINAL MINIMUM THICKNESSES SHOWN BELOW. CREST AREAS ABOVE THE BEAM (OR JOIST) SHALL BE FILLED WITH THE SPRAY-APPLIED FIRE RESISTIVE MATERIALS. SURFACES MUST BE CLEAN AND FREE OF DIRT, LOOSE SCALE AND OIL. MINIMUM AVERAGE AND MINIMUM INDIVIDUAL DENSITY OF 15 AND 14 PCF, RESPECTIVELY, FOR TYPES 300, 300AC, 300ES, 300HS, 300N, 300J, 300KES AND 58. FOR TYPES 400AC AND 400ES MINIMUM AVERAGE AND MINIMUM INDIVIDUAL DENSITY OF 22 AND 19 PCF, RESPECTIVELY. MINIMUM AVERAGE DENSITY OF 4 PCF WITH MINIMUM INDIVIDUAL VALUE OF 40 PCF FOR TYPES M-I AND TG. MINIMUM AVERAGE DENSITY OF 47 PCF, WITH MINIMUM INDIVIDUAL VALUE OF 43 PCF FOR TYPE M-IP. FOR METHOD OF DENSITY DETERMINATION SEE DESIGN INFORMATION SECTION.

MINIMUM SPRAY-APPLIED FIRE RESISTIVE MATERIALS THICKNESS, IN.
UNRESTRAINED BEAM RATING HOUR RESTRAINED BEAM RATING HOUR
RATING HOUR BEAM W6x16 (A) (B) JOISTS (A) (B) BEAM W6x16 (A) (B) JOISTS (A) (B) STEEL ROOF DECK

- (A) METAL LATH OR NON-METALLIC FABRIC MESH SECURED TO ONE SIDE OF OPEN WEB JOIST. SPRAY-APPLIED FIRE RESISTIVE MATERIALS THICKNESS APPLIED TO EACH SIDE OF LATH OR MESH SHALL BE EQUAL TO THICKNESS REQUIRED ON STEEL JOIST.

- (B) SPRAY-APPLIED FIRE RESISTIVE MATERIALS DIRECTLY APPLIED TO JOIST CONTOURS, AS AN ALTERNATE, METAL LATH OR NON-METALLIC FABRIC MESH SECURED TO ONE SIDE OF JOIST TO CATCH OVERSPRAY WHEN SPRAYING FOLLOWING JOIST CONTOURS. METAL LATH TO BE FULLY COVERED WITH SPRAY-APPLIED FIRE RESISTIVE MATERIALS BUT WITH NO MINIMUM THICKNESS REQUIREMENTS.

- AS AN ALTERNATE TO THE THICKNESS SHOWN ABOVE FOR THE STEEL BEAM, THE THICKNESSES SHOWN IN THE FOLLOWING TABLE ARE APPLICABLE WHEN THE THICKNESS APPLIED TO THE BEAMS LOWER FLANGE EDGES IS REDUCED BY ONE-HALF. THE MINIMUM THICKNESS APPLIED TO THE LOWER FLANGE EDGES IS 1/4 INCH.

MINIMUM SPRAY-APPLIED FIRE RESISTIVE MATERIALS THICKNESS, IN.
UNRESTRAINED BEAM RATING HOUR RESTRAINED BEAM RATING HOUR
RATING HOUR BEAM W6x16 (A) (B) JOISTS (A) (B) BEAM W6x16 (A) (B) JOISTS (A) (B) STEEL ROOF DECK

- BERLIN CO LTD - Types 300, 300ES, 300N, SB, M-I, TG and M-IP
GREENTECH ASIA PACIFIC SDN BHD - Types 300, 300ES, 300HS, M-I, or M-IP
GREENTECH THERMAL INSULATION PRODUCTS MFG CO LLC - Types 300, 300AC, 300HS, 400AC, 300J, M-I, TG, and M-IP
ISOLATEK INTERNATIONAL - Types 300, 300AC, 300ES, 300HS, 300N, SB, 400AC, 400ES, 300J, M-I, TG and M-IP
NEWKEM PRODUCTS CORP - Types 300, 300ES, 300N, SB, M-I, TG and M-IP.

- 8A. (AS AN ALTERNATE TO ITEM 6) SPRAY-APPLIED FIRE RESISTIVE MATERIALS - APPLIED BY MIXING WITH WATER AND SPRAYING TO THE BEAM (OR JOIST) AND DECK SURFACES IN ONE OR MORE COATS TO THE FINAL MINIMUM THICKNESSES SHOWN BELOW. CREST AREAS ABOVE THE BEAM (OR JOIST) SHALL BE FILLED WITH THE SPRAY-APPLIED FIRE RESISTIVE MATERIALS. SURFACES MUST BE CLEAN AND FREE OF DIRT, LOOSE SCALE AND OIL. MINIMUM AVERAGE AND MINIMUM INDIVIDUAL DENSITY OF 17.5 AND 16 PCF, RESPECTIVELY, FOR TYPE 300TV, MINIMUM AVERAGE AND MINIMUM INDIVIDUAL DENSITY OF 22 AND 19 PCF, RESPECTIVELY, FOR TYPE 400. FOR METHOD OF DENSITY DETERMINATION SEE DESIGN INFORMATION SECTION.

MINIMUM SPRAY-APPLIED FIRE RESISTIVE MATERIALS THICKNESS, IN.
UNRESTRAINED BEAM RATING HOUR RESTRAINED BEAM RATING HOUR
RATING HOUR BEAM W6x16 (A) (B) JOISTS (A) (B) BEAM W6x16 (A) (B) JOISTS (A) (B) STEEL ROOF DECK

- (A) METAL LATH OR NON-METALLIC FABRIC MESH SECURED TO ONE SIDE OF OPEN WEB JOIST. SPRAY-APPLIED FIRE RESISTIVE MATERIALS THICKNESS APPLIED TO EACH SIDE OF LATH OR MESH SHALL BE EQUAL TO THICKNESS REQUIRED ON STEEL JOIST.

- (B) SPRAY-APPLIED FIRE RESISTIVE MATERIALS DIRECTLY APPLIED TO JOIST CONTOURS, AS AN ALTERNATE, METAL LATH OR NON-METALLIC FABRIC MESH SECURED TO ONE SIDE OF JOIST TO CATCH OVERSPRAY WHEN SPRAYING FOLLOWING JOIST CONTOURS. METAL LATH TO BE FULLY COVERED WITH SPRAY-APPLIED FIRE RESISTIVE MATERIALS BUT WITH NO MIN THICKNESS REQUIREMENTS.

- AS AN ALTERNATE TO THE THICKNESS SHOWN ABOVE FOR THE STEEL BEAM, THE THICKNESSES SHOWN IN THE FOLLOWING TABLE ARE APPLICABLE WHEN THE THICKNESS APPLIED TO THE BEAMS LOWER FLANGE EDGES IS REDUCED BY ONE-HALF. THE MINIMUM THICKNESS APPLIED TO THE LOWER FLANGE EDGES IS 1/4 IN.

MINIMUM SPRAY-APPLIED FIRE RESISTIVE MATERIALS THICKNESS, IN.
UNRESTRAINED BEAM RATING HOUR RESTRAINED BEAM RATING HOUR
RATING HOUR BEAM W6x16 (A) (B) JOISTS (A) (B) BEAM W6x16 (A) (B) JOISTS (A) (B) STEEL ROOF DECK

- 7. CLASS FIBER MESH - (OPTIONAL) - MINIMUM 3/32 INCH SQUARE MESH, COATED FIBERGLASS SCRM FABRIC, WEIGHING A MINIMUM OF 1.9 OUNCE PER SQUARE YARD SHALL BE ATTACHED TO ONE SIDE OF EACH JOIST WEB MEMBER. THE METHOD OF ATTACHMENT MUST BE SUFFICIENT TO HOLD THE MESH AND SPRAY-APPLIED FIRE RESISTIVE MATERIALS DURING APPLICATION AND CURING OF THE MATERIAL. AN ACCEPTABLE METHOD OF ATTACHING THE MESH IS BY EMBEDDING THE MESH IN MINIMUM 1/4 INCH LONG BEADS OF HOT MELTED GLUE. THE BEADS OF GLUE SHALL BE SPACED MINIMUM 12 INCH ON CENTER ALONG THE TOP CHORD OF THE BAR JOISTS. ANOTHER METHOD OF ATTACHMENT IS THE USE OF 1-1/4 INCH LONG, 1/2 INCH WIDE HARPPIN MATERIALS (ITEM 7A).

- 8. METAL LATH - (OPTIONAL, NOT SHOWN) - DIAMOND MESH, 3/8 INCH EXPANDED STEEL, MINIMUM 1/4 POUND PER SQUARE YARD FASTENED TO ONE SIDE OF JOISTS USING NO. 18 SWG STEEL TIE WIRE LOCATED AT THE MID-HEIGHT OF EVERY OTHER WEB MEMBER OR 18 INCH ON CENTER WHICH EVER IS LESS. BOTH SIDES OF LATH MUST BE COMPLETELY COATED WITH SPRAY-APPLIED FIRE RESISTIVE MATERIALS.

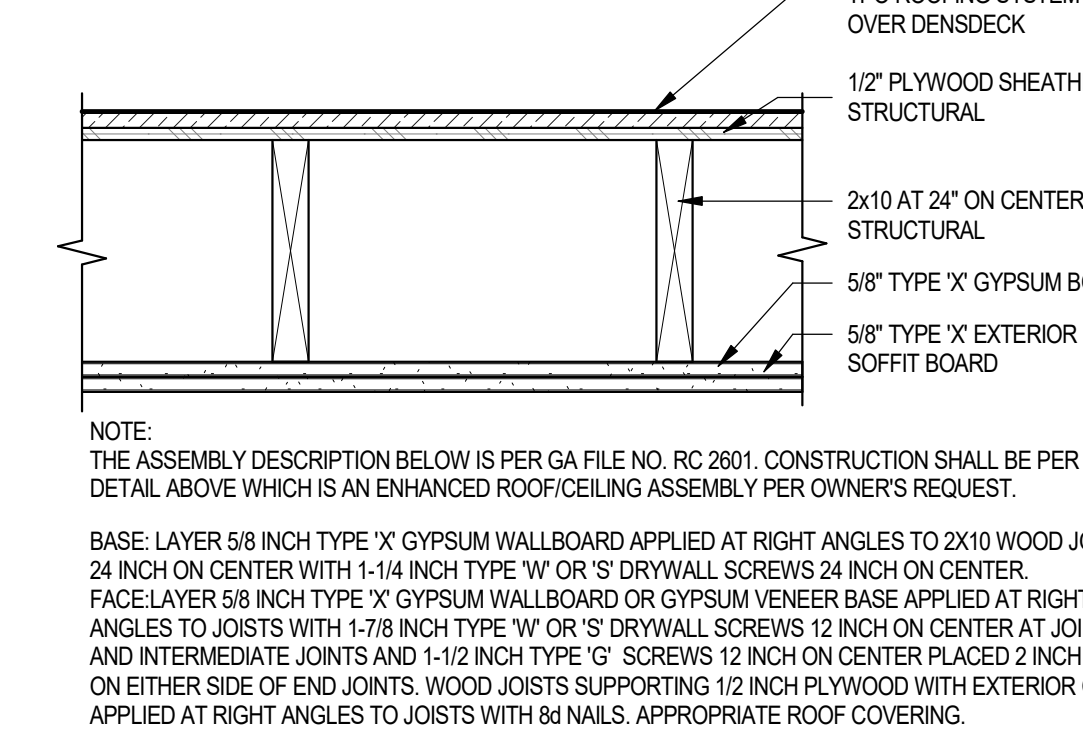
- 9. BRIDGING - (NOT SHOWN) - VINYL DRY OR PREMIUM JOINT COMPOUND, APPLIED IN TWO COATS TO JOINTS AND SCREW HEADS, PAPER TAPE, 2 IN. WIDE, EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS. AS AN ALTERNATE, NOM 3/32 IN. THICK VENEER PLASTER MAY BE APPLIED TO THE ENTIRE SURFACE OF GYPSUM WALLBOARD.

- * INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

- R5 0 NON RATED ROOF ASSEMBLY
R5 2 2-HOUR RATED ROOF ASSEMBLY
R5 1 1-HOUR RATED ROOF ASSEMBLY

3-HR RATED ROOF ASSEMBLY
UL DESIGN NO. 571
SCALE: 1" = 1'-0"

1-HR ROOF/CEILING - W2X FRAMING AT BALCONIES/STAIRS & ELEVATORS
GENERIC ASSEMBLY, June 2021
FIRE TEST: GA FILE NO. RC 2601
SOUND RATING: REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.



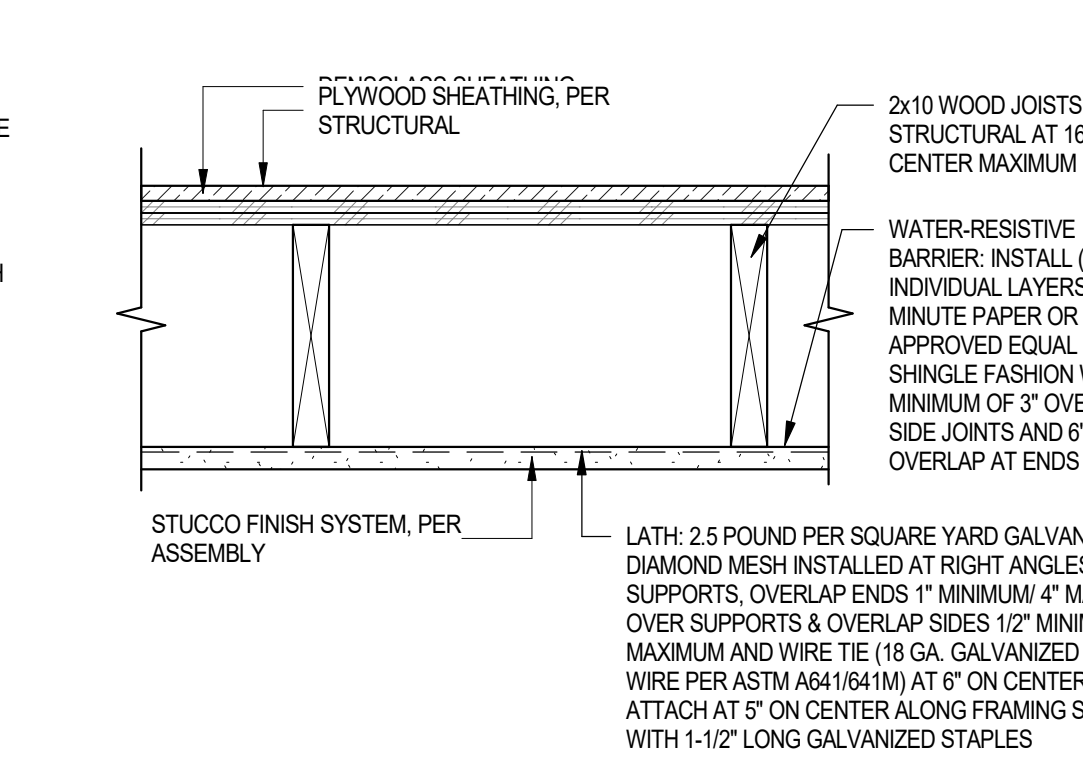
NOTE: THE ASSEMBLY DESCRIPTION BELOW IS PER GA FILE NO. RC 2601. CONSTRUCTION SHALL BE PER THE DETAIL ABOVE WHICH IS AN ENHANCED ROOF/CEILING ASSEMBLY PER OWNERS REQUEST.

- BASE LAYER 5/8 INCH TYPE 'X' GYPSUM WALLBOARD APPLIED AT RIGHT ANGLES TO 2X10 WOOD JOISTS 24 INCH ON CENTER WITH 1-1/4 INCH TYPE 'W' OR 'S' DRYWALL SCREWS 24 INCH ON CENTER. FACELAYER 5/8 INCH TYPE 'X' GYPSUM WALLBOARD OR GYPSUM VENEER BASE APPLIED AT RIGHT ANGLES TO JOISTS WITH 1-1/8 INCH TYPE 'W' OR 'S' DRYWALL SCREWS 12 INCH ON CENTER AT JOINTS AND INTERMEDIATE JOINTS AND 1-1/2 INCH TYPE 'G' SCREWS 12 INCH ON CENTER PLACED 2 INCH BACK ON EITHER SIDE OF END JOINTS. WOOD JOISTS SUPPORTING 1/2 INCH PLYWOOD WITH EXTERIOR GLUE APPLIED AT RIGHT ANGLES TO JOISTS WITH 8x16S. APPROPRIATE ROOF COVERING.

JOINTS OFFSET 24 INCH FROM BASE LAYER JOISTS
APPROX. CEILING WEIGHT: 5 PSl (FIR)
FIRE TEST: FM FC 172, 2-25-72, ITS, 84-86

1-HR ROOF/CEILING W/ 2x FRAMING OVER BALCONIES
GA FILE NO. RC 2601 GA-600-2021
SCALE: 1 1/2" = 1'-0"

1-HR ROOF/CEILING - W2X FRAMING AT SOFFITS
GENERIC ASSEMBLY
FIRE TEST: 2016 IBC TABLE 721.1(3), ITEM 13-12
SOUND RATING: REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.



NOTE: THE ASSEMBLY DESCRIPTION BELOW IS PER 2016 IBC TABLE 721.1(3), ITEM 13-12. CONSTRUCTION SHALL BE PER THE DETAIL ABOVE WHICH IS AN ENHANCED ROOF/CEILING ASSEMBLY PER OWNERS REQUEST.

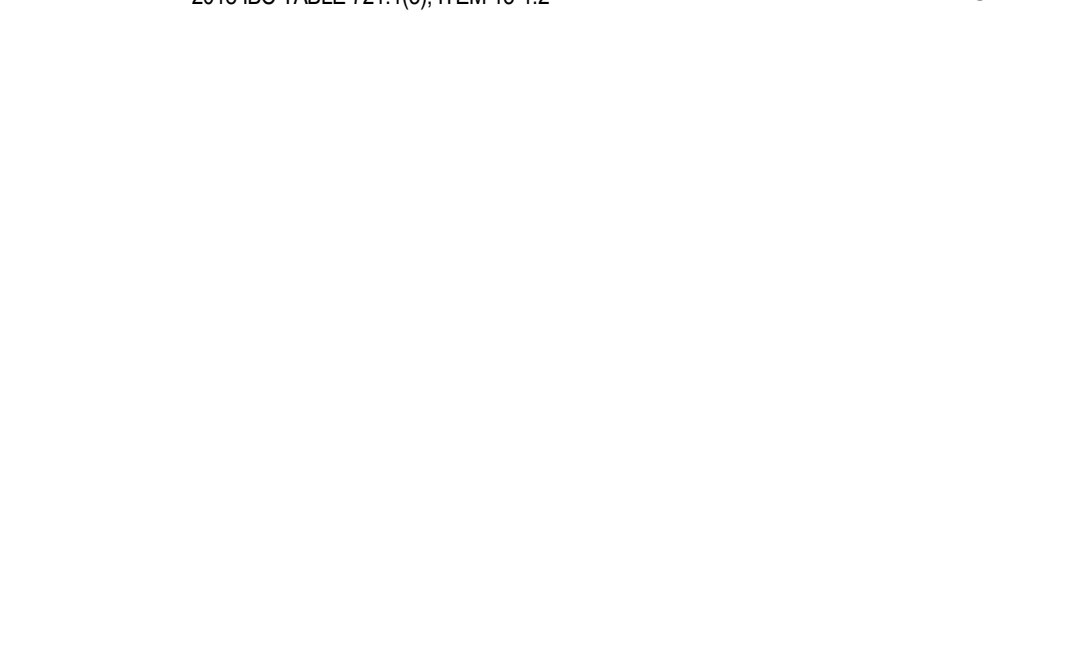
- CEMENT OR GYPSUM PLASTER ON METAL LATH, LATH FASTENED WITH 1-1/2 INCH BY NO. 11 GAUGE BY 7/16 INCH HEAD BARBED SHANK ROOFING NAILS SPACED 5 INCH ON CENTER, PLASTER MIXED 1:2 FOR SCRATCH COAT AND 1:3 FOR BROWN COAT. BY WEIGHT; CEMENT TO SAND AGGREGATE.

- m. DOUBLE WOOD FLOOR SHALL BE PERMITTED TO BE EITHER OF THE FOLLOWING:
(i) SUB-FLOOR OF 1 INCH NOMINAL BOARDING, A LAYER OF ASBESTOS PAPER WEIGHING NOT LESS THAN 1 POUND PER 100 SQUARE FOOT AND A LAYER OF 1 INCH NOMINAL TONGUE-AND-GROOVE FINISHED FLOORING.

- (ii) SUB-FLOOR OF 1 INCH NOMINAL TONGUE-AND-GROOVE BOARDING OR 1/32 INCH WIDE, FINISHED FLOORING OR 1/32 INCH WIDE STRUCTURAL PANEL FINISH FLOORING OR A LAYER OF TYPE I GRADE M-1 PARTICLEBOARD NOT LESS THAN 5/8 INCH THICK.

- n. THE CEILING SHALL BE PERMITTED TO BE OMITTED OVER UNUSABLE SPACE, AND FLOORING SHALL BE PERMITTED TO BE OMITTED WHERE UNUSABLE SPACE OCCURS ABOVE.

1-HR ROOF/CEILING W/ 2x FRAMING AT SOFFITS
2018 IBC TABLE 721.1(3), ITEM 13-12
SCALE: 1 1/2" = 1'-0"



NOTE: THE ASSEMBLY DESCRIPTION BELOW IS PER 2018 IBC TABLE 721.1(3), ITEM 13-12. CONSTRUCTION SHALL BE PER THE DETAIL ABOVE WHICH IS AN ENHANCED ROOF/CEILING ASSEMBLY PER OWNERS REQUEST.

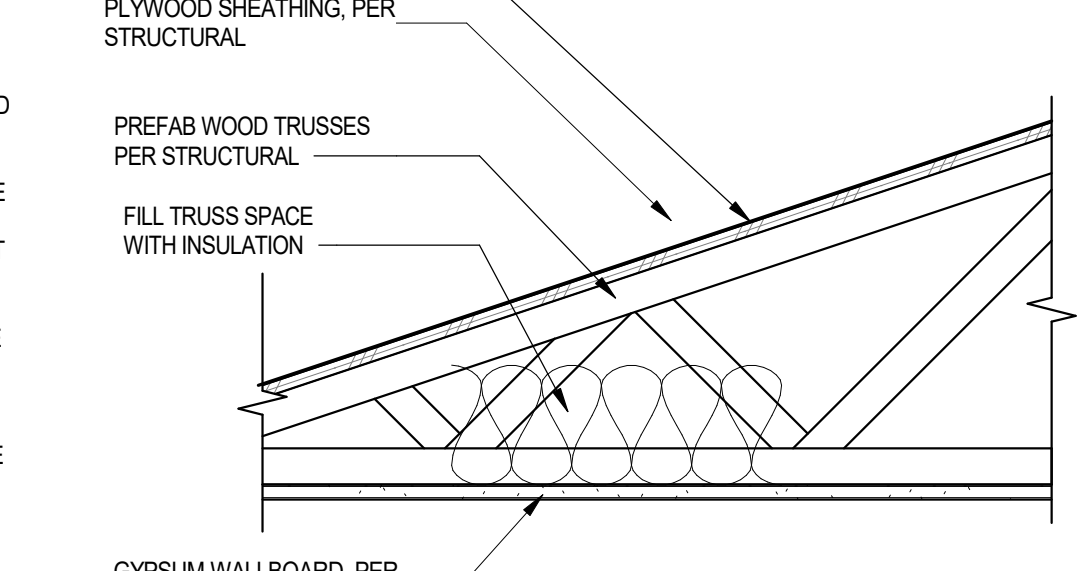
- CEMENT OR GYPSUM PLASTER ON METAL LATH, LATH FASTENED WITH 1-1/2 INCH BY NO. 11 GAUGE BY 7/16 INCH HEAD BARBED SHANK ROOFING NAILS SPACED 5 INCH ON CENTER, PLASTER MIXED 1:2 FOR SCRATCH COAT AND 1:3 FOR BROWN COAT. BY WEIGHT; CEMENT TO SAND AGGREGATE.

- m. DOUBLE WOOD FLOOR SHALL BE PERMITTED TO BE EITHER OF THE FOLLOWING:
(i) SUB-FLOOR OF 1 INCH NOMINAL BOARDING, A LAYER OF ASBESTOS PAPER WEIGHING NOT LESS THAN 1 POUND PER 100 SQUARE FOOT AND A LAYER OF 1 INCH NOMINAL TONGUE-AND-GROOVE FINISHED FLOORING.

- (ii) SUB-FLOOR OF 1 INCH NOMINAL TONGUE-AND-GROOVE BOARDING OR 1/32 INCH WIDE, FINISHED FLOORING OR 1/32 INCH WIDE STRUCTURAL PANEL FINISH FLOORING OR A LAYER OF TYPE I GRADE M-1 PARTICLEBOARD NOT LESS THAN 5/8 INCH THICK.

- n. THE CEILING SHALL BE PERMITTED TO BE OMITTED OVER UNUSABLE SPACE, AND FLOORING SHALL BE PERMITTED TO BE OMITTED WHERE UNUSABLE SPACE OCCURS ABOVE.

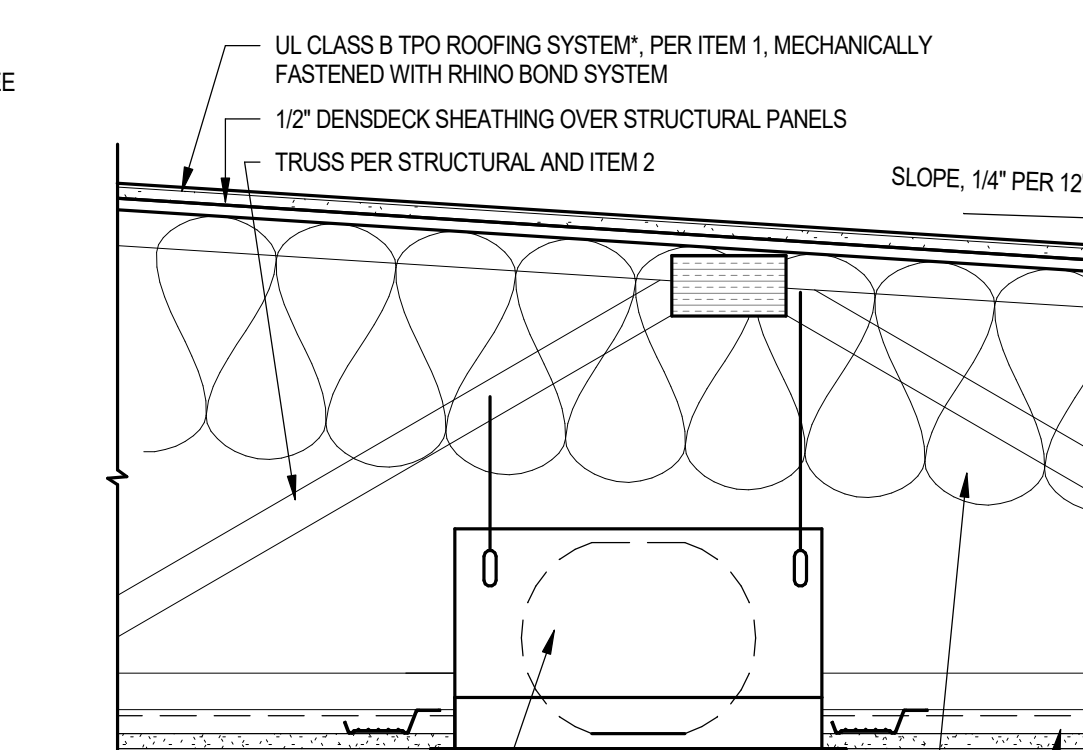
- * INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.



- R5 0 NON RATED ROOF ASSEMBLY
R5 2 2-HOUR RATED ROOF ASSEMBLY
R5 1 1-HOUR RATED ROOF ASSEMBLY

NON RATED ROOF/CEILING
UL DESIGN NO. 571
SCALE: 1 1/2" = 1'-0"

1-HR ROOF/CEILING - FILLED
UNRESTRAINED ASSEMBLY, February 16, 2024
FIRE TEST: UL DESIGN NO. P531
SOUND RATING: REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.



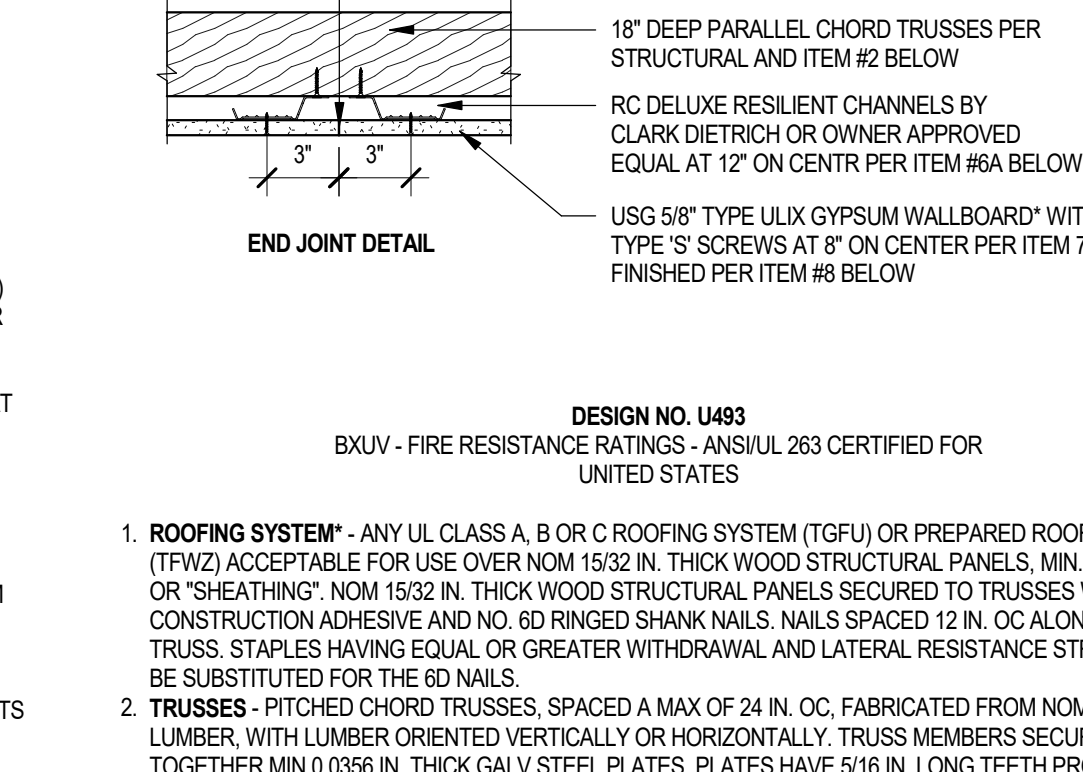
NOTE: THE ASSEMBLY DESCRIPTION BELOW IS PER GA FILE NO. RC 2601. CONSTRUCTION SHALL BE PER THE DETAIL ABOVE WHICH IS AN ENHANCED ROOF/CEILING ASSEMBLY PER OWNERS REQUEST.

- BASE LAYER 5/8 INCH TYPE 'X' GYPSUM WALLBOARD APPLIED AT RIGHT ANGLES TO 2X10 WOOD JOISTS 24 INCH ON CENTER WITH 1-1/4 INCH TYPE 'W' OR 'S' DRYWALL SCREWS 24 INCH ON CENTER. FACELAYER 5/8 INCH TYPE 'X' GYPSUM WALLBOARD OR GYPSUM VENEER BASE APPLIED AT RIGHT ANGLES TO JOISTS WITH 1-1/8 INCH TYPE 'W' OR 'S' DRYWALL SCREWS 12 INCH ON CENTER AT JOINTS AND INTERMEDIATE JOINTS AND 1-1/2 INCH TYPE 'G' SCREWS 12 INCH ON CENTER PLACED 2 INCH BACK ON EITHER SIDE OF END JOINTS. WOOD JOISTS SUPPORTING 1/2 INCH PLYWOOD WITH EXTERIOR GLUE APPLIED AT RIGHT ANGLES TO JOISTS WITH 8x16S. APPROPRIATE ROOF COVERING.

JOINTS OFFSET 24 INCH FROM BASE LAYER JOISTS
APPROX. CEILING WEIGHT: 5 PSl (FIR)
FIRE TEST: FM FC 172, 2-25-72, ITS, 84-86

1-HR ROOF/CEILING W/ 2x FRAMING OVER BALCONIES
GA FILE NO. RC 2601 GA-600-2021
SCALE: 1 1/2" = 1'-0"

1-HR ROOF/CEILING - W2X FRAMING AT SOFFITS
GENERIC ASSEMBLY
FIRE TEST: 2016 IBC TABLE 721.1(3), ITEM 13-12
SOUND RATING: REFER TO UL PRODUCT WEBSITE FOR COMPLETE ASSEMBLY.



NOTE: THE ASSEMBLY DESCRIPTION BELOW IS PER 2016 IBC TABLE 721.1(3), ITEM 13-12. CONSTRUCTION SHALL BE PER THE DETAIL ABOVE WHICH IS AN ENHANCED ROOF/CEILING ASSEMBLY PER OWNERS REQUEST.

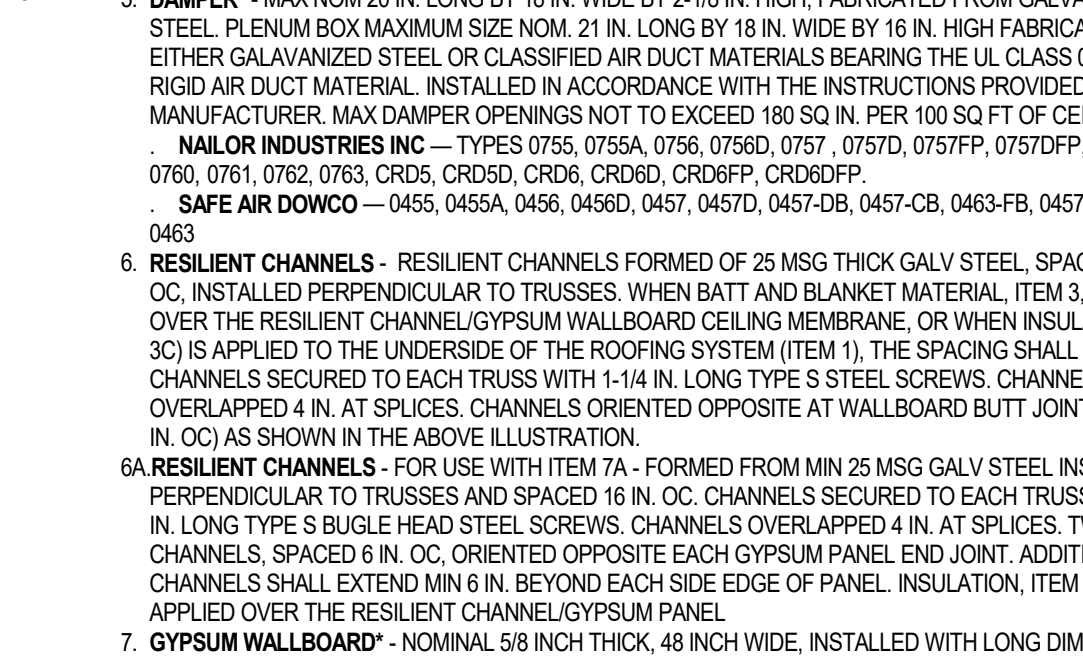
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- m. DOUBLE WOOD FLOOR SHALL BE PERMITTED TO BE EITHER OF THE FOLLOWING:
(i) SUB-FLOOR OF 1 INCH NOMINAL BOARDING, A LAYER OF ASBESTOS PAPER WEIGHING NOT LESS THAN 1 POUND PER 100 SQUARE FOOT AND A LAYER OF 1 INCH NOMINAL TONGUE-AND-GROOVE FINISHED FLOORING.

- (ii) SUB-FLOOR OF 1 INCH NOMINAL TONGUE-AND-GROOVE BOARDING OR 1/32 INCH WIDE, FINISHED FLOORING OR 1/32 INCH WIDE STRUCTURAL PANEL FINISH FLOORING OR A LAYER OF TYPE I GRADE M-1 PARTICLEBOARD NOT LESS THAN 5/8 INCH THICK.

- n. THE CEILING SHALL BE PERMITTED TO BE OMITTED OVER UNUSABLE SPACE, AND FLOORING SHALL BE PERMITTED TO BE OMITTED WHERE UNUSABLE SPACE OCCURS ABOVE.

1-HR ROOF/CEILING W/ 2x FRAMING AT SOFFITS
2018 IBC TABLE 721.1(3), ITEM 13-12
SCALE: 1 1/2" = 1'-0"



NOTE: THE ASSEMBLY DESCRIPTION BELOW IS PER 2018 IBC TABLE 721.1(3), ITEM 13-12. CONSTRUCTION SHALL BE PER THE DETAIL ABOVE WHICH IS AN ENHANCED ROOF/CEILING ASSEMBLY PER OWNERS REQUEST.

- CEMENT OR GYPSUM PLASTER ON METAL LATH, LATH FASTENED WITH 1-1/2 INCH BY NO. 11 GAUGE BY 7/16 INCH HEAD BARBED SHANK ROOFING NAILS SPACED 5 INCH ON CENTER, PLASTER MIXED 1:2 FOR SCRATCH COAT AND 1:3 FOR BROWN COAT. BY WEIGHT; CEMENT TO SAND AGGREGATE.

- m. DOUBLE WOOD FLOOR SHALL BE PERMITTED TO BE EITHER OF THE FOLLOWING:
(i) SUB-FLOOR OF 1 INCH NOMINAL BOARDING, A LAYER OF ASBESTOS PAPER WEIGHING NOT LESS THAN 1 POUND PER 100 SQUARE FOOT AND A LAYER OF 1 INCH NOMINAL TONGUE-AND-GROOVE FINISHED FLOORING.

- (ii) SUB-FLOOR OF 1 INCH NOMINAL TONGUE-AND-GROOVE BOARDING OR 1/32 INCH WIDE, FINISHED FLOORING OR 1/32 INCH WIDE STRUCTURAL PANEL FINISH FLOORING OR A LAYER OF TYPE I GRADE M-1 PARTICLEBOARD NOT LESS THAN 5/8 INCH THICK.

- n. THE CEILING SHALL BE PERMITTED TO BE OMITTED OVER UNUSABLE SPACE, AND FLOORING SHALL BE PERMITTED TO BE OMITTED WHERE UNUSABLE SPACE OCCURS ABOVE.

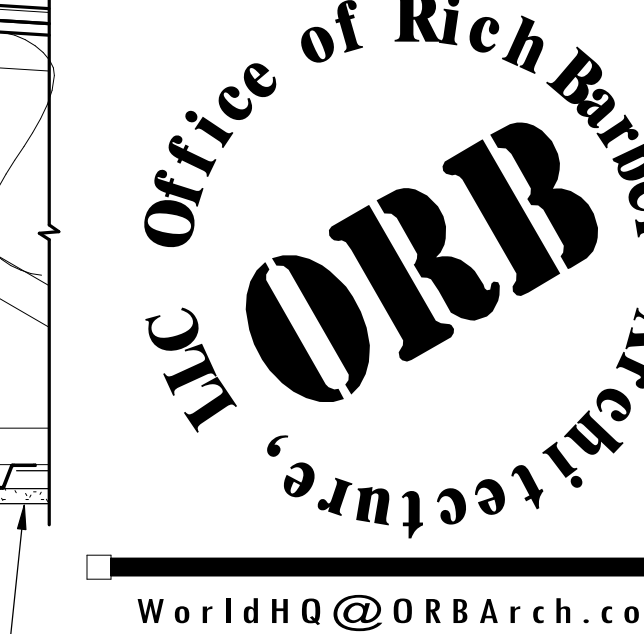
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- R5 0 NON RATED ROOF ASSEMBLY
R5 2 2-HOUR RATED ROOF ASSEMBLY
R5 1 1-HOUR RATED ROOF ASSEMBLY

1-HR ROOF/CEILING ASSEMBLY - FILLED WITH INSULATION
UL DESIGN P531
SCALE: 1 1/2" = 1'-0"

Project Name 1
Project Name 2
Street Address
City, state



PRELIMINARY
NOT FOR
CONSTRUCTION

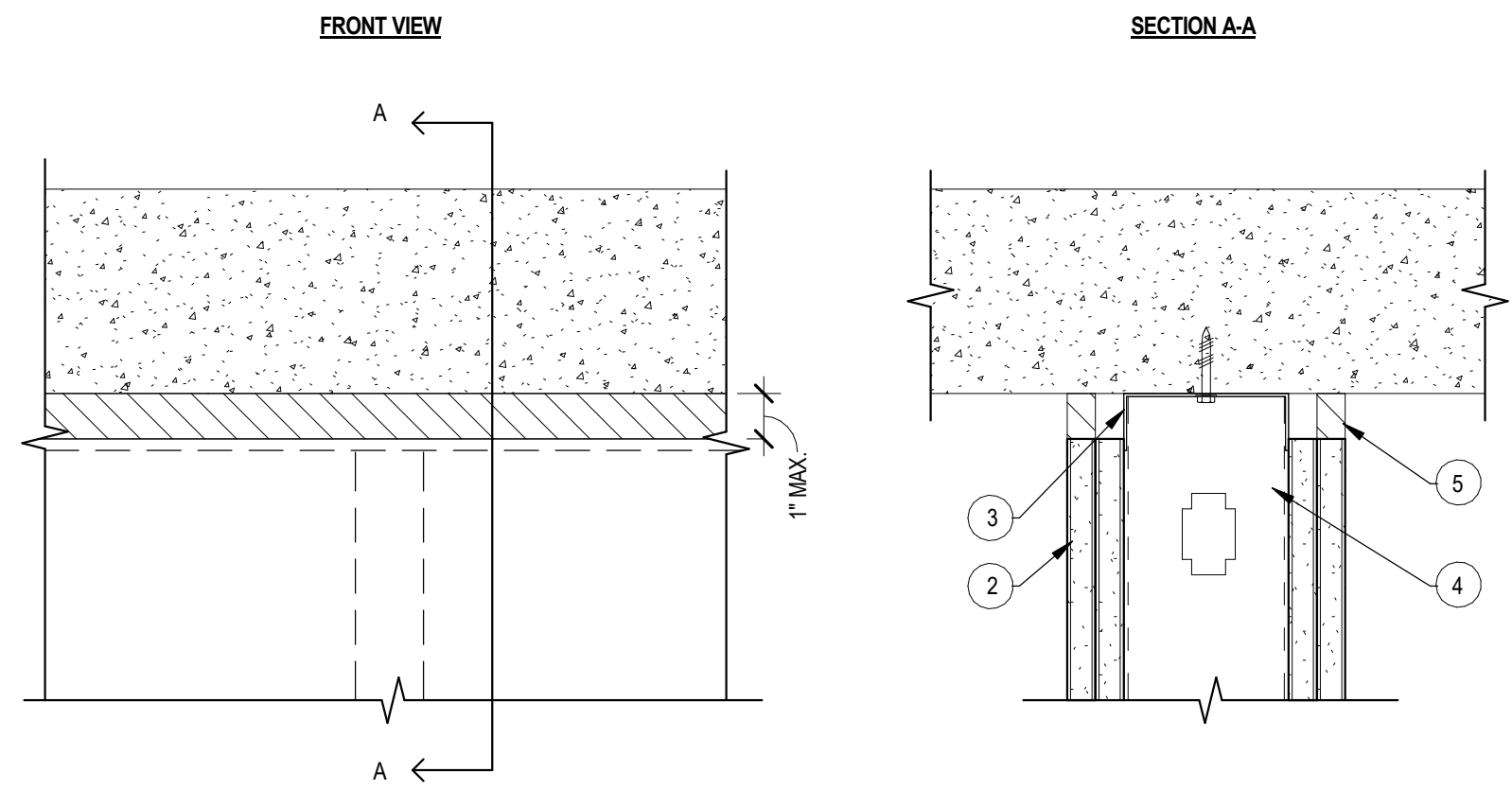


Contractor must verify all dimensions at project before proceeding with this work. Do not reproduce these drawings and specifications without the expressed written permission of the Architect. The Architect assumes no responsibility for the construction of the project unless the project is under the Architect's direct control. The Architect's responsibility is limited to the design and preparation of the drawings and specifications. The Contractor is responsible for the construction of the project in accordance with the drawings and specifications. The Contractor shall be responsible for obtaining all necessary permits and licenses for the project. The Contractor shall be responsible for the safety of the project. The Contractor shall be responsible for the quality of the work. The Contractor shall be responsible for the completion of the project. The Contractor shall be responsible for the payment of the project. The Contractor shall be responsible for the maintenance of the project. The Contractor shall be responsible for the repair of the project. The Contractor shall be responsible for the replacement of the project. The Contractor shall be responsible for the removal of the project. The Contractor shall be responsible for the disposal of the project. The Contractor shall be responsible for the recycling of the project. The Contractor shall be responsible for the reuse of the project. The Contractor shall be responsible for the renovation of the project. The Contractor shall be responsible for the restoration of the project

UL/cUL SYSTEM NO. HW-D-0209

TOP OF WALL JOINT, GYPSUM WALL ASSEMBLY

ASSEMBLY RATING = 1-HOUR OR 2-HOUR (DEPENDENT ON RATING OF WALL AND FLOOR ASSEMBLY)
CLASS II MOVEMENT CAPABILITIES - 19% COMPRESSION OR EXTENSION
L-RATING AT AMBIENT = LESS THAN 1 CFM / LIN FT (SEE NOTE NO. 2 BELOW)
L-RATING AT 400° F = LESS THAN 1 CFM / LIN FT (SEE NOTE NO. 2 BELOW)



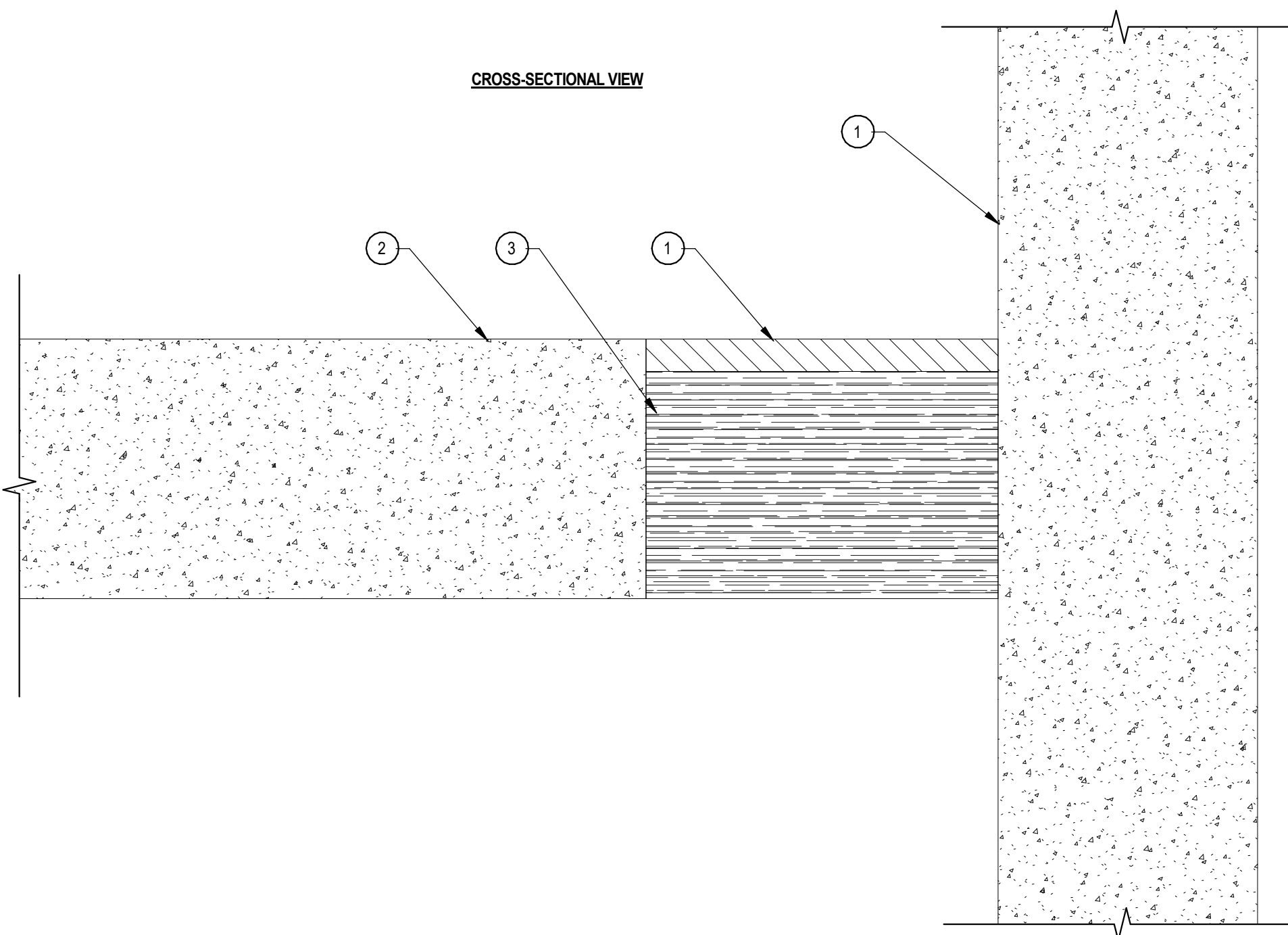
- 1. CONCRETE FLOOR ASSEMBLY (1-HOUR OR 2-HOUR FIRE-RATING)
A. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE WALL ASSEMBLY (MINIMUM 4-1/2 INCH THICK)
B. ANY UL/cUL CLASSIFIED PRE-CAST HOLLOW CORE CONCRETE FLOOR ASSEMBLY (MINIMUM 6 INCH THICK)
2. GYPSUM WALL ASSEMBLY (UL/cUL CLASSIFIED U400, V400, OR W400 SERIES) (1-HOUR OR 2-HOUR FIRE-RATING) (2-HOUR SHOWN)
3. CEILING RUNNER (MINIMUM 25 GAUGE, FLANGE HEIGHT OF CEILING RUNNER SHALL BE MINIMUM 1/4 INCH GREATER THAN MAXIMUM EXTENDED JOINT WIDTH) FASTENED TO UNDERSIDE OF CONCRETE FLOOR WITH MASONRY ANCHORS OR STEEL FASTENERS (SPACED MAXIMUM 24 INCH ON CENTER) (SEE NOTE BELOW)
4. STEEL STUDS (MINIMUM 3-1/2 INCH WIDE), CUT 1/2 INCH TO 3/4 INCH LESS IN LENGTH THAN ASSEMBLY HEIGHT, NESTING IN CEILING RUNNER WITHOUT ATTACHMENT.
5. MINIMUM 5/8 INCH DEPTH HILTI CP 605 ELASTOMERIC FIRESTOP SEALANT, CP 606 FLEXIBLE FIRESTOP SEALANT, OR HILTI CFS-S SIL GG FIRESTOP SILICONE SEALANT.

NOTES:
1. AS AN ALTERNATE TO CEILING RUNNER IN ITEM NO.3, SLOTTED CEILING RUNNERS MAY BE USED. CONSULT THE UL FIRE RESISTANCE DIRECTORY FOR APPROVED MANUFACTURERS.
2. L-RATING ONLY APPLIES WHEN HILTI CP 606 FLEXIBLE FIRESTOP SEALANT IS USED.
3. (OPTIONAL, NOT SHOWN) MINERAL WOOL, FIBERGLASS, OR POLYURETHANE/POLYETHYLENE FOAM BACKER ROD MAY BE USED AS A BACKER IN 2-HOUR WALLS.

UL/cUL SYSTEM NO. FW-D-1037

FIRE-RATED JOINT THROUGH CONCRETE FLOOR ASSEMBLY

ASSEMBLY RATING = 2-HOUR
CLASS MOVEMENT CAPABILITIES = 10% COMPRESSION OR EXTENSION



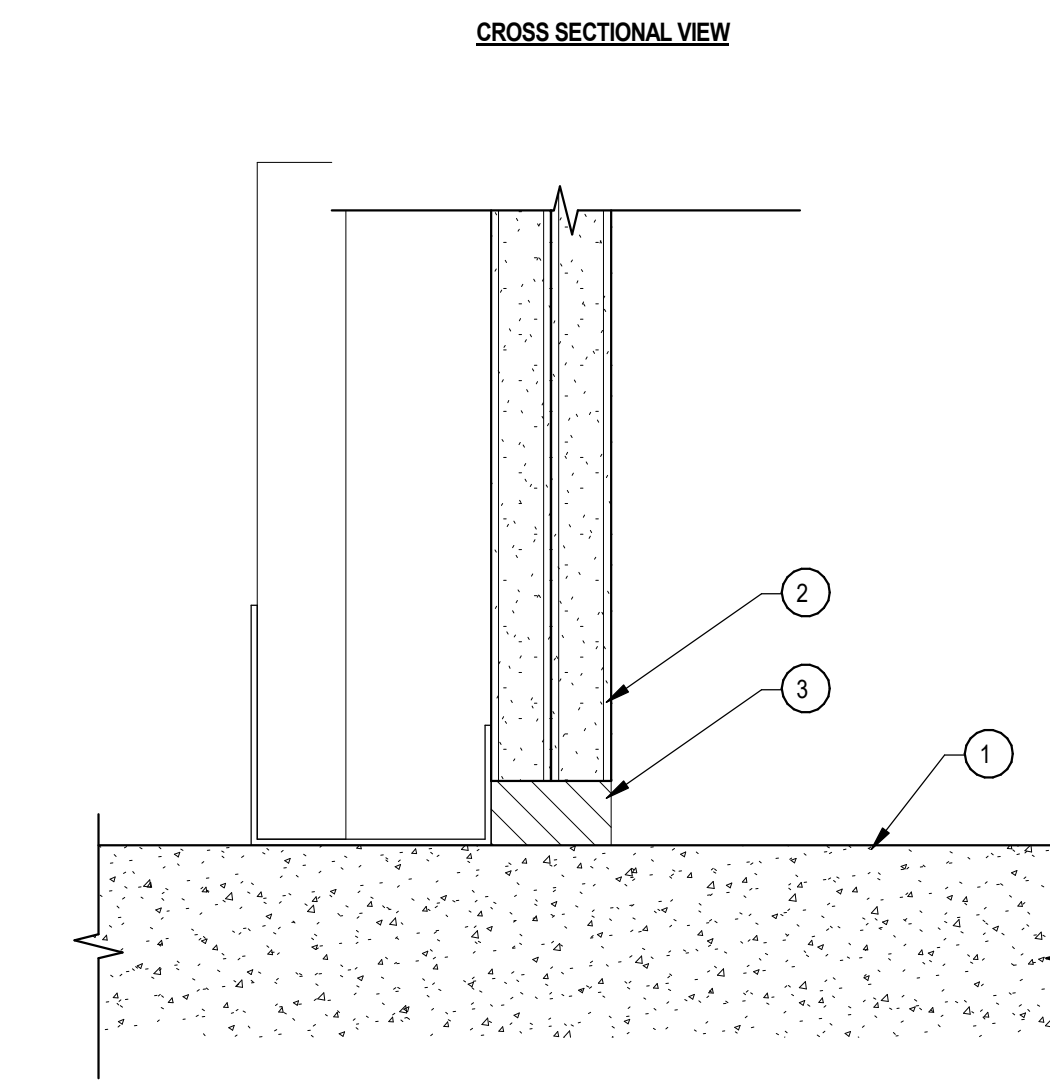
- 1. CONCRETE WALL ASSEMBLY (2-HOUR FIRE-RATING)
A. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE WALL (MINIMUM 4-1/2 INCH THICK)
B. ANY UL CLASSIFIED CONCRETE BLOCK WALL
2. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR (MINIMUM 4-1/2 INCH THICK) (2-HOUR, FIRE-RATING)
3. MINIMUM 4 INCH THICKNESS MINERAL WOOL SAFING (MINIMUM 4 PCF DENSITY) COMPRESSED 50%
4. MINIMUM 1/2 INCH DEPTH HILTI CP 604 SELF-LEVELING FIRESTOP SEALANT, HILTI CFS-S SIL GG FIRESTOP SILICONE SEALANT, OR HILTI CFS-S SIL SL FIRESTOP SILICONE SEALANT.

NOTES:
1. MAXIMUM WIDTH OF JOINT = 6 INCH

UL/cUL SYSTEM NO. BW-S-0023

February 02, 2022

BOTTOM OF WALL JOINT, GYPSUM SHAFT WALL ASSEMBLY
ASSEMBLY RATING 1-HOUR OR 2-HOUR



- 1. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR ASSEMBLY (MINIMUM 4-1/2 INCH THICK) (1-HR OR 2-HR FIRE-RATING)
2. GYPSUM SHAFT WALL ASSEMBLY (UL/cUL CLASSIFIED U400 OR V400 SERIES) (1-HR OR 2-HR FIRE-RATING) (2-HR SHOWN) TO INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
A. "J" SHAPED CEILING RUNNER, MINIMUM 2-1/2" WIDE WITH LEGS OF 1" AND 2" (MINIMUM 24 GA.) FASTENED TO TOP SIDE OF CONCRETE FLOOR WITH STEEL FASTENERS AT LOCATION NOT GREATER THAN 2" FROM ENDS AND MAXIMUM 24" O.C.
B. "C" SHAPED STUDS (MINIMUM 2-1/2" WIDE, MINIMUM 25 GA.) 1/2" TO 1 1/2" LESS IN LENGTH THAN ASSEMBLY HEIGHT
C. NOMINAL 1" THICK GYPSUM LINER PANEL, TYPE AND SHEET ORIENTATION AS SPECIFIED IN THE INDIVIDUAL UL/cUL DESIGN
D. NOMINAL 1/2" OR 5/8" THICK GYPSUM WALLBOARD, TYPE, NUMBER OF LAYERS, AND SHEET ORIENTATION AS SPECIFIED IN THE INDIVIDUAL UL/cUL DESIGN
3. HILTI CP 606 FLEXIBLE FIRESTOP SEALANT, HILTI CFS-S SIL GG FIRESTOP SILICONE SEALANT, OR HILTI CP 605 BOTTOM OF WALL FIRESTOP SEALANT INSTALLED THE FULL DEPTH OF GYPSUM BOARD AND FLUSH WITH THE FINISH SIDE OF GYPSUM BOARD (SEE NOTES NO. 1 AND 2 BELOW).

NOTES:
1. MAXIMUM WIDTH OF JOINT (FOR HILTI CP 605) = 1 INCH
2. MAXIMUM WIDTH OF JOINT (FOR HILTI CP 606) = 3/4 INCH

22 TOP OF WALL JOINT- GYPSUM WALL ASSEMBLY

NOT TO SCALE

14 FIRE-RATED JOINT THROUGH CONCRETE FLOOR ASSEMBLY

NOT TO SCALE

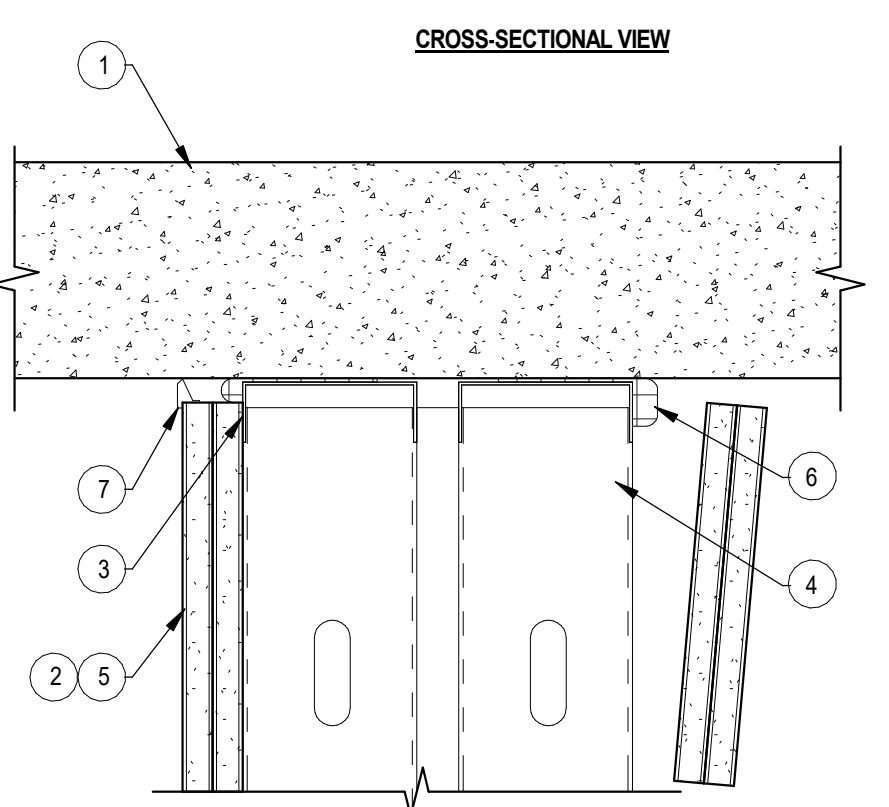
06 BOTTOM OF WALL JOINT AT GYPSUM SHAFT WALL ASSEMBLY

NOT TO SCALE

UL/cUL SYSTEM NO. HW-D-0758

TOP OF WALL JOINT, GYPSUM CHASE WALL ASSEMBLY

ASSEMBLY RATING = 1-HOUR OR 2-HOUR
L-RATING AT AMBIENT = LESS THAN 1 CFM / LIN FT
L-RATING AT 400° F = LESS THAN 1 CFM / LIN FT
CLASS II MOVEMENT CAPABILITIES - 50% COMPRESSION OR EXTENSION OR 66% COMPRESSION ONLY (SEE NOTES NO. 2 AND 3 BELOW)



- 1. CONCRETE FLOOR ASSEMBLY (1-HOUR OR 2-HOUR FIRE-RATING)
A. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE WALL ASSEMBLY (MINIMUM 4-1/2 INCH THICK)
B. ANY UL/cUL CLASSIFIED PRE-CAST (HOLLOW CORE) CONCRETE FLOOR (MINIMUM 6 INCH THICK)
2. GYPSUM CHASE DOUBLE STUD WALL ASSEMBLY (UL/cUL CLASSIFIED U400, V400, OR W400 SERIES) (1-HOUR OR 2-HOUR FIRE-RATING) (2-HR SHOWN)
3. CEILING RUNNER (MINIMUM 25 GAUGE, FLANGE HEIGHT OF CEILING RUNNER SHALL BE MINIMUM 1/4 INCH GREATER THAN MAXIMUM EXTENDED JOINT WIDTH) FASTENED TO UNDERSIDE OF CONCRETE FLOOR WITH MASONRY ANCHORS OR STEEL FASTENERS (SPACED MAXIMUM 24 INCH ON CENTER) (SEE NOTE NO. 1 BELOW)
4. STEEL STUDS (MINIMUM 2-1/2 INCH WIDE), CUT 3/4 INCH TO 1 INCH LESS IN LENGTH THAN ASSEMBLY HEIGHT WITH BOTTOM CENTERING IN CEILING RUNNER WITHOUT ATTACHMENT.
5. 5/8 INCH OR 1-1/4 INCH THICKNESS GYPSUM WALLBOARD AS SPECIFIED IN THE INDIVIDUAL UL DESIGN. TOP ROW OF SCREWS SHALL BE INSTALLED INTO STUD 1 INCH TO 1-1/2 INCH BELOW THE BOTTOM EDGE OF THE CEILING RUNNER.
6. HILTI CFS-TTS 360, CFS-TTS 600, OR CFS-TTS 605 TOP TRACK SEAL INSTALLED OVER CEILING RUNNER PRIOR TO ATTACHMENT TO UNDERSIDE OF CONCRETE FLOOR IN ACCORDANCE WITH THE ACCOMPANYING INSTALLATION INSTRUCTIONS.
7. (OPTIONAL) PVC WALL MOUNTED DEFLECTION BEAD (BY TRIM-TEC INC. INSTALLED PER MANUFACTURER'S INSTRUCTIONS. DEFLECTION BEAD INSTALLED ON ONE OR BOTH SIDES OF WALL.

NOTES:
1. AS AN ALTERNATE TO CEILING RUNNER IN ITEM NO.3, SLOTTED CEILING RUNNERS MAY BE USED. CONSULT THE UL FIRE RESISTANCE DIRECTORY FOR APPROVED MANUFACTURERS.
2. TO ACCOMMODATE MAX. 50% COMPRESSION OR EXTENSION MAXIMUM WIDTH OF JOINT = 1/2 INCH.
3. TO ACCOMMODATE MAX. 66% COMPRESSION ONLY MAXIMUM WIDTH OF JOINT = 3/4 INCH.

24 TOP OF WALL JOINT- GYPSUM CHASE WALL ASSEMBLY

NOT TO SCALE

16 FIRE-RATED JOINT THROUGH CONCRETE FLOOR ASSEMBLY

NOT TO SCALE

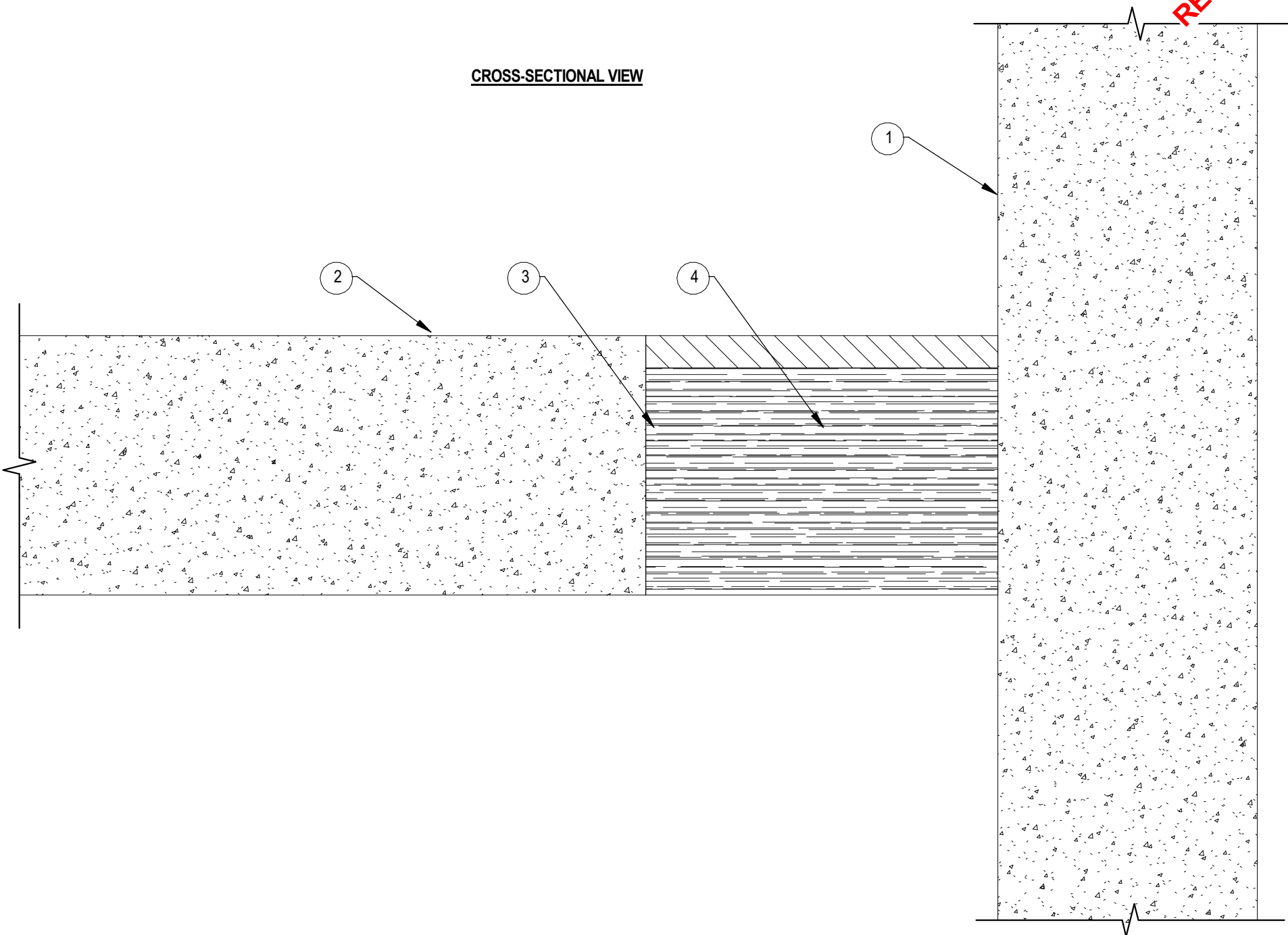
08 FIRE-RATED JOINT THROUGH CONCRETE FLOOR ASSEMBLY

NOT TO SCALE

UL/cUL SYSTEM NO. FW-D-1092

FIRE-RATED JOINT THROUGH CONCRETE FLOOR ASSEMBLY

ASSEMBLY RATING = 4-HOUR
L-RATING AT AMBIENT = LESS THAN 1 CFM / LIN FT
L-RATING AT 400° F = LESS THAN 1 CFM / LIN FT
CLASS MOVEMENT CAPABILITIES = 12.5% COMPRESSION OR EXTENSION



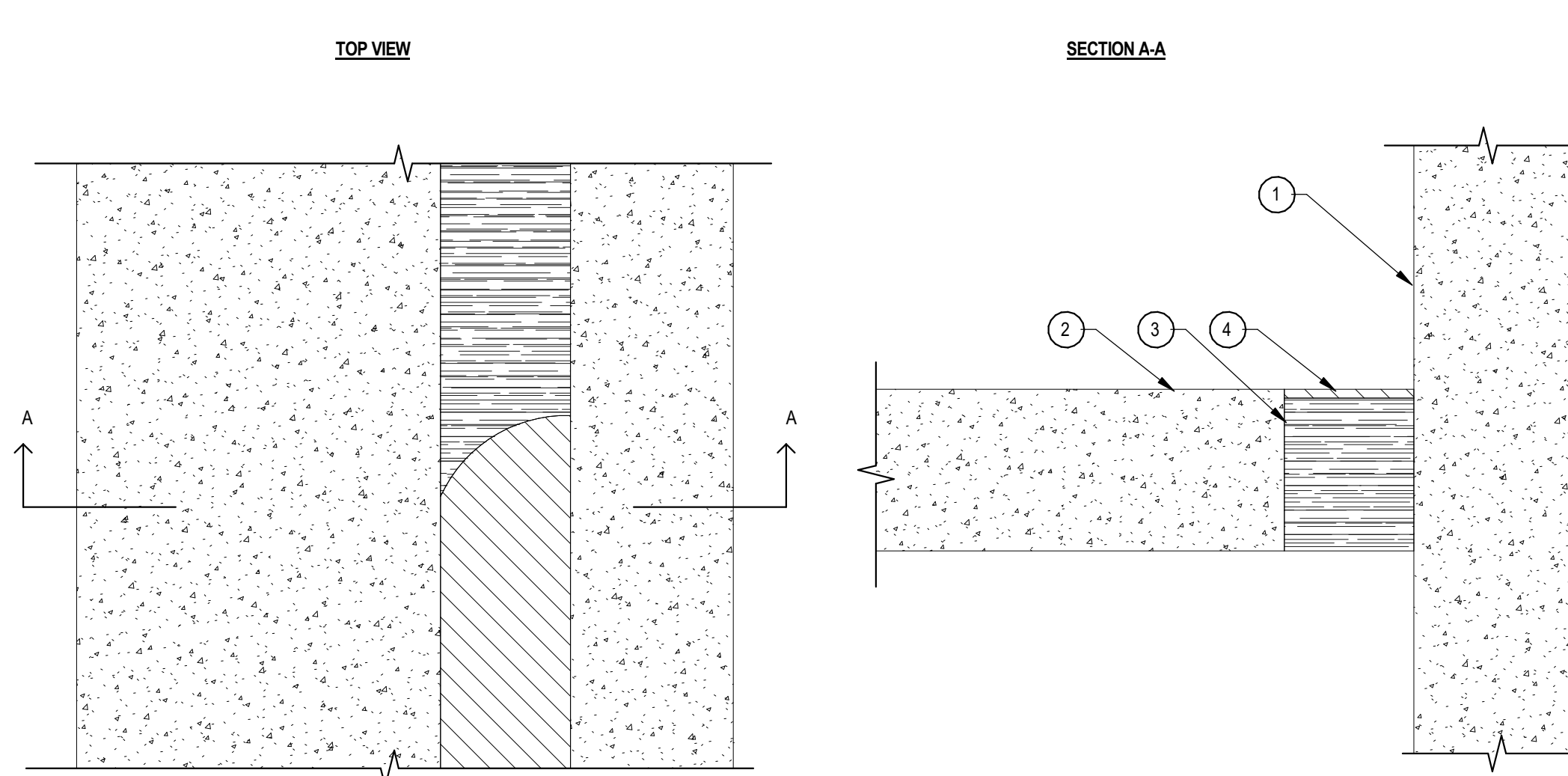
- 1. CONCRETE WALL ASSEMBLY (4-HOUR, FIRE-RATING)
A. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE WALL (MINIMUM 5-1/2 INCH THICK)
B. ANY UL/cUL CLASSIFIED CONCRETE BLOCK WALL
2. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR (MINIMUM 5-1/2 INCH THICK) (2-HOUR FIRE-RATING)
3. MINIMUM 5 INCH THICKNESS MINERAL WOOL SAFING (MINIMUM 4 PCF DENSITY) COMPRESSED 50% AND RECESSED TO ACCOMMODATE FIRESTOP SEALANT.
4. MINIMUM 1/4 INCH DEPTH HILTI CFS-S SIL GG OR CFS-S SIL SL FIRESTOP SILICONE SEALANT, FLUSH WITH THE TOP SURFACE OF FLOOR.

NOTES:
1. MAXIMUM WIDTH OF JOINT = 3 INCH

UL/cUL SYSTEM NO. FW-D-1011

FIRE-RATED JOINT THROUGH CONCRETE FLOOR ASSEMBLY

F-RATING = 3-HOUR
CLASS II MOVEMENT CAPABILITIES - 14% COMPRESSION OR EXTENSION



- 1. CONCRETE WALL ASSEMBLY (3-HR, FIRE-RATING)
A. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE WALL (MINIMUM 4-1/2 INCH THICK)
B. ANY UL/cUL CLASSIFIED CONCRETE BLOCK WALL
2. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR (MINIMUM 4-1/2 INCH THICK) (3-HOUR FIRE-RATING)
3. MINIMUM 4-1/4 INCH THICKNESS MINERAL WOOL SAFING (MINIMUM 4 PCF DENSITY) COMPRESSED MINIMUM 42%
4. MINIMUM 1/4 INCH DEPTH HILTI CFS-S SIL GG OR CFS-S SIL SL FIRESTOP SILICONE SEALANT, HILTI 605 ELASTOMERIC FIRESTOP SEALANT, OR HILTI CFS-S SIL SL FIRESTOP SILICONE SEALANT

NOTES:
1. MAXIMUM WIDTH OF JOINT = 3-1/2 INCH

REVISE AND UPDATE ALL FIRE JOINT PENETRATION DETAILS PER THEIR LATEST ASSEMBLIES

REVISE AND UPDATE ALL FIRE JOINT PENETRATION DETAILS PER THEIR LATEST ASSEMBLIES

Project Name 1
Project Name 2
Street Address
City, state



PRELIMINARY
NOT FOR
CONSTRUCTION



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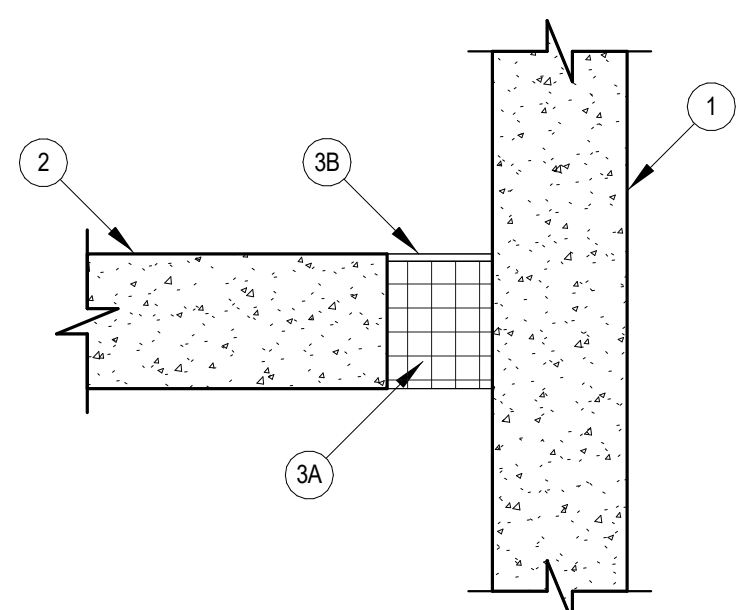
Notice of alternate billing (or payment) cycle
This contract shall (may allow) the owner to require the submission of billings or estimates in billing cycles other than thirty days. (This contract may allow the owner to make payment on some alternative schedule other than thirty days and shall be used by engineer in any other projects, for additions to this project, or for completion of this project by others named by the owner's designated agent at ALLIANCE RESIDENTIAL COMPANY, 2525 S. CAMBRIDGE RD., SUITE 500, PHOENIX, AZ 85084 (602) 778-2802. Over the owner or his designated agent shall provide this information to the contractor.

Table with 2 columns: REVISIONS, SUBMITTALS, DATE, DESCRIPTION

2ND BUILDING SUBMITTAL
DATE: July 17, 2024 ORB #: 00-000

A7.2.10
FIRE JOINTS

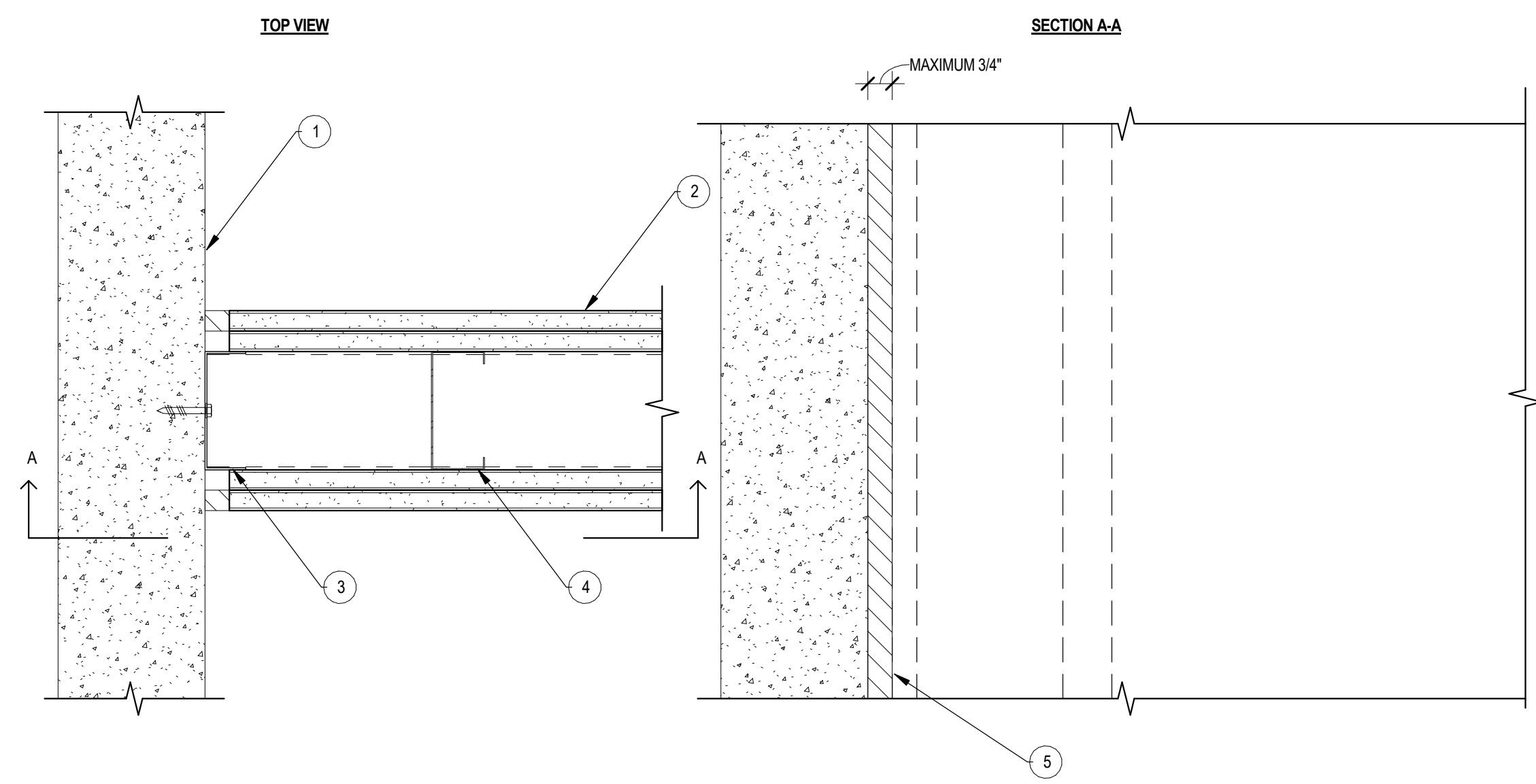
System No. FW-D-1011
ASSEMBLY RATINGS - 3 HR
NOMINAL JOINT WIDTH - 3 1/2"
CLASS II MOVEMENT CAPABILITIES - 14% COMPRESSION OR EXTENSION



- 1. WALL ASSEMBLY - MIN 4-1/2 IN. THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) STRUCTURAL CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS. SEE CONCRETE BLOCKS (CAZT) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.
2. FLOOR ASSEMBLY - MIN 4-1/2 IN. THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) STRUCTURAL CONCRETE.
3. JOINT SYSTEM - MAX SEPARATION BETWEEN EDGE OF FLOOR AND FACE OF WALL (AT TIME OF INSTALLATION OF JOINT SYSTEM) IS 3-1/2 IN. THE JOINT SYSTEM IS DESIGNED TO ACCOMMODATE A MAX 14 PERCENT IN COMPRESSION OR EXTENSION FROM ITS INSTALLED WIDTH. THE JOINT SYSTEM SHALL CONSIST OF THE FOLLOWING:
A. FORMING MATERIAL - MIN 4 PCF MINERAL WOOL BATT INSULATION INSTALLED IN JOINT OPENING AS A PERMANENT FORM. PIECES OF BATT CUT TO MIN WIDTH OF 4-1/4 IN. AND INSTALLED EDGE-FIRST INTO JOINT OPENING, PARALLEL WITH JOINT DIRECTION, SUCH THAT BATT SECTIONS ARE COMPRESSED MIN 42 PERCENT IN THICKNESS AND THAT THE COMPRESSED BATT SECTIONS ARE RECESSED FROM TOP SURFACE OF THE FLOOR AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL. ADJOINING LENGTHS OF BATT TO BE TIGHTLY-BUTTED WITH BUTTED SEAMS SPACED MIN 24 IN. APART ALONG THE LENGTH OF THE JOINT.
B. FILL, VOID OR CAVITY MATERIAL - SEALANT - MIN 1/4 IN. THICKNESS OF FILL MATERIAL APPLIED WITHIN THE JOINT, FLUSH WITH TOP SURFACE OF FLOOR.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC - CP691S ELASTOMERIC FIRESTOP SEALANT, CFS-S SIL GG OR CFS-S SIL SL (FLOORS ONLY) SEALANT
*BEARING THE UL CLASSIFICATION MARK

UL/cUL SYSTEM NO. WW-D-0040

WALL TO WALL JOINT- GYPSUM WALL TO CONCRETE OR BLOCK WALL ASSEMBLY
ASSEMBLY RATING = 1-HOUR OR 2-HOUR
CLASS II MOVEMENT CAPABILITY - 17% COMPRESSION OR EXTENSION
L-RATING AT AMBIENT = LESS THAN 1 CFM / LIN FT
L-RATING AT 400° F = LESS THAN 1 CFM / LIN FT

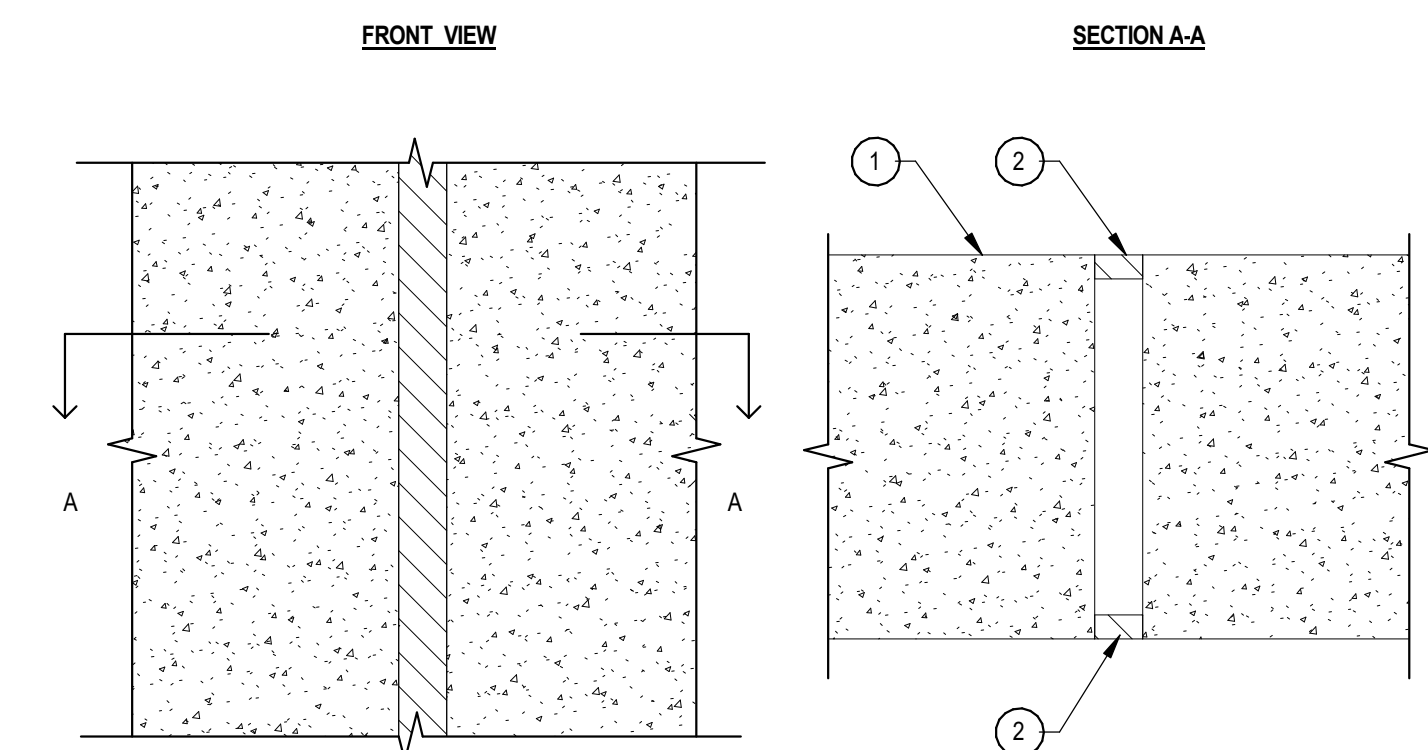


- 1. CONCRETE FLOOR ASSEMBLY (1-HOUR OR 2-HOUR FIRE-RATING):
A. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE WALL ASSEMBLY (MINIMUM 4-1/2 INCH THICK)
B. ANY UL/cUL CLASSIFIED CONCRETE BLOCK WALL.
2. GYPSUM WALL ASSEMBLY (UL/cUL CLASSIFIED U400, V400, OR W400 SERIES) (1-HOUR OR 2-HOUR FIRE-RATING) (2-HOUR SHOWN)
3. WALL RUNNER (MINIMUM 25 GAUGE) SECURED TO WALL ASSEMBLY WITH STEEL CONCRETE FASTENERS (SPACE 12 INCH ON CENTER)
4. STEEL STUDS (MINIMUM 3-1/2 INCH WIDE), CUT 1/2 INCH TO 3/4 INCH LESS IN LENGTH THAN ASSEMBLY HEIGHT, NESTING IN CEILING RUNNER WITHOUT ATTACHMENT. FIRST STUD ADJACENT TO CONCRETE WALL SHALL NOT EXCEED 4 INCH FROM WALL FACE.
5. MINIMUM 5/8 INCH DEPTH HILTI CP 601S ELASTOMERIC FIRESTOP SEALANT, CP 606 FLEXIBLE FIRESTOP SEALANT, OR HILTI CFS-S SIL GG FIRESTOP SILICONE SEALANT.

NOTES:
1. [OPTIONAL, NOT SHOWN] MINERAL WOOL, FIBERGLASS, OR POLYURETHANE/POLYETHYLENE FOAM BACKER ROD MAY BE USED AS A BACKER IN 2-HOUR WALLS.
2. L-RATING ONLY APPLIES WHEN HILTI CP 606 FLEXIBLE FIRESTOP SEALANT IS USED.

UL/cUL SYSTEM NO. WW-D-0032

WALL TO WALL JOINT- CONCRETE WALL OR BLOCK WALL ASSEMBLY
ASSEMBLY RATING = 3-HOUR
CLASS II MOVEMENT CAPABILITIES - 12.5% COMPRESSION OR EXTENSION
L-RATING AT AMBIENT = LESS THAN 1 CFM/LIN FT
L-RATING AT 400° F = LESS THAN 1 CFM/LIN FT



- 1. CONCRETE WALL ASSEMBLY (3-HOUR FIRE-RATING):
A. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE WALL (MINIMUM 8 INCH THICK)
B. ANY UL/cUL CLASSIFIED CONCRETE BLOCK WALL.
2. MINIMUM 1/2 INCH DEPTH HILTI CP 606 FLEXIBLE FIRESTOP SEALANT.

NOTES:
1. MAXIMUM WIDTH OF JOINT = 1 INCH
2. [OPTIONAL, NOT SHOWN] MINERAL WOOL OR POLYURETHANE FOAM BACKER ROD MAY BE USED AS A BACKER FOR FIRESTOP SEALANT.

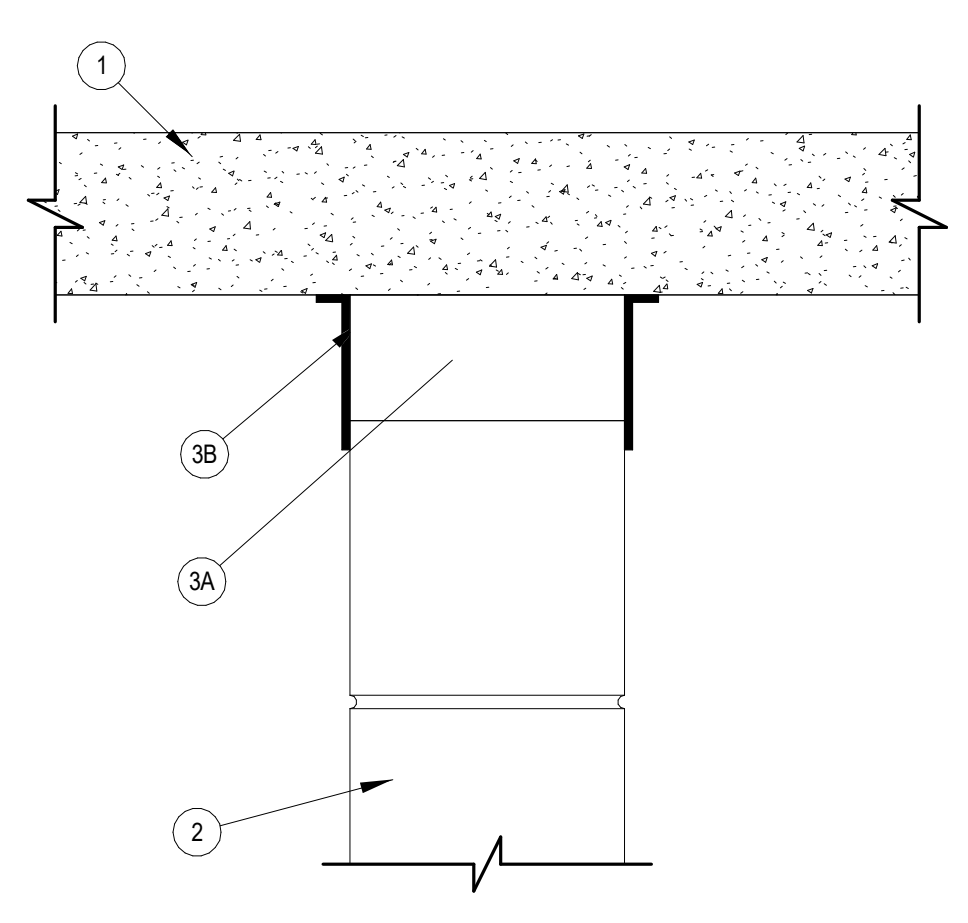
REVISE AND UPDATE ALL FIRE JOINT PENETRATION DETAILS PER THEIR LATEST ASSEMBLIES

42 FIRE-RATED JOINT THROUGH CONCRETE FLOOR ASSEMBLY (3HR) NOT TO SCALE

38 WALL TO WALL JOINT- GYPSUM WALL ASSEMBLY TO CONCRETE WALL ASSEMBLY NOT TO SCALE

30 WALL TO WALL JOINT- CONCRETE WALL OR BLOCK WALL ASSEMBLY NOT TO SCALE

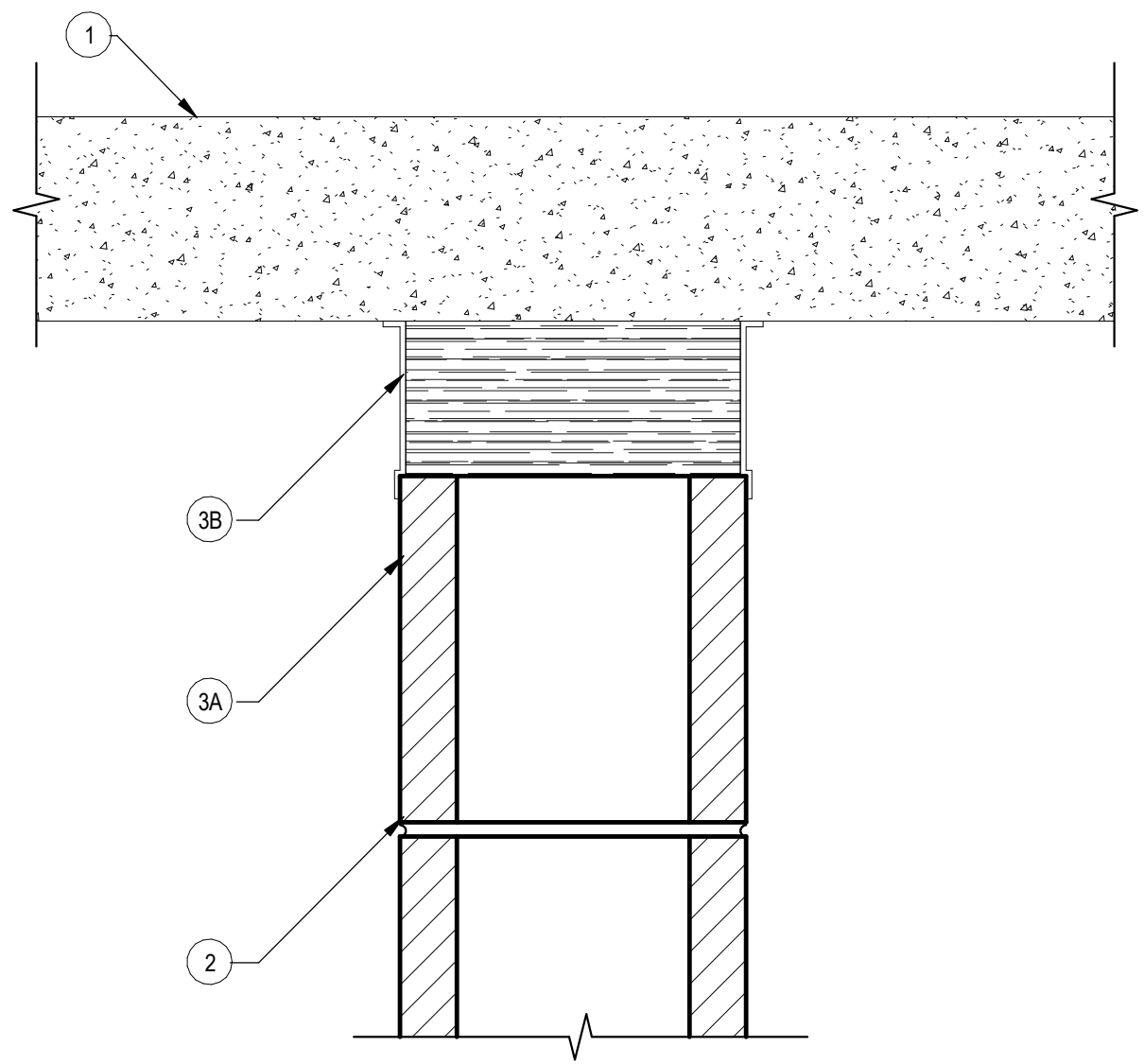
System No. HW-D-1070
ASSEMBLY RATINGS - 2 HR
CLASS II MOVEMENT CAPABILITIES - 40% COMPRESSION OR EXTENSION



- 1. FLOOR ASSEMBLY - MIN 4-1/2 IN. (114 MM) THICK STEEL-REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF, 1600-2400 KG/M³) STRUCTURAL CONCRETE.
2. WALL ASSEMBLY - MIN 6 IN. (152 MM) THICK STEEL-REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF OR 1600-2400 KG/M³) STRUCTURAL CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS. SEE CONCRETE BLOCKS (CAZT) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.
3. JOINT SYSTEM - MAX WIDTH OF JOINT (AT TIME OF INSTALLATION OF JOINT SYSTEM) IS 2-1/2 IN. (64 MM). THE JOINT SYSTEM IS DESIGNED TO ACCOMMODATE A MAX 40 PERCENT COMPRESSION OR EXTENSION FROM ITS INSTALLED WIDTH. THE JOINT SYSTEM SHALL CONSIST OF THE FOLLOWING:
A. FORMING MATERIAL - MIN 4 PCF (64 KG/M³) MINERAL WOOL BATT INSULATION INSTALLED IN JOINT OPENING AS A PERMANENT FORM. BATT CUT TO WIDTH EQUAL TO THICKNESS OF WALL, COMPRESSED 50 PERCENT IN THICKNESS AND INSTALLED EDGE-FIRST INTO JOINT OPENING SUCH THAT THE COMPRESSED BATT SECTIONS ARE FLUSH WITH BOTH SURFACES OF WALL, ADJOINING LENGTHS OF BATT TO BE TIGHTLY BUTTED WITH BUTTED SEAMS SPACED MIN 48 IN. (1219 MM) APART ALONG THE LENGTHS OF THE JOINT.
ROCK WOOL MANUFACTURING CO - DELTA BOARD
THERMAFIBER INC - TYPE 3AF
B. FILL, VOID OR CAVITY MATERIAL - MIN 1/8 IN. (1.6 MM) DRY THICKNESS (MIN 1/8 IN. OR 3.2 MM WET THICKNESS) OF FILL MATERIAL SPRAYED ON EACH SIDE OF THE WALL TO COMPLETELY COVER MINERAL WOOL FORMING MATERIAL AND TO OVERLAP A MIN OF 1/2 IN. (13 MM) ONTO WALL AND FLOOR SURFACES ON BOTH SIDES OF WALL.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC - CP672 FIRESTOP SPRAY OR CFS-SP WB FIRESTOP JOINT SPRAY
* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR cUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR cUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

UL/cUL SYSTEM NO. HW-D-0097

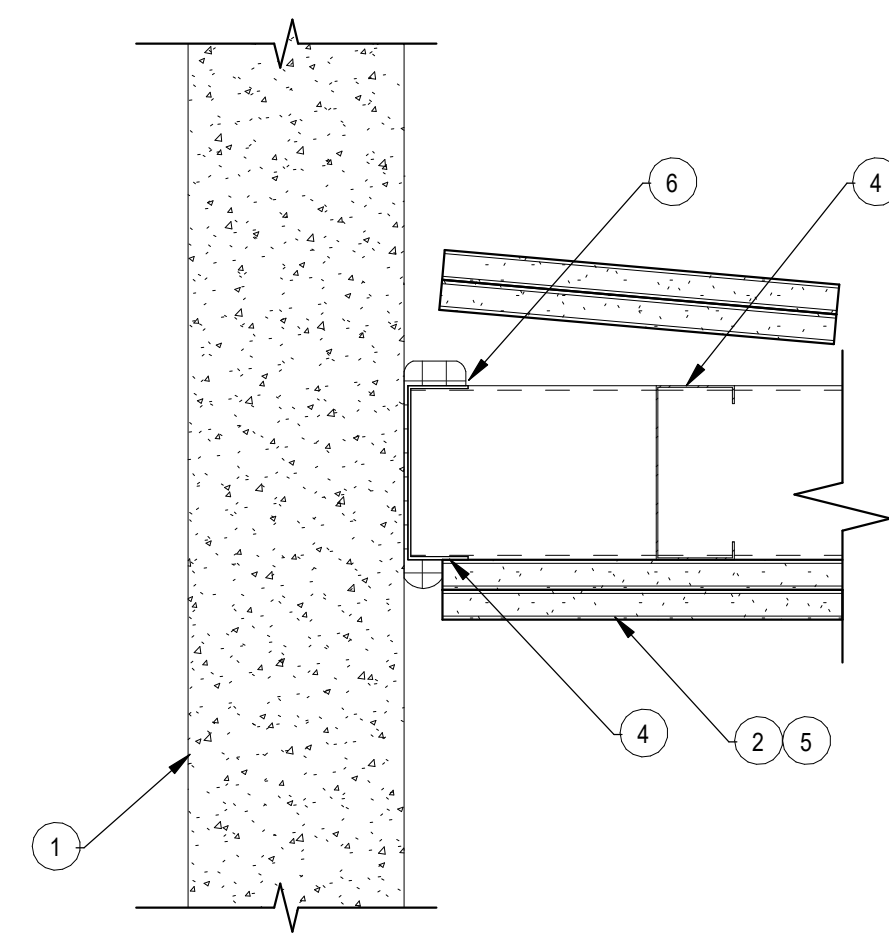
ASSEMBLY RATING = 2-HOUR
NOMINAL JOINT WIDTH - 2 INCH
CLASS MOVEMENT CAPABILITIES = 14% COMPRESSION OR EXTENSION



- 1. FLOOR ASSEMBLY - MINIMUM 4-1/2 INCH THICK STEEL-REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) STRUCTURAL CONCRETE.
2. WALL ASSEMBLY - MINIMUM 8 INCH THICK STEEL-REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) STRUCTURAL CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS. SEE CONCRETE BLOCKS (CAZT) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.
3. JOINT SYSTEM - MAXIMUM WIDTH OF JOINT (AT TIME OF INSTALLATION OF JOINT SYSTEM) IS 2 INCH. THE JOINT SYSTEM IS DESIGNED TO ACCOMMODATE A MAXIMUM 14 PERCENT COMPRESSION OR EXTENSION FROM ITS INSTALLED WIDTH. THE JOINT SYSTEM SHALL CONSIST OF THE FOLLOWING:
A. FORMING MATERIAL - MINIMUM 4.0 PCF MINERAL WOOL BATT INSULATION INSTALLED IN JOINT OPENING AS A PERMANENT FORM. BATT CUT TO MINIMUM WIDTH OF 8 INCH AND INSTALLED CUT EDGE-FIRST INTO JOINT OPENING, PARALLEL WITH JOINT DIRECTION, SUCH THAT BATT SECTIONS ARE COMPRESSED MINIMUM 50 PERCENT IN THICKNESS AND SUCH THAT THE COMPRESSED BATT SECTIONS ARE FLUSH WITH BOTH SURFACES OF WALL, ADJOINING LENGTHS OF BATT TO BE TIGHTLY BUTTED SEAMS SPACED MINIMUM 48 INCH APART ALONG THE LENGTHS OF THE JOINT.
B. FILL, VOID OR CAVITY MATERIAL - MINIMUM 1/8 INCH WET THICKNESS OF FILL MATERIAL SPRAYED OR TROWELLED ON EACH SIDE OF WALL TO COMPLETELY COVER MINERAL WOOL FORMING MATERIAL AND TO OVERLAP A MINIMUM 1/2 INCH ONTO CONCRETE FLOOR AND CONCRETE WALL. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC - CP672 FIRESTOP SPRAY OR CFS-SP WB FIRESTOP JOINT SPRAY
*BEARING THE UL CLASSIFICATION MARK

UL/cUL SYSTEM NO. WW-S-0074

TOP OF WALL JOINT- GYPSUM WALL ASSEMBLY TO CONCRETE WALL ASSEMBLY
ASSEMBLY RATING = 1-HOUR OR 2-HOUR
L-RATING AT AMBIENT = LESS THAN 1 CFM / LIN FT
L-RATING AT 400° F = LESS THAN 1 CFM / LIN FT



- 1. CONCRETE FLOOR ASSEMBLY:
A. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE WALL (MINIMUM 4-1/2 INCH THICK) (1-HOUR FIRE-RATING)
B. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE WALL (MINIMUM 8 INCH THICK) (2-HOUR FIRE-RATING)
C. ANY UL/cUL CLASSIFIED CONCRETE BLOCK WALL (1-HOUR OR 2-HOUR FIRE-RATING)
2. GYPSUM WALL ASSEMBLY (UL/cUL CLASSIFIED U400, V400, OR W400 SERIES) (1-HOUR OR 2-HOUR FIRE-RATING) (2-HOUR SHOWN)
3. STEEL RUNNER (MINIMUM 25 GAUGE, FLANGE HEIGHT OF CEILING RUNNER SHALL BE MINIMUM 1-1/4 INCH) FASTENED TO CONCRETE WALL WITH MASONRY ANCHORS OR STEEL FASTENERS (SPACED MAXIMUM 24 INCH ON CENTER)
4. STEEL STUDS (MINIMUM 3-1/2 INCH WIDE), CUT 3/4 INCH TO 1 INCH LESS IN LENGTH THAN ASSEMBLY HEIGHT WITH BOTTOM NESTING IN STEEL RUNNER WITHOUT ATTACHMENT.
5. 5/8 INCH OR 1-1/4 INCH THICKNESS GYPSUM WALL BOARD AS SPECIFIED IN THE INDIVIDUAL UL DESIGN
6. HILTI CFS-TTS 358, CFS-TTS 600, OR CFS-TTS OS TOP TRACK SEAL INSTALLED UNDER STEEL RUNNER PRIOR TO ATTACHMENT TO CONCRETE WALL IN ACCORDANCE WITH THE ACCOMPANYING INSTALLATION INSTRUCTIONS.

NOTES:
1. MAXIMUM WIDTH OF JOINT = 3/4 INCH

44 RATED JOINT AT CMU WALL TO CONCRETE SLAB - 40% COMPRESSIBLE NOT TO SCALE

40 RATED JOINT AT CMU WALL TO CONCRETE NOT TO SCALE

32 WALL TO WALL JOINT- GYPSUM WALL ASSEMBLY TO CONCRETE WALL ASSEMBLY NOT TO SCALE

Project Name 1
Project Name 2

Street Address
City, state



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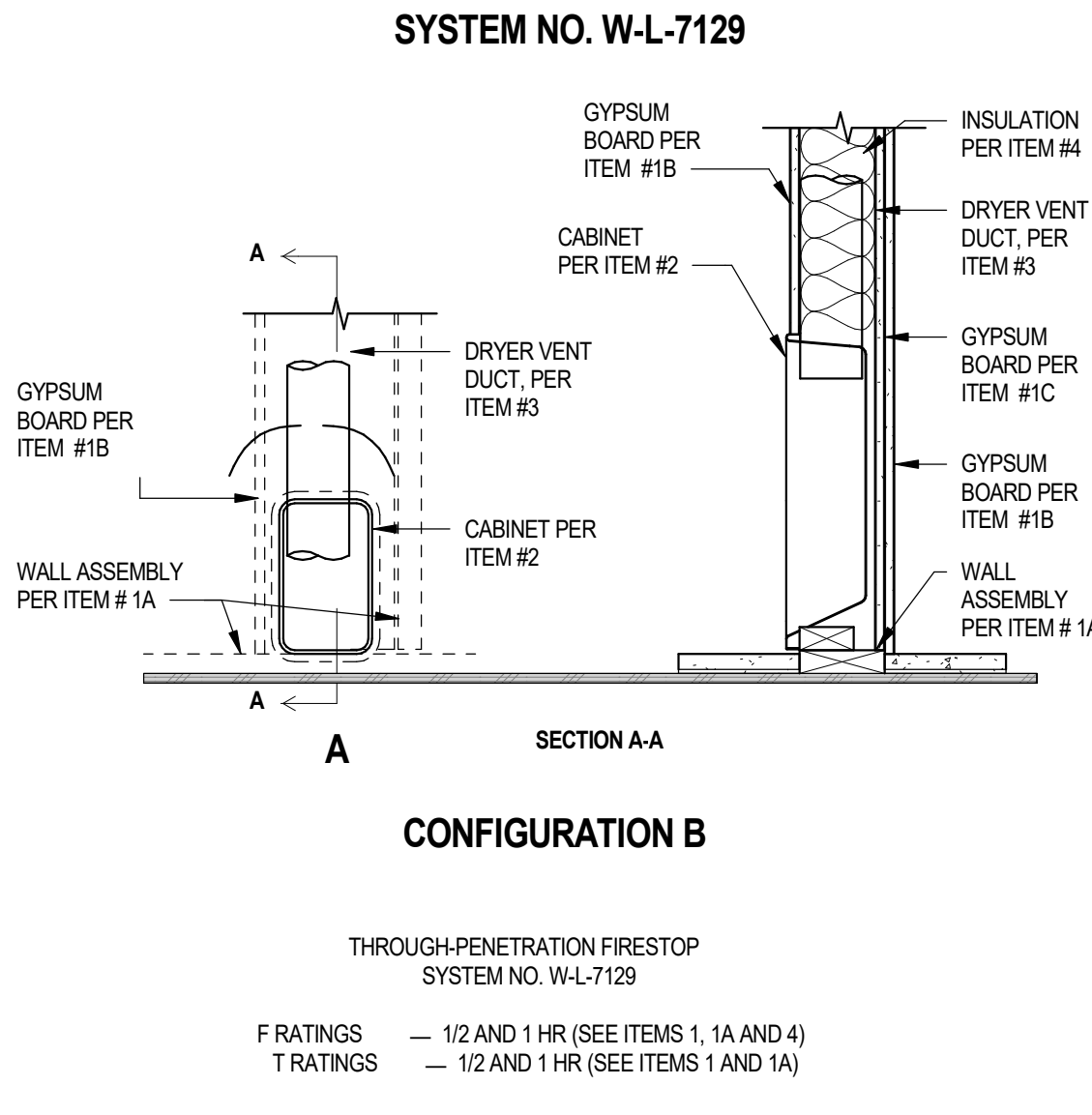
REVISIONS/SUBMITTALS
DATE DESCRIPTION

2ND BUILDING SUBMITTAL
DATE: July 17, 2024 ORB #: 00-000

A7.2.11
FIRE JOINTS

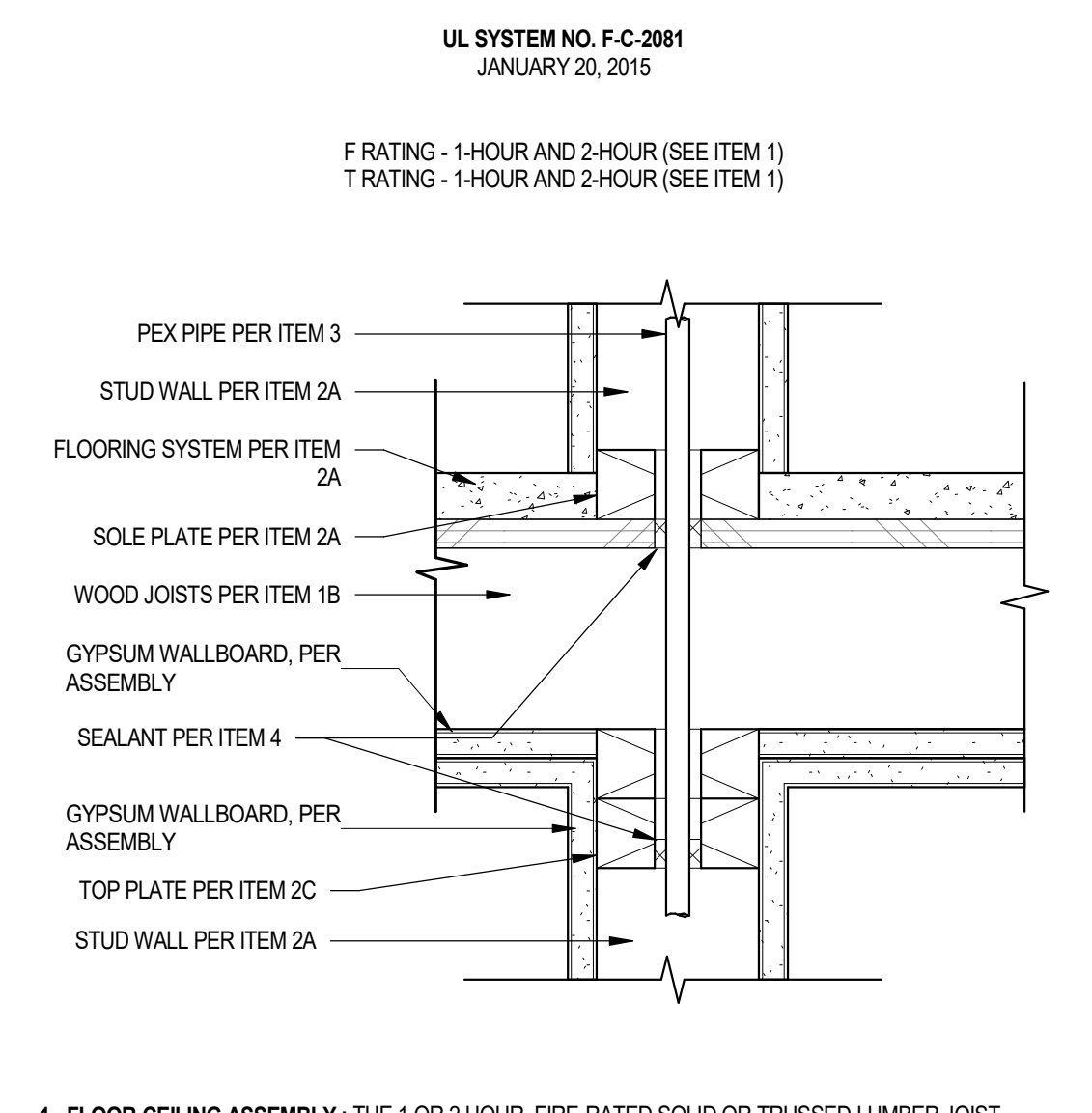
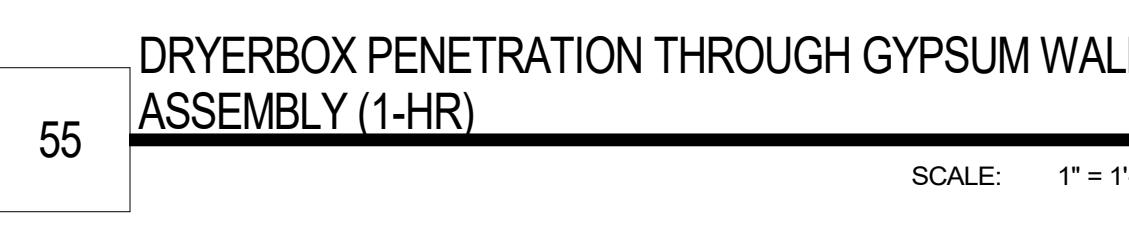
REVISE AND UPDATE ALL FIRE JOINT/PENETRATION DETAILS PER THEIR LATEST ASSEMBLIES

REVISE AND UPDATE ALL FIRE JOINT/PENETRATION DETAILS PER THEIR LATEST ASSEMBLIES

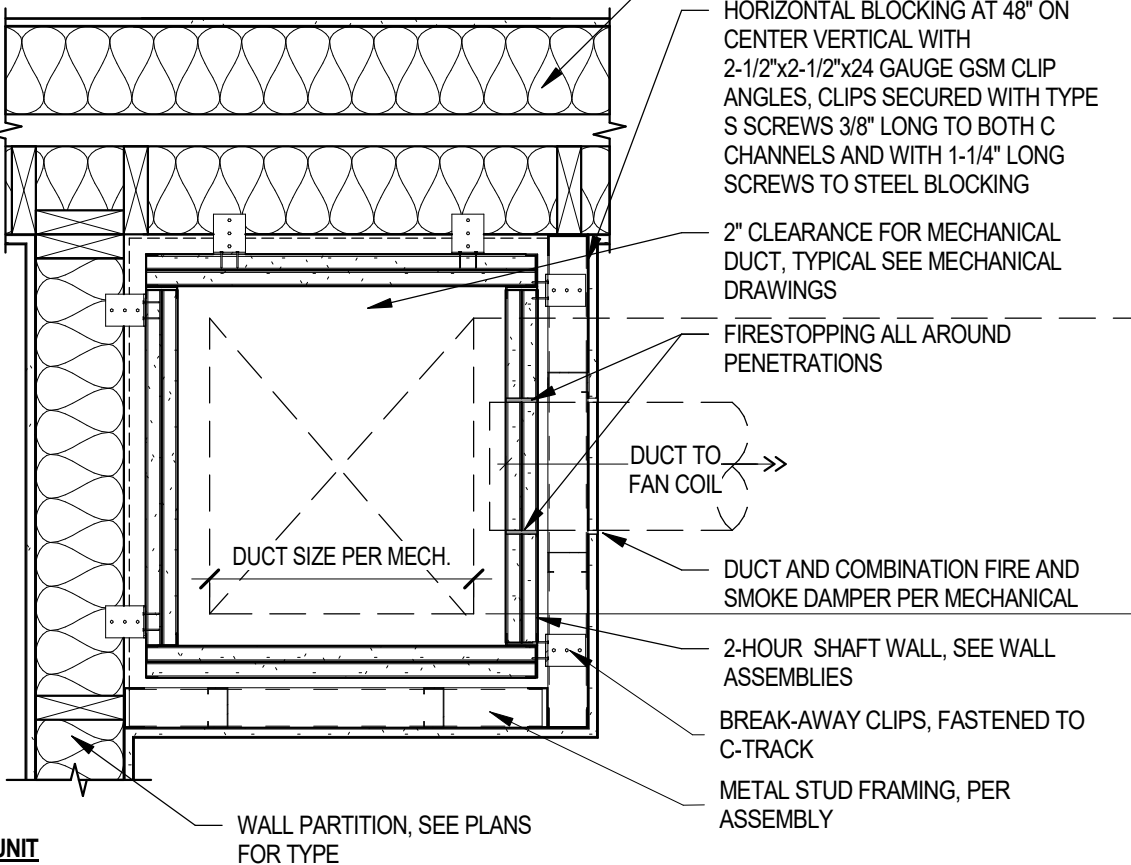
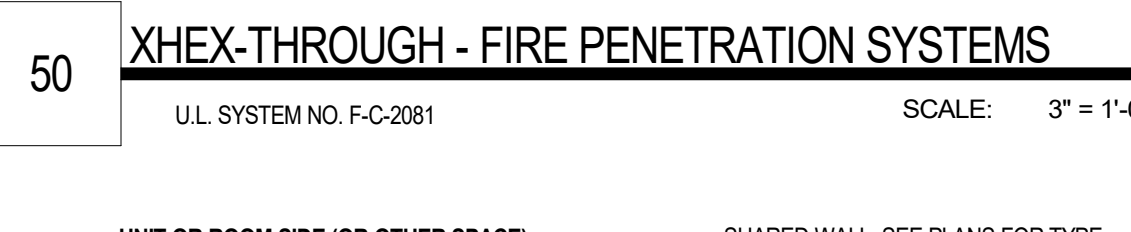


- 1A. WALL ASSEMBLY - CONFIGURATION B - THE FIRE-RATED GYPSUM BOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300, U400, V400 OR W400 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
- A. STUDS - WALL FRAMING TO CONSIST OF WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF MIN NOM 2" BY 4" IN. (51 BY 102 MM) LUMBER SPACED 16 IN. (406 MM) OC. STEEL STUDS TO BE MIN 4 IN. (102.4 MM) WIDE AND SPACED MAX 24 IN. (610 MM) OC.
 - B. GYPSUM BOARD* - ONE LAYER OF NOM 5/8 IN. (16 MM) THICK GYPSUM BOARD EACH SIDE OF WALL AS SPECIFIED IN THE INDIVIDUAL WALL AND PARTITION DESIGN. SEE ITEM 2 FOR CUTOUT IN GYPSUM BOARD ON ONE SIDE OF WALL FOR DRYER BOX.
 - C. GYPSUM BOARD* - AN ADDITIONAL LAYER OF GYPSUM BOARD SHALL BE CUT TO FIT ID OF STUD CAVITY AND INSTALLED FLUSH WITH EDGE OF STUDS ON NON-PENETRATED FACE OF WALL. ADDITIONAL LAYER OF GYPSUM BOARD TO BE ATTACHED TO MIN 1/2 IN. (25 BY 61 MM) WOOD NAILING STRIPS WITH FASTENERS SPACED MAX 16 IN. (407 MM) OC AROUND PERIPHERY OF BOARD. NAILING STRIPS TO BE SECURED TO WOOD STUDS AND PLATES WITH FASTENERS SPACED MAX 18 IN. (457 MM) OC. NAILING STRIPS MAY BE DISCONTINUOUS AND TERMINATE MAX 1 IN. (25 MM) FROM VENT DUCT AND CABINET INTERFACES WITH PLATES AND STUDS.
- THE HOURLY F AND T RATING OF THE FIRESTOP SYSTEM FOR CONFIGURATION B SHALL BE EQUAL TO 1 HR.
2. CABINET - RECESSED FIXTURE INTENDED FOR DRYER APPLIANCE EXHAUST. SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS IN ONE SIDE OF WALL AS SPECIFIED IN THE INDIVIDUAL U300, U400, V400 OR W400 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
- A. EXHAUST DEVICE IS MAX 8 1/2 IN. (214 MM) WIDE BY 15 1/2 IN. (393 MM) HIGH. CUTOUT IN GYPSUM BOARD FOR BOTTOM EXHAUST DUCT IS MAX 14 IN. (356 MM) WIDE BY 16 IN. (406 MM) HIGH. MAX GAP BETWEEN CABINET AND GYPSUM BOARD AROUND PERIPHERY OF CUTOUT SHALL BE 1/8 IN. (3.2 MM). GAP SHALL BE SEALED WITH UL CLASSIFIED SEALANT OR GROUT. (SEE FILL VOID OR CAVITY MATERIAL (XHV) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS) OR DRYWALL COMPOUND.
 - B. DRYER VENT DUCT - MAX 4 IN. (102 MM) DIAM. SHALL BE 1/2 IN. (12.7 MM) GAUGE RIGID STEEL DRYER DUCT FRITION FITTED INTO TOP OR BOTTOM OPENING OF CABINET. DUCT TO BE ROUTED ENTIRELY WITHIN FIRE RATED CONSTRUCTION FROM THE CABINET TO THE EXHAUST DEVICE. VENT DUCT TO BE FIRESTOPPED IN ACCORDANCE WITH THE UL FIRE RESISTANCE DIRECTORY. TOP PLATE OR SOLE PLATE OF THE CHASE WALL IN WHICH IT IS ROUTED.
3. STEEL VENT DUCT - MAX 4 IN. (102 MM) DIAM. SHALL BE 1/2 IN. (12.7 MM) GAUGE RIGID STEEL DRYER DUCT FRITION FITTED INTO TOP OR BOTTOM OPENING OF CABINET. DUCT TO BE ROUTED ENTIRELY WITHIN FIRE RATED CONSTRUCTION FROM THE CABINET TO THE EXHAUST DEVICE. VENT DUCT TO BE FIRESTOPPED IN ACCORDANCE WITH THE UL FIRE RESISTANCE DIRECTORY. TOP PLATE OR SOLE PLATE OF THE CHASE WALL IN WHICH IT IS ROUTED.
4. INSULATION - REQUIRED FOR THROUGH-PENETRATIONS THROUGH WALLS AS SPECIFIED IN TABLE BELIEF. SPACES BETWEEN THE SIDES OF THE CABINET AND THE STUDS AND THE SPACE IMMEDIATELY AROUND THE CABINET ARE TO BE TIGHTLY PACKED WITH GLASS FIBER BATT OR MINERAL WOOL BATT. INSULATION FOR FIRESTOP SYSTEMS WITH 1 HR F RATING. THE ENTIRE STUD CAVITY CONTAINING THE CABINET SHALL BE FILLED WITH MIN 1/8" GLASS FIBER BATT INSULATION OR MINERAL WOOL BATT INSULATION WITH ADDITIONAL PIECES OF INSULATION APPLIED AS NEEDED TO COMPLETELY SEAL ALL Voids AROUND THE CABINET AND VENT DUCT TO THE FULL DEPTH OF THE STUD CAVITY. GLASS FIBER OR MINERAL WOOL BATT MATERIAL BEARING THE UL CLASSIFICATION MARKING TO FIRE RESISTANCE MAY BE USED.
- * Batts and Blankets* (BZL) CATEGORY FOR NAMES OF CLASSIFIED COMPANIES.

DRYERBOX MODELS	F RATING (SEE ITEM 1)	WALL STUDS	INSULATION REQUIRED
350, 425, 3D AND 4D	1/2	350, 425, 3D AND 4D	SEE ITEM 4
350, 425, 3D AND 4D	1	WOOD	SEE ITEM 4
350, 425, 3D AND 4D	1	STEEL	SEE ITEM 4A
480	1/2 AND 1	STEEL AND WOOD	SEE ITEM 4A



1. FLOOR-CEILING ASSEMBLY - THE 1 OR 2 HOUR FIRE-RATED SOLID OR TRUSSED LUMBER JOIST FLOOR-CEILING ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL L500 SERIES FLOOR-CEILING DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY. THE 'F' AND 'T' RATINGS OF THE FIRESTOP SYSTEM IS EQUAL TO THE RATINGS OF THE FLOOR-CEILING AND WALL ASSEMBLIES. THE GENERAL CONSTRUCTION FEATURES OF THE FLOOR-CEILING ASSEMBLY ARE SUMMARIZED BELOW:
- A. FLOORING SYSTEM - LUMBER OR PLYWOOD SUBFLOOR WITH FINISH FLOOR OR LUMBER, PLYWOOD OR FLOOR TOPPING MIXTURE* AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. DIAMETER OF OPENING SHALL BE 1/2 INCH (13 MM) LARGER THAN THE NOMINAL DIAMETER OF THROUGH-PENETRANT (ITEM 3).
 - B. WOOD JOISTS* - FOR 1-HOUR FIRE-RATED FLOOR-CEILING ASSEMBLIES NOMINAL 10 INCH (254 MM) DEEP (OR DEEPER) LUMBER, STEEL OR COMBINATION LUMBER AND STEEL JOISTS, TRUSSES OR STRUCTURAL WOOD MEMBERS WITH BRIDGING AS REQUIRED AND WITH ENDS FIRESTOPPED.
 - C. FURRING CHANNELS (NOT SHOWN, AS REQUIRED) - RESIDENT GALVANIZED STEEL FURRING CHANNELS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANNER SPECIFIED IN THE INDIVIDUAL L500 SERIES DESIGNS IN THE FIRE RESISTANCE DIRECTORY.
 - D. GYPSUM WALLBOARD* - THICKNESS, TYPE, NUMBER OF LAYERS AND FASTENERS SHALL BE AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. DIAMETER OF OPENING SHALL BE 1/2 INCH (13 MM) LARGER THAN THE NOMINAL DIAMETER OF THROUGH-PENETRANT (ITEM 3).
2. CHASE WALL (OPTIONAL) - THE 1 OR 2 HOUR FIRE-RATED SINGLE WOOD STUD/GYPSUM WALLBOARD CHASE WALL SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL L500 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
- A. STUDS - NOMINAL 2 INCH BY 4 INCH (51 BY 102 MM) LUMBER STUDS.
 - B. SOLE PLATE - NOMINAL 2 INCH BY 4 INCH (51 BY 102 MM) LUMBER PLATES. DIAMETER OF OPENING SHALL BE 1/2 INCH (13 MM) LARGER THAN THE NOMINAL DIAMETER OF THROUGH-PENETRANT (ITEM 3).
 - C. TOP PLATE - THE DOUBLE TOP PLATE SHALL CONSIST OF TWO NOMINAL 2" BY 4" (51 BY 102 MM) LUMBER PLATES. DIAMETER OF OPENING SHALL BE 1/2 INCH (13 MM) LARGER THAN THE NOMINAL DIAMETER OF THROUGH-PENETRANT (ITEM 3).
 - D. GYPSUM WALLBOARD* - THICKNESS, TYPE, NUMBER OF LAYERS AND FASTENERS SHALL BE AS SPECIFIED IN INDIVIDUAL WALL AND PARTITION DESIGN.
3. THROUGH PENETRANTS - ONE NOMINAL 1 INCH (25 MM) DIAMETER CROSS-LINKED POLYETHYLENE (PEX) 3/8" P-TUBE FOR USE IN CLOSED PROCESS OR SUPPLY OR VENTED (DRAIN, WASTE OR VENT) PIPING SYSTEMS. DIAMETER OF OPENING THROUGH FLOORING SYSTEM AND THROUGH SOLE AND TOP PLATES OF CHASE WALL TO BE MAXIMUM 1-1/2 INCH (38 MM). PIPE TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR-CEILING ASSEMBLY.
4. FILL VOID OR CAVITY MATERIAL* - SEALANT - MINIMUM 1/2 INCH (13 MM) THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS FLUSH WITH TOP SURFACE OF FLOOR OR SOLE PLATE AND A MINIMUM 1/2 INCH (13 MM) THICKNESS OF THE CEILING OR LOWER TOP PLATES.
- * HILTI CONSTRUCTION CHEMICALS, DIVISION OF HILTI INC. - FS-ONE SEALANT OR FS-ONE MAX INTUMESCENT SEALANT.



- NOTE:
- ACTUAL CONDITION MIGHT VARY. SEE FLOOR PLANS FOR CONFIGURATION.
 - ALL JOINTS SHALL BE SEALED TO MAKE SHAFT AIR TIGHT.
 - REFER TO PLAN FOR SHAFT CONFIGURATION AND ADJACENT WALLS.
 - ADD ADDITIONAL LAYER OF 5/8" TYPE 'X' GYPSUM WALLBOARD TO PERIMETER AS REQUIRED TO ALIGN WITH ADJACENT WALL FINISH.

Project Name 1
Project Name 2

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REVISIONS/SUBMITTALS	DATE	DESCRIPTION
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SYSTEM NO. F-C-212
F RATING - 1-HOUR
T RATING - 0-HOUR

1. FLOOR-CEILING ASSEMBLY - THE FIRE-RATED SOLID OR TRUSSED LUMBER JOIST FLOOR-CEILING ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN INDIVIDUAL L500 SERIES FLOOR-CEILING DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY. THE GENERAL CONSTRUCTION DETAILS OF THE FLOOR-CEILING ASSEMBLY ARE SUMMARIZED BELOW.

A. FLOORING SYSTEM - LUMBER OR PLYWOOD SUBFLOOR WITH FINISH FLOOR OF LUMBER, PLYWOOD OR FLOOR TOPPING MIXTURE* AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAXIMUM DIAMETER OF OPENING SHALL BE 1 INCH (25 MM) LARGER THAN THE NOMINAL DIAMETER OF THROUGH-PENETRANT (ITEM 3).

B. WOOD JOISTS - NOMINAL 2 X 10 INCH (51 X 254 MM) LUMBER JOISTS SPACED 16 INCH (406 MM) ON CENTER WITH NOMINAL 1 X 3 INCH (25 X 76 MM) LUMBER BRIDGING AND WITH ENDS FIRESTOPPED. AS AN ALTERNATE TO LUMBER JOISTS, NOMINAL 10 INCH (254 MM) DEEP (OR DEEPER) LUMBER, STEEL OR COMBINATION LUMBER AND STEEL JOISTS, TRUSSES OR STRUCTURAL WOOD MEMBERS* WITH BRIDGING AS REQUIRED WITH ENDS FIRESTOPPED.

C. FURRING CHANNELS - (NOT SHOWN) - RESILIENT GALVANIZED STEEL FURRING INSTALLED PERPENDICULAR TO WOOD JOISTS (ITEM 1B) BETWEEN WALLBOARD (ITEM 1D) AND WOOD JOISTS AS REQUIRED IN THE INDIVIDUAL FLOOR-CEILING DESIGN.

D. GYPSUM WALLBOARD* - NOMINAL 4 FOOT (1.2M) WIDE BY 5/8 INCH (16 MM) THICK AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. DIAMETER OF OPENING SHALL BE 1 INCH (25 MM) LARGER THAN THE NOMINAL DIAMETER OF THROUGH-PENETRANT (ITEM 3).

2. CHASE WALL - (OPTIONAL) - THE THROUGH PENETRANT (ITEM 3) MAY BE ROUTED THROUGH A 1-HOUR FIRE-RATED SINGLE, DOUBLE OR STAGGERED WOOD STUD/GYPSUM WALLBOARD CHASE WALL CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL L500 SERIES WALL AND PARTITION DESIGN AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

A. STUDS - NOMINAL 2 X 4 INCH (51 BY 102 MM) LUMBER STUDS.

B. SOLE PLATE - NOMINAL 2 X 4 INCH (51 BY 102 MM) LUMBER PLATES. DIAMETER OF OPENING SHALL BE 1 INCH (25 MM) LARGER THAN THE NOMINAL DIAMETER OF THROUGH-PENETRANT (ITEM 3).

C. TOP PLATE - THE DOUBLE TOP PLATE SHALL CONSIST OF TWO NOMINAL 2 X 4 INCH (51 BY 102 MM) LUMBER PLATES. DIAMETER OF OPENING SHALL BE 1 INCH (25 MM) LARGER THAN THE NOM DIAM OF THROUGH-PENETRANT (ITEM 3).

D. GYPSUM WALLBOARD* - THICKNESS, TYPE, NUMBER OF LAYERS AND FASTENERS SHALL BE AS SPECIFIED IN INDIVIDUAL WALL AND PARTITION DESIGN.

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SYSTEM NO. F-C-212
F RATING - 1-HOUR
T RATING - 1-HOUR

3. THROUGH-PENETRANTS - ONE NON-METALLIC PIPE TO BE INSTALLED EITHER ECCENTRICALLY OR CONCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE BETWEEN THE THROUGH PENETRANT AND THE PERIPHERY OF THE OPENING SHALL BE A MINIMUM 9/16 INCH (POINT CONTACT) TO A MAXIMUM OF 5/8 INCH (16 MM). PIPE TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF THE FLOOR-CEILING ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF NON-METALLIC PIPES MAY BE USED:

A. POLYVINYL CHLORIDE (PVC) PIPE - NOMINAL 2 INCH (51 MM) DIAMETER (OR SMALLER), SCHEDULE 40 CELLULAR OR SOLID CORE PVC PIPE FOR USE IN CLOSED (PROCESS OR SUPPLY) OR VENTED (DRAIN, WASTE, OR VENT) PIPING SYSTEMS.

B. ACRYLONITRILE BUTADIENE STYRENE (ABS) PIPE - NOMINAL 2 INCH (51 MM) DIAMETER (OR SMALLER) SCHEDULE 40 CELLULAR OR SOLID CORE ABS PIPE FOR USE IN CLOSED (PROCESS OR SUPPLY) OR VENTED (DRAIN, WASTE, OR VENT) PIPING SYSTEMS.

C. CHLORINATED POLYVINYL CHLORIDE (CPVC) PIPE - NOMINAL 2 INCH (51 MM) DIAMETER (OR SMALLER) SDR17 CPVC PIPE FOR USE IN CLOSED (PROCESS OR SUPPLY) OR VENTED (DRAIN, WASTE, OR VENT) PIPING SYSTEMS.

4. FILL, VOID OR CAVITY MATERIAL* - SEALANT - MINIMUM 3/4 INCH (19 MM) THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR OR SOLE PLATE. MINIMUM 5/8 INCH (16 MM) THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR OR SOLE PLATE. MINIMUM 5/8 INCH (16 MM) THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH BOTTOM SURFACE OF CEILING OR LOWER TOP PLATE.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - FS-ONE SEALANT OR FS-ONE-MAX INTUMESCENT SEALANT

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

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SYSTEM NO. F-C-2203
F RATING - 1-HOUR
T RATING - 1-HOUR

1. FLOOR-CEILING ASSEMBLY - THE 1-HOUR FIRE-RATED SOLID OR TRUSSED LUMBER JOIST FLOOR-CEILING ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL L500 SERIES FLOOR-CEILING DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY. THE GENERAL CONSTRUCTION FEATURES OF THE FLOOR-CEILING ASSEMBLY ARE SUMMARIZED BELOW:

A. FLOORING SYSTEM - LUMBER OR PLYWOOD SUBFLOOR WITH FINISH FLOOR OF LUMBER, PLYWOOD OR FLOOR TOPPING MIXTURE* AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAXIMUM DIAMETER OF OPENING SHALL BE 5/8 INCH (127 MM).

B. WOOD JOIST* - NOMINAL 10 INCH (254 MM) DEEP (OR DEEPER) LUMBER, STEEL OR COMBINATION LUMBER AND STEEL JOISTS, TRUSSES OR STRUCTURAL WOOD MEMBERS* WITH BRIDGING AS REQUIRED AND WITH ENDS FIRESTOPPED.

C. GYPSUM WALLBOARD* - NOMINAL 5/8 INCH (16 MM) THICK, 4 FOOT (1.2 M) WIDE AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN.

2. CLOSET FLANGE - ACRYLONITRILE BUTADIENE STYRENE (ABS) OR POLYVINYL CHLORIDE (PVC) CLOSET STUD SIZE TO ACCOMMODATE DRAIN PIPE. CLOSET FLANGE INSTALLED OVER DRAIN PIPING WITHIN FLOOR OPENING WITH FLANGE SECURED TO R/WOOD FLOOR WITH STEEL SCREWS. DIAMETER OF CIRCULAR OPENING THROUGH FLOORING (ITEM 1A) TO BE MAXIMUM 1/2 INCH (13 MM) LARGER THAN OUTSIDE DIAMETER OF CLOSET FLANGE.

3. DRAIN PIPING - NOMINAL 1/2 INCH (12.7 MM) DIAMETER (OR SMALLER) SCHEDULE 40 ACRYLONITRILE BUTADIENE STYRENE (ABS) OR POLYVINYL CHLORIDE (PVC) DRAIN PIPE AND 90 DEGREE ELBOW FOR USE IN VENTED (DRAIN, WASTE, OR VENT) PIPING SYSTEMS. PIPE INSTALLED CONCENTRICALLY WITHIN FIRESTOP SYSTEM.

4. FILL, VOID OR CAVITY MATERIAL* - SEALANT - MINIMUM 3/4 INCH (19 MM) THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH THE BOTTOM SURFACE OF FLOOR.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - FS-ONE SEALANT OR FS-ONE-MAX INTUMESCENT SEALANT

5. WATER CLOSET - (NOT SHOWN) - FLOOR MOUNTED VITREOUS CHINA WATER CLOSET.

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

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SYSTEM NO. F-C-2204
F RATING - 1-HOUR
T RATING - 12-HOUR

1. FLOOR-CEILING ASSEMBLY - THE 1-HOUR FIRE-RATED SOLID OR TRUSSED LUMBER JOIST FLOOR-CEILING ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL L500 SERIES FLOOR-CEILING DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY. THE GENERAL CONSTRUCTION FEATURES OF THE FLOOR-CEILING ASSEMBLY ARE SUMMARIZED BELOW:

A. FLOORING SYSTEM - LUMBER OR PLYWOOD SUBFLOOR WITH FINISH FLOOR OF LUMBER, PLYWOOD OR FLOOR TOPPING MIXTURE* AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. RECTANGULAR CUTOUT IN FLOORING TO ACCOMMODATE THE BATH/TUB DRAIN PIPING (ITEM 2) TO BE A MAXIMUM 8 1/2 INCH (213 X 305 MM). CUTOUT TO BE PATCHED ON UNDERSIDE OF SUBFLOOR USING ONE LAYER OF MINIMUM 3/4 INCH (19 MM) THICK PLYWOOD OR MINIMUM 5/8 INCH (16 MM) THICK GYPSUM WALLBOARD (ITEM 1C) SIZED TO LAP MINIMUM 2 INCH (51 MM) BEYOND EACH EDGE OF RECTANGULAR CUTOUT. PATCH SPLIT INTO TWO PIECES AT OPENING AND HOLE SAWS FOR BATH/TUB DRAIN PIPING. DIAMETER OF OPENING HOLE SAWS THROUGH PATCH TO ACCOMMODATE DRAIN PIPING (ITEM 2) TO BE 1 INCH (25 MM) LARGER THAN OUTSIDE DIAMETER OF DRAIN PIPING AND POSITIONED SUCH THAT THE ANNULAR SPACE BETWEEN DRAIN PIPING AND PERIPHERY OF OPENING IS MINIMUM 1/8 INCH (POINT CONTACT) TO A MAXIMUM 1/4 INCH (6.35 MM). TWO PIECES POSITIONED AROUND DRAIN PIPING, WITH CUT EDGES TIGHTLY BUTTED, AND SCREW-ATTACHED TO UNDERSIDE OF SUBFLOOR WITH 1-1/4 INCH (32 MM) LONG STEEL SCREWS SPACED MAXIMUM 12 INCH (305 MM) ON CENTER.

B. WOOD JOISTS* - NOMINAL 10 INCH (254 MM) DEEP (OR DEEPER) LUMBER, STEEL OR COMBINATION LUMBER AND STEEL JOISTS, TRUSSES OR STRUCTURAL WOOD MEMBERS* WITH BRIDGING AS REQUIRED AND WITH ENDS FIRESTOPPED.

C. GYPSUM WALLBOARD* - NOMINAL 5/8 INCH (16 MM) THICK, 4 FOOT (1.22 CM) WIDE AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN.

2. DRAIN PIPING - NOMINAL 1-1/2 INCH (38 MM), OR SMALLER DIAMETER SCHEDULE 40 ACRYLONITRILE BUTADIENE STYRENE (ABS) OR POLYVINYL CHLORIDE (PVC) PIPE AND DRAIN FITTINGS CEMENTED TOGETHER AND PROVIDED WITH ABS OR PVC BATH/TUB WASTE/OVERFLOW FITTINGS. ANNULAR SPACE SHALL BE MIN 1/8 INCH (POINT CONTACT) TO A MAXIMUM 1/4 INCH.

3. FILL, VOID OR CAVITY MATERIAL* - MINIMUM 5/8 INCH (16 MM) DEPTH OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH BOTH SURFACES OF PLYWOOD OR GYPSUM WALLBOARD PATCH.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - FS-ONE SEALANT OR FS-ONE-MAX INTUMESCENT SEALANT

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

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SYSTEM NO. F-C-2310
F RATINGS - 1 AND 2 HOUR (SEE ITC)
T RATINGS - 1 AND 1-1/2 HOUR (SEE ITEM 1)

FLOOR-CEILING ASSEMBLY - THE 1 OR 2-HOUR FIRE-RATED SOLID OR TRUSSED LUMBER JOIST FLOOR-CEILING ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL L500 SERIES FLOOR-CEILING DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY. THE F RATING OF THE FIRESTOP SYSTEM IS 1-HOUR FOR 1-HOUR RATED FLOOR-CEILING AND WALL ASSEMBLIES AND 1-1/2 HOUR FOR 2-HOUR RATED FLOOR-CEILING AND WALL ASSEMBLIES. THE GENERAL CONSTRUCTION FEATURES OF THE FLOOR-CEILING ASSEMBLY ARE SUMMARIZED BELOW:

A. FORMING MATERIAL - LUMBER OR PLYWOOD SUBFLOOR WITH FINISH FLOOR OF LUMBER, PLYWOOD OR FLOOR TOPPING MIXTURE* AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAXIMUM DIAMETER OF FLOOR OPENING IS 3 INCH (76 MM).

B. WOOD JOISTS* - FOR 1-HOUR FIRE-RATED FLOOR-CEILING ASSEMBLIES, NOMINAL 10 INCH (254 MM) DEEP (OR DEEPER) LUMBER, STEEL OR COMBINATION LUMBER AND STEEL JOISTS, TRUSSES OR STRUCTURAL WOOD MEMBERS* WITH BRIDGING AS REQUIRED AND WITH ENDS FIRESTOPPED. FOR 2-HOUR FIRE-RATED FLOOR-CEILING ASSEMBLIES, NOMINAL 2 X 10 INCH (51 BY 254 MM) LUMBER JOISTS SPACED 16 INCH ON CENTER WITH NOMINAL 1 X 3 INCH (25 X 76 MM) LUMBER BRIDGING AND WITH ENDS FIRESTOPPED.

C. FURRING CHANNELS - (NOT SHOWN) - (AS REQUIRED) - RESILIENT GALVANIZED STEEL FURRING INSTALLED IN ACCORDANCE WITH THE MANNER SPECIFIED IN THE INDIVIDUAL L500 SERIES DESIGNS IN THE FIRE RESISTANCE DIRECTORY.

D. GYPSUM WALLBOARD* - THICKNESS, TYPE, NUMBER OF LAYERS AND FASTENERS SHALL BE AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAXIMUM DIAMETER OF OPENING IS 3 INCH (76 MM).

2. CHASE WALL - (OPTIONAL) - THE 1 OR 2-HOUR FIRE-RATED SINGLE WOOD STUD/GYPSUM WALLBOARD CHASE WALL SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL L500 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

A. STUDS - NOMINAL 2 X 4 INCH (51 X 102 MM) LUMBER STUDS.

B. SOLE PLATE - NOMINAL 2 X 4 INCH (51 X 102 MM) LUMBER PLATES.

C. TOP PLATE - THE DOUBLE TOP PLATE SHALL CONSIST OF TWO NOMINAL 2 X 4 INCH (51 X 102 MM) LUMBER PLATES. MAXIMUM DIAMETER OF OPENING IS 3 INCH (76 MM).

D. GYPSUM WALLBOARD* - THICKNESS, TYPE, NUMBER OF LAYERS AND FASTENERS SHALL BE AS SPECIFIED IN INDIVIDUAL WALL AND PARTITION DESIGN.

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SYSTEM NO. F-C-2310
F RATING - 1-HOUR
T RATINGS - 0, 3/4 AND 1-HOUR (SEE ITEM 3)

3. THROUGH-PENETRANTS - NOMINAL 1 INCH (25 MM) DIAMETER (OR SMALLER), SDR 9 (OR HEAVIER) CROSS-LINKED POLYETHYLENE (PEX) TUBING FOR USE IN CLOSED (PROCESS OR SUPPLY) PIPING SYSTEMS. A MAXIMUM OF THREE TUBES MAY BE INSTALLED IN THE OPENING. THE ANNULAR SPACE BETWEEN THE TUBING AND THE PERIPHERY OF THE OPENING SHALL BE A MINIMUM OF 3/16 INCH (5 MM) TO A MAXIMUM OF 1/4 INCH (6.35 MM). THE SPACE BETWEEN THE TUBES SHALL BE A MIN OF 9/16 INCH (POINT CONTACT) TO A MAXIMUM OF 1/4 INCH (6.35 MM). TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF THE FLOOR-CEILING ASSEMBLY.

4. FILL, VOID OR CAVITY MATERIAL* - SEALANT - MINIMUM 3/4 INCH (19 MM) THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR OR SOLE PLATE AND A MINIMUM 3/4 INCH (19 MM) THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH THE BOTTOM SURFACE OF THE CEILING OR LOWER TOP PLATE.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - FS-ONE SEALANT OR FS-ONE-MAX INTUMESCENT SEALANT

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

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SYSTEM NO. F-C-2389
F RATING - 1-HOUR
T RATINGS - 0, 3/4 AND 1-HOUR (SEE ITEM 3)

1. FLOOR-CEILING ASSEMBLY - THE 1-HOUR FIRE-RATED SOLID OR TRUSSED LUMBER JOIST FLOOR-CEILING ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL L500 SERIES FLOOR-CEILING DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY. THE GENERAL CONSTRUCTION DETAILS OF THE FLOOR-CEILING ASSEMBLY ARE SUMMARIZED BELOW:

A. FLOORING SYSTEM - LUMBER OR PLYWOOD SUBFLOOR WITH FINISH FLOOR OF LUMBER, PLYWOOD OR FLOOR TOPPING MIXTURE* AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAXIMUM DIAMETER OF FLOOR OPENING IS 4 INCH (102 MM).

B. WOOD JOISTS* - NOMINAL 2 X 10 INCH (51 X 254 MM) LUMBER JOISTS SPACED 16 INCH (406 MM) ON CENTER WITH NOMINAL 1 X 3 INCH (25 X 76 MM) LUMBER BRIDGING AND WITH ENDS FIRESTOPPED. AS AN ALTERNATE TO LUMBER JOISTS, NOMINAL 10 INCH (254 MM) DEEP (OR DEEPER) LUMBER, STEEL OR COMBINATION LUMBER AND STEEL JOISTS, TRUSSES OR STRUCTURAL WOOD MEMBERS* WITH BRIDGING AS REQUIRED WITH ENDS FIRESTOPPED.

C. FURRING CHANNELS - (NOT SHOWN) - RESILIENT GALVANIZED STEEL FURRING INSTALLED PERPENDICULAR TO WOOD JOISTS (ITEM 1B) BETWEEN WALLBOARD (ITEM 1D) AND WOOD JOISTS AS REQUIRED IN THE INDIVIDUAL FLOOR-CEILING DESIGN.

D. GYPSUM WALLBOARD* - NOMINAL 4 FOOT (1.22 CM) WIDE BY 5/8 INCH (16 MM) THICK AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN.

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SYSTEM NO. F-C-2389
F RATING - 1-HOUR
T RATINGS - 0, 3/4 AND 1-HOUR (SEE ITEM 3)

3. THROUGH PENETRANTS - ONE NON-METALLIC PIPE TO BE INSTALLED EITHER ECCENTRICALLY OR CONCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE BETWEEN THE THROUGH PENETRANT AND THE PERIPHERY OF THE OPENING SHALL BE A MINIMUM 1/8 INCH (POINT CONTACT) TO A MAXIMUM OF 5/8 INCH (16 MM). PIPE TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF THE FLOOR-CEILING ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF NON-METALLIC PIPES MAY BE USED:

A. POLYVINYL CHLORIDE (PVC) PIPE - NOMINAL 3 INCH (76 MM) DIAMETER (OR SMALLER), SCHEDULE 40 SOLID OR CELLULAR CORE PVC FOR USE IN CLOSED (PROCESS OR SUPPLY) OR VENTED (DRAIN, WASTE, OR VENT) PIPING SYSTEMS.

B. CHLORINATED POLYVINYL CHLORIDE (CPVC) PIPE - NOMINAL 3 INCH (76 MM) DIAMETER (OR SMALLER) SDR13.5 CPVC FOR USE IN CLOSED (PROCESS OR SUPPLY) PIPING SYSTEMS.

C. ACRYLONITRILE BUTADIENE STYRENE (ABS) PIPE - NOMINAL 3 INCH (76 MM) DIAMETER (OR SMALLER) SCHEDULE 40 SOLID-CORE OR CELLULAR-CORE ABS PIPE FOR SUPPLY PIPING SYSTEMS.

D. ELECTRICAL NON-METALLIC TUBING (ENT) - NOMINAL 2 INCH (51 MM) DIAMETER (OR SMALLER) CORRUGATED-WALL ELECTRICAL NON-METALLIC TUBING (ENT) CONSTRUCTED OF POLYVINYL CHLORIDE (PVC) AND INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NFPA NO. 70). SEE ELECTRICAL NON-METALLIC TUBING (FNH) CATEGORY IN THE ELECTRICAL CONSTRUCTION MATERIALS DIRECTORY FOR NAMES OF MANUFACTURERS. WHEN FS-ONE MAX SEALANT IS USED, THE T RATINGS IS 0-HOUR WHEN FS-ONE SEALANT IS USED. THE T RATINGS ARE 3/4-HOUR FOR PVC AND CPVC PIPE AND 1-HOUR FOR ABS PIPE AND ENT.

4. FILL, VOID OR CAVITY MATERIAL* - SEALANT - MINIMUM 3/4 INCH (19 MM) THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR OR SOLE PLATE. MINIMUM 3/4 INCH (19 MM) THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH BOTTOM SURFACE OF LOWER TOP PLATE. AT POINT CONTACT LOCATION, A MINIMUM 1/2 INCH (13 MM) DIAMETER BEAD OF FILL MATERIAL SHALL BE APPLIED AT BOTTOM SURFACE OF LOWER TOP PLATE. IN ADDITION, AT TOP OF FLOOR, A MINIMUM 1/2 INCH (13 MM) DIAMETER BEAD OF FILL MATERIAL SHALL BE APPLIED AT THE POINT CONTACT LOCATION AT TOP OF SOLE PLATE OR SUBFLOOR.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - FS-ONE SEALANT OR FS-ONE-MAX INTUMESCENT SEALANT

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

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REVISE AND UPDATE ALL FIRE JOINT/PENETRATION DETAILS PER THEIR LATEST ASSEMBLIES

REVISE AND UPDATE ALL FIRE JOINT/PENETRATION DETAILS PER THEIR LATEST ASSEMBLIES

Project Name 1
Project Name 2
Street Address
City, state

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● 2015, 2016, 2017, 2018

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ALUMINUM INDUSTRIES, CHRYSLER
2505 E. CAMELBACK RD., SUITE 500, PHOENIX, AZ 85016
(602) 798-2800
Ask the owner or his designated agent what provide this information to you.

REVISIONS/SUBMITTALS

DATE	DESCRIPTION
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SYSTEM NO. F-C-3012

ANSIUL1479 (ASTM E814)	CANULC S115
F RATINGS - 1 AND 2-HOUR (SEE ITEM 1)	F RATINGS - 1 AND 2-HOUR (SEE ITEM 1)
T RATINGS - 0, 1 AND 1-3/4 HOUR (SEE ITEM 3)	FT RATINGS - 0, 1 AND 1-3/4 HOUR (SEE ITEM 3)
	FH RATINGS - 1 AND 2-HOUR (SEE ITEM 1)
	FTH RATINGS - 0, 1 AND 1-3/4 HOUR (SEE ITEM 3)

1. FLOOR-CEILING ASSEMBLY - THE 1 OR 2-HOUR FIRE-RATED SOLID OR TRUSSED LUMBER JOIST FLOOR-CEILING ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL L500 SERIES FLOOR-CEILING DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY. THE GENERAL CONSTRUCTION FEATURES OF THE FLOOR-CEILING ASSEMBLY ARE SUMMARIZED BELOW.

A. FLOORING SYSTEM - LUMBER OR PLYWOOD SUBFLOOR WITH FINISH FLOOR OF LUMBER, PLYWOOD OR FLOOR TOPPING MIXTURE* AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAXIMUM DIAMETER OF OPENING FOR 1 OR 2-HOUR ASSEMBLY IS 2-1/2 INCH (64 MM) OR 2 INCH (51 MM), RESPECTIVELY.

B. WOOD JOISTS* - NOMINAL 10 INCH (254 MM) DEEP (OR DEEPER) LUMBER, STEEL OR COMBINATION LUMBER AND STEEL JOISTS, TRUSSES OR STRUCTURAL WOOD MEMBERS* WITH BRIDGING AS REQUIRED AND WITH ENDS FIRESTOPPED.

C. FURRING CHANNELS - (NOT SHOWN) - (AS REQUIRED) - RESILIENT GALVANIZED STEEL FURRING CHANNELS INSTALLED IN ACCORDANCE WITH THE MANNER SPECIFIED IN THE INDIVIDUAL L500 SERIES DESIGNS IN THE FIRE RESISTANCE DIRECTORY.

D. GYPSUM WALLBOARD* - THICKNESS, TYPE, NUMBER OF LAYERS AND FASTENERS SHALL BE AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAXIMUM DIAMETER OF OPENING FOR 1 OR 2-HOUR ASSEMBLY IS 2-1/2 INCH (64 MM) OR 2 INCH (51 MM), RESPECTIVELY.

THE F RATING OF THE FIRESTOP SYSTEM IS EQUAL TO THE RATING OF THE FLOOR-CEILING ASSEMBLY.

2. THROUGH PENETRANTS - ONE METALLIC PIPE OR TUBING TO BE INSTALLED WITHIN THE FIRESTOP SYSTEM. PIPE OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDERS OF FLOOR ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES OR TUBING MAY BE USED:

A. STEEL PIPE - NOMINAL 2 INCH (51 MM) DIAMETER (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.

B. COPPER TUBING - NOMINAL 2 INCH (51 MM) DIAMETER (OR SMALLER) REGULAR (OR HEAVIER) COPPER TUBING.

C. COPPER PIPE - NOMINAL 2 INCH (51 MM) DIAMETER (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.

3. PIPE COVERING - NOMINAL 1/2 INCH (13 MM) THICK HOLLOW CYLINDRICAL HEAVY DENSITY (MINIMUM 3.5 PCF (88 KG/M3)) GLASS FIBER UNITS JACKETED ON THE OUTSIDE WITH AN ALL SERVICE JACKET. LONGITUDINAL JOINTS SEALED WITH METAL FASTENERS OR FACTORY-APPLIED SELF-SEALING TAPE. TRANSVERSE JOINTS SEALED WITH METAL FASTENERS OR WITH BUTT TAPE SUPPLIED WITH THE PRODUCT. THE ANNULAR SPACE SHALL BE MINIMUM 1/2 INCH (13 MM) AND MAXIMUM 1 INCH (25 MM). SEE PIPE AND EQUIPMENT COVERING MATERIALS (BRG) CATEGORY IN THE BUILDING MATERIALS DIRECTORY FOR NAMES OF MANUFACTURERS. ANY PIPE COVERING MATERIAL MEETING THE ABOVE SPECIFICATIONS AND BEARING THE UL CLASSIFICATION MARKING WITH A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS MAY BE USED.

4. FILL, VOID OR CAVITY MATERIALS* - SEALANT - MINIMUM 3/4 INCH (19 MM) THICKNESS OF SEALANT APPLIED WITHIN THE ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR OR SOLE PLATE. MINIMUM 5/8 INCH (16 MM) THICKNESS OF SEALANT ALSO APPLIED WITHIN THE ANNULUS, FLUSH WITH BOTTOM SURFACE OF CEILING OR LOWER TOP PLATE.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - FS-016 SEALANT OR FS-ONE SEALANT OR FS-ONE MAX INTUMESCENT SEALANT

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

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SYSTEM NO. F-C-5037

ANSIUL1479 (ASTM E814)	CANULC S115
F RATINGS - 1-HOUR	F RATINGS - 1-HOUR
T RATINGS - 1-HOUR	FT RATINGS - 1-HOUR
	FH RATINGS - 1-HOUR
	FTH RATINGS - 1-HOUR

1. FLOOR-CEILING ASSEMBLY - THE 1-HOUR FIRE-RATED SOLID OR TRUSSED LUMBER JOIST FLOOR-CEILING ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL L500 SERIES FLOOR-CEILING DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY. THE GENERAL CONSTRUCTION FEATURES OF THE FLOOR-CEILING ASSEMBLY ARE SUMMARIZED BELOW.

A. FLOORING SYSTEM - LUMBER OR PLYWOOD SUBFLOOR WITH FINISH FLOOR OF LUMBER, PLYWOOD OR FLOOR TOPPING MIXTURE* AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAXIMUM DIAMETER OF OPENING SHALL BE 6-7/8 INCH (175 MM).

B. WOOD JOISTS* - NOMINAL 10 INCH (254 MM) DEEP (OR DEEPER) LUMBER, STEEL OR COMBINATION LUMBER AND STEEL JOISTS, TRUSSES OR STRUCTURAL WOOD MEMBERS* WITH BRIDGING AS REQUIRED AND WITH ENDS FIRESTOPPED.

C. GYPSUM WALLBOARD* - NOMINAL 4 FOOT (1.2 M) WIDE BY 5/8 INCH (16 MM) THICK AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAXIMUM DIAMETER OF OPENING SHALL BE 6-7/8 INCH (175 MM).

1.1 CHASE WALL - (NOT SHOWN, OPTIONAL) - THE THROUGH PENETRANTS (ITEM 2) MAY BE ROUTED THROUGH A 1-HOUR FIRE-RATED SINGLE DOUBLE OR STAGGERED WOOD STUD/GYPSUM WALLBOARD CHASE WALL HAVING A FIRE RATING CONSISTENT WITH THAT OF THE FLOOR-CEILING ASSEMBLY. THE CHASE WALL SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL L300 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

A. STUDS - NOMINAL 2 X 8 INCH (51 X 203 MM) LUMBER OR DOUBLE NOMINAL 2 X 4 INCH (51 X 102 MM) LUMBER STUDS.

B. SOLE PLATE - NOMINAL 2 X 8 INCH (51 X 203 MM) LUMBER OR PARALLEL 2 X 4 INCH (51 X 102 MM) LUMBER PLATES, TIGHTLY BUTTED. MAXIMUM DIAMETER OF OPENING SHALL BE 6-7/8 INCH (175 MM).

C. TOP PLATE - THE DOUBLE TOP PLATE SHALL CONSIST OF TWO NOMINAL 2 X 8 INCH (51 X 203 MM) LUMBER PLATES OR TWO SETS OF NOMINAL 2 X 4 INCH (51 X 102 MM) LUMBER PLATES, TIGHTLY BUTTED. MAXIMUM DIAMETER OF OPENING IS 6-7/8 INCH (175 MM).

D. GYPSUM WALLBOARD* - THICKNESS, TYPE, NUMBER OF LAYERS AND FASTENERS SHALL BE AS SPECIFIED IN INDIVIDUAL WALL AND PARTITION DESIGN.

2. THROUGH PENETRANTS - ONE METALLIC TUBE OR PIPE TO BE INSTALLED WITHIN THE FIRESTOP SYSTEM. TUBE OR PIPE TO BE RIGIDLY SUPPORTED ON BOTH SIDERS OF FLOOR-CEILING ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC TUBES OR PIPES MAY BE USED:

A. COPPER TUBING - NOMINAL 2 INCH (51 MM) DIAMETER (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.

B. COPPER PIPE - NOMINAL 2 INCH (51 MM) DIAMETER (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.

C. STEEL PIPE - NOMINAL 2 INCH (51 MM) DIAMETER (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.

3. PIPE COVERING - NOMINAL 1-1/2 INCH (38 MM) THICK HOLLOW CYLINDRICAL HEAVY DENSITY (MINIMUM 3.5 PCF (88 KG/M3)) GLASS FIBER UNITS JACKETED ON THE OUTSIDE WITH AN ALL SERVICE JACKET. LONGITUDINAL JOINTS SEALED WITH METAL FASTENERS OR FACTORY-APPLIED SELF-SEALING TAPE. TRANSVERSE JOINTS SEALED WITH METAL FASTENERS OR WITH BUTT TAPE SUPPLIED WITH THE PRODUCT. THE ANNULAR SPACE SHALL BE MINIMUM 1/2 INCH (13 MM) AND MAXIMUM 1 INCH (25 MM). SEE PIPE AND EQUIPMENT COVERING MATERIALS (BRG) CATEGORY IN THE BUILDING MATERIALS DIRECTORY FOR NAMES OF MANUFACTURERS. ANY PIPE COVERING MATERIAL MEETING THE ABOVE SPECIFICATIONS AND BEARING THE UL CLASSIFICATION MARKING WITH A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS MAY BE USED.

4. FILL, VOID OR CAVITY MATERIALS* - SEALANT - MINIMUM 3/4 INCH (19 MM) THICKNESS OF SEALANT APPLIED WITHIN ANNULAR SPACE, FLUSH WITH TOP SURFACE OF SUBFLOOR OR SOLE PLATE. MINIMUM 5/8 INCH (16 MM) THICKNESS OF SEALANT ALSO APPLIED WITHIN THE ANNULAR SPACE, FLUSH WITH BOTTOM SURFACE OF CEILING OR LOWER TOP PLATE.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - FS-ONE SEALANT OR FS-ONE MAX INTUMESCENT SEALANT

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

Revised and updated all fire joint penetration details per their latest assemblies.

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System No. F-C-3012

2. CHASE WALL - (OPTIONAL) - THE THROUGH PENETRANT (ITEM 3) SHALL BE ROUTED THROUGH A FIRE-RATED SINGLE DOUBLE OR STAGGERED WOOD STUD/GYPSUM WALLBOARD CHASE WALL HAVING A FIRE RATING CONSISTENT WITH THAT OF THE FLOOR-CEILING ASSEMBLY. THE CHASE WALL SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL L300 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

A. STUDS - NOMINAL 2 X 8 INCH (51 X 152 MM) OR DOUBLE NOMINAL 2 X 4 INCH (51 X 102 MM) LUMBER STUDS.

B. SOLE PLATE - NOMINAL 2 X 8 INCH (51 X 152 MM) OR PARALLEL 2 X 4 INCH (51 BY 102 MM) LUMBER PLATES, TIGHTLY BUTTED. MAXIMUM DIAMETER OF OPENING FOR 1 OR 2-HOUR RATED ASSEMBLY IS 2-1/2 INCH (64 MM) OR 2 INCH (51 MM), RESPECTIVELY.

C. TOP PLATE - THE DOUBLE TOP PLATE SHALL CONSIST OF TWO NOMINAL 2 X 8 INCH (51 X 152 MM) OR TWO SETS OF PARALLEL 2 X 4 INCH (51 X 102 MM) LUMBER PLATES, TIGHTLY BUTTED. MAXIMUM DIAMETER OF OPENING FOR 1 OR 2-HOUR RATED ASSEMBLY IS 2-1/2 INCH (64 MM) OR 2 INCH (51 MM), RESPECTIVELY.

D. GYPSUM WALLBOARD* - THICKNESS, TYPE, NUMBER OF LAYERS AND FASTENERS SHALL BE AS SPECIFIED IN INDIVIDUAL WALL AND PARTITION DESIGN.

3. CABLES - IN 1-HOUR FIRE-RATED ASSEMBLIES, AGGREGATE CROSS-SECTIONAL AREA OF CABLES IN OPENING TO BE MAXIMUM 45 PERCENT OF THE CROSS-SECTIONAL AREA OF THE OPENING. MAXIMUM 2 INCH (51 MM) DIAMETER BUNDLE. CABLES TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR ASSEMBLY. ANY COMBINATION OF THE FOLLOWING TYPES AND SIZES OF COPPER CONDUCTORS MAY BE USED:

A. RG 59 COAXIAL CABLE WITH SINGLE COPPER CONDUCTOR, CELLULAR POLYETHYLENE CELLULAR FOAM INSULATION AND POLYVINYL CHLORIDE (PVC) JACKET.

B. MAXIMUM 3/8 INCH (9.5 MM) TELEPHONE CABLE WITH POLYVINYL CHLORIDE (PVC) JACKETING.

C. MAXIMUM 2/8 INCH (6.4 MM) CABLE WITH POLYVINYL CHLORIDE (PVC) INSULATION AND JACKETING.

D. MAXIMUM 3/8 INCH (9.5 MM) ALUMINUM OR COPPER TYPE SER CABLE WITH POLYVINYL CHLORIDE (PVC) INSULATION.

E. MAXIMUM 3/8 INCH (9.5 MM) TYPE NM CABLE WITH POLYVINYL CHLORIDE (PVC) INSULATION.

F. MAXIMUM 3/8 INCH (9.5 MM) TYPE MC (BX) CABLE WITH POLYVINYL CHLORIDE (PVC) INSULATION.

G. MAXIMUM 1 INCH (25.4 MM) DIAMETER METAL CLAD TEX CABLE WITH PVC JACKET.

H. MAXIMUM 4/8 INCH (12.7 MM) (OR SMALLER) ALUMINUM CABLE WITH PVC INSULATION AND JACKET.

I. THROUGH PENETRATING PRODUCT* - ANY CABLES, METAL-CLAD CABLE* OR ARMORED CABLE* CURRENTLY CLASSIFIED UNDER THE THROUGH PENETRATING PRODUCTS CATEGORY. SEE THROUGH PENETRATING PRODUCT (DXY) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS. THE F RATING IS 1 AND 1-3/4 HOUR FOR 1 AND 2-HOUR RATED ASSEMBLIES, RESPECTIVELY. FOR CABLES 3A THROUGH 3G, THE F RATING IS 1 HOUR FOR CABLES 3H AND 3I.

4. FILL, VOID OR CAVITY MATERIAL* - SEALANT - MINIMUM 3/4 INCH (19 MM) THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR OR SOLE PLATE. MINIMUM 5/8 INCH (16 MM) THICKNESS OF FILL MATERIAL ALSO APPLIED WITHIN THE ANNULUS, FLUSH WITH BOTTOM SURFACE OF CEILING OR LOWER TOP PLATE.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - FS-016 SEALANT OR FS-ONE SEALANT OR FS-ONE MAX INTUMESCENT SEALANT

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

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SYSTEM NO. F-C-5036

3. PIPE COVERING - NOMINAL 1-1/2 INCH (38 MM) THICK HOLLOW CYLINDRICAL HEAVY DENSITY (MINIMUM 3.5 PCF (88 KG/M3)) GLASS FIBER UNITS JACKETED ON THE OUTSIDE WITH AN ALL SERVICE JACKET. LONGITUDINAL JOINTS SEALED WITH METAL FASTENERS OR FACTORY-APPLIED SELF-SEALING TAPE. TRANSVERSE JOINTS SEALED WITH METAL FASTENERS OR WITH BUTT TAPE SUPPLIED WITH THE PRODUCT. THE ANNULAR SPACE SHALL BE MINIMUM 1/2 INCH (13 MM) AND MAXIMUM 1 INCH (25 MM). SEE PIPE AND EQUIPMENT COVERING MATERIALS (BRG) CATEGORY IN THE BUILDING MATERIALS DIRECTORY FOR NAMES OF MANUFACTURERS. ANY PIPE COVERING MATERIAL MEETING THE ABOVE SPECIFICATIONS AND BEARING THE UL CLASSIFICATION MARKING WITH A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS MAY BE USED.

4. FILL, VOID OR CAVITY MATERIALS* - SEALANT - MINIMUM 3/4 INCH (19 MM) THICKNESS OF SEALANT APPLIED WITHIN ANNULAR SPACE, FLUSH WITH TOP SURFACE OF SUBFLOOR OR SOLE PLATE. MINIMUM 5/8 INCH (16 MM) THICKNESS OF SEALANT ALSO APPLIED WITHIN THE ANNULAR SPACE, FLUSH WITH BOTTOM SURFACE OF CEILING OR LOWER TOP PLATE.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - FS-ONE SEALANT OR FS-ONE MAX INTUMESCENT SEALANT

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

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SYSTEM NO. F-C-5004

ANSIUL1479 (ASTM E814)	CANULC S115
F RATINGS - 1 AND 2-HOUR (SEE ITEM 1)	F RATINGS - 1 AND 2-HOUR (SEE ITEM 1)
T RATINGS - 1 AND 1-3/4 HOUR (SEE ITEM 1)	FT RATINGS - 1 AND 1-3/4 HOUR (SEE ITEM 1)
L RATING AT AMBIENT - 4 CFMSQ FT (SEE ITEM 4)	FH RATING - 1 AND 2-HOUR (SEE ITEM 1)
L RATING AT 400 F - LESS THAN 1 CFMSQ FT (SEE ITEM 4)	FTH RATING - 1 AND 1-3/4 HR (SEE ITEM 1)
	L RATING AT AMBIENT - 4 CFMSQ FT (SEE ITEM 4)
	L RATING AT 400 F - LESS THAN 1 CFMSQ FT (SEE ITEM 4)

1. FLOOR-CEILING ASSEMBLY - THE 1 OR 2-HOUR FIRE-RATED SOLID OR TRUSSED LUMBER JOIST FLOOR-CEILING ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL L500 SERIES FLOOR-CEILING DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY. THE F RATING OF THE FIRESTOP SYSTEM IS EQUAL TO THE RATING OF THE FLOOR-CEILING ASSEMBLY. THE F RATING IS 1 AND 1-3/4 HOUR FOR 1 AND 2-HOUR RATED ASSEMBLIES, RESPECTIVELY. THE GENERAL CONSTRUCTION FEATURES OF THE FLOOR-CEILING ASSEMBLY ARE SUMMARIZED BELOW.

A. FLOORING SYSTEM - LUMBER OR PLYWOOD SUBFLOOR WITH FINISH FLOOR OF LUMBER, PLYWOOD OR FLOOR TOPPING MIXTURE* AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAXIMUM DIAMETER OF FLOOR OPENING IS 3-1/2 INCH (89 MM).

B. WOOD JOISTS* - NOMINAL 10 INCH (254 MM) DEEP (OR DEEPER) LUMBER, STEEL OR COMBINATION LUMBER AND STEEL JOISTS, TRUSSES OR STRUCTURAL WOOD MEMBERS* WITH BRIDGING AS REQUIRED AND WITH ENDS FIRESTOPPED.

C. FURRING CHANNELS - (NOT SHOWN) - (AS REQUIRED) - RESILIENT GALVANIZED STEEL FURRING CHANNELS INSTALLED IN ACCORDANCE WITH THE MANNER SPECIFIED IN THE INDIVIDUAL L500 SERIES DESIGNS IN THE FIRE RESISTANCE DIRECTORY.

D. GYPSUM WALLBOARD* - THICKNESS, TYPE, NUMBER OF LAYERS AND FASTENERS SHALL BE AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAXIMUM DIAMETER OF FLOOR OPENING IS 3-1/2 INCH (89 MM).

2. THROUGH PENETRANTS - ONE METALLIC TUBE OR PIPE TO BE INSTALLED WITHIN THE FIRESTOP SYSTEM. TUBE OR PIPE TO BE RIGIDLY SUPPORTED ON BOTH SIDERS OF FLOOR-CEILING ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC TUBES OR PIPES MAY BE USED:

A. COPPER TUBING - NOMINAL 2 INCH (51 MM) DIAMETER (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.

B. COPPER PIPE - NOMINAL 2 INCH (51 MM) DIAMETER (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.

C. STEEL PIPE - NOMINAL 2 INCH (51 MM) DIAMETER (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.

3. TUBE INSULATION-PLASTICS* - NOMINAL 3/4 INCH (19 MM) THICK ACRYLONITRILE BUTADIENE/POLYVINYL CHLORIDE (AB/PVC) FLEXIBLE FOAM FURNISHED IN THE FORM OF TUBING. THE ANNULAR SPACE SHALL BE MINIMUM 3/8 INCH (10 MM) TO MAXIMUM 1 INCH (25 MM).

4. FILL, VOID OR CAVITY MATERIALS* - SEALANT - MINIMUM 3/4 INCH (19 MM) THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR OR SOLE PLATE. MINIMUM 5/8 INCH (16 MM) THICKNESS OF FILL MATERIAL ALSO APPLIED WITHIN THE ANNULUS, FLUSH WITH BOTTOM SURFACE OF CEILING OR LOWER TOP PLATE.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - FS-ONE SEALANT OR FS-ONE MAX INTUMESCENT SEALANT

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

Revised and updated all fire joint penetration details per their latest assemblies.

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SYSTEM NO. F-C-5037

ANSIUL1479 (ASTM E814)	CANULC S115
F RATINGS - 1 AND 2-HOUR (SEE ITEM 1)	F RATINGS - 1 AND 2-HOUR (SEE ITEM 1)
T RATINGS - 1/4 AND 1-3/4 HOUR (SEE ITEM 1)	FT RATINGS - 1/4 AND 1-3/4 HOUR (SEE ITEM 1)
	FH RATINGS - 1 AND 2-HOUR (SEE ITEM 1)
	FTH RATINGS - 1/4 AND 1-3/4 HOUR (SEE ITEM 1)

1. FLOOR-CEILING ASSEMBLY - THE 1 AND 2-HOUR FIRE-RATED SOLID OR TRUSSED LUMBER JOIST FLOOR-CEILING ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL L500 SERIES FLOOR-CEILING DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY. THE F AND FTH RATING ARE DEPENDENT ON THE HOURLY RATING OF THE FLOOR-CEILING ASSEMBLY. THE T, FT AND FTH RATING ARE 1/4 HOUR FOR 1-HOUR RATED FLOOR-CEILING ASSEMBLIES AND 1-3/4 HOUR FOR 2-HOUR RATED FLOOR-CEILING ASSEMBLIES. THE GENERAL CONSTRUCTION FEATURES OF THE FLOOR-CEILING ASSEMBLY ARE SUMMARIZED BELOW.

A. FLOORING SYSTEM - LUMBER OR PLYWOOD SUBFLOOR WITH FINISH FLOOR OF LUMBER, PLYWOOD OR FLOOR TOPPING MIXTURE* AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAXIMUM DIAMETER OF FLOOR OPENING SHALL BE 5-1/8 INCH (130 MM).

B. WOOD JOISTS* - NOMINAL 10 INCH (254 MM) DEEP (OR DEEPER) LUMBER, STEEL OR COMBINATION LUMBER AND STEEL JOISTS, TRUSSES OR STRUCTURAL WOOD MEMBERS* WITH BRIDGING AS REQUIRED AND WITH ENDS FIRESTOPPED.

C. FURRING CHANNELS - (NOT SHOWN) - RESILIENT GALVANIZED STEEL FURRING CHANNELS INSTALLED PERPENDICULAR TO WOOD JOISTS BETWEEN FIRST AND SECOND LAYERS OF WALLBOARD (ITEM 1D). FURRING CHANNELS SPACED MAXIMUM 24 INCH (610 MM).

D. GYPSUM WALLBOARD* - NOMINAL 4 FOOT (1.2 M) WIDE BY 5/8 INCH (16 MM) THICK AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. FIRST LAYER OF WALLBOARD NAILED TO WOOD JOISTS. SECOND LAYER OF WALLBOARD SCREW-ATTACHED TO FURRING CHANNELS. MAXIMUM DIAMETER OF CEILING OPENING IS 5-1/8 INCH (130 MM).

1.1 CHASE WALL - (NOT SHOWN, OPTIONAL) - THE THROUGH PENETRANTS (ITEM 2) MAY BE ROUTED THROUGH FIRE-RATED SINGLE DOUBLE OR STAGGERED WOOD STUD/GYPSUM WALLBOARD CHASE WALL HAVING A FIRE RATING CONSISTENT WITH THAT OF THE FLOOR-CEILING ASSEMBLY. THE CHASE WALL SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL L300 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

A. STUDS - NOMINAL 2 X 8 INCH (51 X 152 MM) LUMBER OR DOUBLE NOMINAL 2 X 4 INCH (51 X 102 MM) LUMBER STUDS.

B. SOLE PLATE - NOMINAL 2 X 8 INCH (51 X 152 MM) LUMBER OR PARALLEL 2 X 4 INCH (51 X 102 MM) LUMBER PLATES, TIGHTLY BUTTED. MAXIMUM DIAMETER OF OPENING SHALL BE 5-1/8 INCH.

C. TOP PLATE - THE DOUBLE TOP PLATE SHALL CONSIST OF TWO NOMINAL 2 X 8 INCH (51 X 152 MM) LUMBER PLATES OR TWO SETS OF NOMINAL 2 X 4 INCH (51 X 102 MM) LUMBER PLATES, TIGHTLY BUTTED. MAXIMUM DIAMETER OF OPENING IS 5-1/8 INCH (130 MM).

D. GYPSUM WALLBOARD* - THICKNESS, TYPE, NUMBER OF LAYERS AND FASTENERS SHALL BE AS SPECIFIED IN INDIVIDUAL WALL AND PARTITION DESIGN.

2. THROUGH PENETRANTS - ONE METALLIC TUBE OR PIPE TO BE INSTALLED WITHIN THE FIRESTOP SYSTEM. TUBE OR PIPE TO BE RIGIDLY SUPPORTED ON BOTH SIDERS OF FLOOR-CEILING ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC TUBES OR PIPES MAY BE USED:

A. COPPER TUBING - NOMINAL 2 INCH (51 MM) DIAMETER (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.

B. COPPER PIPE - NOMINAL 2 INCH (51 MM) DIAMETER (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.

C. STEEL PIPE - NOMINAL 2 INCH (51 MM) DIAMETER (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.

3. TUBE INSULATION-PLASTICS* - NOMINAL 3/4 INCH (19 MM) THICK ACRYLONITRILE BUTADIENE/POLYVINYL CHLORIDE (AB/PVC) FLEXIBLE FOAM FURNISHED IN THE FORM OF TUBING. THE ANNULAR SPACE SHALL BE MINIMUM 3/8 INCH (10 MM) TO MAXIMUM 1 INCH (25 MM).

4. FILL, VOID OR CAVITY MATERIALS* - SEALANT - FILL MATERIAL FORGED INTO ANNULAR SPACE TO FILL SPACE TO MAX EXTENT POSSIBLE. SEALANT SHALL BE INSTALLED FLUSH WITH TOP SURFACE OF FLOOR OR SOLE PLATE AND BOTTOM SURFACE OF CEILING OR LOWER TOP PLATE.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - FS-ONE SEALANT OR FS-ONE MAX INTUMESCENT SEALANT

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

Revised and updated all fire joint penetration details per their latest assemblies.

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System No. F-C-5004

2. CHASE WALL - (OPTIONAL) - THE THROUGH PENETRANT (ITEM 3) MAY BE ROUTED THROUGH A FIRE-RATED SINGLE DOUBLE OR STAGGERED WOOD STUD/GYPSUM WALLBOARD CHASE WALL HAVING A FIRE RATING CONSISTENT WITH THAT OF THE FLOOR-CEILING ASSEMBLY. THE CHASE WALL SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL L300 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

A. STUDS - NOMINAL 2 X 8 INCH (51 X 152 MM) OR DOUBLE NOMINAL 2 X 4 INCH (51 X 102 MM) LUMBER STUDS.

B. SOLE PLATE - NOMINAL 2 X 8 INCH (51 X 152 MM) OR PARALLEL 2 X 4 INCH (51 X 102 MM) LUMBER PLATES, TIGHTLY BUTTED. MAXIMUM DIAMETER OF OPENING SHALL BE 3-1/2 INCH (89 MM).

C. TOP PLATE - THE DOUBLE TOP PLATE SHALL CONSIST OF TWO NOMINAL 2 X 8 INCH (51 X 152 MM) OR TWO SETS OF PARALLEL 2 X 4 INCH (51 X 102 MM) LUMBER PLATES, TIGHTLY BUTTED. MAXIMUM DIAMETER OF OPENING IS 3-1/2 INCH (89 MM).

D. GYPSUM WALLBOARD* - THICKNESS, TYPE, NUMBER OF LAYERS AND FASTENERS SHALL BE AS SPECIFIED IN THE INDIVIDUAL WALL AND PARTITION DESIGN.

3. THROUGH PENETRANTS - ONE METALLIC PIPE OR TUBING TO BE INSTALLED WITHIN THE FIRESTOP SYSTEM. PIPE OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDERS OF FLOOR ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES OR TUBING MAY BE USED:

A. STEEL PIPE - NOMINAL 2 INCH (51 MM) DIAMETER (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.

B. COPPER TUBING - NOMINAL 2 INCH (51 MM) DIAMETER (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.

C. COPPER PIPE - NOMINAL 2 INCH (51 MM) DIAMETER (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.

4. PIPE COVERING - NOMINAL 1/2 INCH (13 MM) THICK HOLLOW CYLINDRICAL HEAVY DENSITY (MINIMUM 3.5 PCF (88 KG/M3)) GLASS FIBER UNITS JACKETED ON THE OUTSIDE WITH AN ALL SERVICE JACKET. LONGITUDINAL JOINTS SEALED WITH METAL FASTENERS OR FACTORY-APPLIED SELF-SEALING LAP TAPE. TRANSVERSE JOINTS SEALED WITH METAL FASTENERS OR WITH BUTT TAPE SUPPLIED WITH THE PRODUCT. A NOMINAL ANNULAR SPACE OF 1/8 INCH (3 MM) IS REQUIRED WITHIN THE FIRESTOP SYSTEM. SEE PIPE AND EQUIPMENT COVERING MATERIALS (BRG) CATEGORY IN THE BUILDING MATERIALS DIRECTORY FOR NAMES OF MANUFACTURERS. ANY PIPE COVERING MATERIAL MEETING THE ABOVE SPECIFICATIONS AND BEARING THE UL CLASSIFICATION MARKING WITH A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS MAY BE USED.

5. FILL, VOID OR CAVITY MATERIAL* - SEALANT - MINIMUM 3/4 INCH (19 MM) THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR OR SOLE PLATE. MINIMUM 5/8 INCH (16 MM) THICKNESS OF FILL MATERIAL ALSO APPLIED WITHIN THE ANNULUS, FLUSH WITH BOTTOM SURFACE OF CEILING OR LOWER TOP PLATE.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - FS-ONE SEALANT OR FS-ONE MAX INTUMESCENT SEALANT

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

Revised and updated all fire joint penetration details per their latest assemblies.

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SYSTEM NO. F-C-5037

ANSIUL1479 (ASTM E814)	CANULC S115
F RATINGS - 1-HOUR	F RATINGS - 1-HOUR
T RATINGS - 1-HOUR	FT RATINGS - 1-HOUR
	FH RATINGS - 1-HOUR
	FTH RATINGS - 1-HOUR

2. THROUGH PENETRANTS - ONE METALLIC TUBE OR PIPE TO BE INSTALLED WITHIN THE FIRESTOP SYSTEM. TUBE OR PIPE TO BE RIGIDLY SUPPORTED ON BOTH SIDERS OF FLOOR-CEILING ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC TUBES OR PIPES MAY BE USED:

A. COPPER TUBING - NOMINAL 2 INCH (51 MM) DIAMETER (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.

B. COPPER PIPE - NOMINAL 2 INCH (51 MM) DIAMETER (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.

C. STEEL PIPE - NOMINAL 2 INCH (51 MM) DIAMETER (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.

3. TUBE INSULATION-PLASTICS* - NOMINAL 3/4 INCH (19 MM) THICK ACRYLONITRILE BUTADIENE/POLYVINYL CHLORIDE (AB/PVC) FLEXIBLE FOAM FURNISHED IN THE FORM OF TUBING. THE ANNULAR SPACE SHALL BE MINIMUM 3/8 INCH (10 MM) TO MAXIMUM 1 INCH (25 MM).

4. FILL, VOID OR CAVITY MATERIALS* - SEALANT - FILL MATERIAL FORGED INTO ANNULAR SPACE TO FILL SPACE TO MAX EXTENT POSSIBLE. SEALANT SHALL BE INSTALLED FLUSH WITH TOP SURFACE OF FLOOR OR SOLE PLATE AND BOTTOM SURFACE OF CEILING OR LOWER TOP PLATE.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - FS-ONE SEALANT OR FS-ONE MAX INTUMESCENT SEALANT

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

Revised and updated all fire joint penetration details per their latest assemblies.

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Project Name 1
Project Name 2

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City, state

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CONSTRUCTION

AUANCE
RESIDENTIAL COMPANY
LEGACY HOSPITALITY

SYSTEM NO. F-C-5037

ANSIUL1479 (ASTM E814)	CANULC S115
F RATINGS - 1 AND 2-HOUR (SEE ITEM 1)	F RATINGS - 1 AND 2-HOUR (SEE ITEM 1)
T RATINGS - 1/4 AND 1-3/4 HOUR (SEE ITEM 1)	FT RATINGS - 1/4 AND 1-3/4 HOUR (SEE ITEM 1)
	FH RATINGS - 1 AND 2-HOUR (SEE ITEM 1)
	FTH RATINGS - 1/4 AND 1-3/4 HOUR (SEE ITEM 1)

2. THROUGH PENETRANTS - ONE METALLIC TUBE OR PIPE TO BE INSTALLED WITHIN THE FIRESTOP SYSTEM. TUBE OR PIPE TO BE RIGIDLY SUPPORTED ON BOTH SIDERS OF FLOOR-CEILING ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC TUBES OR PIPES MAY BE USED:

A. COPPER TUBING - NOMINAL 2 INCH (51 MM) DIAMETER (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.

B. COPPER PIPE - NOMINAL 2 INCH (51 MM) DIAMETER (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.

C. STEEL PIPE - NOMINAL 2 INCH (51 MM) DIAMETER (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.

3. TUBE INSULATION-PLASTICS* - NOMINAL 3/4 INCH (19 MM) THICK ACRYLONITRILE BUTADIENE/POLYVINYL CHLORIDE (AB/PVC) FLEXIBLE FOAM FURNISHED IN THE FORM OF TUBING. THE ANNULAR SPACE SHALL BE MINIMUM 3/8 INCH (10 MM) TO MAXIMUM 1 INCH (25 MM).

4. FILL, VOID OR CAVITY MATERIALS* - SEALANT - FILL MATERIAL FORGED INTO ANNULAR SPACE TO FILL SPACE TO MAX EXTENT POSSIBLE. SEALANT SHALL BE INSTALLED FLUSH WITH TOP SURFACE OF FLOOR OR SOLE PLATE AND BOTTOM SURFACE OF CEILING OR LOWER TOP PLATE.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - FS-ONE SEALANT OR FS-ONE MAX INTUMESCENT SEALANT

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

Revised and updated all fire joint penetration details per their latest assemblies.

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SYSTEM NO. F-C-7013

ANSIUL1479 (ASTM E814)	CANULC S115
F RATING - 1-HOUR	F RATING - 1-HOUR
T RATING - 0-HOUR	FT RATING - 0-HOUR
	FH RATING - 1-HOUR
	FTH RATING - 0-HOUR

1 FLOOR-CEILING ASSEMBLY - THE 1-HOUR FIRE-RATED SOLID OR TRUSSED LUMBER JOIST FLOOR-CEILING ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL L500 SERIES FLOOR-CEILING DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY. THE GENERAL CONSTRUCTION FEATURES OF THE FLOOR-CEILING ASSEMBLY ARE SUMMARIZED BELOW:

A. FLOORING SYSTEM - LUMBER OR PLYWOOD SUBFLOOR WITH FINISH FLOOR OF LUMBER, PLYWOOD OR FLOOR TOPPING MIXTURE* AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAXIMUM DIAMETER OF OPENING SHALL BE 5-1/4 INCH (133 MM).

B. WOOD JOIST* - NOMINAL 10 INCH (254 MM) DEEP (OR DEEPER) LUMBER, STEEL OR COMBINATION LUMBER AND STEEL JOISTS, TRUSSES OR STRUCTURAL WOOD MEMBERS* WITH BRIDGING AS REQUIRED AND WITH ENDS FIRESTOPPED.

C. GYPSUM WALLBOARD* - NOMINAL 4 FOOT (122 MM) WIDE BY 5/8 INCH (16 MM) THICK AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAXIMUM DIAMETER OF OPENING SHALL BE 5-1/4 INCH (133 MM).

1 CHASE WALL - (OPTIONAL, NOT SHOWN) - THE THROUGH PENETRANTS (ITEM 2) MAY BE ROUTED THROUGH A 1-HOUR FIRE RATED SINGLE, DOUBLE OR STAGGERED WOOD STUD/GYPSUM WALLBOARD CHASE WALL HAVING A FIRE RATING CONSISTENT WITH THAT OF THE FLOOR-CEILING ASSEMBLY. THE CHASE WALL SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL L500 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

A. STUDS - NOMINAL 2 X 6 INCH (51 X 152 MM) LUMBER OR DOUBLE NOMINAL 2 X 4 INCH (51 X 102 MM) LUMBER STUDS.

B. SOLE PLATE - NOMINAL 2 X 6 INCH (51 X 152 MM) LUMBER OR PARALLEL 2 X 4 INCH (51 X 102 MM) LUMBER PLATES, TIGHTLY BUTTED. MAXIMUM DIAMETER OF OPENING SHALL BE 5-1/4 INCH.

C. TOP PLATE - THE DOUBLE TOP PLATE SHALL CONSIST OF TWO NOMINAL 2 X 6 IN. (51 X 152 MM) LUMBER PLATES OR TWO SETS OF NOMINAL 2 X 4 INCH (51 X 102 MM) LUMBER PLATES TIGHTLY BUTTED. MAXIMUM DIAMETER OF OPENING IS 5-1/4 INCH (133 MM).

D. GYPSUM WALLBOARD* - THICKNESS, TYPE, NUMBER OF LAYERS AND FASTENERS SHALL BE AS SPECIFIED IN INDIVIDUAL WALL AND PARTITION DESIGN.

Hilti Firestop Systems

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SYSTEM NO. F-C-7013

2. STEEL DUCT - NOMINAL 4 INCH (102 MM) DIAMETER (OR SMALLER) NO. 28 GAUGE (OR HEAVIER) STEEL DUCT TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE BETWEEN DUCT AND PERIPHERY OF OPENING SHALL BE MINIMUM 0 INCH (0 MM) TO MAXIMUM 3/4 INCH (19 MM). STEEL DUCT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR-CEILING ASSEMBLY.

3. FILL, VOID OR CAVITY MATERIALS* - SEALANT - MINIMUM 3/4 INCH (19 MM) THICKNESS OF SEALANT APPLIED WITHIN THE ANNULAR SPACE. FLUSH WITH TOP SURFACE OF FLOOR OR SOLE PLATE. MINIMUM 5/8 INCH (16 MM) THICKNESS OF SEALANT APPLIED WITHIN ANNULAR SPACE. FLUSH WITH BOTTOM SURFACE OF GYPSUM WALLBOARD OR LOWER TOP PLATE.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - FS-ONE SEALANT OR FS-ONE MAX INTUMESCENT SEALANT

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

Hilti Firestop Systems

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SYSTEM NO. F-C-7025

F RATING - 1-HOUR
T RATING - 0-HOUR

1. FLOOR-CEILING ASSEMBLY - THE 1-HOUR FIRE-RATED SOLID OR TRUSSED LUMBER JOIST FLOOR-CEILING ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL L500 SERIES FLOOR-CEILING DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY. THE GENERAL CONSTRUCTION FEATURES OF THE FLOOR-CEILING ASSEMBLY ARE SUMMARIZED BELOW:

A. FLOORING SYSTEM - LUMBER OR PLYWOOD SUBFLOOR WITH FINISH FLOOR OF LUMBER, PLYWOOD OR FLOOR TOPPING MIXTURE* AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAXIMUM DIAMETER OF OPENING SHALL BE 11 INCH (279 MM).

B. WOOD JOISTS* - NOMINAL 10 INCH (254 MM) DEEP (OR DEEPER) LUMBER, STEEL OR COMBINATION LUMBER AND STEEL JOISTS, TRUSSES OR STRUCTURAL WOOD MEMBERS* WITH BRIDGING AS REQUIRED AND WITH ENDS FIRESTOPPED.

C. GYPSUM WALLBOARD* - NOMINAL 4 FOOT (122 MM) WIDE BY 5/8 INCH (16 MM) THICK AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAXIMUM DIAMETER OF OPENING SHALL BE 11 INCH (279 MM).

1A CHASE WALL - (OPTIONAL, NOT SHOWN) - THE THROUGH PENETRANTS (ITEM 2) MAY BE ROUTED THROUGH A 1-HOUR FIRE RATED SINGLE, DOUBLE OR STAGGERED WOOD STUD/GYPSUM WALLBOARD CHASE WALL. DEPTH OF CHASE WALL STUD CAVITY TO BE MINIMUM 1/2 INCH (13 MM) GREATER THAN DIAMETER OF OPENING CUT IN SOLE AND TOP PLATES TO ACCOMMODATE THE THROUGH PENETRANT (ITEM 2). THE CHASE WALL SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL L500 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

A. STUDS - NOMINAL 2 X 4 INCH (51 X 102 MM), 2 X 6 INCH (51 X 152 MM), 2 X 8 INCH (51 X 203 MM) OR DOUBLE NOMINAL 2 X 4 INCH (51 X 102 MM) LUMBER STUDS.

B. SOLE PLATE - NOMINAL 2 X 4 INCH (51 X 102 MM), 2 X 6 INCH (51 X 152 MM) OR 2 X 8 INCH (51 X 203 MM) LUMBER PLATES OR DOUBLE NOMINAL 2 X 4 INCH (51 X 102 MM) LUMBER PLATES TIGHTLY BUTTED TOGETHER. CIRCULAR OPENING TO BE CENTERED IN SOLE PLATE. SOLE PLATE TO BE MINIMUM 1 INCH (25MM) WIDER THAN DIAMETER OF OPENING IN SOLE PLATE IS 11 INCH (279 MM).

C. TOP PLATE - THE DOUBLE TOP PLATE SHALL CONSIST OF TWO NOMINAL 2 X 4 INCH (51 X 102 MM), 2 X 6 INCH (51 X 152 MM) OR 2 X 8 INCH (51 X 203 MM) LUMBER PLATES OR DOUBLE NOMINAL 2 X 4 INCH (51 X 102 MM) LUMBER PLATES TIGHTLY BUTTED TOGETHER. CIRCULAR OPENING TO BE CENTERED IN TOP PLATE. TOP PLATE TO BE MINIMUM 1 INCH (25MM) WIDER THAN DIAMETER OF OPENING. MAXIMUM DIAMETER OF OPENING IN TOP PLATE IS 5-1/2 INCH (140 MM).

D. GYPSUM WALLBOARD* - THICKNESS, TYPE, NUMBER OF LAYERS AND FASTENERS SHALL BE AS SPECIFIED IN INDIVIDUAL WALL AND PARTITION DESIGN.

2. STEEL DUCT - ONE STEEL DUCT TO BE INSTALLED CONCENTRICALLY OR ECCENTRICALLY WITHIN THE OPENING. THE ANNULAR SPACE BETWEEN THE STEEL DUCT AND THE PERIPHERY OF OPENING SHALL BE MINIMUM 0 INCH (0 MM) POINT CONTACT) TO MAXIMUM 1 INCH (25 MM). STEEL DUCT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR-CEILING ASSEMBLY. THE FOLLOWING SIZES OF STEEL DUCTS MAY BE USED:

A. MAXIMUM 10 INCH (254 MM) DIAMETER BY MINIMUM 0.019 INCH (0.50 MM) THICK STEEL DUCT.

B. MAXIMUM 4 INCH (102 MM) DIAMETER BY MINIMUM 0.016 INCH (0.40 MM) THICK STEEL DUCT.

3. FILL, VOID OR CAVITY MATERIALS* - SEALANT - MINIMUM 3/4 INCH (19 MM) THICKNESS OF SEALANT APPLIED WITHIN THE ANNULUS FLUSH WITH THE TOP SURFACE OF THE FLOOR OR SOLE PLATE. MINIMUM 5/8 INCH (16 MM) THICKNESS OF SEALANT APPLIED WITHIN THE ANNULUS FLUSH WITH THE BOTTOM SURFACE OF GYPSUM WALLBOARD OR LOWER TOP PLATE. A MINIMUM 1/2 INCH (13 MM) DIAMETER BEAD OF SEALANT TO BE APPLIED AT THE DUCT/SUBFLOORING OR SOLE PLATE INTERFACE AND THE DUCT/GYPSUM WALLBOARD OR TOP PLATE INTERFACE. **HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC.** - CP 606 FLEXIBLE FIRESTOP SEALANT

* BEARING THE UL CLASSIFICATION MARK

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SYSTEM NO. F-C-7043

ANSIUL1479 (ASTM E814)	CANULC S115
F RATING - 1-HOUR	F RATING - 1-HOUR
T RATING - 1-HOUR	FT RATING - 1-HOUR
	FH RATING - 1-HOUR
	FTH RATING - 1-HOUR

1. FLOOR-CEILING ASSEMBLY - THE 1-HOUR FIRE RATED SOLID OR TRUSSED LUMBER JOIST FLOOR-CEILING ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL L500 SERIES FLOOR-CEILING DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY. THE GENERAL CONSTRUCTION FEATURES OF THE FLOOR-CEILING ASSEMBLY ARE SUMMARIZED BELOW:

A. FLOORING SYSTEM - LUMBER OR PLYWOOD SUBFLOOR WITH FINISH FLOOR OF LUMBER, PLYWOOD OR FLOOR TOPPING MIXTURE* AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAXIMUM AREA OF OPENING SHALL BE 143 INCHES SQUARED (923 CM²) WITH A MAXIMUM DIMENSION OF 13 INCH (330MM).

B. WOOD JOISTS* - NOMINAL 10 INCH (254 MM) DEEP (OR DEEPER) LUMBER, STEEL OR COMBINATION LUMBER AND STEEL JOISTS, TRUSSES OR STRUCTURAL WOOD MEMBERS* WITH BRIDGING AS REQUIRED AND WITH ENDS FIRESTOPPED.

C. GYPSUM WALLBOARD* - MINIMUM 5/8 INCH (16 MM) THICK AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. GYPSUM WALLBOARD SECURED TO WOOD JOISTS OR FURRING CHANNELS AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAXIMUM AREA OF OPENING SHALL BE 143 INCHES SQUARED (923 CM²) WITH A MAXIMUM DIMENSION OF 13 INCH (330MM).

2. STEEL DUCT - MAXIMUM 12 X 10 INCH (305 X 254 MM) NO. 28 GAUGE (OR HEAVIER) GALVANIZED STEEL DUCT TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE SPACE BETWEEN THE STEEL DUCT AND PERIPHERY OF OPENING SHALL BE MINIMUM 0 INCH (POINT CONTACT) TO MAXIMUM 1 INCH (25 MM). STEEL DUCT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF THE FLOOR-CEILING ASSEMBLY.

3. FIRESTOP SYSTEM - MINIMUM 5/8 INCH (16 MM) THICKNESS OF SEALANT APPLIED WITHIN THE ANNULUS FLUSH WITH THE TOP SURFACE OF THE FLOOR. MINIMUM 5/8 INCH (16 MM) THICKNESS OF SEALANT APPLIED WITHIN THE ANNULUS FLUSH WITH THE BOTTOM SURFACE OF GYPSUM WALLBOARD CEILING.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - CP 606 FLEXIBLE FIRESTOP SEALANT OR FS-ONE SEALANT OR FS-ONE MAX INTUMESCENT SEALANT

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

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SYSTEM NO. F-C-800

ANSIUL1479 (ASTM E814)	CANULC S115
F RATING - 1-HOUR	F RATING - 1-HOUR
T RATING - 1-HOUR	FT RATING - 1-HOUR
	FH RATING - 1-HOUR
	FTH RATING - 1-HOUR

1. FLOOR-CEILING ASSEMBLY - THE 1-HOUR FIRE-RATED SOLID OR TRUSSED LUMBER JOIST FLOOR-CEILING ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL L500 SERIES FLOOR-CEILING DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY. THE GENERAL CONSTRUCTION FEATURES OF THE FLOOR-CEILING ASSEMBLY ARE SUMMARIZED BELOW:

A. FLOORING SYSTEM - LUMBER OR PLYWOOD SUBFLOOR WITH FINISH FLOOR OF LUMBER, PLYWOOD OR FLOOR TOPPING MIXTURE* AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAXIMUM DIAMETER OF OPENING SHALL BE 5 INCH (127 MM).

B. WOOD JOISTS* - NOMINAL 10 INCH (254 MM) DEEP (OR DEEPER) LUMBER, STEEL OR COMBINATION LUMBER AND STEEL JOISTS, TRUSSES OR STRUCTURAL WOOD MEMBERS* WITH BRIDGING AS REQUIRED AND WITH ENDS FIRESTOPPED.

C. GYPSUM WALLBOARD* - NOMINAL 4 FOOT (122 CM) WIDE BY 5/8 INCH (16 MM) THICK AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. GYPSUM WALLBOARD SECURED TO WOOD JOISTS OR FURRING CHANNELS AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN.

1A CHASE WALL - (OPTIONAL, NOT SHOWN) - THE THROUGH PENETRANTS (ITEM 2) MAY BE ROUTED THROUGH A 1-HOUR FIRE RATED SINGLE, DOUBLE OR STAGGERED WOOD STUD/GYPSUM WALLBOARD CHASE WALL. DEPTH OF CHASE WALL STUD CAVITY TO BE MINIMUM 1/2 INCH (13 MM) GREATER THAN DIAMETER OF OPENING CUT IN SOLE AND TOP PLATES TO ACCOMMODATE THE THROUGH PENETRANT (ITEM 2). THE CHASE WALL SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL L500 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

A. STUDS - NOMINAL 2 X 4 INCH (51 X 102 MM), 2 X 6 INCH (51 X 152 MM) OR DOUBLE NOMINAL 2 X 4 INCH (51 X 102 MM) LUMBER STUDS.

B. SOLE PLATE - NOMINAL 2 X 4 INCH (51 X 102 MM), 2 X 6 INCH (51 X 152 MM) OR PARALLEL 2 X 4 INCH (51 X 102 MM) LUMBER PLATES, TIGHTLY BUTTED. MAXIMUM DIAMETER OF OPENING IS 5 INCH (127 MM).

C. TOP PLATE - THE DOUBLE TOP PLATE SHALL CONSIST OF TWO NOMINAL 2 X 4 INCH (51 X 102 MM), TWO NOMINAL 2 X 6 INCH (51 X 102 MM) OR TWO SETS OF PARALLEL 2 X 4 INCH (51 X 102 MM) LUMBER PLATES, TIGHTLY BUTTED. MAXIMUM DIAMETER OF OPENING IS 5 INCH (127 MM).

D. GYPSUM WALLBOARD* - THICKNESS, TYPE, NUMBER OF LAYERS AND FASTENERS SHALL BE AS SPECIFIED IN THE INDIVIDUAL WALL AND PARTITION DESIGN.

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SYSTEM NO. F-C-8026

2. THROUGH PENETRANTS - ONE OR MORE PIPES, CONDUITS, TUBING AND CABLES TO BE INSTALLED CONCENTRICALLY OR ECCENTRICALLY WITHIN THE OPENING. THE SPACE BETWEEN ANY PENETRANT, EXCEPT NON-METALLIC PIPES AND UNINSULATED METALLIC PIPES TO BE MINIMUM 0 INCH (POINT CONTACT) TO MAXIMUM 1 INCH (25 MM). THE SPACE BETWEEN ANY PENETRANTS AND THE PERIPHERY OF THE OPENING SHALL BE MINIMUM 0 INCH (POINT CONTACT) TO MAXIMUM 1 INCH (25 MM). PIPES, CONDUITS, TUBING AND CABLES TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR-CEILING ASSEMBLY.

A. METALLIC PENETRANTS - ONE OR MORE METALLIC PIPES, CONDUITS OR TUBING TO BE INSTALLED WITHIN THE FIRESTOP SYSTEM. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES, CONDUITS OR TUBING MAY BE USED:

A1. STEEL PIPE - NOMINAL 3/4 INCH (19 MM) DIAMETER (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.

A2. CONDUIT - NOMINAL 3/4 INCH (19 MM) DIAMETER (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING (EMT) OR 3/4 INCH (19 MM) DIAMETER GALVANIZED STEEL CONDUIT.

A3. COPPER TUBE - NOMINAL 3/4 INCH (19 MM) DIAMETER (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBE.

A4. COPPER PIPE - NOMINAL 3/4 INCH (19 MM) DIAMETER (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.

B. TUBE INSULATION - PLASTICS - NOMINAL 3/4 INCH (19 MM) THICK ACRYLONITRILE BUTADIENE STYRENE (ABS), POLYETHYLENE TEREPHTHALATE (PET), POLYPROPYLENE (PP), POLYVINYL CHLORIDE (PVC), POLYETHYLENE TEREPHTHALATE (PET), POLYPROPYLENE (PP), POLYVINYL CHLORIDE (PVC), POLYETHYLENE TEREPHTHALATE (PET), POLYPROPYLENE (PP), POLYVINYL CHLORIDE (PVC), POLYETHYLENE TEREPHTHALATE (PET), POLYPROPYLENE (PP).

C. NON-METALLIC THROUGH PENETRANTS - ONE NON-METALLIC PIPE TO BE INSTALLED WITHIN THE FIRESTOP SYSTEM. PIPE SHALL BE SIZED TO A MINIMUM 1-1/2 INCH (38 MM) FROM NON-UNINSULATED METALLIC THROUGH PENETRANTS. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES MAY BE USED:

C1. POLYVINYL CHLORIDE (PVC) PIPE - NOMINAL 1-1/4 INCH (32 MM) DIAMETER (OR SMALLER) SCHEDULE 40 SOLID CORE PVC PIPE FOR USE IN CLOSED (PROCESS OR SUPPLY) OR VENTED (DRAIN, WASTE OR VENT) PIPING SYSTEMS.

C2. CHLORINATED POLYVINYL CHLORIDE (CPVC) PIPE - NOMINAL 1-1/4 INCH (32 MM) DIAMETER (OR SMALLER) SDRI13.5 CPVC PIPE FOR USE IN CLOSED (PROCESS OR SUPPLY) PIPING SYSTEMS.

3. FILL, VOID OR CAVITY MATERIALS* - SEALANT - MINIMUM 3/4 INCH (19 MM) THICKNESS OF SEALANT APPLIED WITHIN THE ANNULUS FLUSH WITH THE TOP SURFACE OF THE FLOOR OR SOLE PLATE AND MINIMUM 5/8 INCH (16 MM) THICKNESS OF SEALANT APPLIED WITHIN THE ANNULUS FLUSH WITH THE BOTTOM SURFACE OF GYPSUM WALLBOARD OR TOP PLATE. A MINIMUM 1/4 INCH (6 MM) DIAMETER BEAD OF SEALANT TO BE APPLIED AT THE DUCT/SUBFLOORING OR SOLE PLATE INTERFACE AND THE BUNDLE/GYPSUM WALLBOARD OR TOP PLATE INTERFACE AT POINT CONTACT LOCATIONS.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - FS-ONE SEALANT OR FS-ONE MAX INTUMESCENT SEALANT

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

* BEARING THE UL RECOGNIZED COMPONENT MARK

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REVISE AND UPDATE ALL FIRE JOINT PENETRATION DETAILS PER THEIR LATEST ASSEMBLIES

REVISE AND UPDATE ALL FIRE JOINT PENETRATION DETAILS PER THEIR LATEST ASSEMBLIES

Project Name 1
Project Name 2

Street Address
City, state

Office of Rich Barber
ORB Architecture, LLC
WorldHQ@ORBArch.com

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ADVANCE
RESIDENTIAL COMPANY
LEGACY HOSPITALITY

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ADVANCE ARCHITECTURE, CHICAGO
2525 E. CAMBRIDGE RD., SUITE 500, PROSPECT, IL 60070
Ask the owner or his designated agent what provide this information.

REVISIONS/SUBMITTALS

DATE	DESCRIPTION
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CLASSIFIED
UL
Classified by Underwriters Laboratories, Inc. to UL 1479 and CANULC-515

SYSTEM NO. C-AJ-5090

ANSIUL1479 (ASTM E814)	CANULC 5115
F RATINGS - 2 AND 3-HOUR (SEE ITEM 4)	F RATINGS - 2 AND 3-HOUR (SEE ITEM 4)
T RATING - 0-HOUR	FT RATING - 0-HOUR
L RATING AT AMBIENT - 4 CFMSQ FT	FH RATINGS - 2 AND 3-HOUR (SEE ITEM 4)
L RATING AT 400 F - LESS THAN 1 CFMSQ FT	FTH RATINGS - 0-HOUR
	L RATINGS AT AMBIENT - 4 CFMSQ FT
	L RATING AT 400 F - LESS THAN 1 CFMSQ FT

SECTION A-A

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CLASSIFIED
UL
Classified by Underwriters Laboratories, Inc. to UL 1479 and CANULC-515

SYSTEM NO. C-AJ-5091

ANSIUL1479 (ASTM E814)	CANULC 5115
F RATING - 2-HOUR	F RATING - 2-HOUR
T RATINGS - 0 AND 1-HOUR (SEE ITEMS 2 AND 4)	FT RATINGS - 0 AND 1-HOUR (SEE ITEMS 2 AND 4)
L RATING AT AMBIENT - 4 CFMSQ FT	FH RATINGS - 2-HOUR
L RATING AT 400 F - LESS THAN 1 CFMSQ FT	FTH RATINGS - 0 AND 1-HOUR (SEE ITEMS 2 AND 4)
	L RATING AT AMBIENT - 4 CFMSQ FT
	L RATING AT 400 F - LESS THAN 1 CFMSQ FT

SECTION A-A

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CLASSIFIED
UL
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SYSTEM NO. C-AJ-7051

ANSIUL1479 (ASTM E814)	CANULC 5115
F RATING - 3-HOUR	F RATING - 3-HOUR
T RATINGS - 1-HOUR	FT RATING - 1-HOUR
	FH RATINGS - 3-HOUR
	FTH RATING - 1-HOUR

SECTION A-A

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CLASSIFIED
UL
Classified by Underwriters Laboratories, Inc. to UL 1479 and CANULC-515

SYSTEM NO. C-AJ-61

ANSIUL1479 (ASTM E814)	CANULC 5115
F RATING - 2-HOUR	F RATING - 2-HOUR
T RATING - 0-HOUR	FT RATING - 0-HOUR
	FH RATINGS - 2-HOUR
	FTH RATINGS - 0-HOUR

SECTION A-A

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CLASSIFIED
UL
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SYSTEM NO. C-AJ-7054

ANSIUL1479 (ASTM E814)	CANULC 5115
F RATING - 2-HOUR	F RATING - 2-HOUR
T RATING - 0-HOUR	FT RATING - 0-HOUR
	FH RATINGS - 2-HOUR
	FTH RATINGS - 0-HOUR

SECTION A-A

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CLASSIFIED
UL
Classified by Underwriters Laboratories, Inc. to UL 1479 and CANULC-515

SYSTEM NO. C-AJ-7084

ANSIUL1479 (ASTM E814)	CANULC 5115
F RATING - 2-HOUR	F RATING - 2-HOUR
T RATING - 0-HOUR	FT RATING - 0-HOUR
	FH RATINGS - 2-HOUR
	FTH RATINGS - 0-HOUR

SECTION A-A

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Hilti Firestop Systems

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CLASSIFIED
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SYSTEM NO. C-AJ-5091

ANSIUL1479 (ASTM E814)	CANULC 5115
F RATING - 2-HOUR	F RATING - 2-HOUR
T RATING - 1-3/4 HOUR	FT RATING - 1-3/4 HOUR
	FH RATINGS - 2-HOUR
	FTH RATING - 1-3/4 HOUR

SECTION A-A

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CLASSIFIED
UL
Classified by Underwriters Laboratories, Inc. to UL 1479 and CANULC-515

SYSTEM NO. C-AJ-7145

ANSIUL1479 (ASTM E814)	CANULC 5115
F RATING - 2-HOUR	F RATING - 2-HOUR
T RATING - 1-3/4 HOUR	FT RATING - 1-3/4 HOUR
	FH RATINGS - 2-HOUR
	FTH RATING - 1-3/4 HOUR

SECTION A-A

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HILTI
Hilti Firestop Systems

Page: 1 of 2

REVISE AND UPDATE ALL FIRE JOINT PENETRATION DETAILS PER THEIR LATEST ASSEMBLIES

REVISE AND UPDATE ALL FIRE JOINT PENETRATION DETAILS PER THEIR LATEST ASSEMBLIES

Project Name 1
Project Name 2

Street Address
City, state

Office of Rich Barber Architecture, LLC
ORB

WorldHQ@ORBArch.com

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REVISIONS/ SUBMITTALS	DATE	DESCRIPTION
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REVISE AND UPDATE ALL FIRE JOINT/PENETRATION DETAILS PER THEIR LATEST ASSEMBLIES

SYSTEM NO. C-AJ-8099

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F RATING - 3-HOUR	F RATING - 3-HOUR
T RATINGS - 0 AND 3/4 HOUR (SEE ITEM 2)	FT RATINGS - 0 AND 3/4 HOUR (SEE ITEM 2)
	FH RATINGS - 2 HOUR
	FTH RATINGS - 0 AND 3/4 HOUR (SEE ITEM 2)

1. FLOOR OR WALL ASSEMBLY - MINIMUM 4-1/2 INCH (114 MM) THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF OR 1600-2400 KG/M3) CONCRETE FLOOR OR MINIMUM 5 INCH (127 MM) REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE WALL. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS*. FLOOR MAY ALSO BE CONSTRUCTED OF ANY MINIMUM 6 INCH (152 MM) THICK UL CLASSIFIED HOLLOW CORE PRECAST CONCRETE UNITS*. MAXIMUM AREA OF SQUARE, RECTANGULAR OR CIRCULAR OPENING IS 192 SQUARE INCH (1229 CM²) WITH MAXIMUM DIMENSION OF 24 INCH (61 CM). WHEN PRECAST CONCRETE UNIT FLOORS ARE USED, MAXIMUM AREA OF SQUARE, RECTANGULAR OR CIRCULAR OPENING IS 49 SQUARE INCH (315 CM²) WITH MAXIMUM DIMENSION OF 7 INCH (17.8 CM). SEE CONCRETE BLOCKS (CAZT) AND PRECAST CONCRETE UNITS (CFTV) CATEGORIES IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.

2. THROUGH-PENETRANT - ONE OR MORE PIPES OR TUBES TO BE INSTALLED WITHIN THE OPENING. THE TOTAL NUMBER OF THROUGH-PENETRANTS IS DEPENDENT ON THE SIZE OF THE OPENING AND TYPES AND SIZES OF THE PENETRANTS. ANY COMBINATION OF THE PENETRANTS DESCRIBED BELOW MAY BE USED PROVIDED THAT THE FOLLOWING PARAMETERS RELATIVE TO THE ANNULAR SPACES AND THE SPACINGS BETWEEN THE PIPES ARE MAINTAINED. THE SEPARATION BETWEEN CABLE BUNDLES, TUBES AND INSULATED TUBES SHALL BE A MINIMUM 1/2 INCH (13 MM) TO MAXIMUM 3-1/8 INCH (79 MM). THE ANNULAR SPACE BETWEEN PENETRANTS AND THE PERIPHERY OF OPENING SHALL BE A MINIMUM 1/2 INCH (13 MM) TO MAXIMUM 5 INCH (127 MM). PIPES OR TUBES TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES OR TUBES MAY BE USED.

A. **COPPER TUBING** - NOMINAL 3 INCH (76 MM) DIAMETER (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBE.
 B. **COPPER PIPE** - NOMINAL 3 INCH (76 MM) DIAMETER (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.
 C. **STEEL PIPE** - NOMINAL 3 INCH (76 MM) DIAMETER (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.
 D. **IRON PIPE** - NOMINAL 3 INCH (76 MM) DIAMETER (OR SMALLER) CAST OR DUCTILE IRON PIPE.
 E. **CONDUIT** - NOMINAL 3 INCH (76 MM) DIAMETER (OR SMALLER) ELECTRIC METALLIC TUBING (EMT) OR STEEL CONDUIT.
 F. **FLEXIBLE STEEL CONDUIT** - NOMINAL 1 INCH (25 MM) DIAMETER (OR SMALLER) FLEXIBLE STEEL CONDUIT. SEE FLEXIBLE METAL CONDUIT (DXLZ) CATEGORY IN THE ELECTRICAL CONSTRUCTION MATERIAL DIRECTORY FOR NAMES OF MANUFACTURERS.
 G. **THROUGH PENETRATING PRODUCT*** - FLEXIBLE METAL PIPING - THE FOLLOWING TYPES OF STEEL, FLEXIBLE METAL, GAS PIPING MAY BE USED.

3. PIPE INSULATION - (OPTIONAL) - THE FOLLOWING TYPES OF PIPE INSULATION MAY BE USED WITH METALLIC PENETRANTS (ITEMS 2A, 2B, 2C, 2D AND 2F):
 A. **PIPE COVERING** - NOMINAL 1 INCH (25 MM) THICK (OR THINNER) HOLLOW CYLINDRICAL, HEAVY DENSITY (MINIMUM 3.5 PCF OR 56 KG/M3) GLASS FIBER UNITS JACKETED ON THE OUTSIDE WITH AN ALL SERVICE JACKET, LONGITUDINAL JOINTS SEALED WITH METAL FASTENERS OR FACTORY-APPLIED SELF-SEALING LAP TAPE. TRANSVERSE JOINTS SECURED WITH METAL FASTENERS OR WITH BUTT TAPE SUPPLIED WITH THE PRODUCT. SEE PIPE AND EQUIPMENT COVERING - MATERIALS (BRCU) CATEGORY IN THE BUILDING MATERIALS DIRECTORY FOR NAMES OF MANUFACTURERS. ANY PIPE COVERING MATERIAL MEETING THE ABOVE SPECIFICATIONS AND BEARING THE UL CLASSIFICATION MARKING WITH A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS MAY BE USED.
 B. **TUBE INSULATION - PLASTICS***** - NOMINAL 3/4 INCH (19 MM) THICK (OR THINNER) ACRYLONITRILE BUTADIENE/POLYVINYL CHLORIDE (AB/PVC) FLEXIBLE FOAM FURNISHED IN THE FORM OF TUBING. SEE PLASTICS*** (INF22) CATEGORY IN THE PLASTICS RECOGNIZED COMPONENT DIRECTORY FOR NAMES OF MANUFACTURERS. ANY RECOGNIZED COMPONENT TUBE INSULATION MATERIAL MEETING THE ABOVE SPECIFICATIONS AND HAVING A UL 94 FLAMMABILITY CLASSIFICATION OF 94-5VA MAY BE USED.
 C. **CABLES** - MAXIMUM 2 INCH (51 MM) DIAMETER TIGHT BUNDLE OF CABLES INSTALLED WITHIN THE OPENING AND RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY. THE SPACE BETWEEN THE CABLES AND PERIPHERY OF THE OPENING SHALL RANGE FROM MINIMUM 2 INCH (51 MM) TO MAXIMUM 4 INCH (102 MM). ANY COMBINATION OF THE FOLLOWING TYPES AND SIZES OF METALLIC CONDUCTOR OR FIBER OPTIC CABLE MAY BE USED.
 A. MAXIMUM 500 KCMIL SINGLE COPPER CONDUCTOR POWER CABLE WITH THERMOPLASTIC INSULATION AND POLYVINYL CHLORIDE (PVC) JACKET.
 B. MAXIMUM 100 PAIR NO. 24 AWG COPPER CONDUCTOR TELECOMMUNICATION CABLES WITH PVC INSULATION AND JACKET MATERIAL.
 C. MAXIMUM 7/8 COPPER CONDUCTOR NO. 12 AWG MULTICONDUCTOR POWER AND CONTROL CABLES WITH PVC OR CROSS-LINKED POLYETHYLENE (XLPE) INSULATION AND PVC JACKET.
 D. MULTIPLE FIBER OPTICAL COMMUNICATION CABLES JACKETED WITH PVC AND HAVING A MAXIMUM OUTSIDE DIAMETER OF 1/2 INCH.
 E. MAXIMUM 3/8 COPPER CONDUCTOR NO. 12 AWG WITH BARE ALUMINUM GROUND, PVC INSULATED STEEL METAL-CLAD CABLE.
 F. **FIRESTOP SYSTEM** - THE FIRESTOP SYSTEM SHALL CONSIST OF THE FOLLOWING:
 A. **PACKING MATERIAL** - MINIMUM 4 INCH (102 MM) THICKNESS OF MINIMUM 4 PCF (64 KG/M3) MINERAL WOOL BATT INSULATION FINELY PACKED INTO OPENING AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM TOP SURFACE OF FLOOR OR BOTH SURFACES OF WALL TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL. WHEN PRECAST CONCRETE UNIT FLOORS ARE USED, PACKING MATERIAL SHALL BE INSTALLED AT A THICKNESS EQUAL TO THE THICKNESS OF THE FLOOR MINUS 1/2 INCH (13 MM), FLUSH WITH BOTTOM SURFACE OF FLOOR.
 B. **FILL VOID OR CAVITY MATERIALS*** - SEALANT - MINIMUM 1/2 INCH (13 MM) THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR OR WITH BOTH SURFACES OF WALL.
 C. **HILT CONSTRUCTION CHEMICALS, DIV OF HILTI INC.** - FS-ONE SEALANT OR FS-ONE MAX INTUMESCENT SEALANT.

*** BEARING THE UL RECOGNIZED COMPONENT MARKING

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

+ BEARING THE UL LISTING MARK

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REVISE AND UPDATE ALL FIRE JOINT/PENETRATION DETAILS PER THEIR LATEST ASSEMBLIES

SYSTEM NO. C-AJ-8099

1) NOMINAL 2 INCH (51 MM) DIAMETER (OR SMALLER) STEEL, FLEXIBLE METAL, GAS PIPING. PLASTIC COVERING ON PIPING MAY OR MAY NOT BE REMOVED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY.
OMEGA FLEXING
 2) NOMINAL 1 INCH (25 MM) DIAMETER (OR SMALLER) STEEL, FLEXIBLE METAL, GAS PIPING. PLASTIC COVERING ON PIPING MAY OR MAY NOT BE REMOVED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY.
GASTITE DIV OF TITELIX
 3) NOMINAL 2 INCH (51 MM) DIAMETER (OR SMALLER) STEEL, FLEXIBLE METAL, GAS PIPING. PLASTIC COVERING ON PIPING MAY OR MAY NOT BE REMOVED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY.
WARD MFG L.L.C.
 THE HOURLY T RATING IS 3/4-HOUR WHEN A PIPE OR TUBE WITH FIBER-GLASS INSULATION IS USED, OR 0-HOUR WHEN A PIPE OR TUBE, A PIPE OR TUBE WITH AB/PVC INSULATION OR A CABLE BUNDLE IS USED. THE T RATING IS 0-HOUR WHEN METALLIC PENETRANTS WITHOUT PIPE INSULATION ARE USED.

3. PIPE INSULATION - (OPTIONAL) - THE FOLLOWING TYPES OF PIPE INSULATION MAY BE USED WITH METALLIC PENETRANTS (ITEMS 2A, 2B, 2C, 2D AND 2F):
 A. **PIPE COVERING** - NOMINAL 1 INCH (25 MM) THICK (OR THINNER) HOLLOW CYLINDRICAL, HEAVY DENSITY (MINIMUM 3.5 PCF OR 56 KG/M3) GLASS FIBER UNITS JACKETED ON THE OUTSIDE WITH AN ALL SERVICE JACKET, LONGITUDINAL JOINTS SEALED WITH METAL FASTENERS OR FACTORY-APPLIED SELF-SEALING LAP TAPE. TRANSVERSE JOINTS SECURED WITH METAL FASTENERS OR WITH BUTT TAPE SUPPLIED WITH THE PRODUCT. SEE PIPE AND EQUIPMENT COVERING - MATERIALS (BRCU) CATEGORY IN THE BUILDING MATERIALS DIRECTORY FOR NAMES OF MANUFACTURERS. ANY PIPE COVERING MATERIAL MEETING THE ABOVE SPECIFICATIONS AND BEARING THE UL CLASSIFICATION MARKING WITH A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS MAY BE USED.
 B. **TUBE INSULATION - PLASTICS***** - NOMINAL 3/4 INCH (19 MM) THICK (OR THINNER) ACRYLONITRILE BUTADIENE/POLYVINYL CHLORIDE (AB/PVC) FLEXIBLE FOAM FURNISHED IN THE FORM OF TUBING. SEE PLASTICS*** (INF22) CATEGORY IN THE PLASTICS RECOGNIZED COMPONENT DIRECTORY FOR NAMES OF MANUFACTURERS. ANY RECOGNIZED COMPONENT TUBE INSULATION MATERIAL MEETING THE ABOVE SPECIFICATIONS AND HAVING A UL 94 FLAMMABILITY CLASSIFICATION OF 94-5VA MAY BE USED.
 C. **CABLES** - MAXIMUM 2 INCH (51 MM) DIAMETER TIGHT BUNDLE OF CABLES INSTALLED WITHIN THE OPENING AND RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY. THE SPACE BETWEEN THE CABLES AND PERIPHERY OF THE OPENING SHALL RANGE FROM MINIMUM 2 INCH (51 MM) TO MAXIMUM 4 INCH (102 MM). ANY COMBINATION OF THE FOLLOWING TYPES AND SIZES OF METALLIC CONDUCTOR OR FIBER OPTIC CABLE MAY BE USED.
 A. MAXIMUM 500 KCMIL SINGLE COPPER CONDUCTOR POWER CABLE WITH THERMOPLASTIC INSULATION AND POLYVINYL CHLORIDE (PVC) JACKET.
 B. MAXIMUM 100 PAIR NO. 24 AWG COPPER CONDUCTOR TELECOMMUNICATION CABLES WITH PVC INSULATION AND JACKET MATERIAL.
 C. MAXIMUM 7/8 COPPER CONDUCTOR NO. 12 AWG MULTICONDUCTOR POWER AND CONTROL CABLES WITH PVC OR CROSS-LINKED POLYETHYLENE (XLPE) INSULATION AND PVC JACKET.
 D. MULTIPLE FIBER OPTICAL COMMUNICATION CABLES JACKETED WITH PVC AND HAVING A MAXIMUM OUTSIDE DIAMETER OF 1/2 INCH.
 E. MAXIMUM 3/8 COPPER CONDUCTOR NO. 12 AWG WITH BARE ALUMINUM GROUND, PVC INSULATED STEEL METAL-CLAD CABLE.
 F. **FIRESTOP SYSTEM** - THE FIRESTOP SYSTEM SHALL CONSIST OF THE FOLLOWING:
 A. **PACKING MATERIAL** - MINIMUM 4 INCH (102 MM) THICKNESS OF MINIMUM 4 PCF (64 KG/M3) MINERAL WOOL BATT INSULATION FINELY PACKED INTO OPENING AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM TOP SURFACE OF FLOOR OR BOTH SURFACES OF WALL TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL. WHEN PRECAST CONCRETE UNIT FLOORS ARE USED, PACKING MATERIAL SHALL BE INSTALLED AT A THICKNESS EQUAL TO THE THICKNESS OF THE FLOOR MINUS 1/2 INCH (13 MM), FLUSH WITH BOTTOM SURFACE OF FLOOR.
 B. **FILL VOID OR CAVITY MATERIALS*** - SEALANT - MINIMUM 1/2 INCH (13 MM) THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR OR WITH BOTH SURFACES OF WALL.
 C. **HILT CONSTRUCTION CHEMICALS, DIV OF HILTI INC.** - FS-ONE SEALANT OR FS-ONE MAX INTUMESCENT SEALANT.

*** BEARING THE UL RECOGNIZED COMPONENT MARKING

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

+ BEARING THE UL LISTING MARK

HILTI Firestop Systems

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Project Name 2
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REVISIONS/ SUBMITTALS	DATE	DESCRIPTION
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DATE: July 17, 2024 ORB #: 00-000

A7.2.22
FIRE JOINTS - FLOORS AND WALLS

System No. W-L-3414

ANSIUL1479 (ASTM E814)	CANULC S115
F RATINGS - 1 AND 2-HOUR (SEE ITEM 1)	FT RATINGS - 1 AND 2-HOUR (SEE ITEM 1)
T RATINGS - 0, 1/2, 1 AND 2-HOUR (SEE ITEM 2)	FT RATINGS - 0, 1/2, 1, AND 2-HOUR (SEE ITEM 2)
L RATING AT AMBIENT - LESS THAN 1 CFM/50 FT	FT RATINGS - 1 AND 2-HOUR (SEE ITEM 1)
L RATING AT 400 F - LESS THAN 1 CFM/50 FT	FT RATINGS - 0, 1/2, 1, AND 2-HOUR (SEE ITEM 2)
	L RATING AT AMBIENT - LESS THAN 1 CFM/50 FT
	L RATING AT 400 F - LESS THAN 1 CFM/50 FT

1. WALL ASSEMBLY - THE 1 OR 2-HOUR FIRE RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300, U400, U400 OR W400 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

A. STUDS - WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOMINAL 2 BY 4 INCH (51 X 102 MM) LUMBER SPACED 16 INCH (406 MM) ON CENTER. STEEL STUDS TO BE MINIMUM 3-1/2 INCH (89 MM) WIDE AND SPACED MAXIMUM 24 INCH (610 MM) ON CENTER.

B. GYPSUM WALLBOARD - 5/8 INCH (16 MM) THICK, 4 FOOT (1219 CM) WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM WALLBOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL WALL AND PARTITION DESIGN. OPENING MAY BE ROUND, RECTANGULAR OR IRREGULAR WITH A MAXIMUM DIAMETER OR DIMENSION OF 1 INCH (25 MM), THE HOURLY F AND FH RATINGS OF THE FIRESTOP SYSTEM ARE EQUAL TO THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED.

2. THROUGH PENETRANTS - ONE METALLIC PIPE OR TUBING TO BE CENTERED WITHIN THE FIRESTOP SYSTEM. PIPE OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES OR TUBING MAY BE USED:

A. STEEL PIPE - NOMINAL 1/2 INCH (305 MM) DIAMETER (OR SMALLER) SCHEDULE 40 (OR HEAVIER) STEEL PIPE.

B. IRON PIPE - NOMINAL 1/2 INCH (305 MM) DIAMETER (OR SMALLER) CAST OR DUCTILE IRON PIPE.

C. COPPER TUBING - NOMINAL 6 INCH (152 MM) DIAMETER (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING. WHEN THE HOURLY F OR FH RATINGS OF THE FIRESTOP SYSTEM IS 3-HOUR, THE NOMINAL DIAMETER OF COPPER TUBE SHALL NOT EXCEED 4 INCH (102 MM).

D. COPPER PIPE - NOMINAL 6 INCH (152 MM) DIAMETER (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE. WHEN THE HOURLY F OR FH RATING OF THE FIRESTOP SYSTEM IS 3-HOUR, THE NOMINAL DIAMETER OF COPPER PIPE SHALL NOT EXCEED 4 INCH (102 MM).

3. PIPE COVERING - NOMINAL 1, 1-1/2, OR 2 INCH (25, 38 OR 51 MM) THICK HOLLOW CYLINDRICAL HEAVY DENSITY (MINIMUM 3.5 PCF OR 56 KG/M³) GLASS FIBER UNITS JACKETED ON THE OUTSIDE WITH AN ALL SERVICE JACKET. LONGITUDINAL JOINTS SEALED WITH METAL FASTENERS OR FACTORY-APPLIED SELF-SEALING LAP TAPE. TRANSVERSE JOINTS SECURED WITH METAL FASTENERS OR WITH GUTT TAPE SUPPLIED WITH THE PRODUCT. FOR 1 AND 2-HOUR F AND FH RATINGS, THE ANNULAR SPACE BETWEEN INSULATED PENETRANT AND PERIPHERY OF OPENING SHALL BE MINIMUM 0 INCH (POINT CONTACT) TO MAXIMUM 1-7/8 INCH (48 MM). FOR 3-HOUR F AND FH RATINGS, THE ANNULAR SPACE SHALL BE MINIMUM 1/4 INCH (6.35 MM) TO MAXIMUM 1-1/4 INCH (32 MM). SEE PIPE AND EQUIPMENT COVERING - MATERIALS (BRGU) CATEGORY IN THE BUILDING MATERIALS DIRECTORY FOR THE NAMES OF MANUFACTURERS. ANY PIPE COVERING MATERIAL MEETING THE ABOVE SPECIFICATIONS AND BEARING THE UL CLASSIFICATION MARKING WITH A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS MAY BE USED. THE HOURLY F AND FH RATINGS OF THE FIRESTOP SYSTEM ARE 1/2 HOUR FOR 1-HOUR RATED WALLS AND 1-HOUR FOR 2-HOUR RATED WALLS. FOR 3-HOUR RATED WALLS, THE HOURLY F, FT AND FTH RATINGS WHEN STEEL AND IRON PIPES ARE USED ARE 1-HOUR. FOR 3-HOUR RATED WALLS, THE HOURLY F, FT AND FTH RATINGS WHEN COPPER PENETRANTS ARE USED ARE 1-1/4 HOUR FOR 2 INCH (51 MM) THICK PIPE COVERING AND 0-HOUR FOR PIPE COVERING THICKNESS LESS THAN 2 INCH (51 MM).

A. PIPE COVERING - (NOT SHOWN) - AS AN ALTERNATE TO ITEM 3, MAXIMUM 2 INCH (51 MM) THICK CYLINDRICAL CALCIUM SILICATE (MINIMUM 14 PCF) UNITS SIZED TO THE OUTSIDE DIAMETER OF THE PIPE OR TUBING MAY BE USED. PIPE INSULATION SECURED WITH STAINLESS STEEL BANDS OR MINIMUM 18 AWG STAINLESS STEEL WIRE SPACED MAXIMUM 12 INCH (305 MM) ON CENTER. WHEN THE ALTERNATE PIPE COVERING IS USED, THE T AND FT RATINGS SHALL BE AS SPECIFIED IN ITEM 3 ABOVE. SEE PIPE AND EQUIPMENT COVERING - MATERIALS (BRGU) CATEGORY IN THE BUILDING MATERIALS DIRECTORY FOR THE NAMES OF MANUFACTURERS. ANY PIPE COVERING MATERIAL MEETING THE ABOVE SPECIFICATIONS AND BEARING THE UL CLASSIFICATION MARKING WITH A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS MAY BE USED.

4. FILL VOID OR CAVITY MATERIAL - SEALANT - FOR 1 AND 2-HOUR F AND FH RATINGS, MINIMUM 5/8 INCH (16 MM) THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS. FLUSH WITH BOTH SURFACES OF WALL. FOR 3-HOUR F AND FH RATING, MINIMUM 1 INCH (25 MM) THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS. FLUSH WITH BOTH SURFACES OF WALL. AT THE POINT CONTACT LOCATION BETWEEN PIPE COVERING AND GYPSUM WALLBOARD, A MINIMUM 1/2 INCH (13 MM) DIAMETER BEAD OF FILL MATERIAL SHALL BE APPLIED AT THE PIPE COVERING/GYPSUM WALLBOARD INTERFACE ON BOTH SURFACES OF WALL.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - FS-ONE SEALANT OR FS-ONE MAX INTUMESCENT SEALANT

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

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System No. W-L-5029

ANSIUL1479 (ASTM E814)	CANULC S115
F RATINGS - 1, 2, AND 3-HOUR (SEE ITEMS 1, 3 AND 4)	FT RATINGS - 1, 2, AND 3-HOUR (SEE ITEMS 1, 3 AND 4)
T RATINGS - 0, 1/2, 1, AND 1-1/4 HOUR (SEE ITEM 3)	FT RATINGS - 0, 1/2, 1, AND 1-1/4 HOUR (SEE ITEM 3)
L RATING AT AMBIENT - 4 CFM/50 FT	FT RATINGS - 1, 2, AND 3-HOUR (SEE ITEMS 1, 2 AND 4)
L RATING AT 400 F - LESS THAN 1 CFM/50 FT	FT RATINGS - 0, 1/2, 1, AND 1-1/4 HOUR (SEE ITEM 3)
	L RATING AT AMBIENT - 4 CFM/50 FT
	L RATING AT 400 F - LESS THAN 1 CFM/50 FT

1. WALL ASSEMBLY - THE 1, 2, OR 3-HOUR FIRE-RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300, U400, U400 OR W400 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

A. STUDS - WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOMINAL 2 X 4 INCH (51 X 102 MM) LUMBER SPACED 16 INCH (406 MM) ON CENTER. STEEL STUDS TO BE MINIMUM 2-1/2 INCH (64 MM) WIDE FOR 1 AND 2-HOUR F AND FH RATING AND 3-1/2 INCH (89 MM) WIDE FOR 3-HOUR F AND FH RATING AND SPACED MAX 24 INCH (610 MM) ON CENTER.

B. GYPSUM WALLBOARD - MINIMUM 5/8 INCH (16 MM) THICK WITH SQUARE OR TAPERED EDGES. THE GYPSUM WALLBOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL WALL AND PARTITION DESIGN. MAXIMUM DIAMETER OF OPENING IS 1-1/2 INCH (38 MM). THE HOURLY F AND FH RATINGS OF THE FIRESTOP SYSTEM ARE EQUAL TO THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED.

2. THROUGH PENETRANTS - ONE METALLIC PIPE OR TUBING TO BE CENTERED WITHIN THE FIRESTOP SYSTEM. PIPE OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES OR TUBING MAY BE USED:

A. STEEL PIPE - NOMINAL 1/2 INCH (305 MM) DIAMETER (OR SMALLER) SCHEDULE 40 (OR HEAVIER) STEEL PIPE.

B. IRON PIPE - NOMINAL 1/2 INCH (305 MM) DIAMETER (OR SMALLER) CAST OR DUCTILE IRON PIPE.

C. COPPER TUBING - NOMINAL 6 INCH (152 MM) DIAMETER (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING. WHEN THE HOURLY F OR FH RATINGS OF THE FIRESTOP SYSTEM IS 3-HOUR, THE NOMINAL DIAMETER OF COPPER TUBE SHALL NOT EXCEED 4 INCH (102 MM).

D. COPPER PIPE - NOMINAL 6 INCH (152 MM) DIAMETER (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE. WHEN THE HOURLY F OR FH RATING OF THE FIRESTOP SYSTEM IS 3-HOUR, THE NOMINAL DIAMETER OF COPPER PIPE SHALL NOT EXCEED 4 INCH (102 MM).

3. PIPE COVERING - NOMINAL 1, 1-1/2, OR 2 INCH (25, 38 OR 51 MM) THICK HOLLOW CYLINDRICAL HEAVY DENSITY (MINIMUM 3.5 PCF OR 56 KG/M³) GLASS FIBER UNITS JACKETED ON THE OUTSIDE WITH AN ALL SERVICE JACKET. LONGITUDINAL JOINTS SEALED WITH METAL FASTENERS OR FACTORY-APPLIED SELF-SEALING LAP TAPE. TRANSVERSE JOINTS SECURED WITH METAL FASTENERS OR WITH GUTT TAPE SUPPLIED WITH THE PRODUCT. FOR 1 AND 2-HOUR F AND FH RATINGS, THE ANNULAR SPACE BETWEEN INSULATED PENETRANT AND PERIPHERY OF OPENING SHALL BE MINIMUM 0 INCH (POINT CONTACT) TO MAXIMUM 1-7/8 INCH (48 MM). FOR 3-HOUR F AND FH RATINGS, THE ANNULAR SPACE SHALL BE MINIMUM 1/4 INCH (6.35 MM) TO MAXIMUM 1-1/4 INCH (32 MM). SEE PIPE AND EQUIPMENT COVERING - MATERIALS (BRGU) CATEGORY IN THE BUILDING MATERIALS DIRECTORY FOR THE NAMES OF MANUFACTURERS. ANY PIPE COVERING MATERIAL MEETING THE ABOVE SPECIFICATIONS AND BEARING THE UL CLASSIFICATION MARKING WITH A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS MAY BE USED.

4. FILL VOID OR CAVITY MATERIAL - SEALANT - FOR 1 AND 2-HOUR F AND FH RATINGS, MINIMUM 5/8 INCH (16 MM) THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS. FLUSH WITH BOTH SURFACES OF WALL. FOR 3-HOUR F AND FH RATING, MINIMUM 1 INCH (25 MM) THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS. FLUSH WITH BOTH SURFACES OF WALL. AT THE POINT CONTACT LOCATION BETWEEN PIPE COVERING AND GYPSUM WALLBOARD, A MINIMUM 1/2 INCH (13 MM) DIAMETER BEAD OF FILL MATERIAL SHALL BE APPLIED AT THE PIPE COVERING/GYPSUM WALLBOARD INTERFACE ON BOTH SURFACES OF WALL.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - FS-ONE SEALANT OR FS-ONE MAX INTUMESCENT SEALANT

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

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REVISE AND UPDATE ALL FIRE JOINT PENETRATION DETAILS PER THEIR LATEST ASSEMBLIES

SYSTEM NO. W-L-3414

2. CABLES - SINGLE OR TIGHT BUNDLE OF CABLES TO BE INSTALLED WITHIN THE OPENING. AGGREGATE CROSS-SECTIONAL AREA OF CABLES IN OPENING TO HAVE A VISUAL FILL OF MINIMUM 9% TO MAXIMUM 100%. THE ANNULAR SPACE BETWEEN THE CABLE BUNDLE AND THE PERIPHERY OF THE OPENING TO BE MINIMUM 0 INCH (POINT CONTACT). CABLES TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF THE WALL ASSEMBLY. ANY COMBINATION OF THE FOLLOWING TYPES AND SIZES OF CABLES MAY BE USED:

A. MAXIMUM 3/8 NO. 8 AWG NM COPPER CONDUCTOR CABLE (ROMEX) WITH PVC INSULATION AND JACKET.

B. MAXIMUM 7/8 NO. 12 AWG COPPER CONDUCTOR CONTROL CABLE WITH PVC OR XLPE INSULATION AND JACKET.

C. MAXIMUM 100 PAIR NO. 24 AWG (OR SMALLER) COPPER CONDUCTOR TELECOMMUNICATION CABLE WITH PVC OR PLENUM RATED INSULATION AND JACKETING.

D. MAXIMUM 4 PR NO. 22 AWG (OR SMALLER) CAT 5 OR CAT 6 COMPUTER CABLES WITH PVC OR PLENUM RATED INSULATION AND JACKETING.

E. TYPE RGU COAXIAL CABLE WITH FLUORINATED ETHYLENE OR PVC INSULATION AND JACKETING HAVING A MAXIMUM OUTSIDE DIAMETER OF 1/2 INCH (13 MM).

F. MAXIMUM 24 FIBER OPTIC CABLE WITH POLYVINYL CHLORIDE (PVC) OR POLYETHYLENE (PE) JACKET AND INSULATION.

G. THROUGH PENETRATING PRODUCT - MAXIMUM TWO COPPER CONDUCTOR NO. 18 AWG (OR SMALLER) POWER OR NON-POWER LIMITED FIRE ALARM CABLE WITH OR WITHOUT A JACKET UNDER A METAL ARMOR.

H. MAXIMUM 3/8 NO. 10 AWG COPPER CONDUCTOR METAL-CLAD CABLE.

THE HOURLY F, FT AND FTH RATINGS OF THE FIRESTOP SYSTEM ARE DEPENDENT ON CABLE TYPE AND HOURLY WALL RATINGS AS SPECIFIED IN TABLE BELOW.

Cable Type	Hourly Wall Rating	Hourly T, FT and FTH Rating
None (Blank Opening)	1 and 2	1 and 2
A	1 and 2	1 and 2
B	1	0
C	2	1/2
D	1 and 2	1 and 2
E	1 and 2	1 and 2
F	1 and 2	1 and 2
G	1 and 2	1 and 2
H	1 and 2	1 and 2

3. FILL VOID OR CAVITY MATERIAL - NOMINAL 5/8 INCH (16 MM) DIAMETER BY 3 MM THICK PUTTY DISC WITH ONE SEAM AT RADIUS. PAPER-BACKER OF DISC TO BE REMOVED AND DISC FIRMLY PRESSED AROUND THE CABLE(S) BUNDLE LAPPING NOMINAL 5 MM ONTO CABLES TO COMPLETELY COVER OPENING AND FIRMLY PRESSED TO LAP ONTO THE WALL AROUND PERIPHERY OF OPENING. DISC SEAM TO BE FIRMLY PRESSED AND SEALED TIGHT. DISC TO BE INSTALLED AT BOTH SURFACES OF WALL.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - CFS-D 1 FIRESTOP CABLE DISC

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System No. W-L-5029

3. PIPE COVERING - NOMINAL 1, 1-1/2, OR 2 INCH (25, 38 OR 51 MM) THICK HOLLOW CYLINDRICAL HEAVY DENSITY (MINIMUM 3.5 PCF OR 56 KG/M³) GLASS FIBER UNITS JACKETED ON THE OUTSIDE WITH AN ALL SERVICE JACKET. LONGITUDINAL JOINTS SEALED WITH METAL FASTENERS OR FACTORY-APPLIED SELF-SEALING LAP TAPE. TRANSVERSE JOINTS SECURED WITH METAL FASTENERS OR WITH GUTT TAPE SUPPLIED WITH THE PRODUCT. FOR 1 AND 2-HOUR F AND FH RATINGS, THE ANNULAR SPACE BETWEEN INSULATED PENETRANT AND PERIPHERY OF OPENING SHALL BE MINIMUM 0 INCH (POINT CONTACT) TO MAXIMUM 1-7/8 INCH (48 MM). FOR 3-HOUR F AND FH RATINGS, THE ANNULAR SPACE SHALL BE MINIMUM 1/4 INCH (6.35 MM) TO MAXIMUM 1-1/4 INCH (32 MM). SEE PIPE AND EQUIPMENT COVERING - MATERIALS (BRGU) CATEGORY IN THE BUILDING MATERIALS DIRECTORY FOR THE NAMES OF MANUFACTURERS. ANY PIPE COVERING MATERIAL MEETING THE ABOVE SPECIFICATIONS AND BEARING THE UL CLASSIFICATION MARKING WITH A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS MAY BE USED. THE HOURLY F AND FH RATINGS OF THE FIRESTOP SYSTEM ARE 1/2 HOUR FOR 1-HOUR RATED WALLS AND 1-HOUR FOR 2-HOUR RATED WALLS. FOR 3-HOUR RATED WALLS, THE HOURLY F, FT AND FTH RATINGS WHEN STEEL AND IRON PIPES ARE USED ARE 1-HOUR. FOR 3-HOUR RATED WALLS, THE HOURLY F, FT AND FTH RATINGS WHEN COPPER PENETRANTS ARE USED ARE 1-1/4 HOUR FOR 2 INCH (51 MM) THICK PIPE COVERING AND 0-HOUR FOR PIPE COVERING THICKNESS LESS THAN 2 INCH (51 MM).

A. PIPE COVERING - (NOT SHOWN) - AS AN ALTERNATE TO ITEM 3, MAXIMUM 2 INCH (51 MM) THICK CYLINDRICAL CALCIUM SILICATE (MINIMUM 14 PCF) UNITS SIZED TO THE OUTSIDE DIAMETER OF THE PIPE OR TUBING MAY BE USED. PIPE INSULATION SECURED WITH STAINLESS STEEL BANDS OR MINIMUM 18 AWG STAINLESS STEEL WIRE SPACED MAXIMUM 12 INCH (305 MM) ON CENTER. WHEN THE ALTERNATE PIPE COVERING IS USED, THE T AND FT RATINGS SHALL BE AS SPECIFIED IN ITEM 3 ABOVE. SEE PIPE AND EQUIPMENT COVERING - MATERIALS (BRGU) CATEGORY IN THE BUILDING MATERIALS DIRECTORY FOR THE NAMES OF MANUFACTURERS. ANY PIPE COVERING MATERIAL MEETING THE ABOVE SPECIFICATIONS AND BEARING THE UL CLASSIFICATION MARKING WITH A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS MAY BE USED.

4. FILL VOID OR CAVITY MATERIAL - SEALANT - FOR 1 AND 2-HOUR F AND FH RATINGS, MINIMUM 5/8 INCH (16 MM) THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS. FLUSH WITH BOTH SURFACES OF WALL. FOR 3-HOUR F AND FH RATING, MINIMUM 1 INCH (25 MM) THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS. FLUSH WITH BOTH SURFACES OF WALL. AT THE POINT CONTACT LOCATION BETWEEN PIPE COVERING AND GYPSUM WALLBOARD, A MINIMUM 1/2 INCH (13 MM) DIAMETER BEAD OF FILL MATERIAL SHALL BE APPLIED AT THE PIPE COVERING/GYPSUM WALLBOARD INTERFACE ON BOTH SURFACES OF WALL.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - FS-ONE SEALANT OR FS-ONE MAX INTUMESCENT SEALANT

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

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REVISE AND UPDATE ALL FIRE JOINT PENETRATION DETAILS PER THEIR LATEST ASSEMBLIES

SYSTEM NO. W-L-5028

ANSIUL1479 (ASTM E814)	CANULC S115
F RATINGS - 1 AND 2-HOUR (SEE ITEM 1)	F RATINGS - 1 AND 2-HOUR (SEE ITEM 1)
T RATINGS - 0, 3/4, AND 1-HOUR (SEE ITEM 3)	FT RATINGS - 0, 3/4, AND 1-HOUR (SEE ITEM 3)
L RATING AT AMBIENT - LESS THAN 1 CFM/50 FT	FT RATINGS - 1 AND 2-HOUR (SEE ITEM 1)
L RATING AT 400 F - LESS THAN 1 CFM/50 FT	FT RATINGS - 0, 3/4, AND 1 HOUR (SEE ITEM 3)
	L RATING AT AMBIENT - LESS THAN 1 CFM/50 FT
	L RATING AT 400 F - LESS THAN 1 CFM/50 FT

1. WALL ASSEMBLY - THE 1 OR 2-HOUR FIRE RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300, U400, U400 OR W400 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

A. STUDS - WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOMINAL 2 X 4 INCH (51 BY 102 MM) LUMBER SPACED 16 INCH (406 MM) ON CENTER. STEEL STUDS TO BE MINIMUM 2-1/2 INCH (64 MM) WIDE AND SPACED MAXIMUM 24 INCH (610 MM) ON CENTER.

B. GYPSUM WALLBOARD - 5/8 INCH (16 MM) THICK, 4 FOOT (1220 MM) WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM WALLBOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL WALL AND PARTITION DESIGN. MAXIMUM DIAMETER OF OPENING IS 7-1/2 INCH (191 MM). THE HOURLY F AND FH RATINGS OF THE FIRESTOP SYSTEM ARE EQUAL TO THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED.

2. THROUGH PENETRANTS - ONE METALLIC PIPE OR TUBING TO BE CENTERED WITHIN THE FIRESTOP SYSTEM. PIPE OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES OR TUBING MAY BE USED:

A. STEEL PIPE - NOMINAL 4 INCH (102 MM) DIAMETER (OR SMALLER) SCHEDULE 40 (OR HEAVIER) STEEL PIPE.

B. COPPER TUBING - NOMINAL 2 INCH (51 MM) DIAMETER (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.

C. COPPER PIPE - NOMINAL 2 INCH (51 MM) DIAMETER (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.

3. FILL VOID OR CAVITY MATERIAL - SEALANT - MINIMUM 5/8 INCH (16 MM) THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS. FLUSH WITH BOTH SURFACES OF WALL. AT THE POINT CONTACT LOCATION BETWEEN PIPE COVERING AND GYPSUM WALLBOARD, A MINIMUM 1/2 INCH (13 MM) DIAMETER BEAD OF FILL MATERIAL SHALL BE APPLIED AT THE PIPE COVERING/GYPSUM BOARD INTERFACE ON BOTH SURFACES OF WALL.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - FS-ONE SEALANT OR FS-ONE MAX INTUMESCENT SEALANT

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

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System No. W-L-7042

ANSIUL1479 (ASTM E814)	CANULC S115
F RATINGS - 1 AND 2-HOUR (SEE ITEMS 1 AND 3)	F RATINGS - 1 AND 2-HOUR (SEE ITEMS 1 AND 3)
T RATING - 0-HOUR	FT RATING - 0-HOUR
L RATING AT AMBIENT - 4 CFM/50 FT	FT RATINGS - 1 AND 2-HOUR (SEE ITEMS 1 AND 3)
L RATING AT 400 F - LESS THAN 1 CFM/50 FT	FT RATINGS - 0-HOUR
	L RATING AT AMBIENT - 4 CFM/50 FT
	L RATING AT 400 F - LESS THAN 1 CFM/50 FT

1. WALL ASSEMBLY - THE 1 OR 2-HOUR FIRE-RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300, U400, U400 OR W400 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

A. STUDS - WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOMINAL 2 X 4 INCH (51 X 102 MM) LUMBER SPACED 16 INCH (406 MM) ON CENTER. STEEL STUDS TO BE MINIMUM 2-1/2 INCH (64 MM) WIDE AND SPACED 24 INCH (610 MM) ON CENTER.

B. GYPSUM WALLBOARD - 5/8 INCH (16 MM) THICK WITH SQUARE OR TAPERED EDGES. THE GYPSUM WALLBOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL WALL AND PARTITION DESIGN. MAXIMUM DIAMETER OF OPENING IS 14-1/2 INCH (368 MM) FOR WOOD STUD WALLS AND 21-3/4 INCH (552 MM) FOR STEEL STUD WALLS. THE HOURLY F AND FH RATINGS OF THE FIRESTOP SYSTEM ARE EQUAL TO THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED.

2. THROUGH PENETRANT - GALVANIZED STEEL DUCT TO BE INSTALLED CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE BETWEEN THE DUCT AND PERIPHERY OF OPENING SHALL BE 0 INCH (0 MM, POINT CONTACT) AND MAXIMUM 1-1/2 INCH (38 MM) DUCT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY.

A. SPIRAL WOUND HVAC DUCT - NOMINAL 20 INCH (508 MM) DIAMETER (OR SMALLER) NO. 24 MSG (OR HEAVIER) GALV STEEL SPIRAL WOUND DUCT.

B. SHEET METAL DUCT - NOMINAL 12 INCH (305 MM) DIAMETER (OR SMALLER) NO. 28 MSG (OR HEAVIER) GALVANIZED SHEET STEEL DUCT.

3. FILL VOID OR CAVITY MATERIAL - SEALANT - MINIMUM 5/8 INCH (16 MM) AND 1-1/4 INCH (32 MM) THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS. FLUSH WITH BOTH SURFACES OF WALL ASSEMBLY FOR 1 OR 2-HOUR RATED WALLS, RESPECTIVELY. AT THE POINT CONTACT LOCATION BETWEEN DUCT AND WALLBOARD, A MINIMUM 1/2 INCH (13 MM) DIAMETER BEAD OF SEALANT SHALL BE APPLIED AT THE WALLBOARD/DUCT INTERFACE ON BOTH SURFACES OF WALL ASSEMBLY.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - CP815 ELASTOMERIC FIRESTOP SEALANT, FS-ONE SEALANT, FS-ONE MAX INTUMESCENT SEALANT OR CP606 FLEXIBLE FIRESTOP SEALANT

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

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REVISE AND UPDATE ALL FIRE JOINT PENETRATION DETAILS PER THEIR LATEST ASSEMBLIES

SYSTEM NO. W-L-5028

ANSIUL1479 (ASTM E814)	CANULC S115
F RATINGS - 1 AND 2-HOUR (SEE ITEM 1)	F RATINGS - 1 AND 2-HOUR (SEE ITEM 1)
T RATINGS - 0-HOUR	FT RATINGS - 0-HOUR
L RATING AT AMBIENT - LESS THAN 1 CFM/50 FT	FT RATINGS - 1 AND 2-HOUR (SEE ITEM 1)
L RATING AT 400 F - LESS THAN 1 CFM/50 FT	FT RATINGS - 0-HOUR
	L RATING AT AMBIENT - LESS THAN 1 CFM/50 FT
	L RATING AT 400 F - LESS THAN 1 CFM/50 FT

1. WALL ASSEMBLY - THE 1 OR 2-HOUR FIRE-RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300, U400, U400 OR W400 SERIES WALL OR PARTITION DESIGN IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

A. STUDS - WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOMINAL 2 X 4 INCH (51 X 102 MM) LUMBER SPACED 16 INCH (406 MM) ON CENTER. STEEL STUDS TO BE MINIMUM 2-1/2 INCH (64 MM) WIDE AND SPACED MAXIMUM 24 INCH (610 MM) ON CENTER.

B. GYPSUM WALLBOARD - 5/8 INCH (16 MM) THICK, 4 FOOT (1220 MM) WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM WALLBOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL WALL AND PARTITION DESIGN. MAXIMUM DIAMETER OF OPENING IS 7-1/2 INCH (191 MM). THE HOURLY F AND FH RATINGS OF THE FIRESTOP SYSTEM ARE EQUAL TO THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED.

2. THROUGH PENETRANT - ONE METALLIC PIPE OR TUBING TO BE CENTERED WITHIN THE FIRESTOP SYSTEM. PIPE OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES OR TUBING MAY BE USED:

A. STEEL PIPE - NOMINAL 4 INCH (102 MM) DIAMETER (OR SMALLER) SCHEDULE 40 (OR HEAVIER) STEEL PIPE.

B. COPPER TUBING - NOMINAL 2 INCH (51 MM) DIAMETER (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.

C. COPPER PIPE - NOMINAL 2 INCH (51 MM) DIAMETER (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.

3. FILL VOID OR CAVITY MATERIAL - SEALANT - MINIMUM 5/8 INCH (16 MM) THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS. FLUSH WITH BOTH SURFACES OF WALL. AT THE POINT CONTACT LOCATION BETWEEN PIPE COVERING AND GYPSUM WALLBOARD, A MINIMUM 1/2 INCH (13 MM) DIAMETER BEAD OF FILL MATERIAL SHALL BE APPLIED AT THE PIPE COVERING/GYPSUM BOARD INTERFACE ON BOTH SURFACES OF WALL.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - FS-ONE SEALANT OR FS-ONE MAX INTUMESCENT SEALANT

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

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System No. W-L-7155

ANSIUL1479 (ASTM E814)	CANULC S115
F RATINGS - 1 AND 2-HOUR (SEE ITEM 1)	F RATINGS - 1 AND 2-HOUR (SEE ITEM 1)
T RATINGS - 0-HOUR	FT RATINGS - 0-HOUR
L RATING AT AMBIENT - LESS THAN 1 CFM/50 FT	FT RATINGS - 1 AND 2-HOUR (SEE ITEM 1)
L RATING AT 400 F - LESS THAN 1 CFM/50 FT	FT RATINGS - 0-HOUR
	L RATING AT AMBIENT - LESS THAN 1 CFM/50 FT
	L RATING AT 400 F - LESS THAN 1 CFM/50 FT

SYSTEM NO. W-L-7155

A. THROUGH-PENETRATING PRODUCT* - AS AN ALTERNATE TO ITEM 2, FIBER CEMENT WITH GALVANIZED STEEL FACING, 3/8 INCH (10 MM) THICK COMPOSITE METALLIC DUCT, WITH A MAXIMUM CROSS-SECTIONAL AREA OF 43.0 SQUARE FOOT (4 M) AND A MAXIMUM INDIVIDUAL DIMENSION OF 78.34 INCH (2 M). DUCT TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM SUCH THAT THE ANNULAR SPACE IS MINIMUM 0 INCH (POINT CONTACT) TO MAXIMUM 2 IN. (51 MM). DUCT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. REFER TO VENTILATION DUCT ASSEMBLIES IN VOLUME 2 OF THE FIRE RESISTANCE DIRECTORY.

B. THROUGH-PENETRATING PRODUCT* - TYPE DURADUCT HP.

DURASTAYS BARRIERS INC. - TYPE DURADUCT HP.

C. THROUGH-PENETRATING PRODUCT* - AS AN ALTERNATE TO ITEM 2, FIBER CEMENT WITH GALVANIZED STEEL FACING, 1/4 INCH (6 MM) THICK, WITH A MAXIMUM CROSS-SECTIONAL AREA OF 1764 SQUARE INCH (1.14 M²), AND A MAXIMUM INDIVIDUAL DIMENSION OF 42 INCH (1067 MM). DUCT TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM SUCH THAT THE ANNULAR SPACE IS MINIMUM 0 INCH (POINT CONTACT) TO MAXIMUM 2 INCH (51 MM). DUCT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY AND INSTALLED IN ACCORDANCE. REFER TO VENTILATION DUCT ASSEMBLIES IN VOLUME 2 OF THE FIRE RESISTANCE DIRECTORY.

DURASTAYS BARRIERS INC. - TYPE DURADUCT GSK.

D. THROUGH-PENETRATING PRODUCT* - AS AN ALTERNATE TO ITEM 2, GALVANIZED STEEL FACED DUCT PANEL, WITH A MAXIMUM CROSS-SECTIONAL AREA OF 2450 SQUARE INCH (1.58 M²), AND A MAXIMUM INDIVIDUAL DIMENSION OF 48-1/2 INCH (1238 MM). DUCT TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM SUCH THAT THE ANNULAR SPACE IS MINIMUM 0 INCH (POINT CONTACT) TO MAXIMUM 2 INCH (51 MM). DUCT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. REFER TO VENTILATION DUCT ASSEMBLIES IN VOLUME 2 OF THE FIRE RESISTANCE DIRECTORY.

FIRESTOP SYSTEM - THE FIRESTOP SYSTEM SHALL CONSIST OF THE FOLLOWING:

A. PACKING MATERIAL - (OPTIONAL, NOT SHOWN) - POLYETHYLENE BACKER ROD, MINERAL WOOL BATT INSULATION OR FIBERGLASS BATT INSULATION FITTED INTO ANNULAR SPACE. PACKING MATERIAL TO BE RECESSED FROM BOTH SURFACES OF WALL TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL.

A1. PACKING MATERIAL - REQUIRED AS SPECIFIED IN TABLE BELOW. MINIMUM 3-3/4 INCH (95 MM) OR 5 INCH (127 MM) THICKNESS OF MINIMUM 4 PCF (64 KG/M³) MINERAL WOOL BATT INSULATION FIRMLY PACKED INTO OPENING AS A PERMANENT FORM FOR 1 AND 2-HOUR RATED ASSEMBLIES, RESPECTIVELY. PACKING MATERIAL TO BE RECESSED FROM BOTH SURFACES OF WALL TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL.

B. FILL, VOID OR CAVITY MATERIAL* - SEALANT - MINIMUM 5/8 INCH (16 MM) THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH BOTH SURFACES OF WALL. MINIMUM 1/4 INCH (6 MM) DIAMETER BEAD OF FILL MATERIAL SHALL BE APPLIED AT THE POINT CONTACT LOCATION BETWEEN THE STEEL DUCT AND THE GYPSUM WALLBOARD.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - FS-ONE SEALANT, FS-ONE MAX INTUMESCENT SEALANT OR CP606 FLEXIBLE FIRESTOP SEALANT

C. STEEL RETAINING ANGLES - MINIMUM NO. 16 GAUGE GALVANIZED STEEL ANGLES SIZED TO LAP STEEL DUCT A MINIMUM OF 2 INCH (51 MM) AND TO LAP WALL SURFACES A MINIMUM OF 1 INCH (25 MM). WHEN MAXIMUM DUCT DIMENSION DOES NOT EXCEED 48 INCH (122 CM) AND DUCT AREA DOES NOT EXCEED 1300 INCH SQUARE (837 CM²), ANGLES MAY BE MINIMUM NO. 18 GAUGE GALVANIZED STEEL. ANGLES ATTACHED TO STEEL DUCT ON BOTH SIDES OF WALL, WITH MINIMUM NO. 10 X 1/2 INCH (13 MM) LONG STEEL SHEET METAL SCREWS SPACED A MAXIMUM OF 1 INCH (25 MM) FROM EACH END OF STEEL DUCT AND SPACED A MAXIMUM OF 6 INCH (152 MM) ON CENTER STEEL. ANGLES ARE OPTIONAL FOR THOSE SIDES OF DUCT THAT DO NOT EXCEED THE DIMENSION SPECIFIED IN TABLE BELOW, DEPENDENT ON PACKING MATERIAL, SEALANT AND ANNULAR SPACE AS SPECIFIED.

MAXIMUM DUCT DIMENSION	DUCT THICKNESS	ANNULAR SPACE	PACKING MATERIAL	ANGLE (ITEM 3C) REQUIRED
24 INCH (610 MM)	24 GAUGE OR HEAVIER	1/2 INCH MINIMUM TO 1 INCH MAXIMUM (13 TO 25 MM)	ITEM 3A1	NO

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

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SYSTEM NO. W-L-7156

ANSI/UL 1479 (ASTM E814) CANULC S115

F RATINGS - 1 AND 2-HOUR (SEE ITEM 1) F RATINGS - 1 AND 2-HOUR (SEE ITEM 1)

T RATING - 0-HOUR FT RATINGS - 0-HOUR

FH RATINGS - 1 AND 2-HOUR (SEE ITEM 1) FTH RATINGS - 0-HOUR

1. WALL ASSEMBLY - THE 1 OR 2-HOUR FIRE-RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300, U400, V400 OR W400 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

A. STUDS - WALL FRAMING SHALL CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOMINAL 2 X 4 INCH (51 BY 102 MM) LUMBER SPACED MAXIMUM 16 INCH (406 MM) ON CENTER. STEEL STUDS TO BE MINIMUM 3-1/2 INCH (89 MM) WIDE AND SPACED MAXIMUM 24 INCH (610 MM) ON CENTER. ADDITIONAL FRAMING MEMBERS SHALL BE USED TO COMPLETELY FRAME AROUND OPENINGS.

B. GYPSUM WALLBOARD* - MINIMUM 5/8 INCH (16 MM) THICK, 4 FT (1.2 M) WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM WALLBOARD TYPE, THICKNESS, NUMBER OF LAYERS AND ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL WALL AND PARTITION DESIGN. MAXIMUM SIZE OF OPENING IS 210 SQUARE INCH (1355 CM²) WITH A MAXIMUM WIDTH OF 14-1/2 INCH (368 MM) FOR WOOD STUDS. MAXIMUM SIZE OF OPENING IS 76.2 SQUARE FOOT (7 M²) WITH A MAXIMUM WIDTH OF 105-1/2 INCH (2.7 M) FOR STEEL STUDS. THE HOURLY F AND FH RATINGS OF THE FIRESTOP SYSTEM ARE EQUAL TO THE HOURLY FIRE RATING OF THE WALL IN WHICH IT IS INSTALLED.

2. STEEL DUCT - MAXIMUM 100 X 100 INCH (25.4 X 25.4 MM) STEEL DUCT TO BE INSTALLED WITHIN THE FRAMED OPENING. THE DUCT SHALL BE CONSTRUCTED AND REINFORCED IN ACCORDANCE WITH SMACNA CONSTRUCTION STANDARDS. STEEL DUCT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY.

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

MAXIMUM DUCT DIMENSION	DUCT THICKNESS	ANNULAR SPACE	PACKING MATERIAL	ANGLE (ITEM 3C) REQUIRED
24 INCH (610 MM)	24 GAUGE OR HEAVIER	1/2 INCH MINIMUM TO 1 INCH MAXIMUM (13 TO 25 MM)	ITEM 3A1	NO

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SYSTEM NO. W-L-7156

3. BATTIS AND BLANKETS* - NOMINAL 1-1/2 OR 2 INCH (38 OR 51 MM) THICK GLASS FIBER BATT OR BLANKET (MINIMUM 3/4 PCF OR 12 KG/M³) JACKED ON THE OUTSIDE WITH A FOIL-SOLIM-KRAFT FACING. LONGITUDINAL AND TRANSVERSE JOINTS SEALED WITH ALUMINUM FOIL TAPE. DURING THE INSTALLATION OF THE FILL MATERIAL, THE BATT OR BLANKET SHALL BE COMPRESSED MINIMUM 50% SUCH THAT THE ANNULAR SPACE WITHIN THE FIRESTOP SYSTEM SHALL BE MINIMUM 1/2 INCH (13 MM) TO MAXIMUM 2 INCH (51 MM). SEE BATTIS AND BLANKETS (B/KNV) CATEGORY IN THE BUILDING MATERIALS DIRECTORY FOR NAMES OF MANUFACTURERS. ANY BATT OR BLANKET MEETING THE ABOVE SPECIFICATIONS AND BEARING THE UL CLASSIFICATION MARKING WITH A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS MAY BE USED.

FIRESTOP SYSTEM - THE FIRESTOP SYSTEM SHALL CONSIST OF THE FOLLOWING:

A. PACKING MATERIAL - MINIMUM 3-3/8 INCH (92 MM) OR 4-7/8 INCH (124 MM) THICKNESS OF MINIMUM 4 PCF (64 KG/M³) MINERAL WOOL BATT INSULATION FIRMLY PACKED INTO OPENING AS A PERMANENT FORM FOR 1 OR 2-HOUR FIRE-RATED WALLS, RESPECTIVELY. PACKING MATERIAL TO BE RECESSED FROM BOTH SURFACES OF WALL TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL.

B. FILL, VOID OR CAVITY MATERIAL* - SEALANT - MINIMUM 5/8 INCH (16 MM) THICKNESS OF FILL MATERIAL APPLIED WITHIN ANNULUS, FLUSH WITH BOTH SURFACES OF WALL.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - FS-ONE SEALANT OR FS-ONE MAX INTUMESCENT SEALANT

C. STEEL RETAINING ANGLES - MINIMUM NO. 16 GAUGE (0.059 IN. OR 1.5 MM) GALVANIZED STEEL ANGLES SIZED TO LAP STEEL DUCT A MINIMUM OF 2 INCH (51 MM) AND LAP WALL SURFACES A MINIMUM OF 1 INCH (25 MM). ANGLES ATTACHED TO STEEL DUCT ON BOTH SIDES OF WALL WITH MINIMUM NO. 10 STEEL SHEET METAL SCREWS SPACED A MAXIMUM OF 1 INCH (25 MM) FROM EACH END OF STEEL DUCT AND SPACED A MAXIMUM OF 6 INCH (152 MM) ON CENTER. WHEN MAXIMUM DUCT DIMENSION DOES NOT EXCEED 48 INCH (122 CM) AND DUCT AREA DOES NOT EXCEED 1300 INCH SQUARE (837 CM²), ANGLES MAY BE MINIMUM NO. 18 GAUGE GALVANIZED STEEL. ANGLES ATTACHED TO STEEL DUCT ON BOTH SIDES OF WALL WITH MINIMUM NO. 10 BY 1/2 INCH (13 MM) LONG STEEL SHEET METAL SCREWS SPACED A MAXIMUM OF 1 INCH (25 MM) FROM EACH END OF STEEL DUCT AND SPACED A MAXIMUM OF 6 INCH (152 MM) ON CENTER WHEN MAXIMUM 1-1/2 INCH (38 MM) THICK INSULATION IS USED. STEEL ANGLES ARE OPTIONAL FOR THOSE SIDES OF DUCT THAT DO NOT EXCEED THE DIMENSION SPECIFIED IN TABLE BELOW, DEPENDENT ON PACKING MATERIAL AND ANNULAR SPACE AS SPECIFIED.

MAXIMUM DUCT DIMENSION	DUCT THICKNESS	ANNULAR SPACE	PACKING MATERIAL	ANGLE (ITEM 3C) REQUIRED
24 INCH (610 MM)	24 GAUGE OR HEAVIER	1/2 INCH MINIMUM TO 1 INCH MAXIMUM (13 TO 25 MM)	ITEM 3A1	NO

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

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SYSTEM NO. W-L-8079

ANSI/UL 1479 (ASTM E814) CANULC S115

F RATINGS - 1 AND 2-HOUR (SEE ITEM 1) F RATINGS - 1 AND 2-HOUR (SEE ITEM 1)

T RATINGS - 0, 1/2, 3/4, 1-1/2, AND 2-HOUR (SEE ITEMS 1, 2, 3 AND 4) FT RATINGS - 0, 1/2, 3/4, 1-1/2, AND 2-HOUR (SEE ITEMS 1, 2, 3 AND 4)

FH RATINGS - 1 AND 2-HOUR (SEE ITEM 1) FTH RATINGS - 0, 1/2, 3/4, 1-1/2, AND 2-HOUR (SEE ITEMS 1, 2, 3 AND 4)

1. WALL ASSEMBLY - THE 1 OR 2-HOUR FIRE RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300, U400, V400 OR W400 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

A. STUDS - WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR CHANNEL SHAPED STEEL STUDS. WOOD STUDS TO CONSIST OF NOMINAL 2 X 4 INCH (51 X 102 MM) LUMBER SPACED MAXIMUM 16 INCH (406 MM) ON CENTER. STEEL STUDS TO BE MINIMUM 3-1/2 INCH (89 MM) WIDE AND SPACED MAXIMUM 24 INCH (610 MM) ON CENTER. WHEN ITEM 3A1 IS NOT USED, ADDITIONAL FRAMING MEMBERS (NOT SHOWN) SHALL BE INSTALLED TO FRAME THE PERIPHERY OF THE WALL OPENING. WHEN THE ADDITIONAL FRAMING MEMBERS ARE USED TO FRAME THE OPENING, THE HOURLY F AND FH RATINGS OF THE FIRESTOP SYSTEM ARE 0-HOUR.

B. GYPSUM WALLBOARD* - 5/8 INCH (16 MM) THICK WITH SQUARE OR TAPERED EDGES. THE GYPSUM WALLBOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL U300, U400 OR W400 WALL AND PARTITION DESIGN. IF THE THROUGH PENETRANTS ARE INSTALLED IN A WOOD STUD/GYPSUM WALLBOARD ASSEMBLY, THE MAXIMUM AREA OF SQUARE, RECTANGULAR, OR CIRCULAR OPENING IS 210 SQUARE INCH (1355 CM²) WITH MAXIMUM DIMENSION OF 14-1/2 INCH (368 MM). IF THE THROUGH PENETRANTS ARE INSTALLED IN A STEEL STUD/GYPSUM WALLBOARD ASSEMBLY, MAXIMUM AREA OF SQUARE, RECTANGULAR, OR CIRCULAR OPENING IS 240 SQUARE INCH (1548 CM²) WITH MAXIMUM DIMENSION OF 20 INCH (508 MM) WIDE. THE HOURLY F AND FH RATINGS OF THE FIRESTOP SYSTEM ARE EQUAL TO THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED.

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

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SYSTEM NO. W-L-8079

2. THROUGH-PENETRANT - ONE OR MORE PIPES, CONDUIT OR TUBES TO BE INSTALLED WITHIN THE OPENING. THE TOTAL NUMBER OF THROUGH-PENETRANTS IS DEPENDENT ON THE SIZE OF THE OPENING AND THE TYPES AND SIZES OF THE PENETRANTS. ANY COMBINATION OF THE PENETRANTS DESCRIBED BELOW MAY BE USED PROVIDED THAT THE FOLLOWING PARAMETERS RELATIVE TO THE ANNULAR SPACE AND THE SPACING BETWEEN THE THROUGH PENETRANTS ARE MAINTAINED. THE SEPARATION BETWEEN THE PENETRANTS SHALL BE MINIMUM 1 INCH (25 MM) TO MAXIMUM 20 INCH (508 MM). THE ANNULAR SPACE BETWEEN PENETRANTS AND THE PERIPHERY OF THE OPENING SHALL BE MINIMUM 0 INCH (POINT CONTACT) TO MAXIMUM 20 INCH (508 MM). PIPES, CONDUIT OR TUBES TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF PIPES, CONDUIT OR TUBES MAY BE USED:

A. COPPER TUBING - NOMINAL 3 INCH (76 MM) DIA. (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBE.

B. COPPER PIPE - NOMINAL 3 INCH (76 MM) DIA. (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.

C. STEEL PIPE - NOMINAL 4 INCH (102 MM) DIA. (OR SMALLER) SCHEDULE 10 (OR HEAVIER) OR STEEL PIPE.

D. IRON PIPE - NOMINAL 4 INCH (102 MM) DIA. (OR SMALLER) CAST OR DUCTILE IRON PIPE.

E. CONDUIT - NOMINAL 3 INCH (76 MM) DIA. (OR SMALLER) ELECTRIC METALLIC TUBING (EMT) OR RIGID STEEL CONDUIT.

F. POLYVINYL CHLORIDE (PVC) PIPE - NOMINAL 2 INCH (51 MM) DIAMETER, (OR SMALLER) SCHEDULE 40 CELLULAR OR SOLID CORE PVC PIPE FOR USE IN ABOVE GROUND (PROCESS OR SUPPLY) OR VENTED (DRAIN, WASTE, OR VENT) PIPING SYSTEMS.

G. CHLORINATED POLYETHYLENE (CPVC) PIPE - NOMINAL 2 INCH (51 MM) DIAMETER, (OR SMALLER) SDR 15.5 CPVC PIPE FOR USE IN CLOSED (PROCESS OR SUPPLY) PIPING SYSTEMS.

THE T, FT AND FTH RATINGS ARE 0-HOUR IF BARE PIPE AND TUBING IS USED.

3. PIPE INSULATION - ONE OR MORE METALLIC PENETRANTS (PIPE OR TUBING) MAY BE INSULATED WITH THE FOLLOWING TYPES OF PIPE INSULATION:

A. PIPE INSULATION* - MINIMUM 1 INCH (25 MM) TO MAXIMUM 2 INCH (51 MM) THICK HOLLOW CYLINDRICAL HEAVY DENSITY MINERAL WOOL (3.5 PCF (56 KG/M³)) GLASS FIBER UNITS JACKED ON THE OUTSIDE WITH AN ALL SERVICE JACKET. LONGITUDINAL JOINTS SEALED WITH METAL FASTENERS OR FACTORY APPLIED SELF-SEALING LAP TAPE. TRANSVERSE JOINTS SECURED WITH METAL FASTENERS OR WITH BUTT TAPE SUPPLIED WITH THE PRODUCT. SEE PIPE AND EQUIPMENT COVERING MATERIALS IN THE BUILDING MATERIALS DIRECTORY FOR NAMES OF MANUFACTURERS. ANY PIPE COVERING MATERIAL MEETING THE ABOVE SPECIFICATIONS AND BEARING THE UL CLASSIFICATION MARKING WITH A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR LESS MAY BE USED.

B. TUBE INSULATION-PLASTICS* - MINIMUM 1/2 INCH (13 MM) TO MAXIMUM 3/4 INCH (19 MM) THICK ACRYLONITRILE BUTADIENE/POLYVINYL CHLORIDE (ABS/PVC) FLEXIBLE FOAM LINED IN THE FORM OF TUBING. SEE PLASTICS (Q/ZZZ) CATEGORY IN THE PLASTICS RECOGNIZED COMPONENT DIRECTORY FOR NAMES OF MANUFACTURERS. ANY RECOGNIZED COMPONENT TUBE INSULATION MATERIAL MEETING THE ABOVE SPECIFICATIONS AND HAVING A UL 94 FLAMMABILITY CLASSIFICATION OF 94-0VA MAY BE USED.

THE ANNULAR SPACE BETWEEN THE INSULATED PENETRANTS AND THE PERIPHERY OF THE OPENING SHALL BE MINIMUM 0 INCH (0 MM) (POINT CONTACT). THE SEPARATION BETWEEN THE INSULATED PENETRANTS AND THE OTHER PENETRANTS SHALL BE A MINIMUM 1 INCH (25 MM).

THE T, FT AND FTH RATINGS ARE 1-1/2 HOUR IF ITEM 3B IS USED. THE T, FT AND FTH RATINGS ARE 2-HOUR IF ITEM 3A IS USED.

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

BEARING THE UL LISTING MARK

BEARING THE UL RECOGNIZED COMPONENT MARK

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SYSTEM NO. W-L-8079

4. CABLES - ONE MAXIMUM 3 INCH (76 MM) DIAMETER BUNDLE OF CABLES INSTALLED WITHIN THE OPENING AND RIGIDLY SUPPORTED ON BOTH SURFACES OF WALL. THE ANNULAR SPACE BETWEEN THE TIGHTLY BUNDLED CABLES AND THE PERIPHERY OF THE OPENING SHALL BE MINIMUM 0 INCH (POINT CONTACT) TO MAXIMUM 20 INCH (508 MM). THE SEPARATION BETWEEN THE CABLE BUNDLE AND THE OTHER PENETRANTS SHALL BE MINIMUM 1 INCH (25 MM) TO MAXIMUM 20 INCH (508 MM). ANY COMBINATION OF THE FOLLOWING TYPES AND SIZES OF CABLES MAY BE USED:

A. MAXIMUM 25 PAIR NO. 24 AWG TELEPHONE CABLE WITH POLYVINYL CHLORIDE (PVC) INSULATION AND JACKET.

B. MAXIMUM 7/0 NO. 12 AWG COPPER CONDUCTOR POWER AND CONTROL CABLE WITH PVC OR CROSS-LINKED POLYETHYLENE (XLPE) INSULATION AND PVC JACKET.

C. MULTIPLE FIBER OPTICAL COMMUNICATION CABLE JACKETED WITH PVC AND HAVING A MAXIMUM OUTSIDE DIAMETER OF 1/2 INCH (13 MM).

D. MAXIMUM 3/0 NO. 8 AWG WITH BARE ALUMINUM GROUND, PVC INSULATED STEEL METAL-CLAD CABLE CURRENTLY CLASSIFIED UNDER THE THROUGH PENETRATING PRODUCT (THLY) CATEGORY.

E. MAXIMUM 3/0 (WITH GROUND) NO. 8 AWG (OR SMALLER) NOMINALLY SHEATHED (ROMEX) CABLE WITH PVC INSULATION AND JACKET MATERIAL.

F. RGU COAXIAL CABLE WITH POLYETHYLENE (PE) INSULATION AND POLYVINYL CHLORIDE (PVC) JACKET HAVING A MAXIMUM OUTSIDE DIAMETER OF 1/2 INCH (13 MM).

G. MAXIMUM 3/4 INCH (19 MM) DIAMETER COPPER GROUND CABLE WITH OR WITHOUT PVC JACKET.

H. MAXIMUM 1-1/4 INCH (32 MM) DIAMETER SINGLE OR MULTI CONDUCTOR MINERAL-INSULATED COPPER-CLAD CABLE.

THE T, FT AND FTH RATINGS ARE 1-1/2 HOUR IF CABLES D, G AND H ARE USED. THE T, FT AND FTH RATINGS ARE 3/4 HOUR FOR ANY OTHER COMBINATION.

4A. THROUGH PENETRANTS - (NOT SHOWN) - MAXIMUM SIX NOMINAL 1 INCH (25 MM) DIAMETER (OR SMALLER) FLEXIBLE STEEL CONDUITS TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE BETWEEN THE CONDUITS AND THE PERIPHERY OF THE OPENING SHALL BE MINIMUM 0 INCH (POINT CONTACT) TO A MAXIMUM 3 INCH (76 MM). CONDUITS TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL. THE T, FT AND FTH RATINGS ARE 0-HOUR IF THIS PENETRANT IS USED.

4B. THROUGH PENETRANTS - (NOT SHOWN) - MAXIMUM TWELVE NOMINAL 3/8 INCH (10 MM) DIAMETER (OR SMALLER) POLYVINYL CHLORIDE (PVC) PNEUMATIC TUBING FOR USE IN CLOSED (PROCESS OR SUPPLY) PIPING SYSTEMS. TUBING TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE BETWEEN THE TUBING AND THE PERIPHERY OF THE OPENING SHALL BE MINIMUM 0 INCH (POINT CONTACT) TO A MAXIMUM 1 INCH (25 MM). TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL.

5. FIRESTOP SYSTEM - THE FIRESTOP SYSTEM SHALL CONSIST OF THE FOLLOWING:

A. PACKING MATERIAL - IN 2-HOUR FIRE RATED WALL ASSEMBLIES, MINIMUM 4-3/4 INCH (121 MM) THICKNESS OF MINIMUM 4 PCF (64 KG/M³) MINERAL WOOL BATT INSULATION FIRMLY PACKED INTO OPENING AS A PERMANENT FORM. IN 1-HOUR FIRE RATED WALL ASSEMBLIES, MINIMUM 3-1/2 INCH (89 MM) THICKNESS OF MINIMUM 4 PCF (64 KG/M³) MINERAL WOOL BATT INSULATION FIRMLY PACKED INTO OPENING AS A PERMANENT FORM. PACKING MATERIAL RECESSED FROM BOTH SURFACES OF THE WALL TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL.

A1. PACKING MATERIAL - MINIMUM 1-1/4 INCH (32 MM) THICKNESS OF MINIMUM 4 PCF (64 KG/M³) MINERAL WOOL BATT INSULATION FIRMLY PACKED AS A BACKER AROUND THE PERIMETER OF OPENING AS A PERMANENT FORM. WHEN ADDITIONAL FRAMING MEMBERS ARE USED TO FRAME THE OPENING (SEE ITEM 4A), THIS PACKING MATERIAL IS OPTIONAL. PACKING MATERIAL CAN BE USED IN COMBINATION WITH THE ADDITIONAL FRAMING MEMBERS.

B. FILL, VOID OR CAVITY MATERIAL* - SEALANT - MINIMUM 5/8 INCH (16 MM) THICKNESS OF FILL MATERIAL APPLIED WITHIN ANNULUS, FLUSH WITH BOTH SURFACES OF WALL. AT THE POINT CONTACT LOCATION BETWEEN THROUGH PENETRANTS AND GYPSUM WALLBOARD, A MINIMUM 1/2 INCH (13 MM) DIAMETER BEAD OF FILL MATERIAL SHALL BE APPLIED AT THE GYPSUM WALLBOARD/THROUGH PENETRANT INTERFACE ON BOTH SURFACES OF WALL.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - FS-ONE SEALANT OR FS-ONE MAX INTUMESCENT SEALANT

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

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SYSTEM NO. W-L-8079

REVISION AND UPDATE ALL FIRE JOINT PENETRATION DETAILS PER THEIR LATEST ASSEMBLIES

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Project Name 1
Project Name 2

Street Address
City, state

Office of Rich Barber Architecture, LLC

ORB

WorldHQ@ORBArch.com

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ADVANCE RESIDUAL COMPANY
LEGACY HOSPITALITY

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REVISIONS/ SUBMITTALS	DATE	DESCRIPTION
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DATE: July 17, 2024 ORB #: 00-000

A7.2.25

FIRE JOINTS - GYPSUM WALLS

CLASSIFIED
UL
Classified by Underwriters Laboratories, Inc. UL 1479 and CANULC S115

System No. W-J-3215

ANSI/UL1479 (ASTM E814)	CANULC S115
F RATING - 2-HOUR	F RATING - 2-HOUR
T RATINGS - 1/2 AND 2-HOUR (SEE ITEM 2)	FT RATINGS - 1/2 AND 2-HOUR (SEE ITEM 2)
L RATINGS AT AMBIENT - LESS THAN 1 CFM/OPENING	FH RATING - 2-HOUR
L RATING AT 400 F - LESS THAN 1 CFM/OPENING	FTH RATINGS - 1/2 AND 2-HOUR (SEE ITEM 2)
	L RATINGS AT 400 F - LESS THAN 1 CFM/OPENING

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CLASSIFIED
UL
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SYSTEM NO. C-AJ-2220

F RATING - 3-HOUR
T RATING - 0-HOUR

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CLASSIFIED
UL
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SYSTEM NO. F-A-5018

ANSI/UL1479 (ASTM E814)	CANULC S115
F RATING - 3-HOUR	F RATING - 3-HOUR
T RATING - 1-3/4, 2, 2-1/2, 2-3/4, AND 3-HOUR (SEE ITEM 3)	FT RATING - 1-3/4, 2, 2-1/2, 2-3/4, AND 3-HOUR (SEE ITEM 3)
	FH RATING - 3-HOUR
	FTH RATING - 1-3/4, 2, 2-1/2, 2-3/4, AND 3-HOUR (SEE ITEM 3)

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CLASSIFIED
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SYSTEM NO. W-J-3215

1. **WALL ASSEMBLY** - MINIMUM 6 INCH (152 MM) THICK LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF OR 1600-2400 KG/M3) CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS. OPENING MAY BE ROUND, RECTANGULAR OR IRREGULAR WITH A MAXIMUM DIAMETER OR DIMENSION OF 1 INCH (25 MM). SEE CONCRETE BLOCKS (CAZT) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.

2. **CABLES** - SINGLE OR TIGHT BUNDLE OF CABLES TO BE INSTALLED WITHIN THE OPENING. AGGREGATE CROSS-SECTIONAL AREA OF CABLES IN OPENING TO HAVE A VISUAL FILL OF MINIMUM 9% TO MAXIMUM 100%. THE ANNULAR SPACE BETWEEN THE CABLE BUNDLE AND THE PERIPHERY OF THE OPENING TO BE MINIMUM 0 INCH (POINT CONTACT). CABLES TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF THE WALL ASSEMBLY. ANY COMBINATION OF THE FOLLOWING TYPES AND SIZES OF CABLES MAY BE USED:
 A. MAXIMUM 3/8 IN. 8 AWG NM COPPER CONDUCTOR CABLE (ROMEX) WITH PVC INSULATION AND JACKET
 B. MAXIMUM 7/16 IN. 12 AWG COPPER CONDUCTOR CONTROL CABLE WITH PVC OR XLPE INSULATION AND JACKET
 C. MAXIMUM 1/2 IN. 24 AWG (OR SMALLER) COPPER CONDUCTOR TELECOMMUNICATION CABLE WITH PVC OR PLENUM RATED INSULATION AND JACKETING
 D. MAXIMUM 4 PR NO. 22 AWG (OR SMALLER) CAT 5 OR CAT 6 COMPUTER CABLES WITH PVC OR PLENUM RATED INSULATION AND JACKETING
 E. TYPE RGU COAXIAL CABLE WITH FLUORINATED ETHYLENE OR PVC INSULATION AND JACKETING HAVING A MAXIMUM OUTSIDE DIAMETER OF 1/2 INCH (13 MM)
 F. MAXIMUM 24 FIBER OPTIC CABLE WITH POLYVINYL CHLORIDE (PVC) OR POLYETHYLENE (PE) JACKET AND INSULATION
 G. THROUGH PENETRATING PRODUCT - MAXIMUM TWO COPPER CONDUCTOR NO. 18 AWG (OR SMALLER) POWER OR NON-POWER LIMITED FIRE ALARM CABLE WITH OR WITHOUT A JACKET UNDER A METAL ARMOR
 H. TYPE RGS COAXIAL CABLE WITH FLUORINATED ETHYLENE OR PVC INSULATION AND JACKETING HAVING A MAXIMUM OUTSIDE DIAMETER OF 1/2 INCH (13 MM)
 I. MAXIMUM 24 FIBER OPTIC CABLE WITH POLYVINYL CHLORIDE (PVC) OR POLYETHYLENE (PE) JACKET AND INSULATION
 J. THROUGH PENETRATING PRODUCT - MAXIMUM TWO COPPER CONDUCTOR NO. 18 AWG (OR SMALLER) POWER OR NON-POWER LIMITED FIRE ALARM CABLE WITH OR WITHOUT A JACKET UNDER A METAL ARMOR
 K. TYPE RGS COAXIAL CABLE WITH FLUORINATED ETHYLENE OR PVC INSULATION AND JACKETING HAVING A MAXIMUM OUTSIDE DIAMETER OF 1/2 INCH (13 MM)
 L. MAXIMUM 24 FIBER OPTIC CABLE WITH POLYVINYL CHLORIDE (PVC) OR POLYETHYLENE (PE) JACKET AND INSULATION
 M. THROUGH PENETRATING PRODUCT - MAXIMUM TWO COPPER CONDUCTOR NO. 18 AWG (OR SMALLER) POWER OR NON-POWER LIMITED FIRE ALARM CABLE WITH OR WITHOUT A JACKET UNDER A METAL ARMOR

3. **FILL, VOID OR CAVITY MATERIAL** - NOMINAL 60 MM DIAMETER BY 3 MM THICK PUTTY DISC WITH ONE SEAM AT RADIUS. PAPER-BACKER OF DISC TO BE REMOVED AND DISC FIRMLY PRESSED AROUND THE CABLE/CABLE BUNDLE LAPPING NOMINAL 5 MM ONTO CABLES TO COMPLETELY COVER OPENING AND FIRMLY PRESSED TO LAP ONTO THE WALL AROUND PERIPHERY OF OPENING. DISC SEAM TO BE FIRMLY PRESSED AND SEALED TIGHT. DISC TO BE INSTALLED AT BOTH SURFACES OF WALL.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC - CFS-D 1" FIRESTOP CABLE DISC

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

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CLASSIFIED
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ENGINEERING JUDGEMENT FIRESTOP DETAIL

PROJECT: AURA UPTOWN
ARCHITECT: ORB ARCHITECTURE
F RATING = 2 HR. (SEE NOTE NO. 3 BELOW)

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SYSTEM NO. WW-D-0068

ASSEMBLY RATING - 1 AND 2 HOUR (SEE ITEM 1)
NOMINAL JOINT WIDTH - 2 IN.
CLASS II MOVEMENT CAPABILITIES - 12.5% COMPRESSION OR EXTENSION

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CLASSIFIED
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SYSTEM NO. F-A-5018

1. **FLOOR ASSEMBLY** - MINIMUM 4-1/2 INCH (114 MM) THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF OR 1600-2400 KG/M3) CONCRETE.

1A. **FLOOR ASSEMBLY** - (OPTIONAL - NOT SHOWN) - THE FIRE RATED UNPROTECTED CONCRETE AND STEEL FLOOR ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL D600 SERIES DESIGNS IN THE FIRE RESISTANCE DIRECTORY AND AS SUMMARIZED BELOW:
 A. **STEEL FLOOR AND FORM UNITS** - COMPOSITE OR NON-COMPOSITE MAXIMUM 3 INCH (76 MM) DEEP GALVANIZED STEEL FLUTED UNITS AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN.
 B. **CONCRETE** - MINIMUM 4-1/2 INCH (114 MM) THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF OR 1600-2400 KG/M3) CONCRETE.

2. **FIRESTOP DEVICE** - CAST-IN-PLACE FIRESTOP DEVICE PERMANENTLY EMBEDDED DURING CONCRETE PLACEMENT OR GROUTED IN CONCRETE FLOOR ASSEMBLY IN ACCORDANCE WITH ACCOMPANYING INSTALLATION INSTRUCTIONS WITH A MAXIMUM 1/8 INCH (3 MM) PROJECTION ABOVE THE TOP SURFACE OF THE CONCRETE.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC - CP 680-75/2.5N, CP 680-1104/4N, CP 680-1606/7N, CP 682-75/2.5", CP 682-1104", CP 680-M 2", CP 680-M 3", CP 680-M 4", CP 680-M 5", CP 680-P 2", CP 680-P 3", CP 680-P 4", CP 680-P 5", CP 680-P 6", CP 680-P 7", CP 680-P 8", CP 680-P 9", CP 680-P 10", CP 680-P 11", CP 680-P 12", CP 680-P 13", CP 680-P 14", CP 680-P 15", CP 680-P 16", CP 680-P 17", CP 680-P 18", CP 680-P 19", CP 680-P 20", CP 680-P 21", CP 680-P 22", CP 680-P 23", CP 680-P 24", CP 680-P 25", CP 680-P 26", CP 680-P 27", CP 680-P 28", CP 680-P 29", CP 680-P 30", CP 680-P 31", CP 680-P 32", CP 680-P 33", CP 680-P 34", CP 680-P 35", CP 680-P 36", CP 680-P 37", CP 680-P 38", CP 680-P 39", CP 680-P 40", CP 680-P 41", CP 680-P 42", CP 680-P 43", CP 680-P 44", CP 680-P 45", CP 680-P 46", CP 680-P 47", CP 680-P 48", CP 680-P 49", CP 680-P 50", CP 680-P 51", CP 680-P 52", CP 680-P 53", CP 680-P 54", CP 680-P 55", CP 680-P 56", CP 680-P 57", CP 680-P 58", CP 680-P 59", CP 680-P 60", CP 680-P 61", CP 680-P 62", CP 680-P 63", CP 680-P 64", CP 680-P 65", CP 680-P 66", CP 680-P 67", CP 680-P 68", CP 680-P 69", CP 680-P 70", CP 680-P 71", CP 680-P 72", CP 680-P 73", CP 680-P 74", CP 680-P 75", CP 680-P 76", CP 680-P 77", CP 680-P 78", CP 680-P 79", CP 680-P 80", CP 680-P 81", CP 680-P 82", CP 680-P 83", CP 680-P 84", CP 680-P 85", CP 680-P 86", CP 680-P 87", CP 680-P 88", CP 680-P 89", CP 680-P 90", CP 680-P 91", CP 680-P 92", CP 680-P 93", CP 680-P 94", CP 680-P 95", CP 680-P 96", CP 680-P 97", CP 680-P 98", CP 680-P 99", CP 680-P 100", CP 680-P 101", CP 680-P 102", CP 680-P 103", CP 680-P 104", CP 680-P 105", CP 680-P 106", CP 680-P 107", CP 680-P 108", CP 680-P 109", CP 680-P 110", CP 680-P 111", CP 680-P 112", CP 680-P 113", CP 680-P 114", CP 680-P 115", CP 680-P 116", CP 680-P 117", CP 680-P 118", CP 680-P 119", CP 680-P 120", CP 680-P 121", CP 680-P 122", CP 680-P 123", CP 680-P 124", CP 680-P 125", CP 680-P 126", CP 680-P 127", CP 680-P 128", CP 680-P 129", CP 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REVISE AND UPDATE ALL FIRE JOINT PENETRATION DETAILS PER THEIR LATEST ASSEMBLIES

REVISE AND UPDATE ALL FIRE JOINT PENETRATION DETAILS PER THEIR LATEST ASSEMBLIES

AN

ENGINEERING JUDGEMENT FIRESTOP DETAIL

PROJECT:
ARCHITECT: ORB ARCHITECTURE
F-RATING # 2 HOUR (SEE NOTE NO. 3 BELOW)

CROSS-SECTIONAL VIEW

1. CONCRETE TEE DECK ASSEMBLY (MINIMUM 2'-1/2" THICK) WITH UL CLASSIFIED CEMENTITIOUS FIREPROOFING INSTALLED PER MANUFACTURER'S INSTRUCTIONS AND APPLIED TO A THICKNESS REQUIRED BY MANUFACTURER TO ACHIEVE A 2HR FIRE RATING.
2. CONCRETE BLOCK WALL ASSEMBLY OR CONCRETE WALL ASSEMBLY (UL/ULC CLASSIFIED) (MINIMUM 6" THICK) (2HR FIRE RATING)
3. MINIMUM 4" THICKNESS MINERAL WOOL SAFFING (MIN. 4 PCF DENSITY) COMPRESSED 50% FLUSH WITH ACCESSIBLE SIDE OF WALL
4. MINIMUM 2" THICKNESS MINERAL WOOL SAFFING (MIN. 4 PCF DENSITY) COMPRESSED 50% FLUSH WITH NON-ACCESSIBLE SIDE OF WALL
5. MINIMUM 1/8" (WEI) THICKNESS HILTI QSS-SP WB FIRESTOP JOINT SPRAY TO COMPLETELY COVER MINERAL WOOL, OVERLAPPING MINIMUM ONTO ADJACENT ASSEMBLIES, AND 2" ONTO FIREPROOFING.

NOTE:
1. MAXIMUM WIDTH OF JOINT = 5"
2. F-RATING MAY NOT EQUAL F-RATING IN ACCORDANCE WITH UL 2079
3. FIRE-RATING OF ASSEMBLY IS DEPENDENT UPON THE PERFORMANCE OF FLOOR ASSEMBLY UNDER FIRE CONDITIONS

1. THIS ENGINEERING JUDGEMENT REPRESENTS A FIRESTOP SYSTEM THAT WOULD BE EXPECTED TO PASS THE STATED RATINGS IF TESTED. (REFERENCE: UL/ULC SYSTEM NO. HW-D-1058 & HW-D-0286)

HILTI
Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. January 09, 2015

Project Name 1
Project Name 2

Street Address
City, state



WorldHQ@ORBArch.com

PRELIMINARY
NOT FOR
CONSTRUCTION



Contractor must verify all dimensions of project before proceeding with this work. Do not reproduce these drawings and specifications without the expressed written permission of the Architect. The drawings and specifications are instruments of service and shall remain the property of the Architect whether the project for which they are made is executed or not. These drawings and specifications shall not be used by anyone on any other projects, for additions to this project, or for completion of this project by others except by the expressed written permission of the Architect.

Notice of alternate billing (or payment) cycle
This contract states (may allow) the owner to require the submission of bills or estimates in billing cycles other than thirty days. (This contract may allow the owner to make payment on some alternative schedule after verification and approval of bills or estimates). A written description of such other billing (and/or) cycle applicable to the project is available from the owner or the owner's designated agent at:
ALLIANCE RESIDENTIAL COMPANY
2525 E. CAMELBACK RD., SUITE 500, PHOENIX, AZ 85016
(602) 778-2822
and the owner or his designated agent shall provide this written description of payment.

REVISIONS/SUBMITTALS
DATE DESCRIPTION

DATE: July 17, 2024 ORB #: 00-000

A7.2.27

FIRE JOINTS - CONCRETE OR CMU

WALL OPENING PROTECTIVE MATERIALS (CLIV, CLIV7)

CP617 OR CFS-P PA FIRESTOP BOX INSERT

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WALL OPENING PROTECTIVE MATERIALS (CLIV, CLIV7)

CP617 OR CFS-P PA FIRESTOP BOX INSERT

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WALL OPENING PROTECTIVE MATERIALS (CLIV, CLIV7)

CP 617 OR CFS-P PA FIRESTOP PUTTY PADS. FOR USE WITH FLUSH DEVICE UL LISTED METALLIC OUTLET BOXES INSTALLED WITH STEEL MUD RINGS OR UL LISTED NON-METALLIC OUTLET BOXES AS SPECIFIED BELOW. WHEN PROTECTIVE MATERIAL IS USED ON OUTLET BOXES ON BOTH SIDES OF THE WALL AS DIRECTED, THE HORIZONTAL SEPARATION BETWEEN OUTLET BOXES ON OPPOSITE SIDES OF THE WALL MAY BE LESS THAN 24 INCH PROVIDED THAT THE BOXES ARE NOT INSTALLED BACK-TO-BACK (UNLESS OTHERWISE INDICATED). INSTALLATION SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE (NEPA 70), MINIMUM 1/8 INCH THICK (CP 617) OR MINIMUM 0.2 INCH (CFS-P PA) THICK MOLDABLE PUTTY PADS ARE TO BE INSTALLED TO COMPLETELY COVER THE EXTERIOR SURFACES OF THE OUTLET BOX EXCEPT FOR THE SIDE OF THE OUTLET BOX AGAINST THE STUD AND CONDUIT FITTINGS/CONNECTORS AND TO COMPLETELY SEAL AGAINST THE STUD AND GYPSUM WALLBOARD IN THE WALL CAVITY UNLESS OTHERWISE NOTED BELOW. WHEN CFS-P PA IS USED, THE PUTTY PADS MAY BE INSTALLED WITH THE RELEASE LINER INTACT ON THE OUTSIDE OF THE PAD WITH THE EXCEPTION OF ANY OVERLAPS, IN WHICH CASE THE LINER IS TO BE REMOVED FROM THE BOTTOM LAYER AT THE OVERLAP LOCATION. THE BOX COMPOSITION, MAX DEVICE DIMENSIONS, HOURLY RATING, TYPE OF STUD AND TYPE OF FACELATE ARE SPECIFIED BELOW.

CP 617 OR CFS-P PA FIRESTOP PUTTY PADS. FOR USE WITH MAXIMUM 4 X 4 BY MAXIMUM 3/8 INCH FLUSH DEVICE UL LISTED METALLIC OUTLET BOXES INSTALLED WITH STEEL COVER PLATES IN 1 AND 2-HOUR. FIRE RATED GYPSUM WALLBOARD WALL ASSEMBLIES FRAMED WITH MIN 3/2 INCH DEEP WOOD OR STEEL STUDS AND CONSTRUCTED AS SPECIFIED IN THE INDIVIDUAL U300, U400 OR V400 SERIES WALL AND PARTITION DESIGNS IN THE FIRE RESISTANCE DIRECTORY.

CP 617 OR CFS-P PA FIRESTOP PUTTY PADS. FOR USE WITH MAXIMUM 4 X 4 BY MAXIMUM 2-1/8 INCH, OR MAXIMUM 4-3/8 X 4-7/8 X MAXIMUM 2-1/8 INCH, FLUSH GYPSUM WALLBOARD WOOD STUD WALL AND PARTITION DESIGN NO. IN THE FIRE RESISTANCE DIRECTORY. WHEN US41 WALL DESIGN IS USED, WALL SHALL BE SHEATHED WITH 5/8 INCH GYPSUM WALLBOARD, AND GLASS OR MINERAL FIBER BATT INSULATION SHALL BE INSTALLED IN ACCORDANCE WITH US41 DESIGN. BOXES MAY BE INSTALLED BACK-TO-BACK.

CP 617 OR CFS-P PA FIRESTOP PUTTY PADS. FOR USE WITH MAXIMUM 4 X 4 BY MAXIMUM 2-1/8 INCH FLUSH DEVICE UL LISTED METALLIC OUTLET BOXES INSTALLED WITH STEEL COVER PLATES FOR USE IN 1 AND 2-HOUR FIRE RATED GYPSUM WALLBOARD WALL ASSEMBLIES FRAMED WITH MINIMUM 3/2 INCH DEEP WOOD OR STEEL STUDS AND CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300, U400 OR V400 SERIES WALL AND PARTITION DESIGNS IN THE FIRE RESISTANCE DIRECTORY. MINIMUM 0.8 PCF DENSITY FIBERGLASS BATT INSULATION IS TO BE INSTALLED WITHIN THE WALL CAVITY REQUIRED FOR 1-HOUR FIRE RATED GYPSUM WALLBOARD WALL ASSEMBLIES AND OPTIONAL, IN 2-HOUR FIRE RATED GYPSUM WALLBOARD ASSEMBLIES.

CP 617 OR CFS-P PA FIRESTOP PUTTY PADS. FOR USE WITH MAXIMUM 4 X 3-3/4 X 3 INCH DEEP UL LISTED NON-METALLIC OUTLET BOXES MANUFACTURED BY CARLON ELECTRICAL PRODUCTS, MADE FROM POLY(VINYL CHLORIDE), AND BEARING A 2-HOUR RATING UNDER THE "OUTLET BOXES AND FITTINGS CLASSIFICATION FOR FIRE RESISTANCE" CATEGORY IN THE FIRE RESISTANCE DIRECTORY. PUTTY PADS AND BOXES FOR USE IN 1 AND 2-HOUR FIRE RATED GYPSUM WALLBOARD ASSEMBLIES, FRAMED WITH MINIMUM 3/2 INCH DEEP WOOD STUDS AND CONSTRUCTED AS SPECIFIED IN THE INDIVIDUAL U300 SERIES WALL AND PARTITION DESIGNS IN THE FIRE RESISTANCE DIRECTORY. OUTLET BOX SECURED TO WOOD STUD BY MEANS OF TWO NAILING TABS SUPPLIED WITH THE OUTLET BOX. PUTTY PADS SHALL LAP MINIMUM 1/2 INCH ONTO THE STUD AND GYPSUM WALLBOARD WITHIN THE STUD CAVITY. OUTLET BOXES INSTALLED WITH STEEL OR PLASTIC COVER PLATES.

CP 617 OR CFS-P PA FIRESTOP PUTTY PADS. FOR USE WITH MAXIMUM 4 X 4 X 2-1/8 INCH DEEP UL LISTED NON-METALLIC OUTLET BOXES MANUFACTURED BY CARLON ELECTRICAL PRODUCTS, MADE FROM POLY(VINYL CHLORIDE), AND BEARING A 2-HOUR RATING UNDER THE "OUTLET BOXES AND FITTINGS CLASSIFICATION FOR FIRE RESISTANCE" CATEGORY IN THE FIRE RESISTANCE DIRECTORY. PUTTY PADS AND BOXES FOR USE IN 1 AND 2-HOUR FIRE RATED GYPSUM WALLBOARD WALL ASSEMBLIES FRAMED WITH MINIMUM 3/2 INCH DEEP WOOD STUD WALL AND PARTITION DESIGN IN THE FIRE RESISTANCE DIRECTORY. WHEN US41 WALL DESIGN IS USED, WALL SHALL BE SHEATHED WITH 5/8 INCH GYPSUM WALLBOARD, AND GLASS OR MINERAL FIBER BATT INSULATION SHALL BE INSTALLED IN THE STUD CAVITIES IN ACCORDANCE WITH US41 DESIGN. OUTLET BOX SECURED TO WOOD STUD BY MEANS OF FASTENING TAB SUPPLIED WITH THE OUTLET BOX. PUTTY PADS SHALL LAP MINIMUM 1/2 INCH ONTO THE STUD AND GYPSUM WALLBOARD WITHIN THE STUD CAVITY. OUTLET BOXES INSTALLED WITH STEEL OR PLASTIC COVER PLATES. BOXES MAY BE INSTALLED BACK TO BACK.

CP 617 FIRESTOP PUTTY PADS. FOR USE WITH MAXIMUM 2-1/4 X 3-3/4 X 2-3/4 INCH DEEP UL LISTED NON-METALLIC OUTLET BOXES MANUFACTURED BY PASS AND SEYMORE, INC., AND BEARING A 2-HOUR RATING UNDER THE "OUTLET BOXES AND FITTINGS CLASSIFICATION FOR FIRE RESISTANCE" CATEGORY IN THE FIRE RESISTANCE DIRECTORY. PUTTY PADS AND BOXES FOR USE IN 1 AND 2-HOUR FIRE RATED GYPSUM WALLBOARD ASSEMBLIES, FRAMED WITH MINIMUM 3/2 INCH DEEP WOOD STUDS AND CONSTRUCTED AS SPECIFIED IN THE INDIVIDUAL U300 SERIES WALL AND PARTITION DESIGNS IN THE FIRE RESISTANCE DIRECTORY. OUTLET BOX SECURED TO WOOD STUD BY MEANS OF TWO NAILING TABS SUPPLIED WITH THE OUTLET BOX. PUTTY PADS SHALL LAP MINIMUM 1/2 INCH ONTO THE STUD AND GYPSUM WALLBOARD WITHIN THE STUD CAVITY. OUTLET BOXES INSTALLED WITH STEEL OR PLASTIC COVER PLATES.

CP 617 OR CFS-P PA FIRESTOP PUTTY PADS. FOR USE WITH MAXIMUM 4 X 3-3/4 X 3 INCH DEEP UL LISTED NON-METALLIC OUTLET BOXES MANUFACTURED BY ALLED MOLDED PRODUCTS, INC., MADE FROM FIBER REINFORCED THERMOPLASTIC AND BEARING A 2-HOUR RATING UNDER THE "OUTLET BOXES AND FITTINGS CLASSIFICATION FOR FIRE RESISTANCE" CATEGORY IN THE FIRE RESISTANCE DIRECTORY. PUTTY PADS AND BOXES FOR USE IN 1 AND 2-HOUR FIRE RATED GYPSUM WALLBOARD ASSEMBLIES, FRAMED WITH MINIMUM 3/2 INCH DEEP WOOD STUDS AND CONSTRUCTED AS SPECIFIED IN THE INDIVIDUAL U300 SERIES WALL AND PARTITION DESIGNS IN THE FIRE RESISTANCE DIRECTORY. OUTLET BOX SECURED TO WOOD STUD BY MEANS OF TWO NAILING TABS SUPPLIED WITH THE OUTLET BOX. PUTTY PADS SHALL LAP MINIMUM 1/2 INCH ONTO THE STUD AND GYPSUM WALLBOARD WITHIN THE STUD CAVITY. OUTLET BOXES INSTALLED WITH STEEL OR PLASTIC COVER PLATES.

CP 617 OR CFS-P PA FIRESTOP PUTTY PADS. FOR USE WITH MAXIMUM 4 X 4 X 1-1/2 INCH (102 X 102 X 38 MM) DEEP FLUSH DEVICE UL LISTED METALLIC OUTLET BOXES INSTALLED WITH STEEL MUD RINGS AND WITH STEEL OR PLASTIC FACELATES IN 1 OR 2-HOUR FIRE RATED GYPSUM WALLBOARD WALL ASSEMBLIES CONSTRUCTED WITH MINIMUM 3/2 INCH (89 MM) WOOD OR STEEL STUDS. WHEN BOTH PROTECTIVE MATERIALS ARE USED WITH OUTLET BOXES ON BOTH SIDES OF THE WALL AS DIRECTED, THE BOXES MAY BE INSTALLED BACK-TO-BACK PROVIDED THAT THE BACKS OF THE BOXES ARE MINIMUM 1/2 INCH (13 MM) APART AND PROVIDED THAT THE BOXES ARE NOT INTERCONNECTED. ADJOINING PIECES OF MOLDABLE PUTTY PADS TO BE OVERLAPPED APPROXIMATE 1/2 INCH (13 MM) AT THE SEAM. AN INSERT PAD SHALL BE INSTALLED TO COMPLETELY COVER THE BACK INSIDE SURFACE OF EACH OUTLET BOX.

CP617 OR CFS-P PA FIRESTOP BOX INSERT

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Wall Opening Protective Materials (CLIV, CLIV7)

CP 617 OR CFS-P PA FIRESTOP PUTTY PADS. FOR USE WITH MAXIMUM 4 X 4 INCH X 1-1/2 INCH DEEP FLUSH DEVICE UL LISTED METALLIC OUTLET BOXES INSTALLED WITH STEEL COVER PLATES IN 1-HOUR. FIRE RATED GYPSUM WALLBOARD WALL ASSEMBLIES FRAMED WITH MINIMUM 3/2 INCH DEEP WOOD OR STEEL STUDS AND CONSTRUCTED AS SPECIFIED IN THE INDIVIDUAL U300, U400 OR V400 SERIES WALL AND PARTITION DESIGNS IN THE FIRE RESISTANCE DIRECTORY. THE BOXES ARE INSTALLED BACK-TO-BACK WITH 5 X 4 INCH UL CLASSIFIED FIRE BLOCK, CP 657 OR CFS-BL FIRESTOP BLOCK INSTALLED IN THE CAVITY BETWEEN THE TWO

CP 617 OR CFS-P PA FIRESTOP PUTTY PADS. FOR USE WITH MAXIMUM 4 X 4 X MAXIMUM 3/2 INCH FLUSH DEVICE UL LISTED METALLIC OUTLET BOXES INSTALLED WITH STEEL COVER PLATES IN 1 AND 2-HOUR FIRE RATED GYPSUM WALLBOARD WALL ASSEMBLIES FRAMED WITH MINIMUM 5/2 INCH DEEP WOOD OR STEEL STUDS FOR 2-HOUR FIRE RATED WALLS AND MINIMUM 3/2 INCH DEEP WOOD OR STEEL STUDS FOR 1-HOUR FIRE RATED WALLS. WALLS CONSTRUCTED AS SPECIFIED IN THE INDIVIDUAL U300, U400 OR V400 SERIES WALL AND PARTITION DESIGNS IN THE FIRE RESISTANCE DIRECTORY. STUD CAVITY INSULATION IS REQUIRED AND SHALL CONSIST OF MINIMUM 5/2 INCH (2-HOUR RATED WALLS) OR MINIMUM 3-1/2 INCH (1-HOUR RATED WALLS) THICK FIBERGLASS (MINIMUM 0.8 PCF) OR MINERAL FIBER (MINIMUM 4 PCF) PUTTY PADS SHALL LAP MINIMUM 1/2 INCH ONTO THE STUD AND GYPSUM WALLBOARD WITHIN THE STUD CAVITY. WHEN BOXES ARE INTERCONNECTED BY MEANS OF ELECTRICAL METALLIC TUBE (EMT) OR CONDUIT, A BALL OF PUTTY PAD MATERIAL SHALL BE USED TO COMPLETELY PLUG THE OPEN END OF EACH EMT OR CONDUIT WITHIN THE BOX.

CP 617 OR CFS-P PA FIRESTOP PUTTY PADS. FOR USE WITH MAXIMUM 4-1/16 X 4-1/16 X MAXIMUM 2-1/8 INCH FLUSH DEVICE UL LISTED METALLIC OUTLET BOXES INSTALLED WITH STEEL OR PLASTIC COVER PLATES FOR USE IN 1 AND 2-HOUR FIRE RATED GYPSUM WALLBOARD WALL ASSEMBLIES FRAMED WITH MINIMUM 3/2 INCH DEEP STEEL STUDS AND CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U400 AND V400 SERIES WALL AND PARTITION DESIGNS IN THE FIRE RESISTANCE DIRECTORY. PUTTY PADS SHALL LAP MINIMUM 1/2 INCH ONTO THE STUD AND GYPSUM WALLBOARD WITHIN THE STUD CAVITY. WHEN BOXES ARE INTERCONNECTED BY MEANS OF ELECTRICAL METALLIC TUBE (EMT) OR CONDUIT, A BALL OF PUTTY PAD MATERIAL SHALL BE USED TO COMPLETELY PLUG THE OPEN END OF EACH EMT OR CONDUIT WITHIN THE OUTLET BOXES. METALLIC OUTLET BOXES MAY BE PROVIDED WITH STEEL ATTACHMENT BRACKETS WHICH OFFSET BOX MINIMUM 1/4 INCH FROM STUD. WHEN STEEL ATTACHMENT BRACKETS ARE USED, PUTTY PAD TO BE APPLIED TO THE BACK AND ALL FOUR SIDES OF THE BOX.

CFS-P PA MOLDABLE PUTTY PADS. FOR USE WITH MAXIMUM 4-1/16 X 4-1/16 X MAXIMUM 2-1/8 INCH FLUSH DEVICE UL LISTED METALLIC OUTLET BOXES INSTALLED WITH STEEL COVER PLATES IN 2-HOUR FIRE RATED GYPSUM WALLBOARD WALL ASSEMBLIES FRAMED WITH MINIMUM 3/2 INCH DEEP STEEL STUDS AND CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U400 AND V400 SERIES WALL AND PARTITION DESIGNS IN THE FIRE RESISTANCE DIRECTORY. AN ADDITIONAL 3/4 INCH BALL OF PUTTY PAD MATERIAL SHALL BE USED TO PLUS THE END OF EACH ELECTRICAL METALLIC TUBE OR CONDUIT AT ITS CONNECTION TO THE BOX.

CFS-P PA MOLDABLE PUTTY PADS. FOR USE WITH MAXIMUM 4 X 4 X 2-1/8 INCH FLUSH DEVICE UL LISTED METALLIC OUTLET BOXES INSTALLED WITH STEEL OR PLASTIC COVER PLATES IN 2-HOUR FIRE RATED GYPSUM WALLBOARD WALL ASSEMBLIES FRAMED WITH MINIMUM 3/2 INCH DEEP STEEL STUDS AND CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U400 AND V400 SERIES WALL AND PARTITION DESIGNS IN THE FIRE RESISTANCE DIRECTORY. AN ADDITIONAL 3/4 INCH BALL OF PUTTY PAD MATERIAL SHALL BE USED TO PLUS THE END OF EACH ELECTRICAL METALLIC TUBE OR CONDUIT AT ITS CONNECTION TO THE BOX.

CFS-P PA MOLDABLE PUTTY PADS. FOR USE WITH MAXIMUM 14-1/4 X 4-1/2 X 2-1/2 INCH FLUSH DEVICE UL LISTED METALLIC OUTLET BOXES INSTALLED WITH STEEL COVER PLATES IN 2-HOUR FIRE RATED GYPSUM WALLBOARD WALL ASSEMBLIES FRAMED WITH MINIMUM 3/2 INCH DEEP STEEL STUDS AND CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U400 AND V400 SERIES WALL AND PARTITION DESIGNS IN THE FIRE RESISTANCE DIRECTORY. AN ADDITIONAL 3/4 INCH BALL OF PUTTY PAD MATERIAL SHALL BE USED TO PLUS THE END OF EACH ELECTRICAL METALLIC TUBE OR CONDUIT AT ITS CONNECTION TO THE BOX.

HILTI FIRESTOP BOX INSERT. FOR USE WITH FLUSH DEVICE UL LISTED METALLIC OUTLET BOXES INSTALLED WITH STEEL MUD RINGS OR UL LISTED NON-METALLIC OUTLET BOXES IN FRAMED WALL ASSEMBLIES AS SPECIFIED BELOW. WHEN PROTECTIVE MATERIAL IS USED ON OUTLET BOXES ON BOTH SIDES OF THE WALL AS DIRECTED, THE HORIZONTAL SEPARATION BETWEEN OUTLET BOXES ON OPPOSITE SIDES OF THE WALL MAY BE LESS THAN 24 INCH PROVIDED THAT THE BOXES ARE NOT INSTALLED BACK-TO-BACK (UNLESS OTHERWISE INDICATED). INSTALLATION SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE (NEPA 70), THE BOX COMPOSITION, MAXIMUM DEVICE DIMENSIONS, HOURLY RATING, TYPE OF STUD AND TYPE OF FACELATE ARE SPECIFIED BELOW.

HILTI FIRESTOP BOX INSERT. FOR USE WITH MAXIMUM 4-1/16 X 4-1/16 X 2-1/8 INCH DEEP UL LISTED METALLIC OUTLET BOXES WITHOUT INTERNAL CLAMPS IN 1 OR 2-HOUR FIRE RATED GYPSUM WALLBOARD WALL ASSEMBLIES FRAMED WITH MINIMUM 3/2 INCH DEEP WOOD OR STEEL STUDS AND CONSTRUCTED OF MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300, U400 OR V400 SERIES WALL AND PARTITION DESIGNS IN THE FIRE RESISTANCE DIRECTORY. OUTLET BOXES IN 1-HOUR FIRE RATED WALLS MAY BE INSTALLED WITH STEEL OR STEEL COVER PLATES. OUTLET BOXES IN 2-HOUR FIRE RATED WALLS SHALL BE INSTALLED WITH STEEL COVER PLATES. ONE 4-3/8 X 4-3/8 INCH INSERT ADHERED TO THE INTERIOR BACK WALL OF THE OUTLET BOX IN ACCORDANCE WITH THE INSTRUCTIONS SUPPLIED WITH THE PRODUCT. SMALLER SIZED INSERTS MAY BE CUT AND COMBINED TO ACHIEVE THE 4-3/8 X 4-3/8 INCH COVERAGE.

HILTI FIRESTOP BOX INSERT. FOR USE WITH MAXIMUM 4 X 4 X 1-1/2 INCH DEEP AND 2-1/8 INCH DEEP UL LISTED METALLIC OUTLET BOXES WITHOUT INTERNAL CLAMPS IN 1 OR 2-HOUR FIRE RATED GYPSUM WALLBOARD WALL ASSEMBLIES FRAMED WITH MINIMUM 3/2 INCH DEEP METALS OR WOOD STUDS AND CONSTRUCTED OF MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300, U400 OR V400 SERIES WALL AND PARTITION DESIGNS IN THE FIRE RESISTANCE DIRECTORY. AS SUMMARIZED IN THE TABLE BELOW, OUTLET BOXES INSTALLED WITH STEEL COVER PLATES, BOX INSERTS EVENLY SECURED TO WOOD STUD BY MEANS OF TWO NAILING TABS SUPPLIED WITH THE PRODUCT. SMALLER SIZED INSERTS MAY BE CUT AND COMBINED TO ACHIEVE THE 3-1/16 X 3-3/4 INCH COVERAGE.

CP617 OR CFS-P PA FIRESTOP BOX INSERT

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Project Name 1
Project Name 2

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CONSTRUCTION

ADVANCE
RESIDENCE COMPANY
LEGACY HOSPITALITY

WALL OPENING PROTECTIVE MATERIALS (CLIV, CLIV7)

BOX SIZE	TYPE OF BOX AND COVER PLATE	HOURLY RATING	WALL TYPE
4 X 4 X 2-1/8 INCH DEEP	METALLIC WITH STEEL COVER PLATES	1-HOUR	U300, U400, OR V400 - WOOD OR STEEL STUDS
4 X 4 X 2-1/8 INCH DEEP	METALLIC WITH PLASTIC COVER PLATES	1-HOUR	U300, U400, OR V400 - WOOD OR STEEL STUDS
4 X 4 X 1-1/2 INCH DEEP	METALLIC WITH PLASTIC COVER PLATES	1-HOUR	U300 - WOOD STUDS

HILTI FIRESTOP BOX INSERT. FOR USE WITH MAXIMUM 2 1/8 X 4 X 2 1/8 INCH DEEP UL LISTED METALLIC OUTLET BOXES WITHOUT INTERNAL CLAMPS IN 2-HOUR FIRE RATED GYPSUM WALLBOARD WALL ASSEMBLIES FRAMED WITH MINIMUM 3/2 INCH DEEP WOOD OR STEEL STUDS AND CONSTRUCTED OF MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300, U400 OR V400 SERIES WALL AND PARTITION DESIGNS IN THE FIRE RESISTANCE DIRECTORY. OUTLET BOXES MAY BE INSTALLED WITH STEEL COVER PLATES. ONE 1-7/8 X 2-1/8 INCH INSERT ADHERED TO THE INTERIOR BACK WALL OF THE OUTLET BOX IN ACCORDANCE WITH THE INSTRUCTIONS SUPPLIED WITH THE PRODUCT.

HILTI FIRESTOP BOX INSERT. FOR USE WITH MAXIMUM 4-1/2 X 8-1/2 X 1-5/8 INCH DEEP OR MAXIMUM 3-3/4 X 5-1/2 X 2-1/2 INCH DEEP UL LISTED METALLIC OUTLET BOXES WITHOUT INTERNAL CLAMPS IN 1-HOUR OR 2-HOUR FIRE RATED GYPSUM WALLBOARD WALL ASSEMBLIES FRAMED WITH MINIMUM 3/2 INCH DEEP STEEL OR WOOD STUDS AND CONSTRUCTED OF MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300, U400 OR V400 SERIES WALL AND PARTITION DESIGNS IN THE FIRE RESISTANCE DIRECTORY. AS SUMMARIZED IN THE TABLE BELOW, OUTLET BOXES INSTALLED WITH STEEL COVER PLATES, BOX INSERTS EVENLY SECURED TO WOOD STUD BY MEANS OF TWO NAILING TABS SUPPLIED WITH THE PRODUCT. SMALLER SIZED INSERTS MAY BE CUT AND ADHERED TO THE INTERIOR BACK WALL OF THE OUTLET BOX IN ACCORDANCE WITH THE INSTRUCTIONS SUPPLIED WITH THE PRODUCT.

BOX SIZE	INSERTS USED	FIRE RATING	WALL TYPE
4-1/2 X 8-1/2 X 1-5/8 INCH DEEP	TWO 3-11/16 X 3-3/4 IN. INSERTS **	2-HOUR	U300, U400 OR V400 - WOOD OR STEEL STUDS
3-3/4 X 5-1/2 X 2-1/2 INCH DEEP	ONE 3-11/16 X 3-3/4 INCH INSERT AND ONE 1-7/8 X 2-1/8 INCH INSERT	1-HOUR	U300, U400, OR V400 - WOOD OR STEEL STUDS

** MINIMUM 3/4 INCH DEEP PLASTER RINGS INSTALLED OVER OUTLET BOX. AFTER INSTALLATION OF GYPSUM WALLBOARD, NOMINAL 1/4 INCH THICKNESS OF HILTI FS-ONE SEALANT OR FS-ONE MAX INTUMESCENT SEALANT, BEARING THE UL CLASSIFICATION MARKING FOR FILL, VOID OR CAVITY MATERIALS, APPLIED BETWEEN THE BASE LAYER OF WALLBOARD AND THE PLASTER RING.

HILTI FIRESTOP BOX INSERT. FOR USE WITH 4-3/8 X 4-7/8 X 2-1/4 INCH DEEP FLUSH DEVICE UL LISTED METALLIC OUTLET BOXES WITHOUT INTERNAL CLAMPS IN 1-HOUR FIRE RATED GYPSUM WALLBOARD WALL ASSEMBLIES FRAMED WITH MINIMUM 3/2 INCH DEEP WOOD OR STEEL STUDS AND CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300, U400 OR V400 SERIES WALL AND PARTITION DESIGNS IN THE FIRE RESISTANCE DIRECTORY. ONE 4-3/8 INCH WIDE X 4-3/8 INCH HIGH INSERT ADHERED TO THE INTERIOR BACK WALL OF THE OUTLET BOX IN ACCORDANCE WITH THE INSTALLATION INSTRUCTIONS SUPPLIED WITH THE PRODUCT. SMALLER SIZED INSERTS MAY BE CUT AND COMBINED TO ACHIEVE THE 4-3/8 INCH X 4-3/8 INCH COVERAGE AND ADHERED TO THE INTERIOR BACK WALL OF THE OUTLET BOX. OUTLET BOXES INSTALLED WITH STEEL COVER PLATES.

HILTI FIRESTOP BOX INSERT. FOR USE WITH MAXIMUM 4-1/2 X 8-1/2 X 1-5/8 INCH DEEP UL LISTED METALLIC OUTLET BOXES WITHOUT INTERNAL CLAMPS IN 2-HOUR FIRE RATED GYPSUM WALLBOARD WALL ASSEMBLIES FRAMED WITH MINIMUM 3/2 INCH DEEP WOOD OR STEEL STUDS AND CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300, U400 OR V400 SERIES WALL AND PARTITION DESIGNS IN THE FIRE RESISTANCE DIRECTORY. ONE 4-3/8 INCH WIDE X 4-3/8 INCH HIGH INSERT ADHERED TO THE INTERIOR BACK WALL OF THE OUTLET BOX IN ACCORDANCE WITH THE INSTALLATION INSTRUCTIONS SUPPLIED WITH THE PRODUCT. SMALLER SIZED INSERTS MAY BE CUT AND COMBINED TO ACHIEVE THE 4-3/8 X 4-3/8 INCH COVERAGE AND ADHERED TO THE INTERIOR BACK WALL OF THE OUTLET BOX. OUTLET BOXES INSTALLED WITH STEEL COVER PLATES.

CP 617 OR CFS-P PA FIRESTOP PUTTY PADS AND HILTI FIRESTOP BOX INSERTS. FOR USE WITH MAXIMUM 4 X 4 X 1-1/2 INCH (102 X 102 X 38 MM) DEEP FLUSH DEVICE UL LISTED METALLIC OUTLET BOXES INSTALLED WITH STEEL MUD RINGS AND WITH STEEL OR PLASTIC FACELATES IN 1 OR 2-HOUR FIRE RATED GYPSUM WALLBOARD WALL ASSEMBLIES CONSTRUCTED WITH MINIMUM 3/2 INCH (89 MM) WOOD OR STEEL STUDS. WHEN BOTH PROTECTIVE MATERIALS ARE USED WITH OUTLET BOXES ON BOTH SIDES OF THE WALL AS DIRECTED, THE BOXES MAY BE INSTALLED BACK-TO-BACK PROVIDED THAT THE BACKS OF THE BOXES ARE MINIMUM 1/2 INCH (13 MM) APART AND PROVIDED THAT THE BOXES ARE NOT INTERCONNECTED. ADJOINING PIECES OF MOLDABLE PUTTY PADS TO BE OVERLAPPED APPROXIMATE 1/2 INCH (13 MM) AT THE SEAM. AN INSERT PAD SHALL BE INSTALLED TO COMPLETELY COVER THE BACK INSIDE SURFACE OF EACH OUTLET BOX.

HilTi Firestop Systems

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SYSTEM NO. HW-S-0090

ANSI/UL2079	CANULC S115
ASSEMBLY RATING - 1-HOUR	F RATING - 1-HOUR
JOINT WIDTH - 1/2 INCH MAXIMUM	FT RATING - 1-HOUR
	FH RATING - 1-HOUR
	FTH RATINGS - 1-HOUR
	JOINT WIDTH - 1/2 INCH MAXIMUM

HILTI FIRESTOP BOX INSERT

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WALL OPENING PROTECTIVE MATERIALS (CLIV, CLIV7)

CP 617 OR CFS-P PA FIRESTOP PUTTY PADS. FOR USE WITH FLUSH DEVICE UL LISTED METALLIC OUTLET BOXES INSTALLED WITH STEEL MUD RINGS OR UL LISTED NON-METALLIC OUTLET BOXES AS SPECIFIED BELOW. WHEN PROTECTIVE MATERIAL IS USED ON OUTLET BOXES ON BOTH SIDES OF THE WALL AS DIRECTED, THE HORIZONTAL SEPARATION BETWEEN OUTLET BOXES ON OPPOSITE SIDES OF THE WALL MAY BE LESS THAN 24 INCH PROVIDED THAT THE BOXES ARE NOT INSTALLED BACK-TO-BACK (UNLESS OTHERWISE INDICATED). INSTALLATION SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE (NEPA 70), THE BOX COMPOSITION, MAXIMUM DEVICE DIMENSIONS, HOURLY RATING, TYPE OF STUD AND TYPE OF FACELATE ARE SPECIFIED BELOW.

CP 617 OR CFS-P PA FIRESTOP PUTTY PADS. FOR USE WITH MAXIMUM 4 X 4 BY MAXIMUM 3/8 INCH FLUSH DEVICE UL LISTED METALLIC OUTLET BOXES INSTALLED WITH STEEL COVER PLATES IN 1 AND 2-HOUR. FIRE RATED GYPSUM WALLBOARD WALL ASSEMBLIES FRAMED WITH MINIMUM 3/2 INCH DEEP WOOD OR STEEL STUDS AND CONSTRUCTED AS SPECIFIED IN THE INDIVIDUAL U300, U400 OR V400 SERIES WALL AND PARTITION DESIGNS IN THE FIRE RESISTANCE DIRECTORY.

CP 617 OR CFS-P PA FIRESTOP PUTTY PADS. FOR USE WITH MAXIMUM 4 X 4 BY MAXIMUM 2-1/8 INCH, OR MAXIMUM 4-3/8 X 4-7/8 X MAXIMUM 2-1/8 INCH, FLUSH GYPSUM WALLBOARD WOOD STUD WALL AND PARTITION DESIGN NO. IN THE FIRE RESISTANCE DIRECTORY. WHEN US41 WALL DESIGN IS USED, WALL SHALL BE SHEATHED WITH 5/8 INCH GYPSUM WALLBOARD, AND GLASS OR MINERAL FIBER BATT INSULATION SHALL BE INSTALLED IN ACCORDANCE WITH US41 DESIGN. OUTLET BOX SECURED TO WOOD STUD BY MEANS OF FASTENING TAB SUPPLIED WITH THE OUTLET BOX. PUTTY PADS SHALL LAP MINIMUM 1/2 INCH ONTO THE STUD AND GYPSUM WALLBOARD WITHIN THE STUD CAVITY. OUTLET BOXES INSTALLED WITH STEEL OR PLASTIC COVER PLATES.

CP 617 OR CFS-P PA FIRESTOP PUTTY PADS. FOR USE WITH MAXIMUM 4 X 4 X 2-1/8 INCH DEEP UL LISTED NON-METALLIC OUTLET BOXES MANUFACTURED BY CARLON ELECTRICAL PRODUCTS, MADE FROM POLY(VINYL CHLORIDE), AND BEARING A 2-HOUR RATING UNDER THE "OUTLET BOXES AND FITTINGS CLASSIFICATION FOR FIRE RESISTANCE" CATEGORY IN THE FIRE RESISTANCE DIRECTORY. PUTTY PADS AND BOXES FOR USE IN 1 AND 2-HOUR FIRE RATED GYPSUM WALLBOARD ASSEMBLIES, FRAMED WITH MINIMUM 3/2 INCH DEEP WOOD STUDS AND CONSTRUCTED AS SPECIFIED IN THE INDIVIDUAL U300 SERIES WALL AND PARTITION DESIGNS IN THE FIRE RESISTANCE DIRECTORY. OUTLET BOX SECURED TO WOOD STUD BY MEANS OF TWO NAILING TABS SUPPLIED WITH THE OUTLET BOX. PUTTY PADS SHALL LAP MINIMUM 1/2 INCH ONTO THE STUD AND GYPSUM WALLBOARD WITHIN THE STUD CAVITY. OUTLET BOXES INSTALLED WITH STEEL OR PLASTIC COVER PLATES.

CP 617 FIRESTOP PUTTY PADS. FOR USE WITH MAXIMUM 2-1/4 X 3-3/4 X 2-3/4 INCH DEEP UL LISTED NON-METALLIC OUTLET BOXES MANUFACTURED BY PASS AND SEYMORE, INC., AND BEARING A 2-HOUR RATING UNDER THE "OUTLET BOXES AND FITTINGS CLASSIFICATION FOR FIRE RESISTANCE" CATEGORY IN THE FIRE RESISTANCE DIRECTORY. PUTTY PADS AND BOXES FOR USE IN 1 AND 2-HOUR FIRE RATED GYPSUM WALLBOARD ASSEMBLIES, FRAMED WITH MINIMUM 3/2 INCH DEEP WOOD STUDS AND CONSTRUCTED AS SPECIFIED IN THE INDIVIDUAL U300 SERIES WALL AND PARTITION DESIGNS IN THE FIRE RESISTANCE DIRECTORY. OUTLET BOX SECURED TO WOOD STUD BY MEANS OF TWO NAILING TABS SUPPLIED WITH THE OUTLET BOX. PUTTY PADS SHALL LAP MINIMUM 1/2 INCH ONTO THE STUD AND GYPSUM WALLBOARD WITHIN THE STUD CAVITY. OUTLET BOXES INSTALLED WITH STEEL OR PLASTIC COVER PLATES.

CP 617 OR CFS-P PA FIRESTOP PUTTY PADS. FOR USE WITH MAXIMUM 4 X 3-3/4 X 3 INCH DEEP UL LISTED NON-METALLIC OUTLET BOXES MANUFACTURED BY ALLED MOLDED PRODUCTS, INC., MADE FROM FIBER REINFORCED THERMOPLASTIC AND BEARING A 2-HOUR RATING UNDER THE "OUTLET BOXES AND FITTINGS CLASSIFICATION FOR FIRE RESISTANCE" CATEGORY IN THE FIRE RESISTANCE DIRECTORY. PUTTY PADS AND BOXES FOR USE IN 1 AND 2-HOUR FIRE RATED GYPSUM WALLBOARD ASSEMBLIES, FRAMED WITH MINIMUM 3/2 INCH DEEP WOOD STUDS AND CONSTRUCTED AS SPECIFIED IN THE INDIVIDUAL U300 SERIES WALL AND PARTITION DESIGNS IN THE FIRE RESISTANCE DIRECTORY. OUTLET BOX SECURED TO WOOD STUD BY MEANS OF TWO NAILING TABS SUPPLIED WITH THE OUTLET BOX. PUTTY PADS SHALL LAP MINIMUM 1/2 INCH ONTO THE STUD AND GYPSUM WALLBOARD WITHIN THE STUD CAVITY. OUTLET BOXES INSTALLED WITH STEEL OR PLASTIC COVER PLATES.

CP 617 OR CFS-P PA FIRESTOP PUTTY PADS. FOR USE WITH MAXIMUM 4 X 4 X 1-1/2 INCH (102 X 102 X 38 MM) DEEP FLUSH DEVICE UL LISTED METALLIC OUTLET BOXES INSTALLED WITH STEEL MUD RINGS AND WITH STEEL OR PLASTIC FACELATES IN 1 OR 2-HOUR FIRE RATED GYPSUM WALLBOARD WALL ASSEMBLIES CONSTRUCTED WITH MINIMUM 3/2 INCH (89 MM) WOOD OR STEEL STUDS. WHEN BOTH PROTECTIVE MATERIALS ARE USED WITH OUTLET BOXES ON BOTH SIDES OF THE WALL AS DIRECTED, THE BOXES MAY BE INSTALLED BACK-TO-BACK PROVIDED THAT THE BACKS OF THE BOXES ARE MINIMUM 1/2 INCH (13 MM) APART AND PROVIDED THAT THE BOXES ARE NOT INTERCONNECTED. ADJOINING PIECES OF MOLDABLE PUTTY PADS TO BE OVERLAPPED APPROXIMATE 1/2 INCH (13 MM) AT THE SEAM. AN INSERT PAD SHALL BE INSTALLED TO COMPLETELY COVER THE BACK INSIDE SURFACE OF EACH OUTLET BOX.

CP617 OR CFS-P PA FIRESTOP BOX INSERT

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Page: 3 of 5

WALL OPENING PROTECTIVE MATERIALS (CLIV, CLIV7)

BOX SIZE	TYPE OF BOX AND COVER PLATE	HOURLY RATING	WALL TYPE
4 X 4 X 2-1/8 INCH DEEP	METALLIC WITH STEEL COVER PLATES	1-HOUR	U300, U400, OR V400 - WOOD OR STEEL STUDS
4 X 4 X 2-1/8 INCH DEEP	METALLIC WITH PLASTIC COVER PLATES	1-HOUR	U300, U400, OR V400 - WOOD OR STEEL STUDS
4 X 4 X 1-1/2 INCH DEEP	METALLIC WITH PLASTIC COVER PLATES	1-HOUR	U300 - WOOD STUDS

HILTI FIRESTOP BOX INSERT. FOR USE WITH MAXIMUM 2 1/8 X 4 X 2 1/8 INCH DEEP UL LISTED METALLIC OUTLET BOXES WITHOUT INTERNAL CLAMPS IN 2-HOUR FIRE RATED GYPSUM WALLBOARD WALL ASSEMBLIES FRAMED WITH MINIMUM 3/2 INCH DEEP WOOD OR STEEL STUDS AND CONSTRUCTED OF MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300, U400 OR V400 SERIES WALL AND PARTITION DESIGNS IN THE FIRE RESISTANCE DIRECTORY. OUTLET BOXES MAY BE INSTALLED WITH STEEL COVER PLATES. ONE 1-7/8 X 2-1/8 INCH INSERT ADHERED TO THE INTERIOR BACK WALL OF THE OUTLET BOX IN ACCORDANCE WITH THE INSTRUCTIONS SUPPLIED WITH THE PRODUCT.

HILTI FIRESTOP BOX INSERT. FOR USE WITH MAXIMUM 4-1/2 X 8-1/2 X 1-5/8 INCH DEEP OR MAXIMUM 3-3/4 X 5-1/2 X 2-1/2 INCH DEEP UL LISTED METALLIC OUTLET BOXES WITHOUT INTERNAL CLAMPS IN 1-HOUR OR 2-HOUR FIRE RATED GYPSUM WALLBOARD WALL ASSEMBLIES FRAMED WITH MINIMUM 3/2 INCH DEEP STEEL OR WOOD STUDS AND CONSTRUCTED OF MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300, U400 OR V400 SERIES WALL AND PARTITION DESIGNS IN THE FIRE RESISTANCE DIRECTORY. AS SUMMARIZED IN THE TABLE BELOW, OUTLET BOXES INSTALLED WITH STEEL COVER PLATES, BOX INSERTS EVENLY SECURED TO WOOD STUD BY MEANS OF TWO NAILING TABS SUPPLIED WITH THE PRODUCT. SMALLER SIZED INSERTS MAY BE CUT AND ADHERED TO THE INTERIOR BACK WALL OF THE OUTLET BOX IN ACCORDANCE WITH THE INSTRUCTIONS SUPPLIED WITH THE PRODUCT.

BOX SIZE	INSERTS USED	FIRE RATING	WALL TYPE
4-1/2 X 8-1/2 X 1-5/8 INCH DEEP	TWO 3-11/16 X 3-3/4 IN. INSERTS **	2-HOUR	U300, U400 OR V400 - WOOD OR STEEL STUDS
3-3/4 X 5-1/2 X 2-1/2 INCH DEEP	ONE 3-11/16 X 3-3/4 INCH INSERT AND ONE 1-7/8 X 2-1/8 INCH INSERT	1-HOUR	U300, U400, OR V400 - WOOD OR STEEL STUDS

** MINIMUM 3/4 INCH DEEP PLASTER RINGS INSTALLED OVER OUTLET BOX. AFTER INSTALLATION OF GYPSUM WALLBOARD, NOMINAL 1/4 INCH THICKNESS OF HILTI FS-ONE SEALANT OR FS-ONE MAX INTUMESCENT SEALANT, BEARING THE UL CLASSIFICATION MARKING FOR FILL, VOID OR CAVITY MATERIALS, APPLIED BETWEEN THE BASE LAYER OF WALLBOARD AND THE PLASTER RING.

HILTI FIRESTOP BOX INSERT. FOR USE WITH 4-3/8 X 4-7/8 X 2-1/4 INCH DEEP FLUSH DEVICE UL LISTED METALLIC OUTLET BOXES WITHOUT INTERNAL CLAMPS IN 1-HOUR FIRE RATED GYPSUM WALLBOARD WALL ASSEMBLIES FRAMED WITH MINIMUM 3/2 INCH DEEP WOOD OR STEEL STUDS AND CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300, U400 OR V400 SERIES WALL AND PARTITION DESIGNS IN THE FIRE RESISTANCE DIRECTORY. ONE 4-3/8 INCH WIDE X 4-3/8 INCH HIGH INSERT ADHERED TO THE INTERIOR BACK WALL OF THE OUTLET BOX IN ACCORDANCE WITH THE INSTALLATION INSTRUCTIONS SUPPLIED WITH THE PRODUCT. SMALLER SIZED INSERTS MAY BE CUT AND COMBINED TO ACHIEVE THE 4-3/8 INCH X 4-3/8 INCH COVERAGE AND ADHERED TO THE INTERIOR BACK WALL OF THE OUTLET BOX. OUTLET BOXES INSTALLED WITH STEEL COVER PLATES.

HILTI FIRESTOP BOX INSERT. FOR USE WITH MAXIMUM 4-1/2 X 8-1/2 X 1-5/8 INCH DEEP UL LISTED METALLIC OUTLET BOXES WITHOUT INTERNAL CLAMPS IN 2-HOUR FIRE RATED GYPSUM WALLBOARD WALL ASSEMBLIES FRAMED WITH MINIMUM 3/2 INCH DEEP WOOD OR STEEL STUDS AND CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300, U400 OR V400 SERIES WALL AND PARTITION DESIGNS IN THE FIRE RESISTANCE DIRECTORY. ONE 4-3/8 INCH WIDE X 4-3/8 INCH HIGH INSERT ADHERED TO THE INTERIOR BACK WALL OF THE OUTLET BOX IN ACCORDANCE WITH THE INSTALLATION INSTRUCTIONS SUPPLIED WITH THE PRODUCT. SMALLER SIZED INSERTS MAY BE CUT AND COMBINED TO ACHIEVE THE 4-3/8 X 4-3/8 INCH COVERAGE AND ADHERED TO THE INTERIOR BACK WALL OF THE OUTLET BOX. OUTLET BOXES INSTALLED WITH STEEL COVER PLATES.

CP 617 OR CFS-P PA FIRESTOP PUTTY PADS AND HILTI FIRESTOP BOX INSERTS. FOR USE WITH MAXIMUM 4 X 4 X 1-1/2 INCH (102 X 102 X 38 MM) DEEP FLUSH DEVICE UL LISTED METALLIC OUTLET BOXES INSTALLED WITH STEEL MUD RINGS AND WITH STEEL OR PLASTIC FACELATES IN 1 OR 2-HOUR FIRE RATED GYPSUM WALLBOARD WALL ASSEMBLIES CONSTRUCTED WITH MINIMUM 3/2 INCH (89 MM) WOOD OR STEEL STUDS. WHEN BOTH PROTECTIVE MATERIALS ARE USED WITH OUTLET BOXES ON BOTH SIDES OF THE WALL AS DIRECTED, THE BOXES MAY BE INSTALLED BACK-TO-BACK PROVIDED THAT THE BACKS OF THE BOXES ARE MINIMUM 1/2 INCH (13 MM) APART AND PROVIDED THAT THE BOXES ARE NOT INTERCONNECTED. ADJOINING PIECES OF MOLDABLE PUTTY PADS TO BE OVERLAPPED APPROXIMATE 1/2 INCH (13 MM) AT THE SEAM. AN INSERT PAD SHALL BE INSTALLED TO COMPLETELY COVER THE BACK INSIDE SURFACE OF EACH OUTLET BOX.

HilTi Firestop Systems

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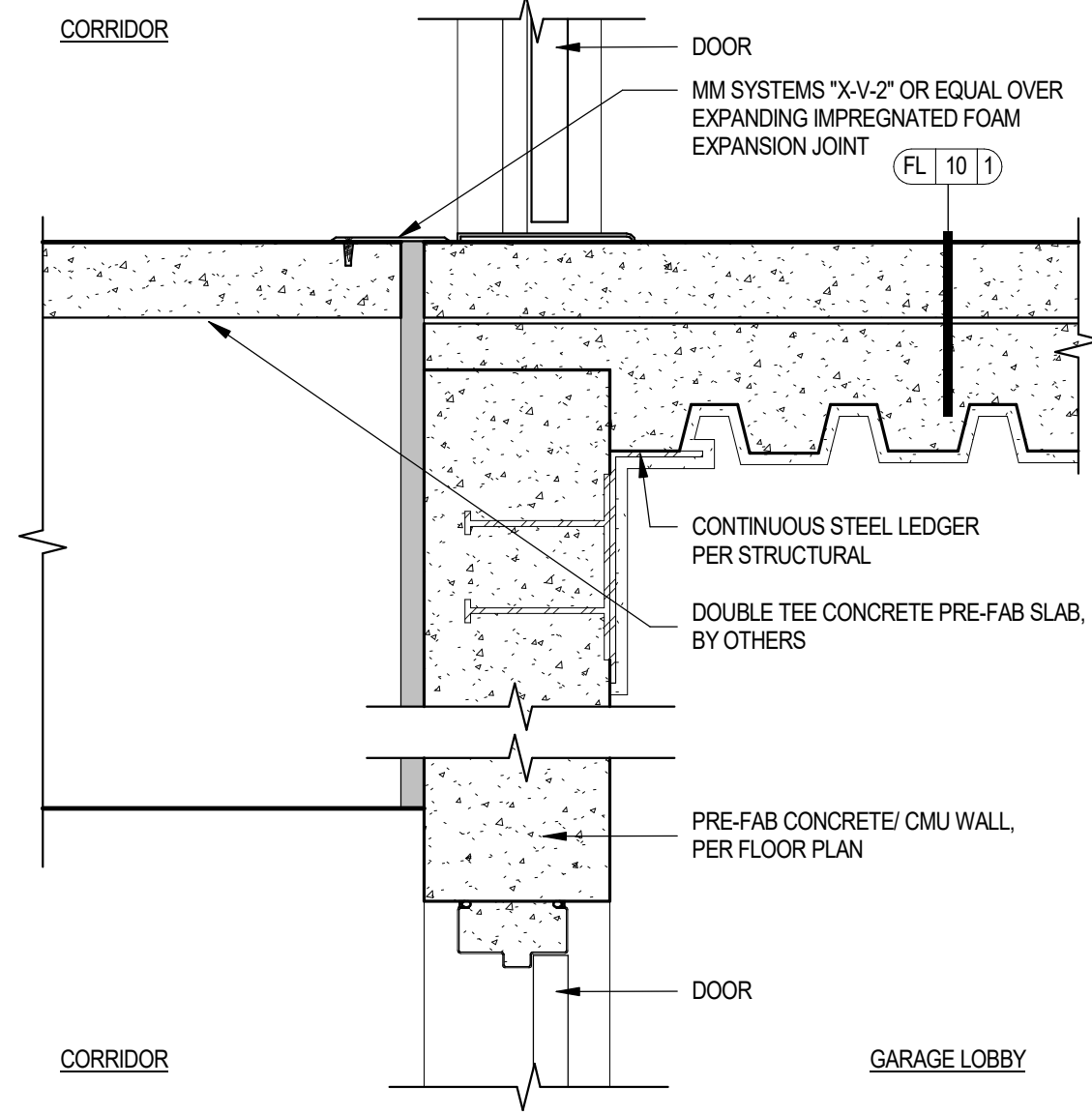
Page: 4 of 5

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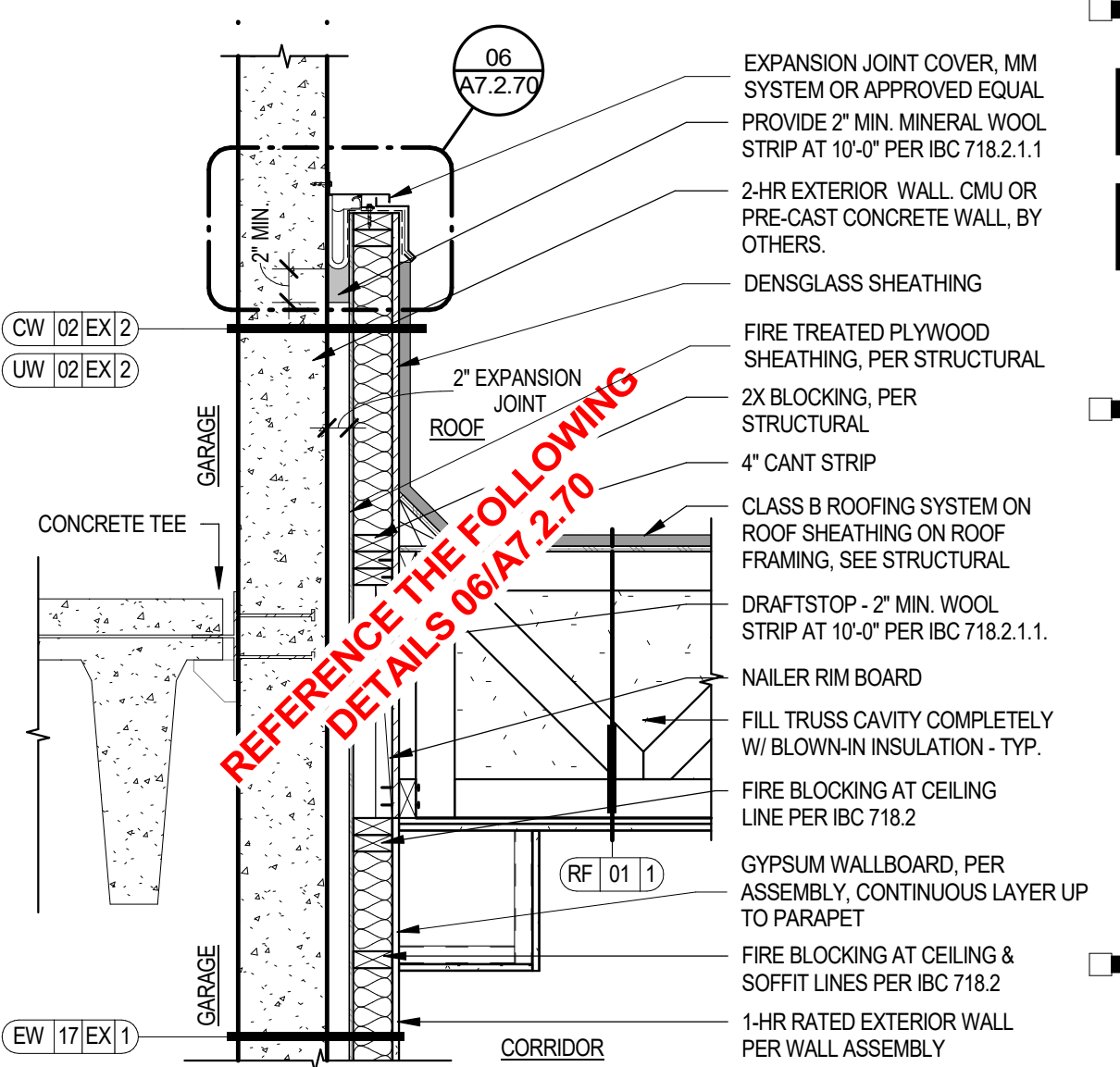
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● 09/18/2016 (REVISED) 001-2016

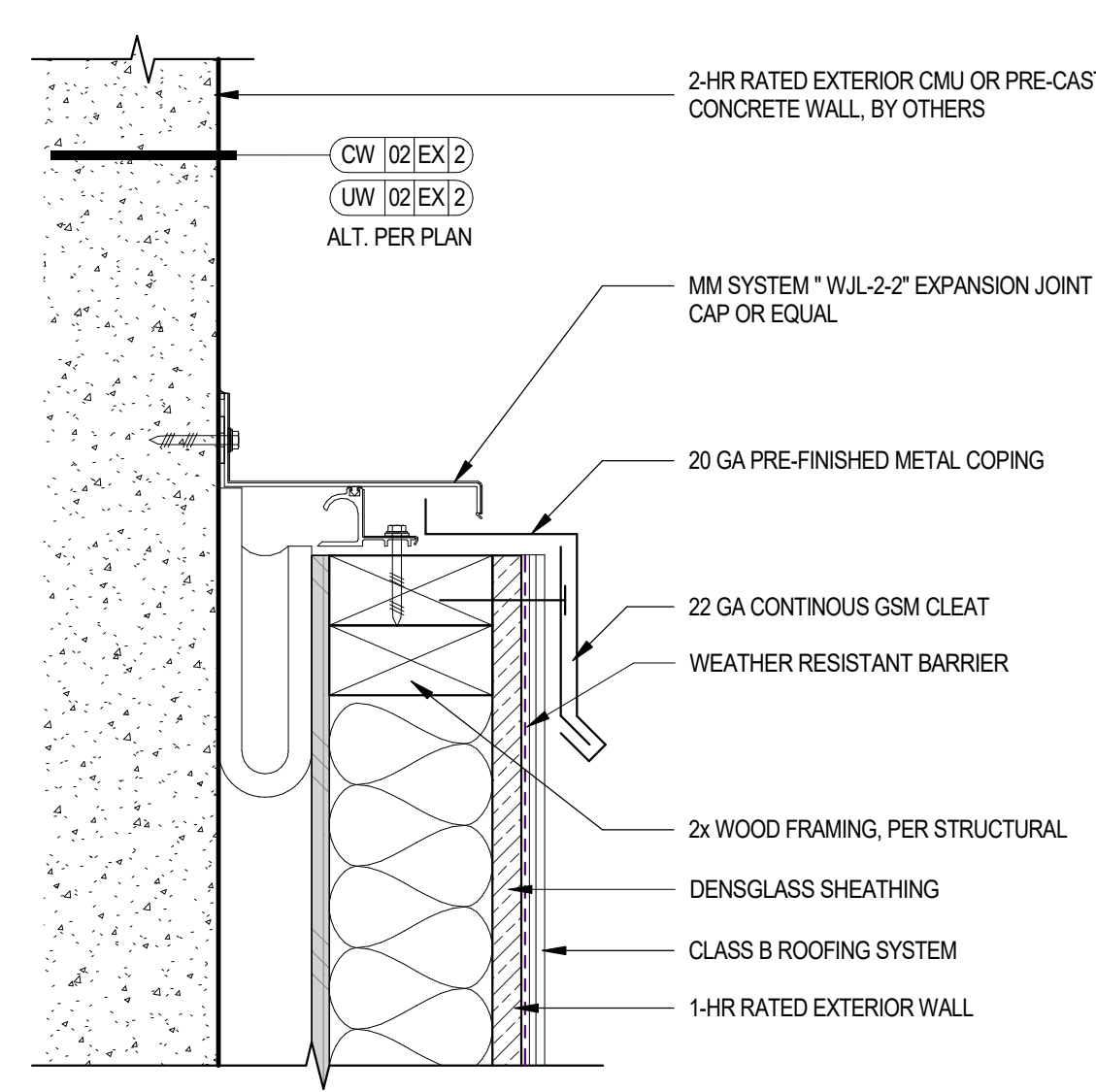
Notice of alternate billing (or payment) cycle
This contract allows (may allow) the owner to require the submission of billings or estimates in billing cycles other than thirty days. (This contract may allow the owner to make payment on some alternative schedule after verification and approval of billings are received). A written description of such other billing (estimate) cycle shall be provided to the project file available from the owner or the owner's designated agent at: ALLEGRA CONSULTING, CHICAGO, IL
2505 S. CAMERON RD., SUITE 500, PROSPECT, AZ 85086 (602) 778-2820
Note the owner or its designated agent shall provide



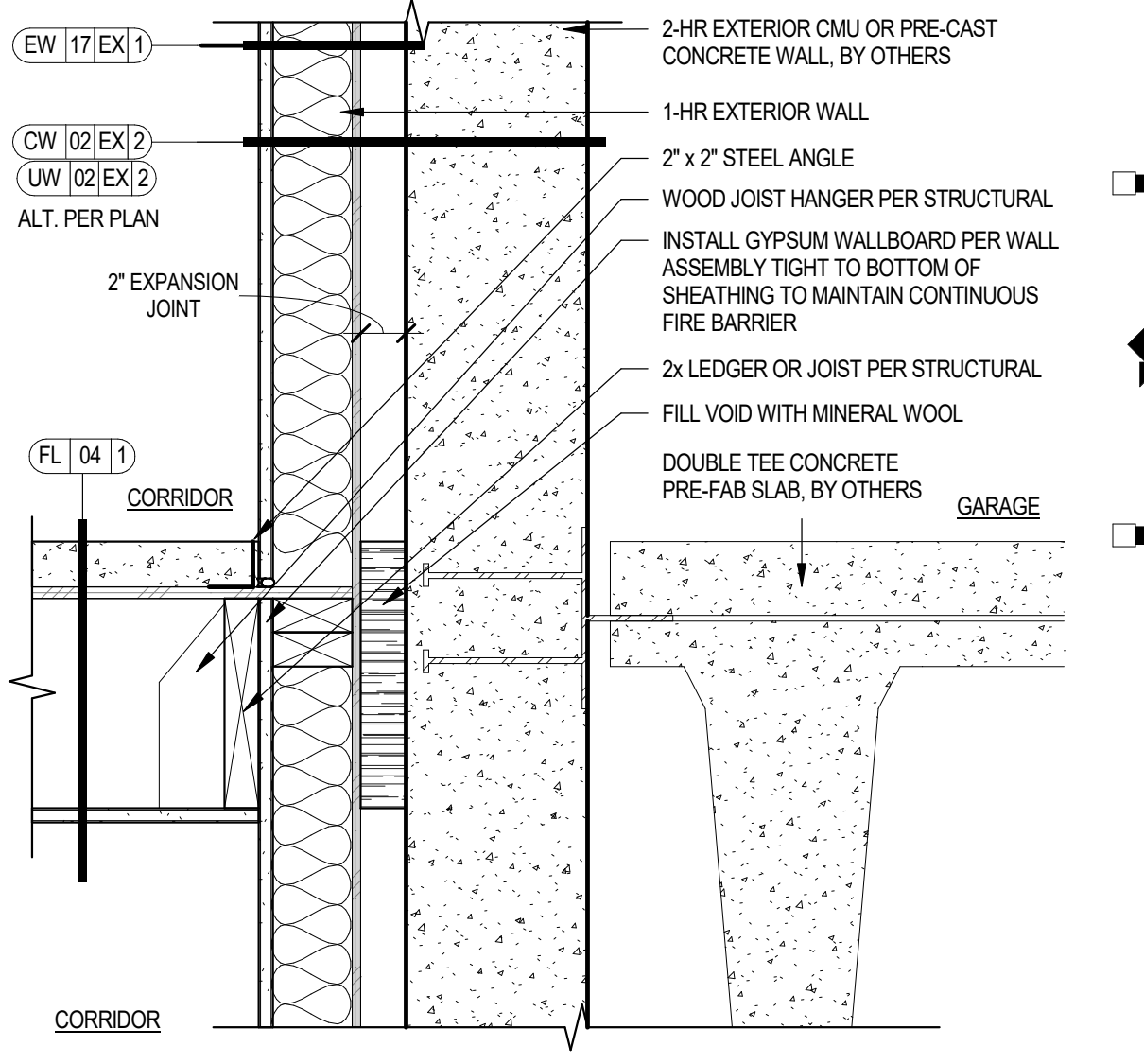
05 EXPANSION JOINT AT GARAGE RATED SLAB ON DECK AT DOOR
SCALE: 1 1/2" = 1'-0"



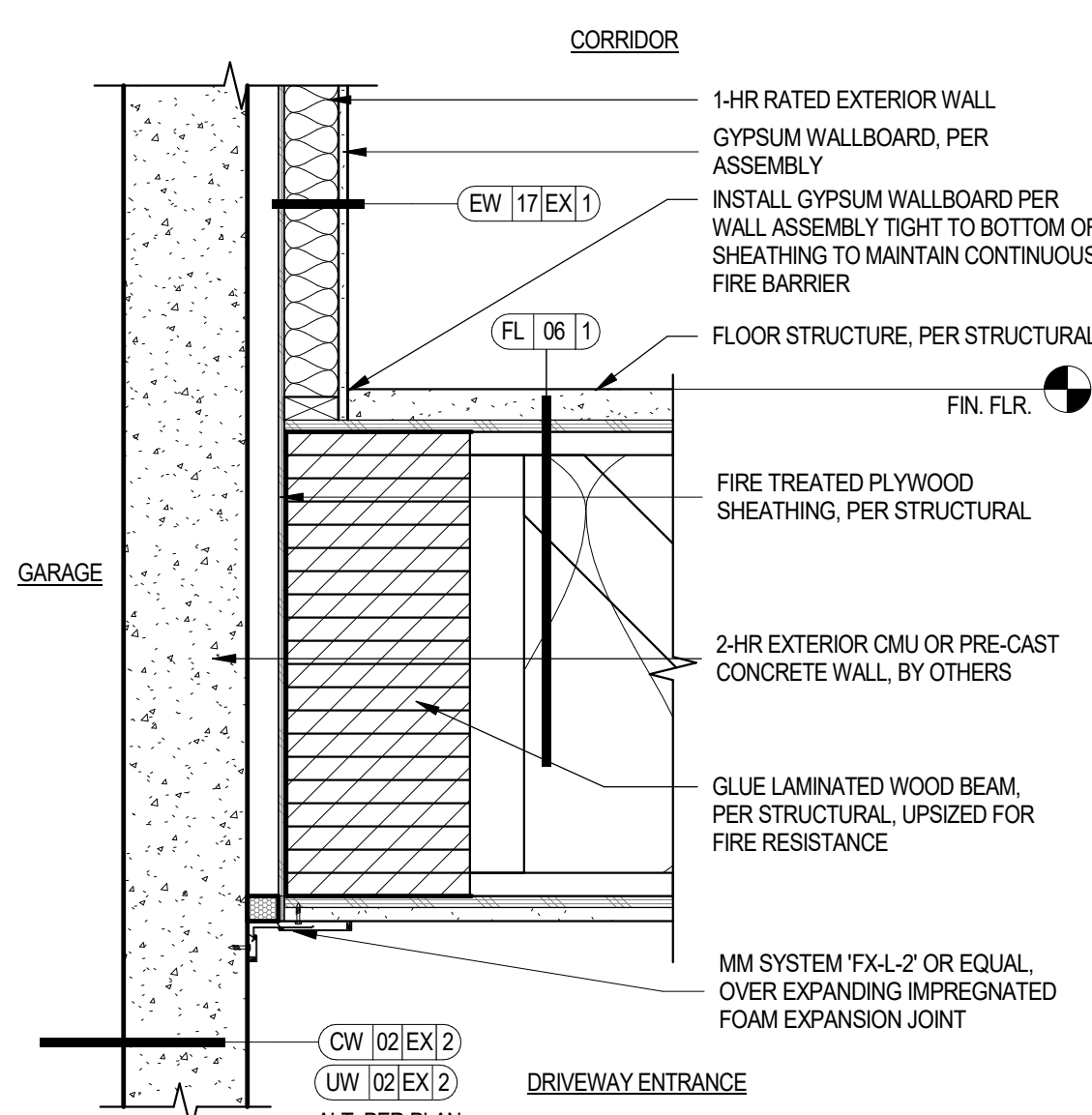
01 EXPANSION JOINT AT WOOD FRAMED PARAPET AND GARAGE CONCRETE WALL
SCALE: 3/4" = 1'-0"



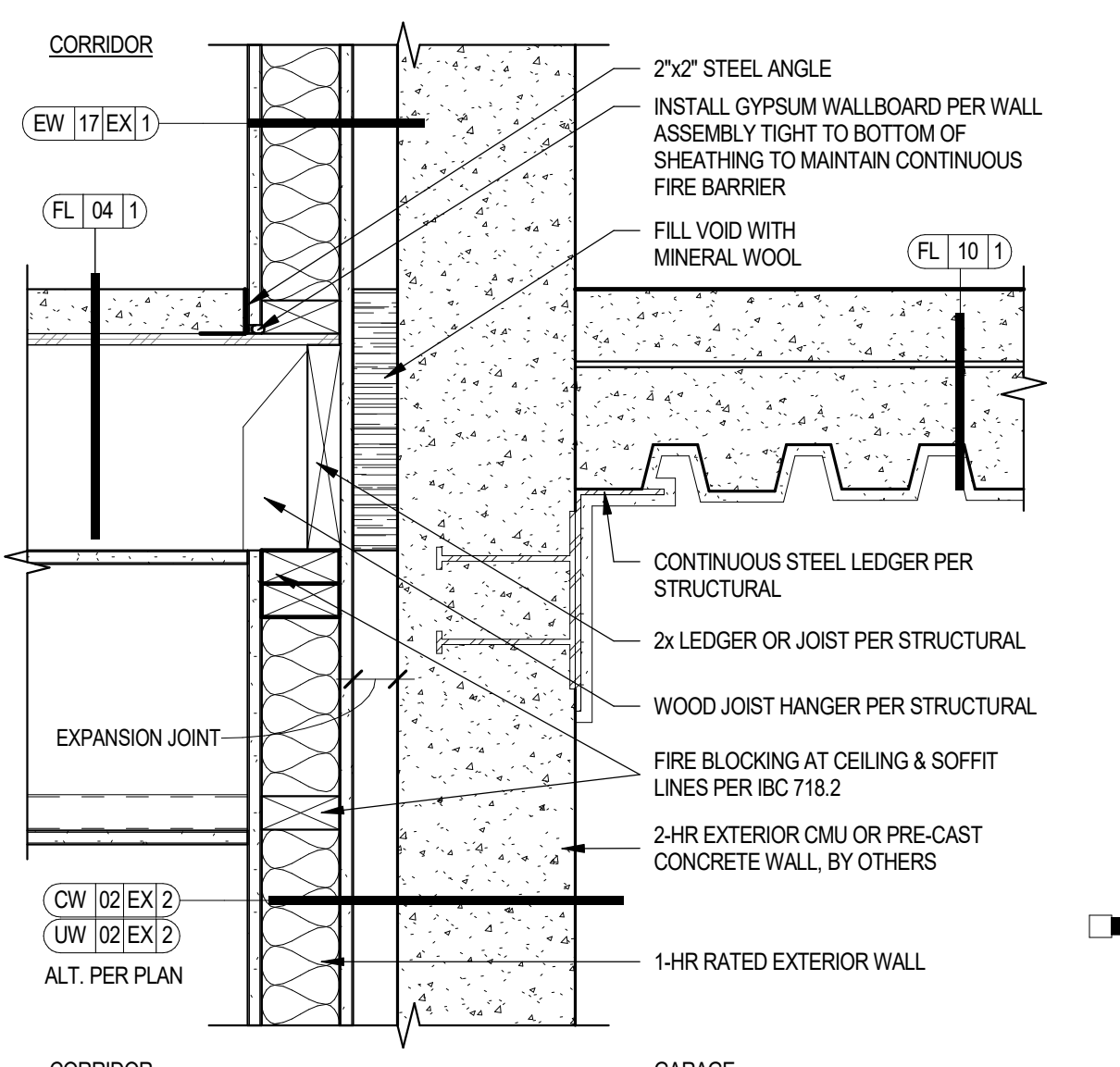
06 PARAPET EXPANSION JOINT
SCALE: 3" = 1'-0"



02 EXPANSION JOINT AT WOOD FRAMED WALL AND GARAGE CONCRETE WALL
SCALE: 1 1/2" = 1'-0"



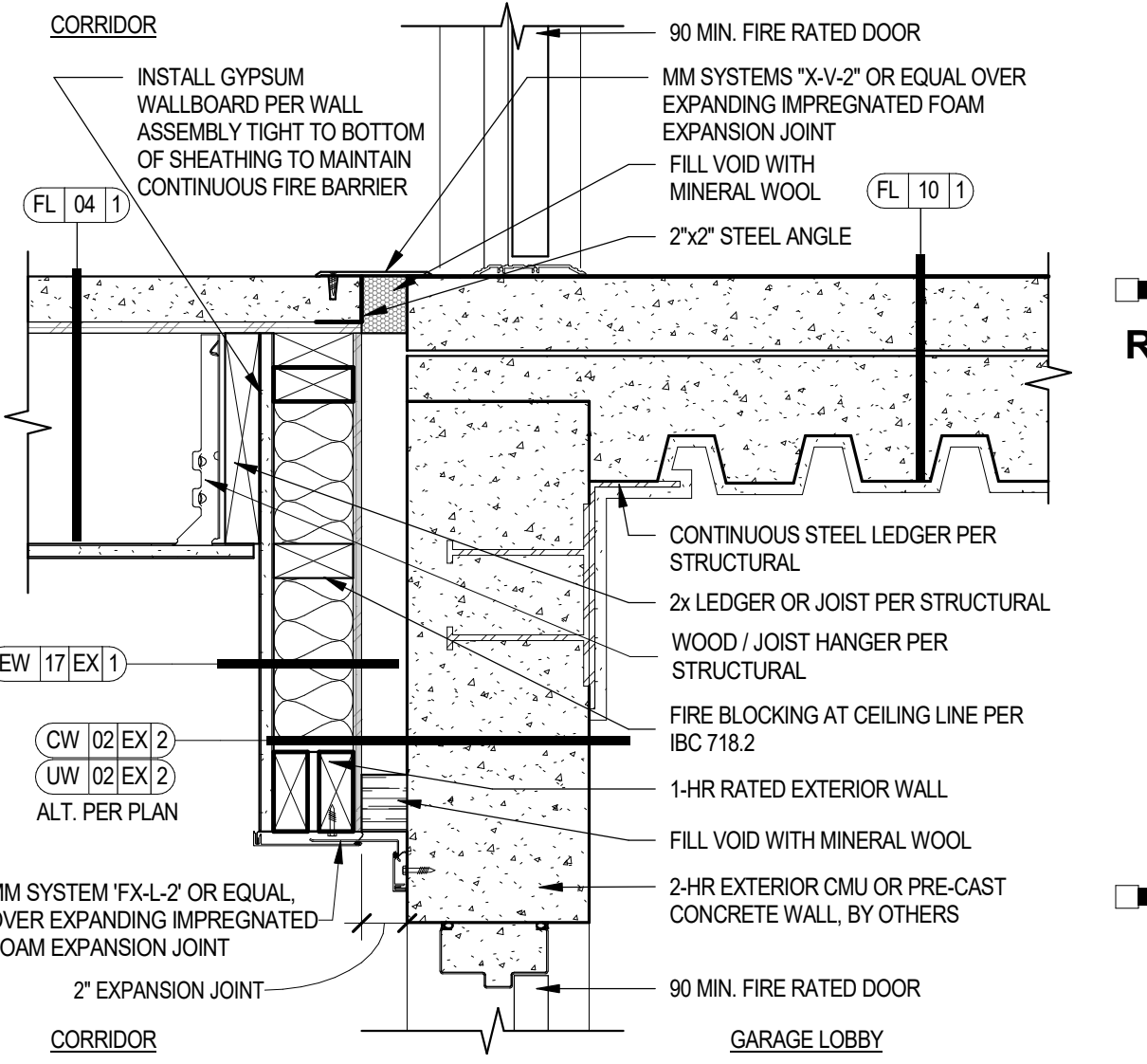
07 EXPANSION JOINT AT GARAGE ENTRY AND WOOD FRAMED WALL
SCALE: 1" = 1'-0"



03 EXPANSION JOINT AT WOOD FRAMED WALL AND GARAGE CONCRETE WALL
SCALE: 1 1/2" = 1'-0"



04 EXPANSION JOINT AT ENTRY AT RATED SLAB ON DECK
SCALE: 1 1/2" = 1'-0"



04 EXPANSION JOINT AT ENTRY AT RATED SLAB ON DECK
SCALE: 1 1/2" = 1'-0"

Project Name 1
Project Name 2
Street Address
City, state

Office of Rich Barber
ORB
Architecture, LLC
WorldHQ@ORBArch.com

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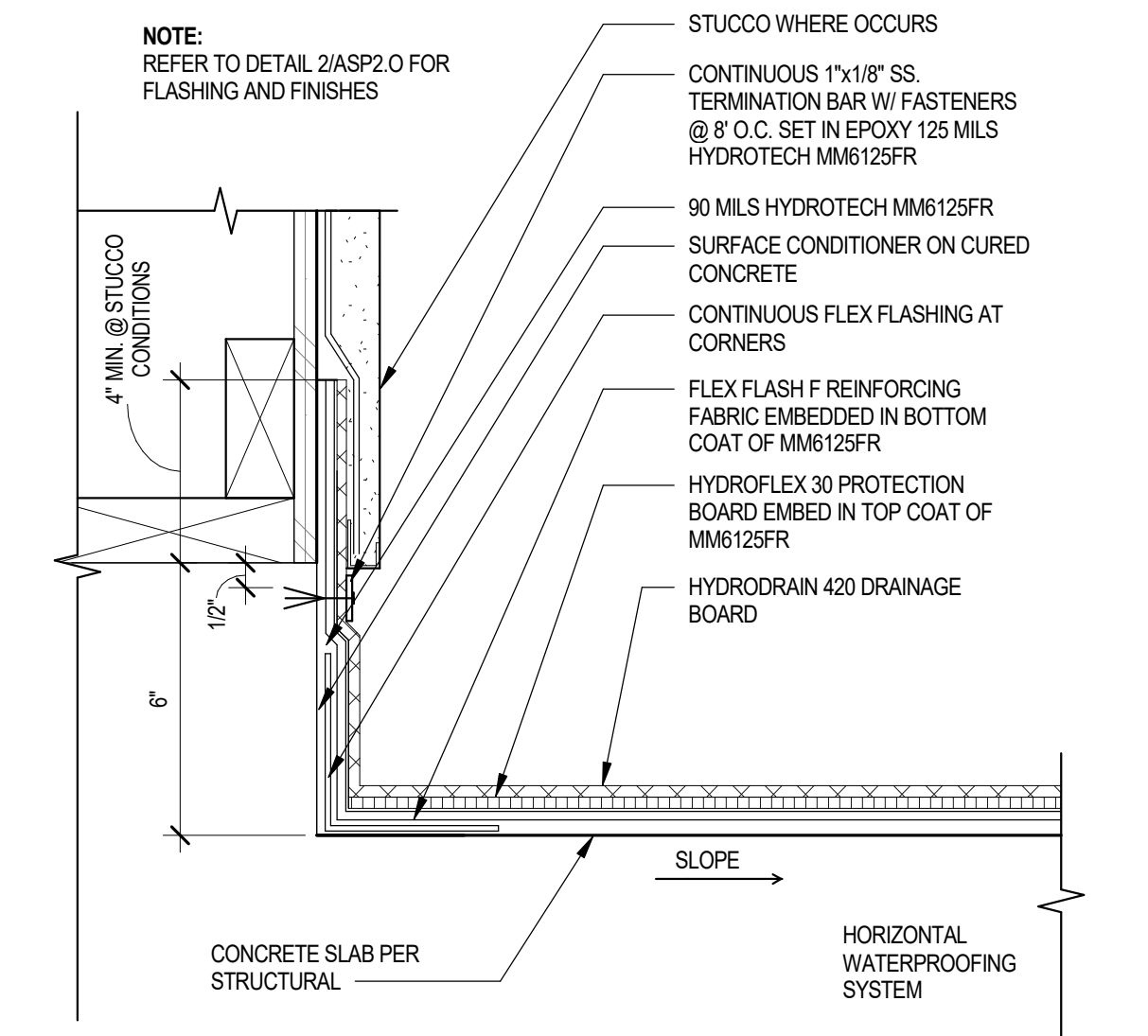
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This contract states (may state) the owner to require the submission of bills or estimates in billing cycles other than thirty days. (This contract may allow the owner to make payment on some alternative schedule other than thirty days and approval of billing cycle estimates. A written description of such other billing (estimate) cycle applies to the owner's designated agent at ADVANCE RESIDENTIAL COMPANY, 2525 S. CAMELBACK RD., SUITE 500, PHOENIX, AZ 85016 (602) 778-2852. Ask the owner or his designated agent what provide this alternative billing cycle.

REVISIONS/SUBMITTALS

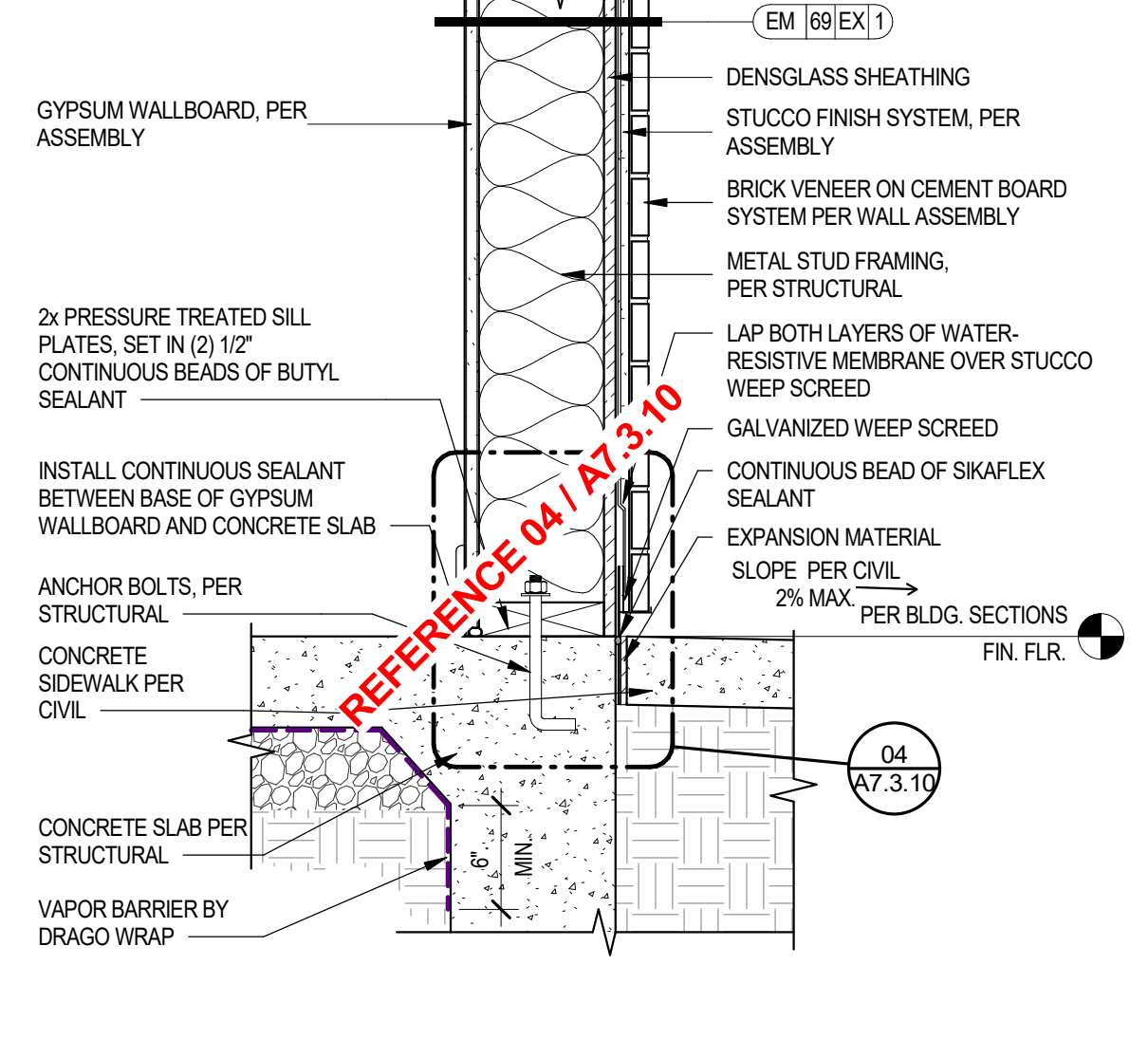
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2ND CITY SUBMITTAL
DATE: July 17, 2024 ORB #: 00-000

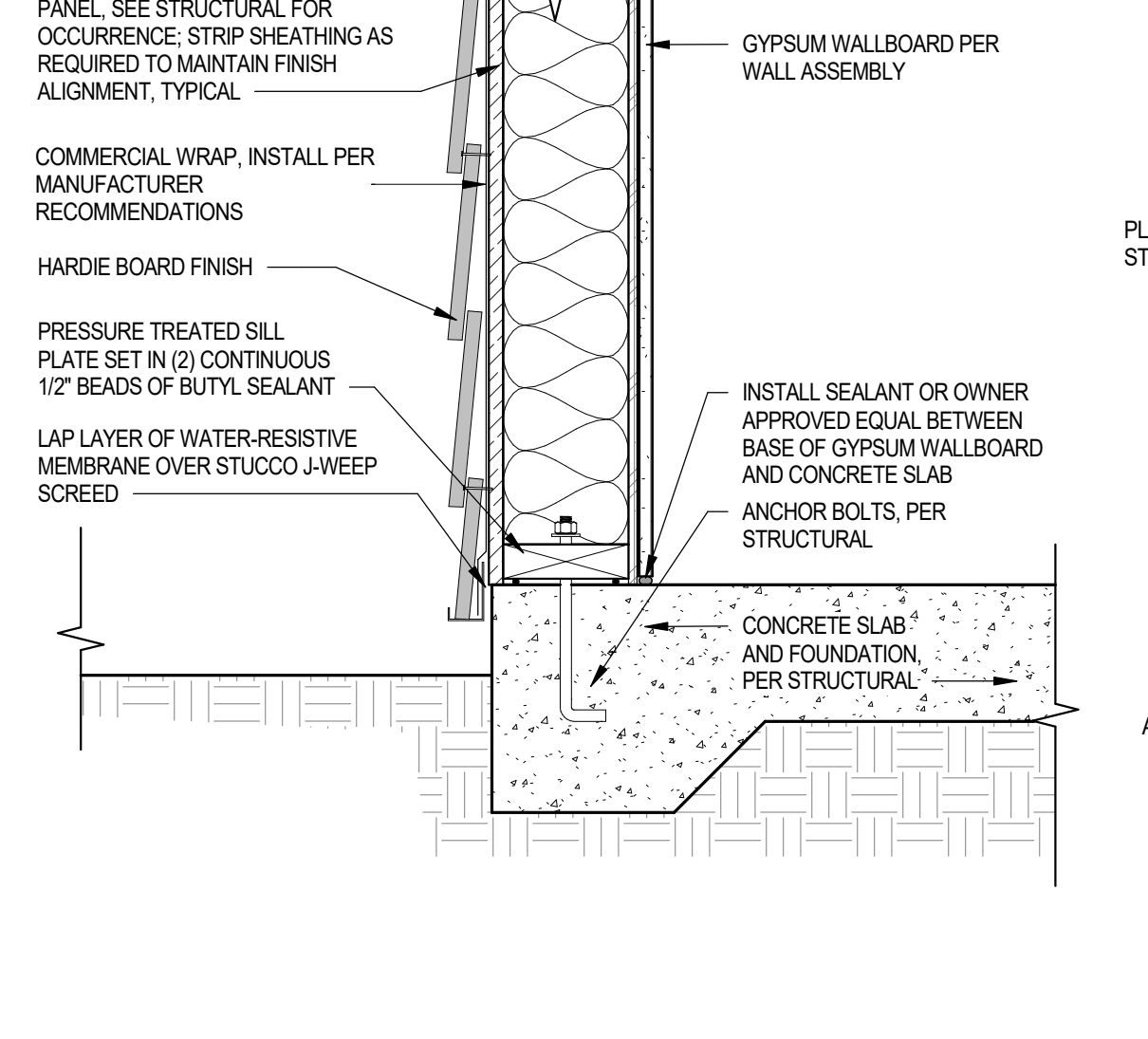
A7.2.70
FIRE/EXPANSION JOINTS AT GARAGE



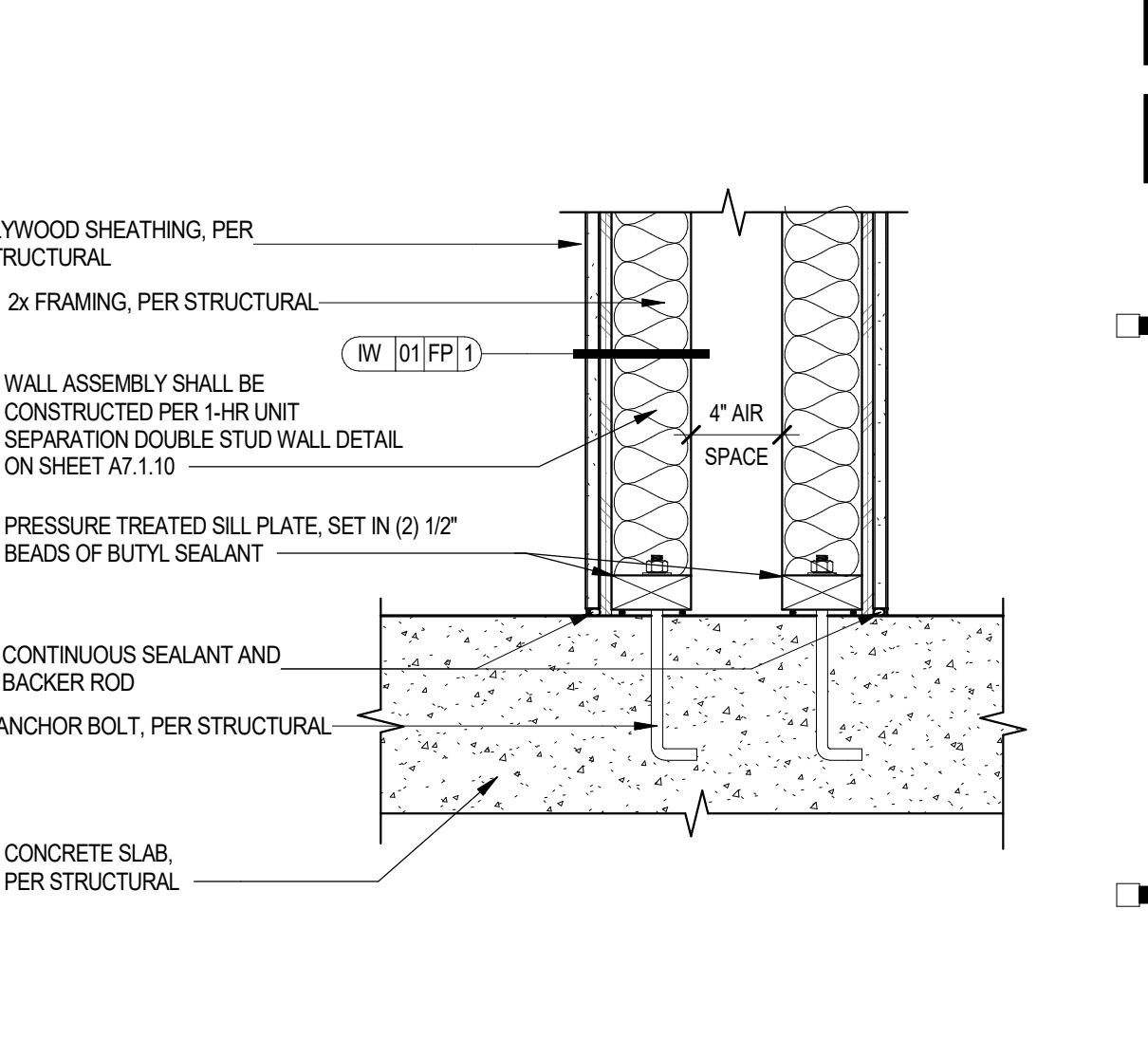
13 VERTICAL WATERPROOFING INSTALLATION
SCALE: 3" = 1'-0"



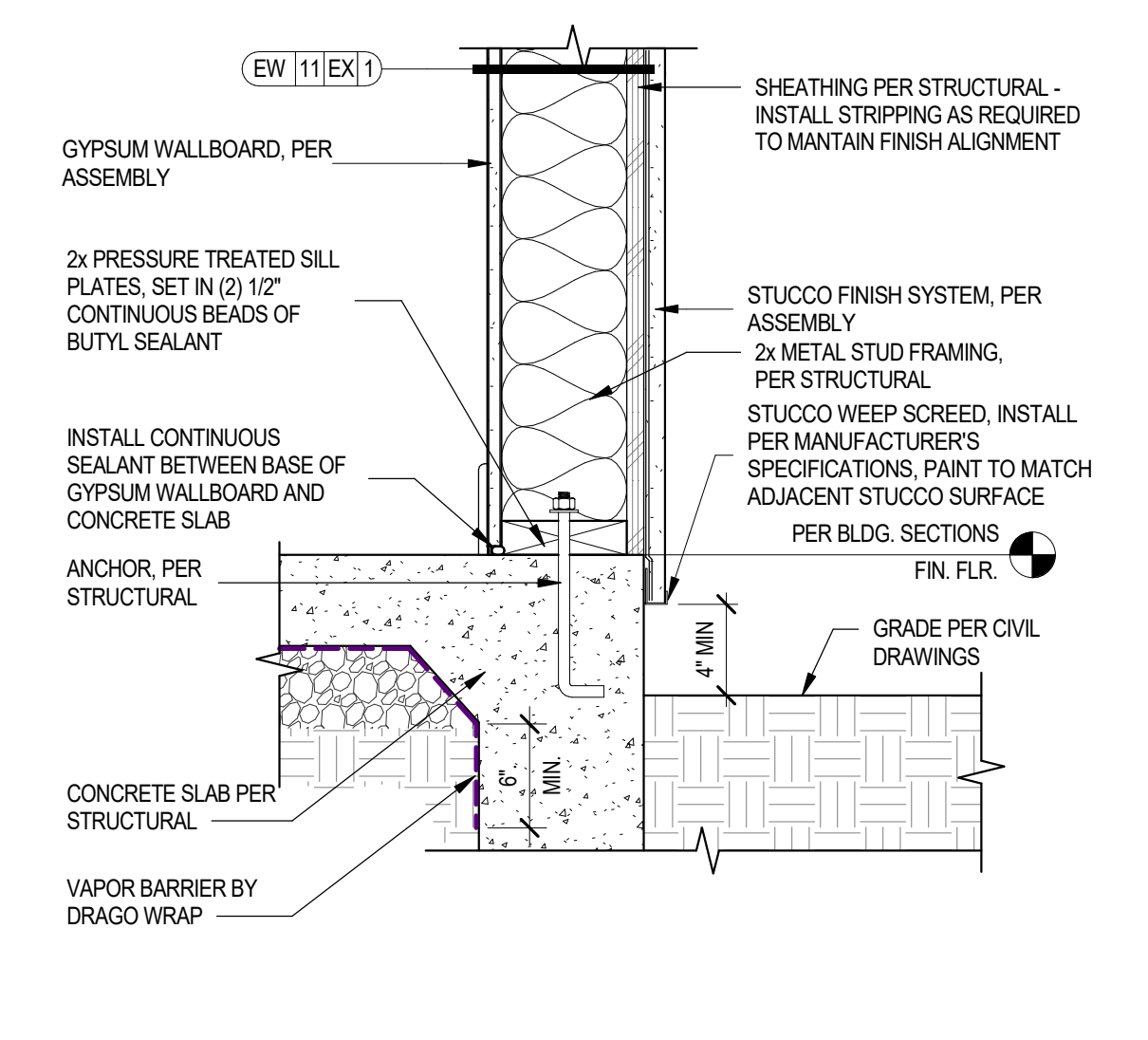
09 EXTERIOR BRICK VENEER OVER WOOD STUD WALL @ CONCRETE SLAB & SIDEWALK
SCALE: 1 1/2" = 1'-0"



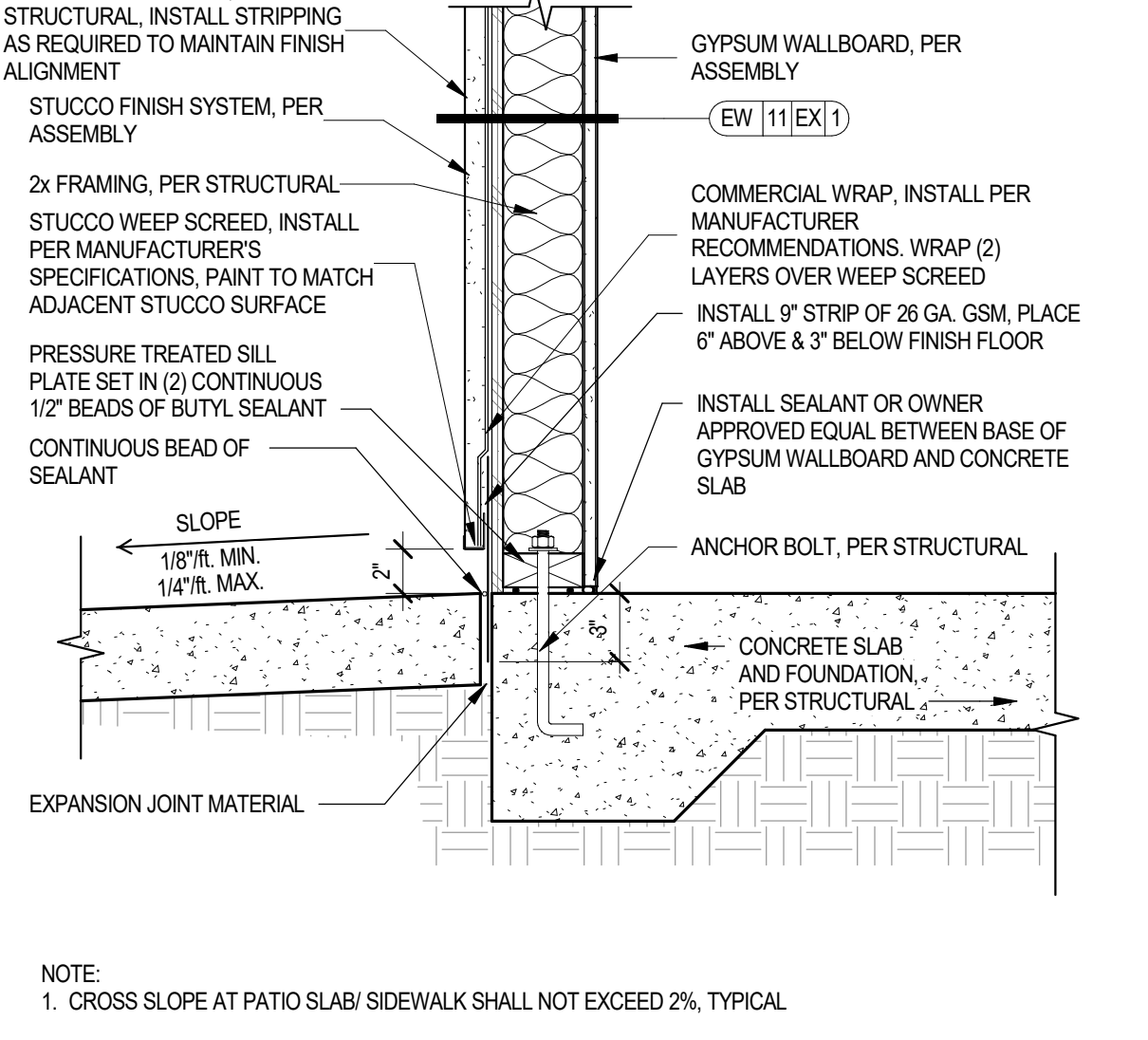
05 HARDIE BOARD EXTERIOR WALL SILL FLASHING AT SLAB ON GRADE
SCALE: 1 1/2" = 1'-0"



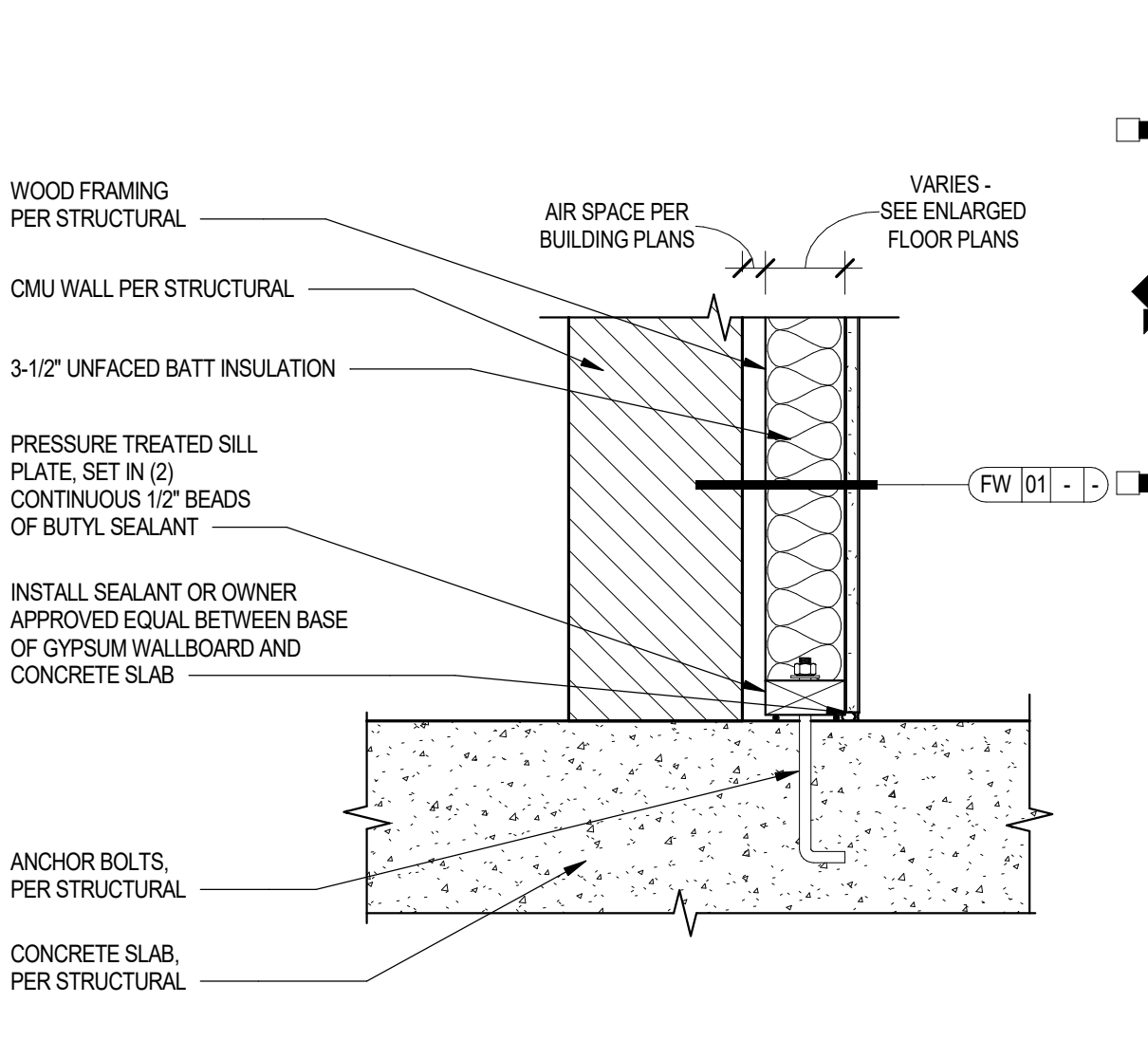
01 1-HR UNIT SEPARATION WALL AT SLAB
SCALE: 1 1/2" = 1'-0"



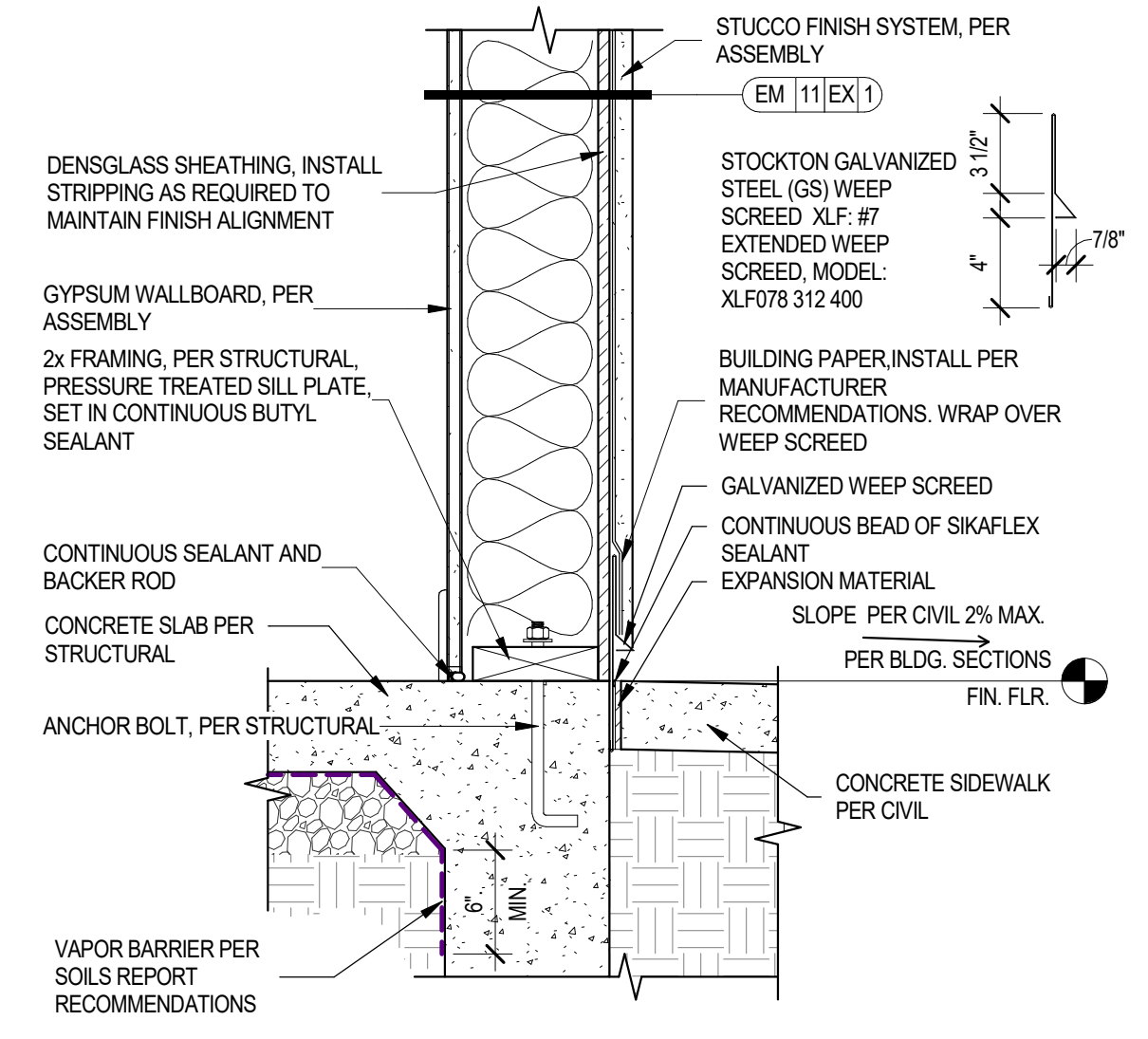
10 EXTERIOR STUCCO OVER WOOD STUD WALL @ CONCRETE SLAB
SCALE: 1 1/2" = 1'-0"



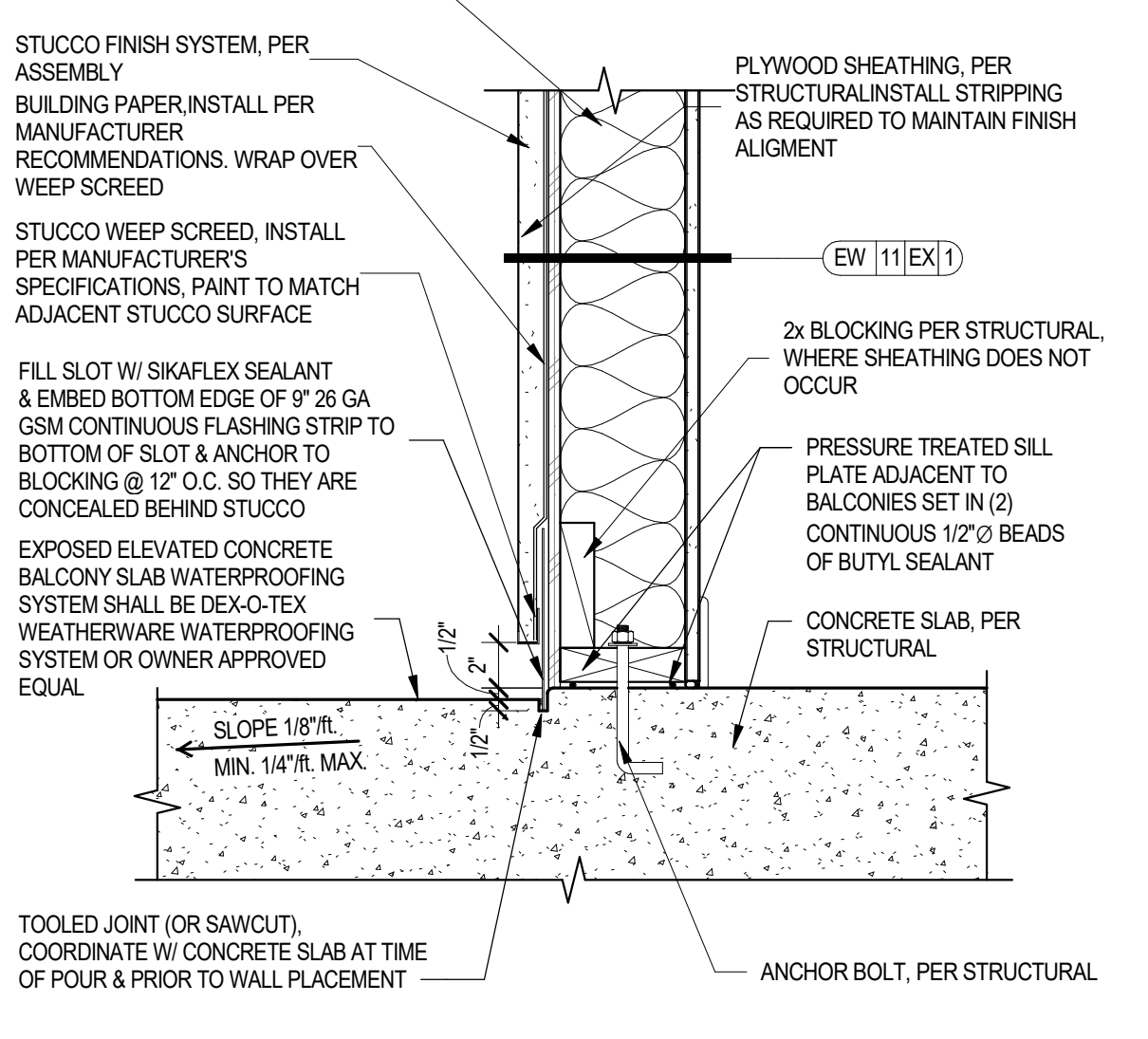
06 PATIO EXTERIOR WALL SILL FLASHING AT SLAB ON GRADE
SCALE: 1 1/2" = 1'-0"



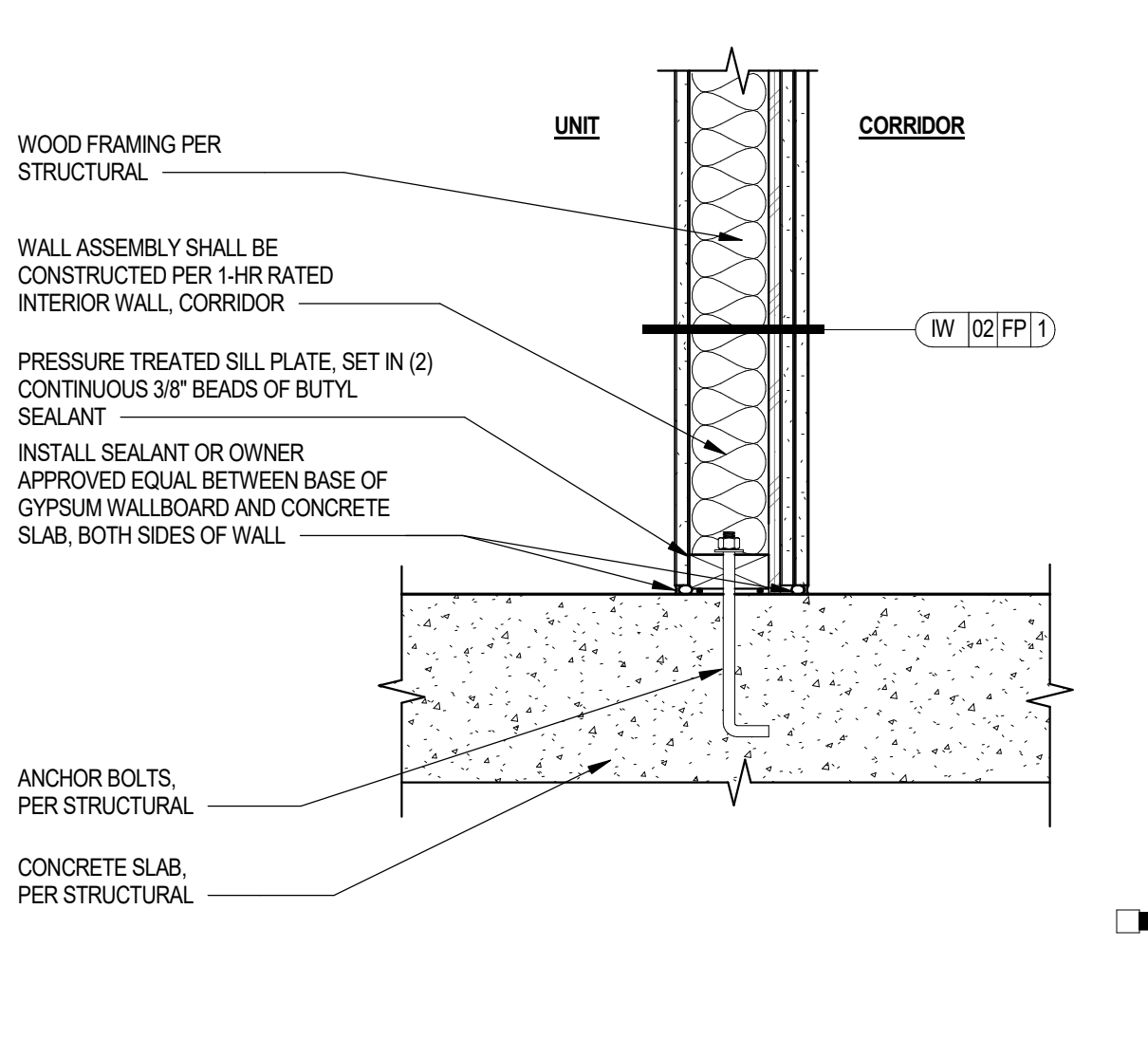
02 WOOD STUD WALL ADJACENT CMU WALL AT SLAB
SCALE: 1 1/2" = 1'-0"



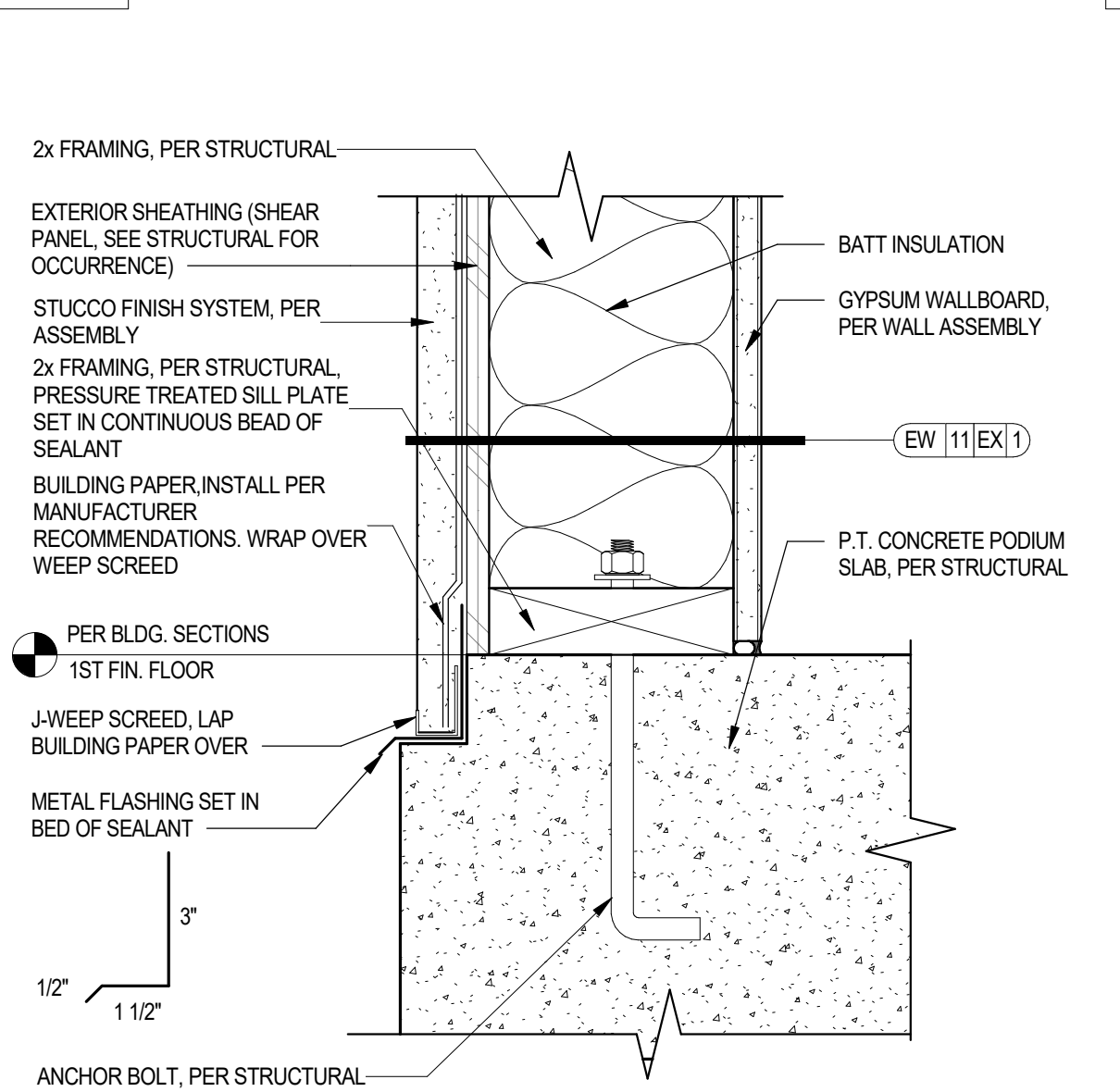
11 EXTERIOR STUCCO OVER WOOD STUD WALL @ CONCRETE SLAB & SIDEWALK
SCALE: 1 1/2" = 1'-0"



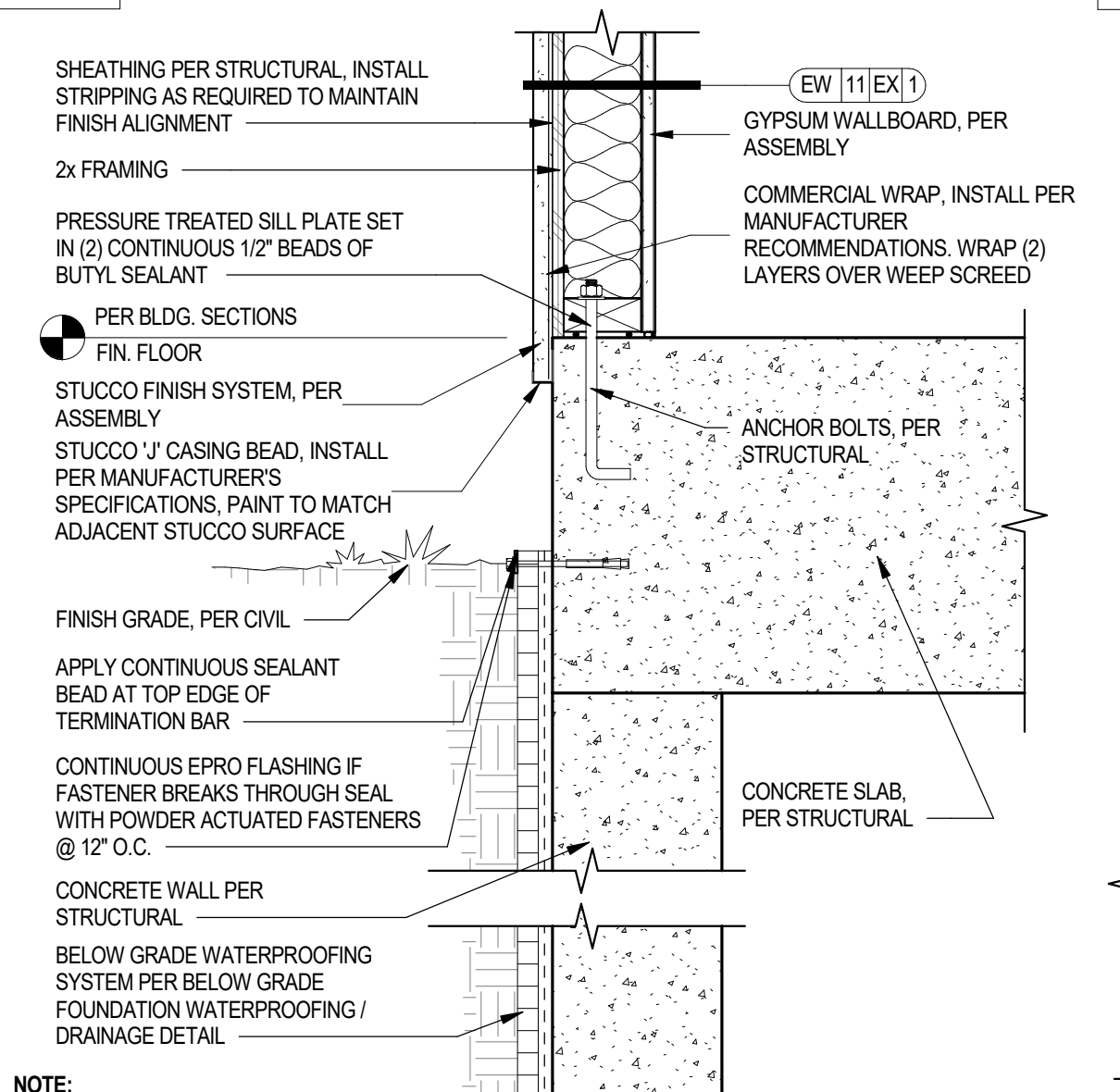
07 PATIO EXTERIOR WALL SILL FLASHING AT PODIUM PATIO
SCALE: 1 1/2" = 1'-0"



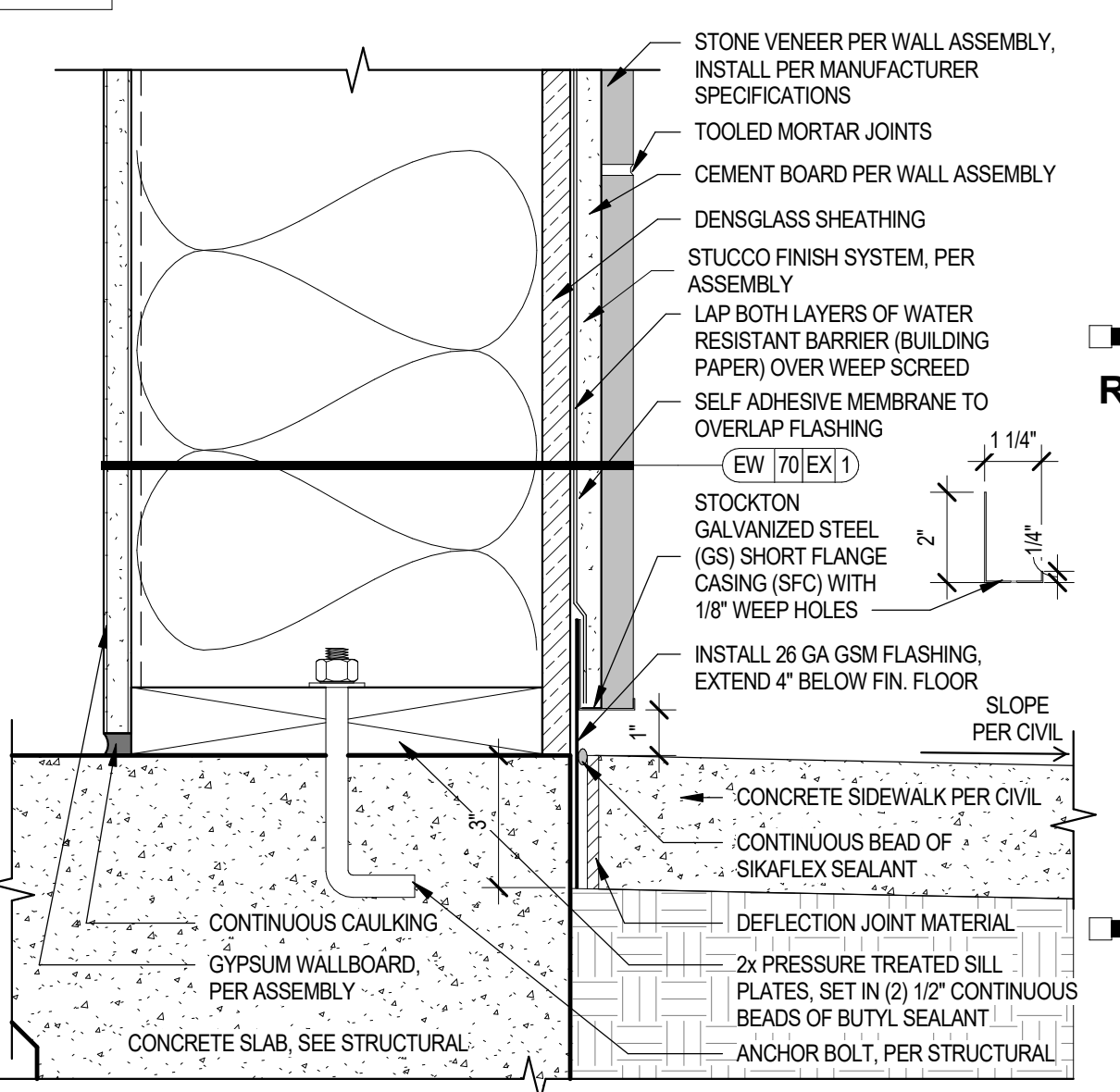
03 1-HR CORRIDOR WALL AT SLAB
SCALE: 1 1/2" = 1'-0"



12 SLAB NOTCH AT EXTERIOR STUCCO WALL
SCALE: 3" = 1'-0"



08 EXTERIOR WOOD FRAMING WALL AT PODIUM EDGE
SCALE: 1 1/2" = 1'-0"



04 STONE VENEER HORIZONTAL CONTROL JOINT @ CONCRETE SLAB - WOOD FRAMING
SCALE: 3" = 1'-0"

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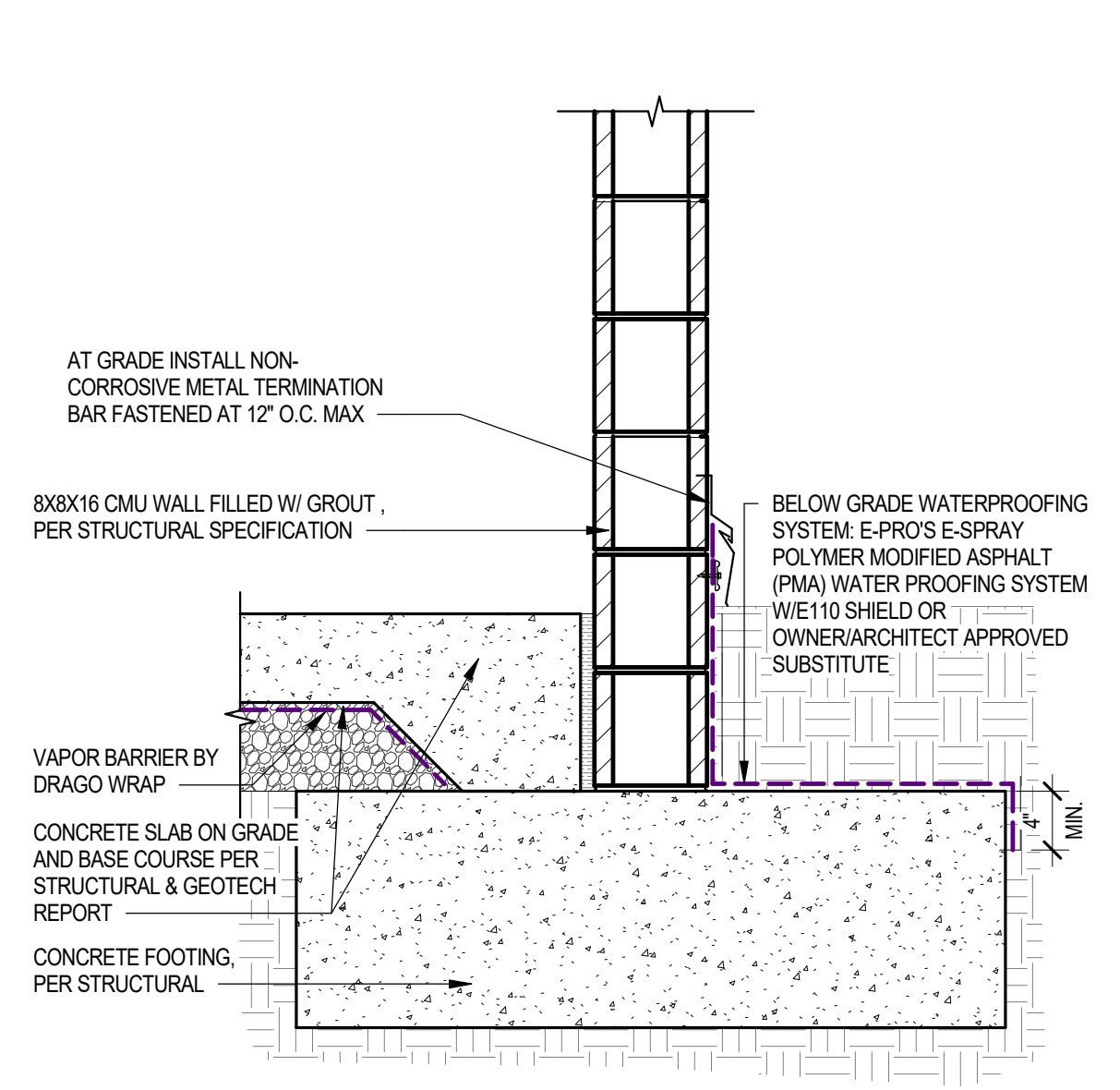
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REVISIONS/SUBMITTALS

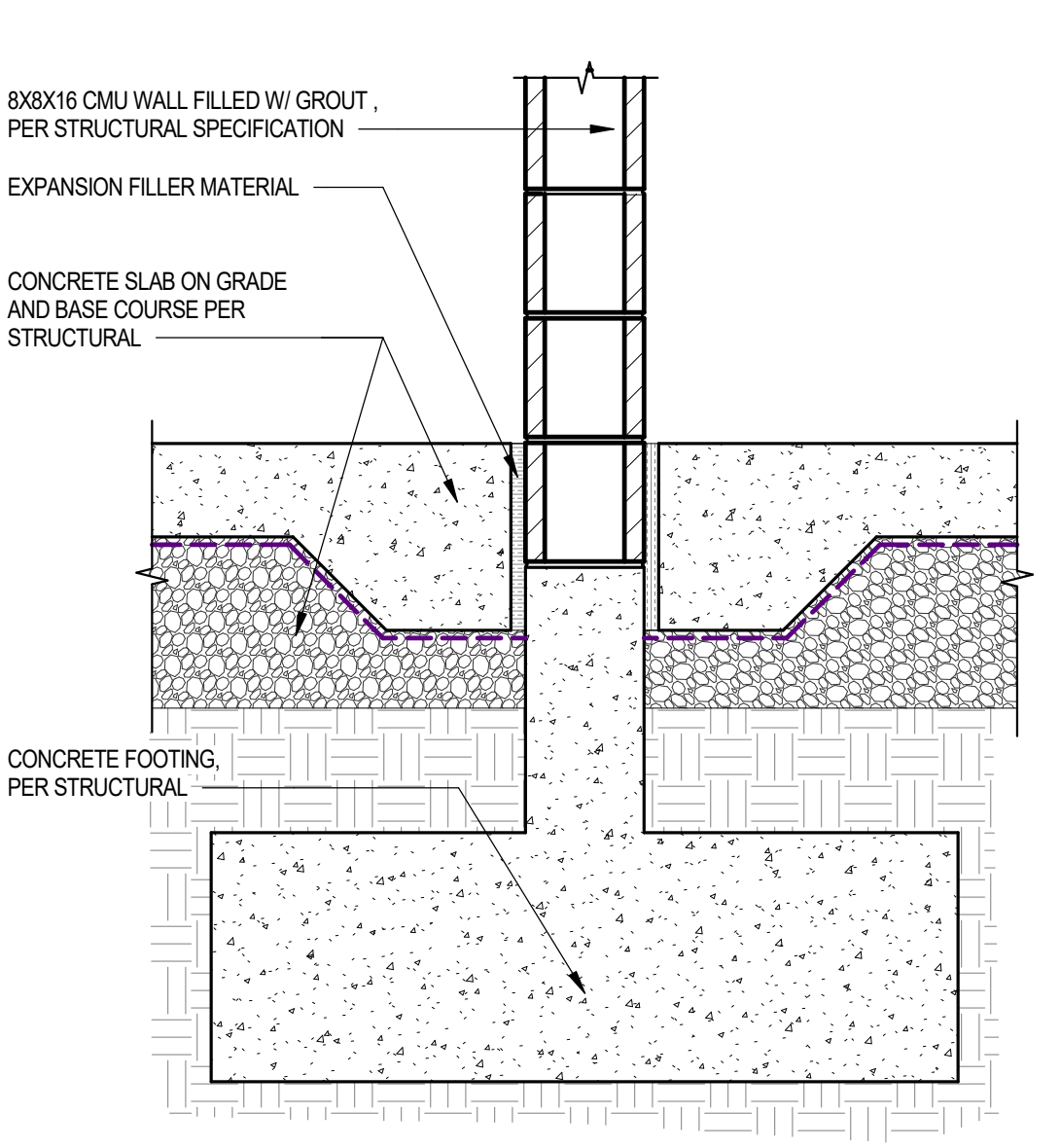
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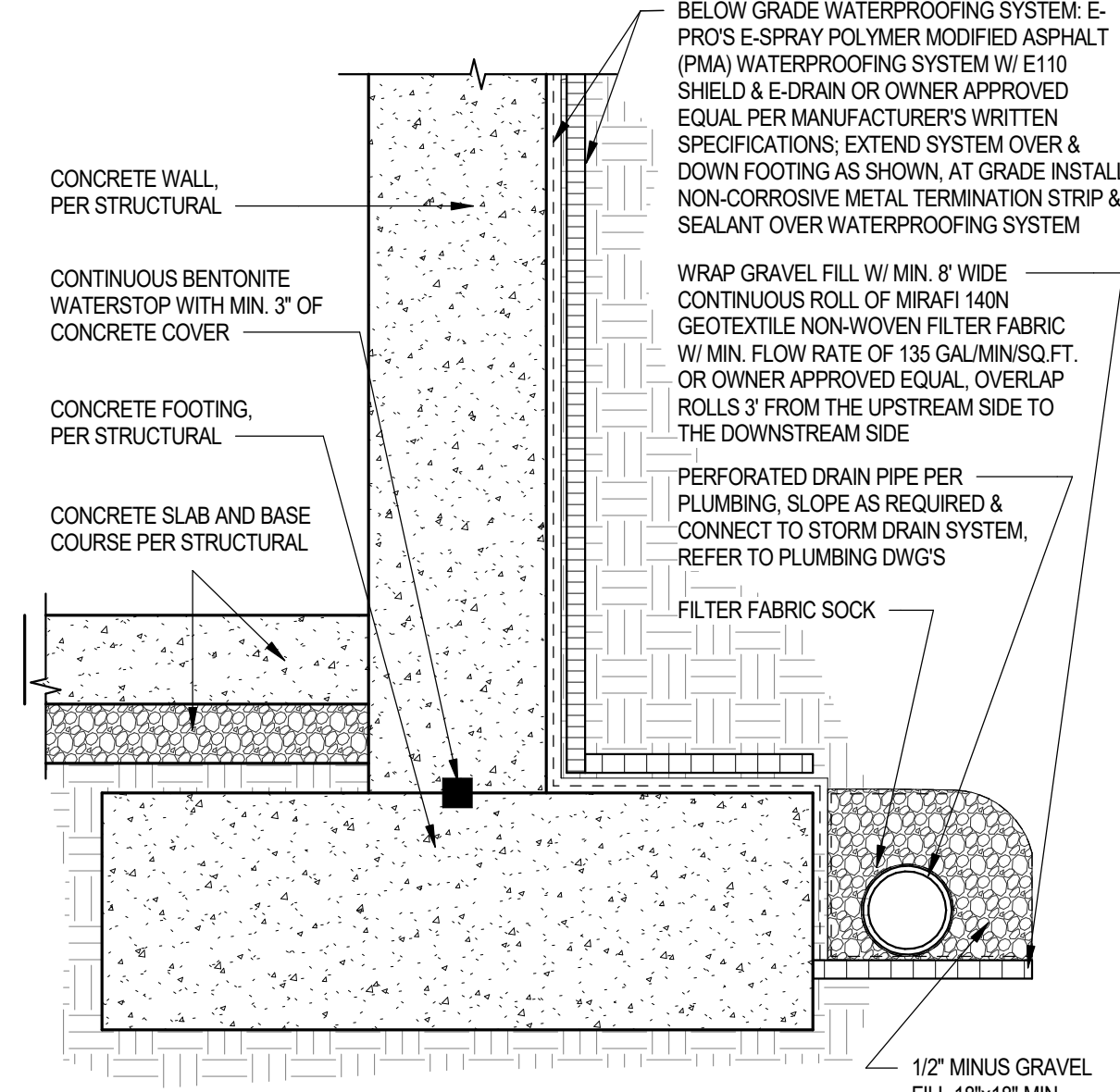
A7.3.10
FOUNDATION DETAILS-WOOD
FRAMED



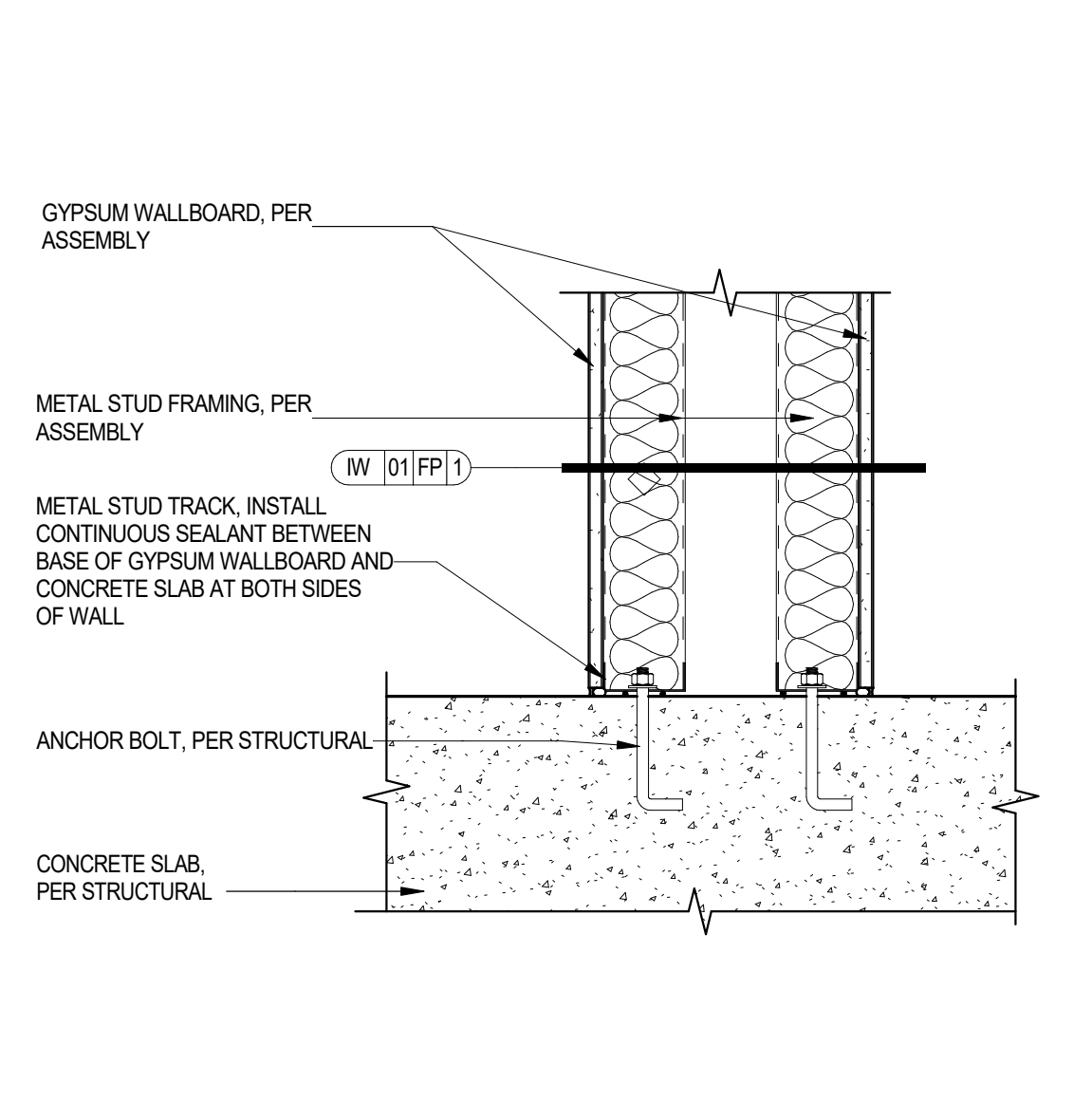
13 CMU WALL FOUNDATION
SCALE: 1" = 1'-0"



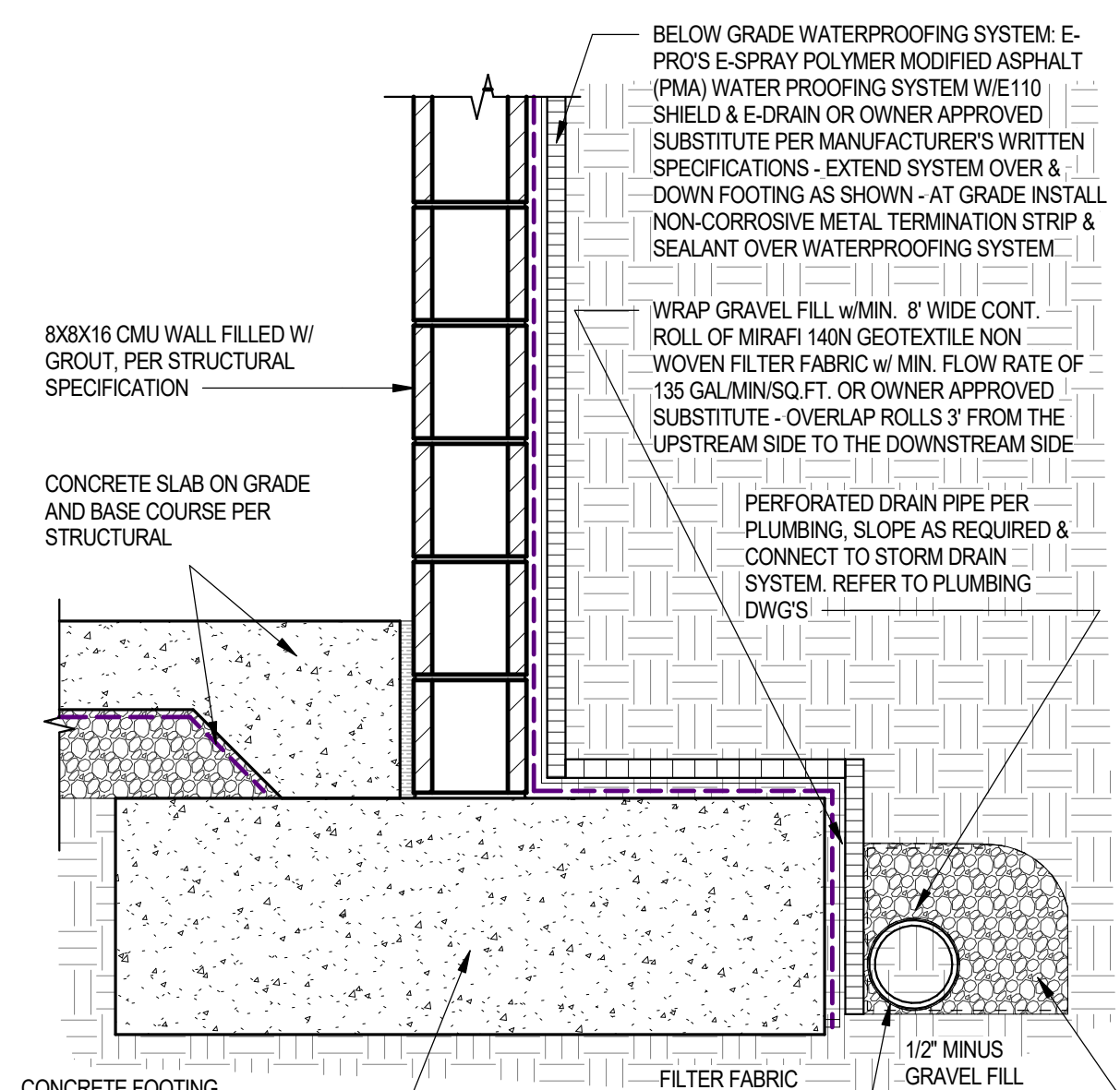
09 BELOW GRADE INTERIOR CMU FOUNDATION
SCALE: 1" = 1'-0"



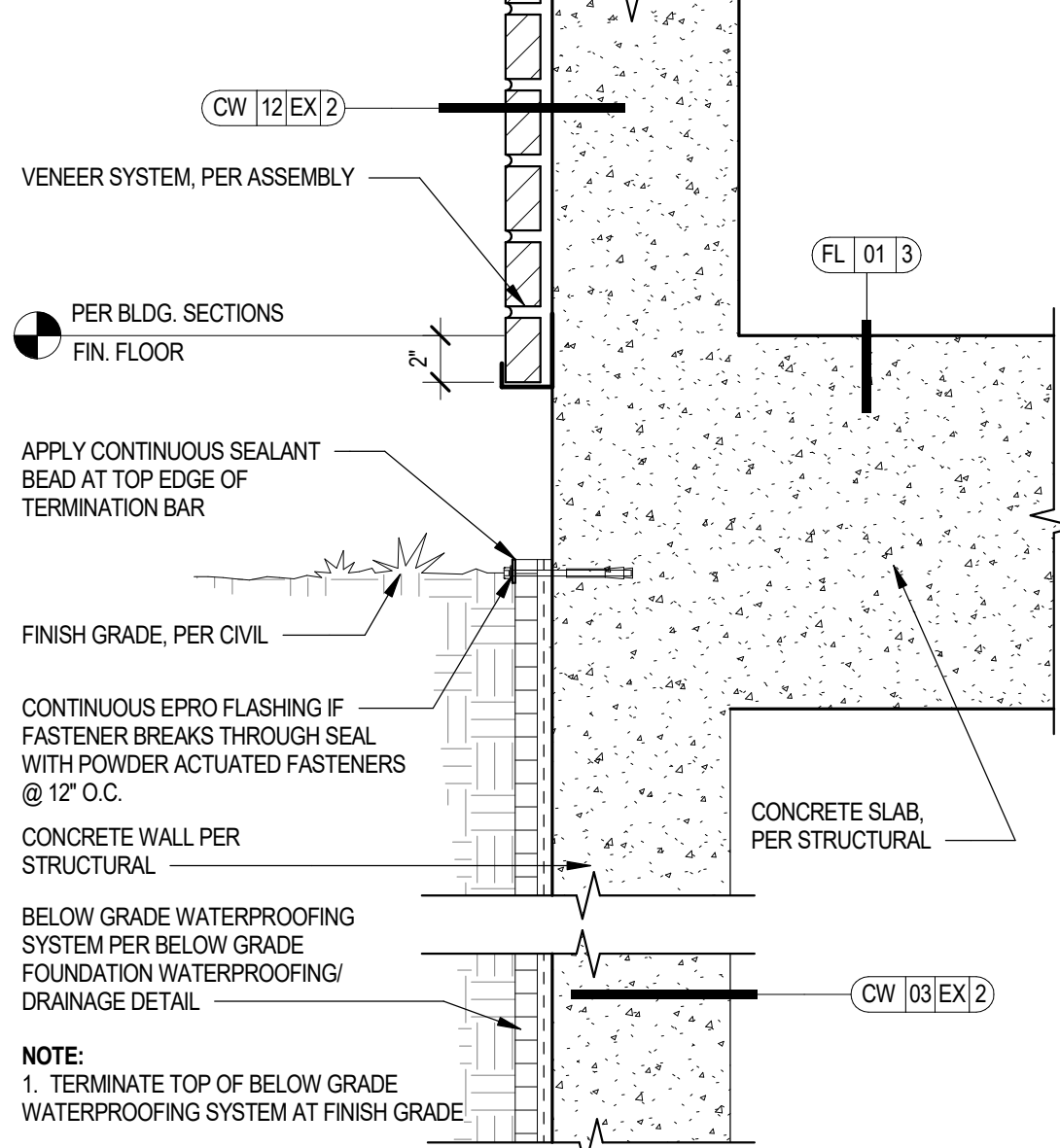
05 BELOW GRADE FOUNDATION WATERPROOFING/DRAINAGE
SCALE: 1" = 1'-0"



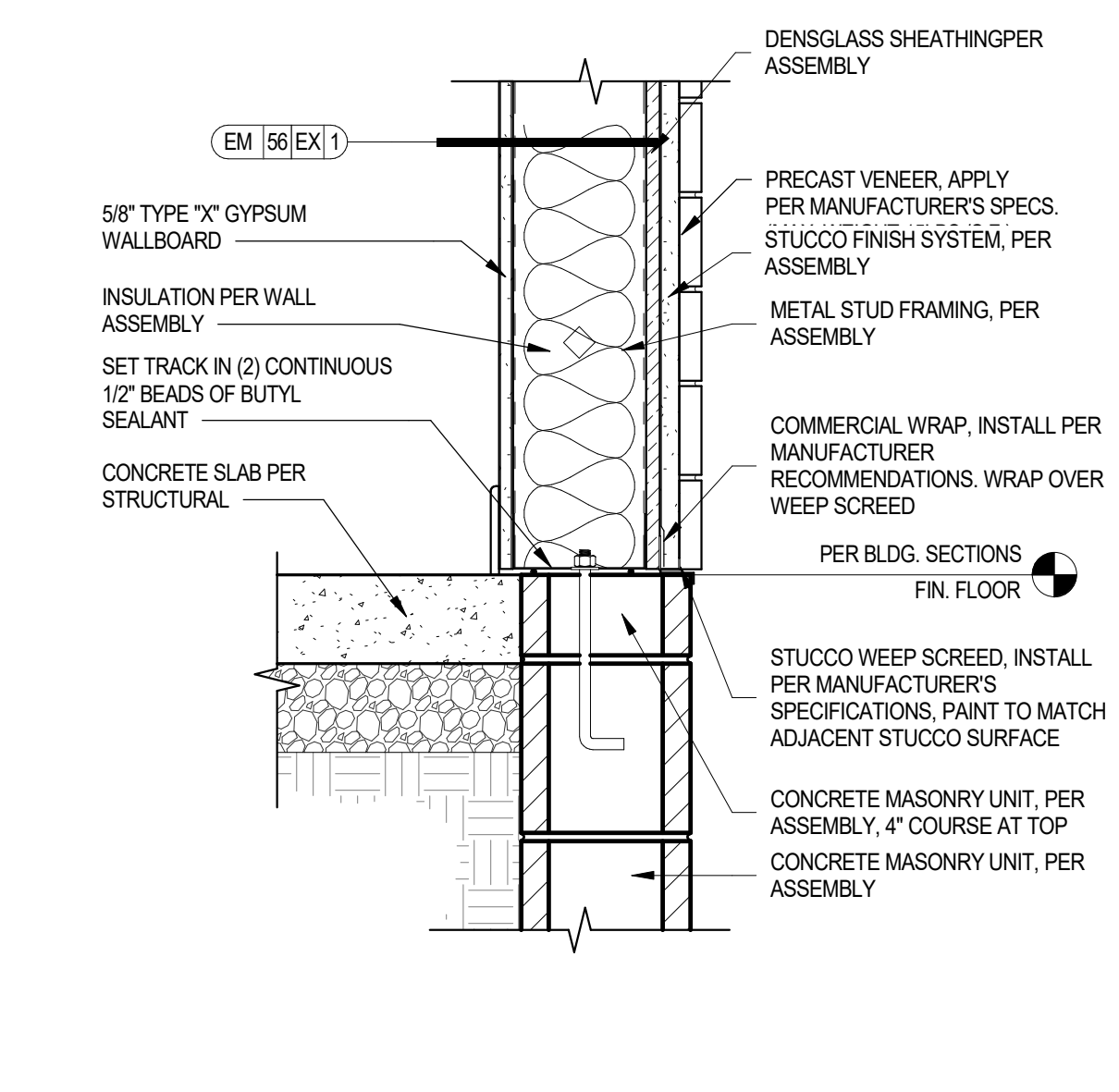
01 1-HR UNIT SEPARATION WALL AT SLAB - METAL FRAMING
SCALE: 1 1/2" = 1'-0"



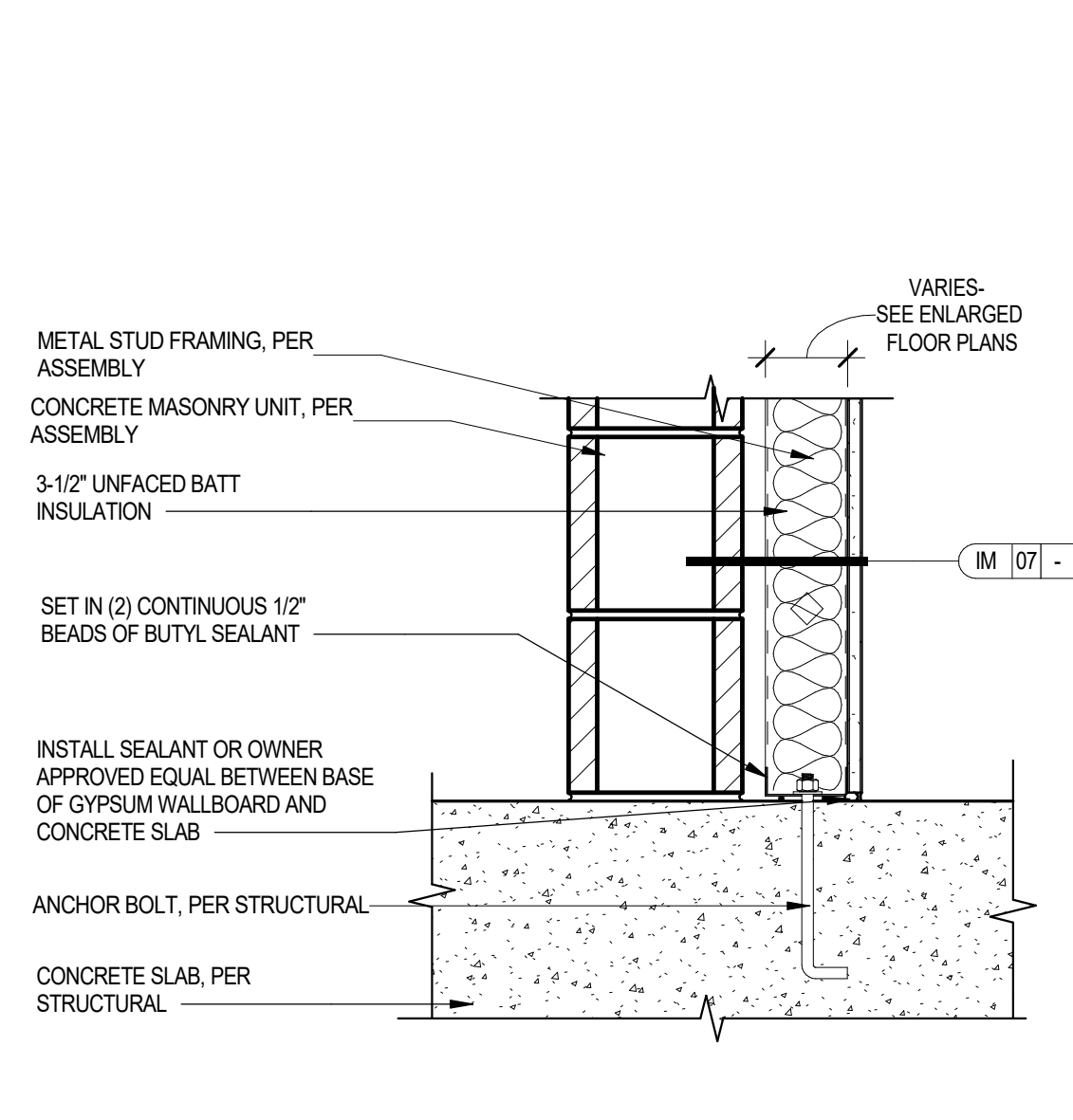
14 BELOW GRADE CMU FOUNDATION
SCALE: 1" = 1'-0"



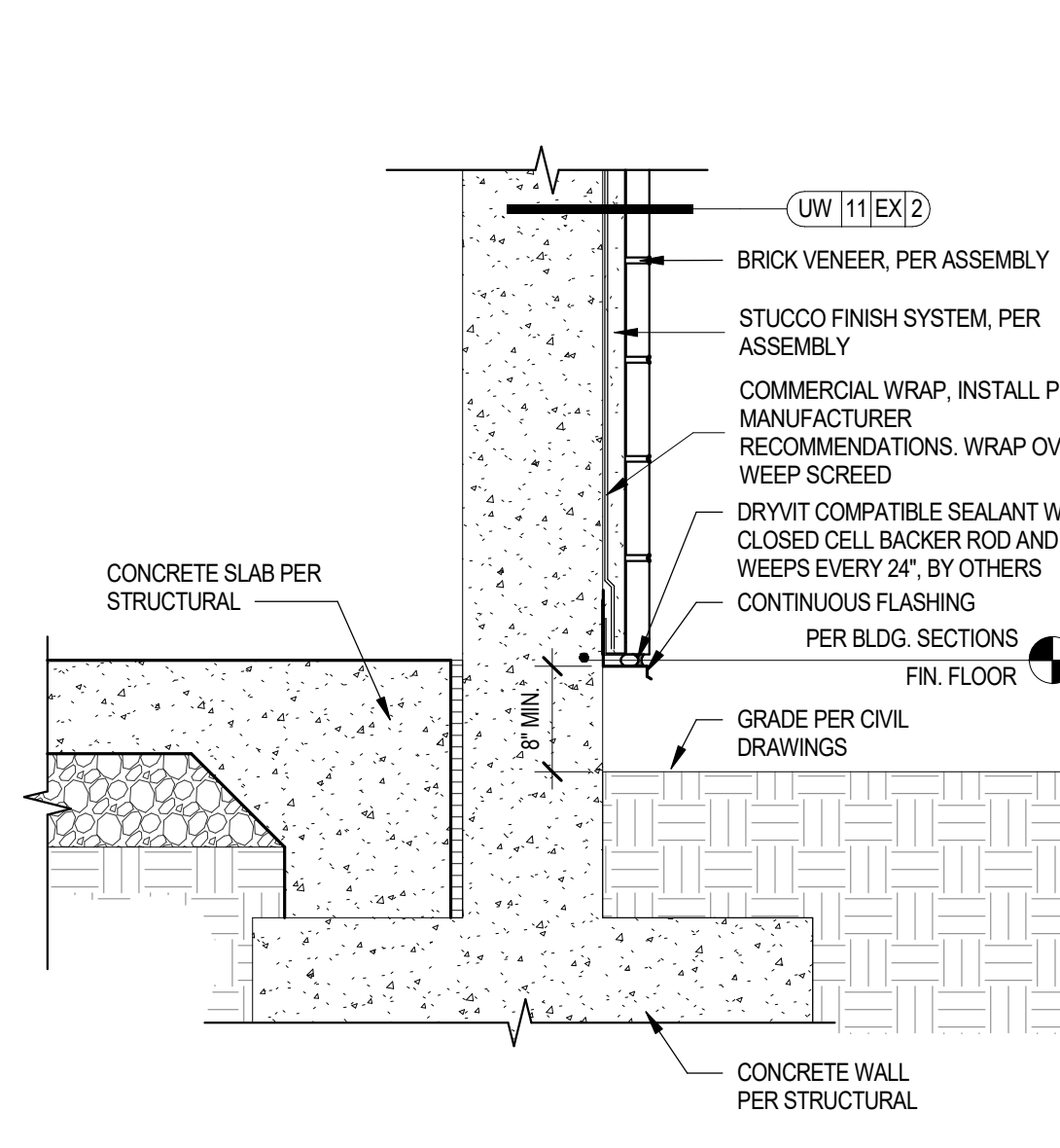
10 CONCRETE WALL WATERPROOFING AT PODIUM EDGE
SCALE: 1 1/2" = 1'-0"



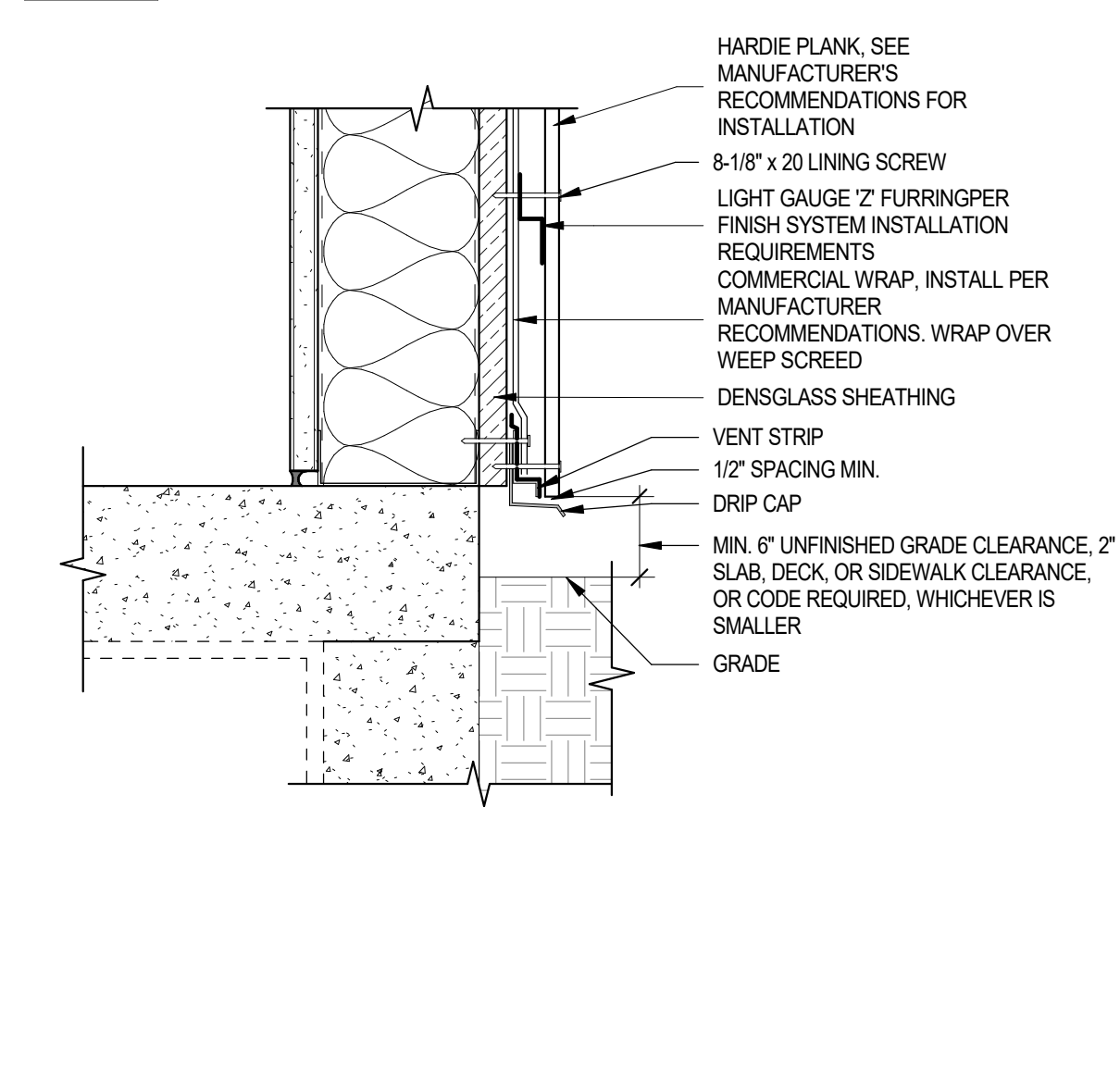
06 EXTERIOR METAL STUD & CMU WALL @ PATIO SLAB
SCALE: 1 1/2" = 1'-0"



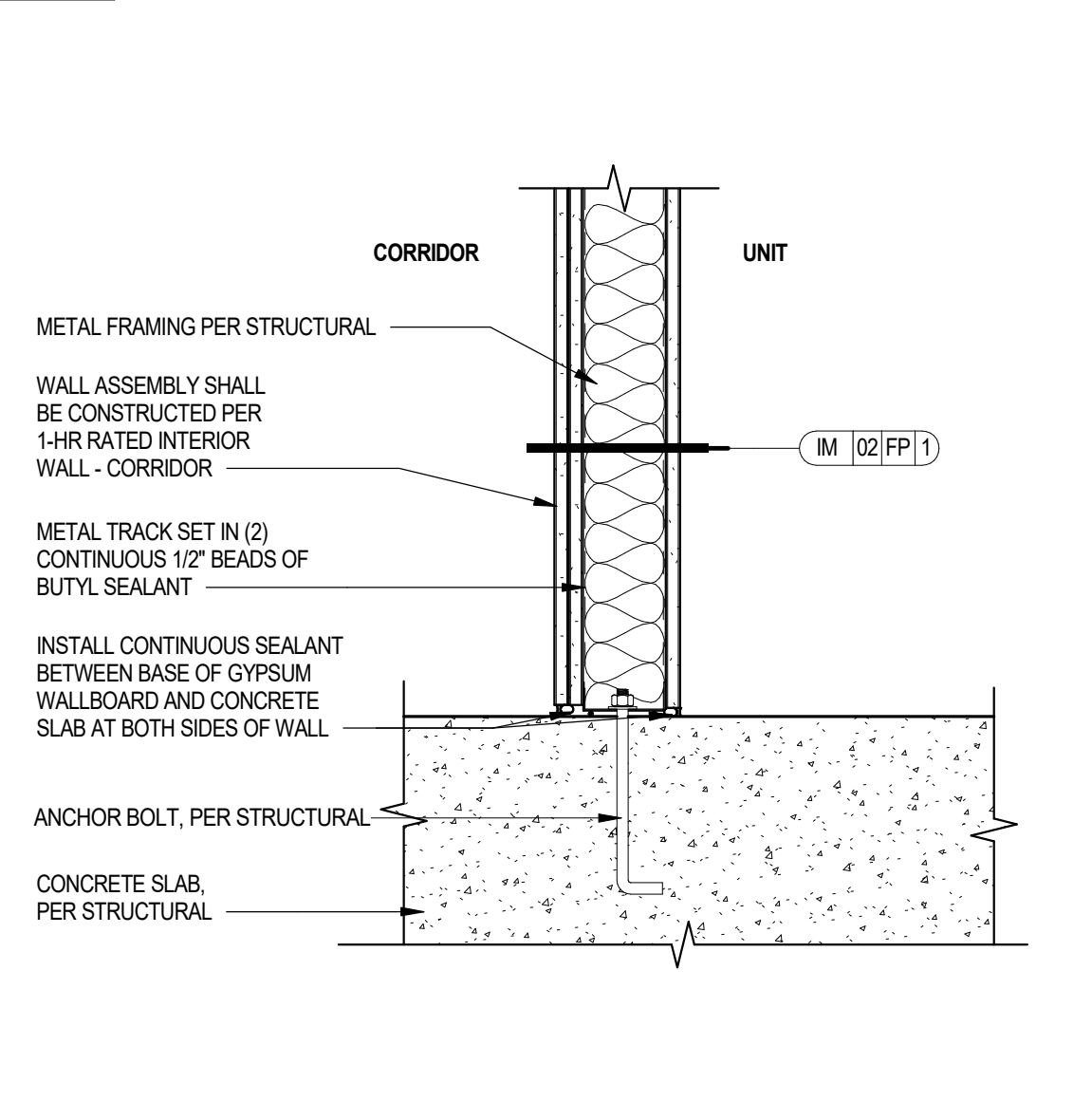
02 METAL FRAMING WALL ADJACENT CMU / CONCRETE WALL AT SLAB
SCALE: 1 1/2" = 1'-0"



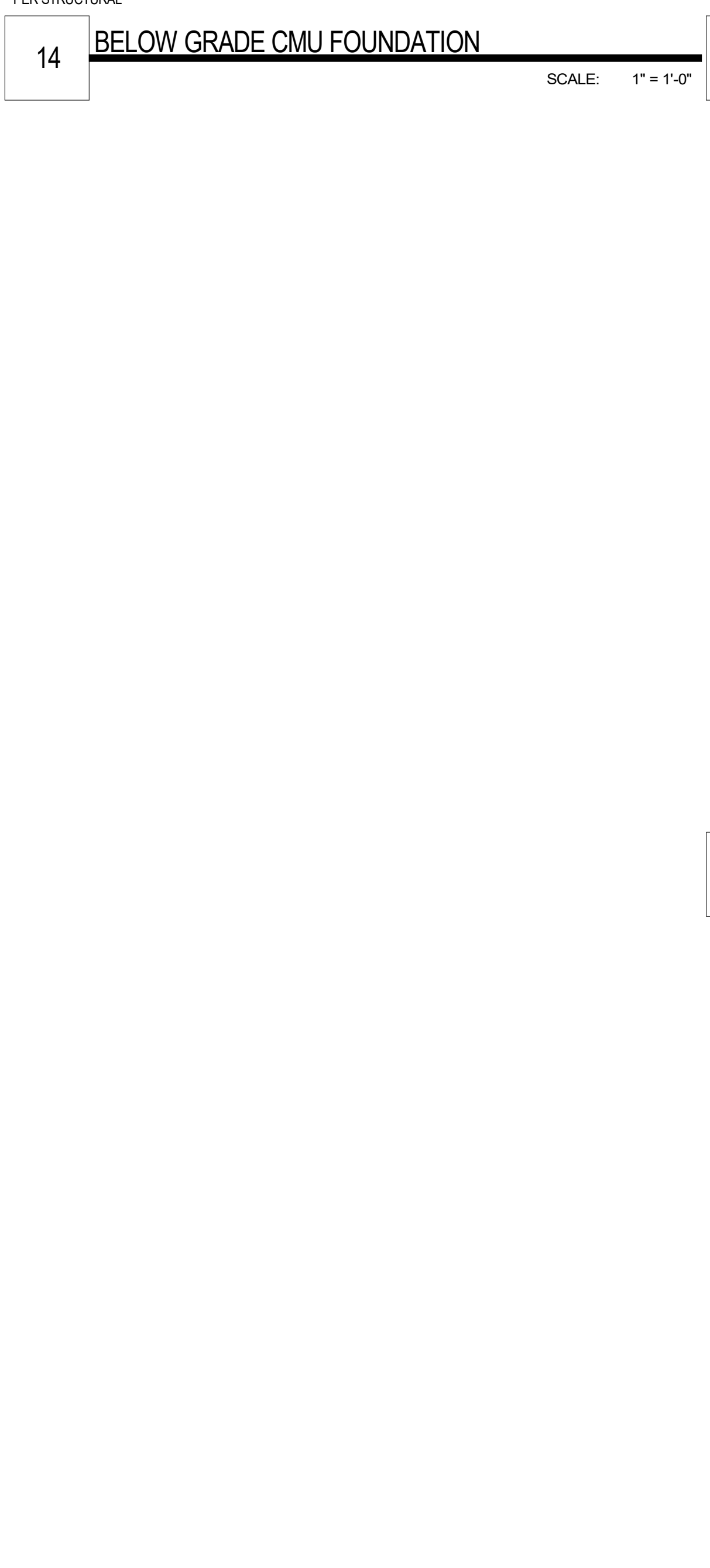
11 BRICK VENEER OVER CONCRETE WALL AT CONCRETE SLAB
SCALE: 1 1/2" = 1'-0"



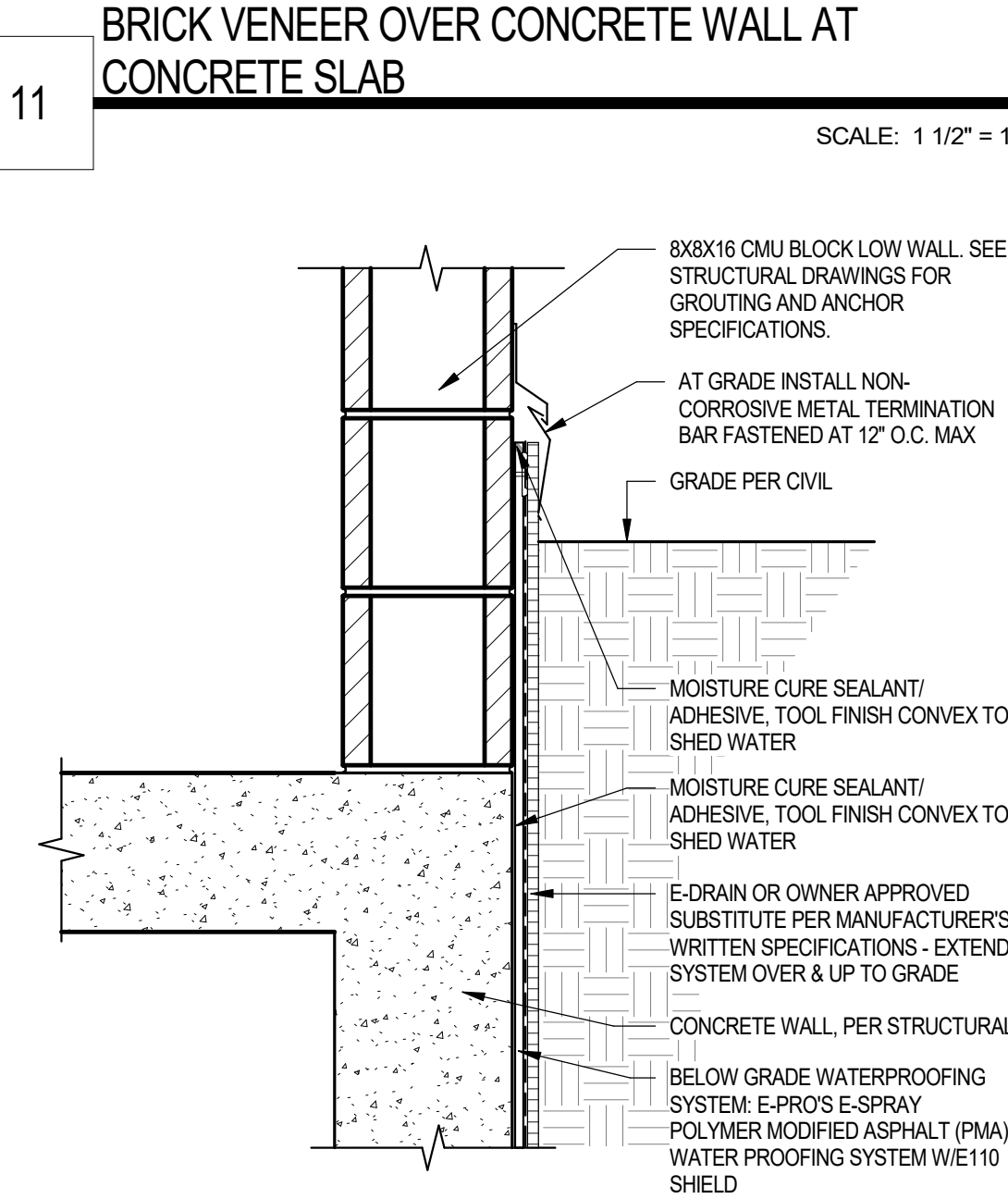
07 SECTION DETAIL - FOUNDATION @ GRADE METAL FRAME
SCALE: 3" = 1'-0"



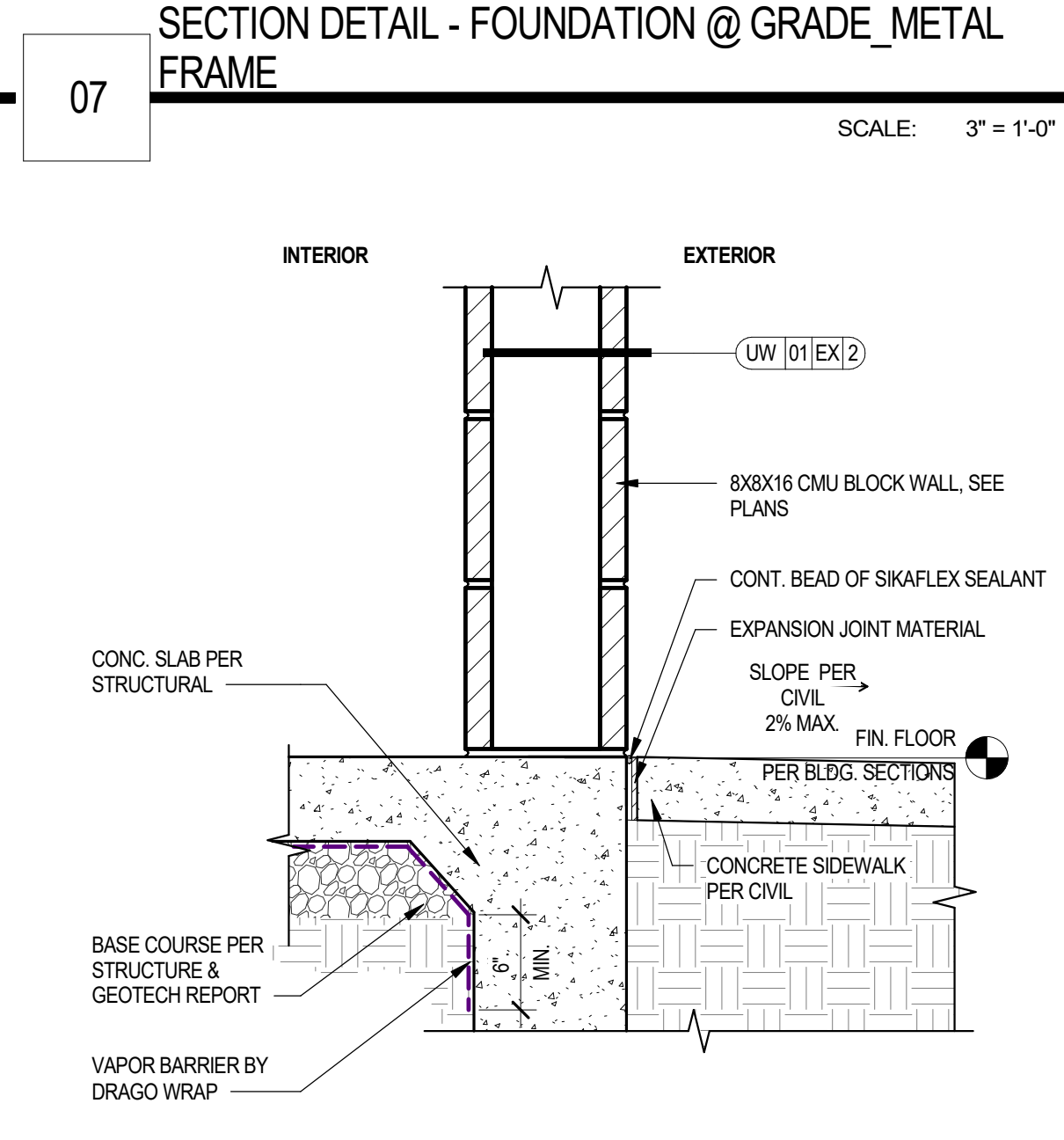
03 1-HR CORRIDOR WALL AT SLAB - METAL FRAMING
SCALE: 1 1/2" = 1'-0"



12 BELOW GRADE FOUNDATION WATERPROOFING TERMINATION AT GRADE
SCALE: 1 1/2" = 1'-0"



08 EXTERIOR CMU WALL @ CONCRETE SLAB & SIDEWALK
SCALE: 1 1/2" = 1'-0"



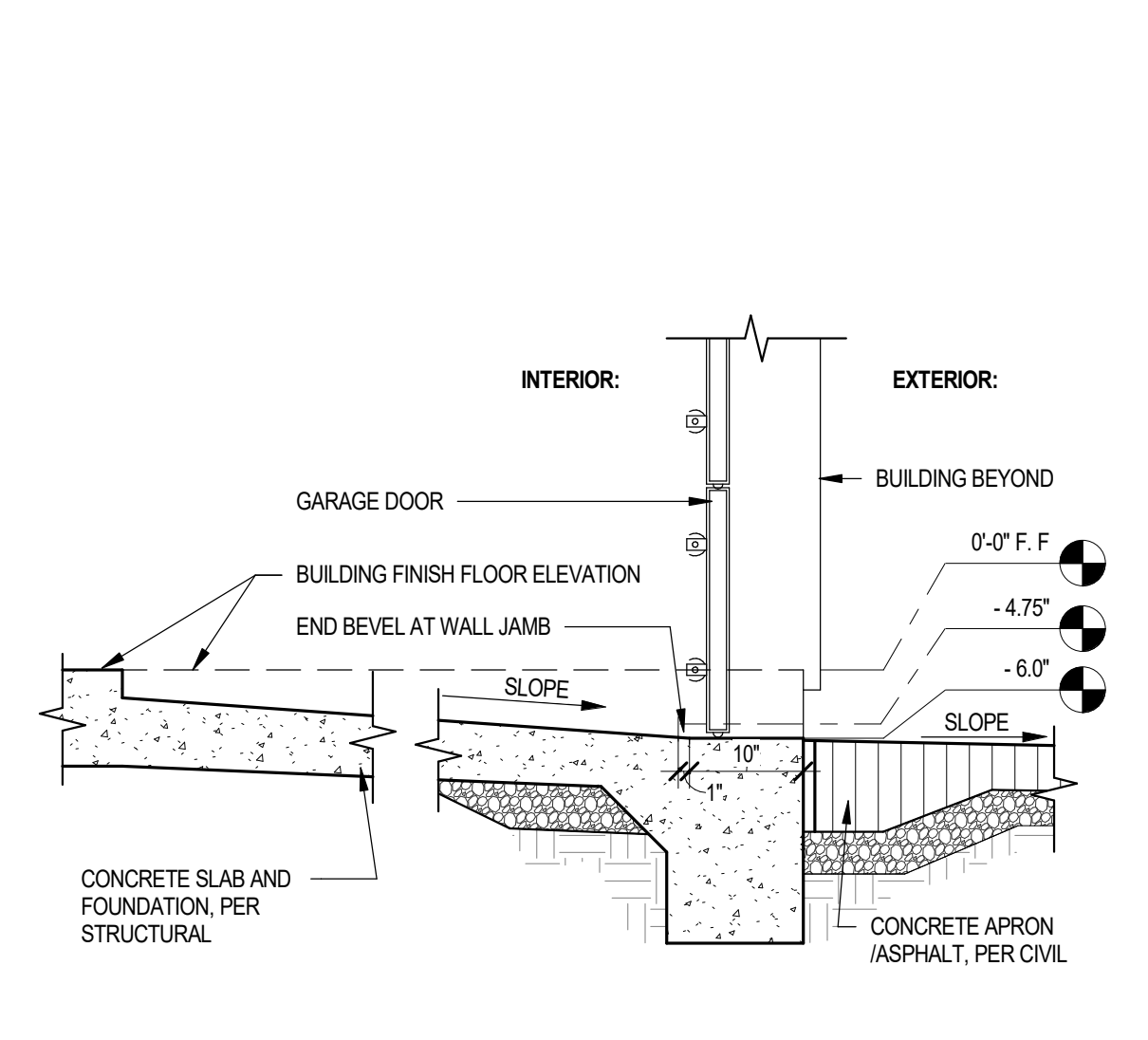
04 EXTERIOR BRICK VENEER OVER METAL STUD WALL @ PATIO SLAB
SCALE: 1 1/2" = 1'-0"

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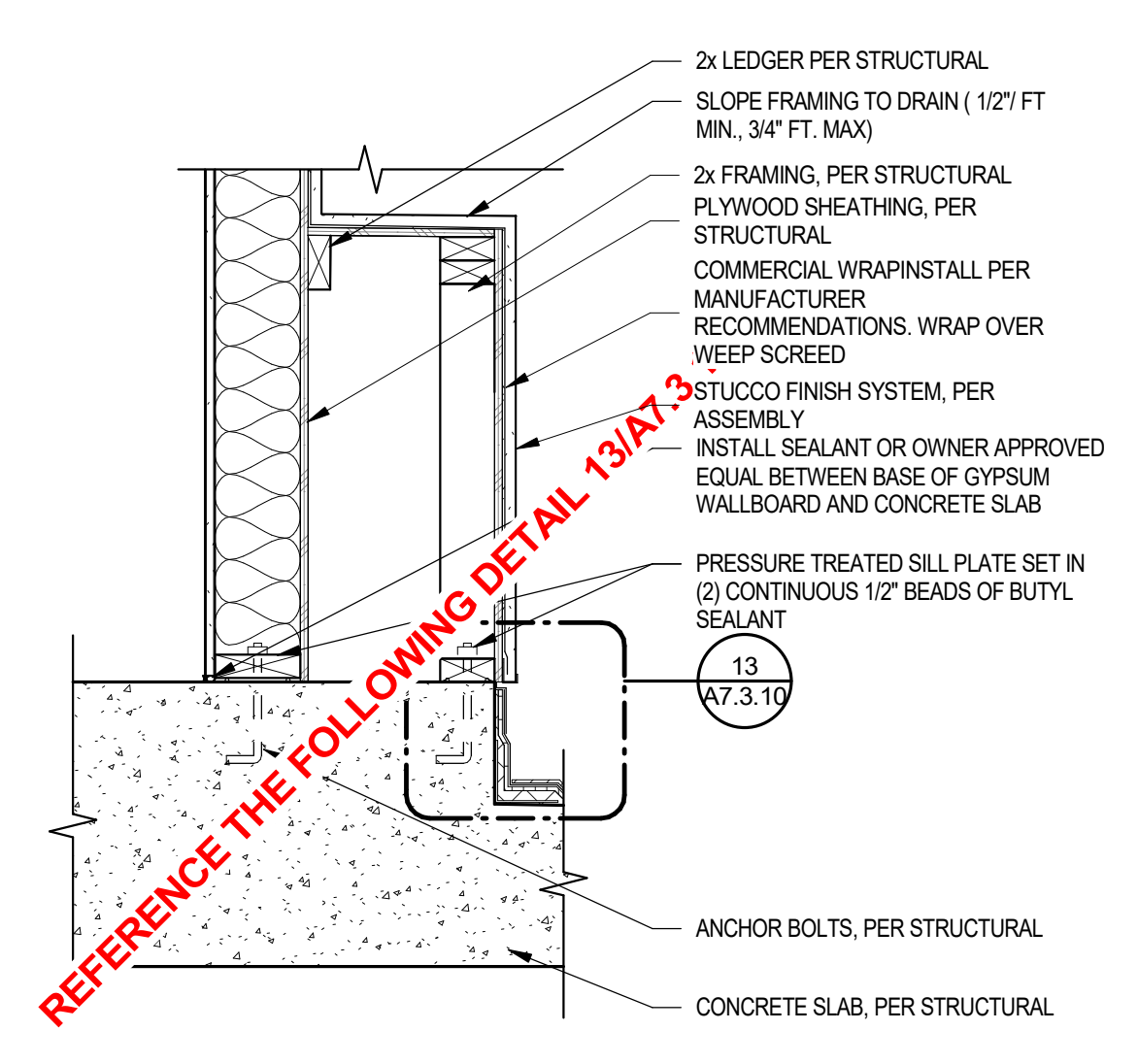
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REVISIONS/SUBMITTALS

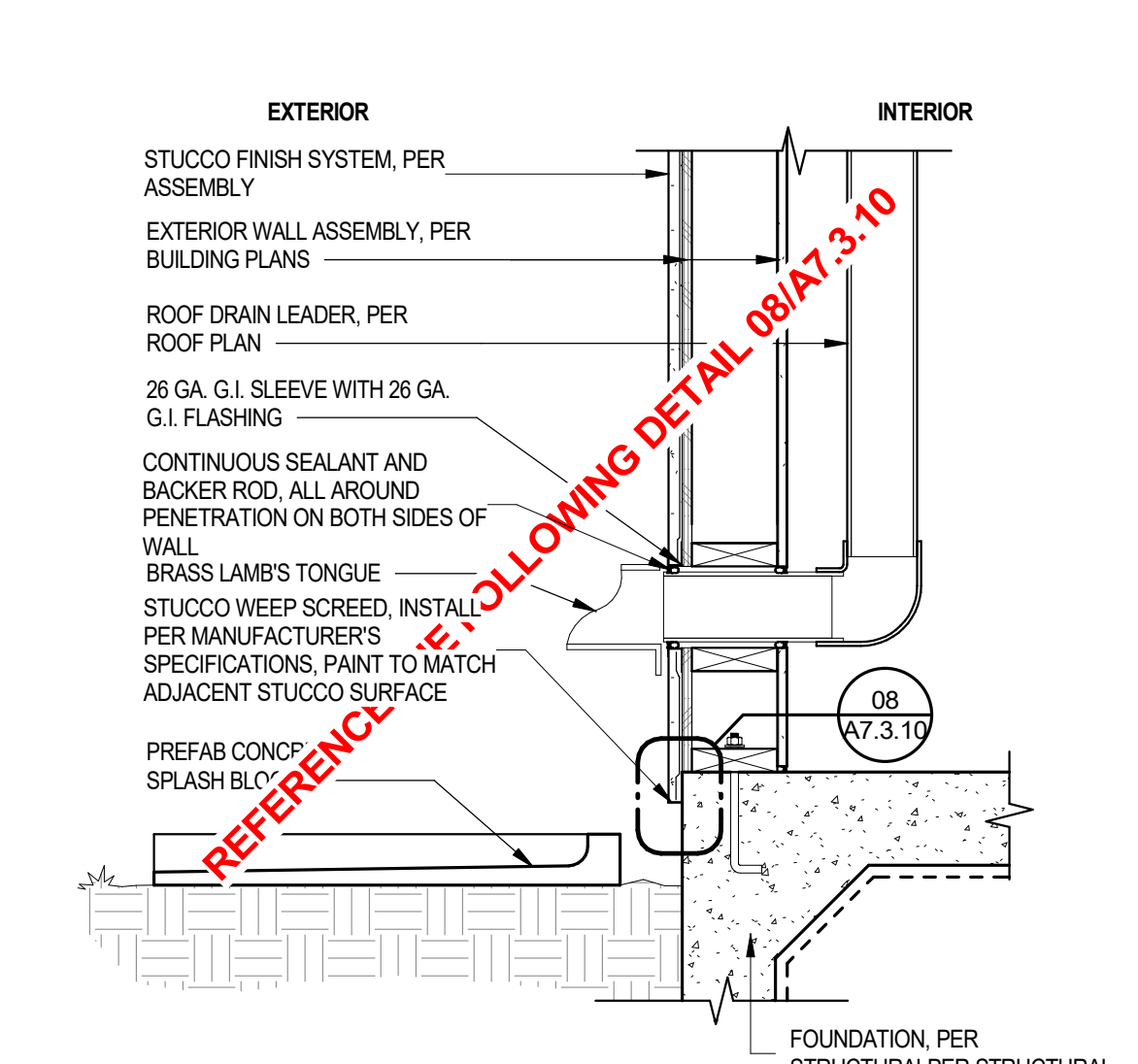
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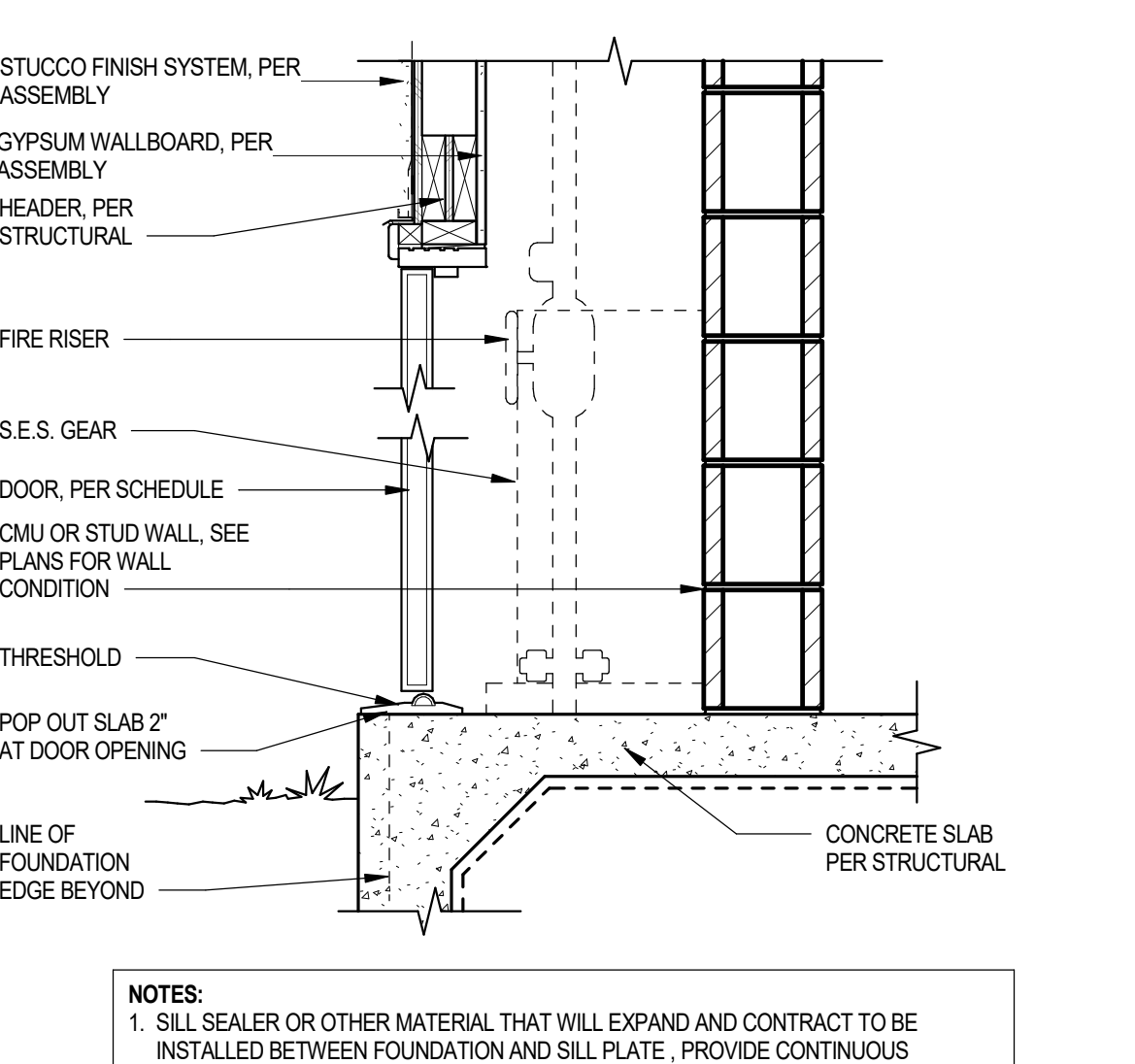
17 GARAGE DOOR AT CONCRETE SLAB
SCALE: 3/4" = 1'-0"



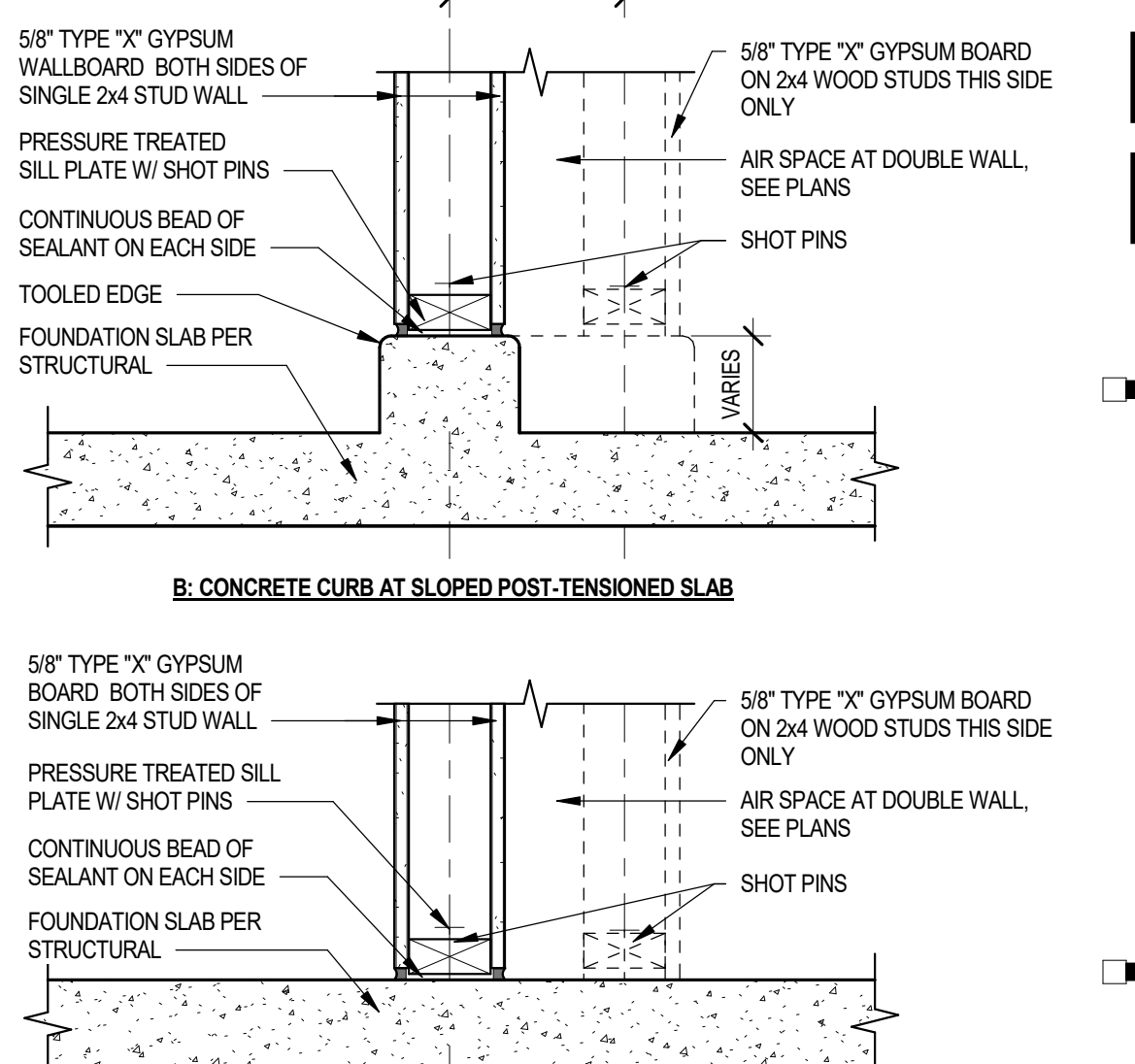
13 STUCCO BUILD-OUT AT PODIUM
SCALE: 1" = 1'-0"



09 ROOF DRAIN SECTION THRU 2X EXTERIOR WALL
SCALE: 1" = 1'-0"



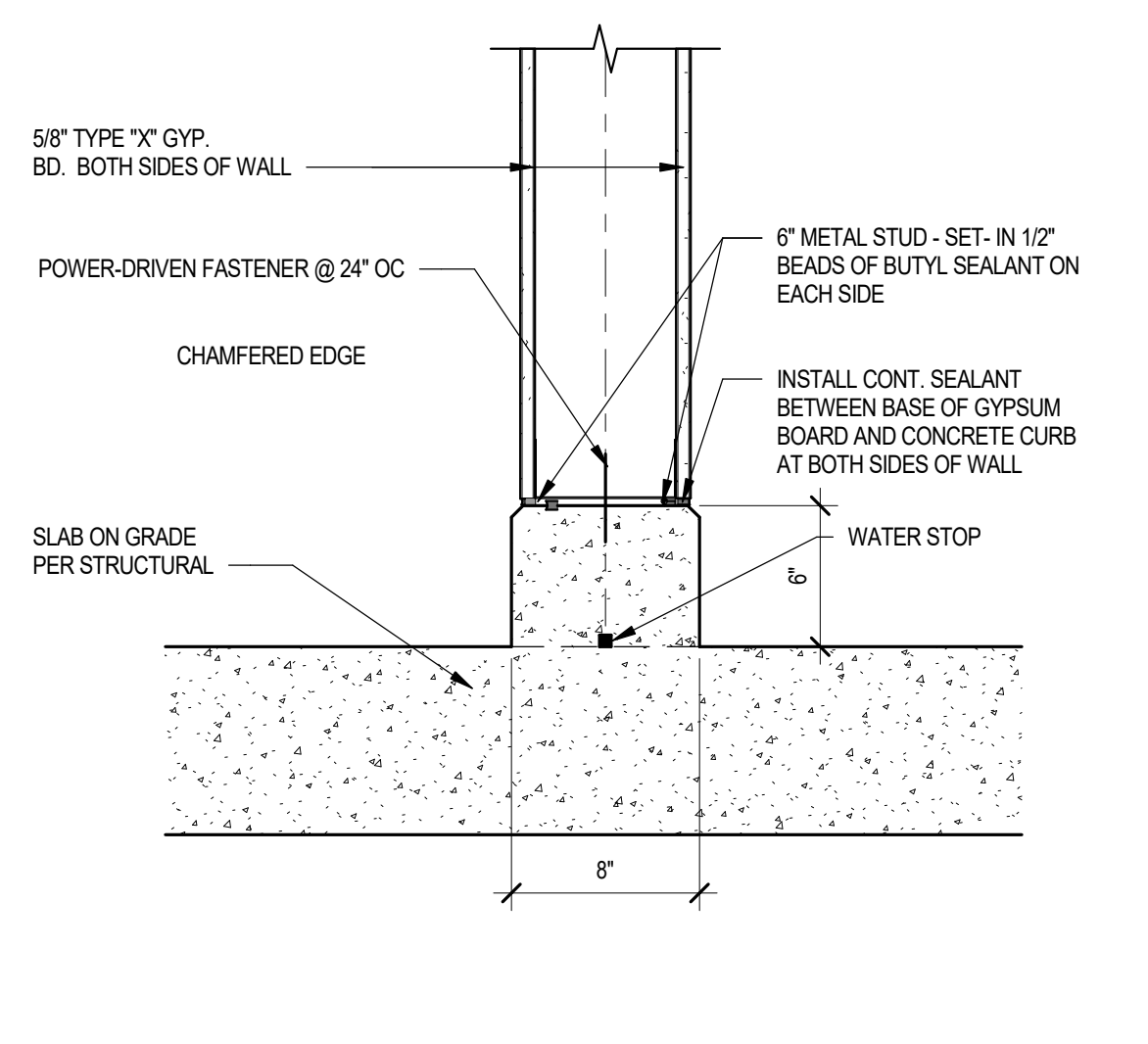
05 FIRE RISER / ELECTRICAL ROOMS
NOT TO SCALE



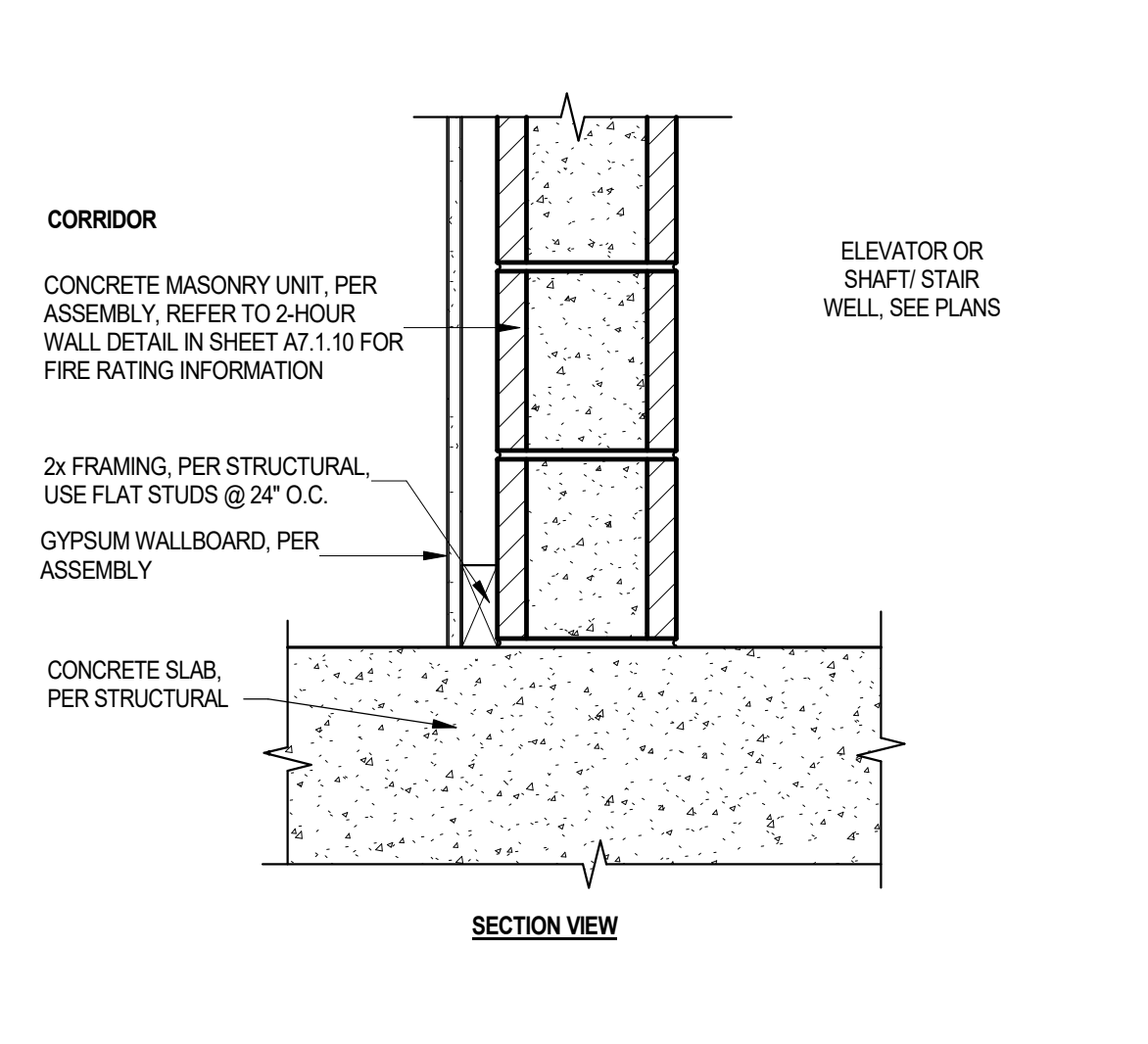
01 SILL PLATE AT INTERMEDIATE GARAGE 2x4 WALL
SCALE: 1 1/2" = 1'-0"



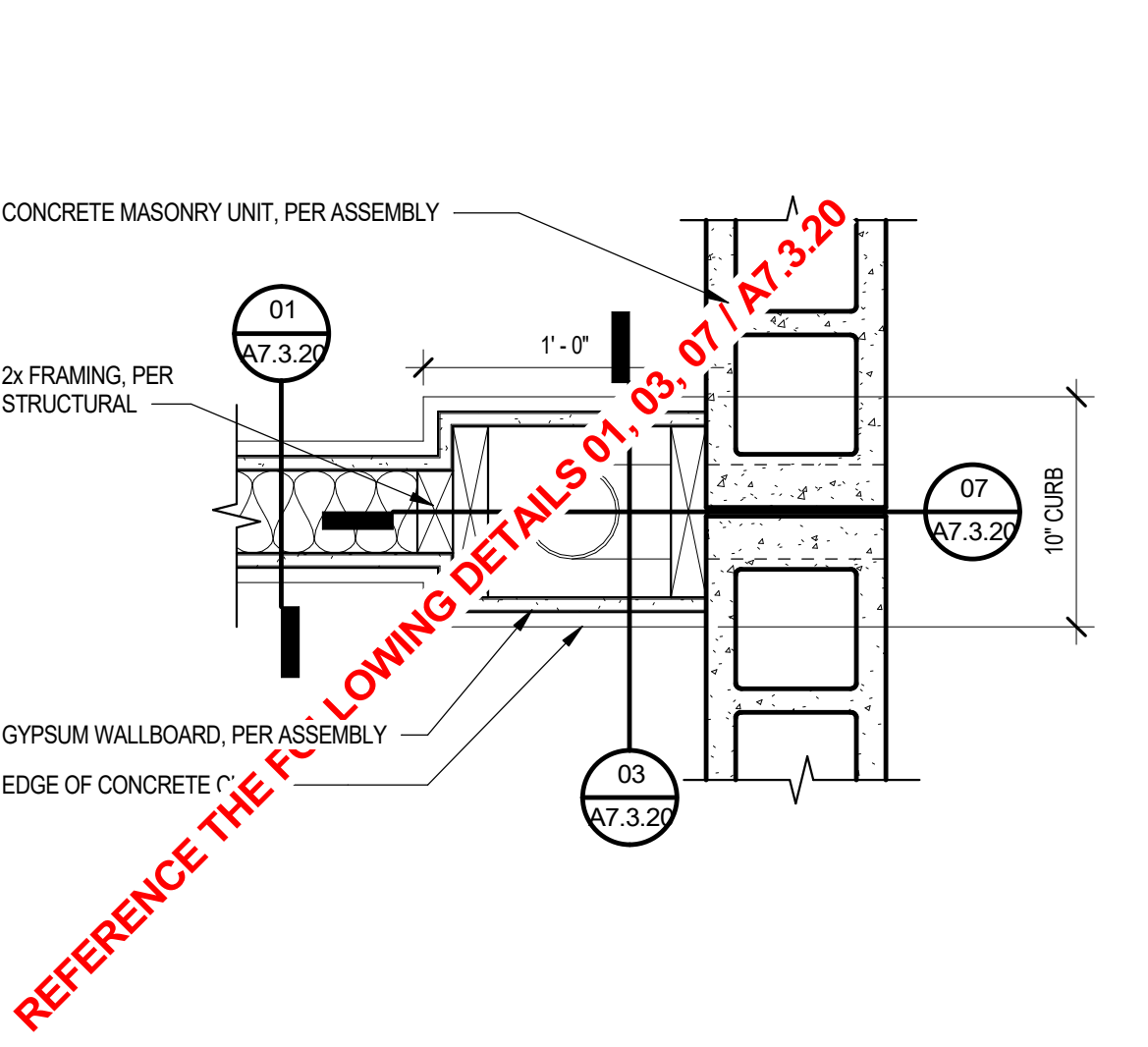
14 CONCRETE CURB UNDER 6" METAL STUD
SCALE: 1 1/2" = 1'-0"



10 WOOD FURRING AT EXPOSED CMU INTERIOR
SCALE: 1 1/2" = 1'-0"



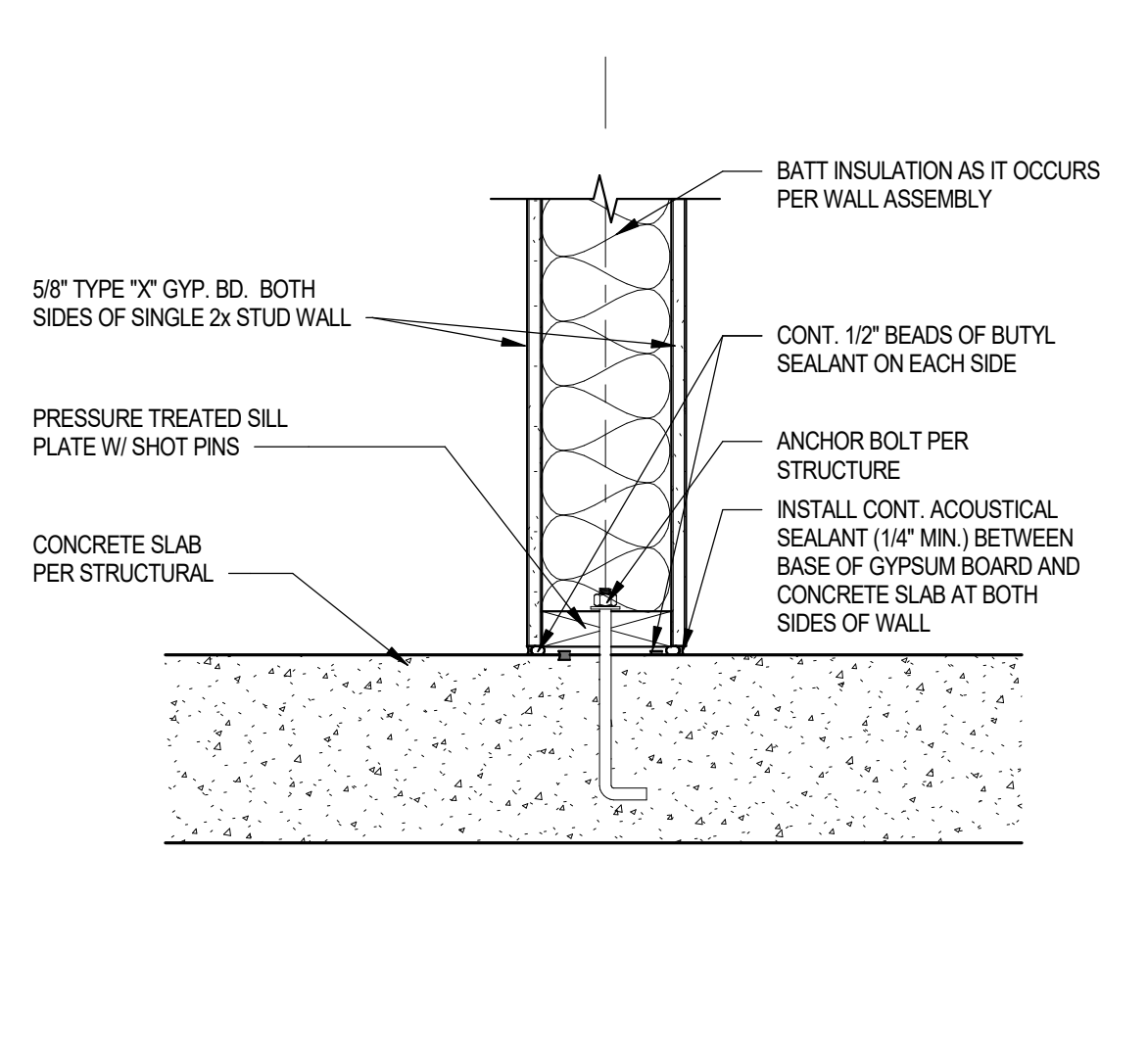
06 ROOF DRAIN PLAN DETAIL @ GARAGE WALL
SCALE: 1 1/2" = 1'-0"



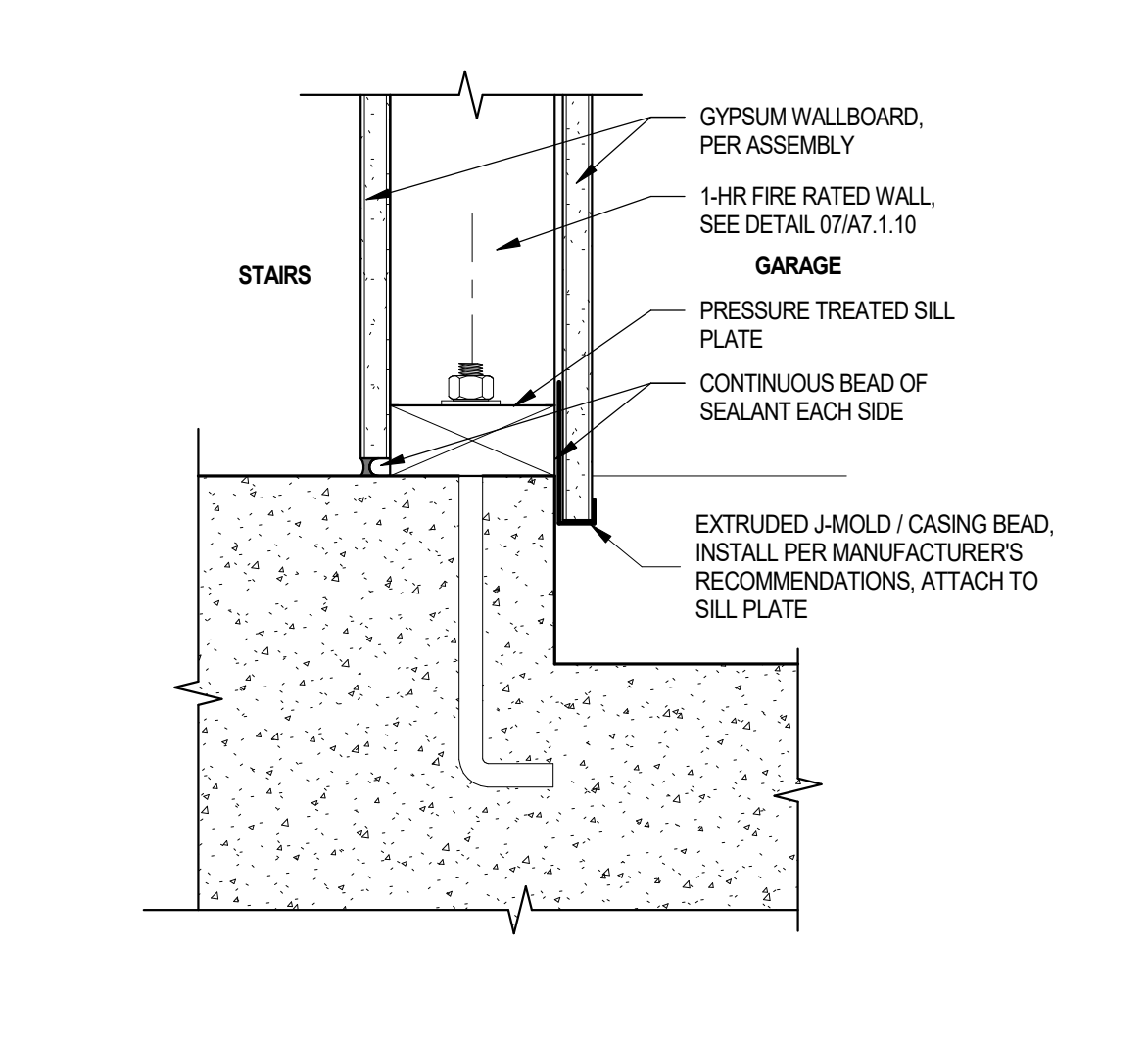
02 SILL PLATE AT INTERMEDIATE GARAGE 2x6 WALL
SCALE: 1 1/2" = 1'-0"



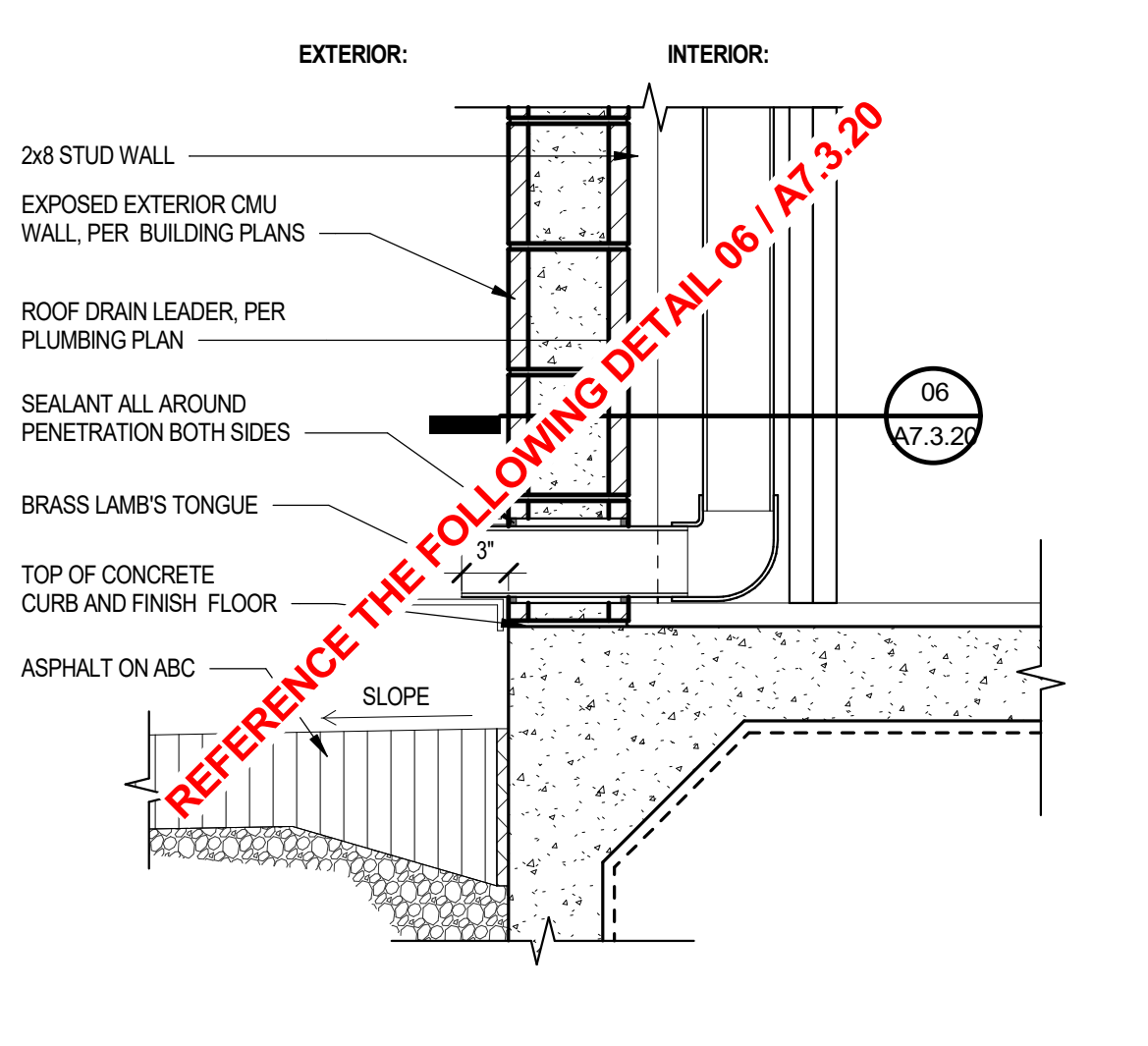
15 WOOD STUD WALL @ CONC. SLAB
SCALE: 1 1/2" = 1'-0"



11 WALL AT STAIR & GARAGE
SCALE: 3" = 1'-0"



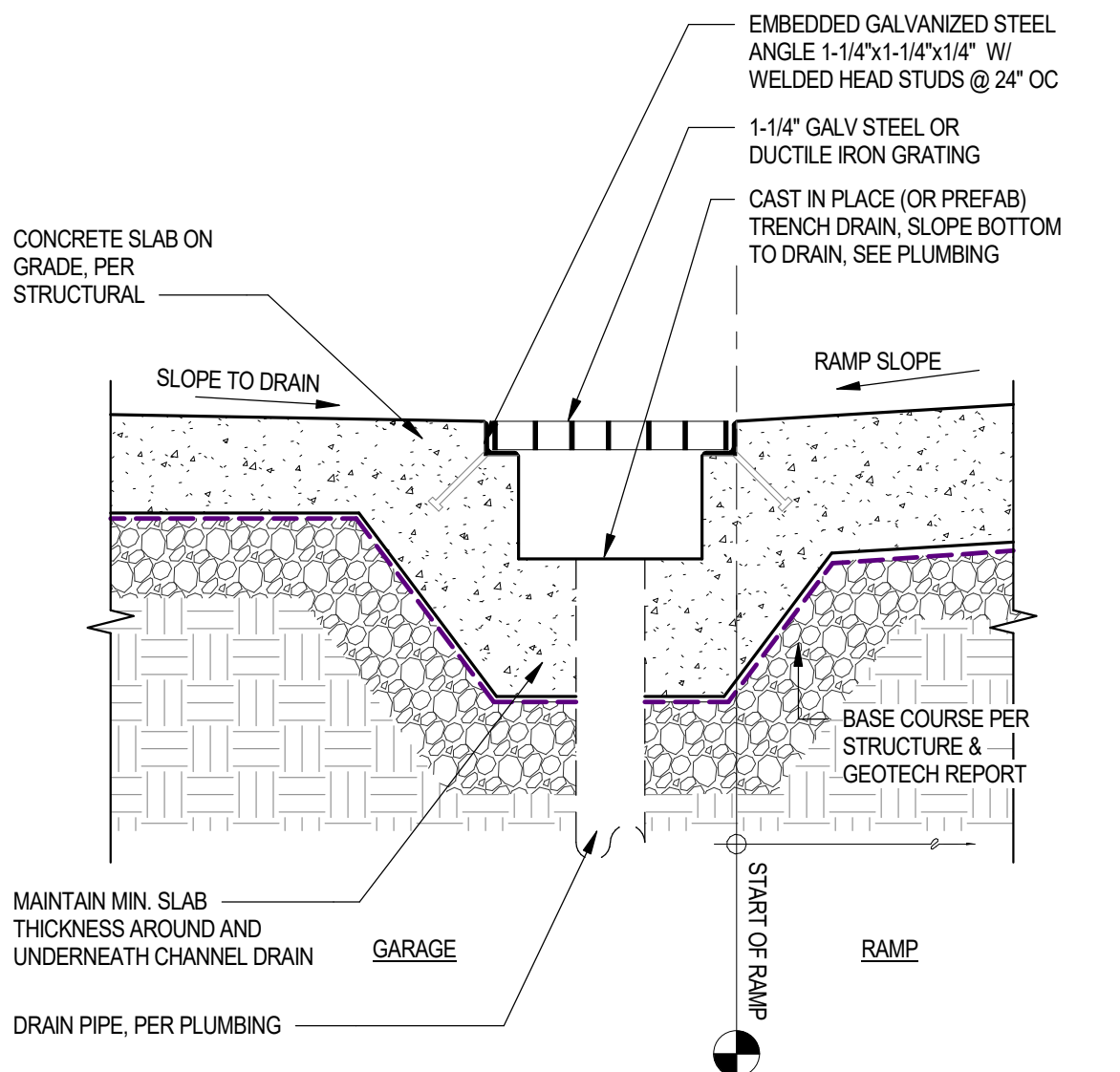
07 ROOF DRAIN SECTION @ GARAGE WALL
SCALE: 1" = 1'-0"



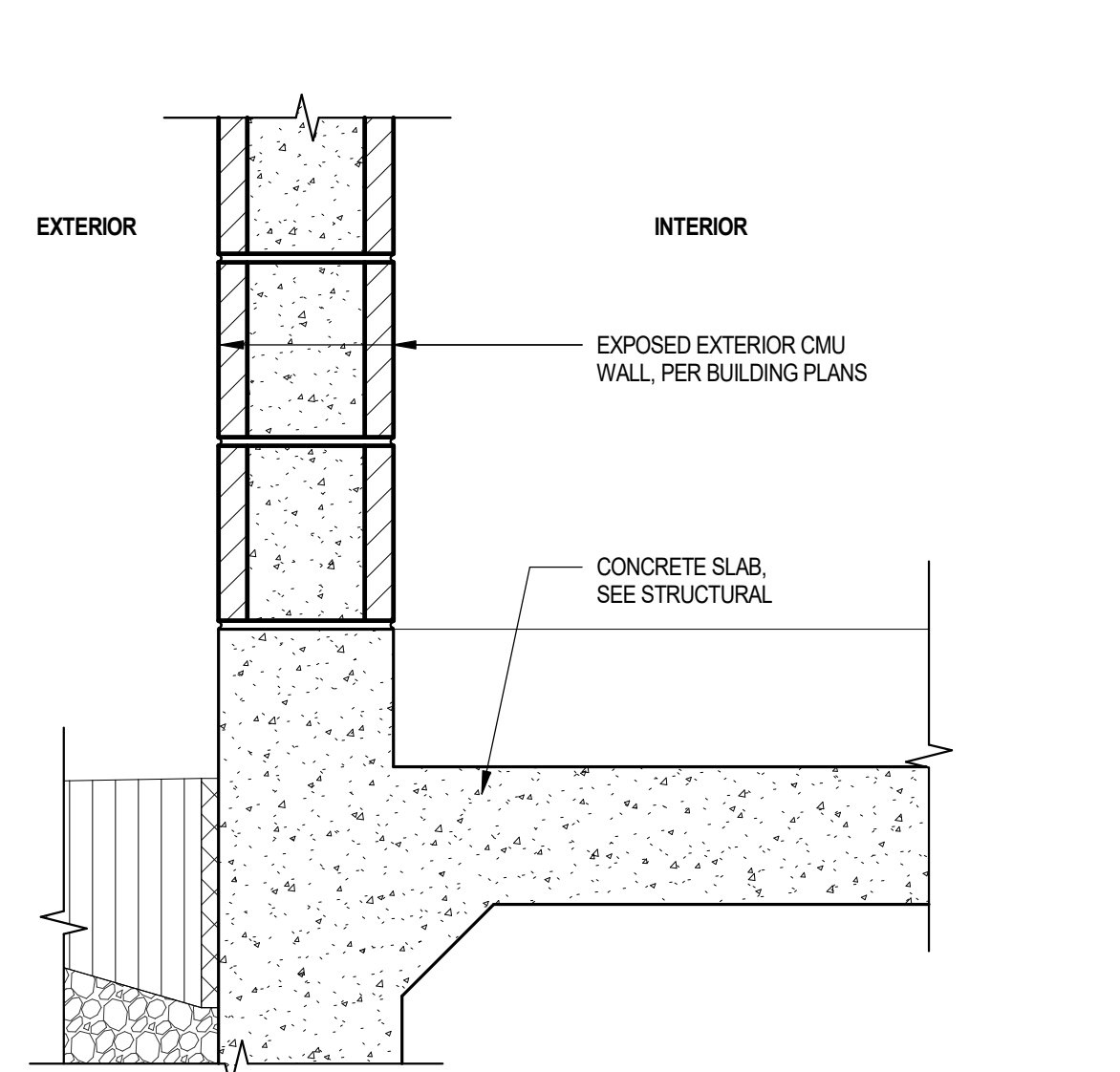
03 CONCRETE CURB AT 2x8 INTERMEDIATE GARAGE WALL
SCALE: 3" = 1'-0"



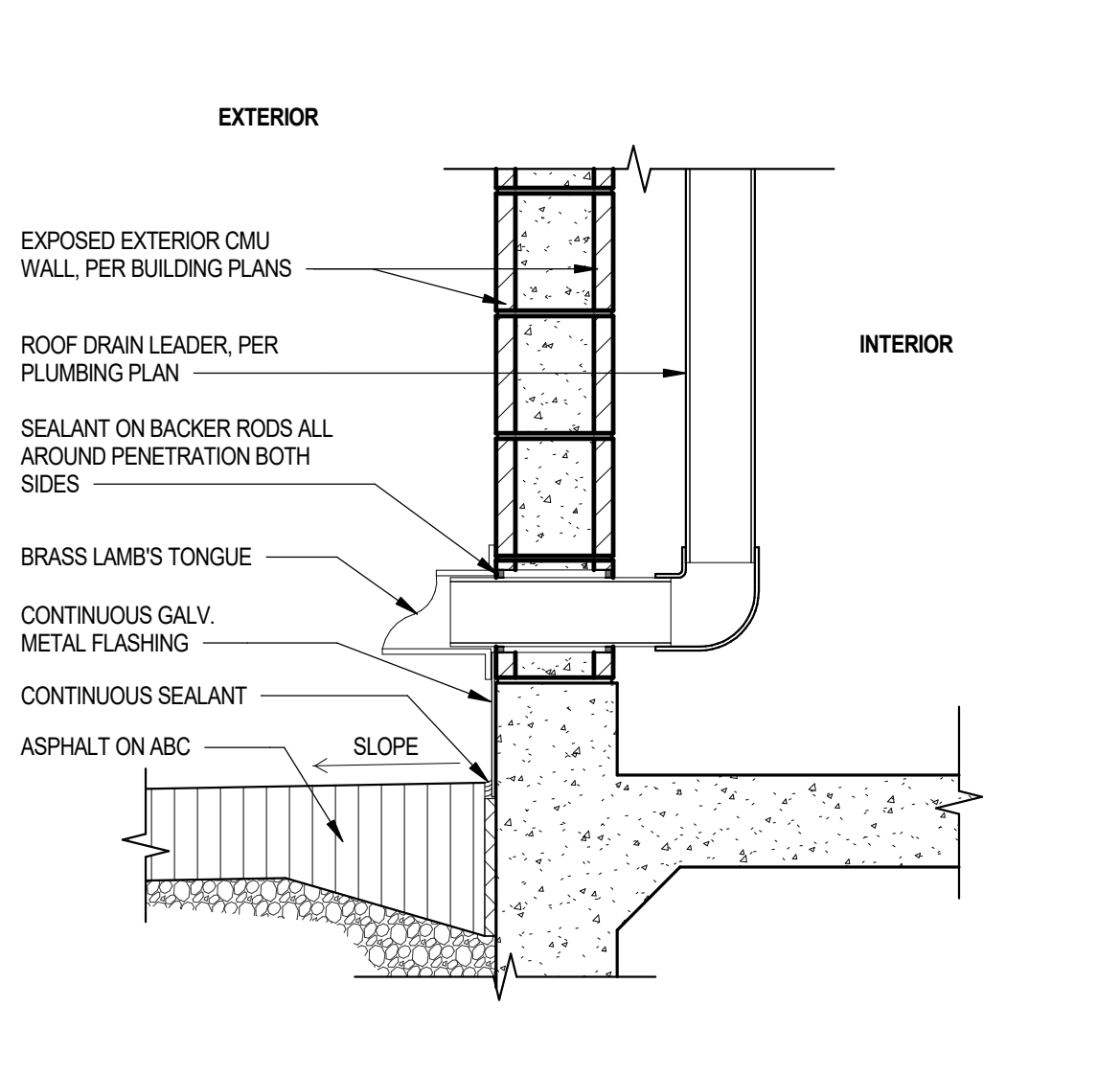
16 TRENCH DRAIN IN SLAB ON GRADE
SCALE: 1 1/2" = 1'-0"



12 CMU WALL AT GARAGES
SCALE: 1 1/2" = 1'-0"



08 ROOF DRAIN SECTION THRU CMU WALL AT GARAGE
SCALE: 1" = 1'-0"



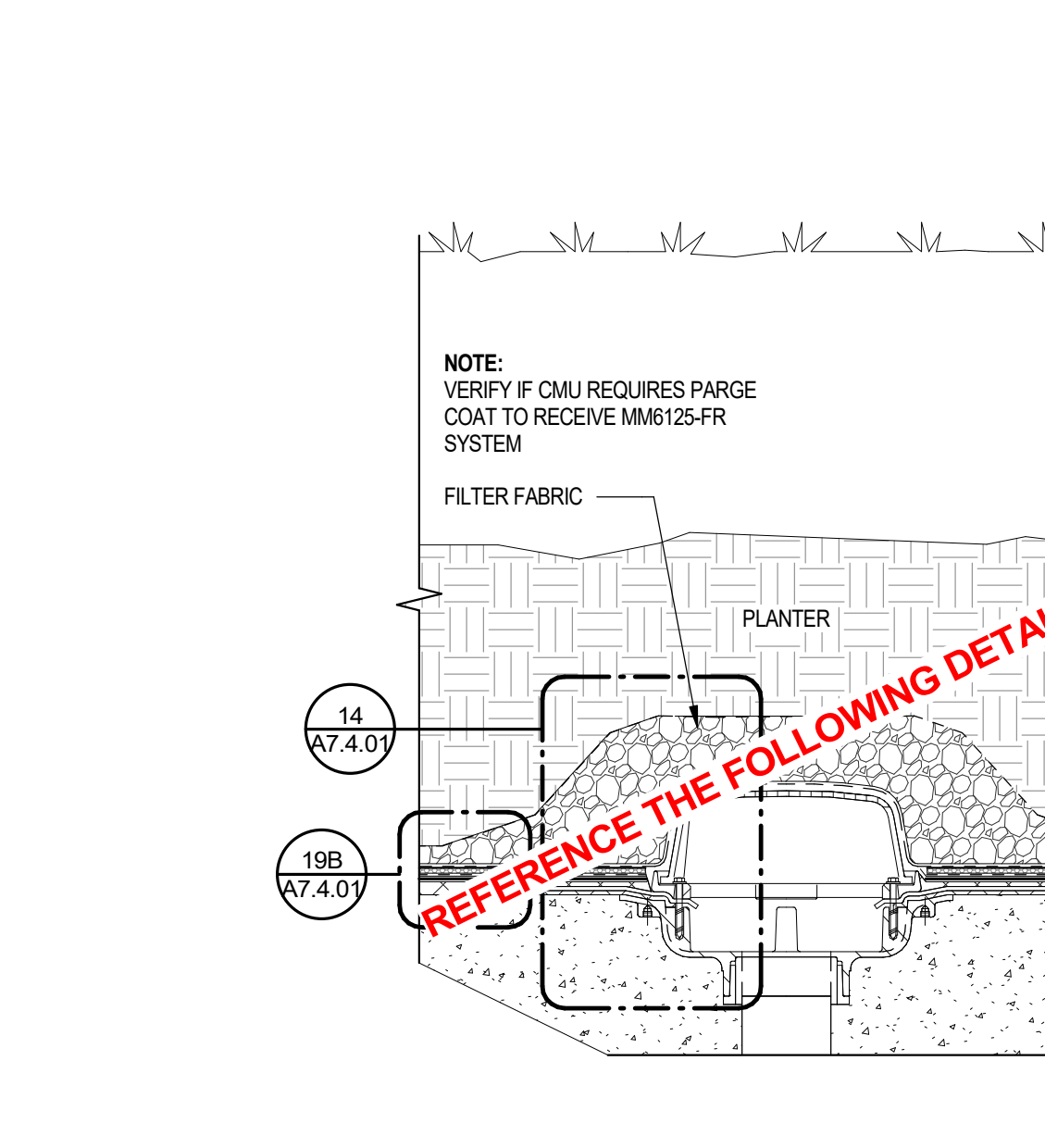
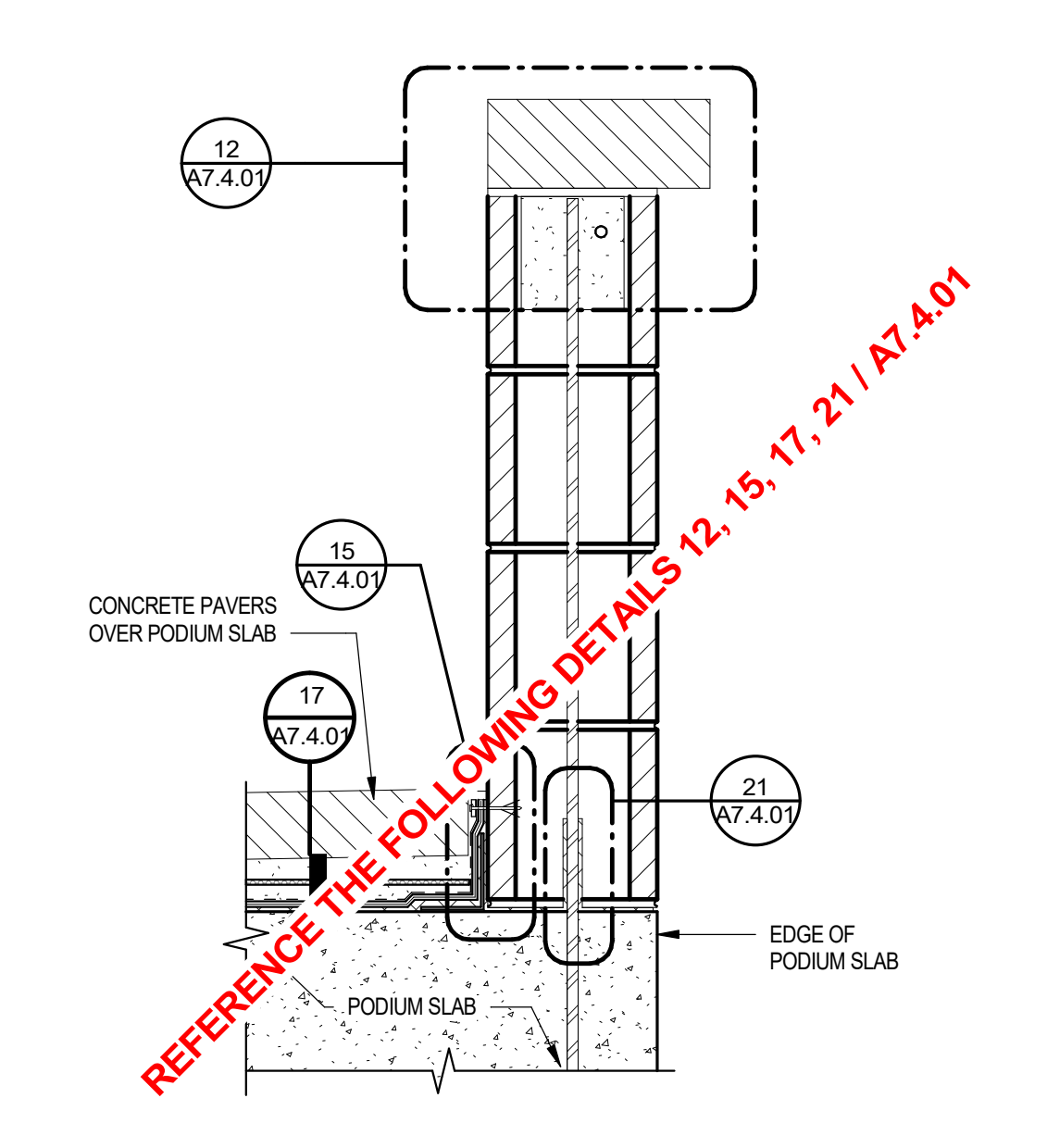
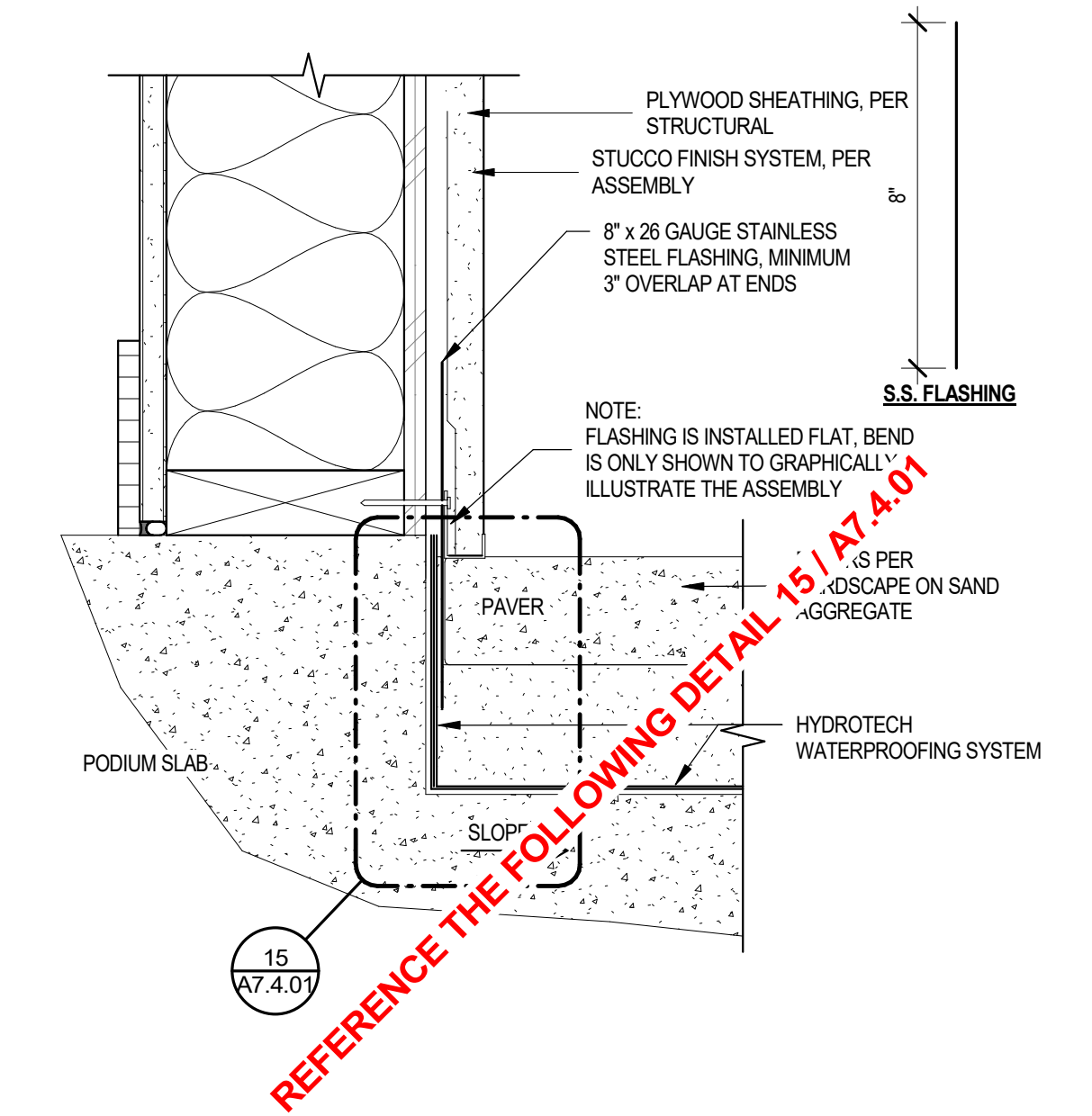
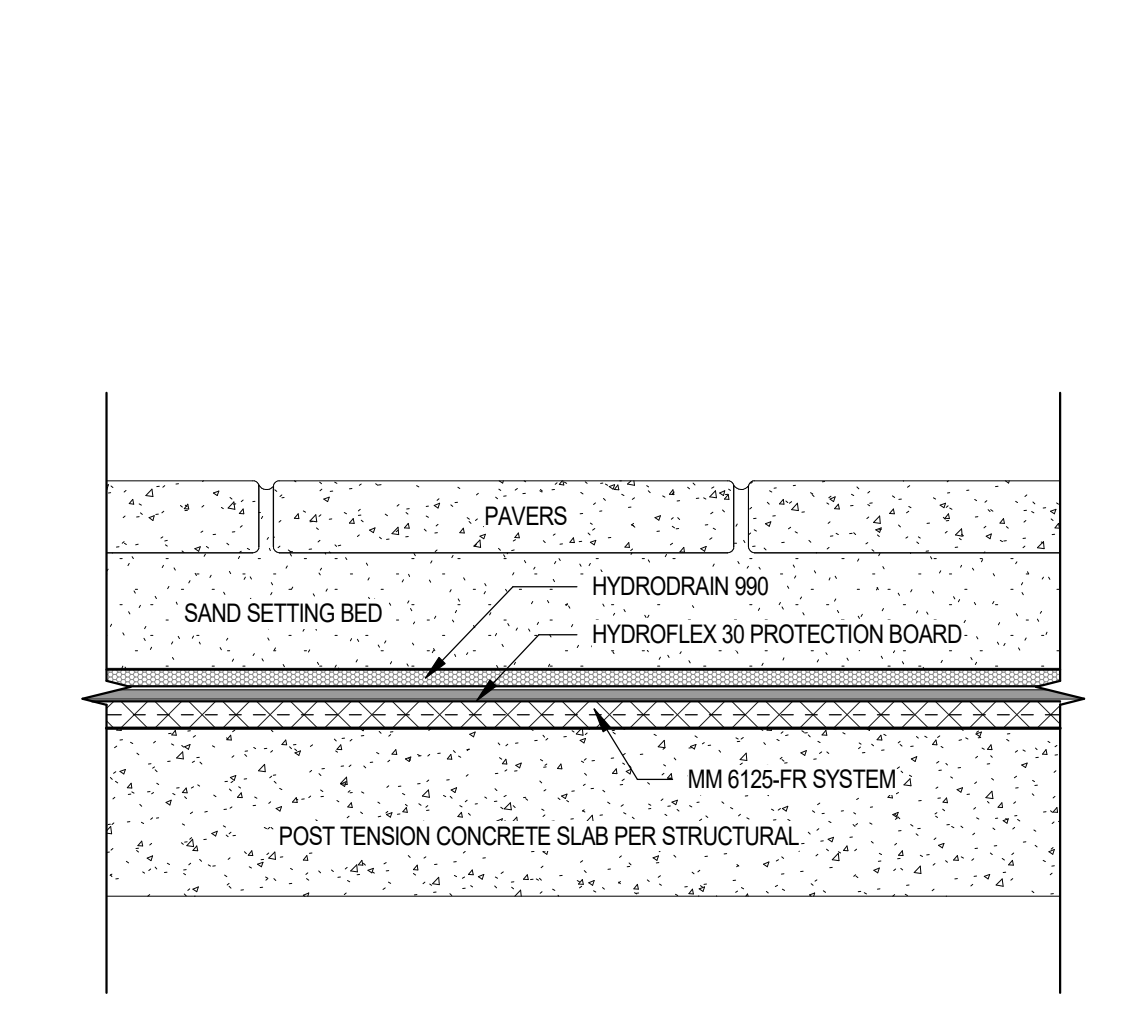
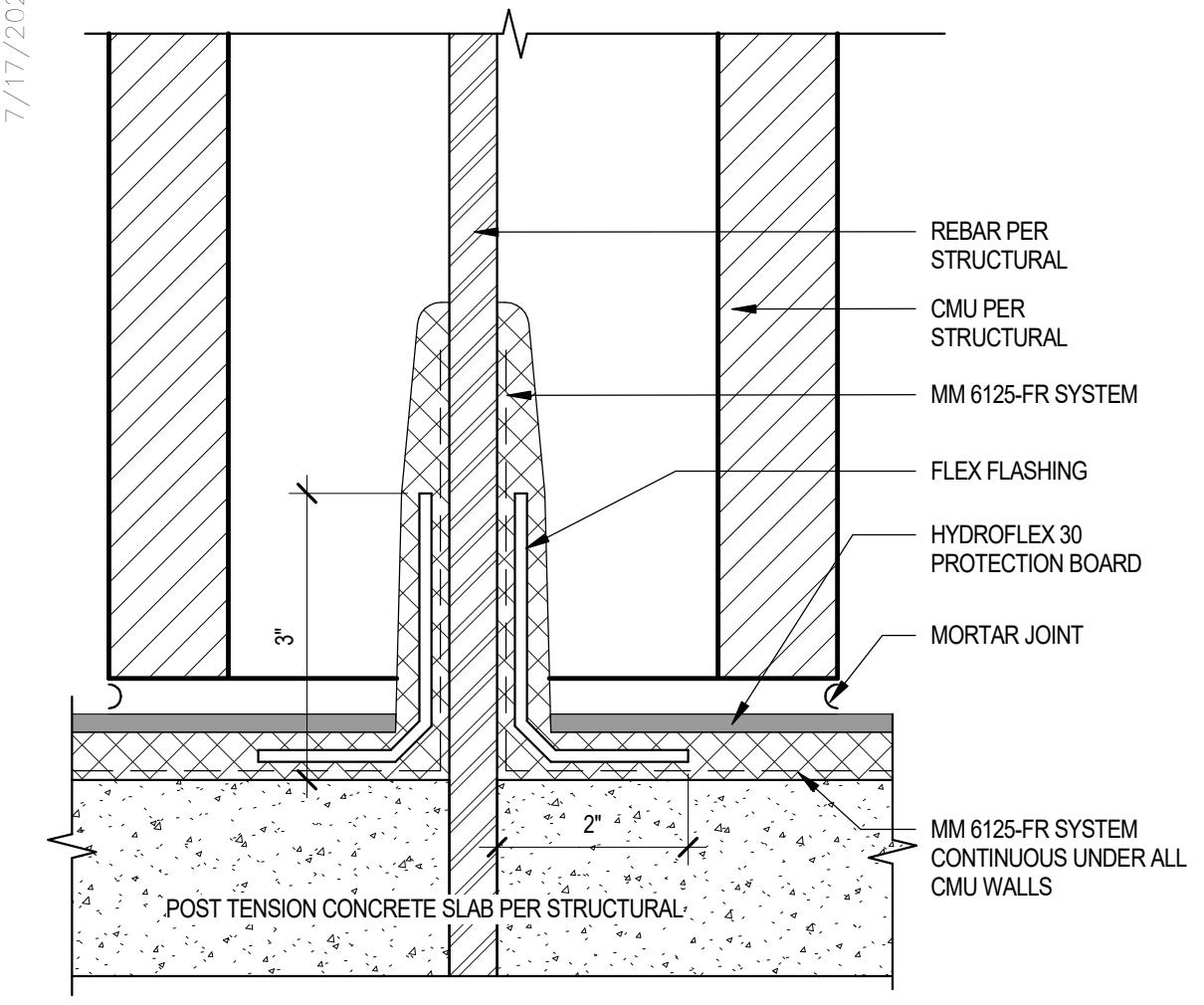
04 CMU W/ 2x WOOD FRAMED WALL DETAIL
SCALE: 1 1/2" = 1'-0"

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REVISIONS/SUBMITTALS	
DATE	DESCRIPTION



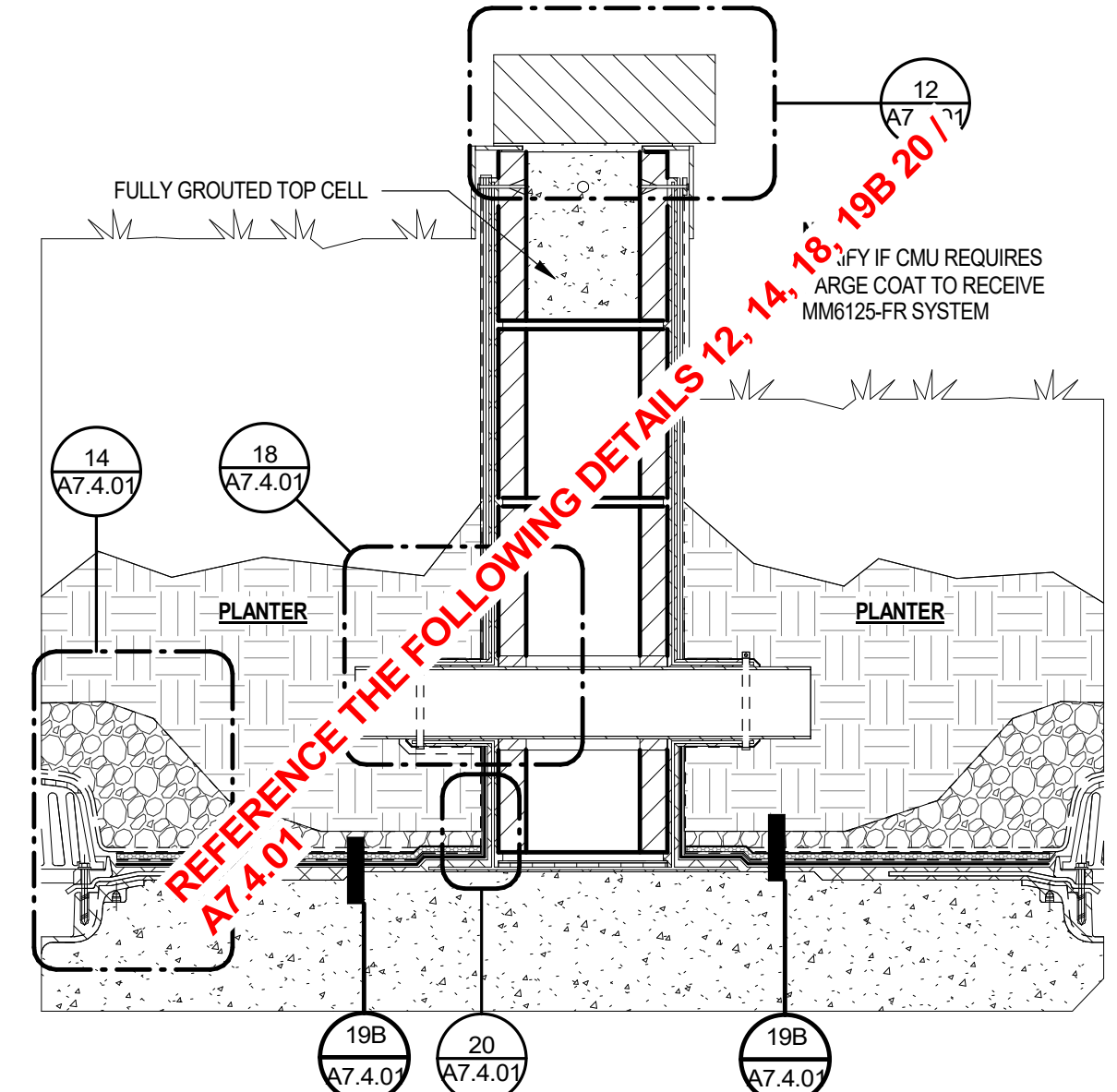
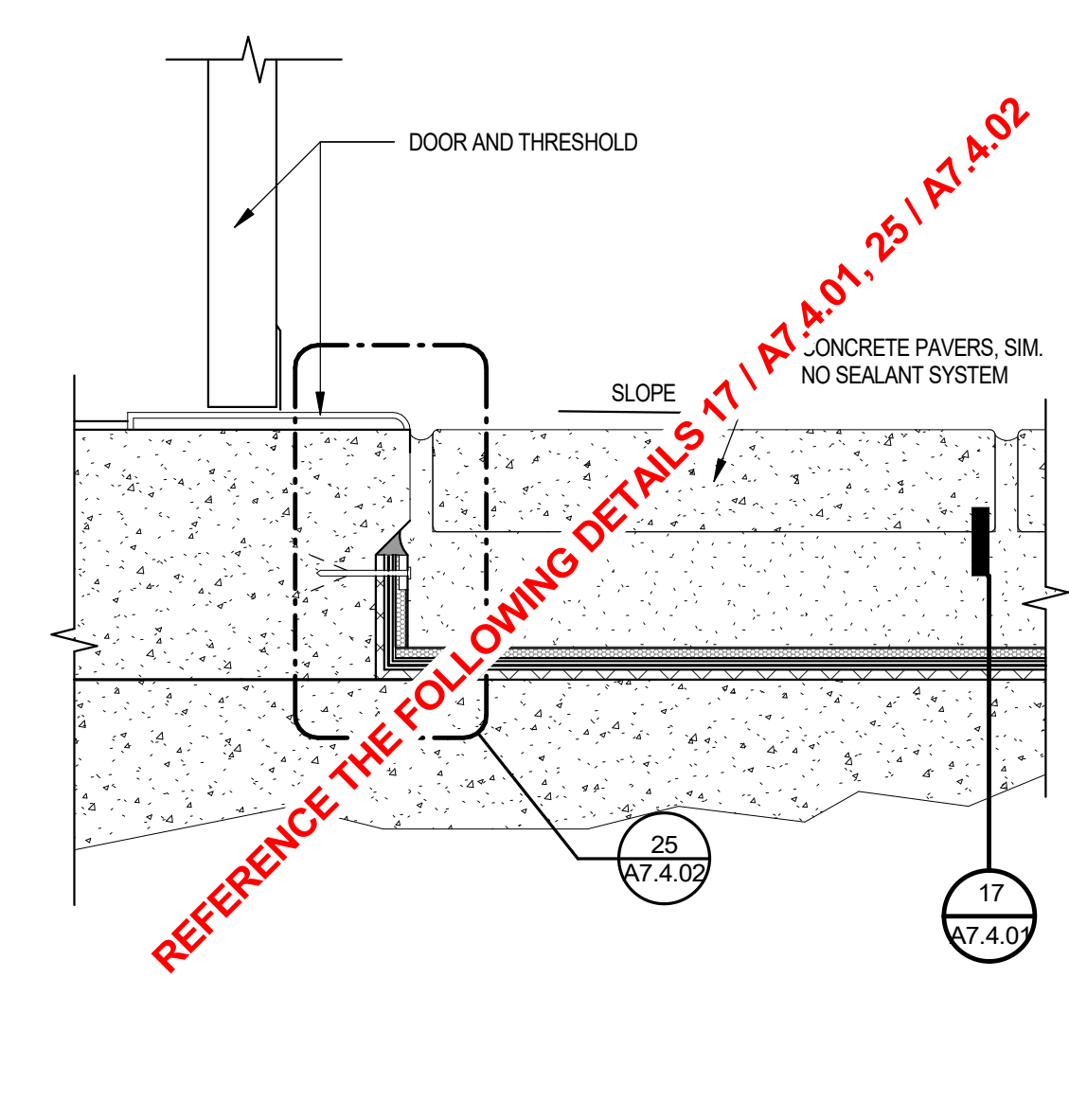
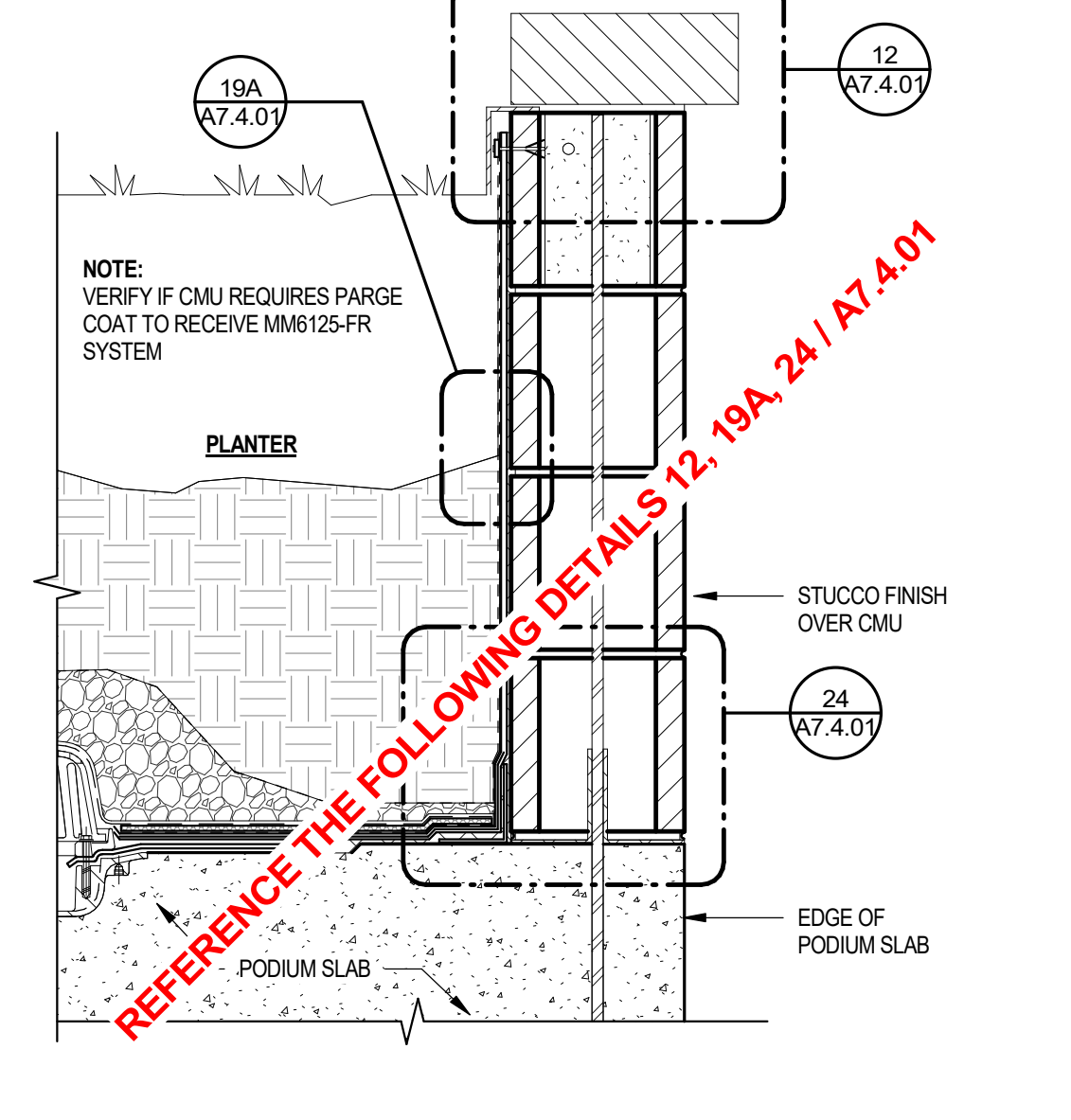
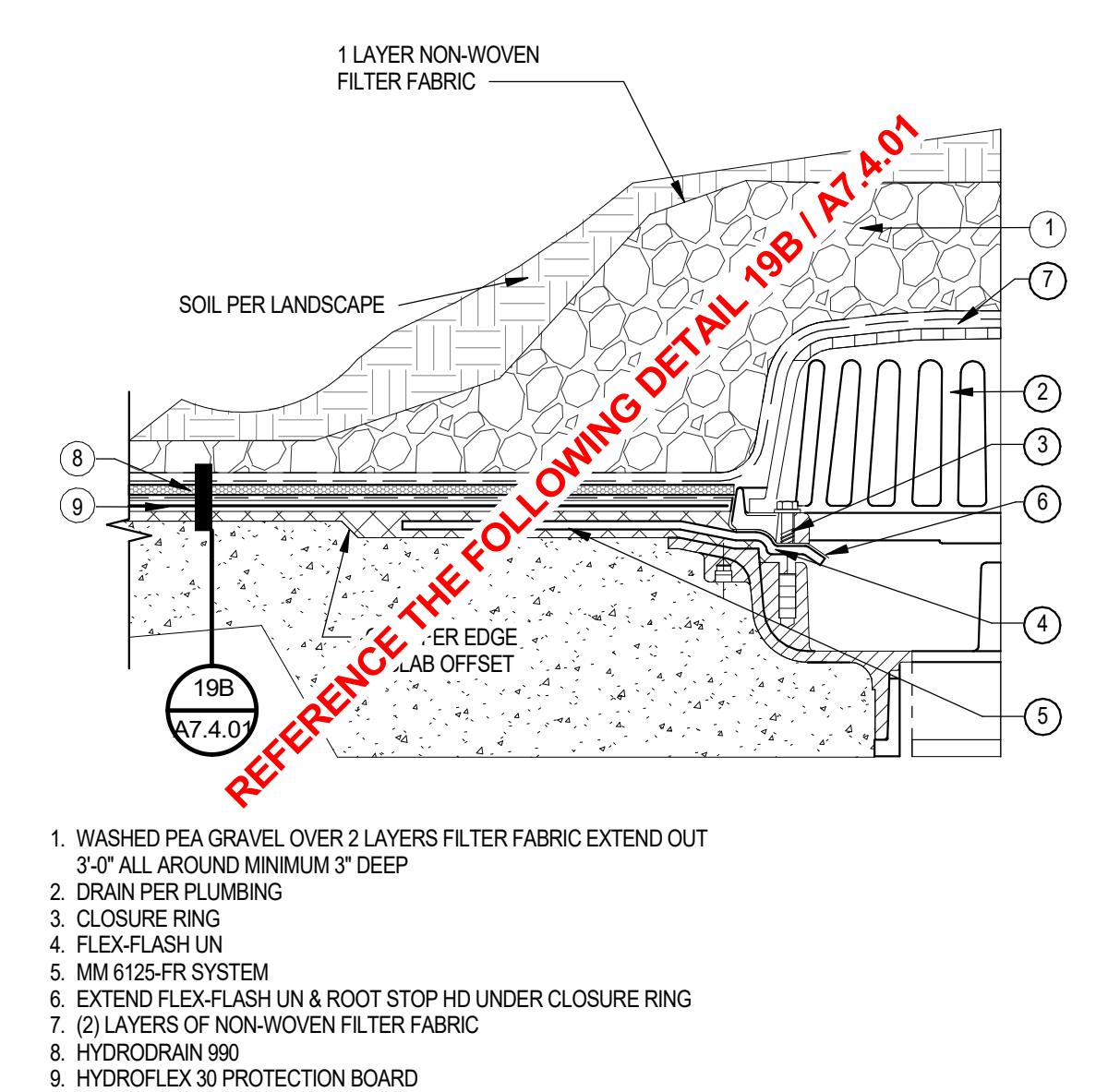
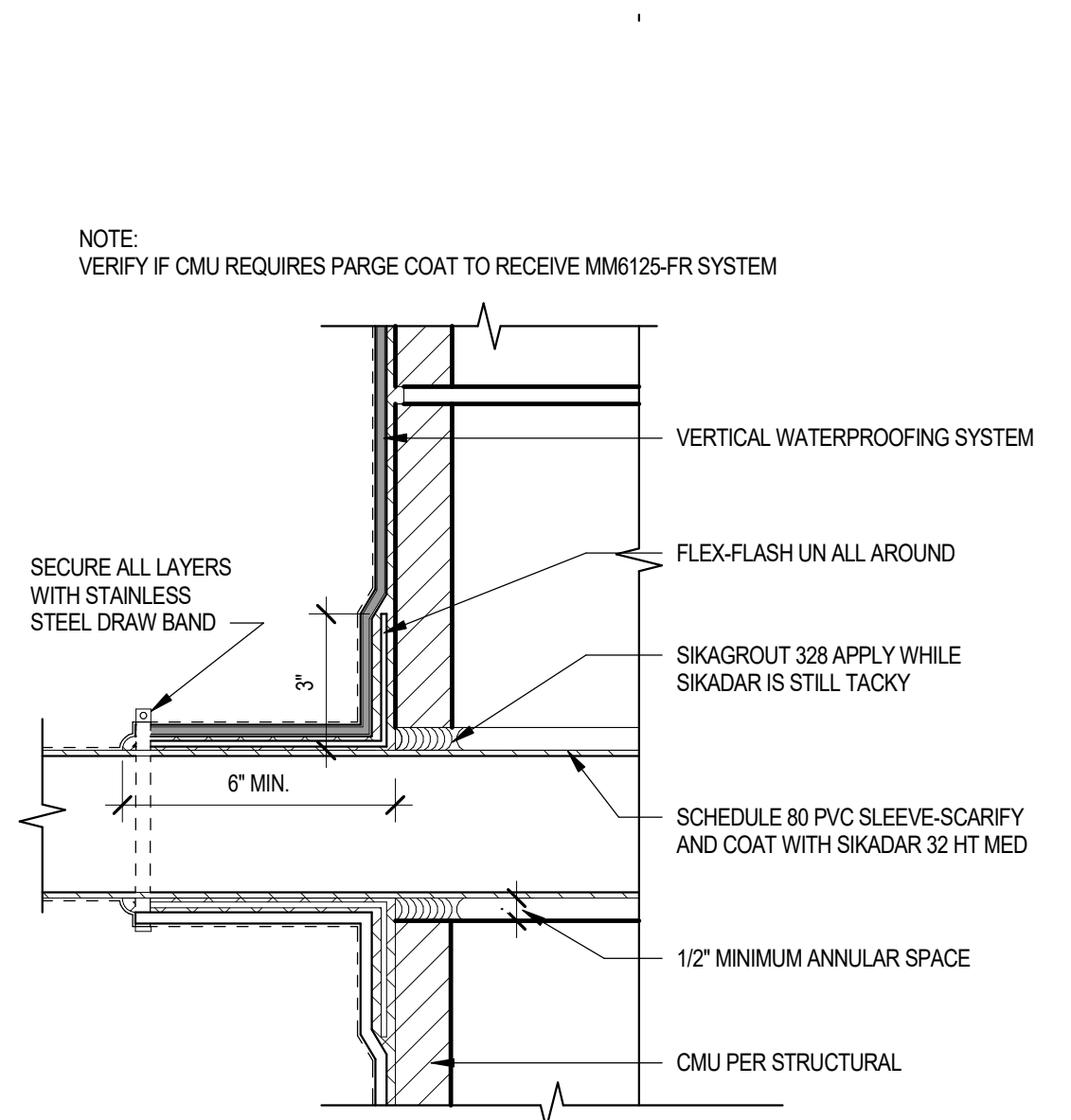
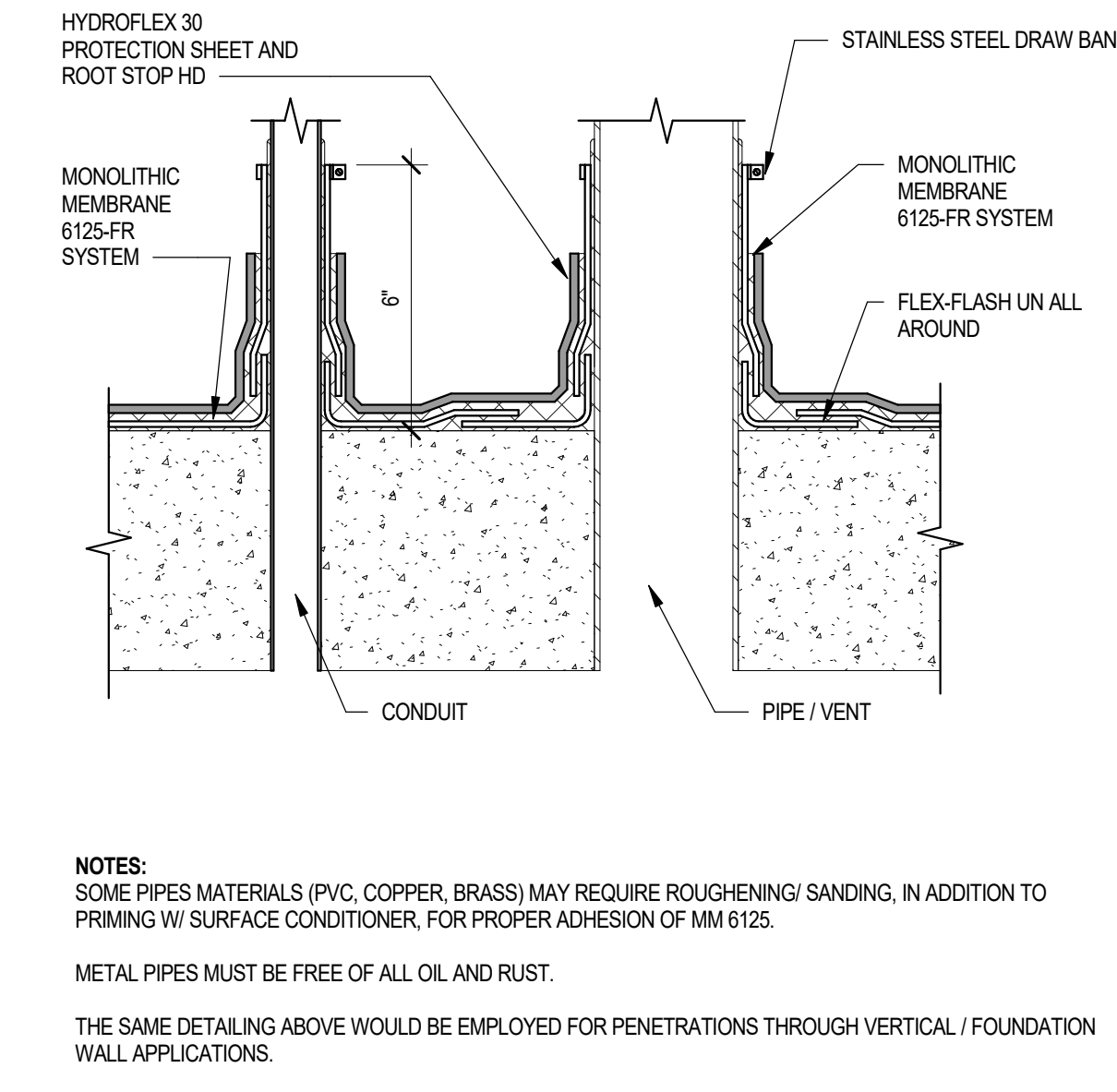
21 WATERPROOFING AT REBAR SCALE: 6" = 1'-0"

17 WATERPROOFING AT PAVERS SCALE: 3" = 1'-0"

13 SILL PLATE AT BUILDING STEP SCALE: 3" = 1'-0"

09 CMU WALL AT PODIUM SLAB EDGE SCALE: 1 1/2" = 1'-0"

05 PODIUM PLANTER NOT TO SCALE



22 CAST IN PLACE PENETRATIONS - TYPICAL SCALE: 3" = 1'-0"

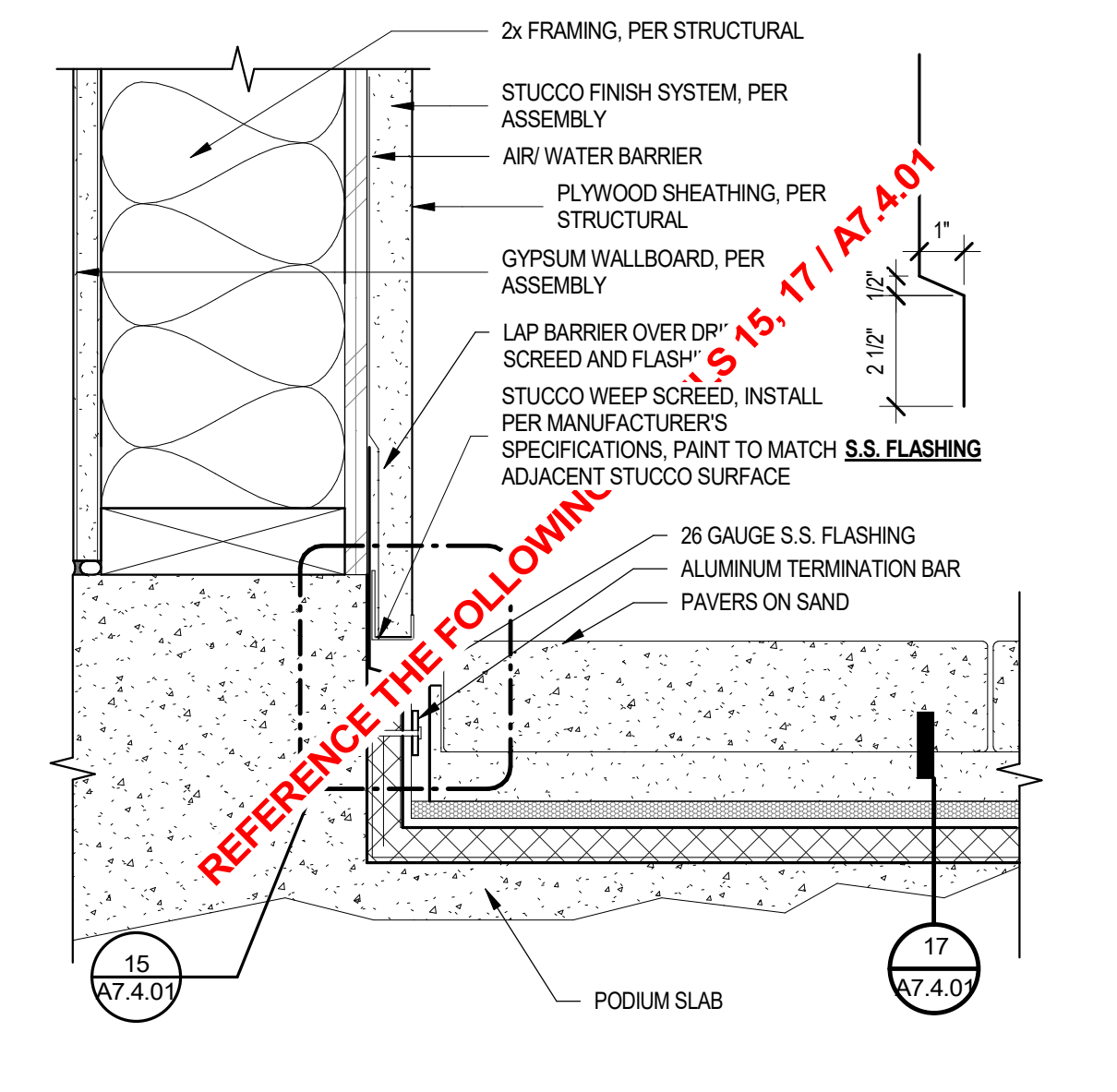
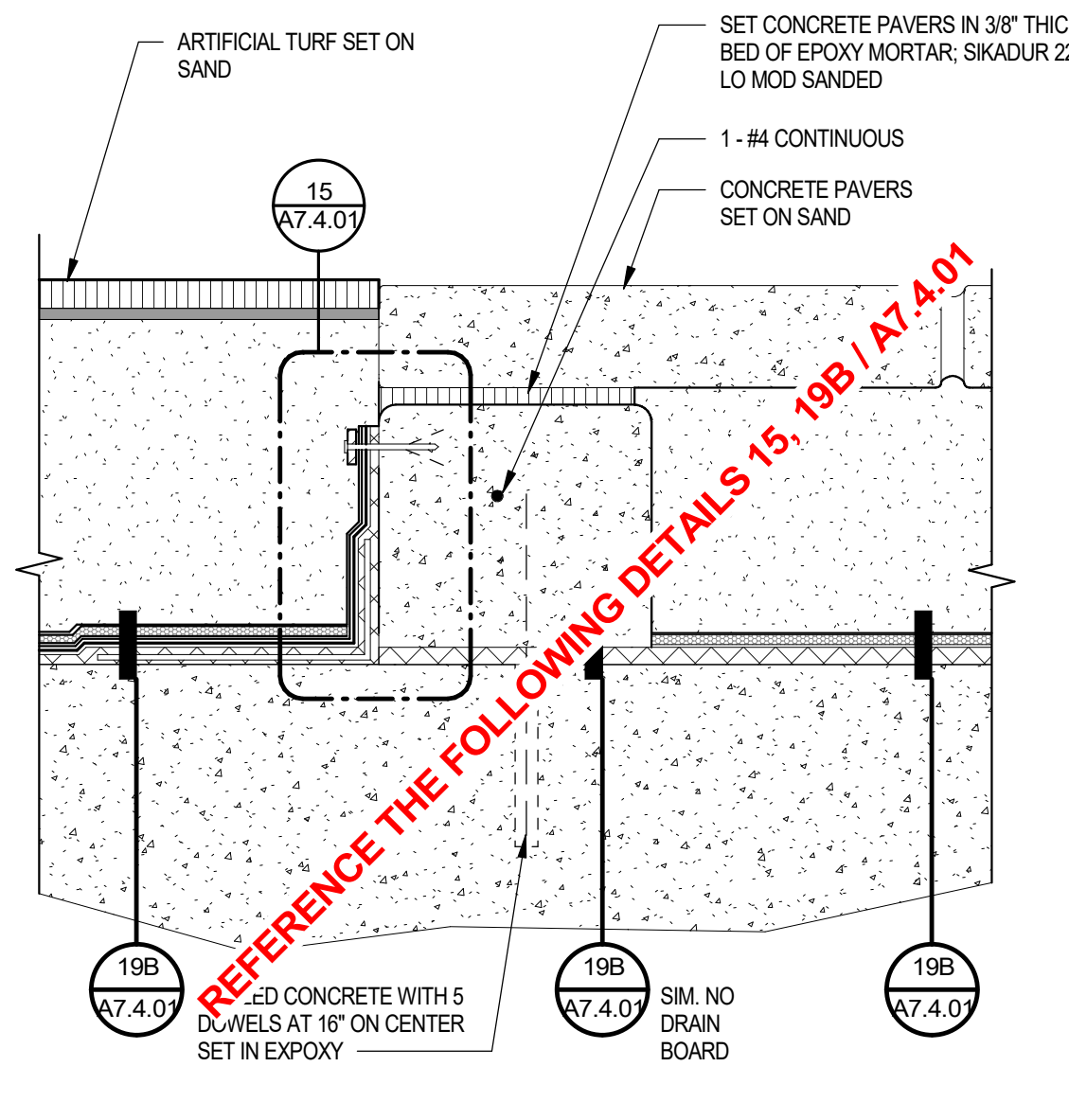
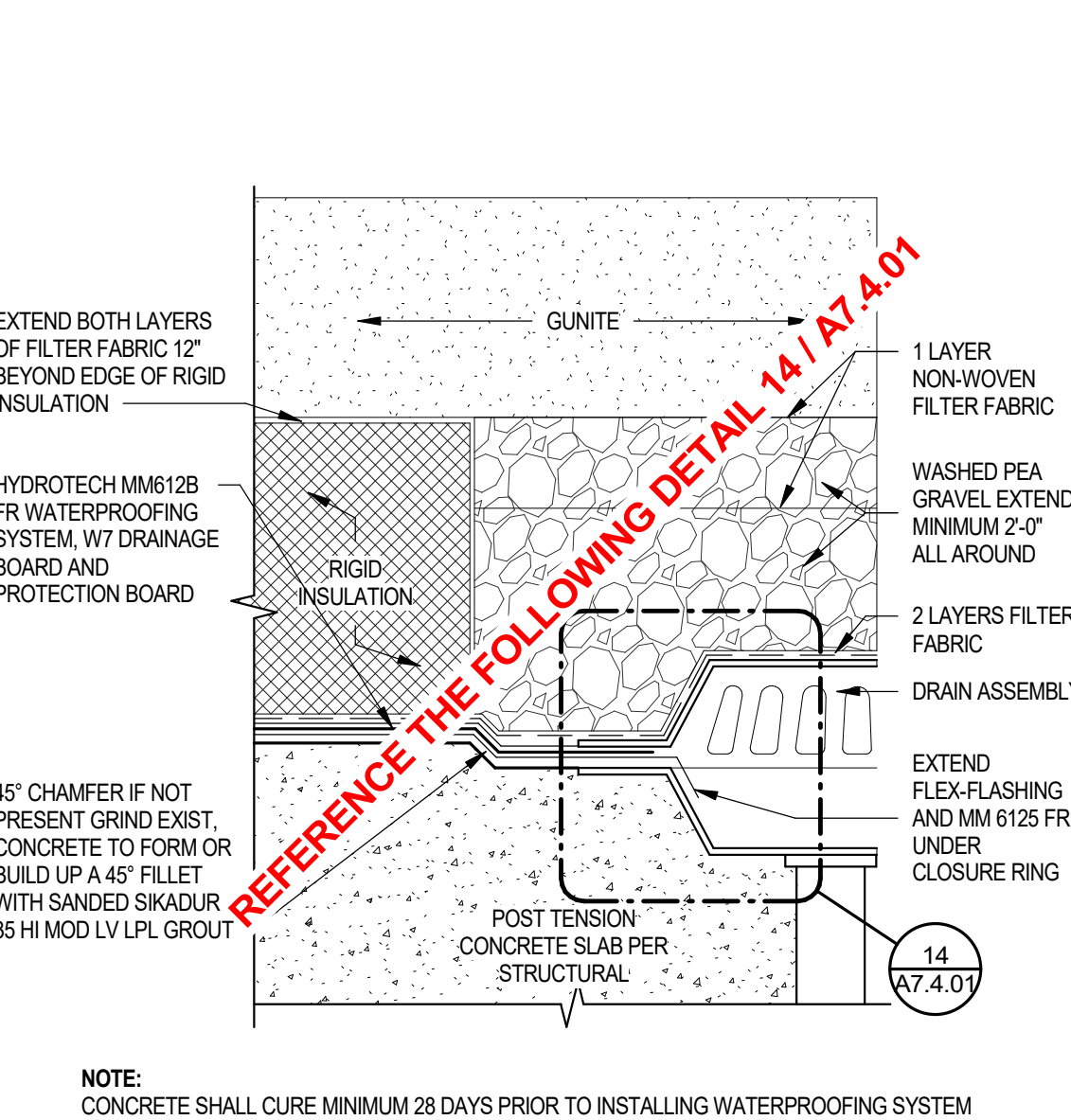
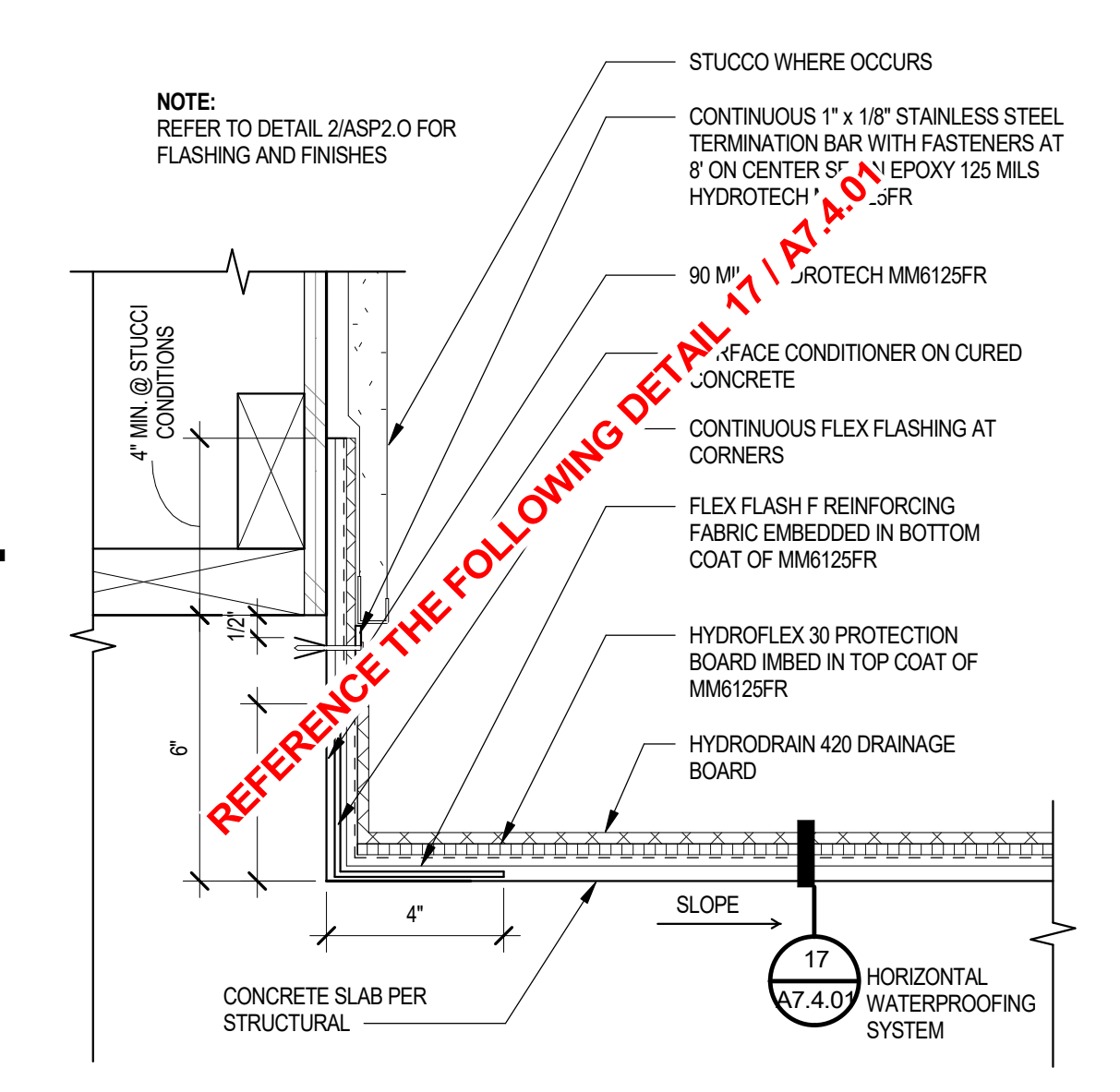
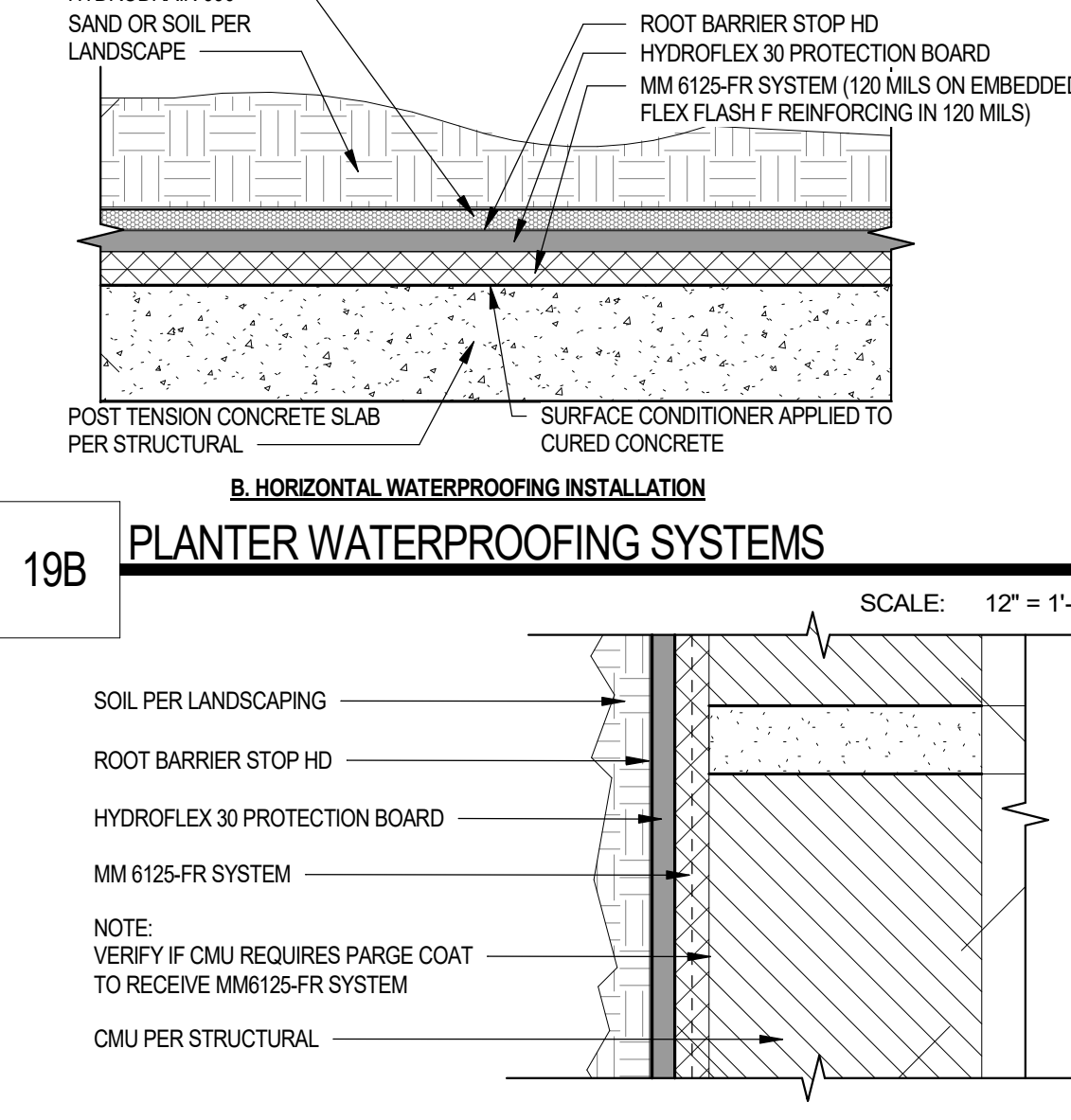
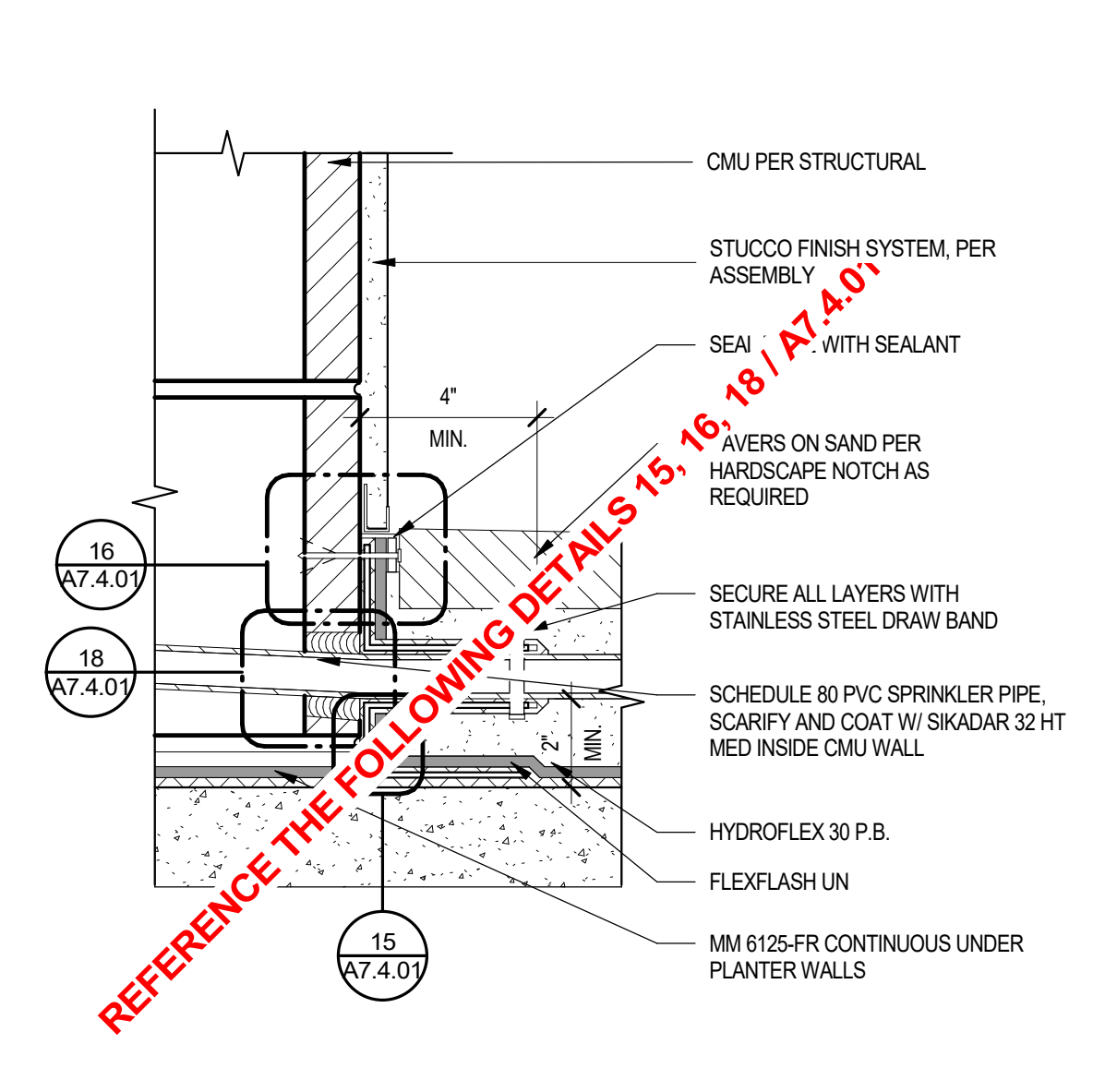
18 WATERPROOFING PIPE SLEEVE BETWEEN PLANTERS SCALE: 3" = 1'-0"

14 WATERPROOFING AT PLANTER DRAIN SCALE: 3" = 1'-0"

10 PLANTER WALL AT PODIUM SLAB EDGE SCALE: 1 1/2" = 1'-0"

06 CONCRETE AND PAVERS AT DOORWAY SCALE: 3" = 1'-0"

02 SHARED PLANTER WALLS SCALE: 1 1/2" = 1'-0"



23 IRRIGATION PIPE PENETRATION AT PLANTERS SCALE: 3" = 1'-0"

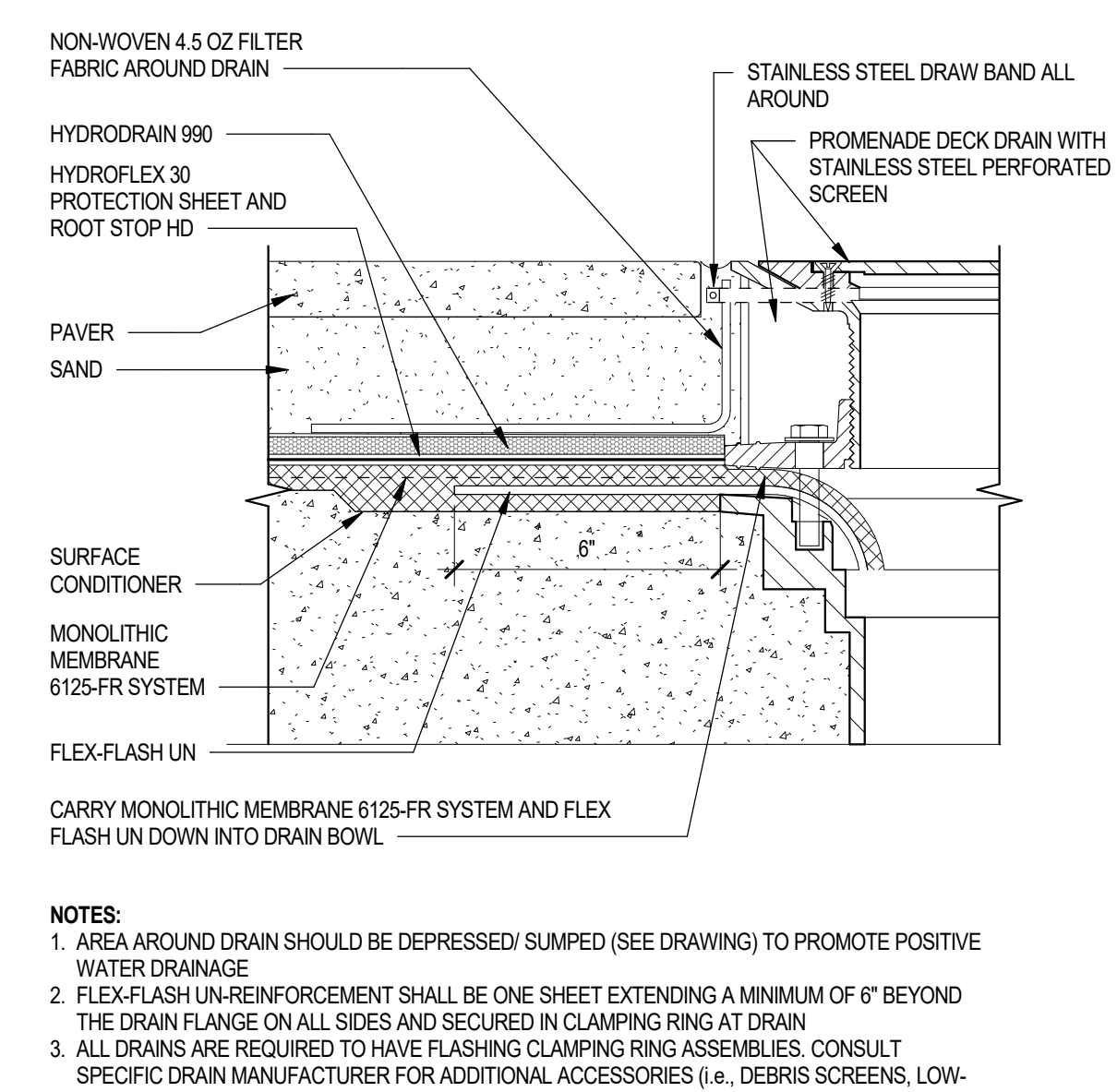
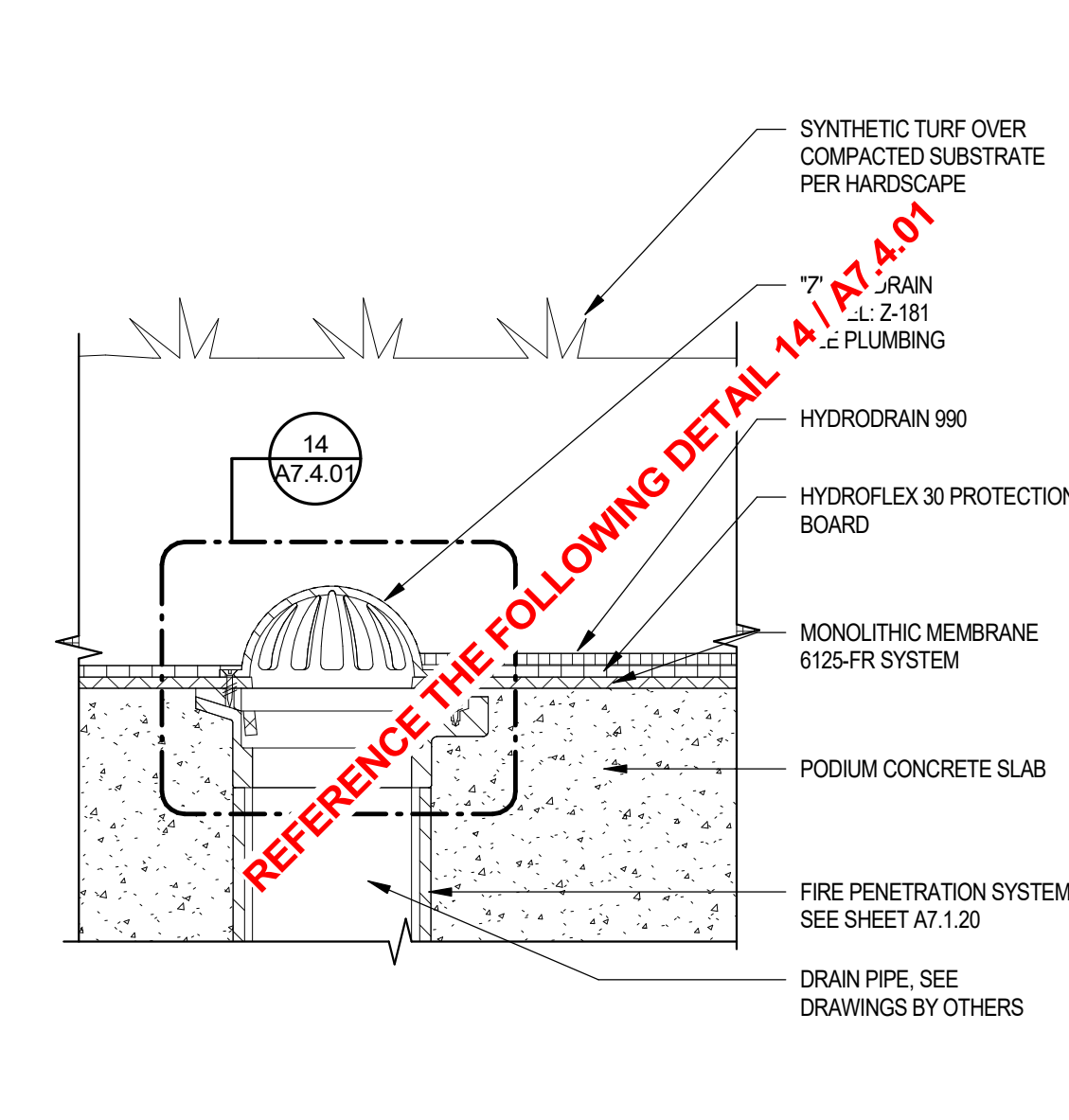
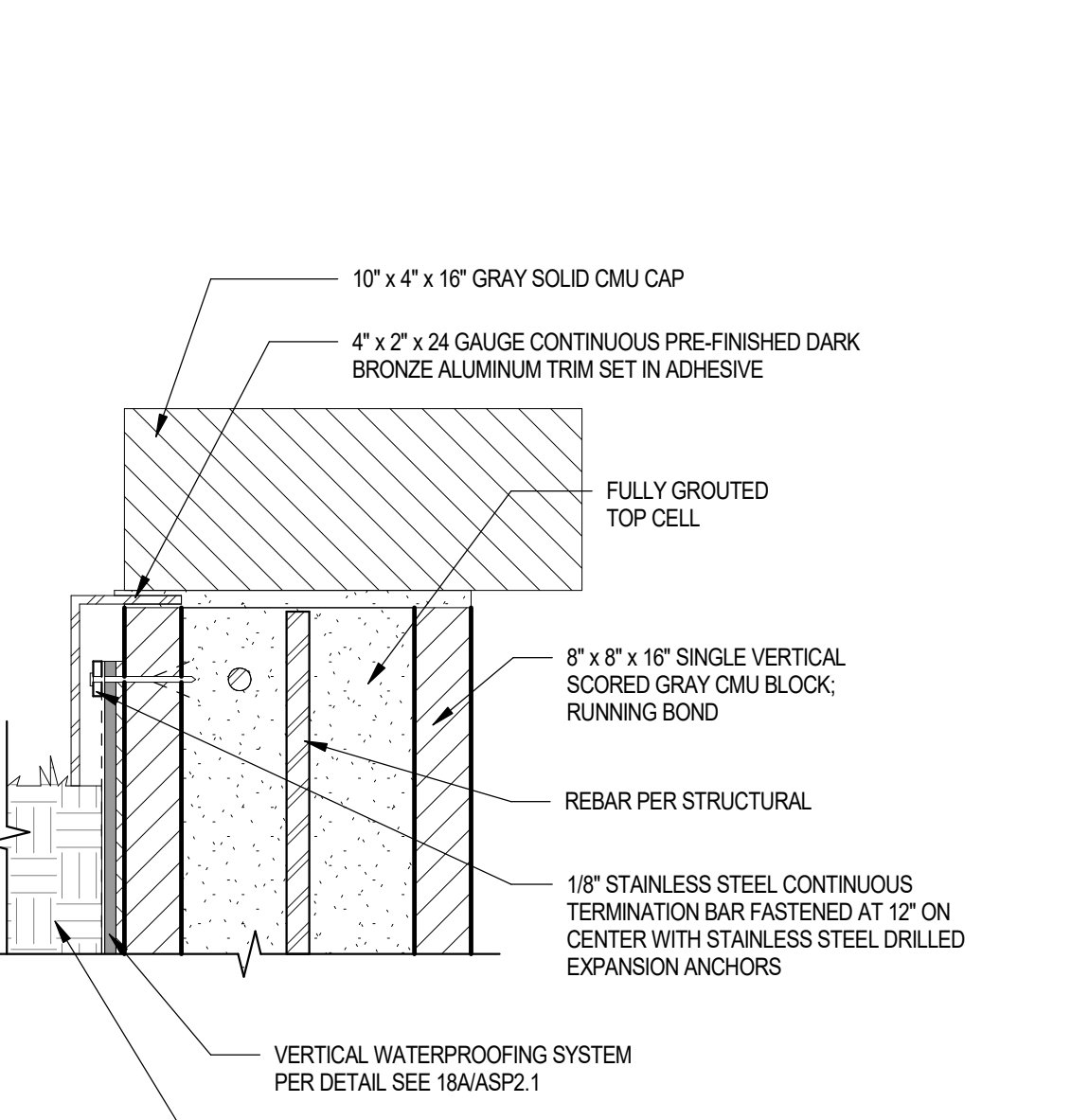
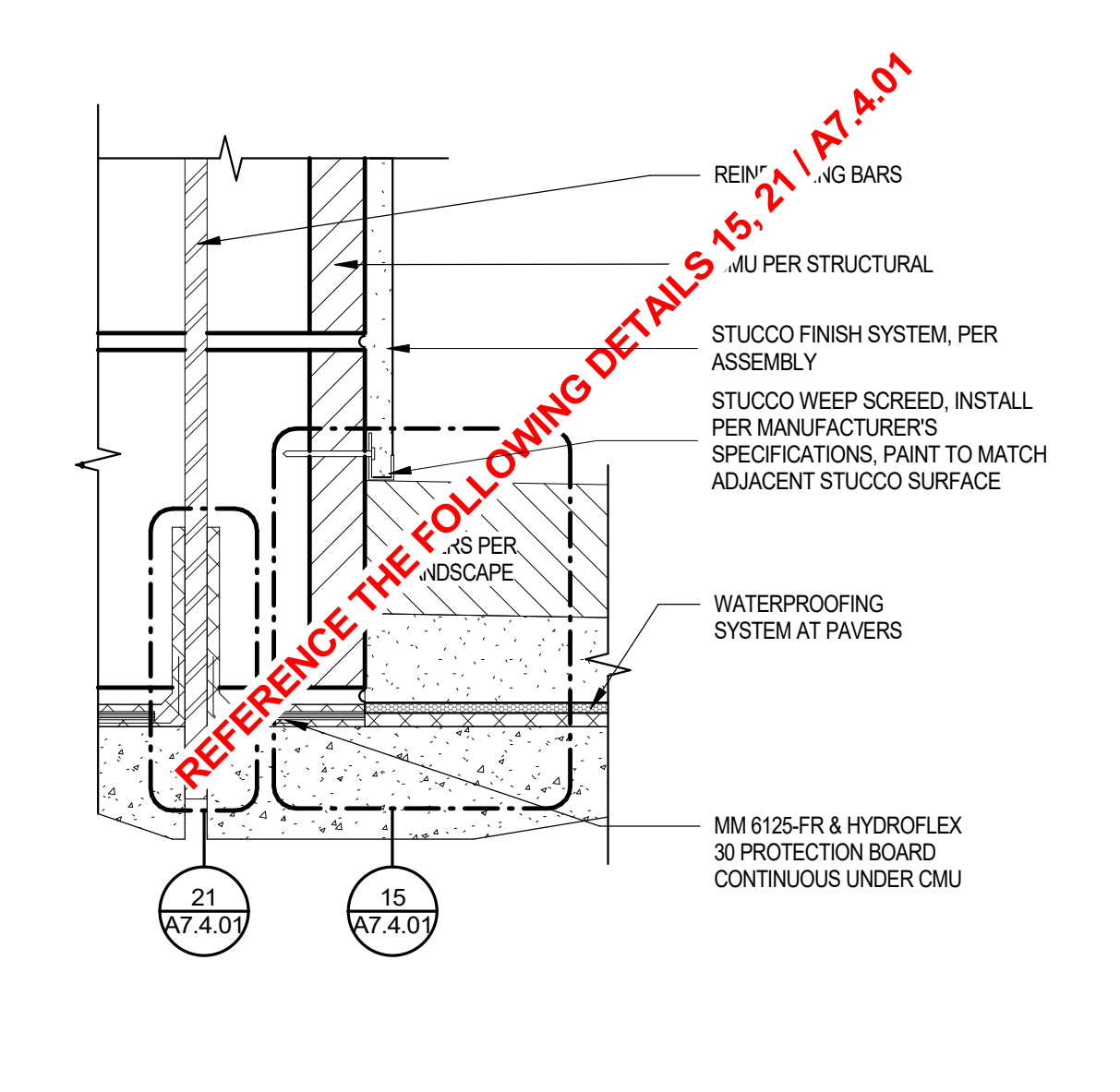
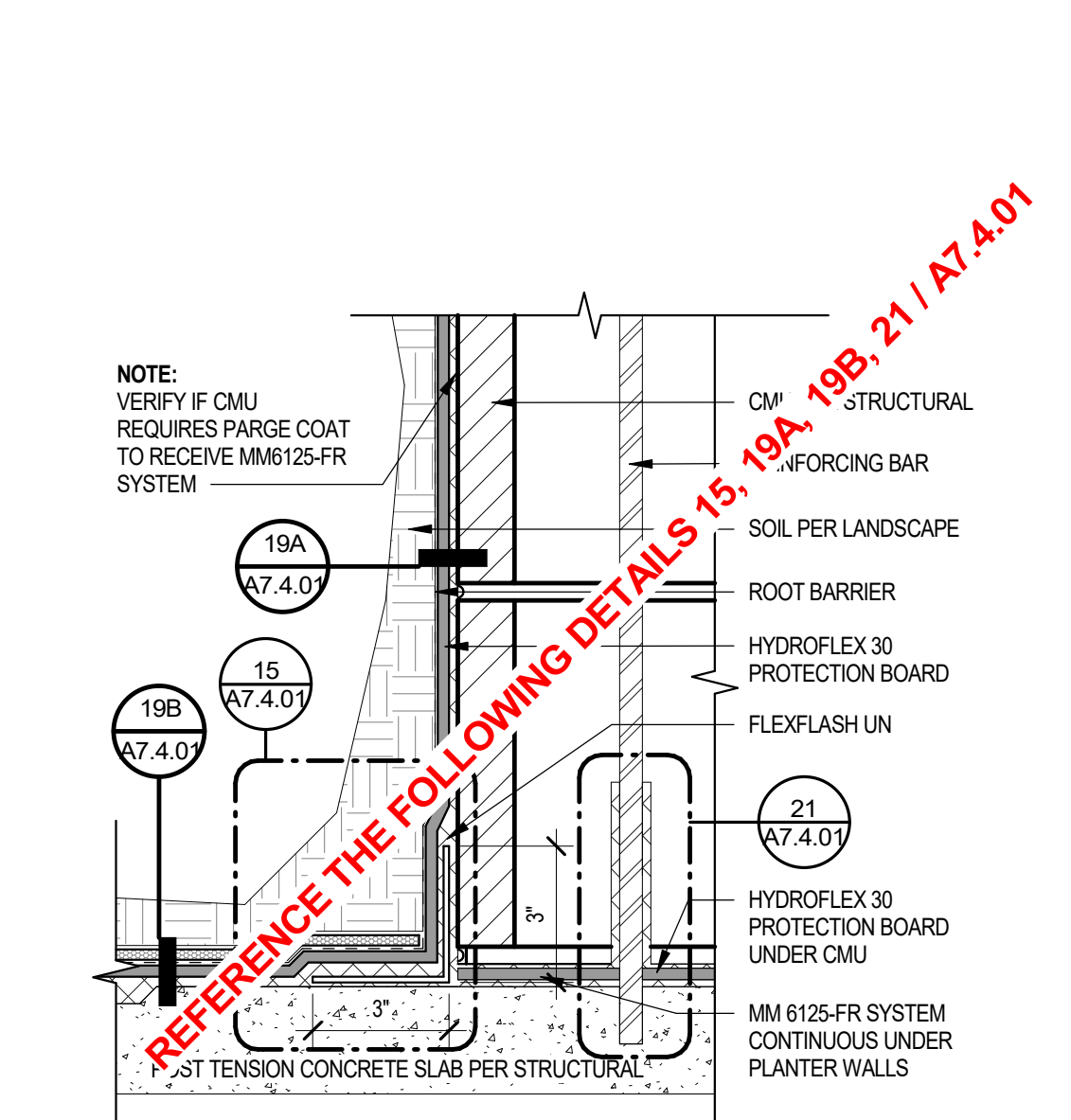
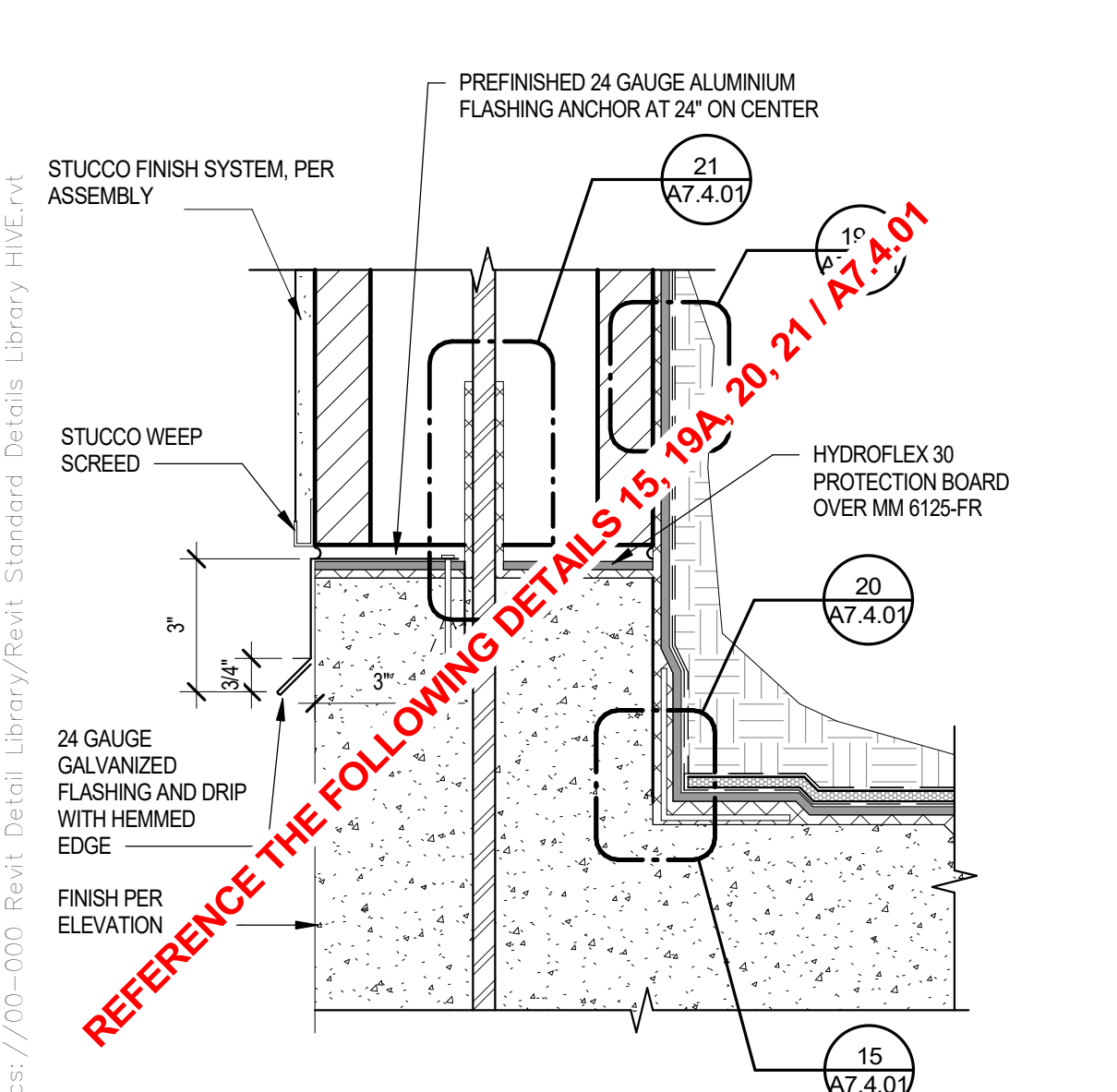
19A PLANTER WATERPROOFING SYSTEMS SCALE: 12" = 1'-0"

15 VERTICAL WATERPROOFING INSTALLATION SCALE: 3" = 1'-0"

11 WATERPROOFING AT POOL DRAIN DETAIL SCALE: 3" = 1'-0"

07 CONC. CURB AT ARTIFICIAL TURF AND CONC. PAVERS SCALE: 3" = 1'-0"

03 PAVERS AT WALL BASE SCALE: 3" = 1'-0"



24 PLANTER WATERPROOFING AT PODIUM EDGE SCALE: 3" = 1'-0"

20 PLANTER CORNER WATERPROOFING SCALE: 3" = 1'-0"

16 PAVER WATERPROOFING TERMINATION AT CMU WALL SCALE: 3" = 1'-0"

12 WATERPROOFING AT TOP OF PLANTER SCALE: 3" = 1'-0"

08 WATERPROOFING AT PLANTER DRAIN SCALE: 3" = 1'-0"

04 DECK DRAIN AT PAVER SCALE: 3" = 1'-0"

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City, state

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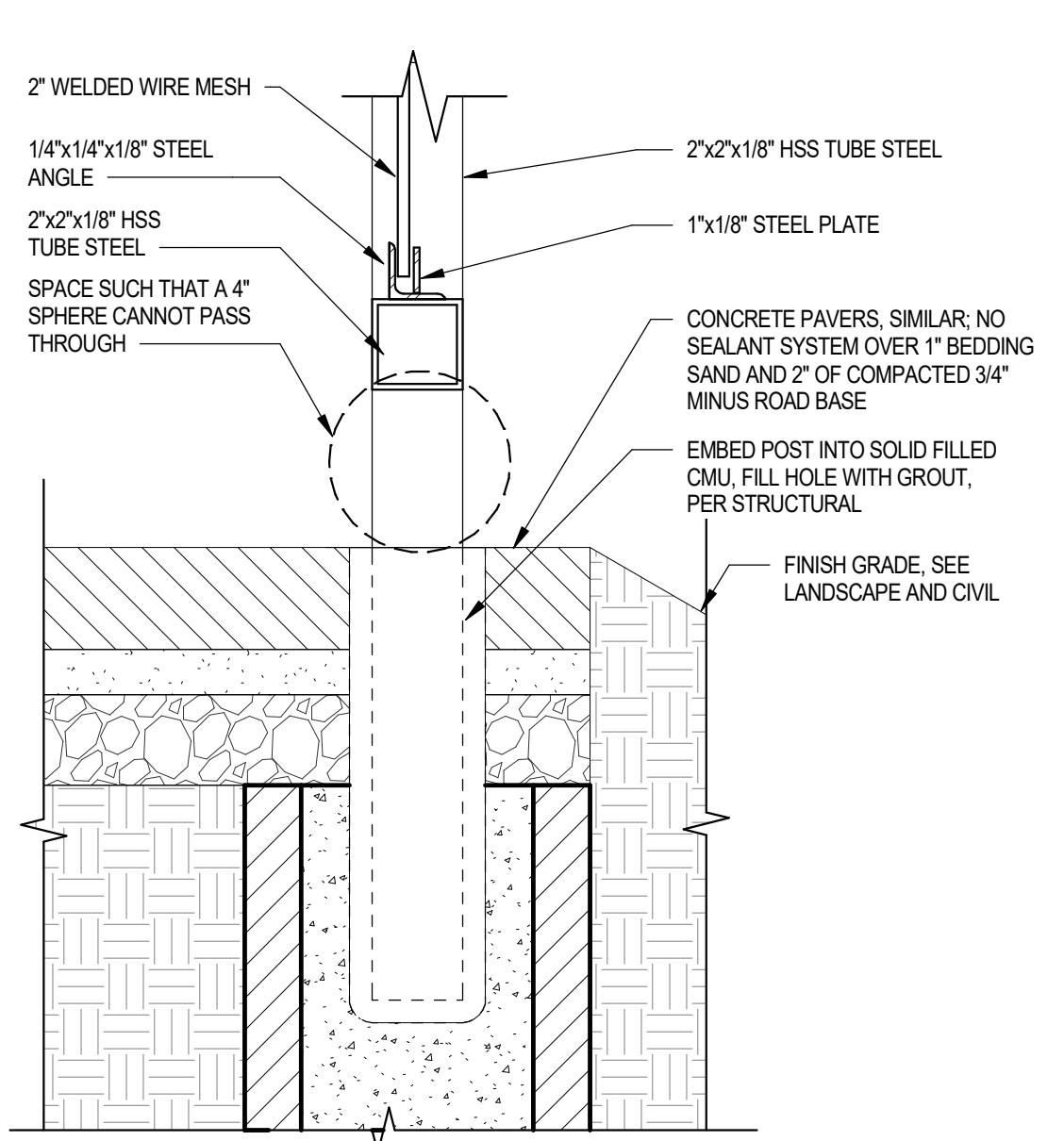
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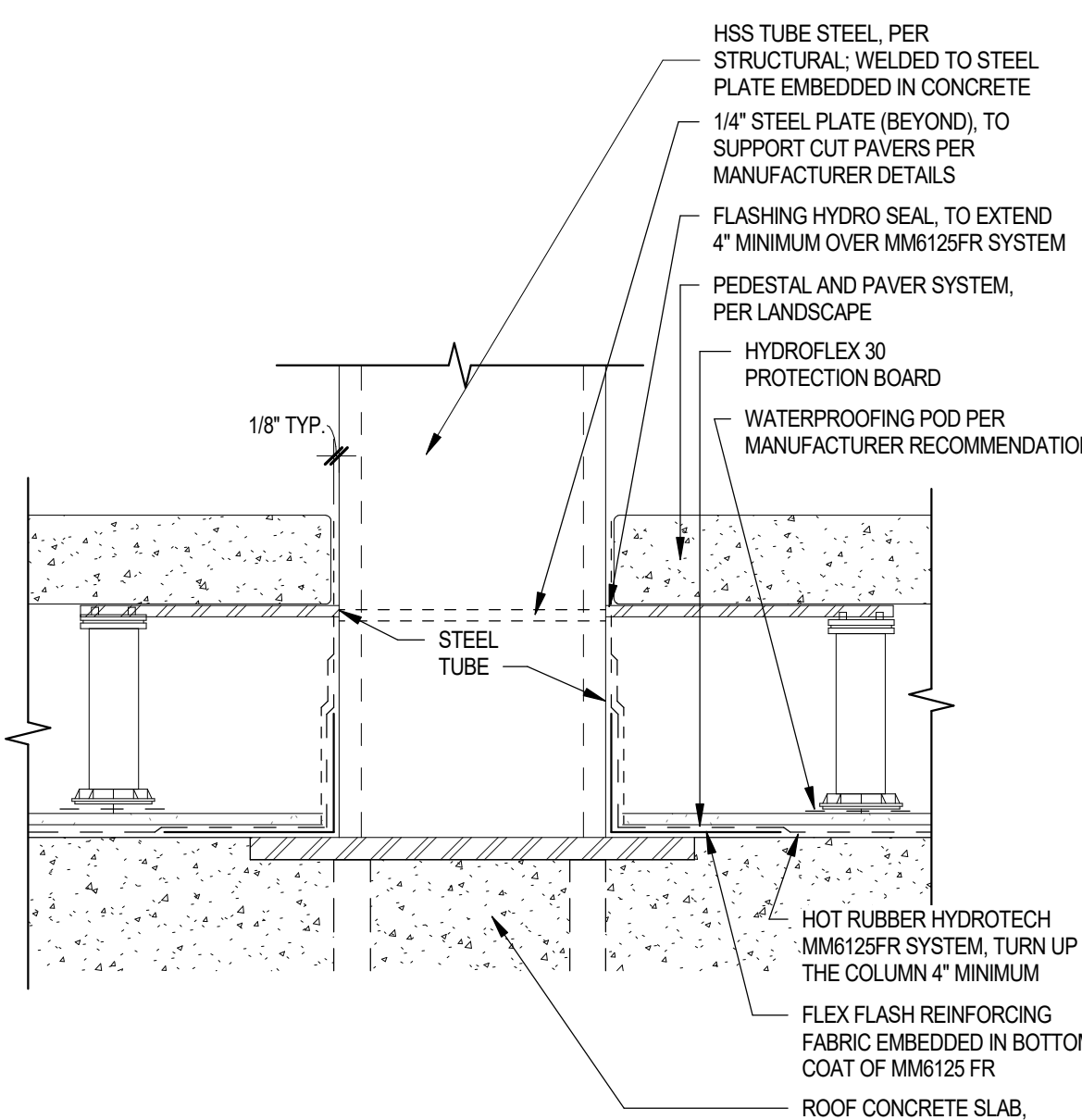
REVISIONS/SUBMITTALS	DATE	DESCRIPTION

1ST BUILDING SUBMITTAL
DATE: July 17, 2024 ORB #: 00-000

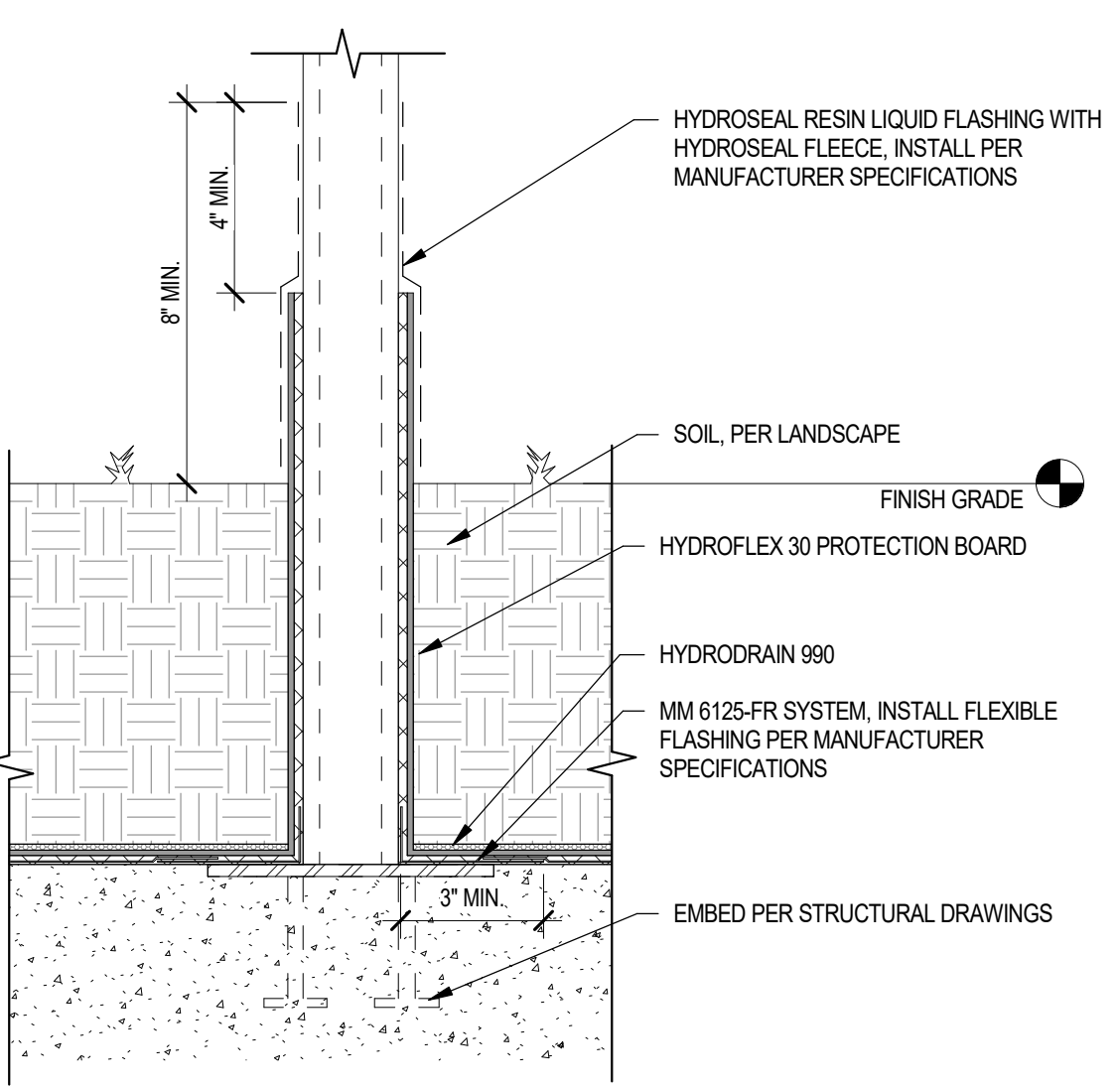
A7.4.01
SLAB PLAN DETAILS



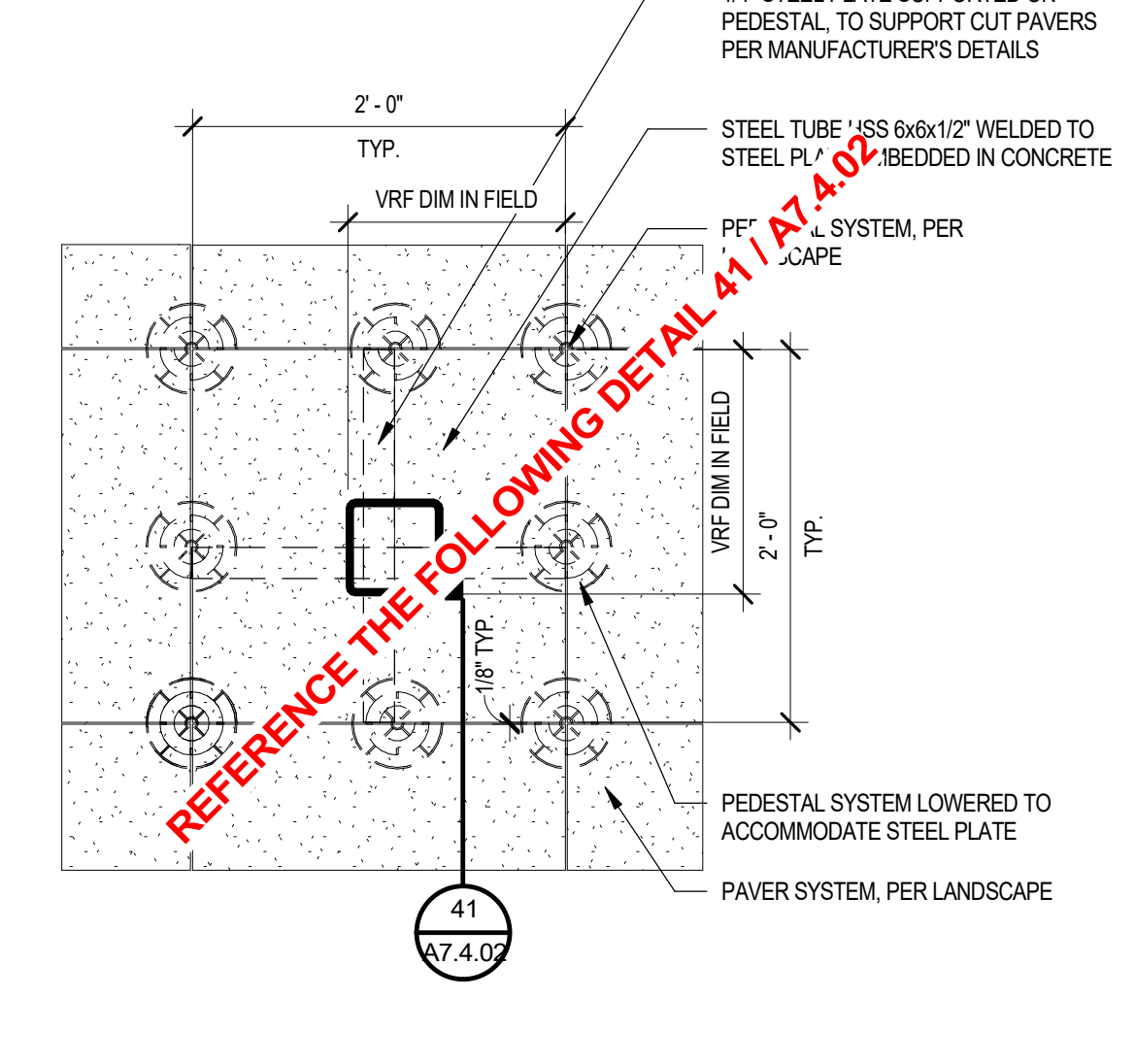
45 PATIO RAILING SCALE: 3" = 1'-0"



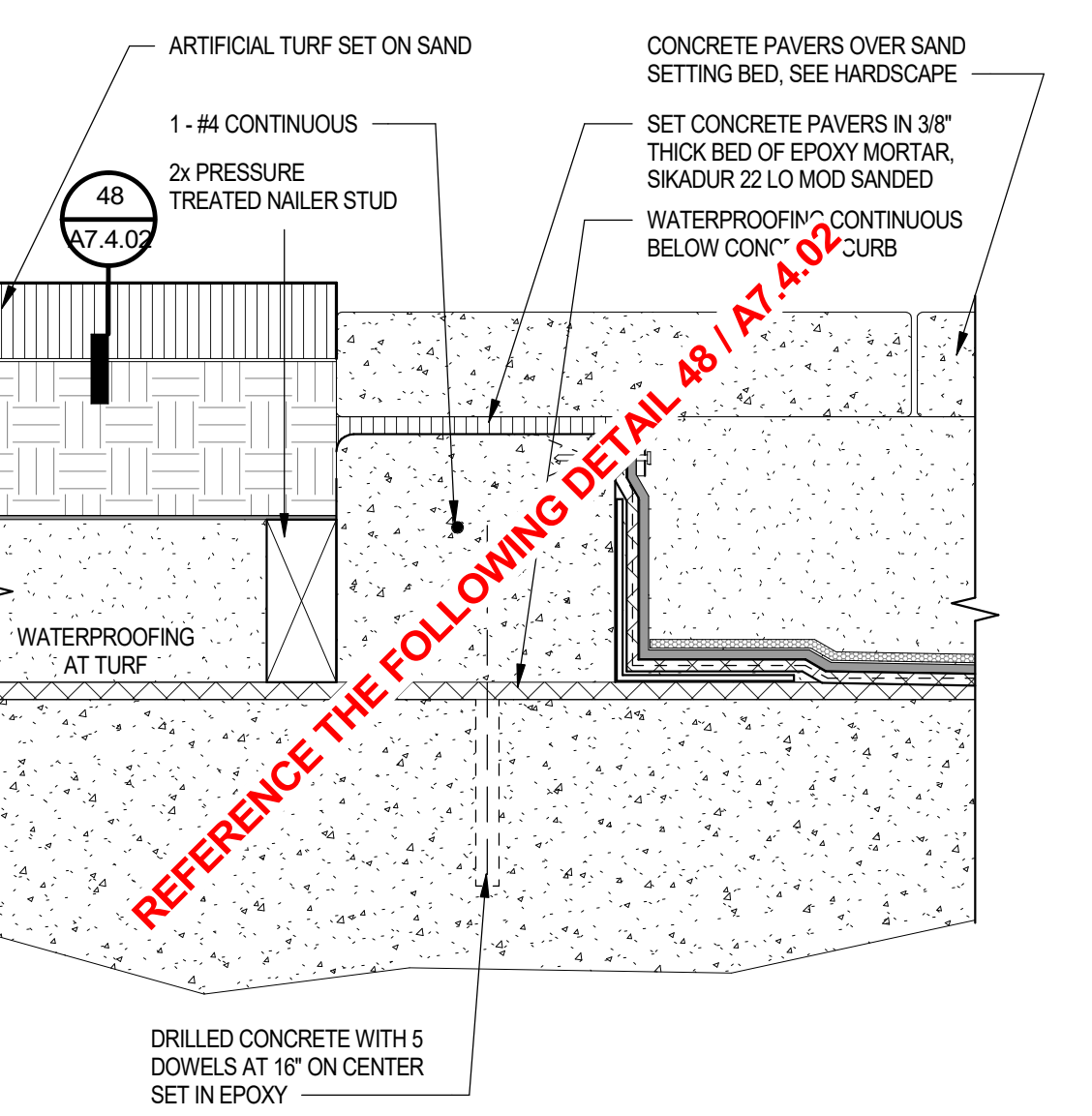
41 COLUMN WATERPROOFING @ PODIUM PAVERS SCALE: 3" = 1'-0"



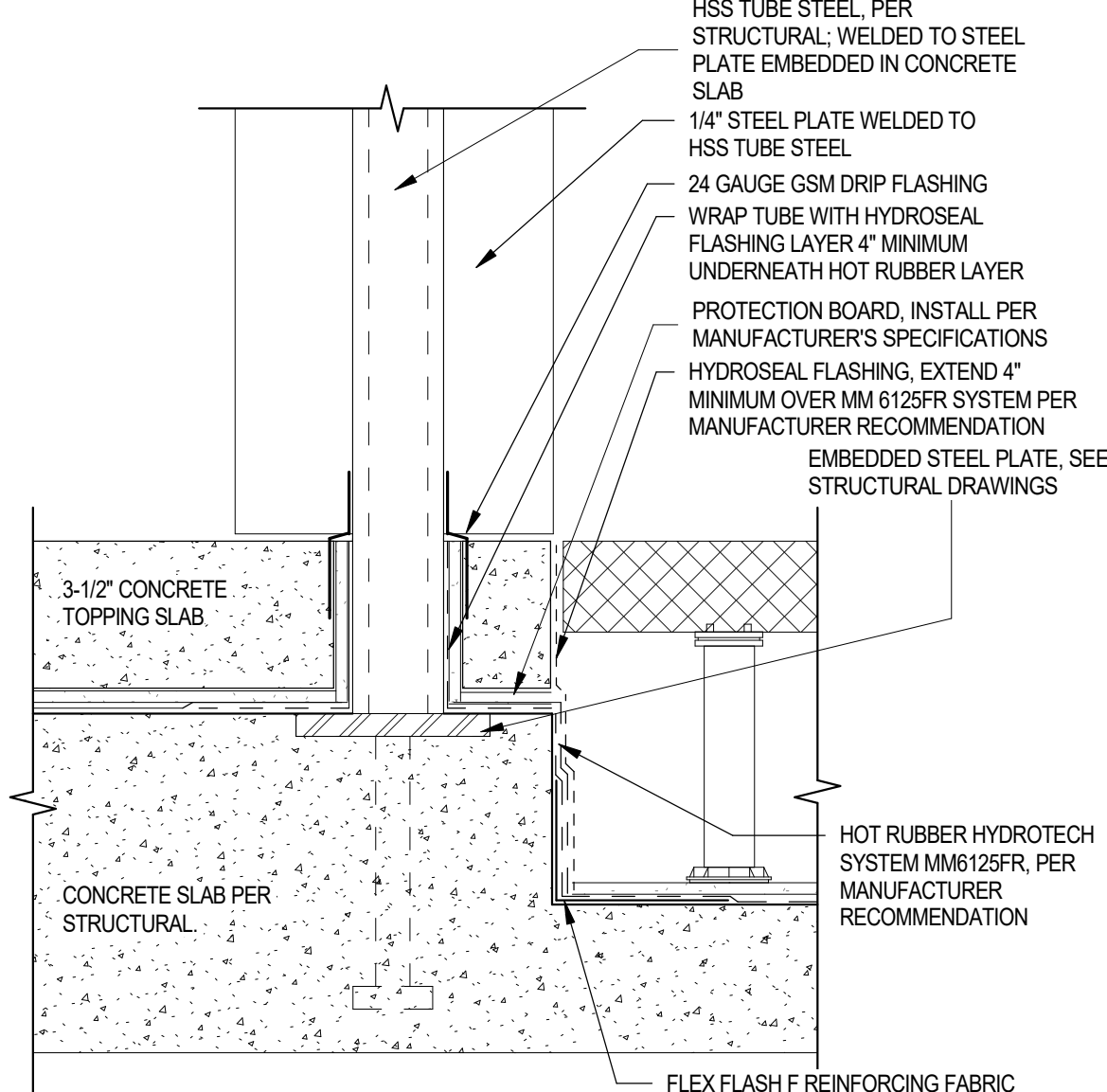
46 EMBEDDED STEEL PLATE WATERPROOFING SCALE: 3" = 1'-0"



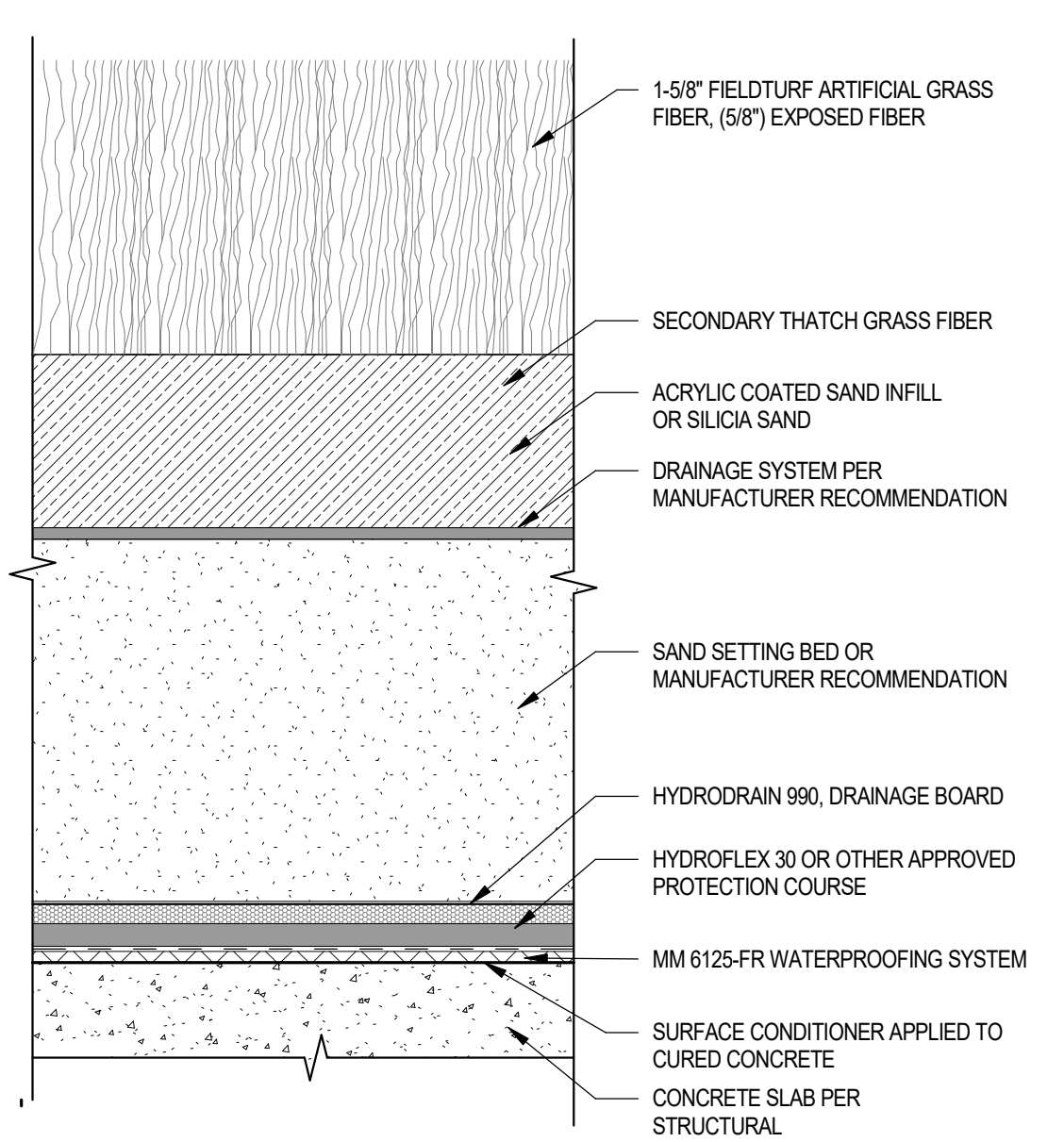
42 PAVER SUPPORT @ STEEL COLUMN ON PODIUM SLAB SCALE: 1" = 1'-0"



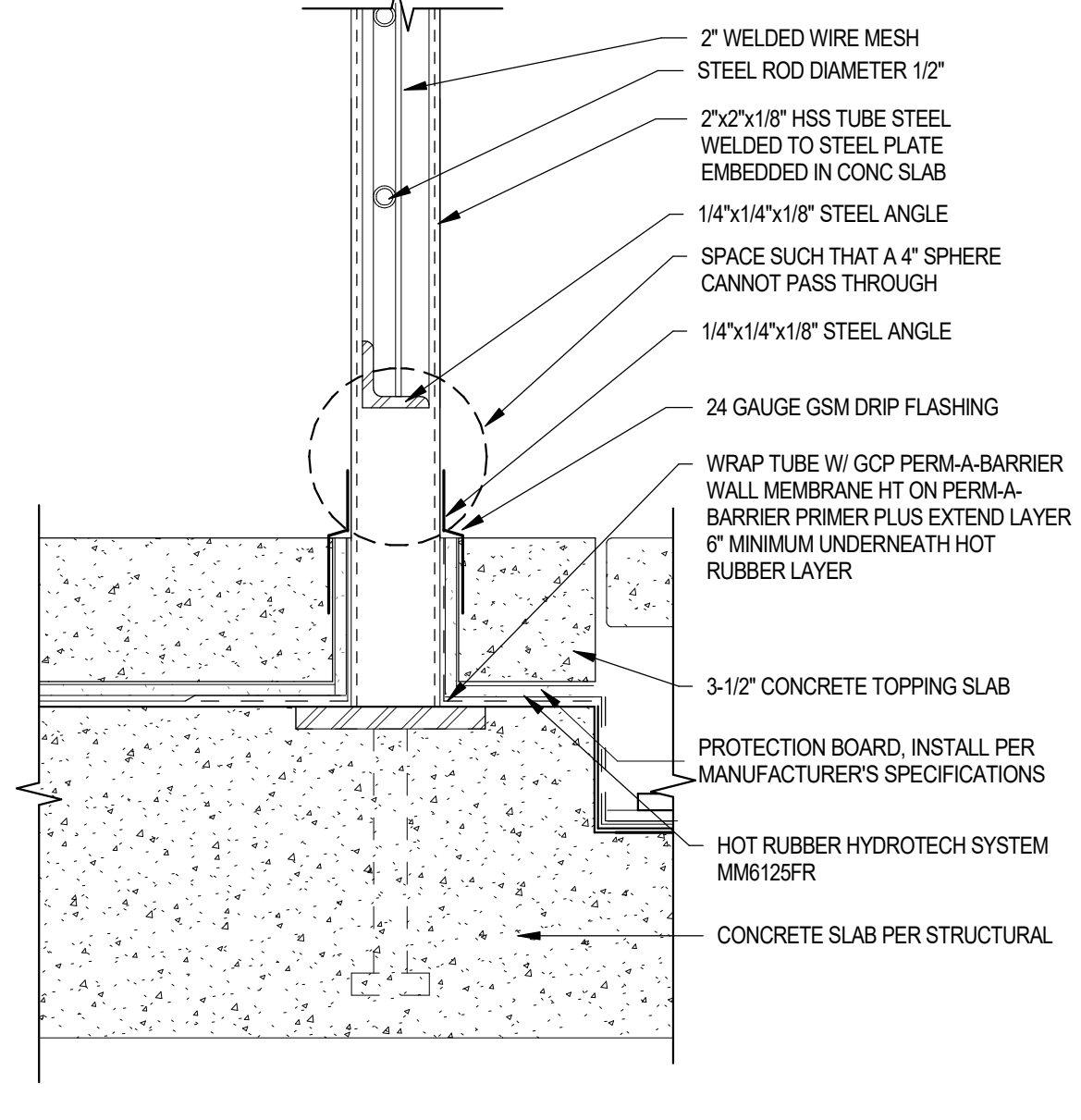
47 CONCRETE CURB AT ARTIFICIAL TURF & PAVERS SCALE: 3" = 1'-0"



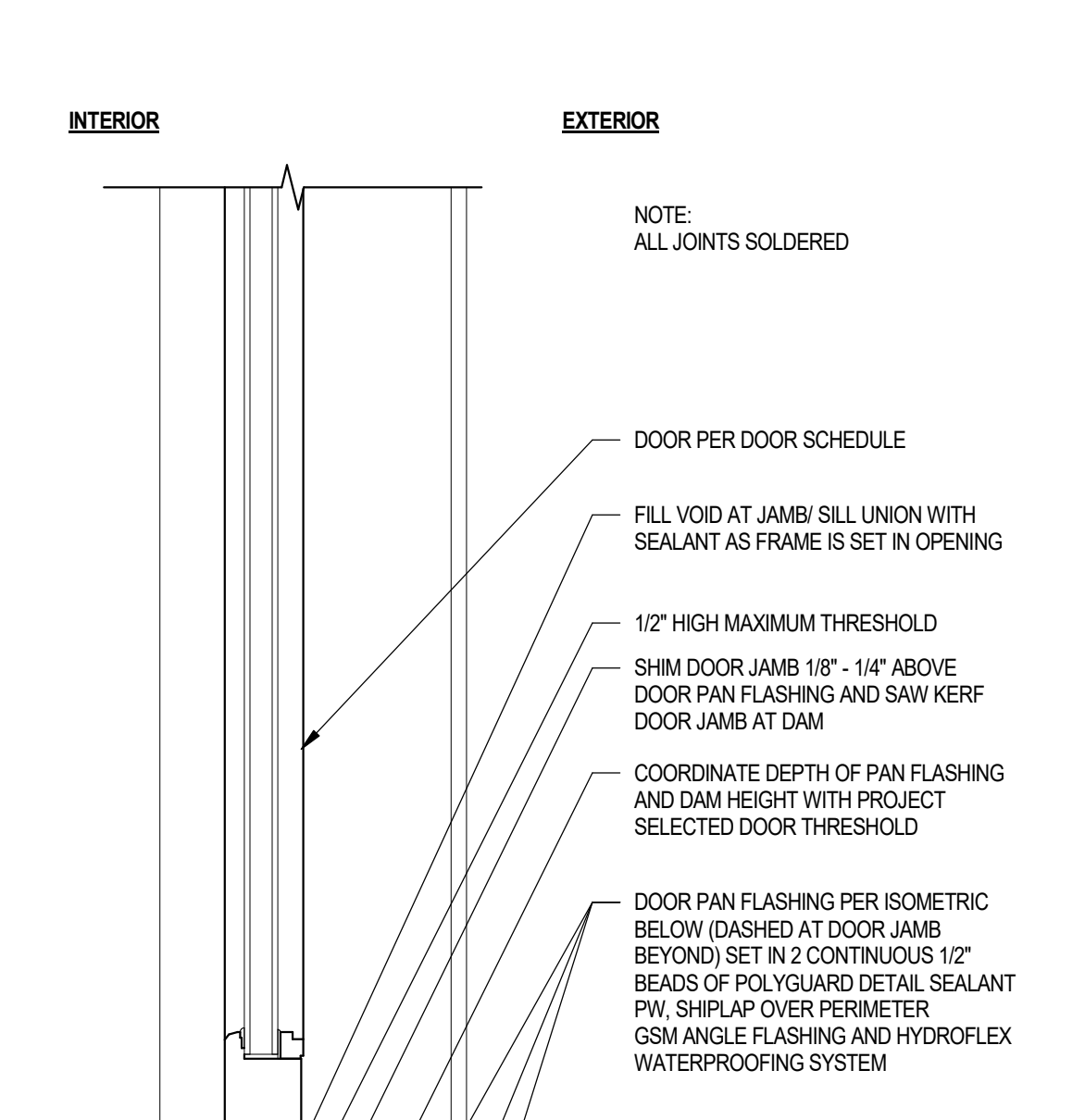
43 STEEL COLUMN - GUARDRAIL ATTACHMENT @ PODIUM SLAB SCALE: 3" = 1'-0"



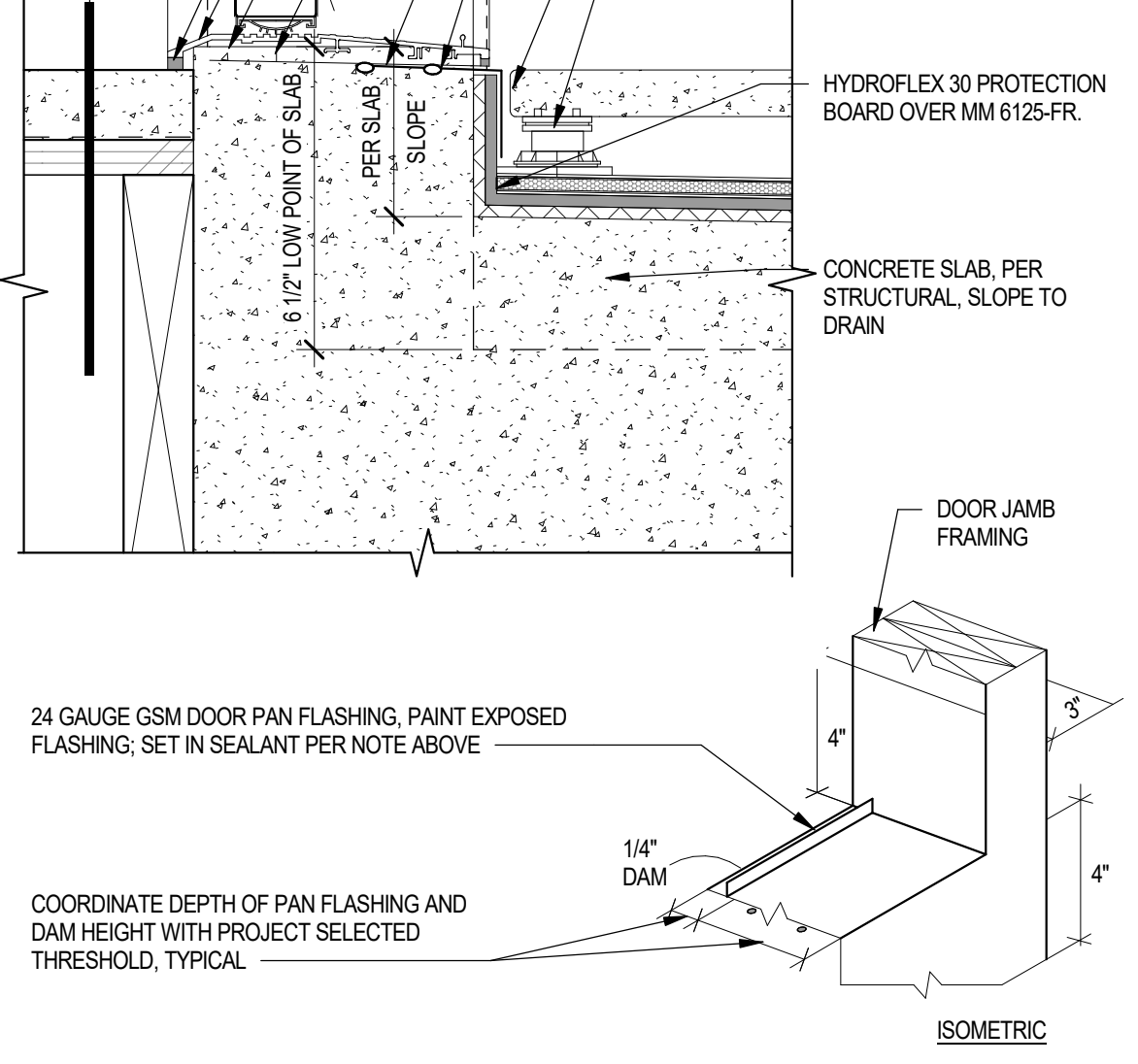
48 WATERPROOFING AT TURF SCALE: 12" = 1'-0"



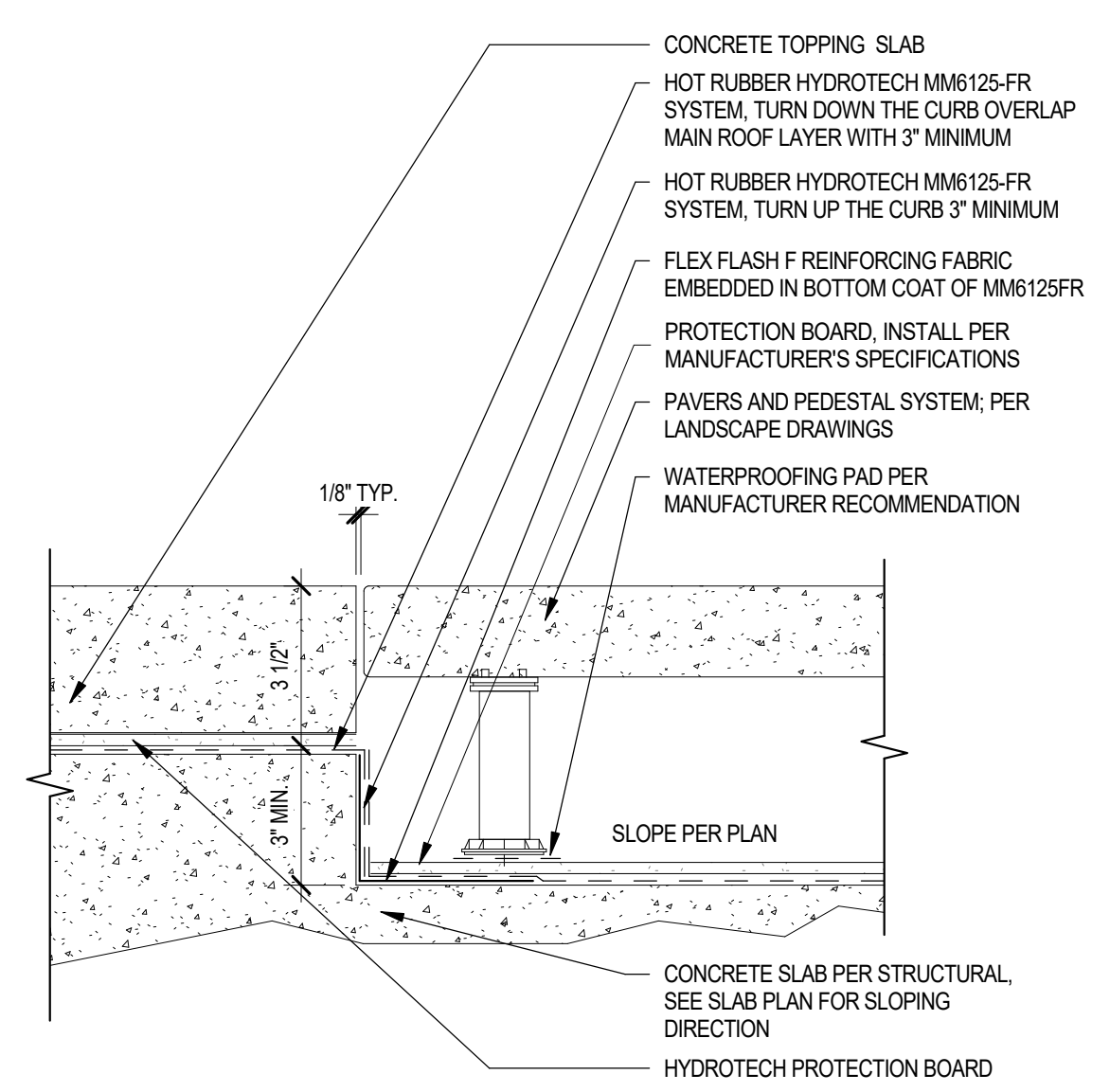
44 GUARDRAIL ATTACHMENT AT PODIUM SLAB SCALE: 3" = 1'-0"



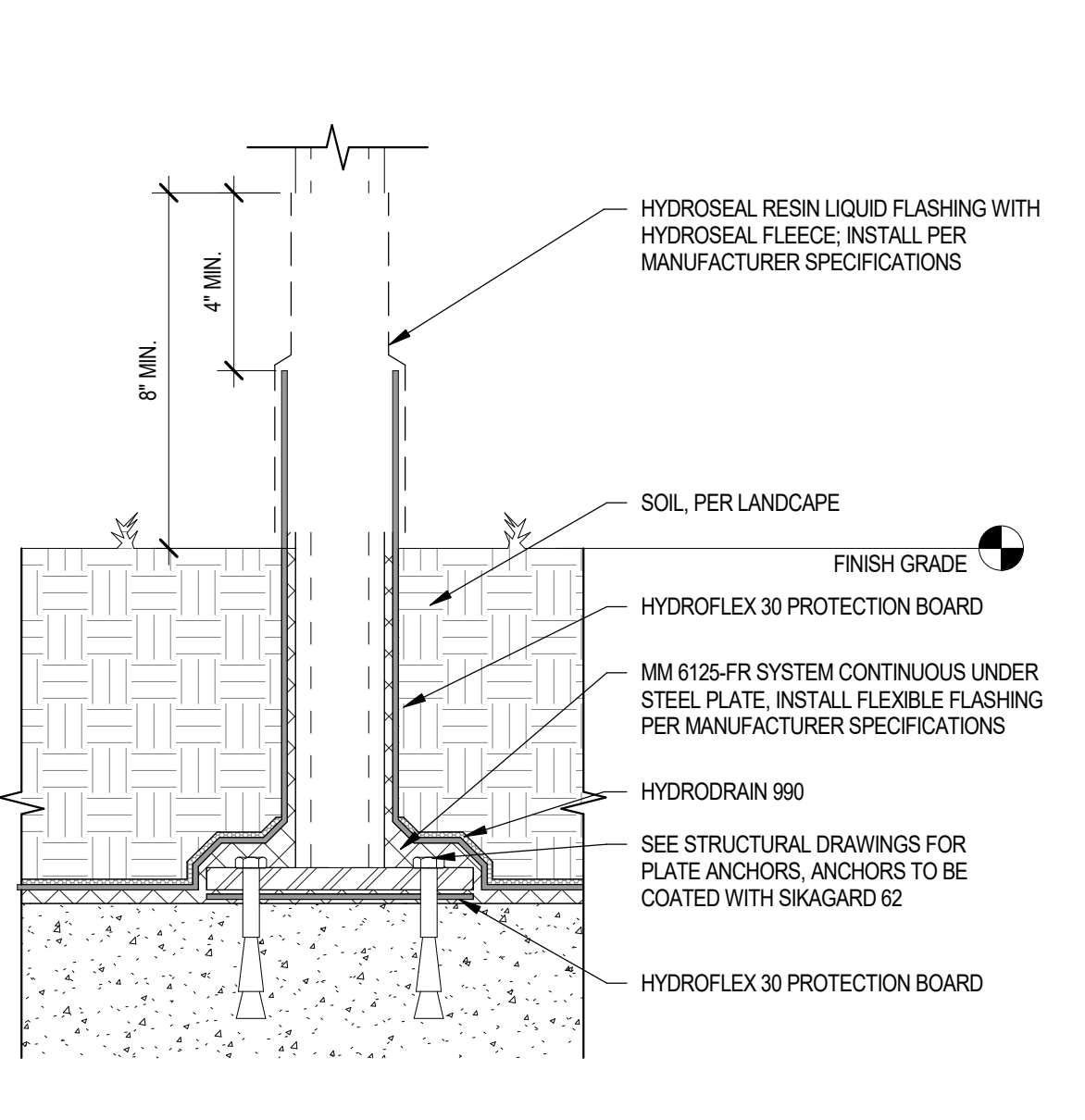
38 DOOR SILL FLASHING @ PODIUM SLAB SCALE: 3" = 1'-0"



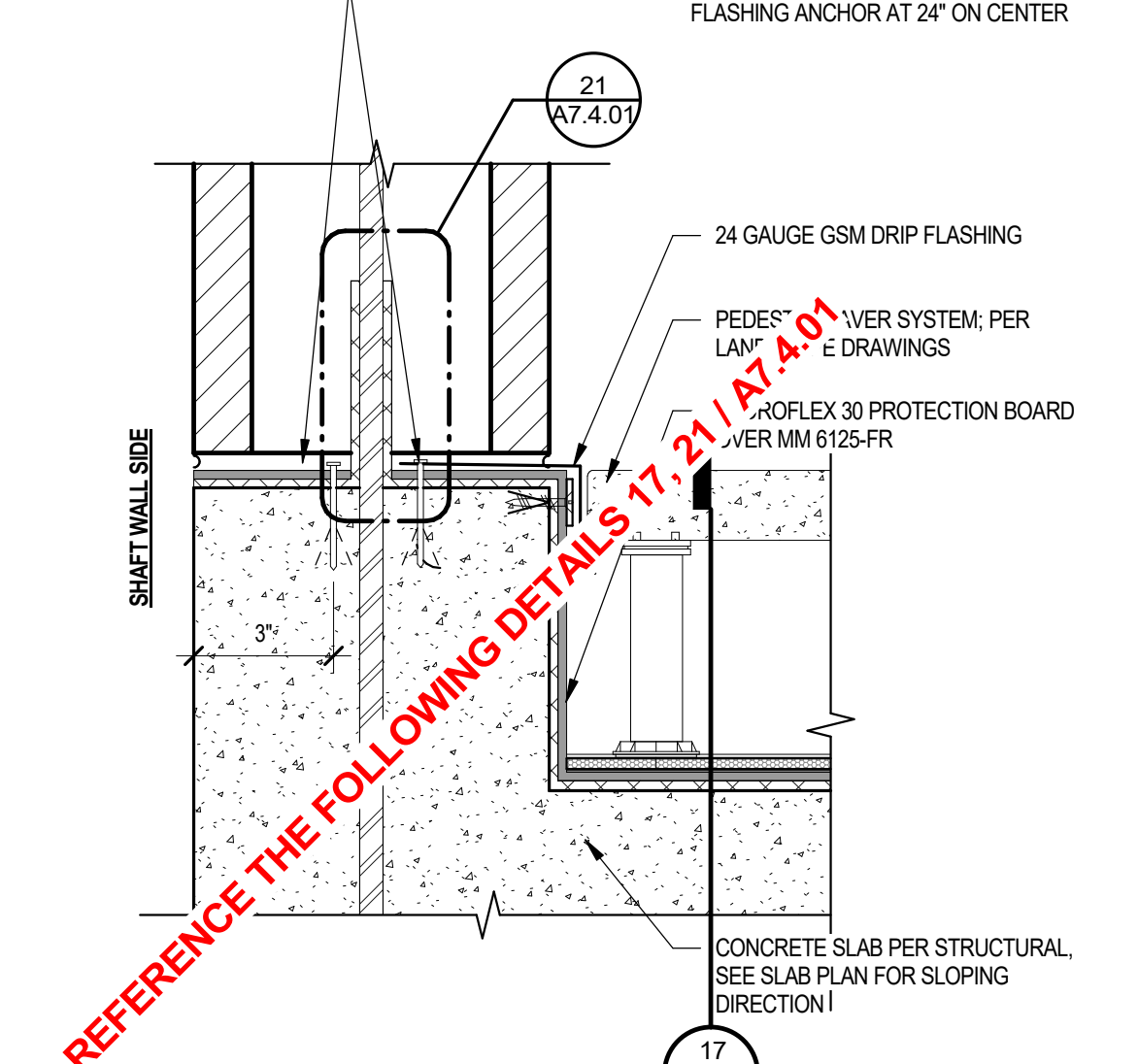
34 CMU WALL AT PAVERS SCALE: 3" = 1'-0"



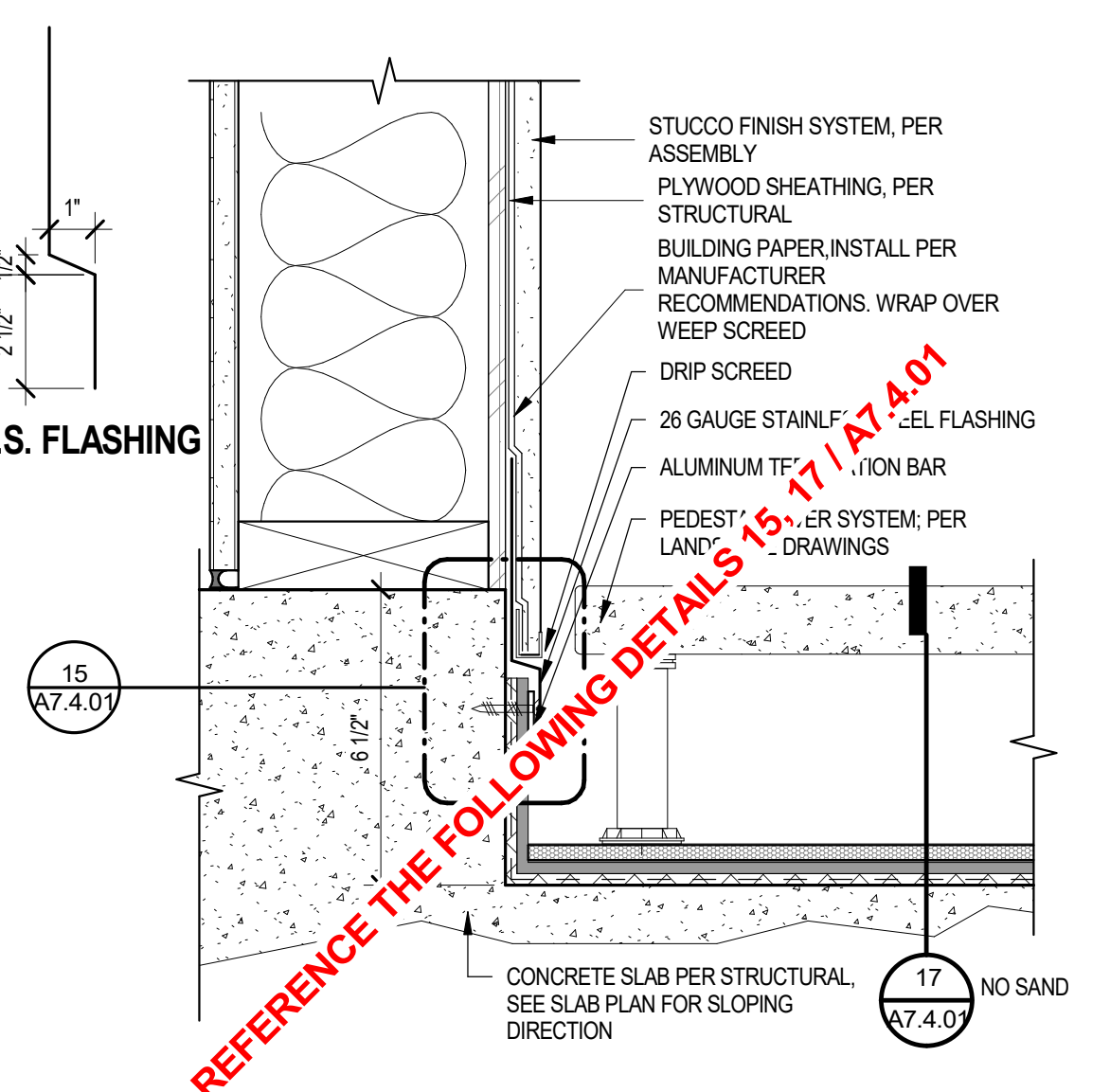
39 PAVERS AT PODIUM SLAB SCALE: 3" = 1'-0"



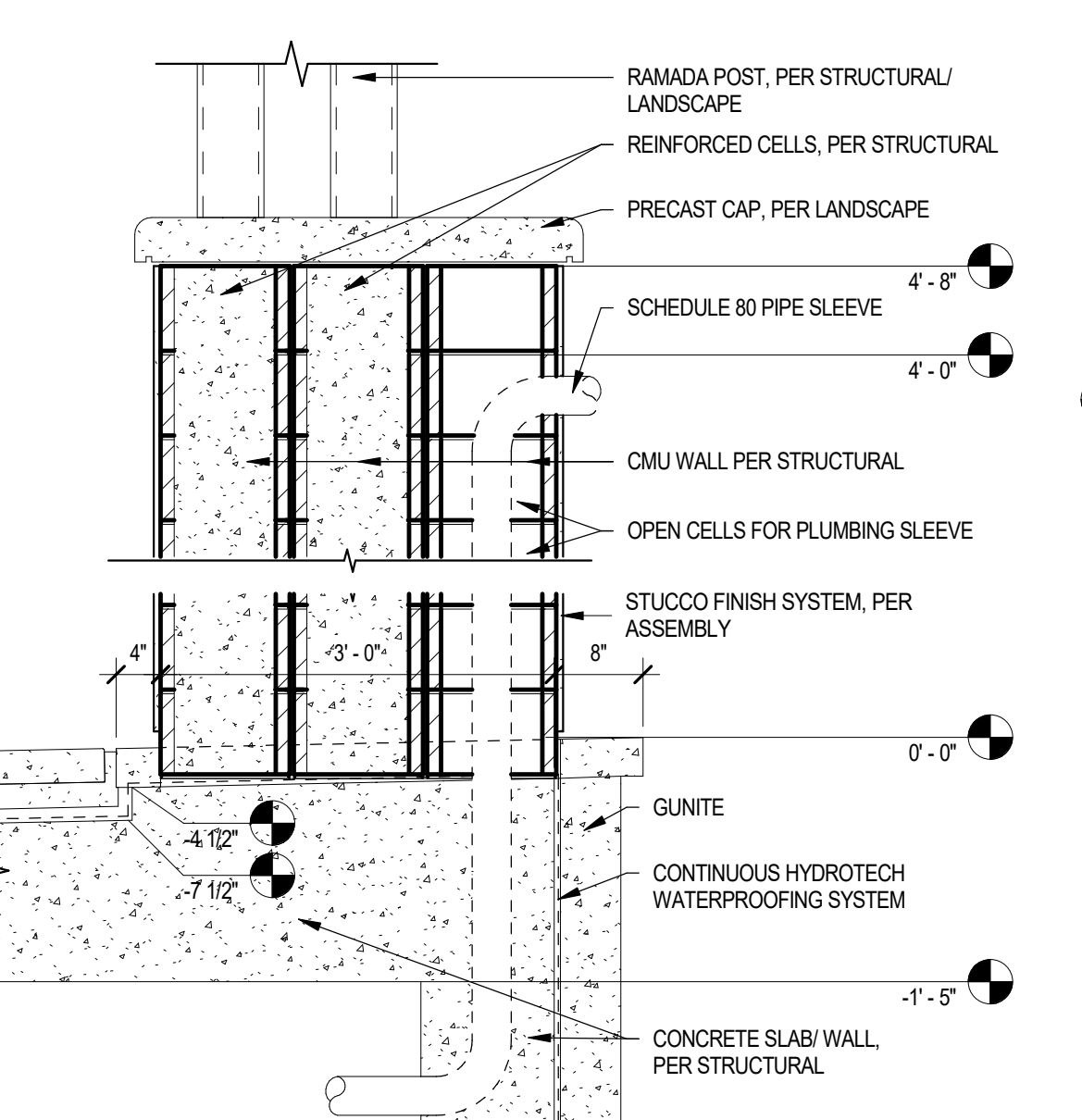
33 STEEL FENCE POSTS AND COLUMN BELOW GRADE SCALE: 3" = 1'-0"



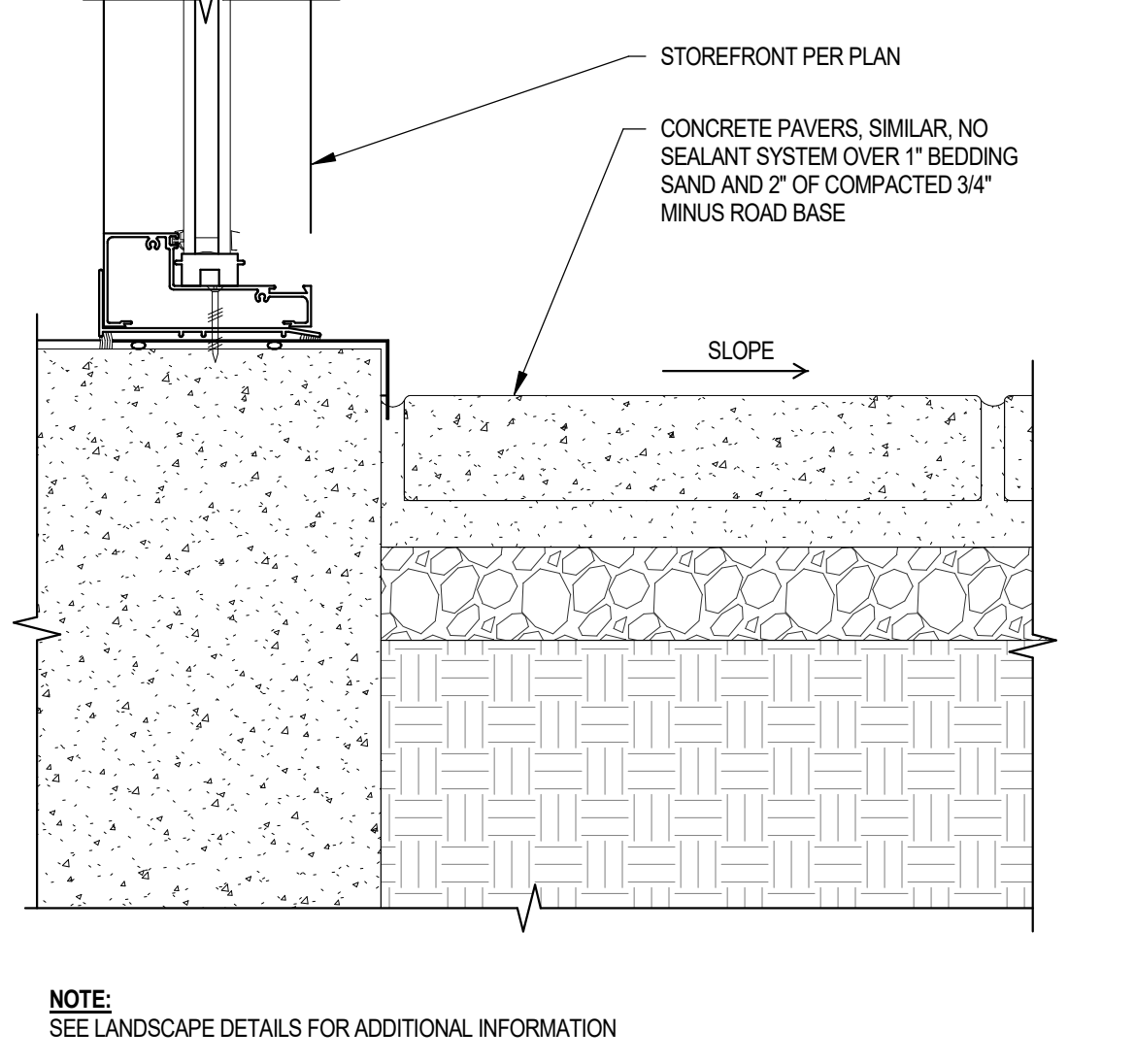
30 PAVERS AT STOREFRONT SCALE: 3" = 1'-0"



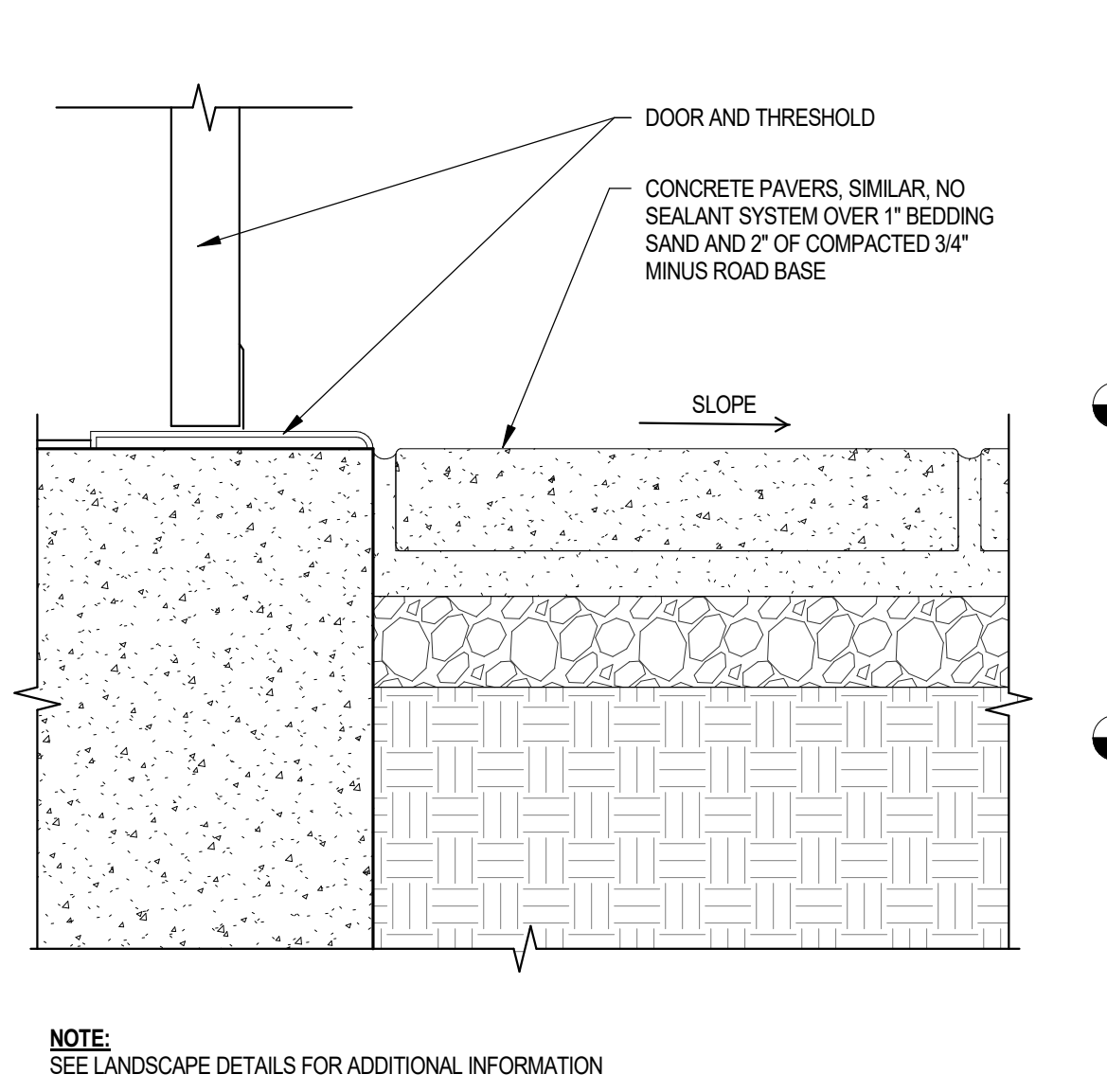
35 RAISED PAVERS AT WALL BASE SCALE: 3" = 1'-0"



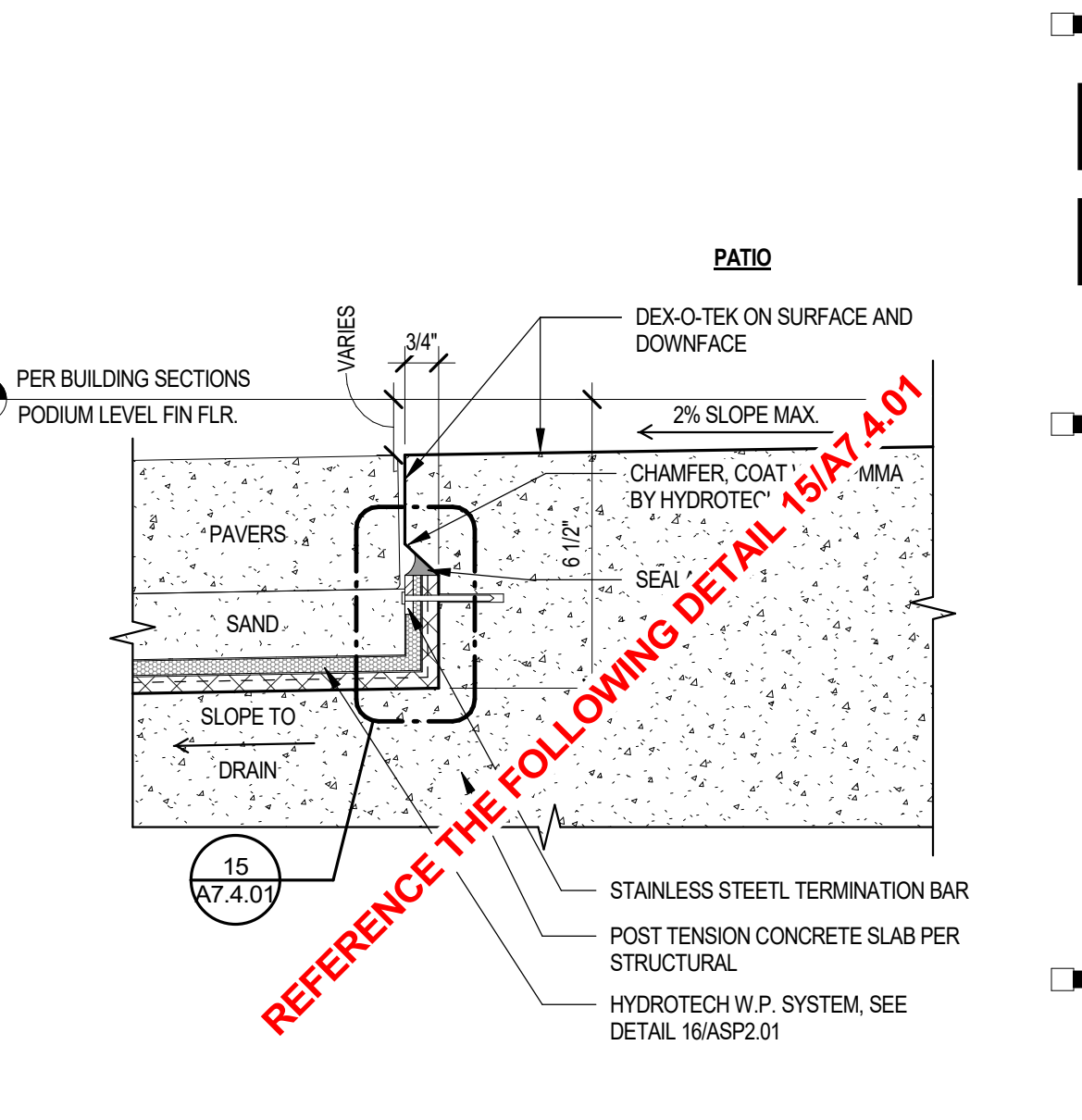
29 CMU COLUMN @ POOL SIDE SCALE: 3/4" = 1'-0"



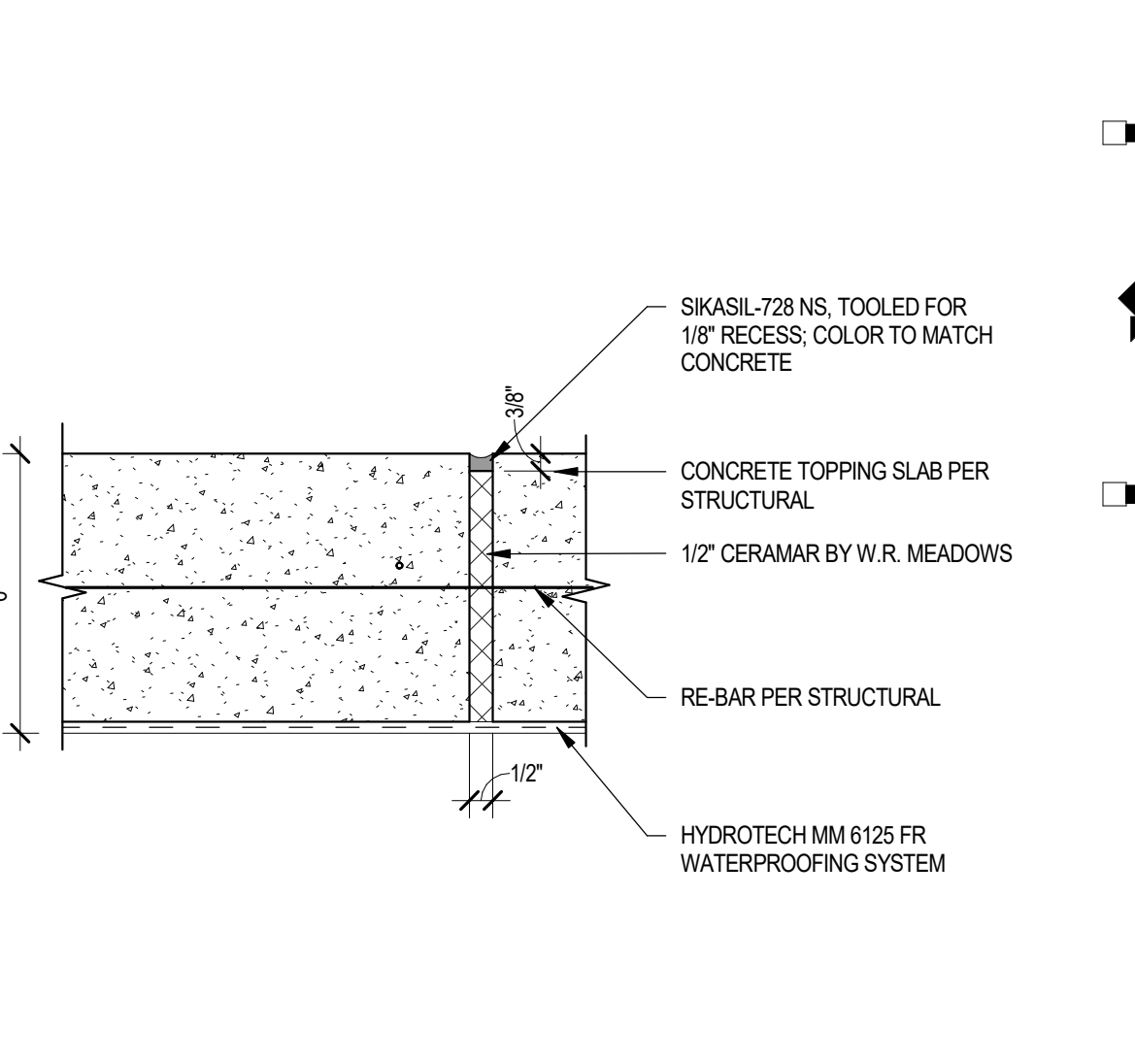
31 PAVERS AT DOORWAY SCALE: 3" = 1'-0"



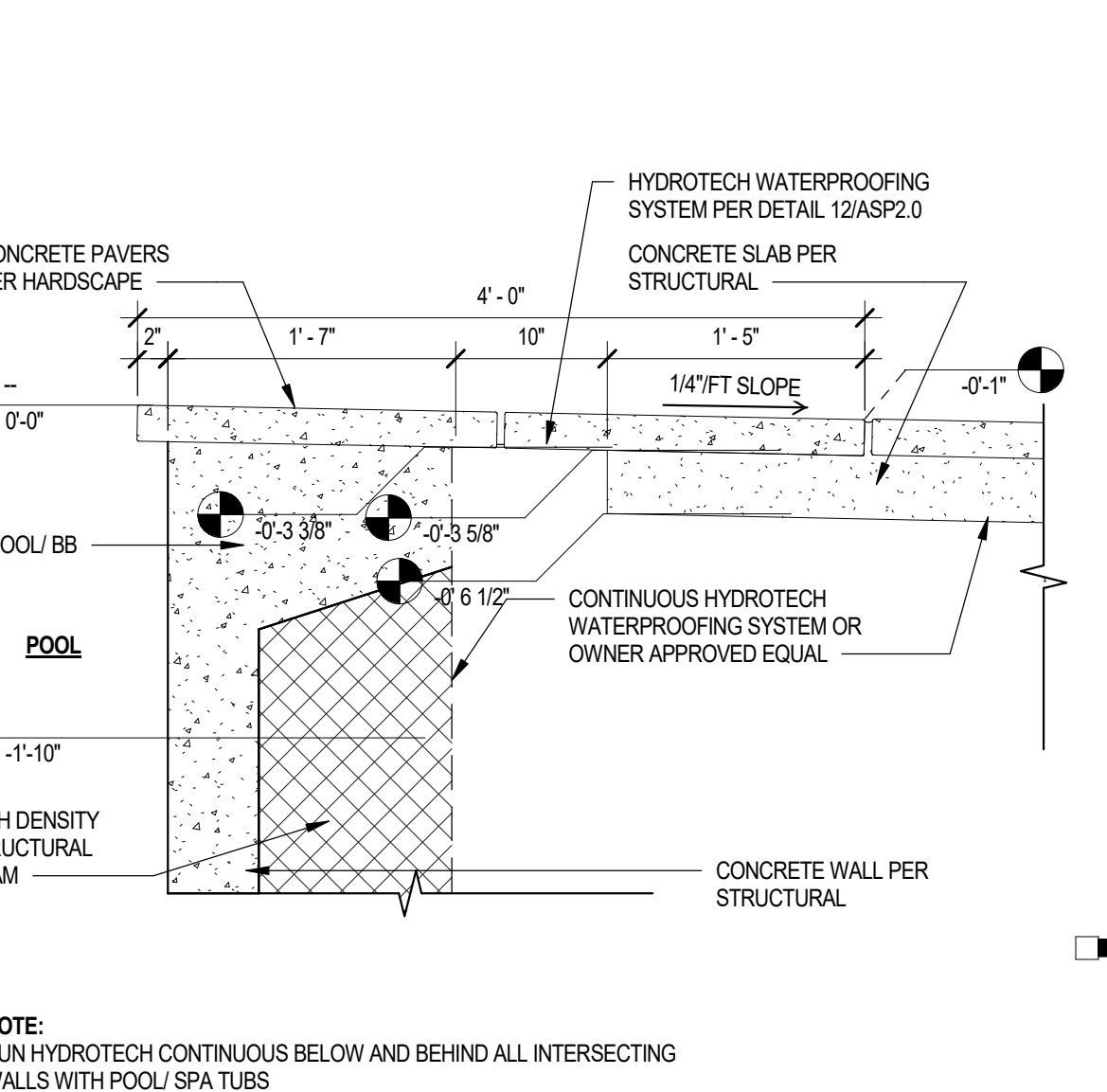
40 DRAINAGE PIPE AT PLANTER SCALE: 3" = 1'-0"



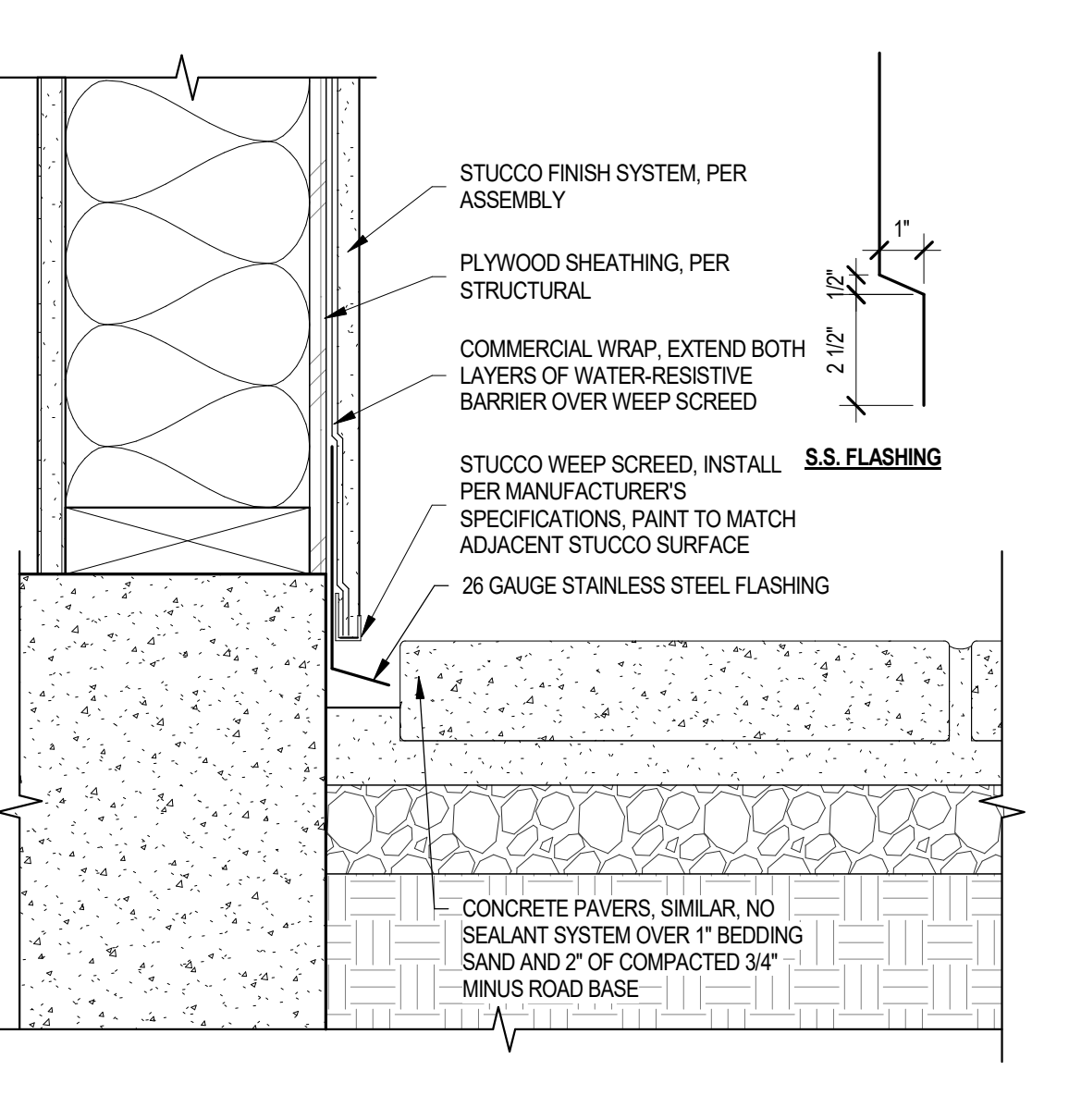
25 PODIUM AT UNIT PATIO WATER PROOFING SCALE: 3" = 1'-0"



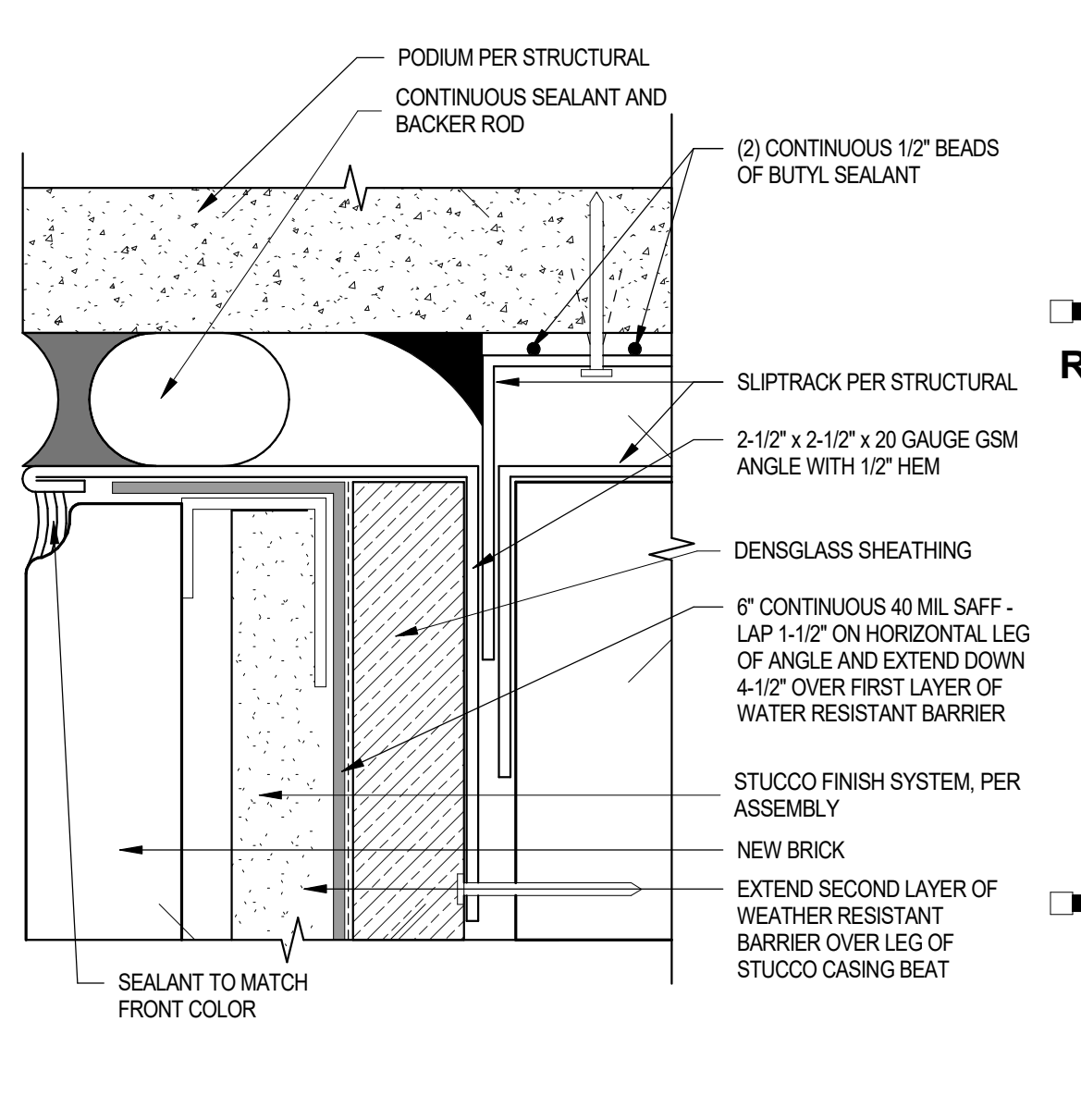
26 SLAB EXPANSION JOINT SCALE: 3" = 1'-0"



27 POOL EDGE SCALE: 1" = 1'-0"



32 PAVERS AT WALL BASE SCALE: 3" = 1'-0"



28 JOINT AT DECORATIVE BRICK VENEER WALL SCALE: 12" = 1'-0"

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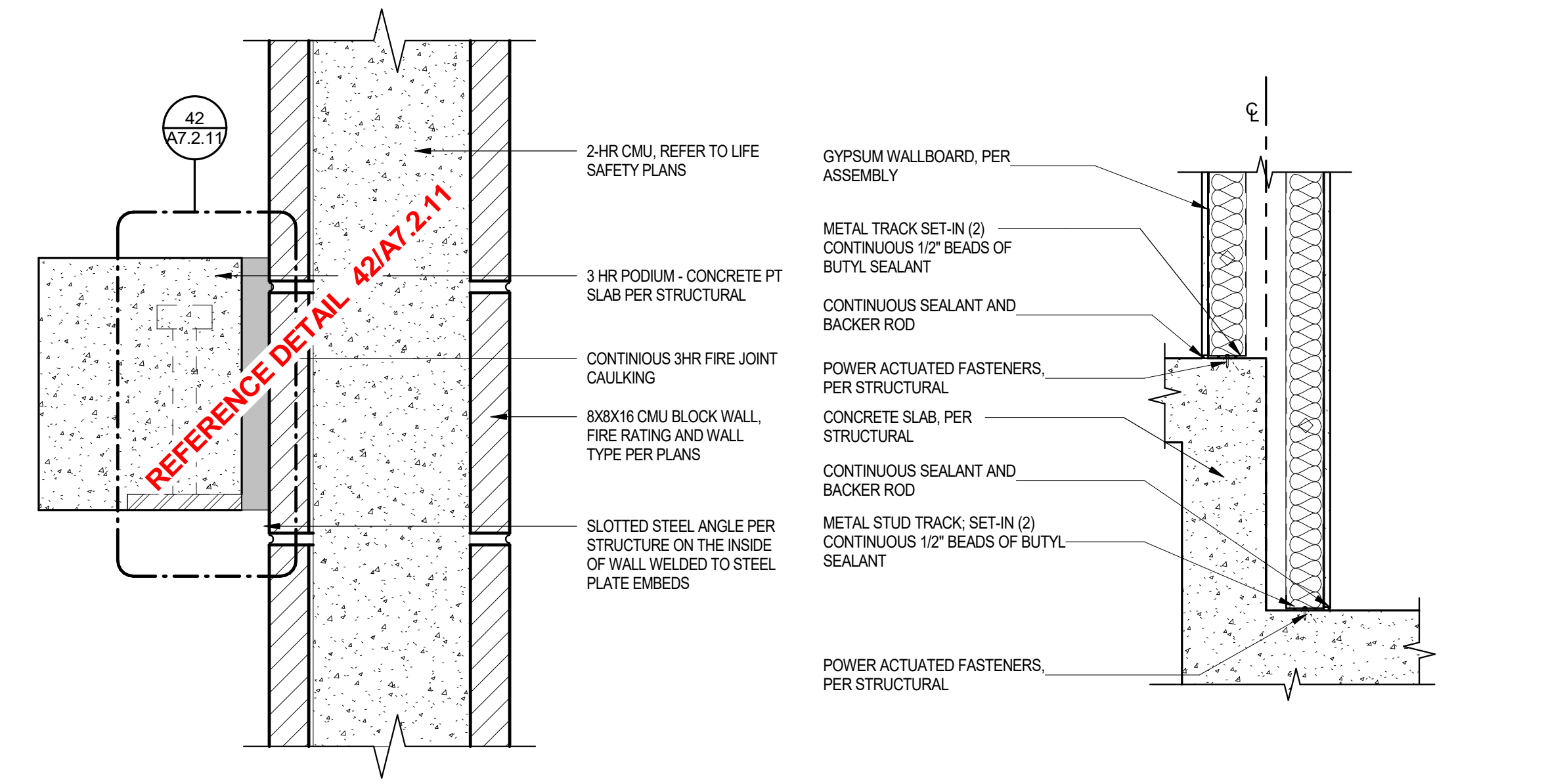
DATE	DESCRIPTION
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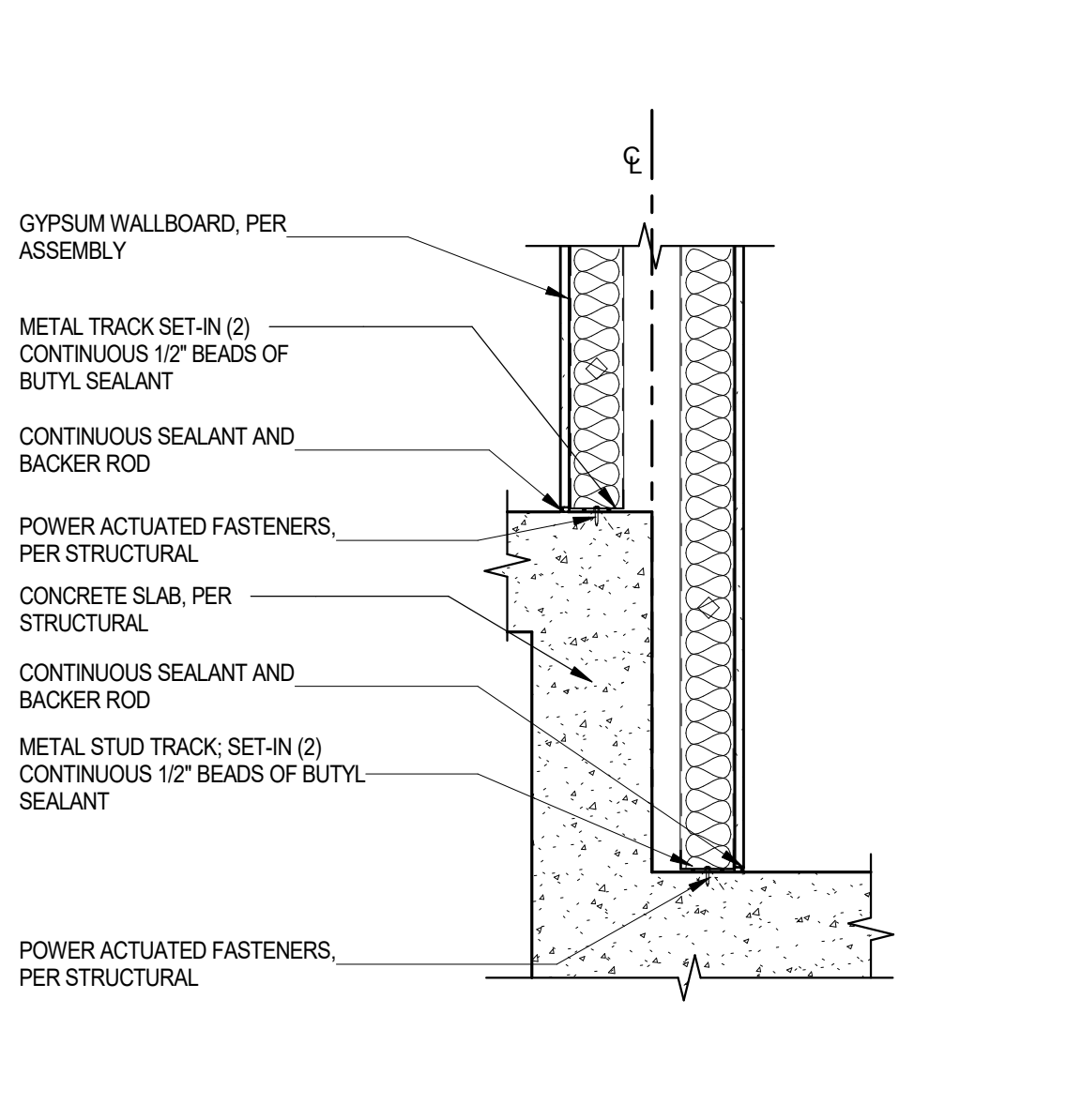
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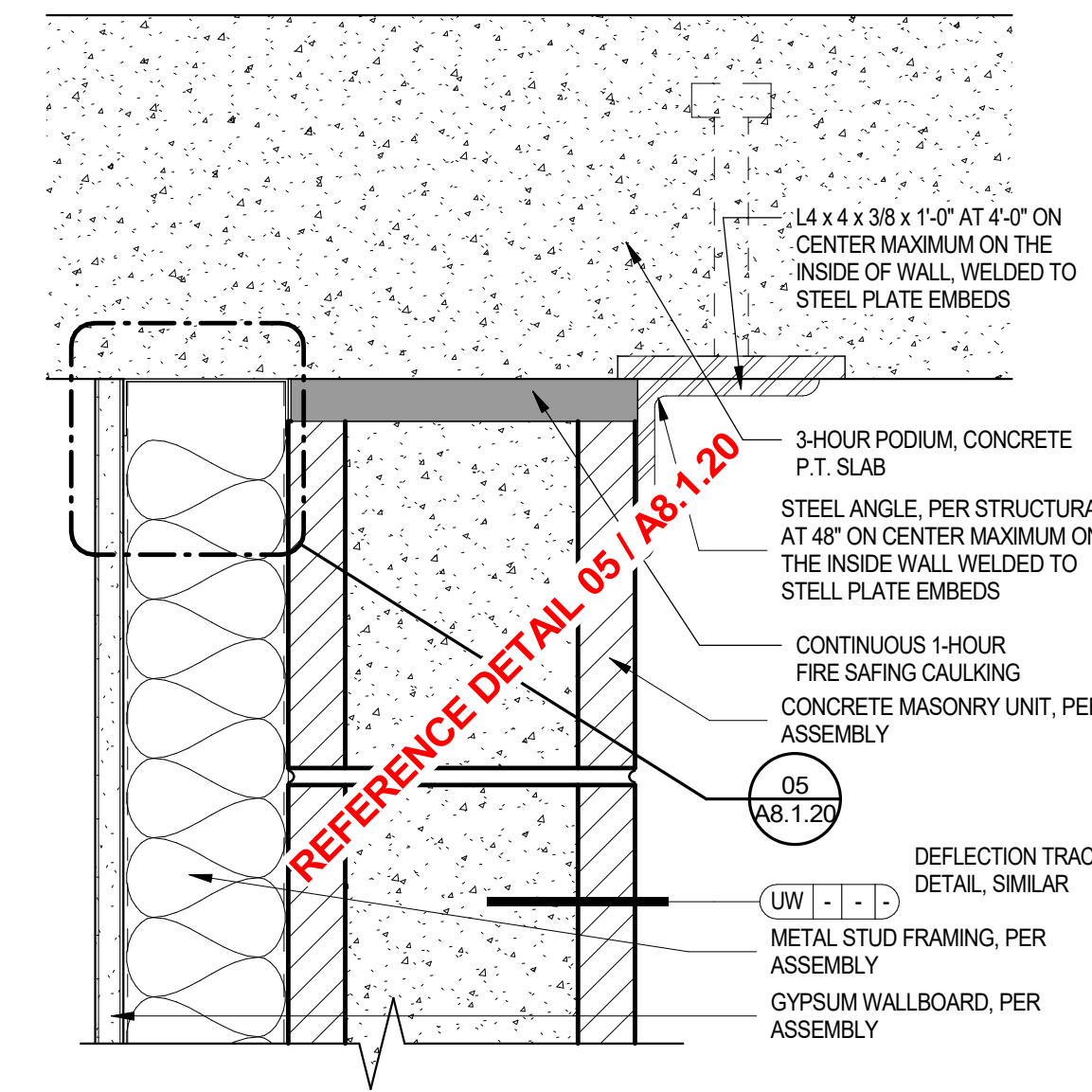
SLAB PLAN DETAILS



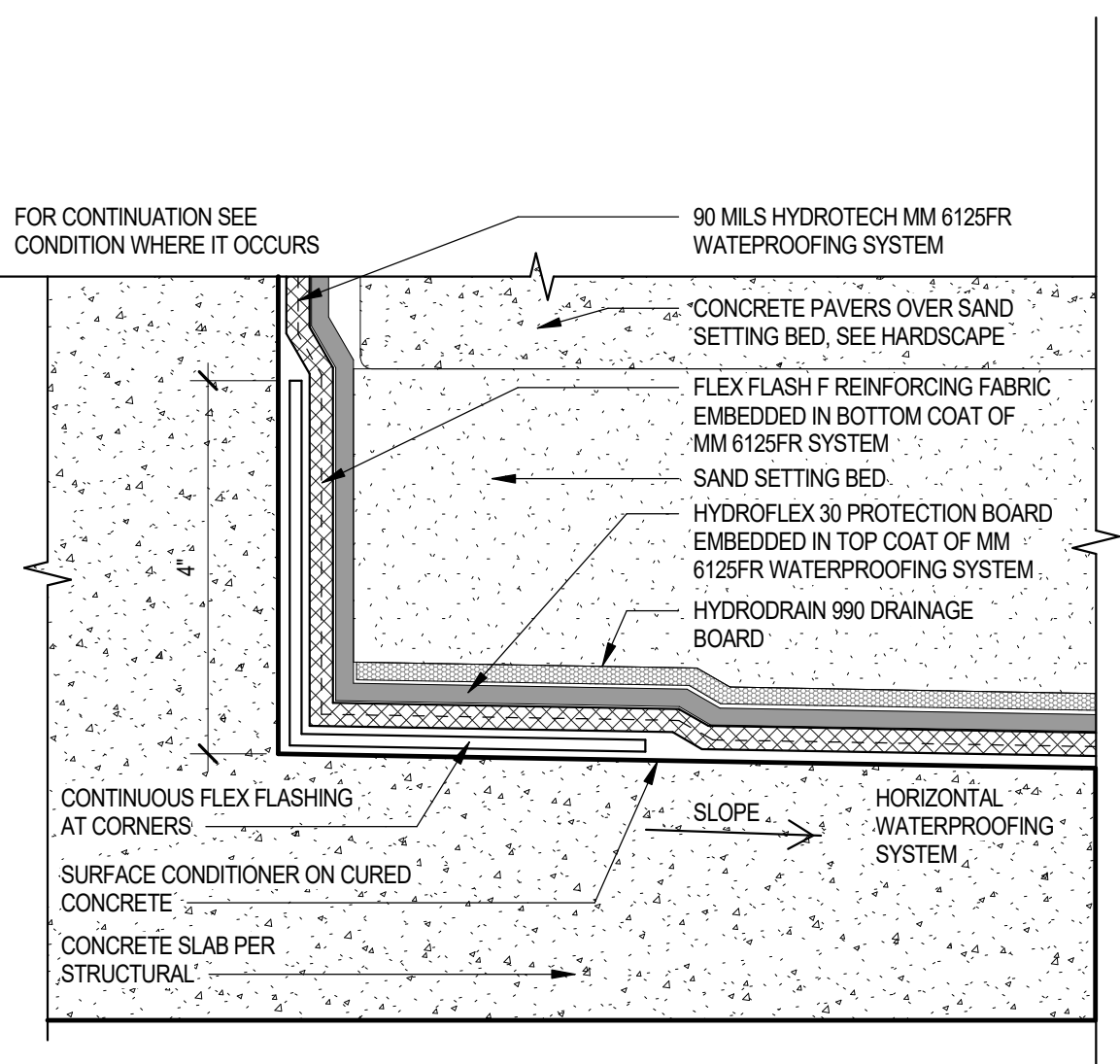
42 CONCRETE SLAB AT CMU WALL SCALE: 3" = 1'-0"



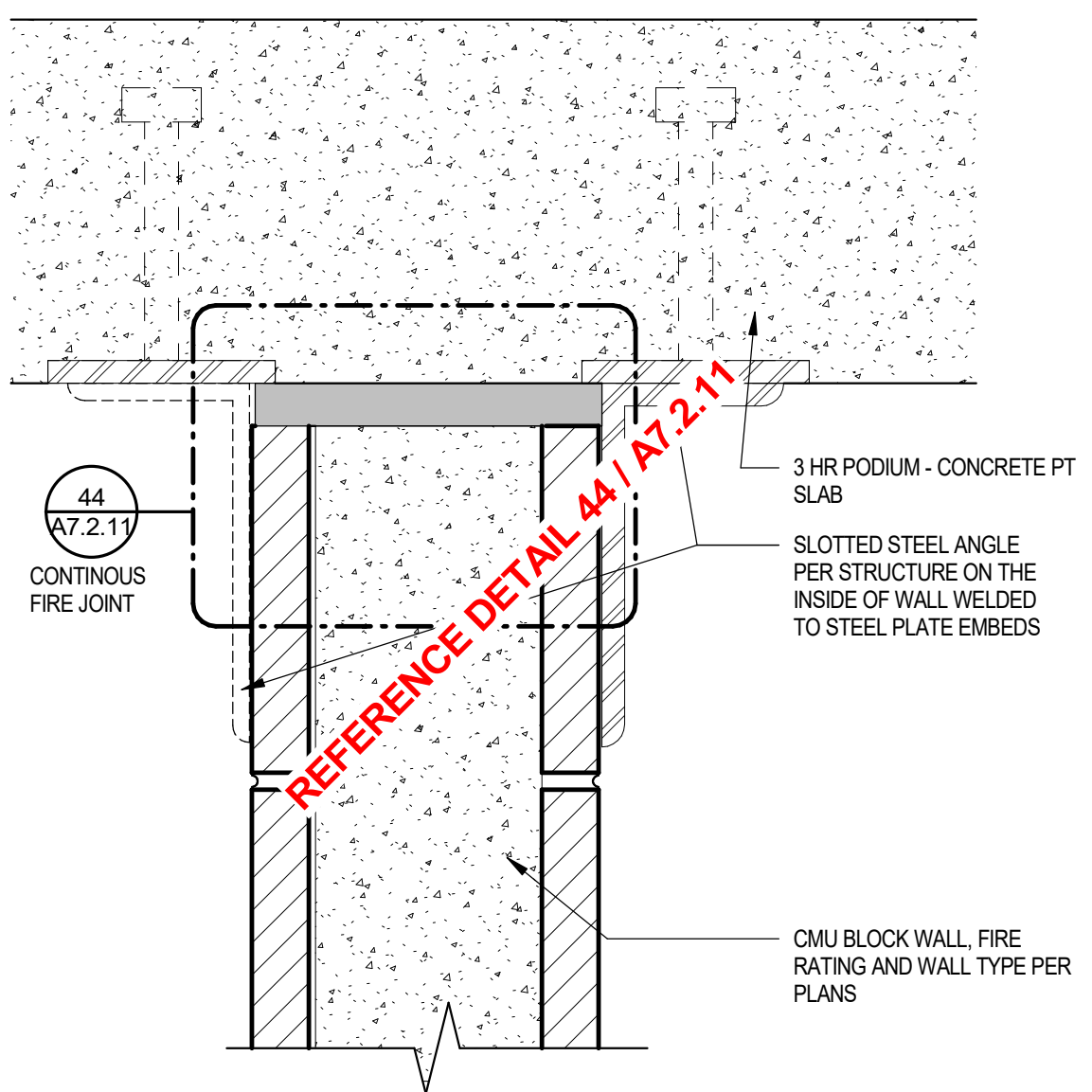
49 1-HR UNIT SEPARATION WALL AT SLAB STEP SCALE: 1" = 1'-0"



50 CMU WALL TERMINATION @ CONCRETE SLAB SCALE: 3" = 1'-0"



51 WATERPROOFING AT CONCRETE SLAB STEP SCALE: 6" = 1'-0"



44 CMU DEFLECTION JOINT @ CONCRETE SLAB SCALE: 3" = 1'-0"

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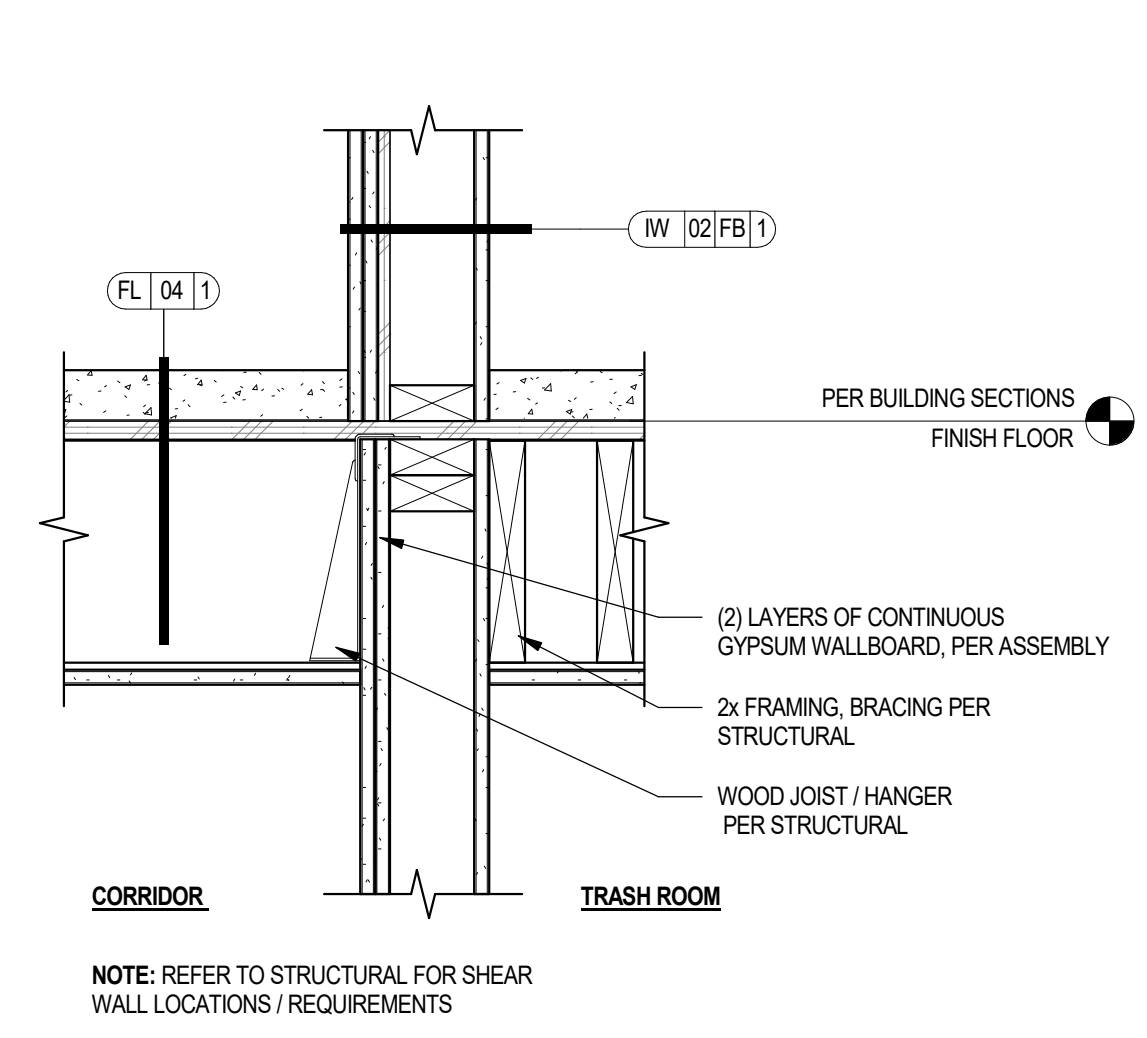
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REVISIONS/SUBMITTALS

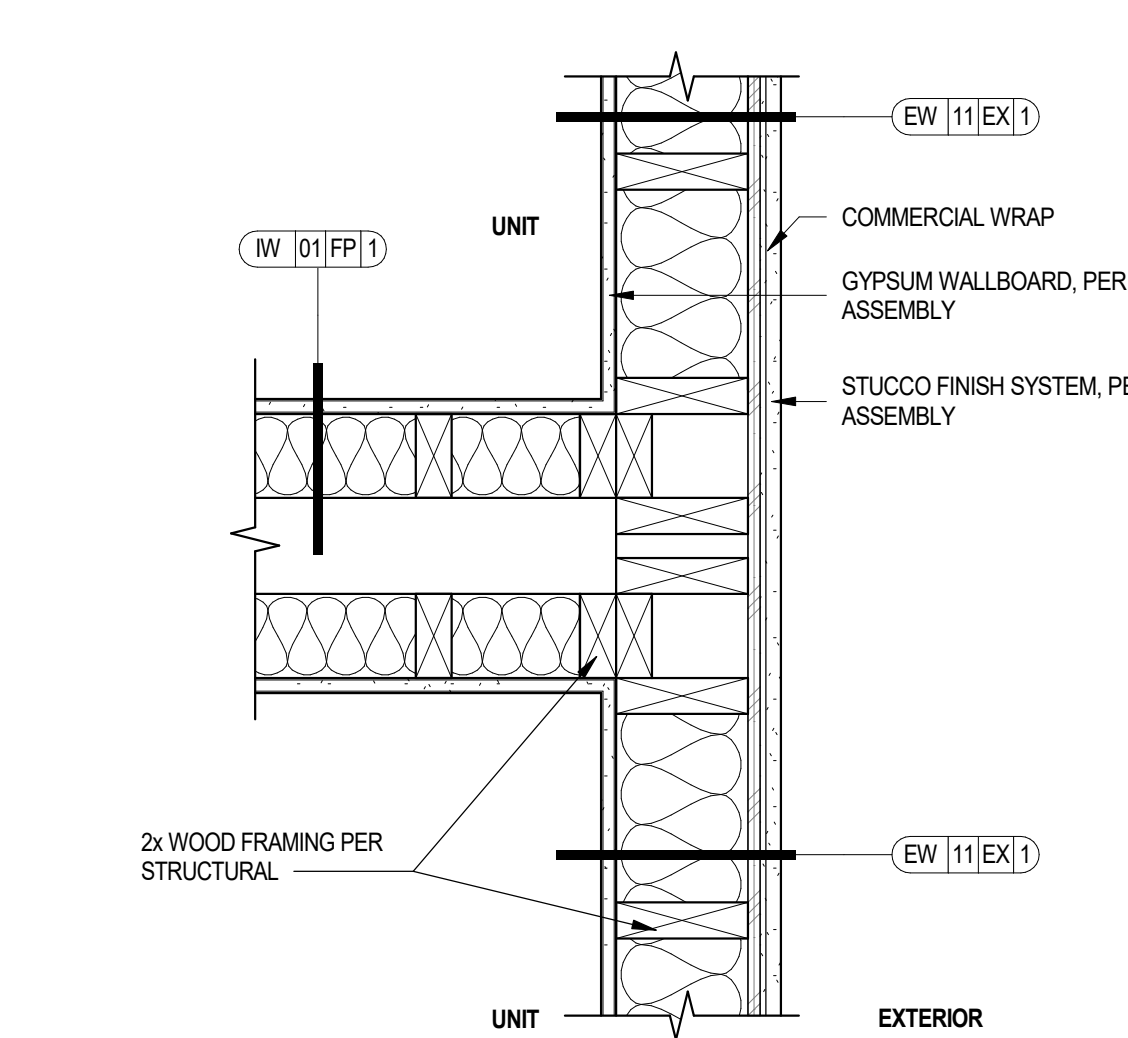
DATE	DESCRIPTION
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DATE: July 17, 2024 ORB #: 00-000

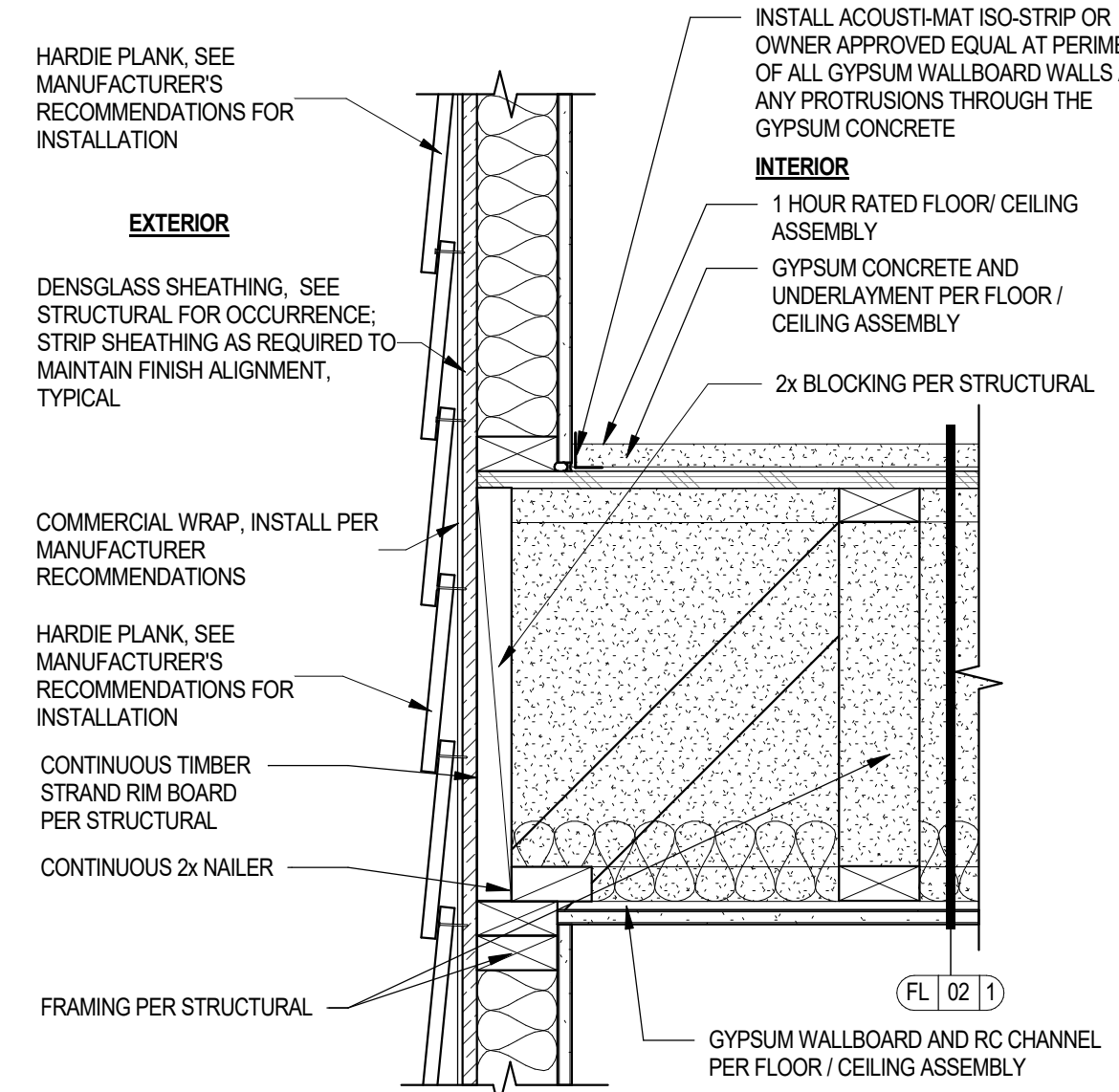
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SLAB PLAN DETAILS



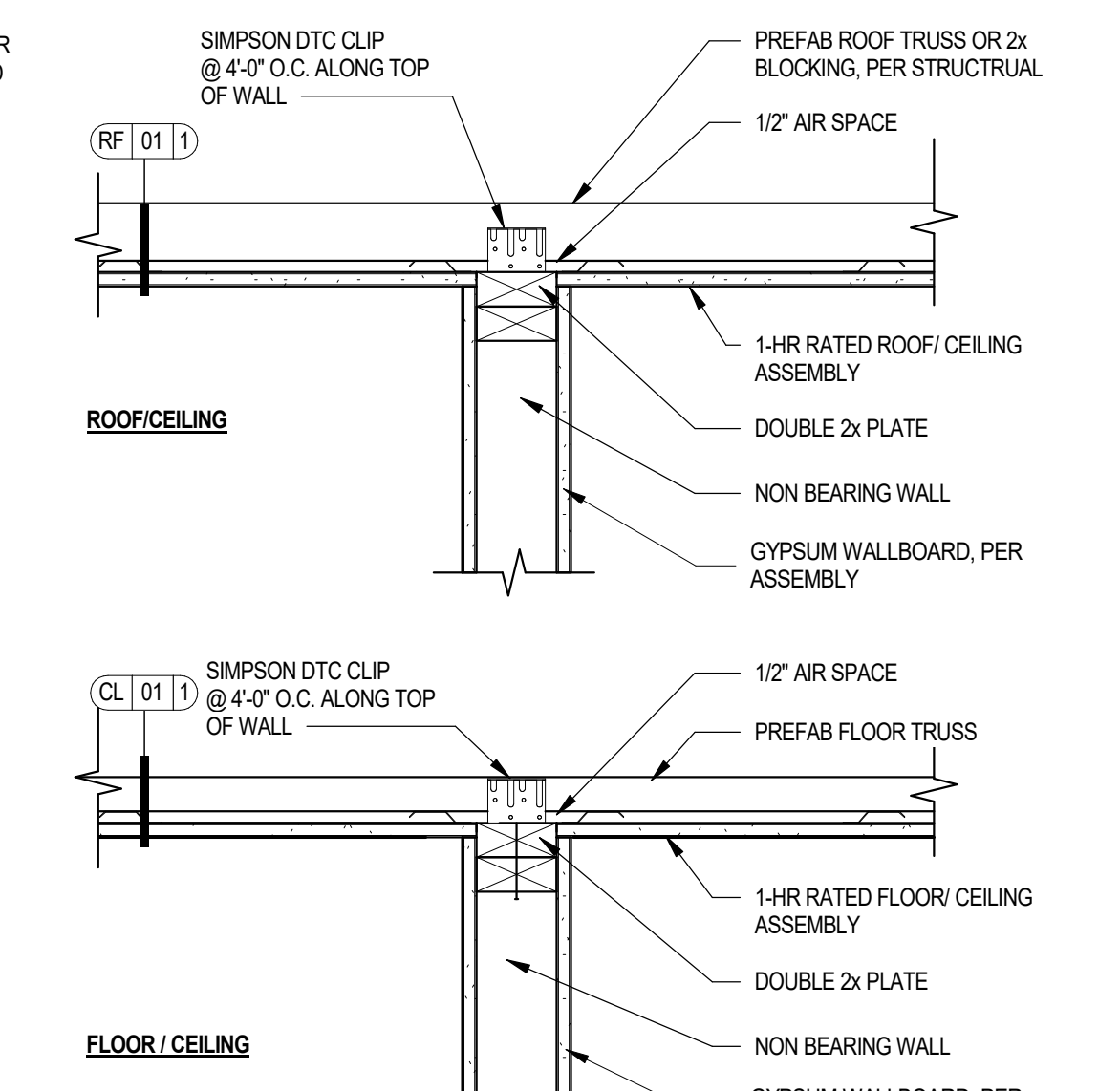
13 1-HR BARRIER AT TRASH ROOM
SCALE: 1 1/2" = 1'-0"



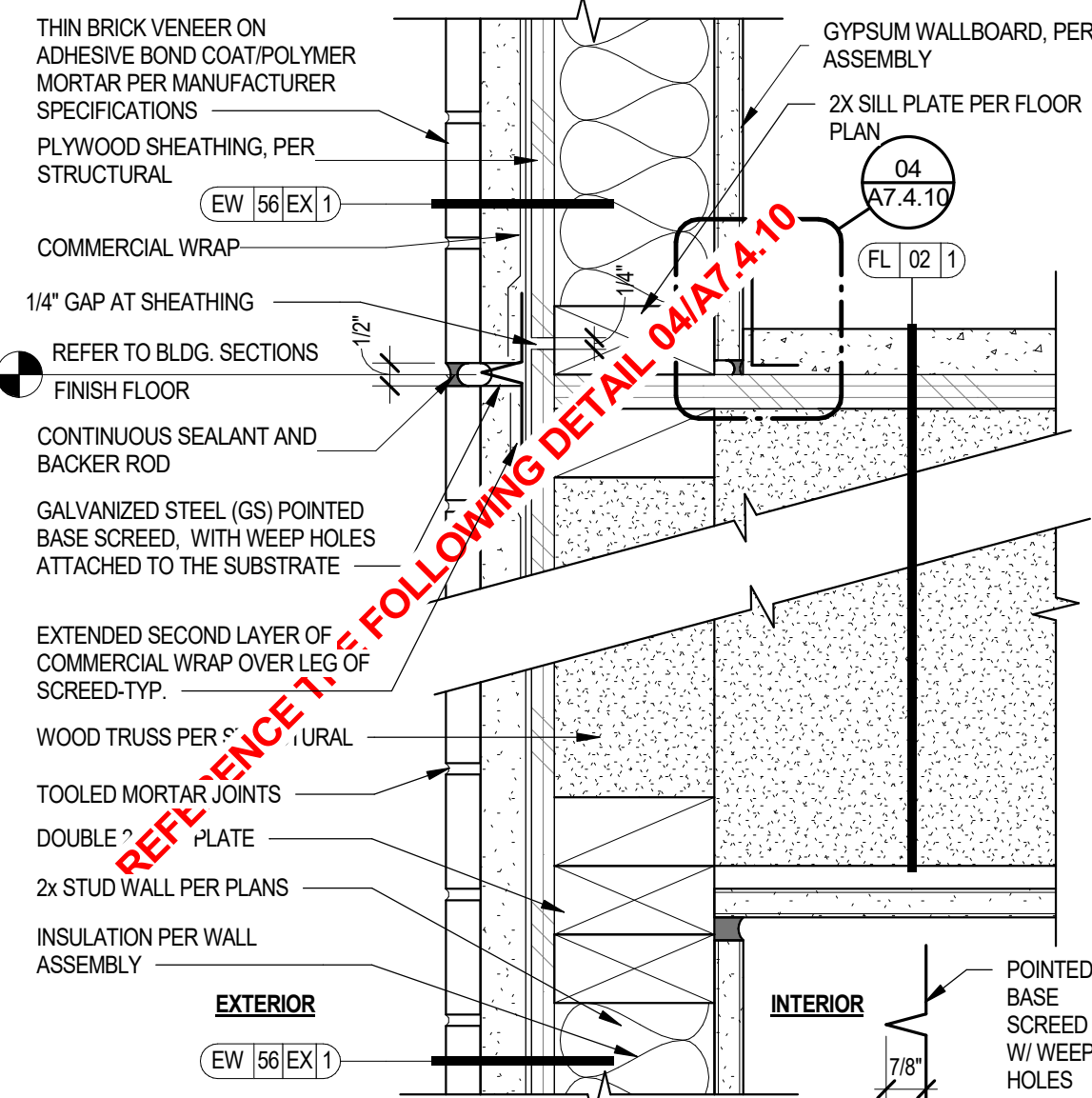
09 UNIT SEPARATION WALL AT EXTERIOR WALL
SCALE: 1 1/2" = 1'-0"



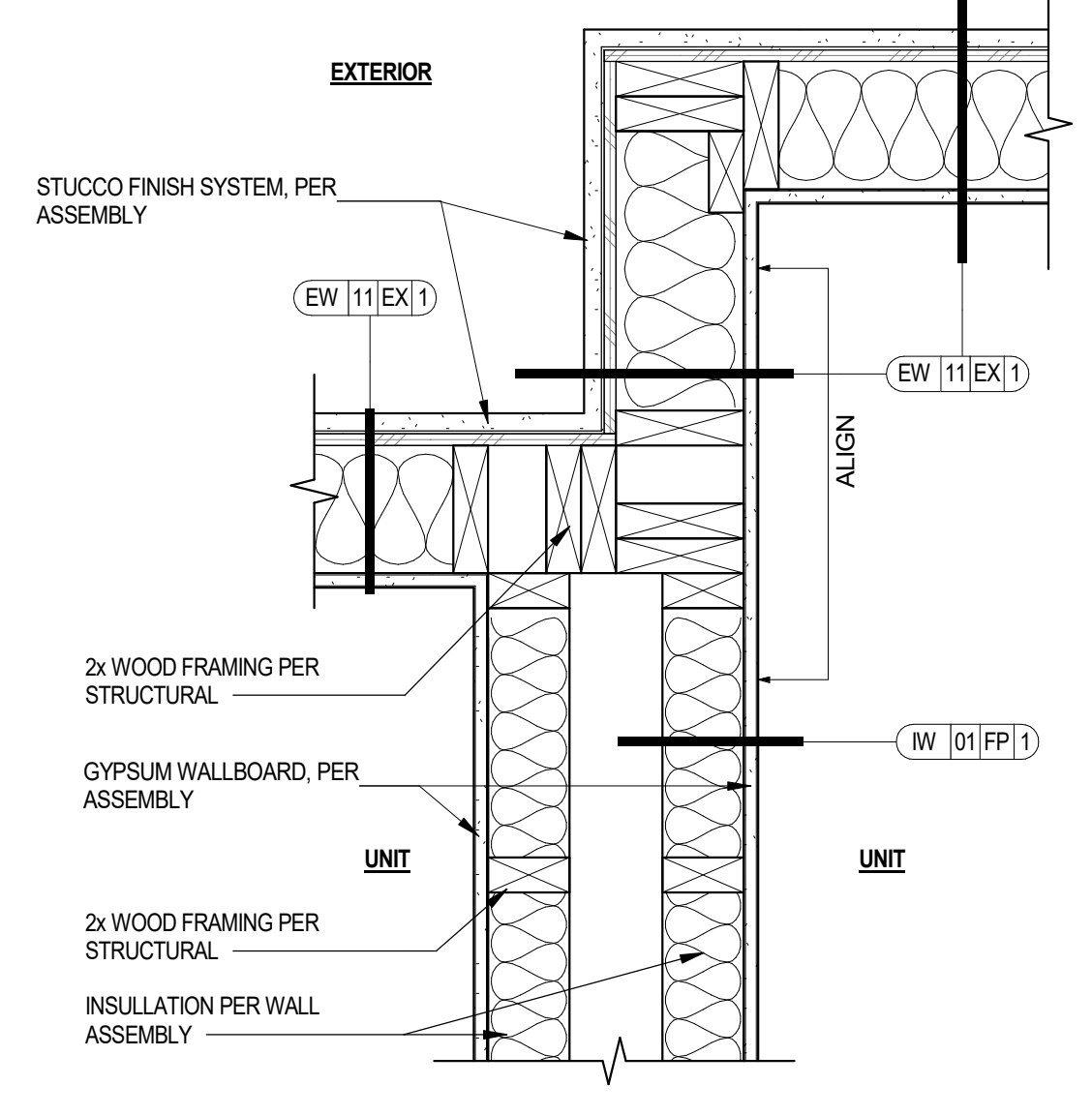
05 FLOOR / CEILING @ 1 HOUR RATED EXTERIOR WALL
HARDIE BOARD FINISH
SCALE: 1 1/2" = 1'-0"



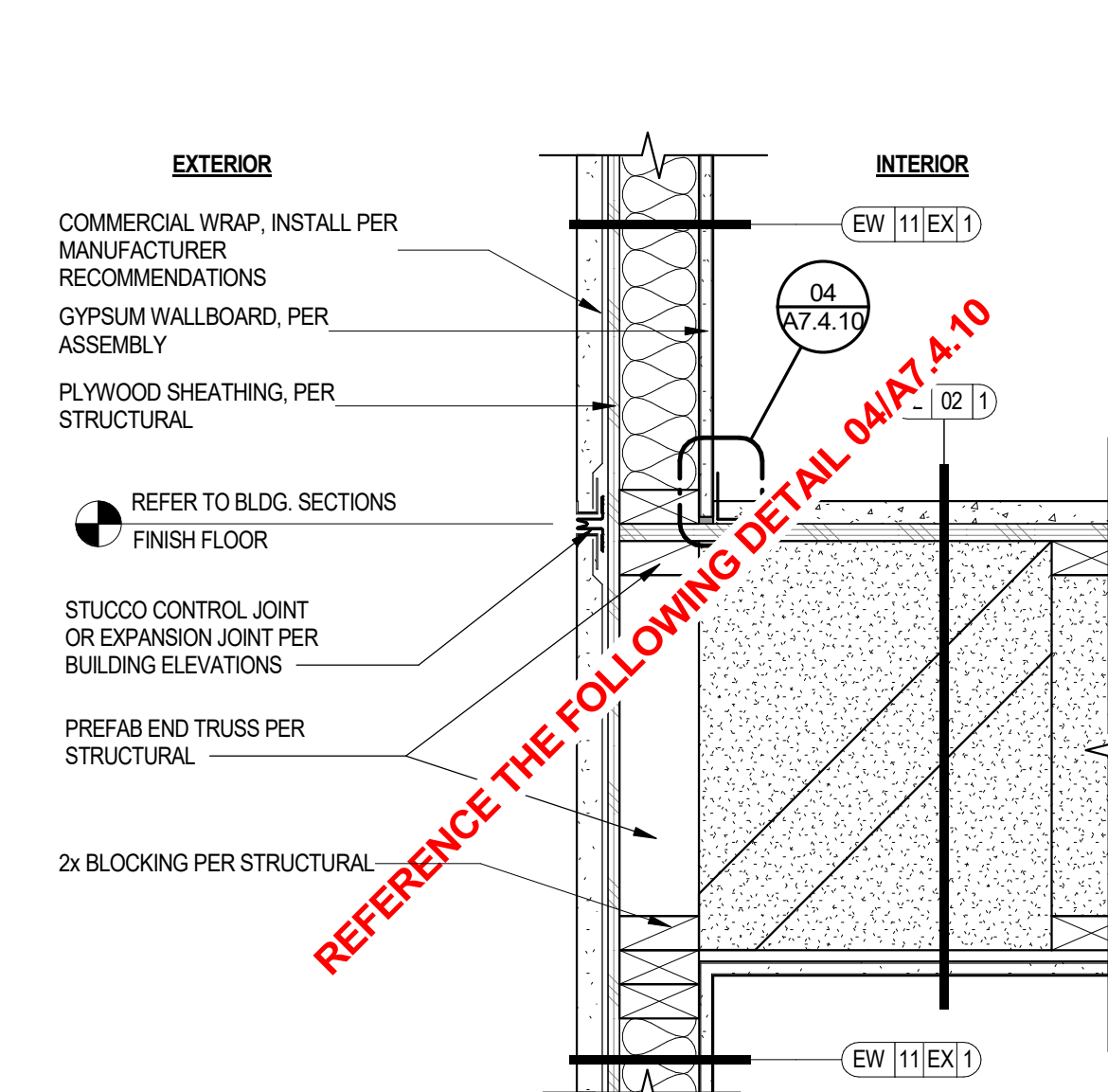
01 NON-BEARING WALL ATTACHMENT AT CEILING
SCALE: 1 1/2" = 1'-0"



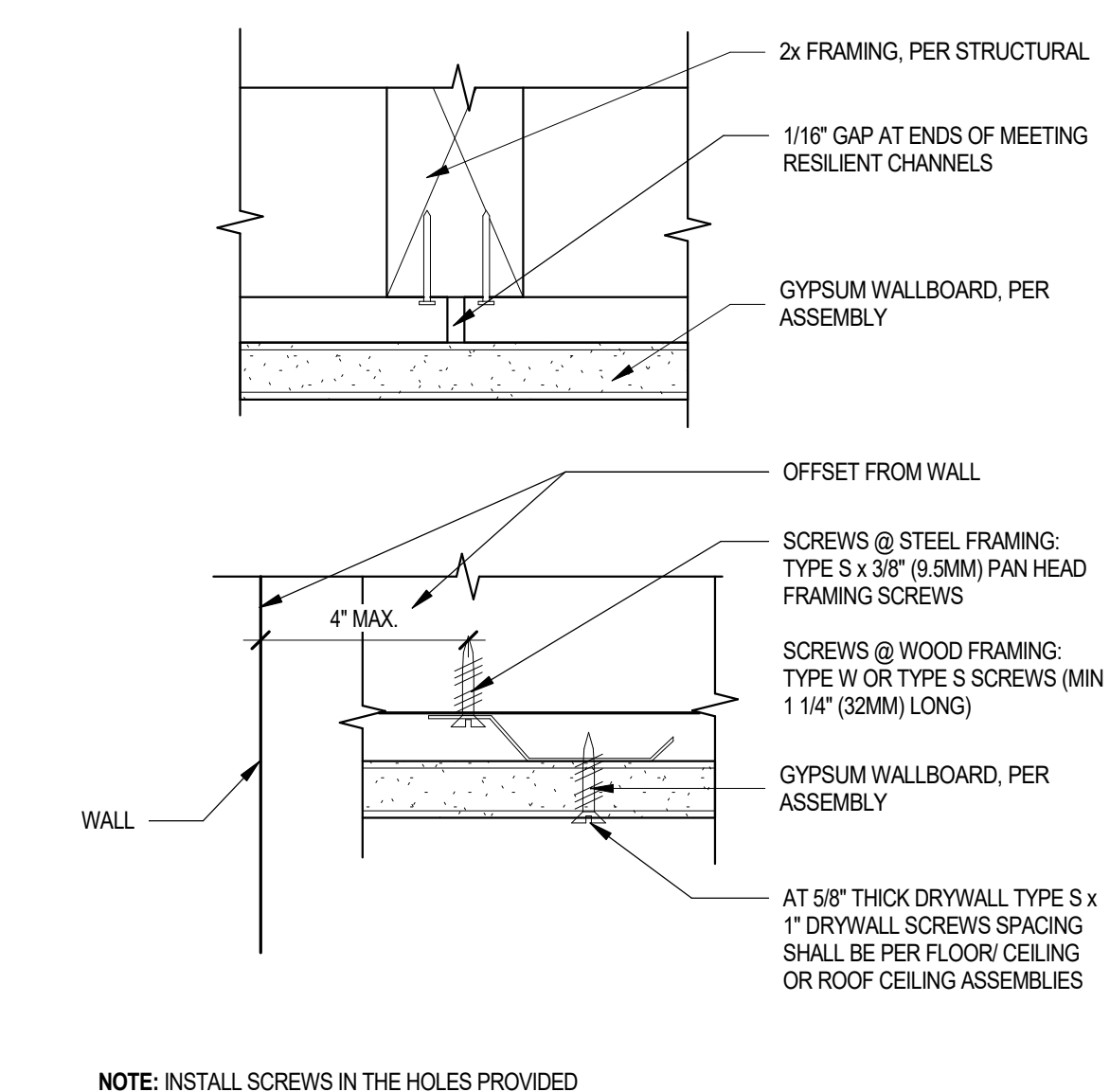
14 1-HR FLOOR / CEILING AT 1-HR EXTERIOR WALL - BRICK VENEER
SCALE: 3" = 1'-0"



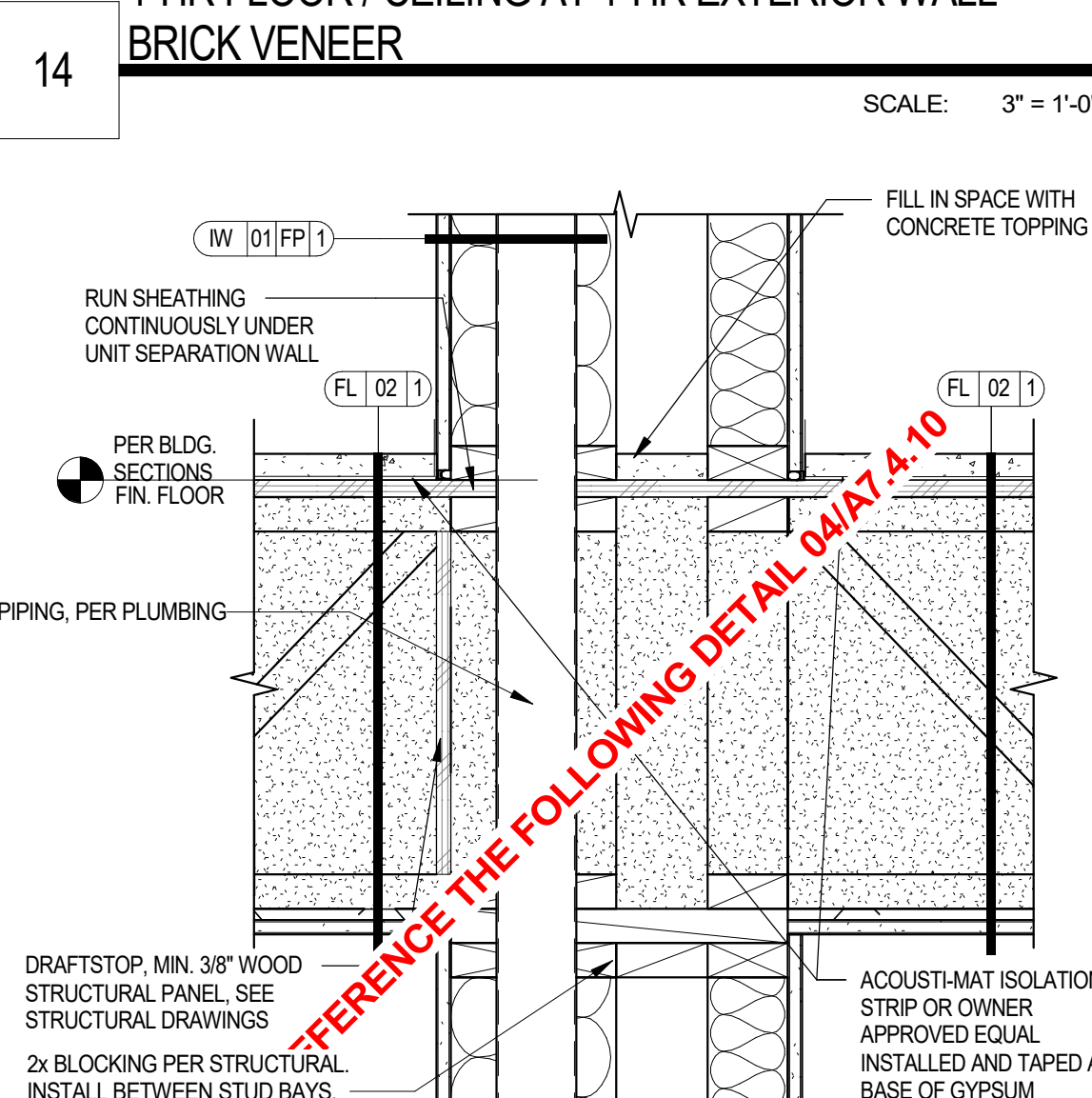
10 1-HR UNIT SEPARATION WALL AT BUILDING OFFSET
PLAN VIEW
SCALE: 1 1/2" = 1'-0"



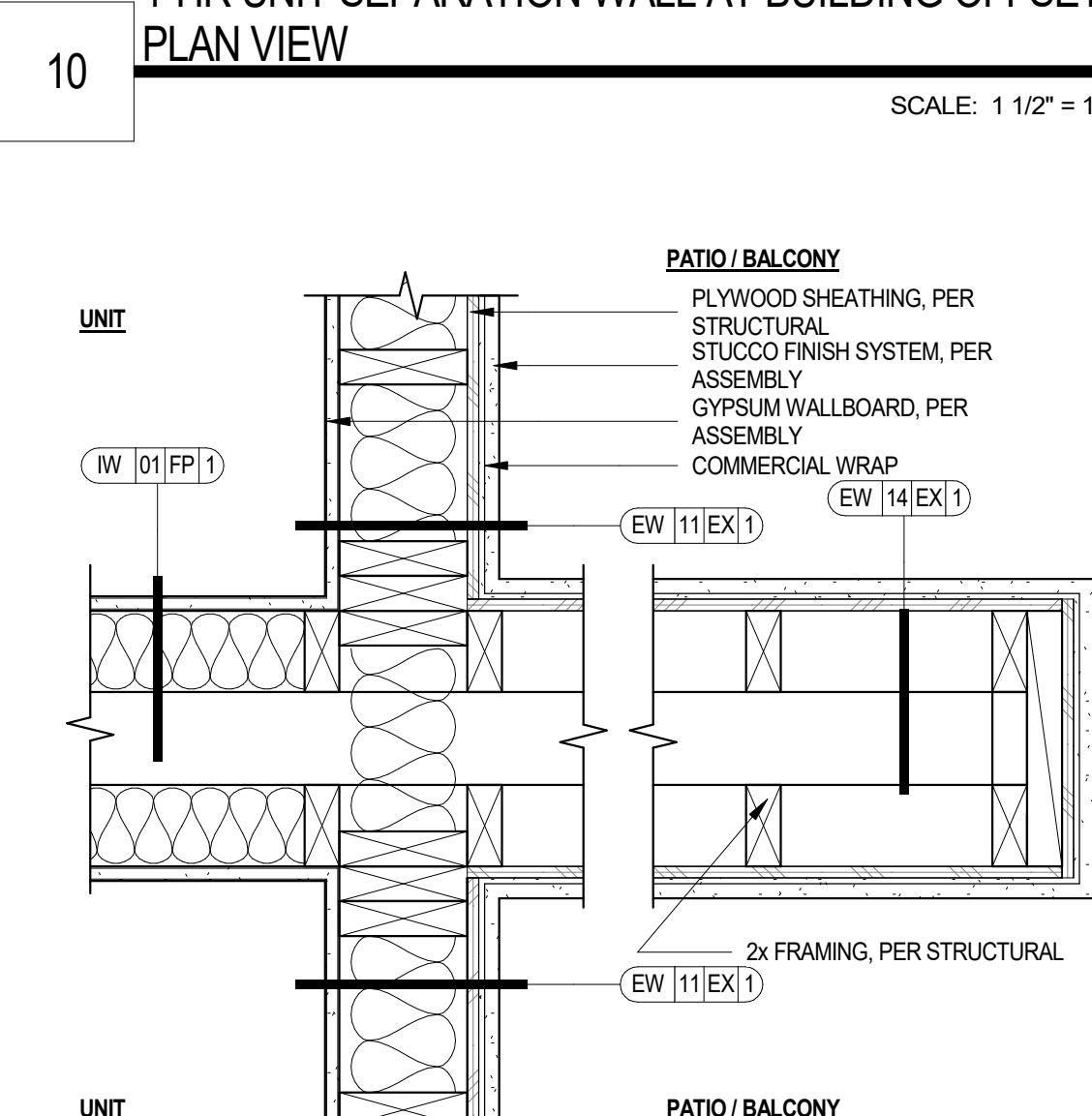
06 1-HR FLOOR / CEILING AT 1-HR EXTERIOR WALL
SCALE: 1 1/2" = 1'-0"



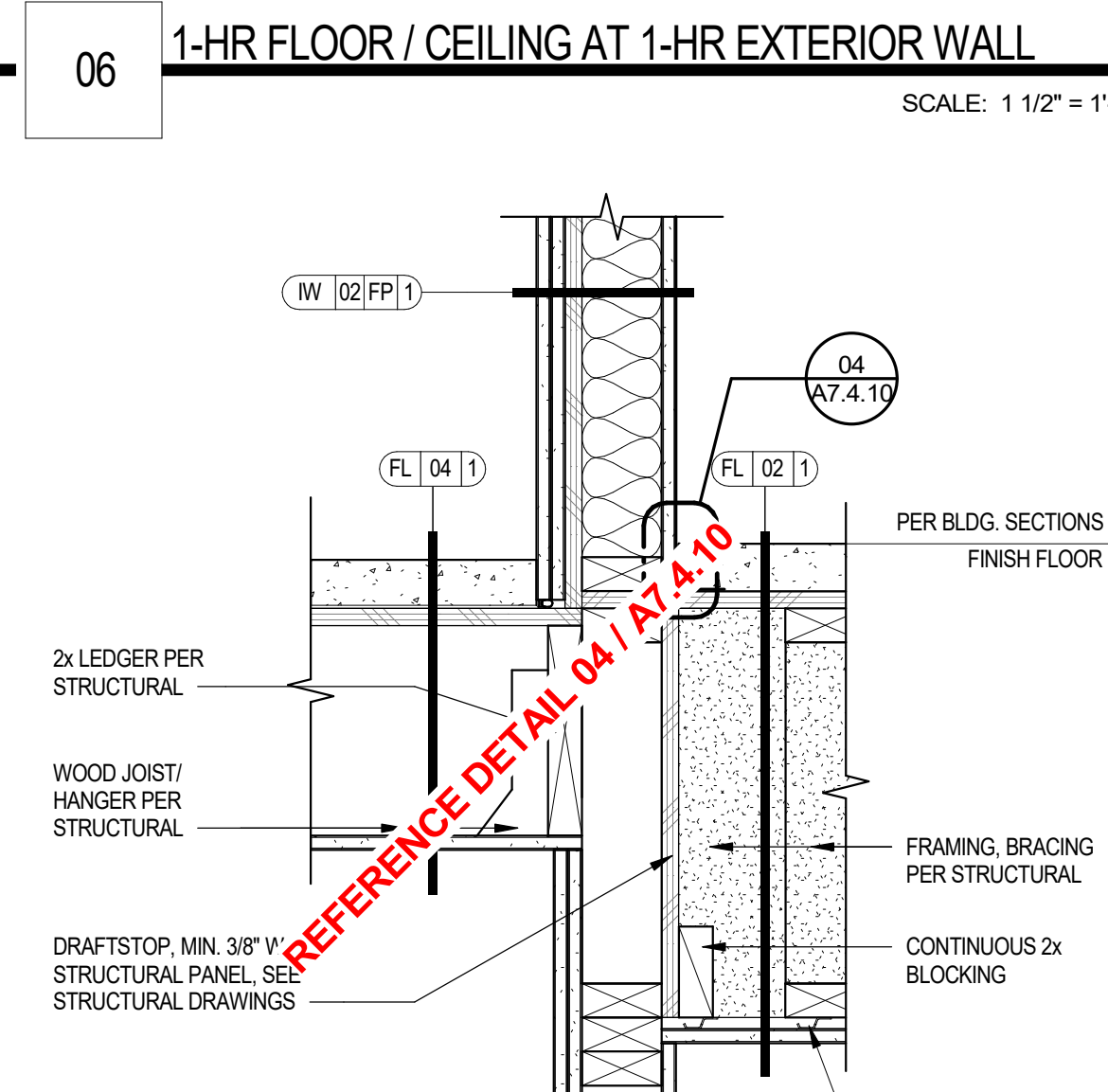
02 RESILIENT CHANNEL INSTALLATION AT CEILING
SCALE: 6" = 1'-0"



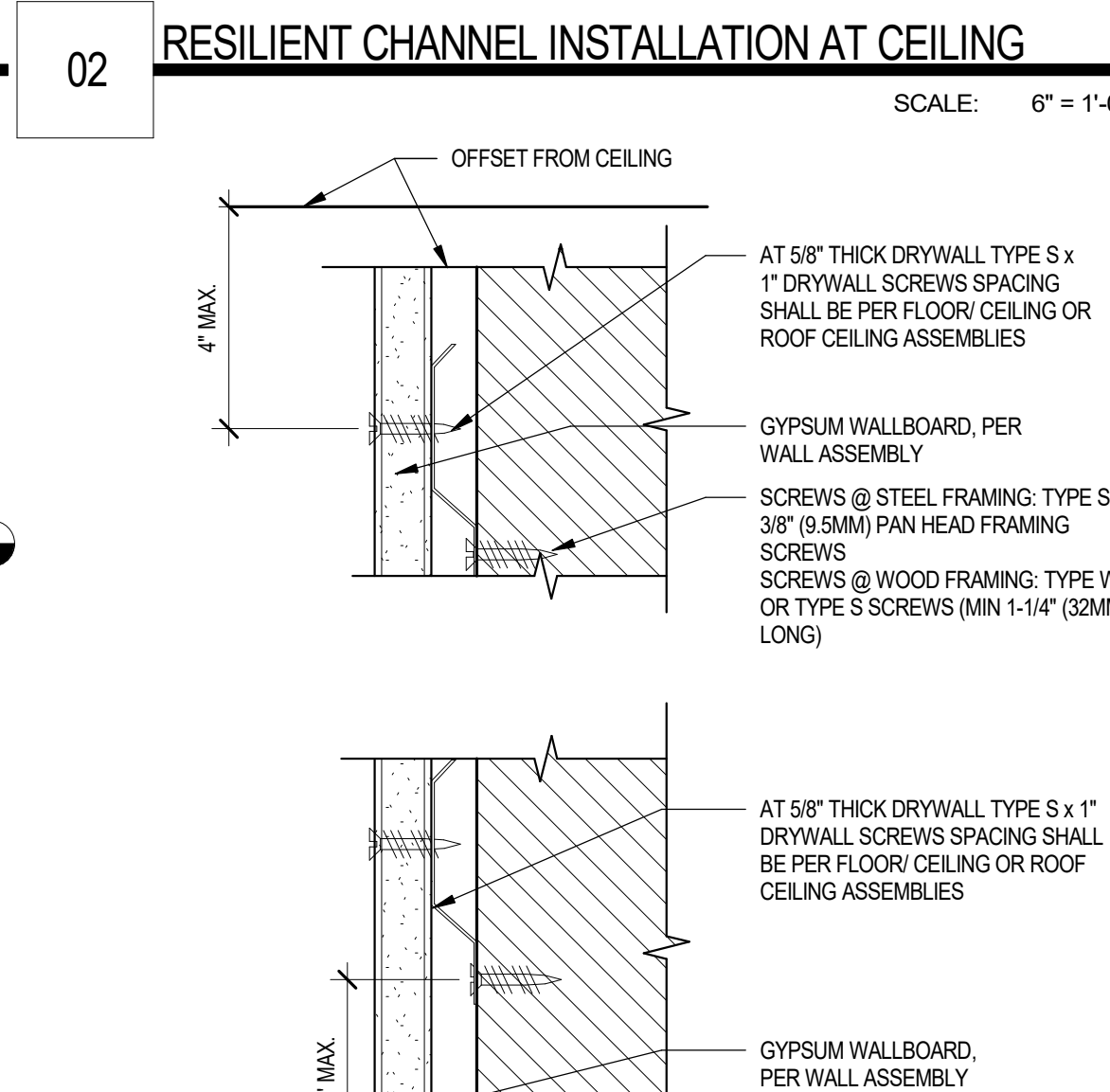
15 1-HR FLOOR / CEILING AT 1-HR UNIT SEPARATION WALL PERPENDICULAR TO FLOOR TRUSSES AT PLUMBING WALLS
SCALE: 1 1/2" = 1'-0"



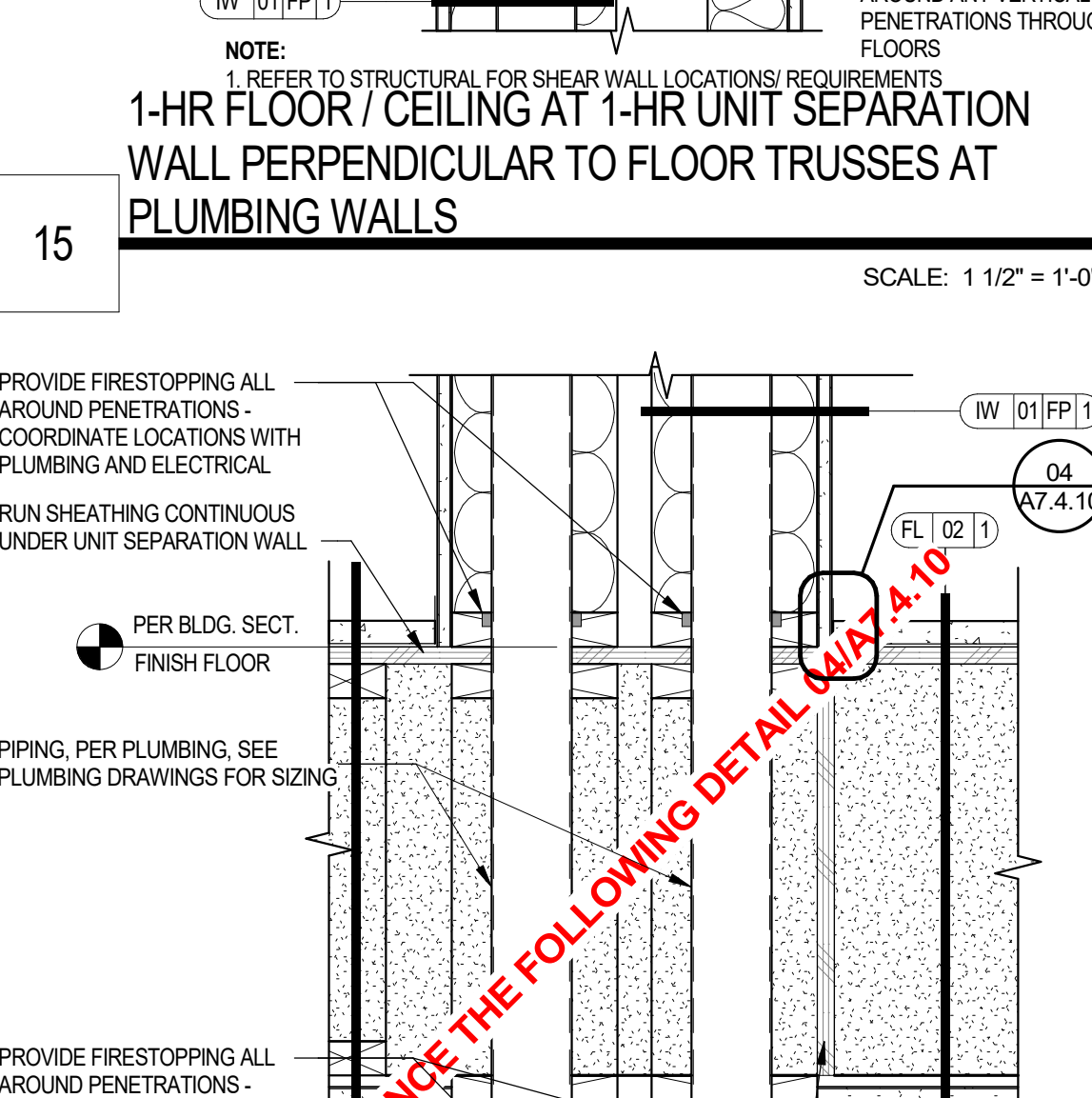
11 1-HR UNIT SEPARATION WALL AT BALCONY EXTERIOR WALL
SCALE: 1 1/2" = 1'-0"



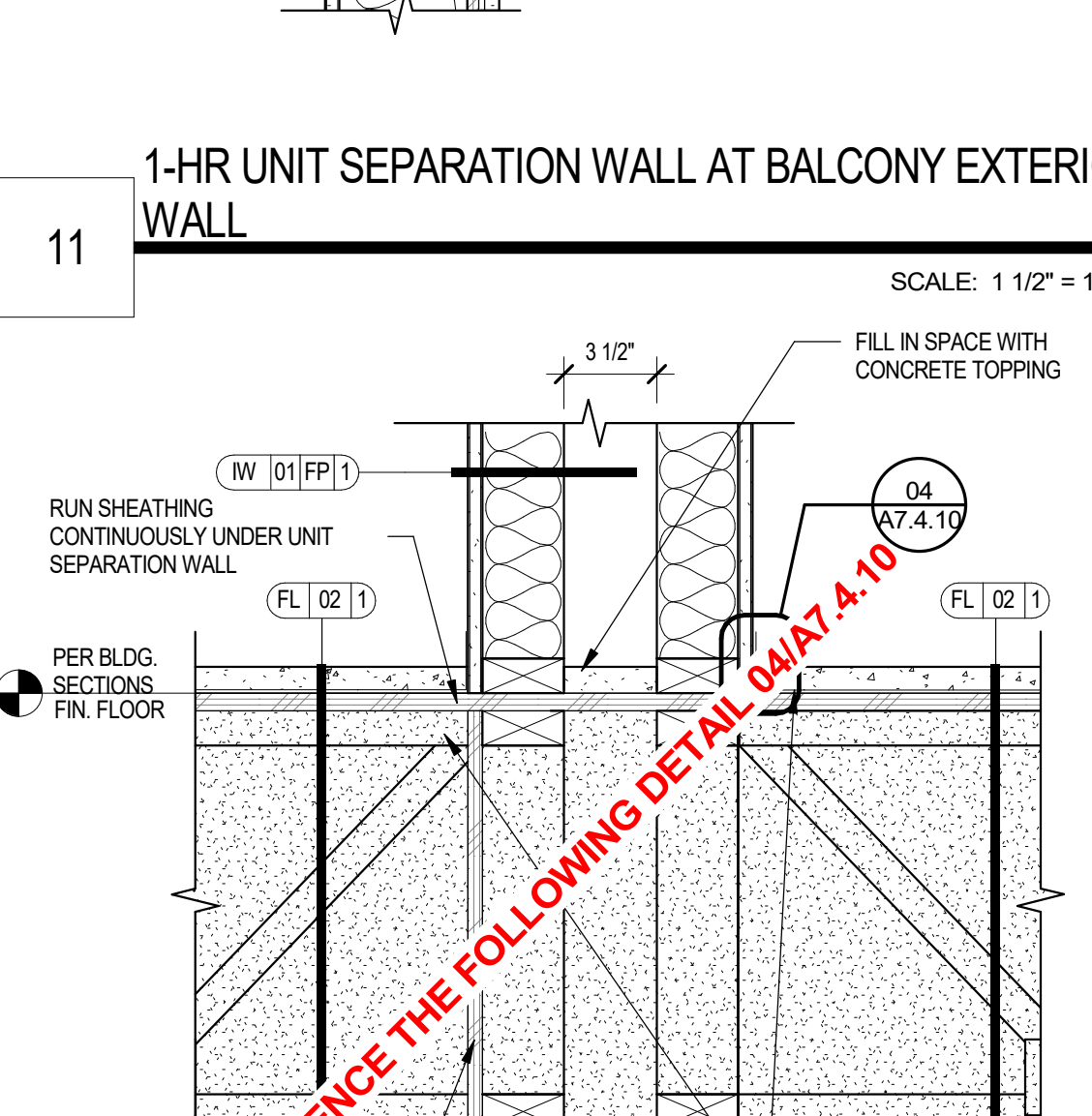
07 1-HR FLOOR / CEILING AT 1-HR CORRIDOR WALL
SCALE: 1 1/2" = 1'-0"



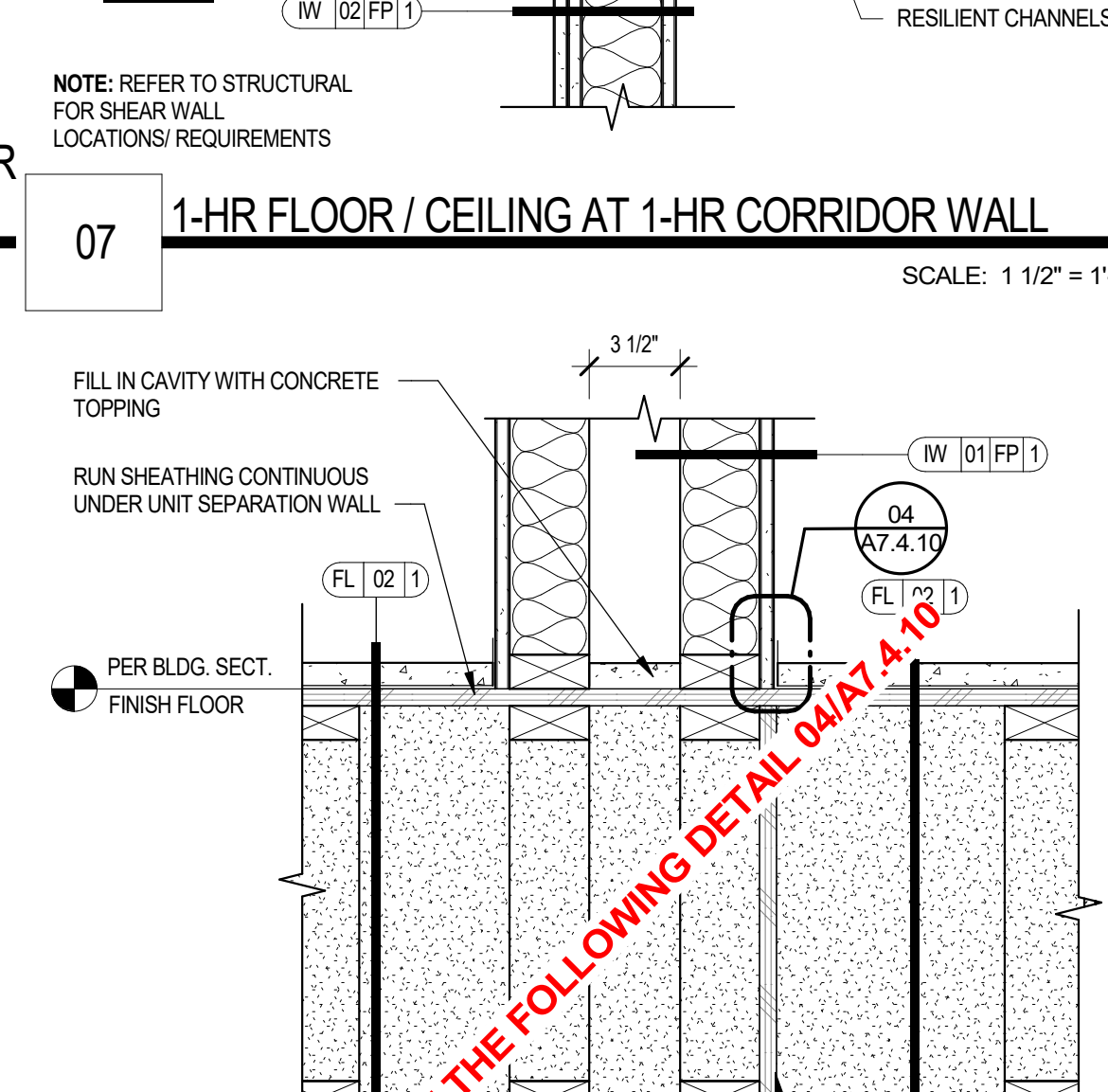
03 RESILIENT CHANNEL INSTALLATION AT CONCRETE / CMU WALL
SCALE: 6" = 1'-0"



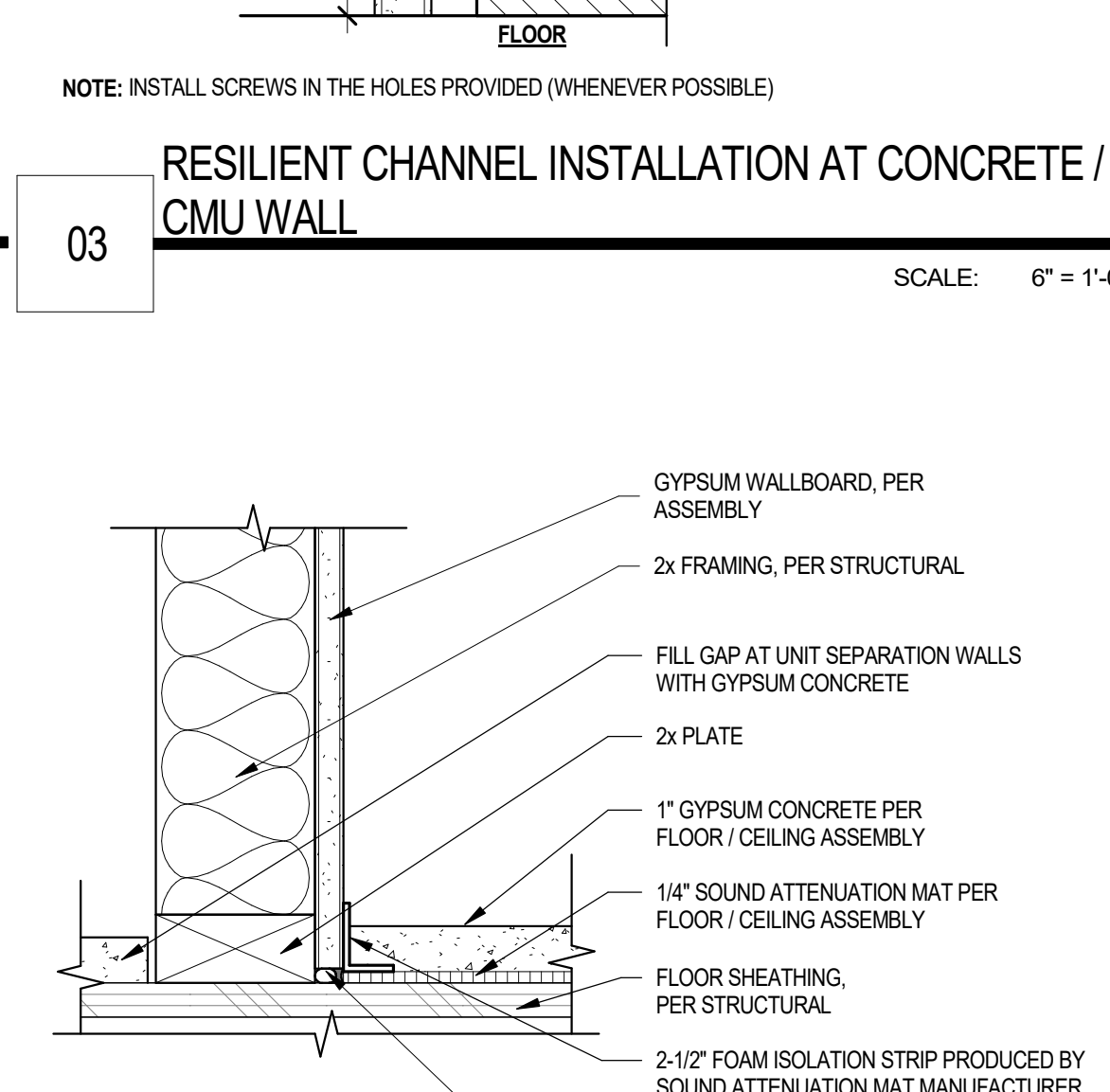
16 1-HR FLOOR / CEILING AT 1-HR UNIT SEPARATION WALL PARALLEL TO FLOOR TRUSSES AT PLUMBING WALLS
SCALE: 1 1/2" = 1'-0"



12 1-HR FLOOR / CEILING AT 1-HR UNIT SEPARATION WALL PERPENDICULAR TO FLOOR TRUSSES
SCALE: 1 1/2" = 1'-0"



08 1-HR FLOOR / CEILING AT 1-HR UNIT SEPARATION WALL PARALLEL TO FLOOR TRUSSES
SCALE: 1 1/2" = 1'-0"



04 FOAM ISOLATION STRIP AT BASE OF WALLS AT GYPSUM CONCRETE
SCALE: 3" = 1'-0"

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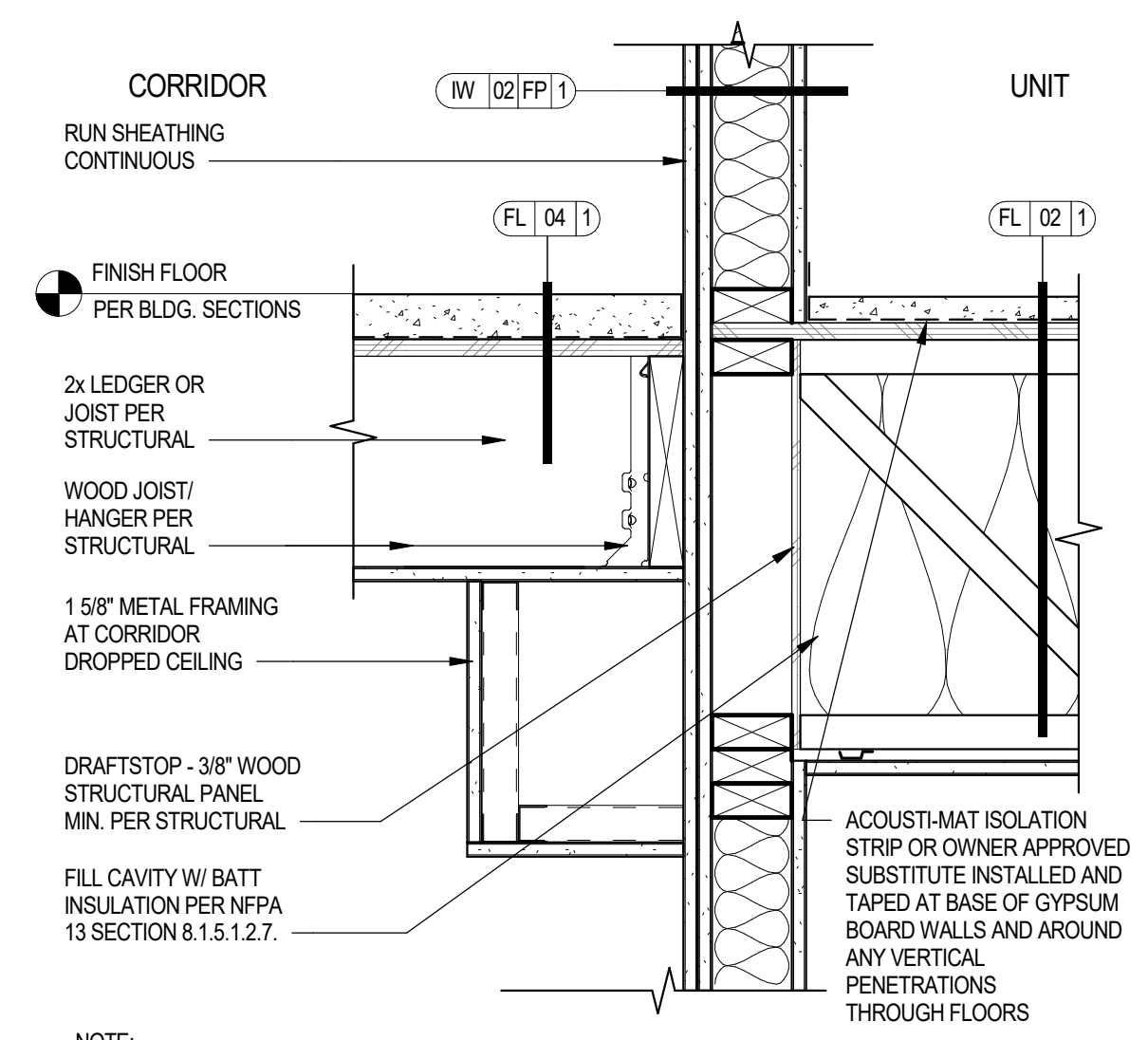
REVISIONS/SUBMITTALS

DATE	DESCRIPTION
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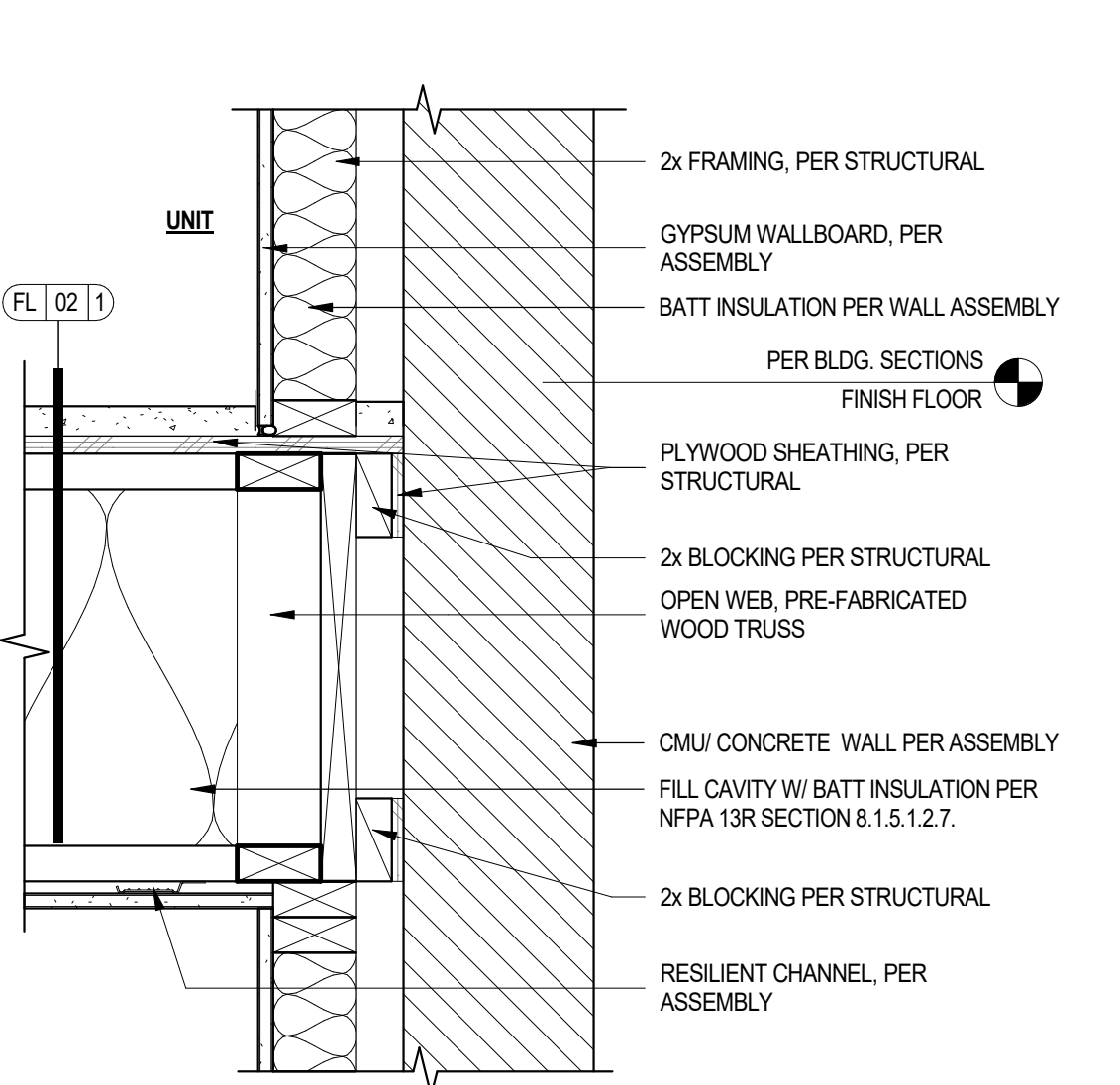
DATE: July 17, 2024 ORB #: 00-000

A7.4.10

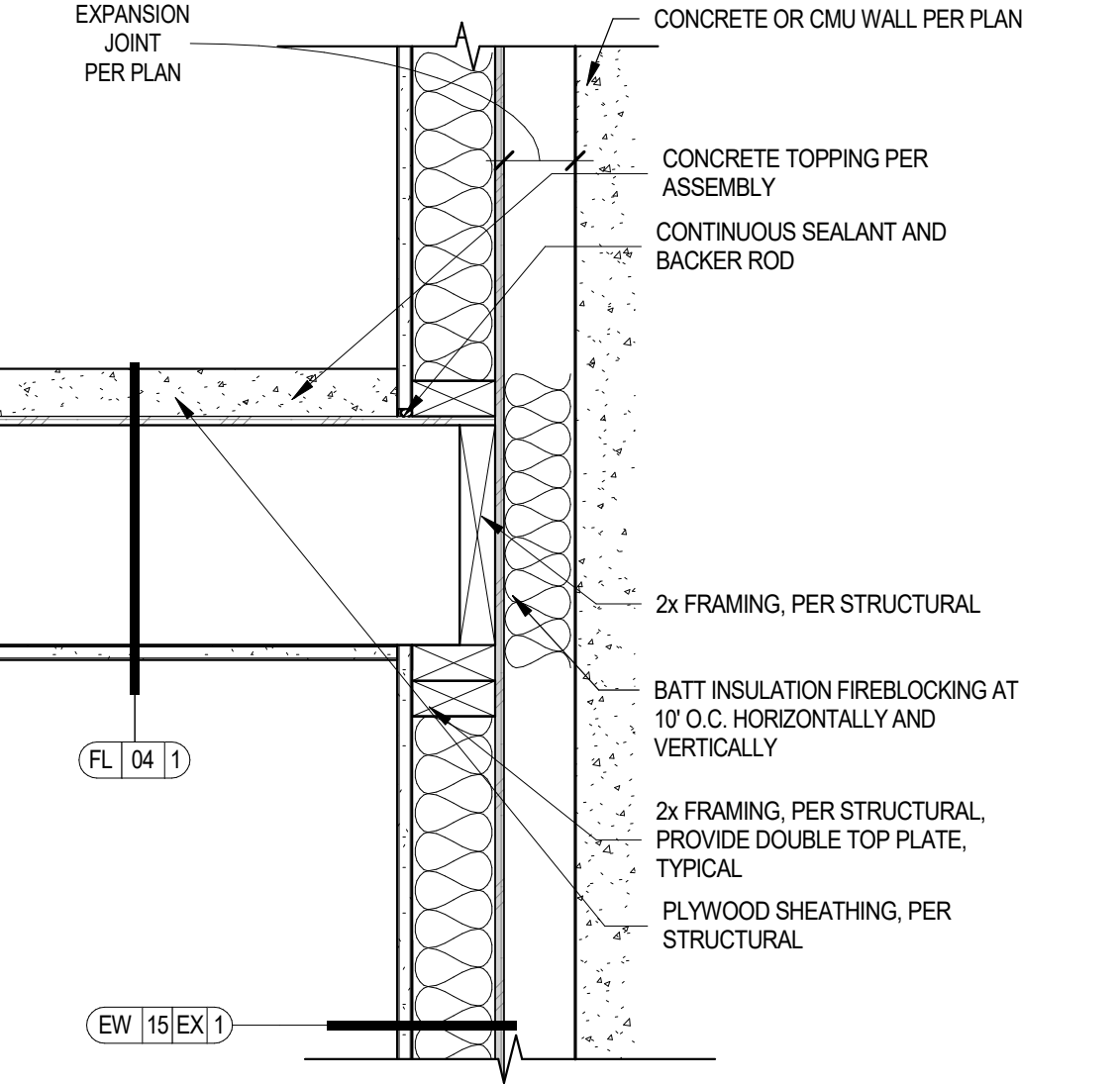
FLOOR-CEILING DETAILS WOOD FRAMING



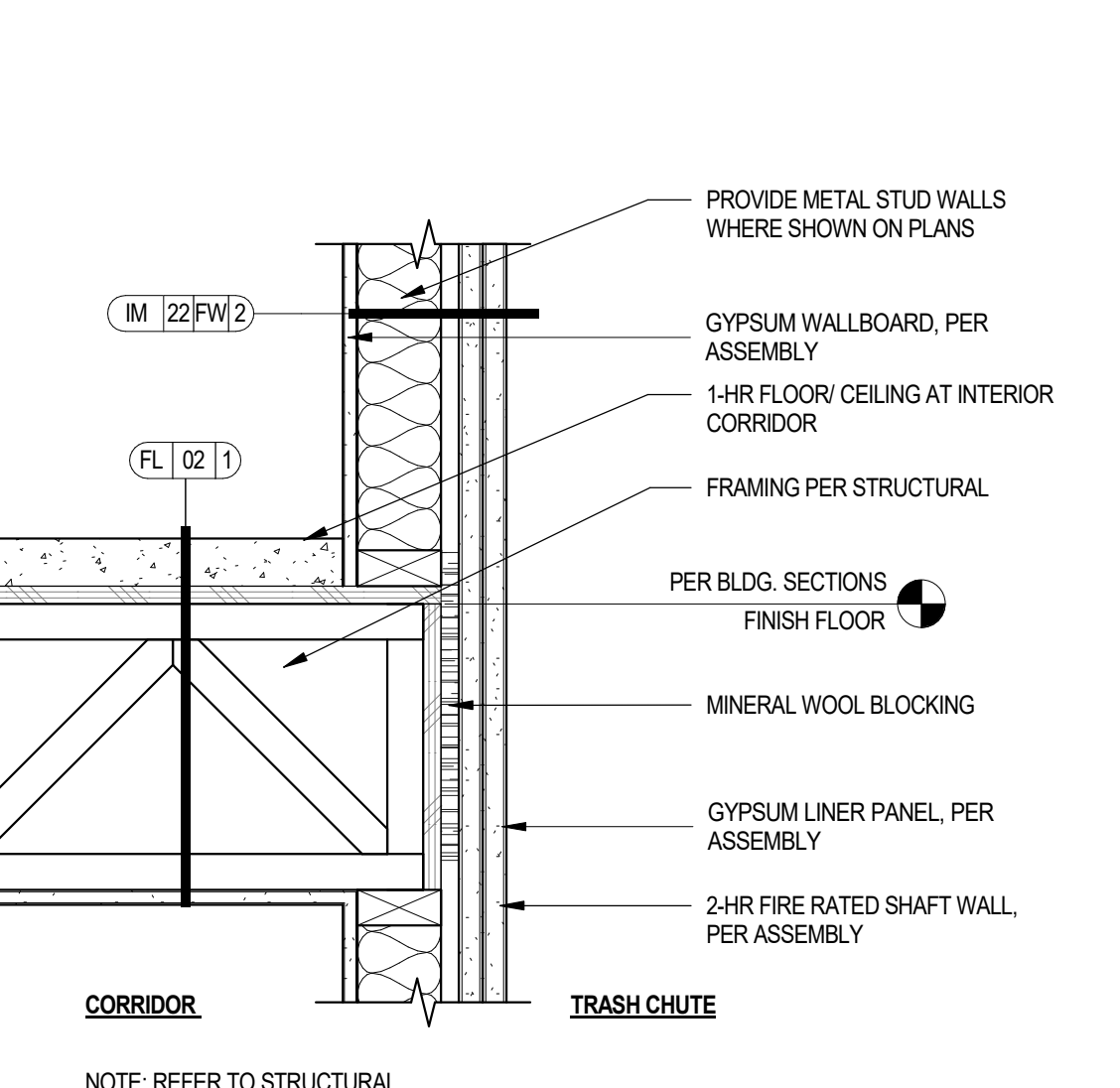
41 1-HR FLOOR / CEILING AT 1-HR UNIT SEPARATION WALL & CORRIDOR WALL
SCALE: 1 1/2" = 1'-0"



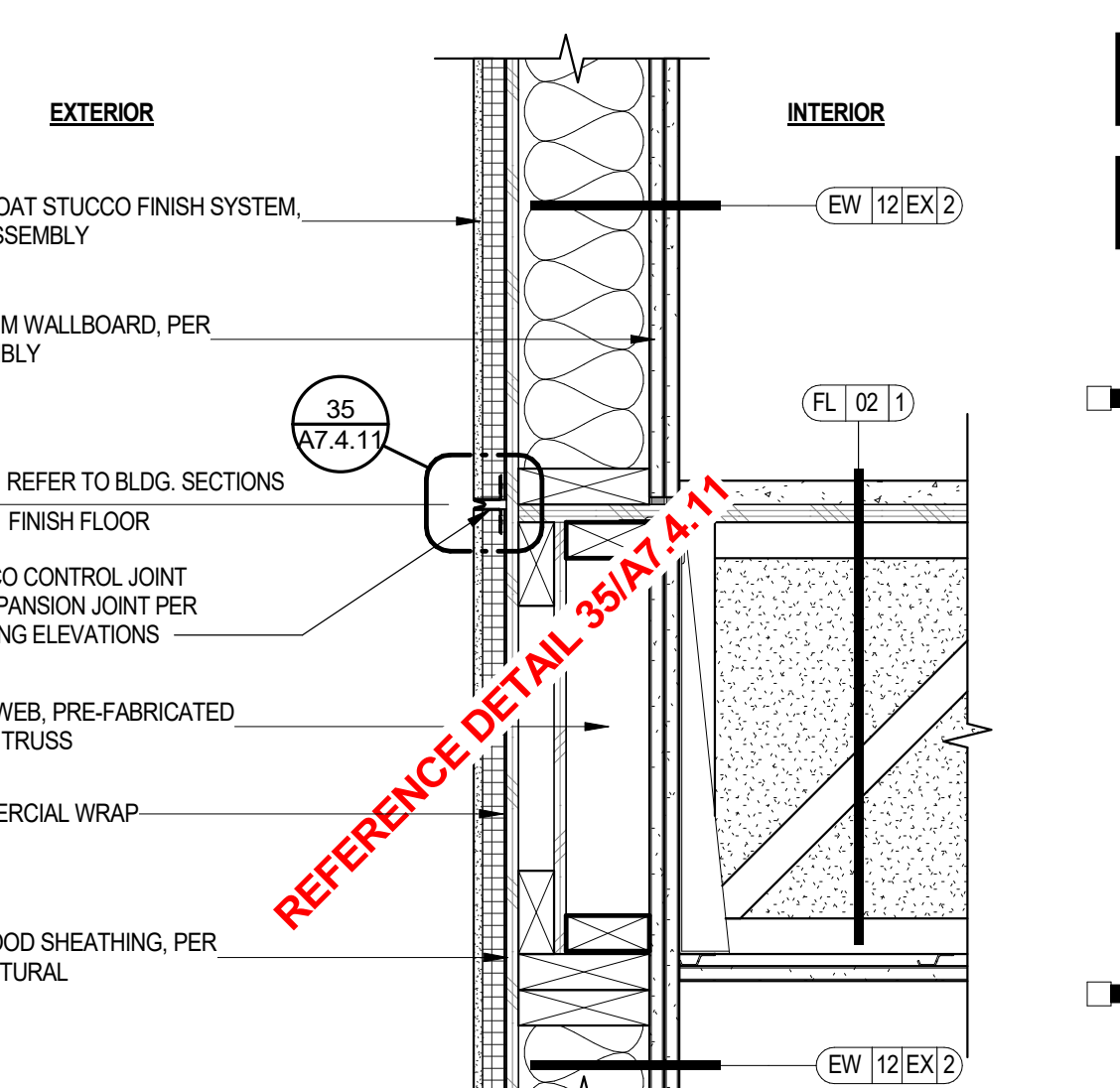
37 CMU WALL AT FLOOR / CEILING AT UNIT SEPARATION
SCALE: 1 1/2" = 1'-0"



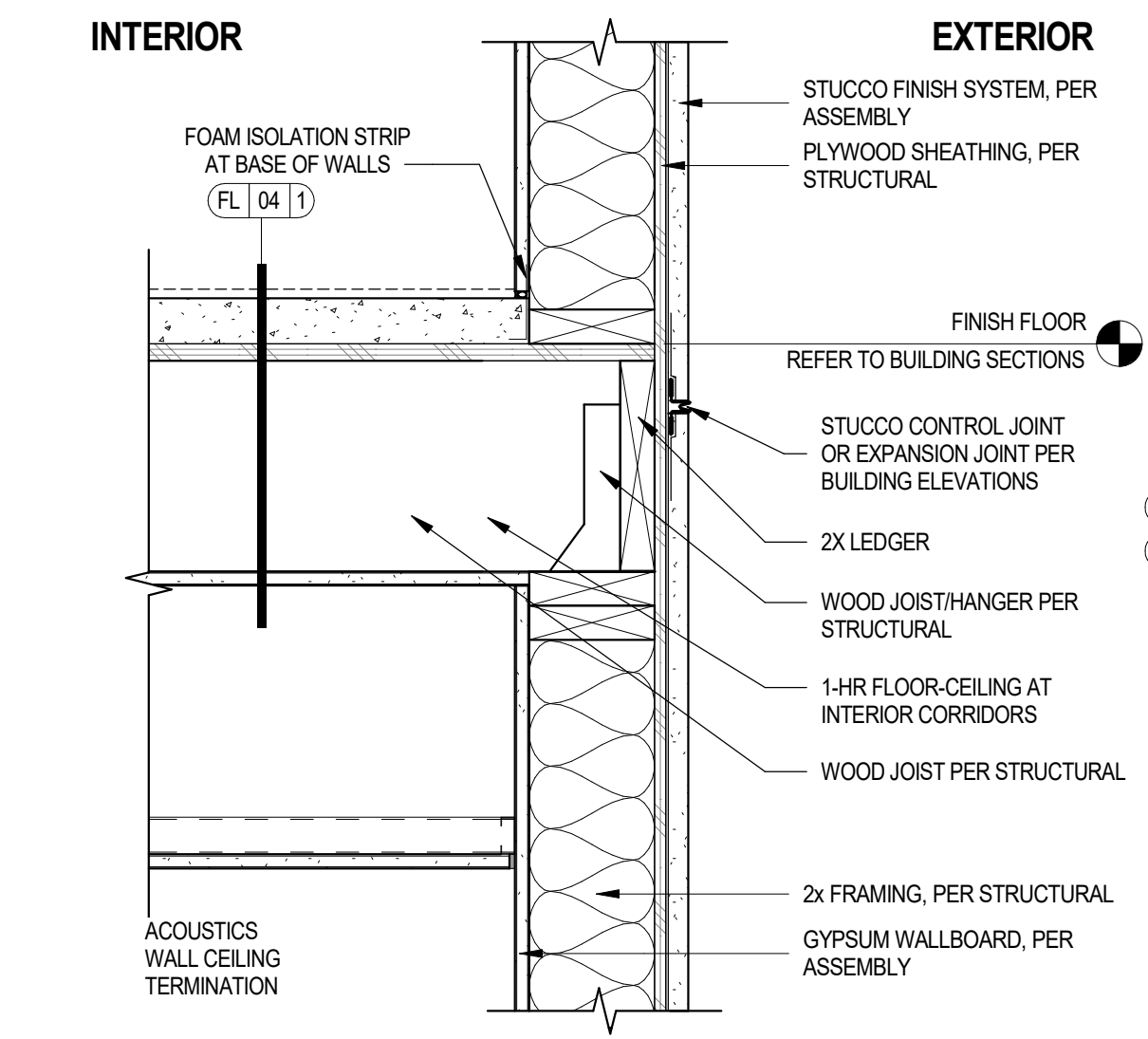
33 1-HR FLOOR CONSTRUCTION AT GARAGE WALL
SCALE: 1 1/2" = 1'-0"



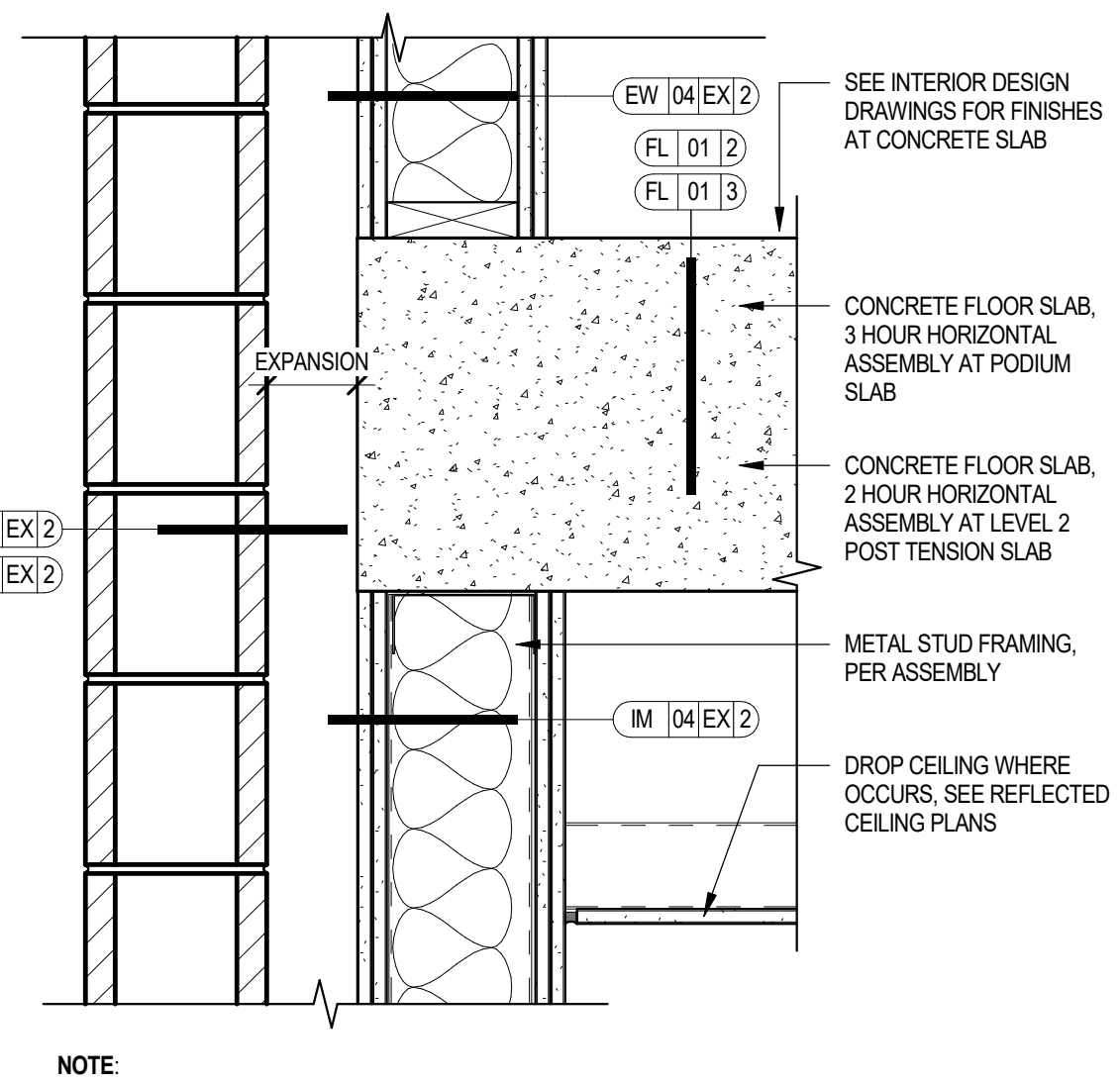
29 2-HR BARRIER AT TRASH CHUTE
SCALE: 1 1/2" = 1'-0"



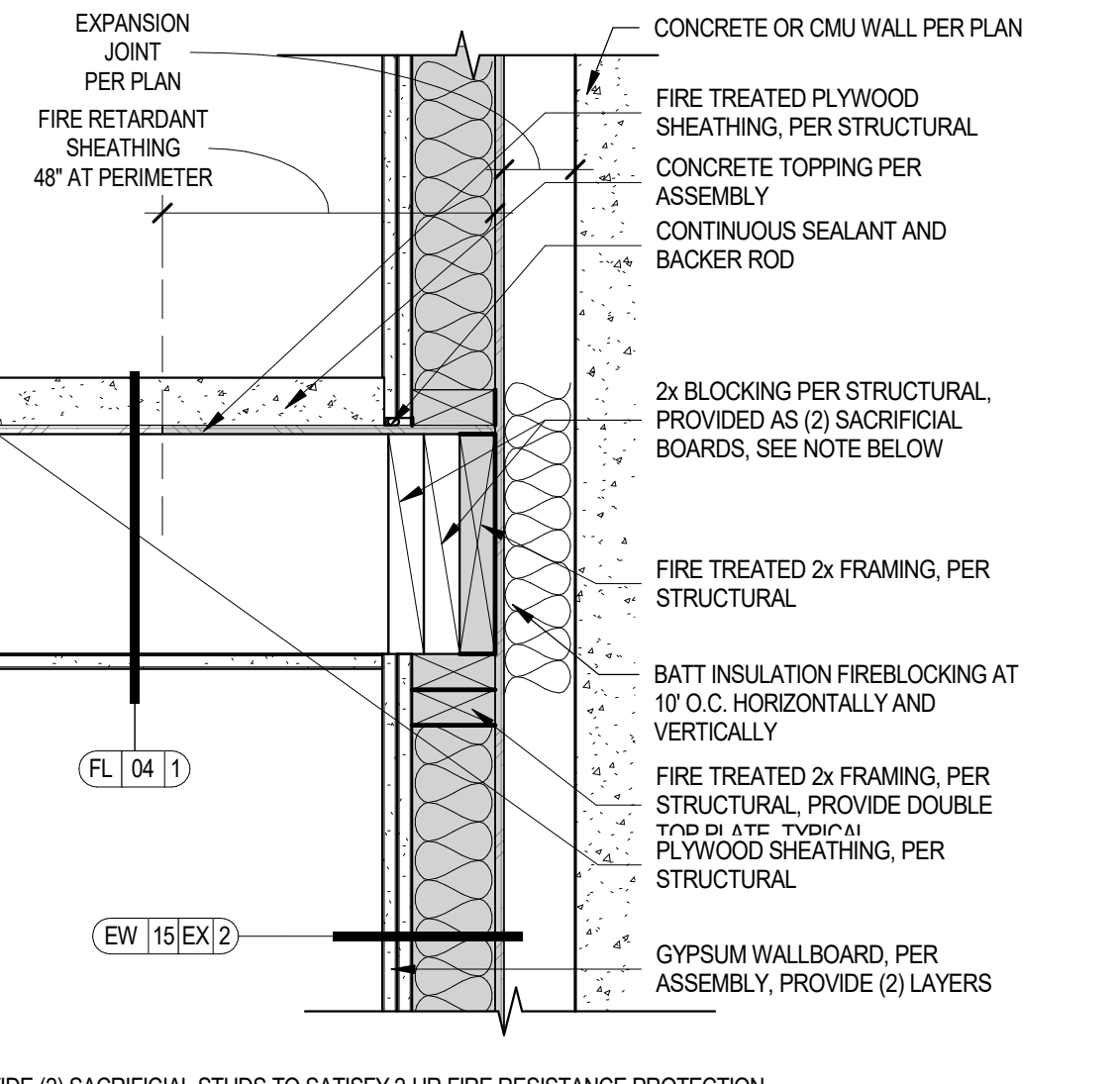
25 1-HR FLOOR / CEILING AT 2-HR EXTERIOR WALL - STUCCO
SCALE: 1 1/2" = 1'-0"



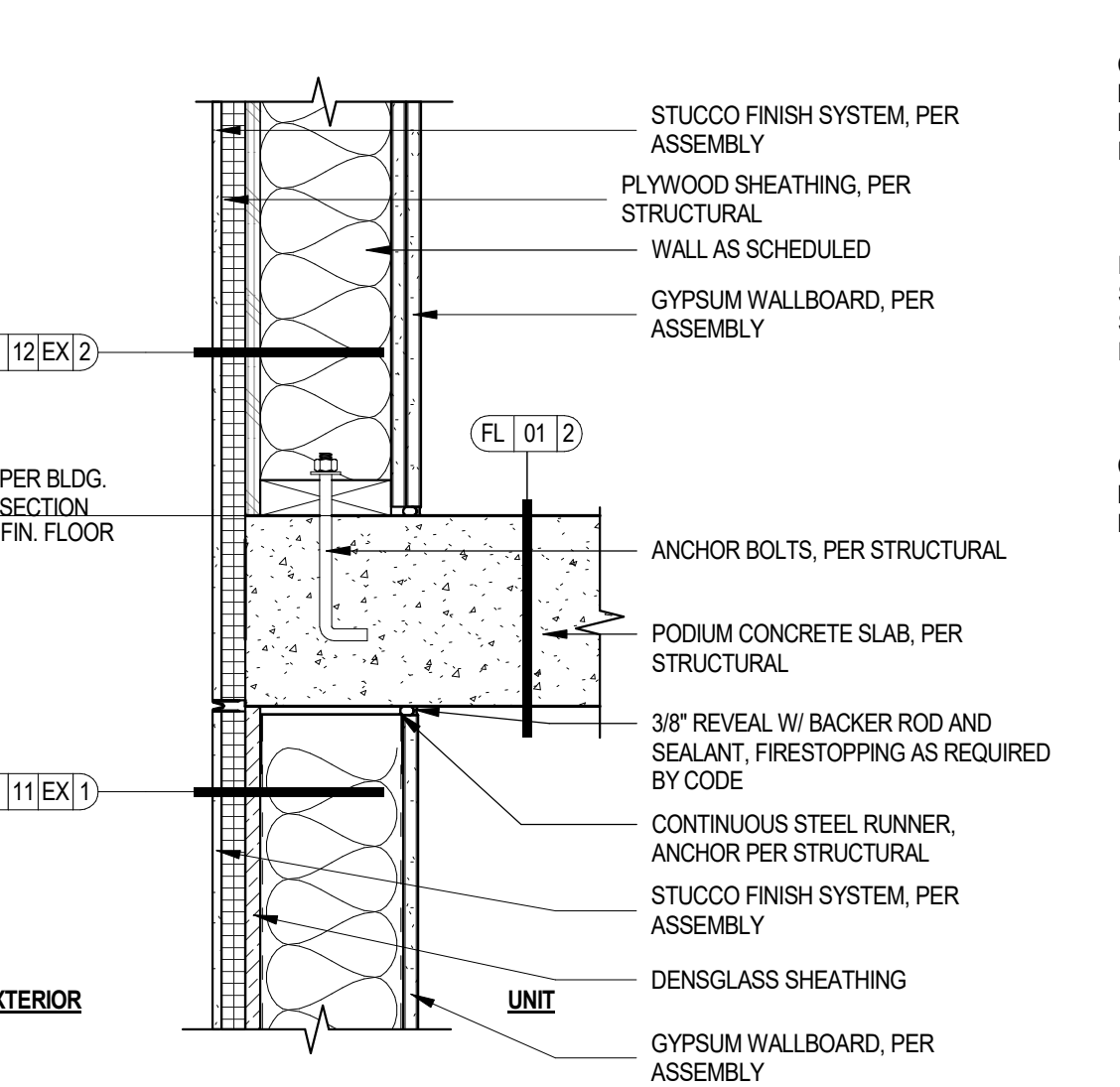
42 1-HR FLOOR / CEILING AT 1-HR EXTERIOR WALL
SCALE: 1 1/2" = 1'-0"



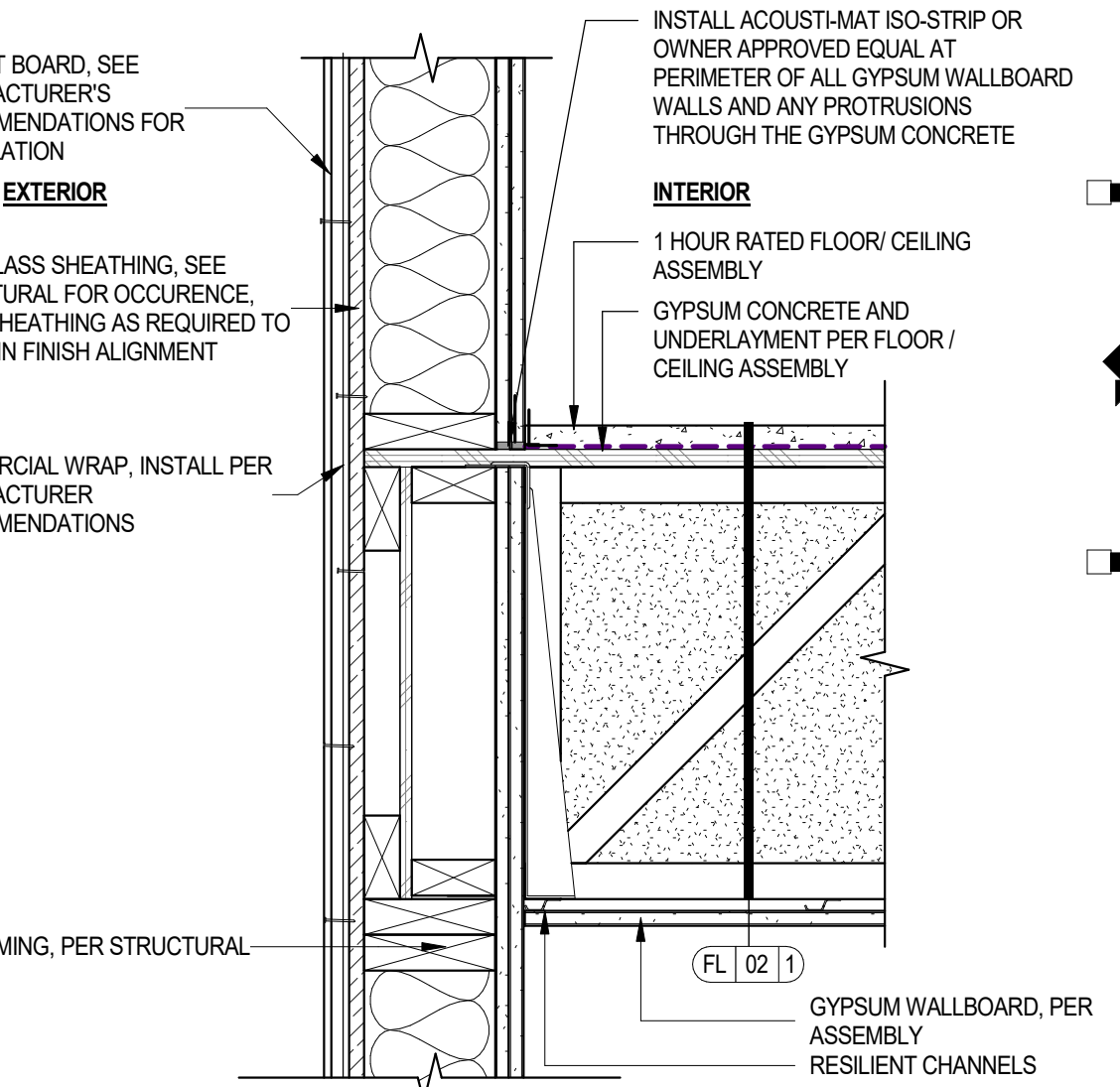
38 1HR FLOOR ASSEMBLY AT GARAGE WALL
SCALE: 1 1/2" = 1'-0"



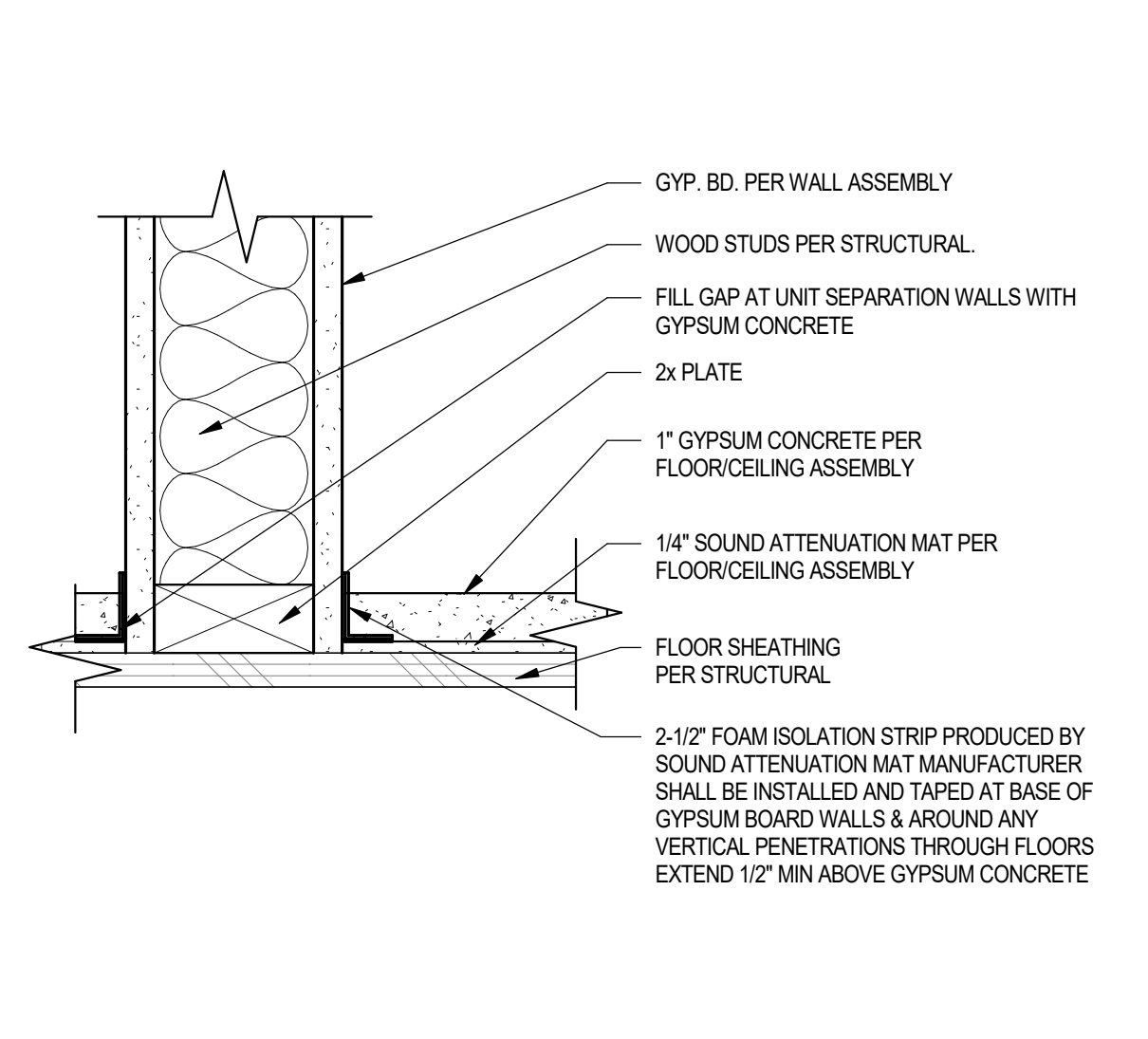
34 2-HR FIRE TREATED WOOD FRAMING AT GARAGE WALL
SCALE: 1 1/2" = 1'-0"



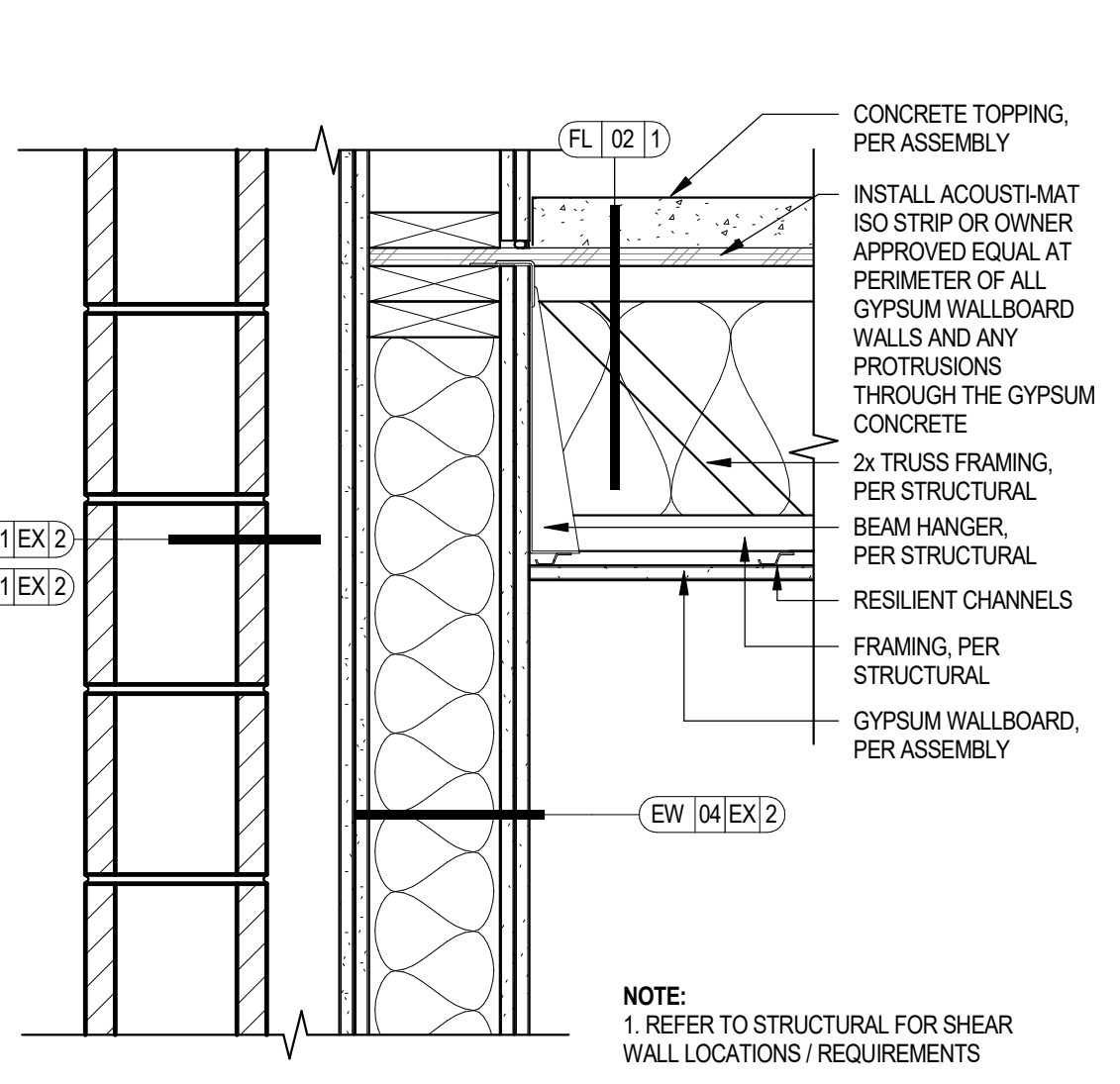
30 2-HR FLOOR / CEILING AT EXTERIOR WALL WOOD & METAL FRAMING AT PODIUM SLAB
SCALE: 1 1/2" = 1'-0"



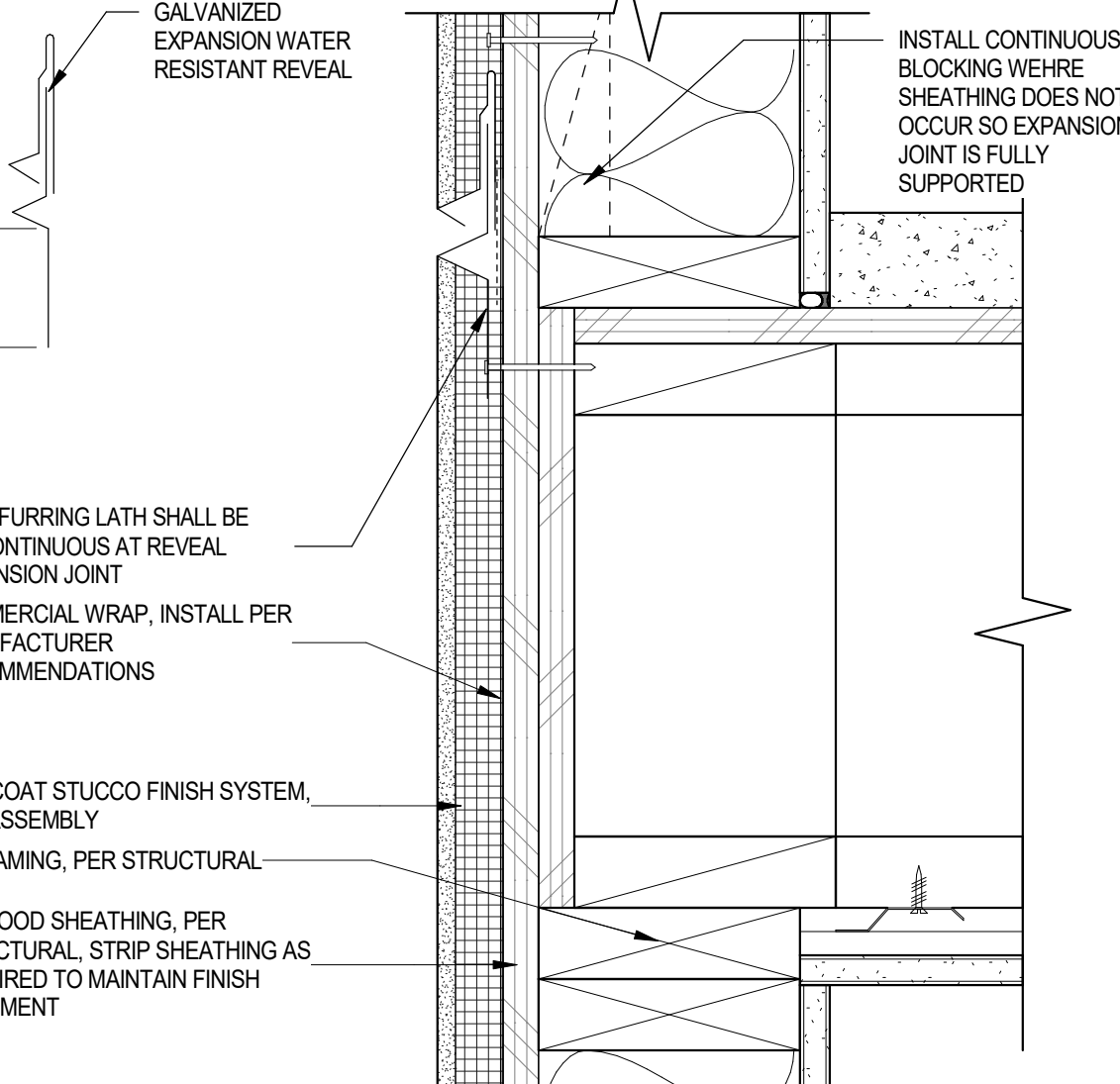
26 FLOOR / CEILING @ 2 HOUR RATED EXTERIOR WALL CEMENT BOARD FINISH
SCALE: 1 1/2" = 1'-0"



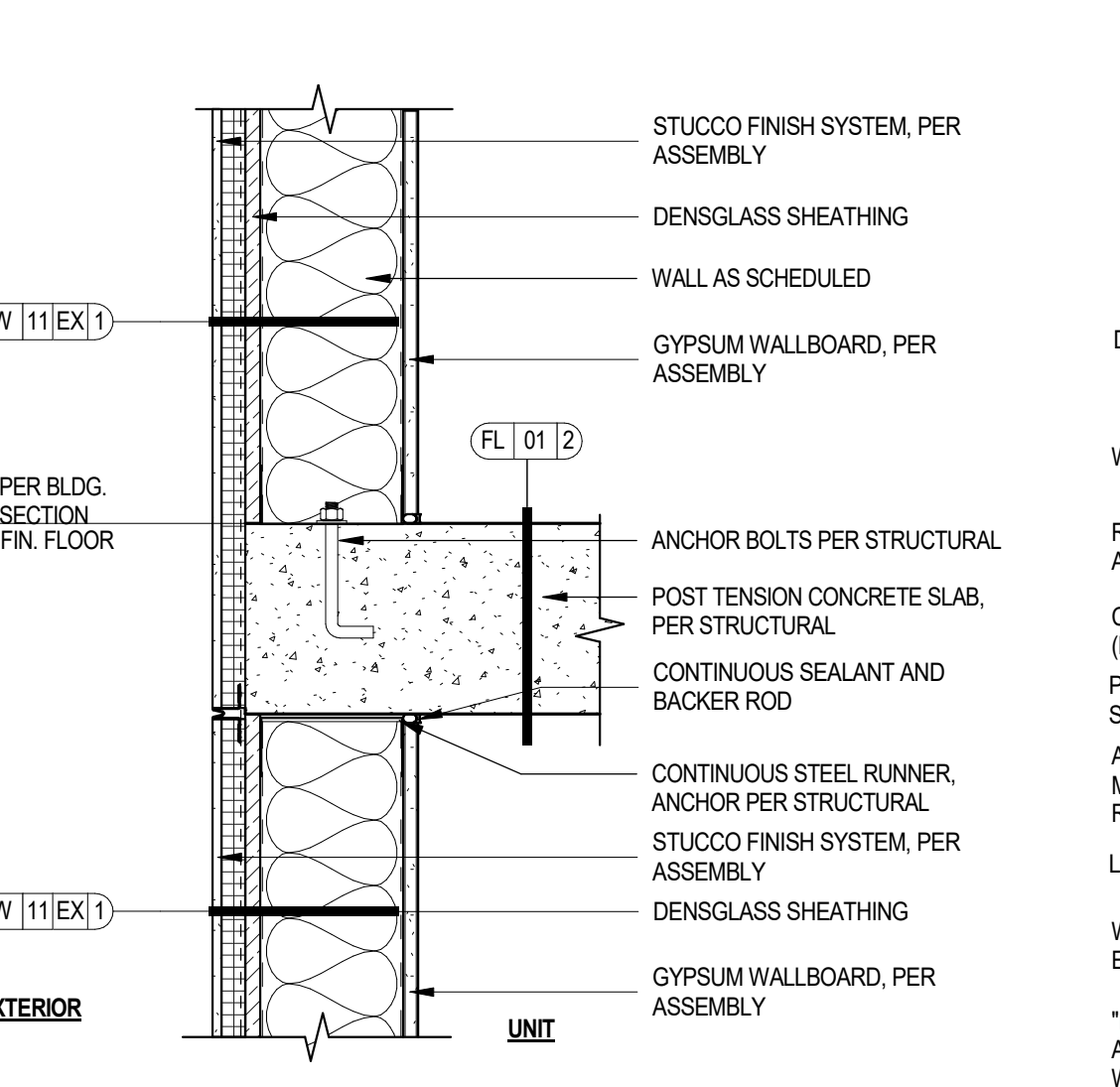
43 FOAM ISOLATION STRIP AT BASE OF WALLS AT GYPSUM CONCRETE
SCALE: 3" = 1'-0"



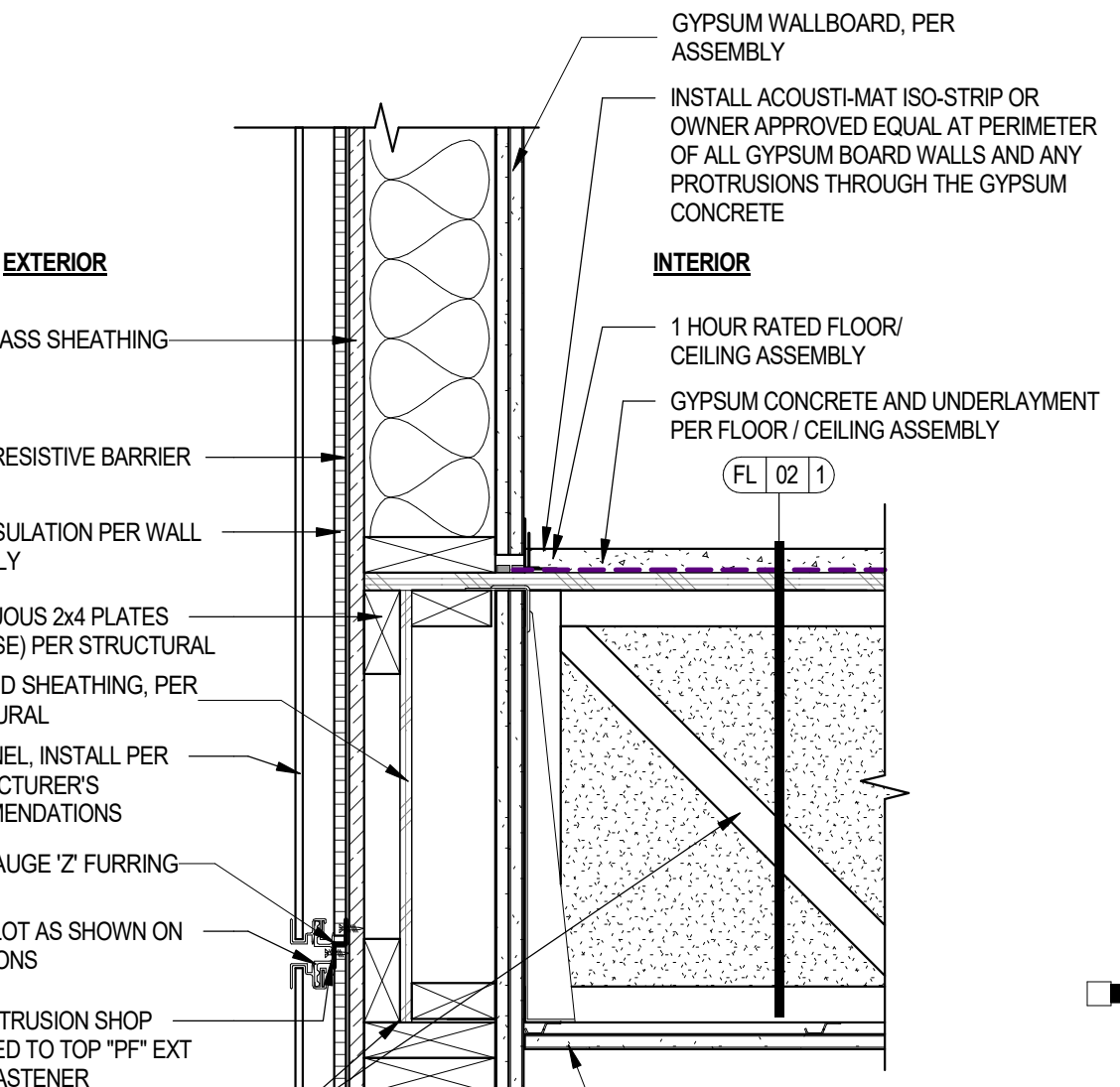
39 1HR FLOOR ASSEMBLY AT GARAGE WALL
SCALE: 1 1/2" = 1'-0"



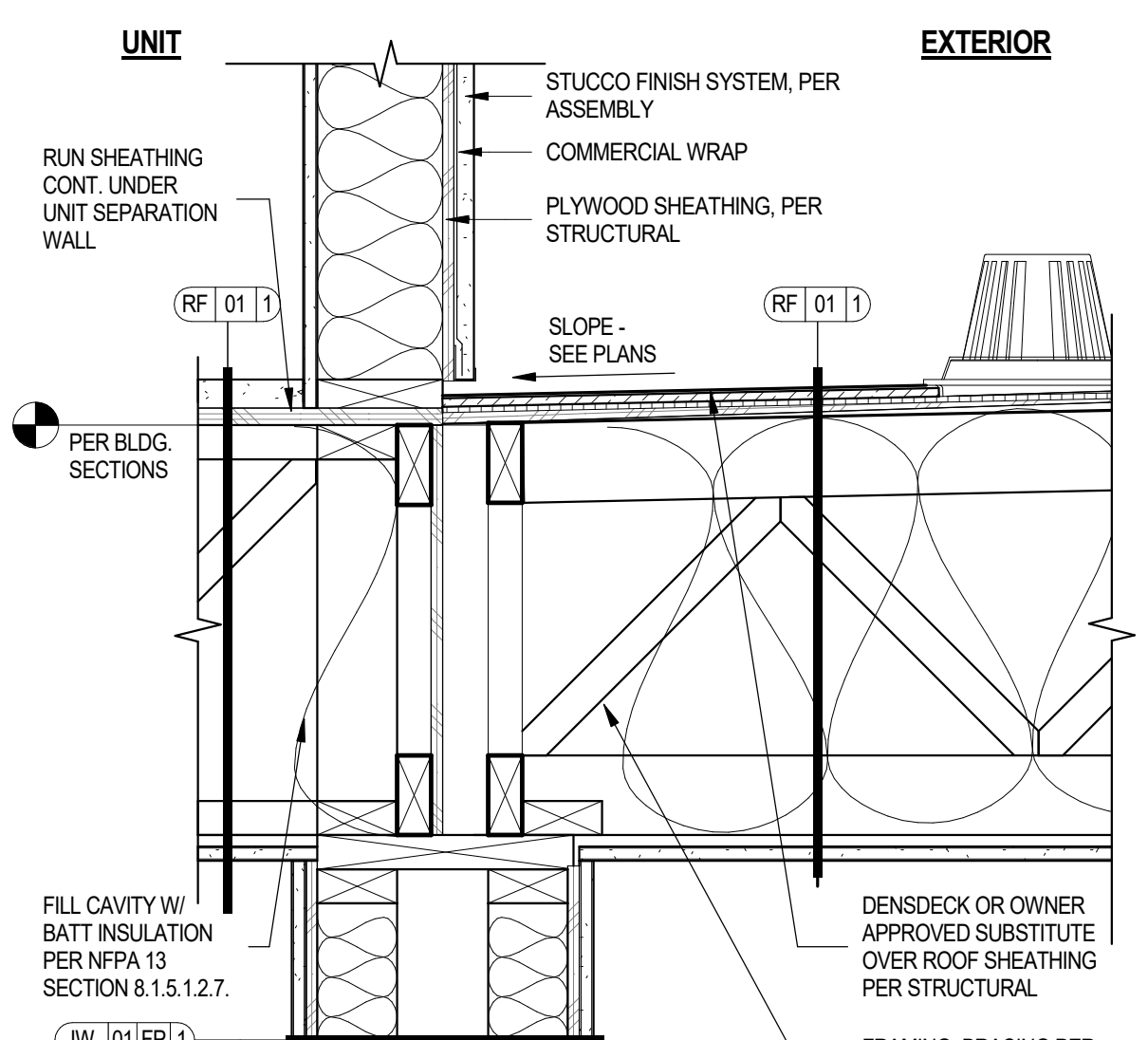
35 @ 1-COAT HORIZONTAL STUCCO EXPANSION JOINT
SCALE: 3" = 1'-0"



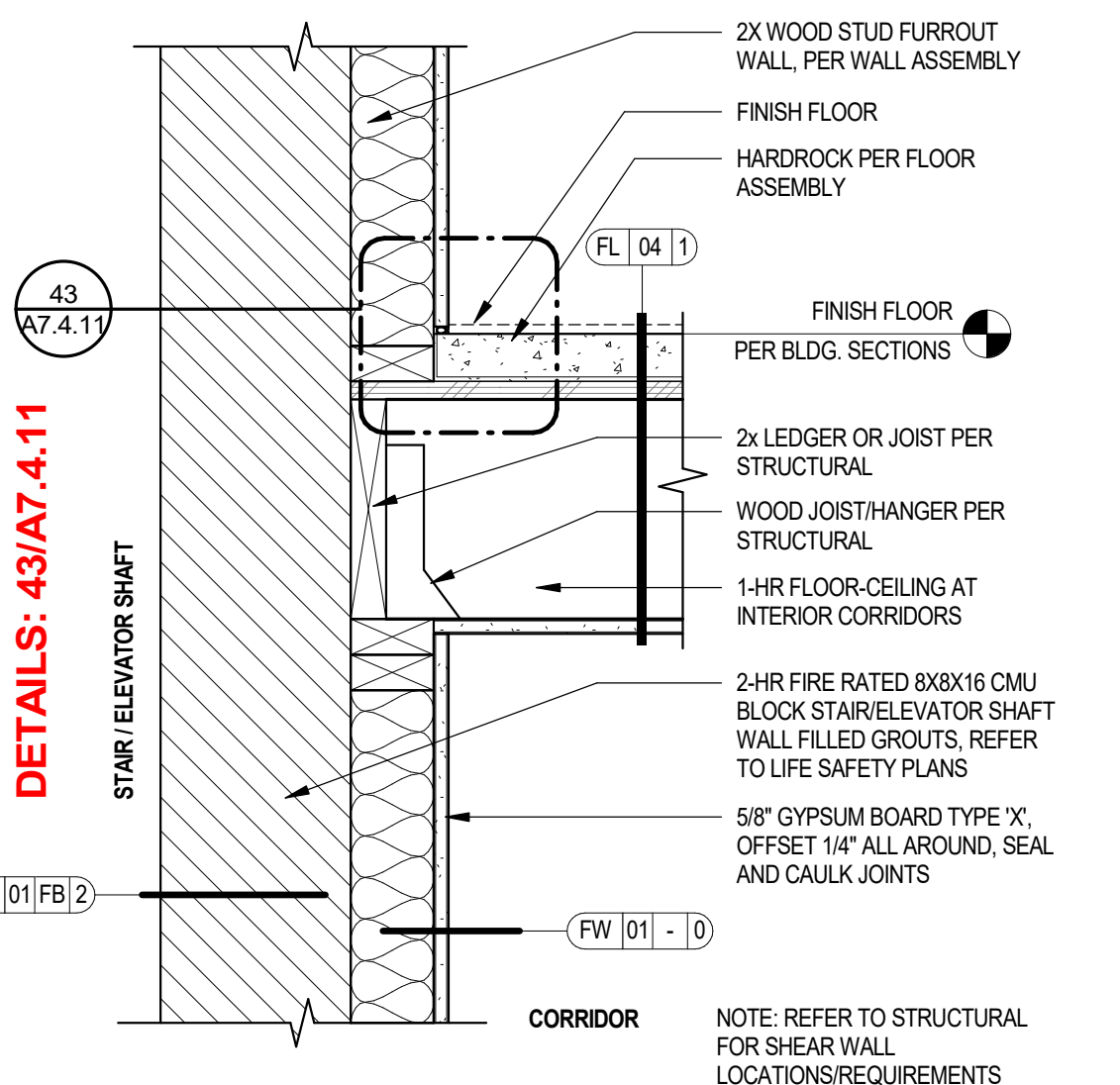
31 2-HR FLOOR / CEILING AT EXTERIOR WALL AT PODIUM SLAB
SCALE: 1 1/2" = 1'-0"



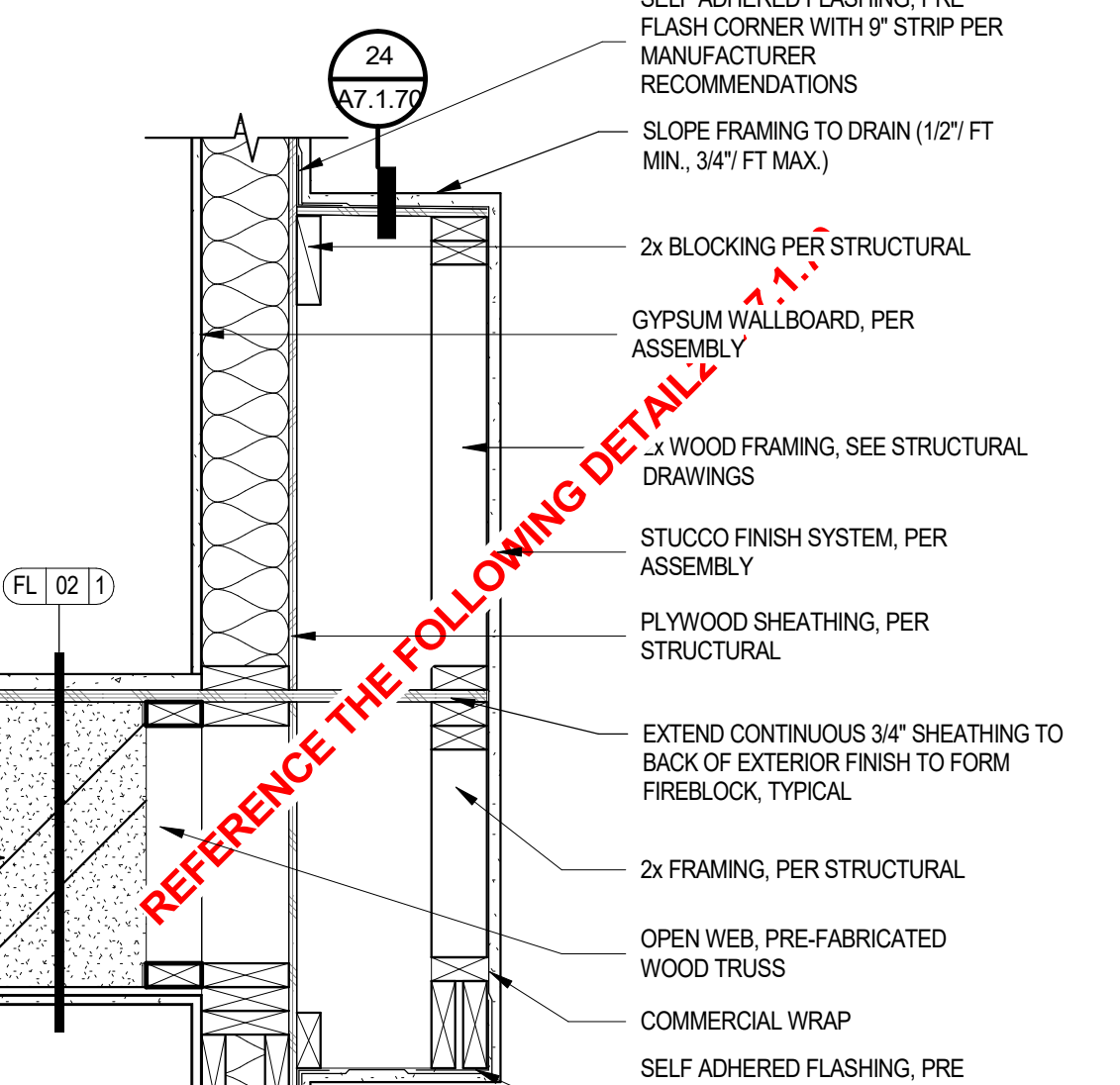
27 FLOOR / CEILING @ 2 HOUR RATED EXTERIOR WALL ACM PANEL
SCALE: 1 1/2" = 1'-0"



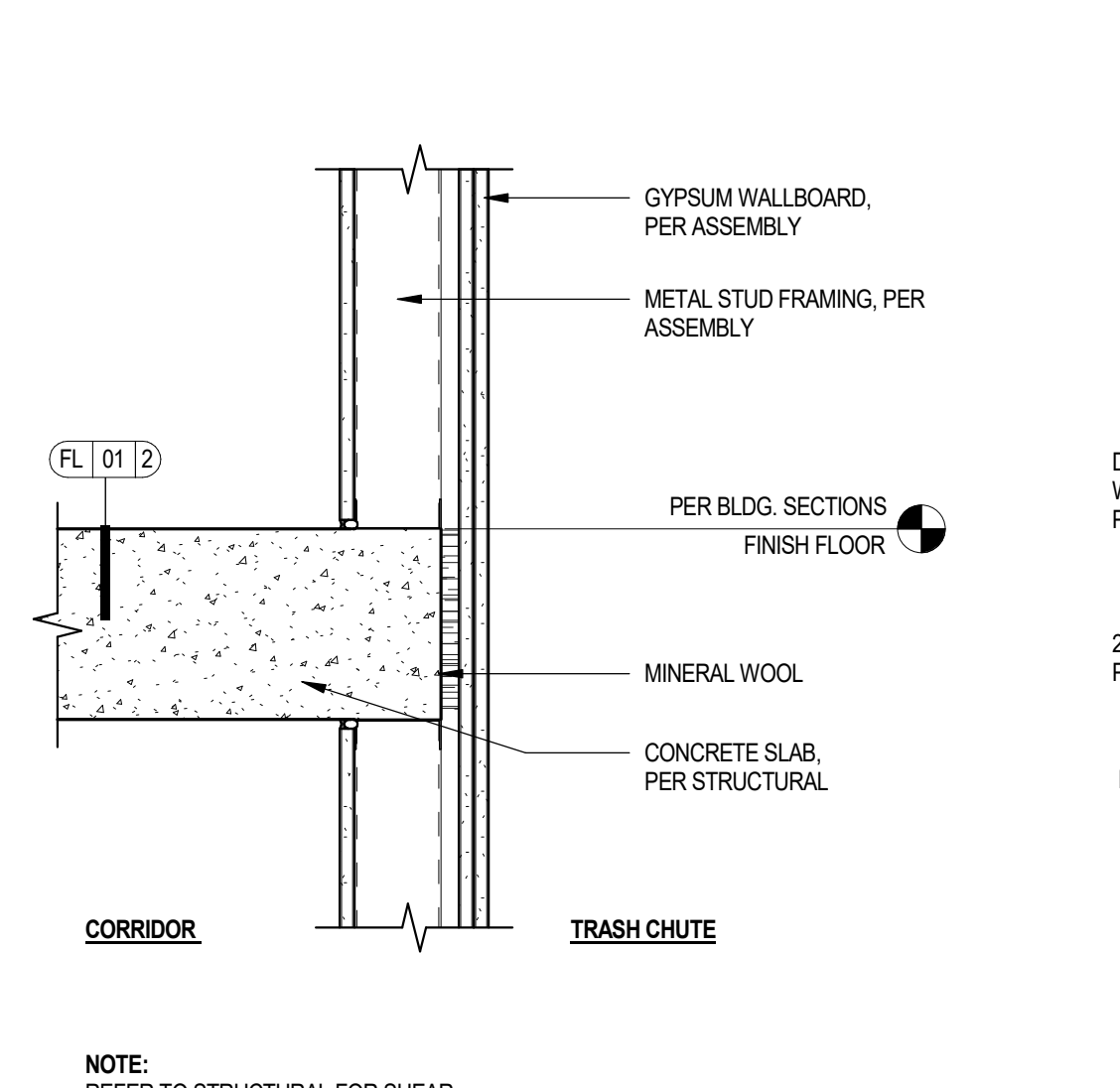
44 1-HR FLOOR / CEILING AT 1-HR UNIT SEPARATION WALL PARALLEL TO FLOOR TRUSSES
SCALE: 1 1/2" = 1'-0"



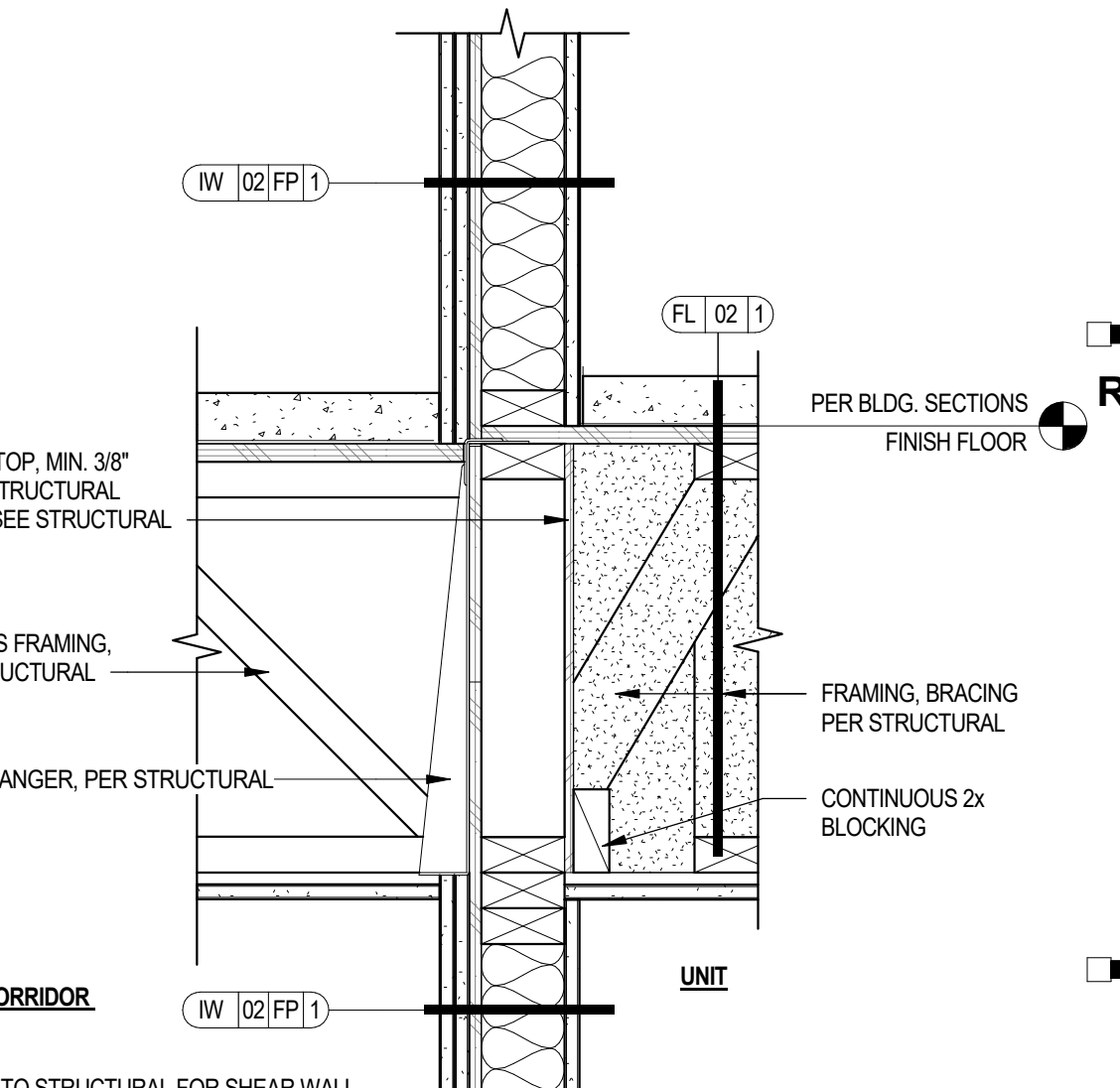
40 STAIR/ELEVATOR SHAFT FIRESTOP AT CORRIDOR JOISTS
SCALE: 1 1/2" = 1'-0"



36 STUCCO BUILT-OUT AT WINDOWS
SCALE: 1" = 1'-0"



32 2-HR BARRIER AT POST TENSION SLAB
SCALE: 1 1/2" = 1'-0"



28 1-HR FLOOR / CEILING AT 1-HR CORRIDOR WALL - OPEN WEB CORRIDOR FRAMING
SCALE: 1 1/2" = 1'-0"

Project Name 1
Project Name 2
Street Address
City, state

Office of Rich Barber
ORB Architecture, LLC
WorldHQ@ORBArch.com

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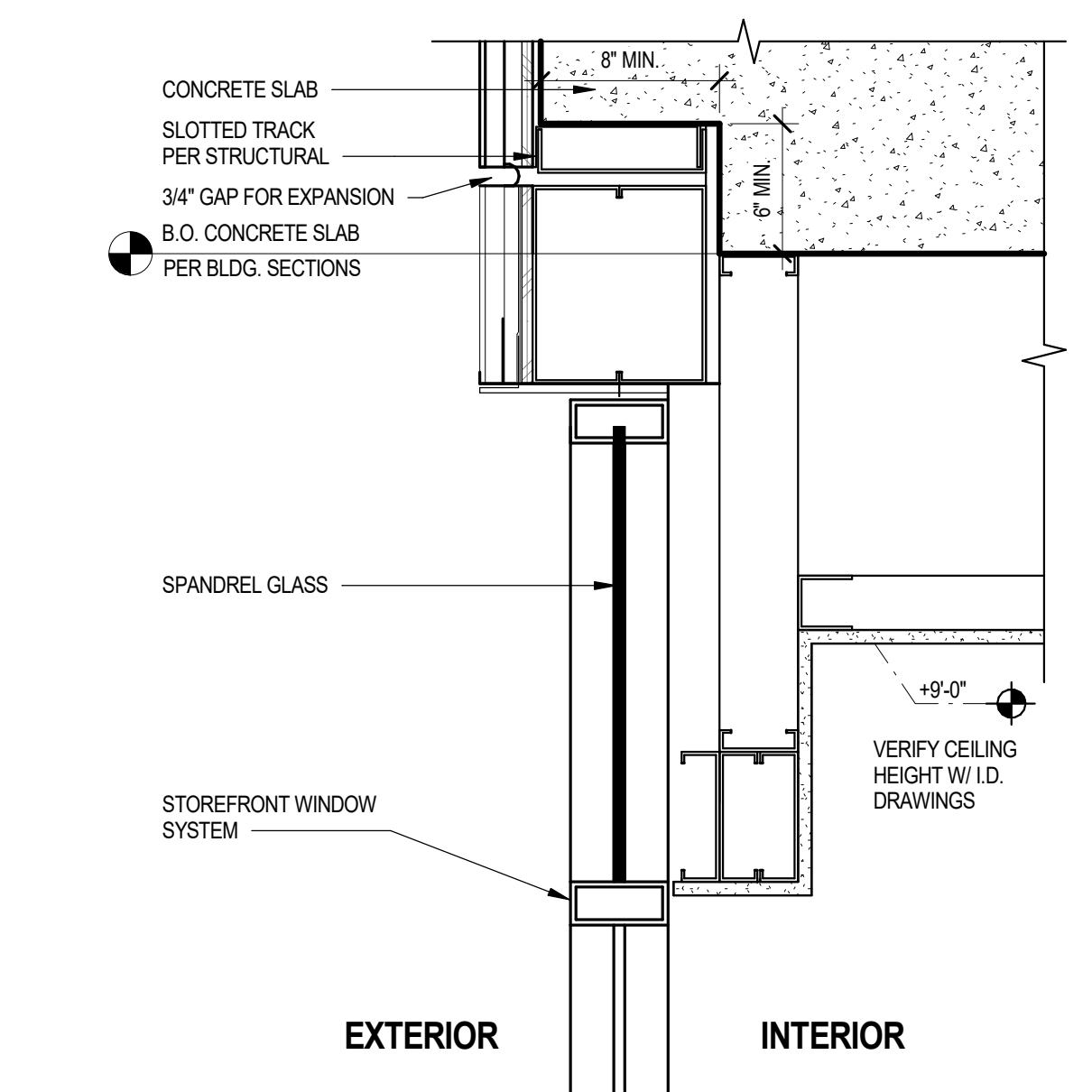
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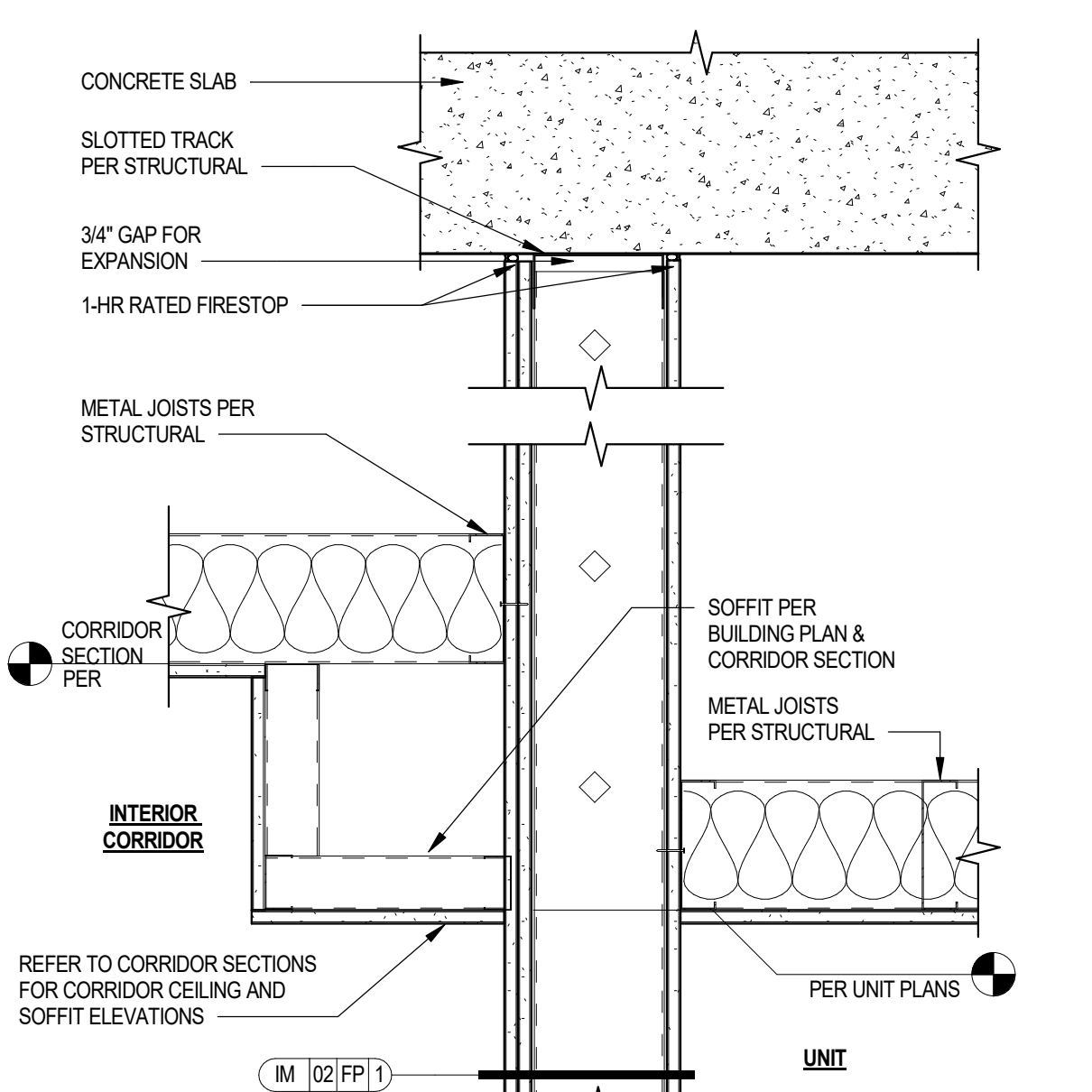
REVISIONS/SUBMITTALS	
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DATE: July 17, 2024 ORB #: 00-000

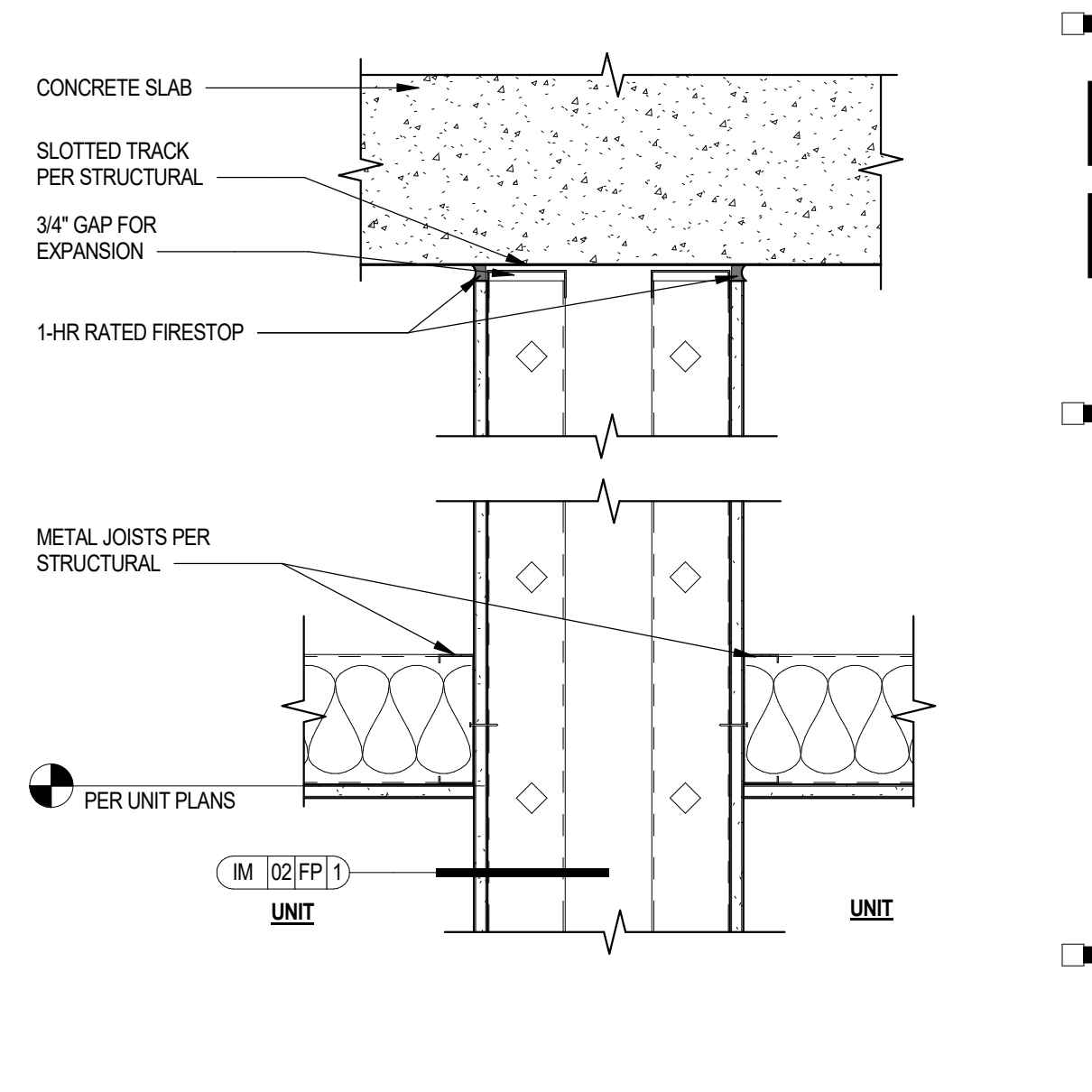
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FLOOR-CEILING DETAILS WOOD FRAMING



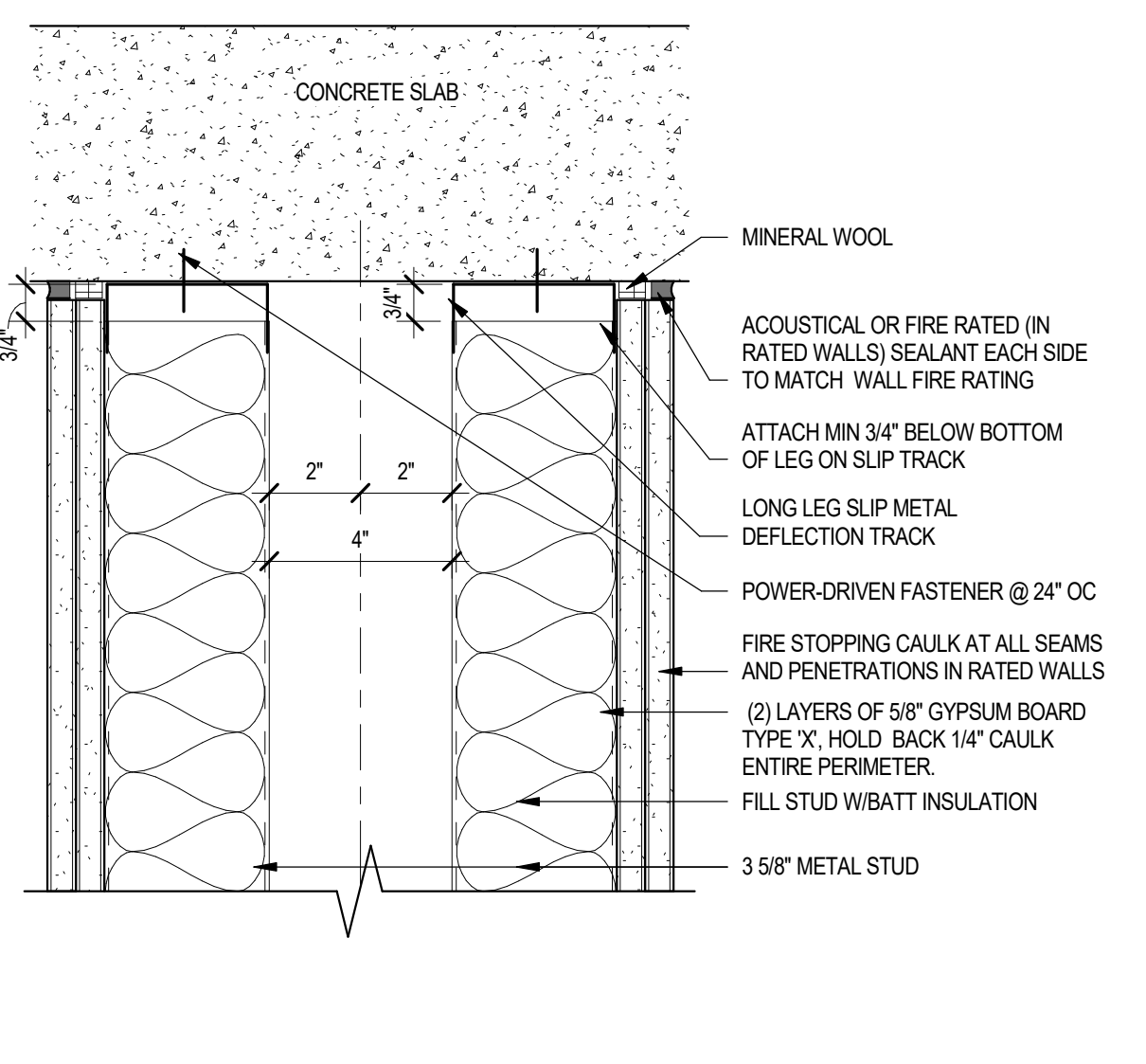
09 STOREFRONT BELOW PODIUM SLAB
SCALE: 1 1/2\"/>



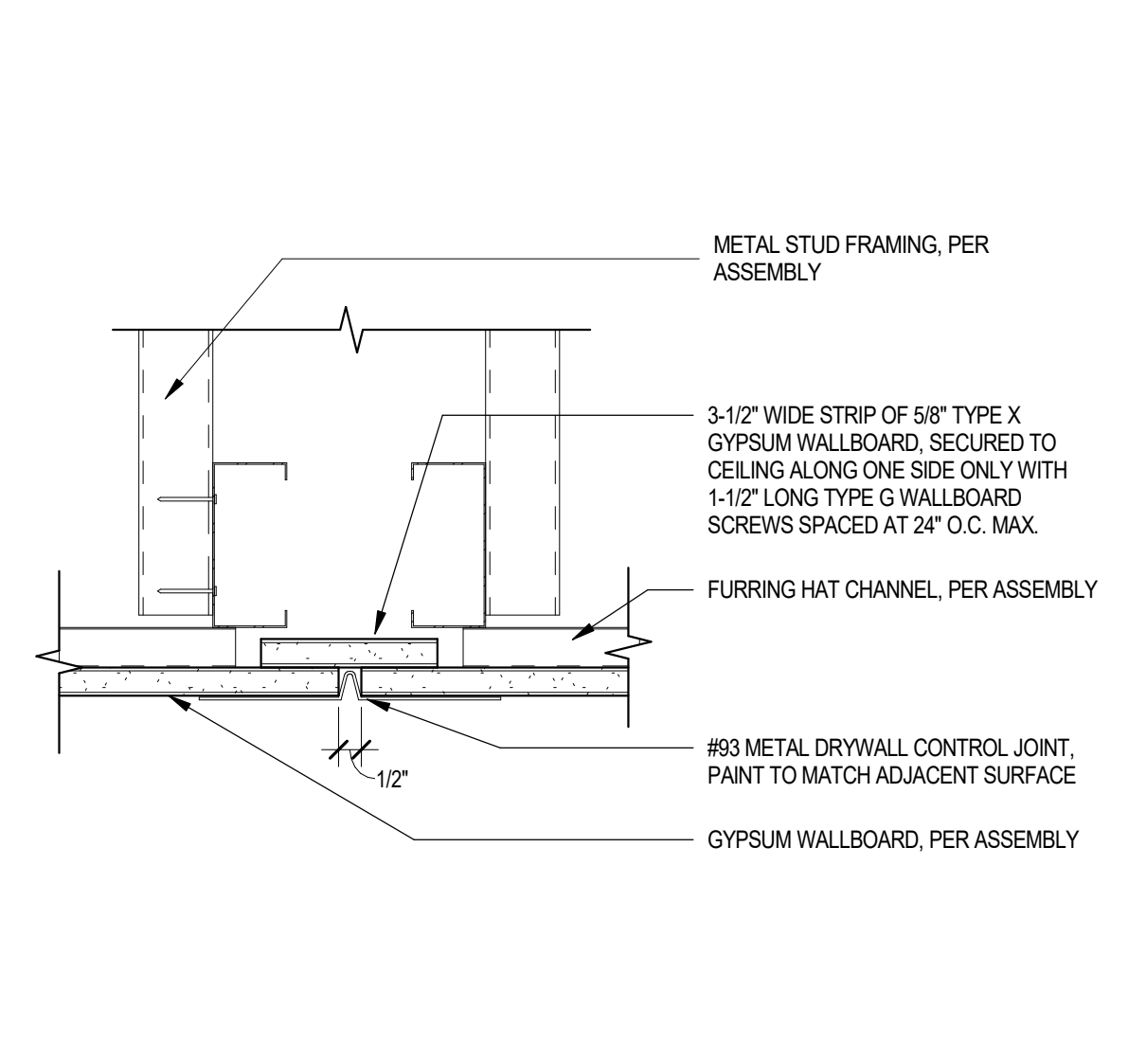
05 DROP CEILING AT INTERIOR CORRIDOR WALL
SCALE: 1 1/2\"/>



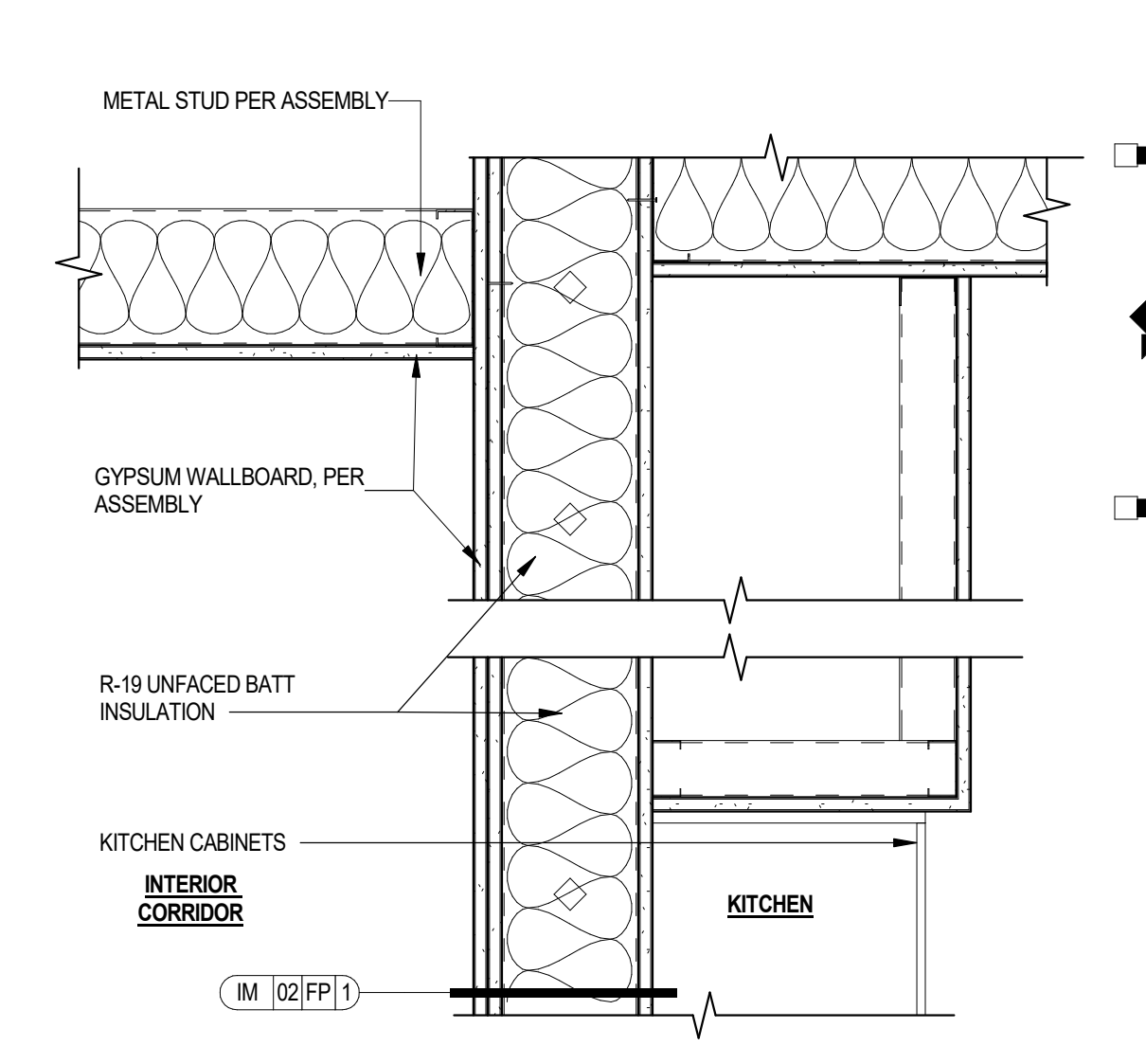
01 DROP CEILING AT UNIT SEPARATION WALL
SCALE: 1 1/2\"/>



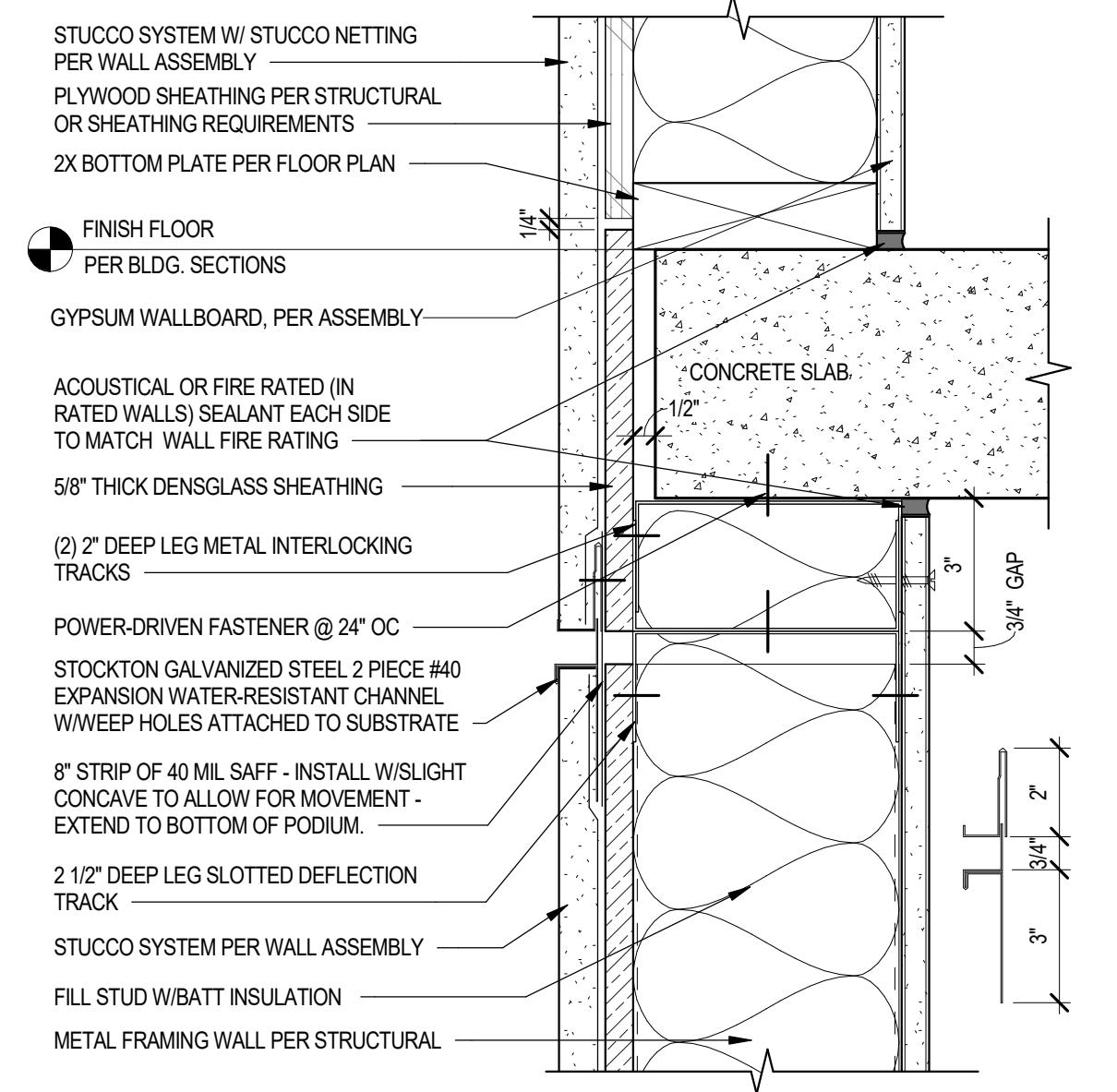
10 DOUBLE MTL. STUD WALL DEFLECTION JOINT
SCALE: 3\"/>



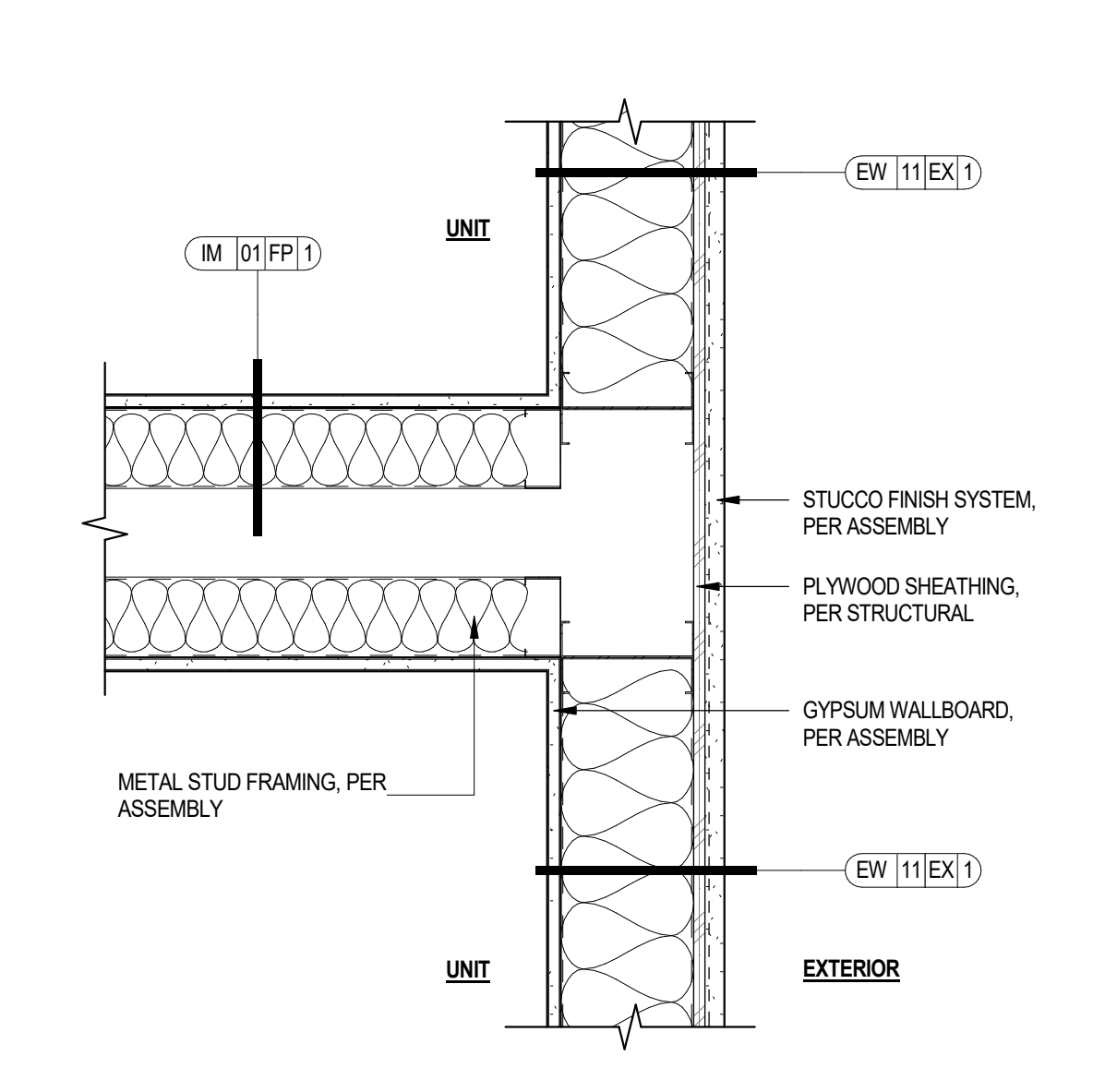
06 CEILING CONTROL JOINT - NOT RATED
SCALE: 3\"/>



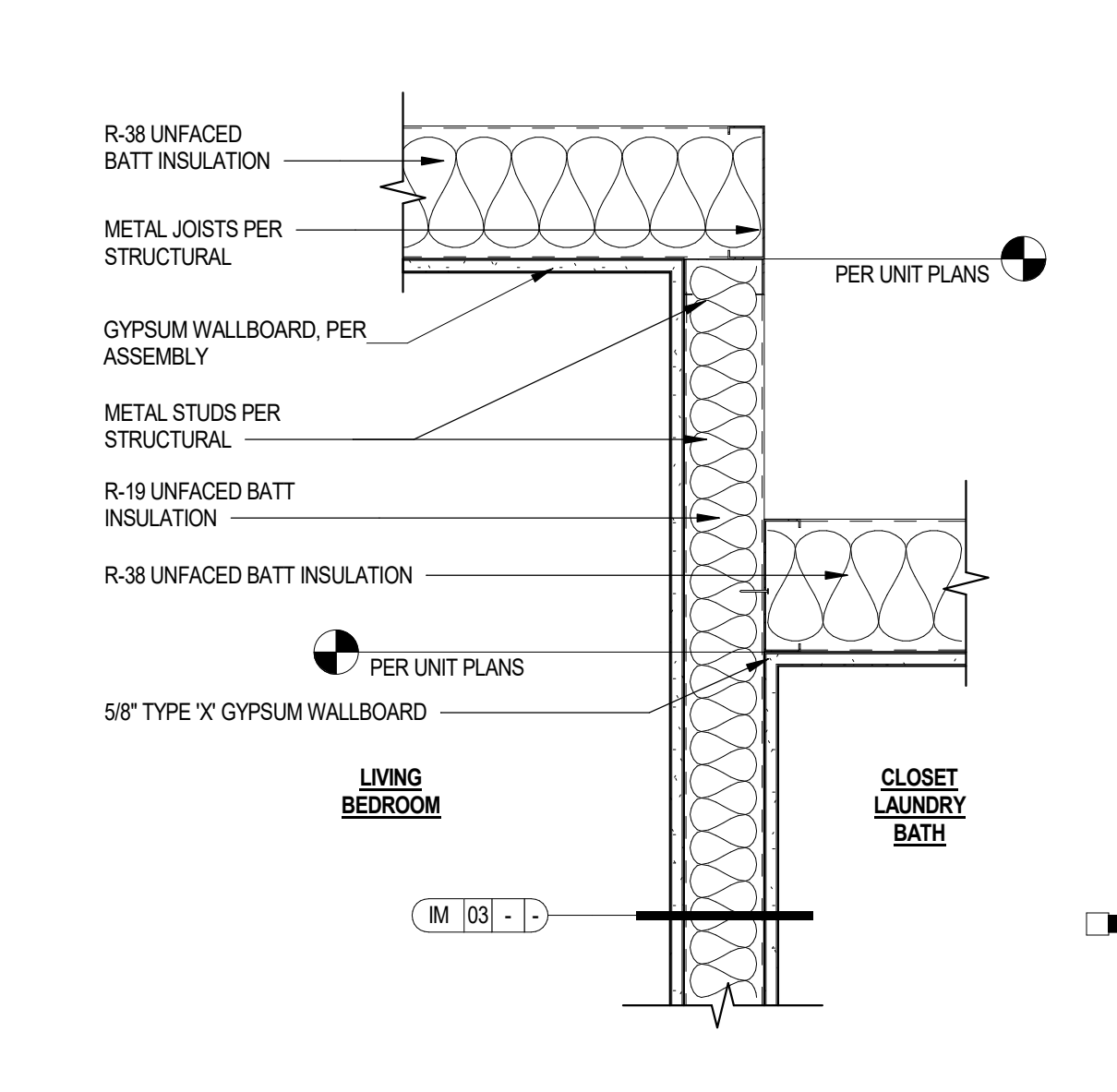
02 DROP CEILING AT KITCHEN / CORRIDOR
SCALE: 1 1/2\"/>



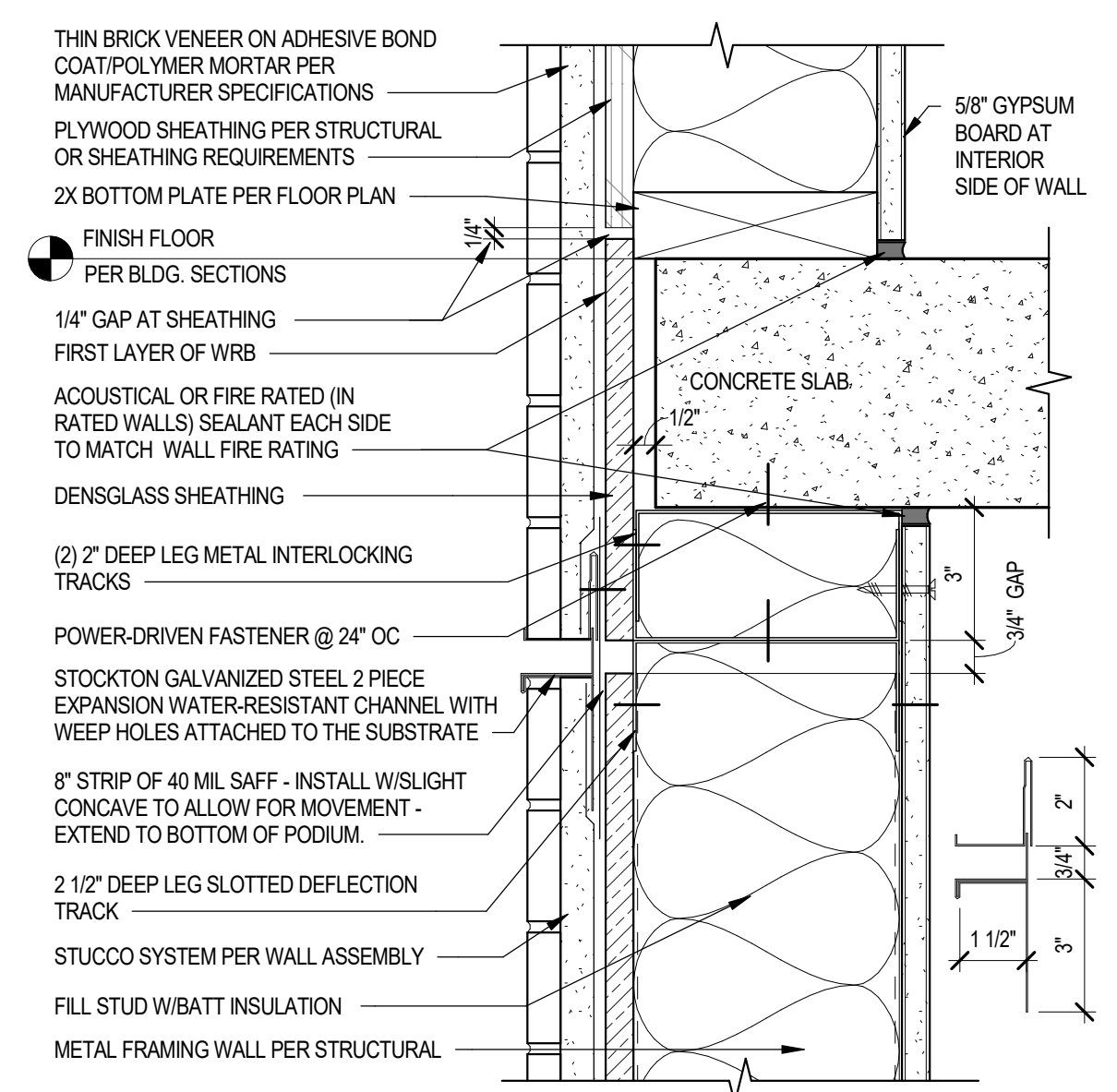
11 STUCCO DEFLECTION JOINT AT CONCRETE SLAB EDGE
SCALE: 3\"/>



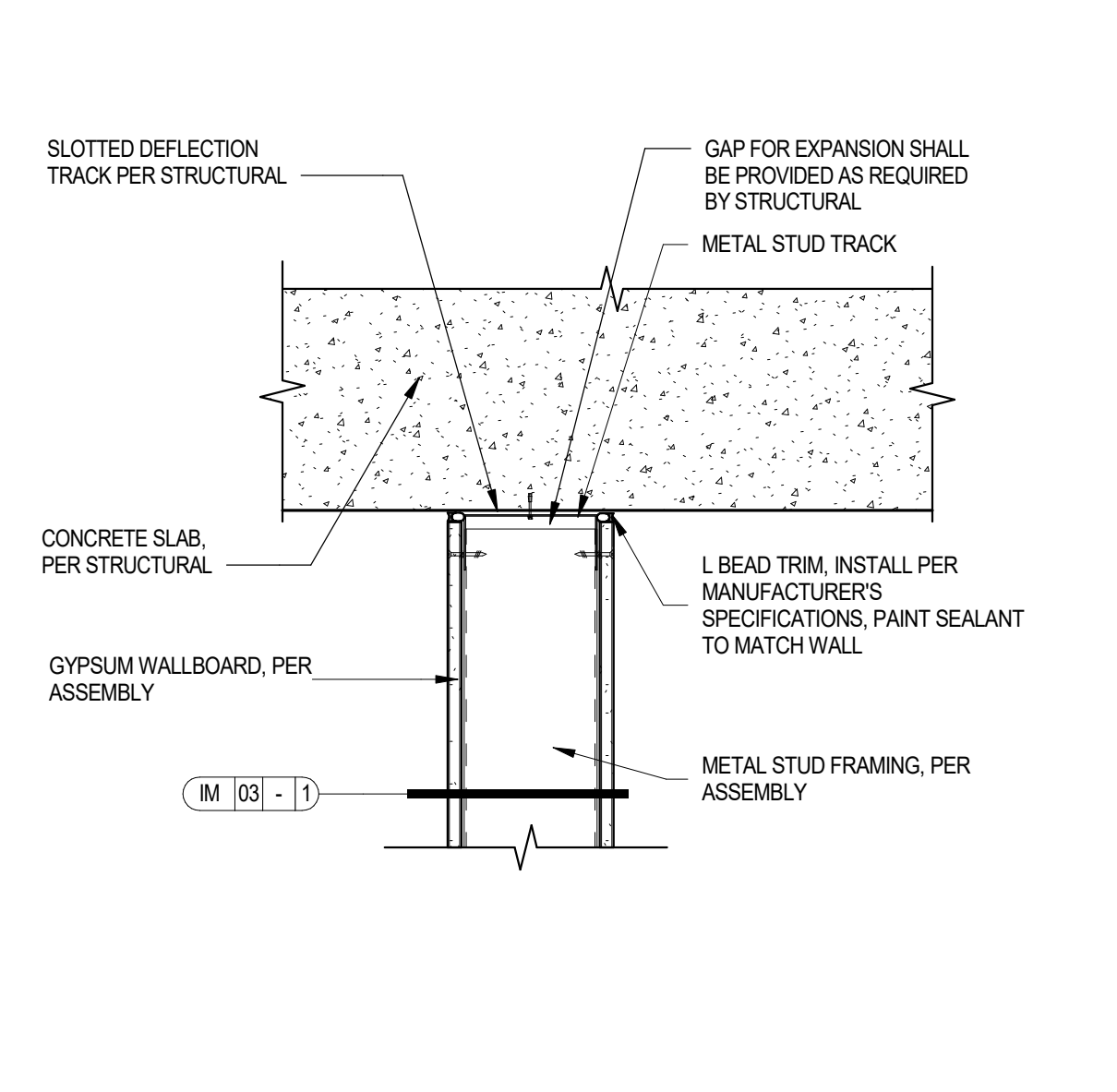
07 UNIT SEPARATION WALL AT EXTERIOR WALL - PLAN VIEW
SCALE: 1 1/2\"/>



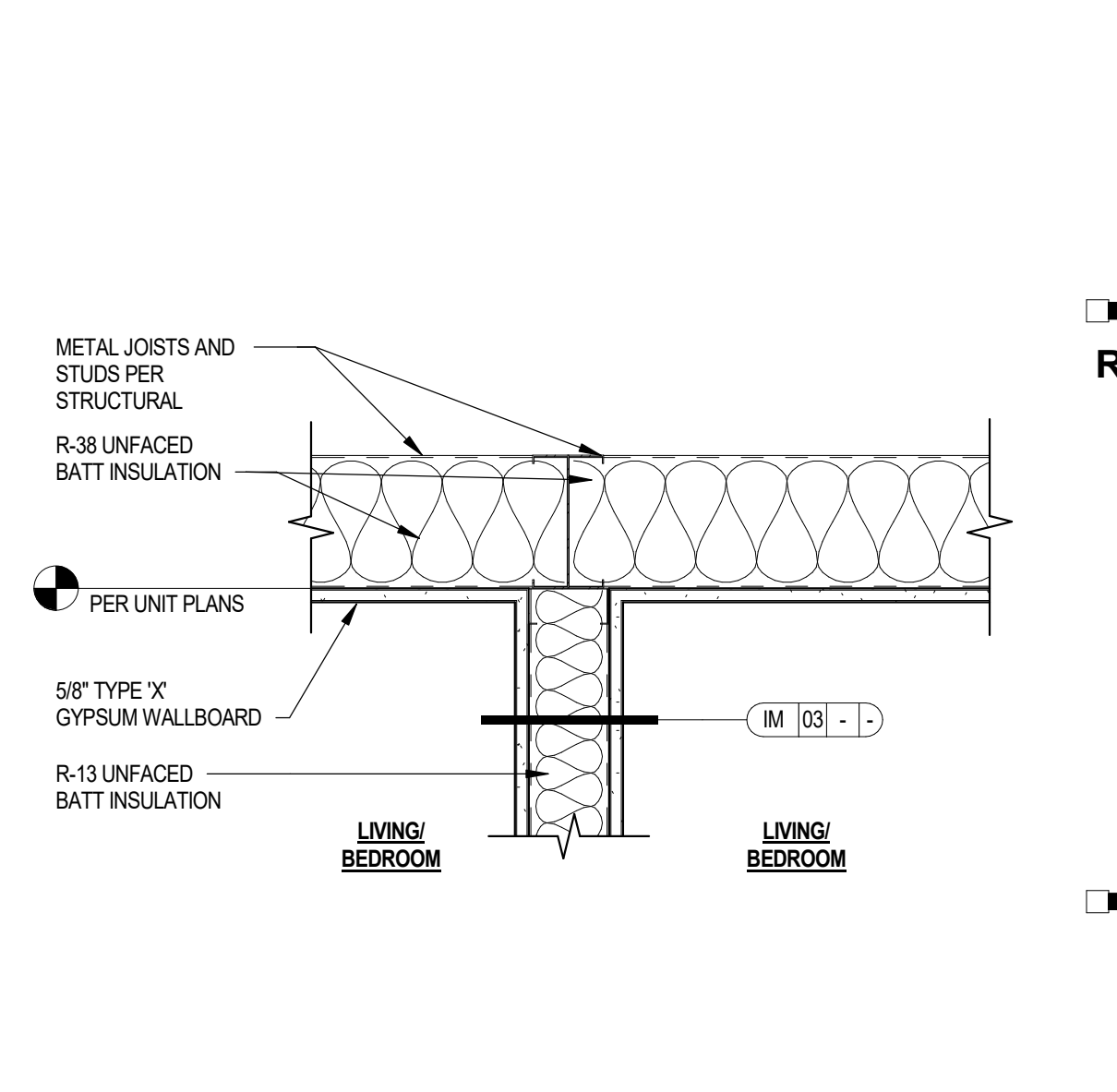
03 CEILING ALIGNMENT/FRAMING AT INTERIOR WALLS
SCALE: 1 1/2\"/>



12 BRICK VENEER DEFLECTION JOINT AT CONCRETE SLAB EDGE
SCALE: 3\"/>



08 INTERIOR NON-RATED METAL STUD WALL AT CONCRETE SLAB CEILING
SCALE: 1 1/2\"/>



04 DROP CEILING AT UNIT INTERIOR WALL BEDROOM-LIVING ROOM
SCALE: 1 1/2\"/>

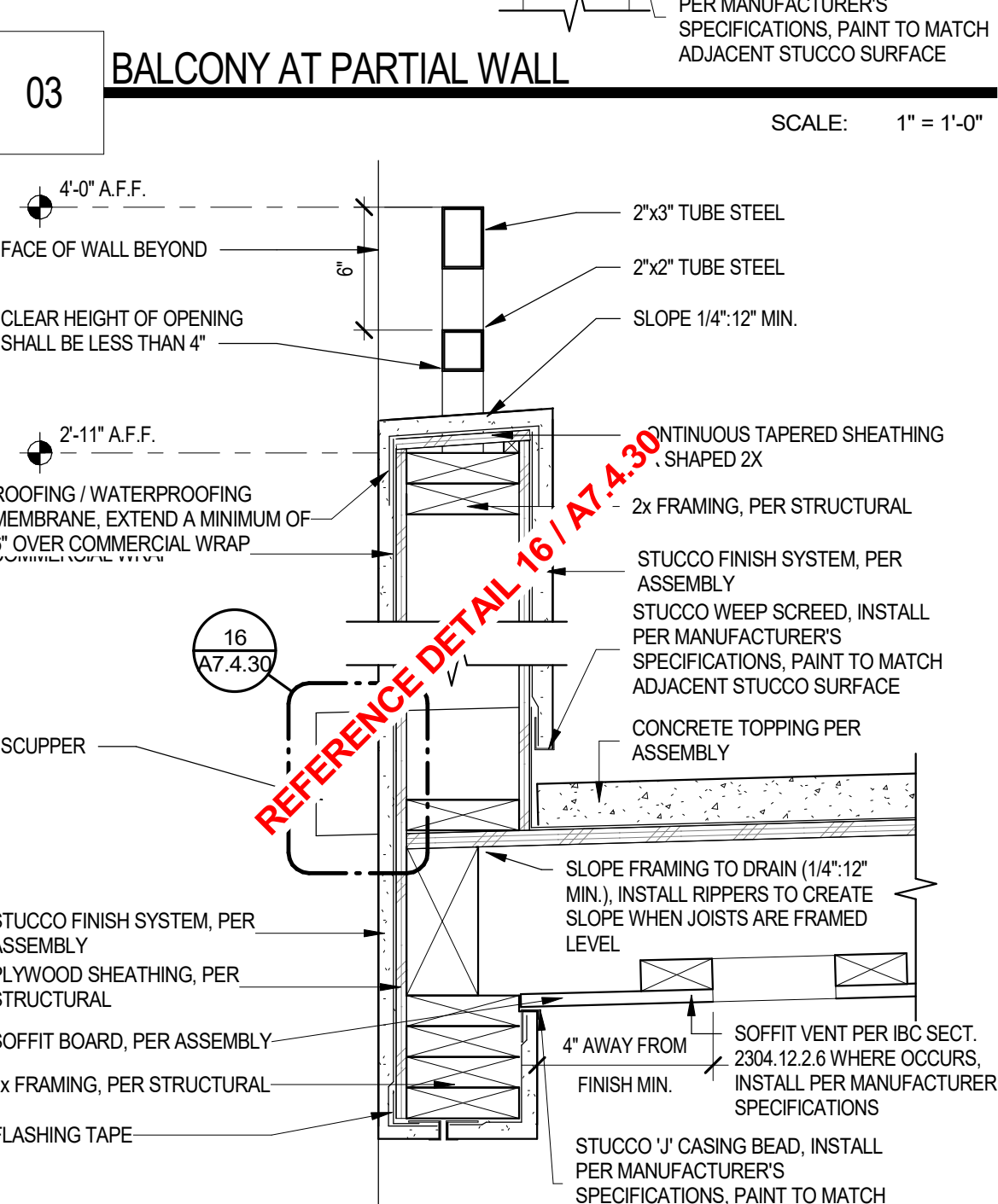
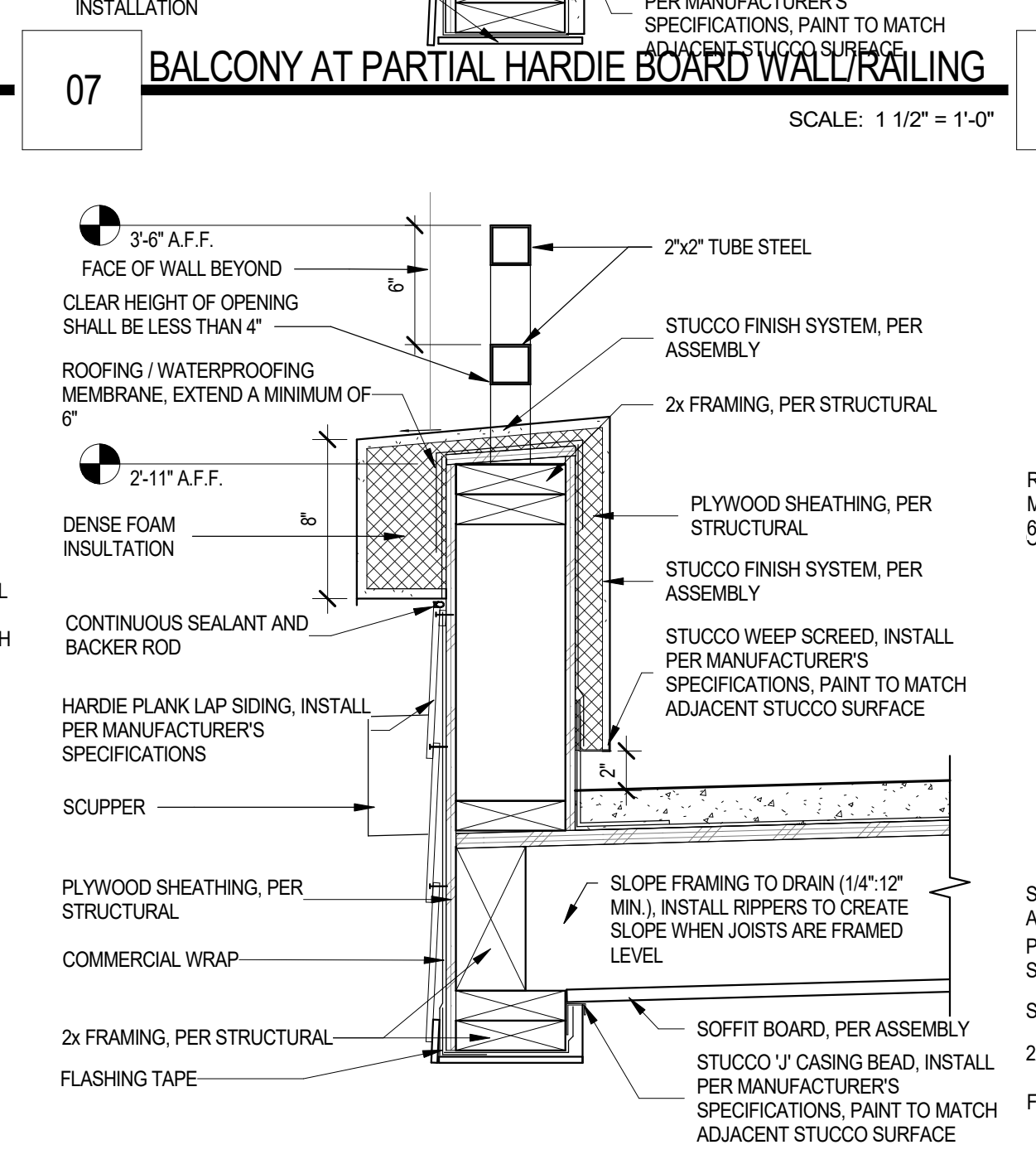
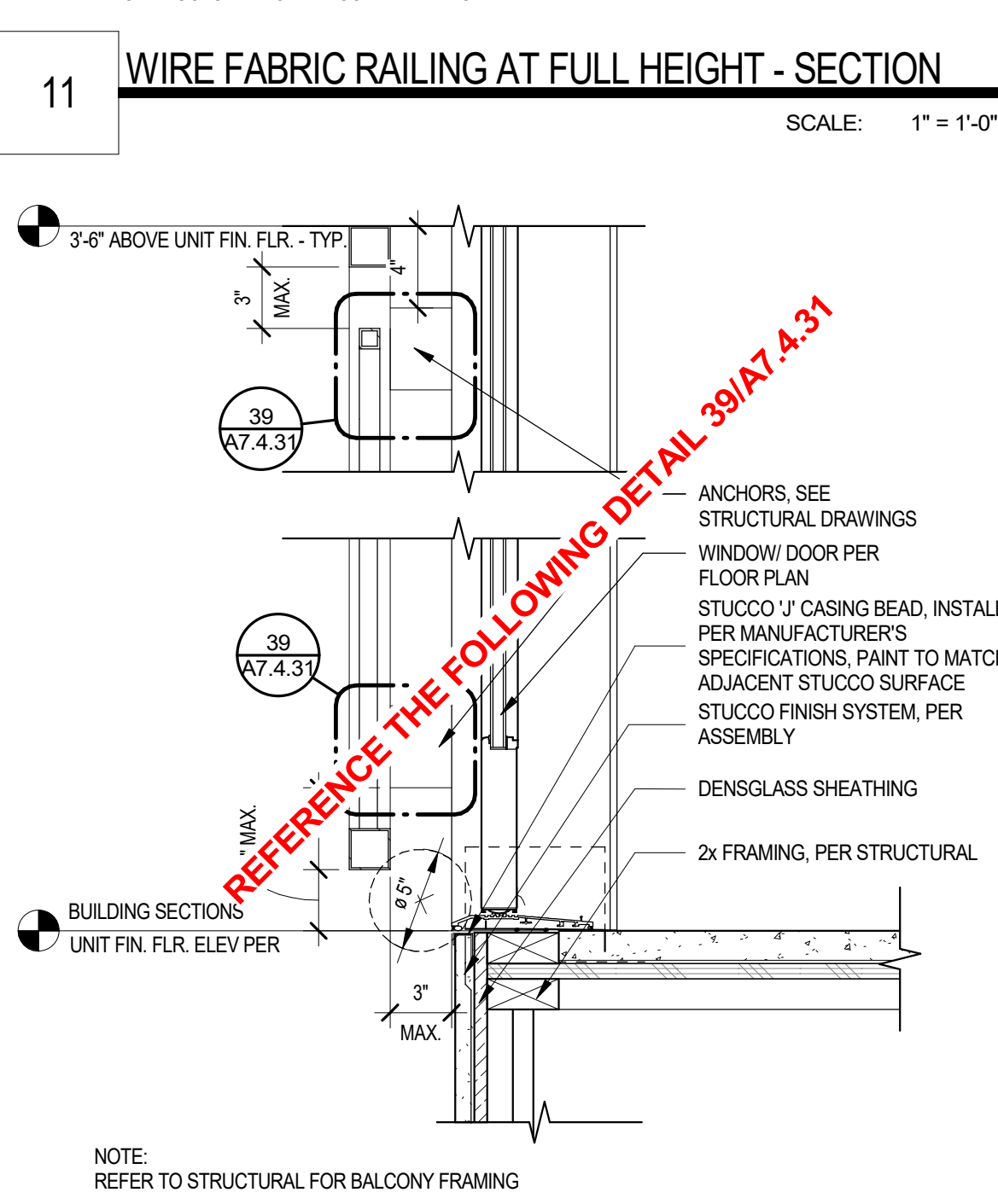
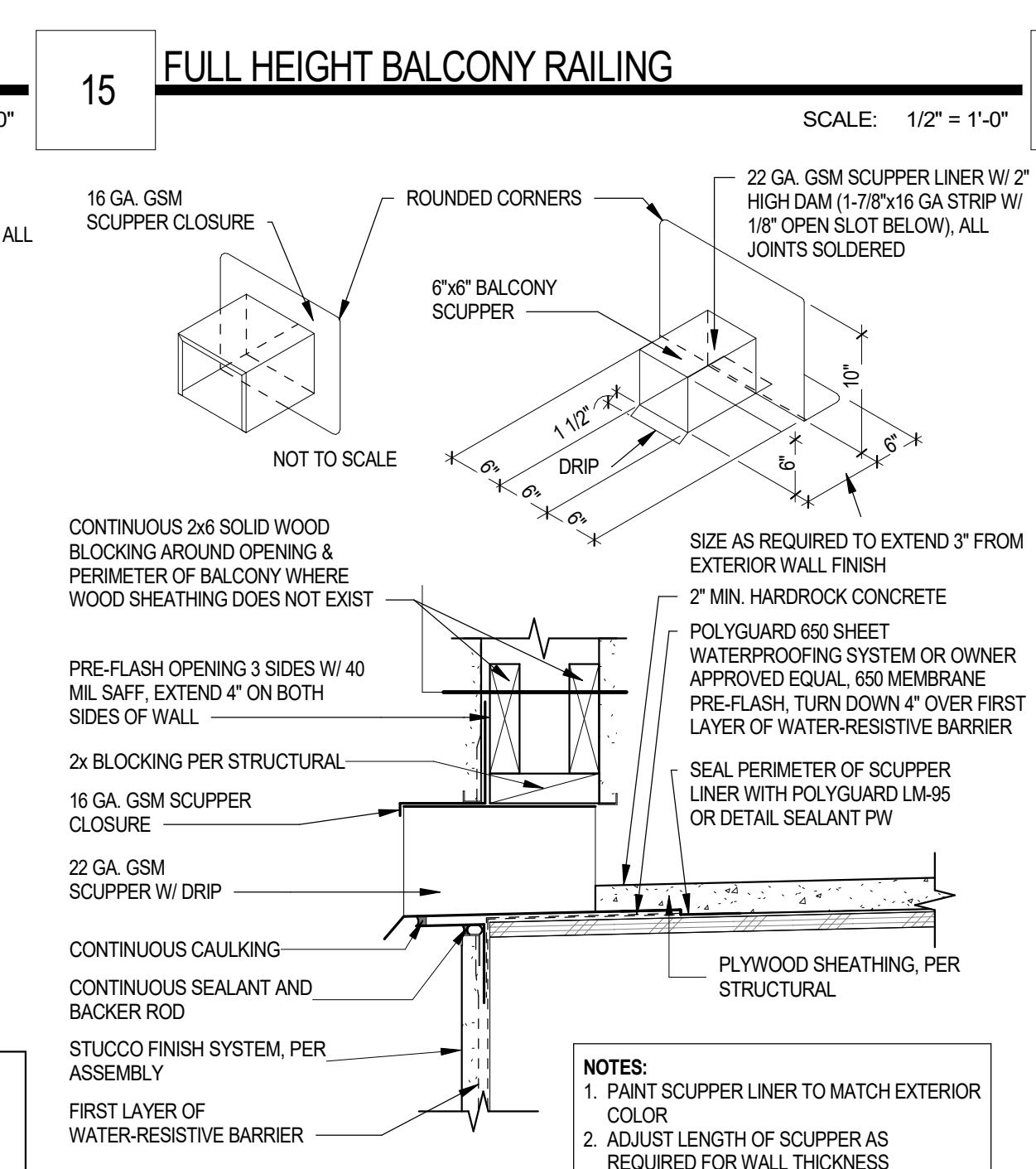
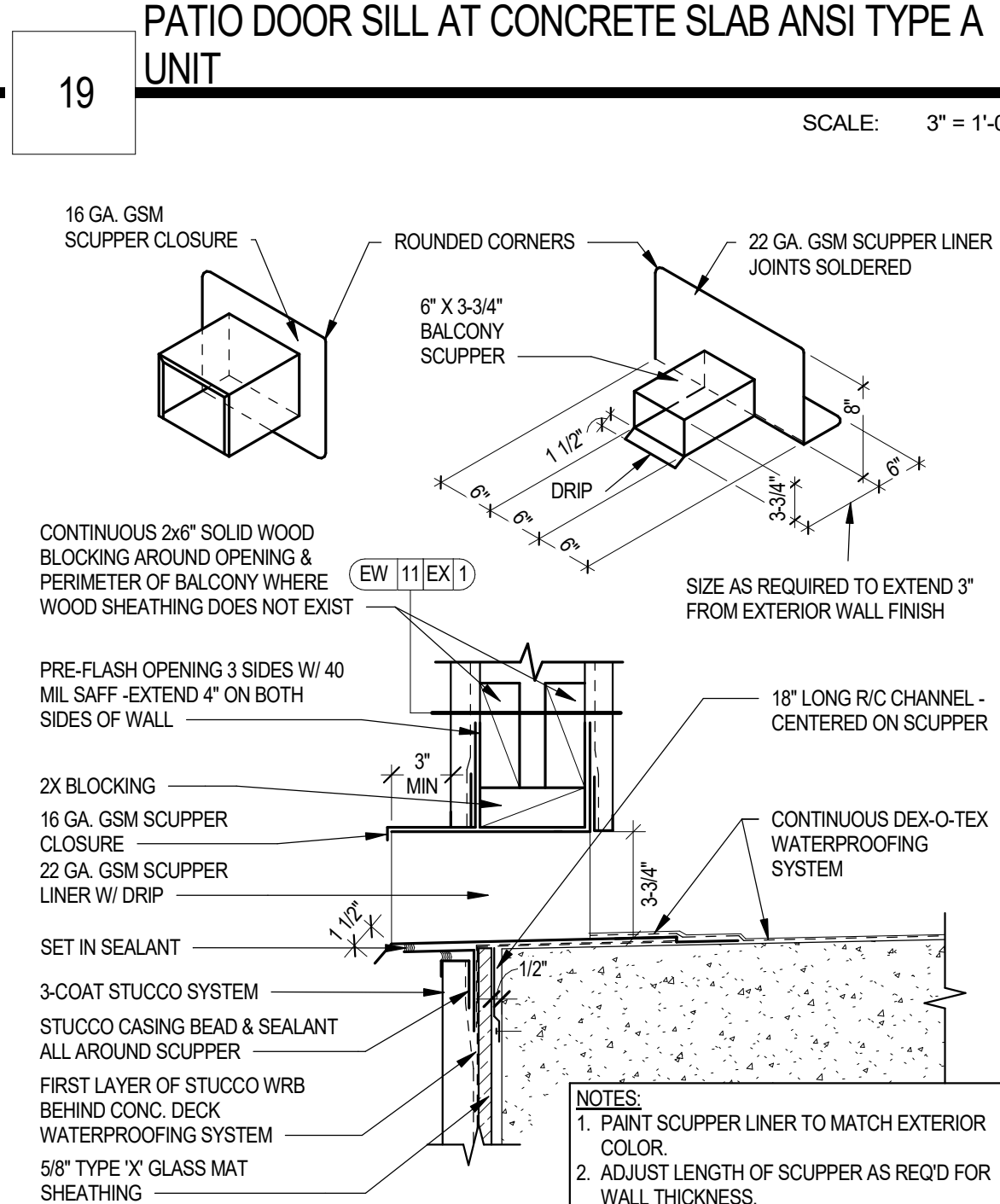
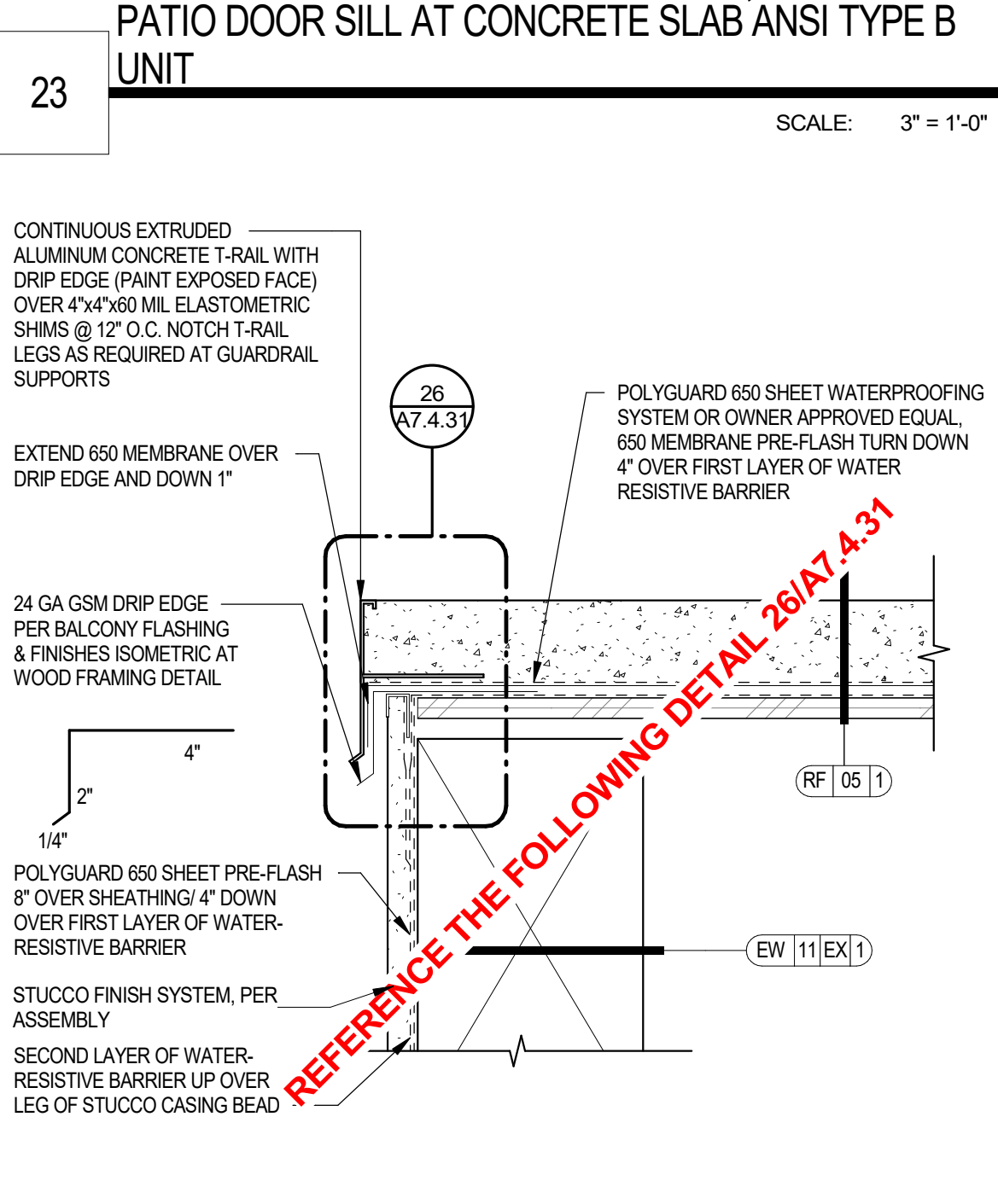
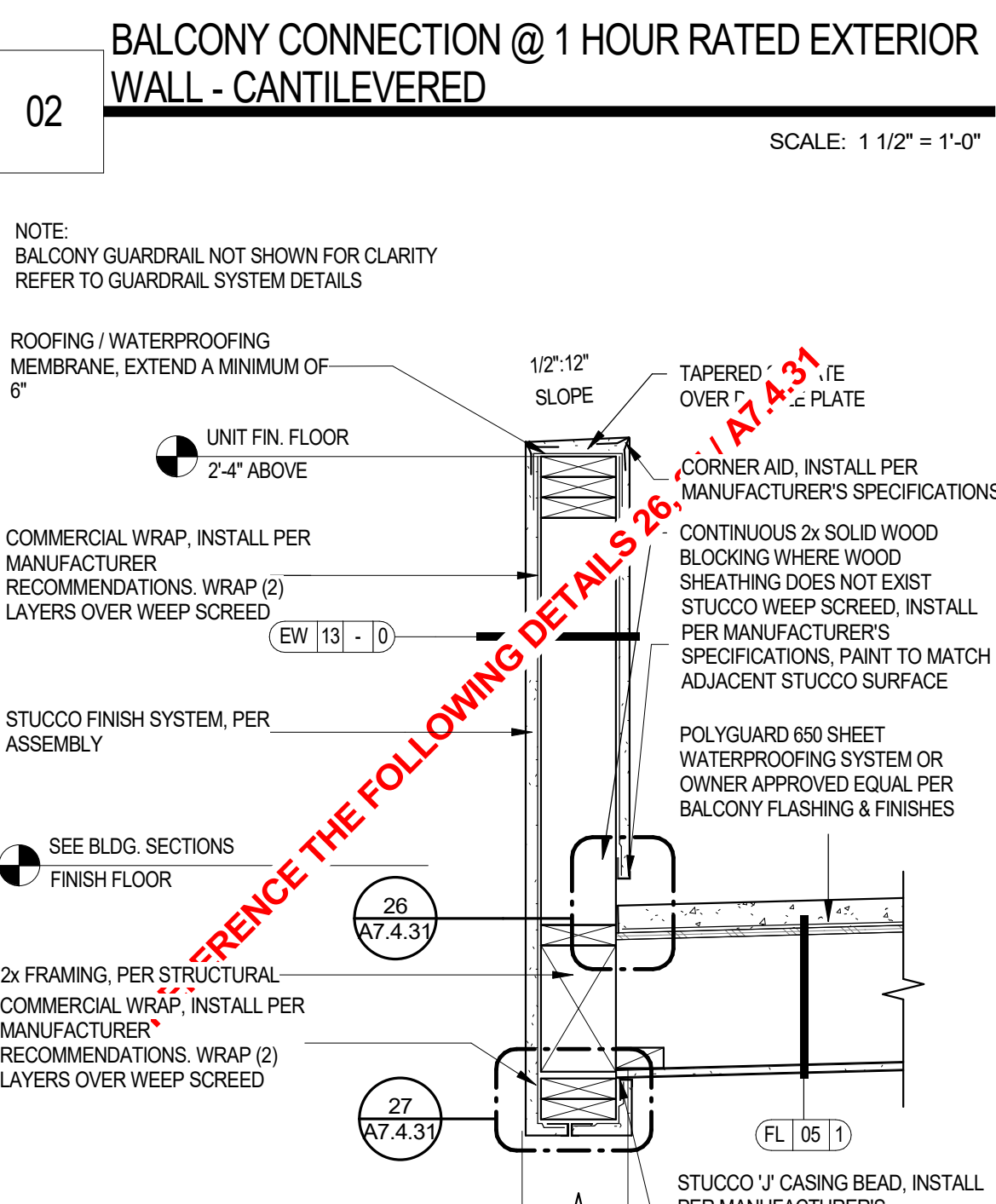
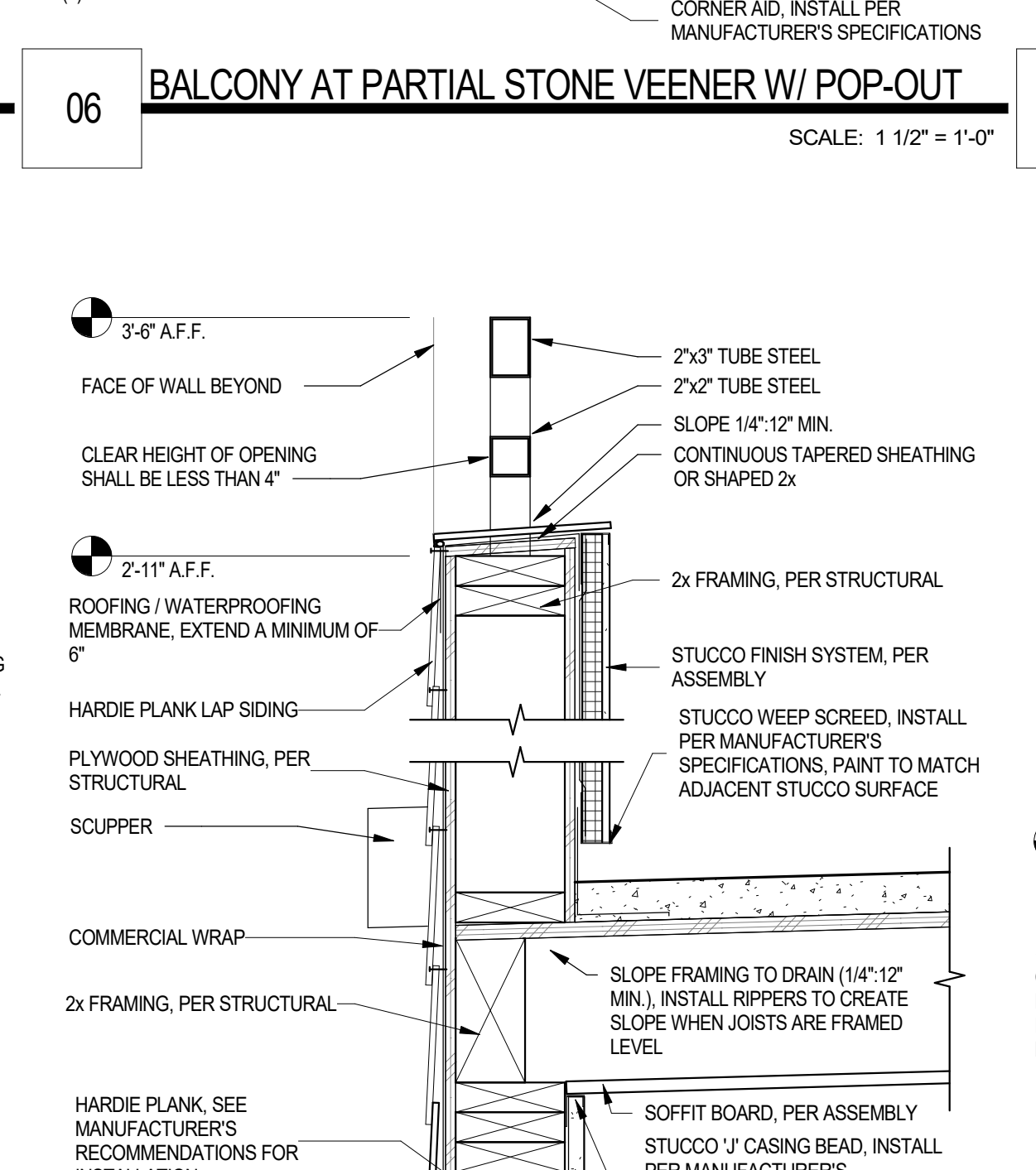
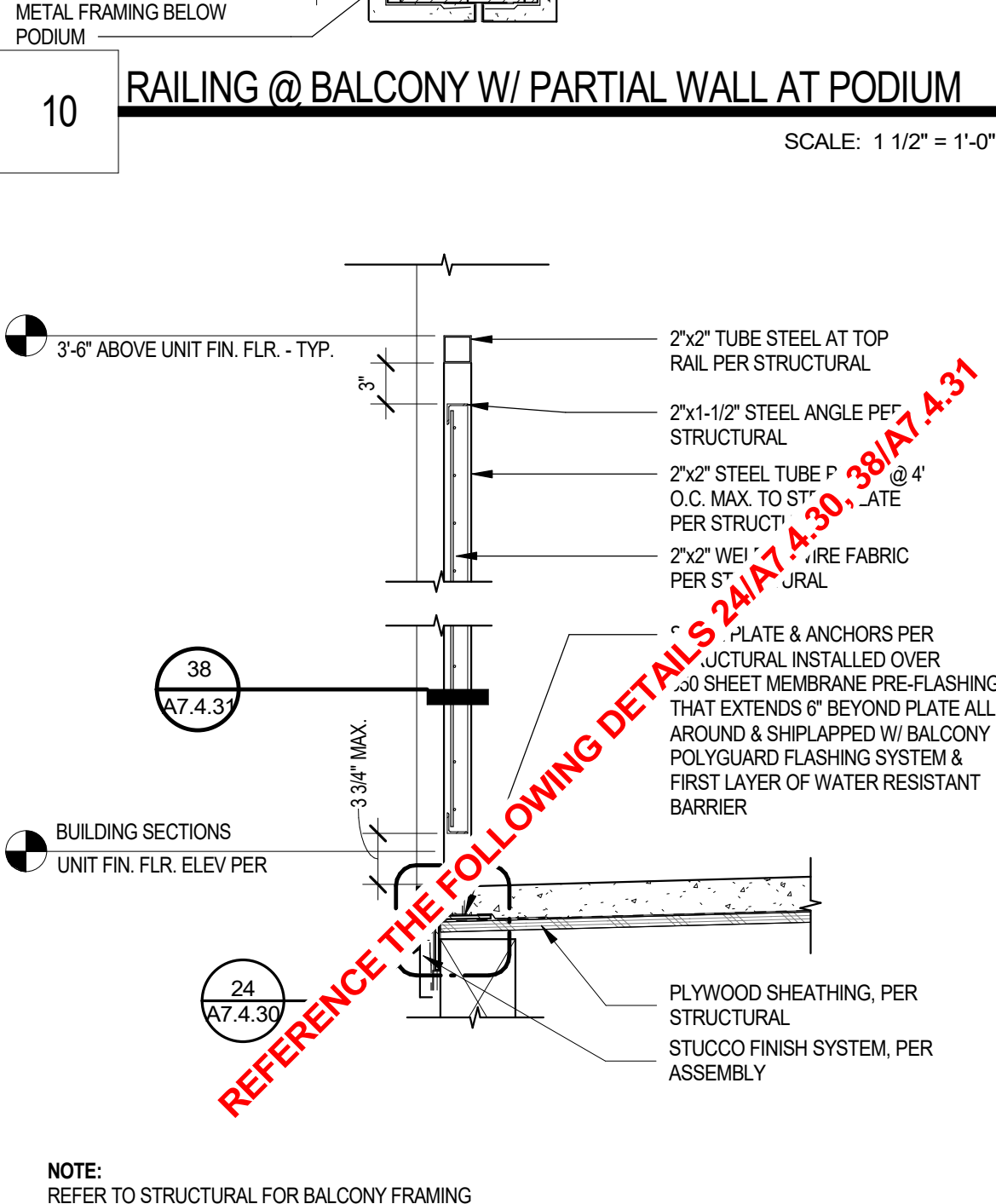
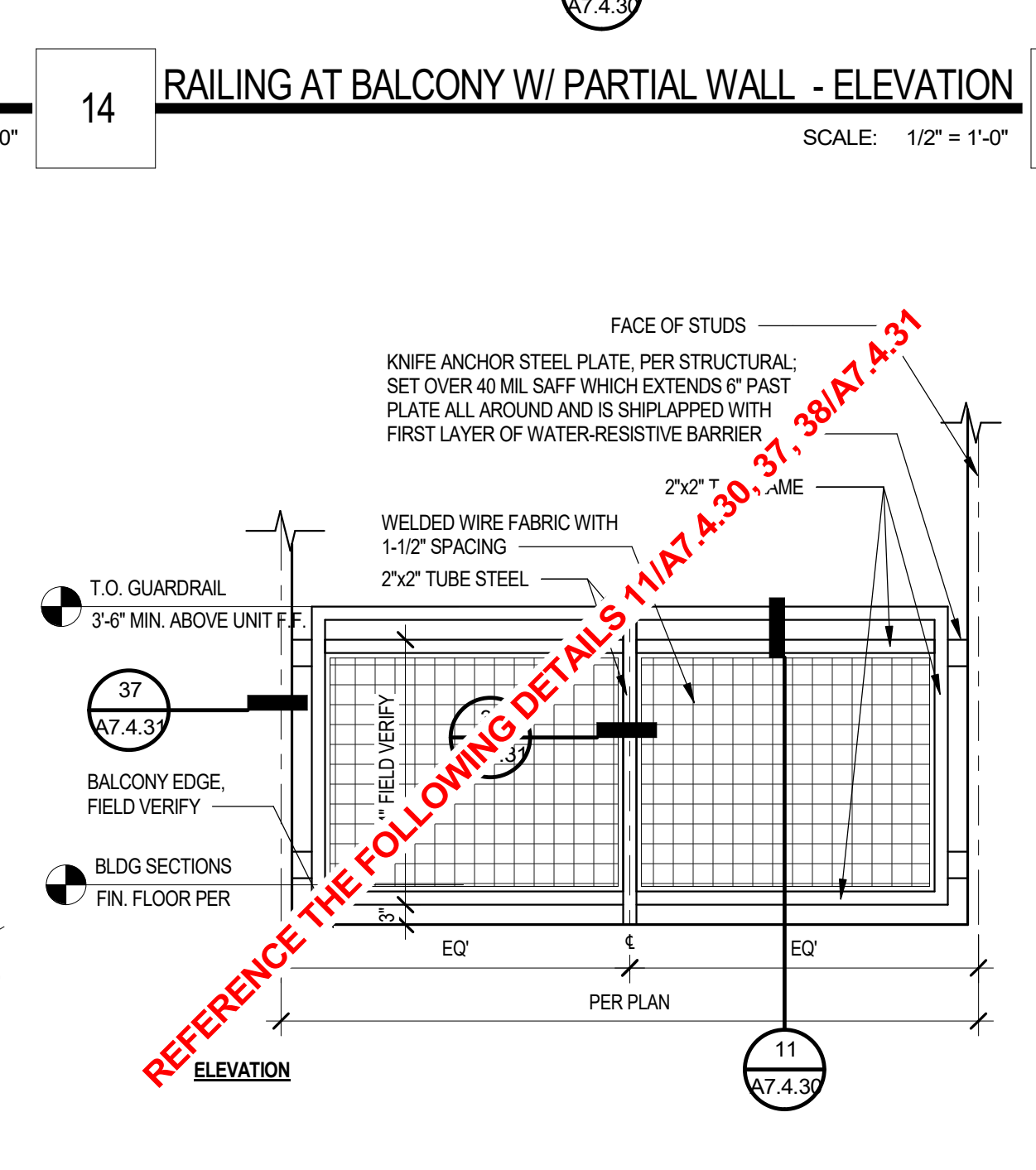
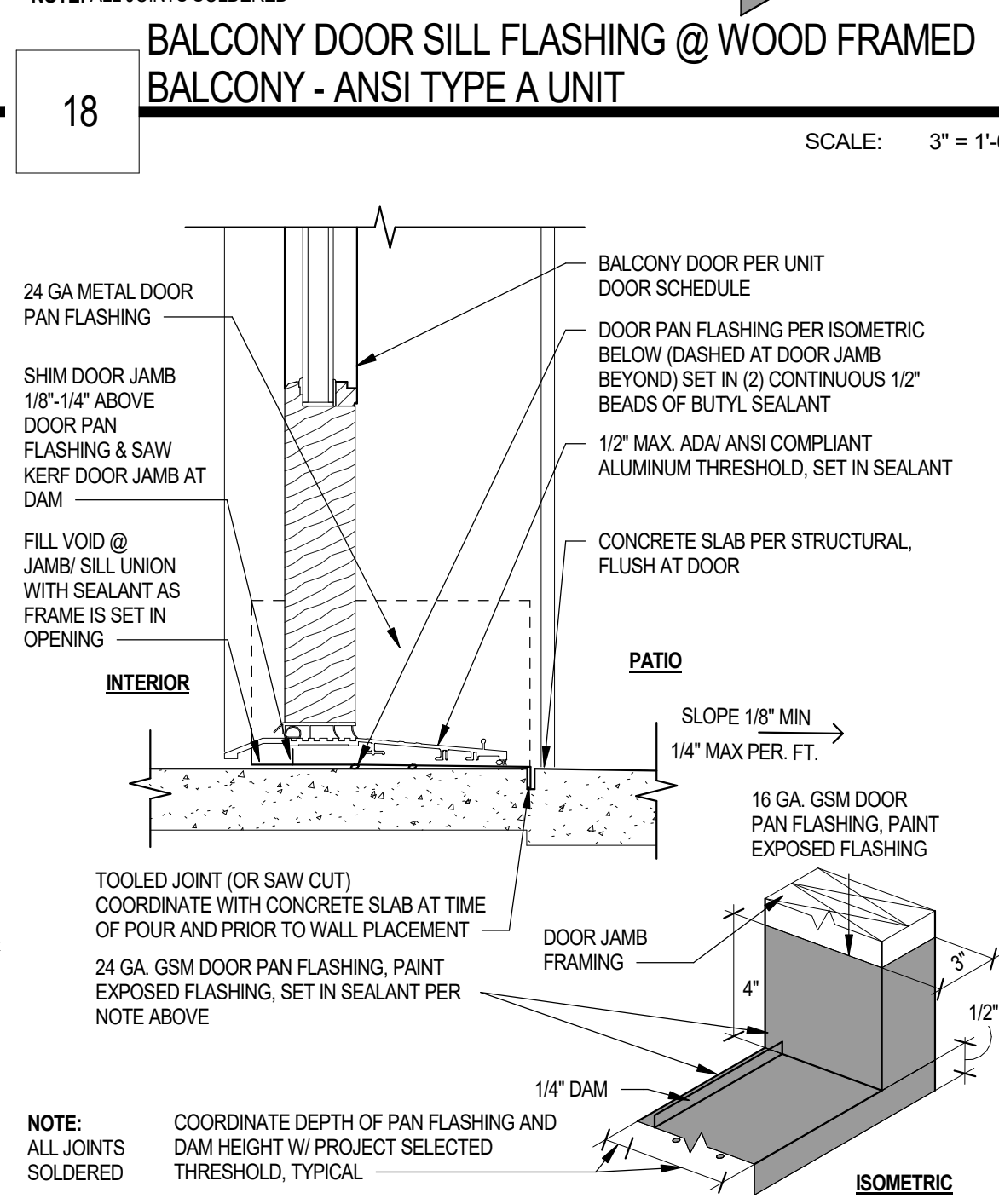
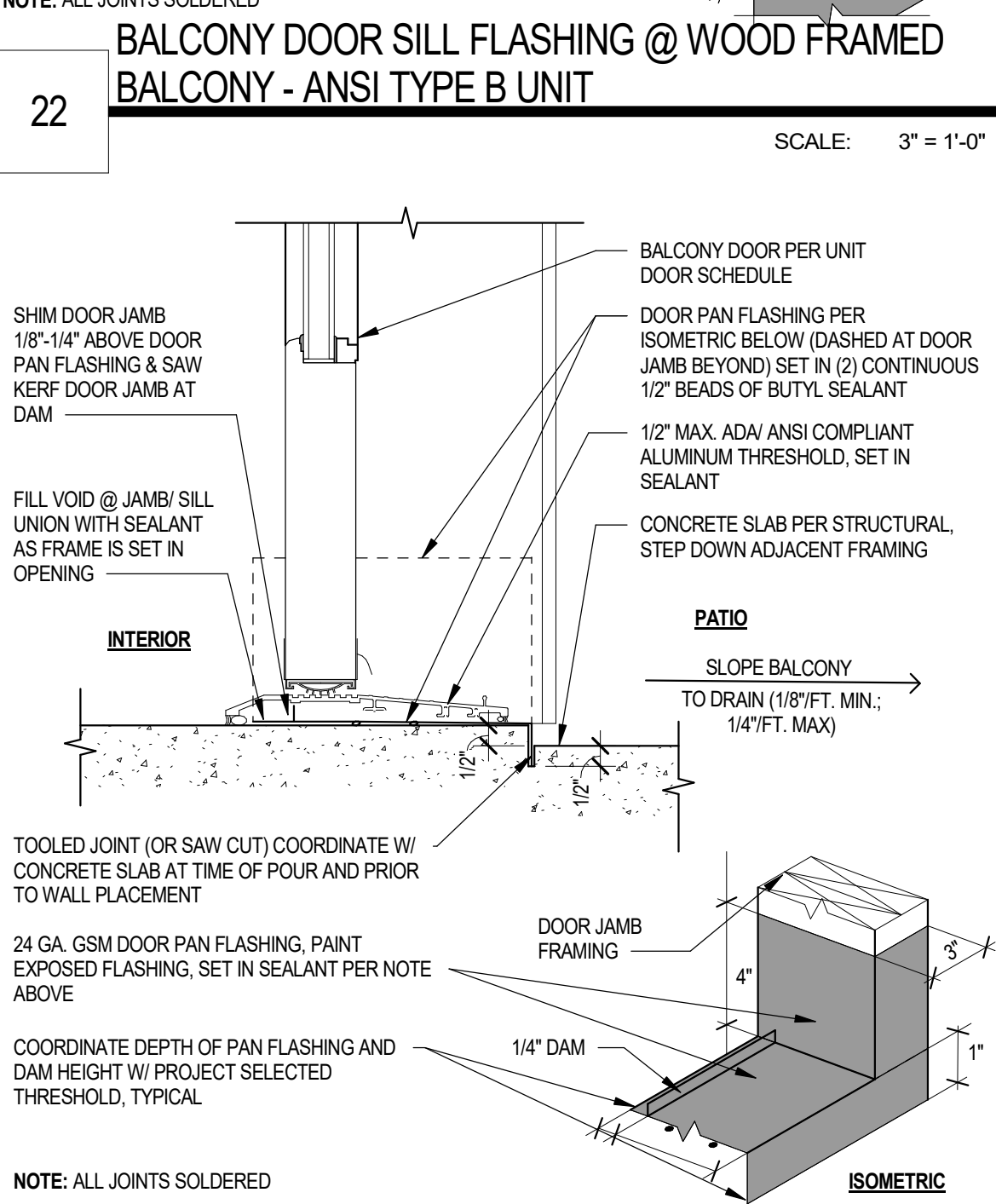
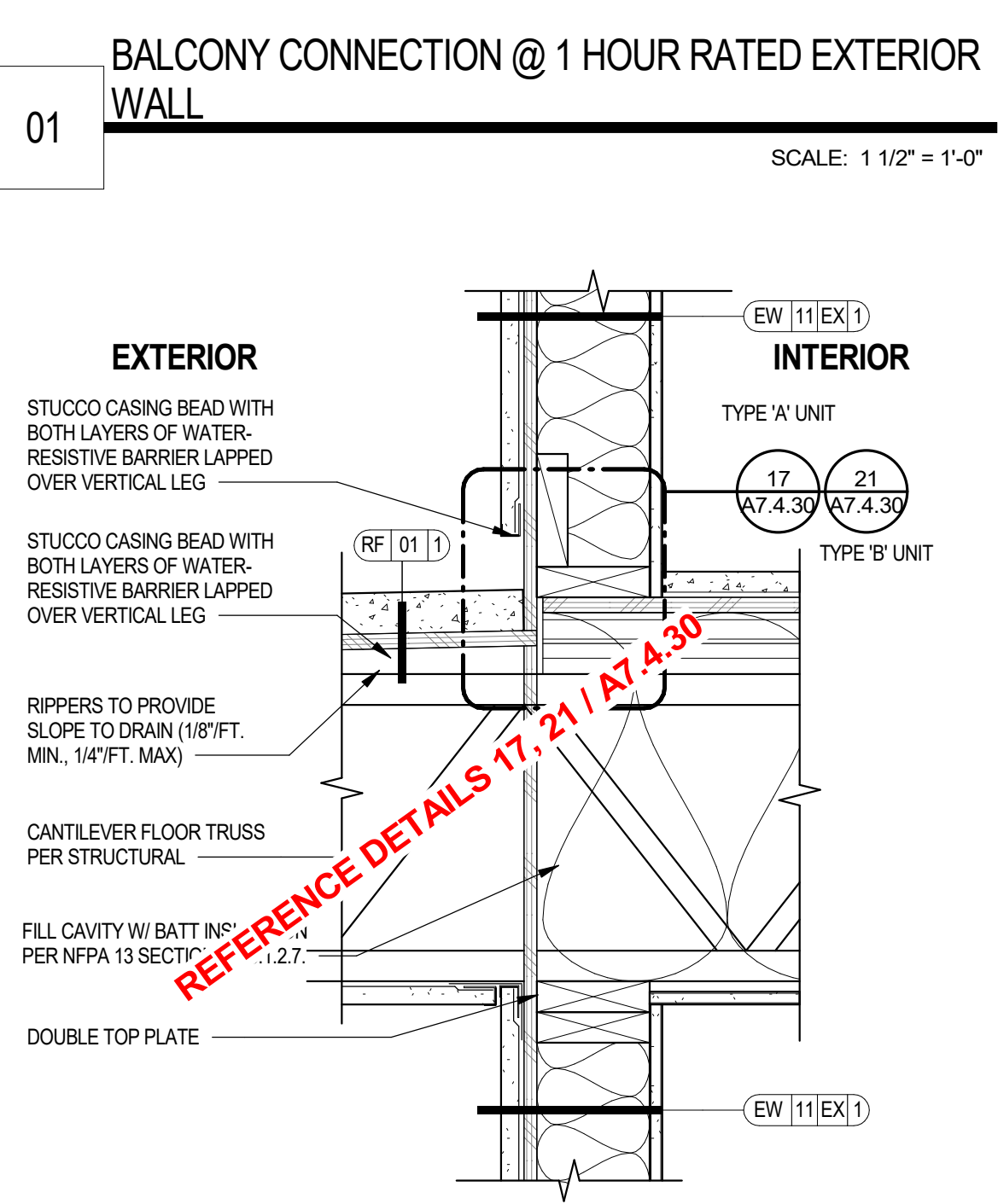
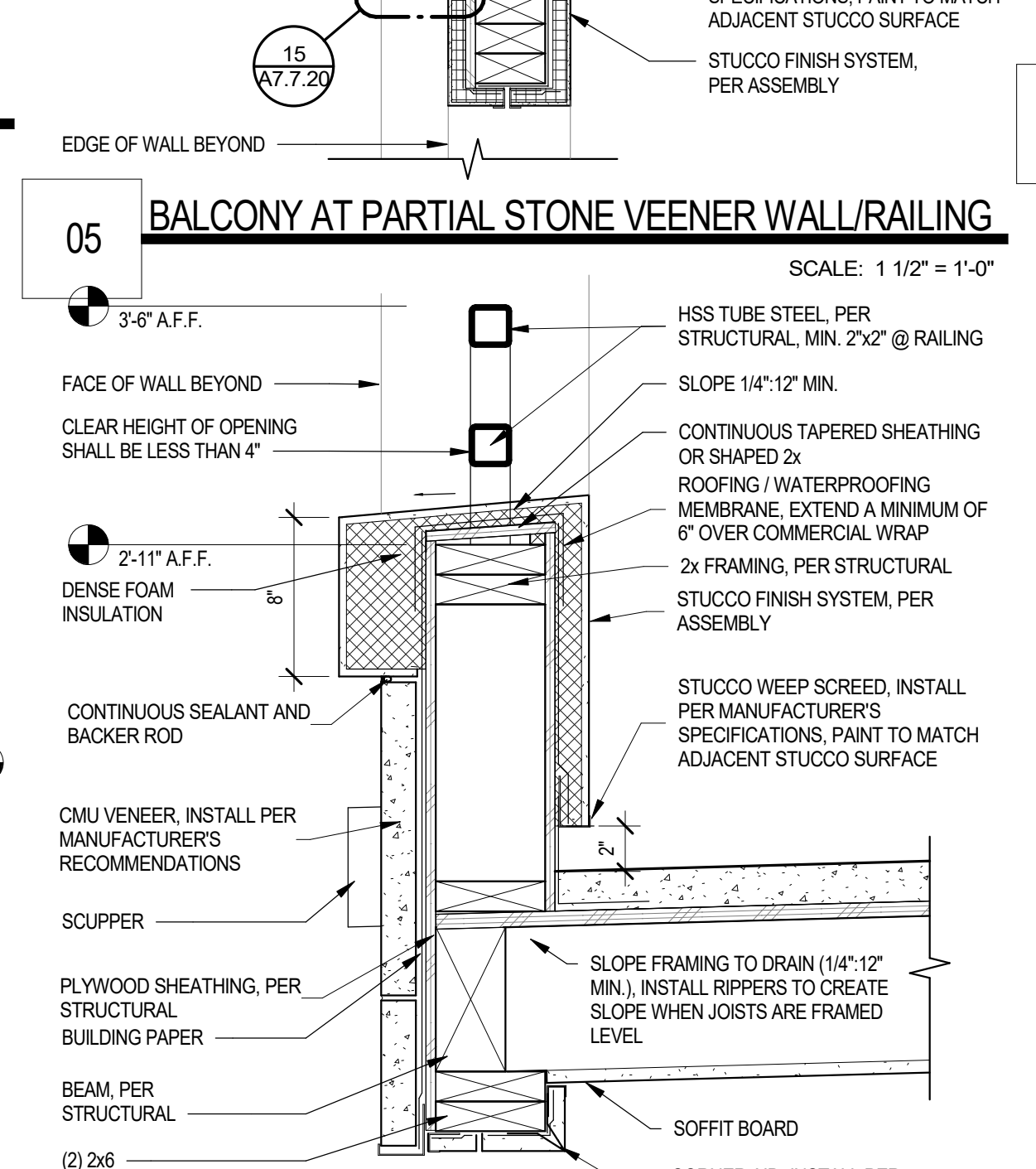
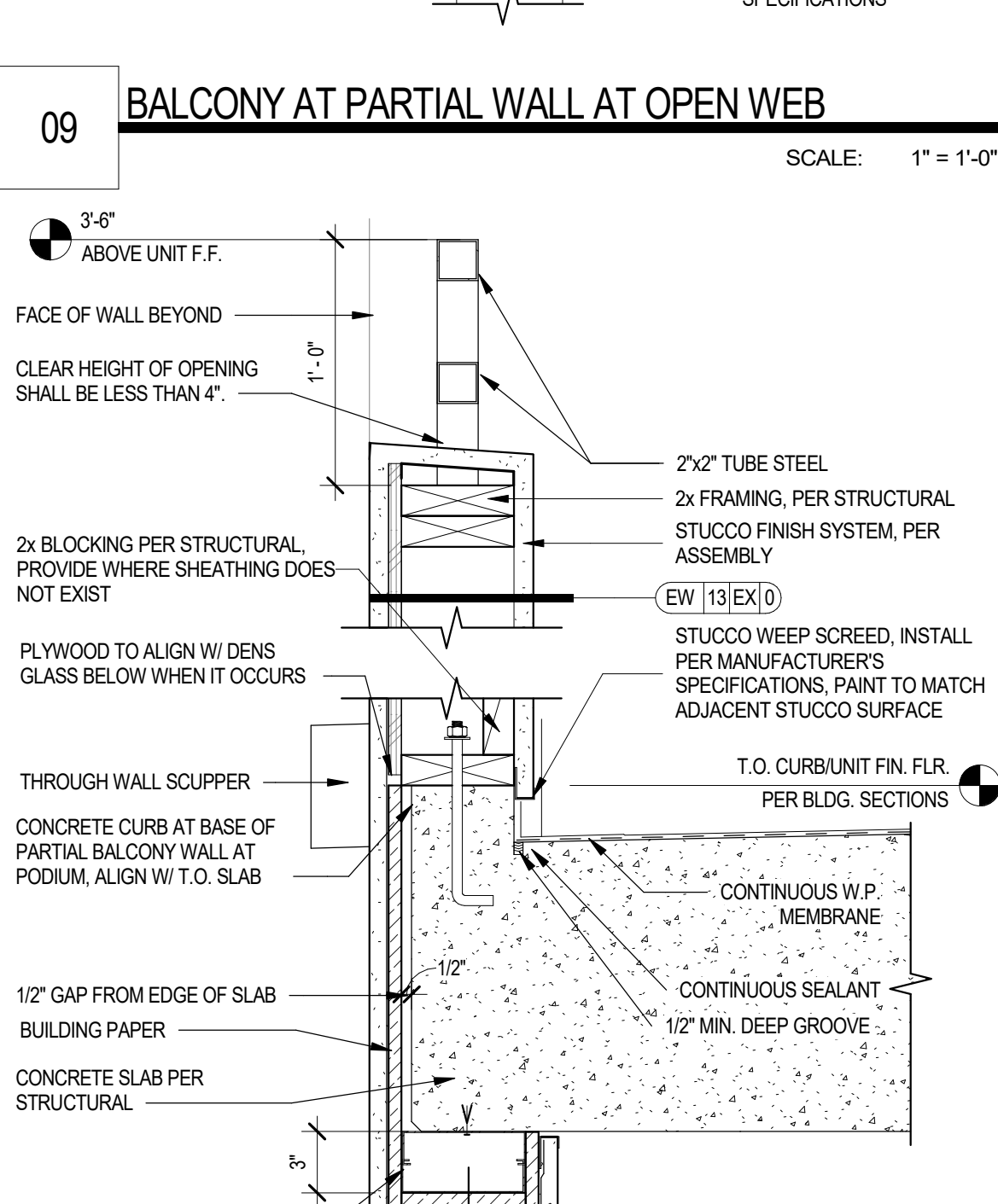
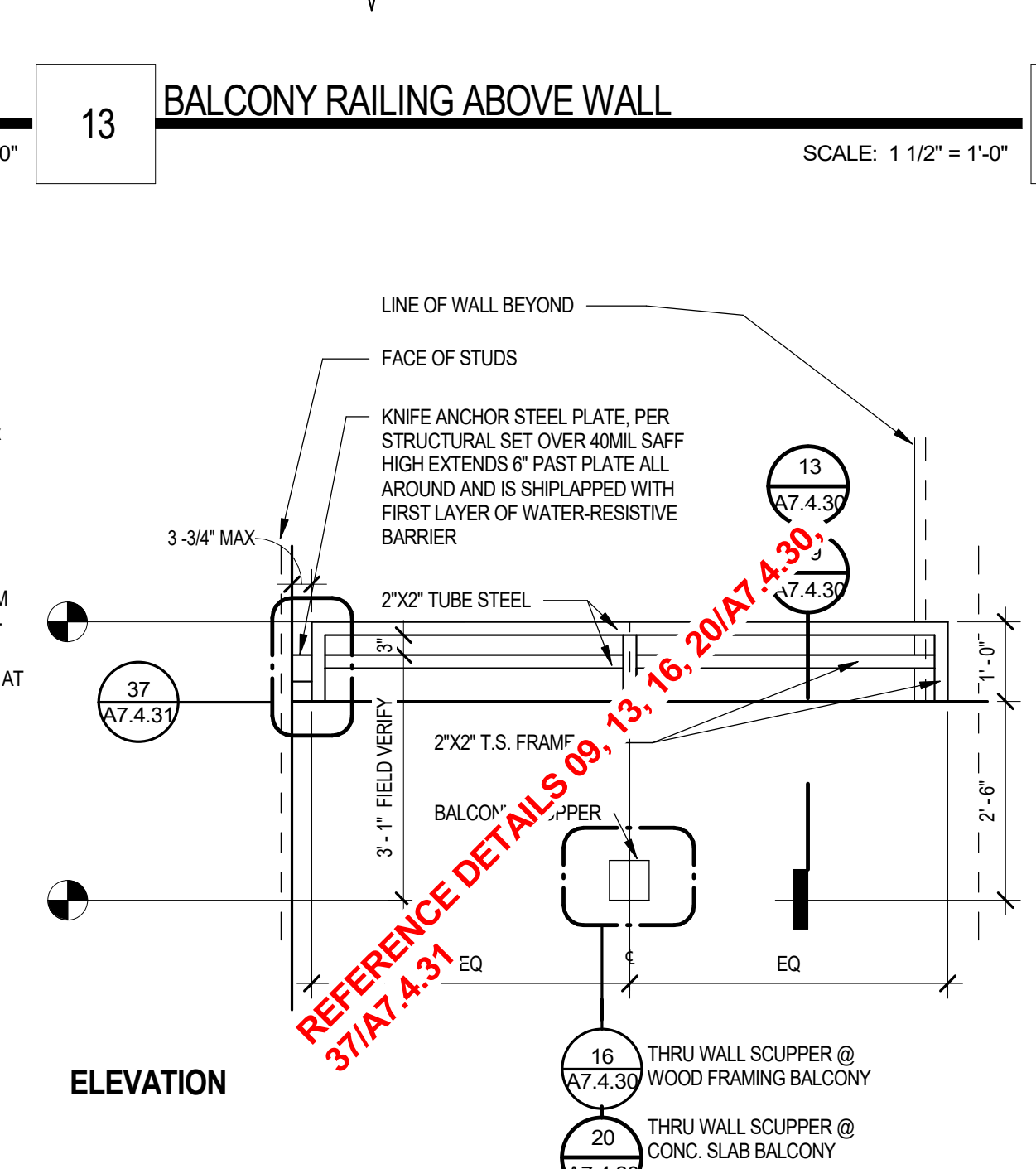
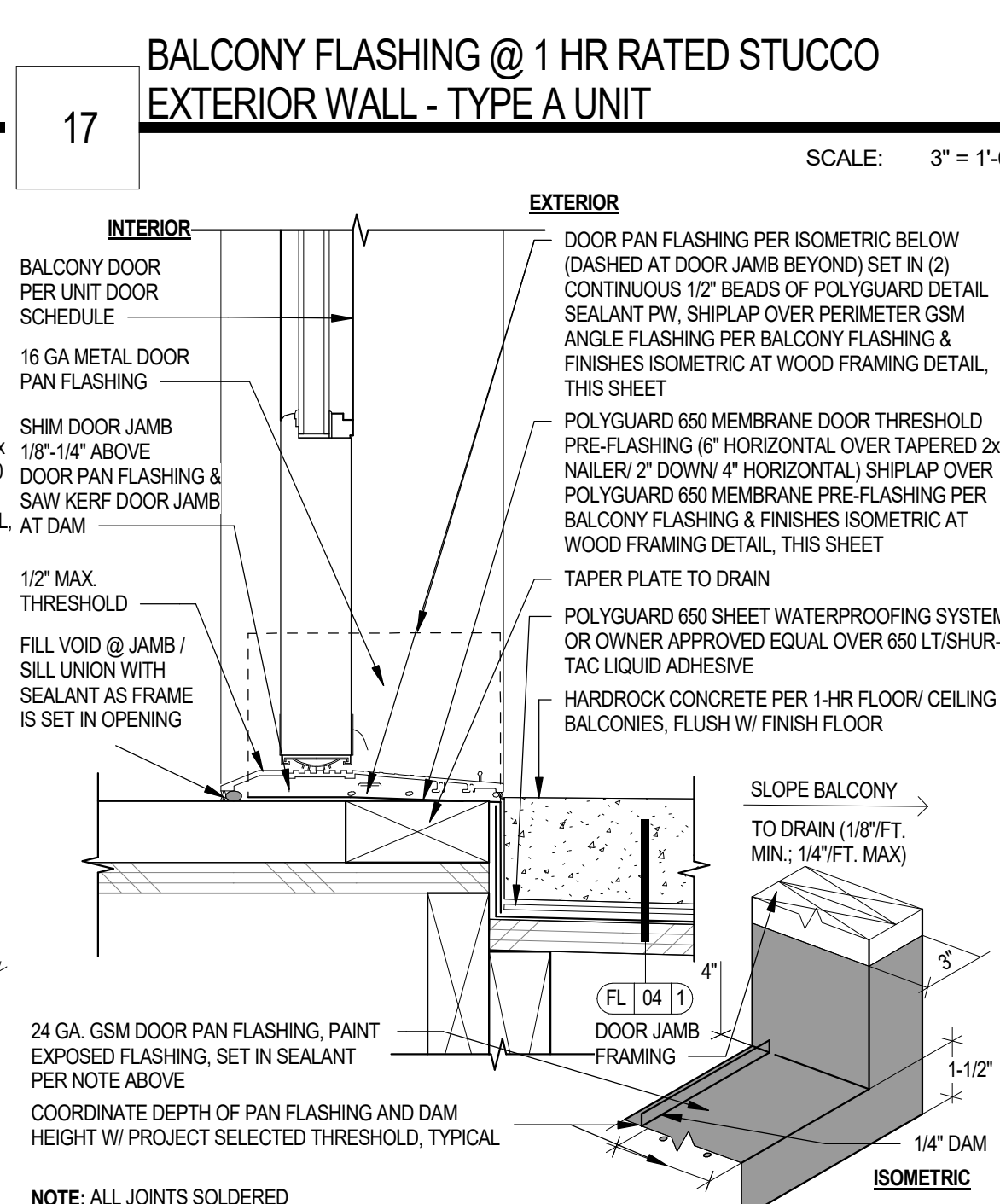
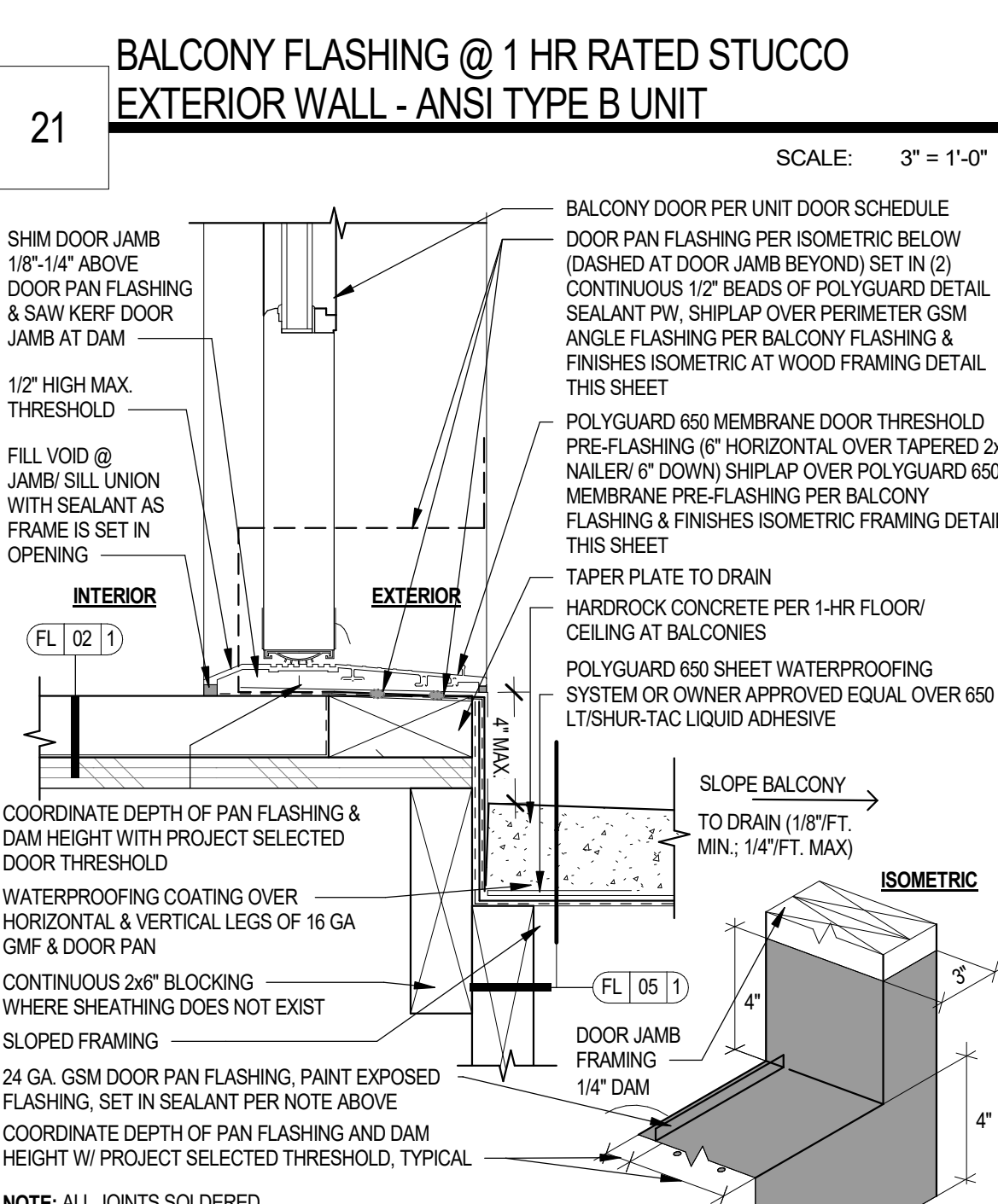
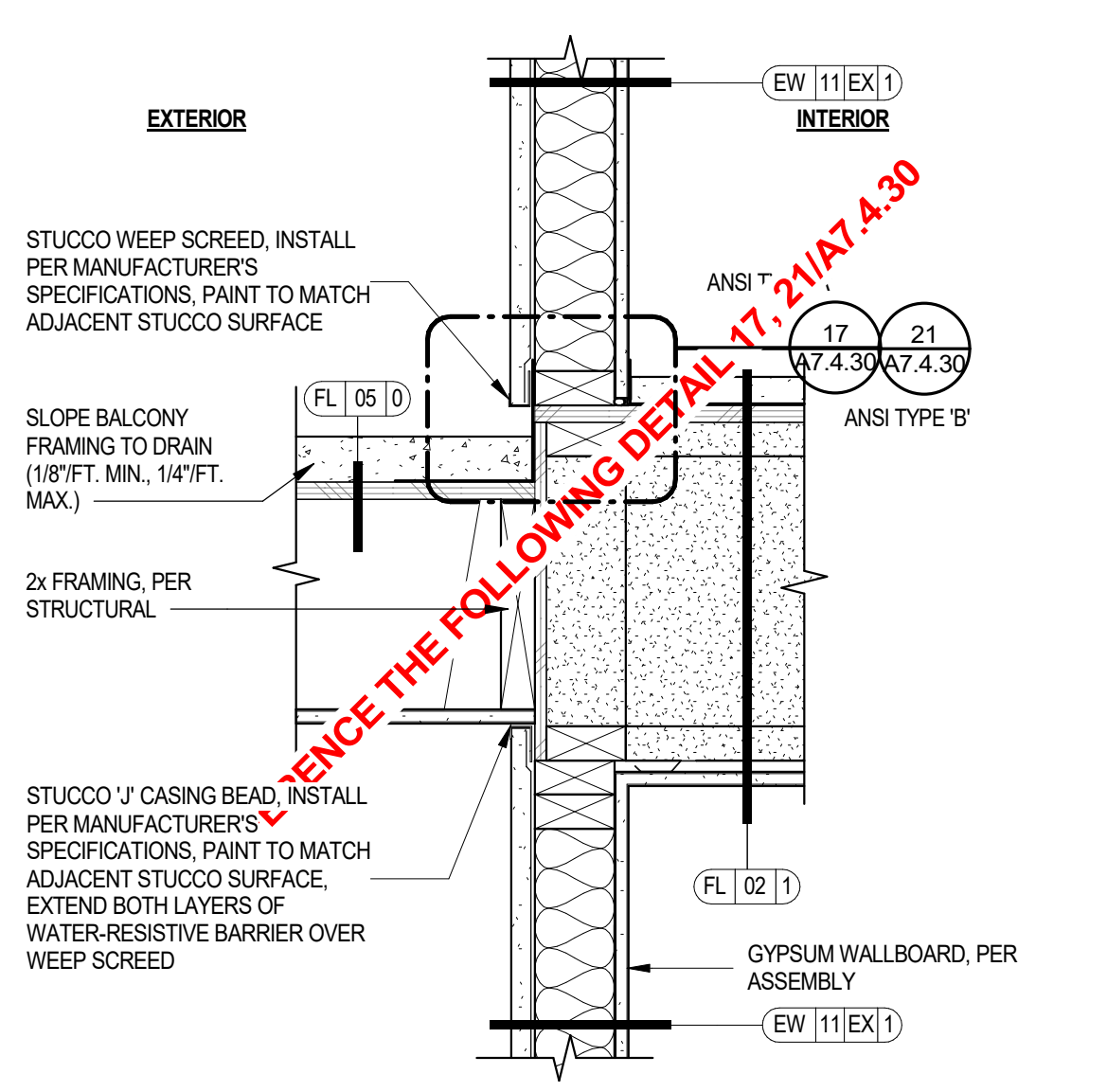
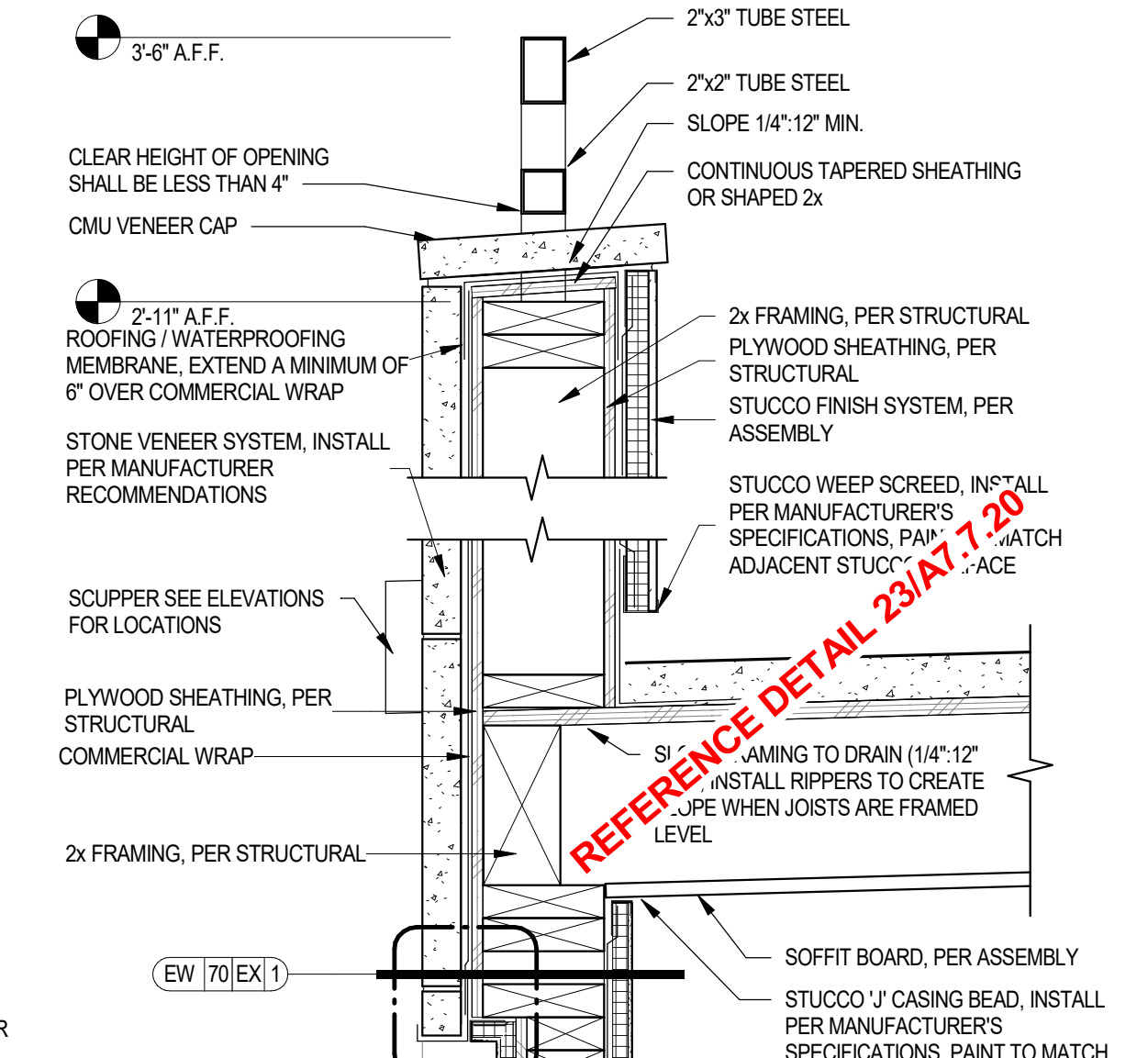
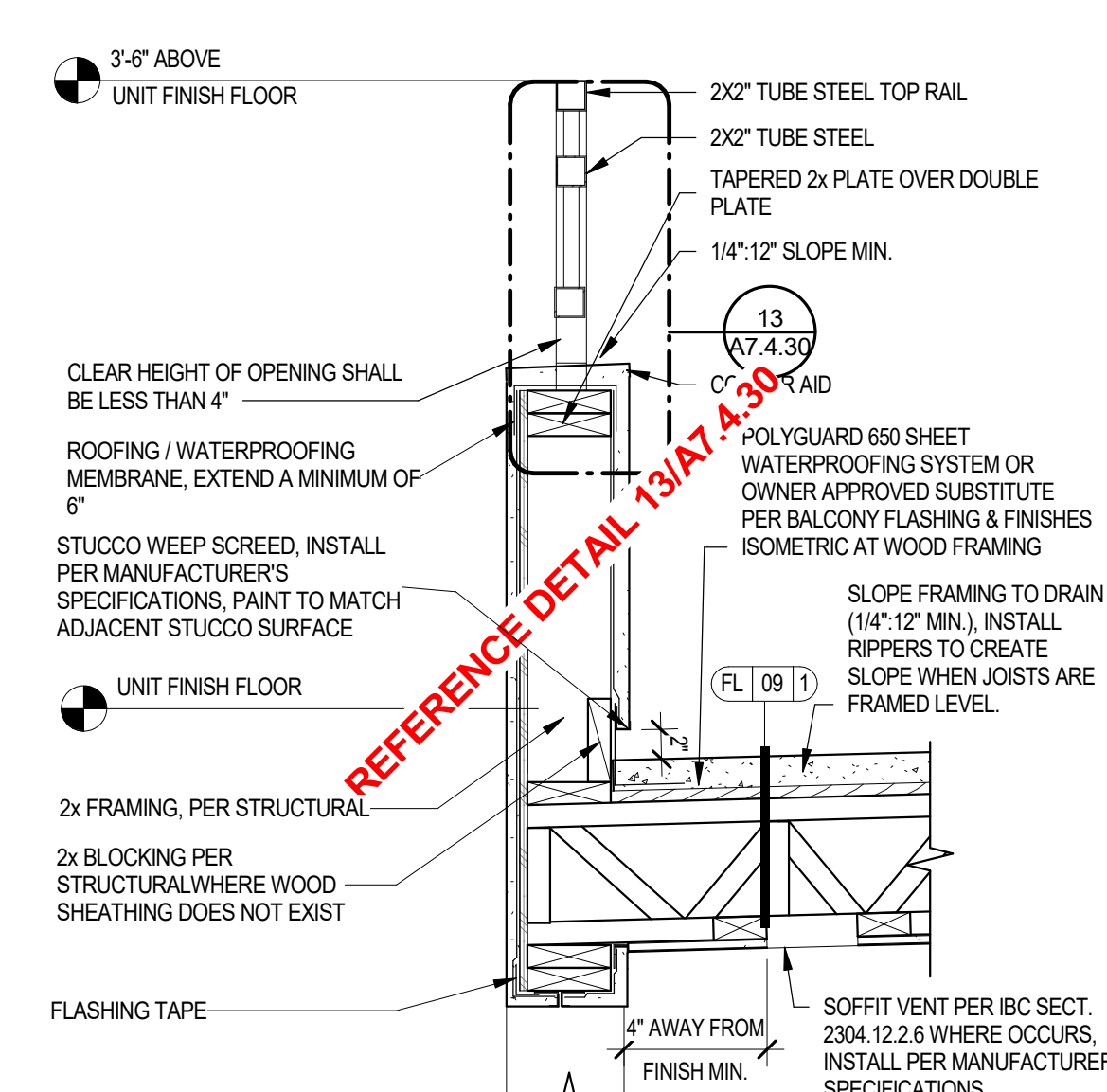
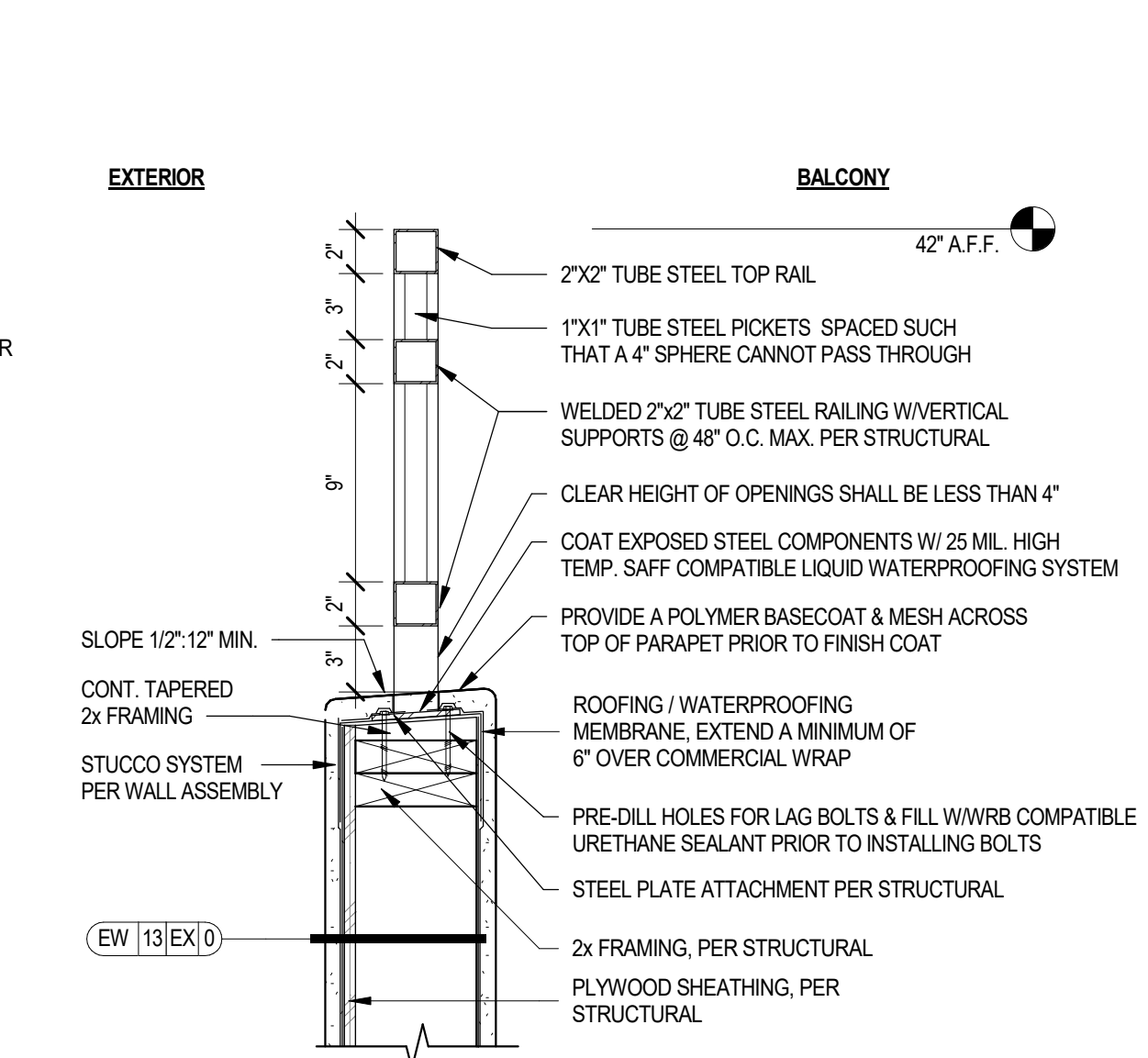
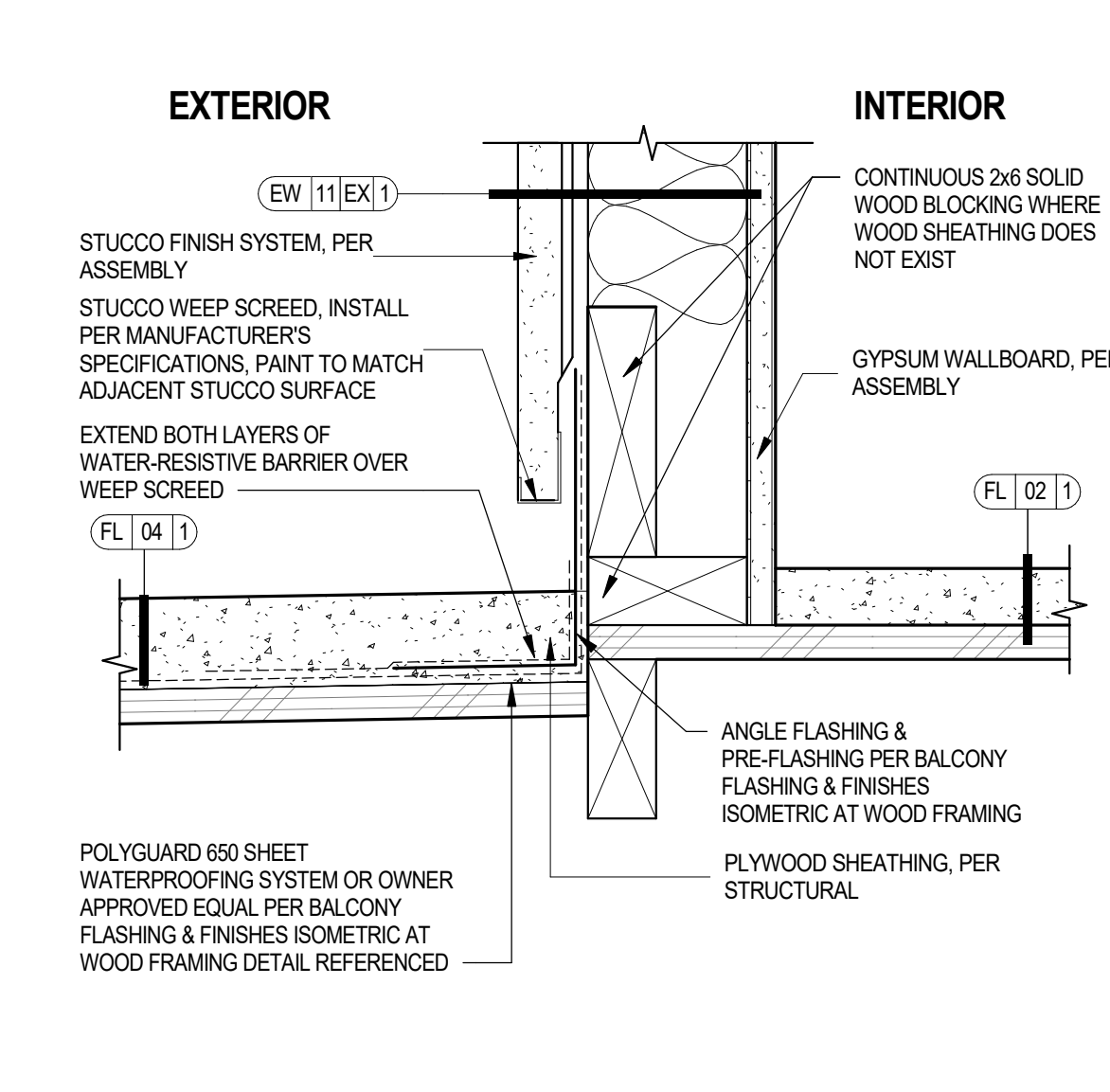
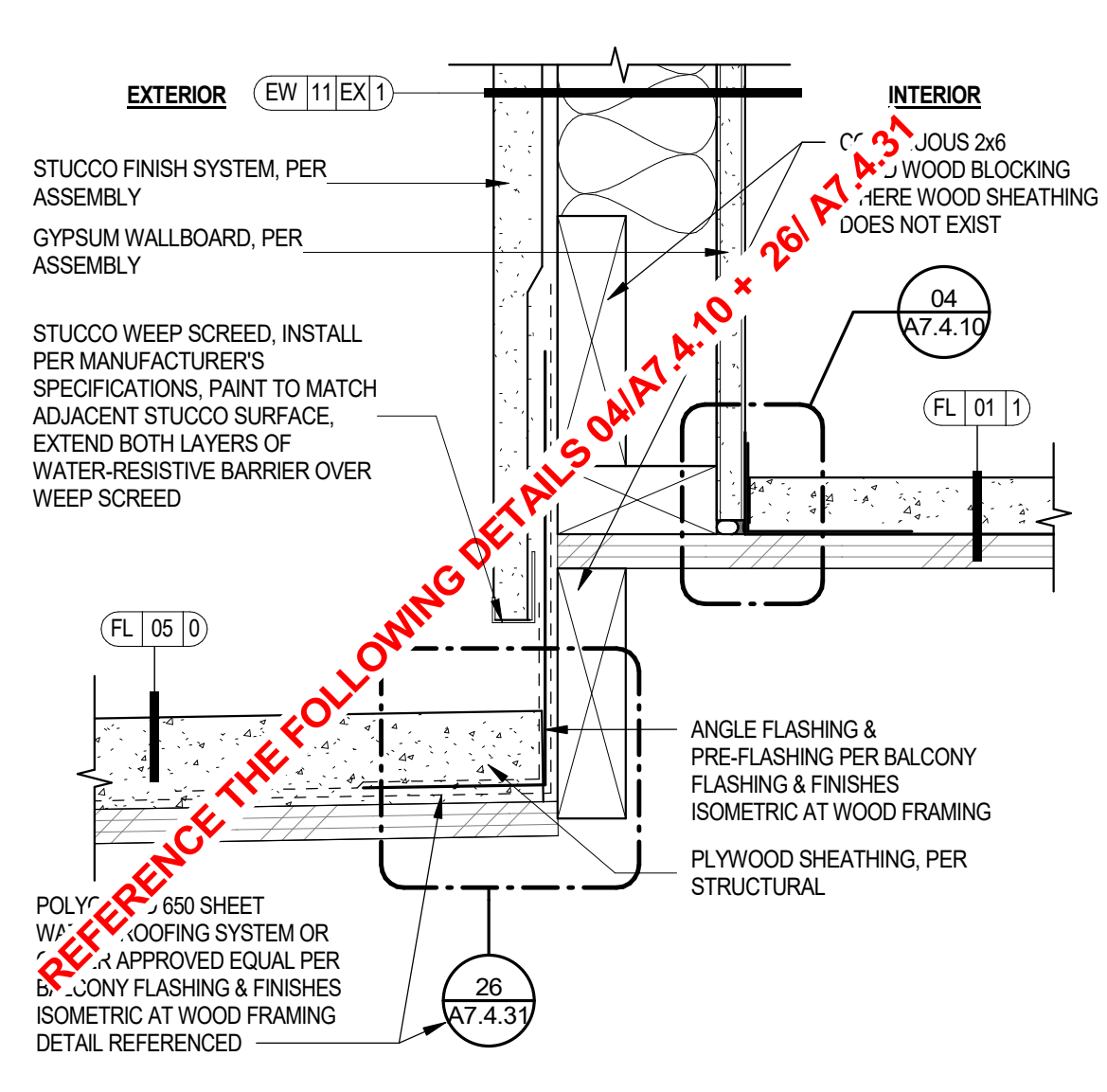
Contractor must verify all dimensions at project before proceeding with this work. Do not reproduce these drawings and specifications without the expressed written permission of the Architect. The drawings and specifications are instruments of service and shall remain the property of the Architect whether the project for which they are made is executed or not. These drawings and specifications shall not be used by anyone on any other projects, for additions to this project, or for completion of this project by others except by the expressed written permission of the Architect.

Notice of alternate billing (or payment) cycle: This contract states (they shall) the owner to require the submission of billings or estimates in billing cycles other than thirty days. (This contract may allow the owner to make payment on some alternative schedule after consultation and approval of billings and estimates). A written description of such other billing (estimate) cycle applicable to the project is available from the owner or the owner's designated agent at: ADVANCE RESIDENTIAL COMPANY, 2025 S. CAMBRIDGE RD., SUITE 500, PHOENIX, AZ 85086 (602) 778-2802. Ask the owner or his designated agent what provide this alternative description of payment.

REVISIONS/SUBMITTALS

DATE	DESCRIPTION
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1/17/2024 8:57:43 AM
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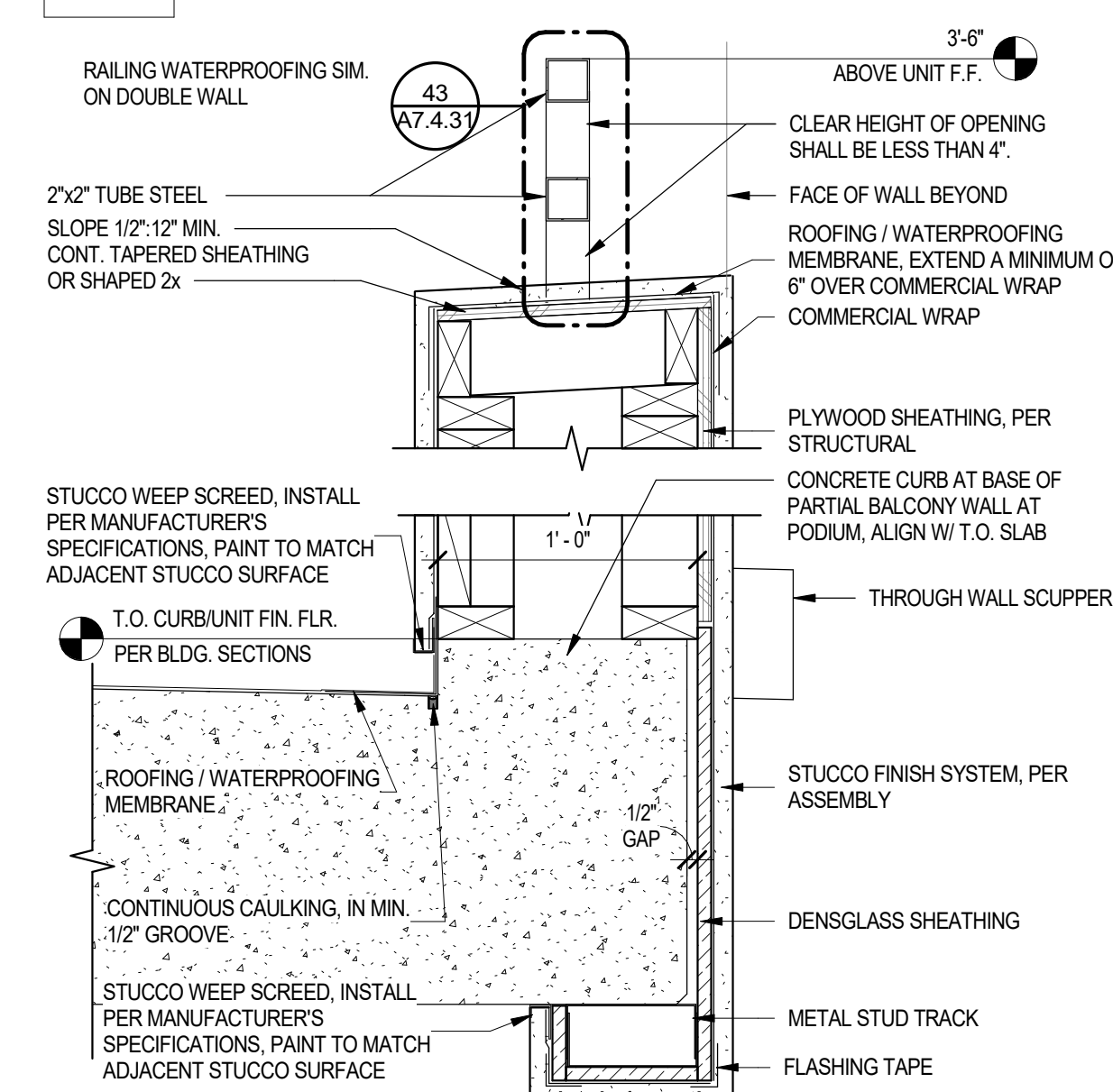
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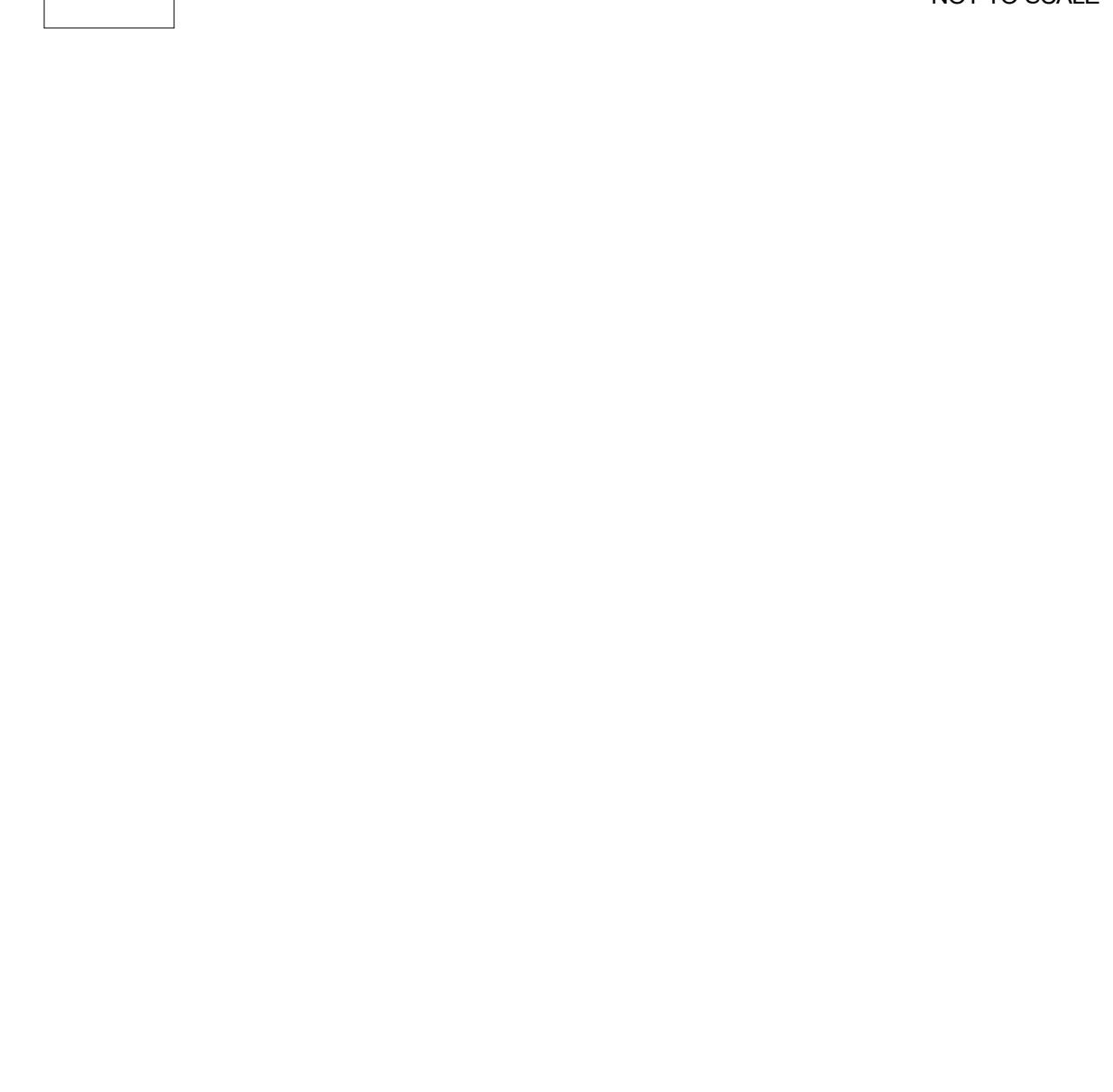
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BALCONY DETAILS

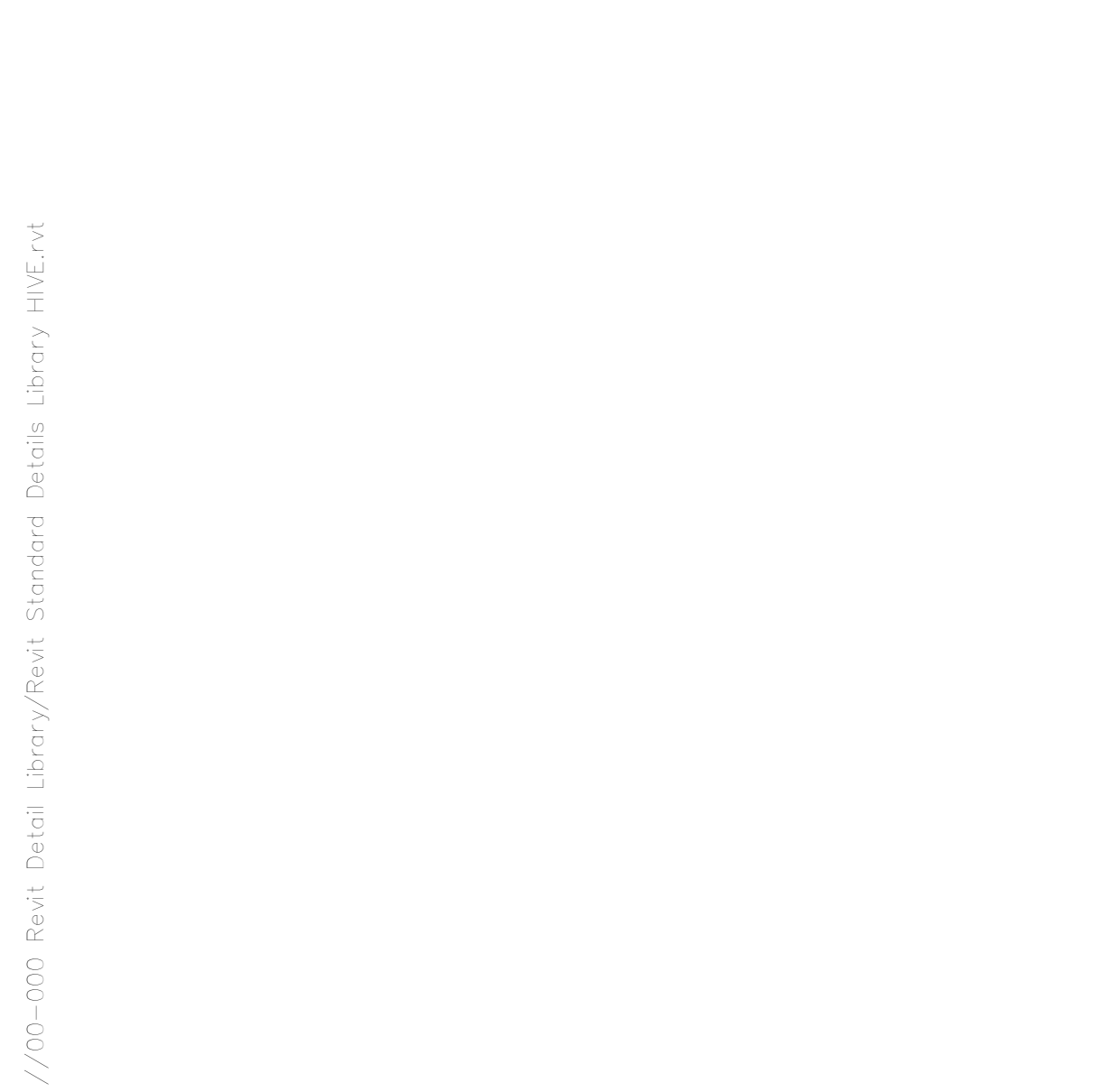
45 BALCONY EDGE FLASHING AT WOOD FRAMING NOT TO SCALE



46 BALCONY RAILING W/ PARTIAL DOUBLE WALL @ PODIUM NOT TO SCALE



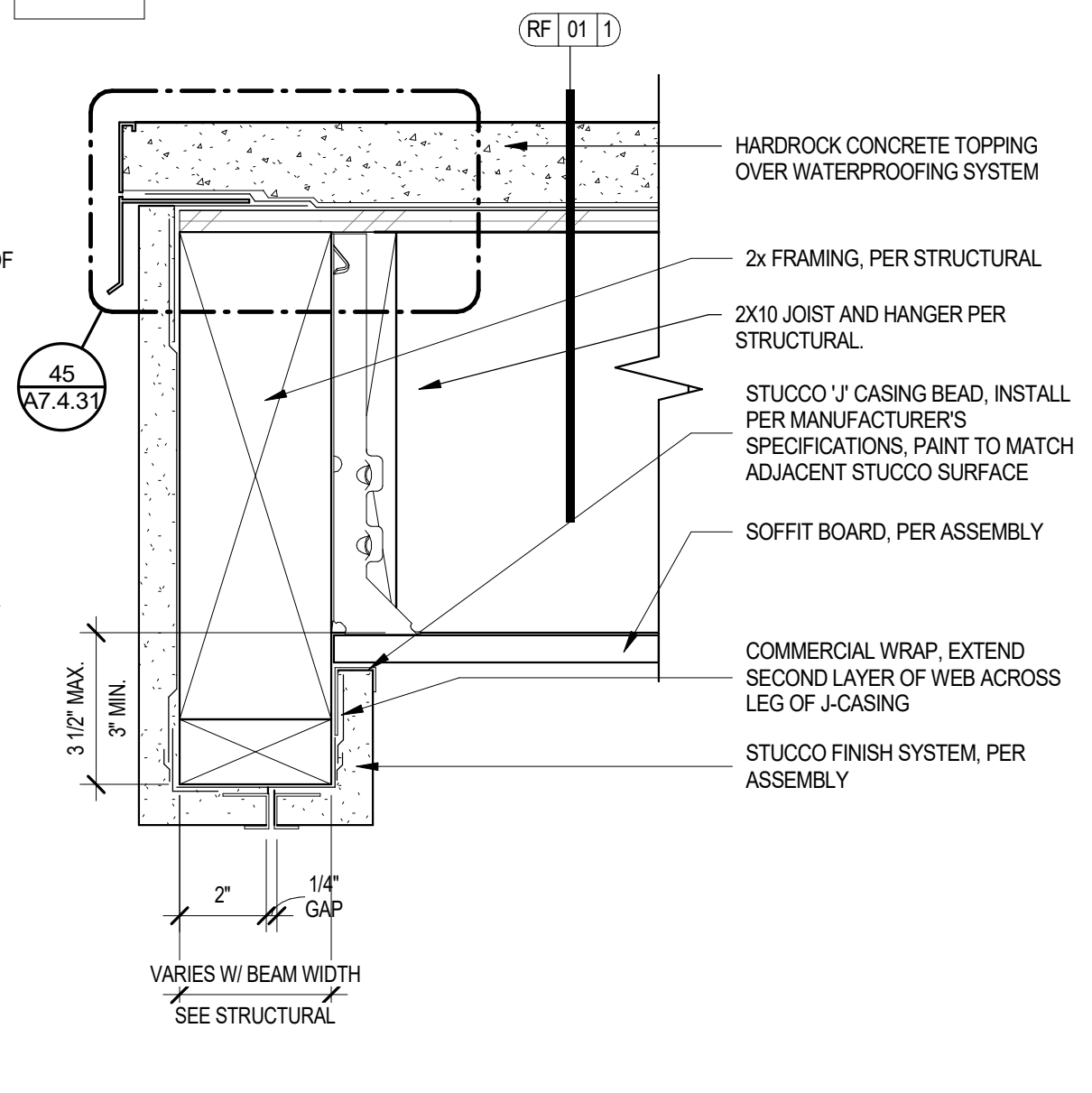
43 BALCONY RAILING W.P. @ PARTIAL WALL NOT TO SCALE



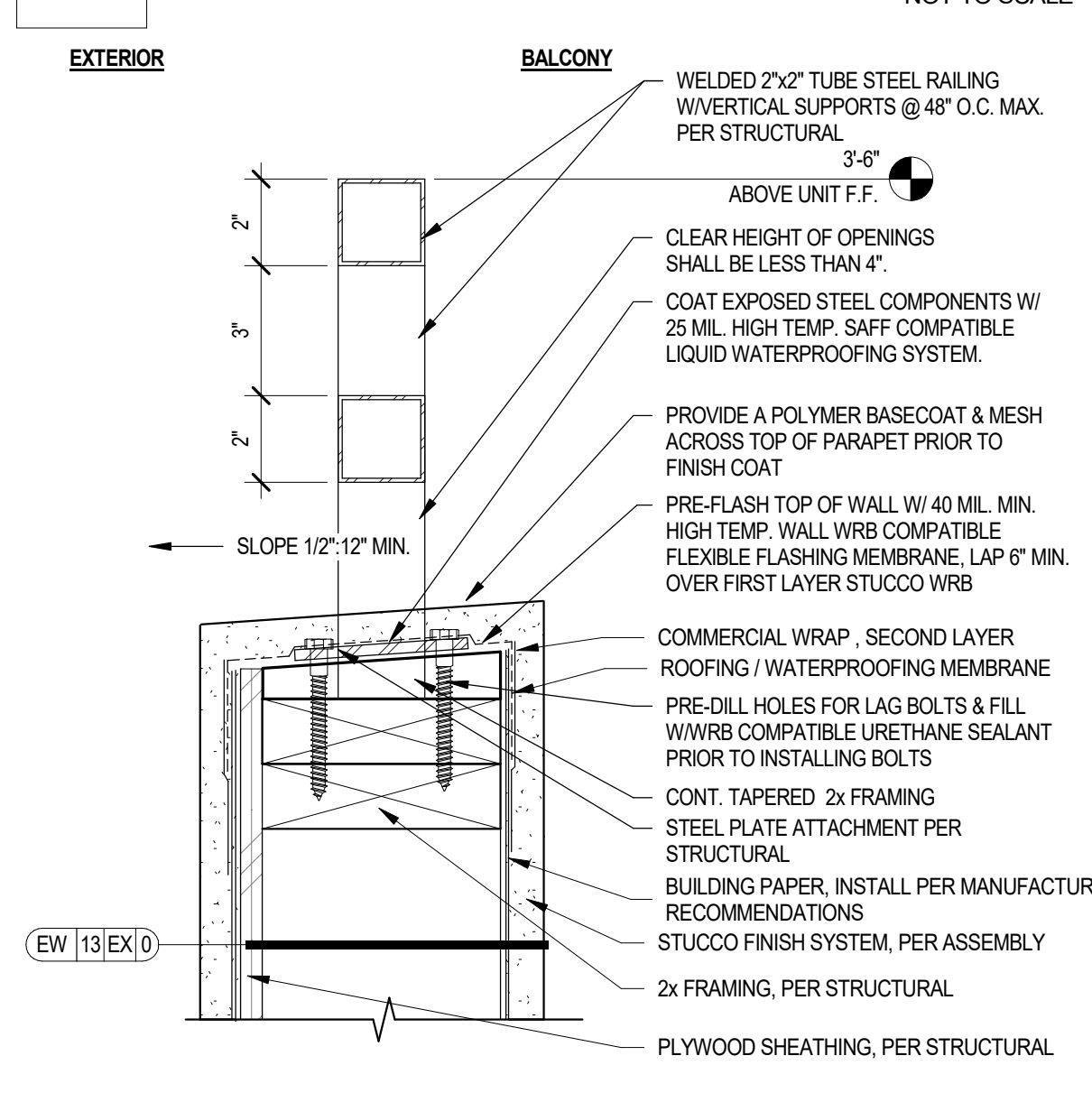
44 WATERPROOFING AT ANCHOR PLATE NOT TO SCALE



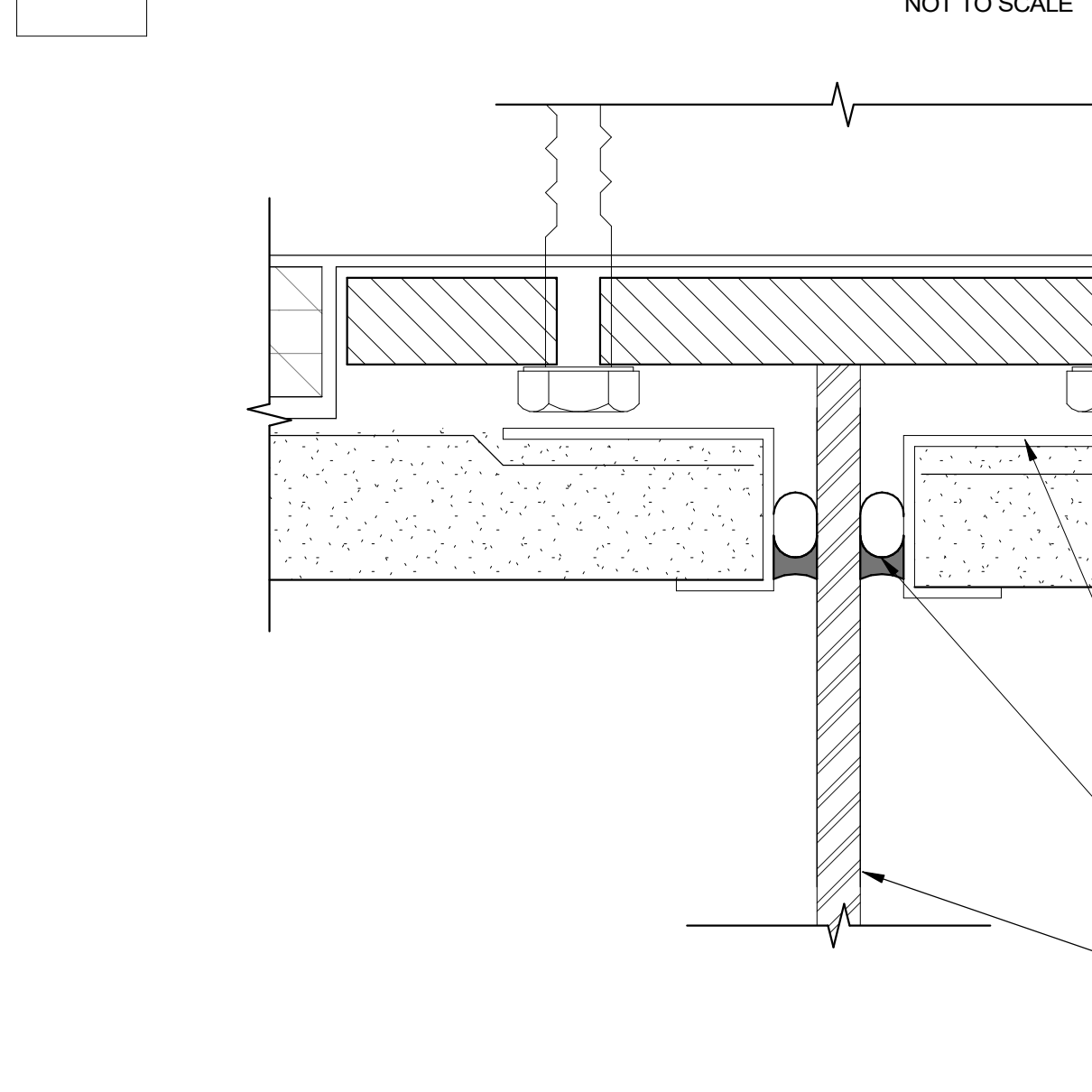
41 PATIO/BALCONY SOFFIT HEAD AT HARDIE PLANK NOT TO SCALE



42 BALCONY SOFFIT HEAD - WOOD FRAMING NOT TO SCALE



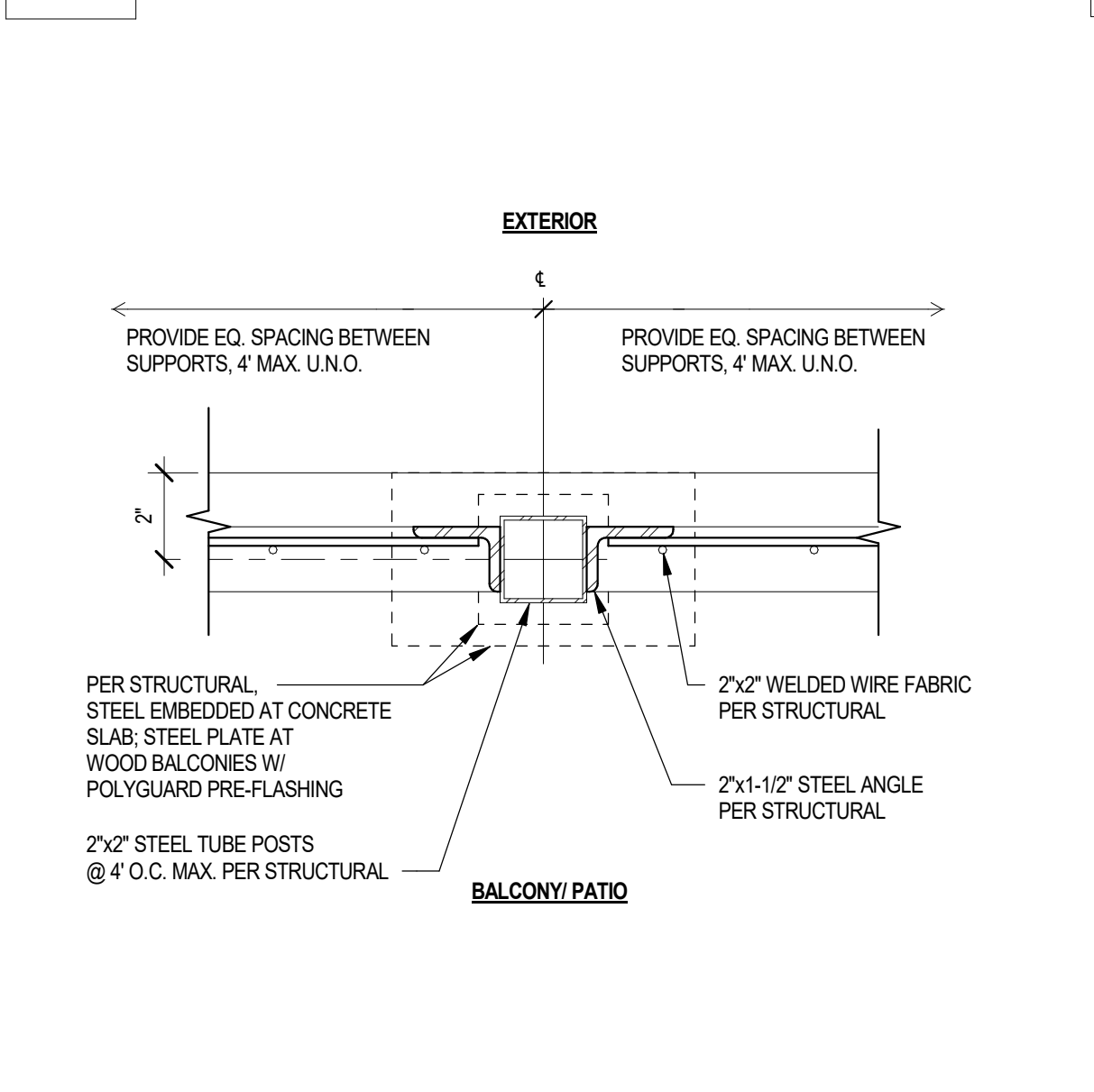
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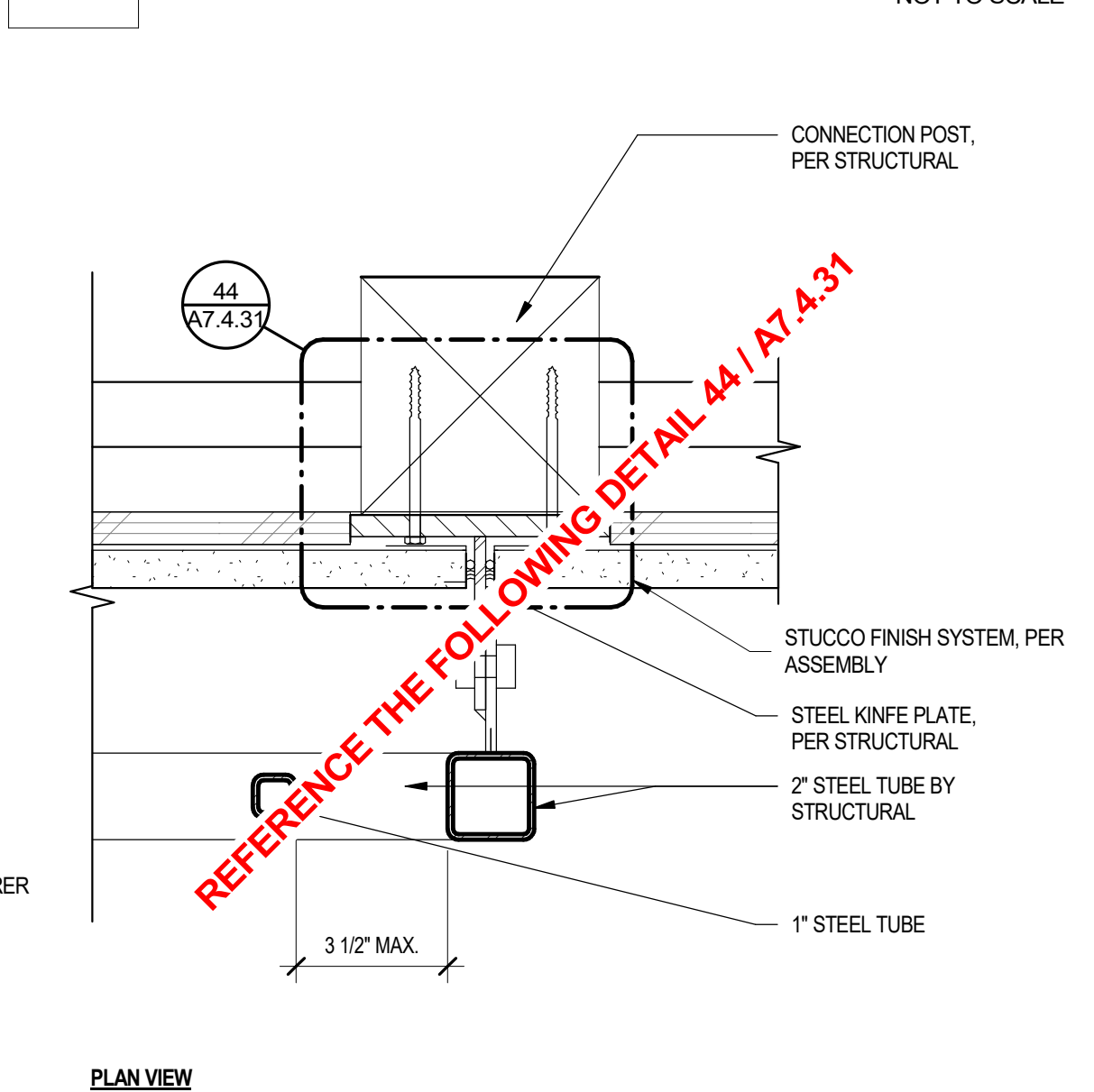
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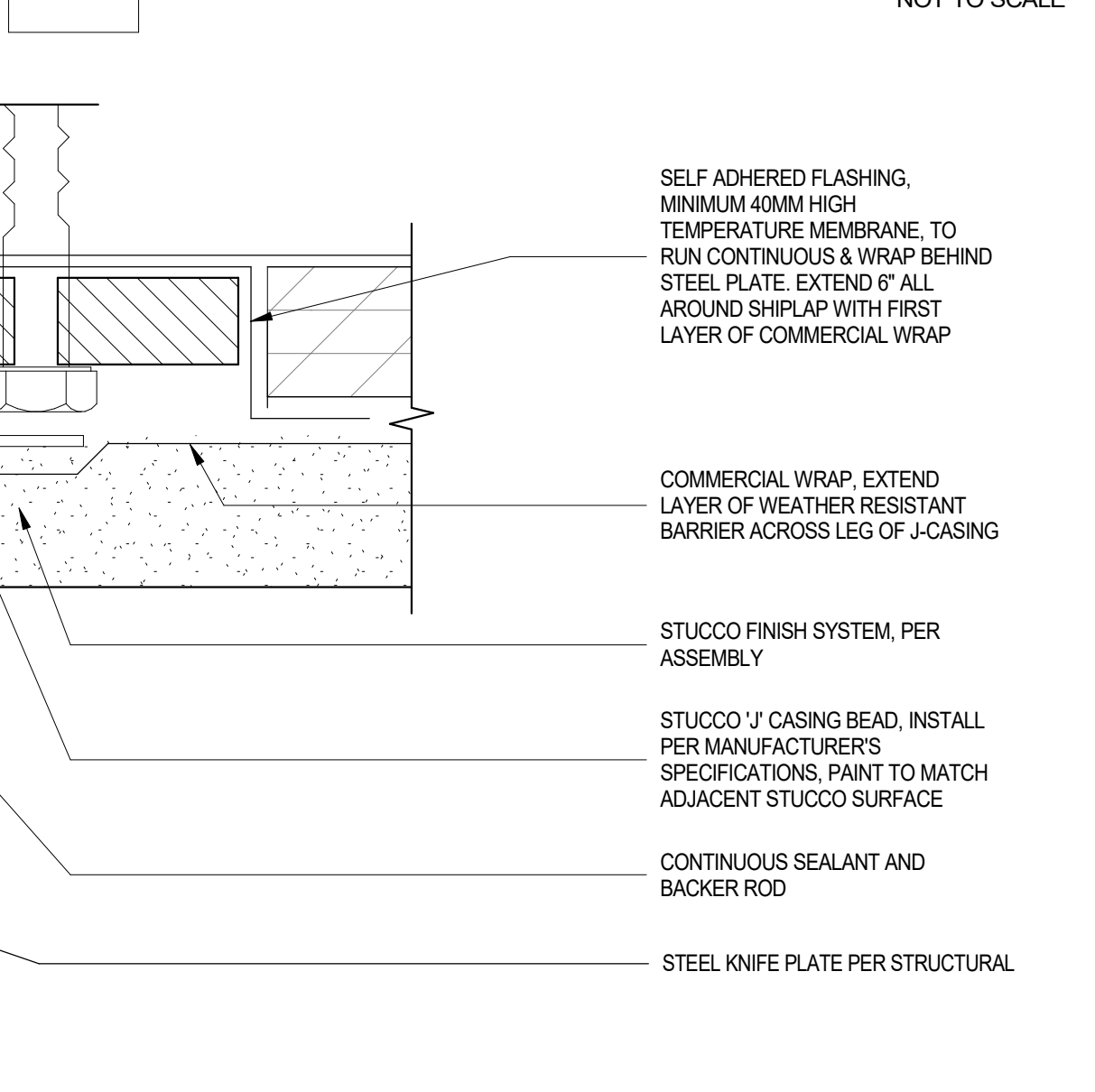
37 GUARDRAIL KNIFE PLATE ATTACHMENT AT WALL NOT TO SCALE



38 STEEL TUBE SUPPORT AND PLATE NOT TO SCALE



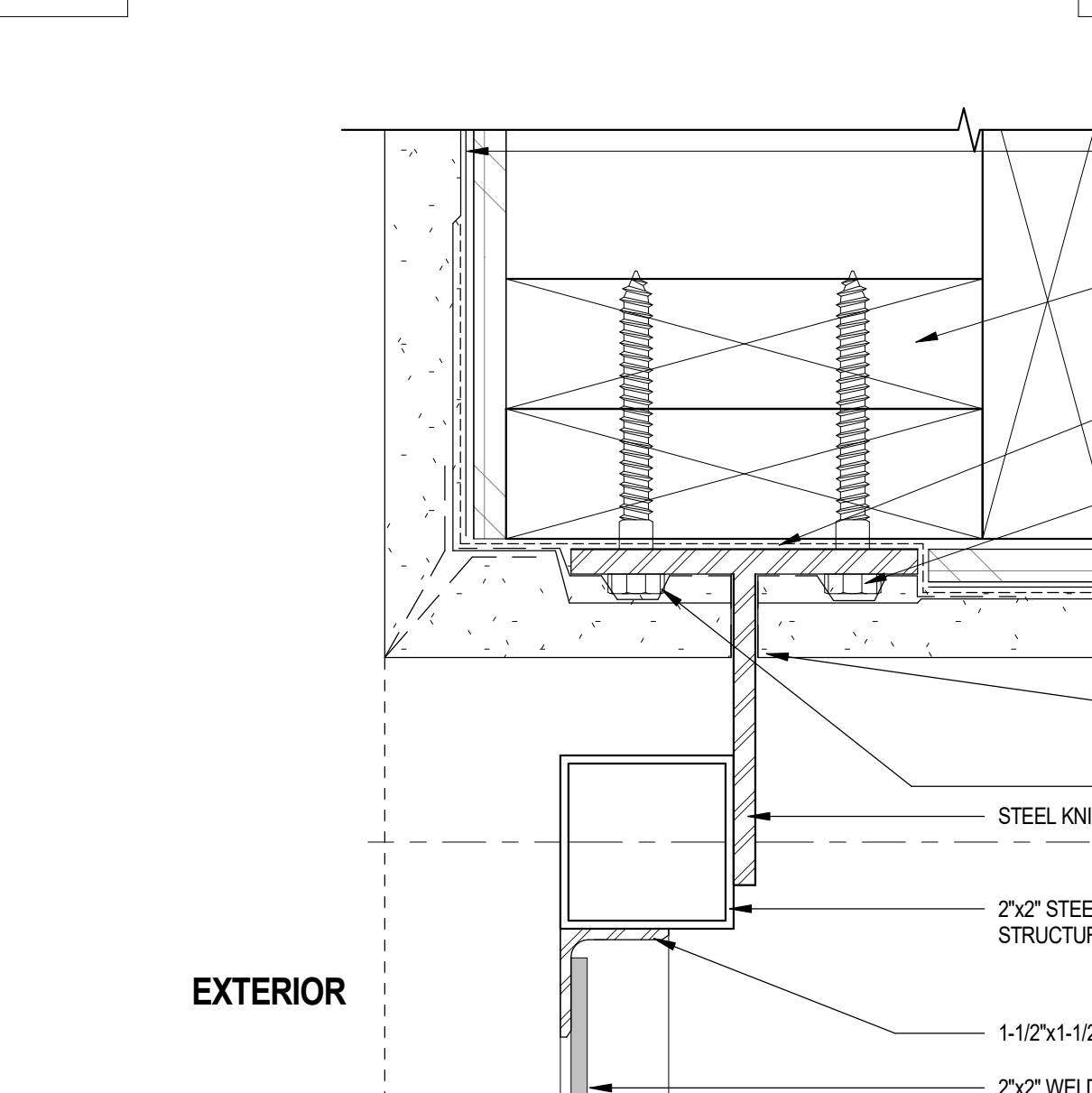
39 RAILING ANCHOR AT JULIETTE BALCONY NOT TO SCALE



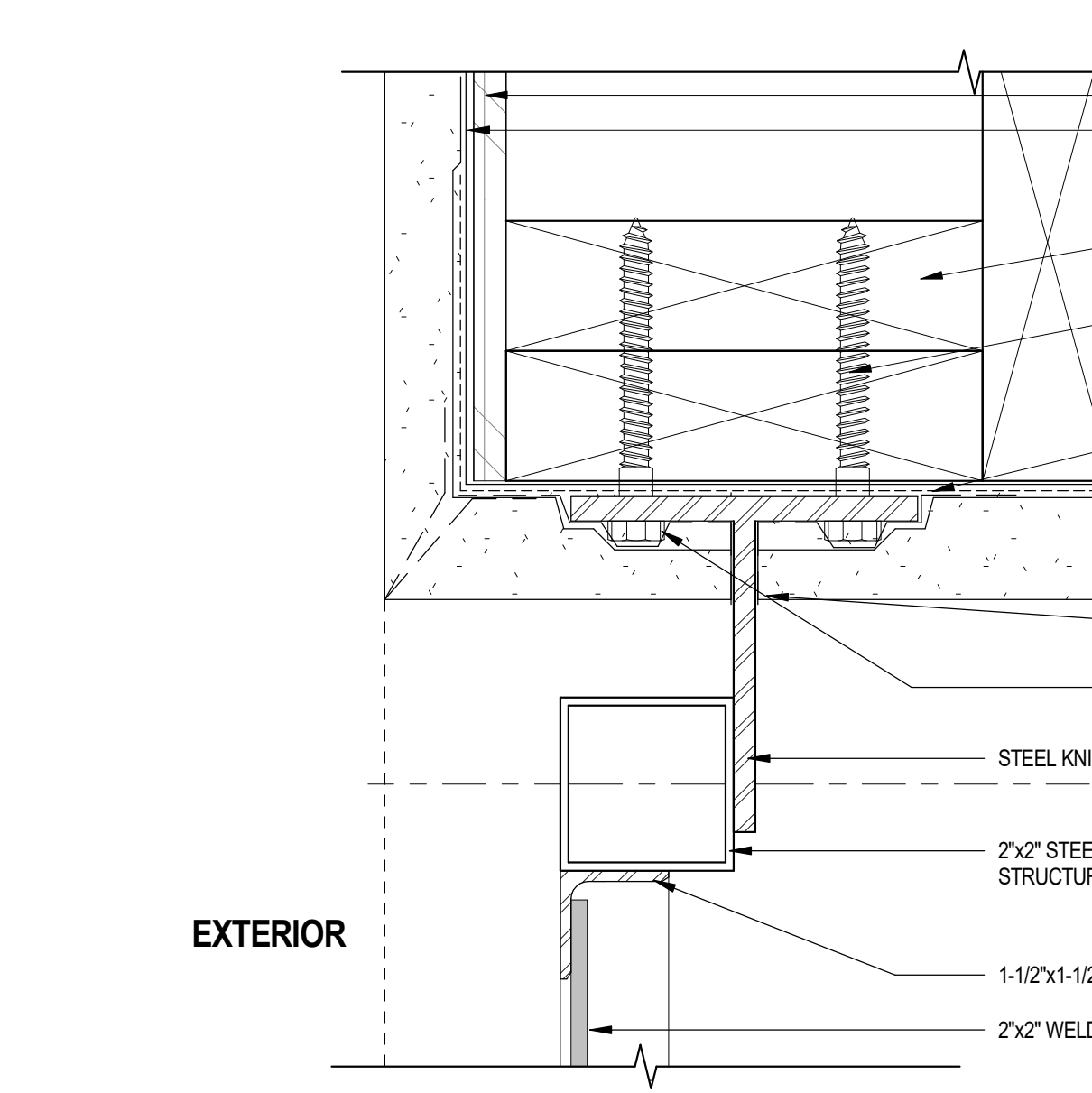
36 BALCONY GUARDRAIL KNIFE PLATE ATTACHMENT WATERPROOFING AT SIDE WALL NOT TO SCALE



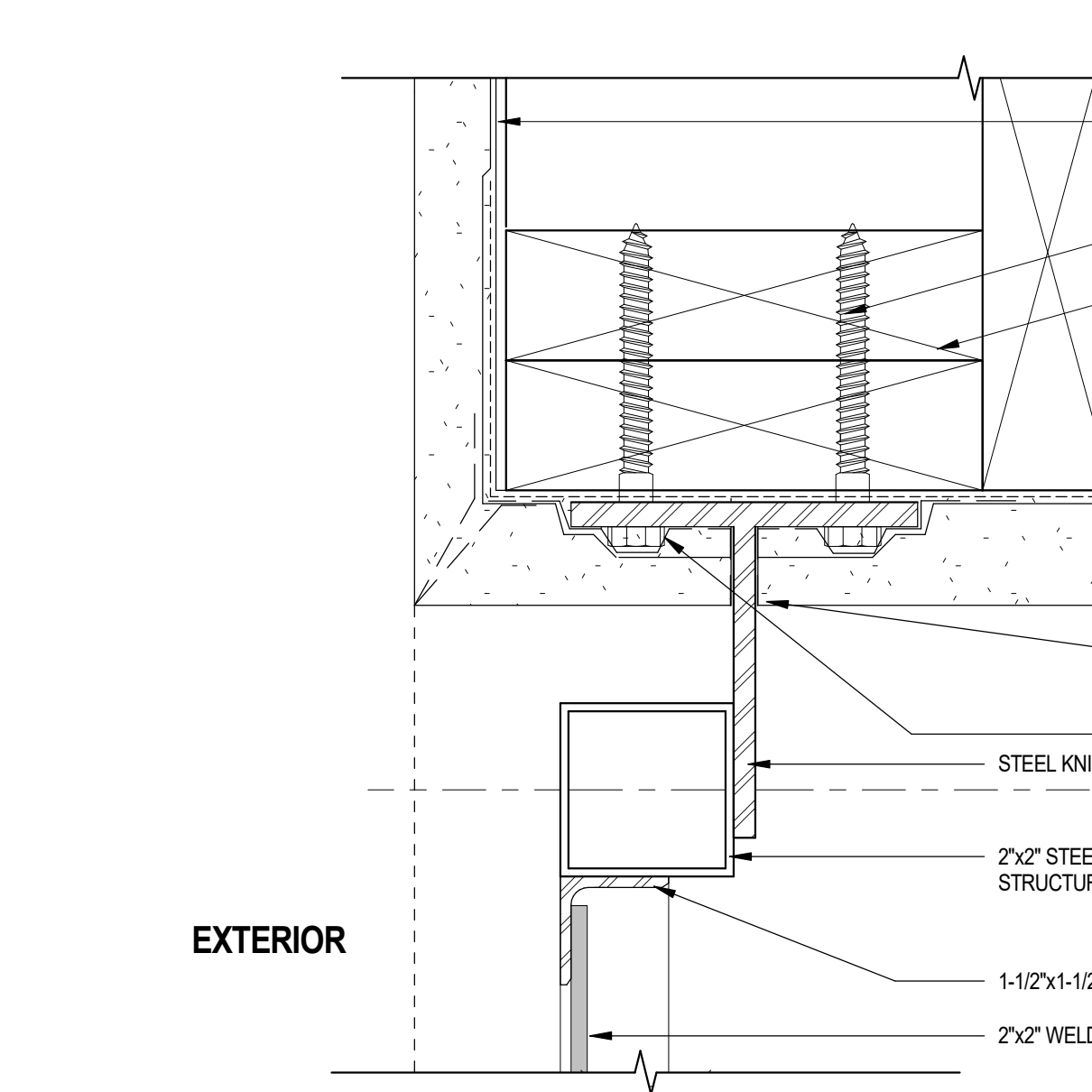
33 GUARDRAIL POST CONNECTION AT CONC. SLAB FLOOR NOT TO SCALE



34 GUARDRAIL POST CONNECTION AT CONC. SLAB FLOOR NOT TO SCALE



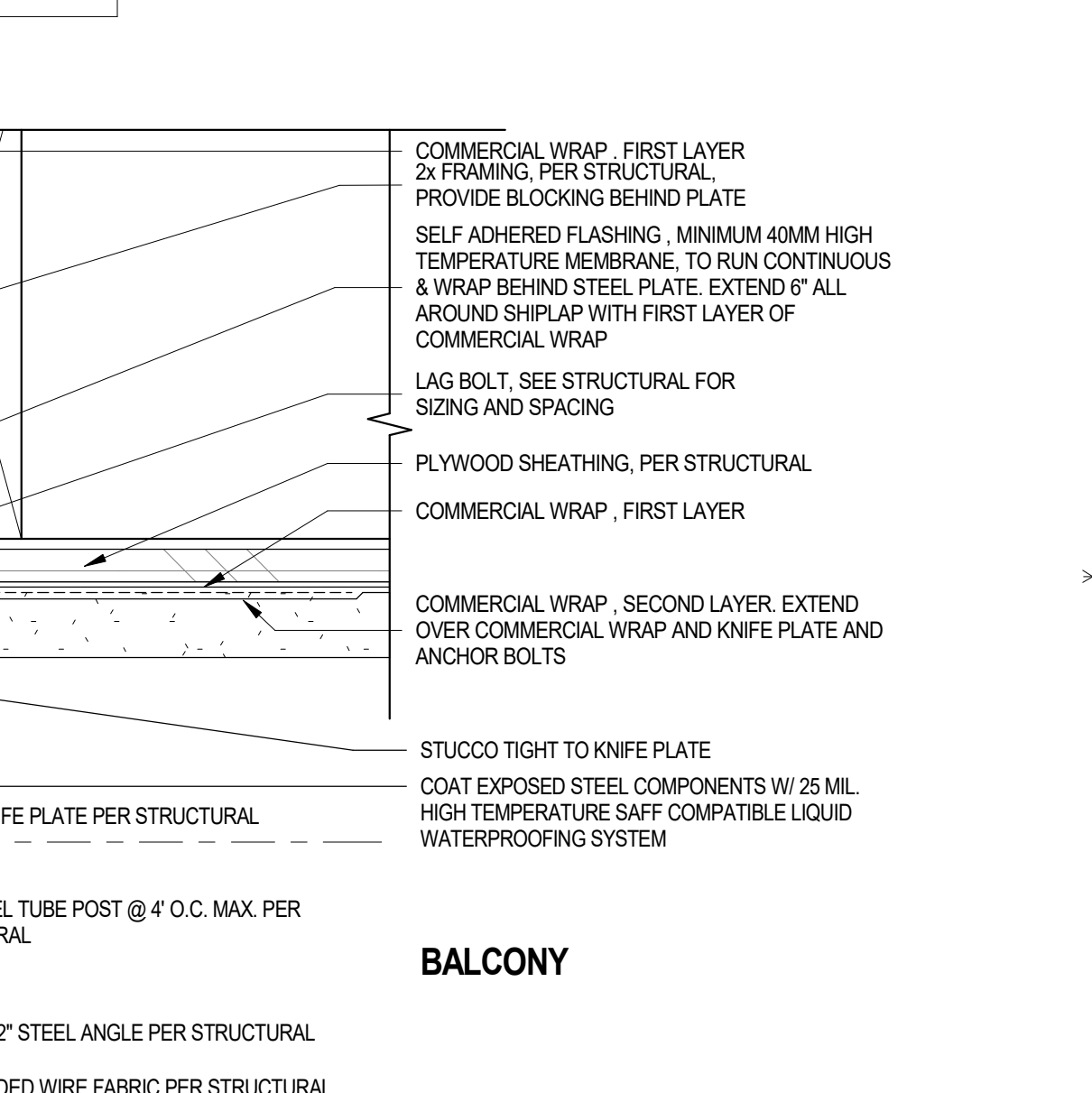
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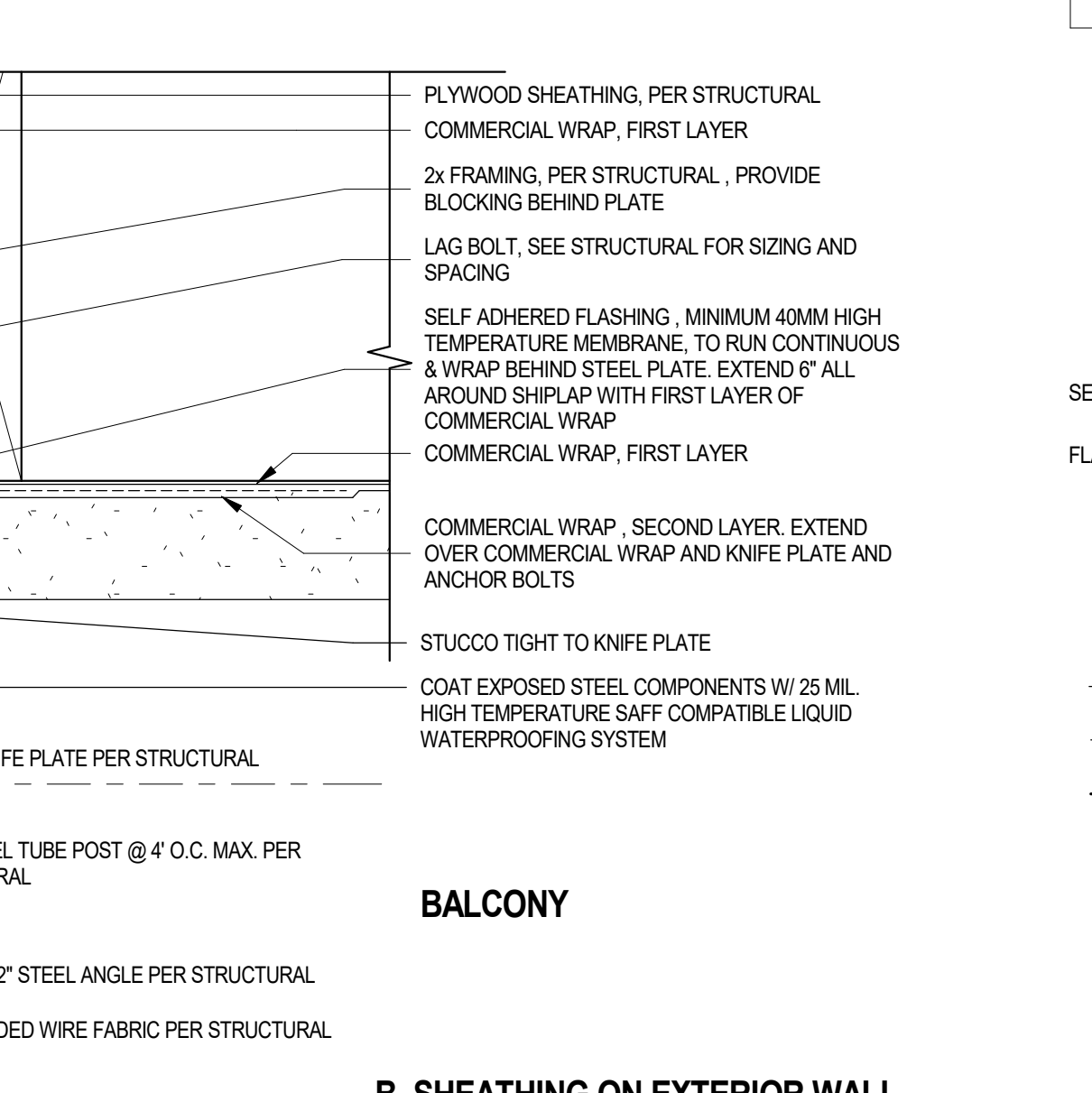
36 BALCONY GUARDRAIL KNIFE PLATE ATTACHMENT WATERPROOFING AT SIDE WALL NOT TO SCALE



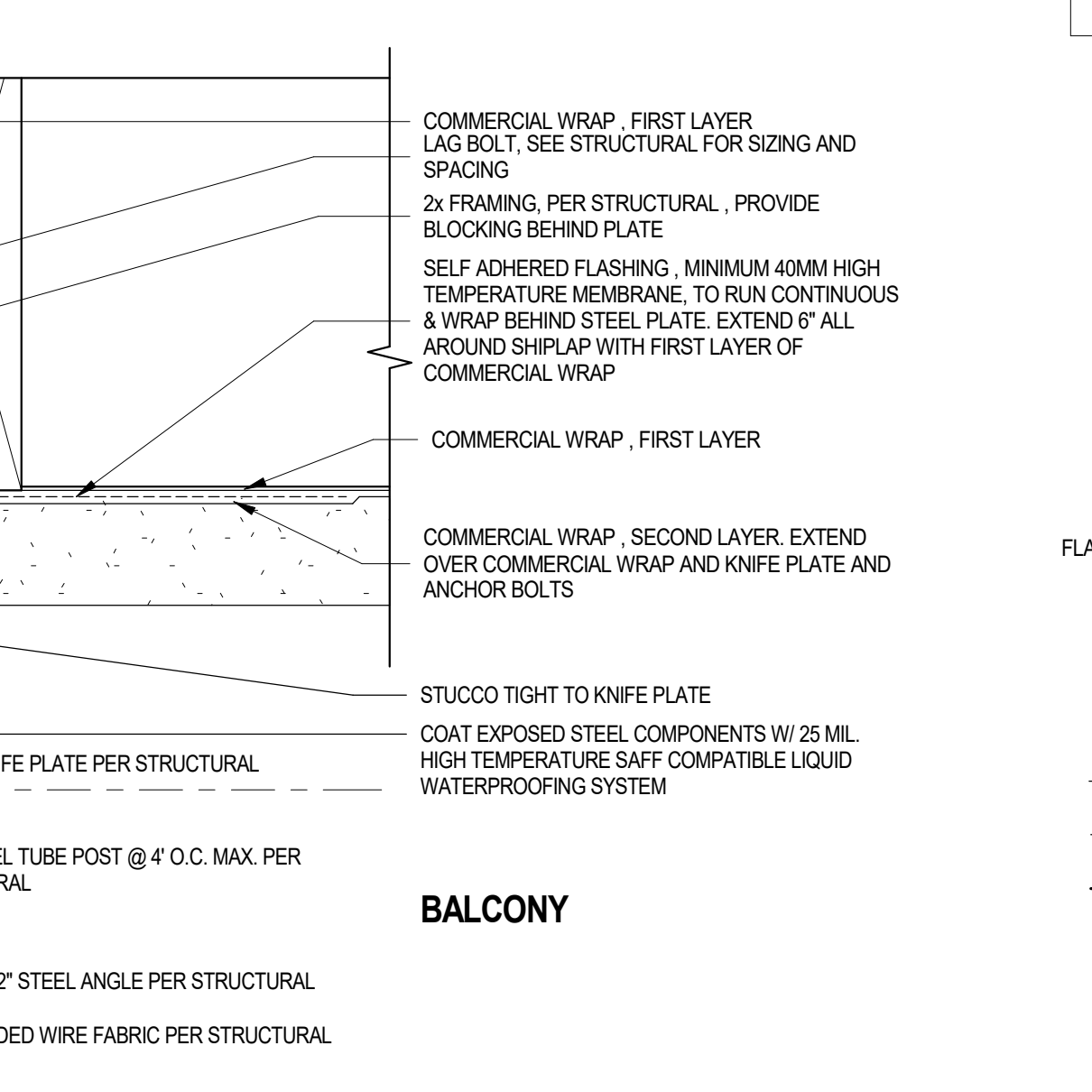
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26 BALCONY FLASHING & FINISHES ISOMETRIC AT WOOD FRAMING NOT TO SCALE



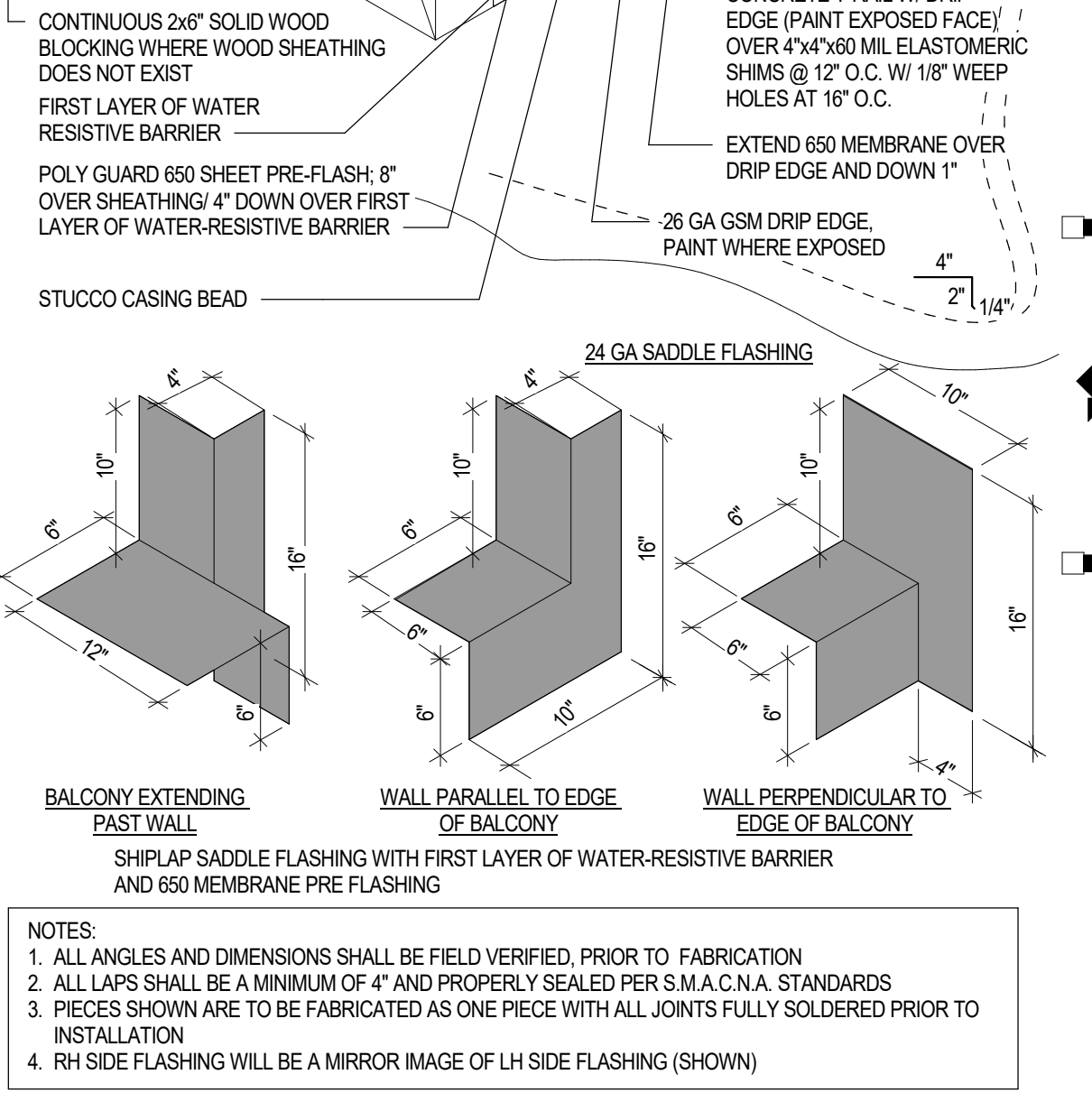
27 PATIO/BALCONY SOFFIT HEAD - METAL FRAMING NOT TO SCALE



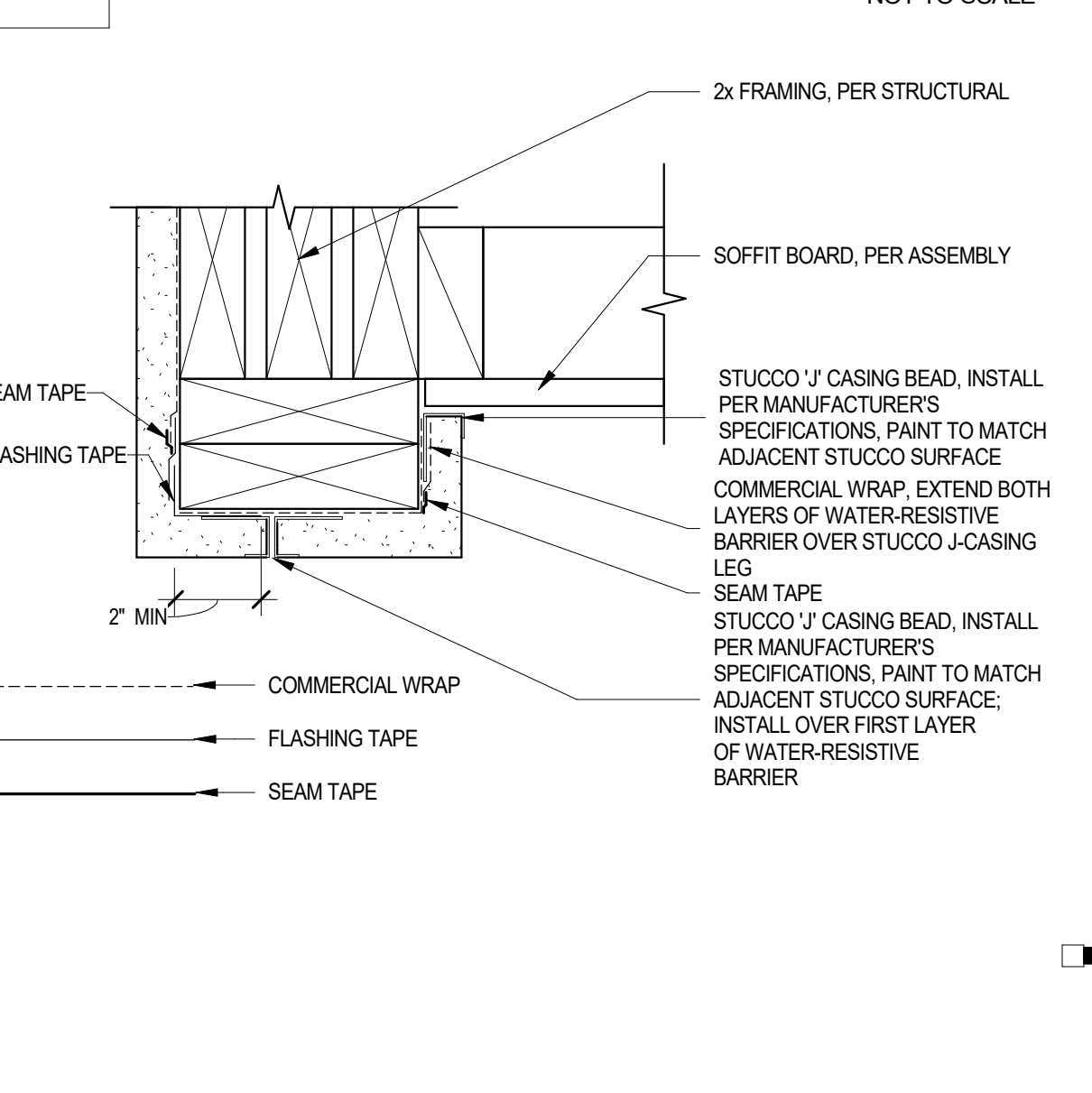
28 PATIO/BALCONY SOFFIT HEAD - METAL FRAMING NOT TO SCALE



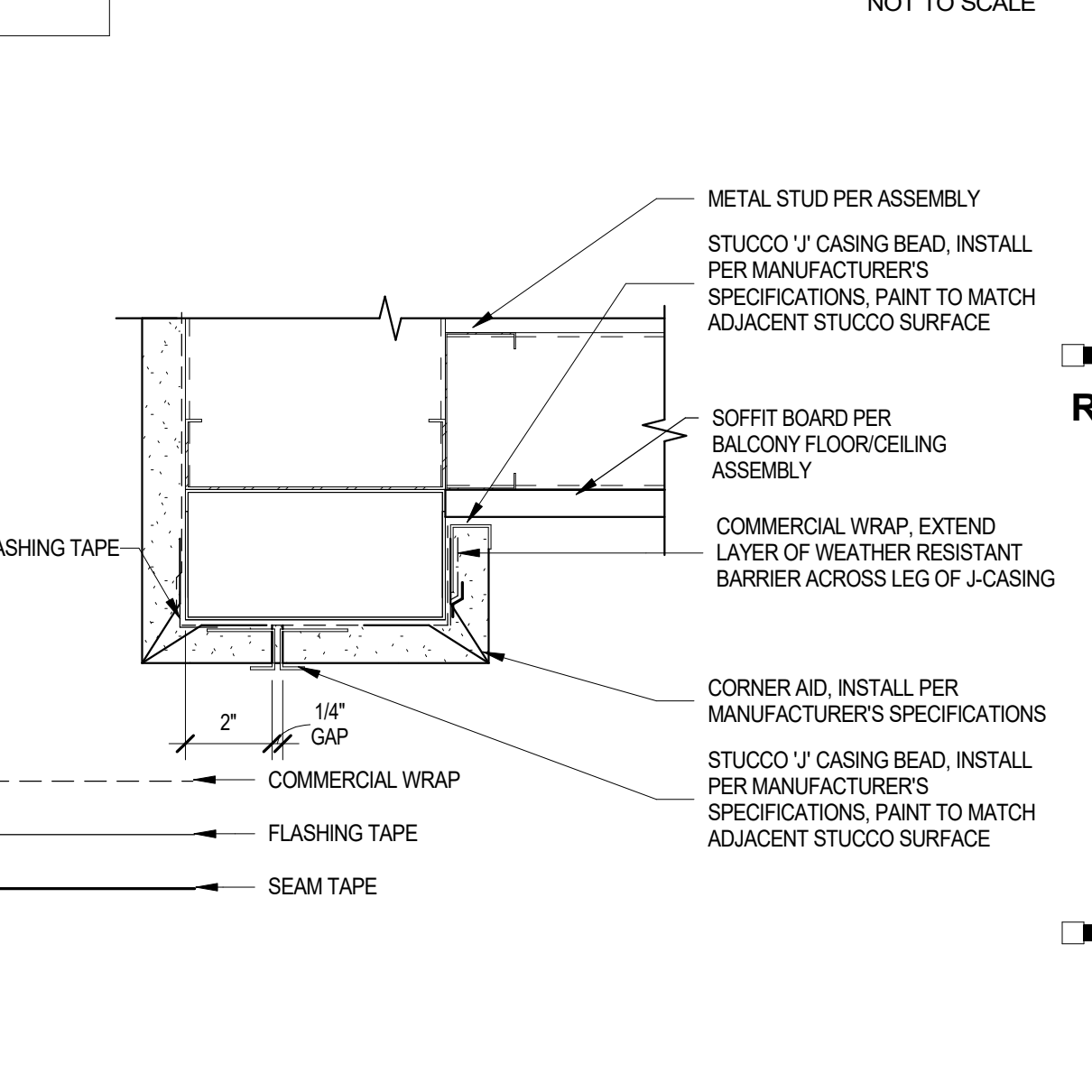
29 GUARDRAIL POST CONNECTION AT CONC. SLAB FLOOR NOT TO SCALE



26 BALCONY FLASHING & FINISHES ISOMETRIC AT WOOD FRAMING NOT TO SCALE



27 PATIO/BALCONY SOFFIT HEAD - METAL FRAMING NOT TO SCALE



28 PATIO/BALCONY SOFFIT HEAD - METAL FRAMING NOT TO SCALE



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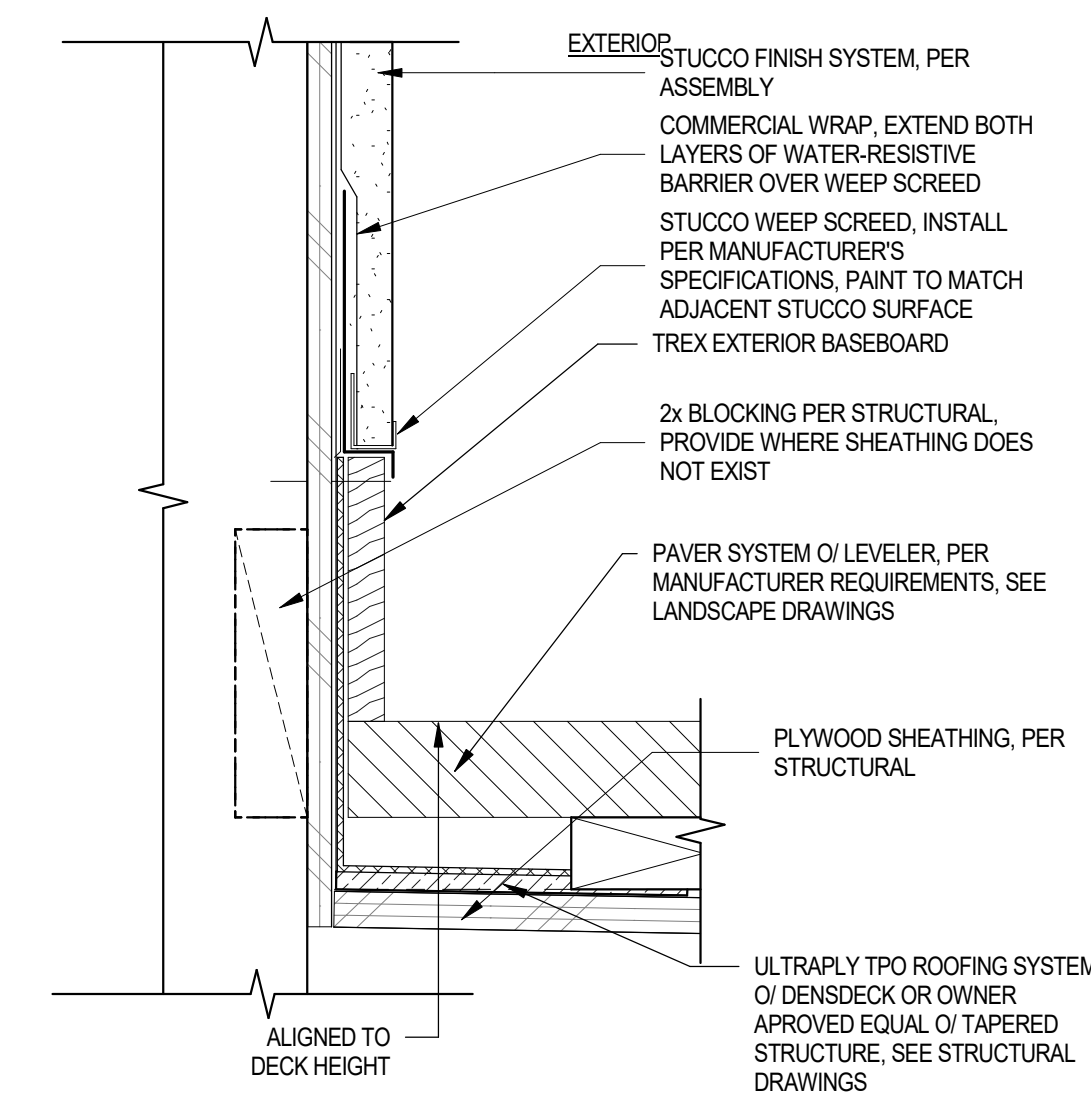
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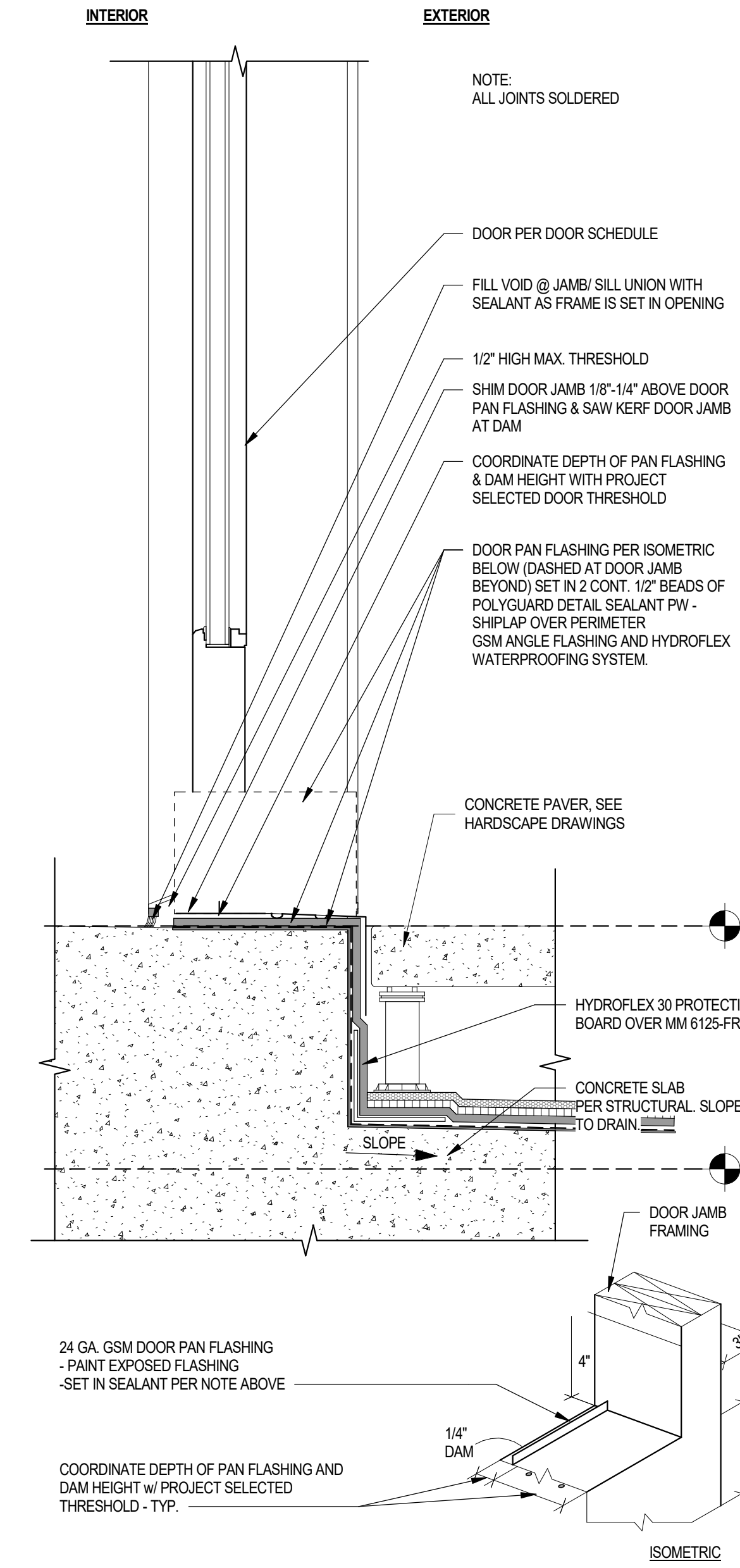
Notice of alternate billing (or payment) cycle: This contract shall (may allow) the owner to require the submission of bills of materials in billing cycles other than thirty days. (This contract may allow the owner to make payment on some alternative schedule other than thirty days and approval of billing cycle extension is required for each other billing cycle.) A written description of such other billing cycle extension to the project is available from the owner or the owner's designated agent at ADVANCE RESIDENTIAL COMPANY, 2505 S. CAMERON RD., SUITE 500, PHOENIX, AZ 85086. (602) 778-2800. See the owner or its designated agent should provide this information to the Architect.

REVISIONS/SUBMITTALS

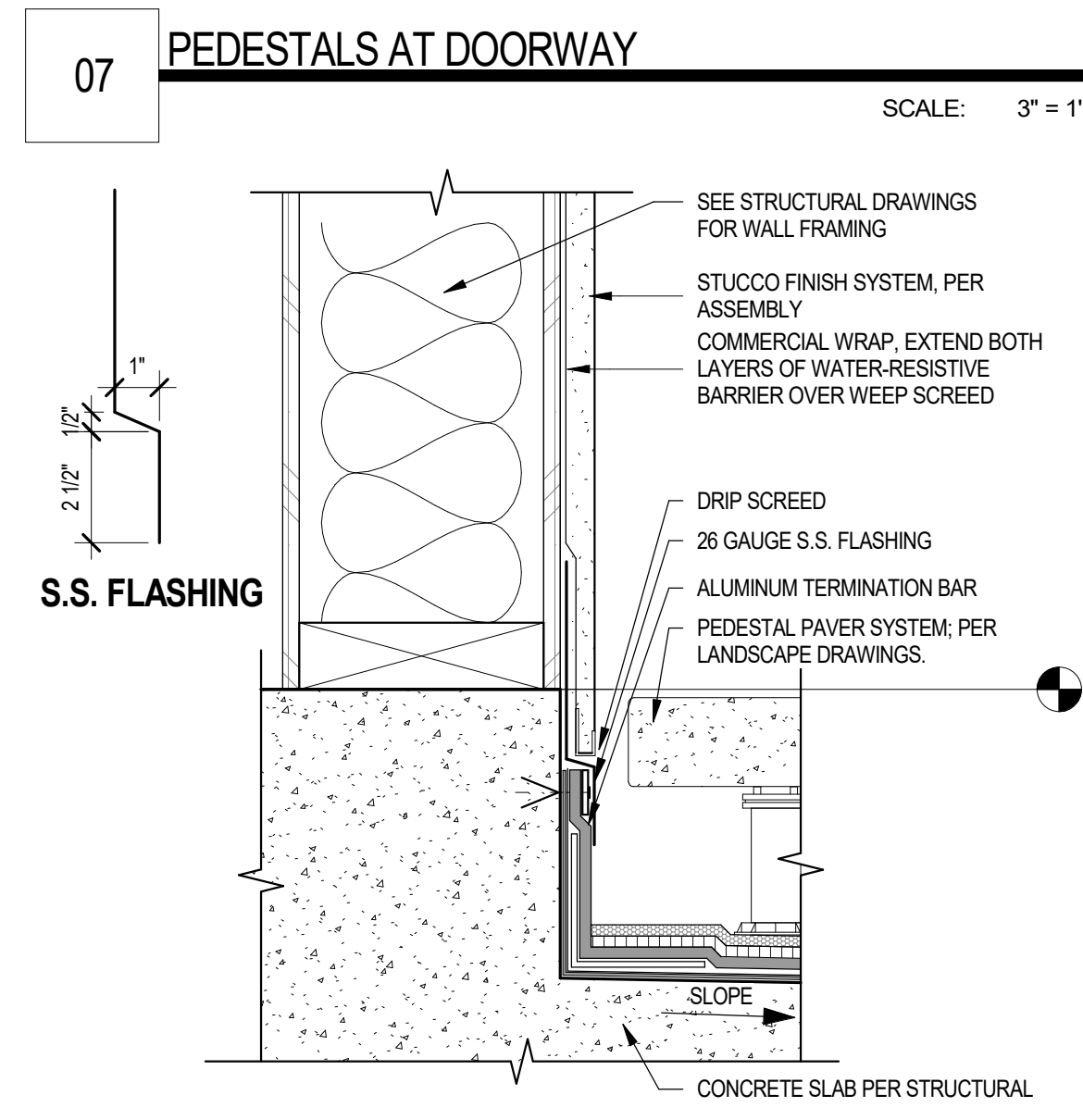
DATE	DESCRIPTION
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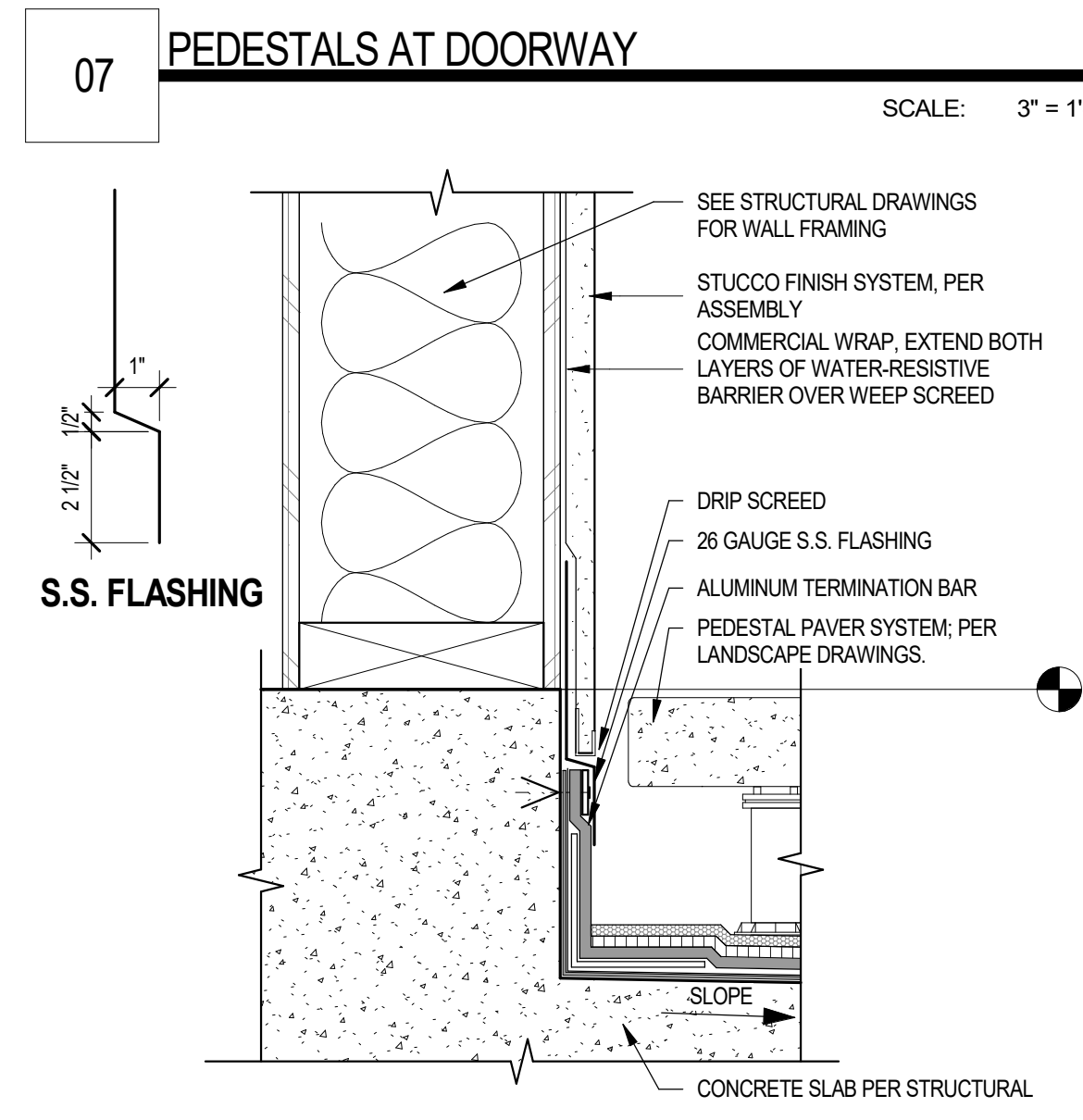
01 PEDESTAL SYSTEM FLASHING AT ROOF DECK EXTERIOR WALL
SCALE: 3" = 1'-0"



02 TPO AND PEDESTAL ROOF SYSTEM AT CMU WALL
SCALE: 1 1/2" = 1'-0"

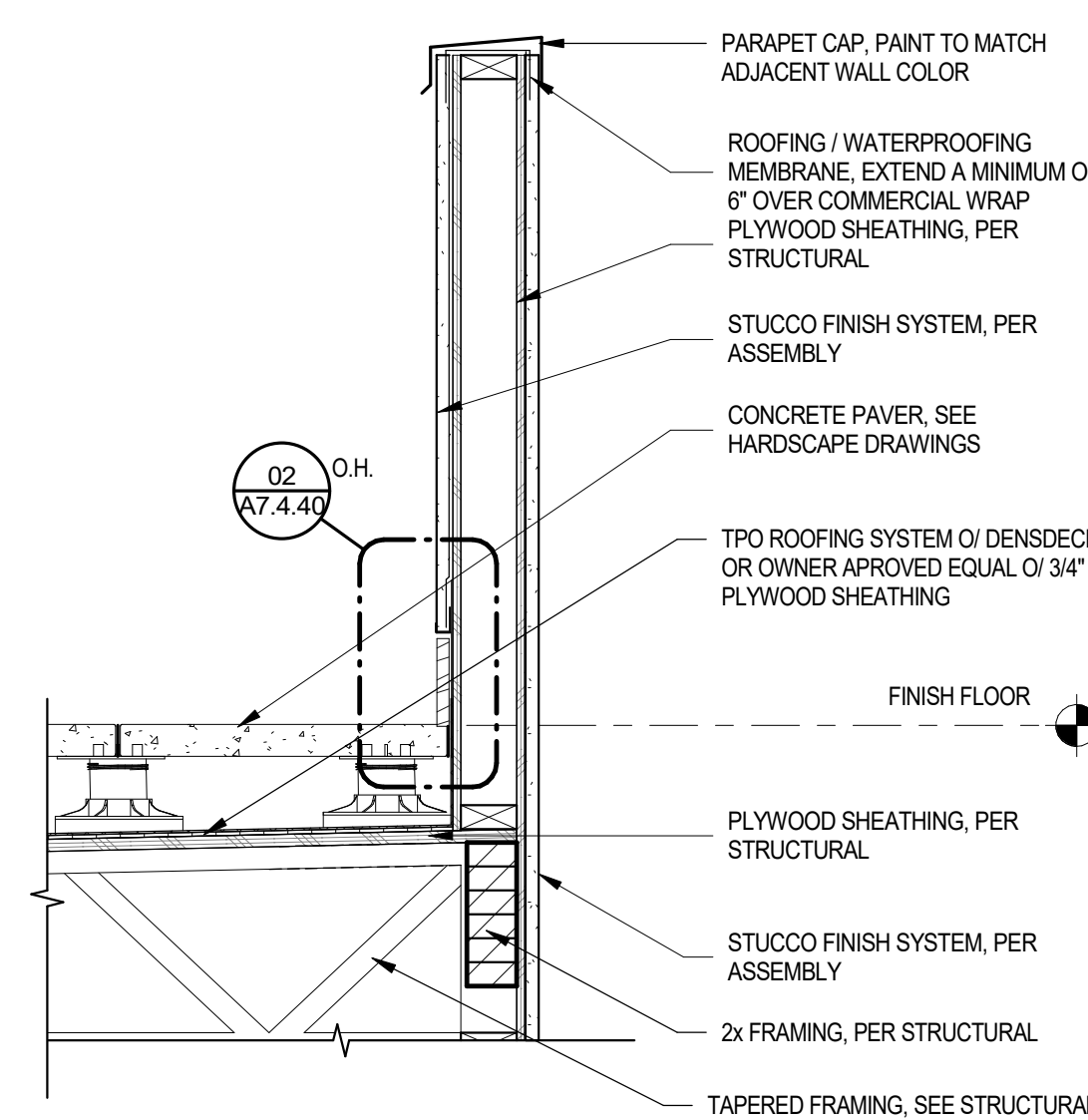


03 ROOF DECK @ GUARDRAIL
SCALE: 1" = 1'-0"



07 PEDESTALS AT DOORWAY
SCALE: 3" = 1'-0"

08 RAISED PAVERS AT WALL BASE
SCALE: 3" = 1'-0"



04 PAVER WATERPROOFING TERMINATION AT CMU WALL
SCALE: 3" = 1'-0"

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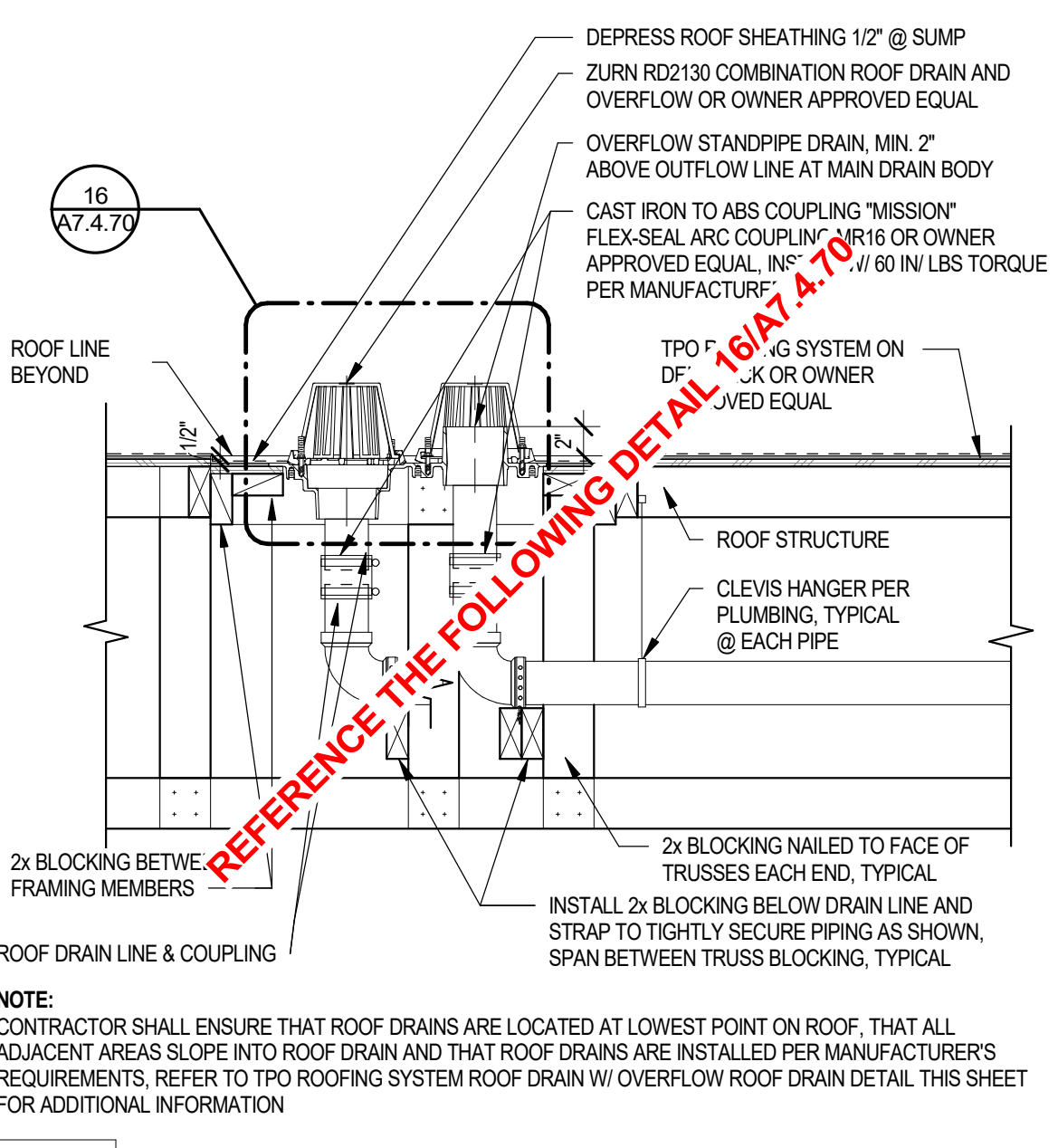
Notice of alternate billing (or payment) cycle
This contract allows (may allow) the owner to require the submission of billings or estimates in billing cycles other than thirty days. (This contract may allow the owner to make payment on some alternative schedule after verification and approval of billings and estimates). A written description of such other billing (estimate) cycle applies to the project is available from the owner or the owner's designated agent at:
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2025 E. CAMELBACK RD., SUITE 500, PHOENIX, AZ 85016
(602) 778-2822
Over the owner or its designated agent shall provide this written description of payment.

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DATE	DESCRIPTION

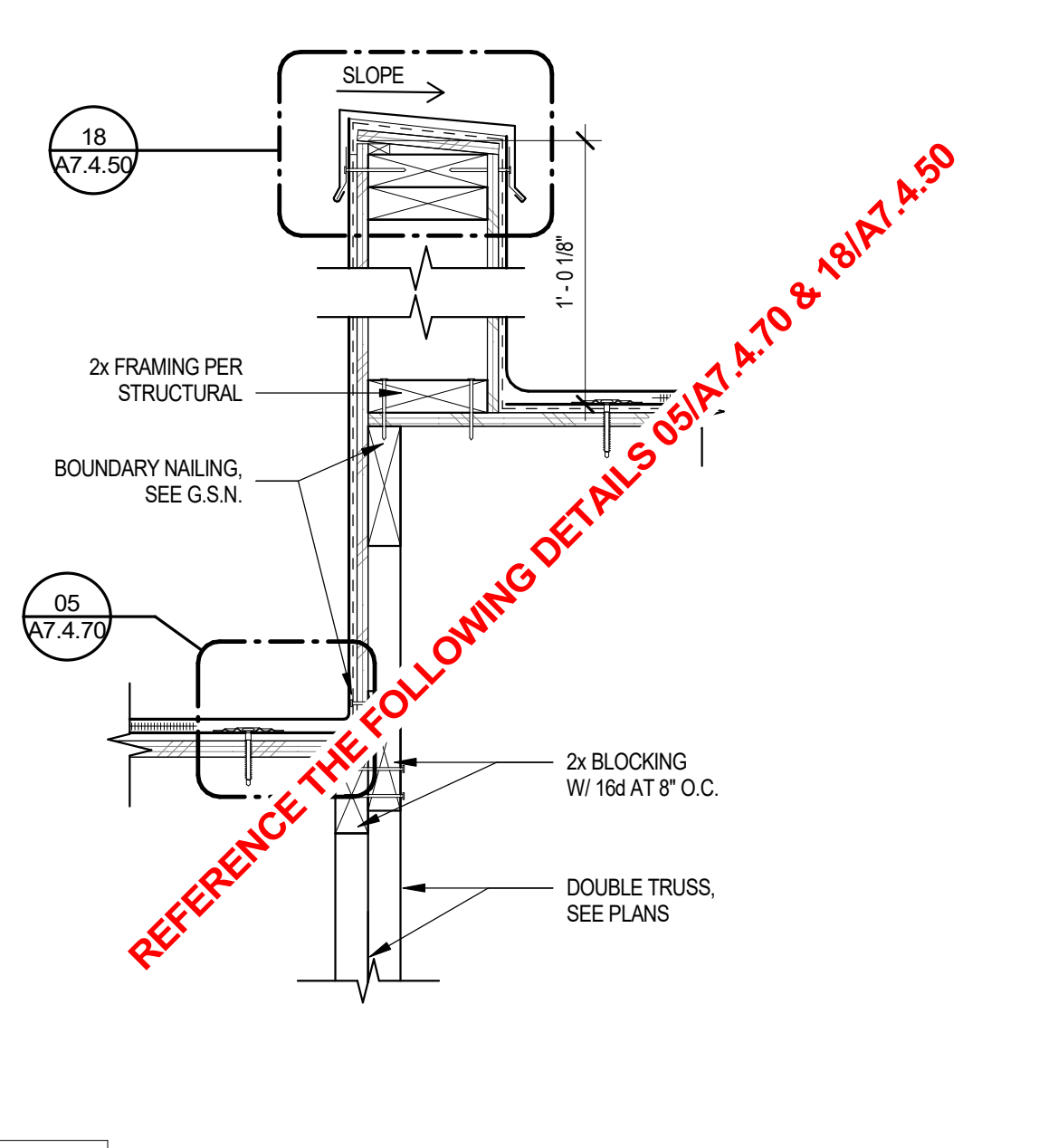
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PEDESTAL SYSTEM DETAILS

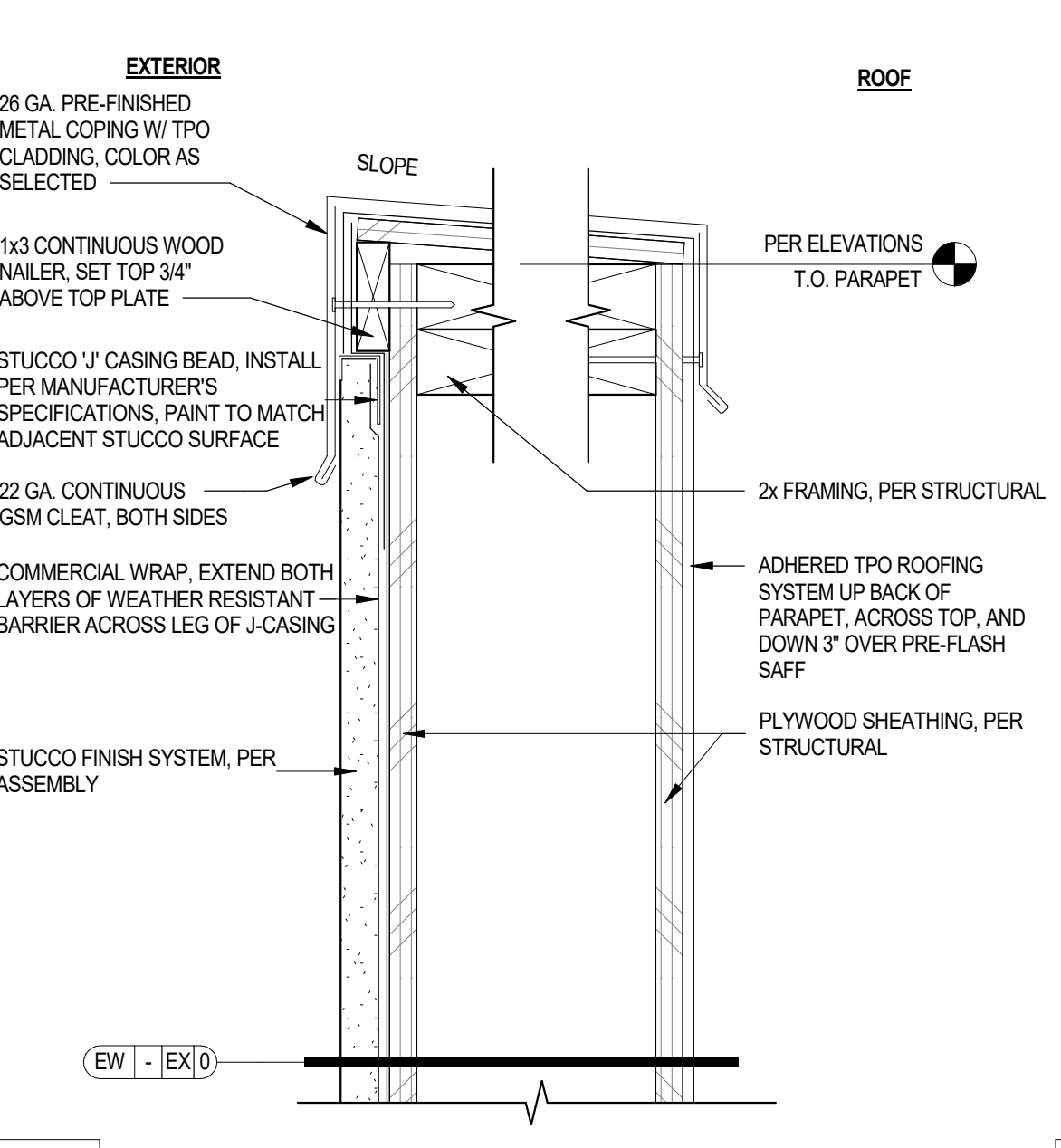
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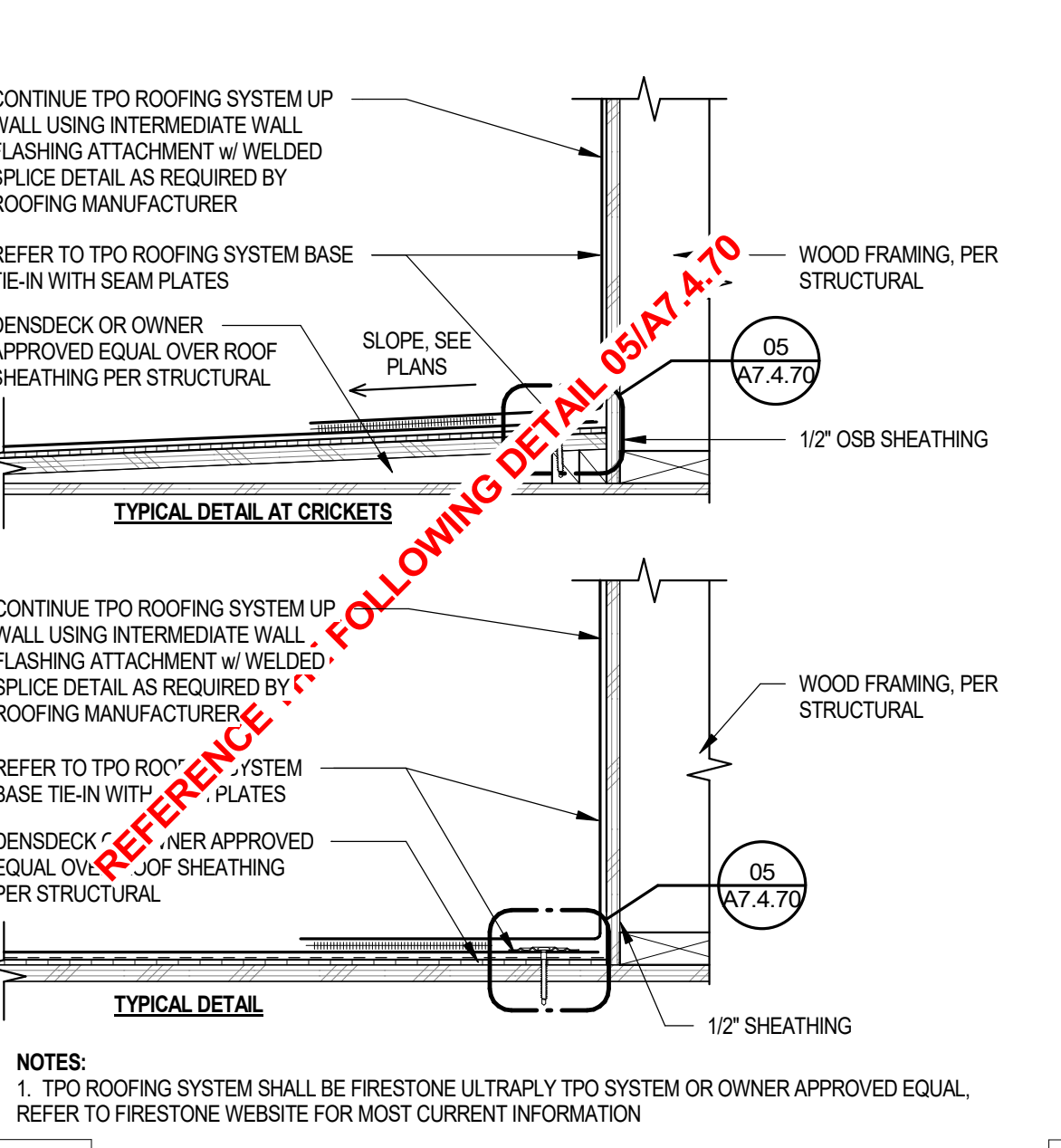
21 ROOF AND OVERFLOW DRAIN PIPPING SUPPORT
SCALE: 1" = 1'-0"



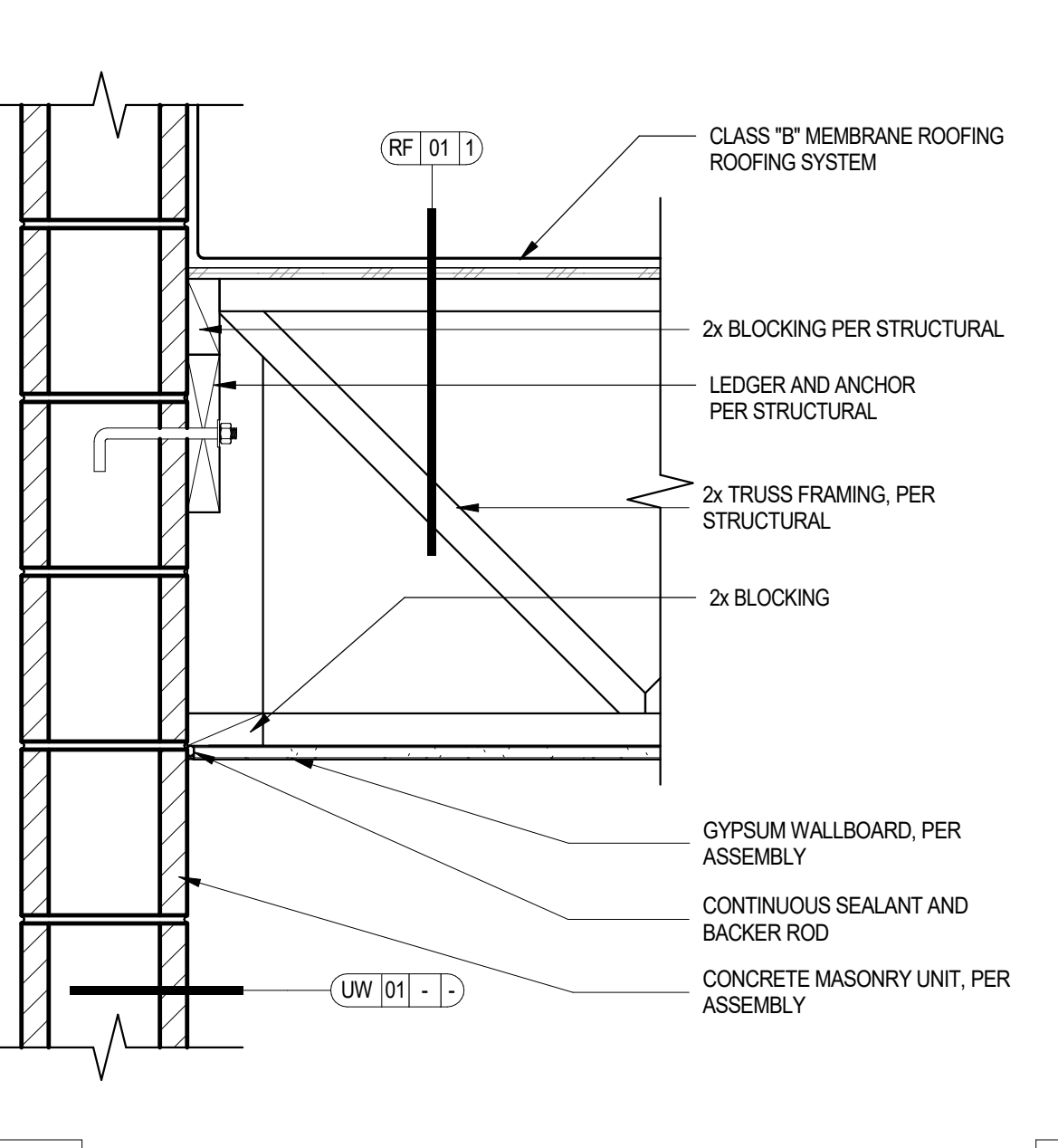
17 ROOF TRUSS AT STEP SECTION
SCALE: 1 1/2" = 1'-0"



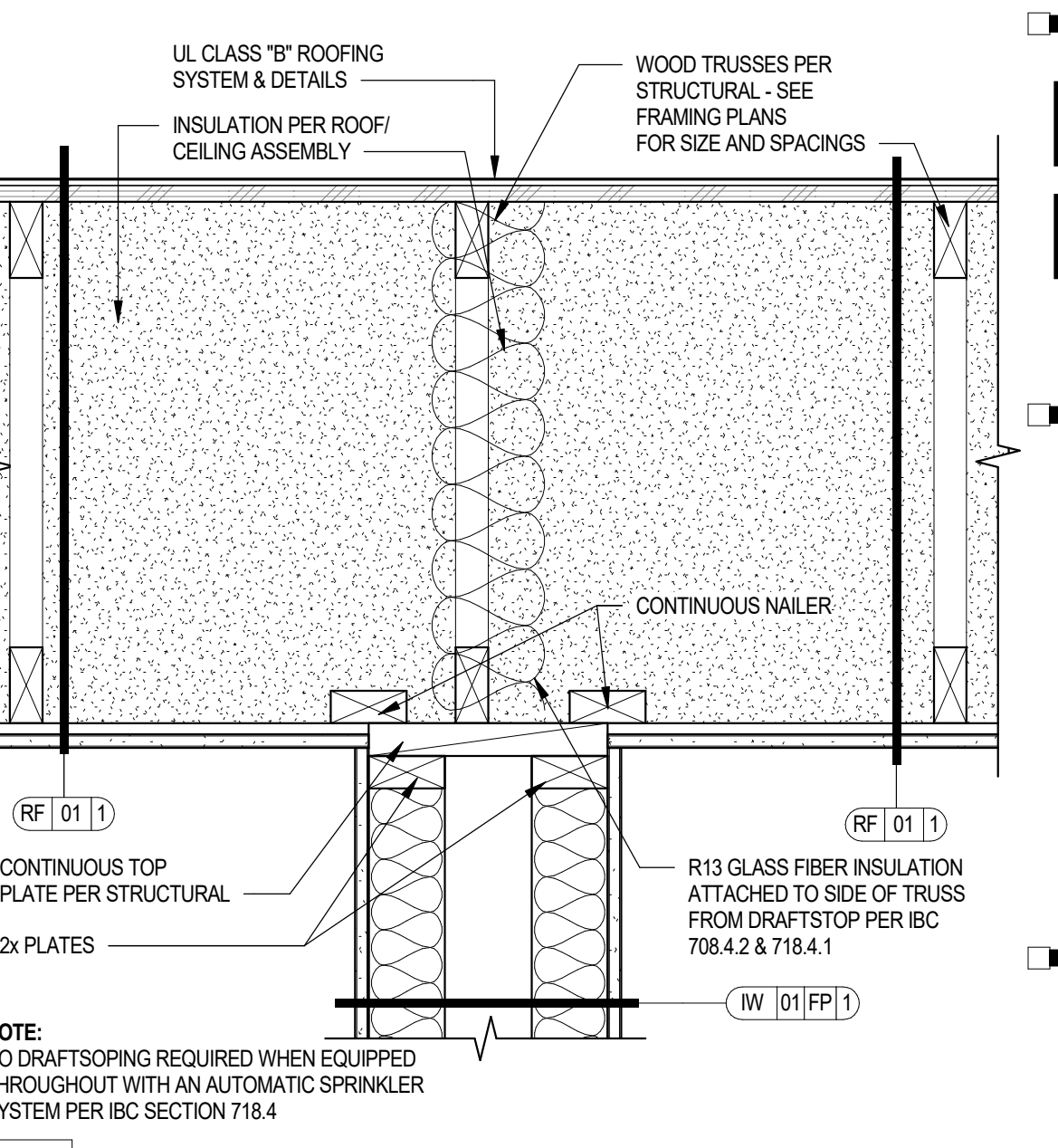
13 PARAPET METAL CAP FLASHING AT STUCCO WALL
SCALE: 3" = 1'-0"



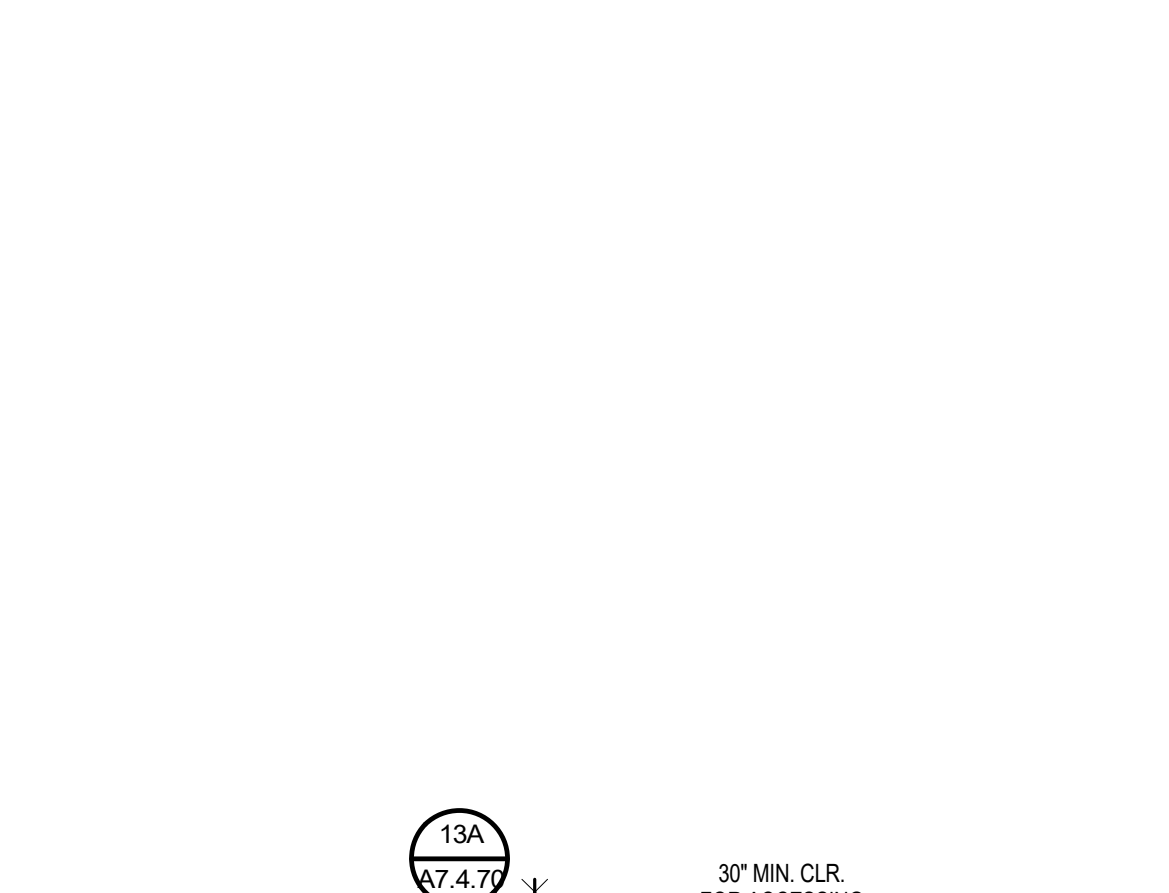
09 TPO ROOFING @ WOOD FRAMED WALL
SCALE: 1 1/2" = 1'-0"



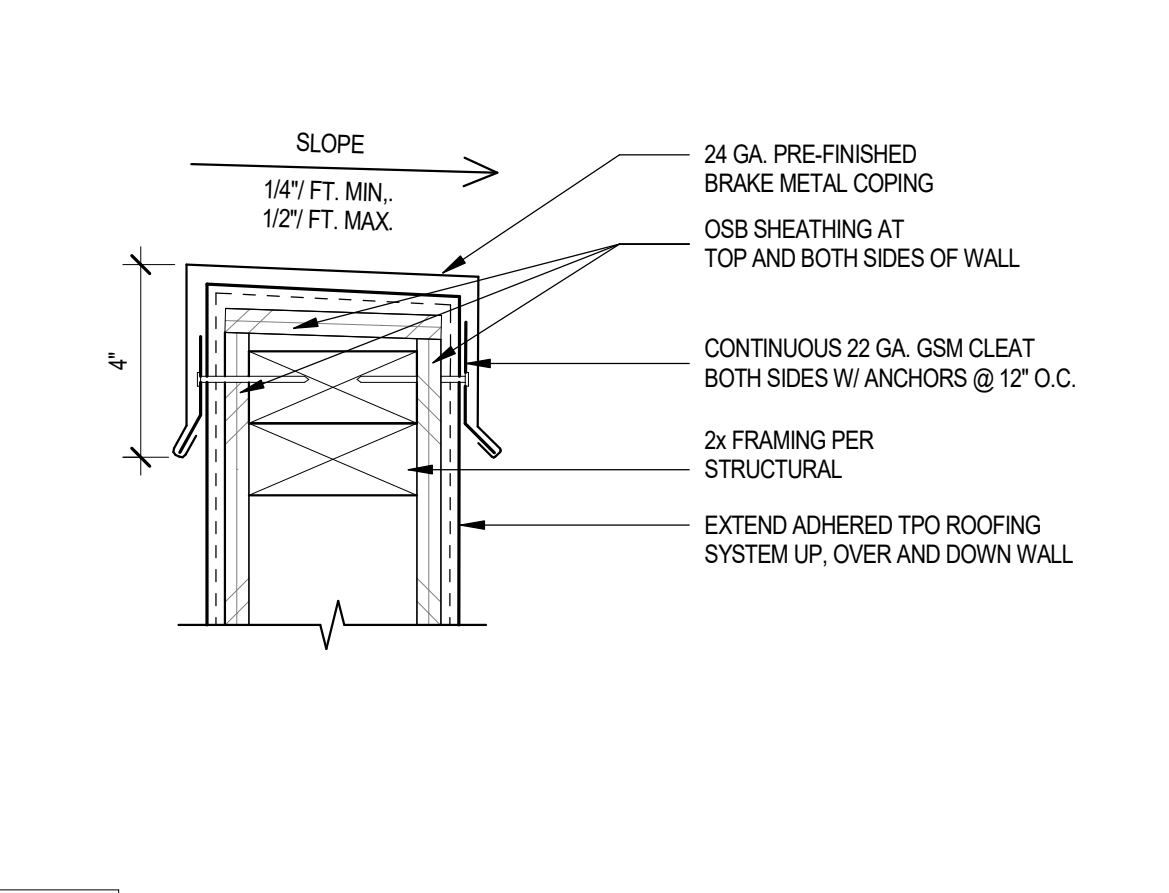
05 ROOF TRUSS AT CMU WALL
SCALE: 1 1/2" = 1'-0"



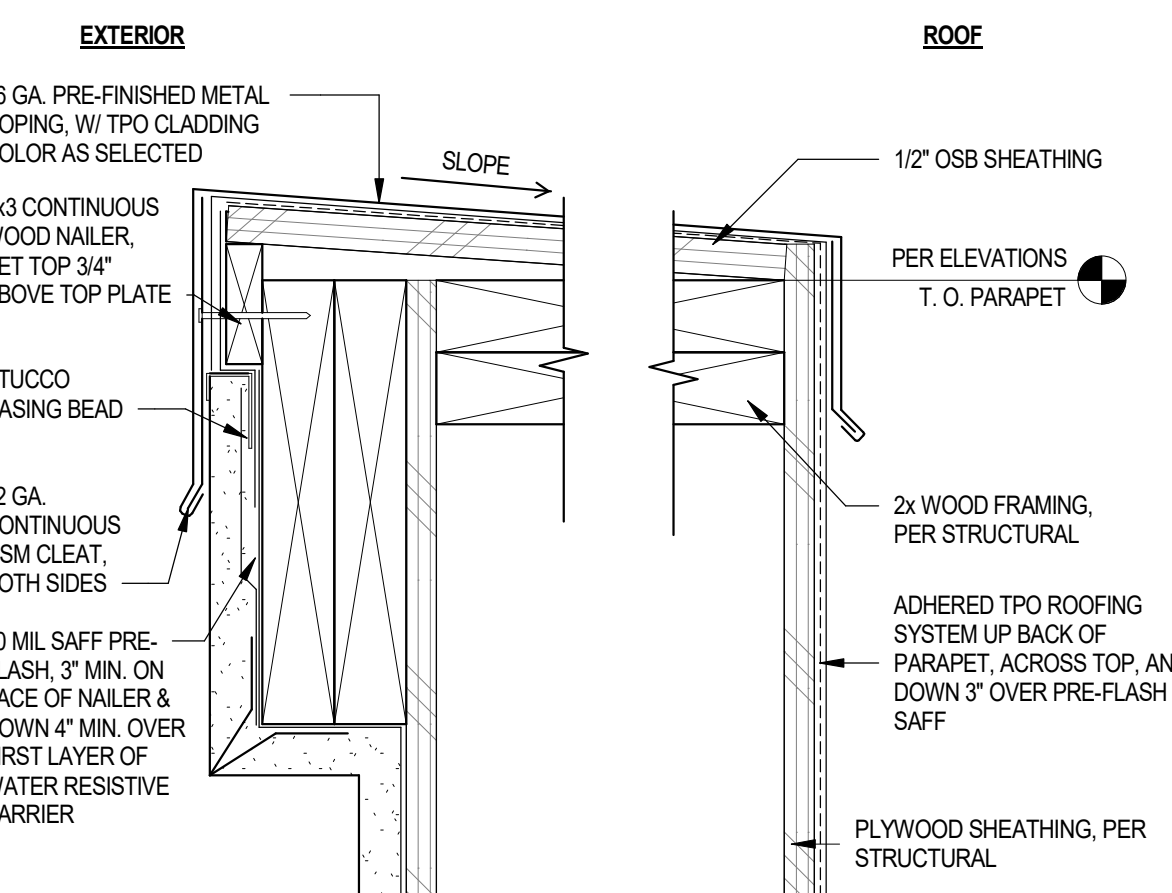
01 1-HR UNIT SEPARATION WALL AT 1-HR ROOF/CEILING
SCALE: 1 1/2" = 1'-0"



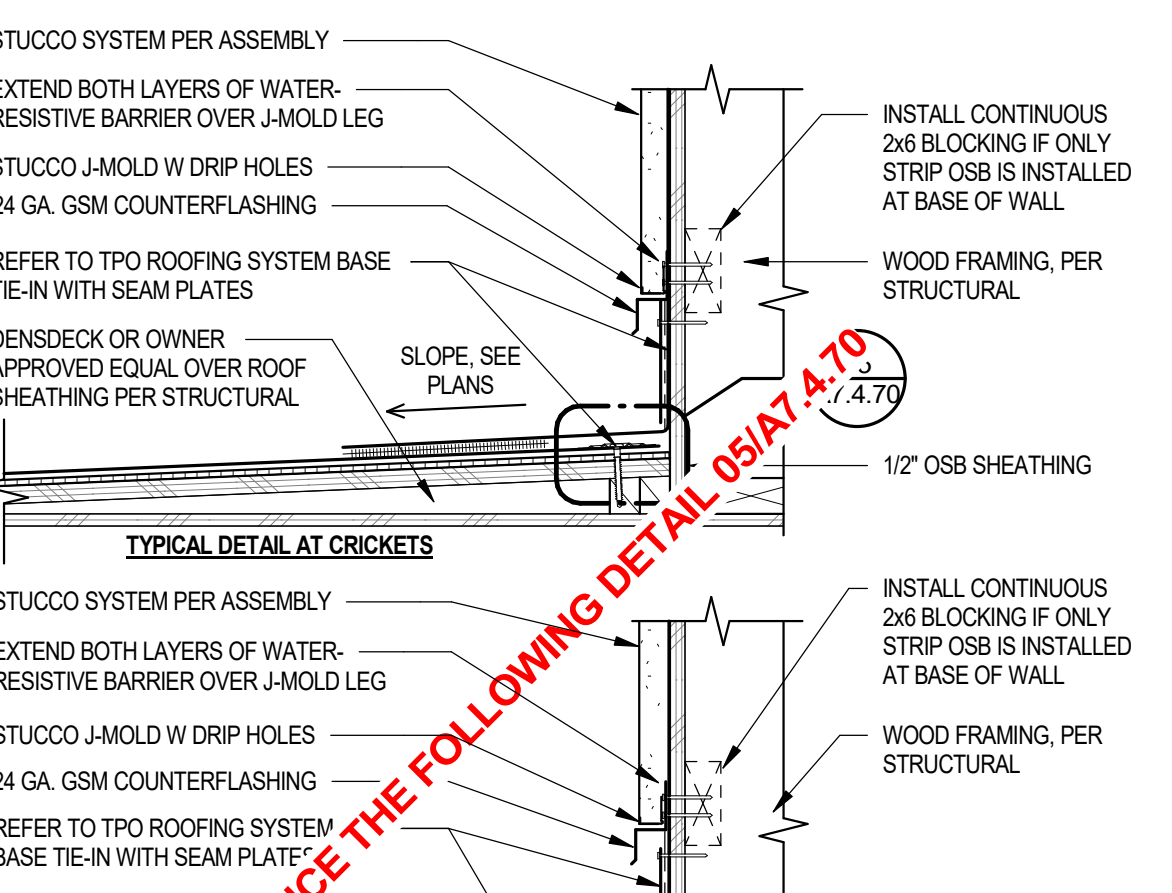
18 COPING AT TOP OF WALL
SCALE: 3" = 1'-0"



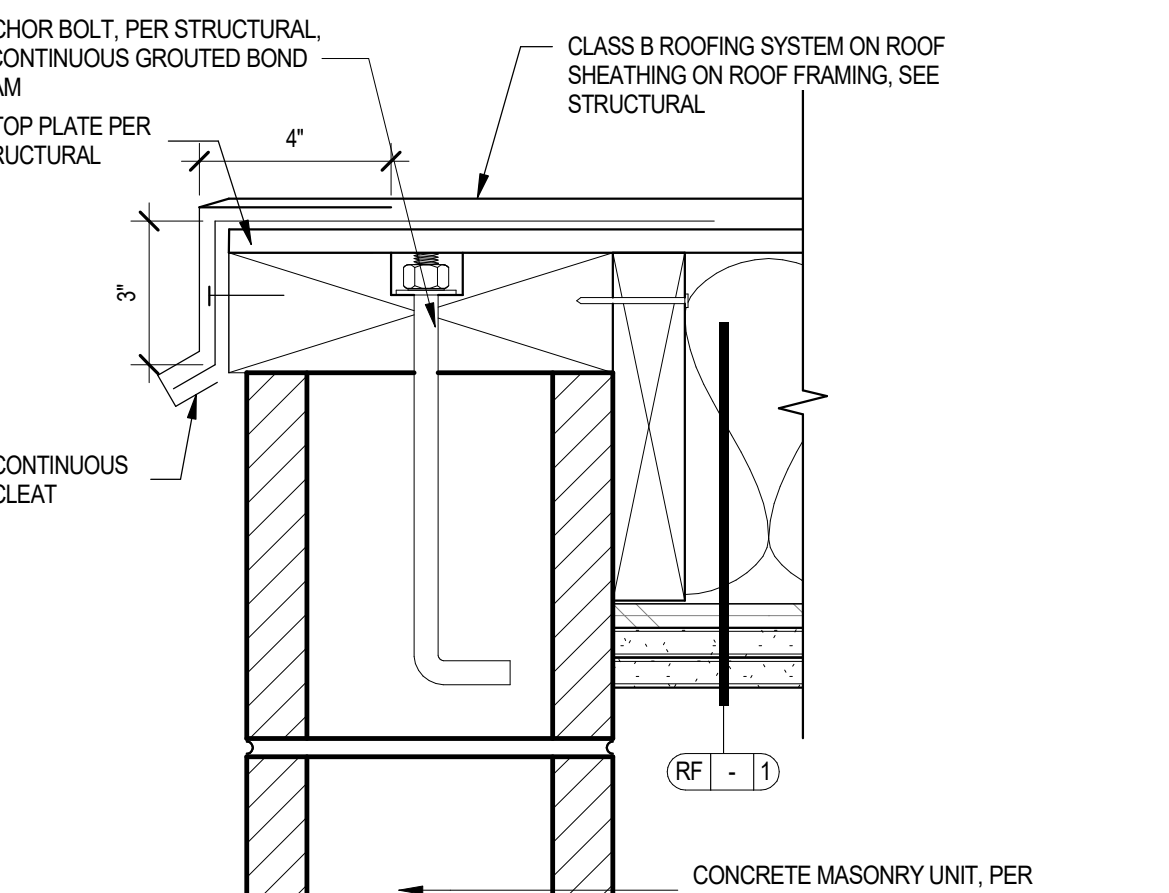
14 PARAPET METAL CAP FLASHING
SCALE: 3" = 1'-0"



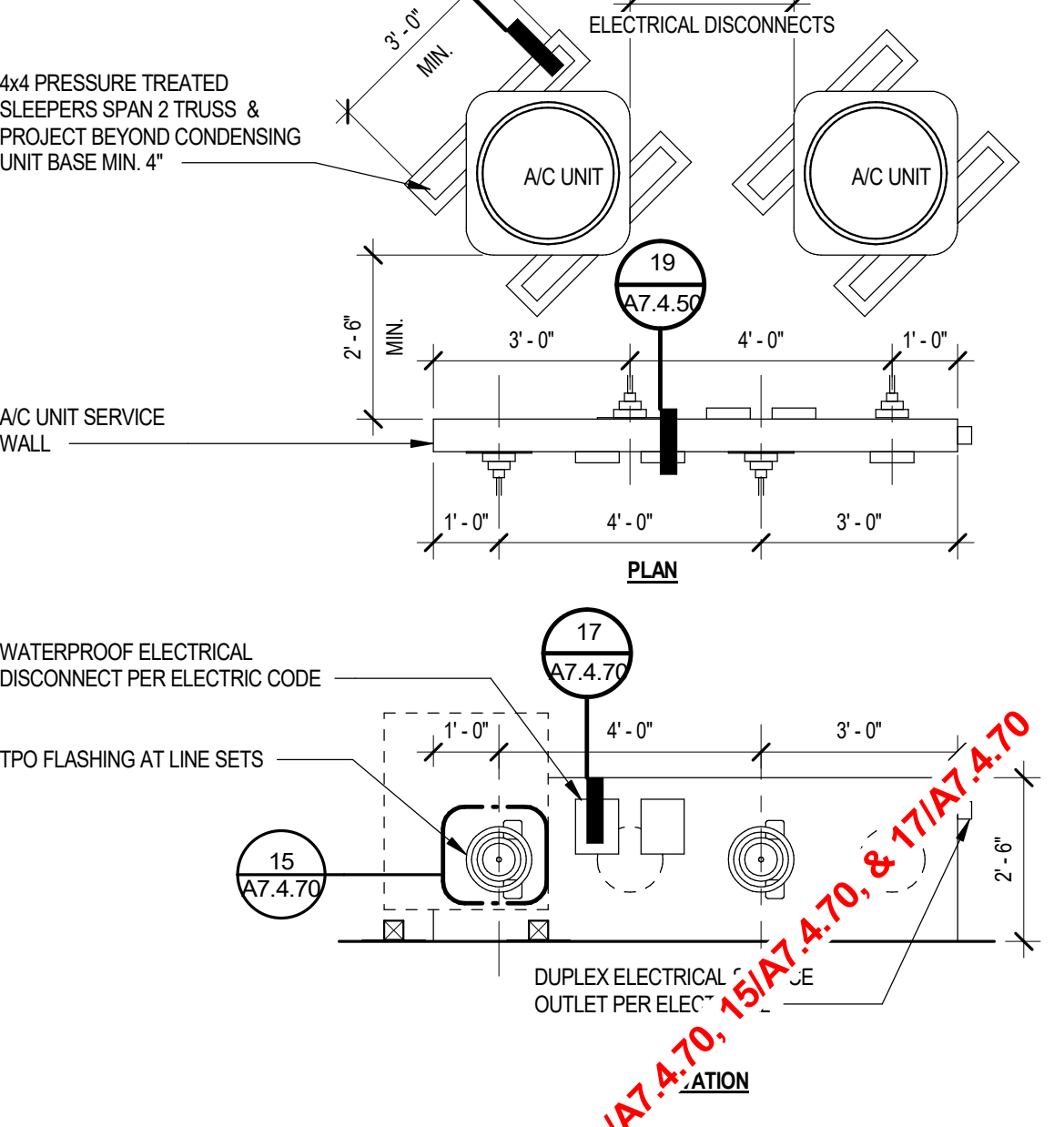
10 TPO ROOFING @ WOOD FRAMED STUCCO WALL
SCALE: 1 1/2" = 1'-0"



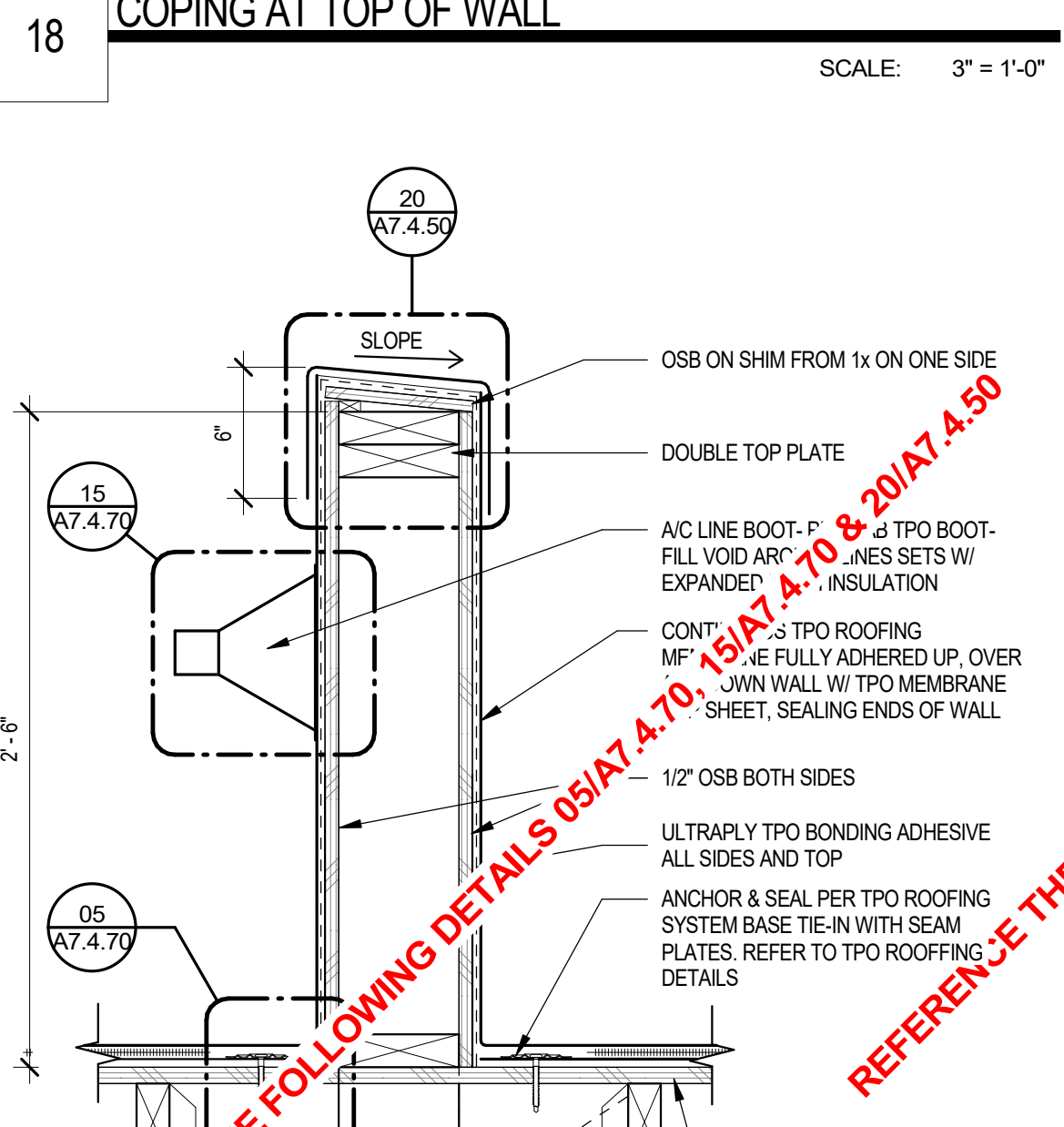
06 PARAPET METAL CAP FLASHING AT CMU WALL
SCALE: 3" = 1'-0"



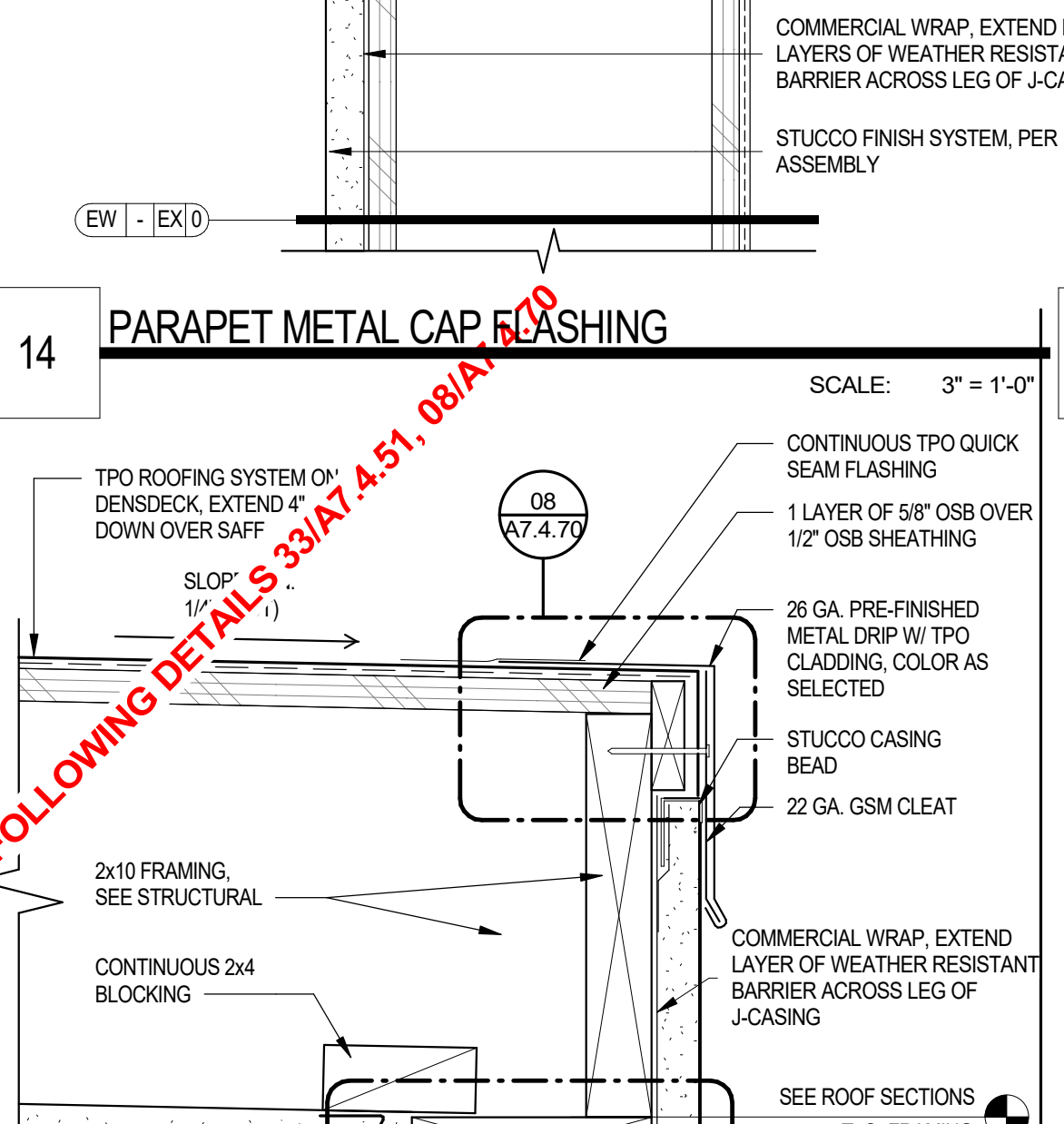
02 1-HR CORRIDOR WALL AT 1-HR ROOF/CEILING
SCALE: 1 1/2" = 1'-0"



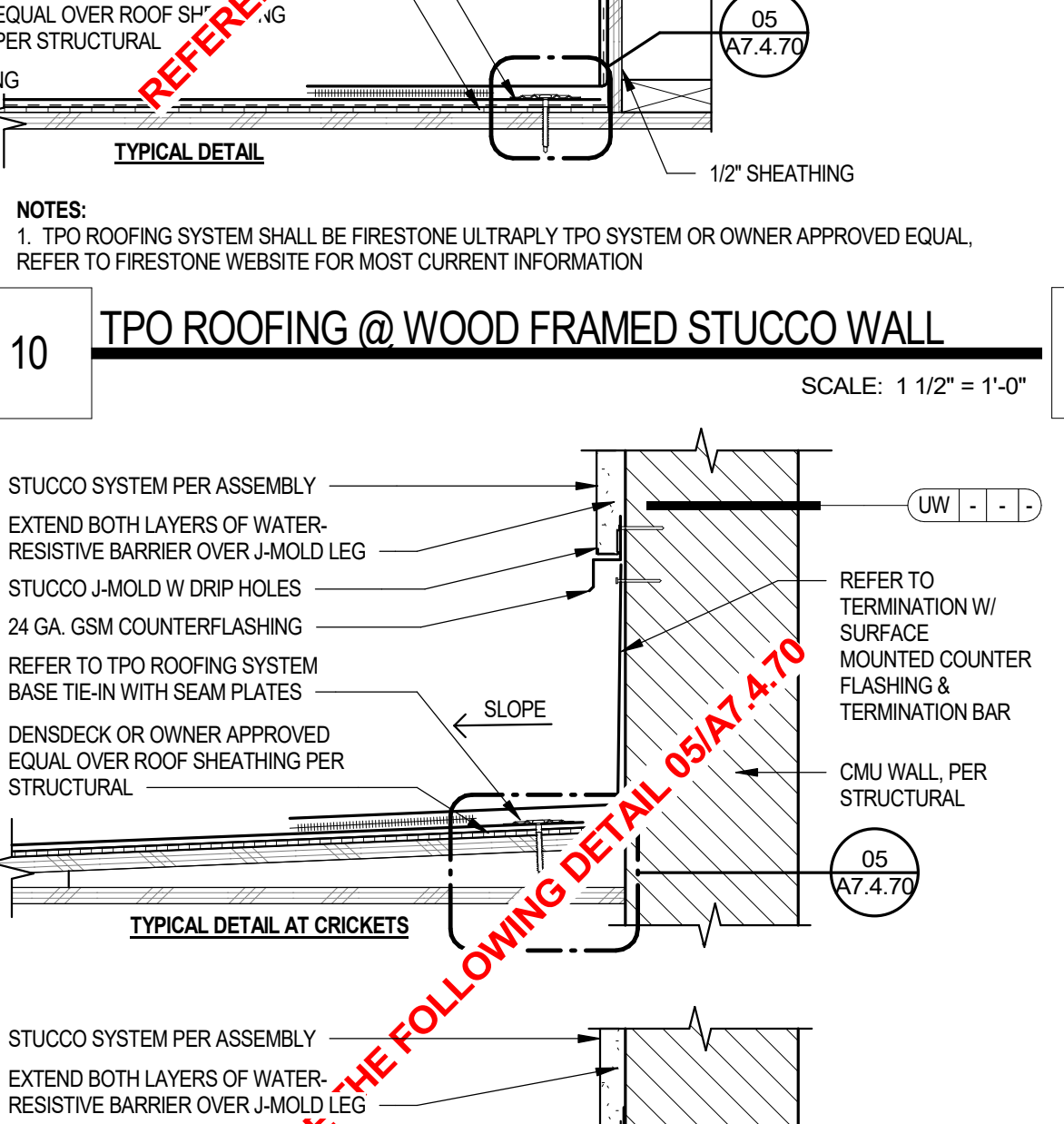
19 AC UNIT SERVICE WALL SECTION
SCALE: 1 1/2" = 1'-0"



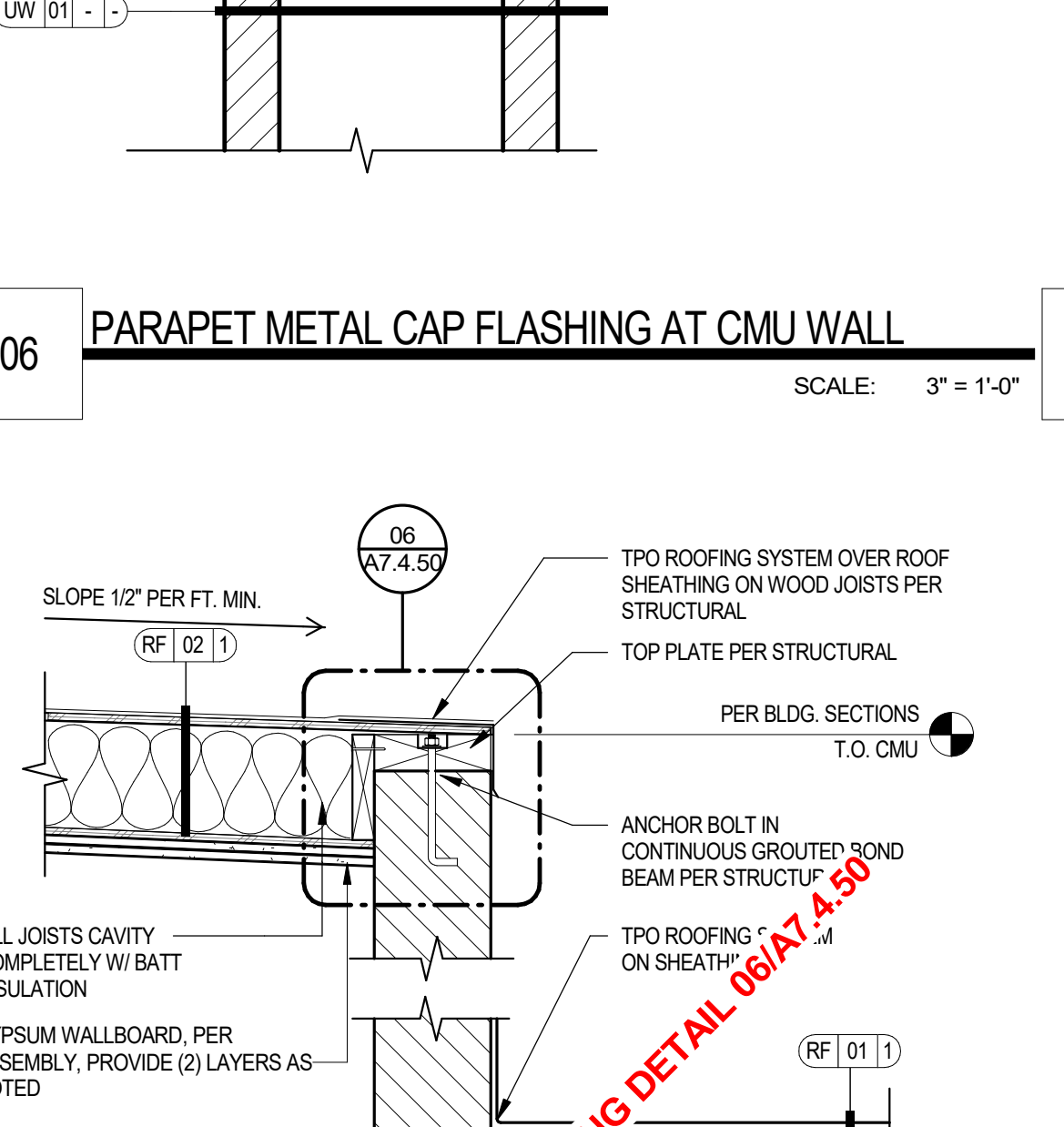
15 ROOF/SOFFT METAL FASCIA
SCALE: 3" = 1'-0"



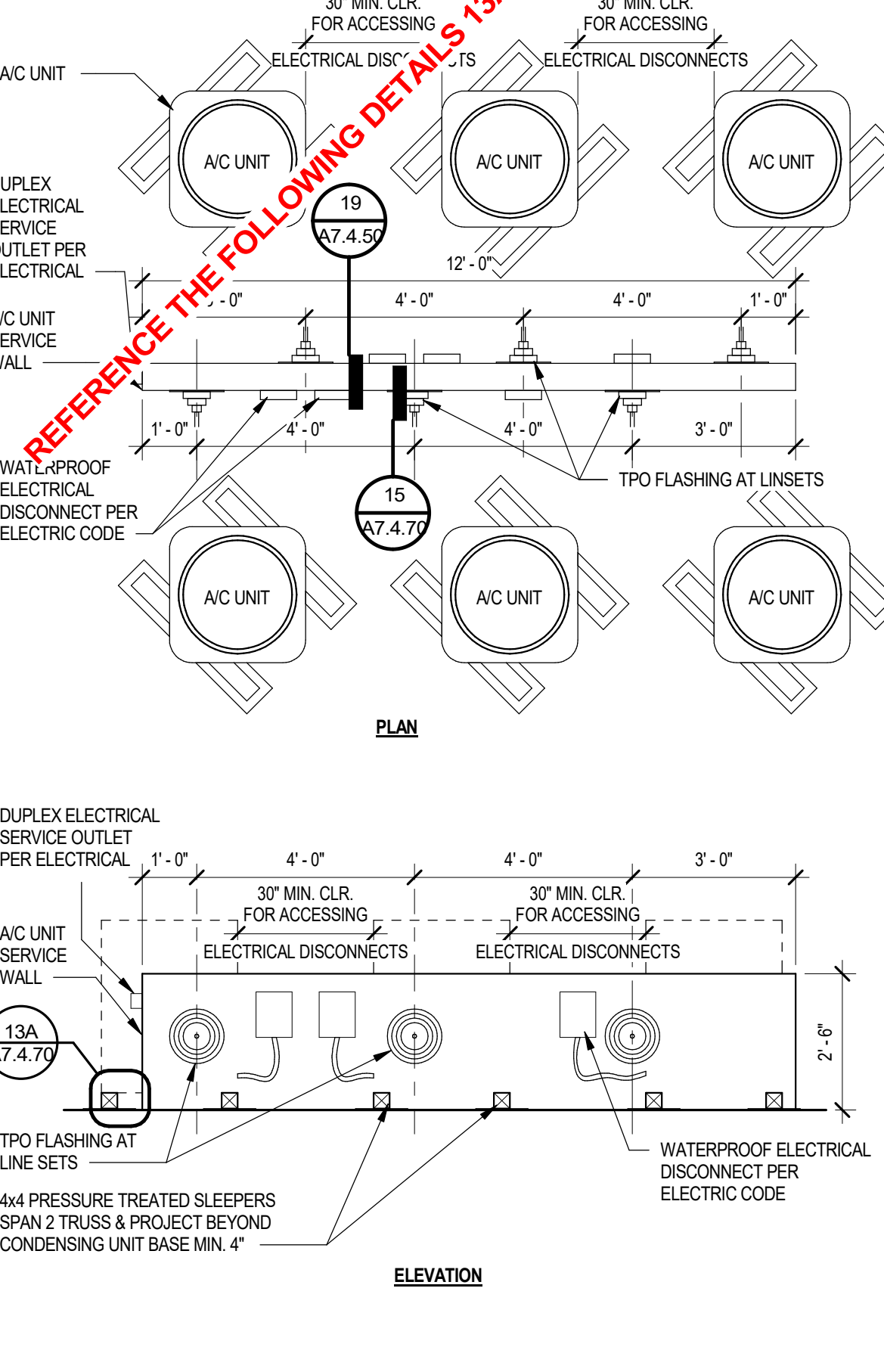
11 TPO ROOF SYSTEM/CRICKET AT CMU EXTERIOR WALL
SCALE: 1 1/2" = 1'-0"



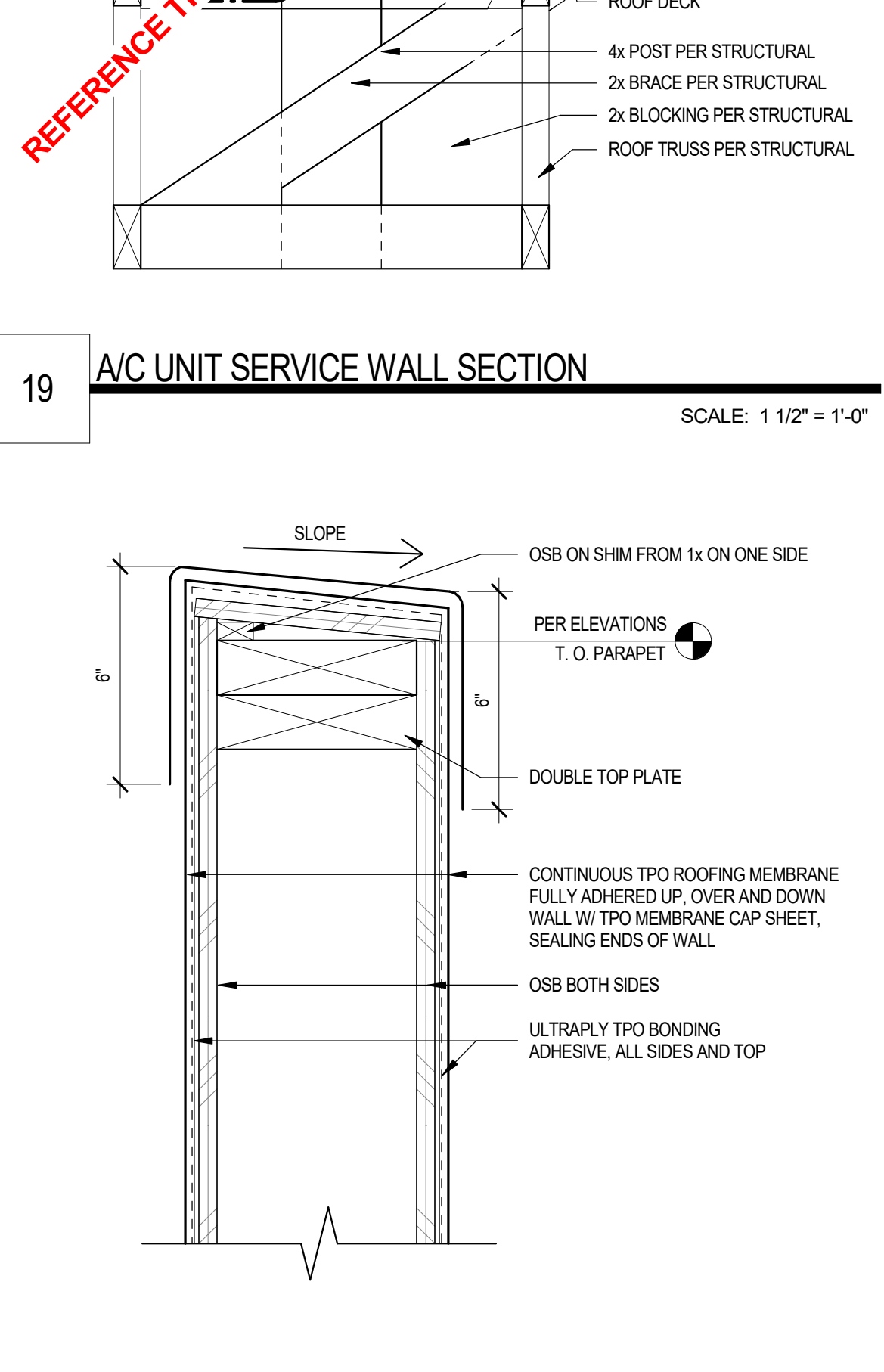
07 ROOF SYSTEM AT ELEVATOR SHAFT
SCALE: 1" = 1'-0"



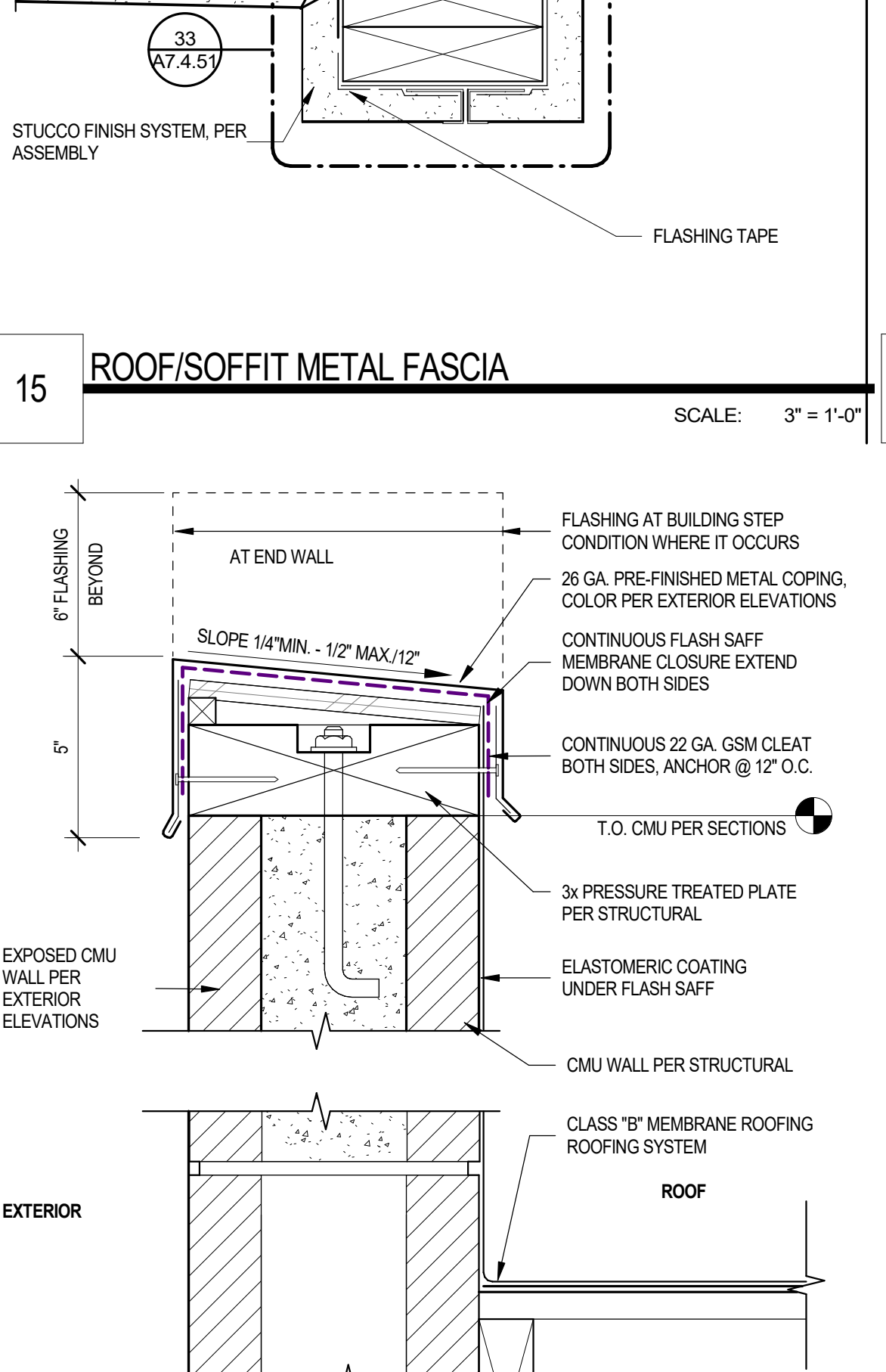
03 1-HR FIRE BARRIER WALL AT 1-HR ROOF/CEILING
SCALE: 1 1/2" = 1'-0"



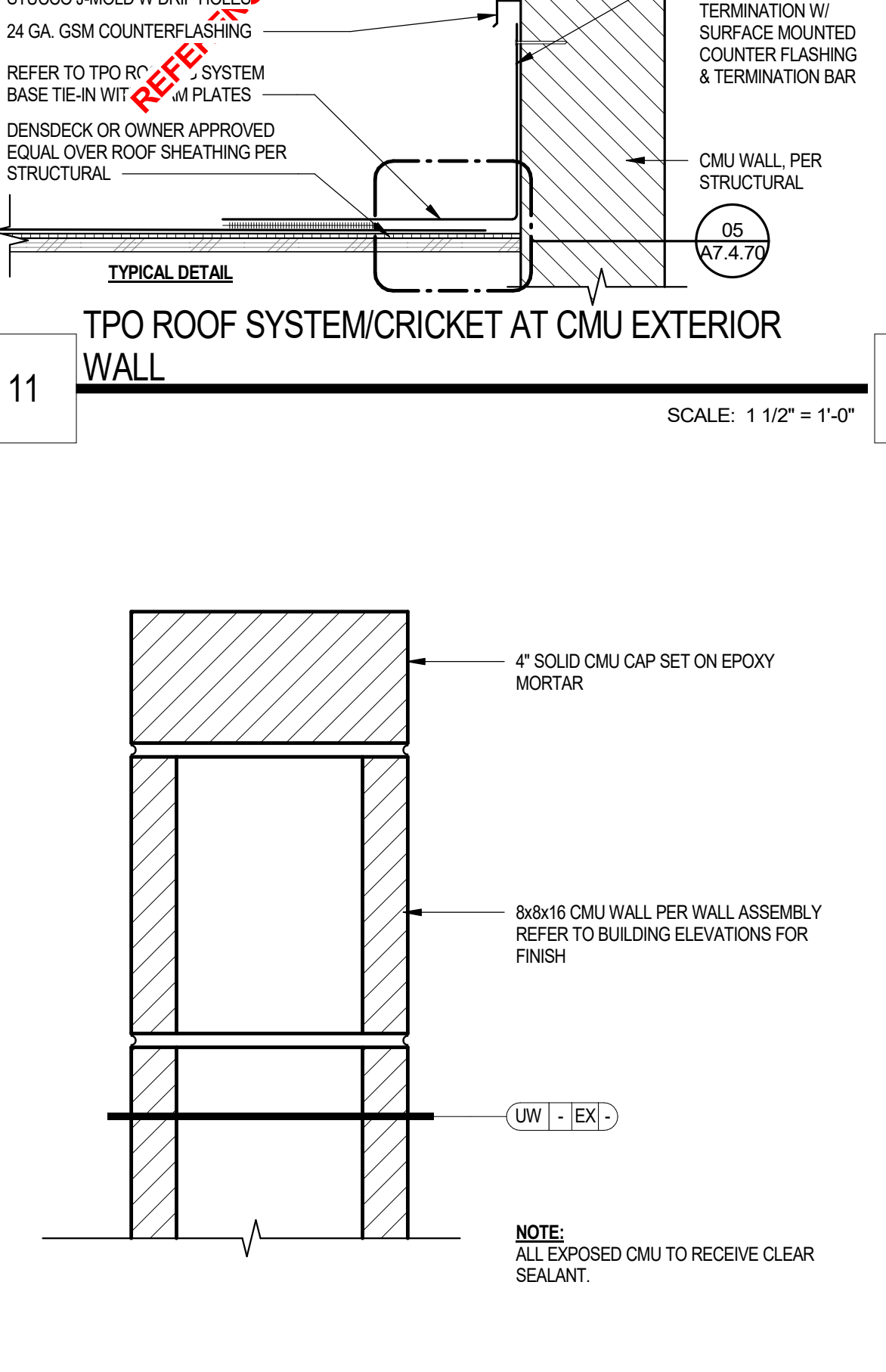
24 MECHANICAL SERVICE WALL ELEVATION
SCALE: 3/8" = 1'-0"



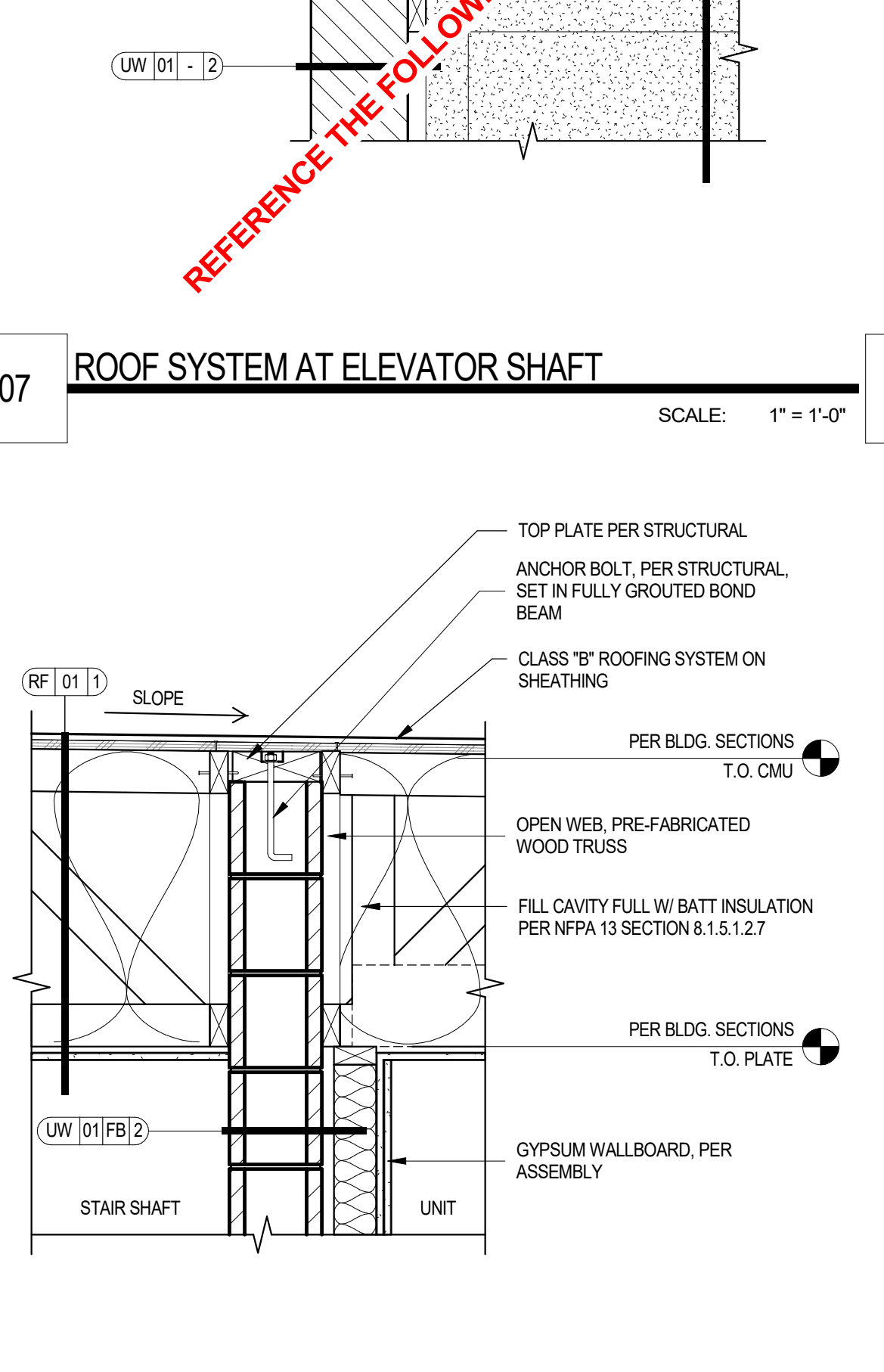
20 PARAPET CAP FLASHING
SCALE: 3" = 1'-0"



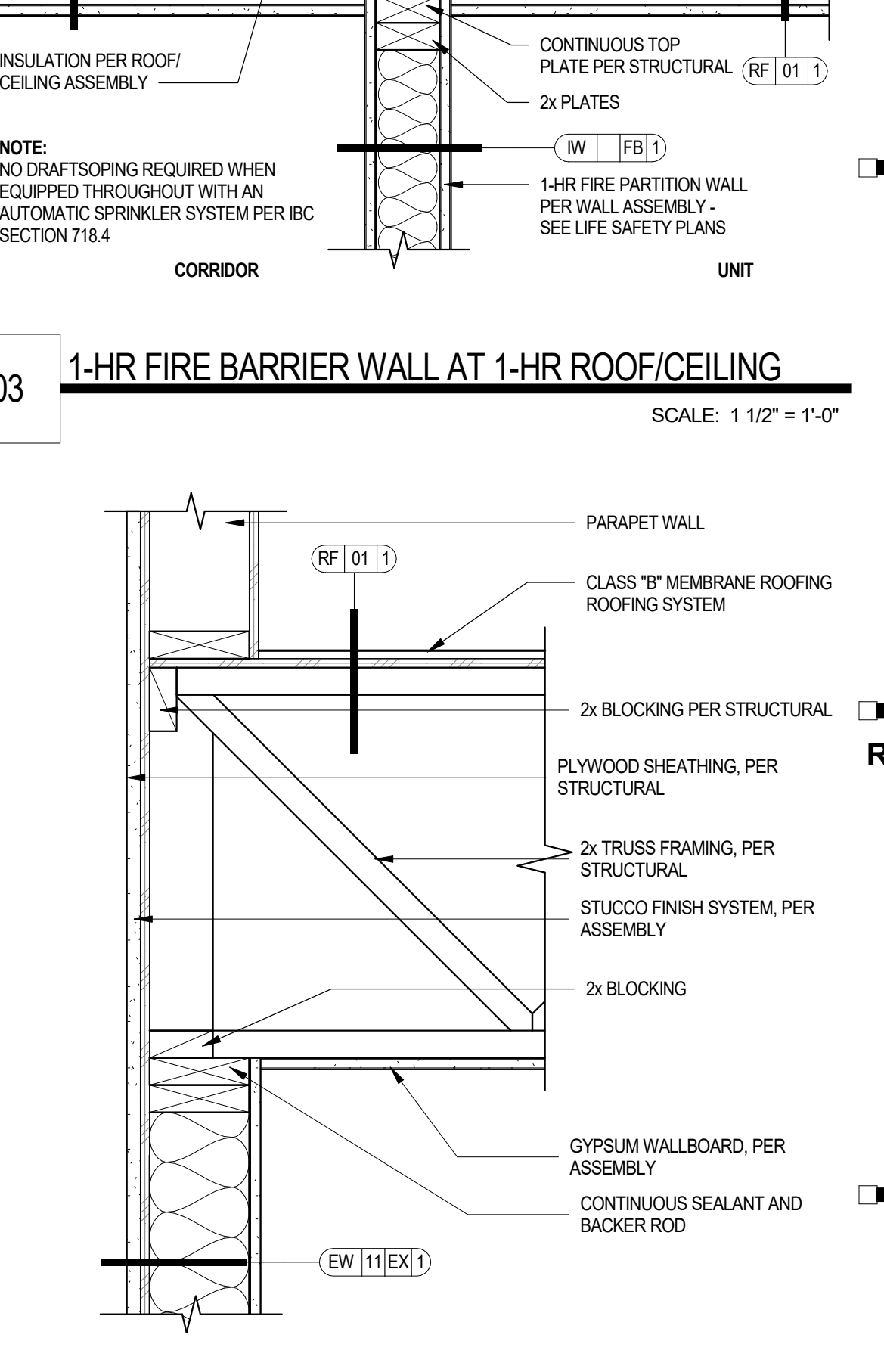
16 FLASHING AT CMU PARAPET WALL
SCALE: 3" = 1'-0"



12 CMU CAP AT EXPOSED CMU WALL PARAPET
SCALE: 3" = 1'-0"



08 ROOF SYSTEM AT STAIR SHAFT
SCALE: 1" = 1'-0"



04 1-HR ROOF/CEILING AT 1-HR EXTERIOR WALL
SCALE: 1 1/2" = 1'-0"

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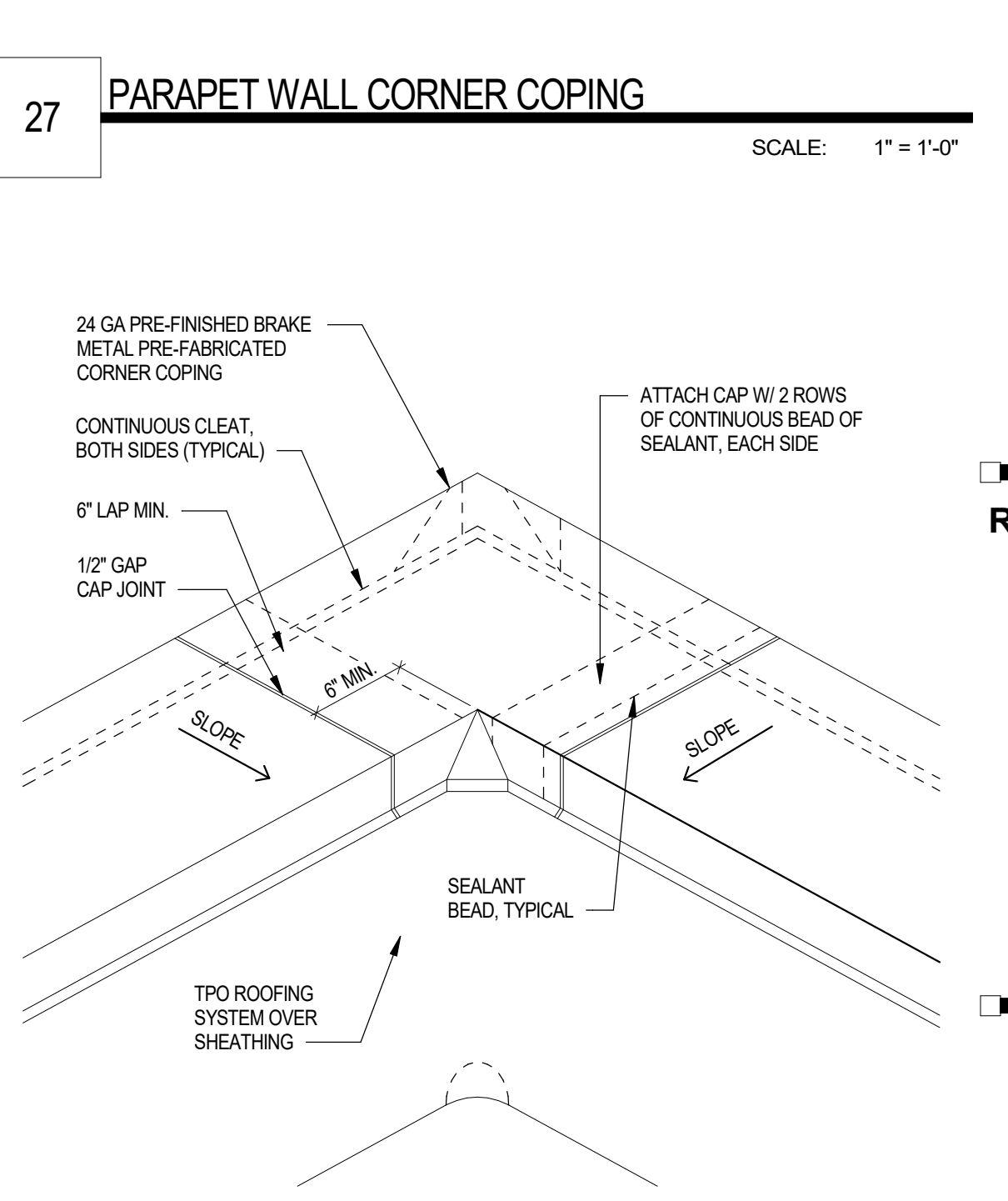
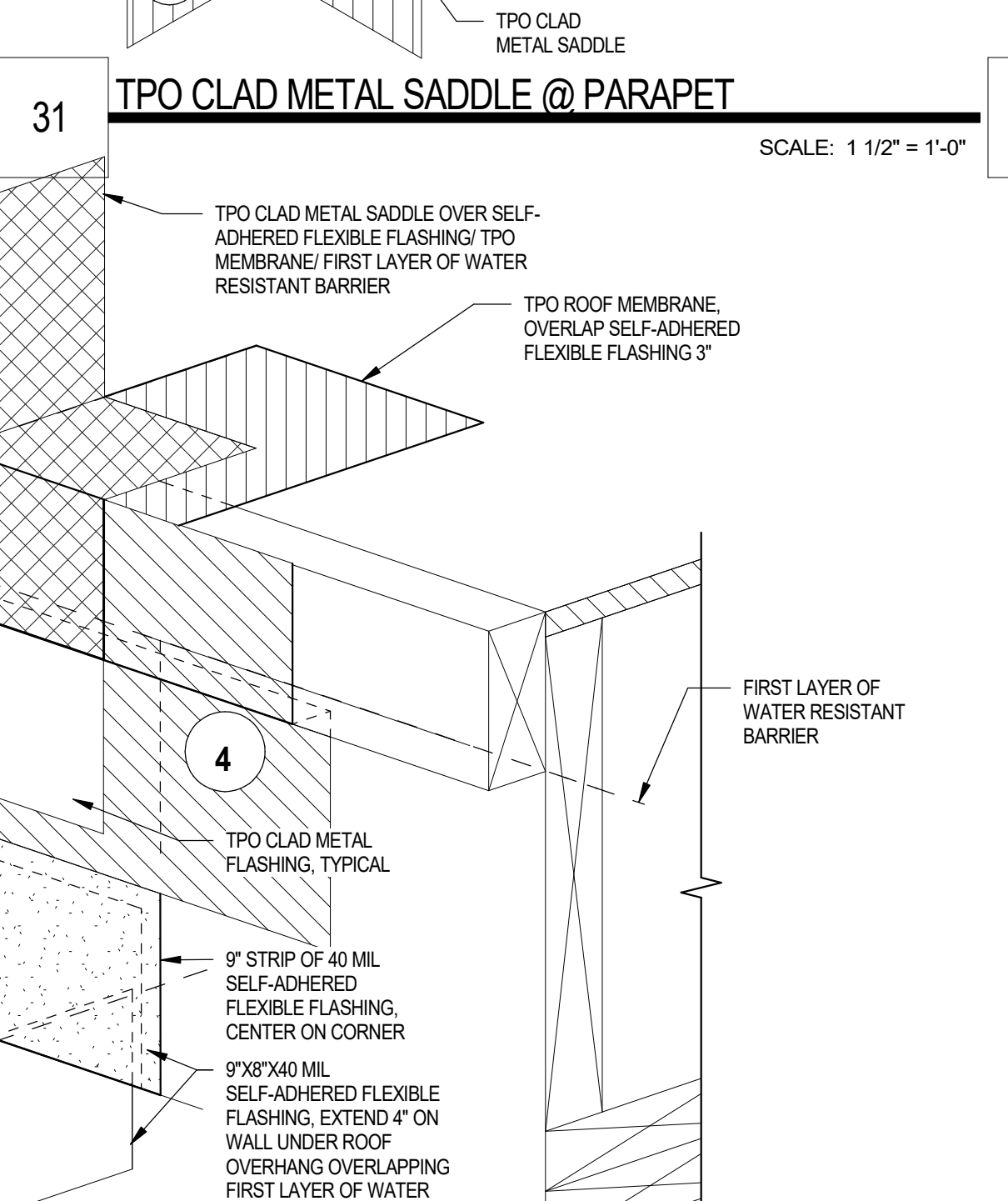
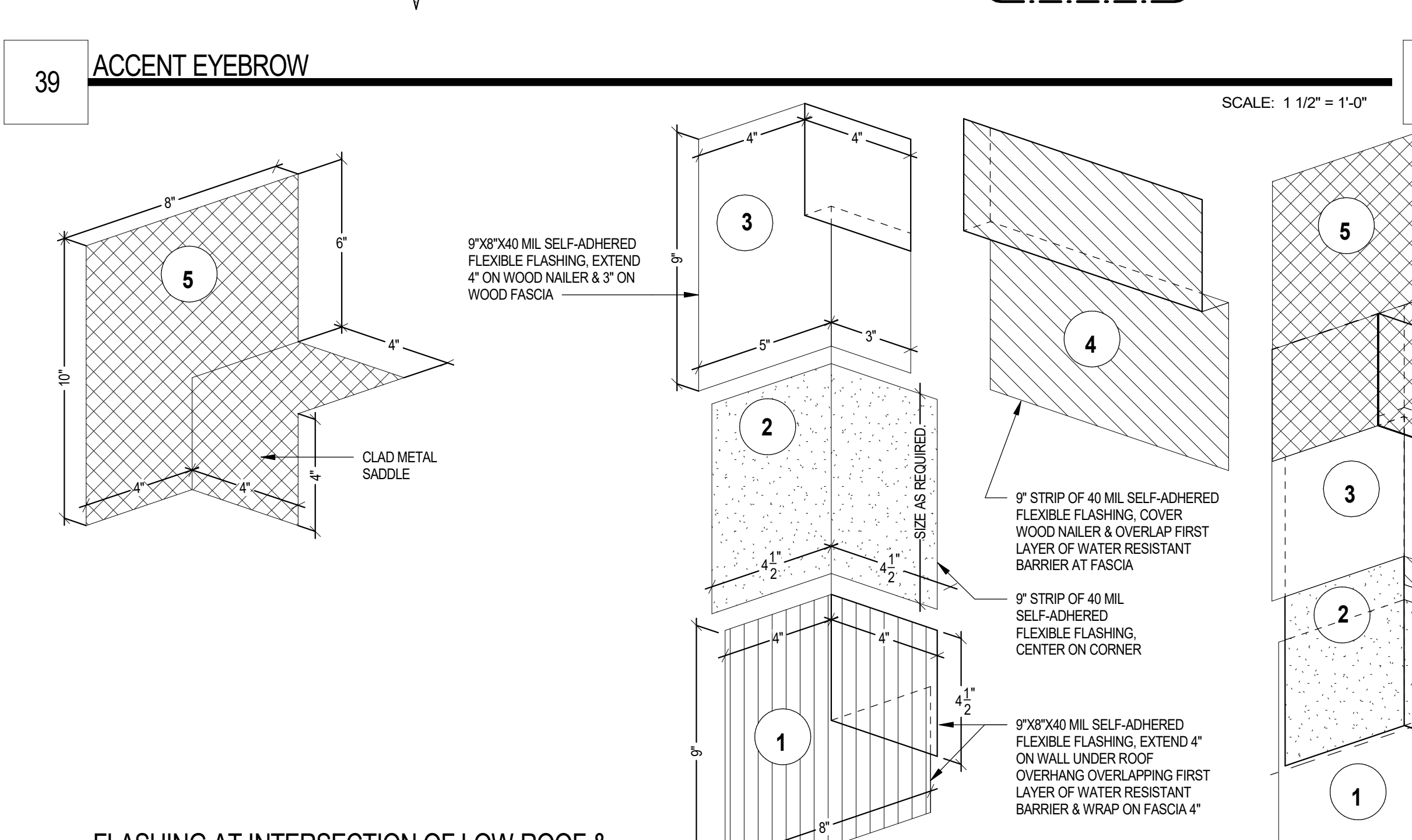
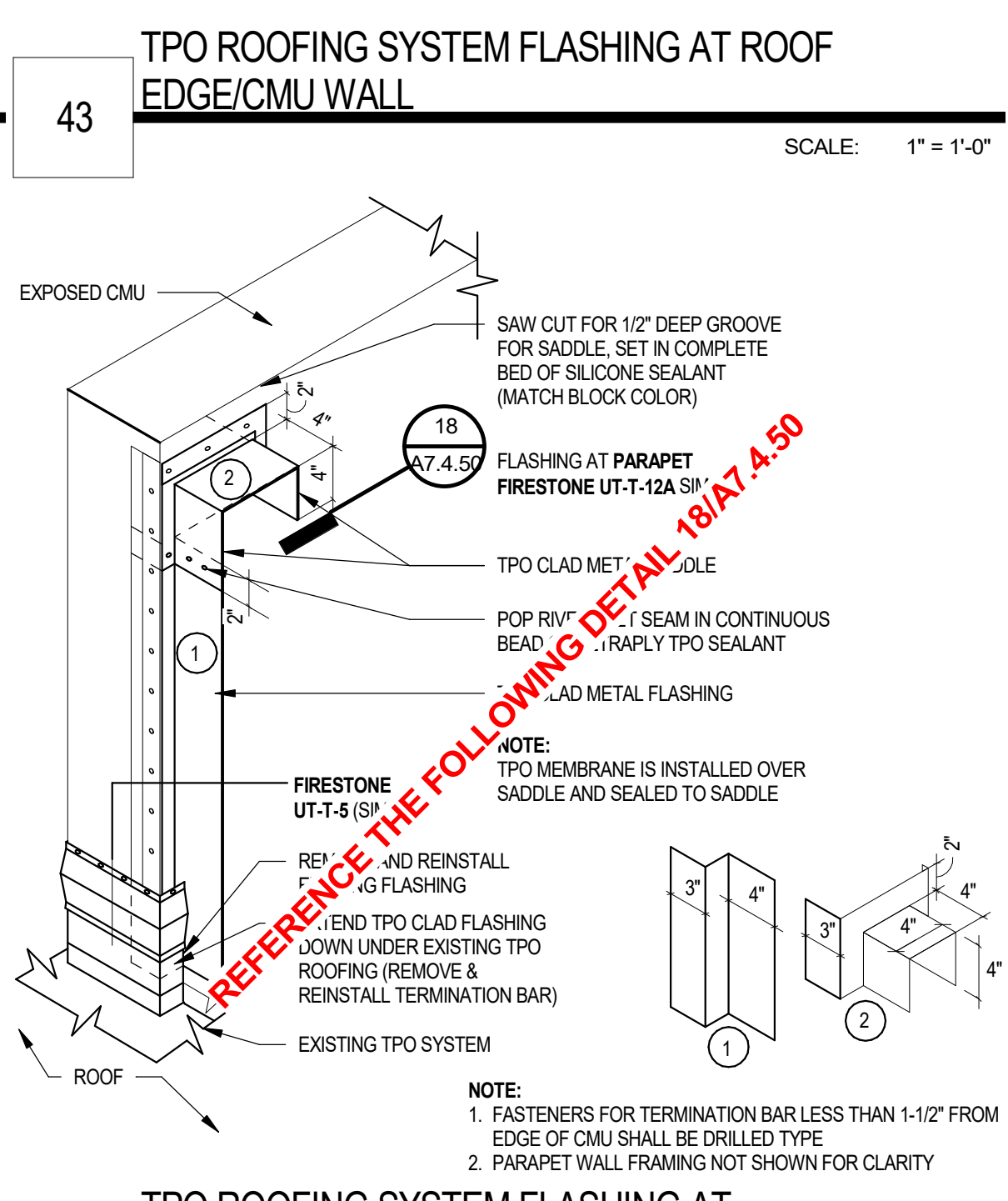
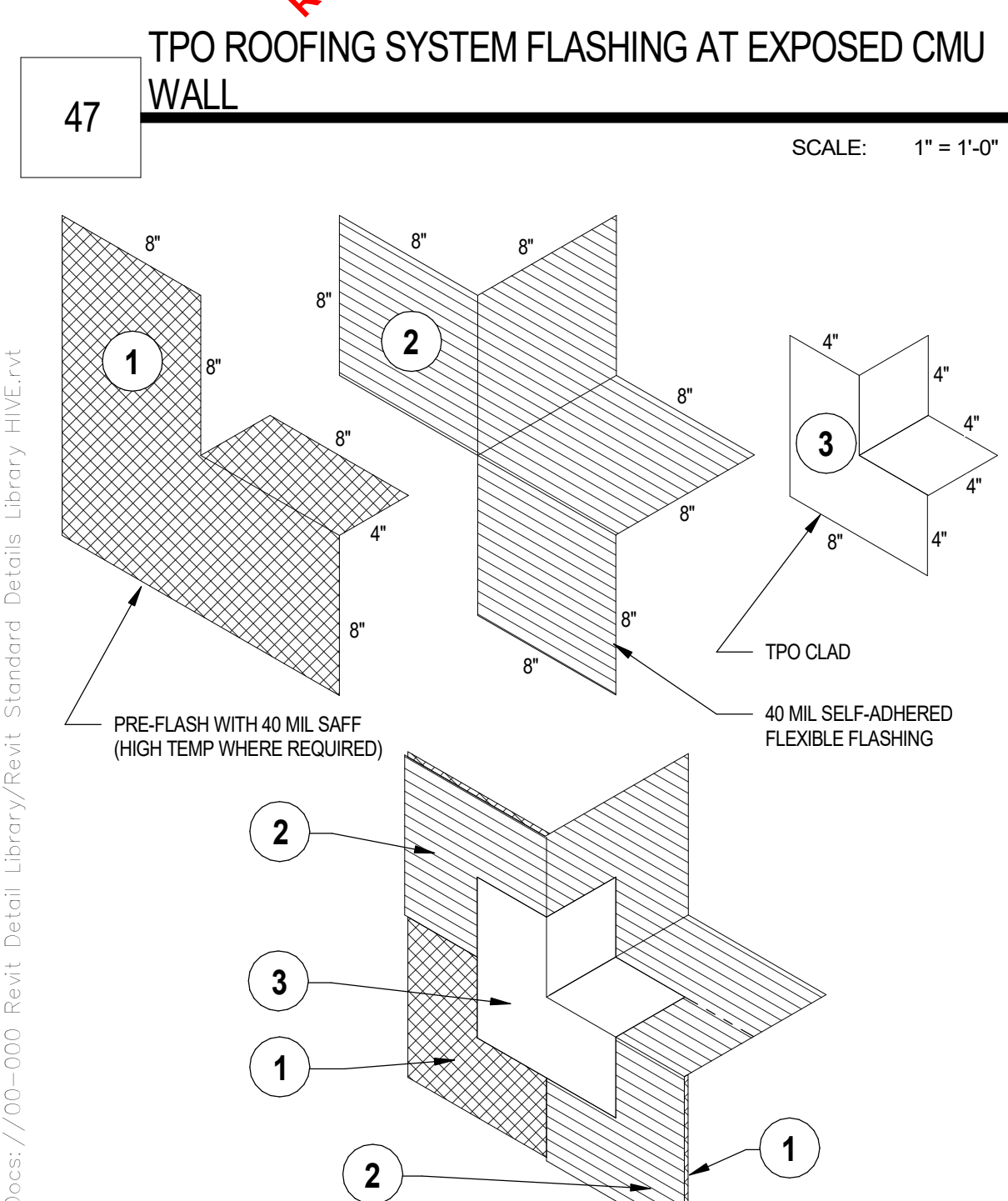
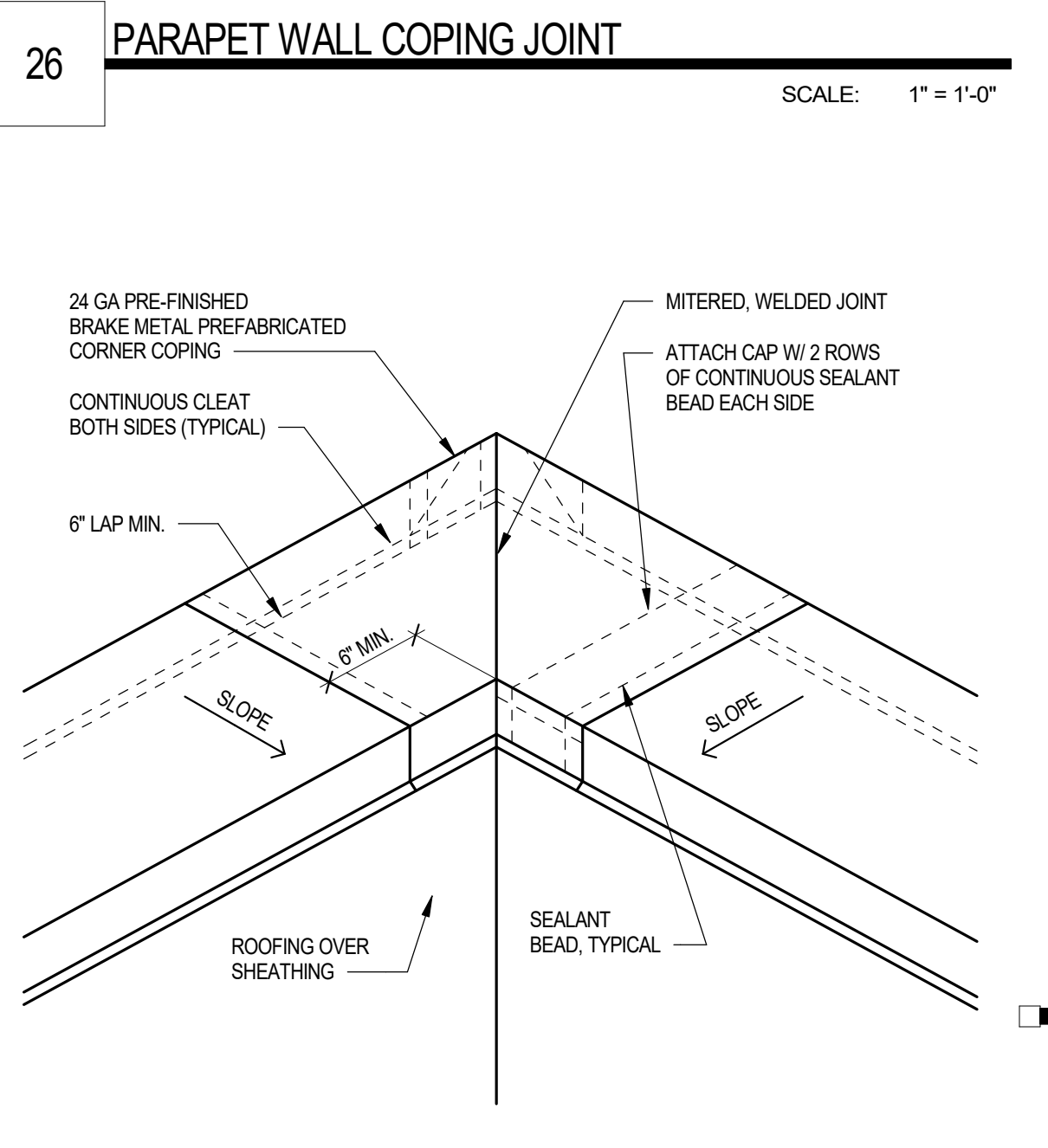
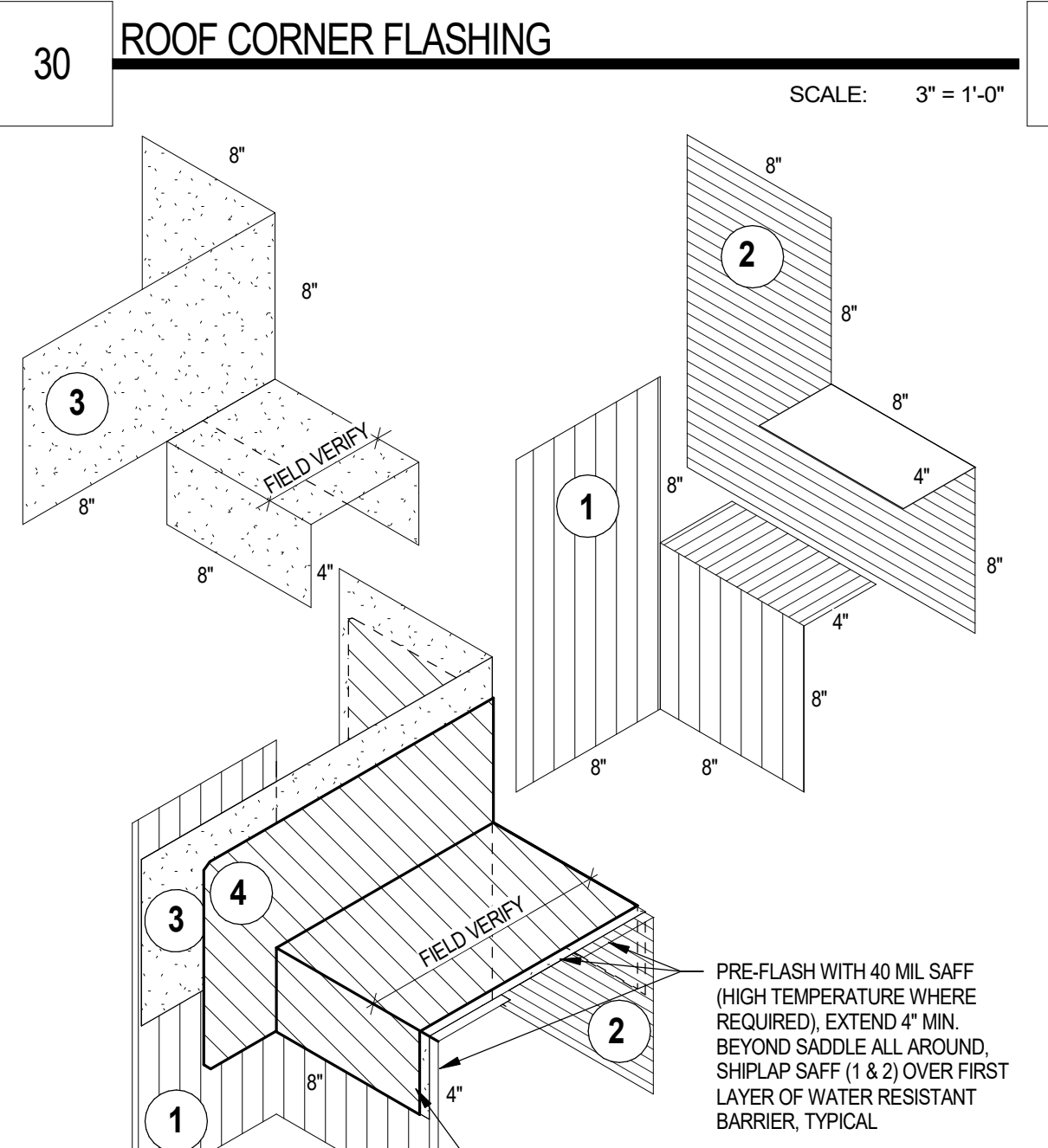
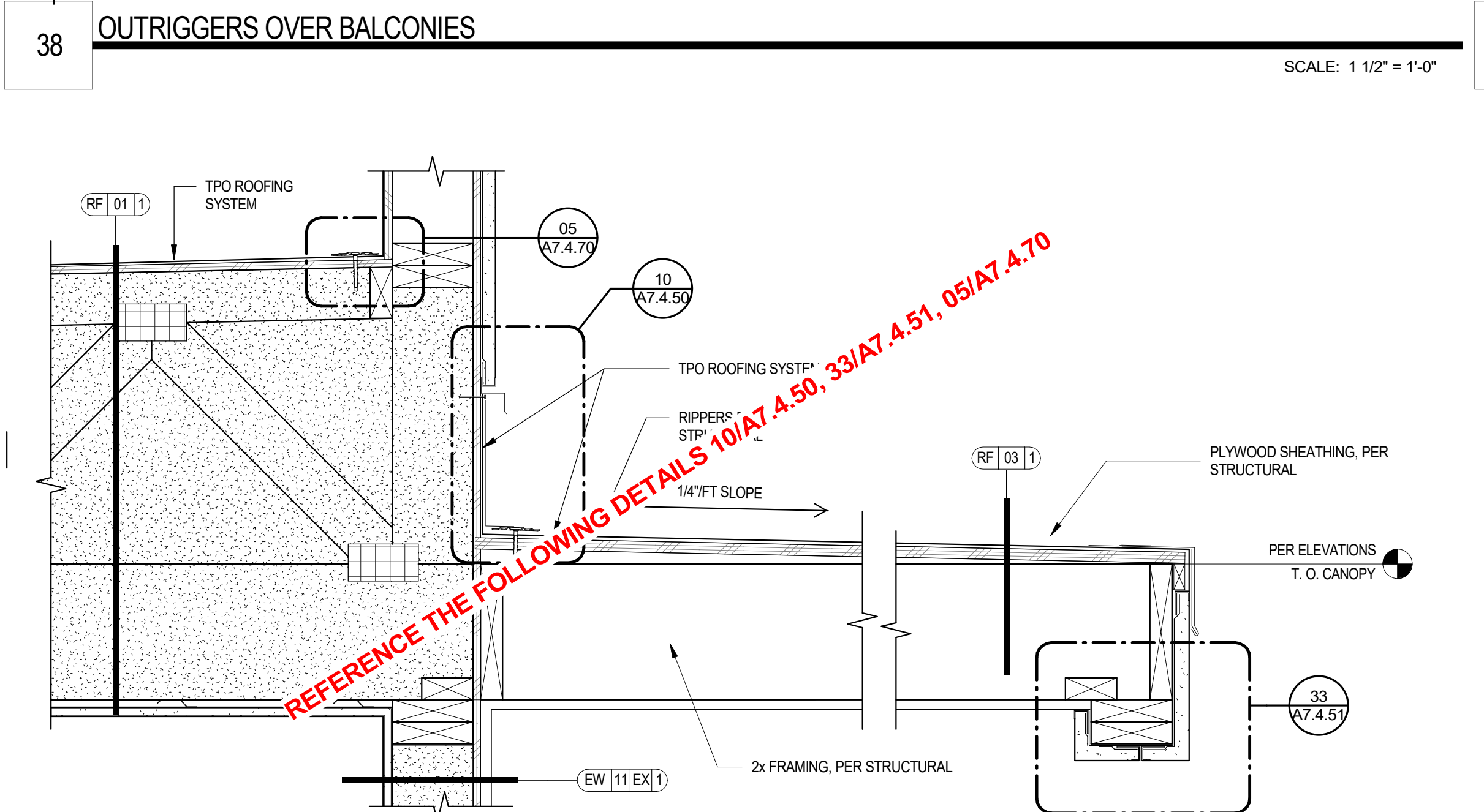
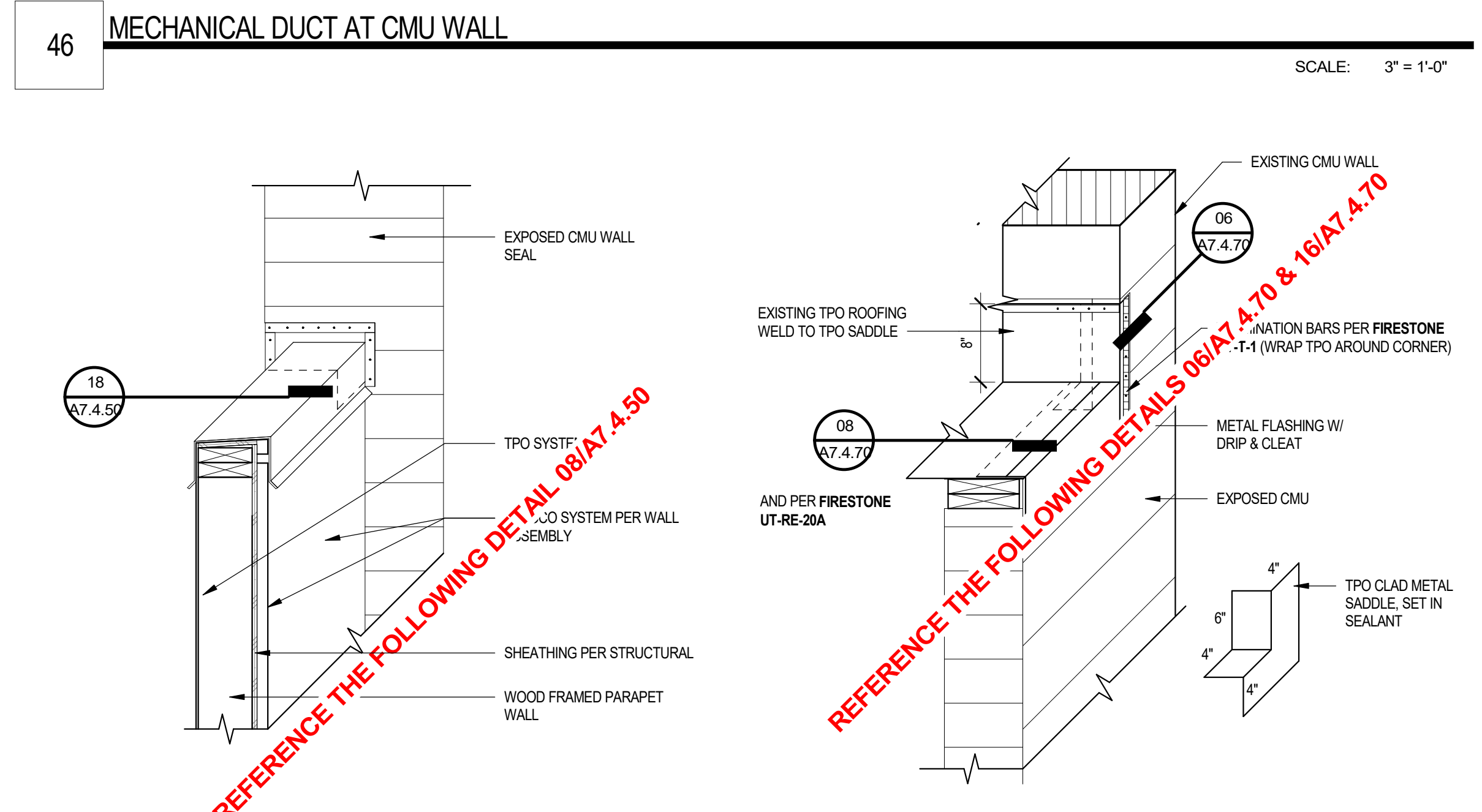
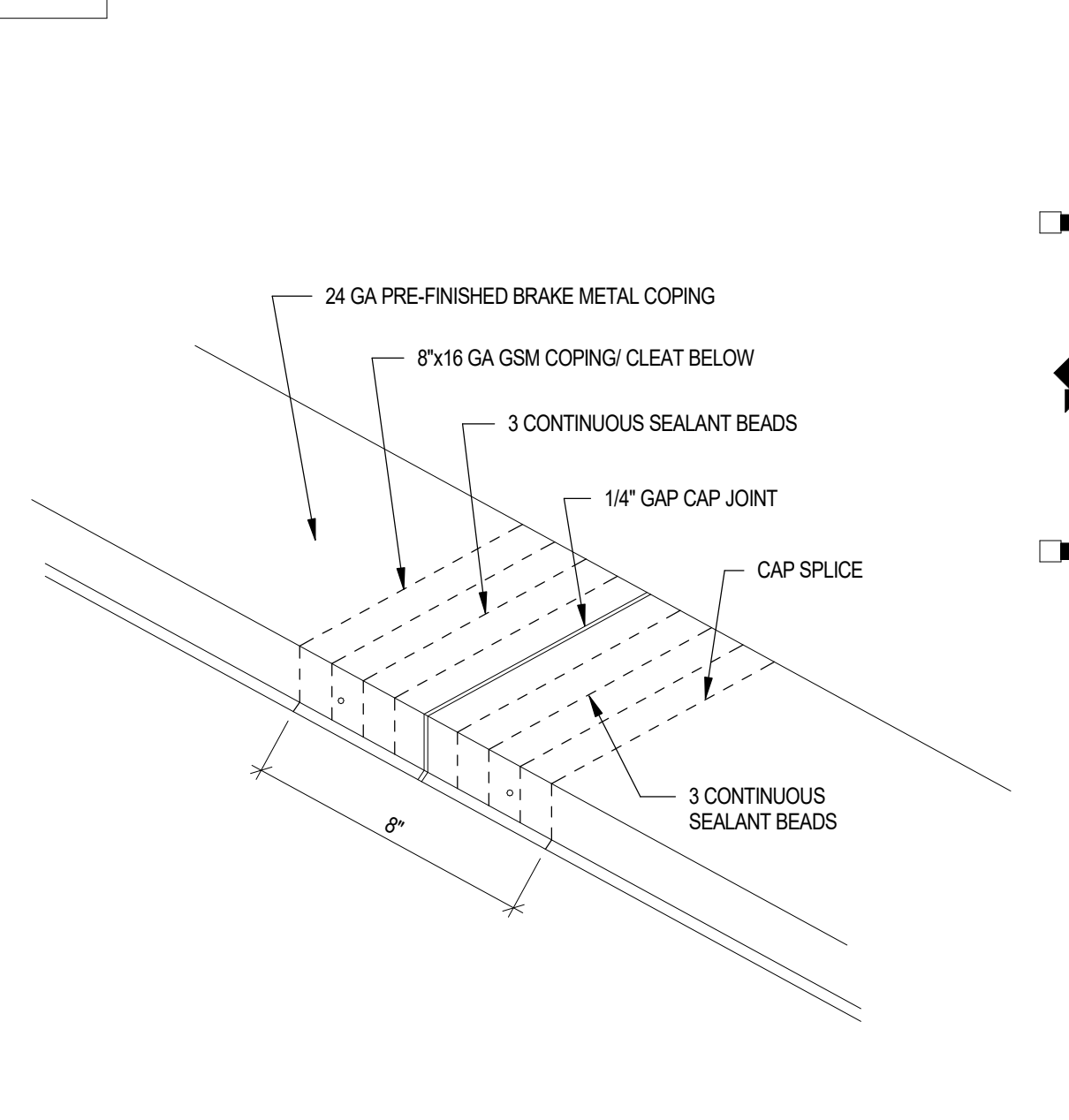
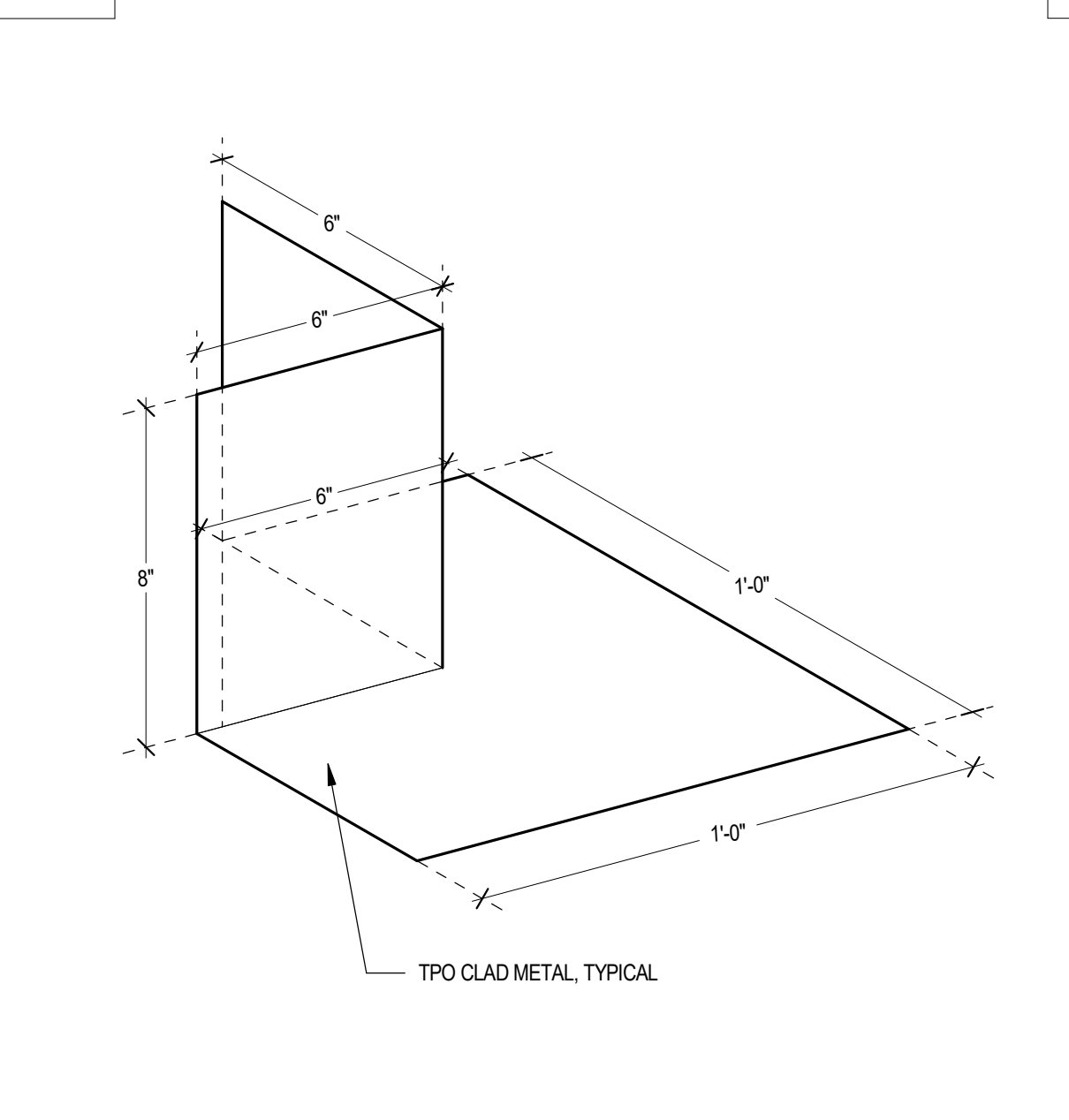
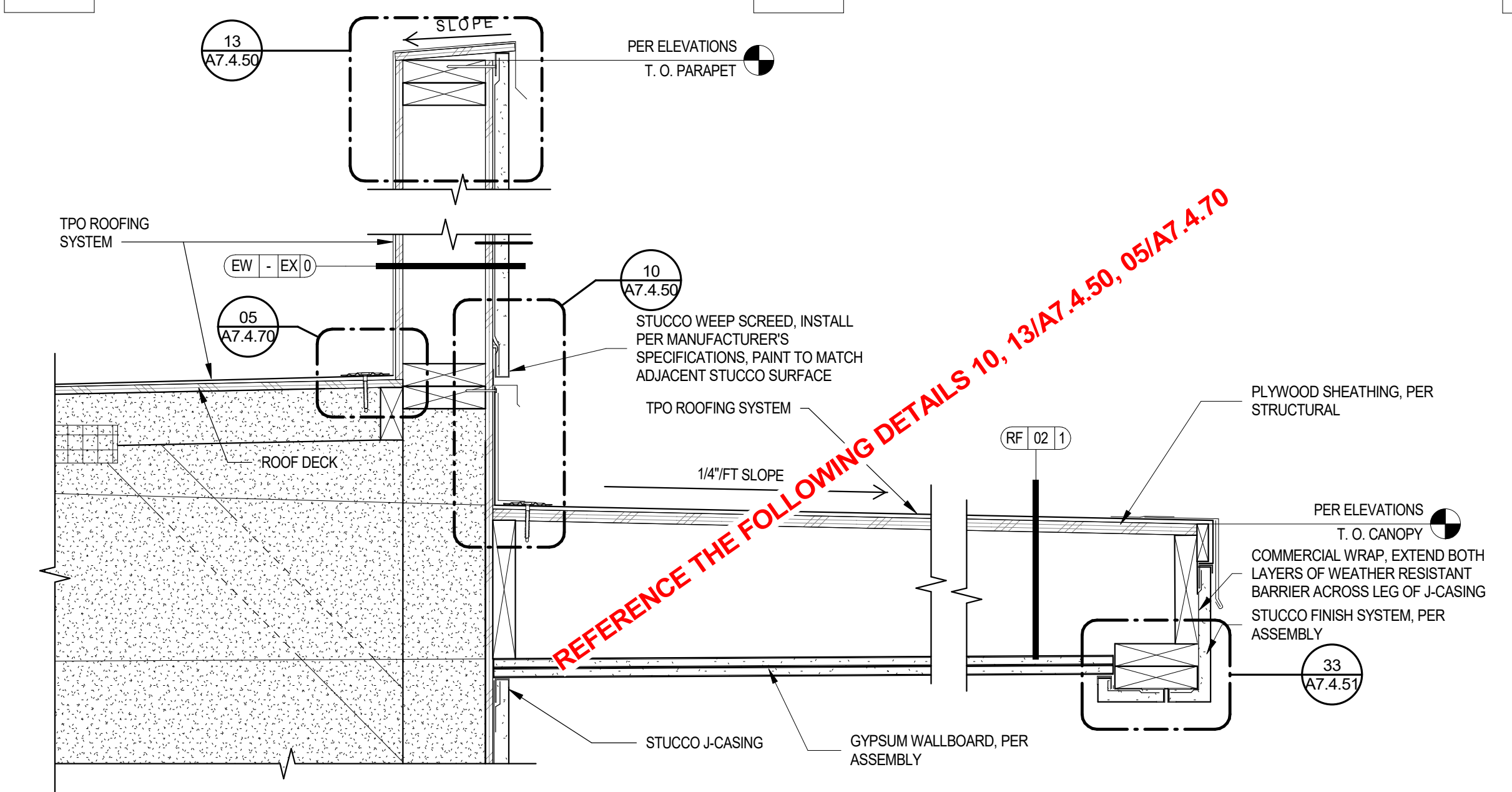
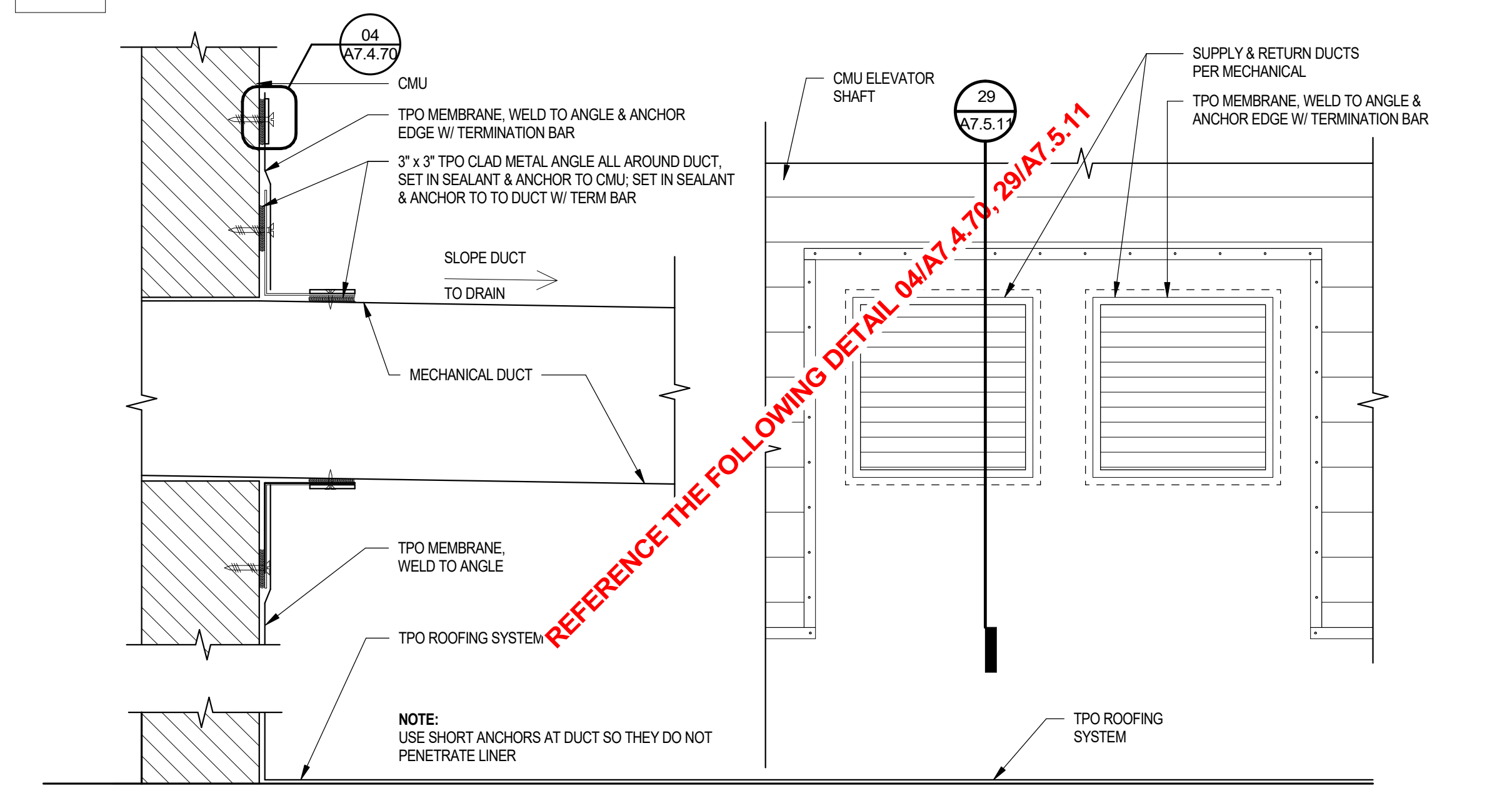
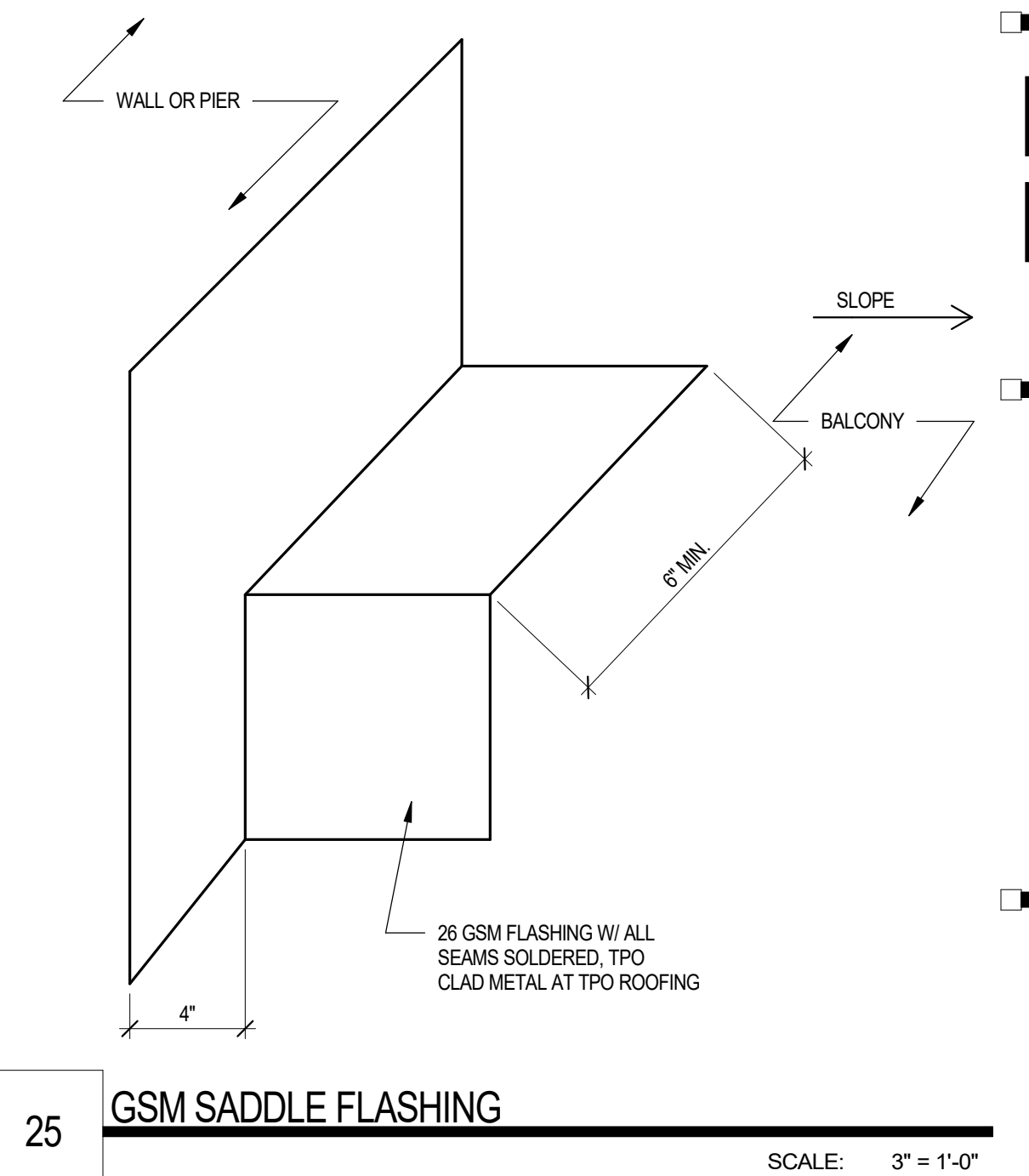
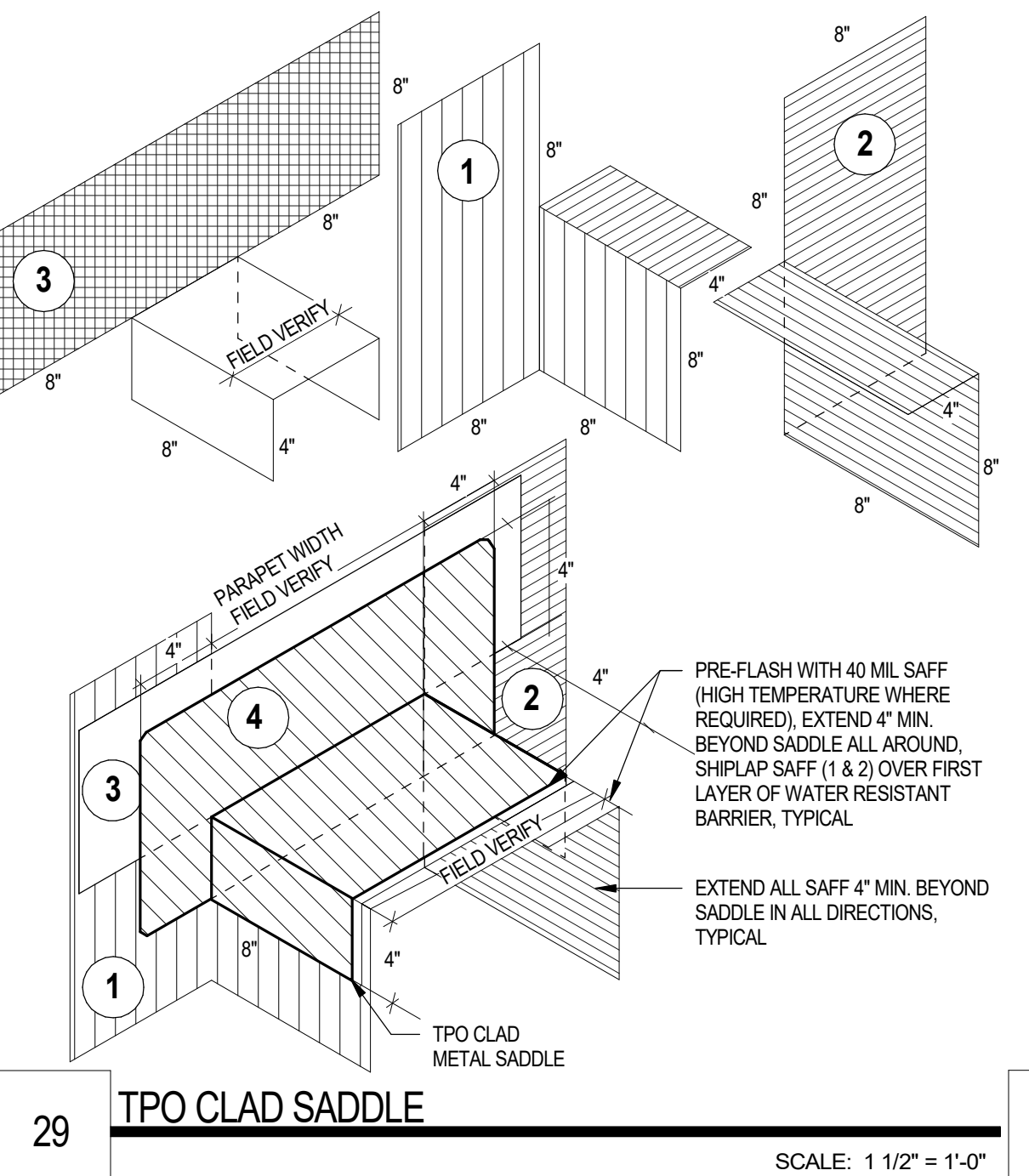
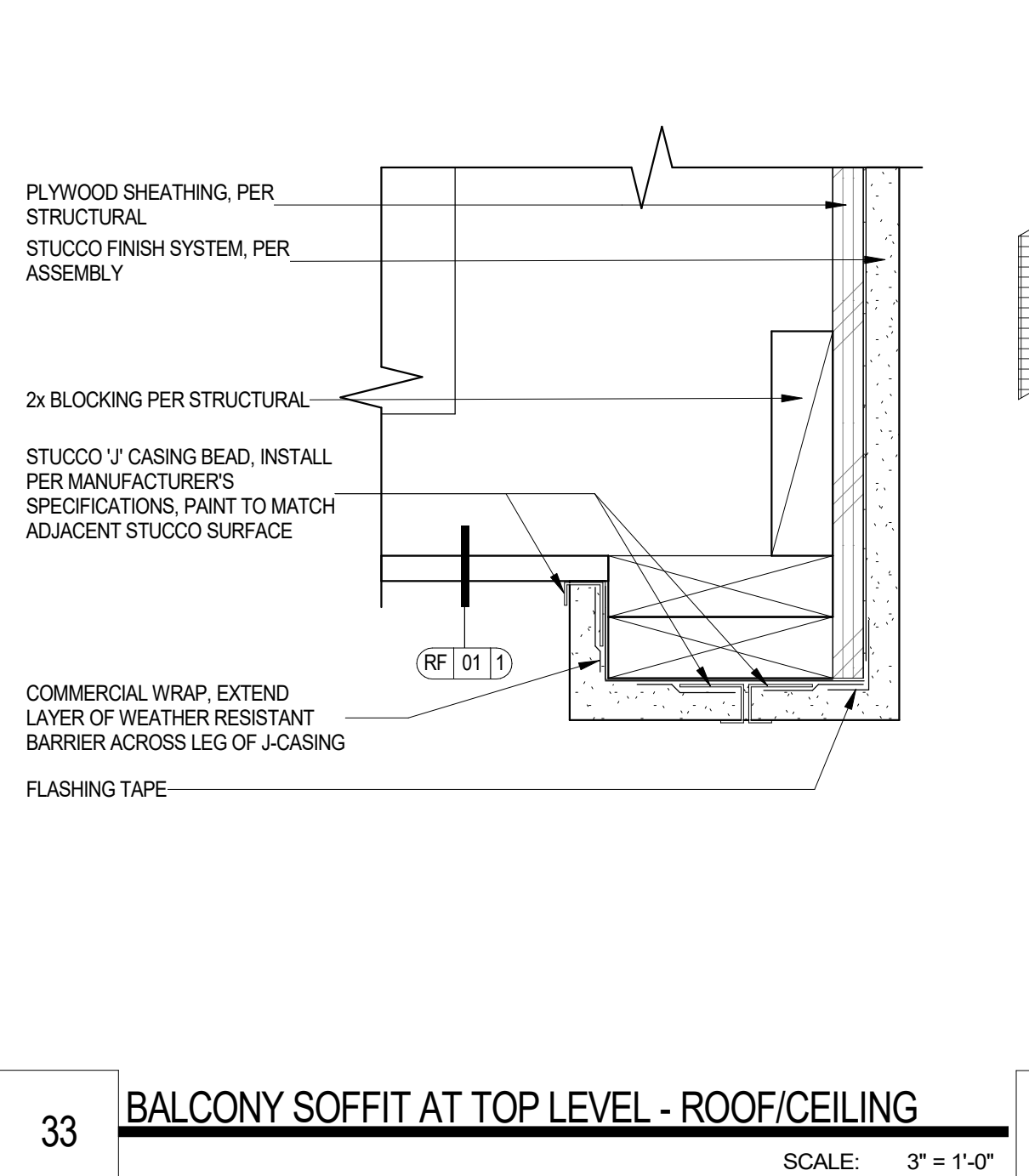
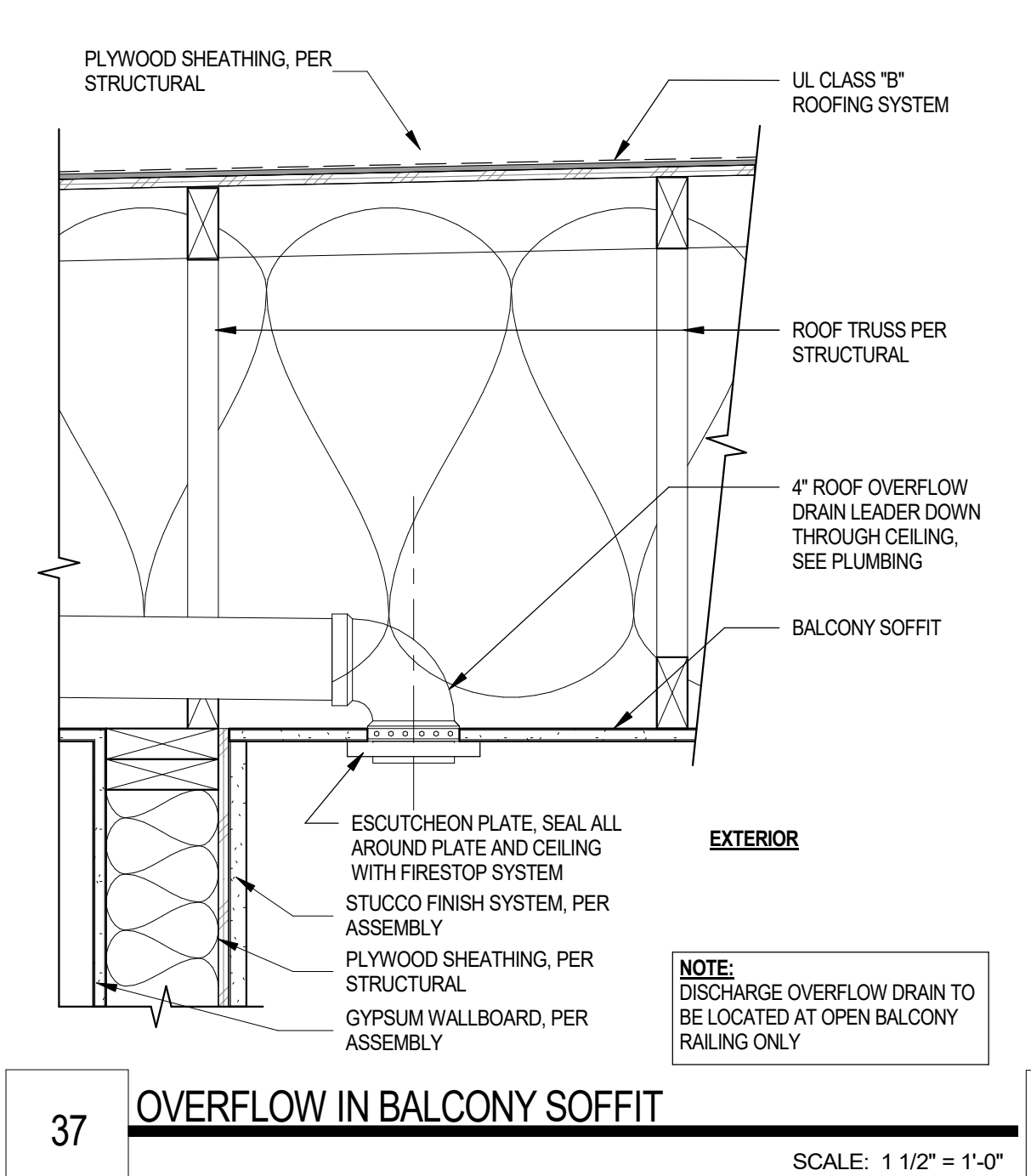
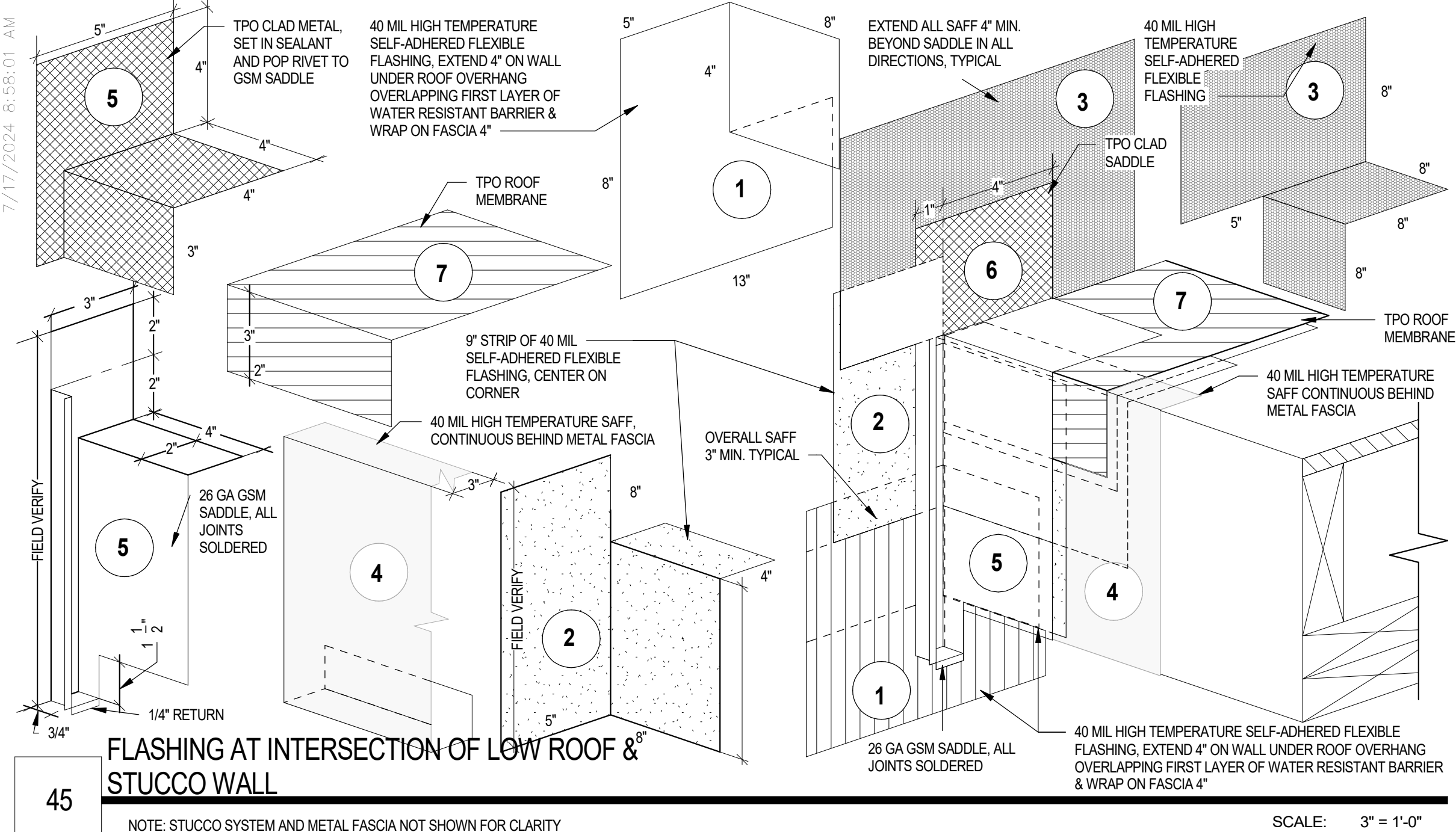
Notice of alternate billing (or payment) cycle: This contract shall (only when) the owner to require the submission of bills or estimates in billing cycles other than thirty days. (This contract may allow the owner to make payment on some alternative schedule other than thirty days with approval or change order extension.) A written description of such other billing cycle schedule to be included in the contract. (This contract shall be subject to the owner's standard contract form, including, but not limited to, the contract form published by the American Institute of Architects, Inc., 1905 S. Cambridge Rd., Suite 500, Phoenix, AZ 85006. See the cover or the designated spot should provide the contract form.)

REVISIONS/SUBMITTALS

DATE	DESCRIPTION
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DATE: July 17, 2024 ORB #: 00-000

A7.4.50
ROOF - CEILING DETAILS



Contractor must verify all dimensions at project before proceeding with this work. Do not reproduce these drawings and specifications without the expressed written permission of the Architect. The drawings and specifications are the property of the Architect and shall remain the property of the Architect whether the project for which they are made is executed or not. These drawings and specifications shall be used by anyone only for other projects, for additions to this project, or for completion of this project, by express consent of the Architect.

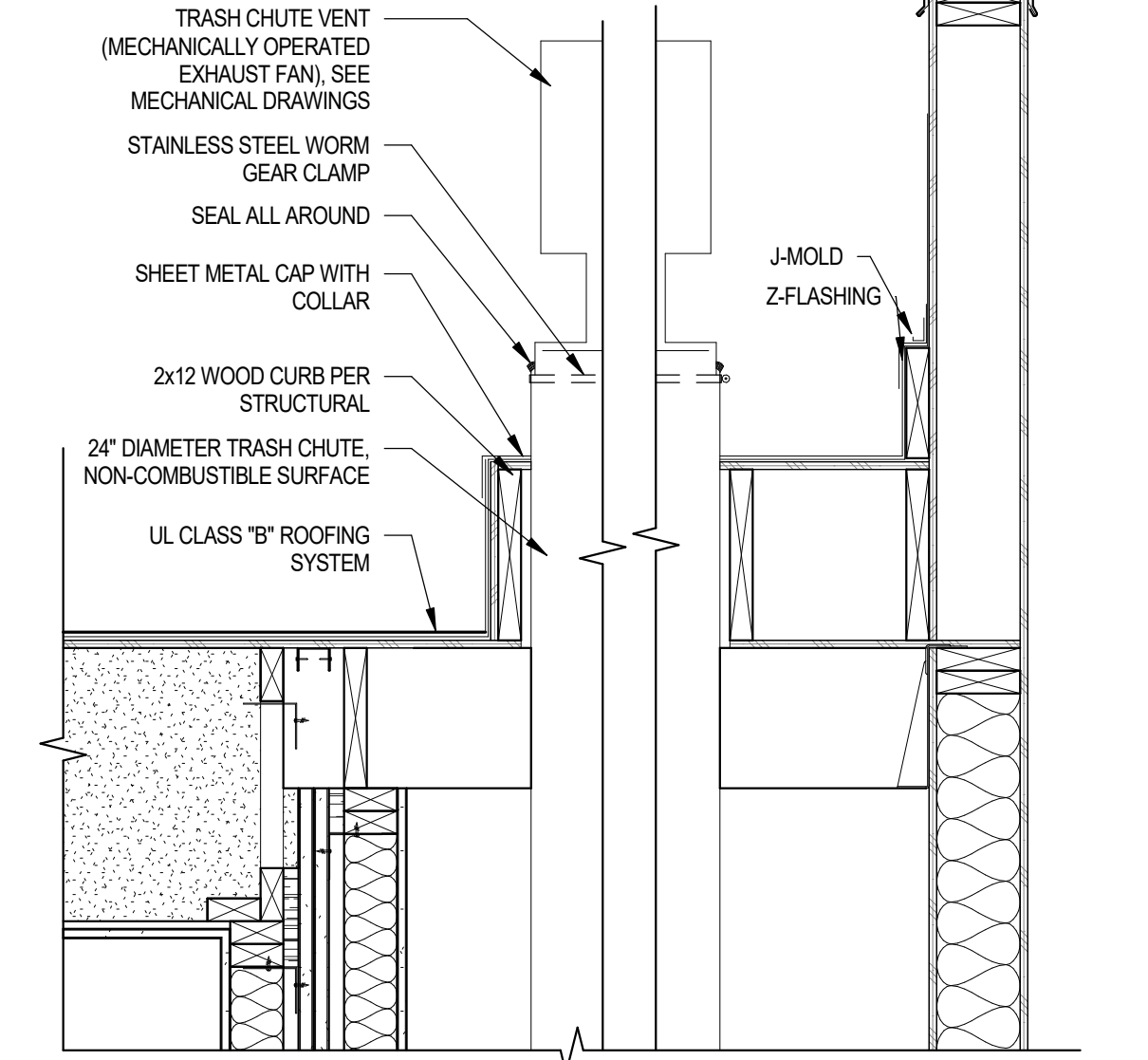
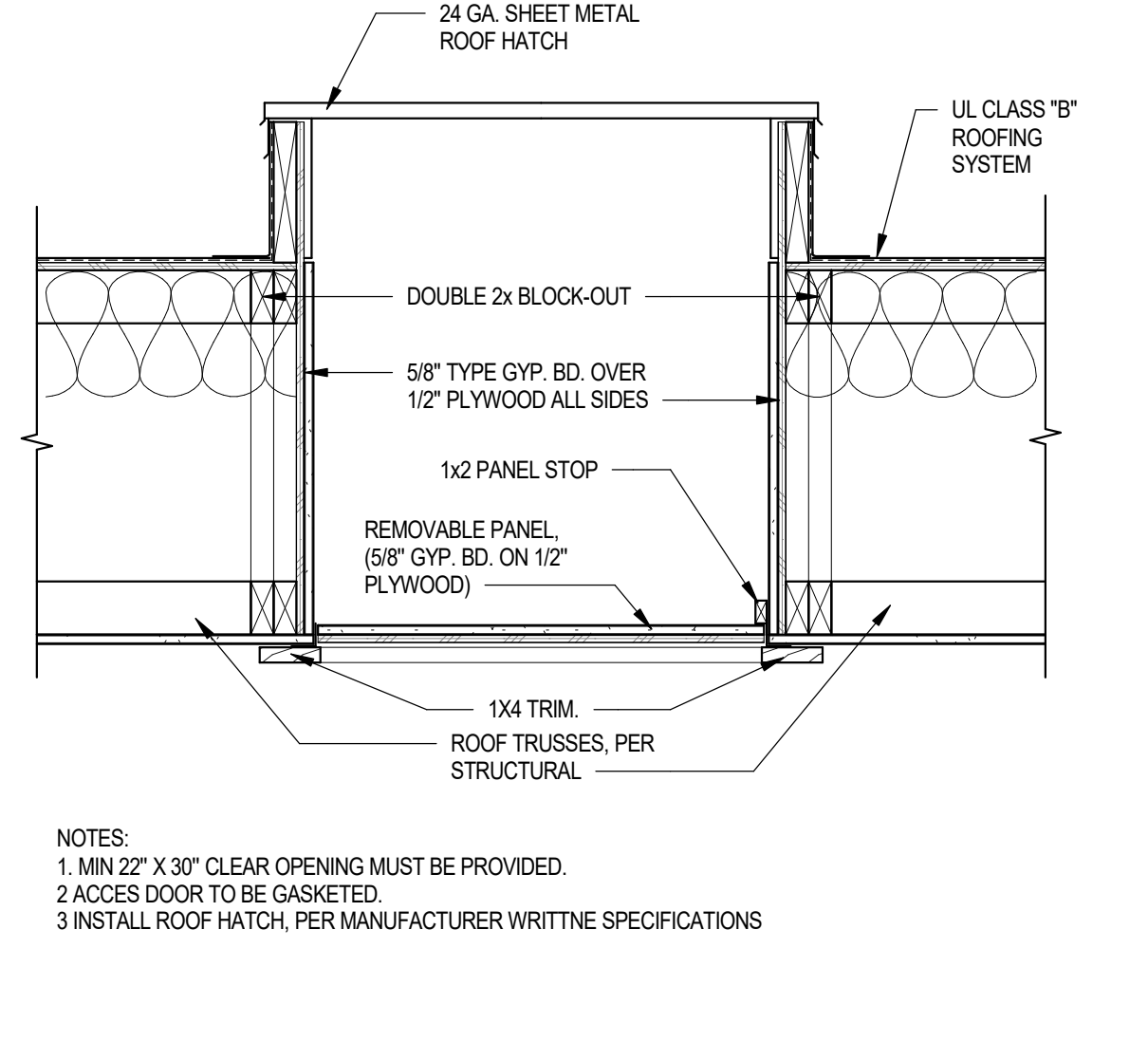
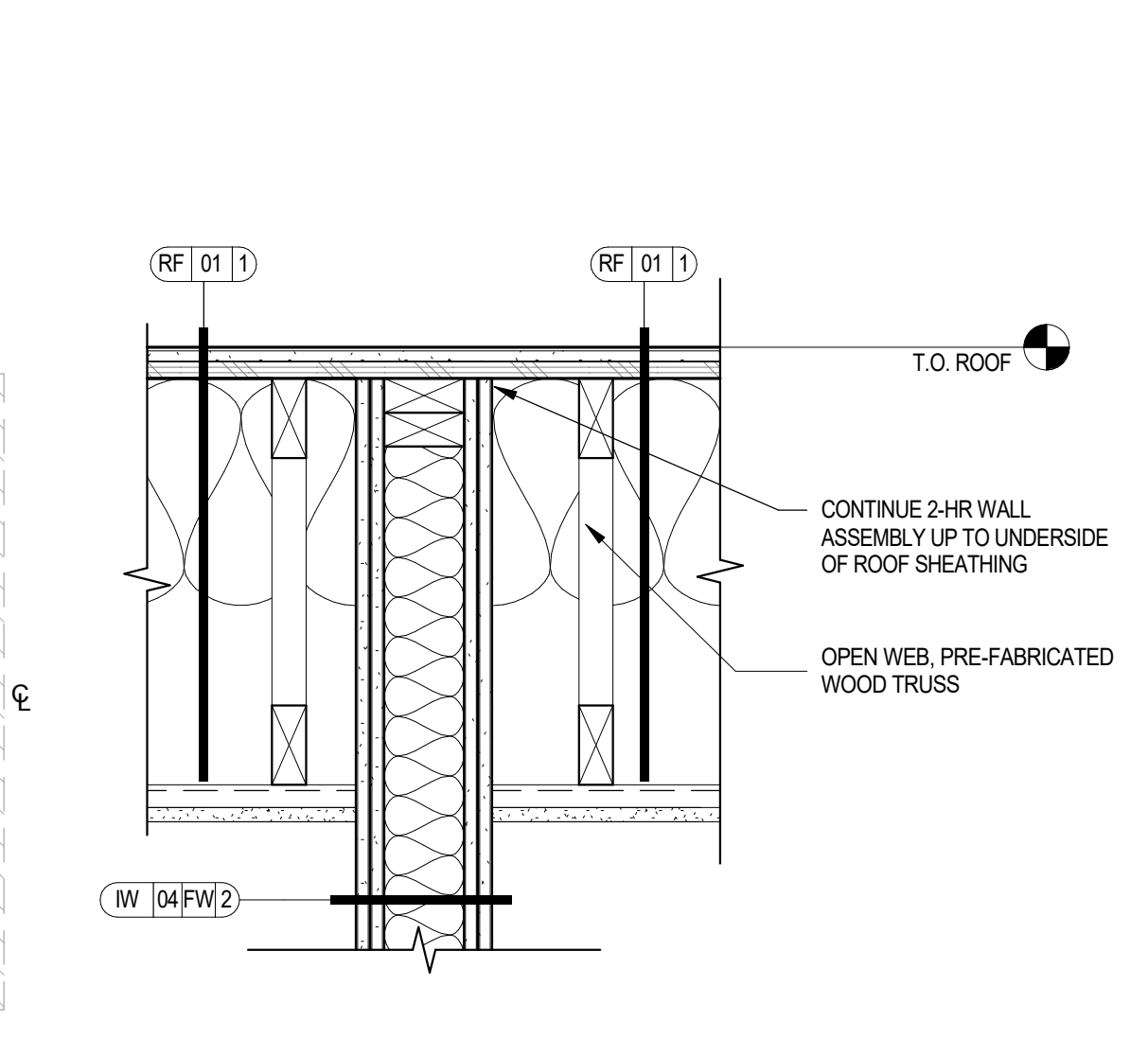
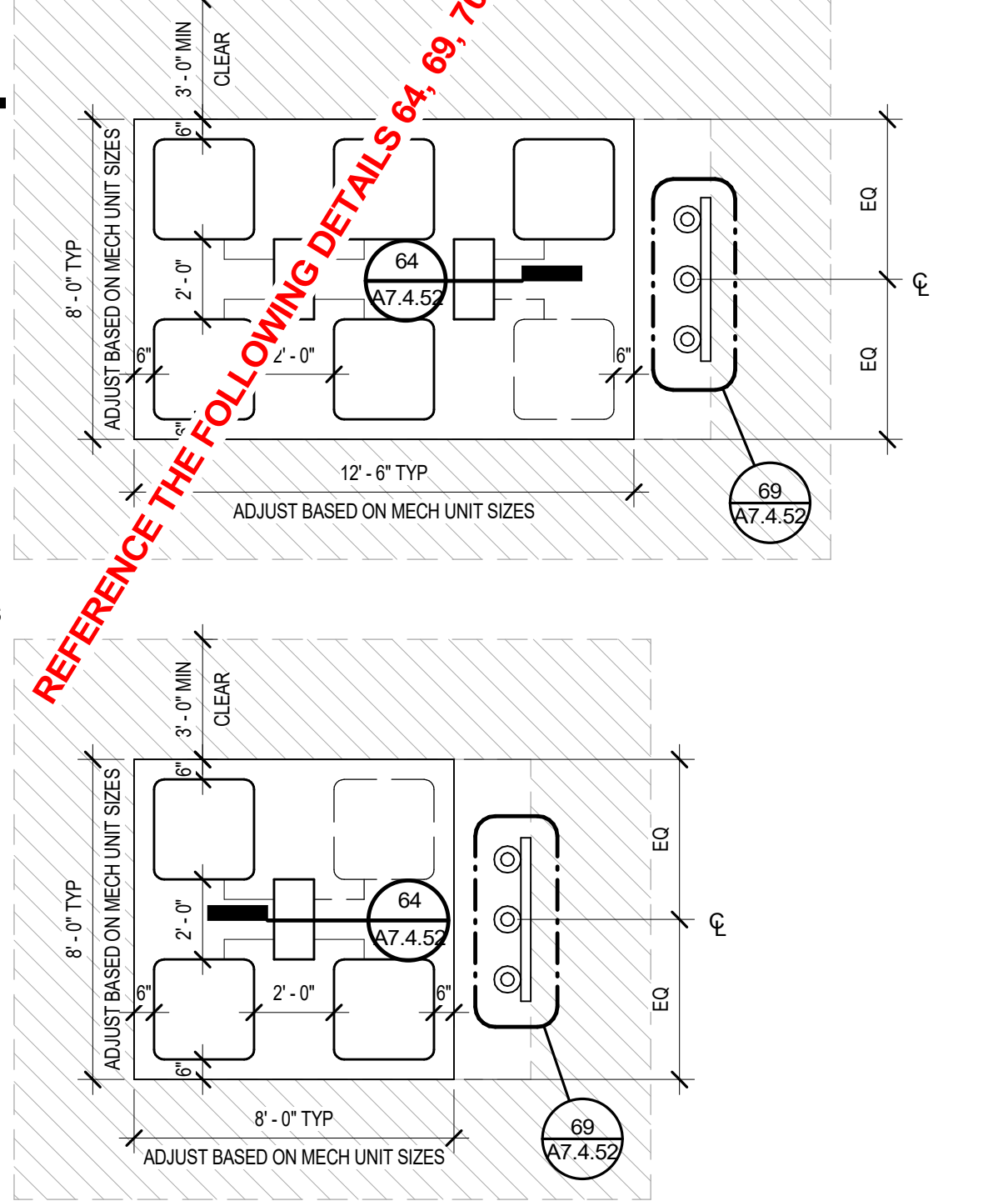
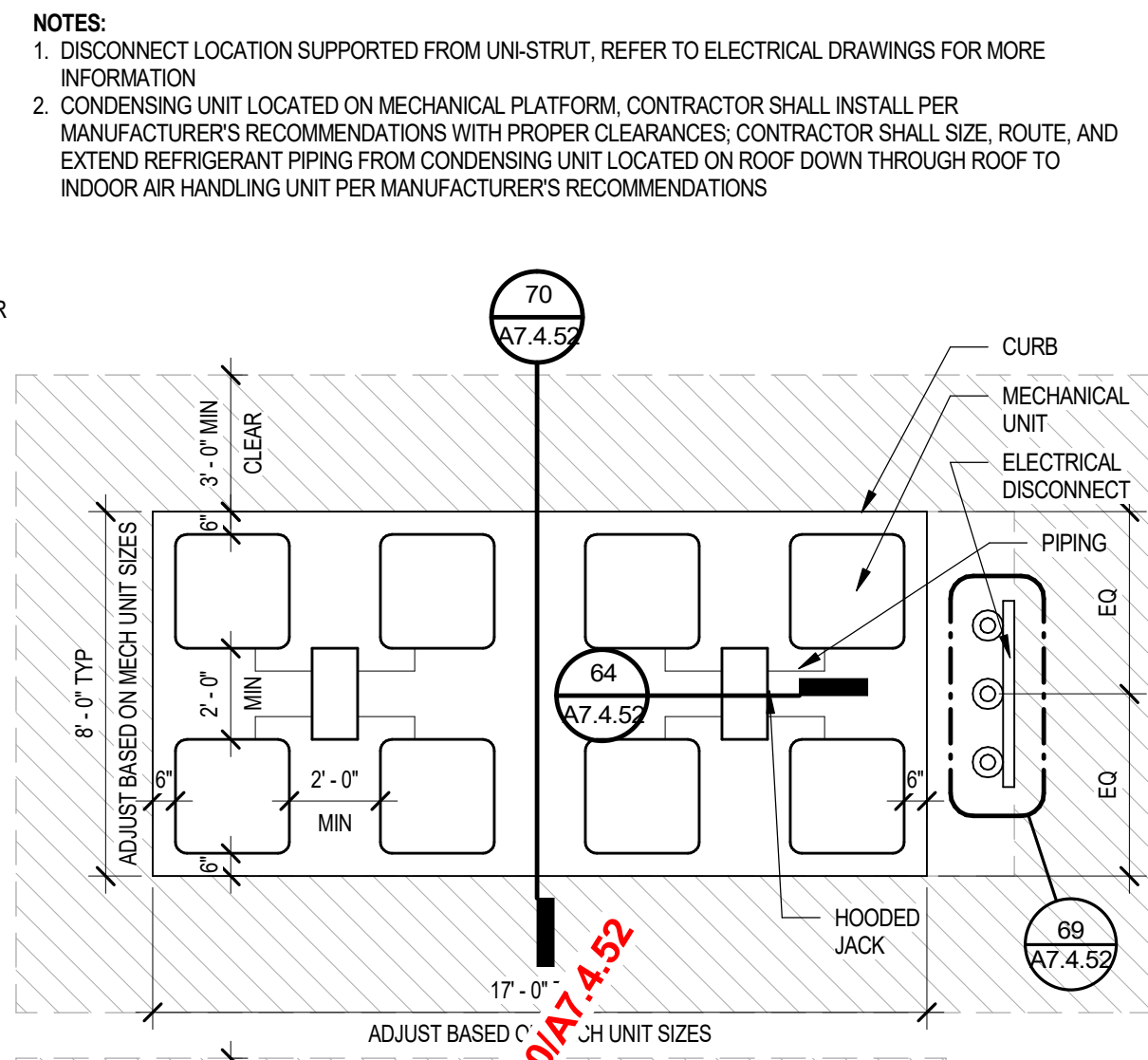
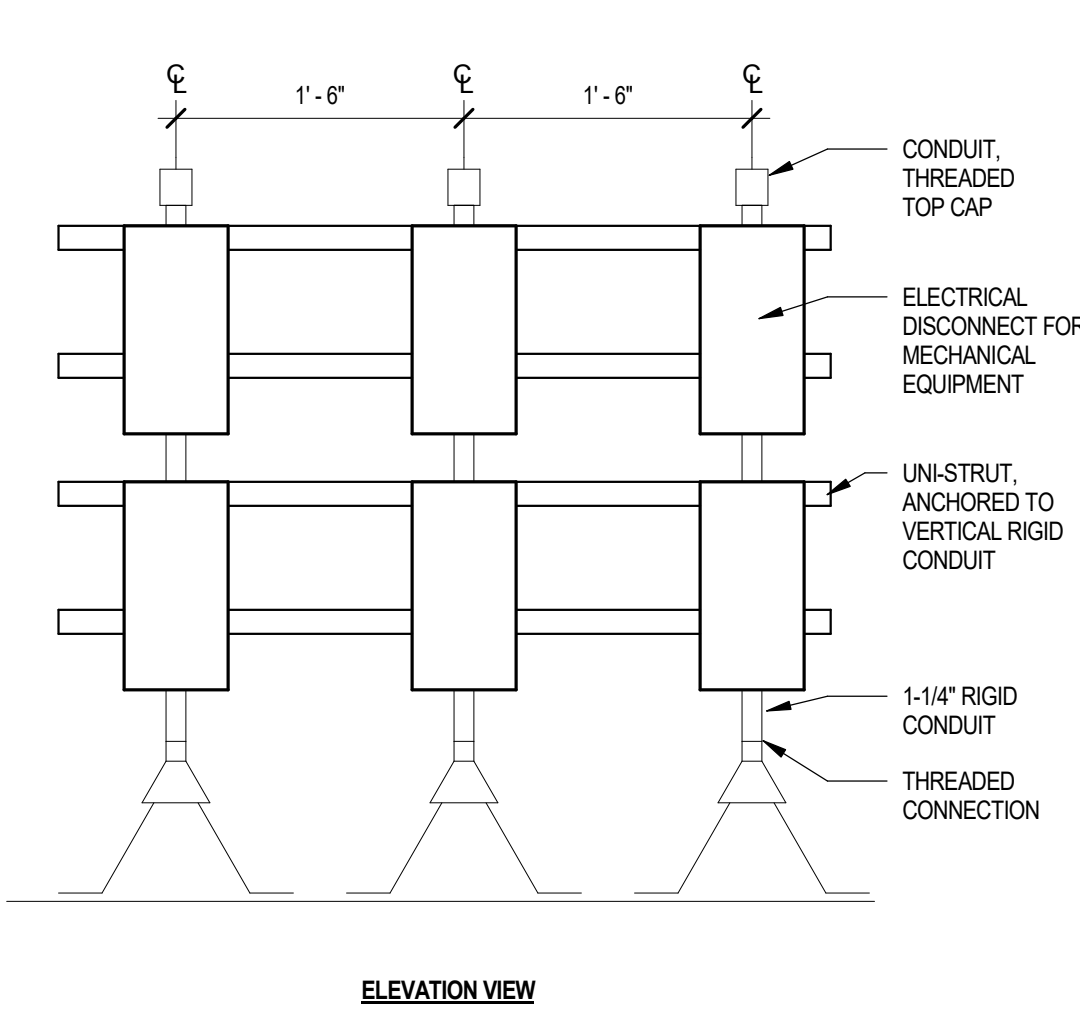
Notice of alternate billing (or payment) cycle: This contract allows (only upon) the owner to request the submission of bills or estimates in billing cycles other than thirty days. (This contract may allow the owner to make payment on some alternative schedule other than thirty days and approval of alternate billing cycle is required by the owner's designated agent at ADVANCE RESIDENTIAL COMPANY, 2525 S. CAMELBACK RD., SUITE 500, PHOENIX, AZ 85016. (602) 978-2822. Over the owner or its designated agent should provide this notice of alternate billing (or payment) cycle to the Architect.

REVISIONS/SUBMITTALS
DATE DESCRIPTION

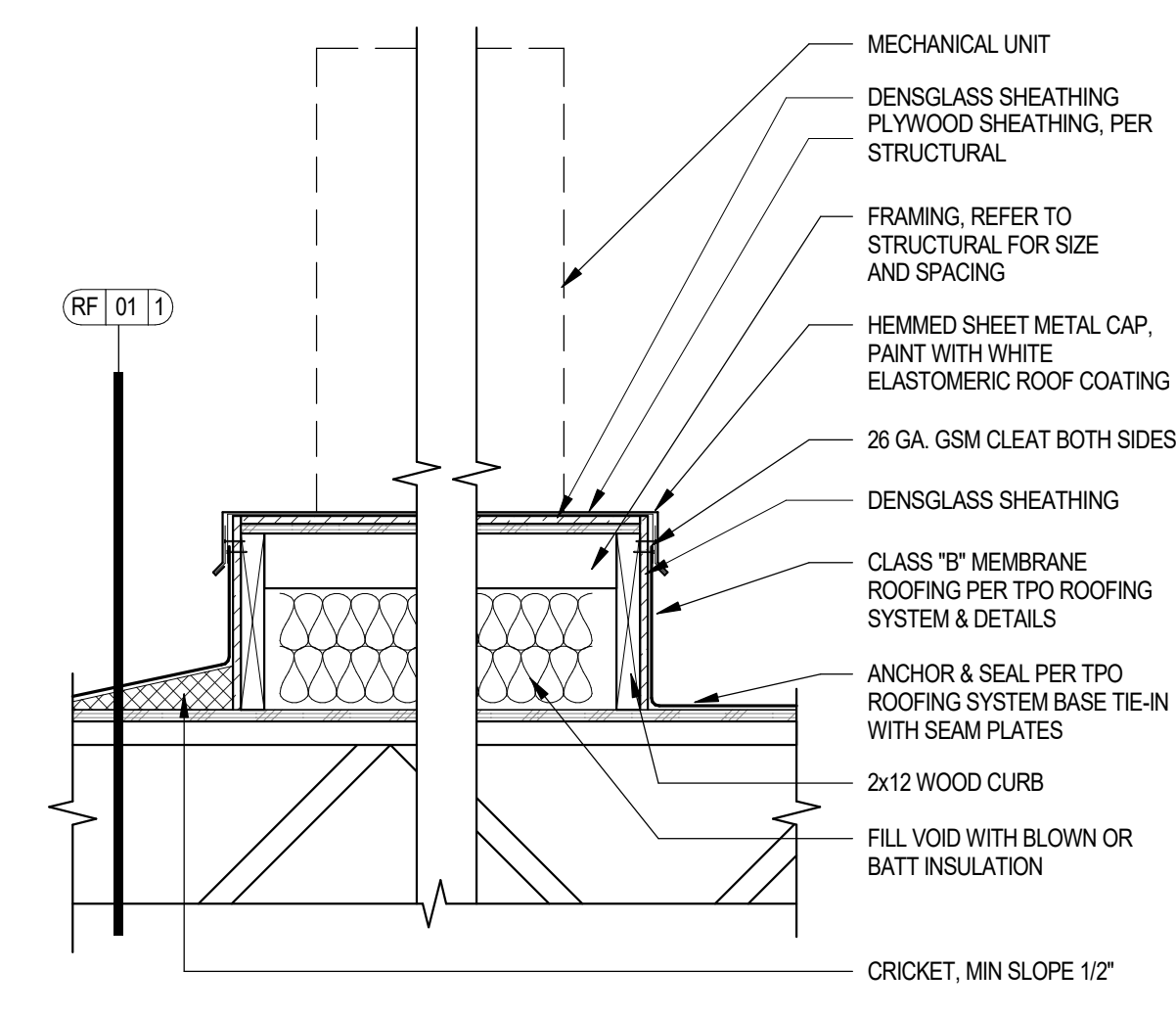
DATE: July 17, 2024 ORB #: 00-000

A7.4.51
ROOF - CEILING DETAILS

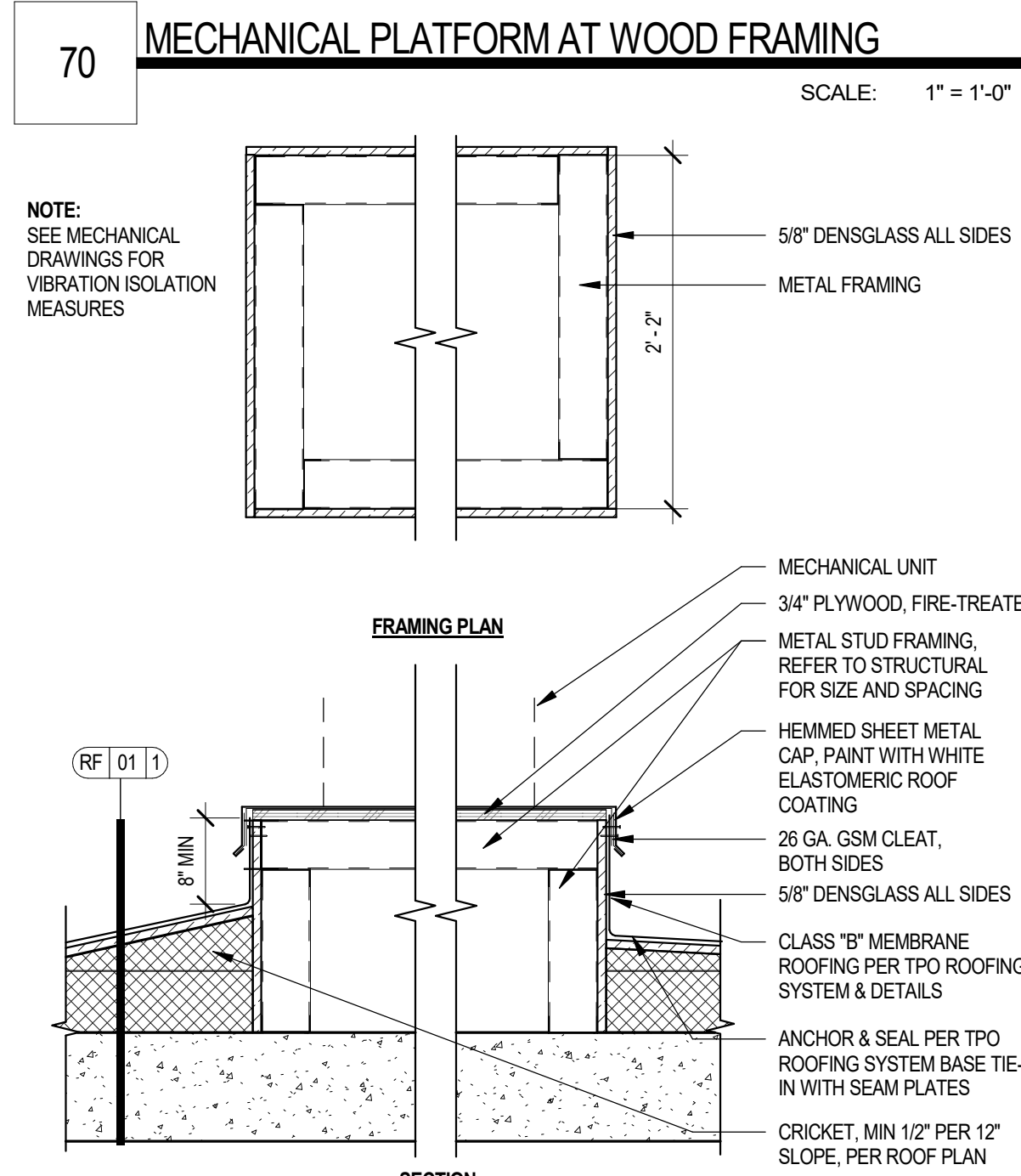
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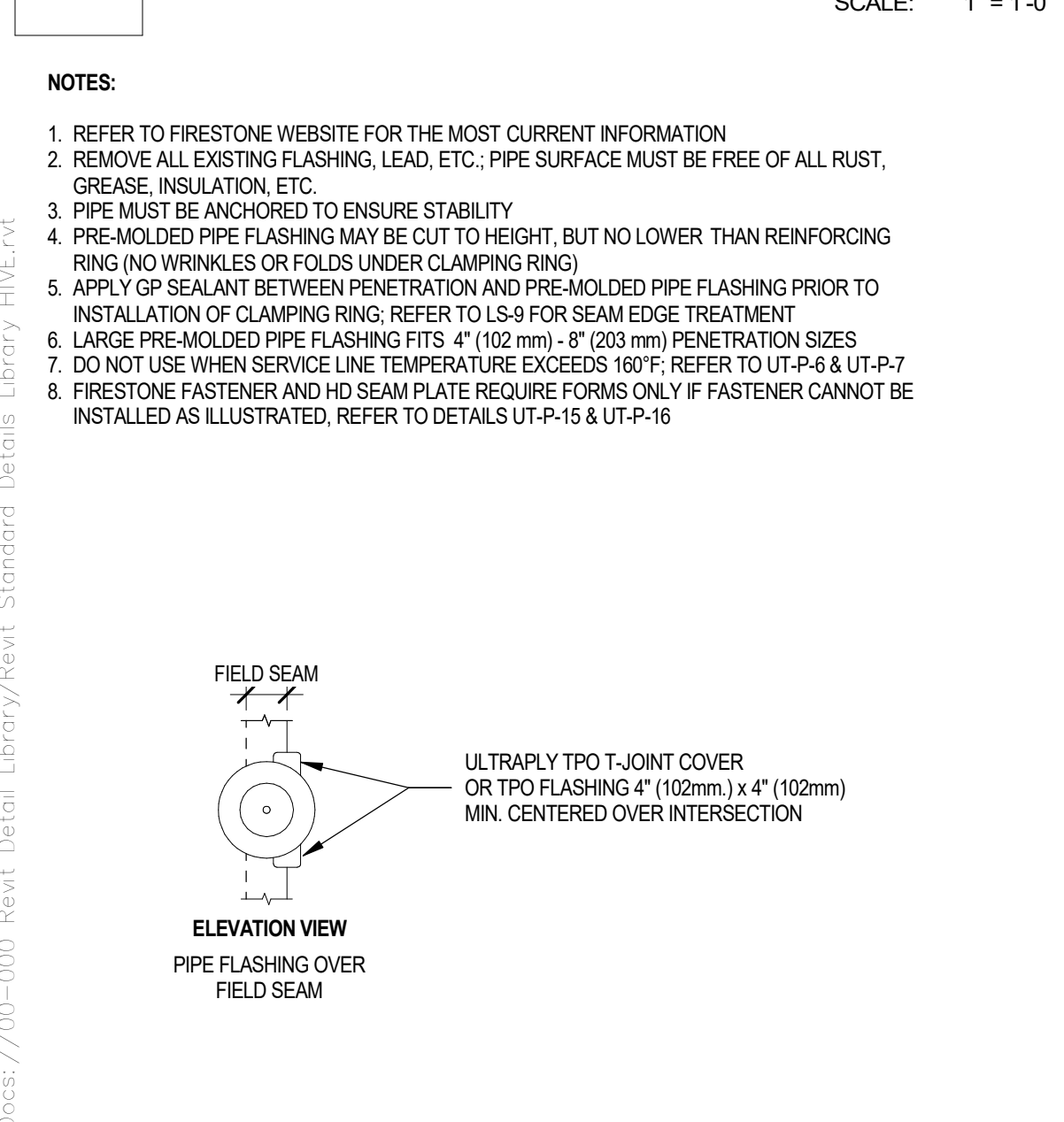
69 UNI-STRUT ELECTRICAL DISCONNECT SCALE: 1" = 1'-0"



70 MECHANICAL PLATFORM AT WOOD FRAMING SCALE: 1" = 1'-0"

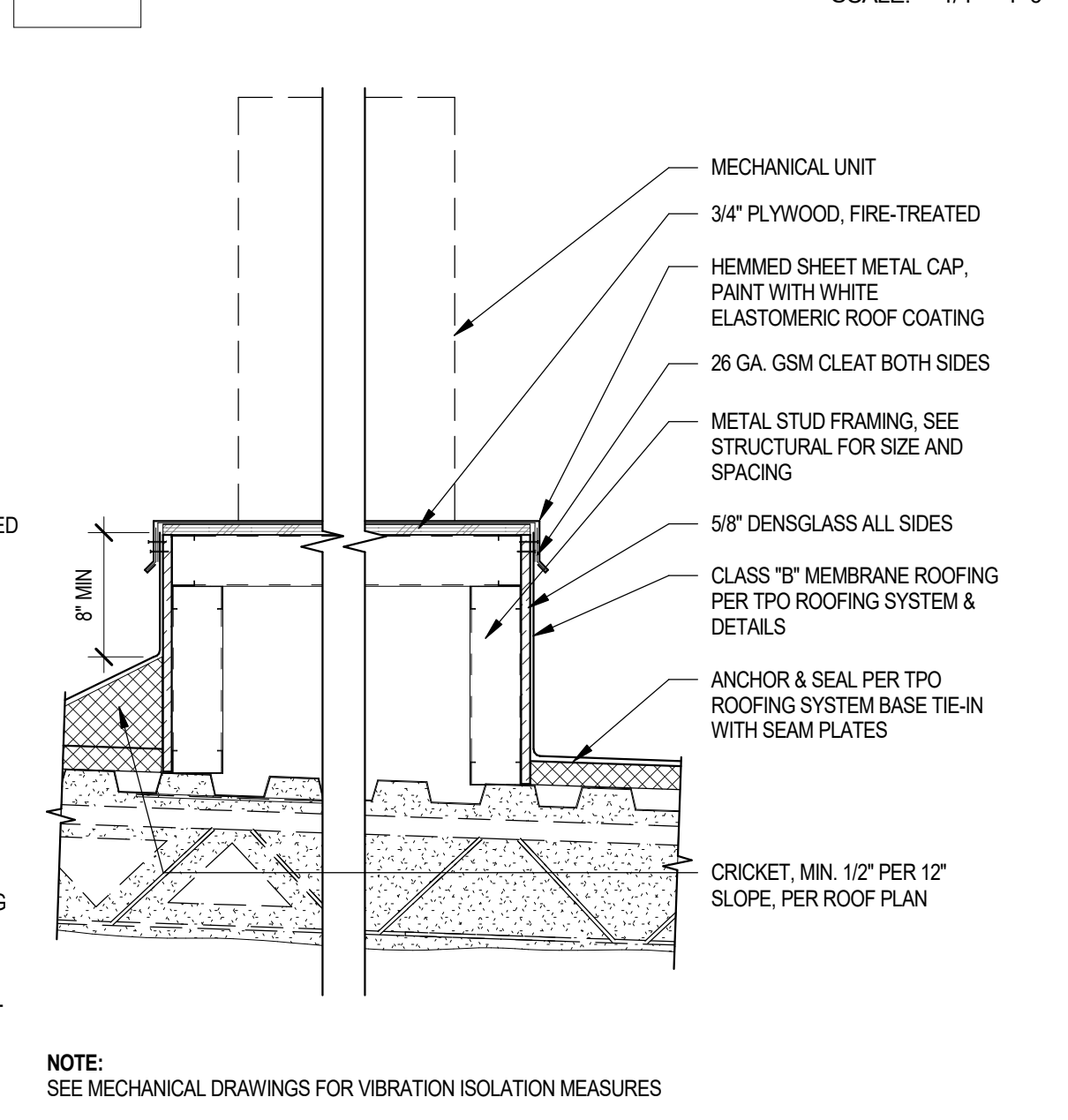


71 MECHANICAL PLATFORM AT PT SLAB SCALE: 1" = 1'-0"



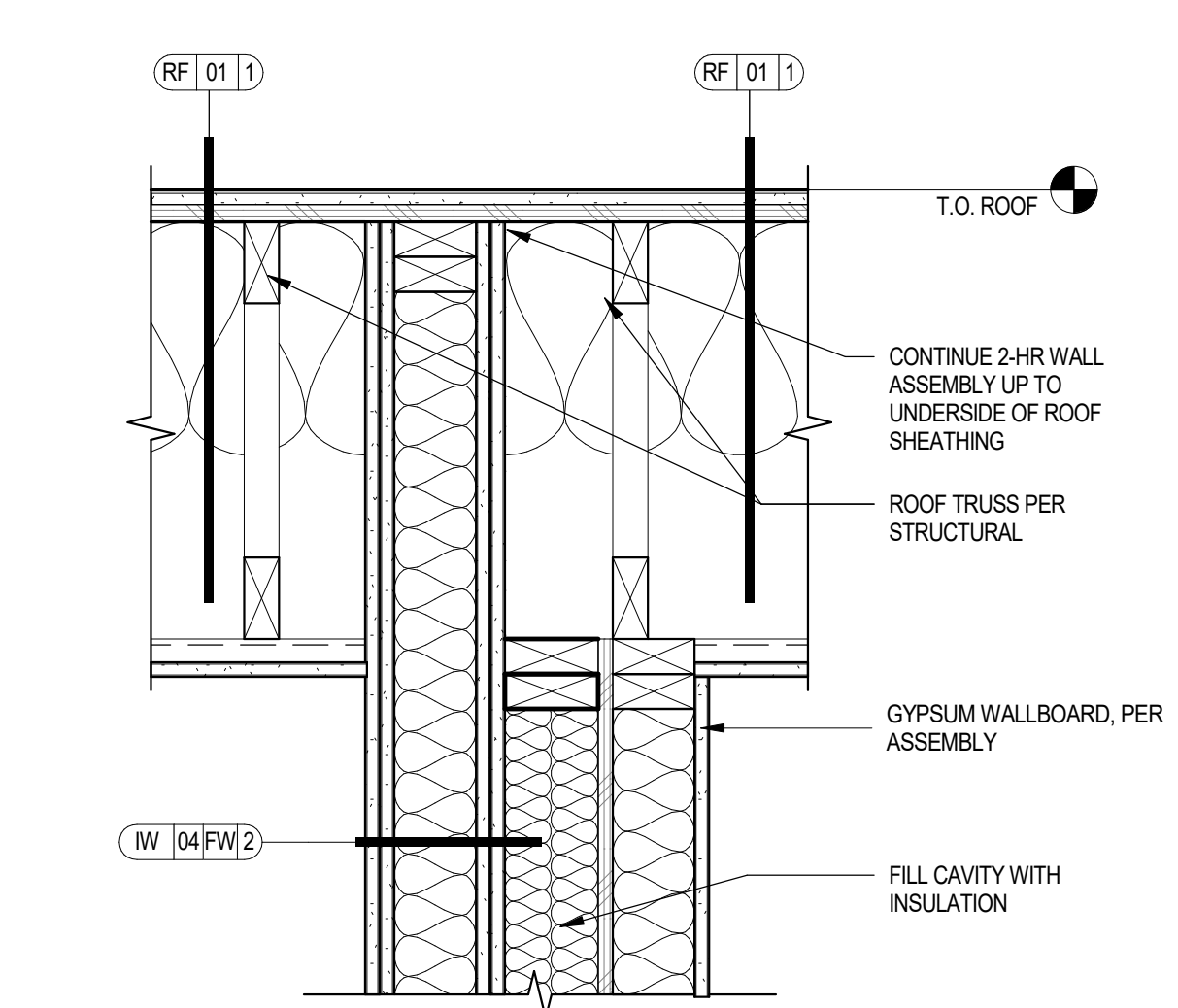
72 HOSE BIB WALL PENETRATION WITH PIPE BOOT SCALE: 3" = 1'-0"

66 TYPICAL MECHANICAL CONFIGURATIONS SCALE: 1/4" = 1'-0"

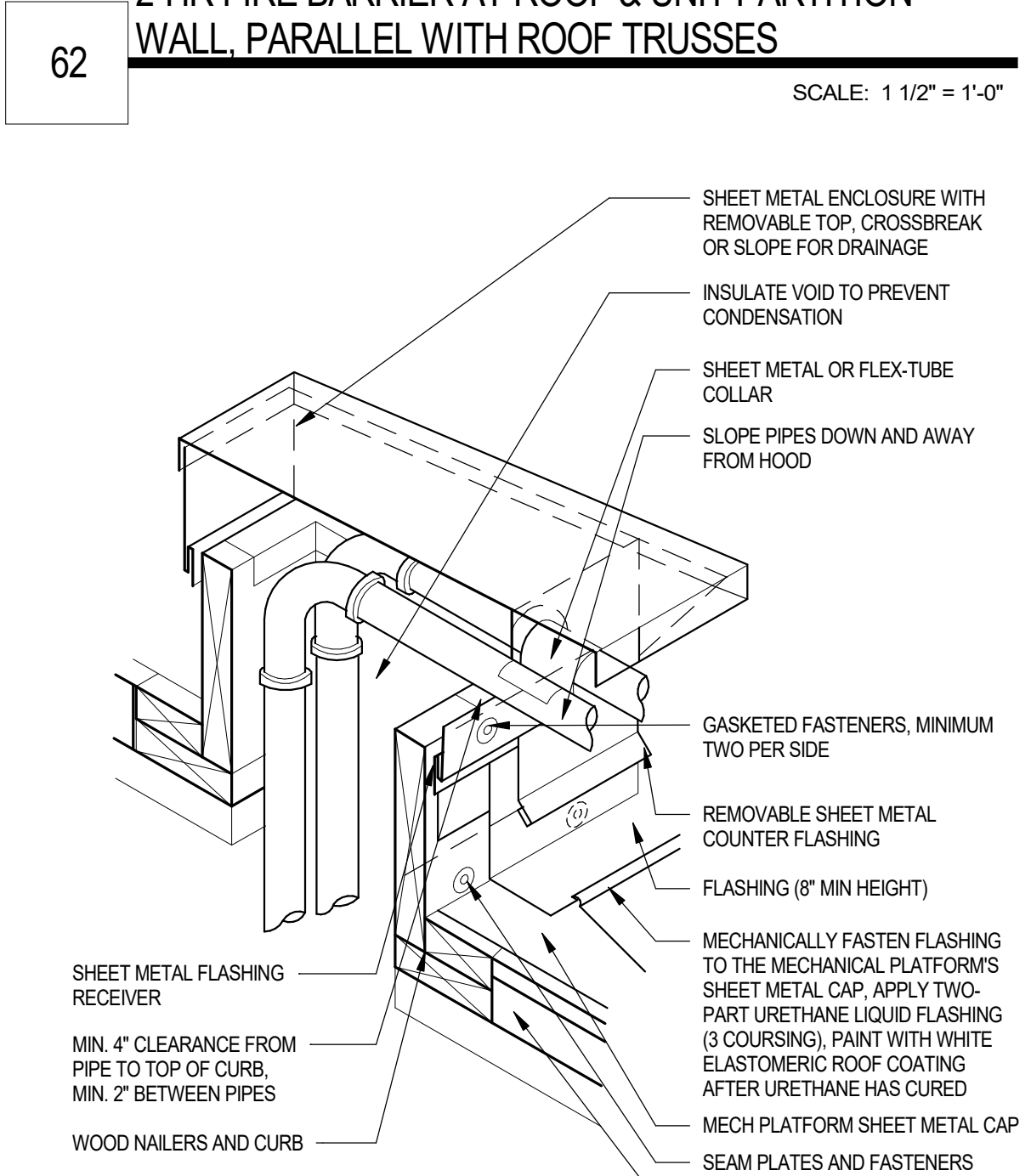


67 MECHANICAL PLATFORM AT METAL ROOF DECK SCALE: 1" = 1'-0"

61 2-HR FIRE BARRIER AT ROOF, PARALLEL WITH ROOF TRUSSES SCALE: 1 1/2" = 1'-0"



62 2-HR FIRE BARRIER AT ROOF & UNIT PARTITION WALL, PARALLEL WITH ROOF TRUSSES SCALE: 1 1/2" = 1'-0"



64 HOODED JACK MULTI-LINE SCALE: 1 1/2" = 1'-0"

57 ROOF HATCH AT CARRIAGE BUILDING SCALE: 1" = 1'-0"



60 ROOF SYSTEM AT ELEVATOR SHAFT SCALE: 3" = 1'-0"



55 CMU SHAFT FOR TRASH CHUTE AT ROOF SCALE: 1" = 1'-0"

53 WOOD SHAFT FOR TRASH CHUTE AT ROOF SCALE: 1" = 1'-0"

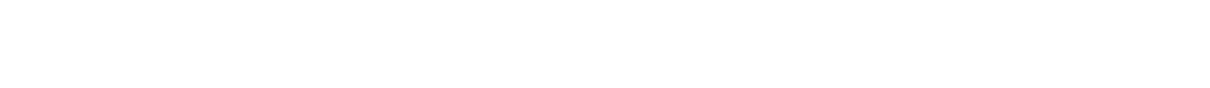
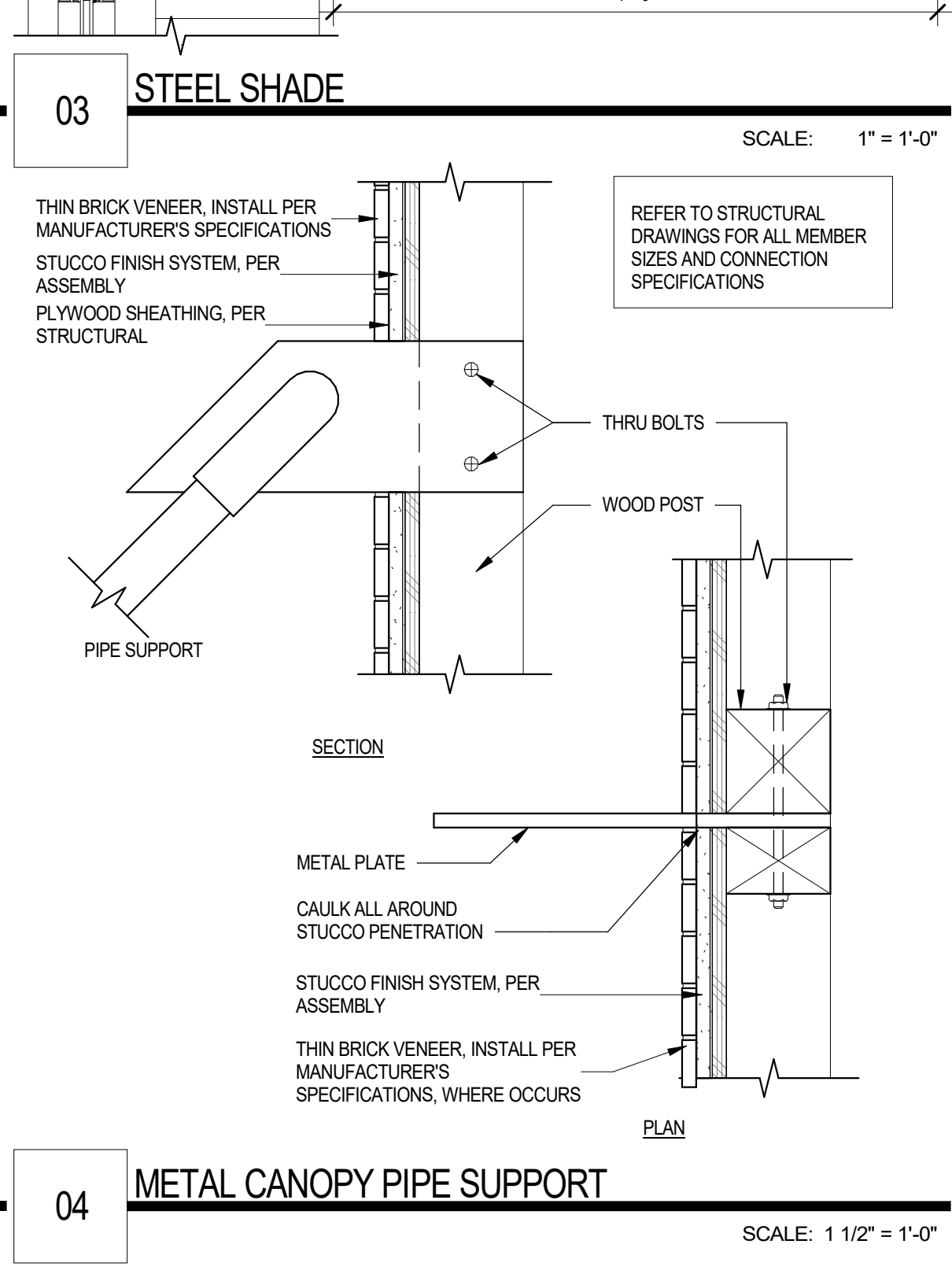
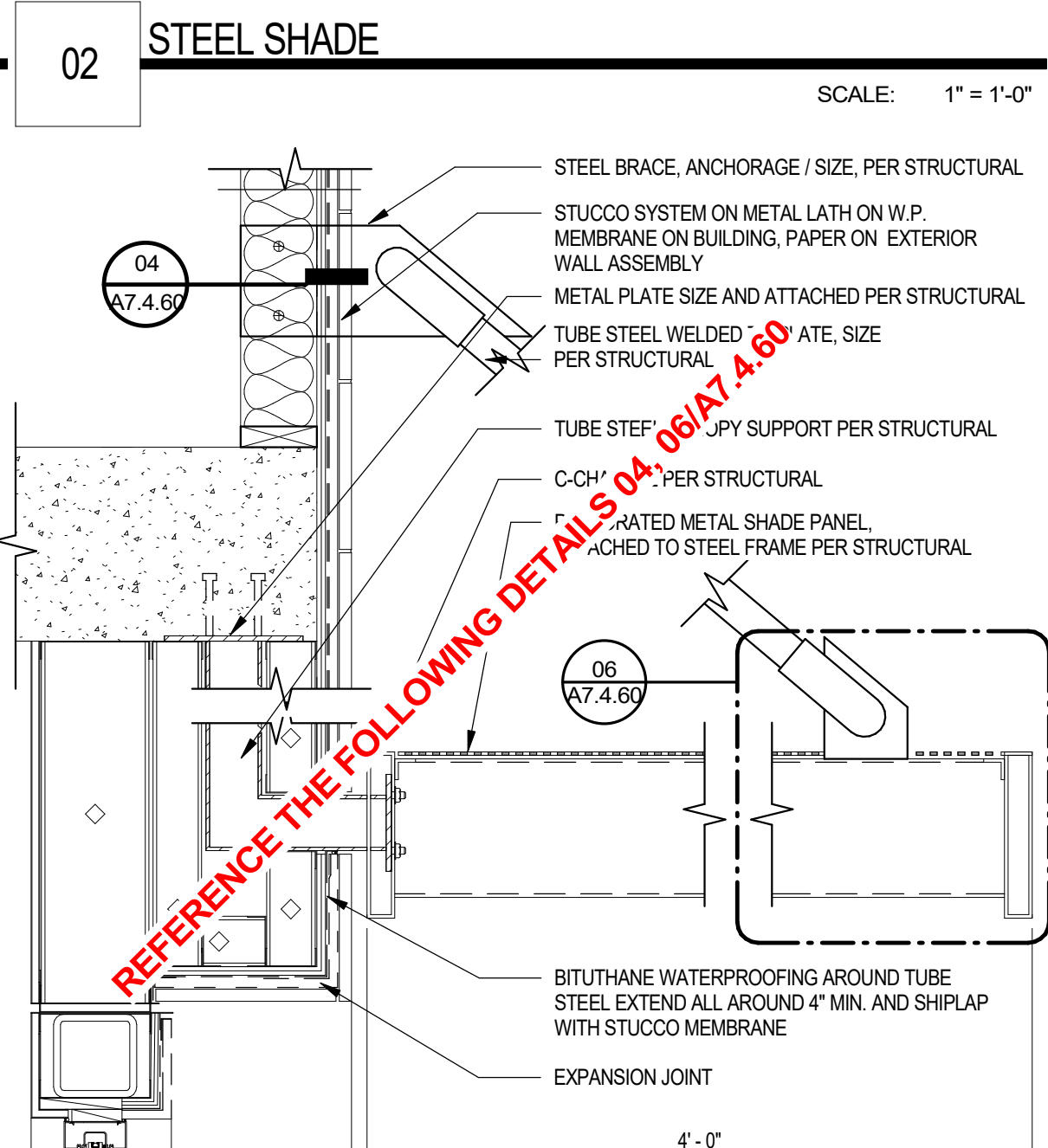
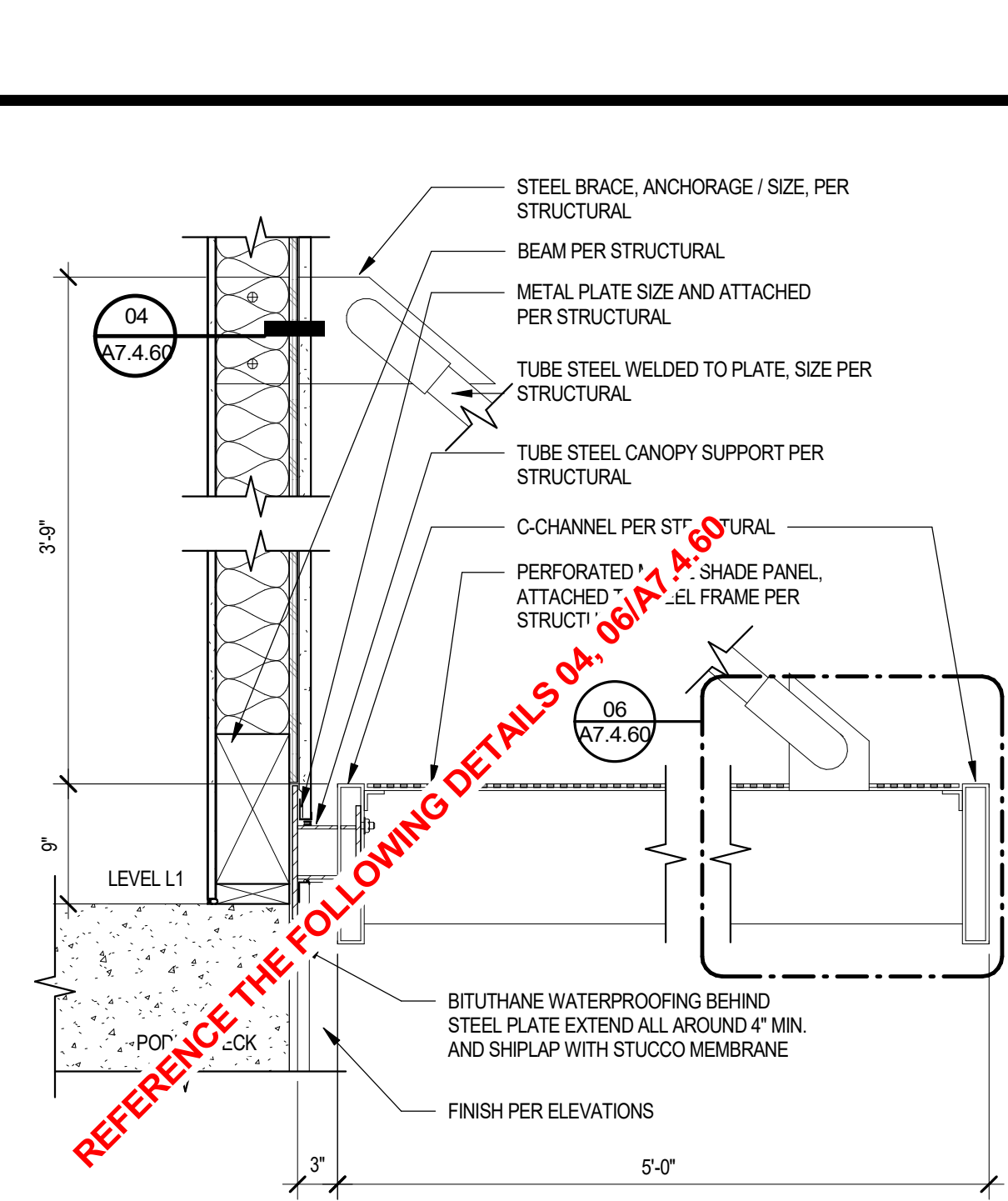
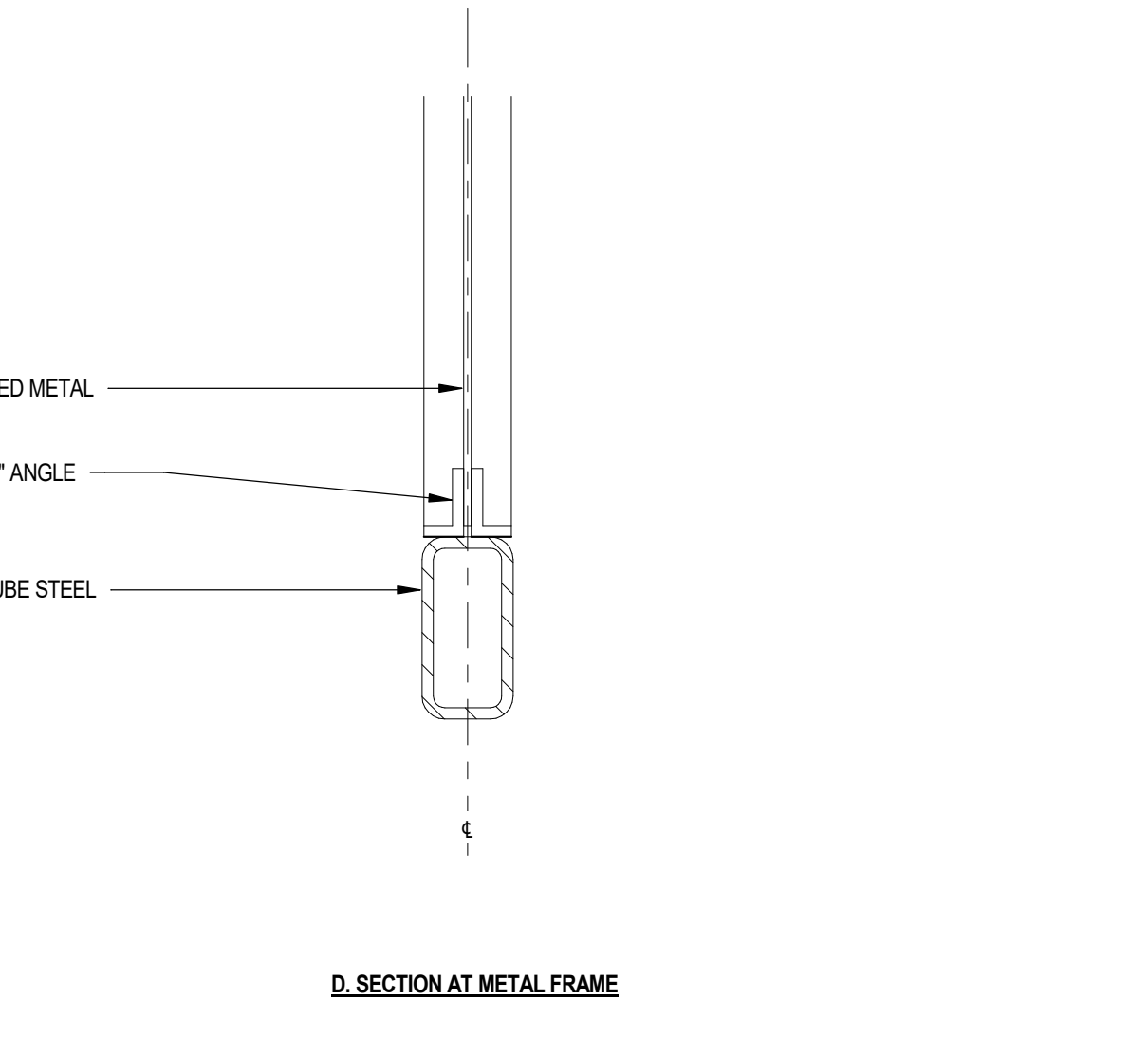
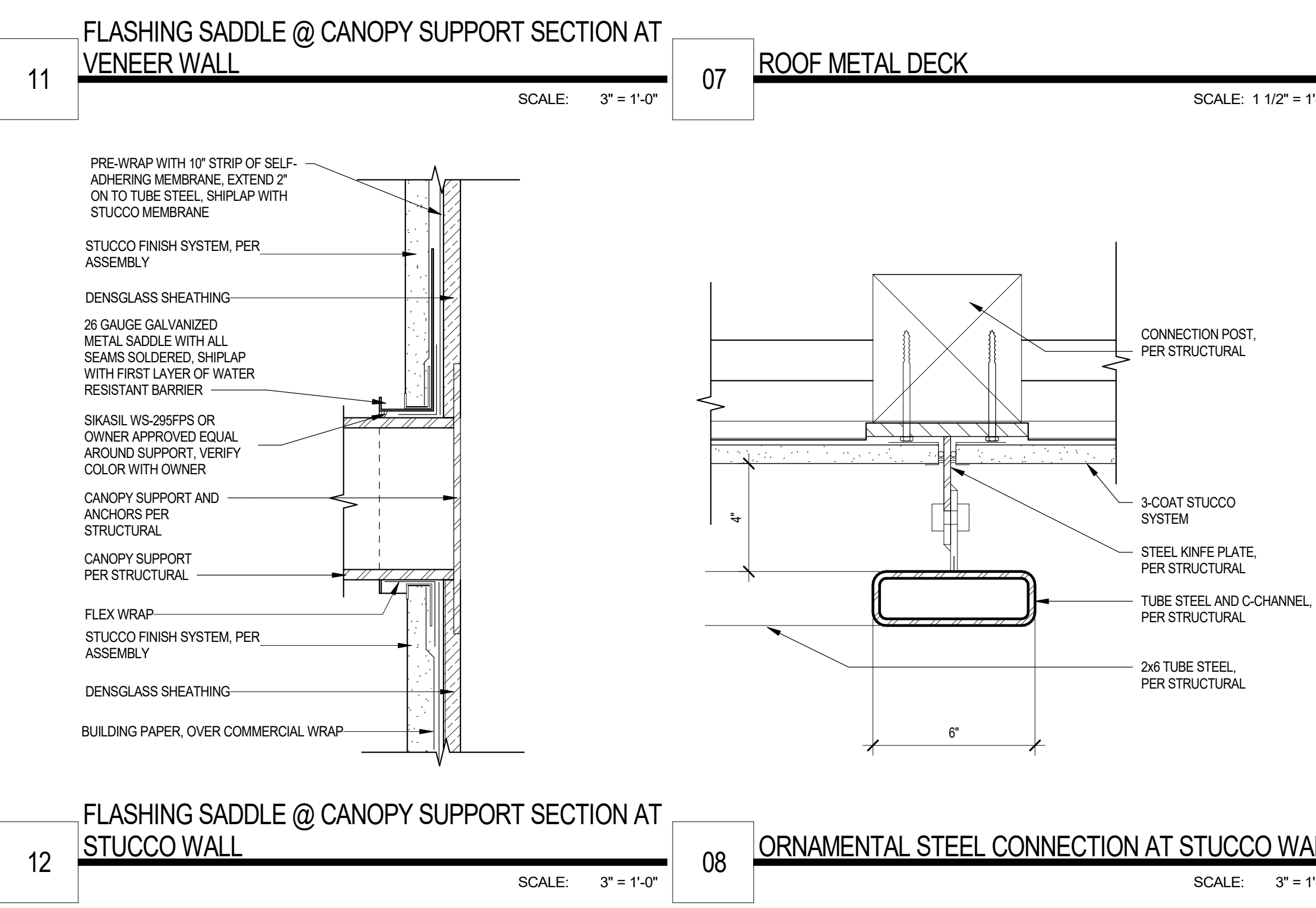
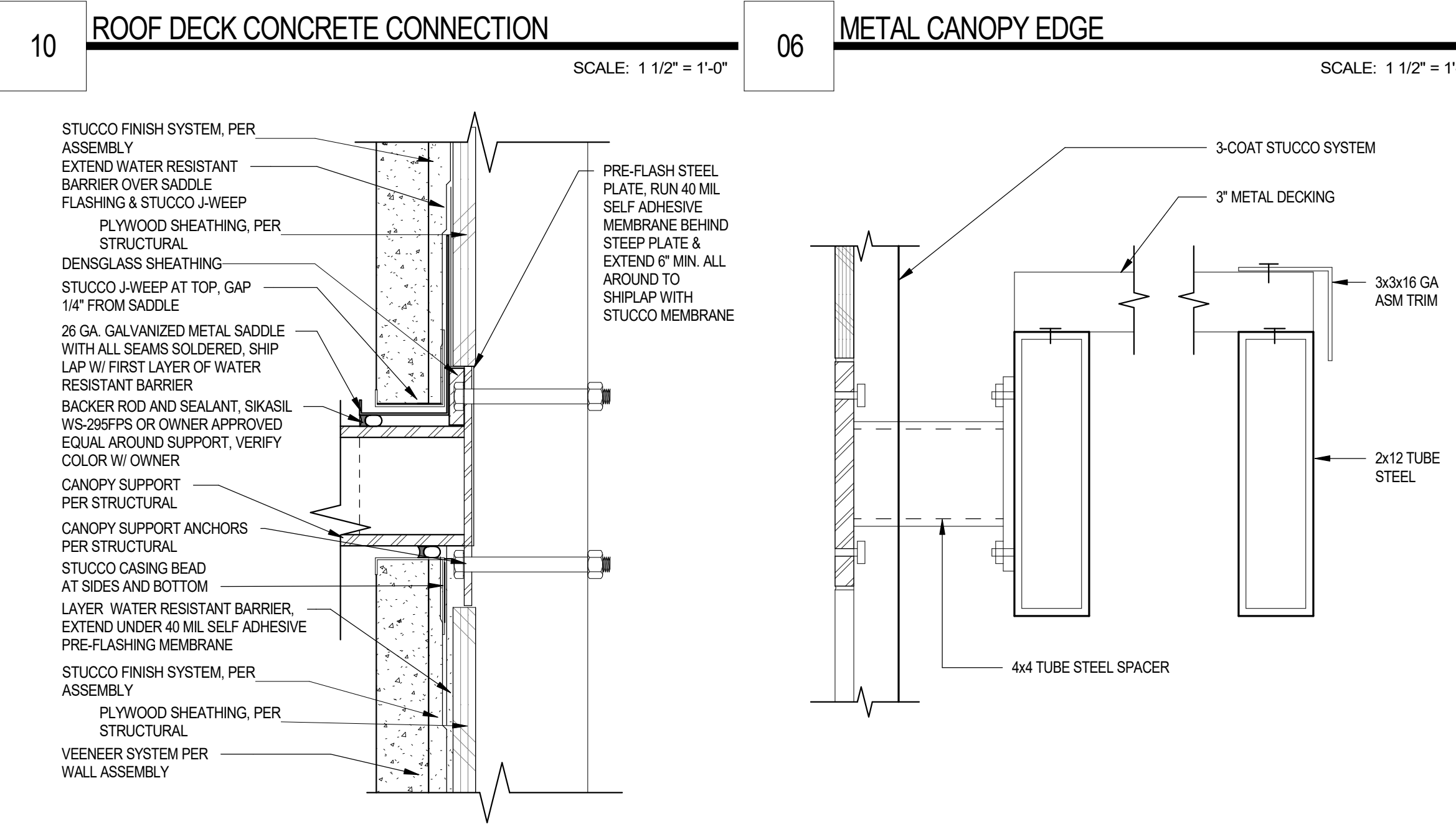
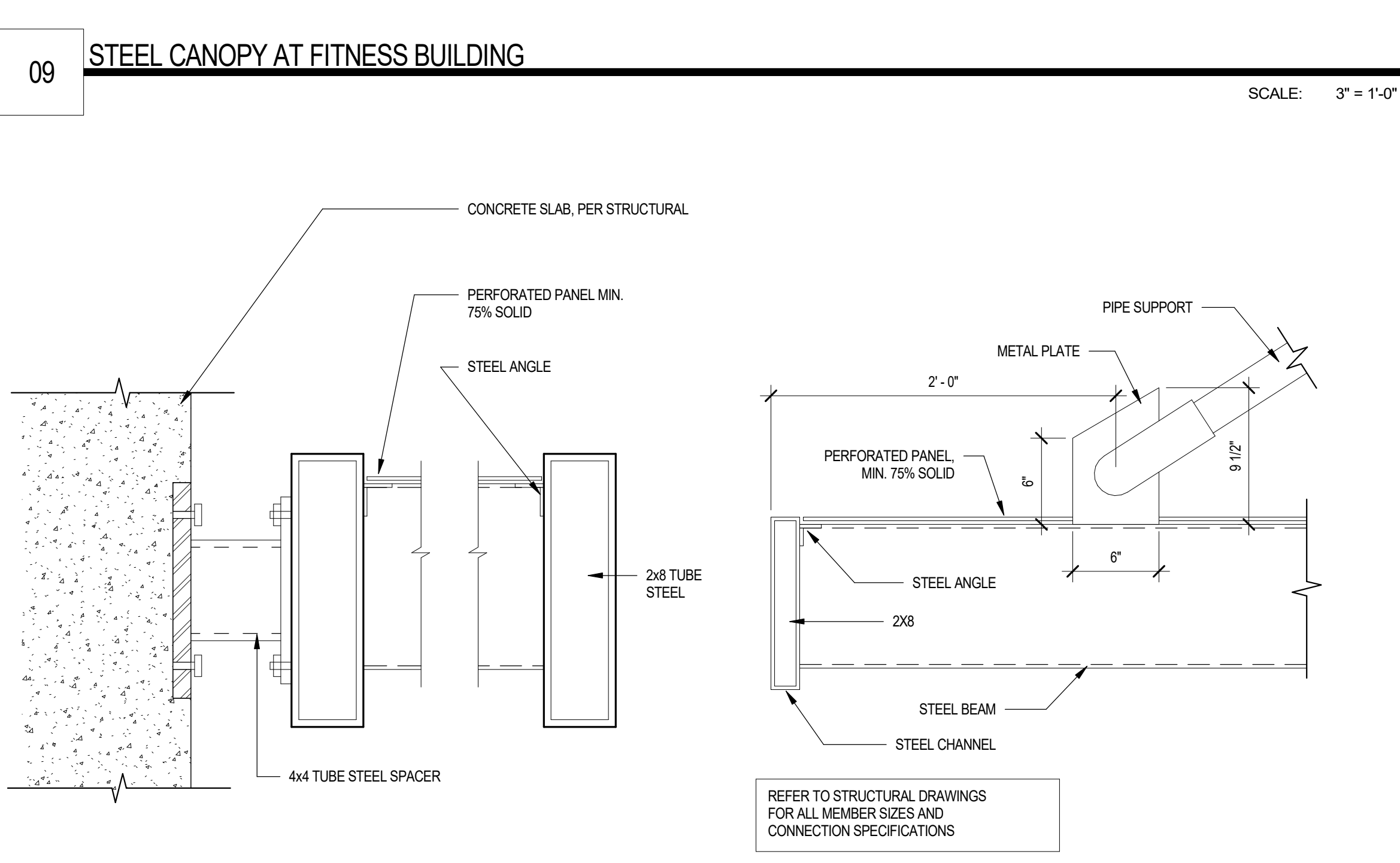
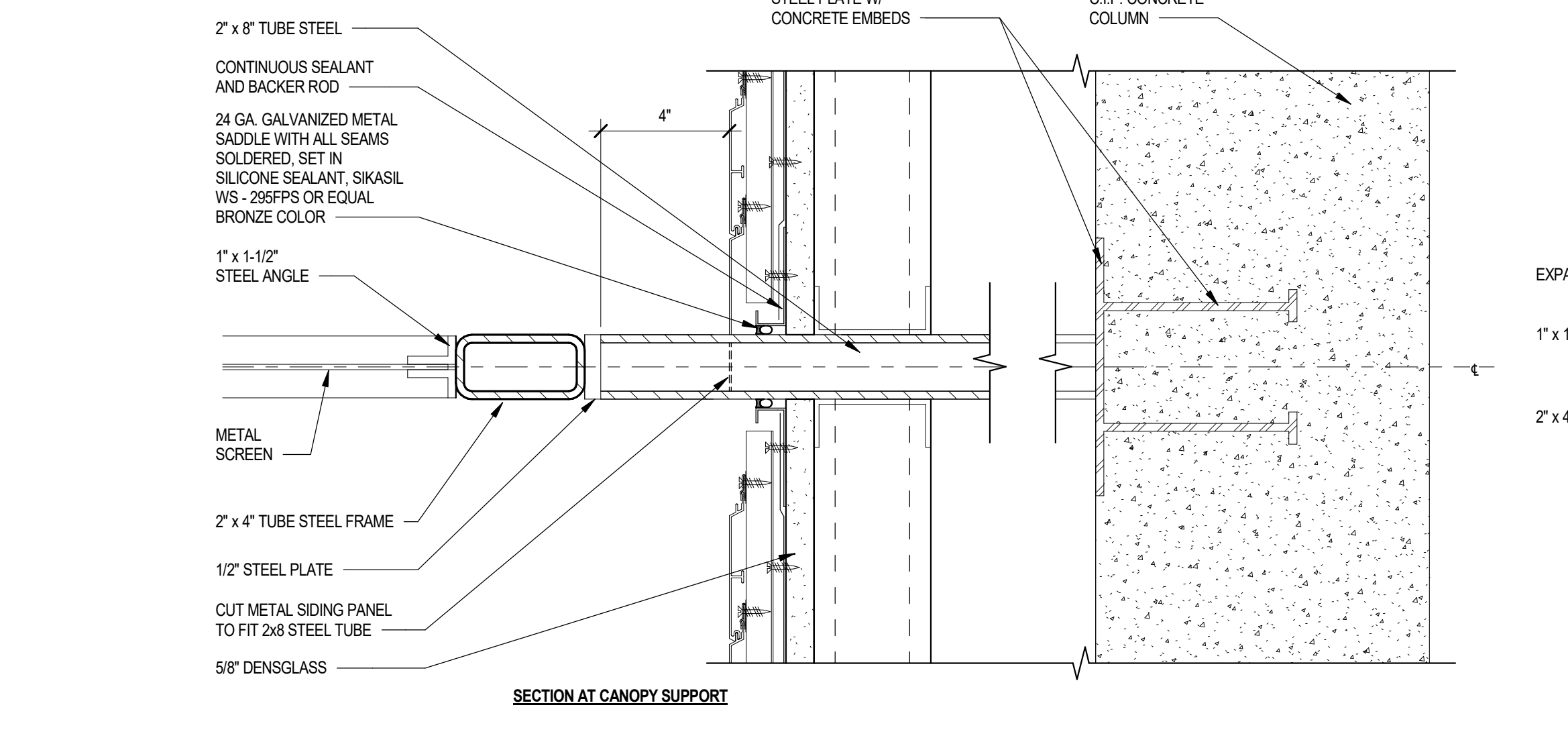
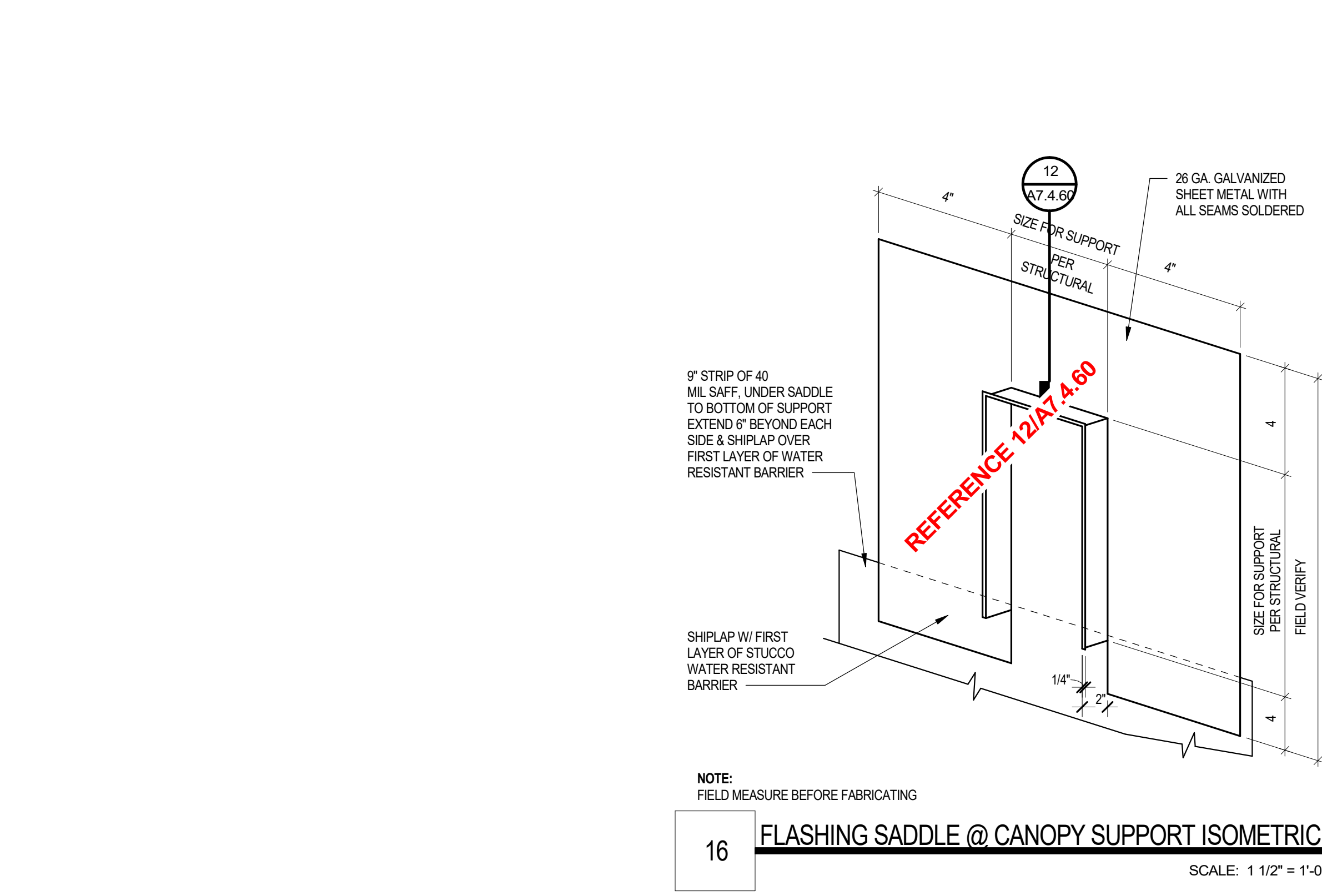
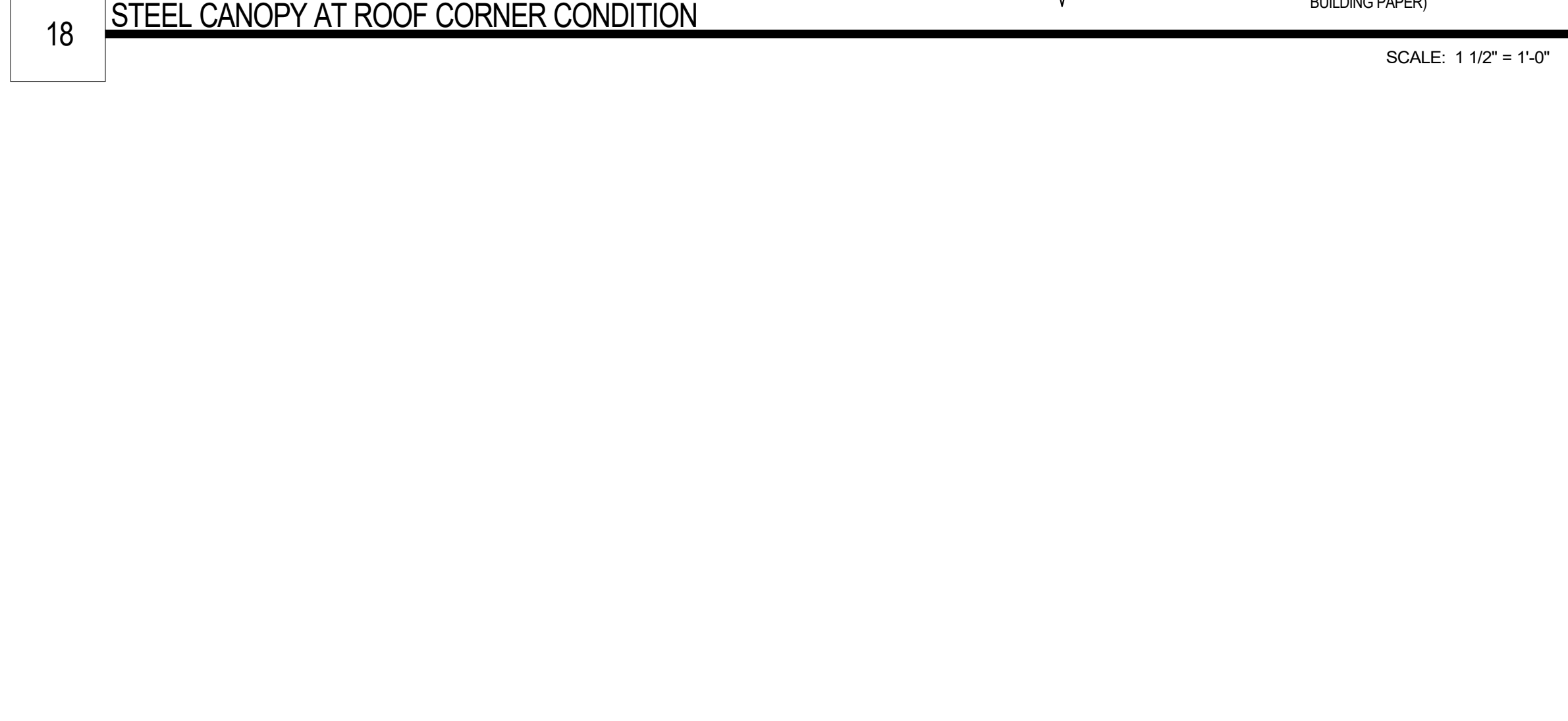
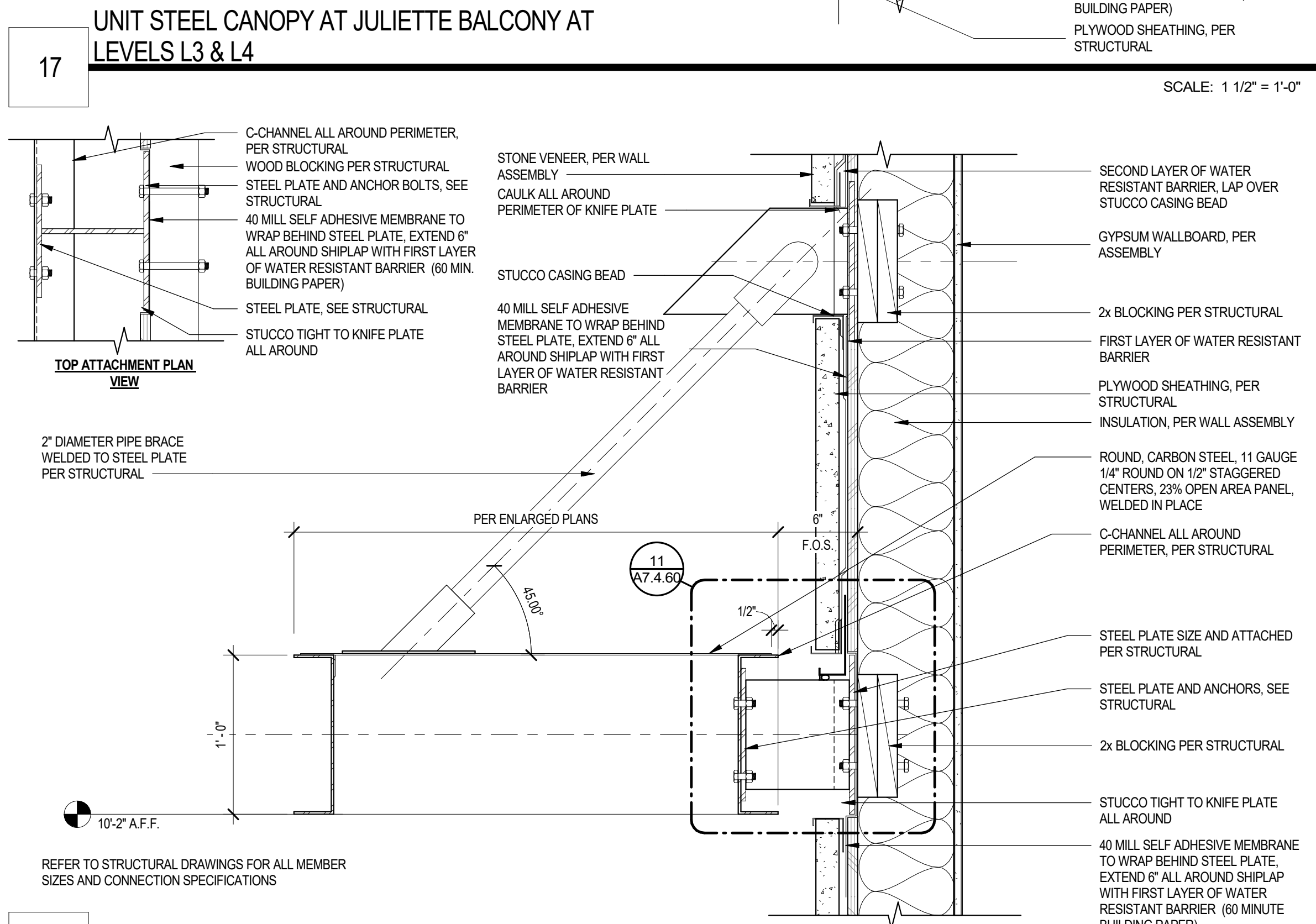
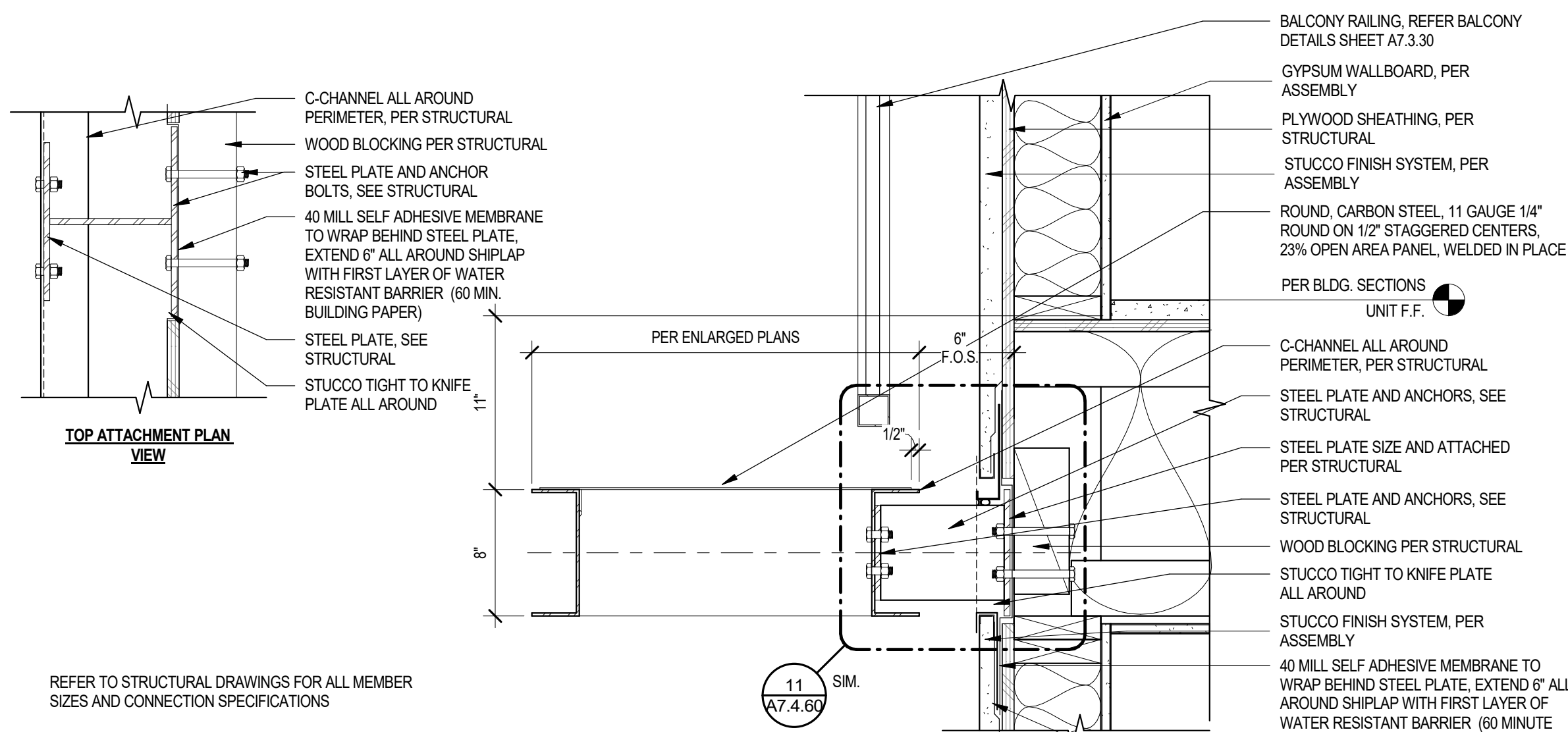


56 PARAPET METAL CAP FLASHING SCALE: 3" = 1'-0"

Contractor must verify all dimensions at project before proceeding with this work. Do not reproduce these drawings and specifications without the expressed written permission of the Architect.

Notice of alternate billing (or payment) cycle This contract shall (they shall) be deemed to require the submission of bills of materials in billing cycles other than thirty days.

Table with 2 columns: DATE, DESCRIPTION. Row 1: REVISIONS/SUBMITTALS



PRELIMINARY
NOT FOR
CONSTRUCTION

Contractor must verify all dimensions at project before proceeding with this work. Do not reproduce these drawings and specifications without the expressed written permission of the Architect. The drawings and specifications are the property of the Architect and shall remain the property of the Architect whether the project for which they are made is completed or not. These drawings and specifications shall not be used for any other projects, for additions to this project, or for completion of this project by others except by the expressed written permission of the Architect.

Notice of alternate billing (or payment) cycle
This contract shall (may allow) the owner to require the submission of bills or estimates in billing cycles other than thirty days. (This contract may allow the owner to make payment on some alternative schedule other than thirty days or alternate billing cycle.) A written description of such other billing (estimate) cycle applicable to this project is available from the owner or the owner's designated agent at: ADVANCE RESIDENTIAL COMPANY, 2525 S. CAMELBACK RD., SUITE 500, PHOENIX, AZ 85016 (602) 778-2822. Ask the owner or his designated agent prior to providing any payment or other information.

REVISIONS/SUBMITTALS

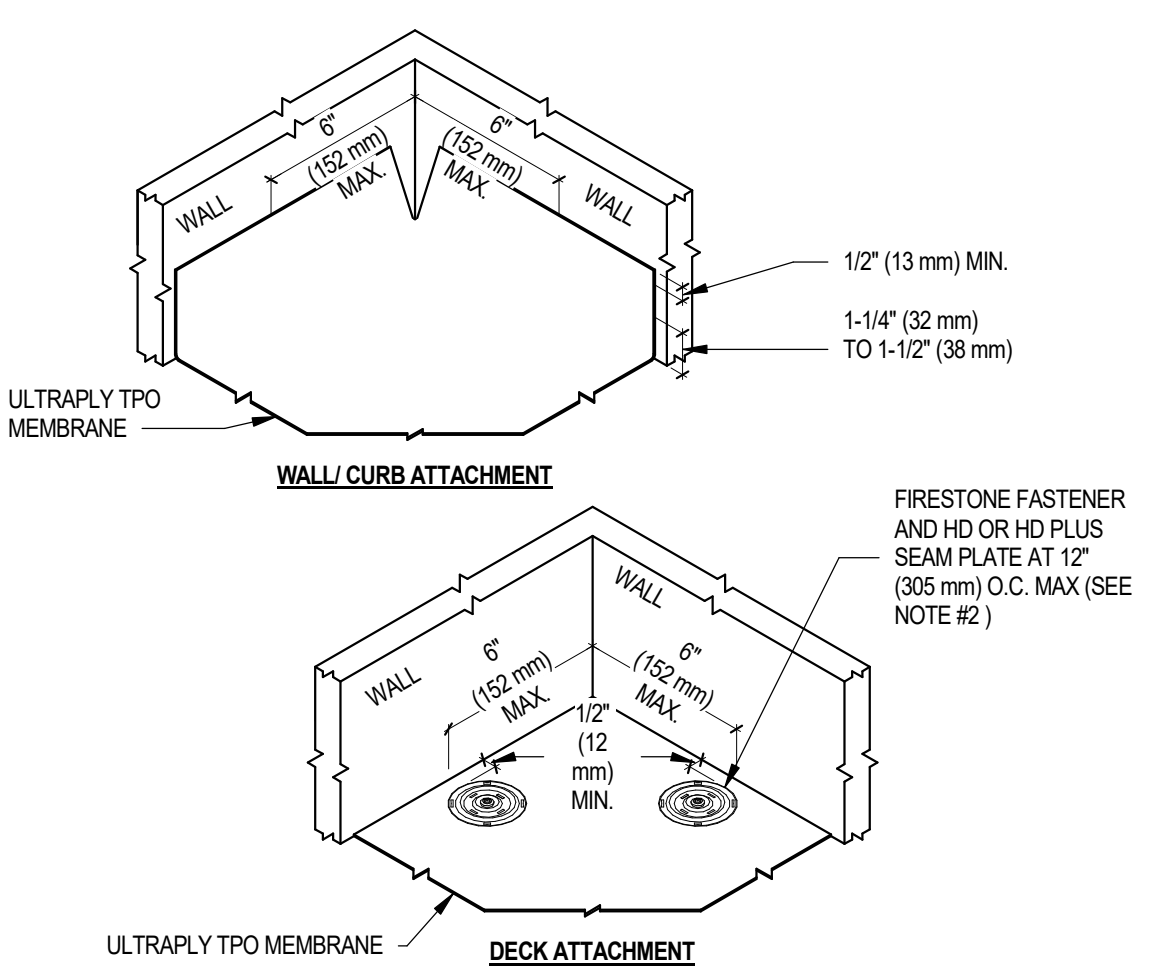
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3RD BUILDING SUBMITTAL
DATE: July 17, 2024 ORB #: 00-000

A7.4.60
CANOPY DETAILS

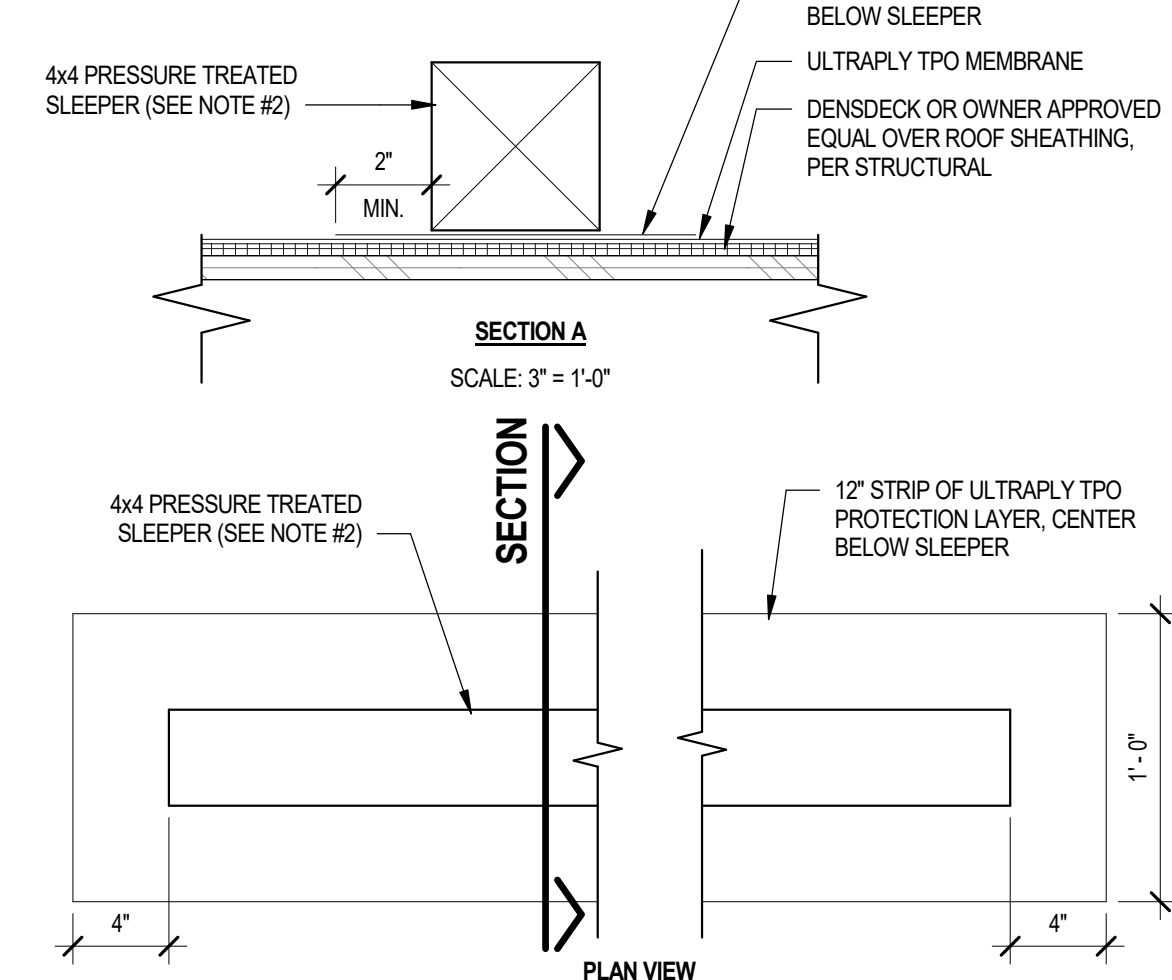
1/17/2025 9:59:11 AM

- NOTES:**
- TPO ROOFING SYSTEM SHALL BE FIRESTONE ULTRAPLY TPO SYSTEM OR OWNER APPROVED EQUAL. REFER TO FIRESTONE WEBSITE FOR MOST CURRENT INFORMATION.
 - MAXIMUM 6" (152 MM) LONG FASTENERS (NOTE: WOOD BLOCKING MAY BE SUBSTITUTED FOR INSULATION TO REDUCE FASTENER LENGTH REQUIREMENTS).
 - BASE FLASHING AND TERMINATION NOT SHOWN FOR CLARITY, REFER TO APPROPRIATE TERMINATION & BASE TIE-IN DETAILS.



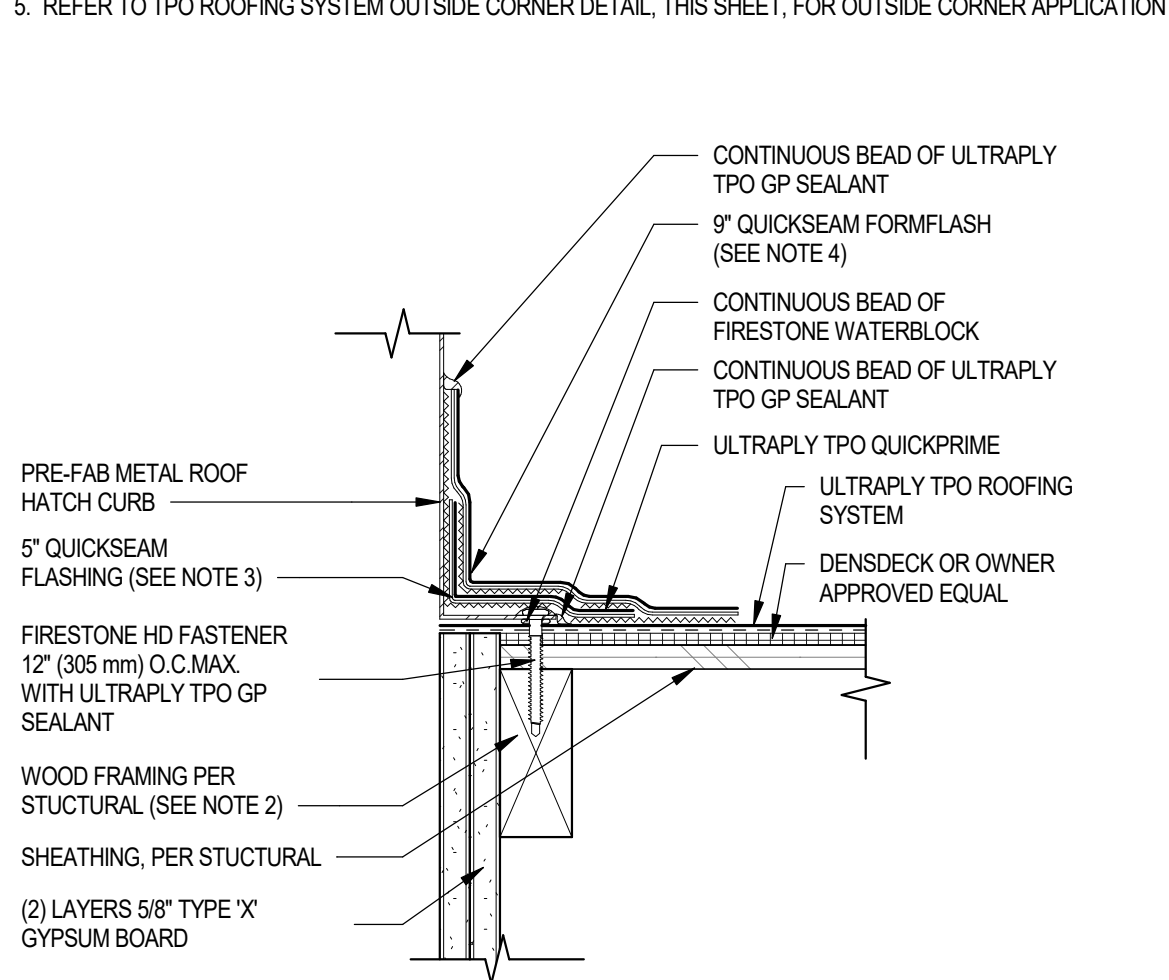
21 MEMBRANE SECUREMENT AT INSIDER CORNER
FIRESTONE NO. UT-81-17
SCALE: 1 1/2" = 1'-0"

- NOTES:**
- TPO ROOFING SYSTEM SHALL BE FIRESTONE ULTRAPLY TPO SYSTEM OR OWNER APPROVED EQUAL. REFER TO FIRESTONE WEBSITE FOR MOST CURRENT INFORMATION.
 - DO NOT INSTALL WOOD SLEEPERS OVER BATTEN STRIPS, FASTENERS HEADS, METAL PLATES OR FIELD SEAMS.



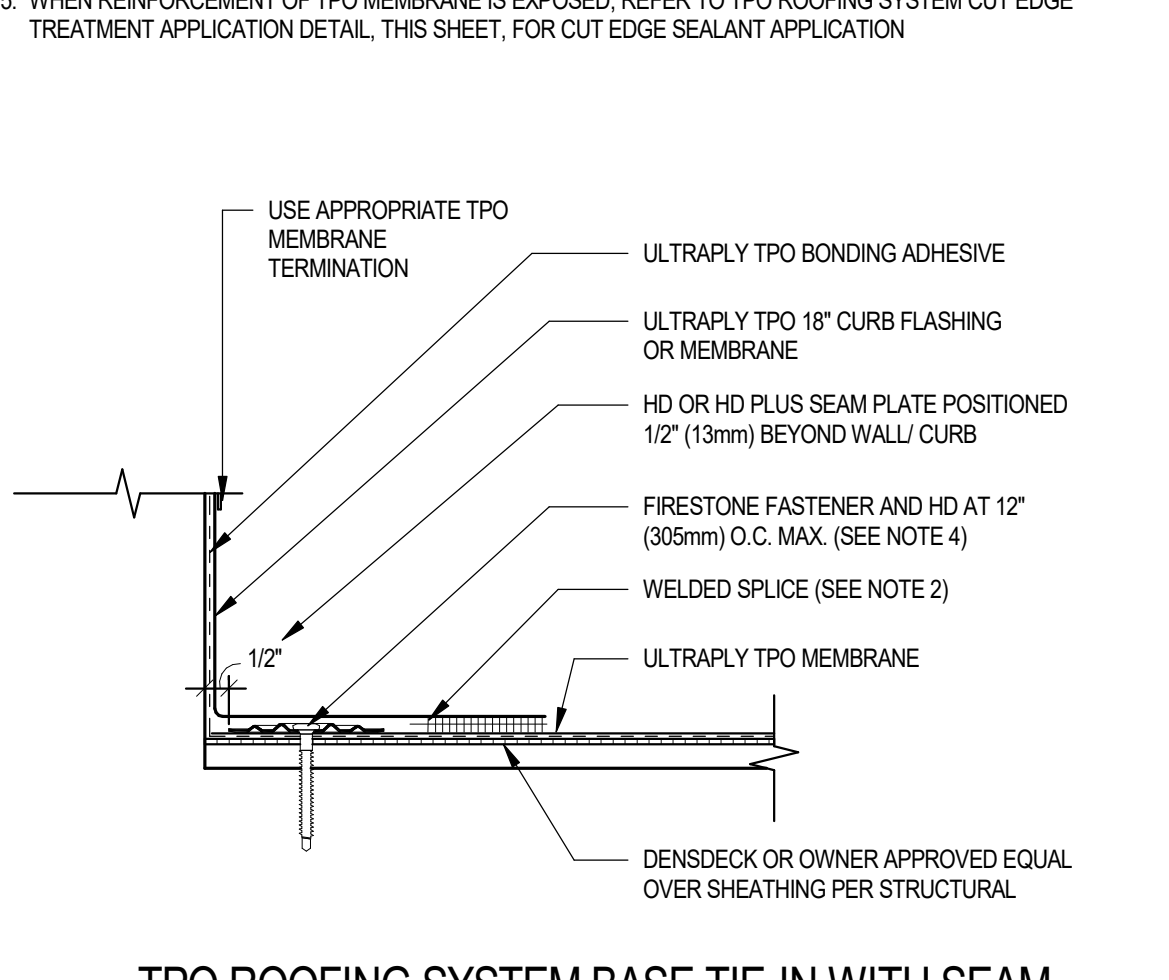
13 WOOD SLEEPER
SCALE: 1 1/2" = 1'-0"

- NOTES:**
- TPO ROOFING SYSTEM SHALL BE FIRESTONE ULTRAPLY TPO SYSTEM OR OWNER APPROVED EQUAL. REFER TO FIRESTONE WEBSITE FOR MOST CURRENT INFORMATION.
 - WOOD FRAMING MUST BE INSTALLED TO MEET APPLICABLE BUILDING CODES OR PROVIDE 200 LBS PER LINEAR FOOT IN ANY GIVEN DIRECTION.
 - 5" QUICKSEAM FLASHING SHALL EXTEND 4" (100 mm) BEYOND EDGE OF CURB FLASHING.
 - 5" QUICKSEAM FORMLASH SHALL BE CENTERED OVER 5" QUICKSEAM FLASHING SO THAT IT EXPANDS 2" (51 mm) BEYOND EDGE OF 5" QUICKSEAM FLASHING.
 - REFER TO TPO ROOFING SYSTEM OUTSIDE CORNER DETAIL, THIS SHEET, FOR OUTSIDE CORNER APPLICATION.



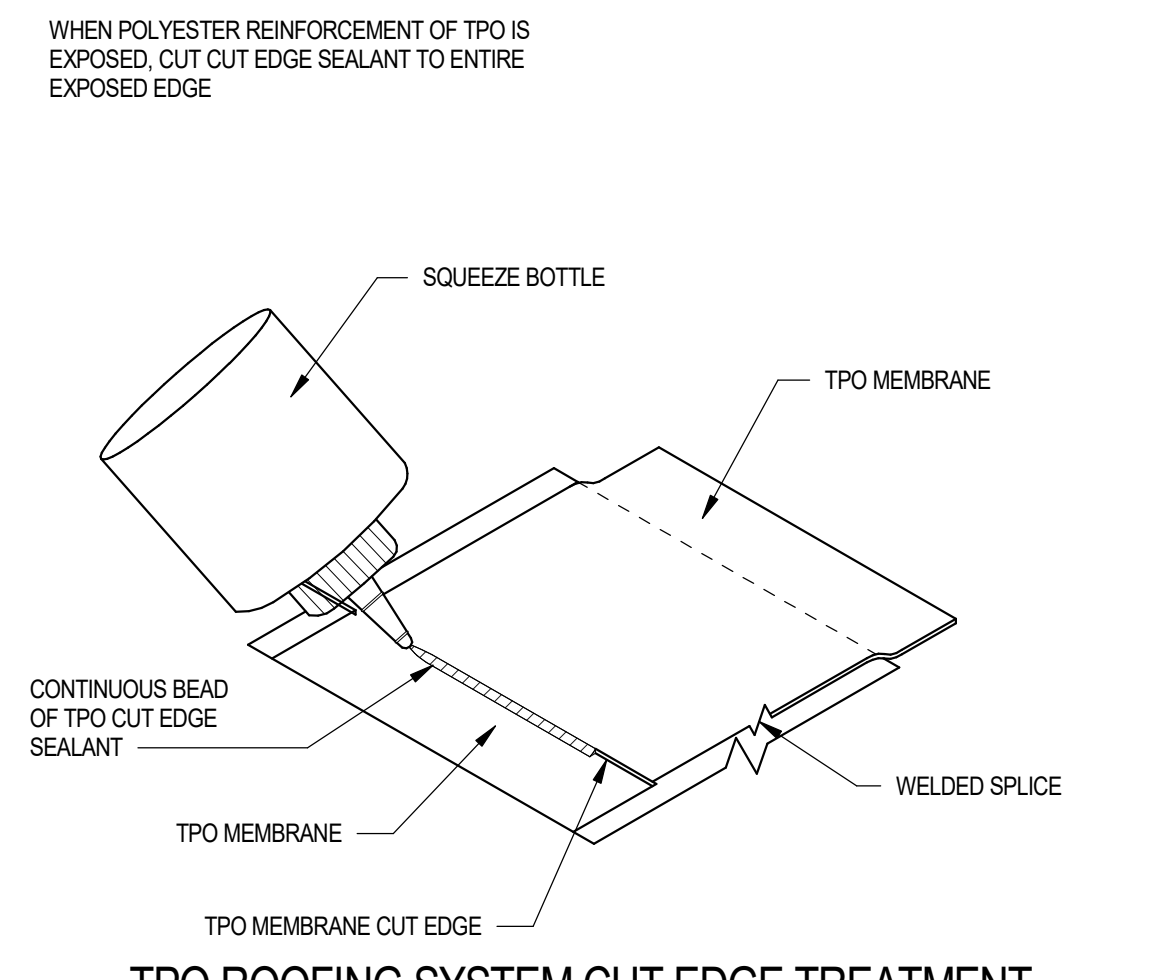
09 TPO ROOFING SYSTEM TERMINATION AT RTU
SCALE: 3" = 1'-0"

- NOTES:**
- TPO ROOFING SYSTEM SHALL BE FIRESTONE ULTRAPLY TPO SYSTEM OR OWNER APPROVED EQUAL. REFER TO FIRESTONE WEBSITE FOR MOST CURRENT INFORMATION.
 - REFER TO LAP SPICE DETAIL W/ AUTOMATIC WELD AND 2" HAND WELD DETAILS, THIS SHEET, FOR WELD WIDTH.
 - MAXIMUM 6" (152 mm) LONG FASTENERS.
 - REFER TO MEMBRANE SECUREMENT AT INSIDE OUTSIDE CORNER DETAILS, THIS SHEET, FOR ANCHORING INFORMATION.
 - WHEN REINFORCEMENT OF TPO MEMBRANE IS EXPOSED, REFER TO TPO ROOFING SYSTEM CUT EDGE TREATMENT APPLICATION DETAIL, THIS SHEET, FOR CUT EDGE SEALANT APPLICATION.



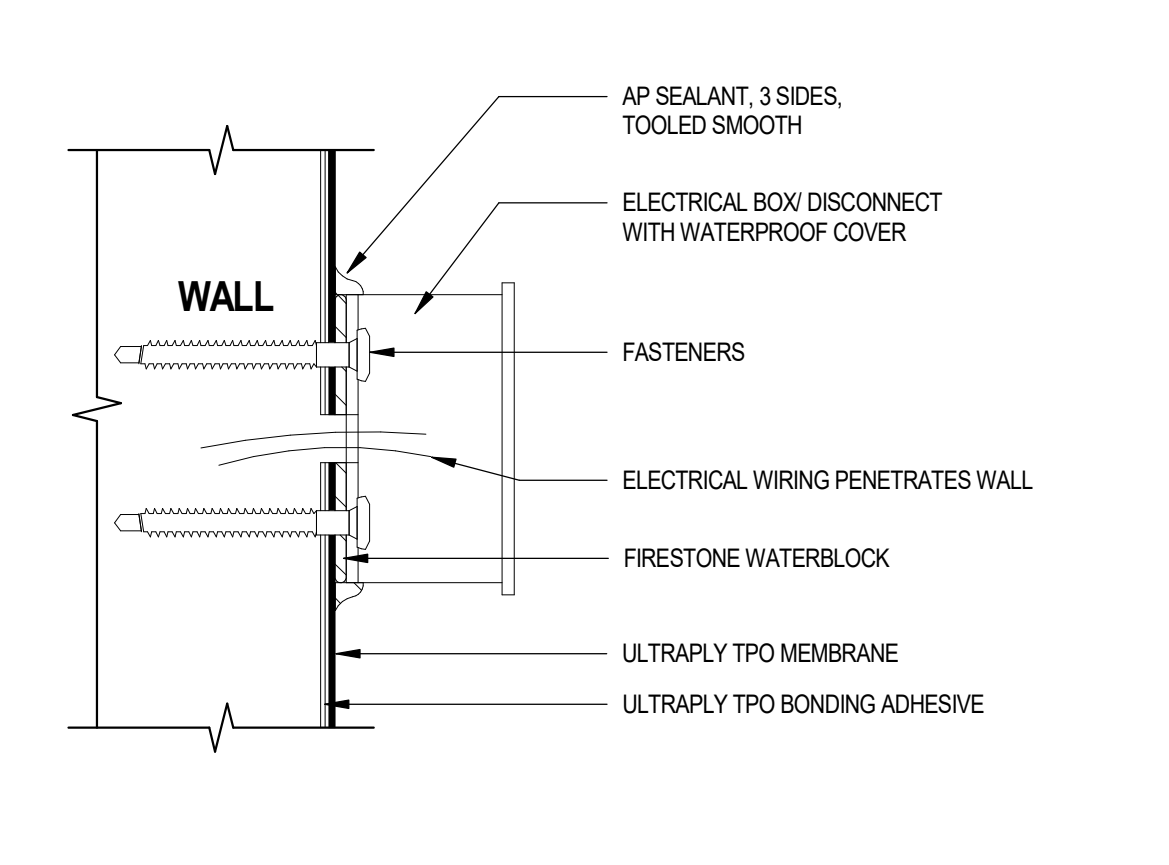
05 TPO ROOFING SYSTEM BASE TIE-IN WITH SEAM PLATES
FIRESTONE NO. UT-B-4
SCALE: 3" = 1'-0"

- NOTES:**
- REFER TO MANUFACTURER'S WEBSITE FOR MOST CURRENT INFORMATION.



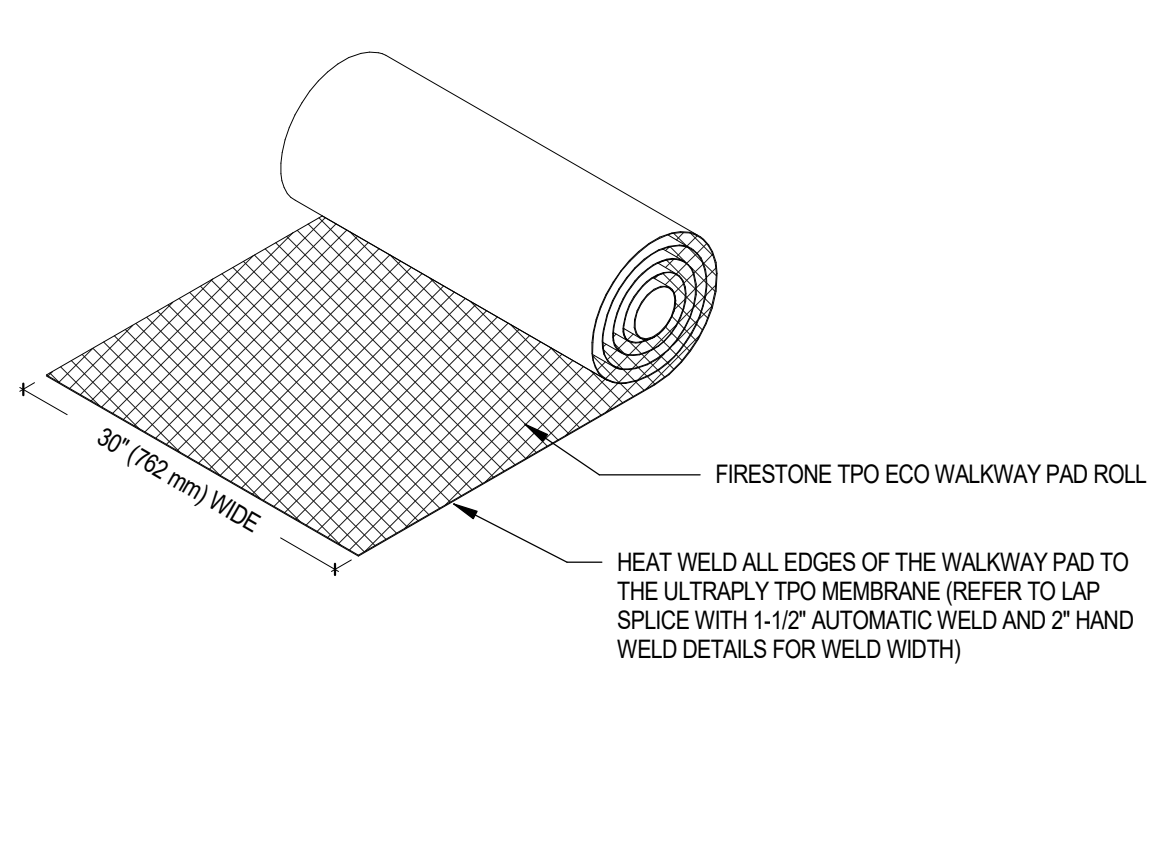
01 TPO ROOFING SYSTEM CUT EDGE TREATMENT APPLICATION
FIRESTONE NO. UT-LS-14
SCALE: 3" = 1'-0"

- NOTES:**
- TPO ROOFING SYSTEM SHALL BE FIRESTONE ULTRAPLY TPO SYSTEM OR OWNER APPROVED EQUAL. REFER TO FIRESTONE WEBSITE FOR MOST CURRENT INFORMATION.
 - WALKWAY SECTION SHOULD BE SPACED PROPERLY TO ALLOW FOR DRAINAGE SPACE BETWEEN WALKWAY SECTIONS SHALL BE 1" MIN. TO 3" MAX.



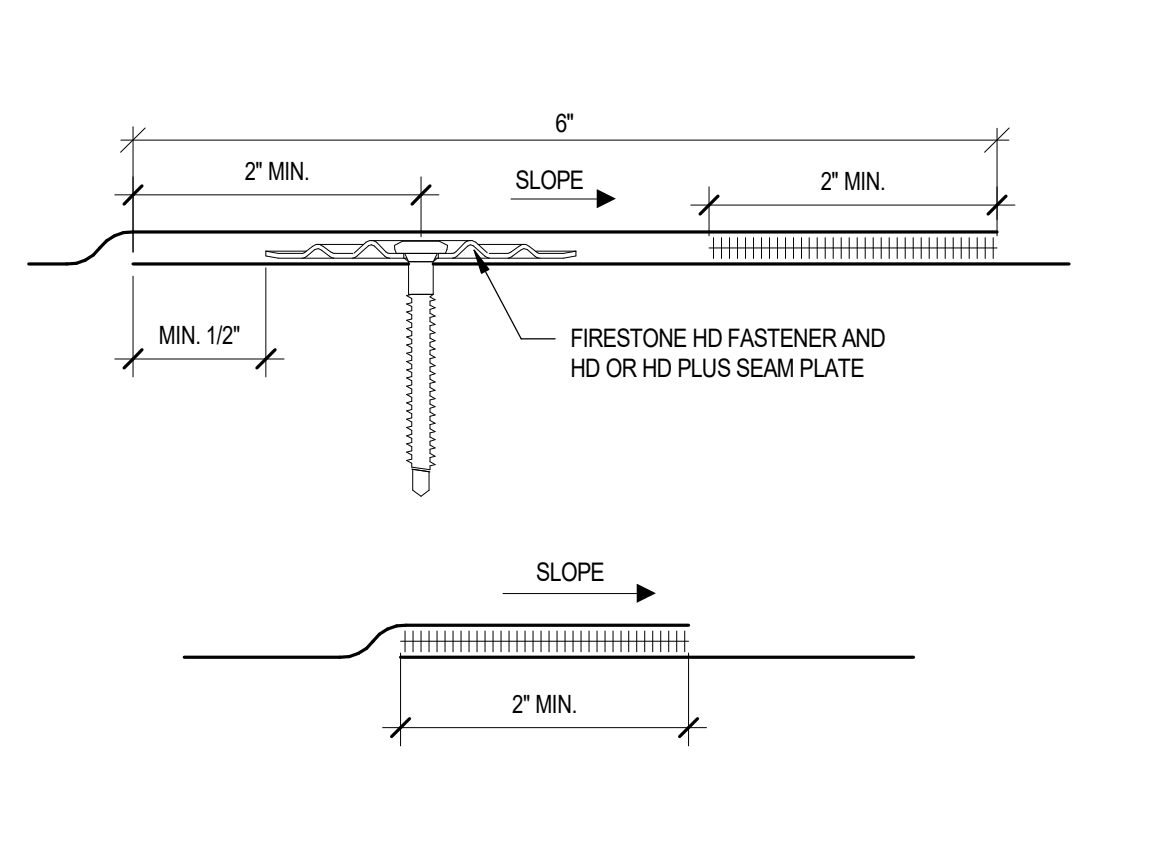
17 INTERMEDIATE WALL FLASHING ATTACHMENT WITH WELDED SPICE
FIRESTONE NO. UT-1-23
SCALE: 3" = 1'-0"

- NOTES:**
- TPO ROOFING SYSTEM SHALL BE FIRESTONE ULTRAPLY TPO SYSTEM OR OWNER APPROVED EQUAL.
 - REFER TO FIRESTONE WEBSITE FOR MOST CURRENT INFORMATION.
 - WALKWAY SECTION SHOULD BE SPACED PROPERLY TO ALLOW FOR DRAINAGE SPACE BETWEEN WALKWAY SECTIONS SHALL BE 1" MIN. TO 3" MAX.



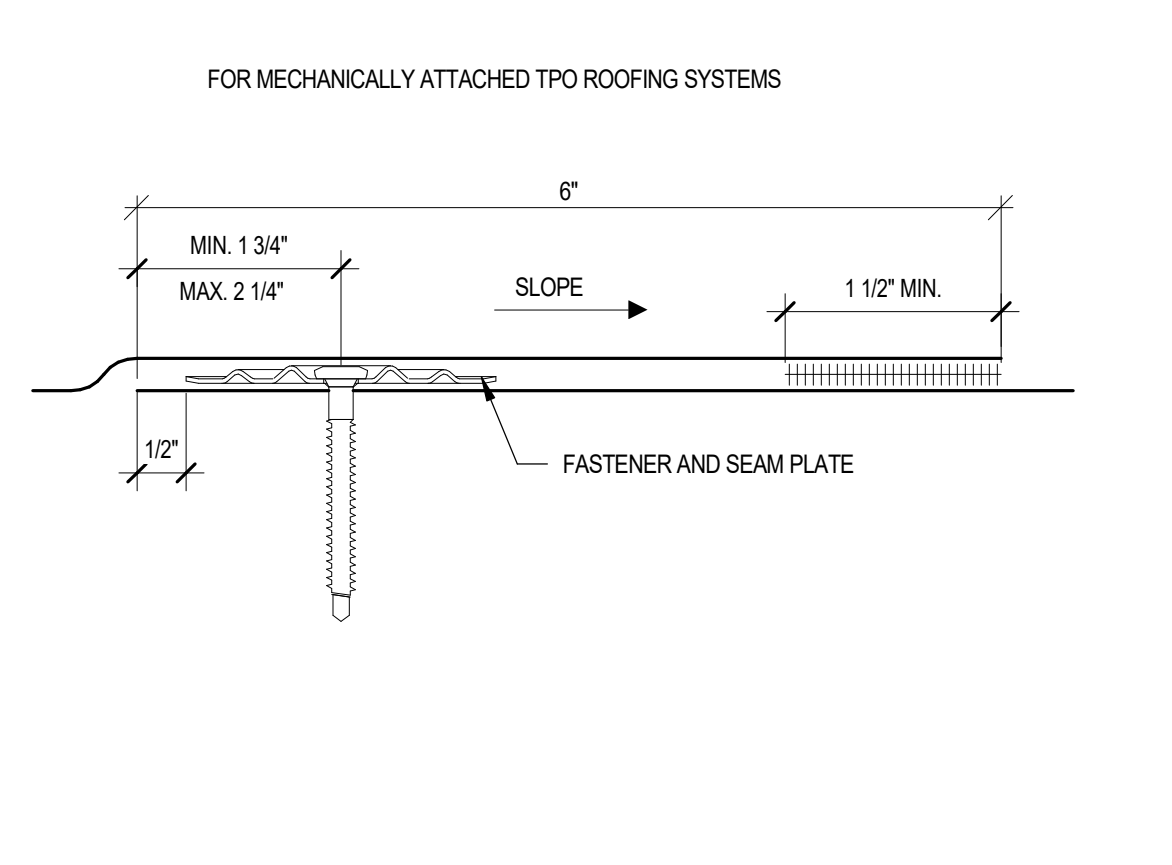
18 TPO ROOFING SYSTEM WALKWAY PAD
FIRESTONE NO. UT-M-1
SCALE: 3" = 1'-0"

- NOTES:**
- TPO ROOFING SYSTEM SHALL BE FIRESTONE ULTRAPLY TPO SYSTEM OR OWNER APPROVED EQUAL.
 - REFER TO FIRESTONE WEBSITE FOR MOST CURRENT INFORMATION.
 - WHEN POLYESTER REINFORCEMENT OF TPO IS EXPOSED, APPLY CUT EDGE TREATMENT TO ENTIRE EXPOSED EDGE. REFER TO UT-LS-14.



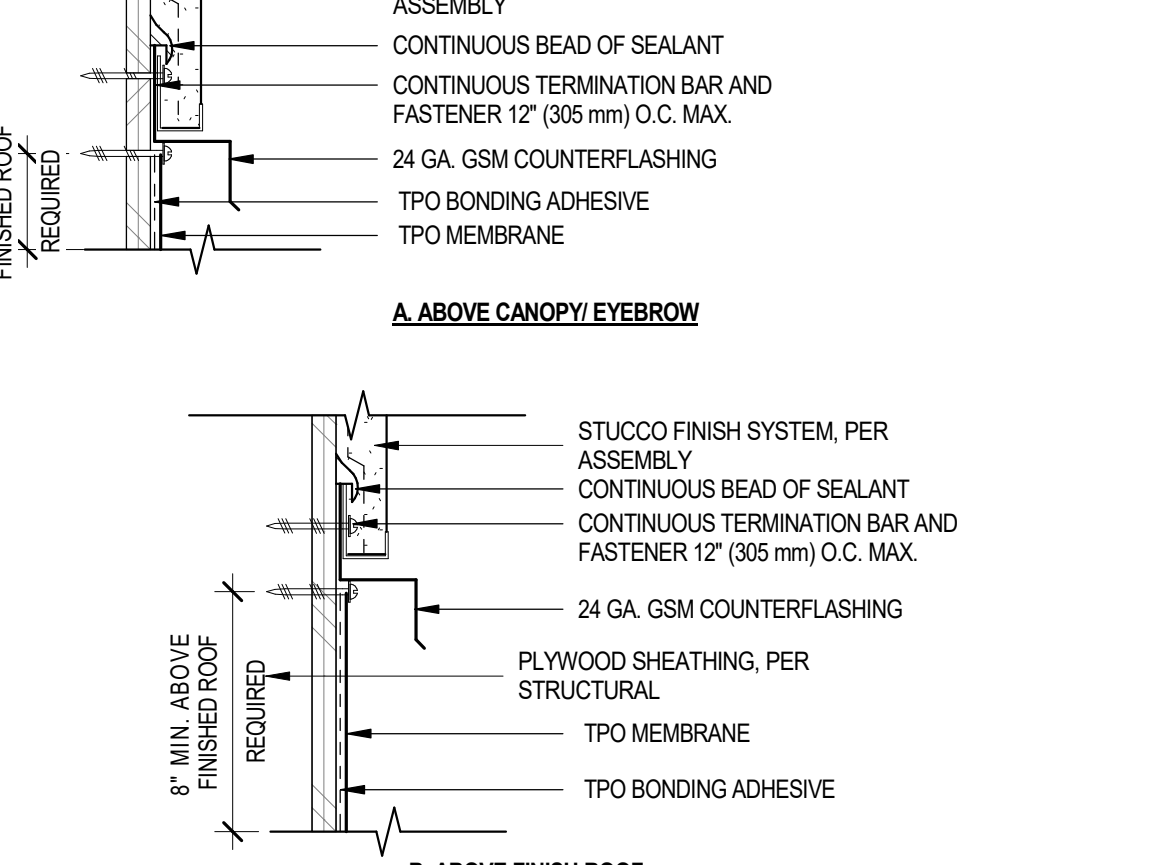
14 LAP SPICE WITH 2" HAND WELD
SCALE: 6" = 1'-0"

- NOTES:**
- TPO ROOFING SYSTEM SHALL BE FIRESTONE ULTRAPLY TPO SYSTEM OR OWNER APPROVED EQUAL. REFER TO FIRESTONE WEBSITE FOR MOST CURRENT INFORMATION.
 - MAXIMUM 6" (152 mm) LONG FASTENERS.
 - WHEN REINFORCEMENT OF TPO MEMBRANE IS EXPOSED, REFER TO TPO ROOFING SYSTEM CUT EDGE TREATMENT APPLICATION DETAIL, THIS SHEET, FOR CUT EDGE SEALANT APPLICATION.



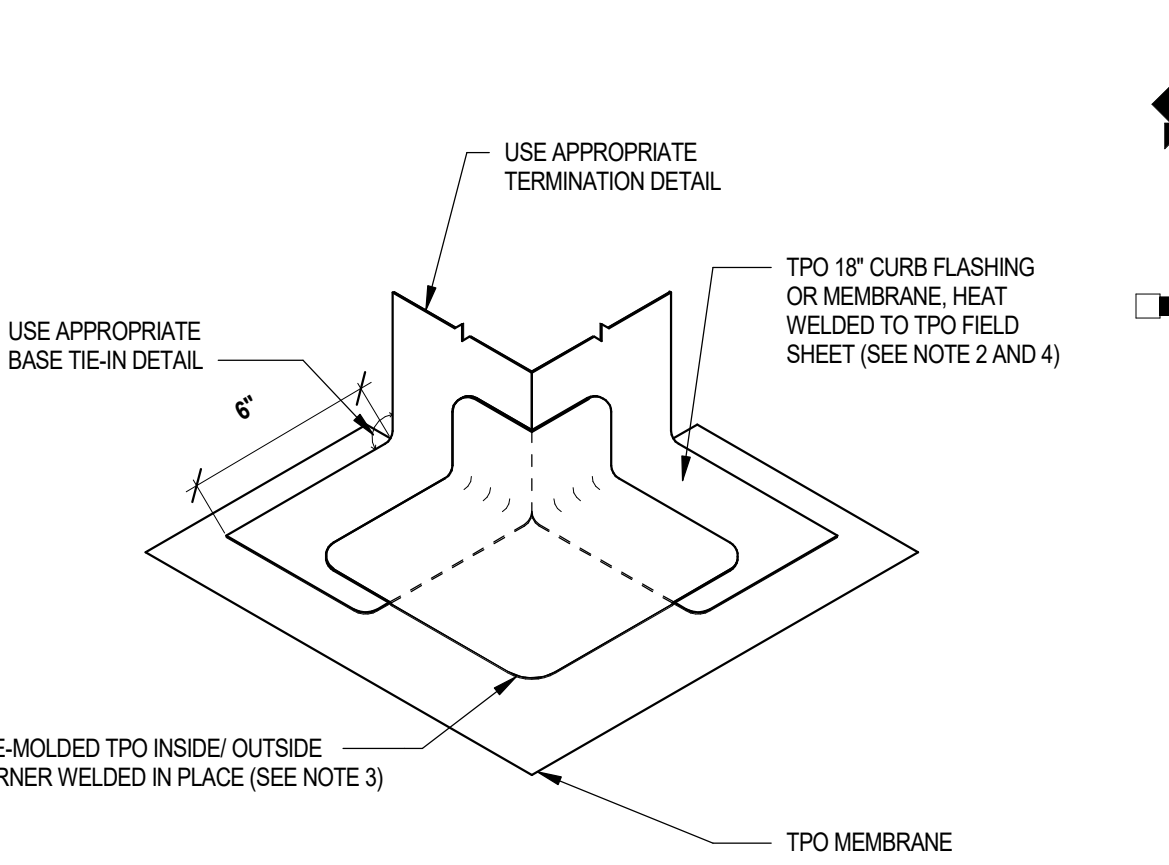
10 TPO ROOFING SYSTEM LAP SPICE WITH 1-1/2" AUTOMATIC WELDER
FIRESTONE NO. UT-LS-1
SCALE: 6" = 1'-0"

- NOTES:**
- REFER TO MANUFACTURER'S WEBSITE FOR MOST CURRENT INFORMATION.
 - INSTALL METAL WORK IN ACCORDANCE WITH CURRENT SMACNA RECOMMENDATIONS.



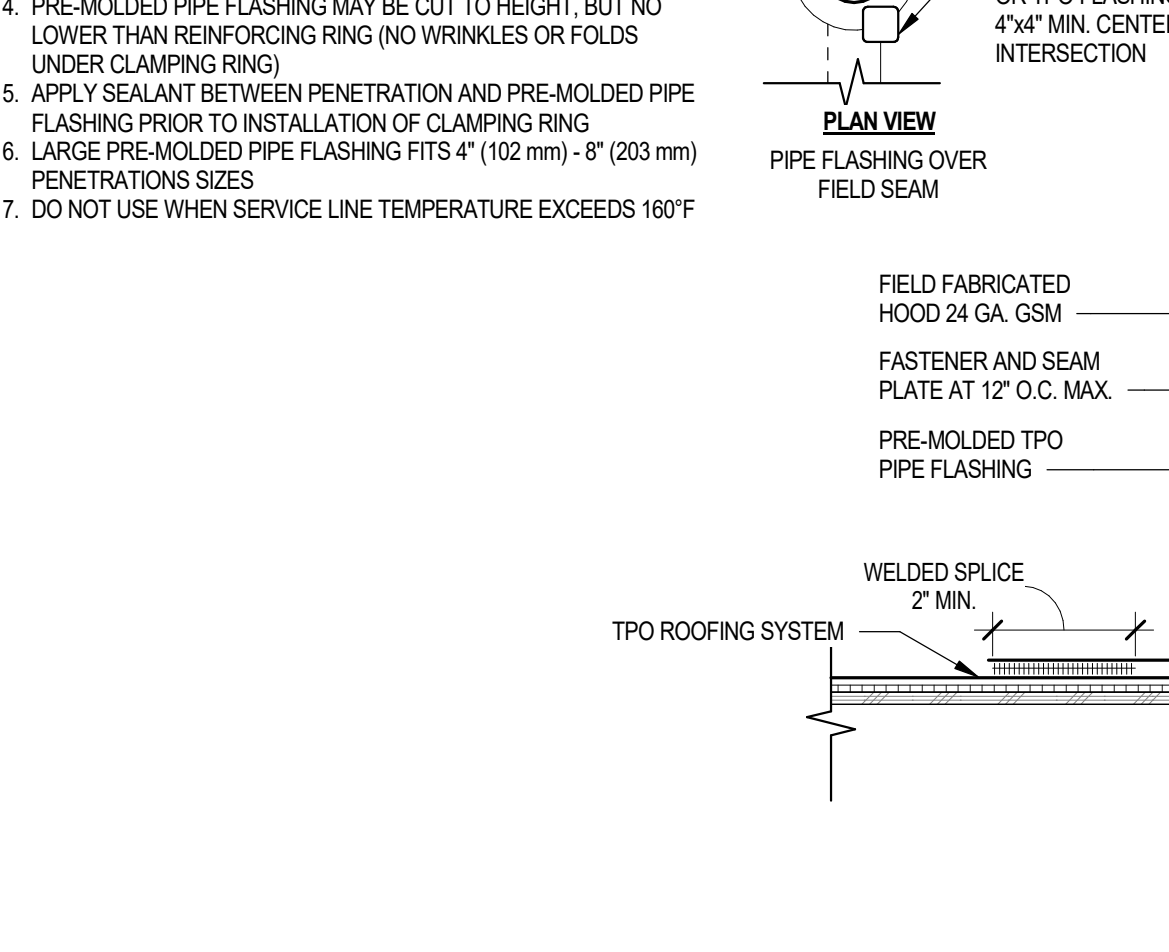
06 TPO ROOFING SYSTEM TERMINATION AT STUCCO SYSTEM
FIRESTONE NO. UT-T-7
SCALE: 3" = 1'-0"

- NOTES:**
- TPO ROOFING SYSTEM SHALL BE FIRESTONE ULTRAPLY TPO SYSTEM OR OWNER APPROVED EQUAL. REFER TO FIRESTONE WEBSITE FOR MOST CURRENT INFORMATION.
 - REFER TO LAP SPICE WITH 1-1/2" AUTOMATIC WELD AND 2" HAND WELD DETAILS, THIS SHEET, FOR WELD WIDTH.
 - FLASHING MAY BE USED INSTEAD OF PRE-MOLDED TPO INSIDE/OUTSIDE CORNER.
 - WHEN REINFORCEMENT OF TPO MEMBRANE IS EXPOSED, REFER TO TPO ROOFING SYSTEM CUT EDGE TREATMENT APPLICATION DETAIL, THIS SHEET.



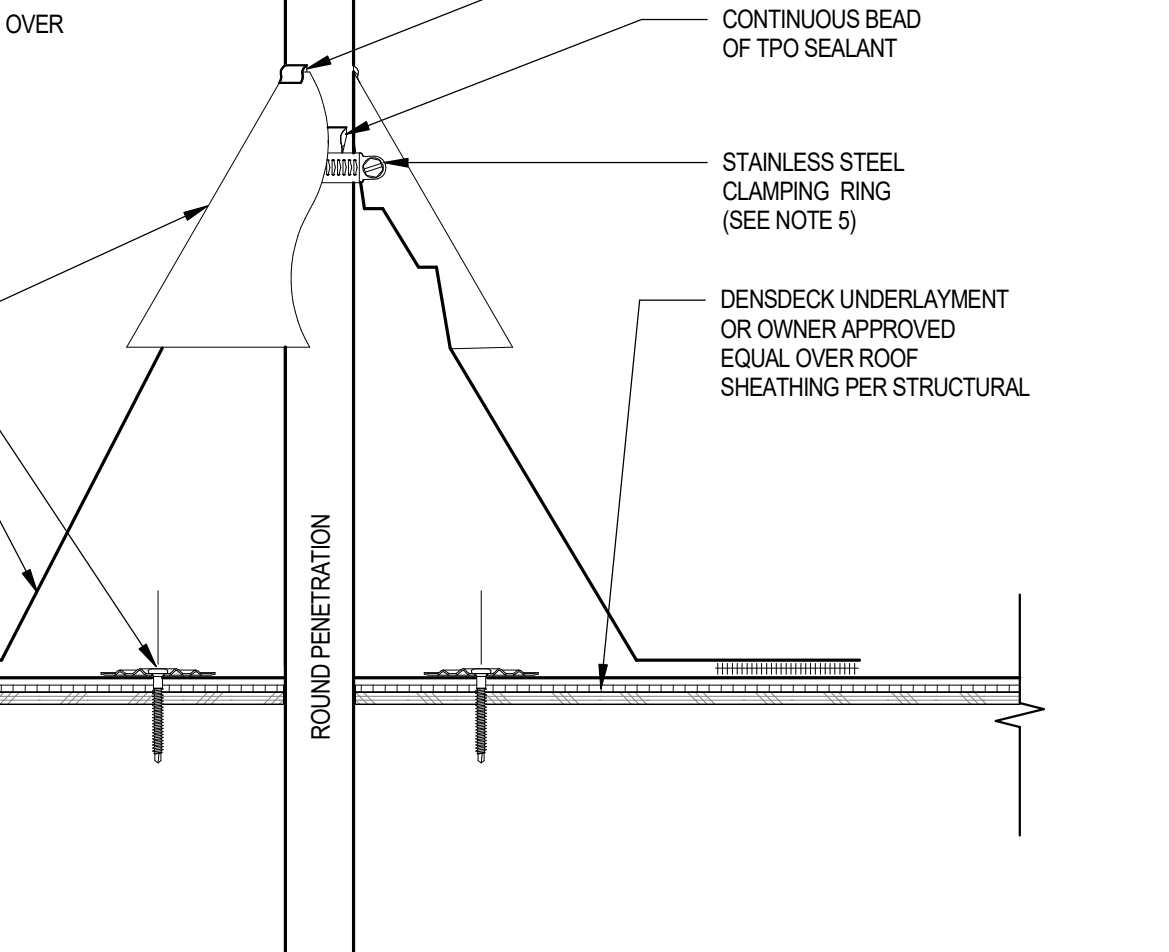
02 TPO ROOFING SYSTEM OUTSIDE CORNER
FIRESTONE NO. UT-C-7
SCALE: 3" = 1'-0"

- NOTES:**
- REFER TO MANUFACTURER'S WEBSITE FOR THE MOST CURRENT INFORMATION.
 - PIPE SURFACE MUST BE FREE OF ALL RUST, GREASE, INSULATION, ETC.
 - PIPE MUST BE ANCHORED TO ENSURE STABILITY.
 - PRE-MOLDED PIPE FLASHING MAY BE CUT TO HEIGHT, BUT NO LOWER THAN REINFORCING RING (NO WRINKLES OR FOLDS UNDER CLAMPING RING).
 - APPLY SEALANT BETWEEN PENETRATION AND PRE-MOLDED PIPE FLASHING PRIOR TO INSTALLATION OF CLAMPING RING.
 - LARGE PRE-MOLDED PIPE FLASHING FITS 4" (102 mm) - 8" (203 mm) PENETRATIONS SIZES.
 - DO NOT USE WHEN SERVICE LINE TEMPERATURE EXCEEDS 180°F.



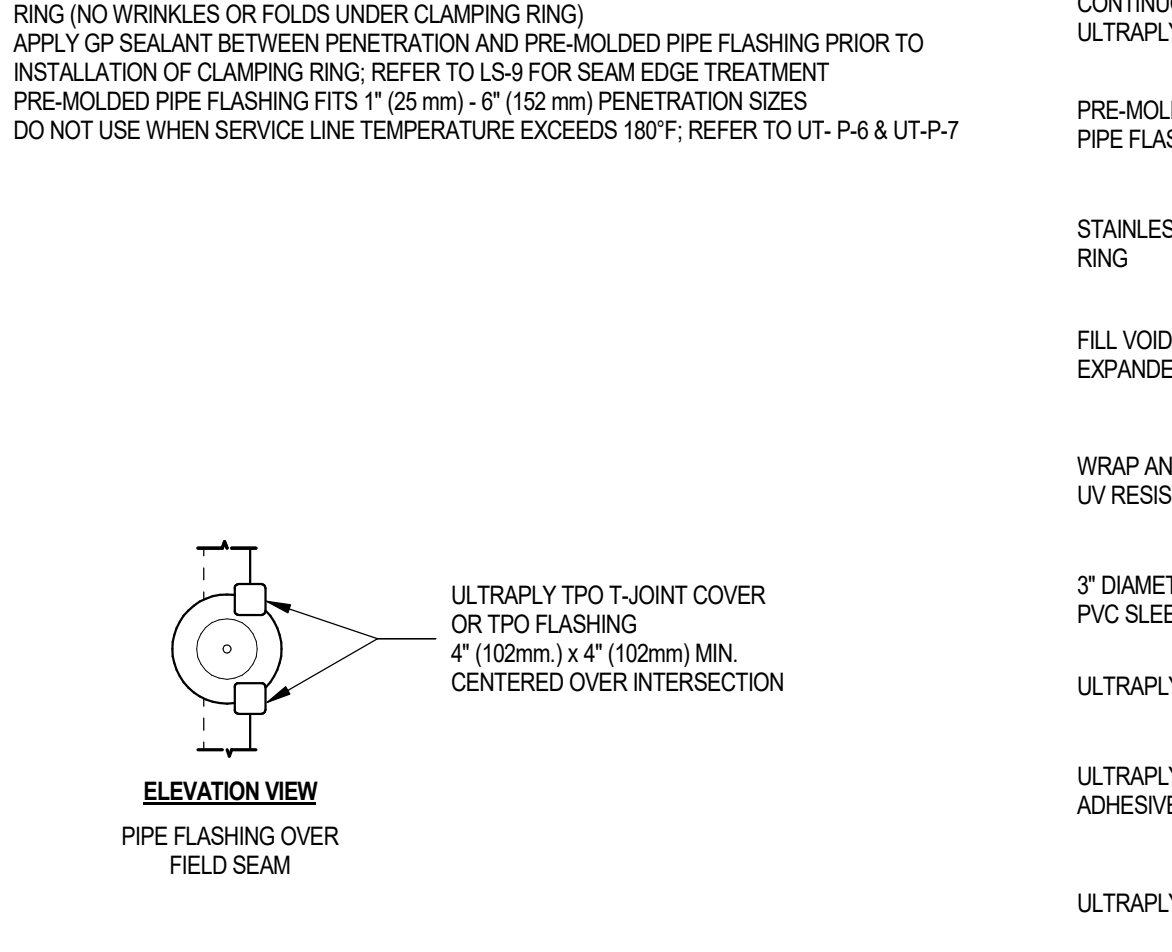
22 WALL MOUNTED ELECTRICAL BOX
FIRESTONE NO. UT-M-6
SCALE: 6" = 1'-0"

- NOTES:**
- TPO ROOFING SYSTEM SHALL BE FIRESTONE ULTRAPLY TPO SYSTEM OR OWNER APPROVED EQUAL.
 - REMOVE ALL EXISTING FLASHING, LEAD, ETC. PIPE SURFACE MUST BE FREE OF ALL RUST, GREASE, INSULATION, ETC.
 - LINESETS MUST BE ANCHORED TO ENSURE STABILITY.
 - PRE-MOLDED PIPE FLASHING MAY BE CUT TO HEIGHT, BUT NO LOWER THAN REINFORCING RING (NO WRINKLES OR FOLDS UNDER CLAMPING RING).
 - APPLY GP SEALANT BETWEEN PENETRATION AND PRE-MOLDED PIPE FLASHING PRIOR TO INSTALLATION OF CLAMPING RING. REFER TO LS-9 FOR SEAM EDGE TREATMENT.
 - PRE-MOLDED PIPE FLASHING FITS 1" (25 mm) - 4" (102 mm) PENETRATION SIZES.
 - DO NOT USE WHEN SERVICE LINE TEMPERATURE EXCEEDS 180°F. REFER TO UT-P-6 & UT-P-7 (SEE NOTE 5).



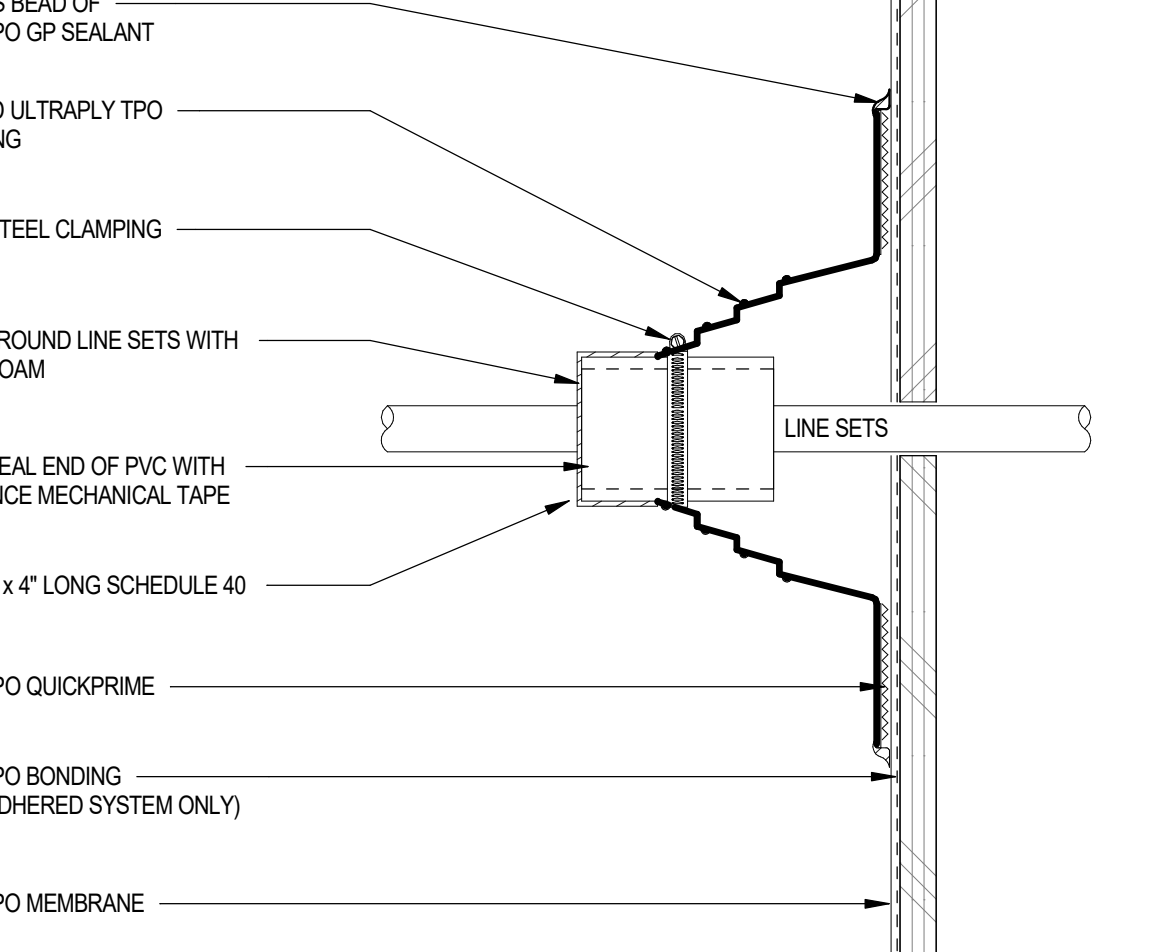
14 LAP SPICE WITH 2" HAND WELD
SCALE: 6" = 1'-0"

- NOTES:**
- TPO ROOFING SYSTEM SHALL BE FIRESTONE ULTRAPLY TPO SYSTEM OR OWNER APPROVED EQUAL. REFER TO FIRESTONE WEBSITE FOR MOST CURRENT INFORMATION.
 - HOLE IN MEMBRANE SHOULD EXTEND A MINIMUM OF 12" (305 mm) BEYOND CLAMPING RING AND SHOULD NOT BE SMALLER THAN THE DIAMETER OF THE LEADER PIPE.
 - FIRESTONE WATERBLOCK MIN. 1/2 OF 10 OZ. (295 ml) TUBE PER 4" DRAIN. USE ADDITIONAL WATERBLOCK FOR LARGER DRAINS.



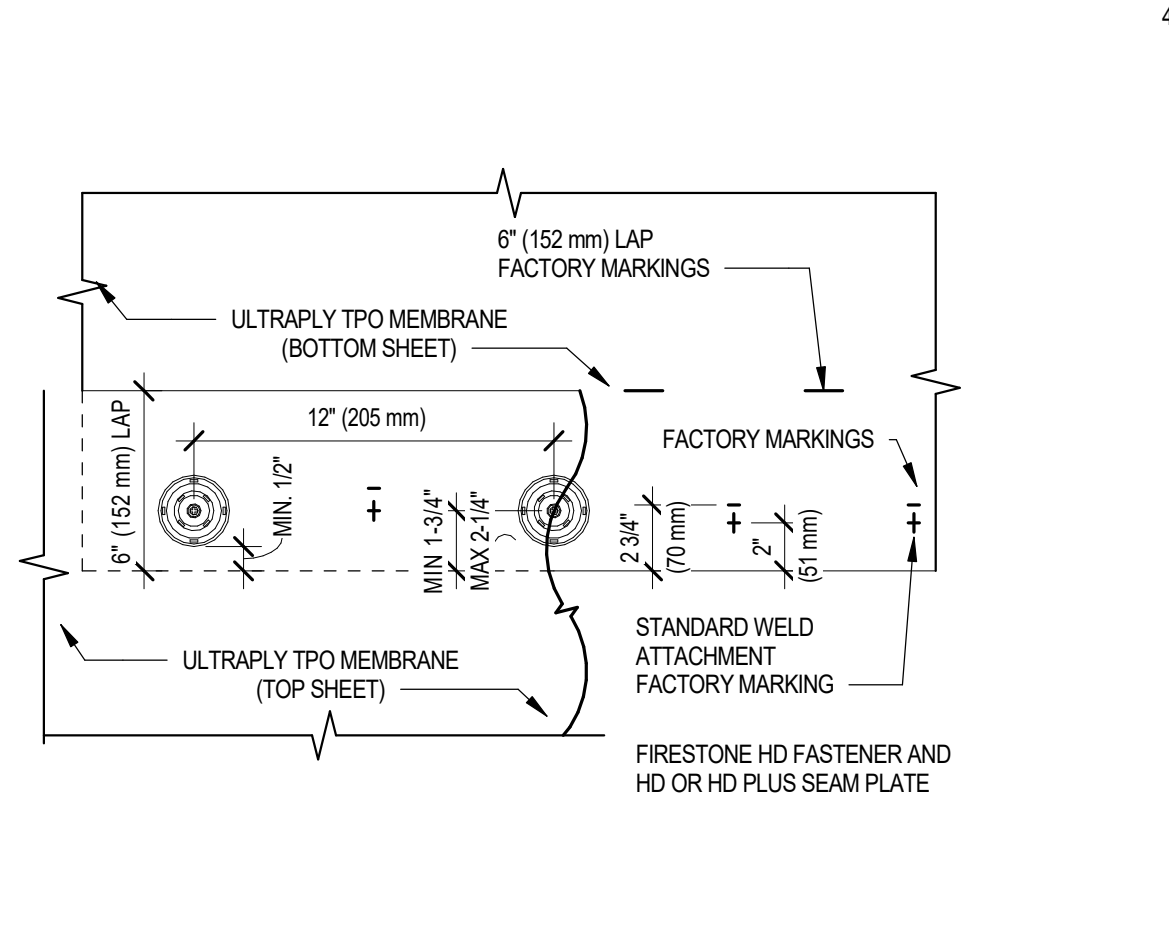
15 TPO ROOFING SYSTEM FLASHING AT MECHANICAL LINESETS
FIRESTONE NO. UT-P-17
SCALE: 3" = 1'-0"

- NOTES:**
- TPO ROOFING SYSTEM SHALL BE FIRESTONE ULTRAPLY TPO SYSTEM OR OWNER APPROVED EQUAL. REFER TO FIRESTONE WEBSITE FOR MOST CURRENT INFORMATION.
 - REFER TO LAP SPICE WITH 1-1/2" AUTOMATIC WELD AND 2" HAND WELD DETAILS, THIS SHEET, FOR WELD WIDTH.



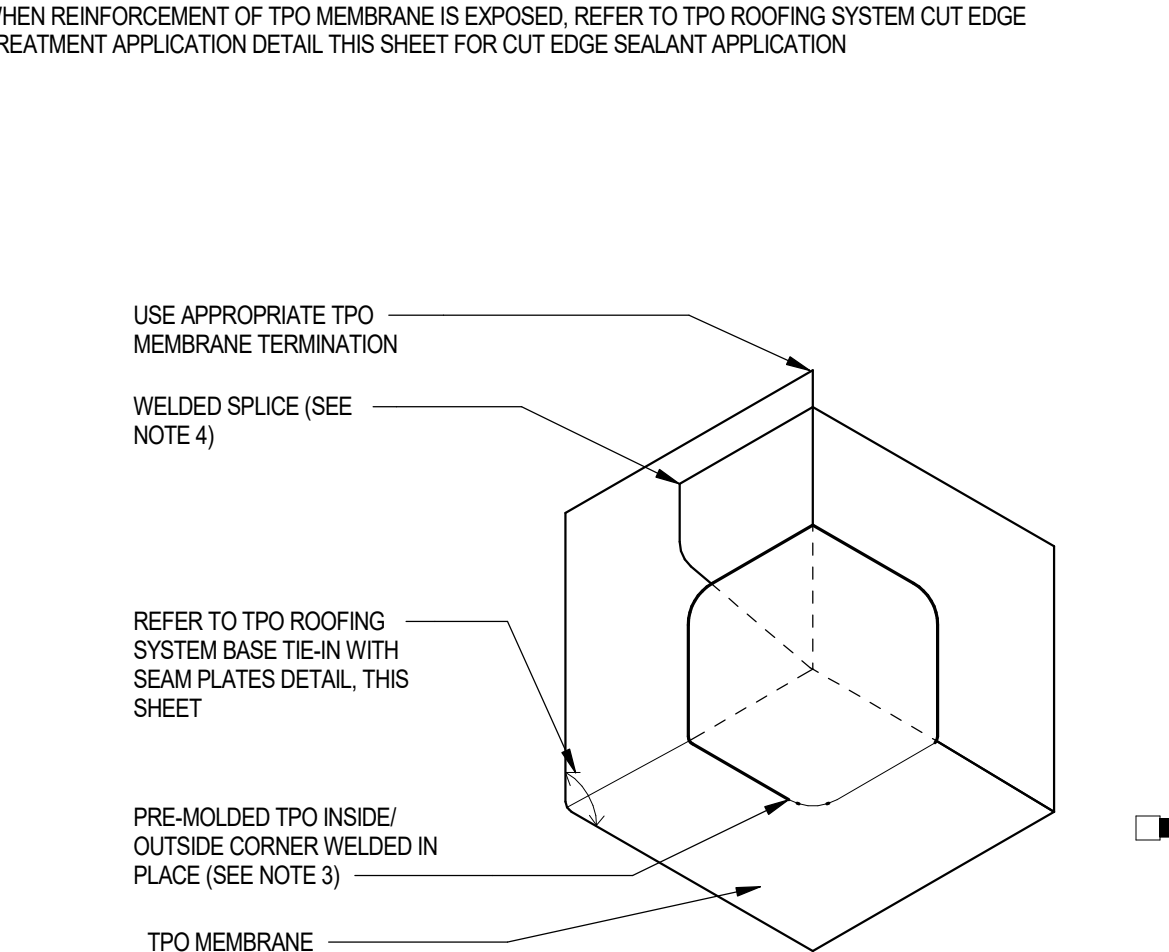
10 TPO ROOFING SYSTEM LAP SPICE WITH 1-1/2" AUTOMATIC WELDER
FIRESTONE NO. UT-LS-1
SCALE: 6" = 1'-0"

- NOTES:**
- TPO ROOFING SYSTEM SHALL BE FIRESTONE ULTRAPLY TPO SYSTEM OR OWNER APPROVED EQUAL. REFER TO FIRESTONE WEBSITE FOR MOST CURRENT INFORMATION.
 - REFER TO LAP SPICE WITH 1-1/2" AUTOMATIC WELD AND 2" HAND WELD DETAILS, THIS SHEET, FOR WELD WIDTH.



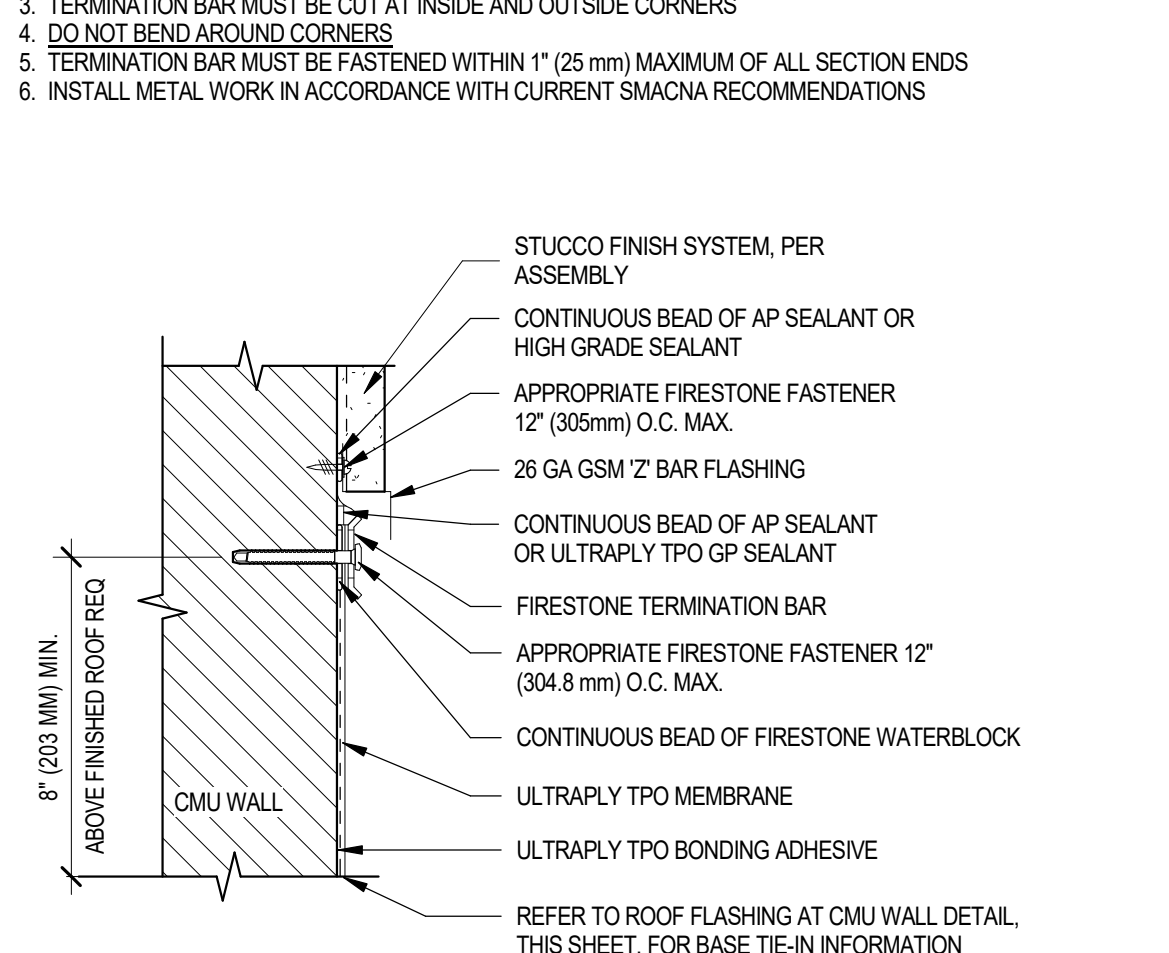
06 TPO ROOFING SYSTEM TERMINATION AT STUCCO SYSTEM
FIRESTONE NO. UT-T-7
SCALE: 3" = 1'-0"

- NOTES:**
- TPO ROOFING SYSTEM SHALL BE FIRESTONE ULTRAPLY TPO SYSTEM OR OWNER APPROVED EQUAL. REFER TO FIRESTONE WEBSITE FOR MOST CURRENT INFORMATION.
 - REFER TO LAP SPICE WITH 1-1/2" AUTOMATIC WELD AND 2" HAND WELD DETAILS, THIS SHEET, FOR WELD WIDTH.
 - FLASHING MAY BE USED INSTEAD OF PRE-MOLDED TPO INSIDE/OUTSIDE CORNER.
 - WHEN REINFORCEMENT OF TPO MEMBRANE IS EXPOSED, REFER TO TPO ROOFING SYSTEM CUT EDGE TREATMENT APPLICATION DETAIL, THIS SHEET FOR CUT EDGE SEALANT APPLICATION.



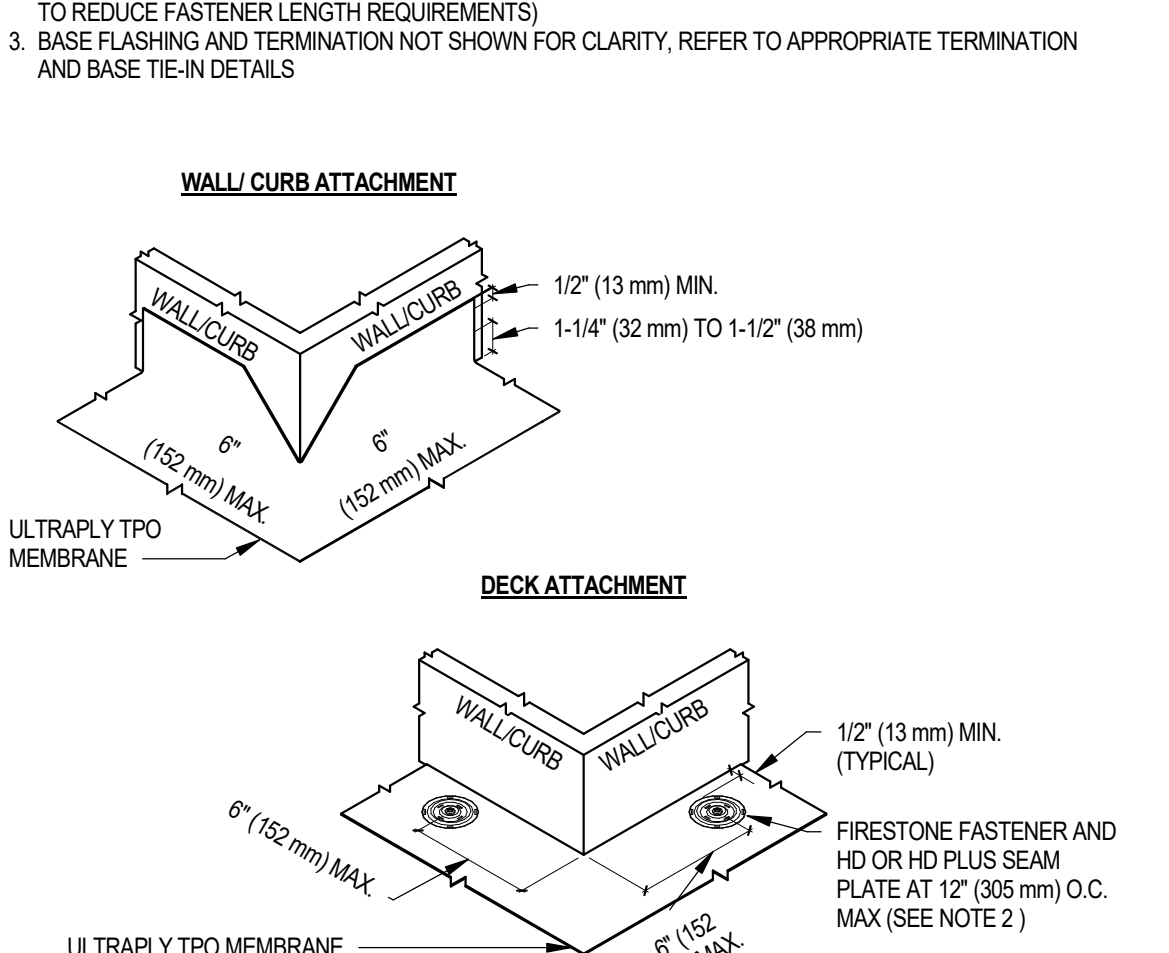
02 TPO ROOFING SYSTEM OUTSIDE CORNER
FIRESTONE NO. UT-C-7
SCALE: 3" = 1'-0"

- NOTES:**
- TPO ROOFING SYSTEM SHALL BE FIRESTONE ULTRAPLY TPO SYSTEM OR OWNER APPROVED EQUAL. REFER TO FIRESTONE WEBSITE FOR MOST CURRENT INFORMATION.
 - INSTALL FIRESTONE TERMINATION BAR WITH 1/4" (6 mm) GAP BETWEEN ADJOINING SECTIONS.
 - TERMINATION BAR MUST BE CUT AT INSIDE AND OUTSIDE CORNERS.
 - DO NOT BEND AROUND CORNERS.
 - TERMINATION BAR MUST BE FASTENED WITHIN 1" (25 mm) MAXIMUM OF ALL SECTION ENDS.
 - INSTALL METAL WORK IN ACCORDANCE WITH CURRENT SMACNA RECOMMENDATIONS.



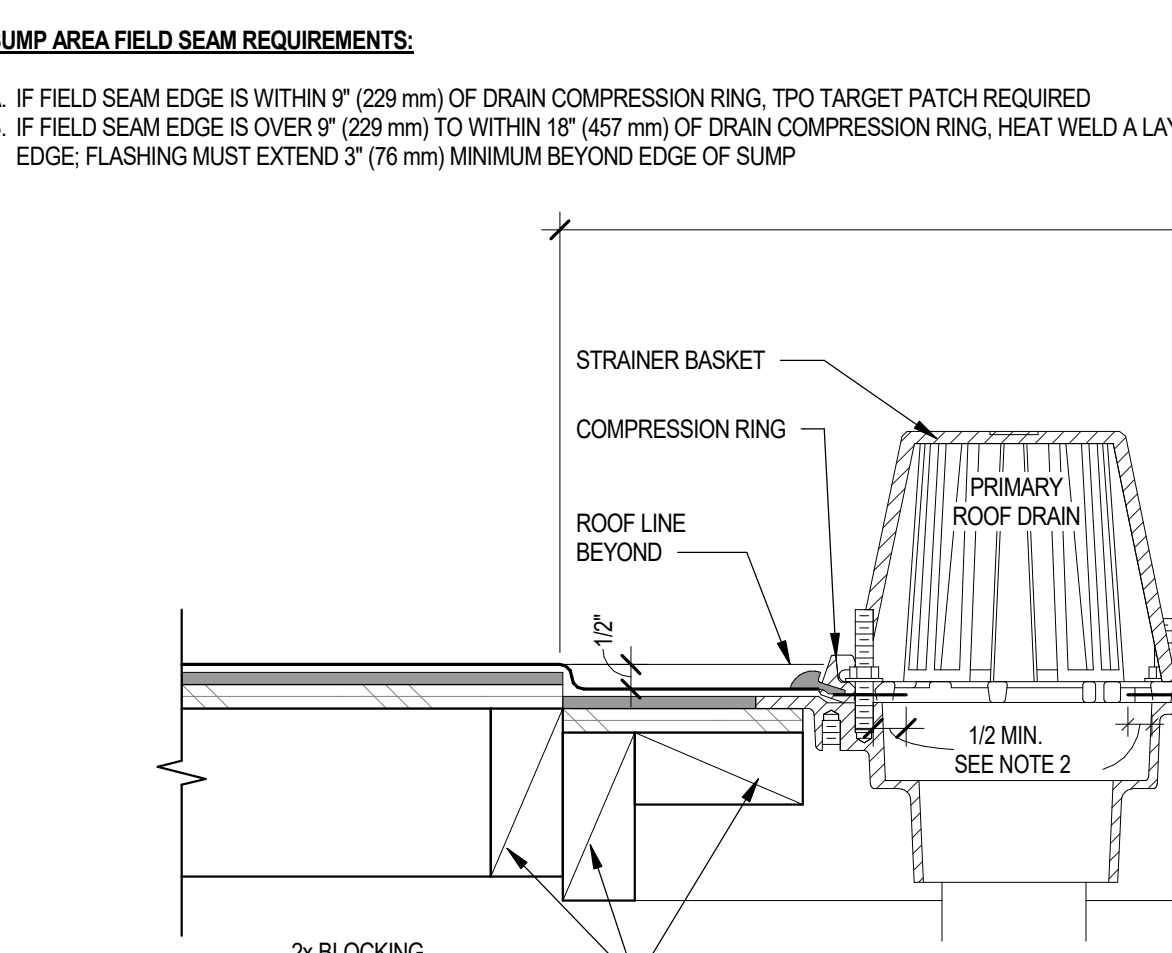
23 TPO ROOFING SYSTEM FLASHING AT SMALL PIPE PENETRATION
REFERENCE FIRESTONE DETAIL UT-P-2
SCALE: 1" = 1'-0"

- NOTES:**
- TPO ROOFING SYSTEM SHALL BE FIRESTONE ULTRAPLY TPO SYSTEM OR OWNER APPROVED EQUAL. REFER TO FIRESTONE WEBSITE FOR MOST CURRENT INFORMATION.
 - MAXIMUM 6" (152 mm) LONG FASTENERS (NOTE: WOOD BLOCKING MAY BE SUBSTITUTED FOR INSULATION TO REDUCE FASTENER LENGTH REQUIREMENTS).
 - BASE FLASHING AND TERMINATION NOT SHOWN FOR CLARITY, REFER TO APPROPRIATE TERMINATION AND BASE TIE-IN DETAILS.



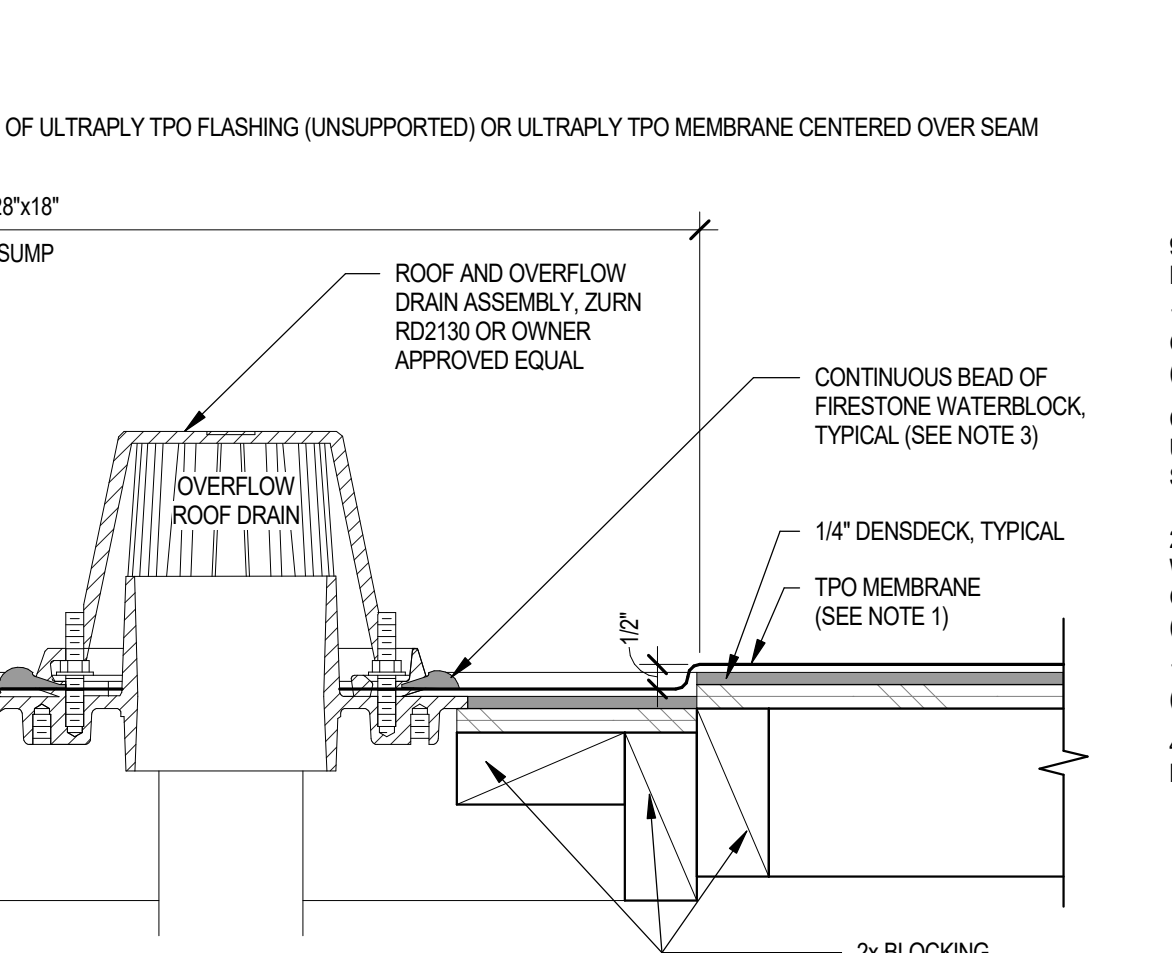
17 INTERMEDIATE WALL FLASHING ATTACHMENT WITH WELDED SPICE
FIRESTONE NO. UT-1-23
SCALE: 3" = 1'-0"

- NOTES:**
- TPO ROOFING SYSTEM SHALL BE FIRESTONE ULTRAPLY TPO SYSTEM OR OWNER APPROVED EQUAL. REFER TO FIRESTONE WEBSITE FOR MOST CURRENT INFORMATION.
 - HOLE IN MEMBRANE SHOULD EXTEND A MINIMUM OF 12" (305 mm) BEYOND CLAMPING RING AND SHOULD NOT BE SMALLER THAN THE DIAMETER OF THE LEADER PIPE.
 - FIRESTONE WATERBLOCK MIN. 1/2 OF 10 OZ. (295 ml) TUBE PER 4" DRAIN. USE ADDITIONAL WATERBLOCK FOR LARGER DRAINS.



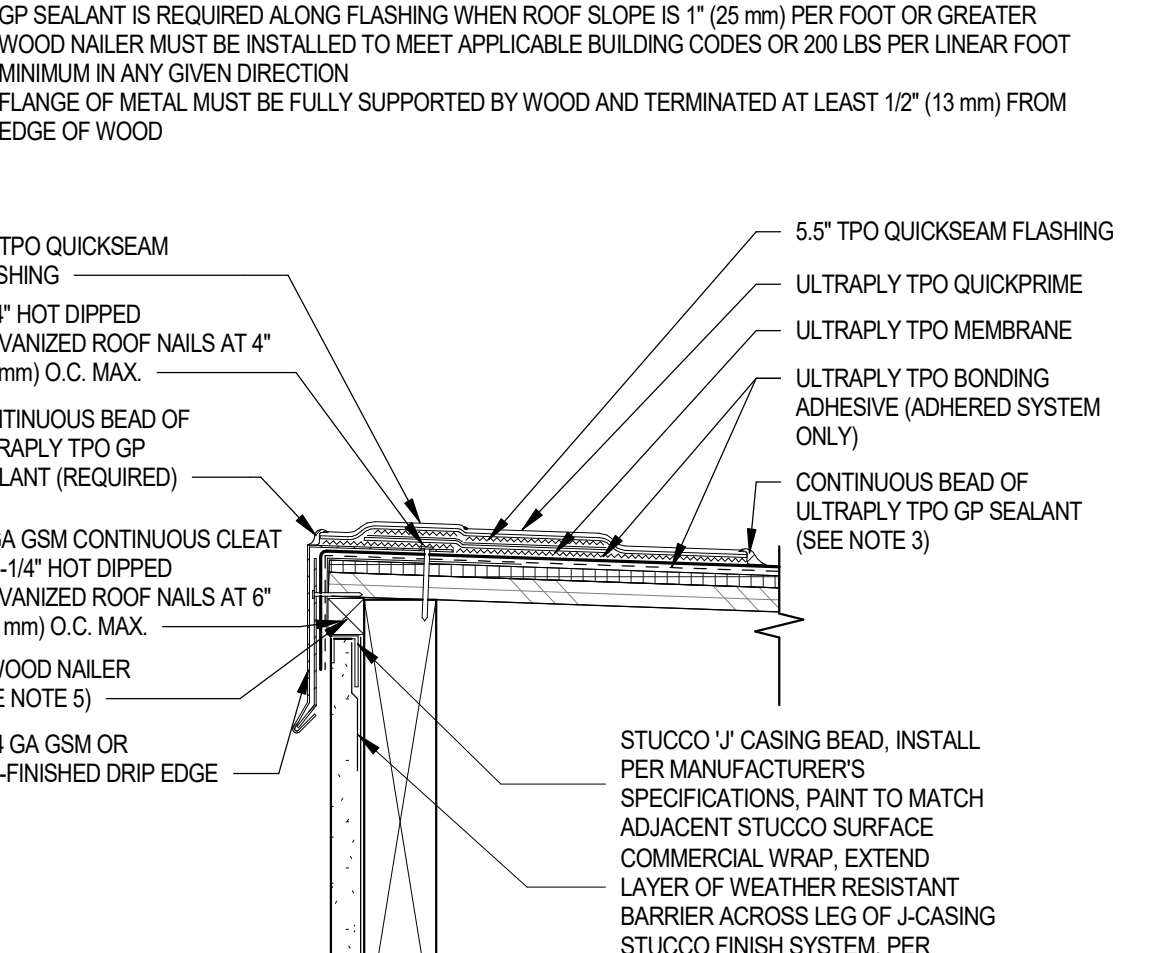
15 TPO ROOFING SYSTEM FLASHING AT MECHANICAL LINESETS
FIRESTONE NO. UT-P-17
SCALE: 3" = 1'-0"

- NOTES:**
- TPO ROOFING SYSTEM SHALL BE FIRESTONE ULTRAPLY TPO SYSTEM OR OWNER APPROVED EQUAL. REFER TO FIRESTONE WEBSITE FOR MOST CURRENT INFORMATION.
 - INSTALL METALWORK TO MANUFACTURER'S REQUIREMENTS OR SMACNA RECOMMENDATIONS, IF SHOP FABRICATED METAL EDGE IS USED IT MUST MEET ANSI SPRIE 1 OR ANSI FM STANDARD.
 - GP SEALANT IS REQUIRED ALONG FLASHING WHEN ROOF SLOPE IS 1" (25 mm) PER FOOT OR GREATER.
 - WOOD NAILER MUST BE INSTALLED TO MEET APPLICABLE BUILDING CODES OR 200 LBS PER LINEAR FOOT MINIMUM IN ANY GIVEN DIRECTION.
 - FLANGE OF METAL MUST BE FULLY SUPPORTED BY WOOD AND TERMINATED AT LEAST 12" (305 mm) FROM EDGE OF WOOD.



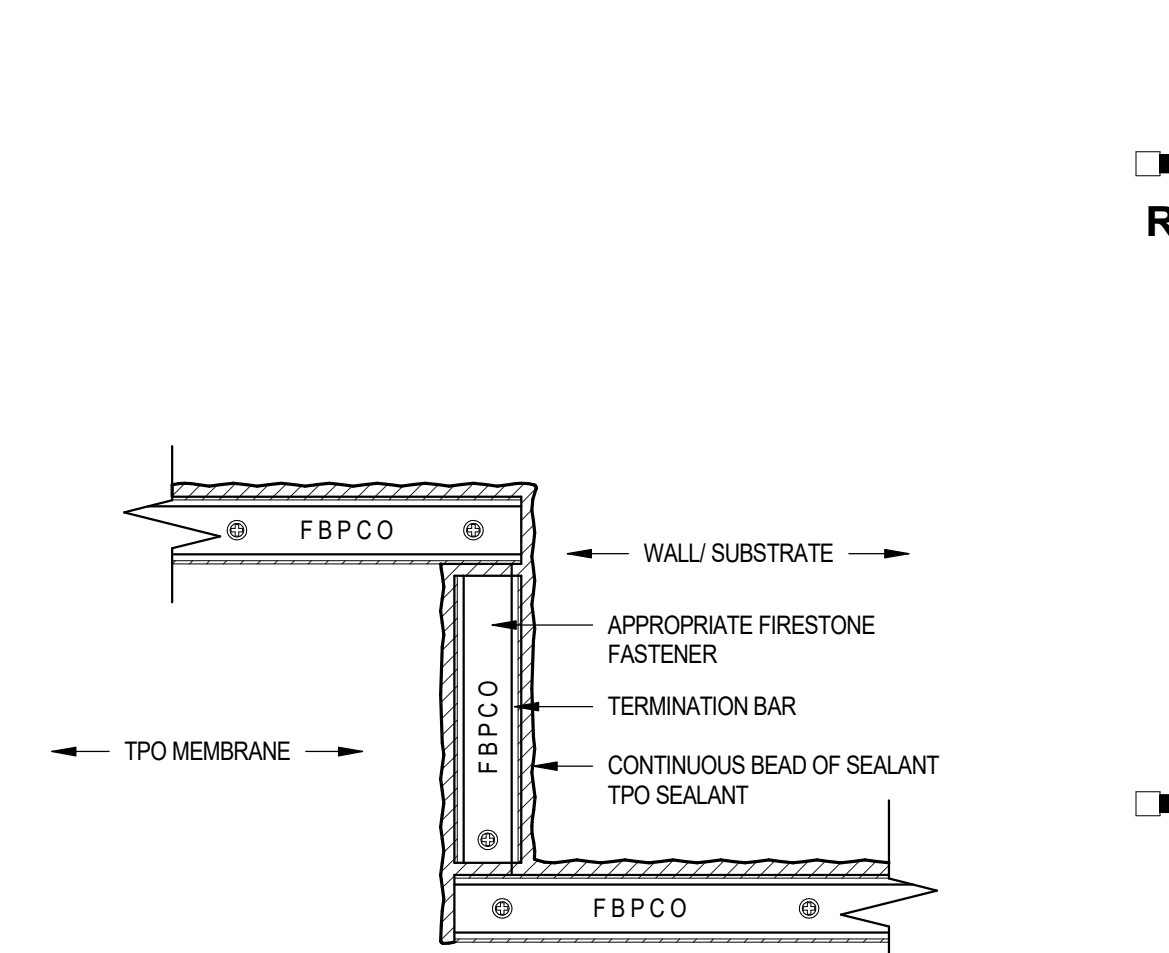
07 TPO ROOFING SYSTEM LAP SPICE FASTENER LAYOUT FOR STANDARD WELD SEAM
FIRESTONE NO. UT-LS-4
SCALE: 1 1/2" = 1'-0"

- NOTES:**
- REFER TO MANUFACTURER'S WEBSITE FOR MOST CURRENT INFORMATION.
 - MASONRY AND CONCRETE WALLS MUST BE WATERPROOFED AND MAINTAINED IN ORDER FOR ANY SURFACE MOUNTED TERMINATION TO BE EFFECTIVE.



03 TPO ROOFING SYSTEM INSIDE CORNER
FIRESTONE NO. UT-C-9
SCALE: 3" = 1'-0"

- NOTES:**
- TPO ROOFING SYSTEM SHALL BE FIRESTONE ULTRAPLY TPO SYSTEM OR OWNER APPROVED EQUAL. REFER TO FIRESTONE WEBSITE FOR MOST CURRENT INFORMATION.
 - REFER TO LAP SPICE WITH 1-1/2" AUTOMATIC WELD AND 2" HAND WELD DETAILS, THIS SHEET, FOR WELD WIDTH.
 - FLASHING MAY BE USED INSTEAD OF PRE-MOLDED TPO INSIDE/OUTSIDE CORNER.
 - WHEN REINFORCEMENT OF TPO MEMBRANE IS EXPOSED, REFER TO TPO ROOFING SYSTEM CUT EDGE TREATMENT APPLICATION DETAIL, THIS SHEET FOR CUT EDGE SEALANT APPLICATION.



02 TPO ROOFING SYSTEM OUTSIDE CORNER
FIRESTONE NO. UT-C-7
SCALE: 3" = 1'-0"

- NOTES:**
- TPO ROOFING SYSTEM SHALL BE FIRESTONE ULTRAPLY TPO SYSTEM OR OWNER APPROVED EQUAL. REFER TO FIRESTONE WEBSITE FOR MOST CURRENT INFORMATION.
 - MAXIMUM 6" (152 mm) LONG FASTENERS (NOTE: WOOD BLOCKING MAY BE SUBSTITUTED FOR INSULATION TO REDUCE FASTENER LENGTH REQUIREMENTS).
 - BASE FLASHING AND TERMINATION NOT SHOWN FOR CLARITY, REFER TO APPROPRIATE TERMINATION & BASE TIE-IN DETAILS.

24 TERMINATION WITH SURFACE MOUNTED COUNTERFLASHING AND TERMINATION BAR
FIRESTONE NO. UT-T-6
SCALE: 3" = 1'-0"

- NOTES:**
- TPO ROOFING SYSTEM SHALL BE FIRESTONE ULTRAPLY TPO SYSTEM OR OWNER APPROVED EQUAL. REFER TO FIRESTONE WEBSITE FOR MOST CURRENT INFORMATION.
 - MAXIMUM 6" (152 mm) LONG FASTENERS (NOTE: WOOD BLOCKING MAY BE SUBSTITUTED FOR INSULATION TO REDUCE FASTENER LENGTH REQUIREMENTS).
 - BASE FLASHING AND TERMINATION NOT SHOWN FOR CLARITY, REFER TO APPROPRIATE TERMINATION AND BASE TIE-IN DETAILS.

17 INTERMEDIATE WALL FLASHING ATTACHMENT WITH WELDED SPICE
FIRESTONE NO. UT-1-23
SCALE: 3" = 1'-0"

- NOTES:**
- TPO ROOFING SYSTEM SHALL BE FIRESTONE ULTRAPLY TPO SYSTEM OR OWNER APPROVED EQUAL. REFER TO FIRESTONE WEBSITE FOR MOST CURRENT INFORMATION.
 - HOLE IN MEMBRANE SHOULD EXTEND A MINIMUM OF 12" (305 mm) BEYOND CLAMPING RING AND SHOULD NOT BE SMALLER THAN THE DIAMETER OF THE LEADER PIPE.
 - FIRESTONE WATERBLOCK MIN. 1/2 OF 10 OZ. (295 ml) TUBE PER 4" DRAIN. USE ADDITIONAL WATERBLOCK FOR LARGER DRAINS.

15 TPO ROOFING SYSTEM FLASHING AT MECHANICAL LINESETS
FIRESTONE NO. UT-P-17
SCALE: 3" = 1'-0"

- NOTES:**
- TPO ROOFING SYSTEM SHALL BE FIRESTONE ULTRAPLY TPO SYSTEM OR OWNER APPROVED EQUAL. REFER TO FIRESTONE WEBSITE FOR MOST CURRENT INFORMATION.
 - INSTALL METALWORK TO MANUFACTURER'S REQUIREMENTS OR SMACNA RECOMMENDATIONS, IF SHOP FABRICATED METAL EDGE IS USED IT MUST MEET ANSI SPRIE 1 OR ANSI FM STANDARD.
 - GP SEALANT IS REQUIRED ALONG FLASHING WHEN ROOF SLOPE IS 1" (25 mm) PER FOOT OR GREATER.
 - WOOD NAILER MUST BE INSTALLED TO MEET APPLICABLE BUILDING CODES OR 200 LBS PER LINEAR FOOT MINIMUM IN ANY GIVEN DIRECTION.
 - FLANGE OF METAL MUST BE FULLY SUPPORTED BY WOOD AND TERMINATED AT LEAST 12" (305 mm) FROM EDGE OF WOOD.

07 TPO ROOFING SYSTEM LAP SPICE FASTENER LAYOUT FOR STANDARD WELD SEAM
FIRESTONE NO. UT-LS-4
SCALE: 1 1/2" = 1'-0"

- NOTES:**
- REFER TO MANUFACTURER'S WEBSITE FOR MOST CURRENT INFORMATION.
 - MASONRY AND CONCRETE WALLS MUST BE WATERPROOFED AND MAINTAINED IN ORDER FOR ANY SURFACE MOUNTED TERMINATION TO BE EFFECTIVE.

03 TPO ROOFING SYSTEM INSIDE CORNER
FIRESTONE NO. UT-C-9
SCALE: 3" = 1'-0"

- NOTES:**
- TPO ROOFING SYSTEM SHALL BE FIRESTONE ULTRAPLY TPO SYSTEM OR OWNER APPROVED EQUAL. REFER TO FIRESTONE WEBSITE FOR MOST CURRENT INFORMATION.
 - REFER TO LAP SPICE WITH 1-1/2" AUTOMATIC WELD AND 2" HAND WELD DETAILS, THIS SHEET, FOR WELD WIDTH.
 - FLASHING MAY BE USED INSTEAD OF PRE-MOLDED TPO INSIDE/OUTSIDE CORNER.
 - WHEN REINFORCEMENT OF TPO MEMBRANE IS EXPOSED, REFER TO TPO ROOFING SYSTEM CUT EDGE TREATMENT APPLICATION DETAIL, THIS SHEET FOR CUT EDGE SEALANT APPLICATION.

02 TPO ROOFING SYSTEM OUTSIDE CORNER
FIRESTONE NO. UT-C-7
SCALE: 3" = 1'-0"

Project Name 1
Project Name 2
Street Address
City, state
Office of Rich Barber Architecture, LLC
ORB
WorldHQ@ORBArch.com

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RESIDENTIAL COMPANY
LEGACY HOSPITALITY

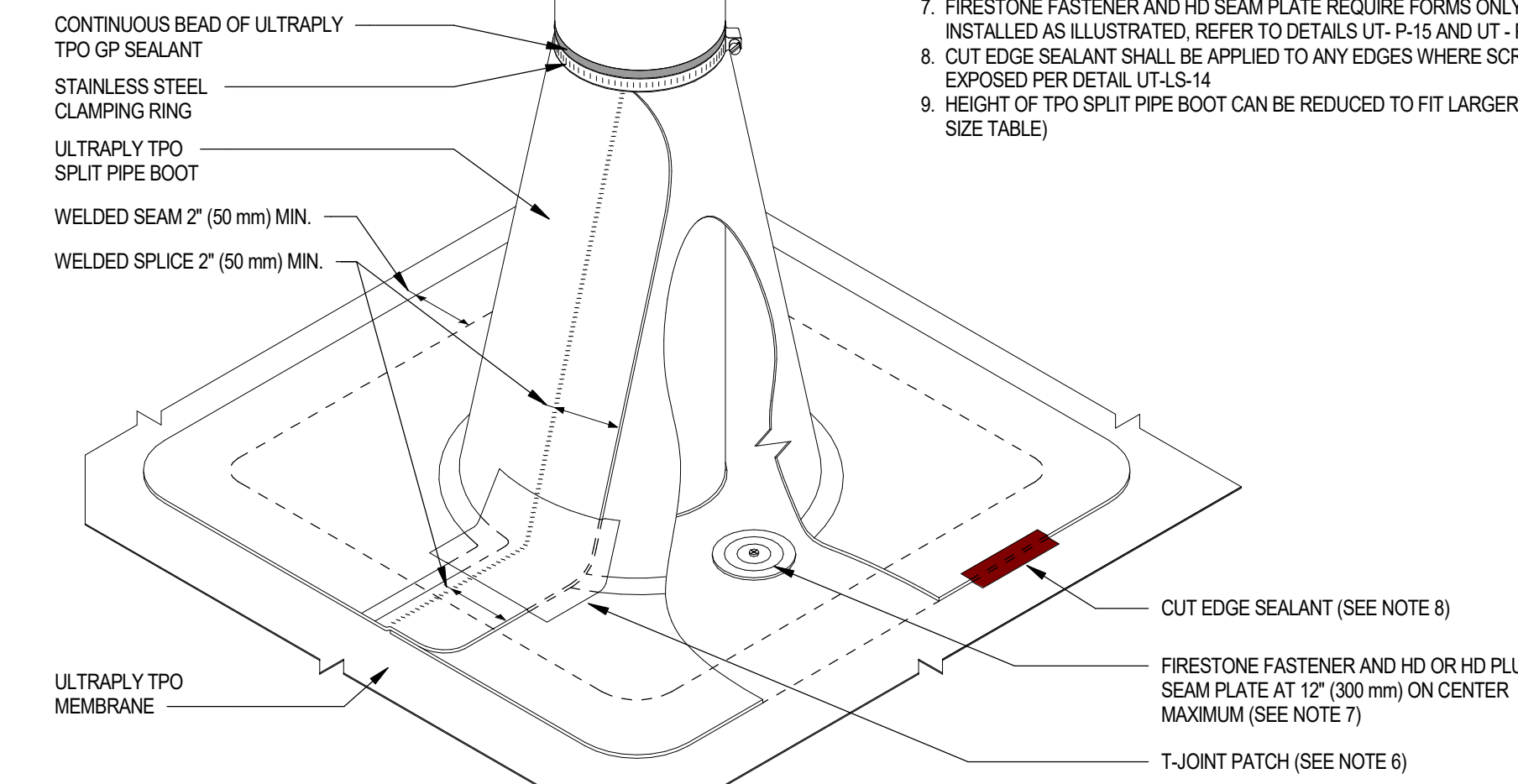
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Notice of alternate billing (or payment) cycle
This contract allows (they allow) the owner to request the submission of bills or estimates in billing cycles other than thirty days. (This contract may allow the owner to make payment on some alternative schedule other than thirty days and approved or disapproved or estimated.) A written description of such other billing cycle schedule is to be submitted to the Architect within the owner's designated project at ADVANCE RESIDENTIAL COMPANY, 2505 S. CAMLAKRACK RD, SUITE 500, PHOENIX, AZ 85086. (002) 178-2802
See the Owner or its designated agent should provide this information to the Architect.

REVISIONS/SUBMITTALS	
DATE	DESCRIPTION

DATE: July 17, 2024 ORB #00-000
A7.4.70
TPO ROOFING DETAILS

SIZE TABLE		
SIZE	OUTSIDE DIAMETER OF PIPE	STARTING HEIGHT
SMALL	1.0" to 3.0" (25mm to 76mm)	9.0" (229 mm)
MEDIUM	3.0" to 5.5" (76mm to 140mm)	8.5" (216 mm)
LARGE	5.5" to 8.0" (140mm to 203mm)	8.75" (222 mm)



- NOTES:**
1. REFER TO FIRESTONE WEBSITE FOR THE MOST CURRENT INFORMATION
 2. REMOVE ALL EXISTING FLASHING, LEAD, ETC. PIPE SURFACE MUST BE FREE OF ALL RUST, GREASE, INSULATION, ETC.
 3. PIPE MUST BE ANCHORED TO ENSURE STABILITY
 4. NO WRINKLES OR FOLDS UNDER CLAMPING RING
 5. DO NOT USE WHEN SERVICE LINE TEMPERATURE EXCEEDS 180°F. REFER TO UT-P-6 AND UT-P-7
 6. T-JOINT PATCH REQUIRED AT ALL VERTICAL TRANSITIONS ON NON-FACTORY WELDS
 7. FIRESTONE FASTENER AND HD SEAM PLATE REQUIRE FORMS ONLY IF FASTENER CANNOT BE INSTALLED AS ILLUSTRATED. REFER TO DETAILS UT-P-15 AND UT-P-16
 8. CUT EDGE SEALANT SHALL BE APPLIED TO ANY EDGES WHERE SCRM REINFORCEMENT IS EXPOSED PER DETAIL UT-LS-14
 9. HEIGHT OF TPO SPLIT PIPE BOOT CAN BE REDUCED TO FIT LARGER DIAMETER PIPES. (REFER TO SIZE TABLE)

Project Name 1
Project Name 2

Street Address
City, state

Office of Rich Barber
ORB Architecture, LLC
WorldHQ@ORBArch.com

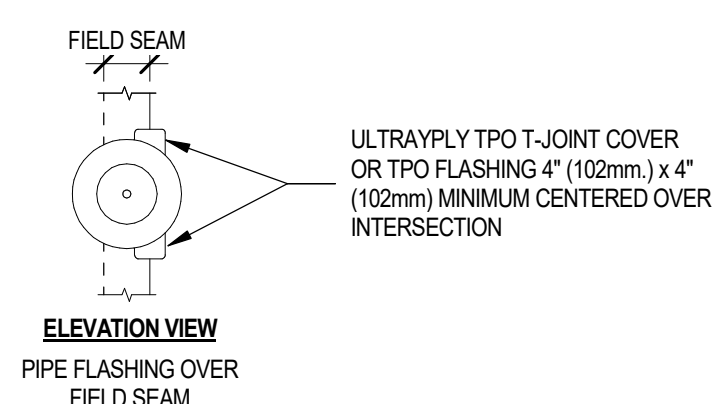
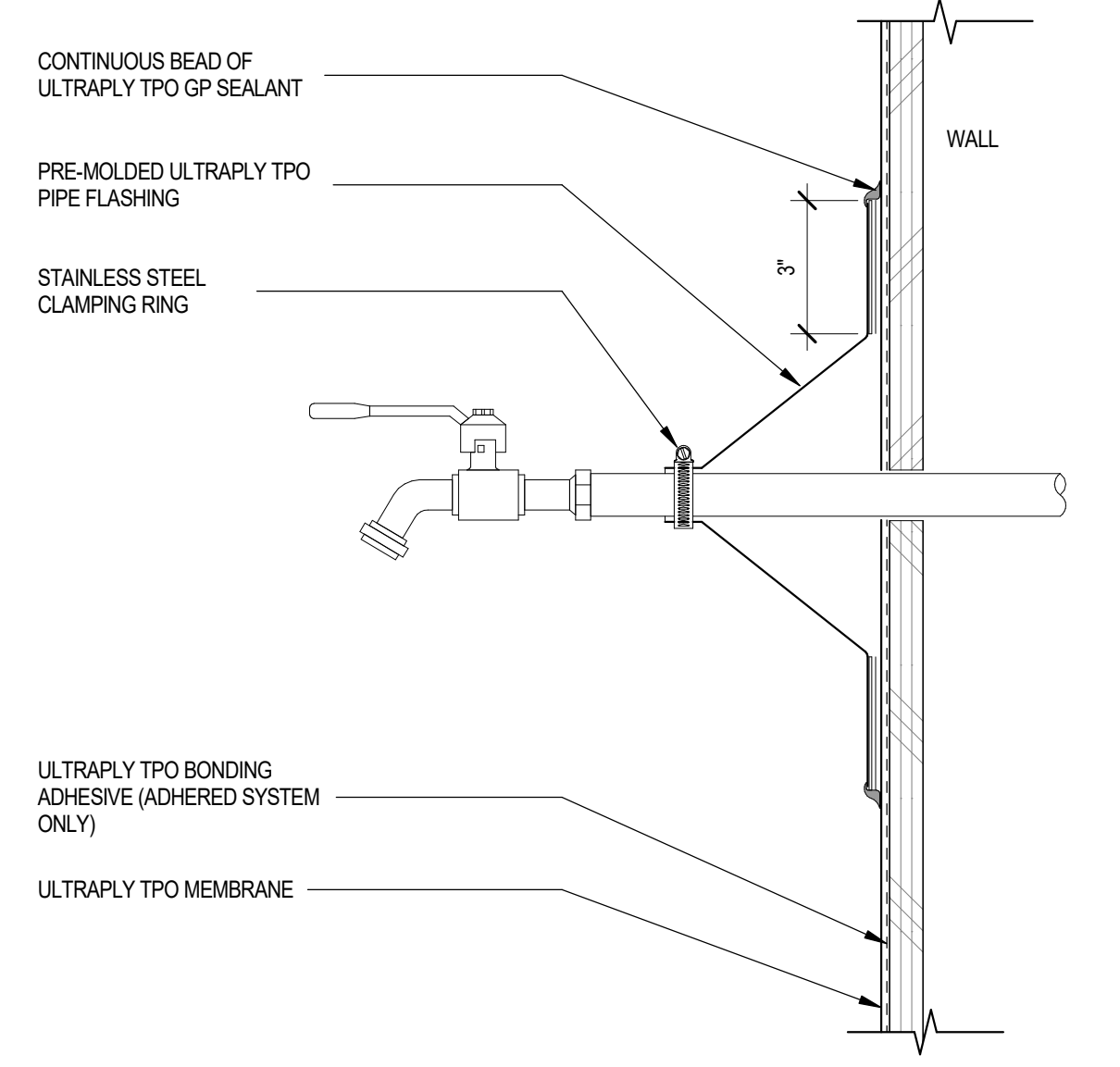
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29 ROUND PENETRATION WITH ULTRAPLY TPO PIPE BOOT

FIRESTONE NO. UT-P-21 SCALE: 1 1/2" = 1'-0"

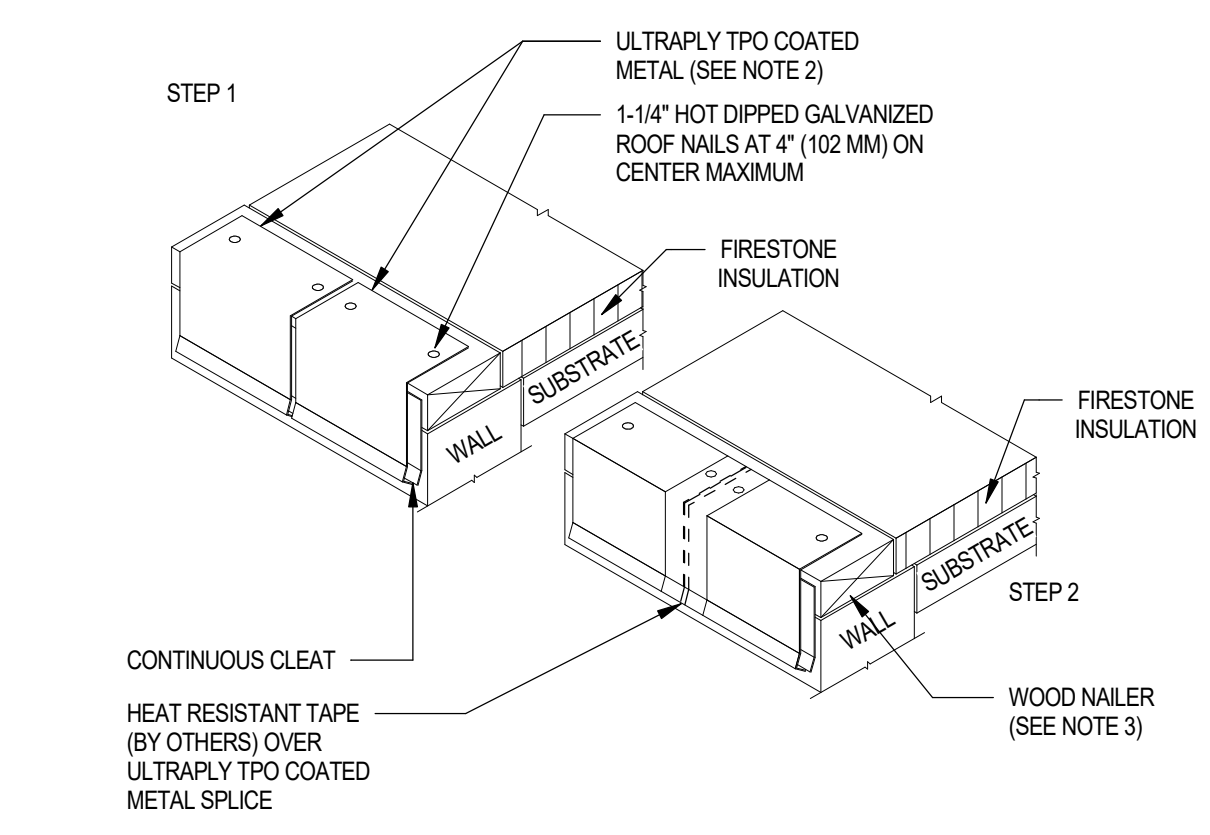
- NOTES:**
1. REFER TO FIRESTONE WEBSITE FOR THE MOST CURRENT INFORMATION
 2. REMOVE ALL EXISTING FLASHING, LEAD, ETC. PIPE SURFACE MUST BE FREE OF ALL RUST, GREASE, INSULATION, ETC.
 3. PIPE MUST BE ANCHORED TO ENSURE STABILITY
 4. PRE-MOLDED PIPE FLASHING MAY BE CUT TO HEIGHT, BUT NO LOWER THAN REINFORCING RING (NO WRINKLES OR FOLDS UNDER CLAMPING RING)
 5. APPLY GP SEALANT BETWEEN PENETRATION AND PRE-MOLDED PIPE FLASHING PRIOR TO INSTALLATION OF CLAMPING RING. REFER TO LS-9 FOR SEAM EDGE TREATMENT
 6. LARGE PRE-MOLDED PIPE FLASHING FITS 4" (102 mm) - 8" (203 mm) PENETRATION SIZES
 7. DO NOT USE WHEN SERVICE LINE TEMPERATURE EXCEEDS 180°F. REFER TO UT-P-6 AND UT-P-7
 8. FIRESTONE FASTENER AND HD SEAM PLATE REQUIRE FORMS ONLY IF FASTENER CANNOT BE INSTALLED AS ILLUSTRATED. REFER TO DETAILS UT-P-15 & UT-P-16



30 TPO ROOFING SYSTEM AT HOSE BIBB PENETRATION AT WALL

FIRESTONE NO. UT-P-2 SCALE: 3" = 1'-0"

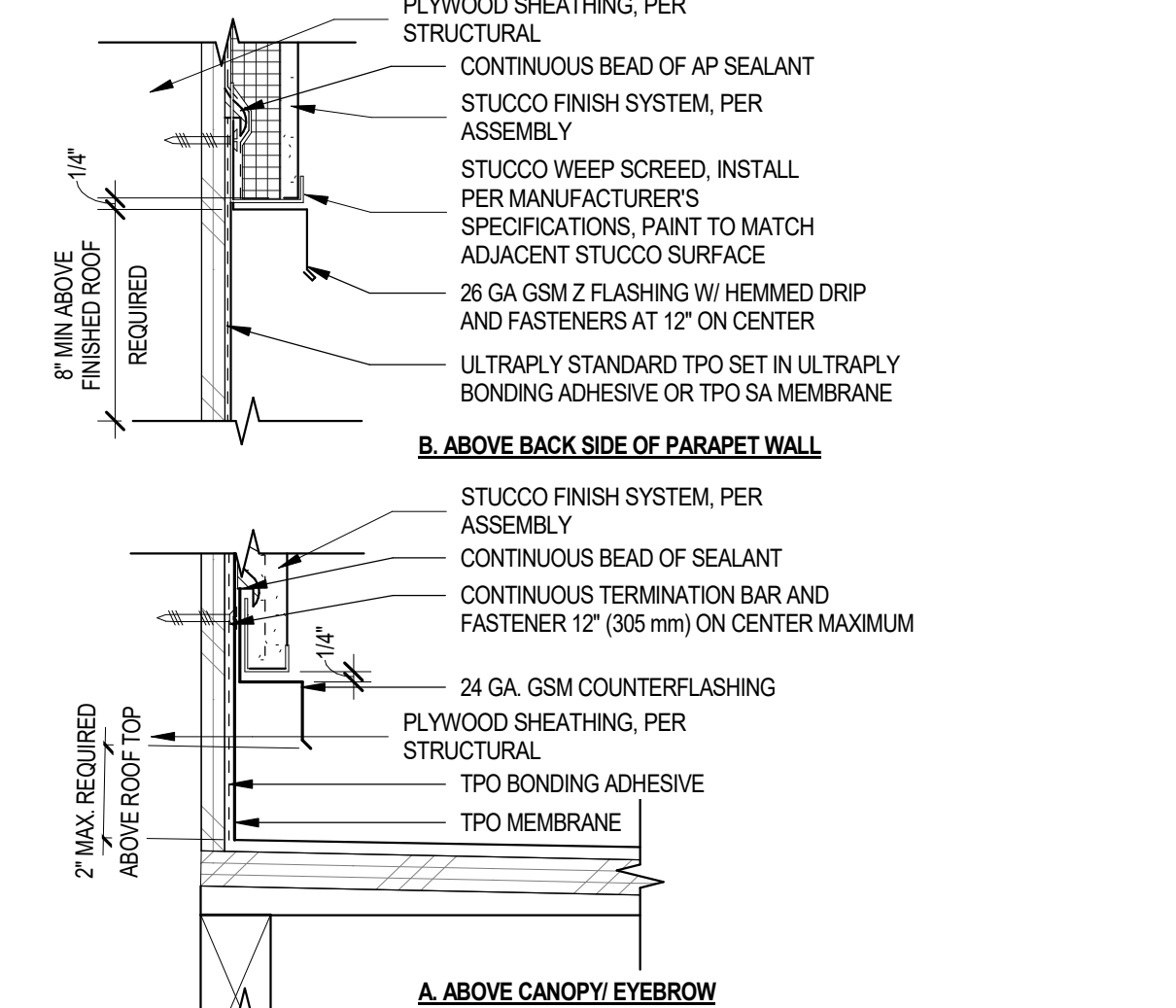
- NOTES:**
1. REFER TO FIRESTONE WEBSITE FOR THE MOST CURRENT INFORMATION
 2. INSTALL METAL WORK TO SMACNA RECOMMENDATIONS, IF SHOP FABRICATED METAL EDGE IS USED IT MUST MEET ANSI SPRI ES-1 OR AN FM STANDARD
 3. WOOD NAILET MUST BE INSTALLED TO MEET APPLICABLE BUILDING CODES OR 200 LBS PER LINEAR FOOT MINIMUM IN ANY GIVEN DIRECTION



27 ROOF EDGE SPLICE W/ ULTRAPLY TPO COATED

FIRESTONE NO. UT-RE-23a SCALE: 3" = 1'-0"

- NOTES:**
1. REFER TO MANUFACTURER'S WEBSITE FOR MOST CURRENT INFORMATION
 2. INSTALL METAL WORK IN ACCORDANCE WITH CURRENT SMACNA RECOMMENDATIONS



28 TPO ROOFING SYSTEM TERMINATION AT STUCCO SYSTEM

FIRESTONE NO. UT-1-7 SCALE: 3" = 1'-0"

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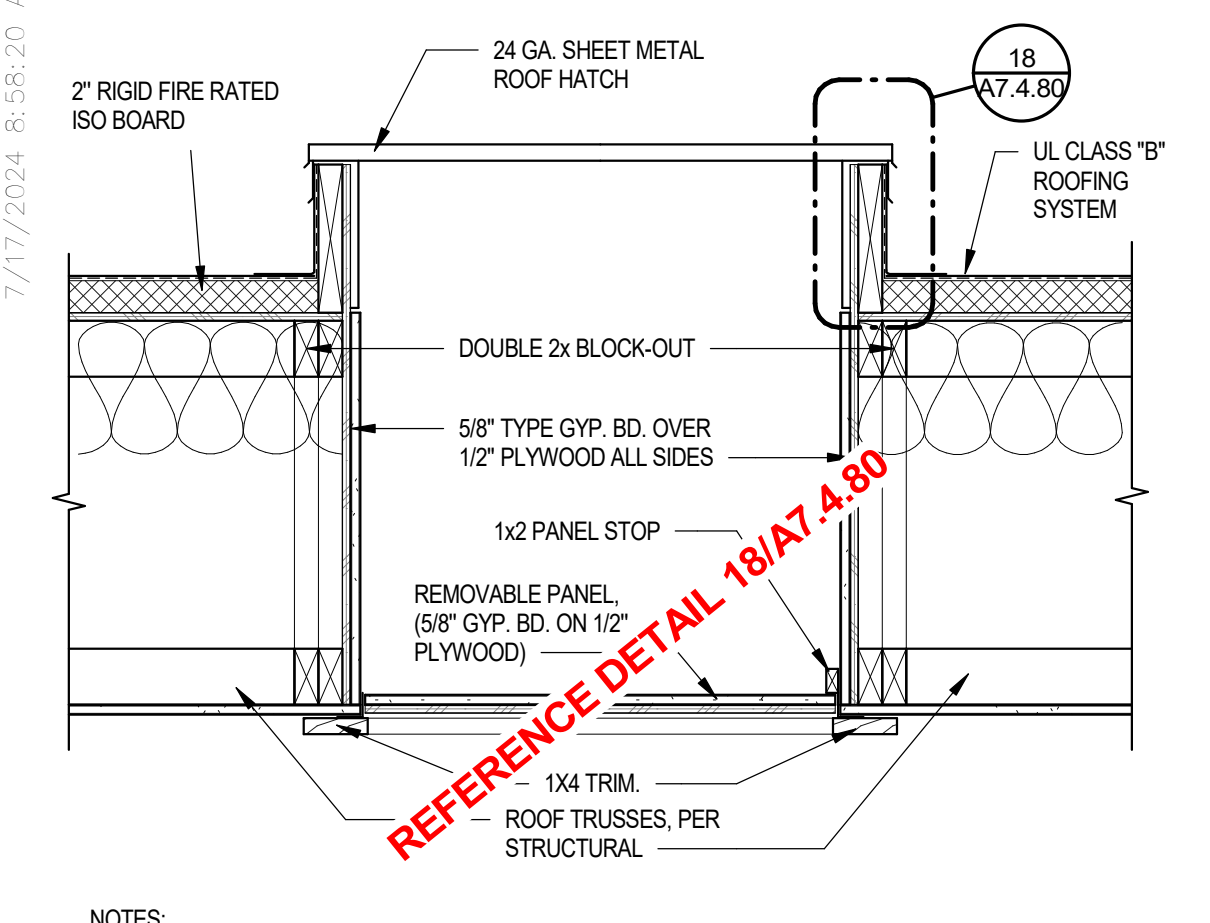
Notice of alternate billing (or payment) cycle
 This contract allows (may allow) the owner to require the submission of bills or estimates in billing cycles other than thirty days. (This contract may allow the owner to make payment on some alternative schedule after consultation and approval of billing and estimates). A written description of such other billing (and/or) cycle applicable to the project is available from the owner or the owner's designated agent at:
 ADVANCE RESIDENTIAL COMPANY
 2525 E. CAMELBACK RD., SUITE 500, PHOENIX, AZ 85016
 (602) 778-2852
 And the owner or its designated agent shall provide this written description of payment.

REVISIONS/SUBMITTALS	
DATE	DESCRIPTION

DATE: July 17, 2024 ORB #: 00-000

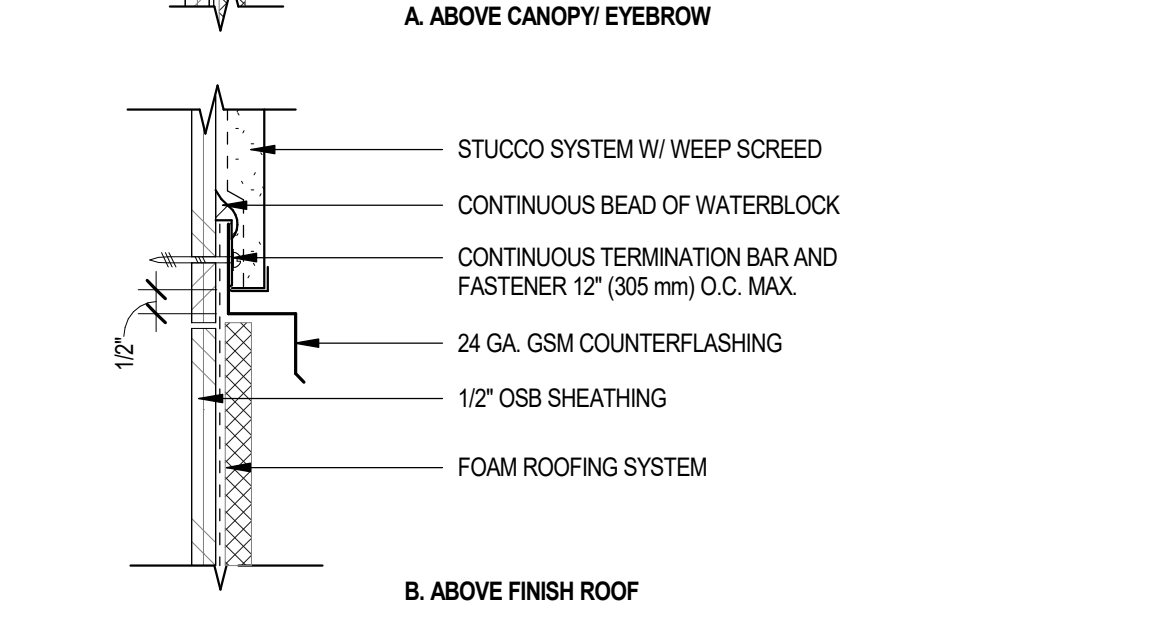
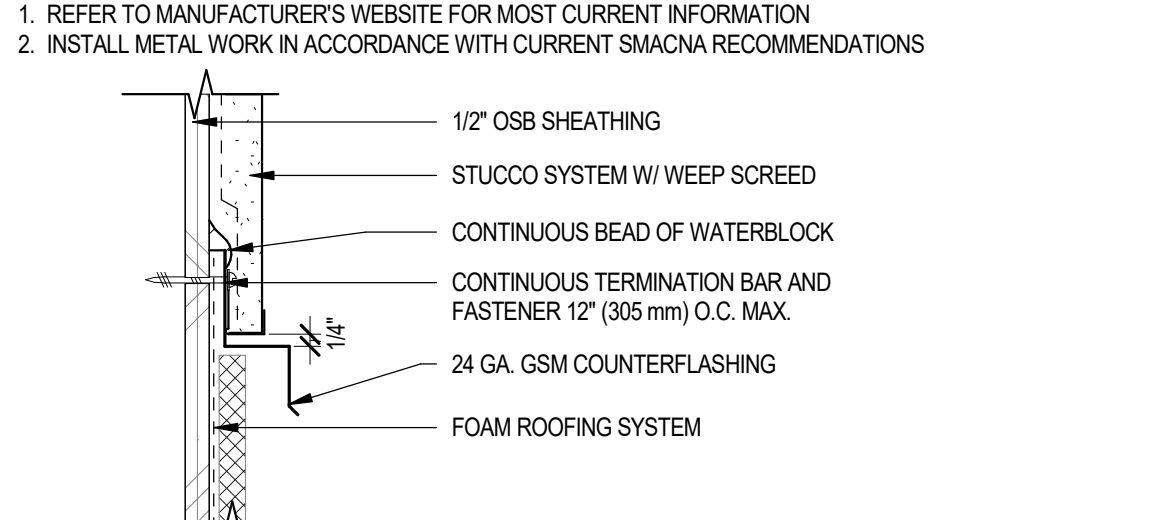
A7.4.71
TPO ROOFING DETAILS

7/17/2024 8:56:20 AM

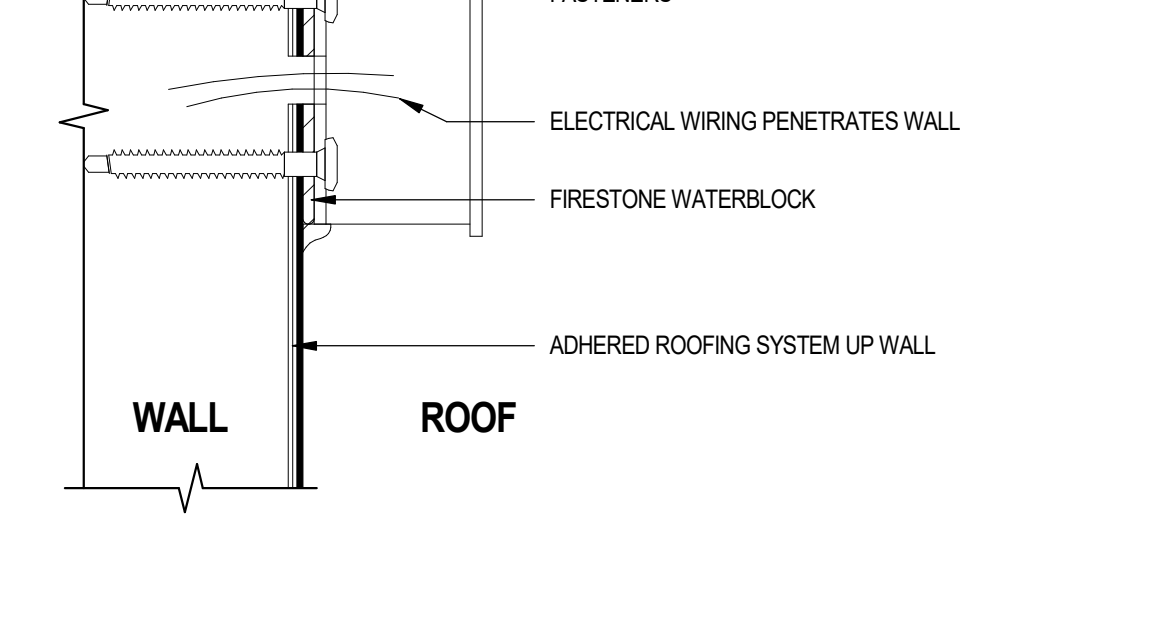
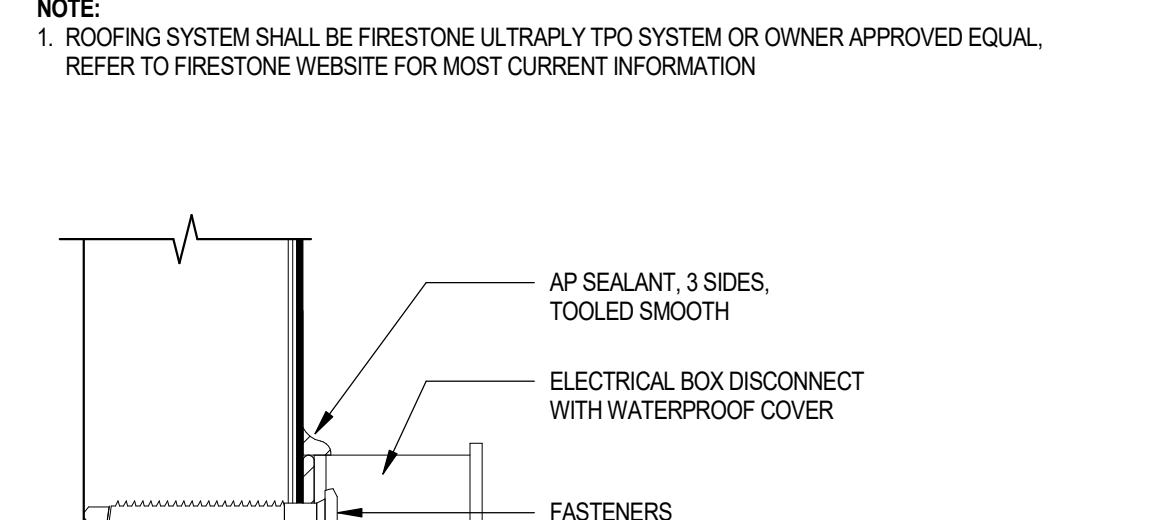


- NOTES:
1. MIN 22" X 30" CLEAR OPENING MUST BE PROVIDED.
 2. ACCESS DOOR TO BE GASKETED.
 3. INSTALL ROOF HATCH PER MANUFACTURER WRITTE SPECIFICATIONS

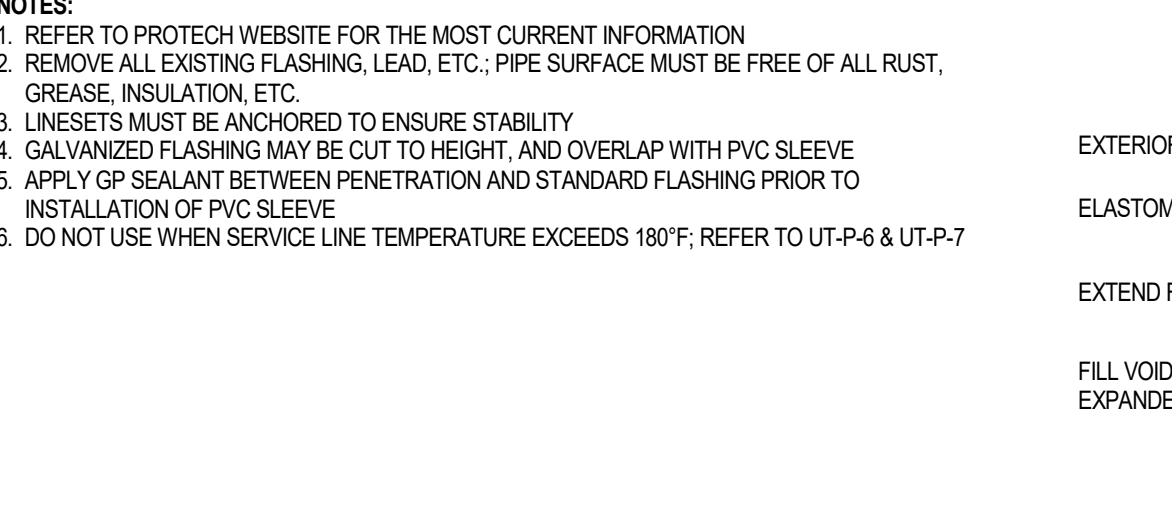
21 ROOF HATCH AT CARRIAGE BUILDING SCALE: 1" = 1'-0"



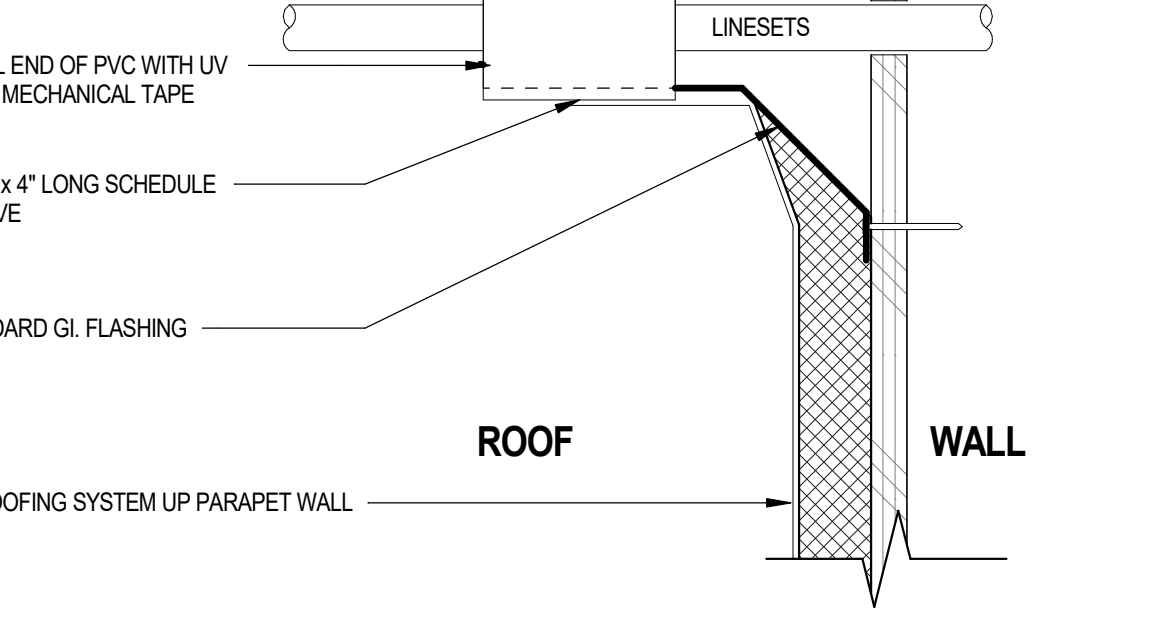
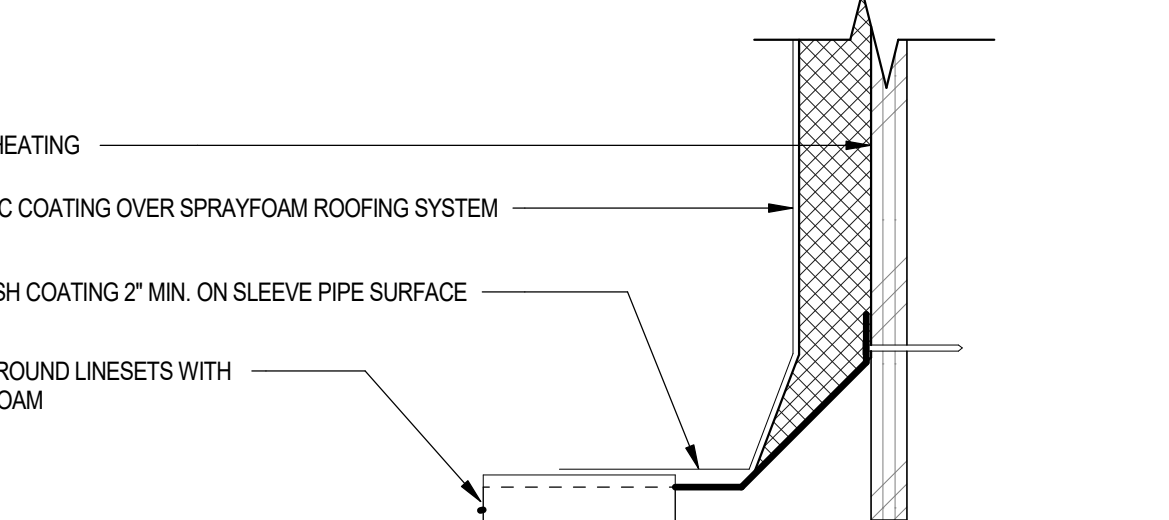
17 FOAM ROOFING SYSTEM TERMINATION AT STUCCO SYSTEM SCALE: 3" = 1'-0"



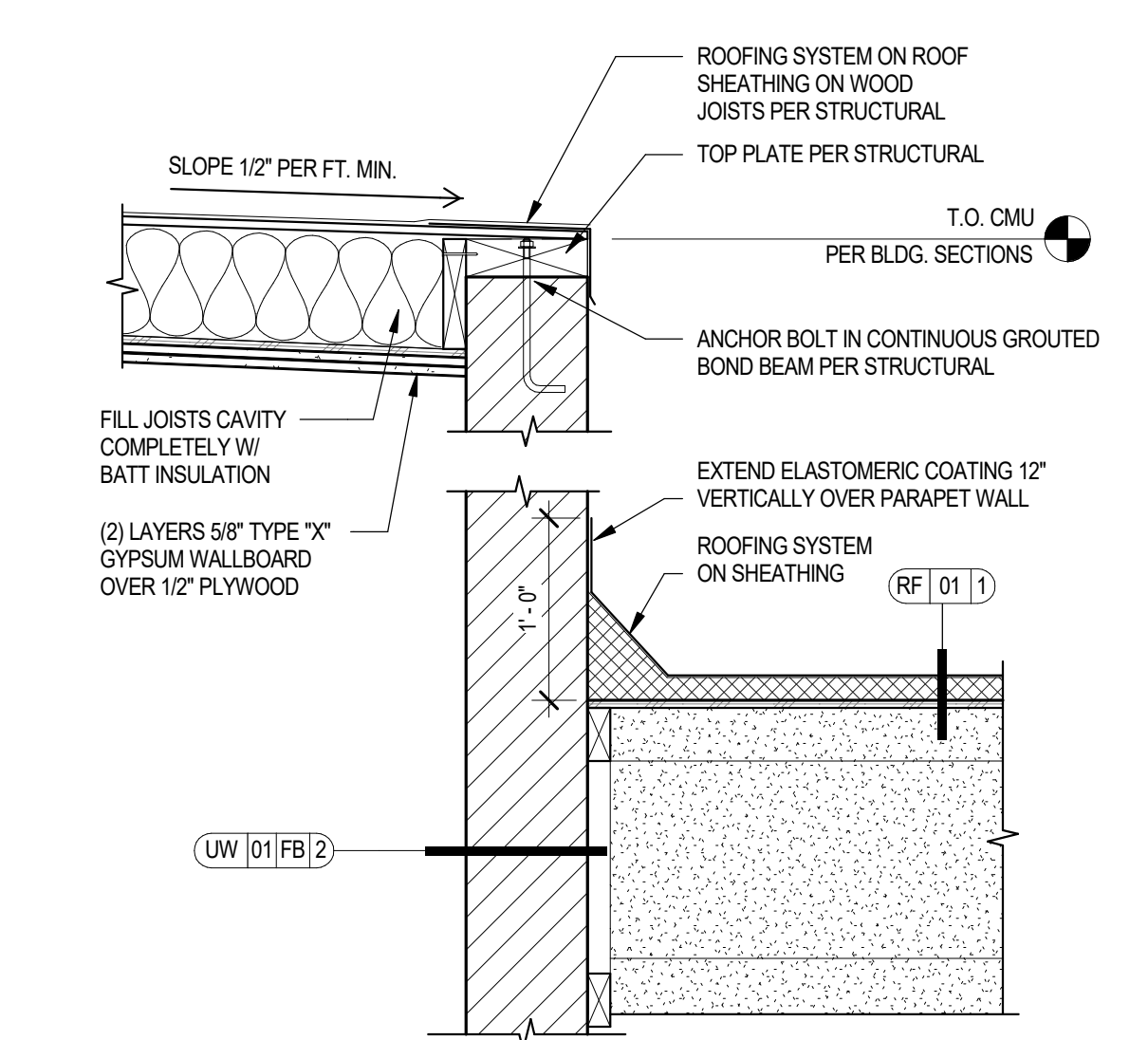
13 WALL MOUNTED A/C ELECTRICAL BOX DISCONNECT SCALE: 6" = 1'-0"



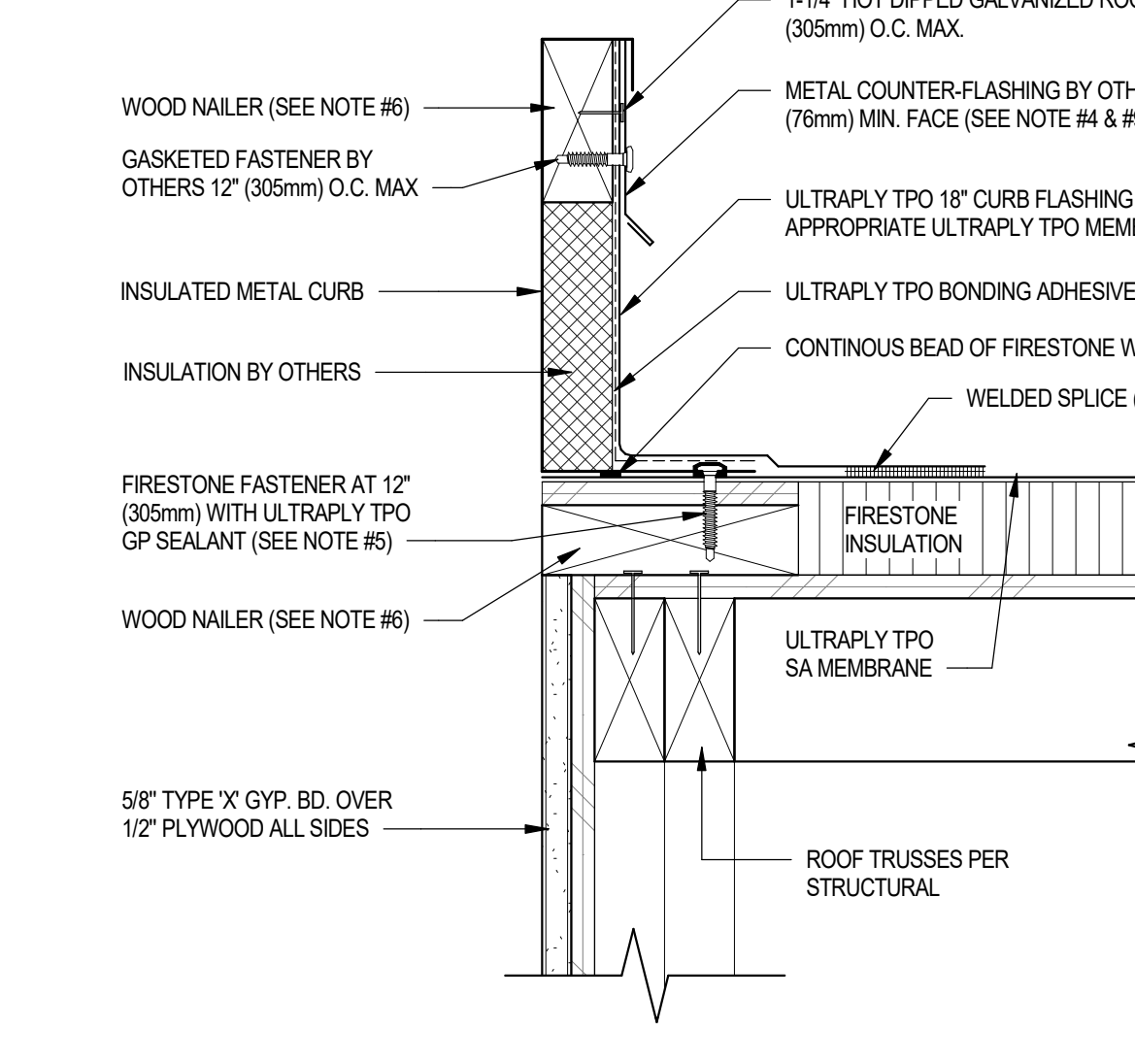
09 ROOFING SYSTEM FLASHING AT MECHANICAL LINESETS SCALE: 3" = 1'-0"



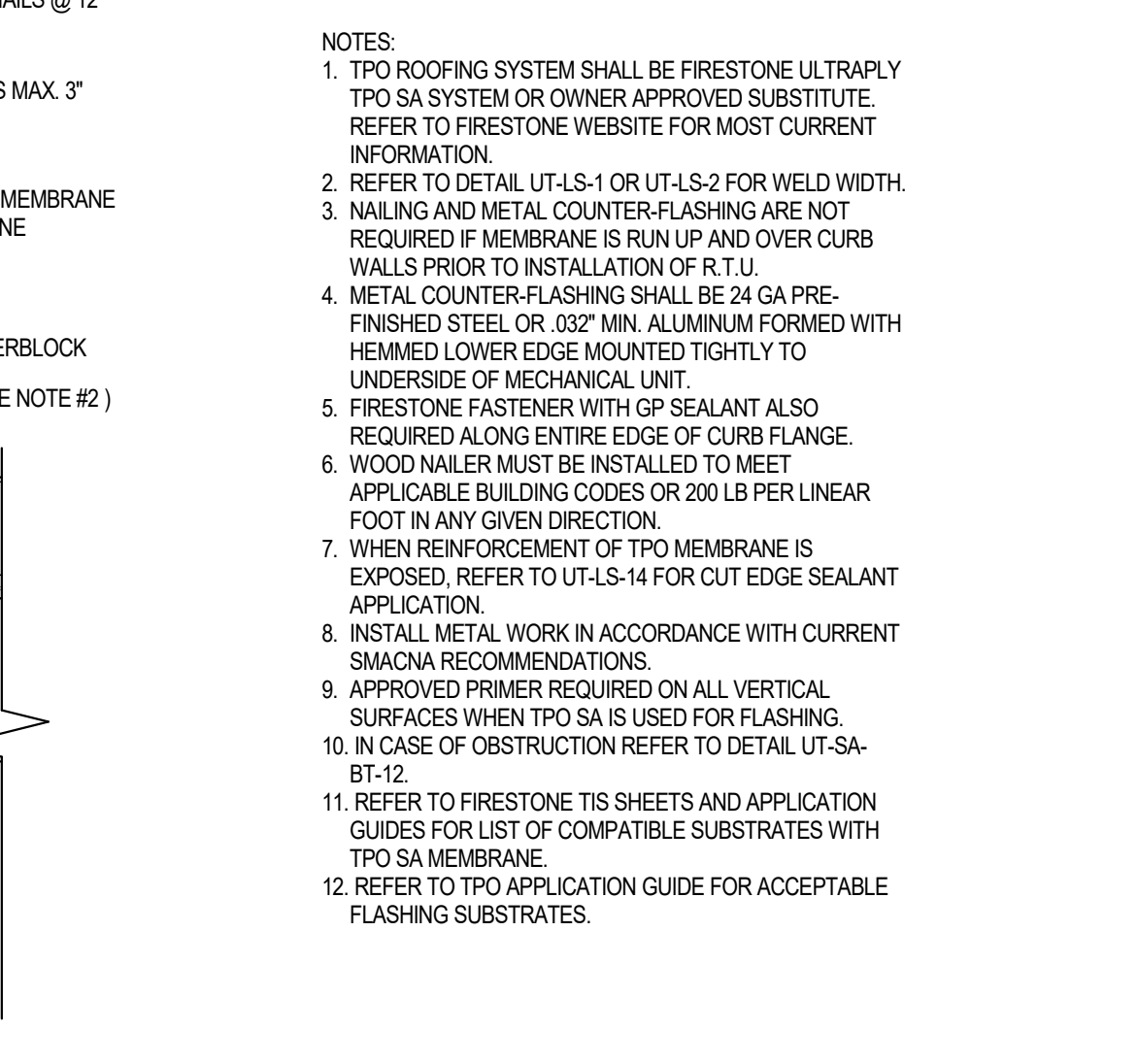
01 1-HR UNIT SEPARATION WALL AT 1-HR ROOF/CEILING SCALE: 1 1/2" = 1'-0"



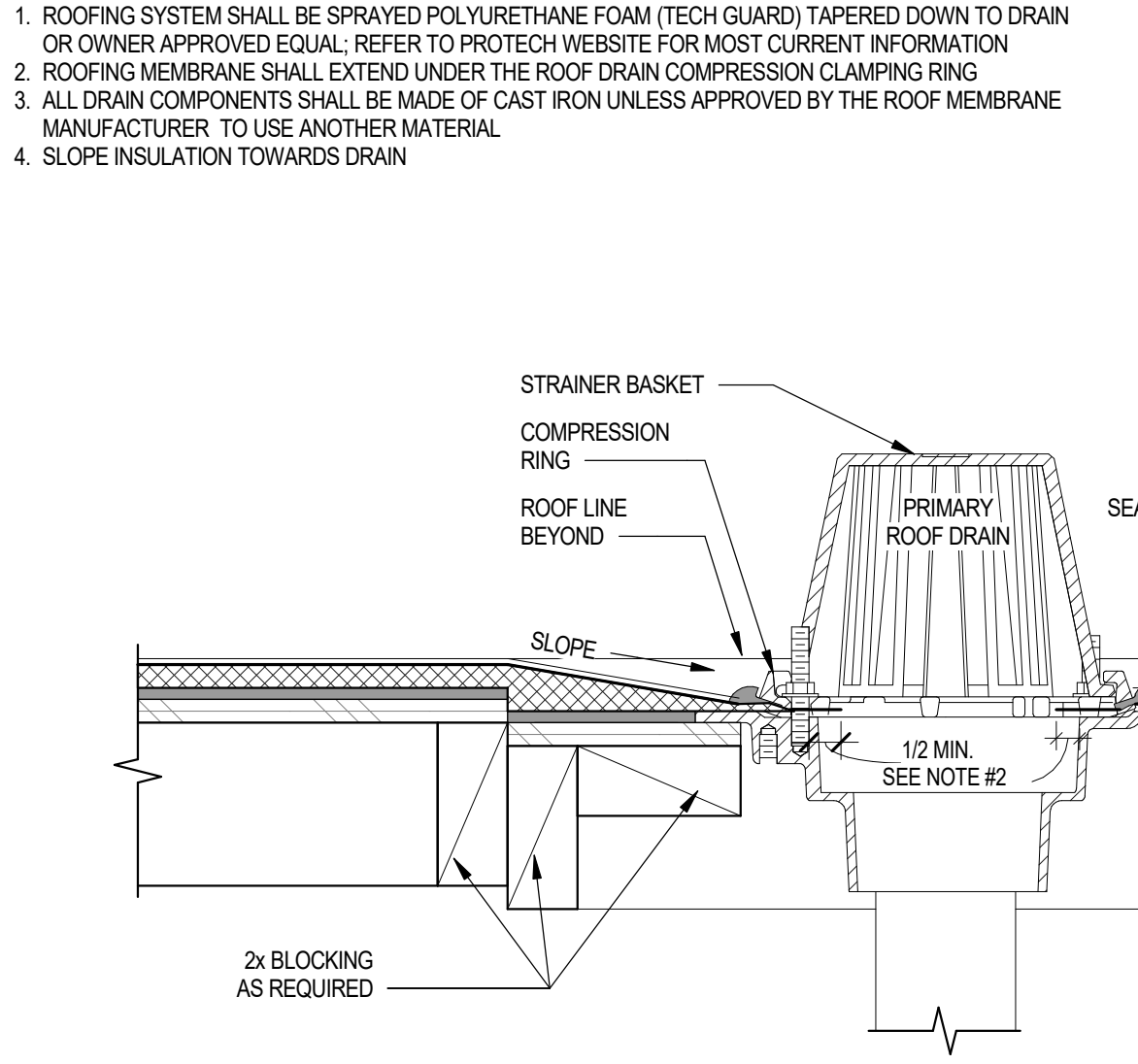
22 ROOF SYSTEM AT ELEVATOR SHAFT SCALE: 1" = 1'-0"



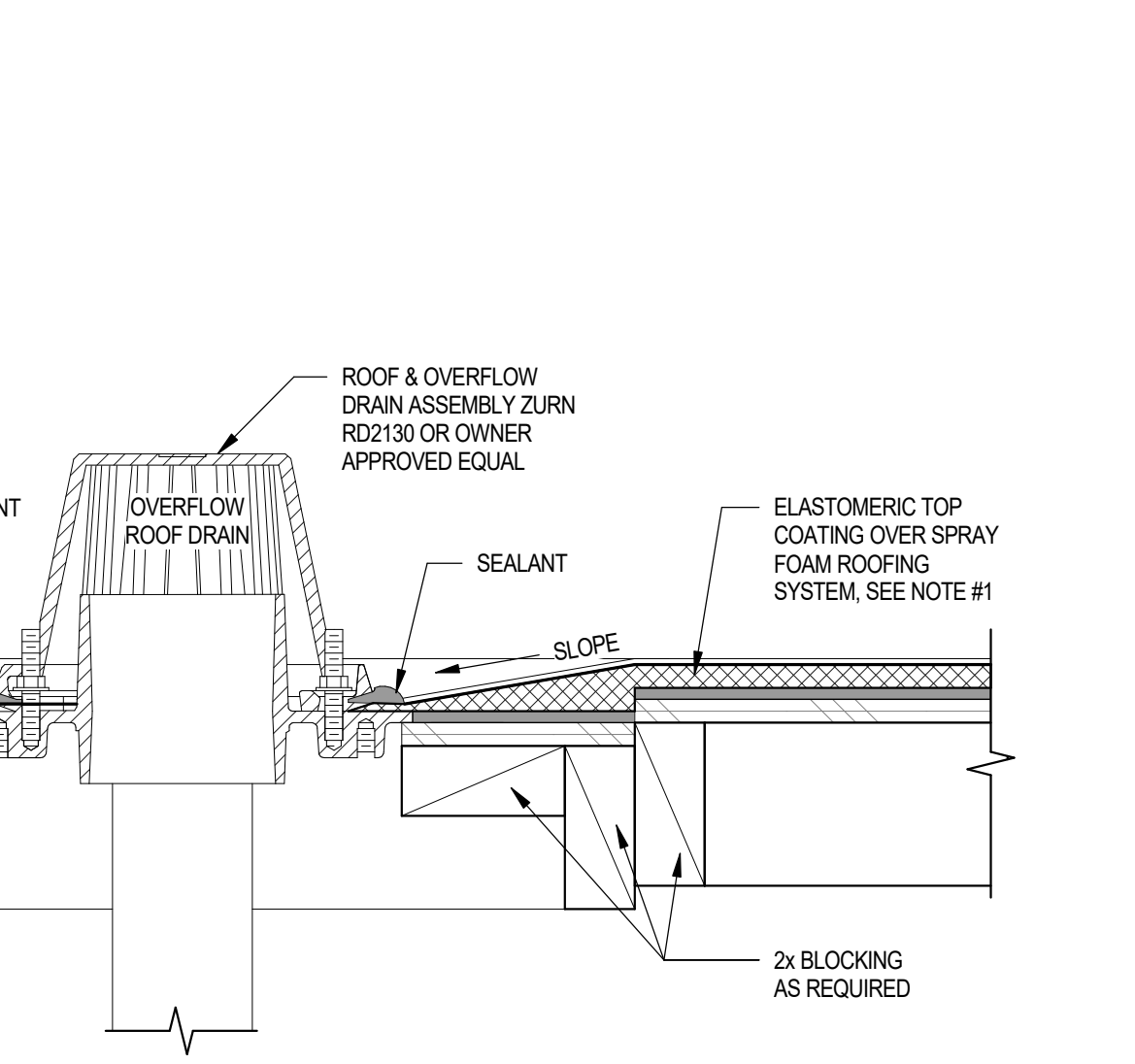
18 TPO ROOFING SYSTEM TERMINATION AT R.T.U. FIRESTONE REFERENCE DETAIL NO. TPO-SA-15 SCALE: 3" = 1'-0"



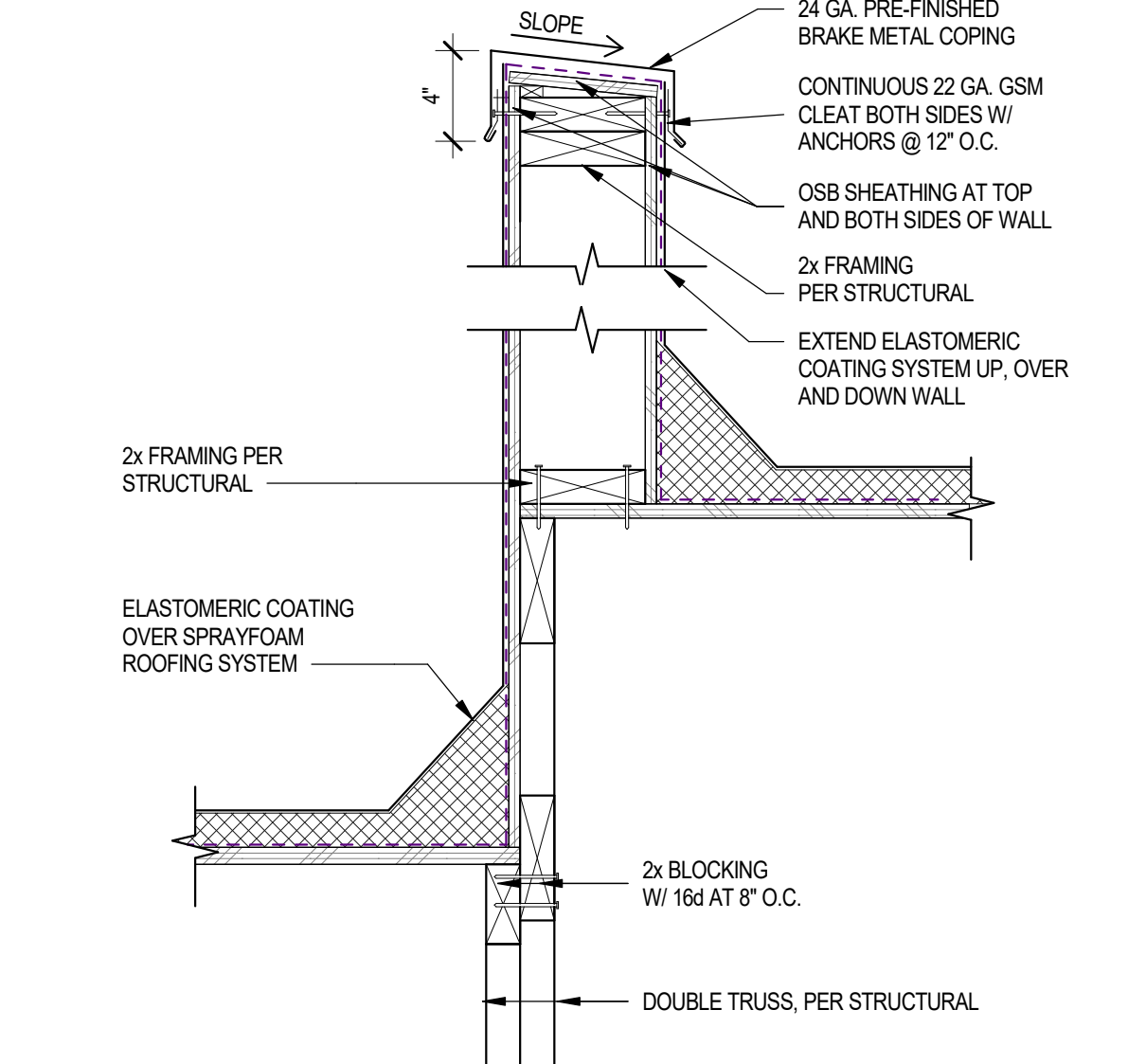
10 SPRAY FOAM ROOFING SYSTEM AT ROOF & OVERFLOWS DRAINS SCALE: 3" = 1'-0"



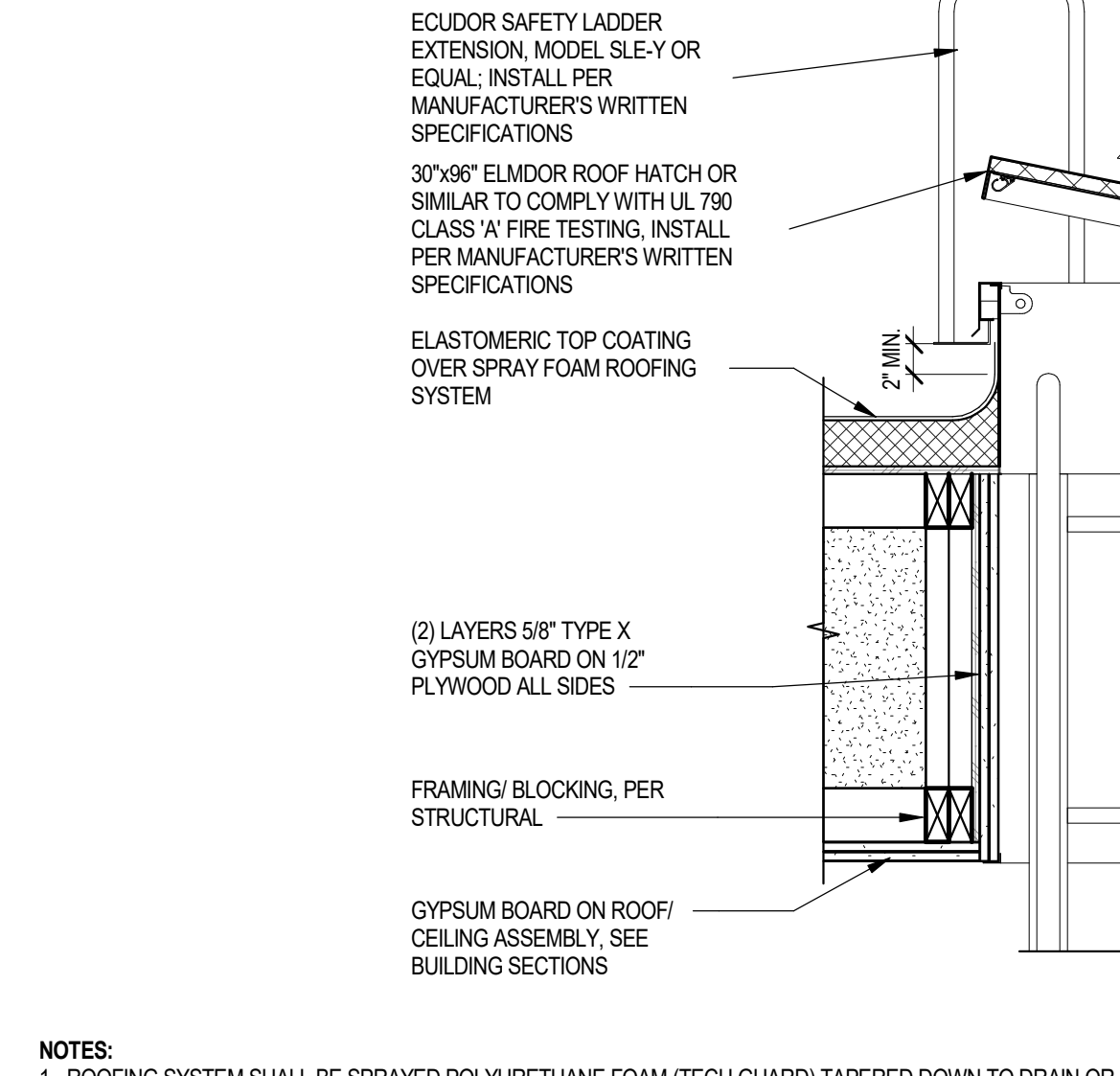
11 SPRAYFOAM ROOFING SYSTEM FLASHING AT SMALL PIPE PENETRATION REFERENCE FIRESTONE DETAIL UT-P-2 SCALE: 1" = 1'-0"



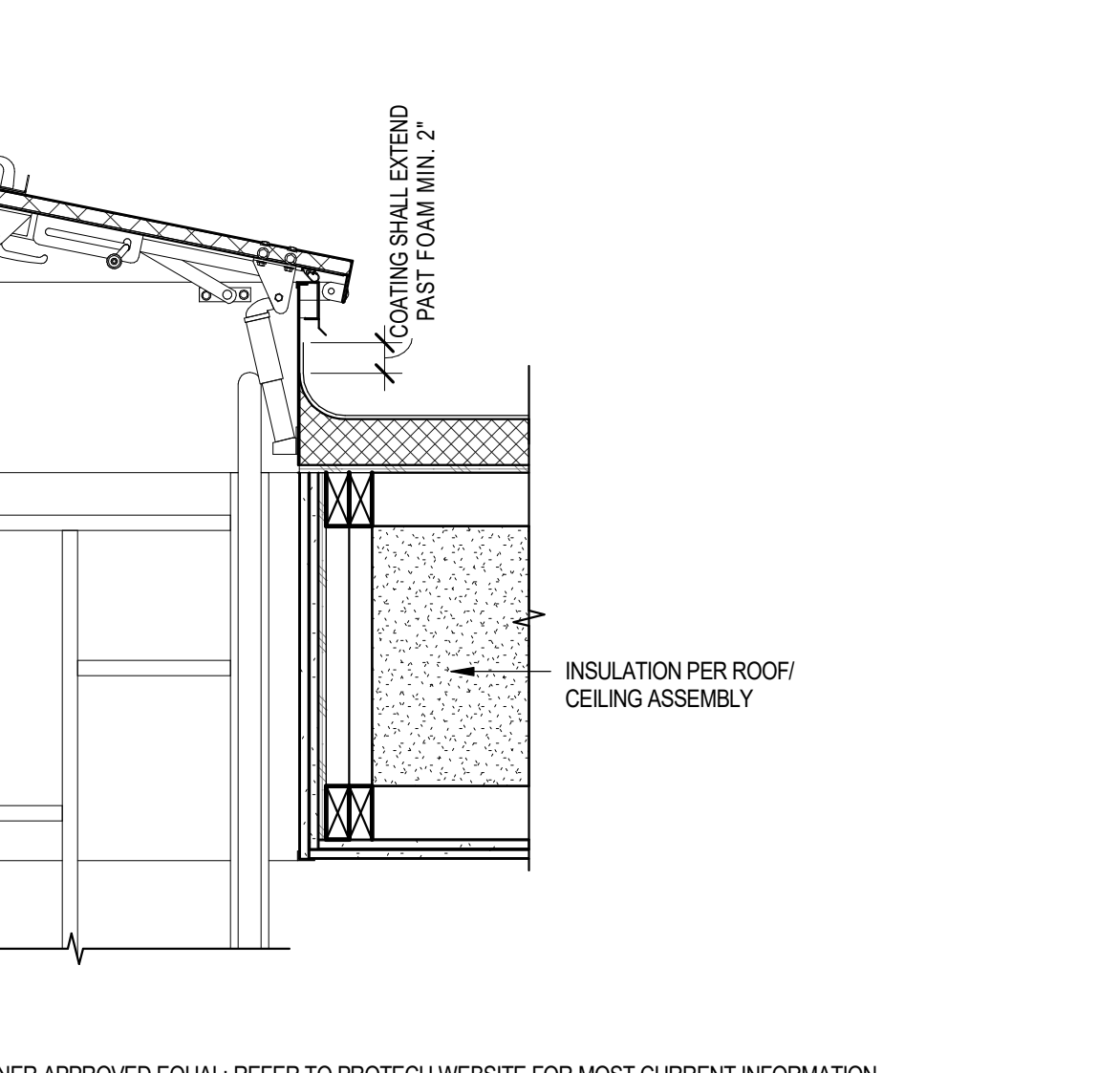
02 1-HR CORRIDOR WALL AT 1-HR ROOF/CEILING SCALE: 1 1/2" = 1'-0"



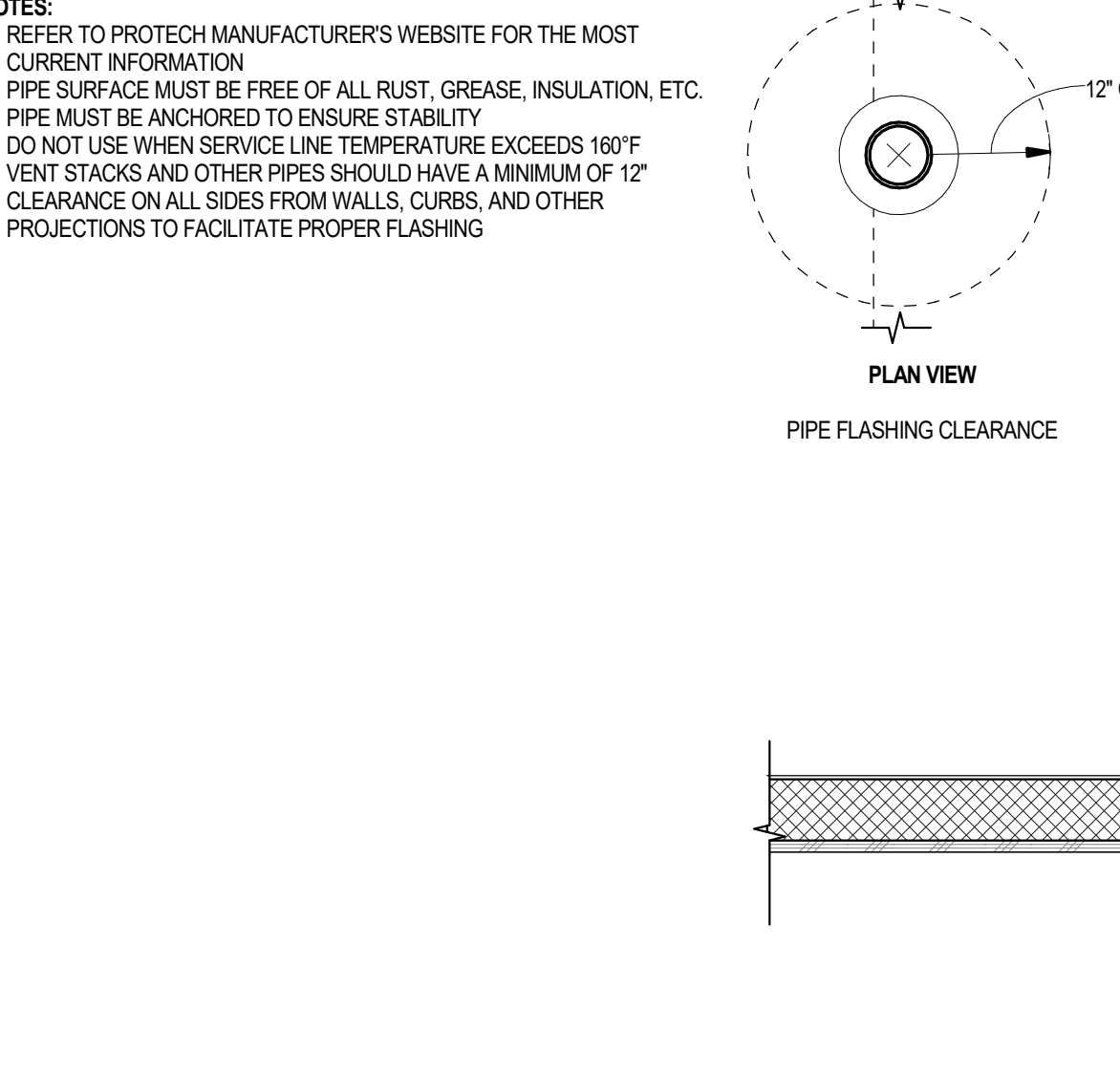
23 ROOF TRUSS AT STEP SECTION SCALE: 1 1/2" = 1'-0"



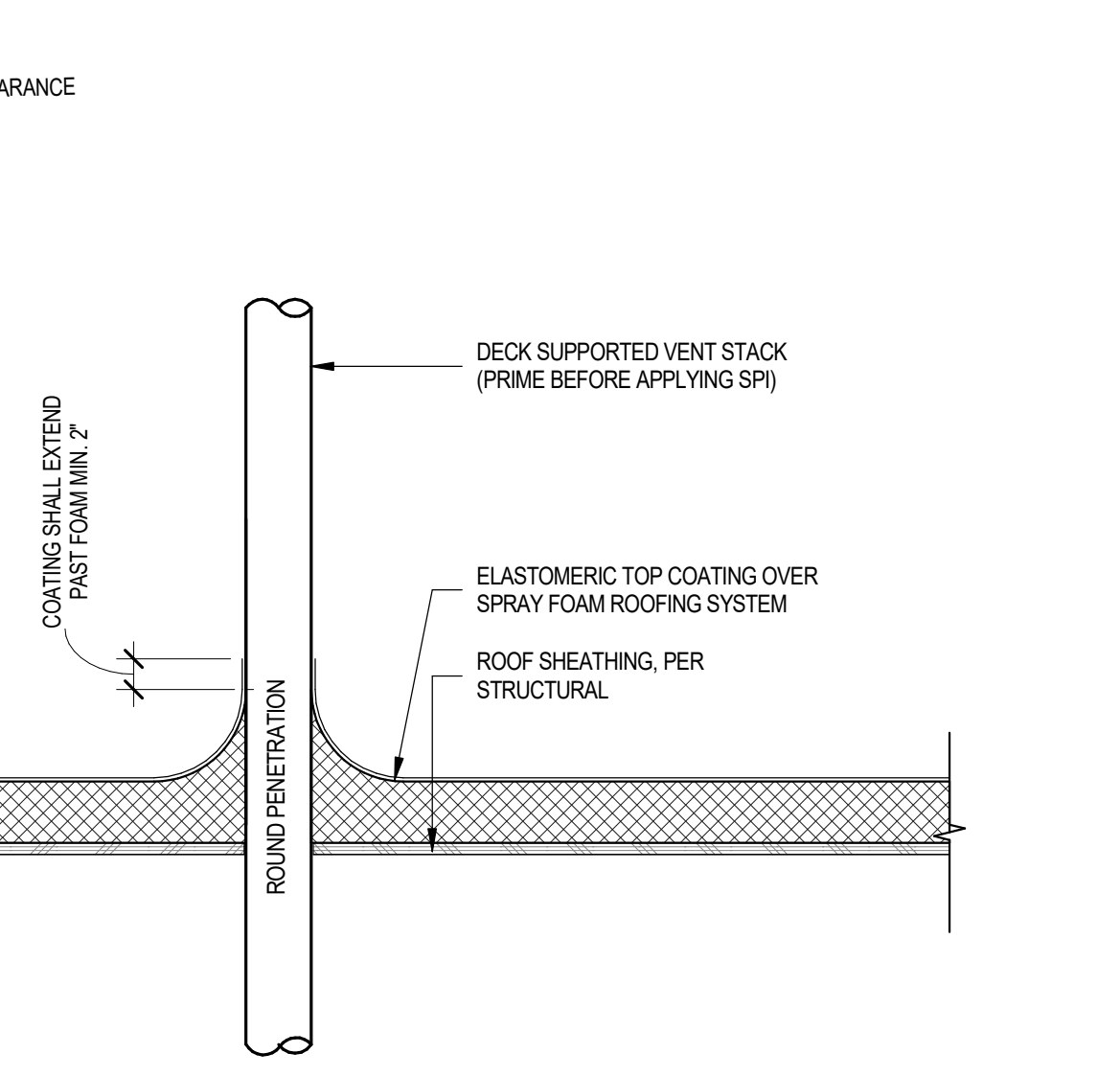
19 ALTERNATING METAL TREAD LADDER/ROOF HATCH SCALE: 1" = 1'-0"



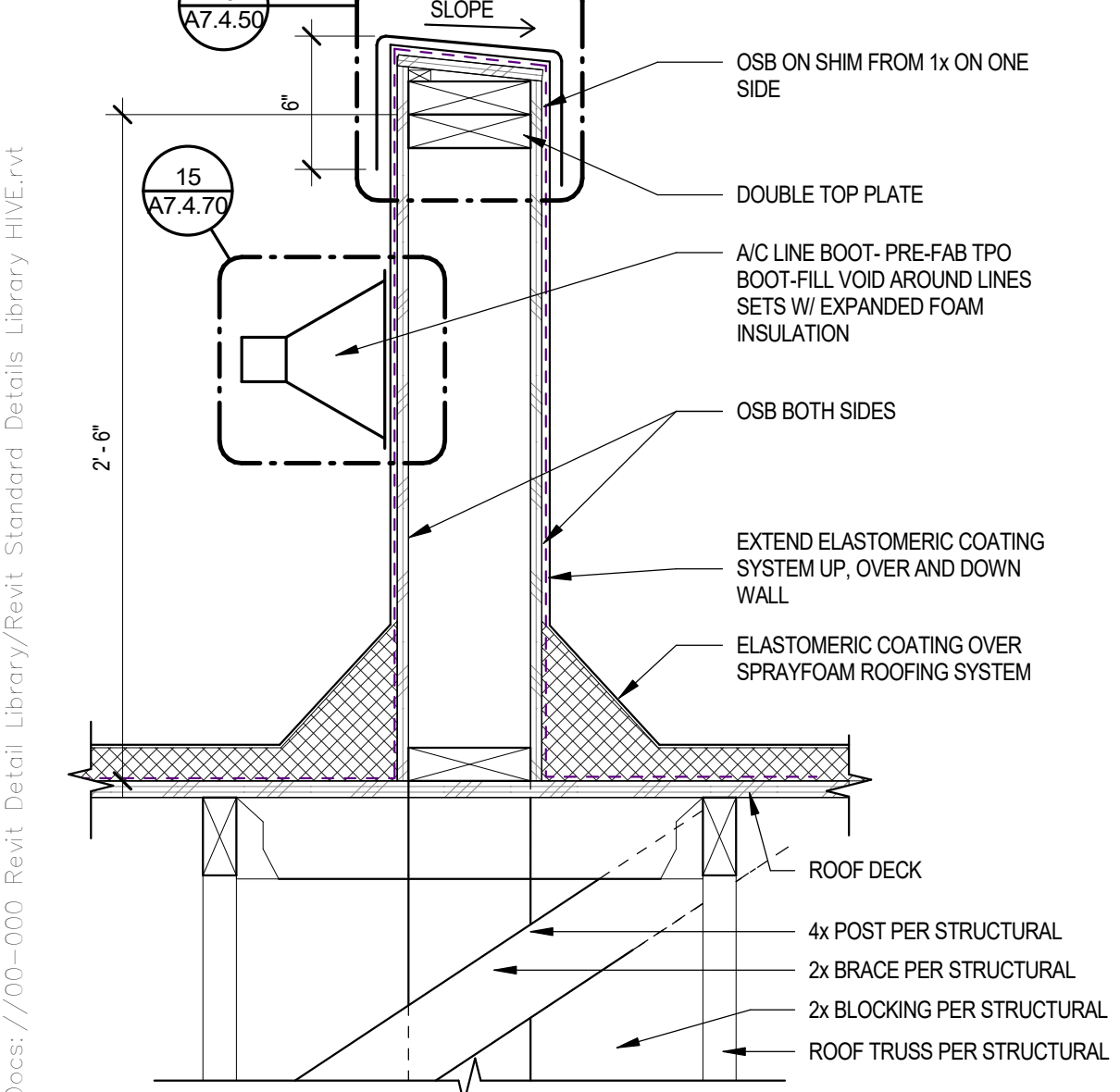
16 WOOD SLEEPER SCALE: 1 1/2" = 1'-0"



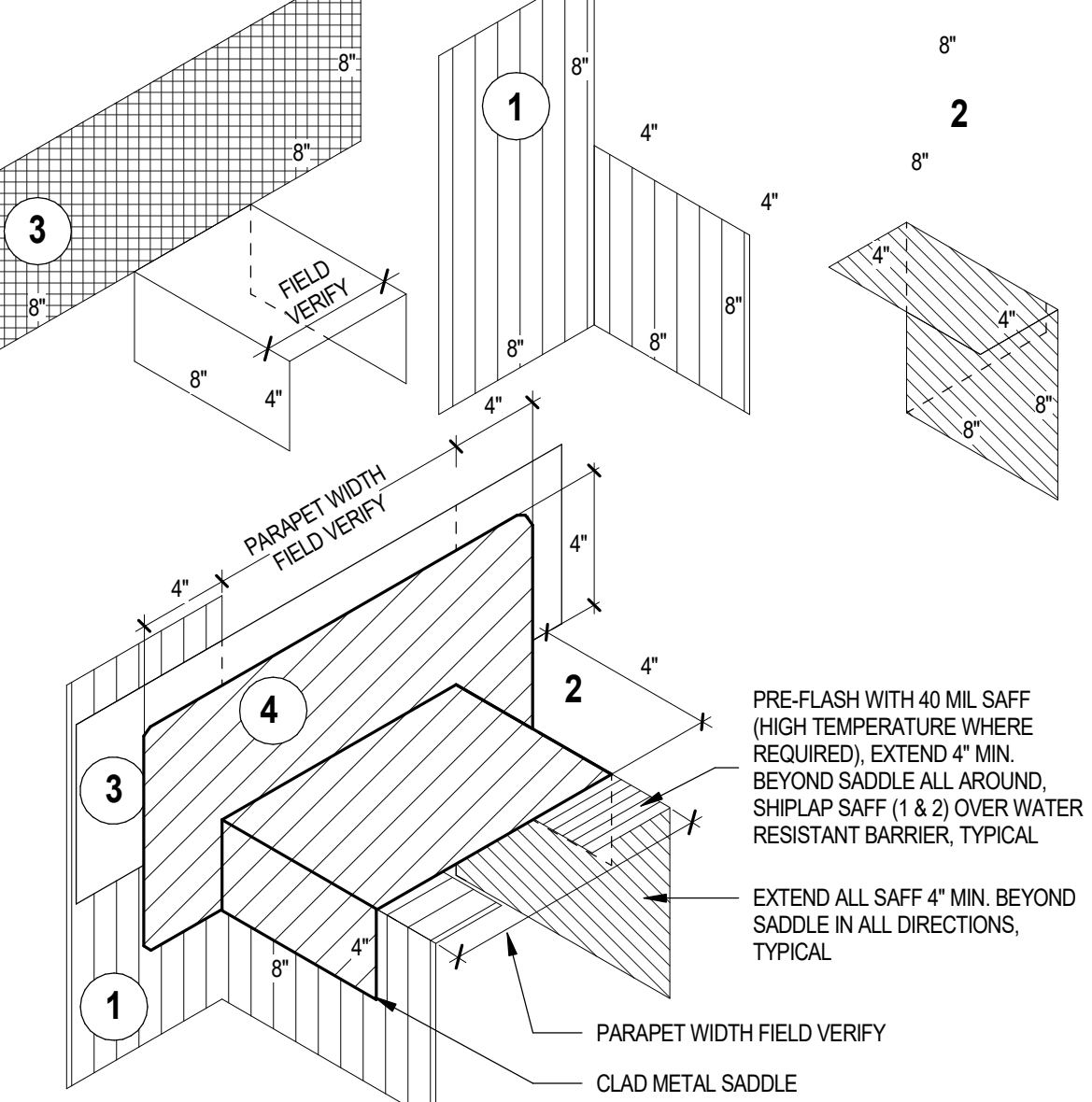
12 MECHANICAL DUCT AT CMU WALL SCALE: 3" = 1'-0"



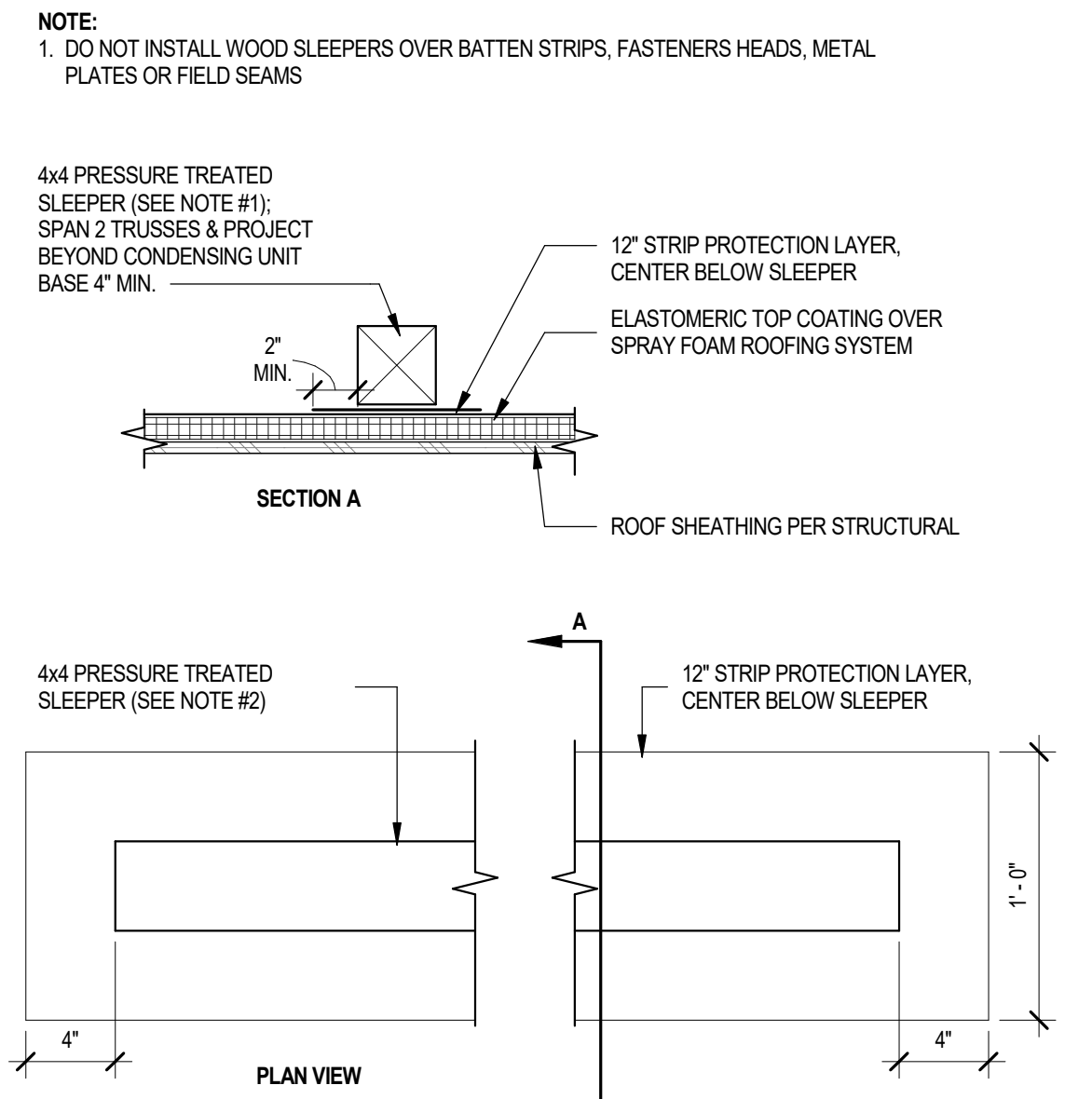
03 1-HR FIRE BARRIER WALL AT 1-HR ROOF/CEILING SCALE: 1 1/2" = 1'-0"



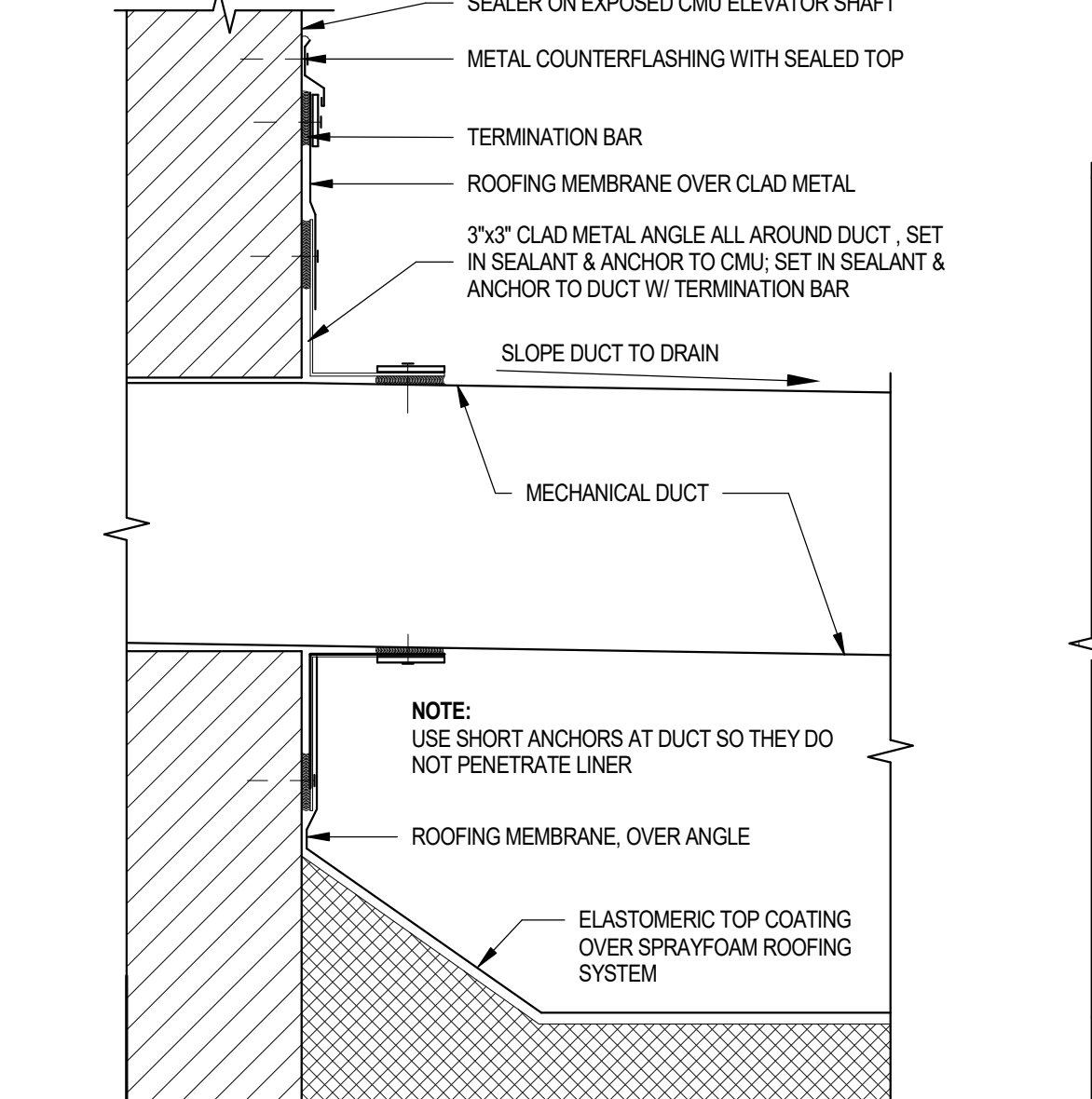
24 A/C UNIT SERVICE WALL SECTION AT FOAM ROOF SCALE: 1 1/2" = 1'-0"



20 CLAD SADDLE AT PARAPET INTERSECTION SCALE: 1 1/2" = 1'-0"



12 MECHANICAL DUCT AT CMU WALL SCALE: 3" = 1'-0"



04 1-HR ROOF/CEILING AT 1-HR EXTERIOR WALL SCALE: 1 1/2" = 1'-0"

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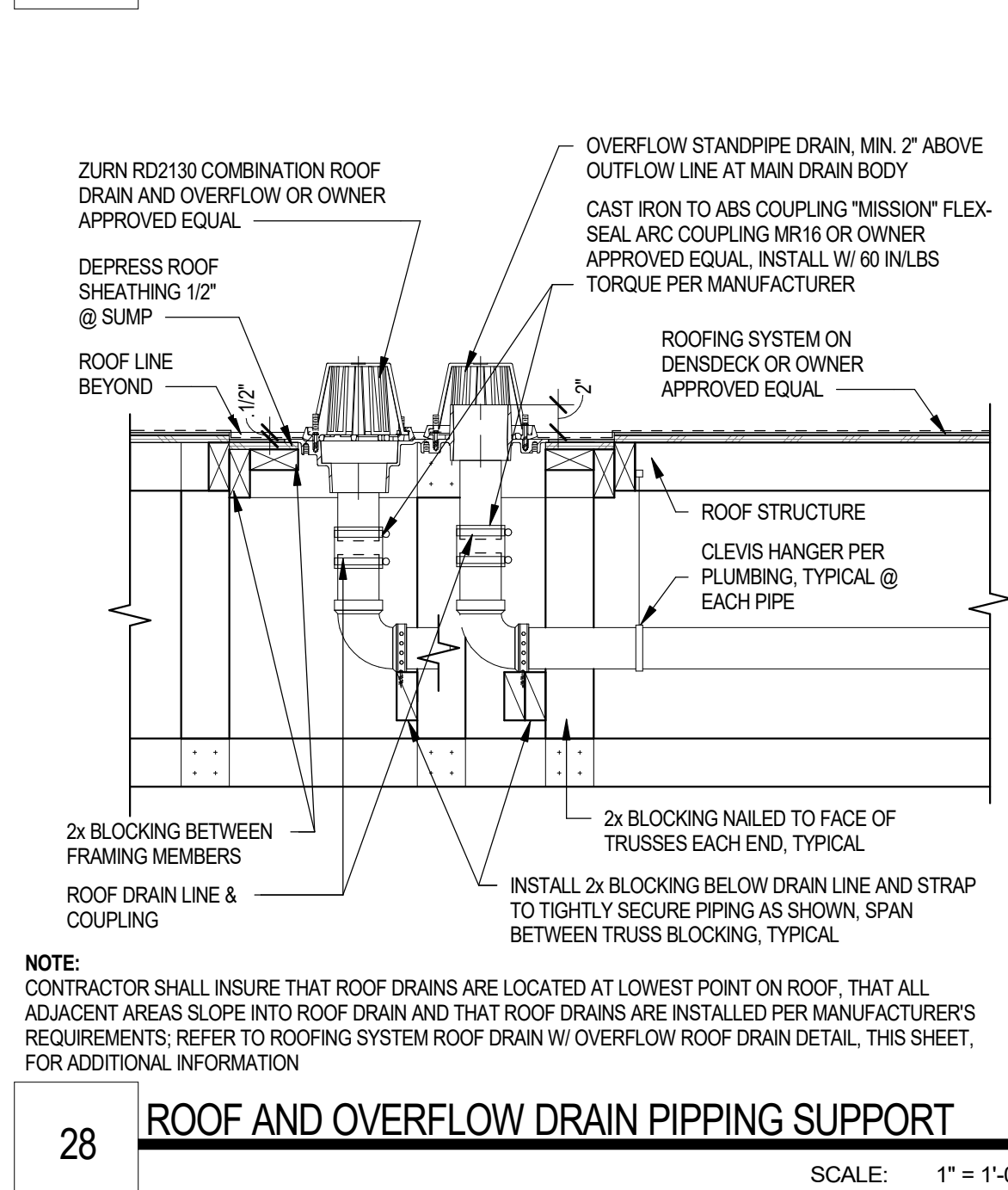
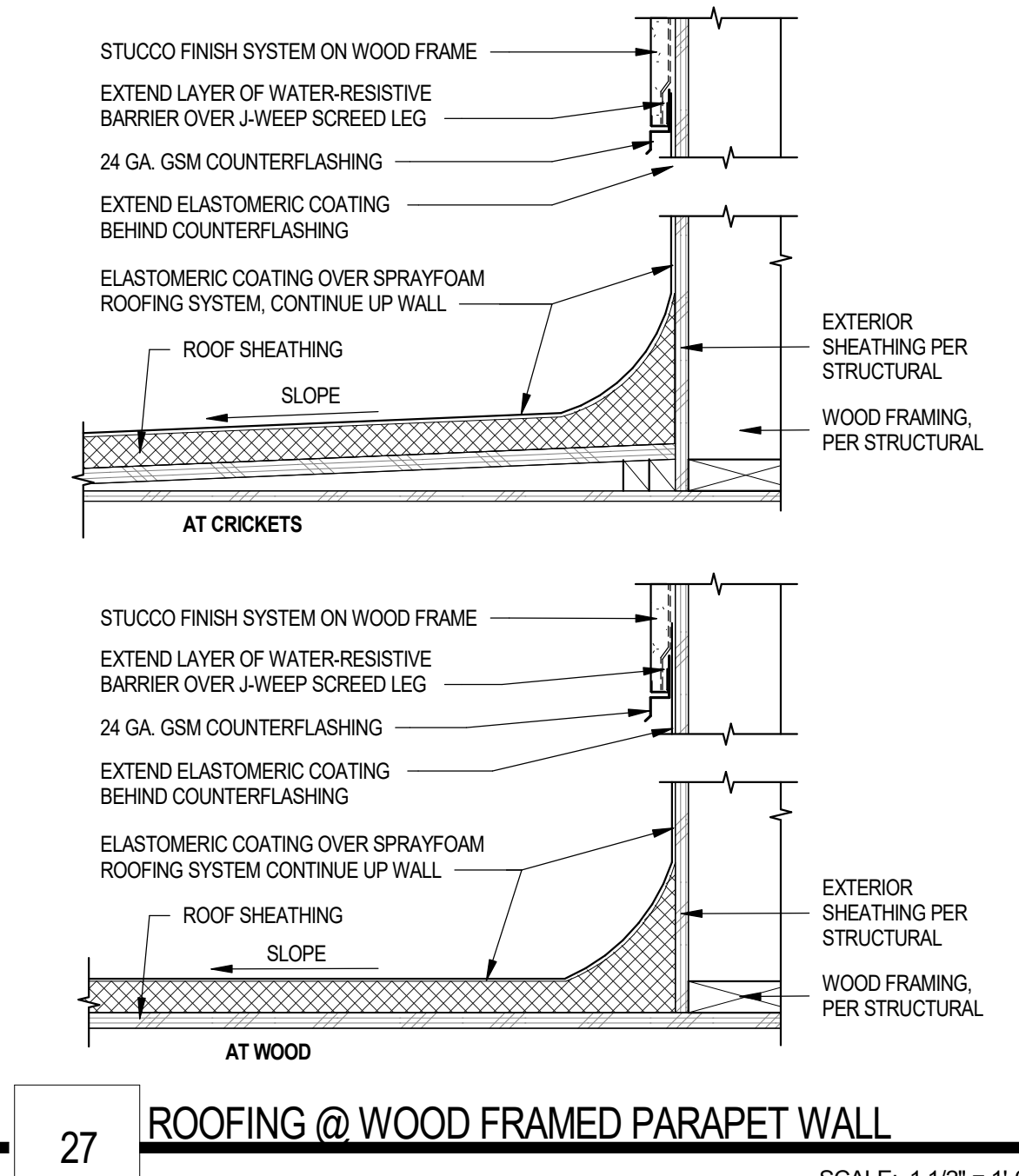
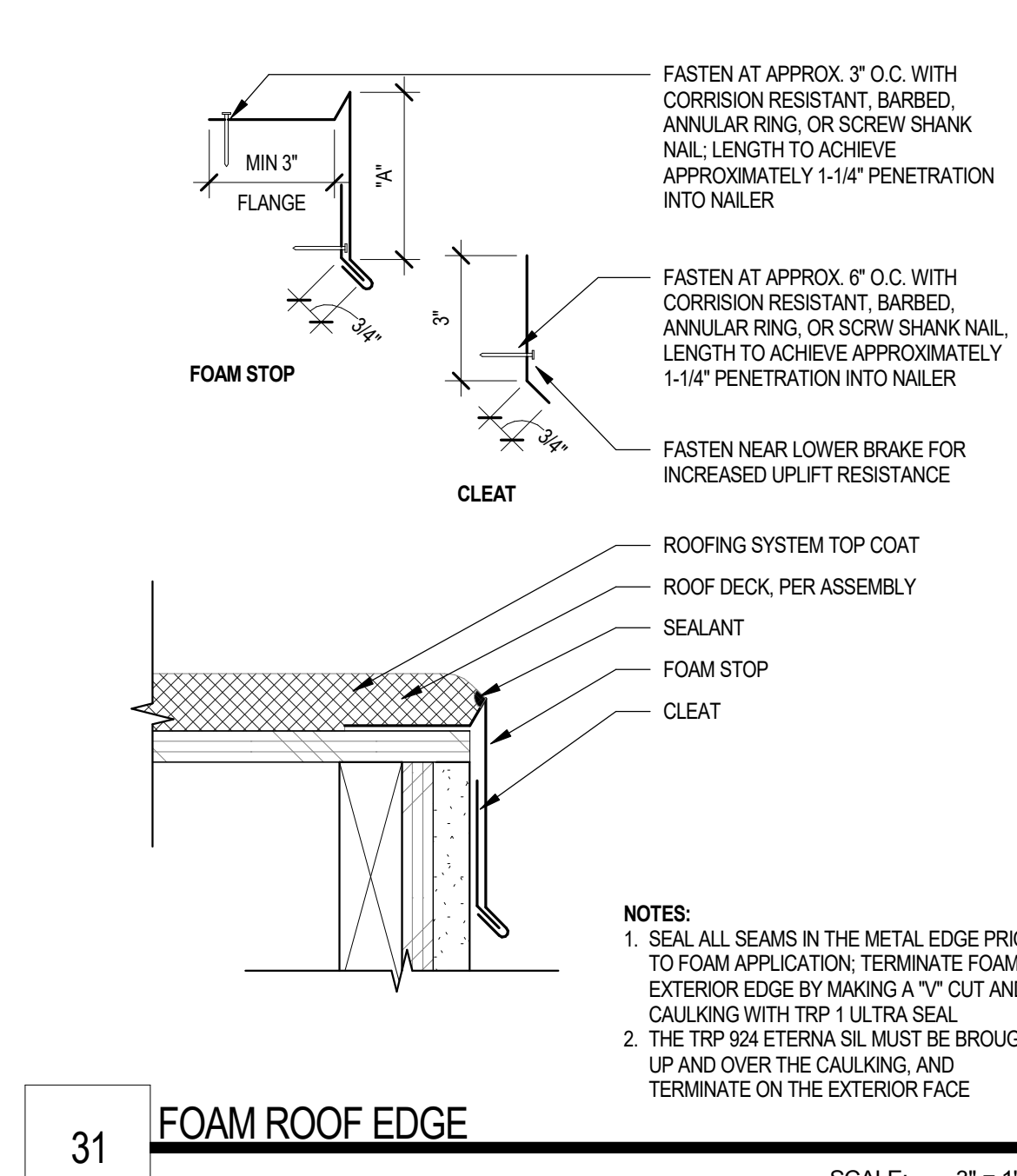
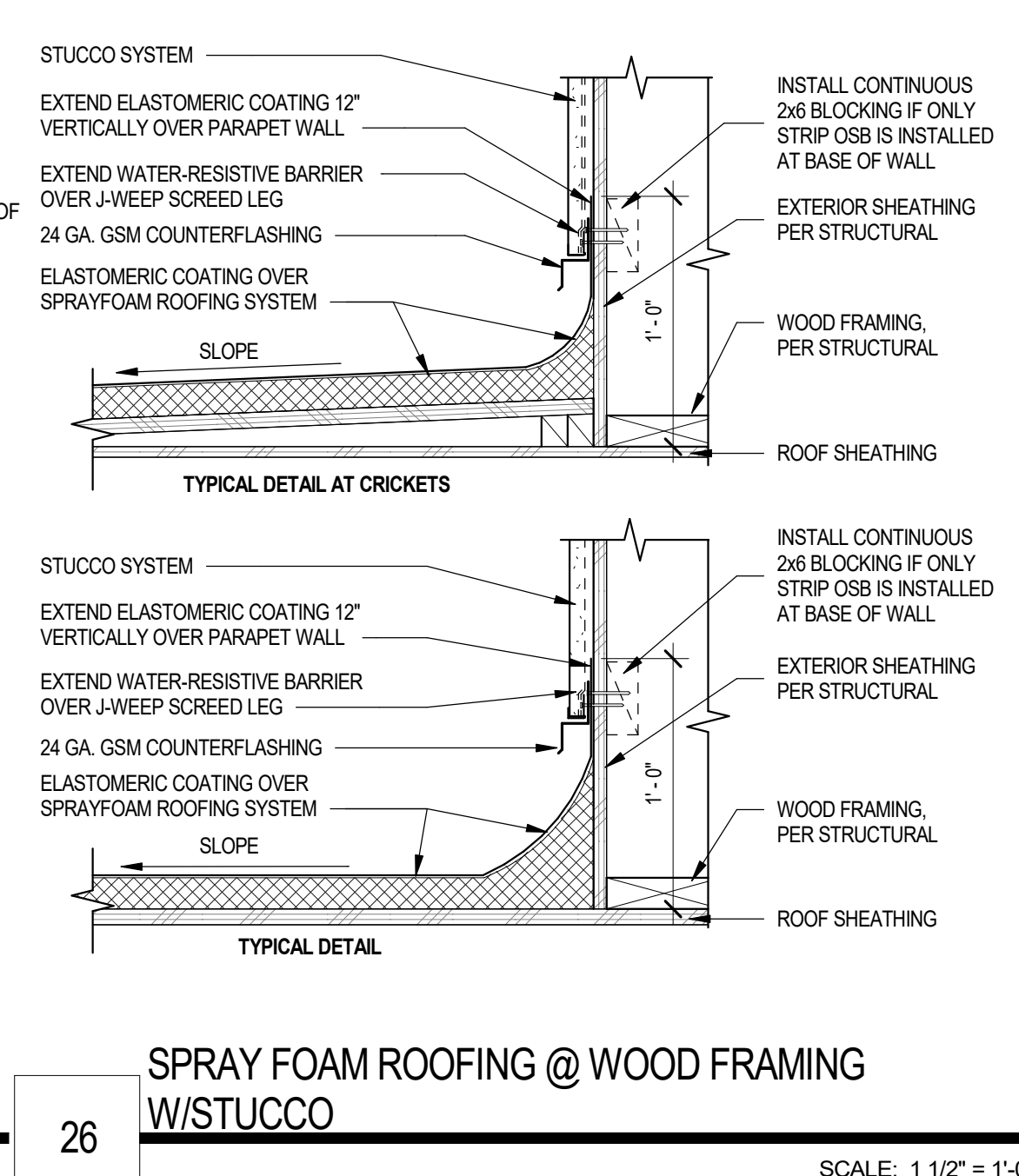
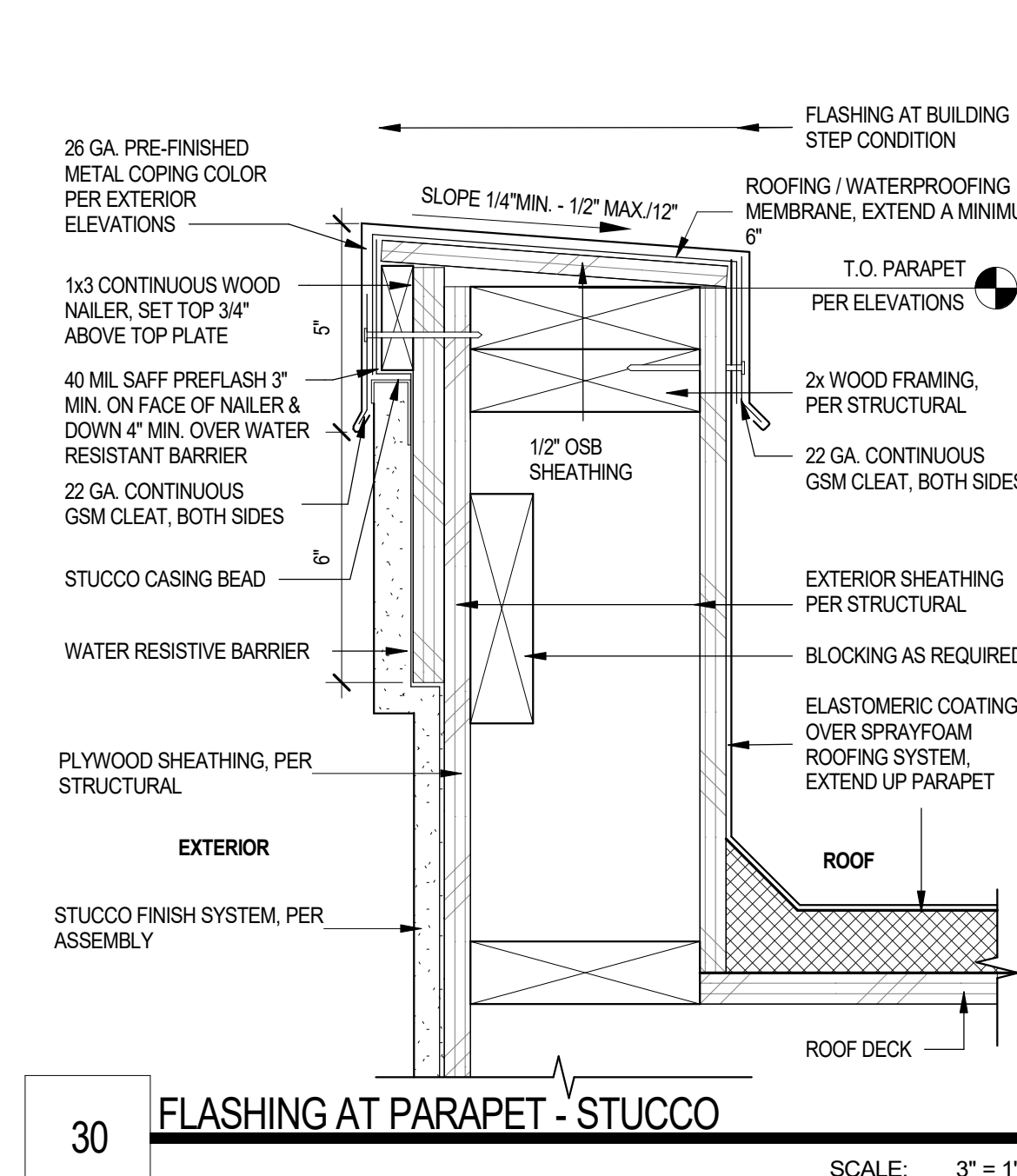
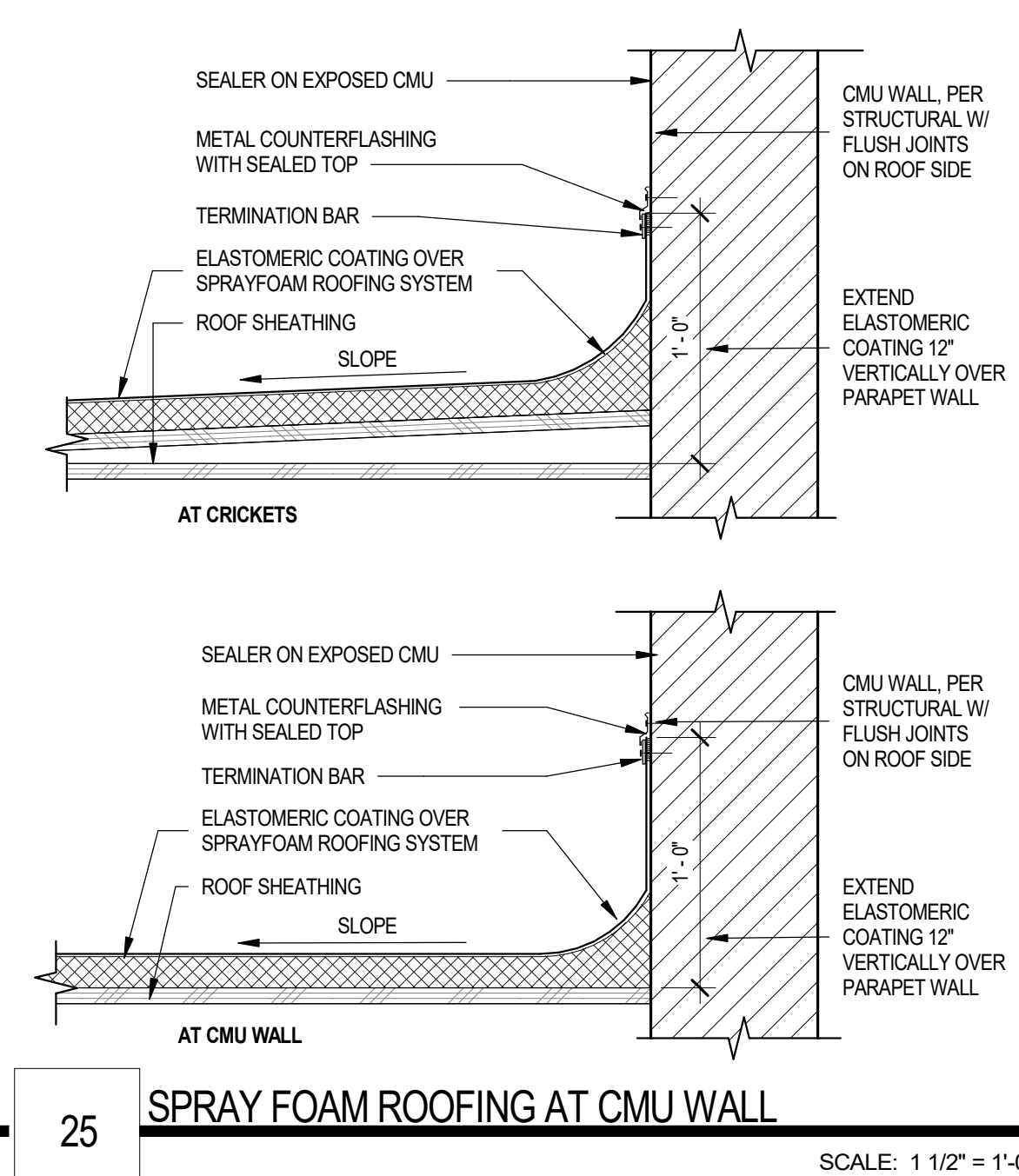
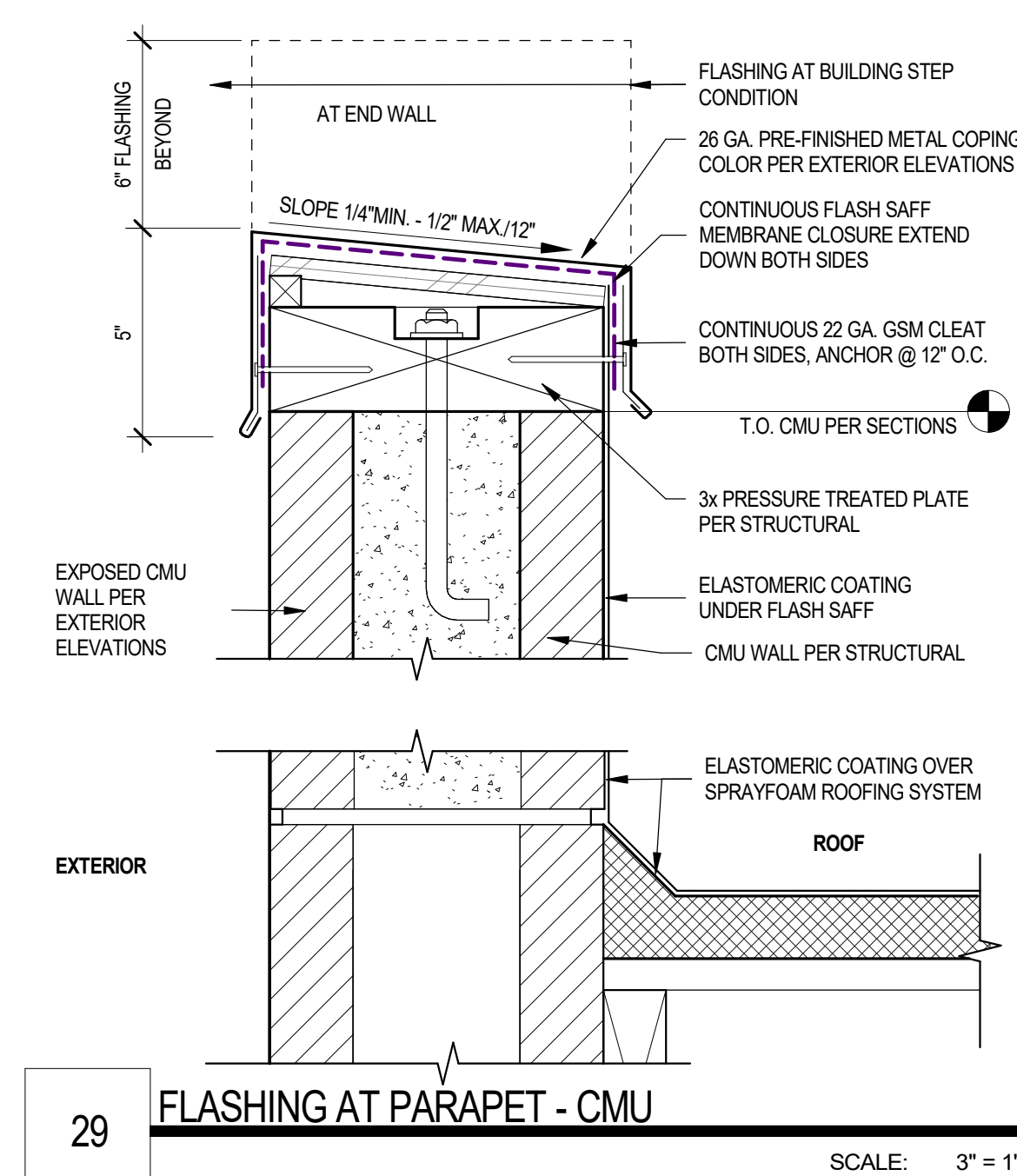
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A7.4.80

FOAM ROOF DETAILS



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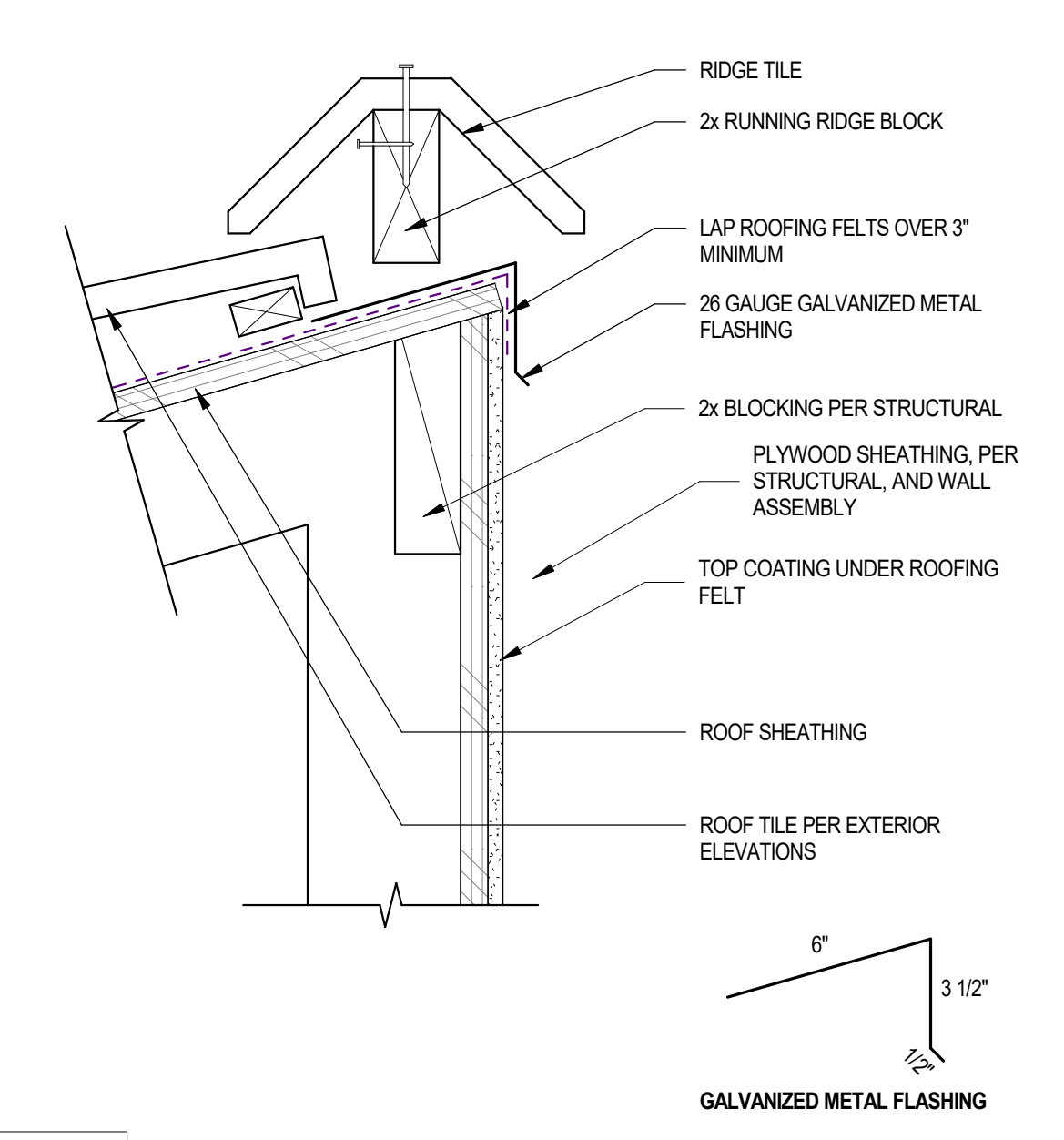
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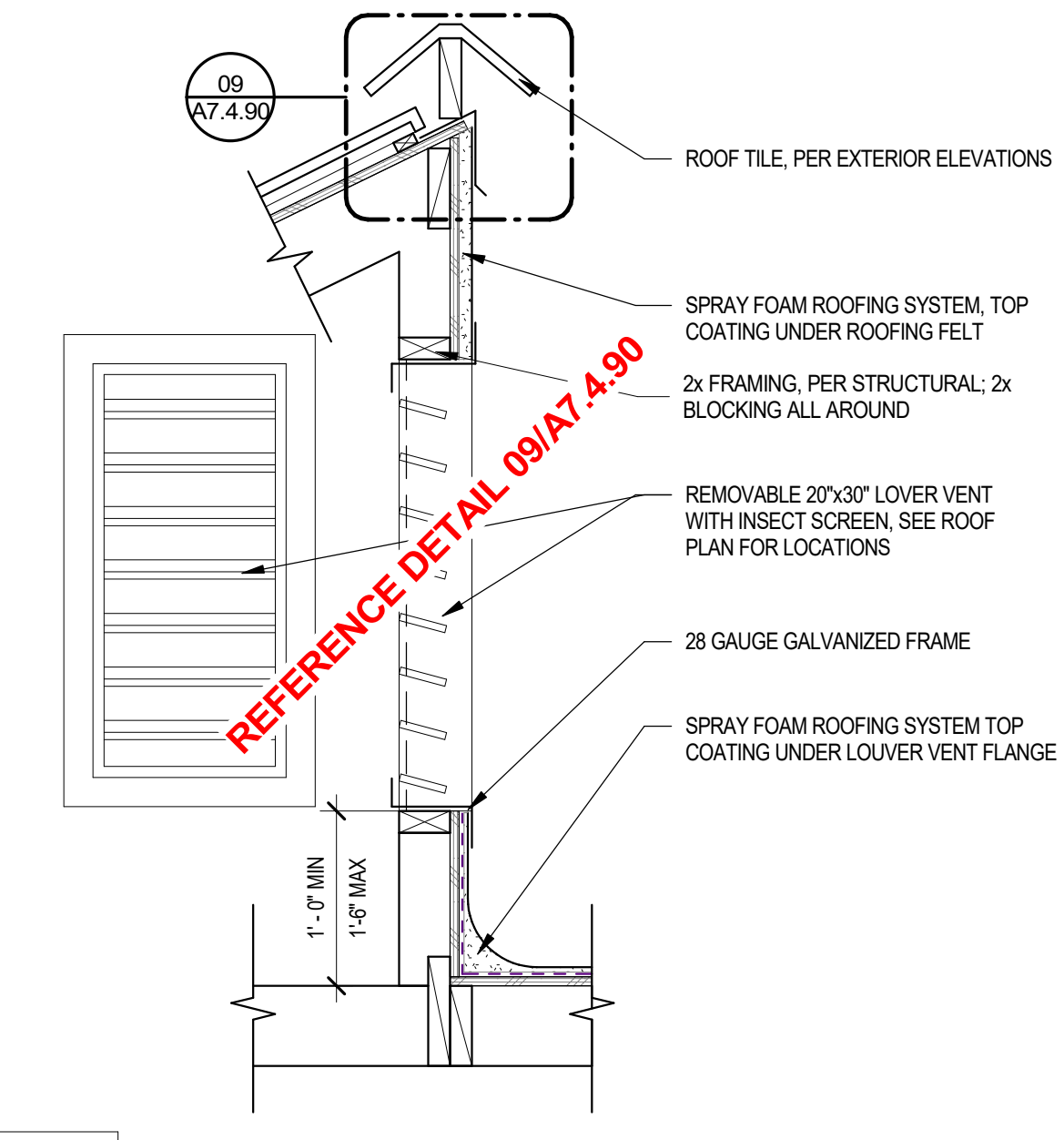
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DATE: July 17, 2024 ORB #: 00-000

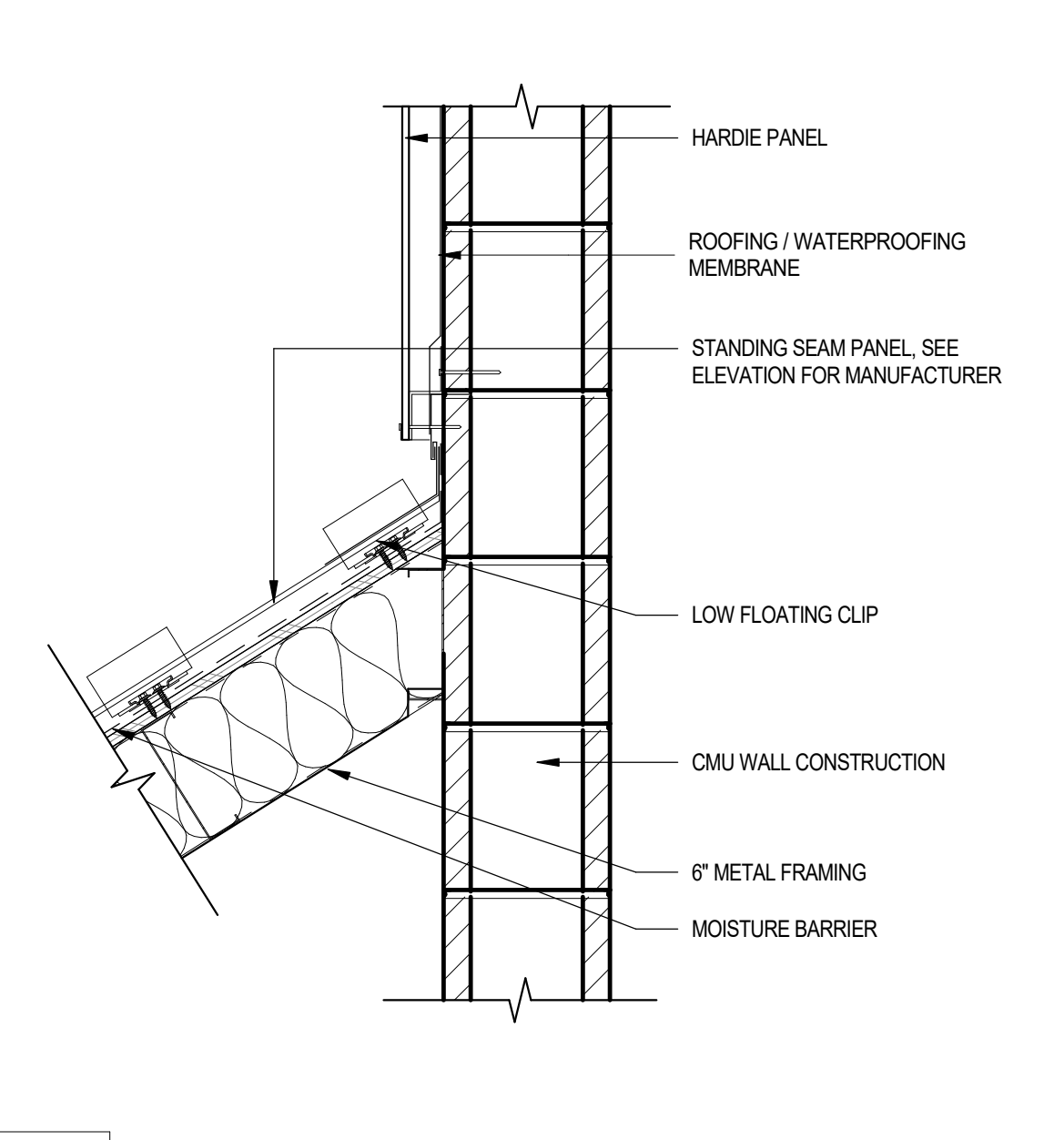
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FOAM ROOF DETAILS



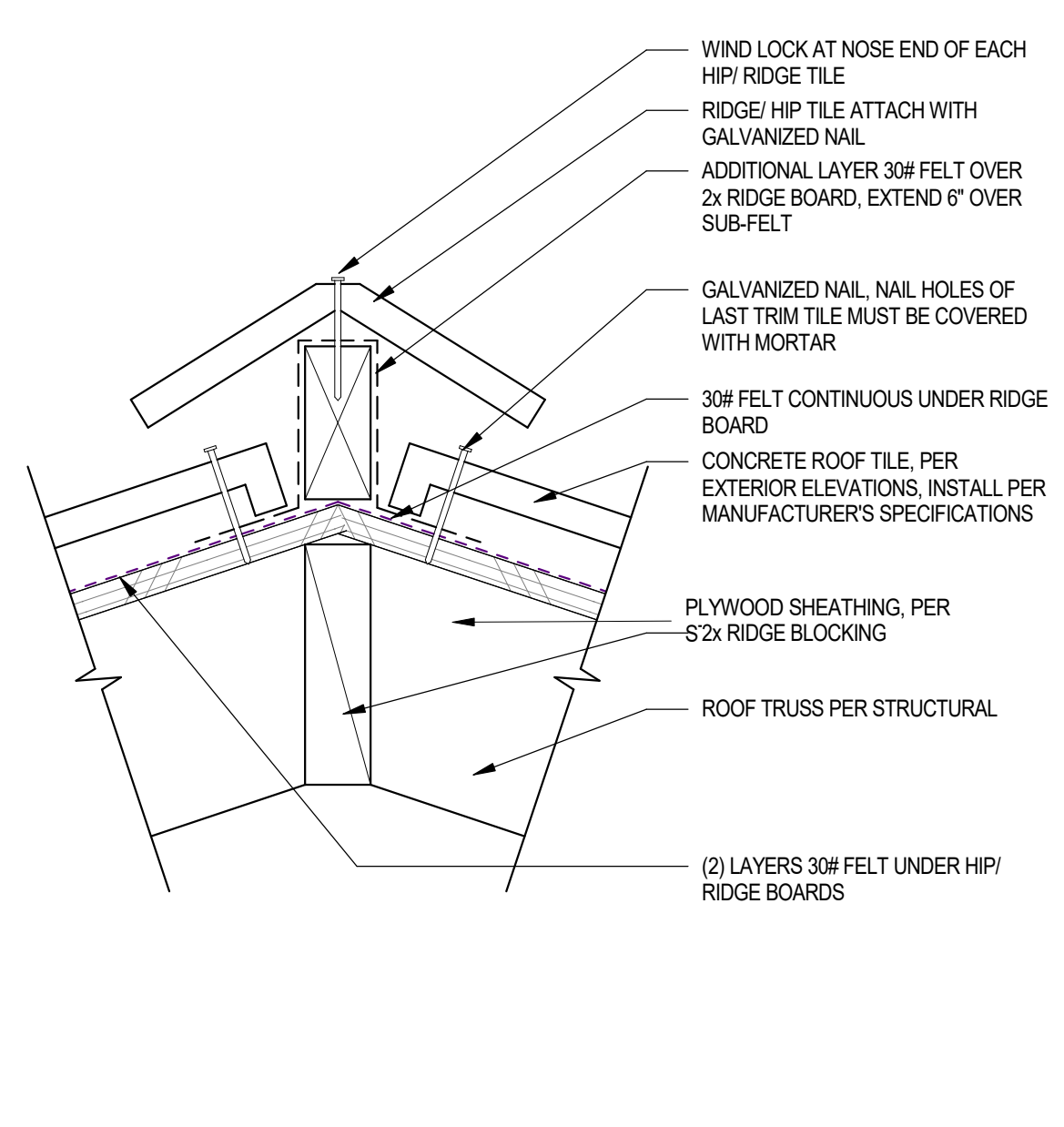
09 ROOF TILE AT MANSARD SCALE: 3" = 1'-0"



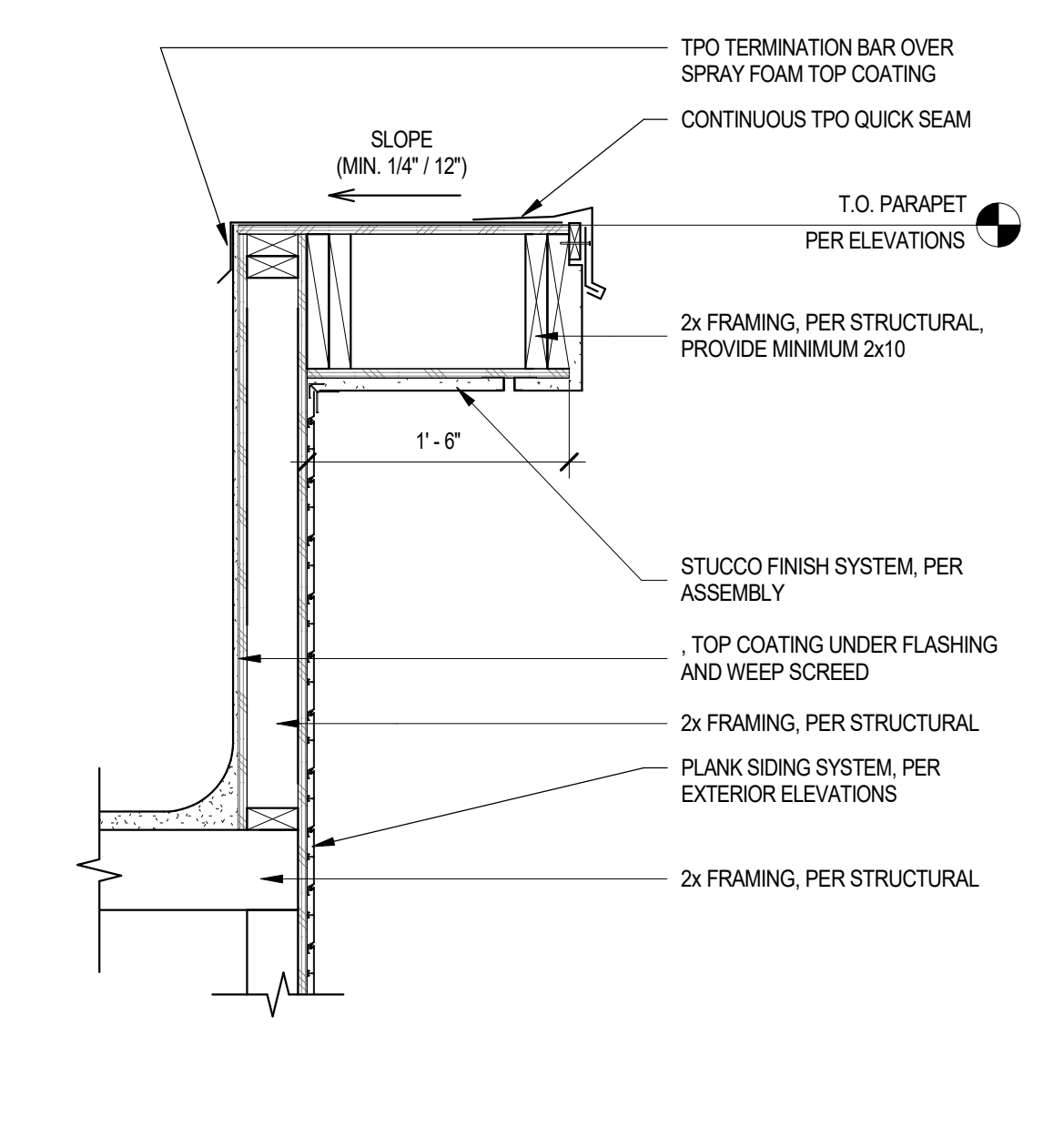
05 ATTIC ACCESS WALL LOUVER SCALE: 1" = 1'-0"



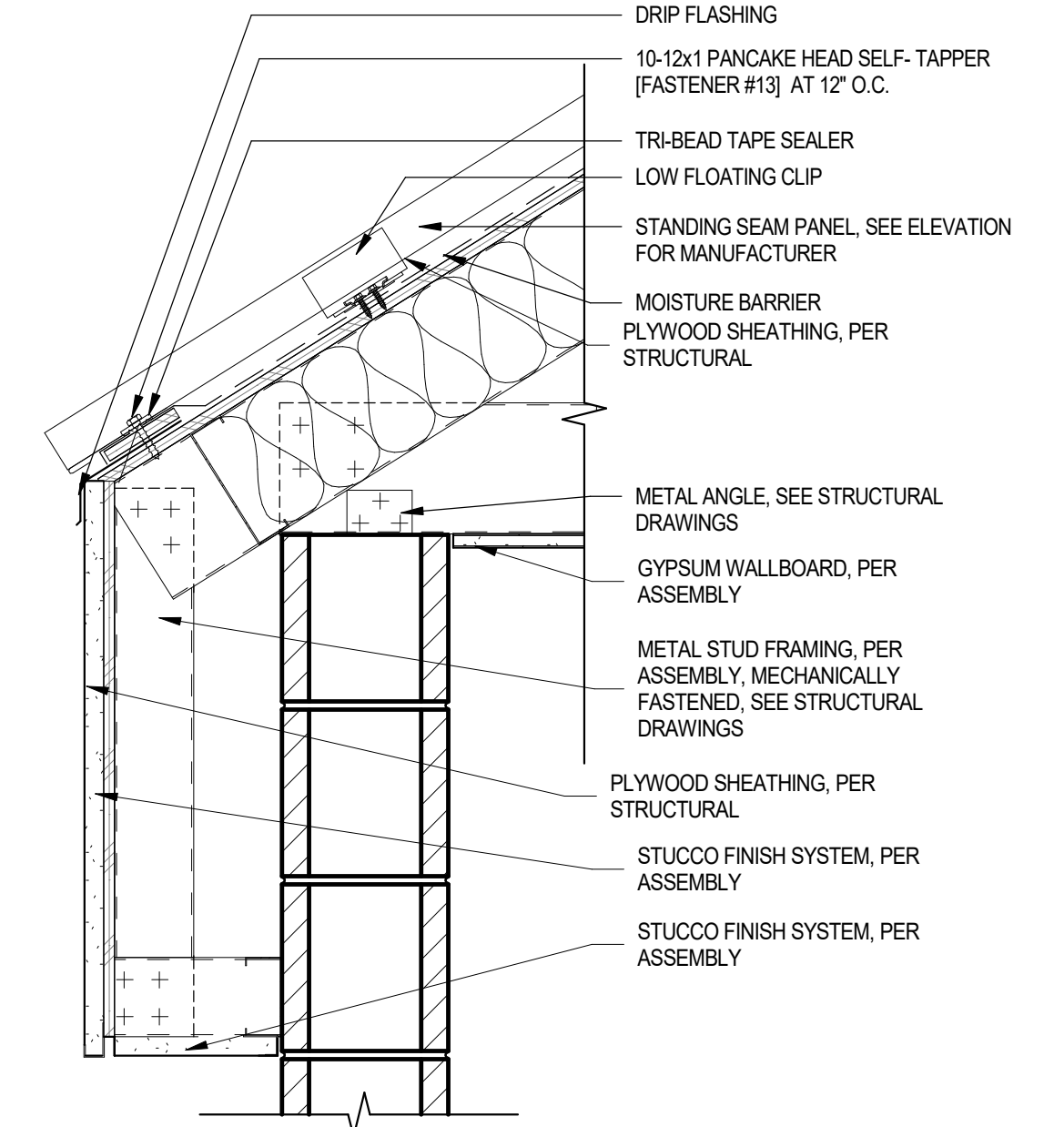
01 STANDING SEAM EAVE AT CMU WALL SCALE: 1 1/2" = 1'-0"



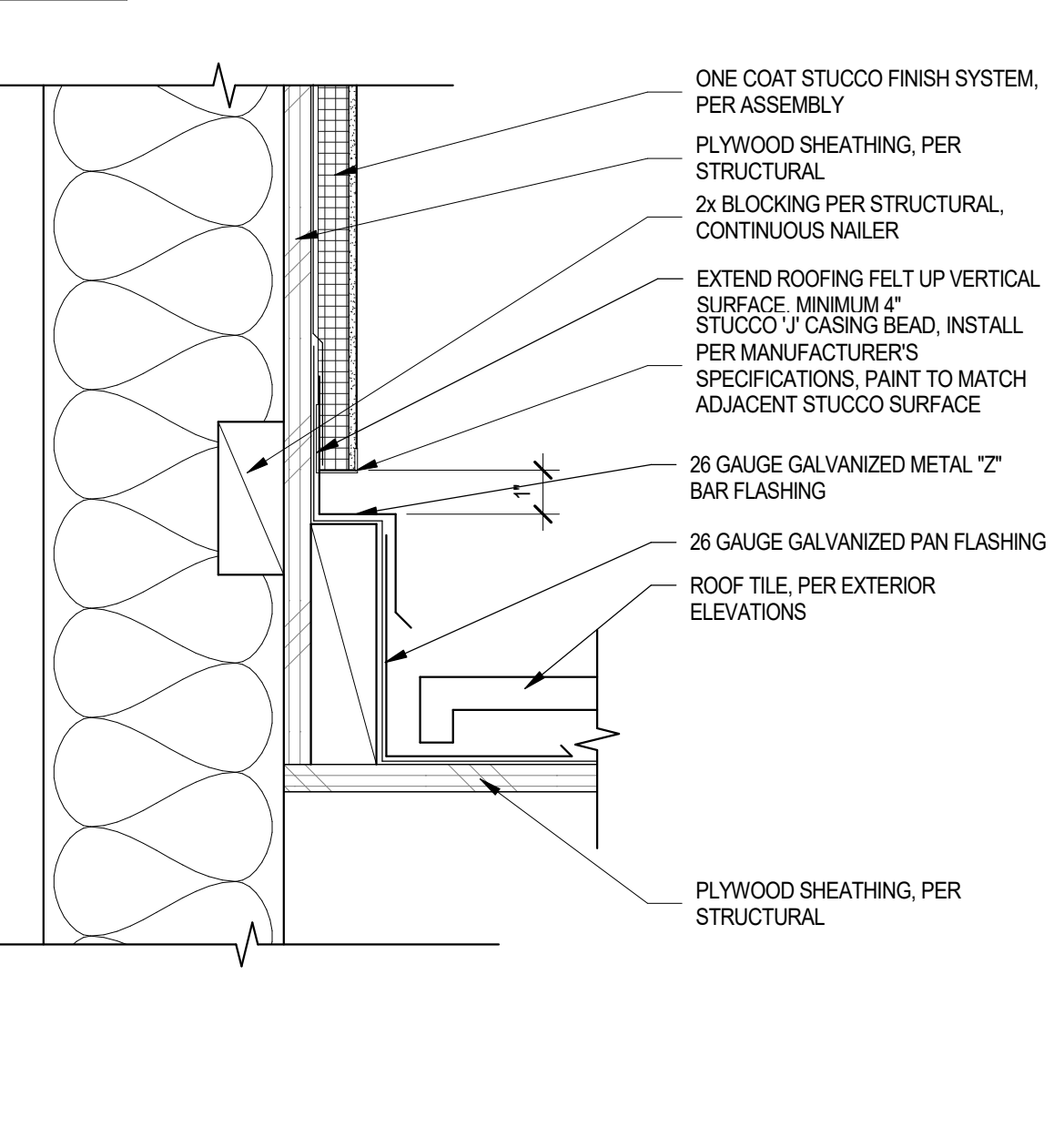
10 ROOF TILE AT RIDGE SCALE: 3" = 1'-0"



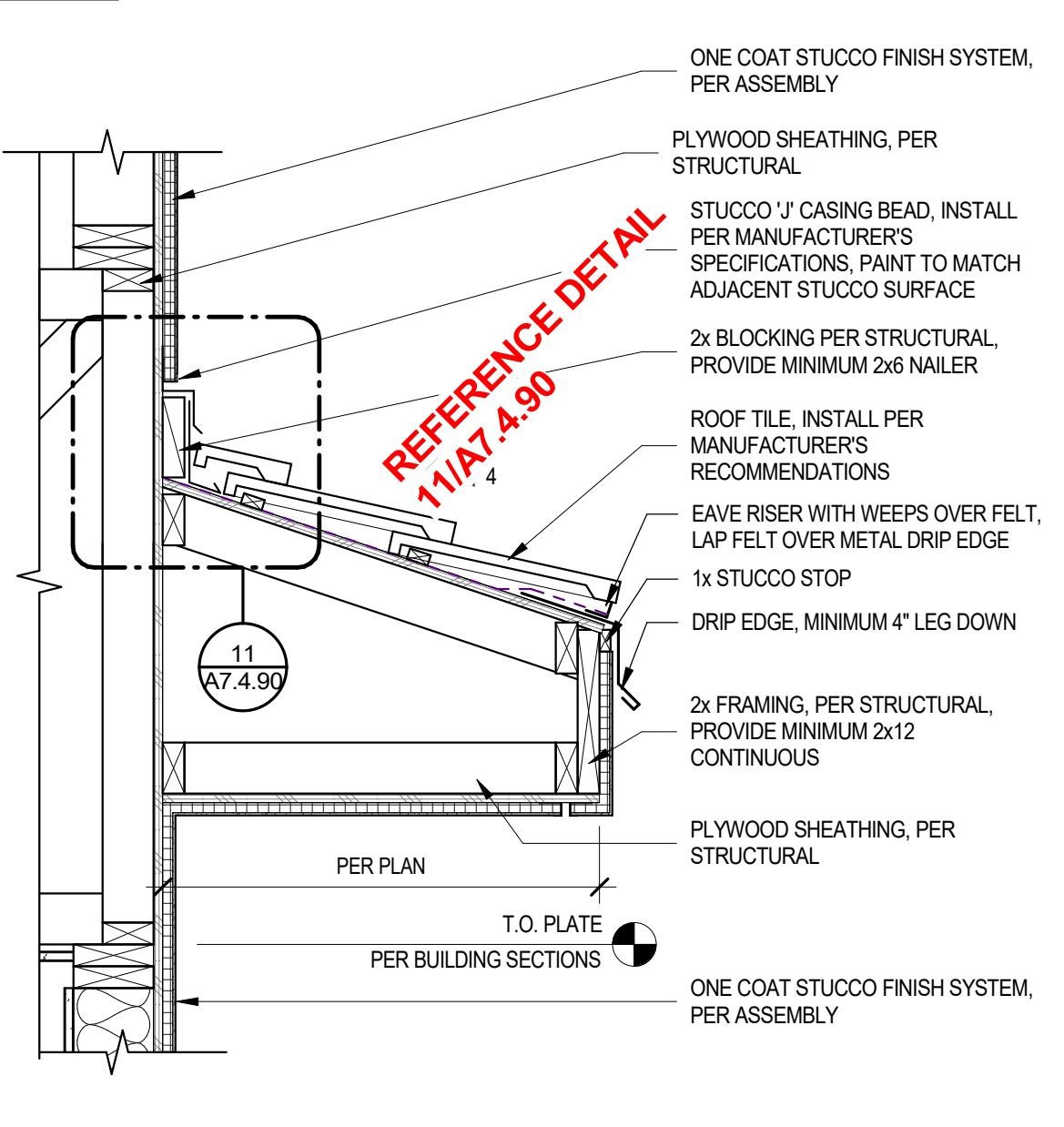
06 DECORATIVE PARAPET SCALE: 1" = 1'-0"



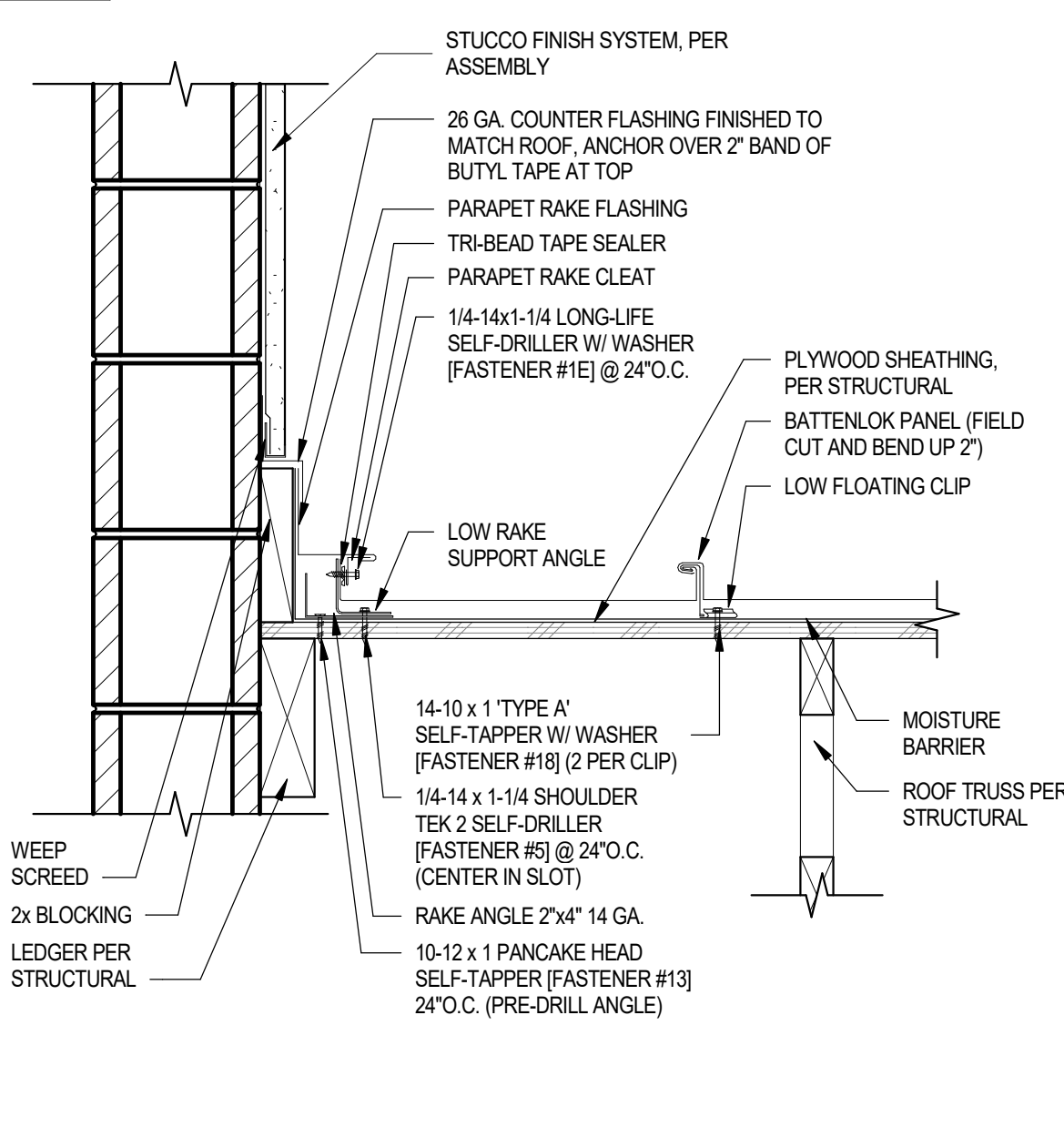
02 STANDING SEAM EAVE SCALE: 1 1/2" = 1'-0"



11 ROOF TILE AT WALL SCALE: 3" = 1'-0"



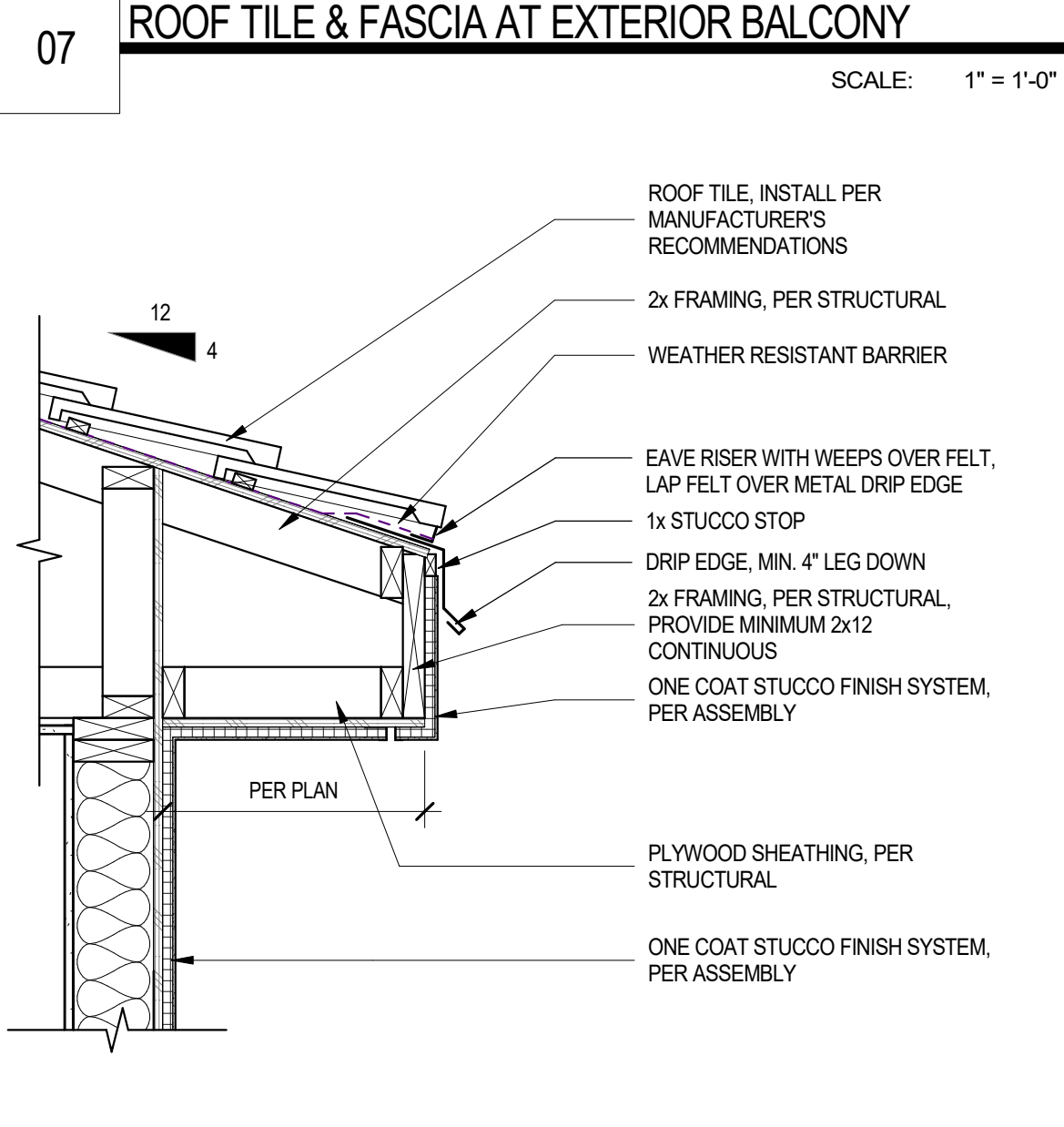
07 ROOF TILE & FASCIA AT EXTERIOR BALCONY SCALE: 1" = 1'-0"



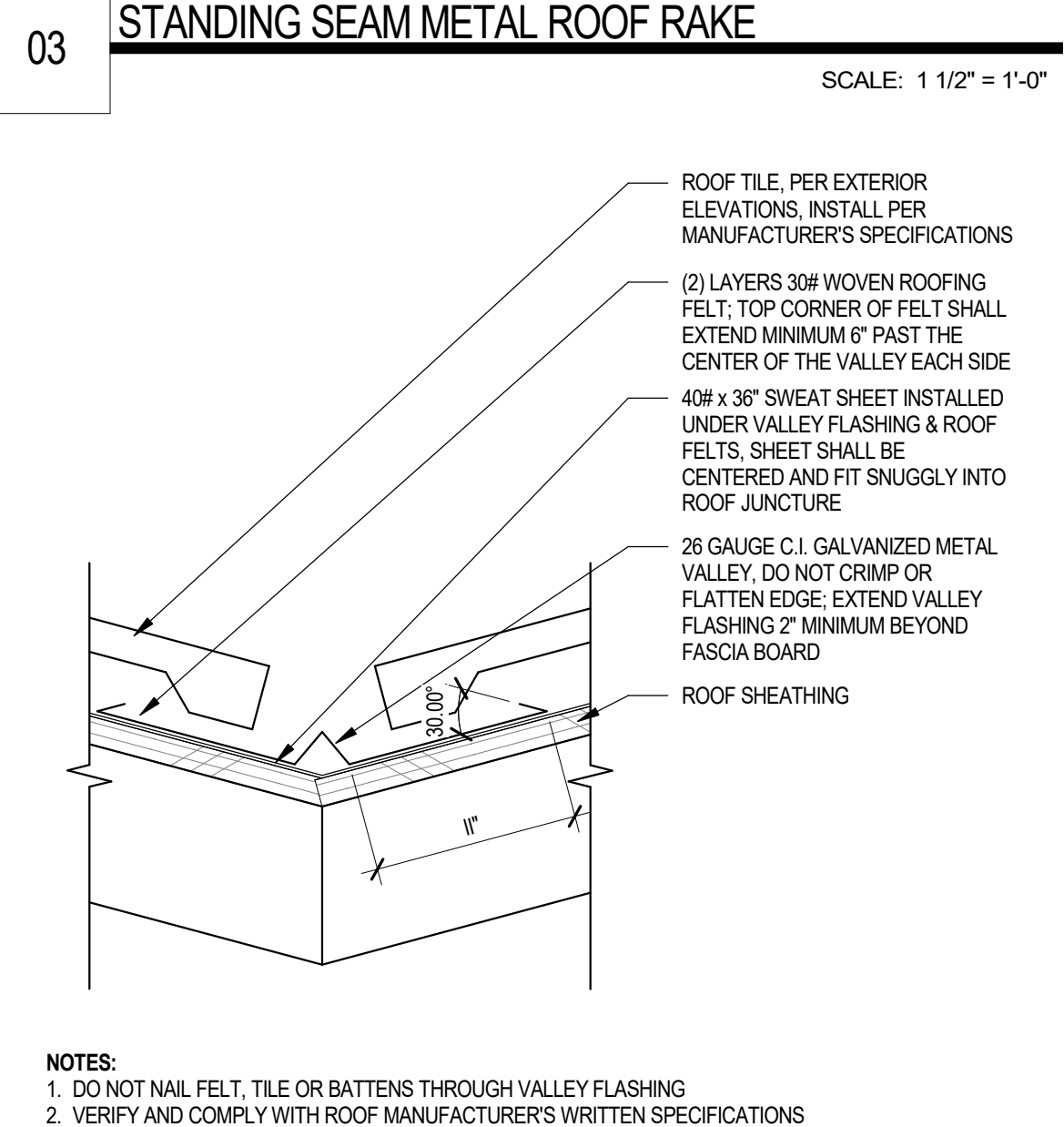
03 STANDING SEAM METAL ROOF RAKE SCALE: 1 1/2" = 1'-0"



08 ROOF TILE & FASCIA AT EXTERIOR EAVE SCALE: 1" = 1'-0"



04 ROOF TILE VALLEY FLASHING SCALE: 3" = 1'-0"



03 STANDING SEAM METAL ROOF RAKE SCALE: 1 1/2" = 1'-0"

NOTES:
 1. DO NOT NAIL FELT, TILE OR BATTENS THROUGH VALLEY FLASHING
 2. VERIFY AND COMPLY WITH ROOF MANUFACTURER'S WRITTEN SPECIFICATIONS

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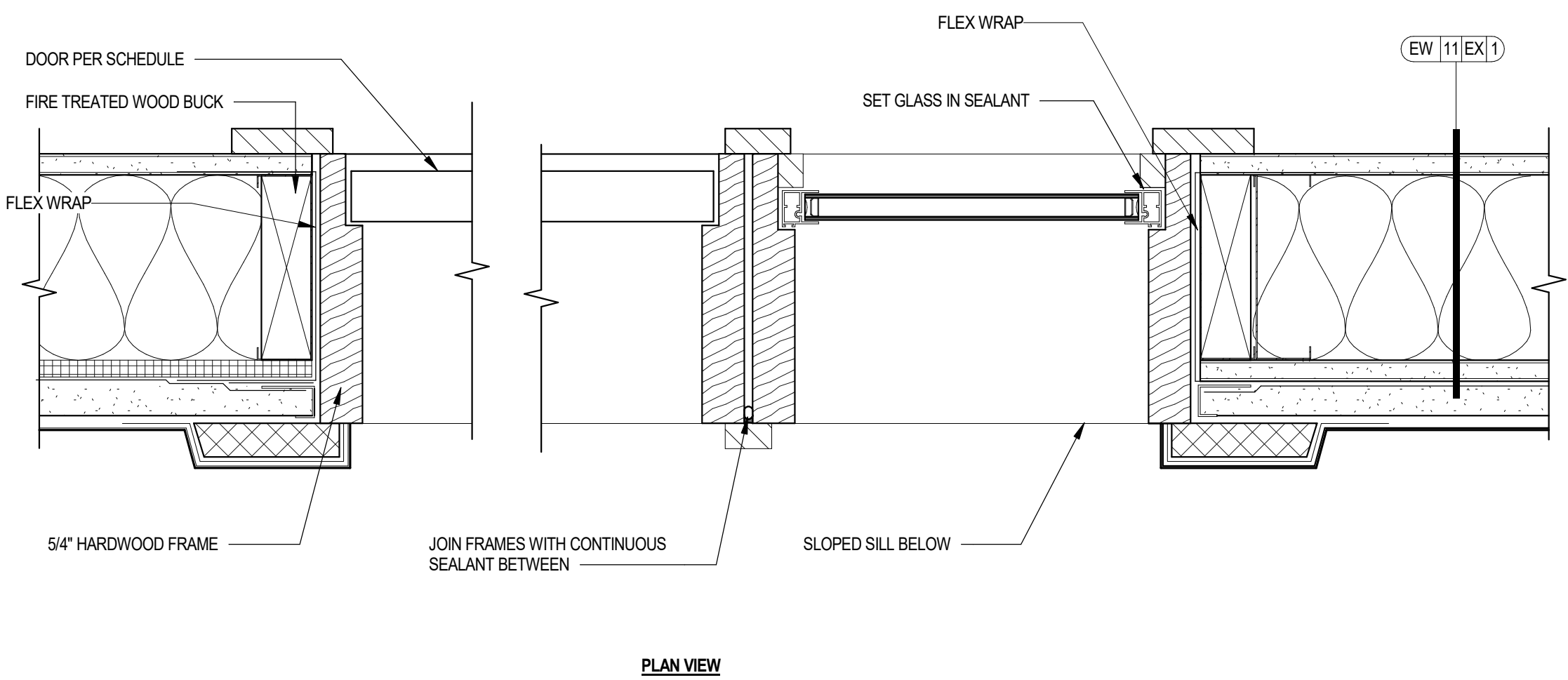
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 The owner's designated agent at ADVANCE RESIDENTIAL COMPANY, 2025 E. CAMDEN AVE, SUITE 500, PHOENIX, AZ 85016 (602) 778-2822.
 See the owner or its designated agent should provide this information to the contractor.

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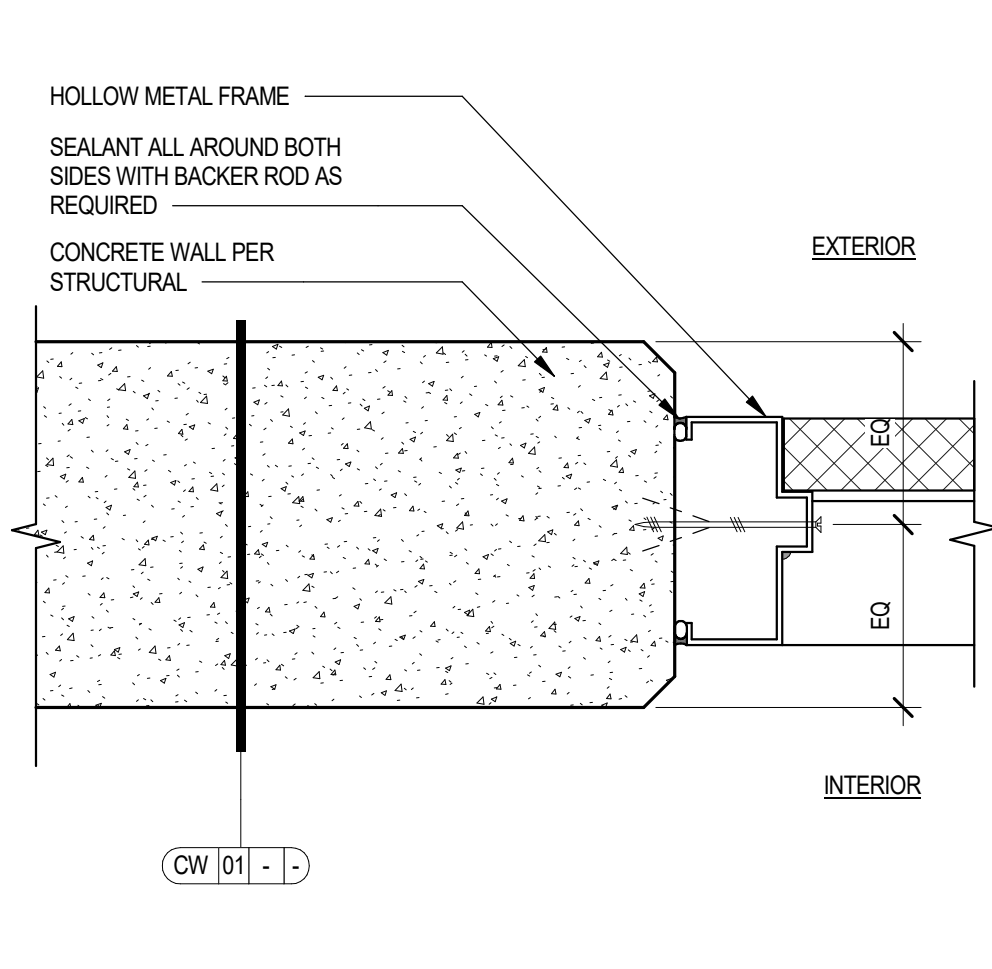
DATE: July 17, 2024 ORB #: 00-000

A7.4.90
 ROOF - CEILING DETAILS TILE & STANDING SEAM



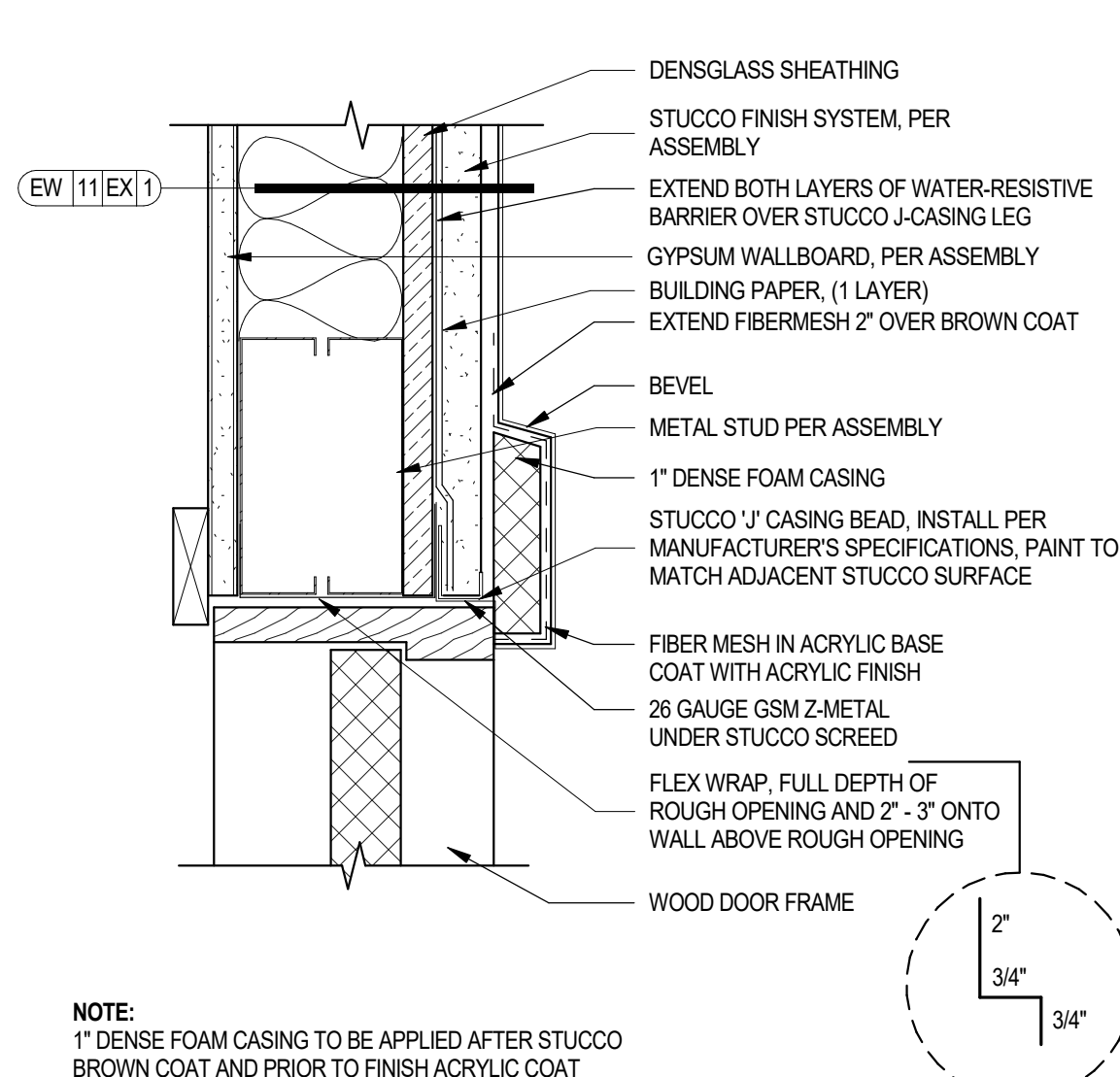
21 EXTERIOR WOOD DOOR & SIDELITE FRAME JAMBS

SCALE: 3" = 1'-0"



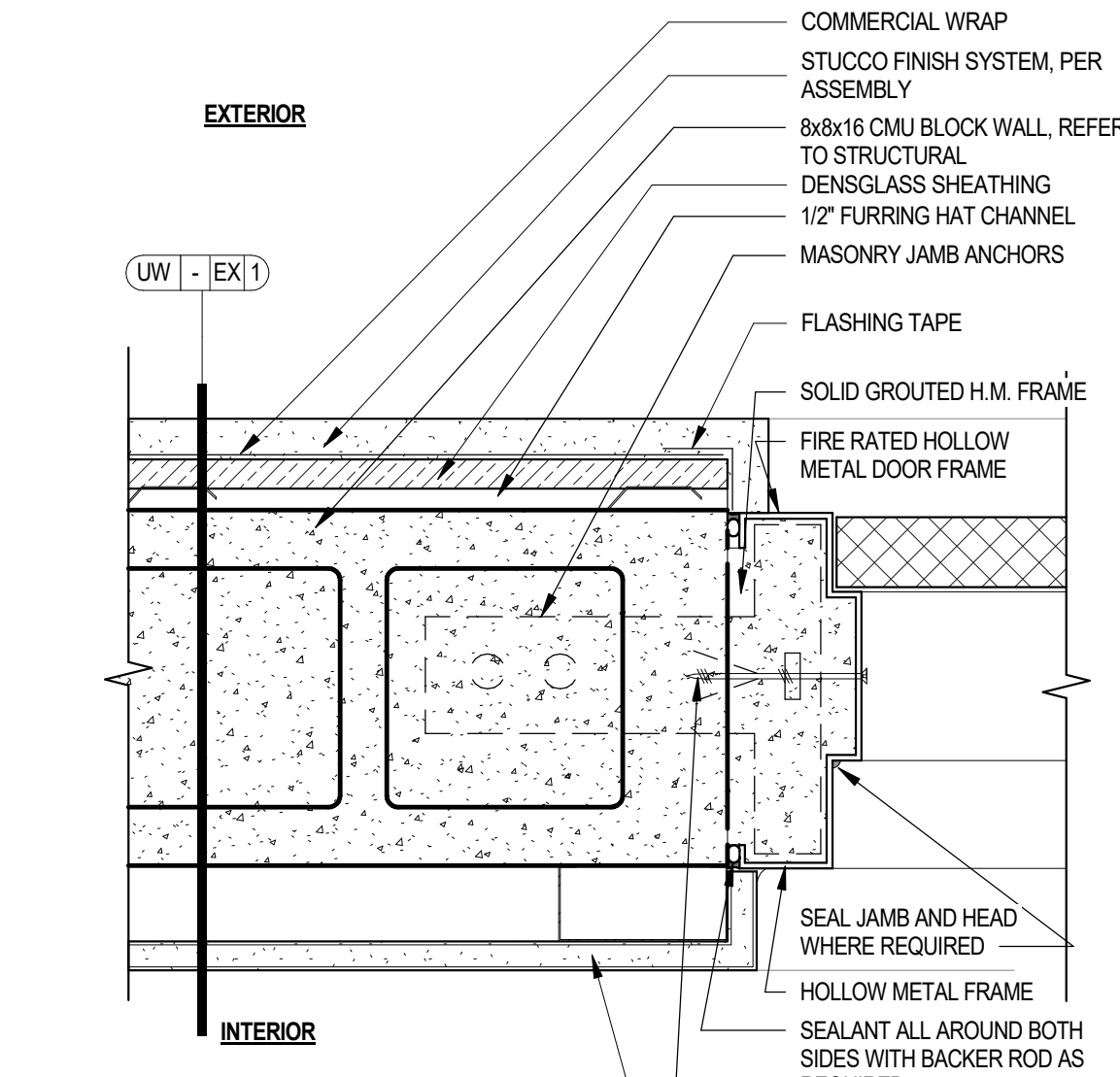
13 HOLLOW METAL DOOR FRAME @ CONCRETE WALL

SCALE: 3" = 1'-0"



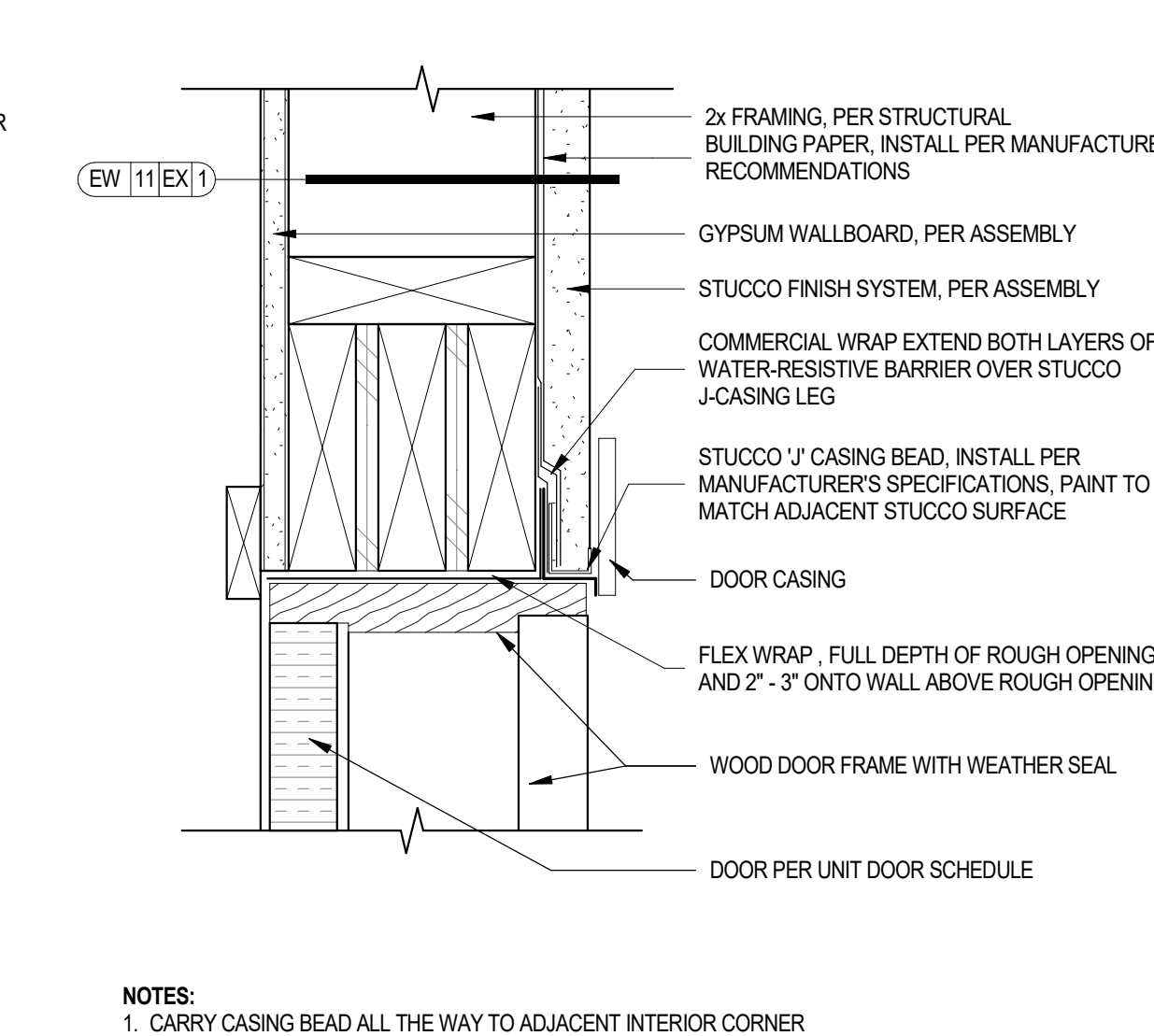
09 EXTERIOR WOOD DOOR FRAME HEAD AT METAL FRAMING

SCALE: 3" = 1'-0"



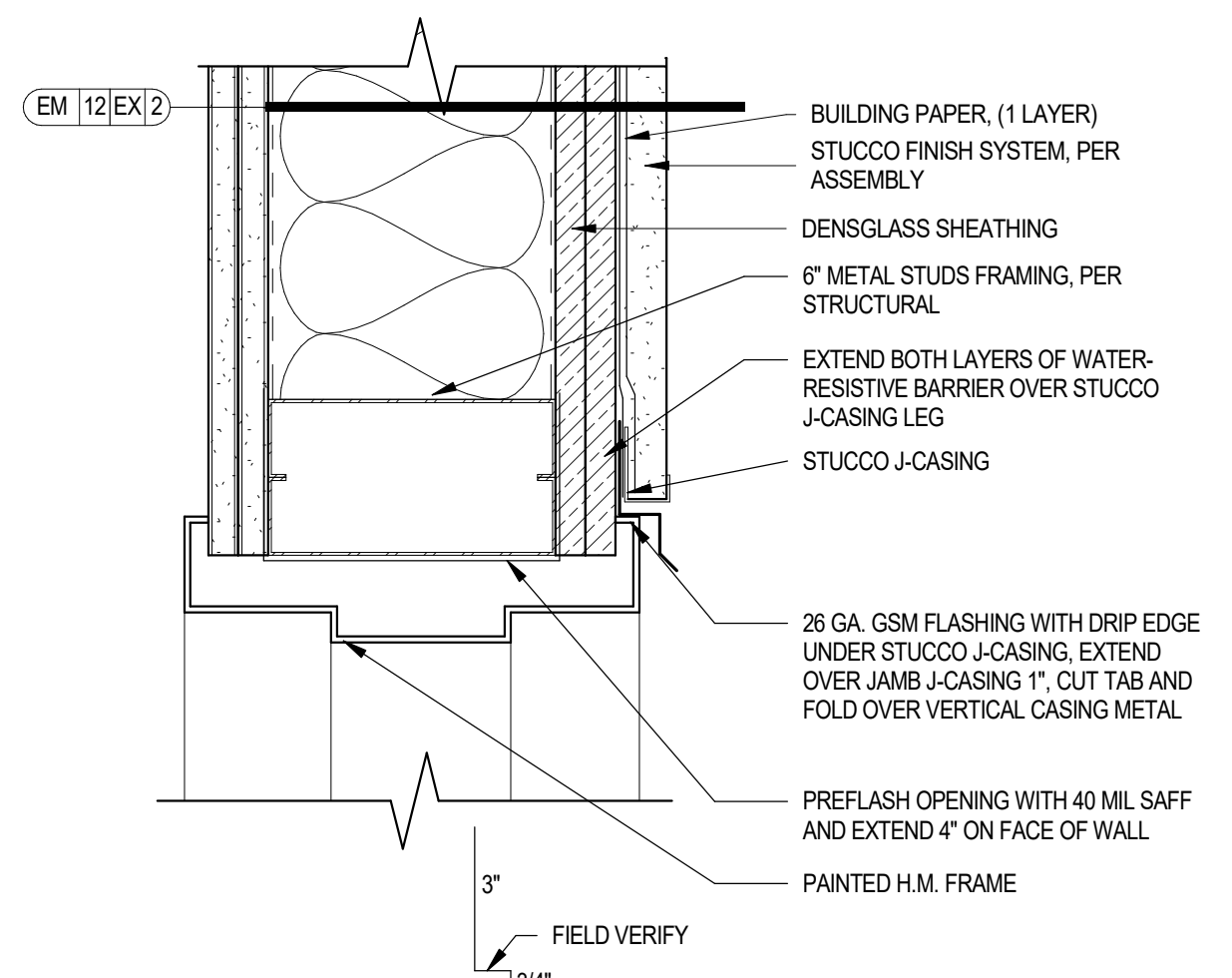
05 HM. DOOR JAMB AT CMU WALL W/ STUCCO FINISH

SCALE: 3" = 1'-0"



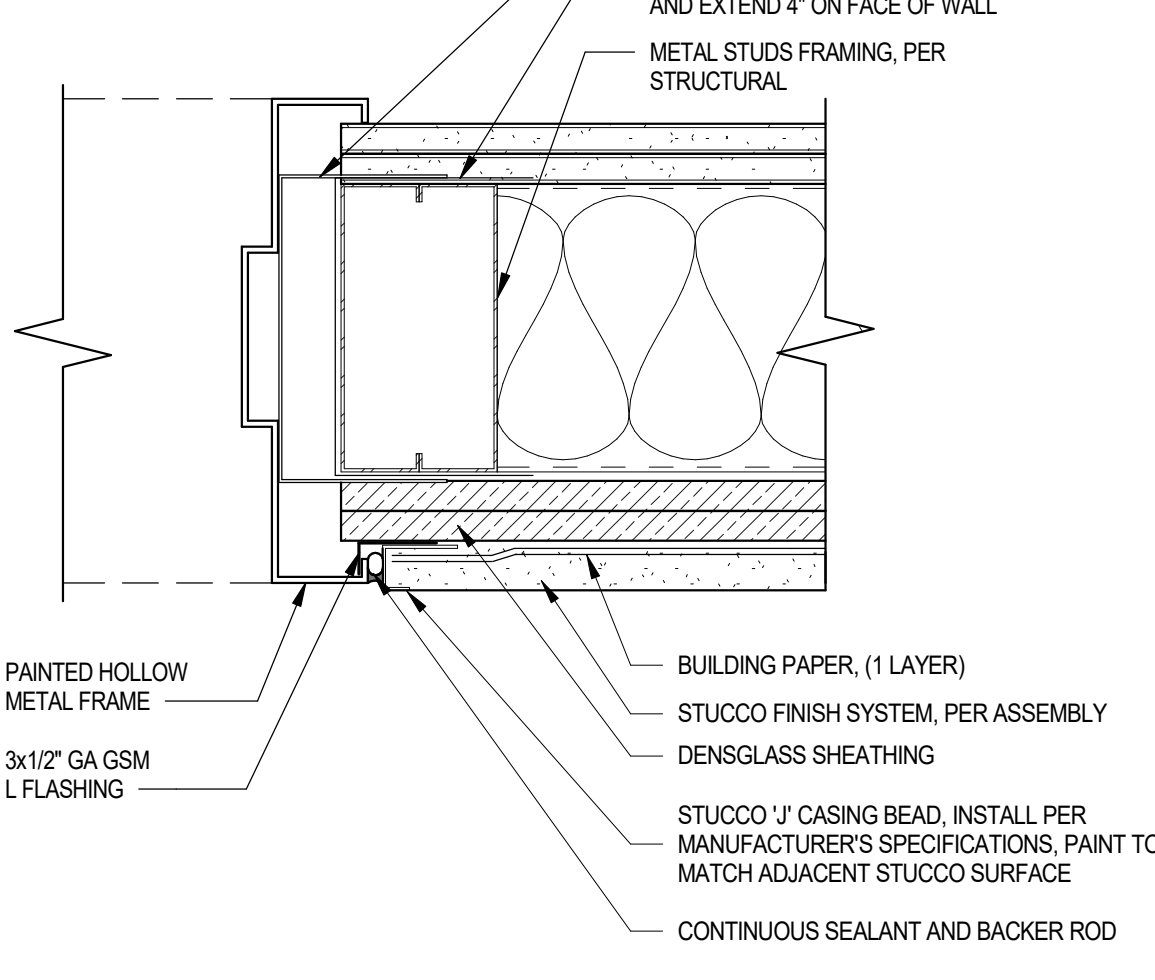
01 COVERED BALCONY DOOR HEAD

SCALE: 3" = 1'-0"



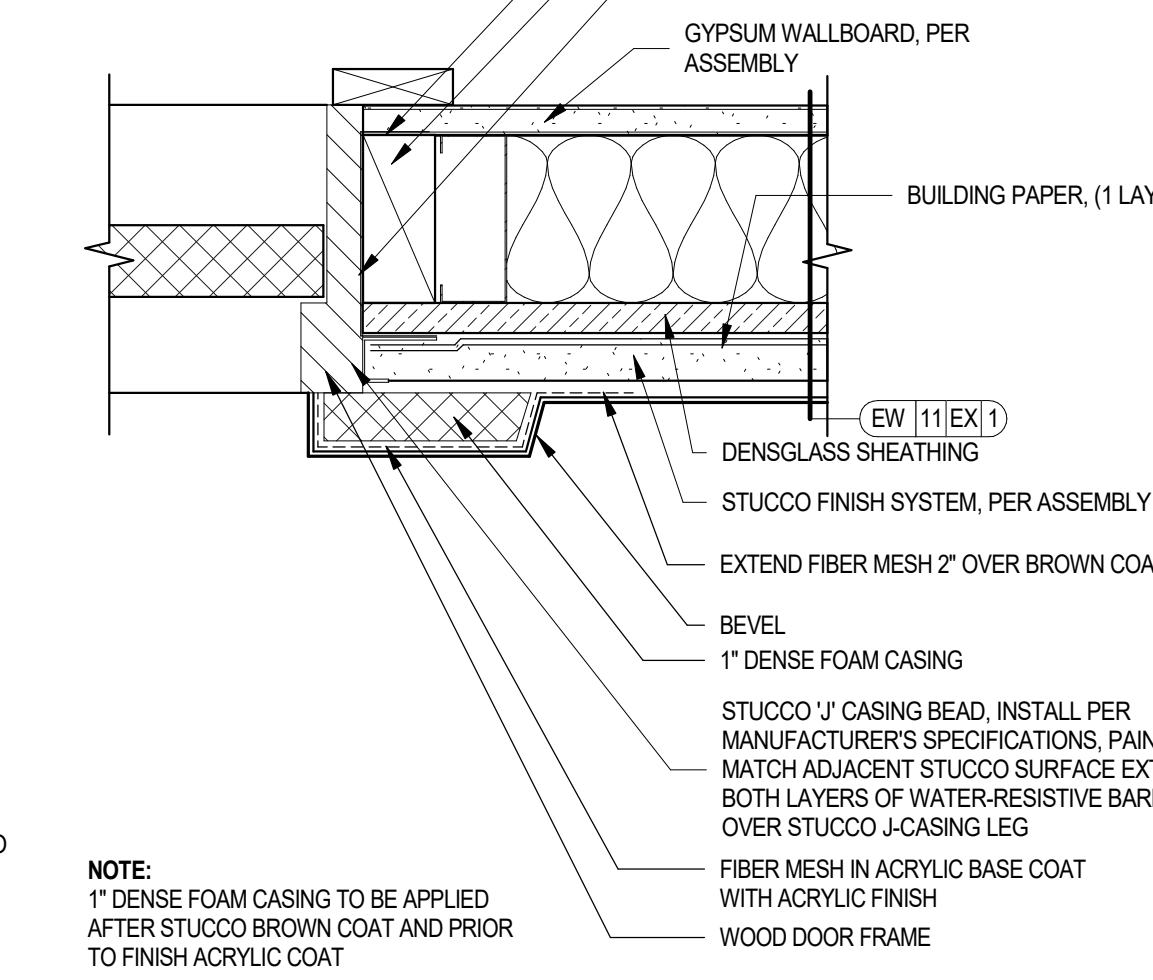
18 EXTERIOR HOLLOW METAL DOOR HEAD AT 2 HR METAL FRAMING

SCALE: 3" = 1'-0"



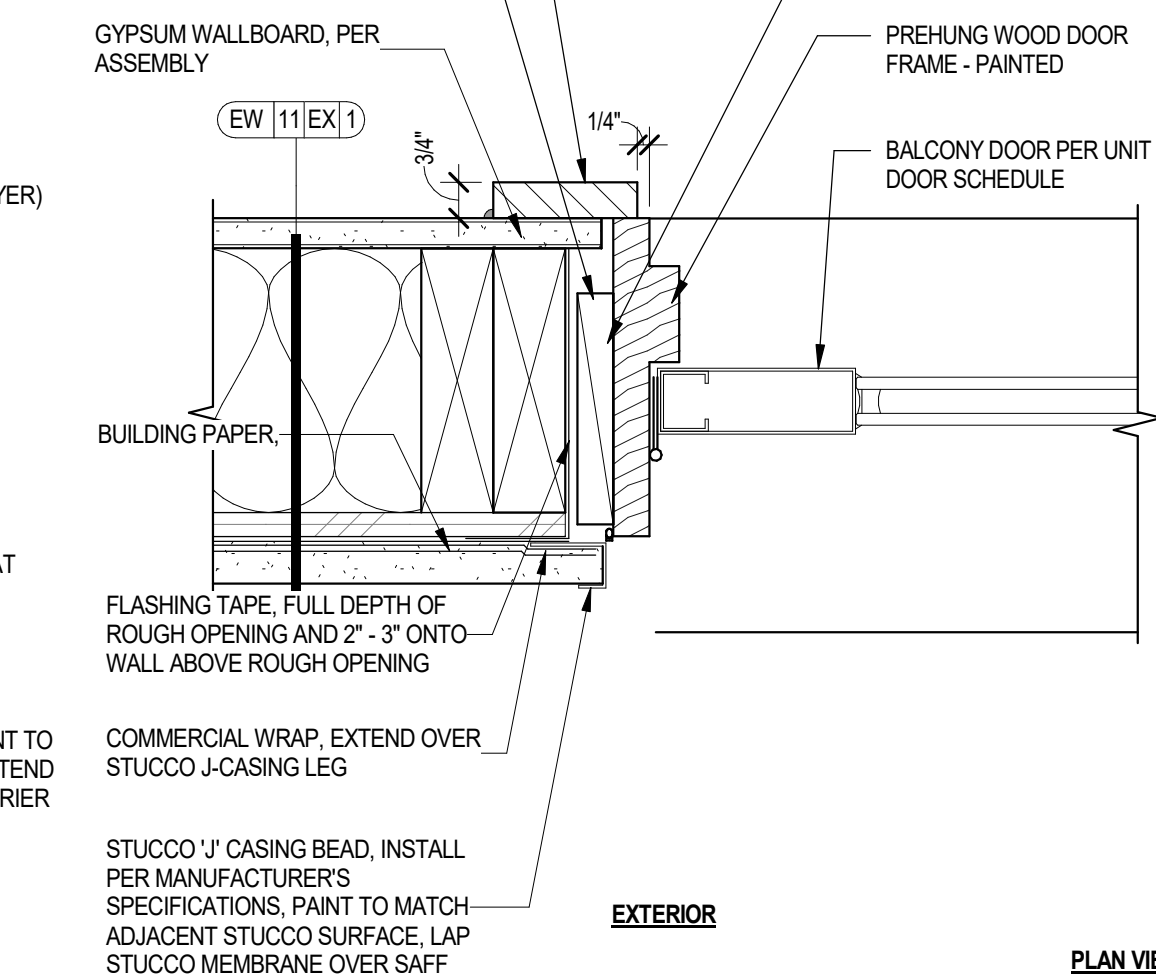
14 EXTERIOR HOLLOW METAL DOOR JAMB AT 2 HR METAL FRAMING

SCALE: 3" = 1'-0"



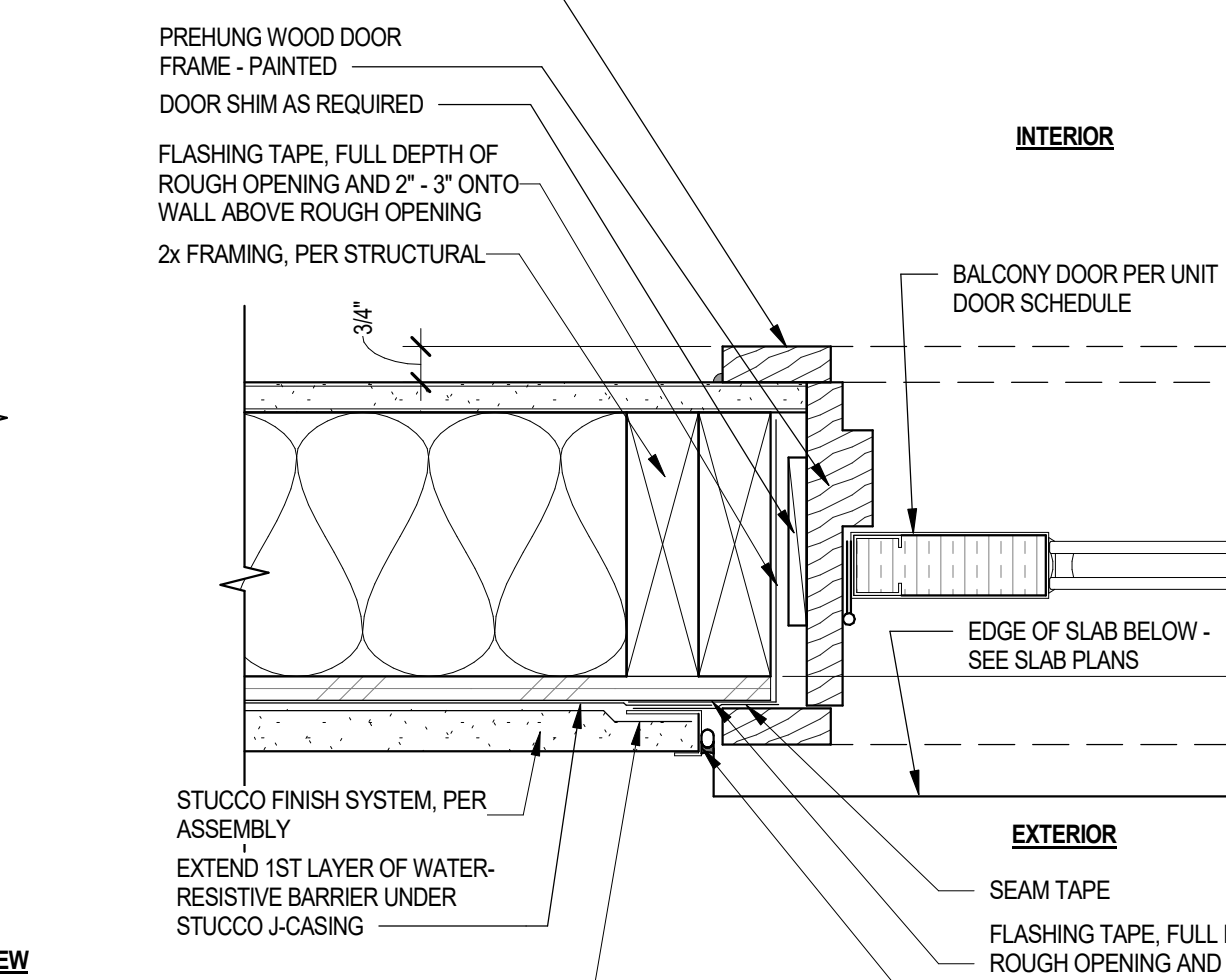
10 EXTERIOR WOOD DOOR FRAME JAMB AT METAL FRAMING

SCALE: 3" = 1'-0"



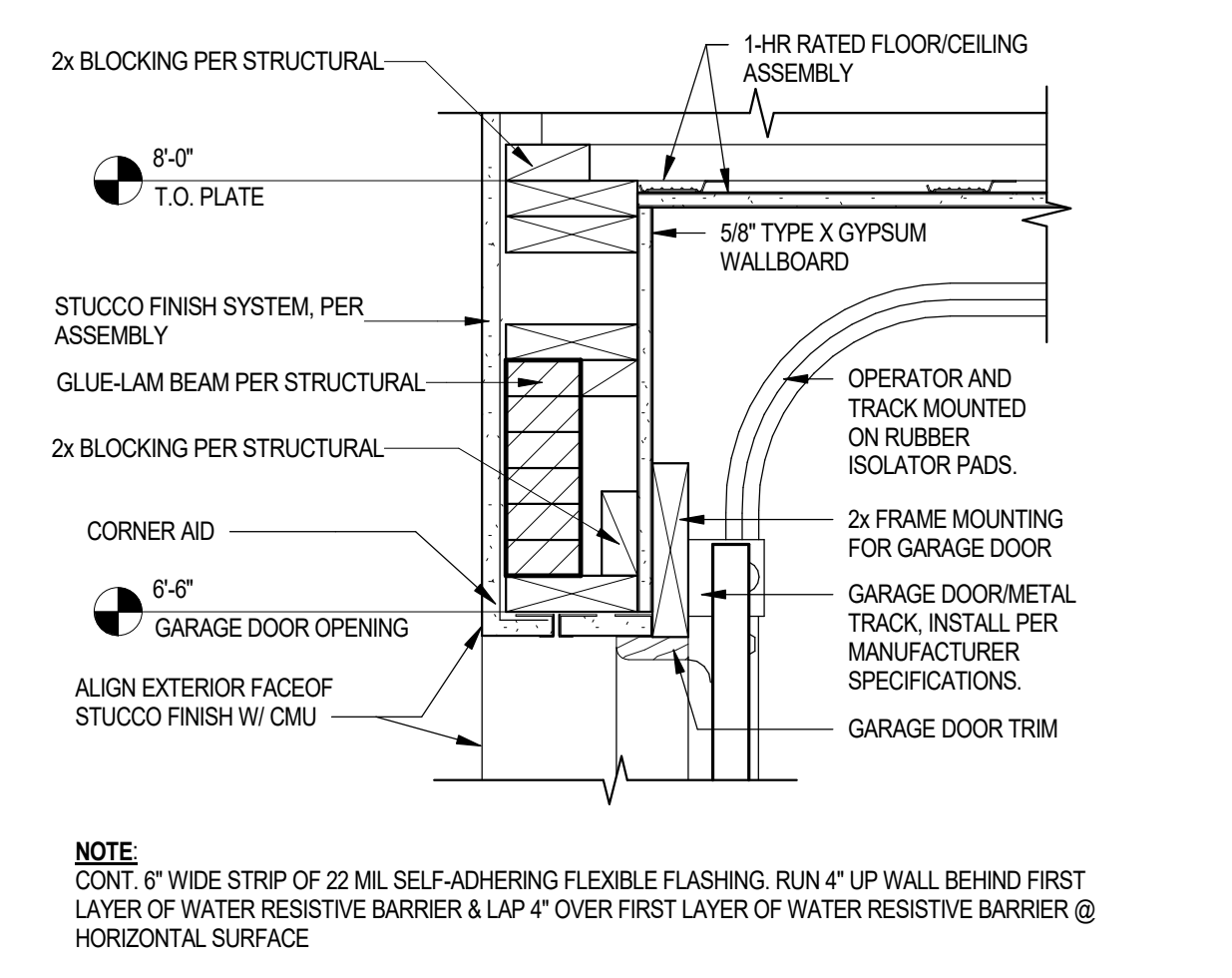
06 JULIETTE BALCONY DOOR JAMB

SCALE: 3" = 1'-0"



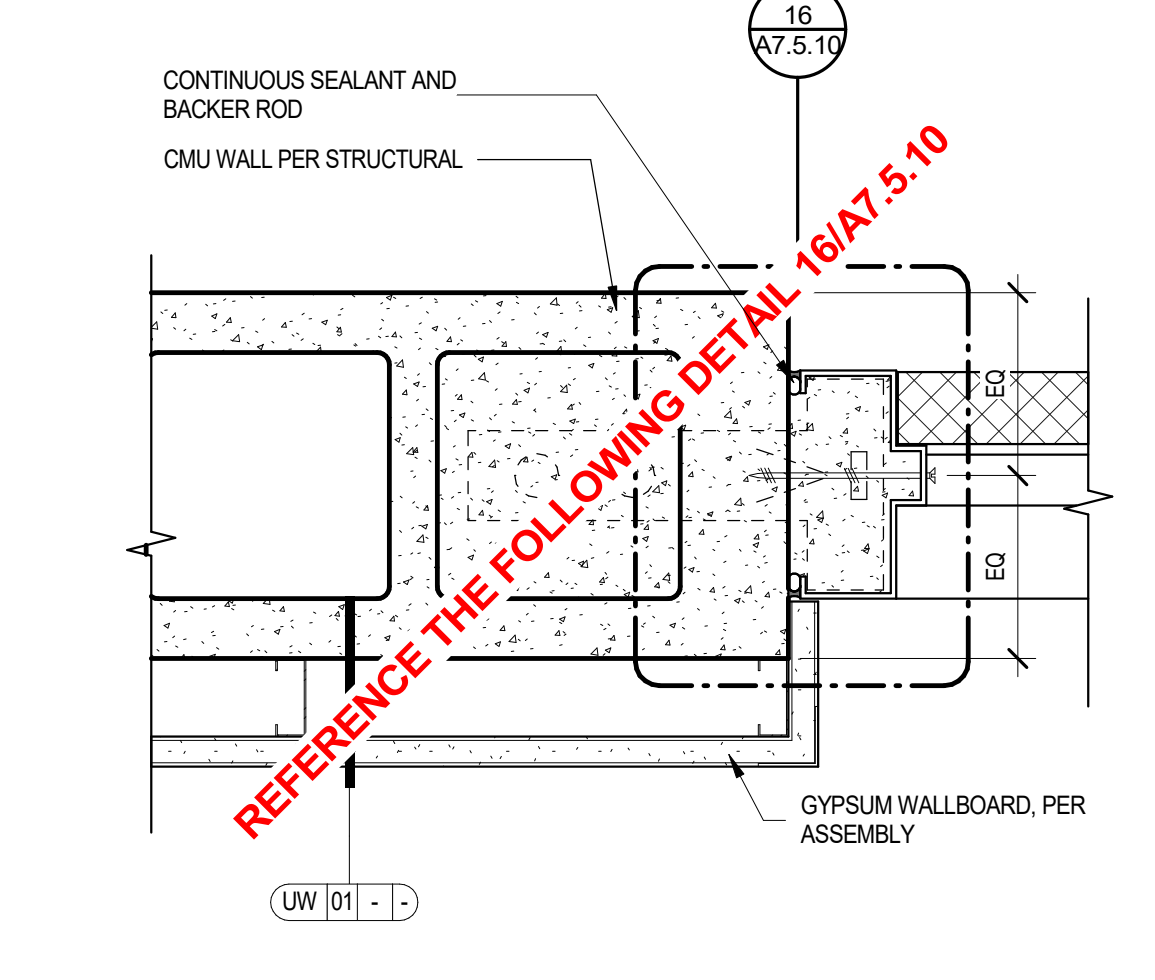
02 COVERED BALCONY FIBERGLASS DOOR JAMB

SCALE: 3" = 1'-0"



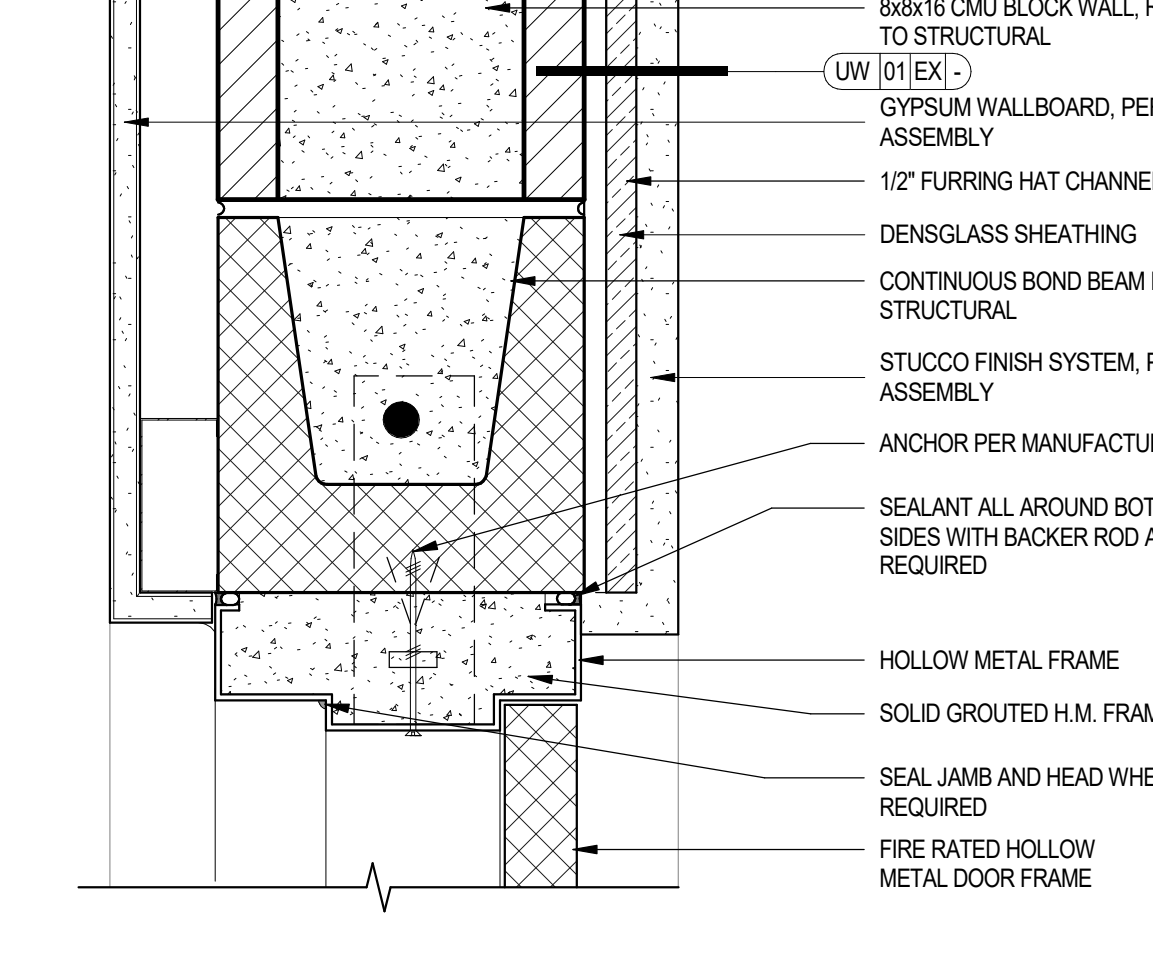
19 GARAGE DOOR HEAD - CARRIAGE BLDG.

SCALE: 1 1/2\"/>



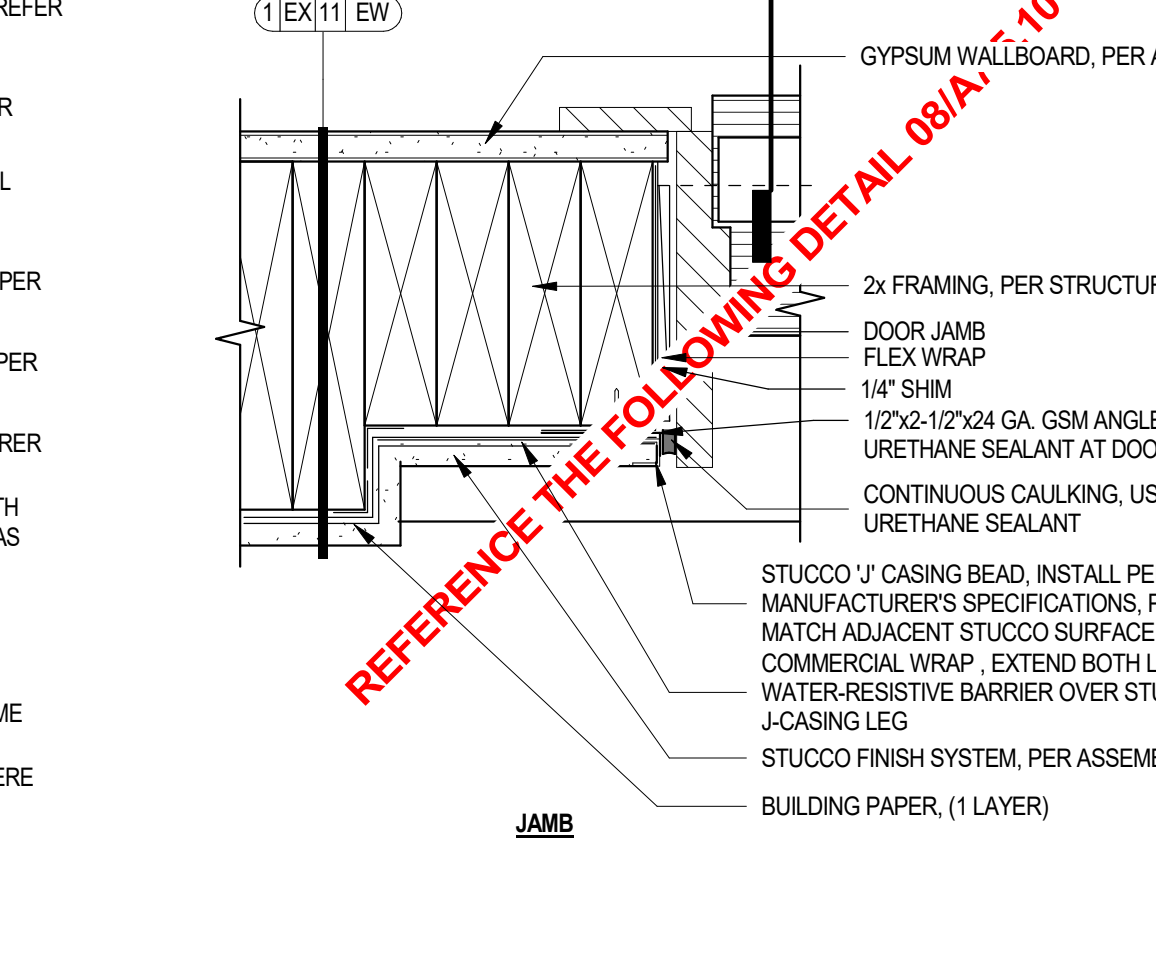
15 FURROWED CMU WALL AT HM DOOR JAMB INTERIOR WALL

SCALE: 3" = 1'-0"



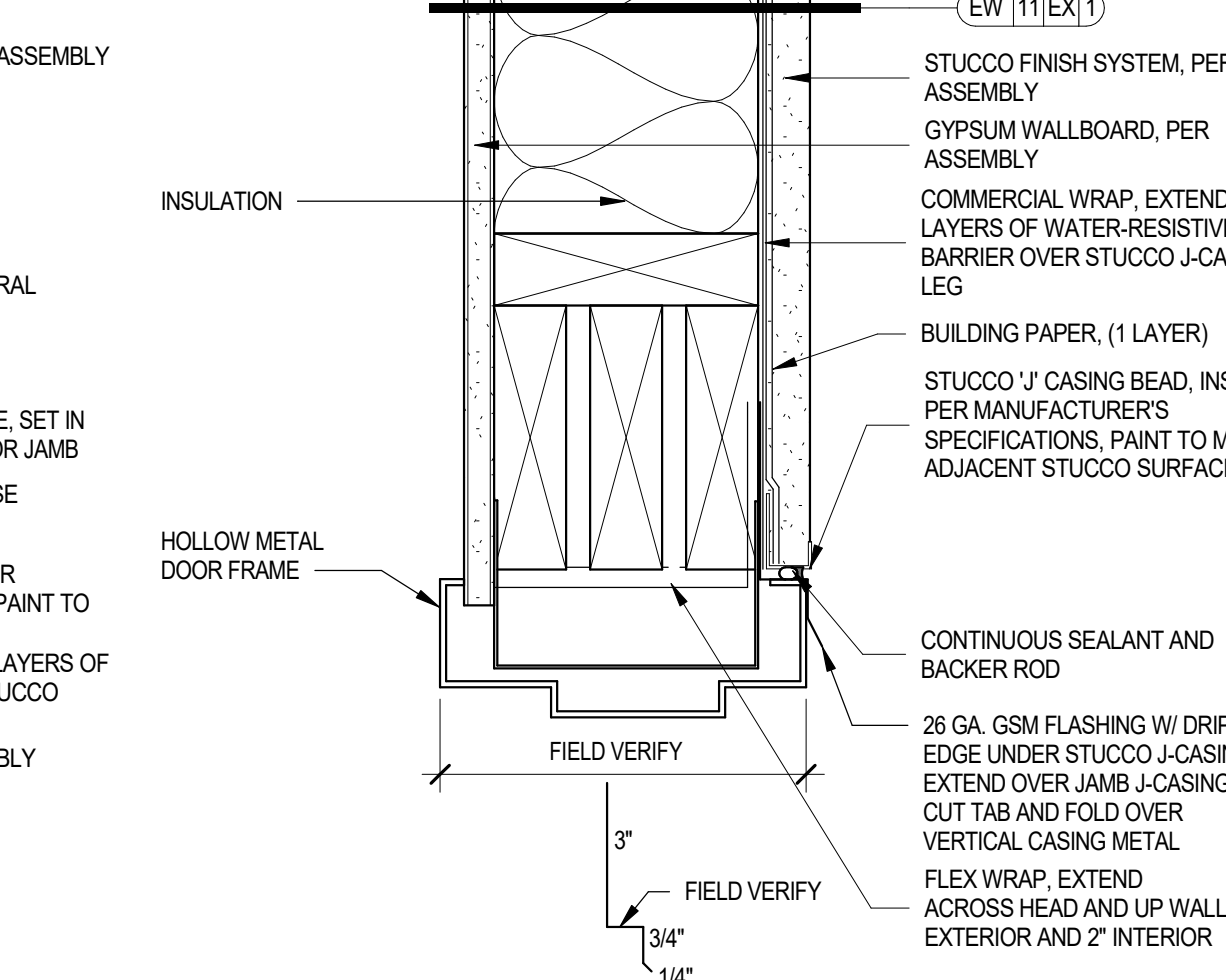
11 HM. DOOR HEAD AT CMU WALL W/ STUCCO FINISH

SCALE: 3" = 1'-0"



07 RECESSED JULIETTE DOOR @ JAMB

SCALE: 3" = 1'-0"



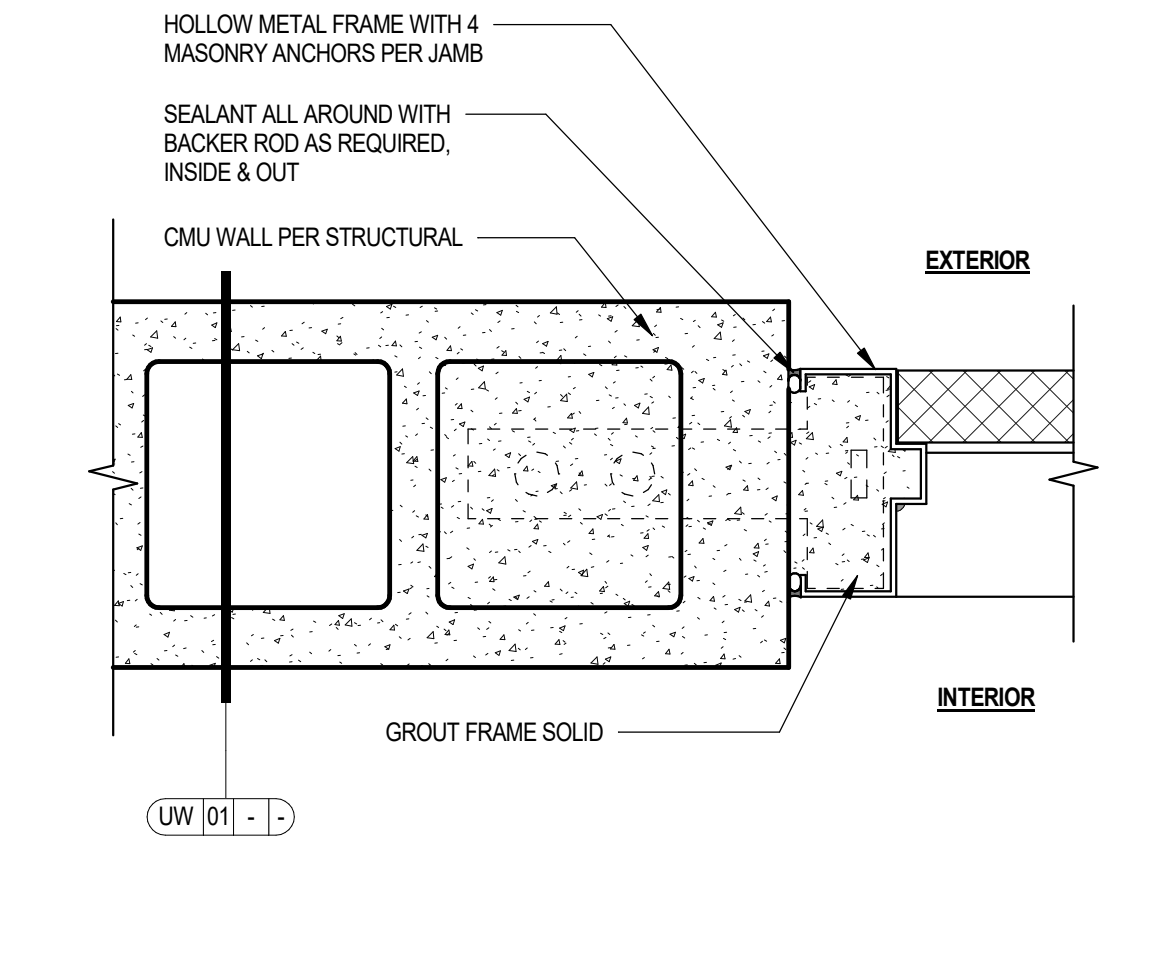
03 EXTERIOR HOLLOW METAL FRAME - HEAD

SCALE: 3" = 1'-0"



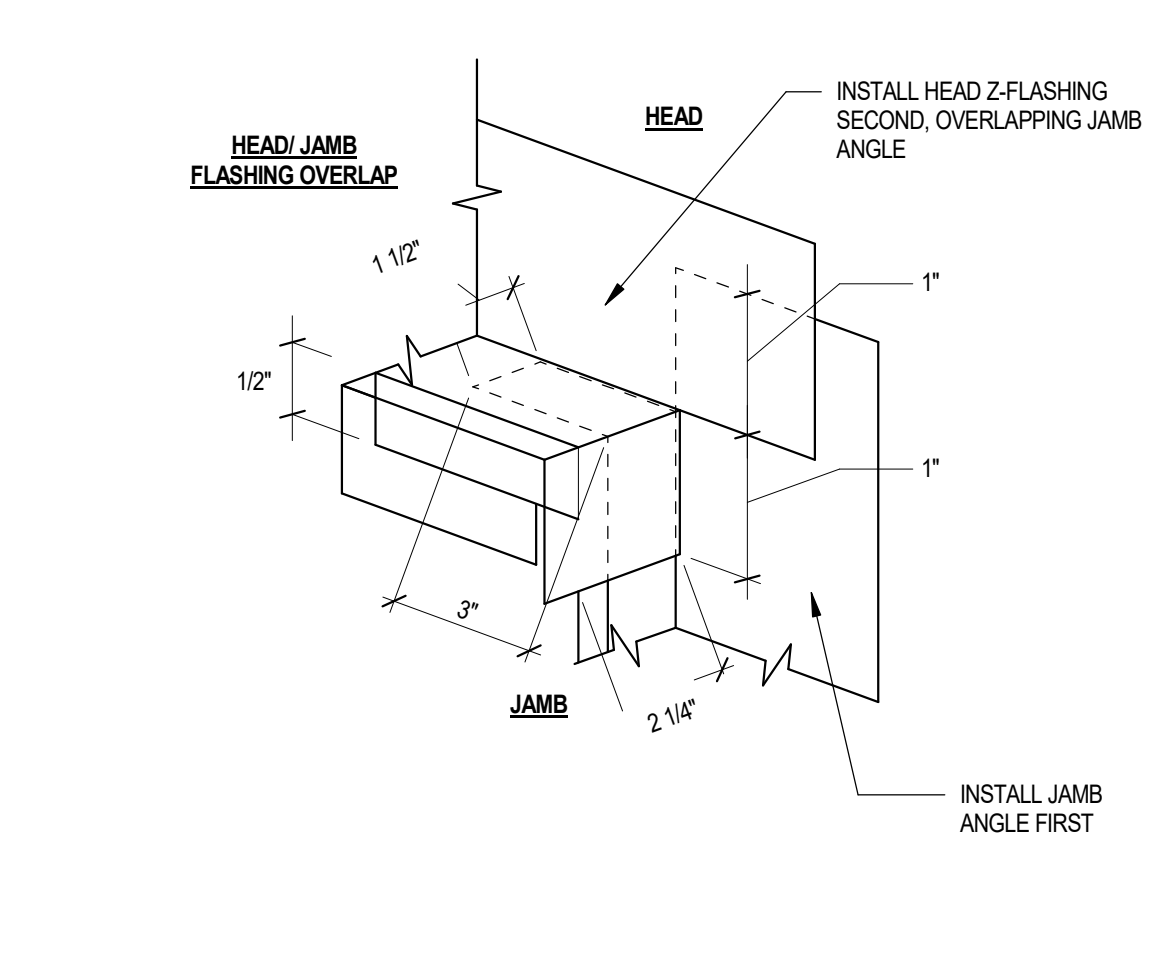
16 HOLLOW METAL DOOR JAMB @ CMU WALL EXTERIOR OR NON-FINISHED CONDITIONS

SCALE: 3" = 1'-0"



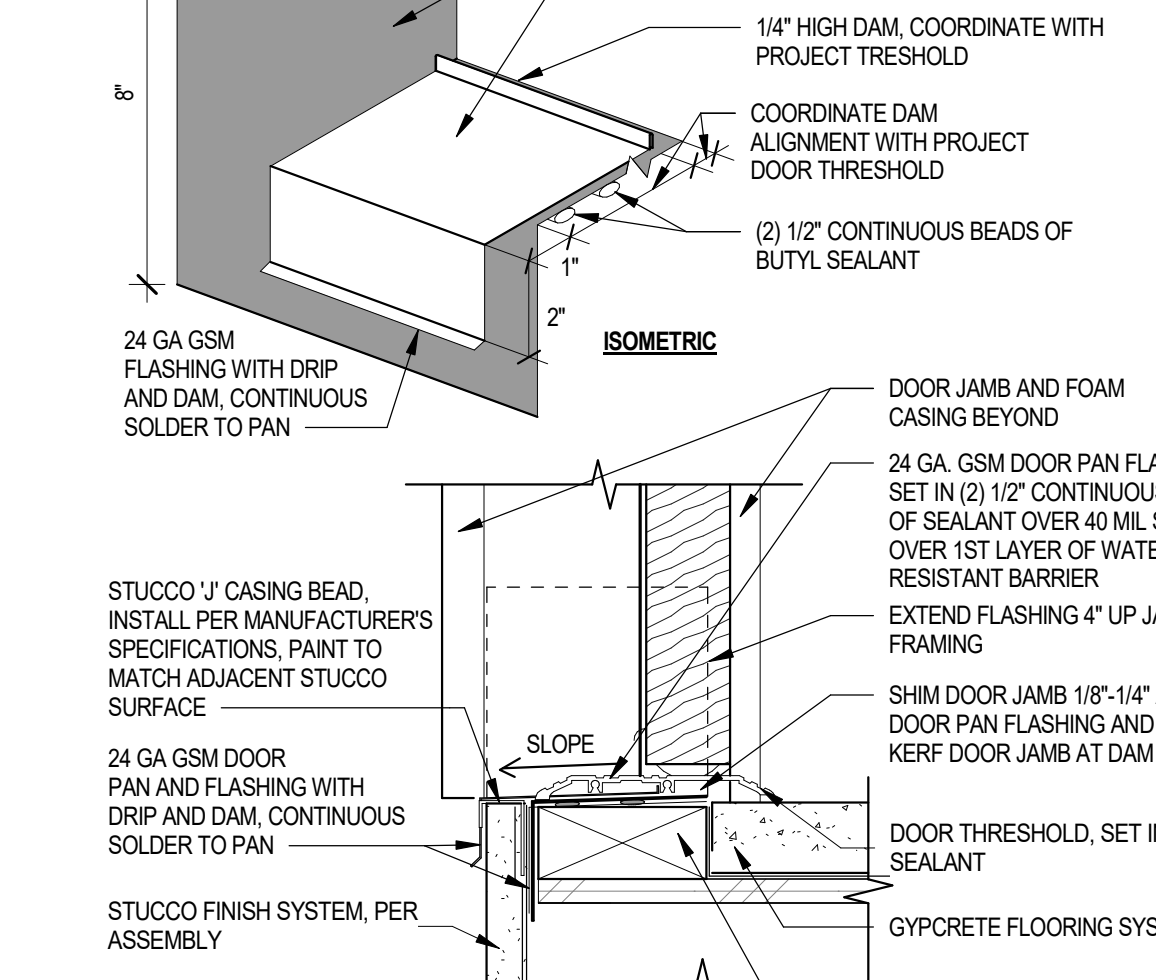
12 STUCCO FLASHING DOOR HEAD @ CORNER

SCALE: 3" = 1'-0"



08 JULIETTE DOOR SILL @ UPPER LEVELS

SCALE: 3" = 1'-0"



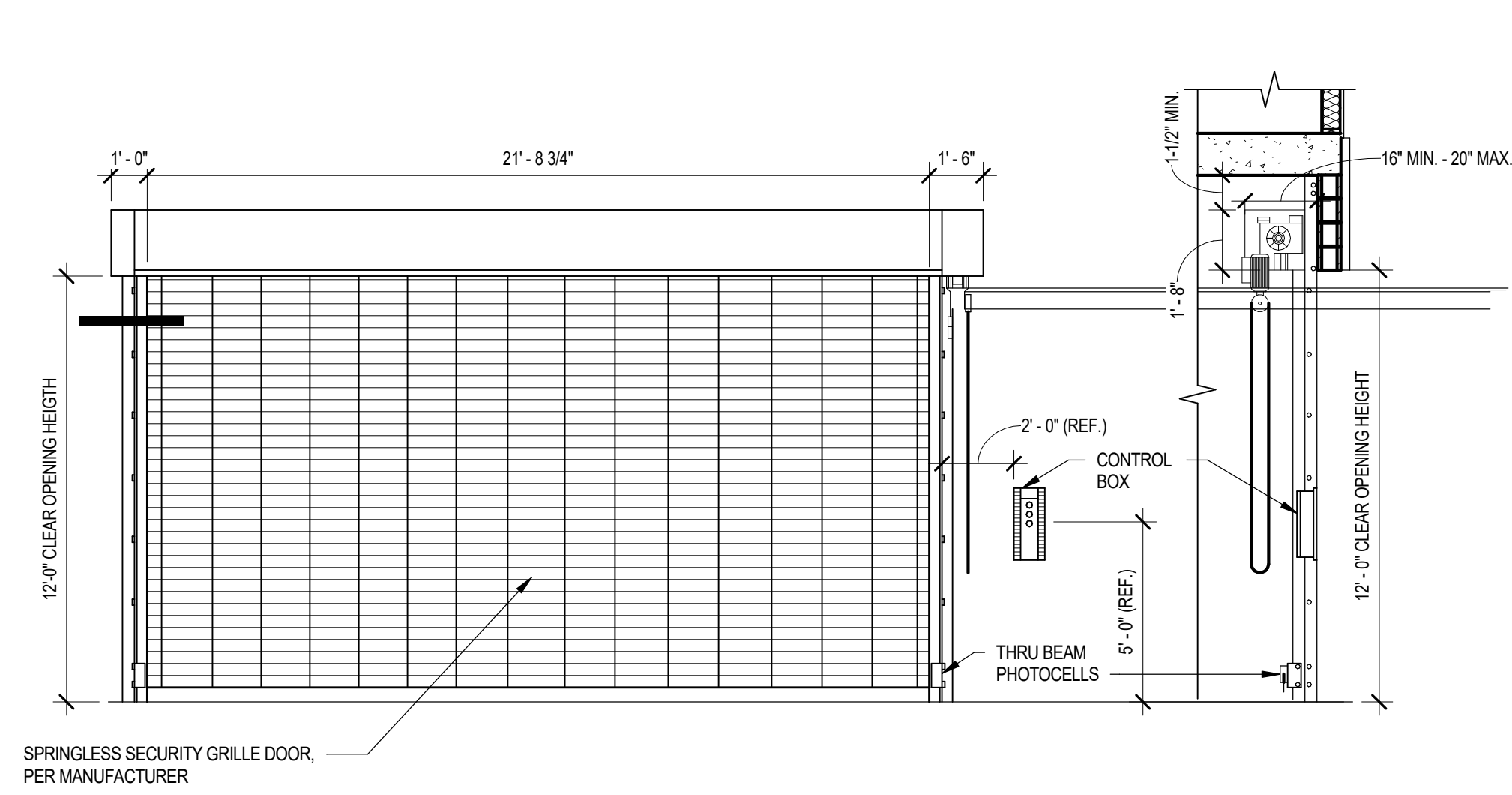
04 EXTERIOR HOLLOW METAL FRAME - JAMB

SCALE: 3" = 1'-0"

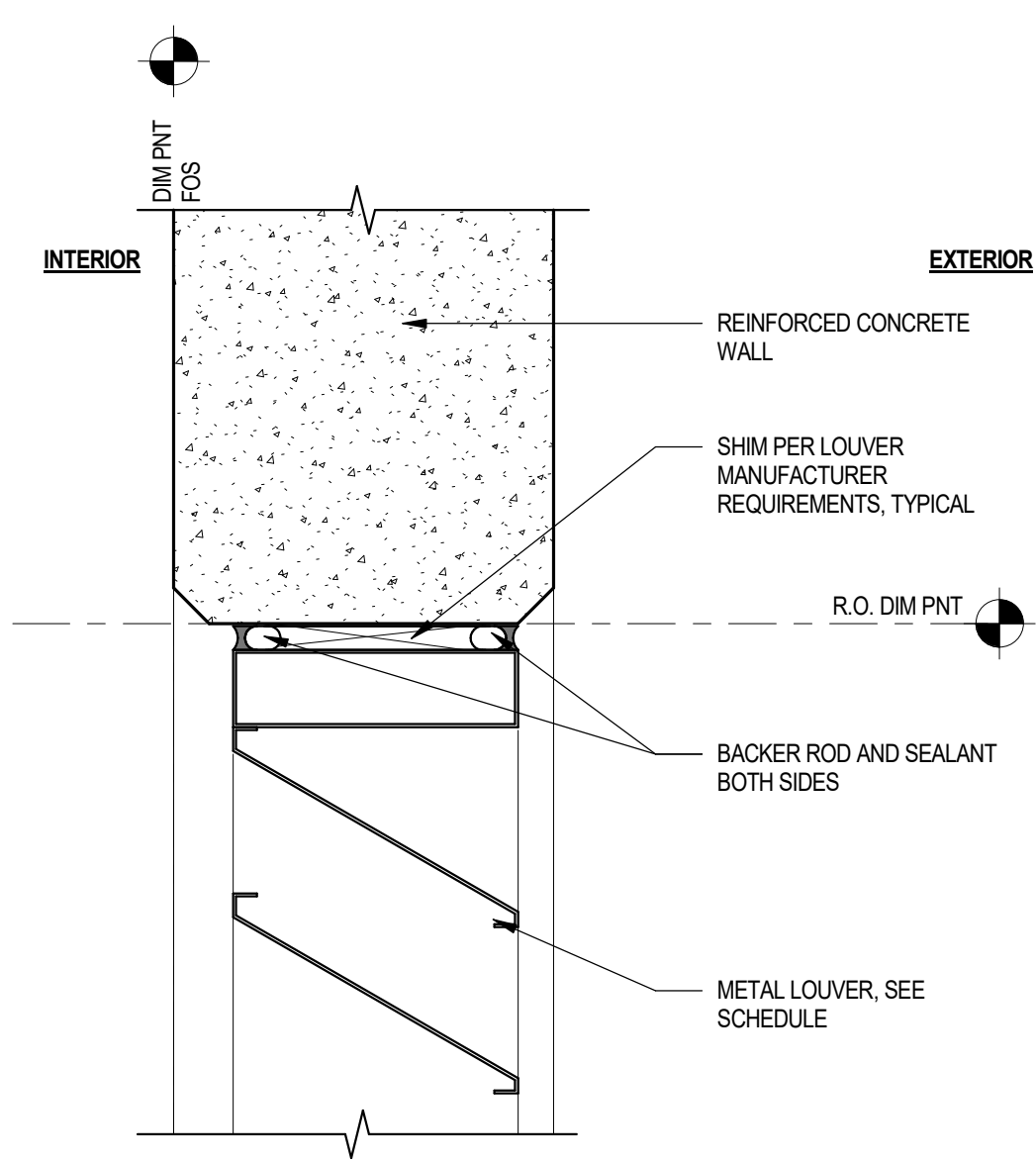
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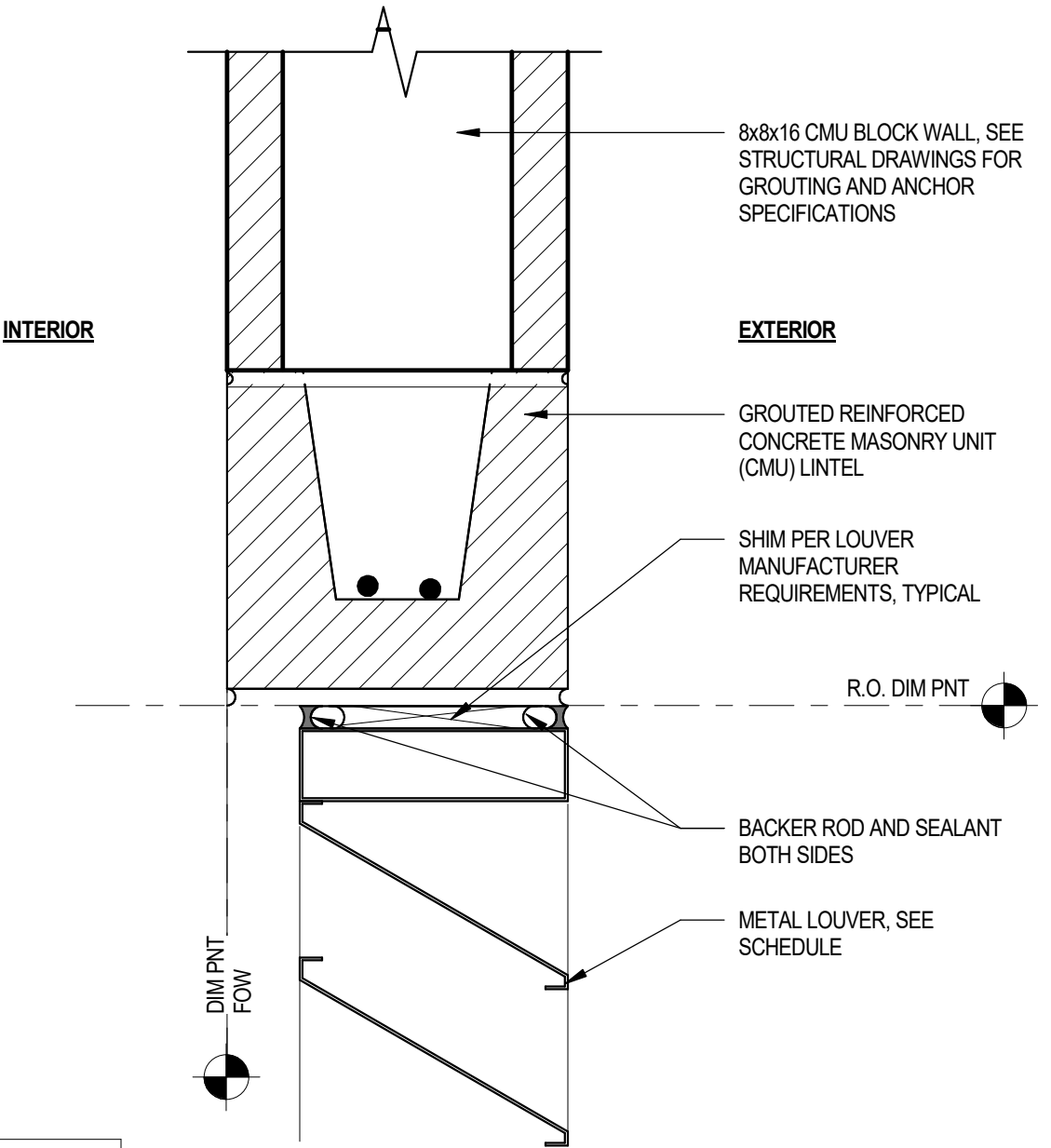
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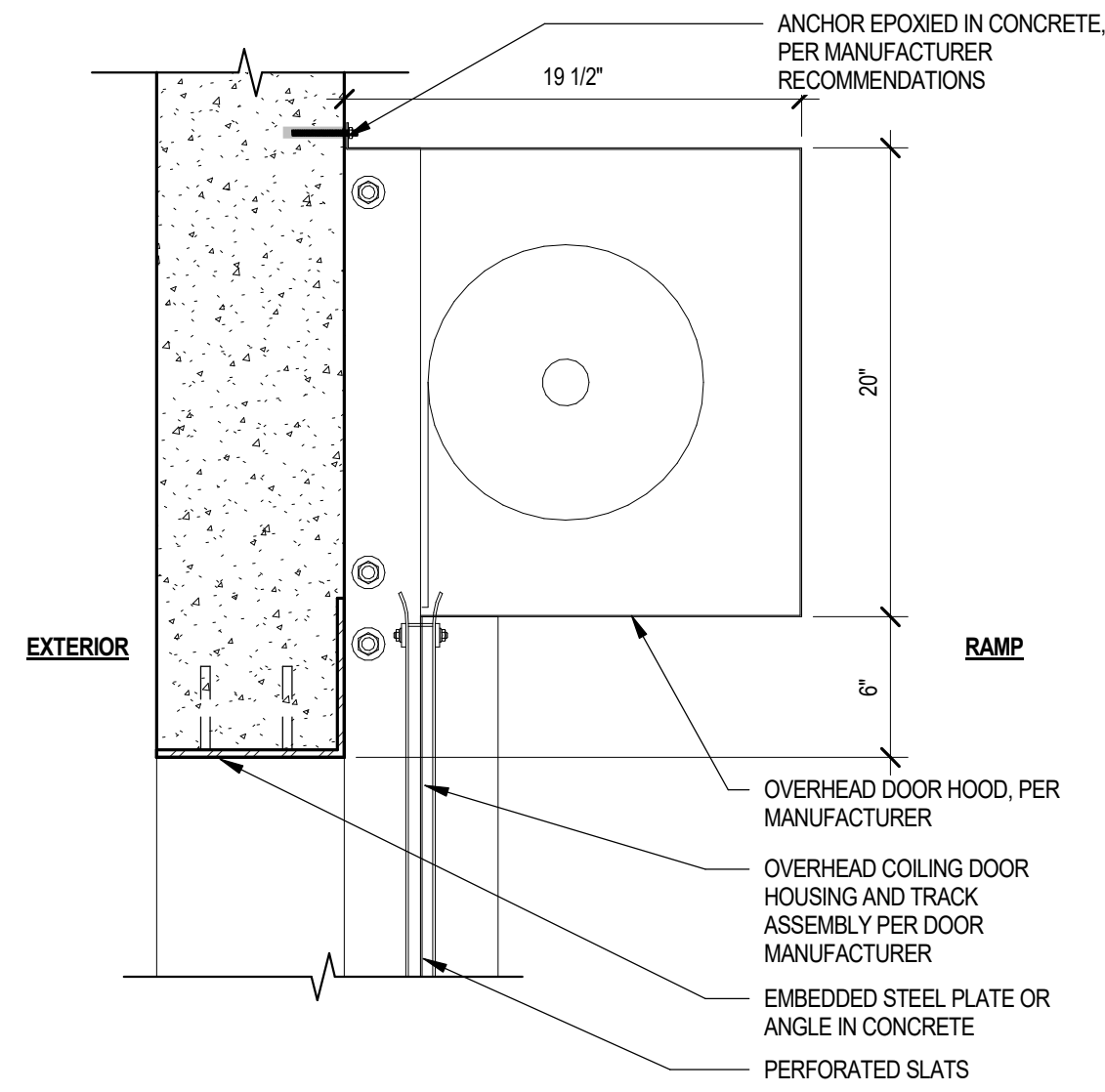
41 SPRINGLESS SECURITY GRILLE DOOR SCALE: 1/4" = 1'-0"



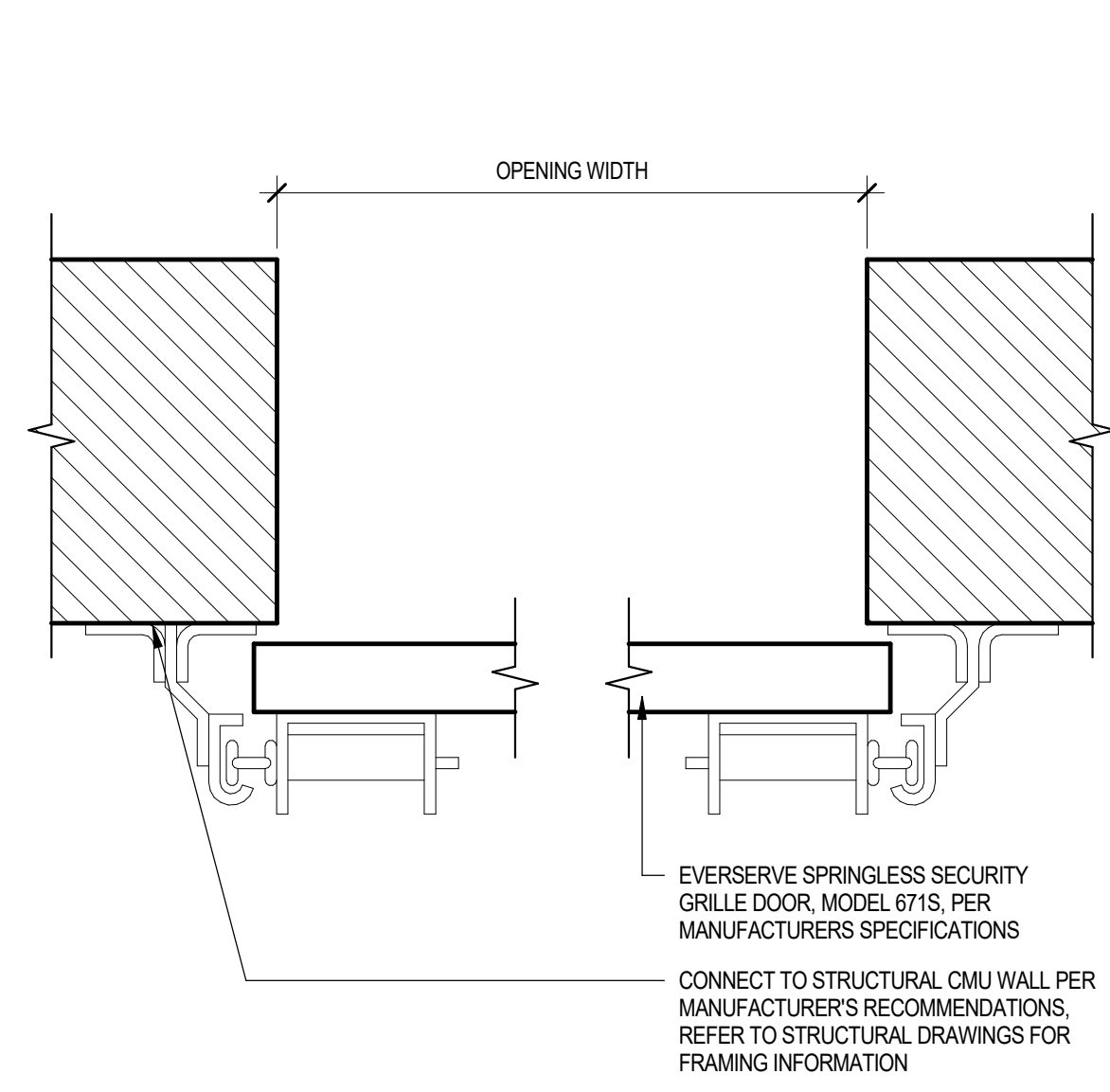
33 LOUVER HEAD AT CONCRETE WALL SCALE: 3" = 1'-0"



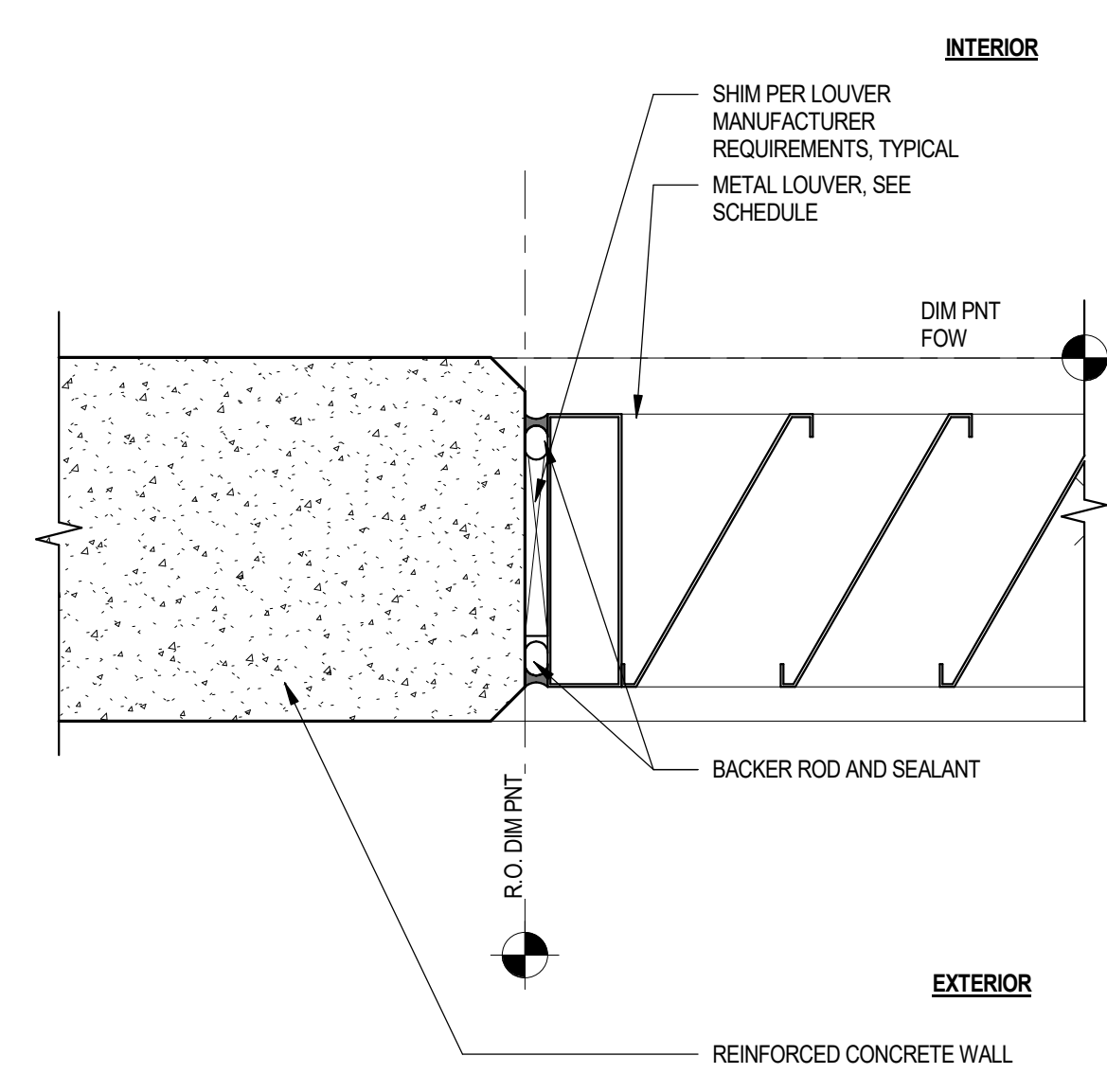
29 LOUVER HEAD AT CMU WALL SCALE: 3" = 1'-0"



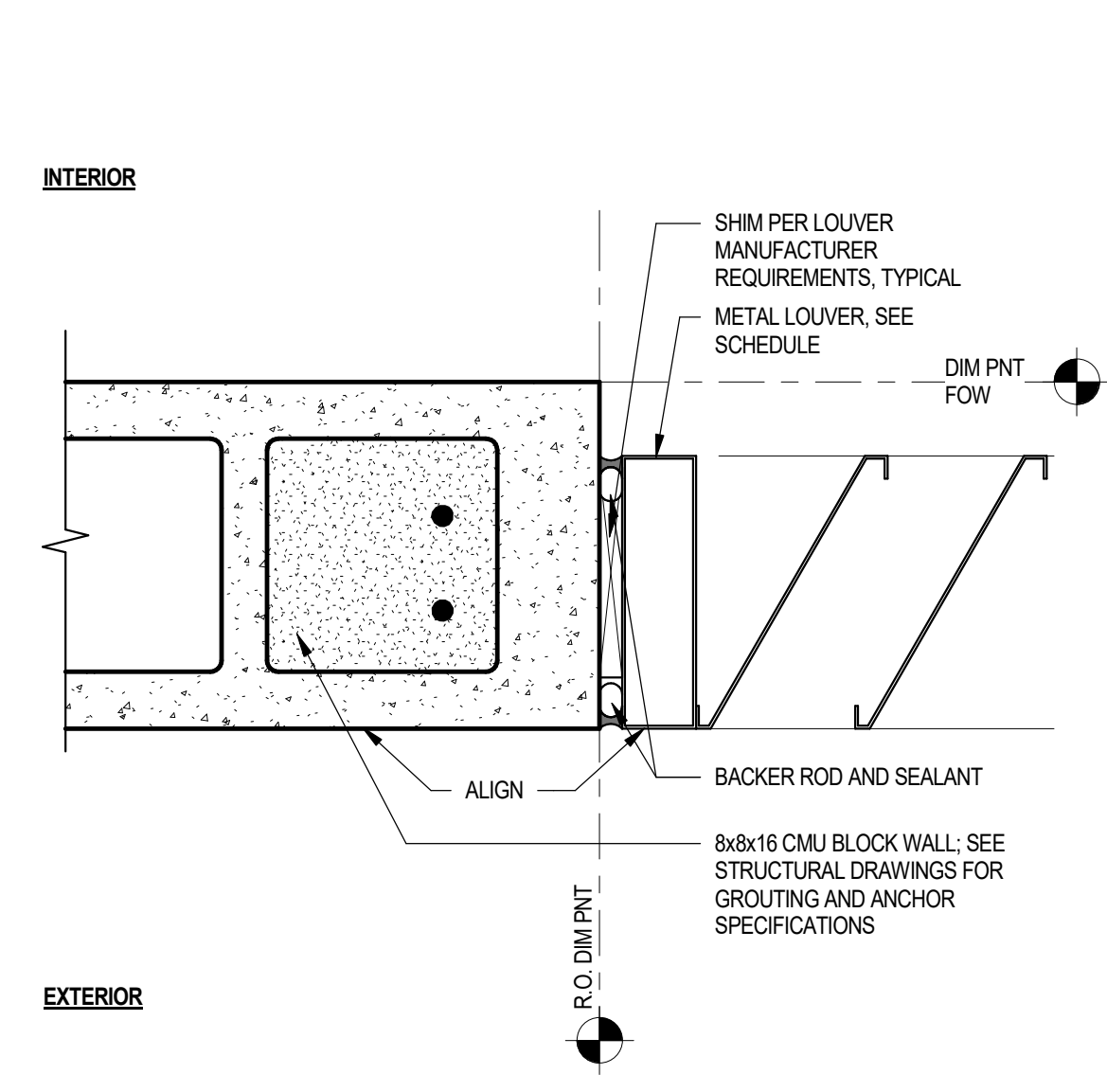
25 OVERHEAD COILING DOOR - HEAD SCALE: 1 1/2" = 1'-0"



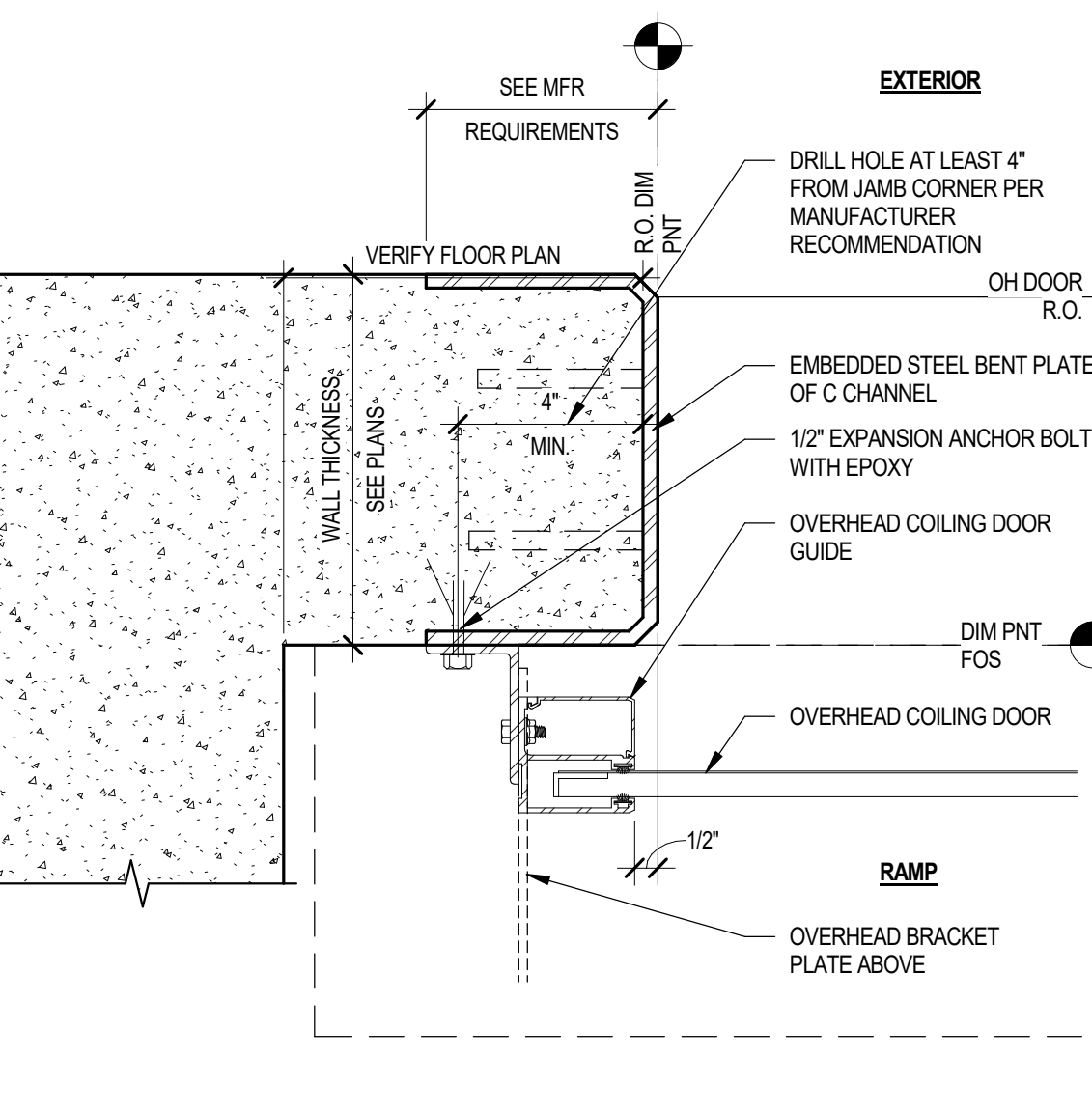
38 EVERSERVE SPRINGLESS SECURITY GRILLE DOOR - JAMB DETAIL SCALE: 3" = 1'-0"



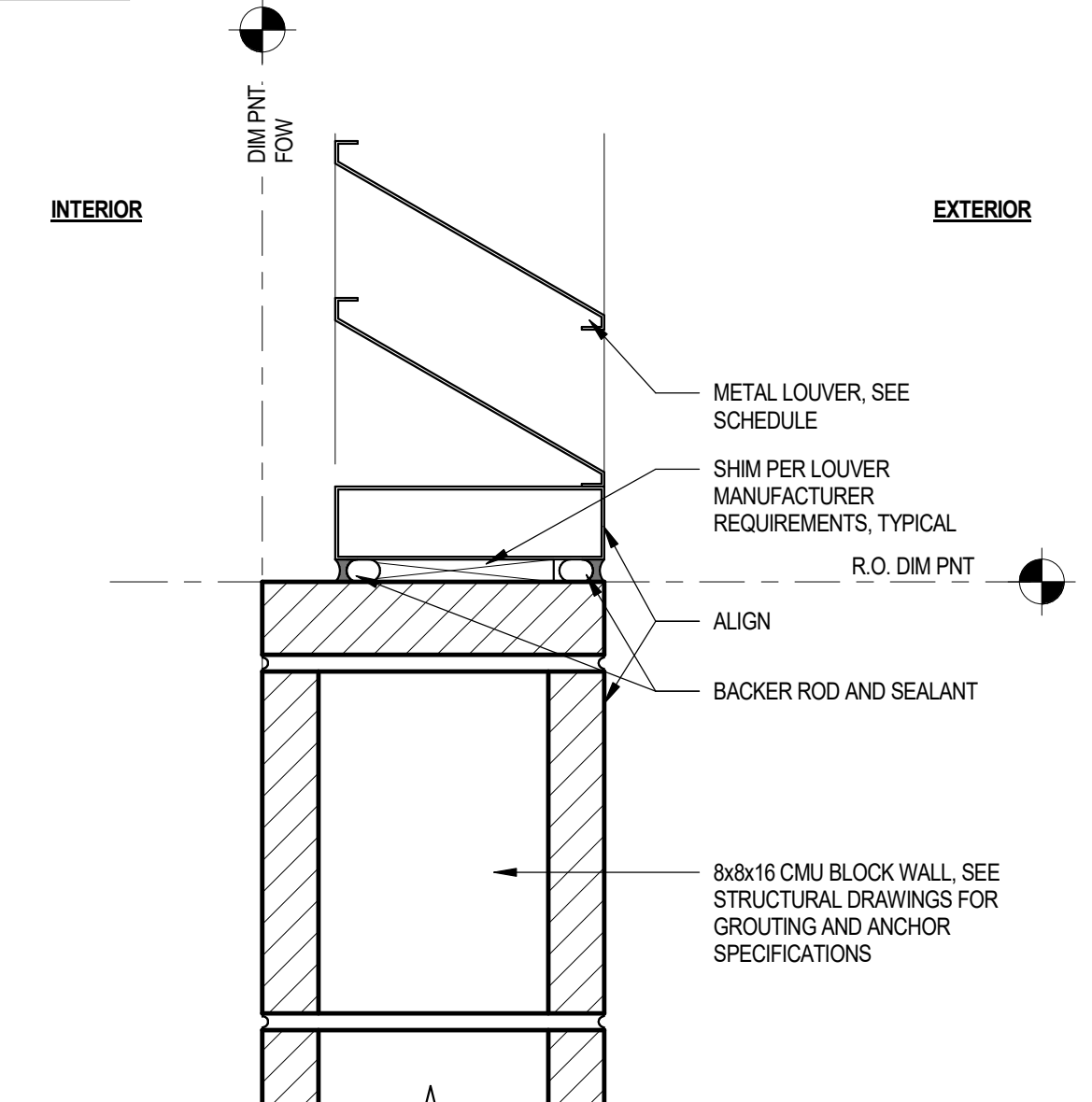
34 LOUVER JAMB AT CONCRETE WALL SCALE: 3" = 1'-0"



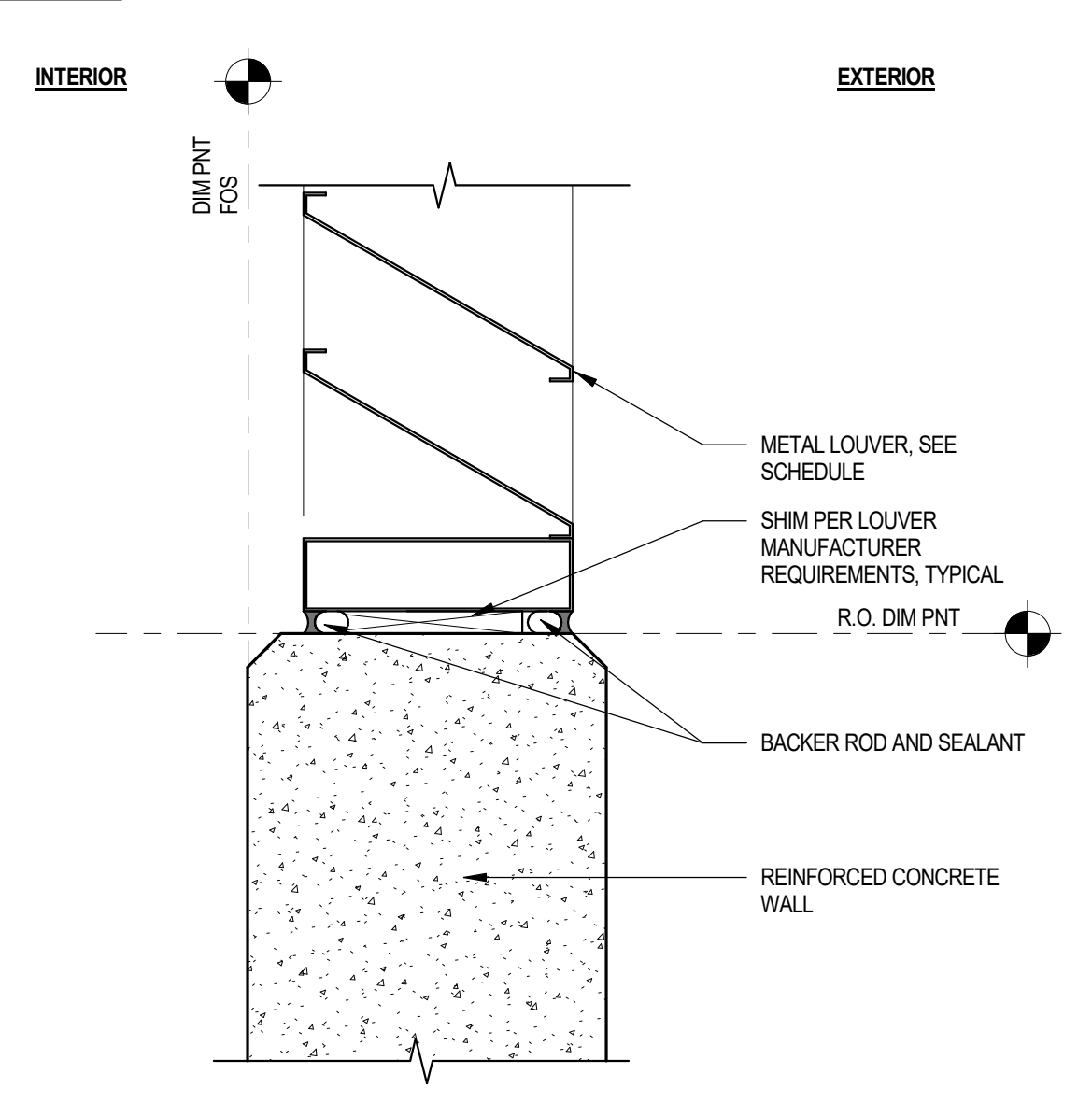
30 LOUVER JAMB AT CMU WALL SCALE: 3" = 1'-0"



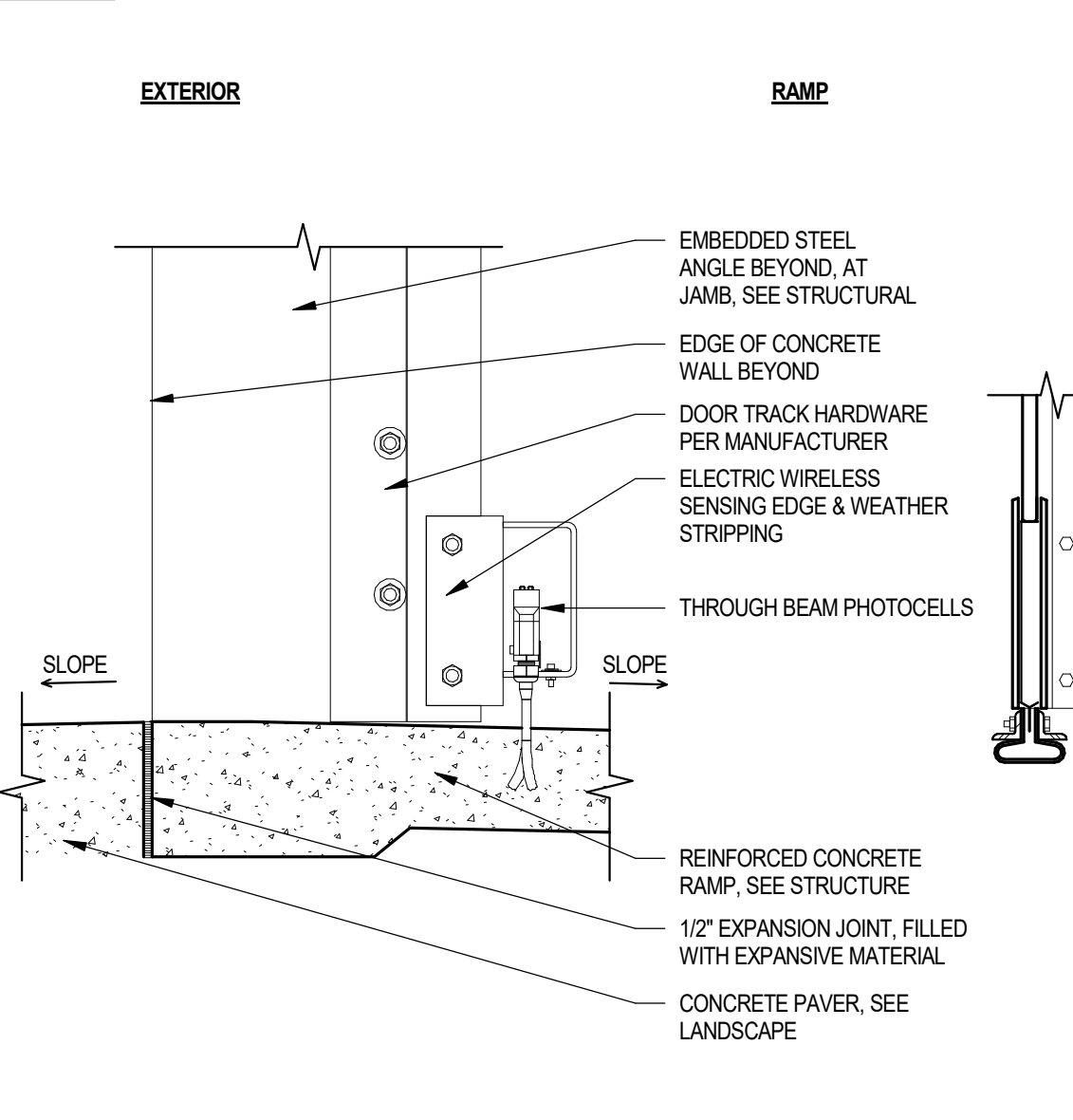
26 OVERHEAD COILING DOOR - JAMB SCALE: 3" = 1'-0"



35 LOUVER SILL AT CMU WALL SCALE: 3" = 1'-0"



31 LOUVER SILL AT CONCRETE WALL SCALE: 3" = 1'-0"



27 OVERHEAD COILING DOOR - THRESHOLD SCALE: 1 1/2" = 1'-0"

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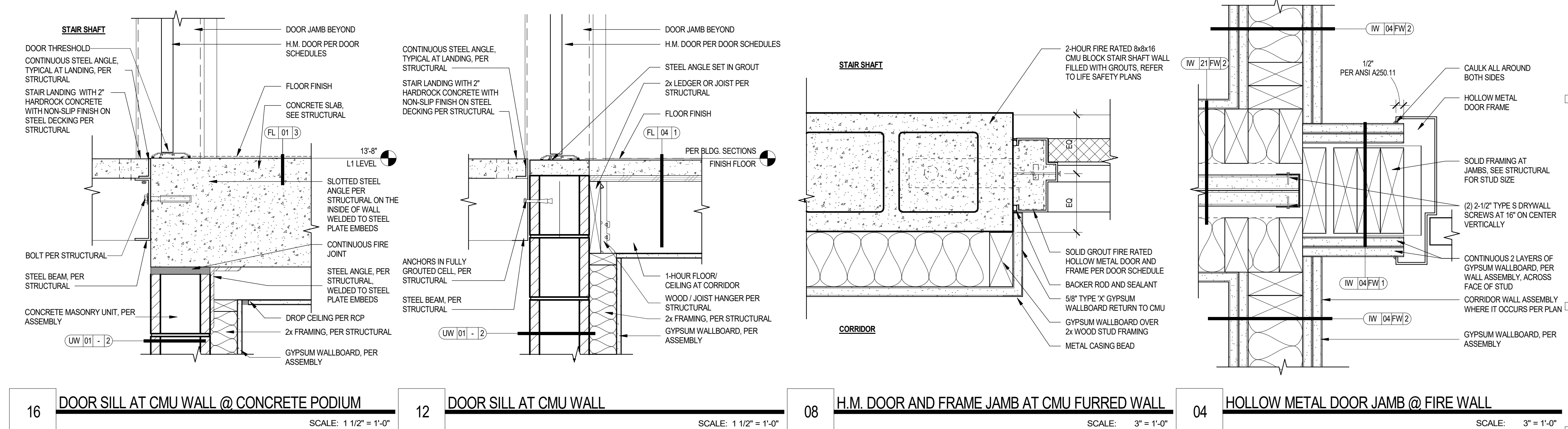
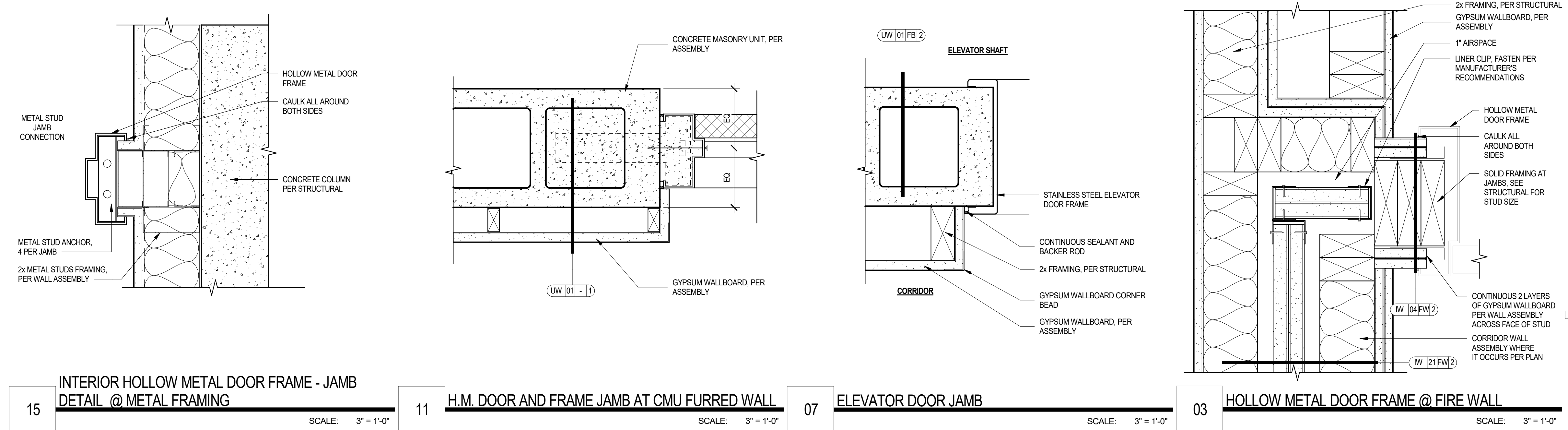
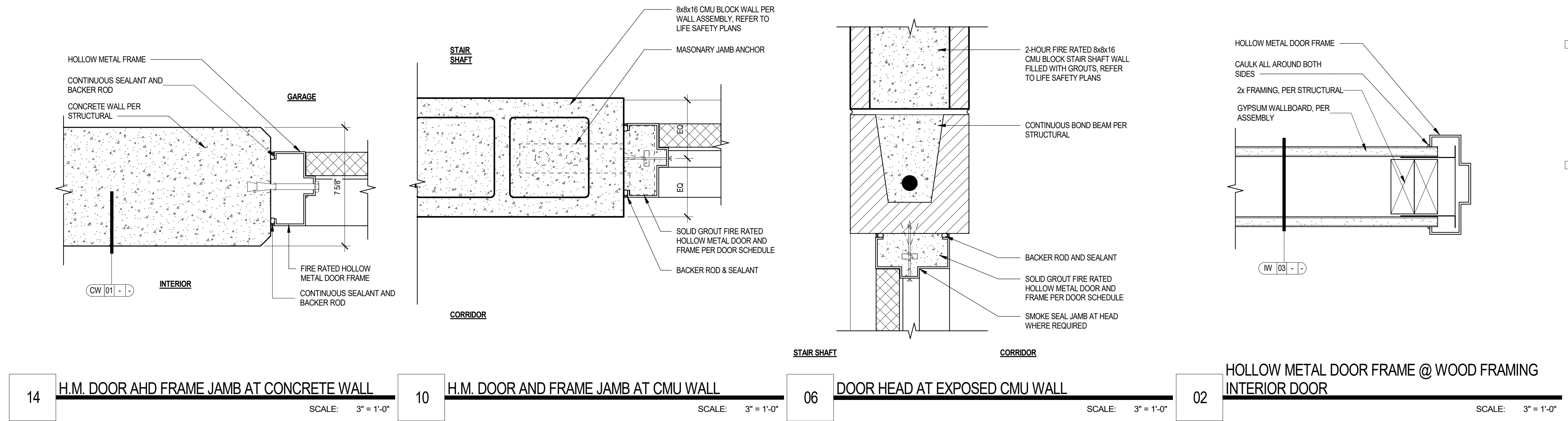
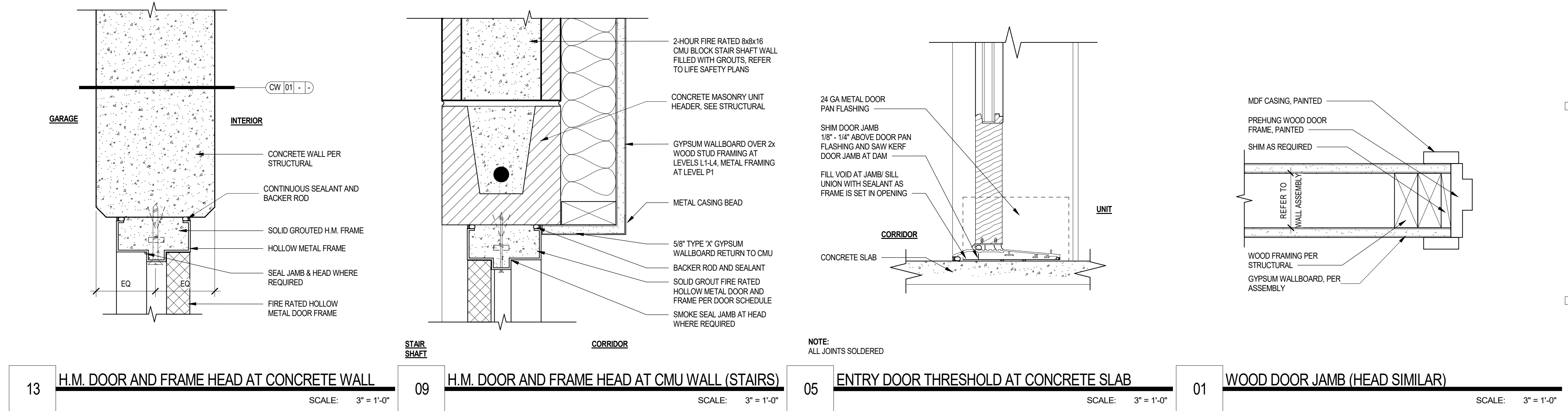
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(602) 778-2822
Over the owner or its designated agent shall provide this information to the contractor.

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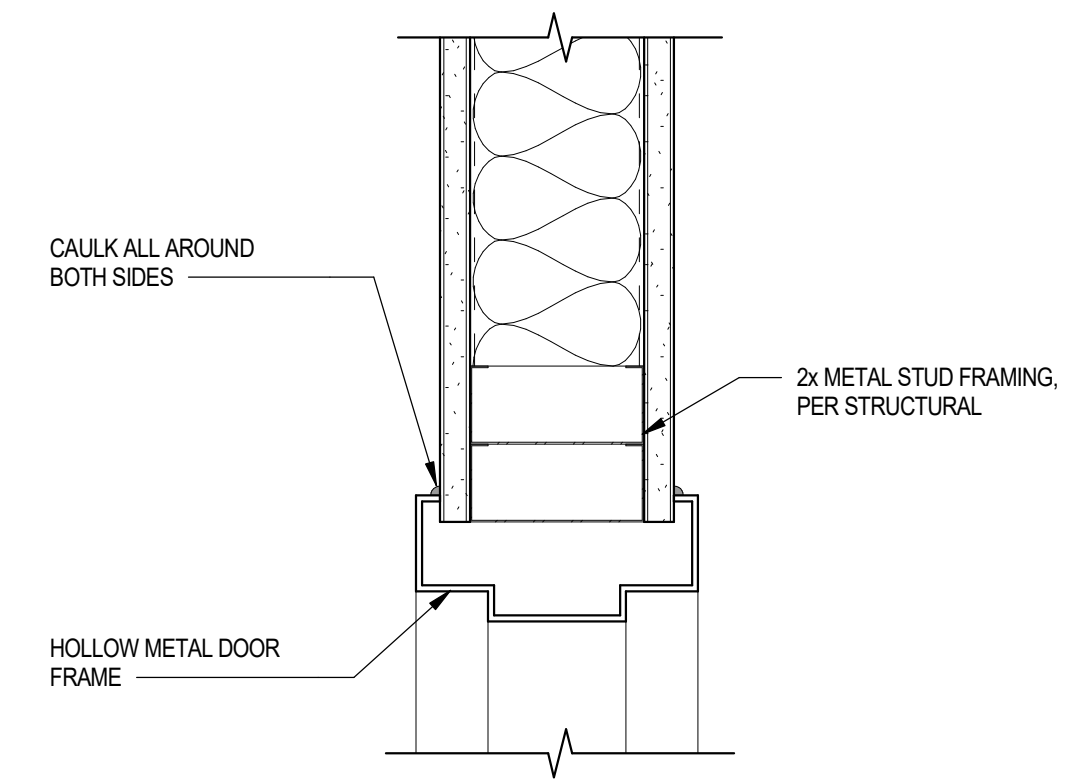
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INTERIOR DOOR DETAILS

Project Name 1 Project Name 2

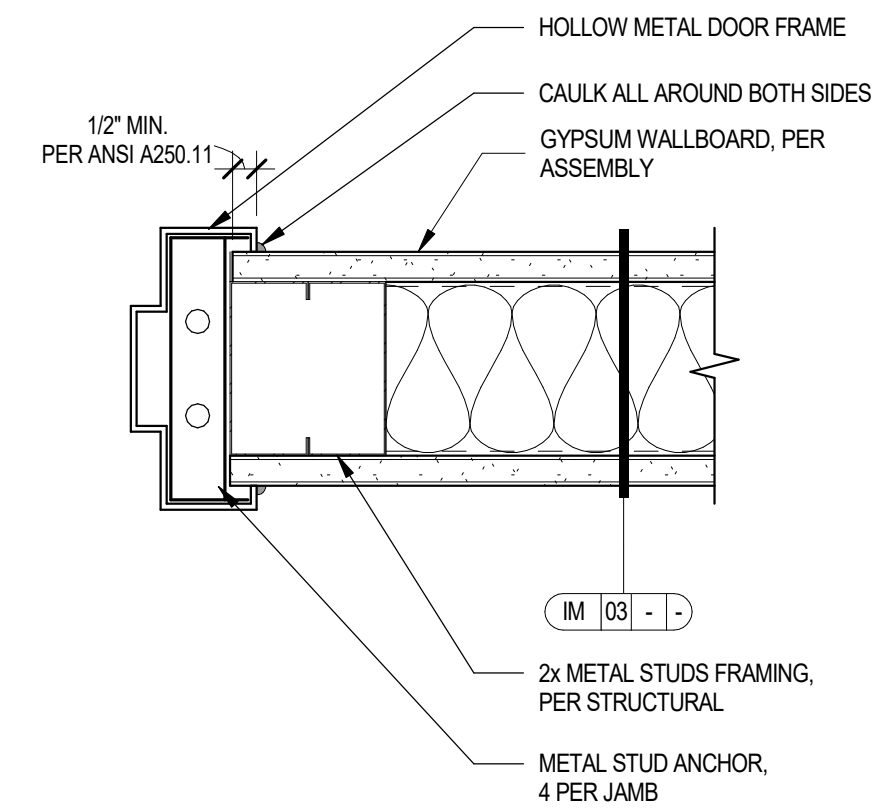
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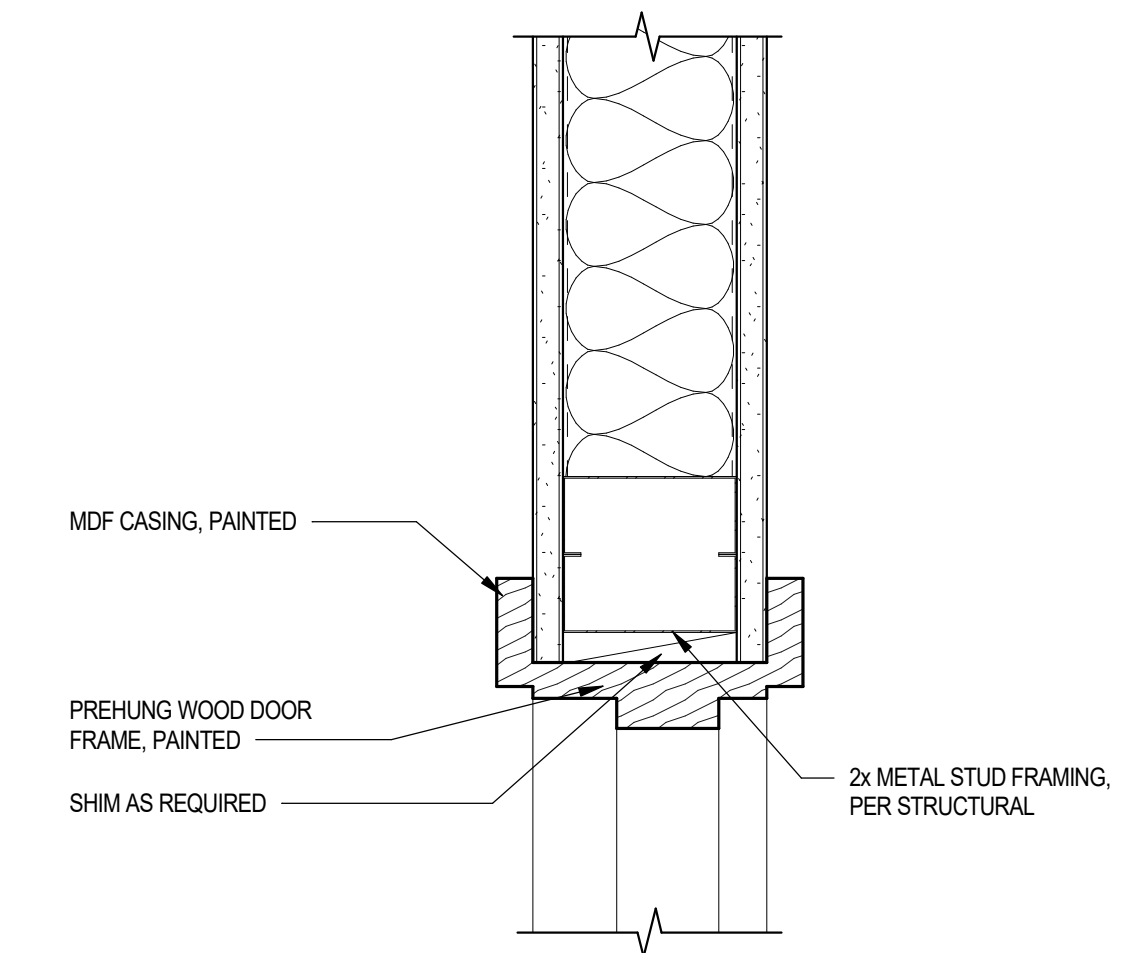
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25 INTERIOR HOLLOW METAL DOOR FRAME - HEAD
DETAIL @ METAL FRAMING
SCALE: 3" = 1'-0"



26 INTERIOR HOLLOW METAL DOOR FRAME - JAMB
DETAIL @ METAL FRAMING
SCALE: 3" = 1'-0"



27 WOOD DOOR FRAME HEAD DETAIL @ METAL
FRAMING
SCALE: 3" = 1'-0"

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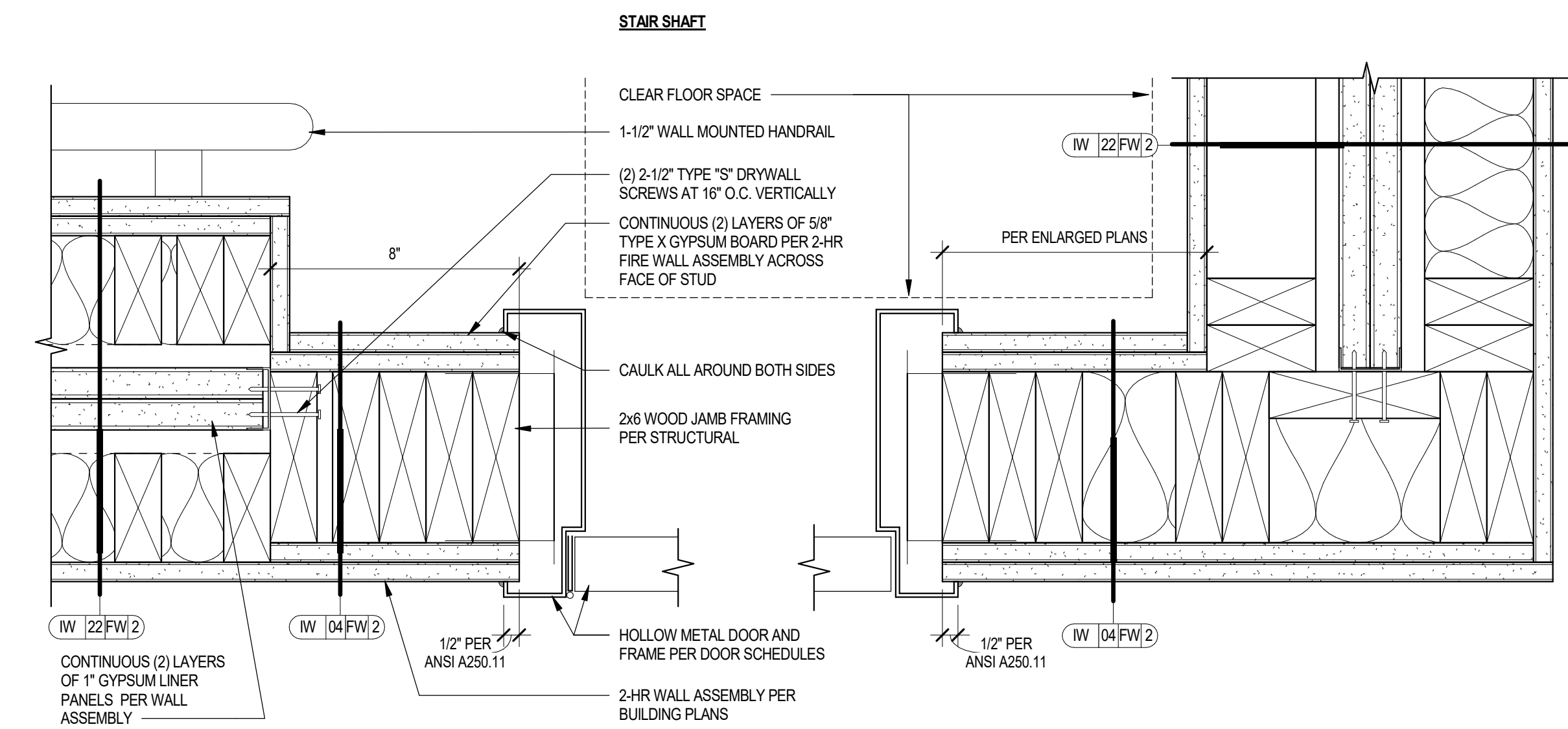
Notice of alternate billing (or payment) cycle
This contract allows (may allow) the owner to require the submission of bills or estimates in billing cycles other than thirty days. (This contract may allow the owner to make payment on some alternative schedule after verification and approval of bills or estimates). A written description of such other billing (and/or) cycle applicable to the project is available from the owner or the owner's designated agent at ALLIANCE RESIDENTIAL COMPANY, 2525 E. CAMERLACK RD., SUITE 500, PHOENIX, AZ 85016 (602) 778-2822. Over the owner or its designated agent shall provide this written description of payment.

REVISIONS/SUBMITTALS
DATE DESCRIPTION

DATE: July 17, 2024 ORB #: 00-000

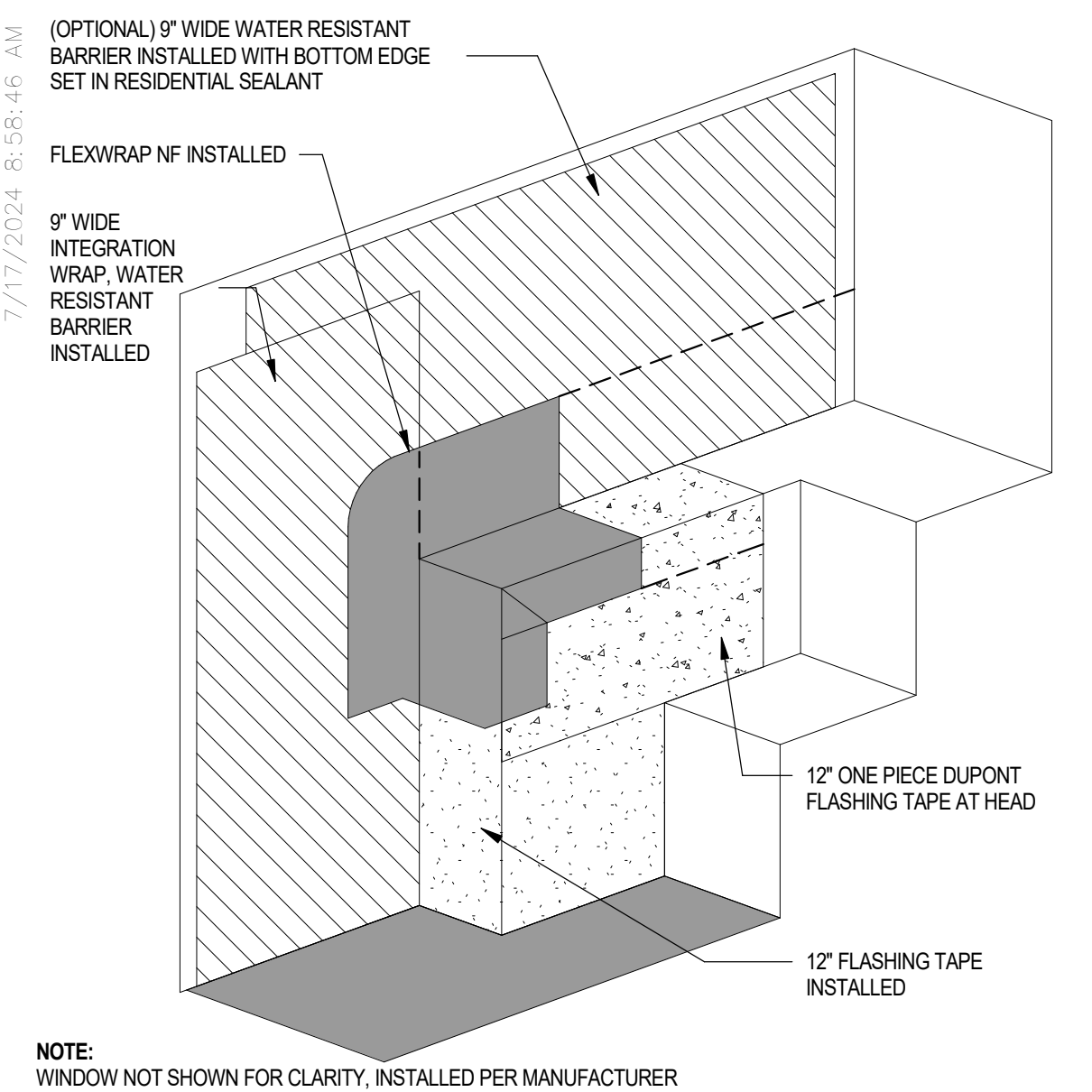
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INTERIOR DOOR DETAILS

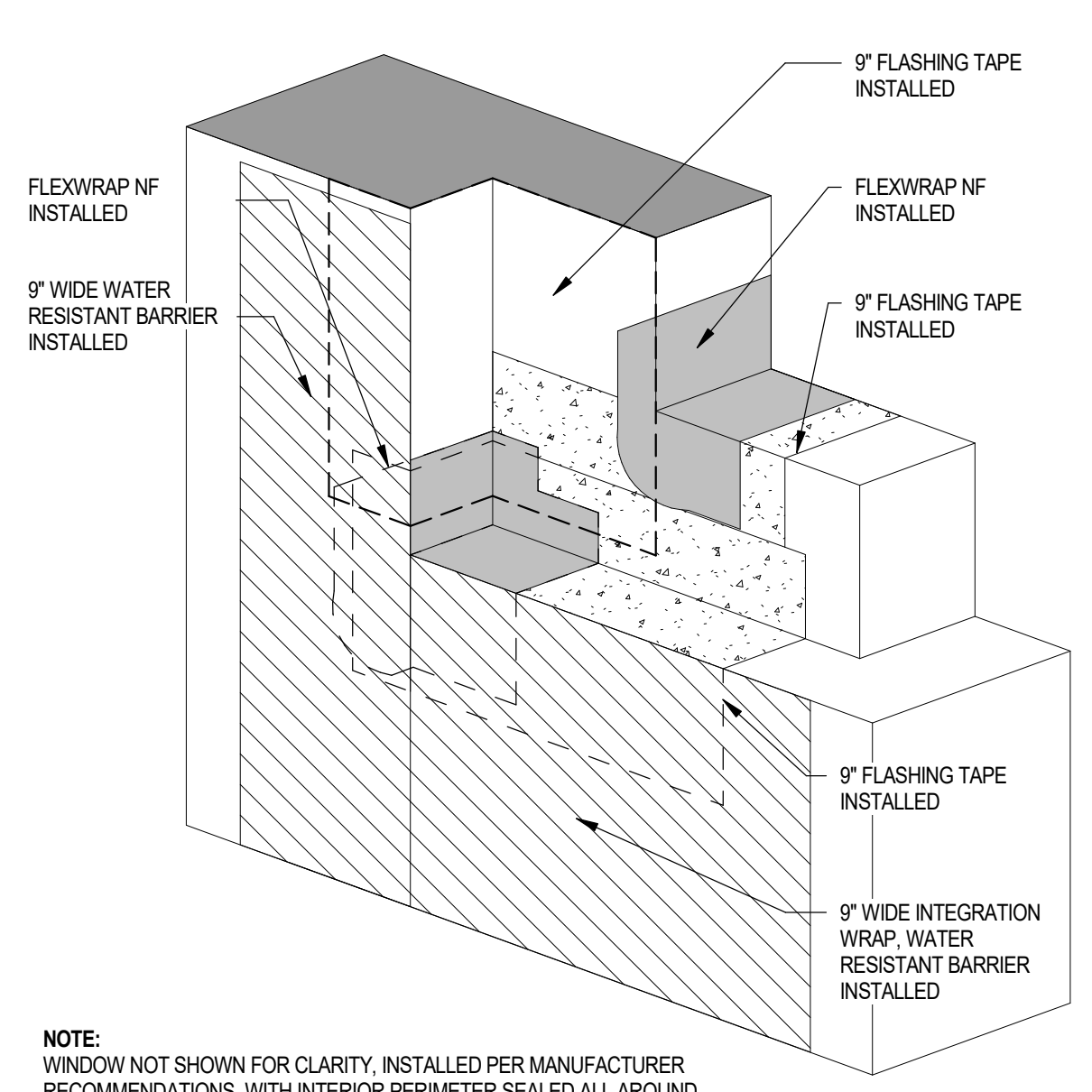


32 HOLLOW METAL DOOR JAMB AT WOOD FRAMED
STAIR SHAFT
SCALE: 3" = 1'-0"

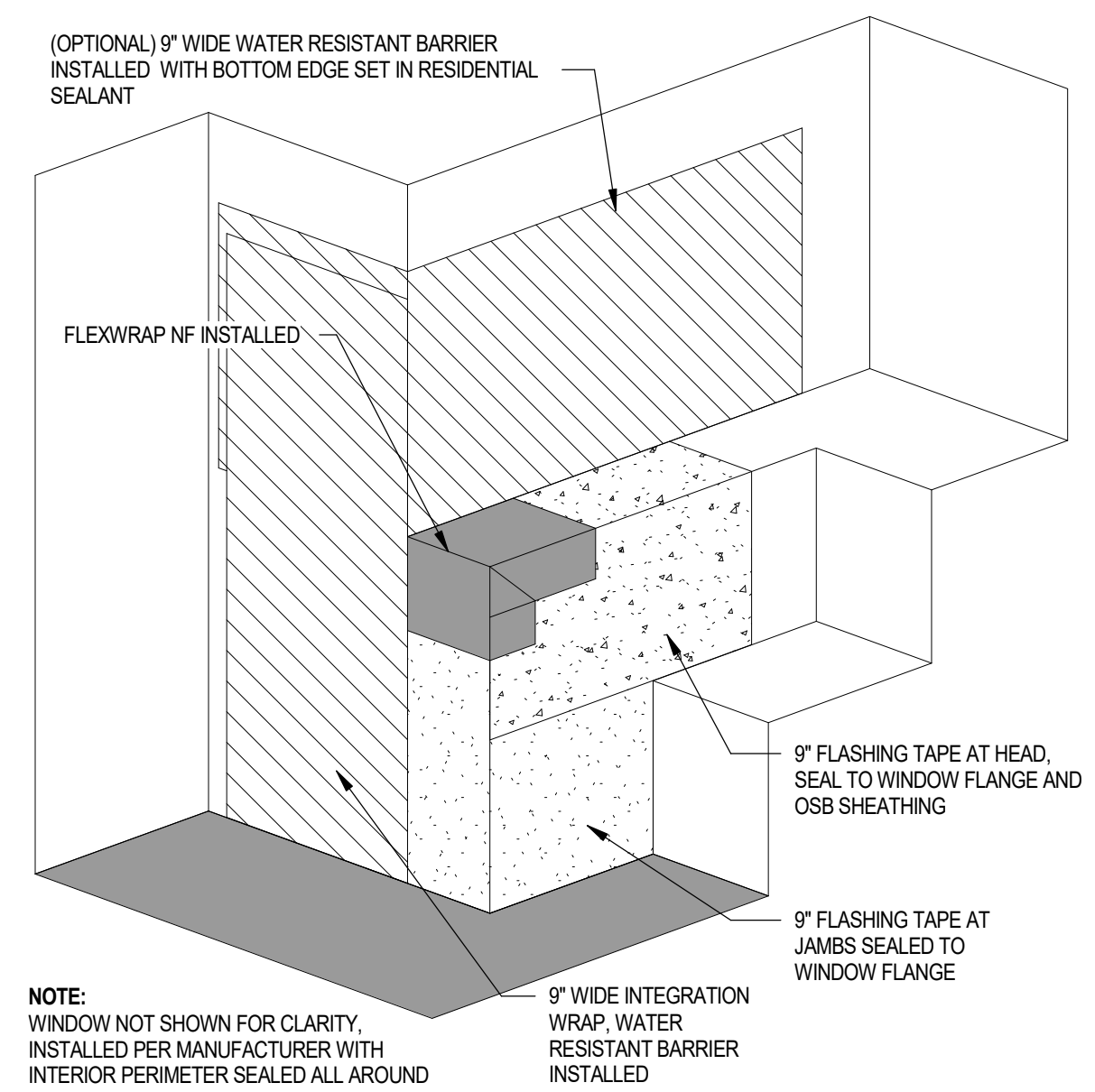
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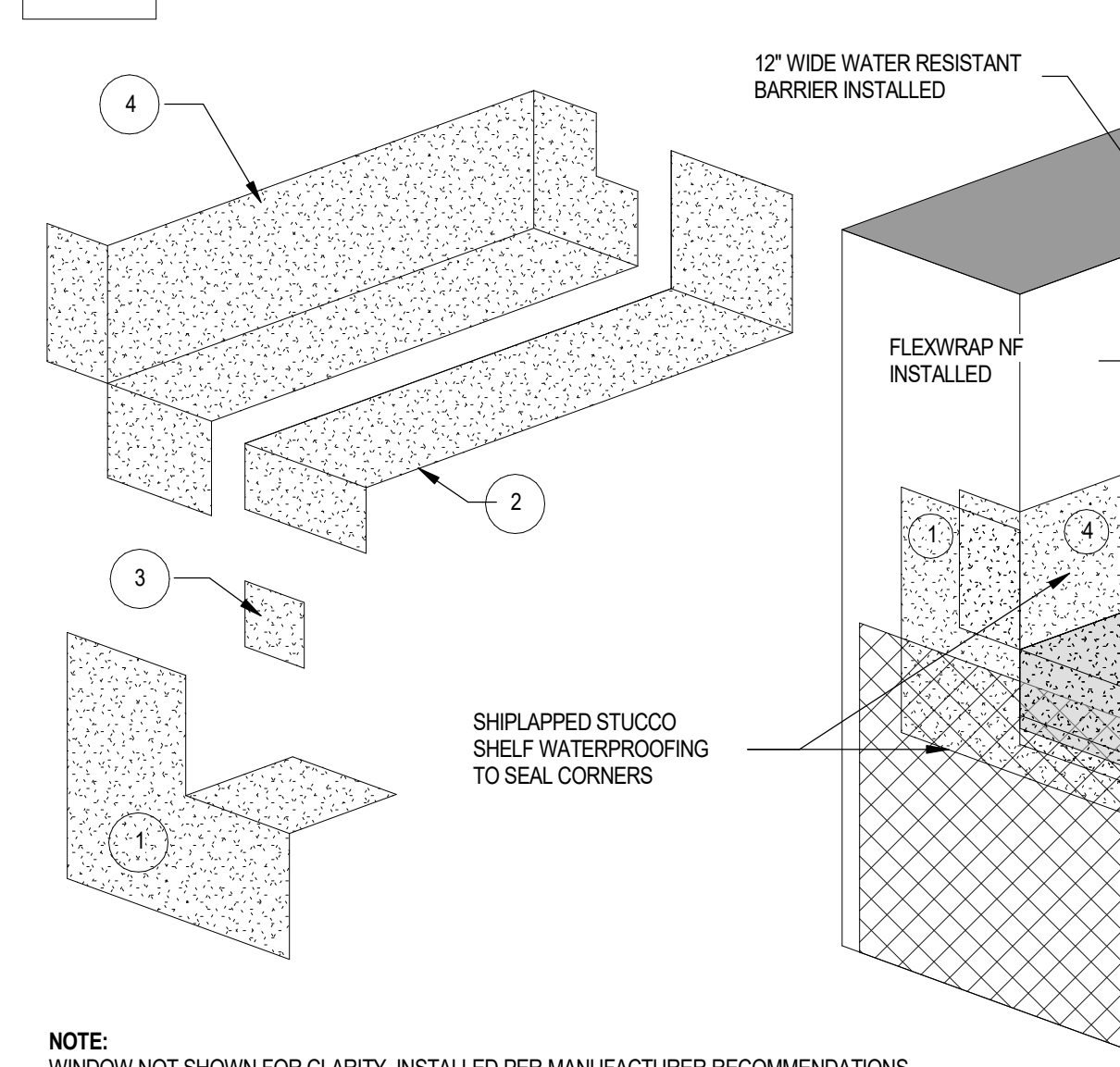
21 TYPICAL RECESSED WINDOW HEAD - ISOMETRIC SCALE: 1" = 1'-0"



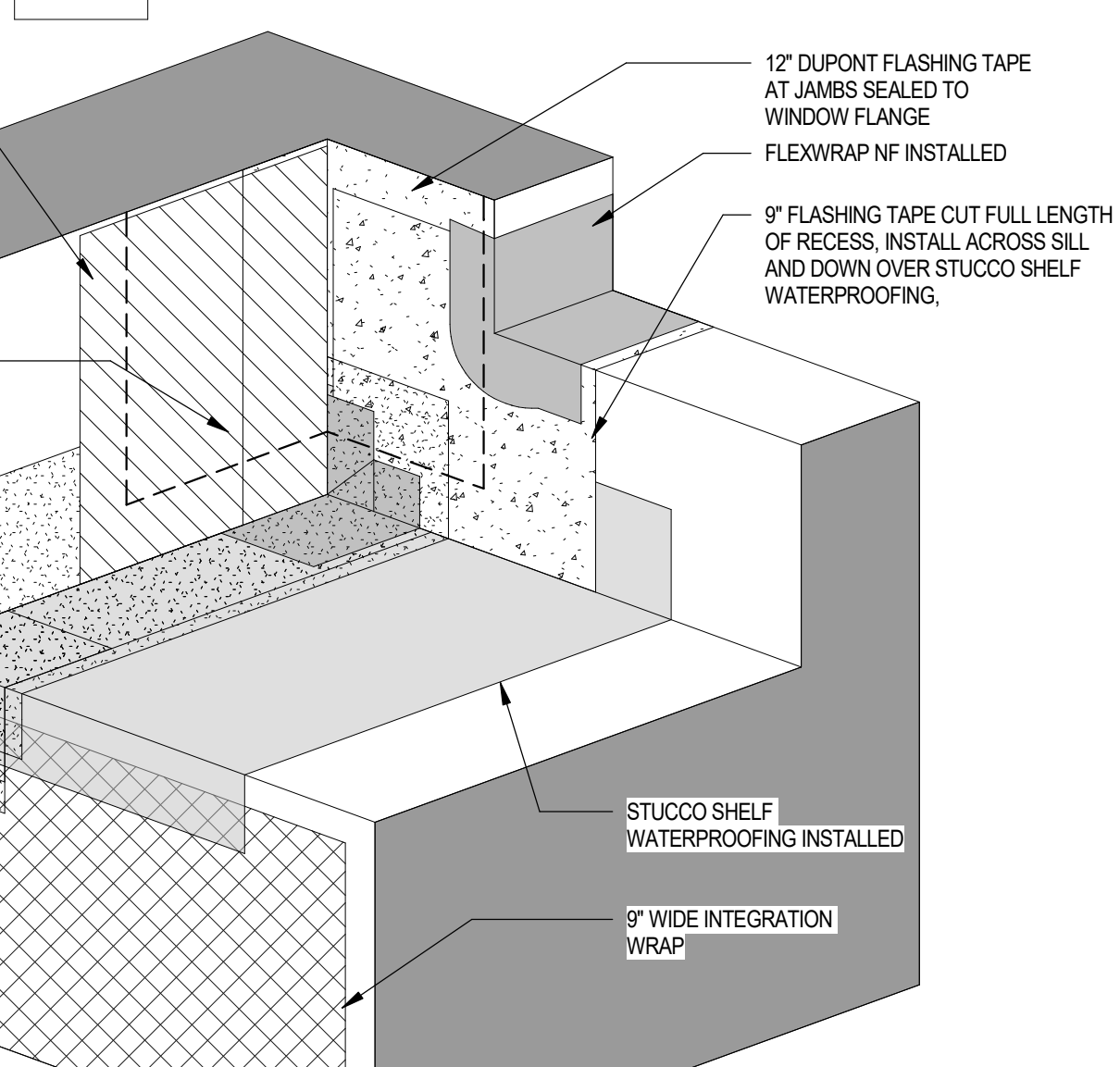
17 TYPICAL RECESSED WINDOW SILL - ISOMETRIC SCALE: 1" = 1'-0"



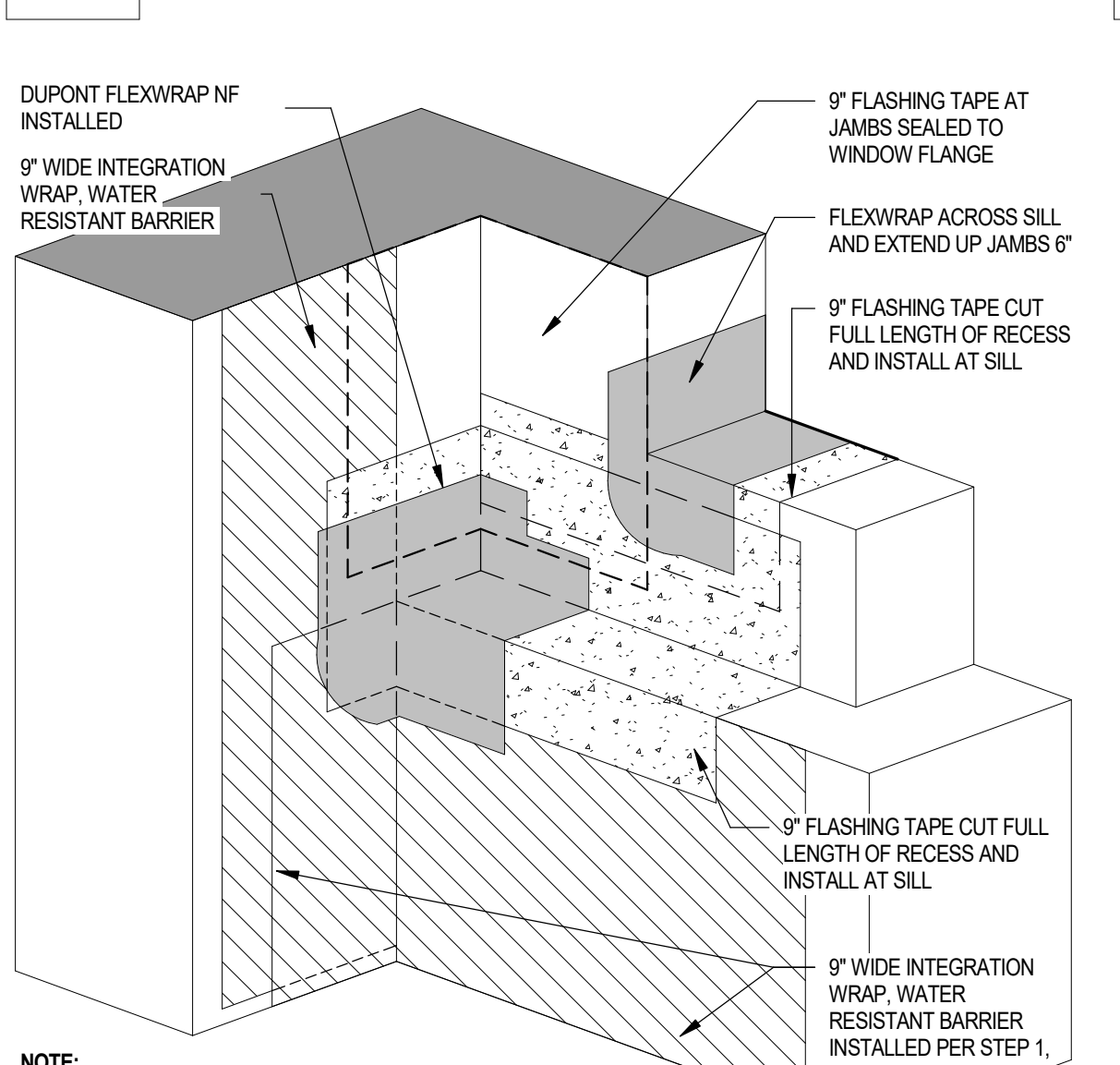
13 RECESSED WINDOW HEAD WITH POP OUT AT JAMB - ISOMETRIC SCALE: 1" = 1'-0"



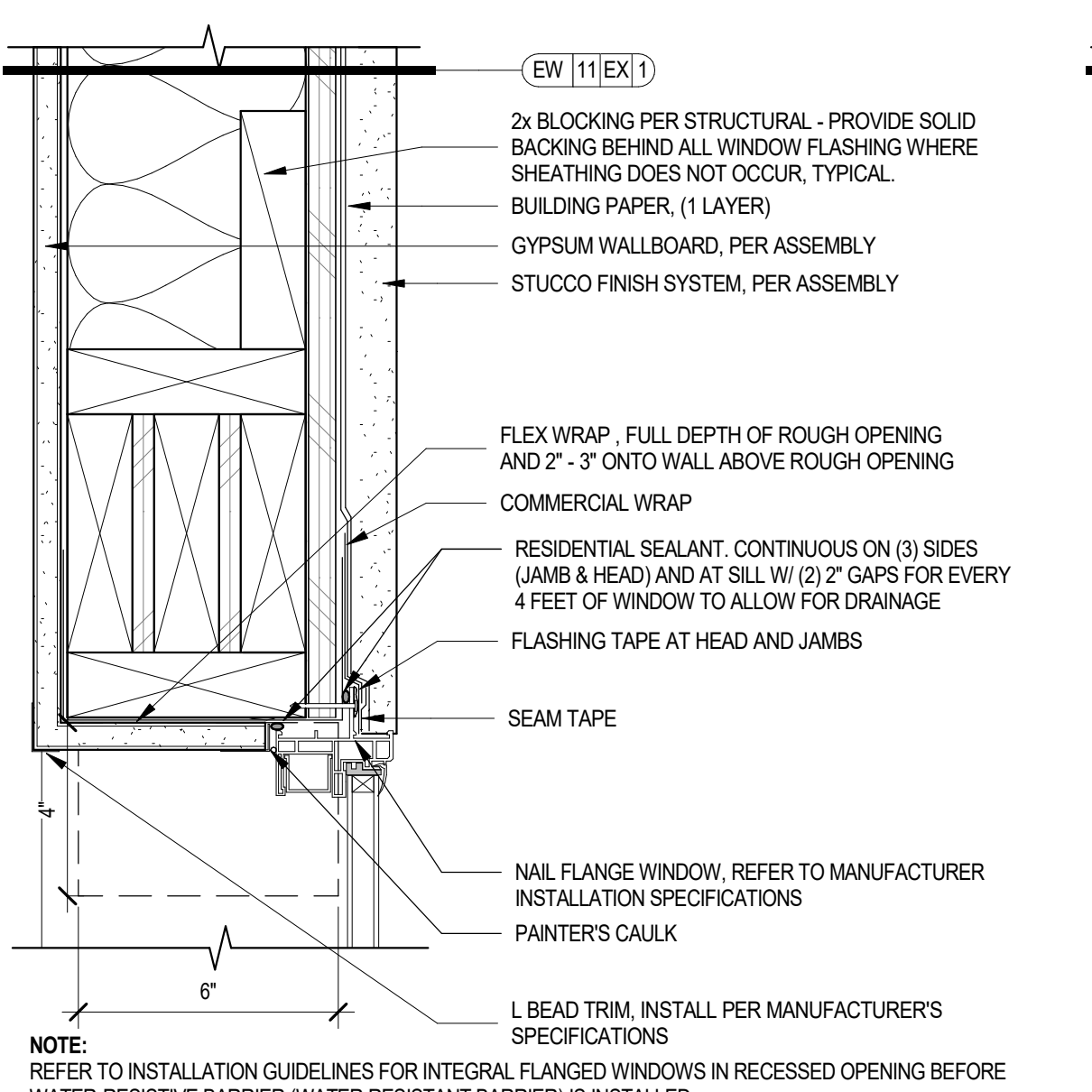
22 RECESSED WINDOW SILL AT POP BELOW & AT SIDE - ISOMETRIC SCALE: 1" = 1'-0"



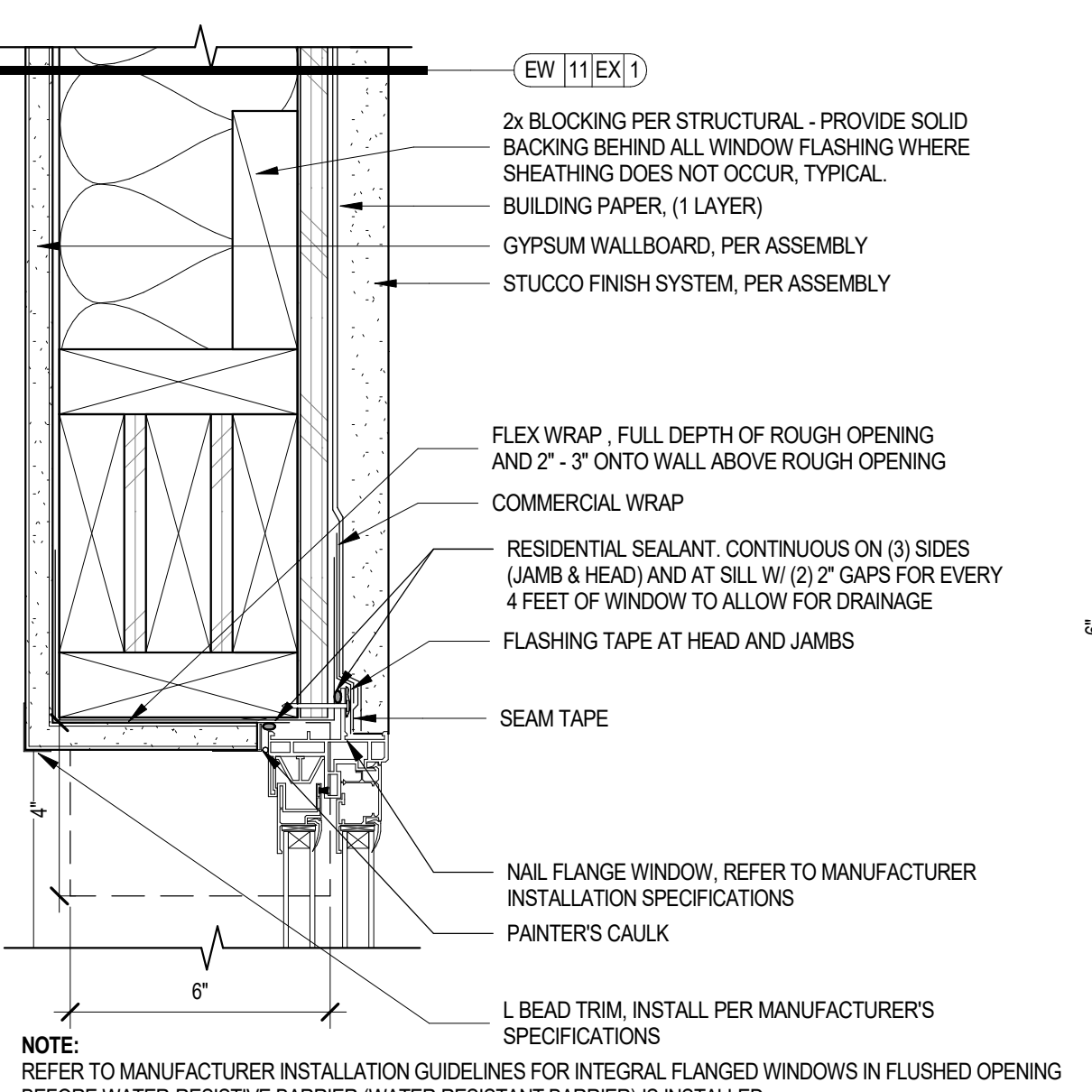
14 RECESSED WINDOW SILL WITH POP OUT AT JAMB - ISOMETRIC SCALE: 1" = 1'-0"



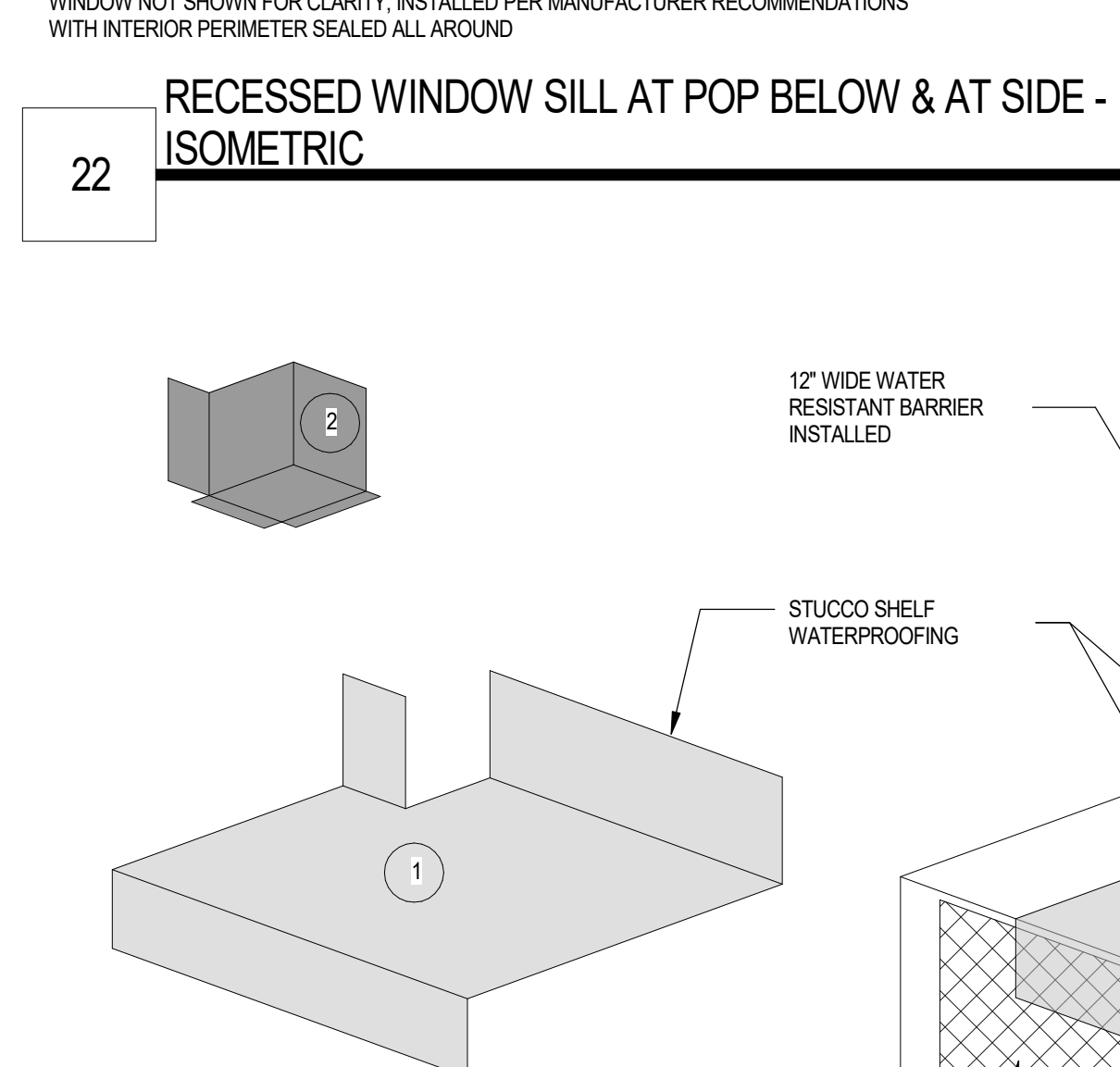
09 FLUSH FIXED WINDOW HEAD FLASHING/FINISHES SCALE: 3" = 1'-0"



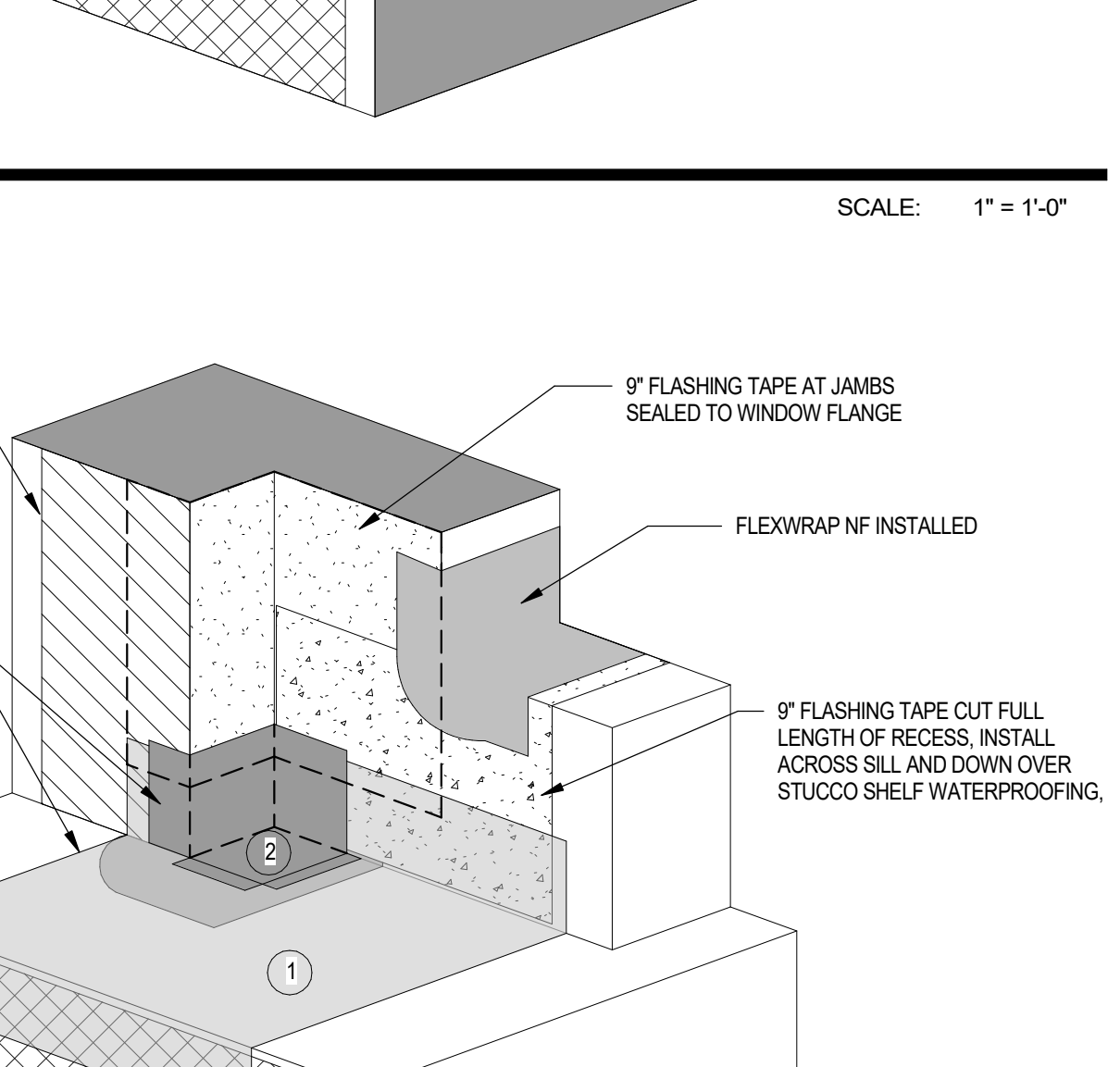
05 FLUSH WINDOW HEAD FLASHING/FINISHES SCALE: 3" = 1'-0"



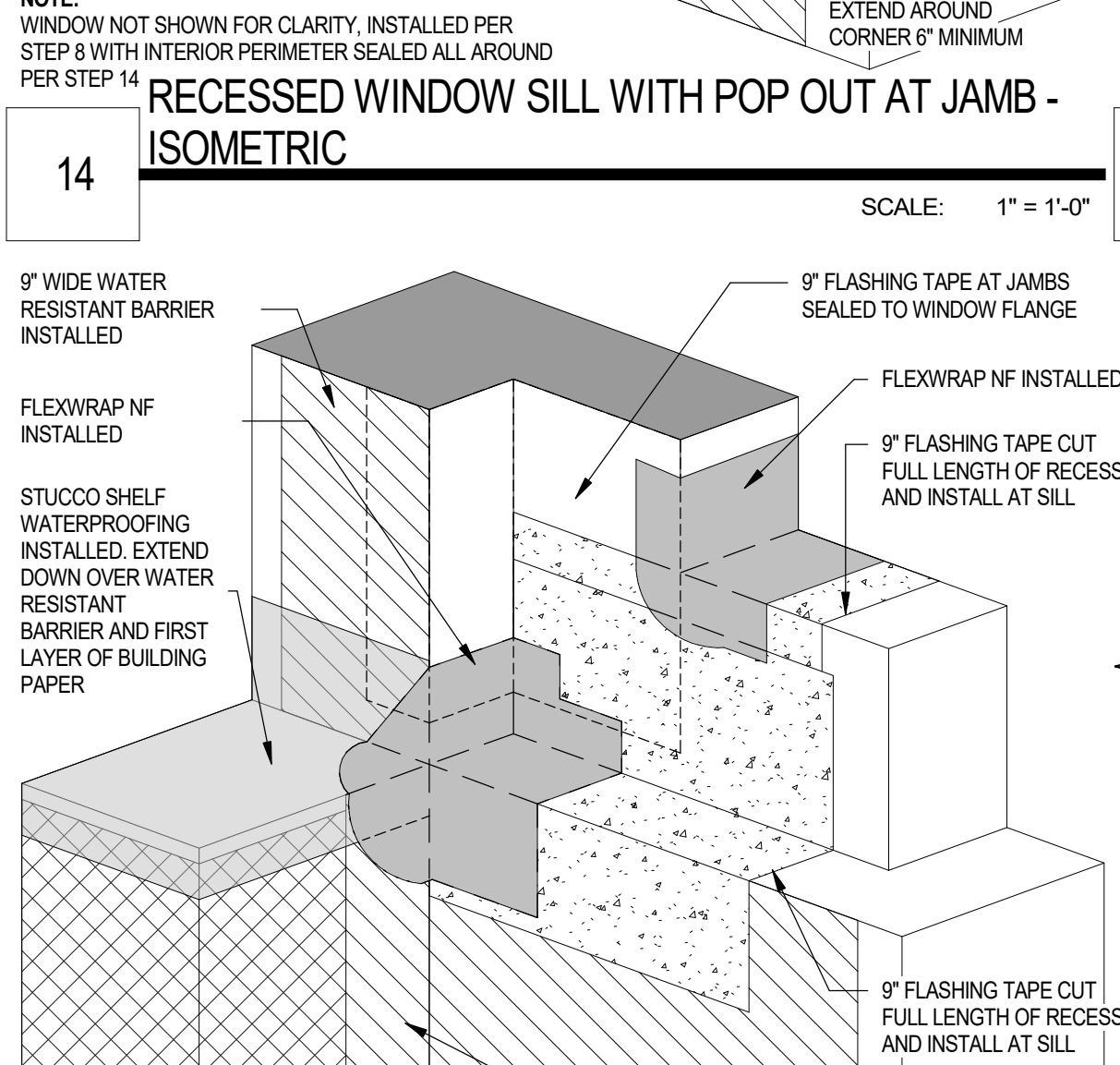
01 RECESSED WINDOW HEAD FLASHING/FINISHES SCALE: 3" = 1'-0"



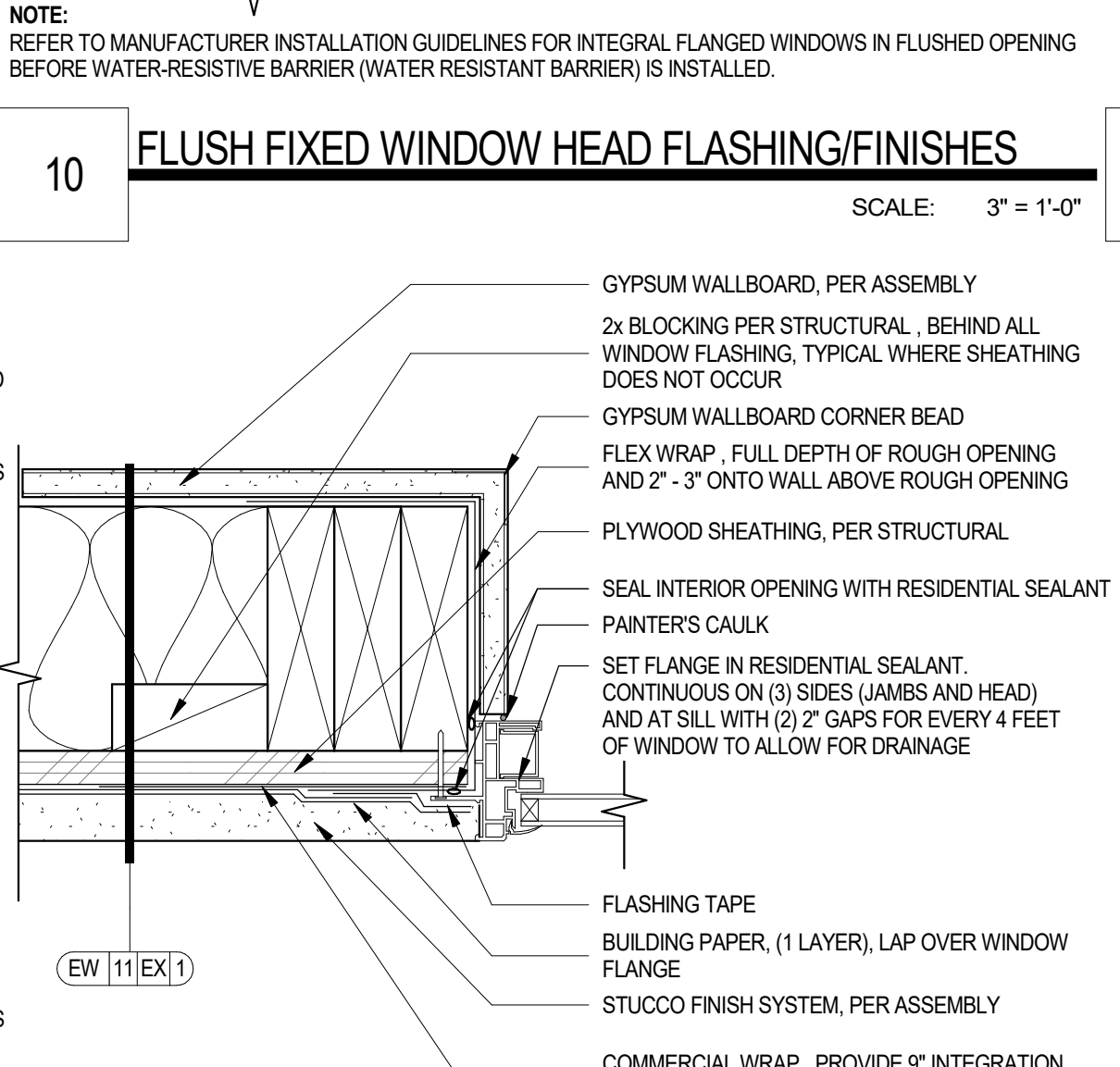
23 RECESSED WINDOW SILL AT POP OUT SHELF - ISOMETRIC SCALE: 1" = 1'-0"



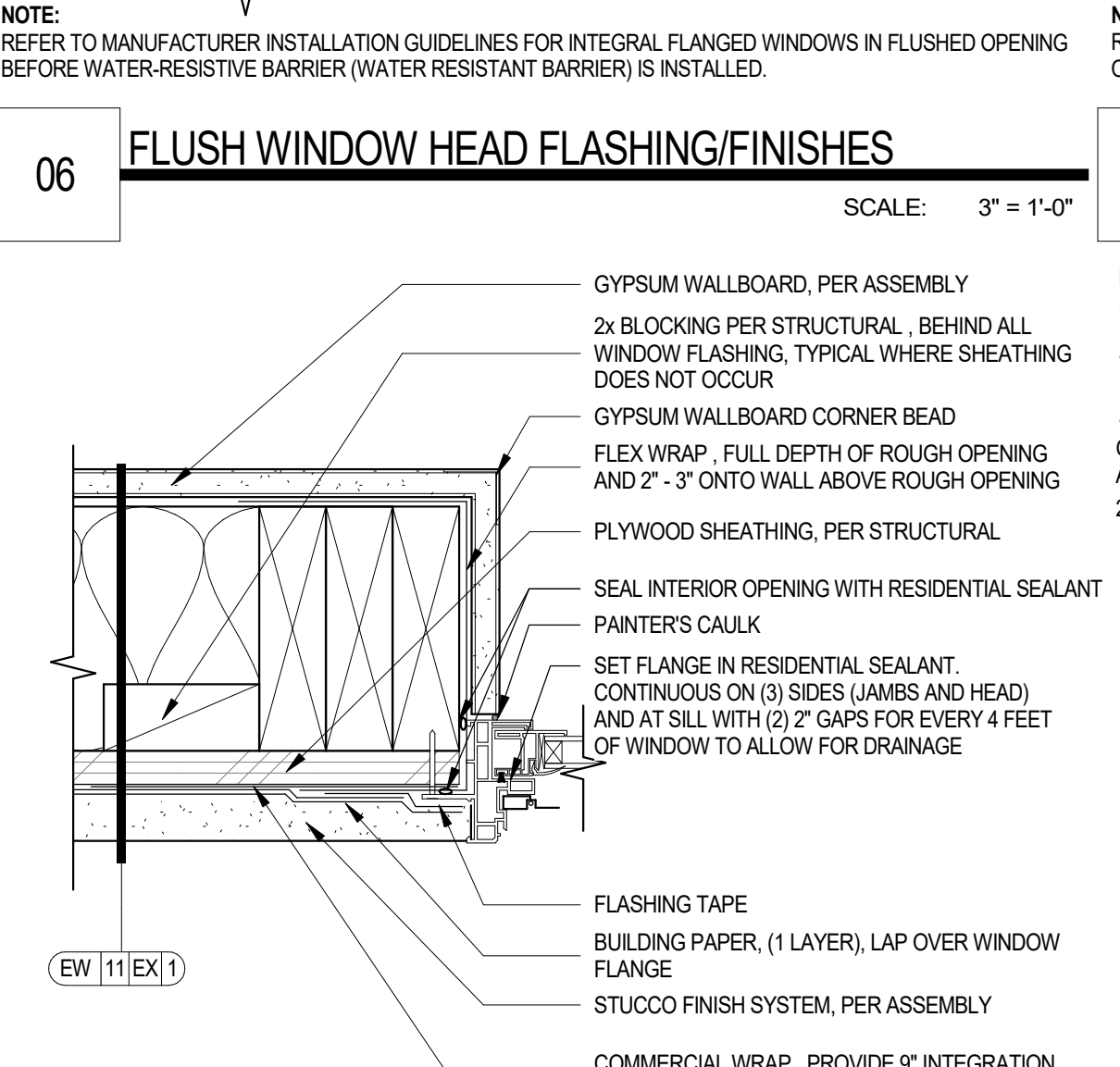
15 RECESSED WINDOW SILL AT POP OUT SHELF - ISOMETRIC SCALE: 1" = 1'-0"



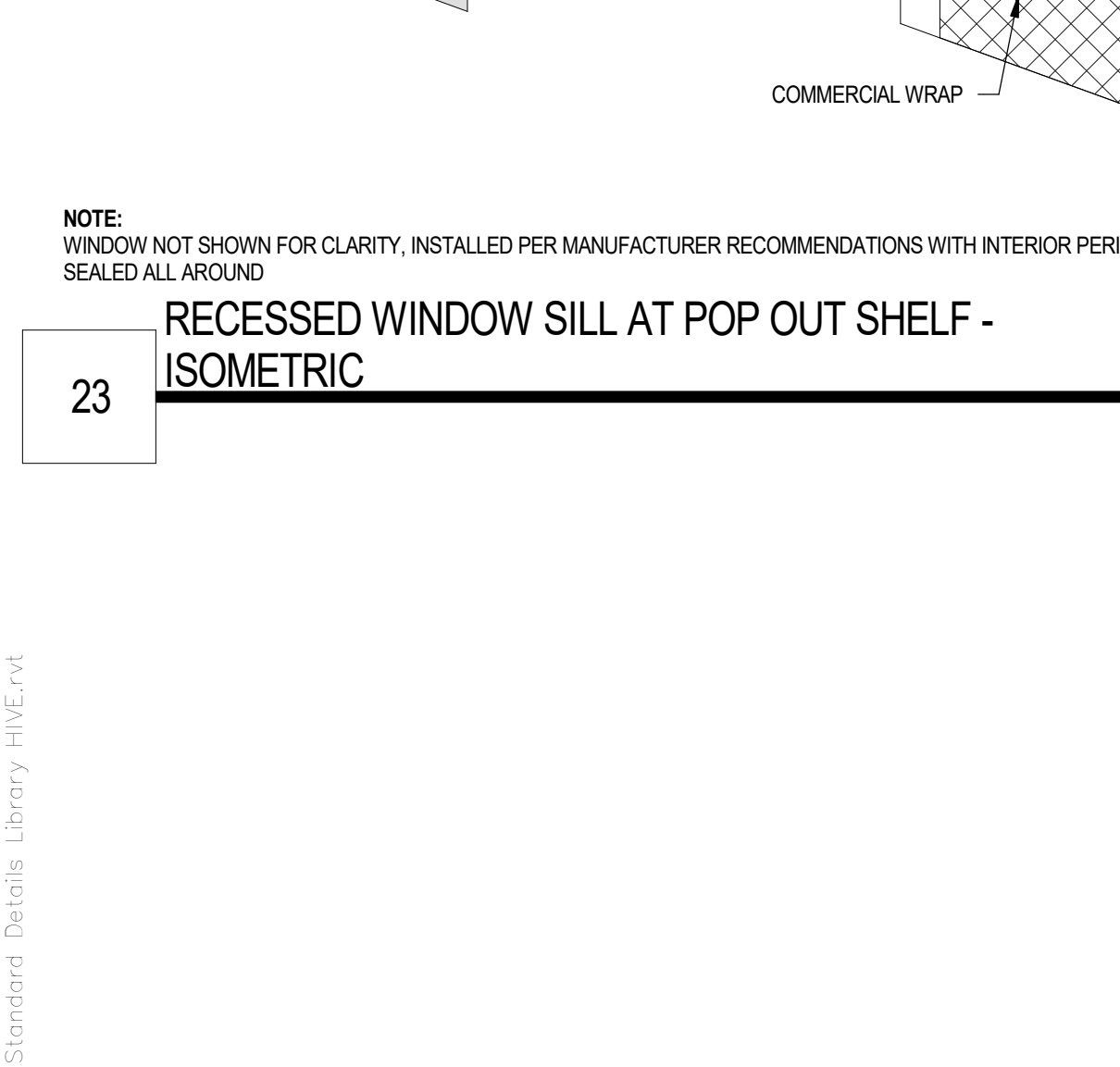
11 FLUSH FIXED WINDOW JAMB FLASHING/FINISHES SCALE: 3" = 1'-0"



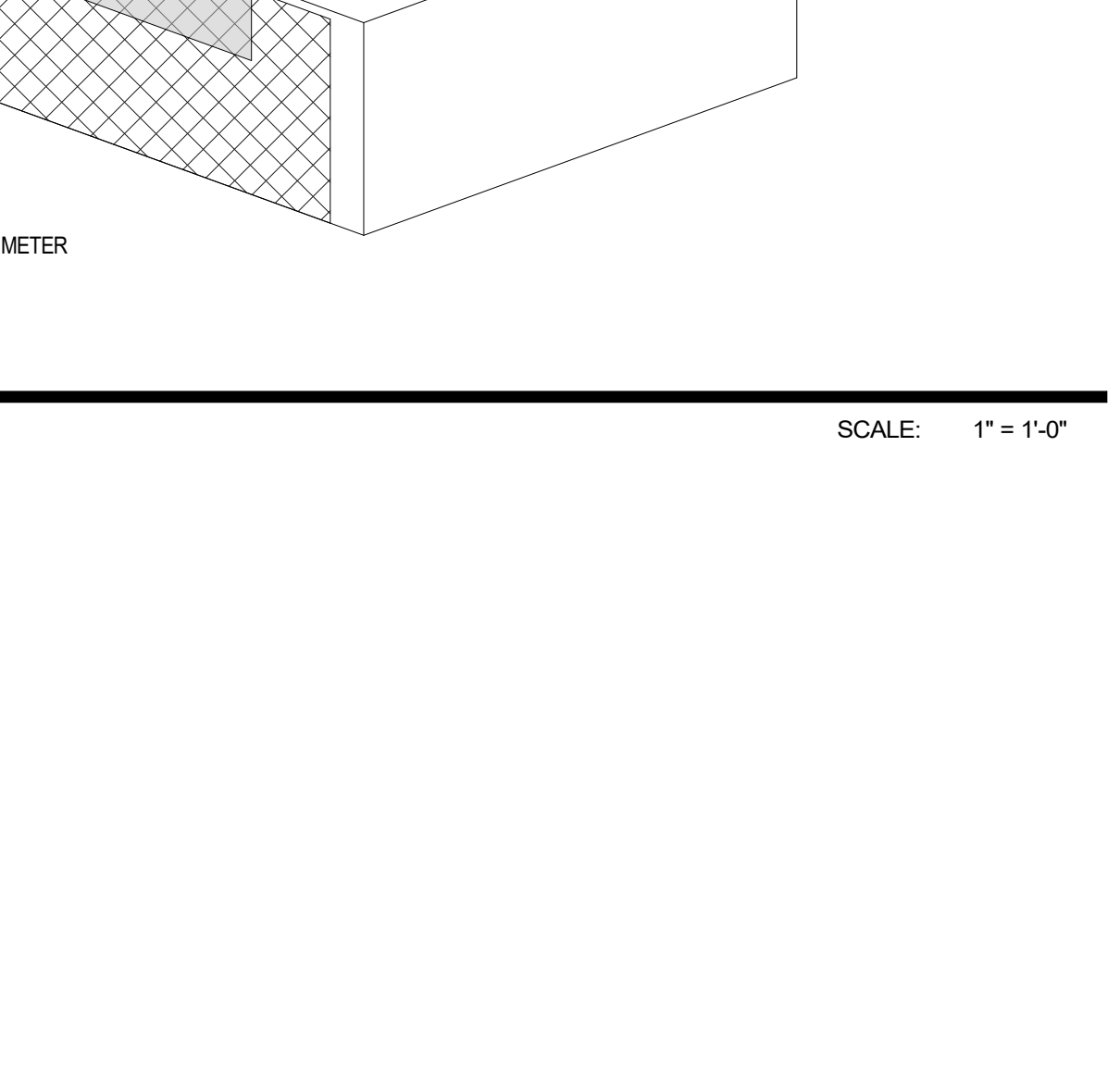
07 FLUSH WINDOW JAMB FLASHING/FINISHES SCALE: 3" = 1'-0"



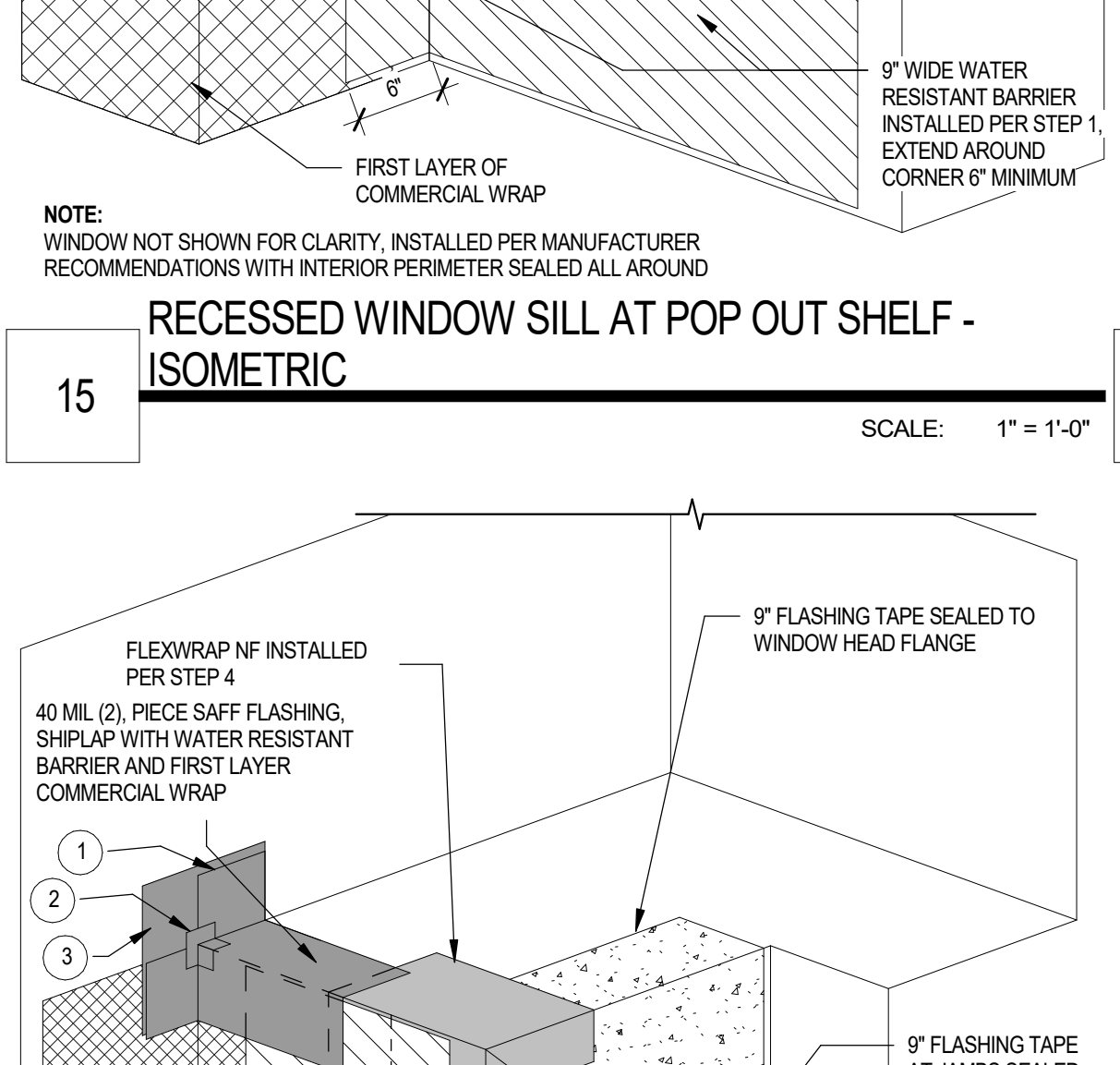
02 RECESSED WINDOW SILL FLASHING/FINISHES SCALE: 3" = 1'-0"



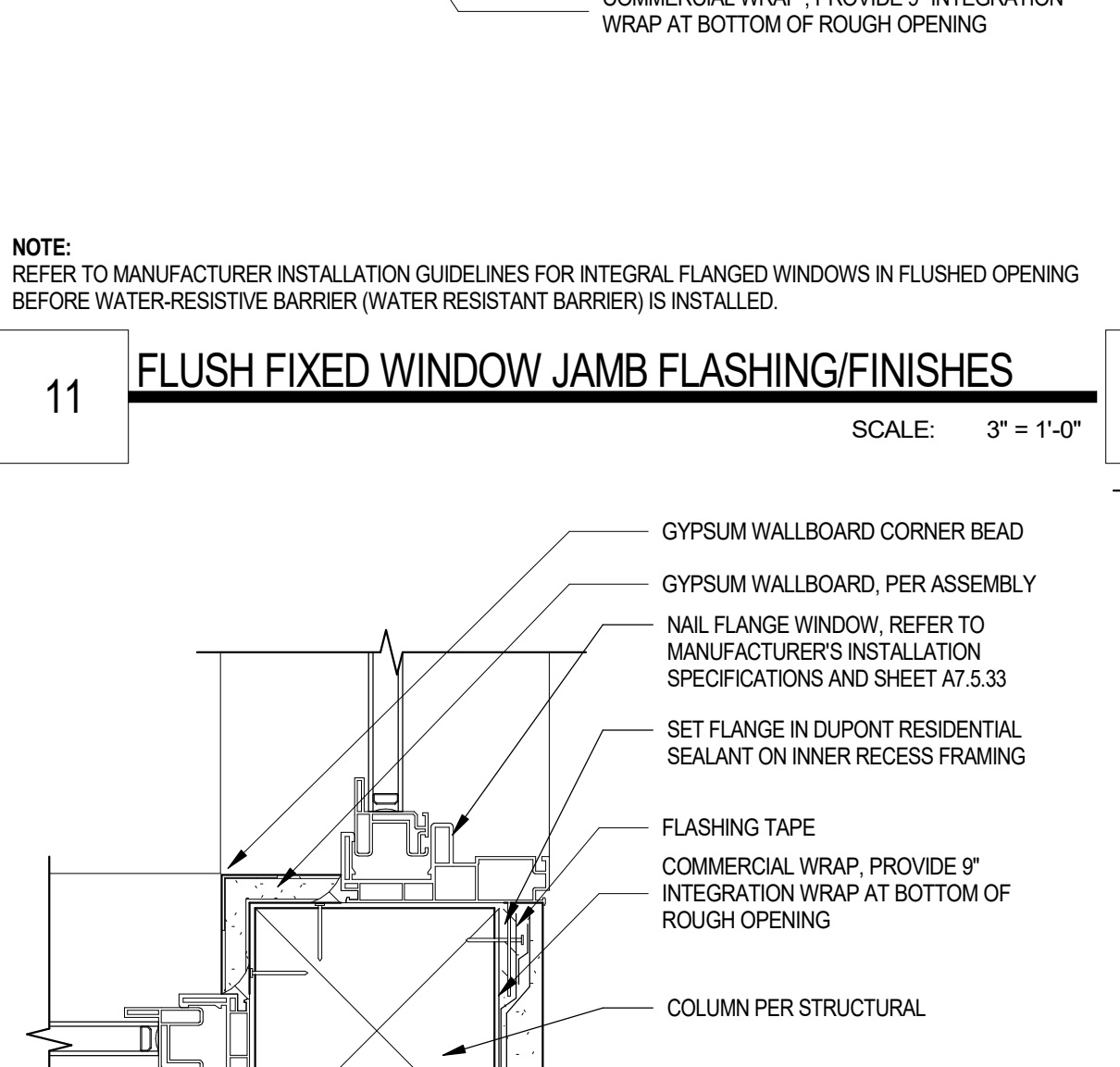
16 RECESSED WINDOW HEAD WITH POP OUT AT JAMB & HEAD - ISOMETRIC SCALE: 1" = 1'-0"



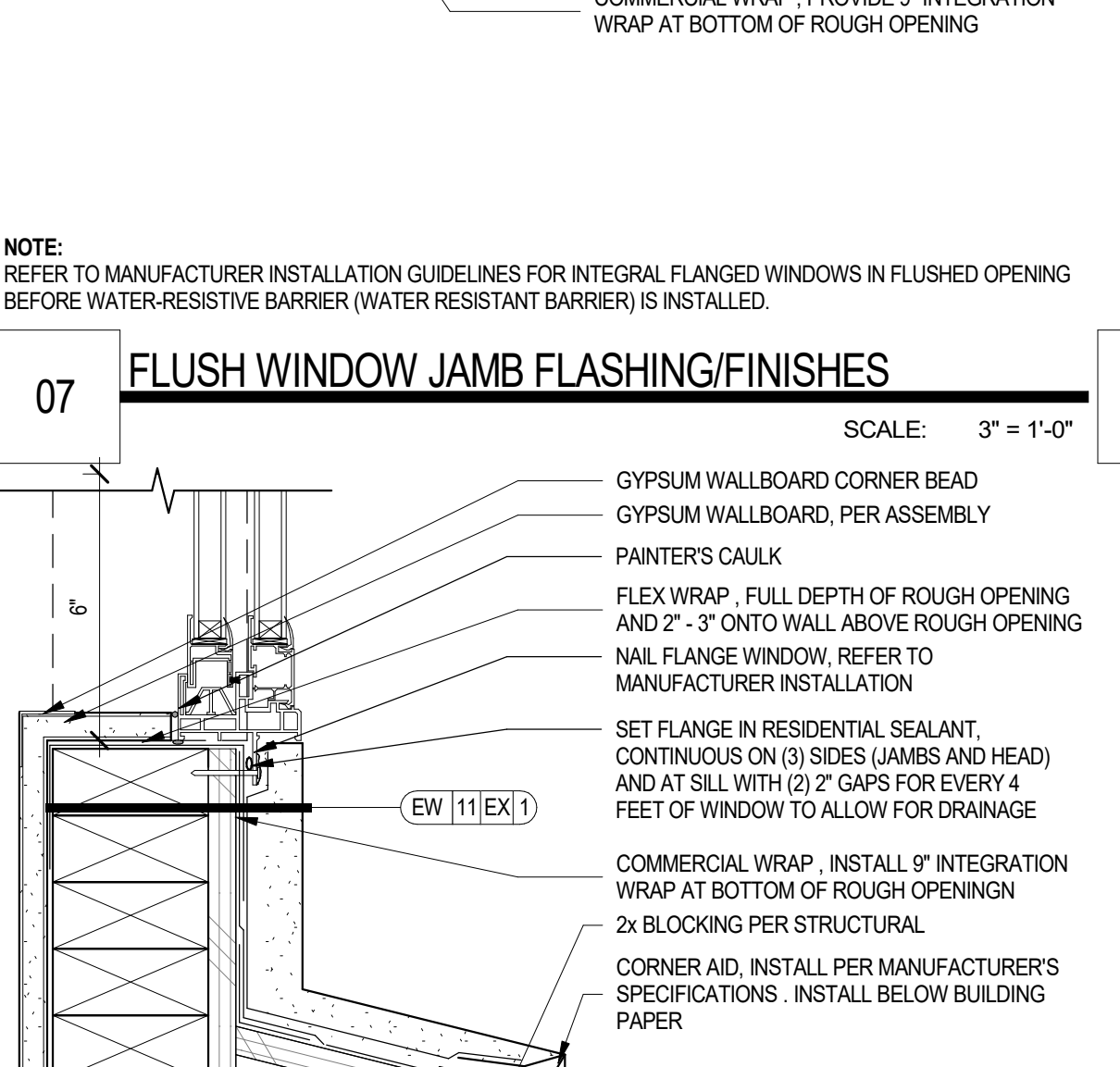
12 FLUSH CORNER WINDOW JAMB FLASHING/FINISHES SCALE: 3" = 1'-0"



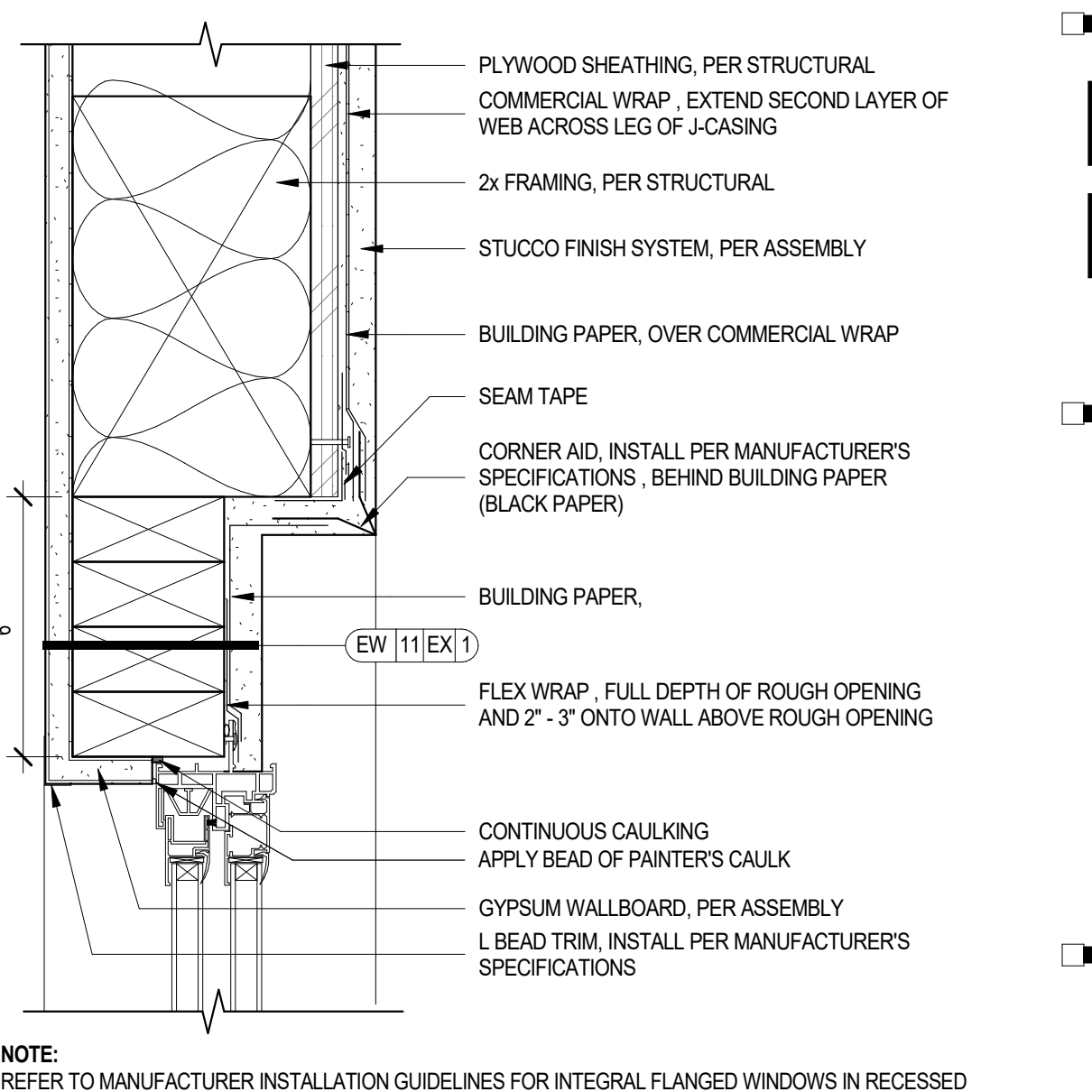
08 RECESSED WINDOW SILL AT POP OUT SHELF SCALE: 3" = 1'-0"



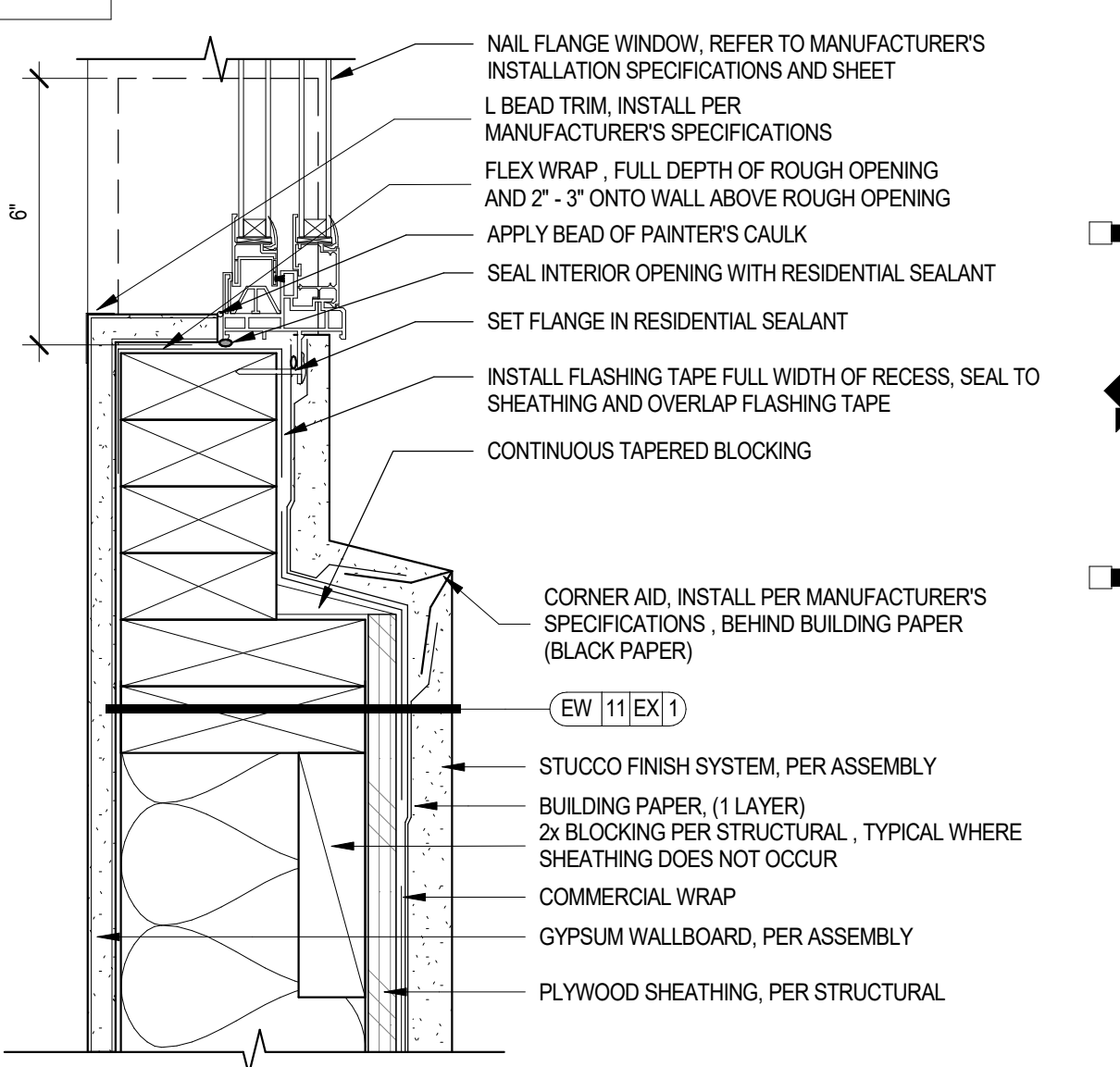
08 RECESSED WINDOW SILL AT POP OUT SHELF SCALE: 3" = 1'-0"



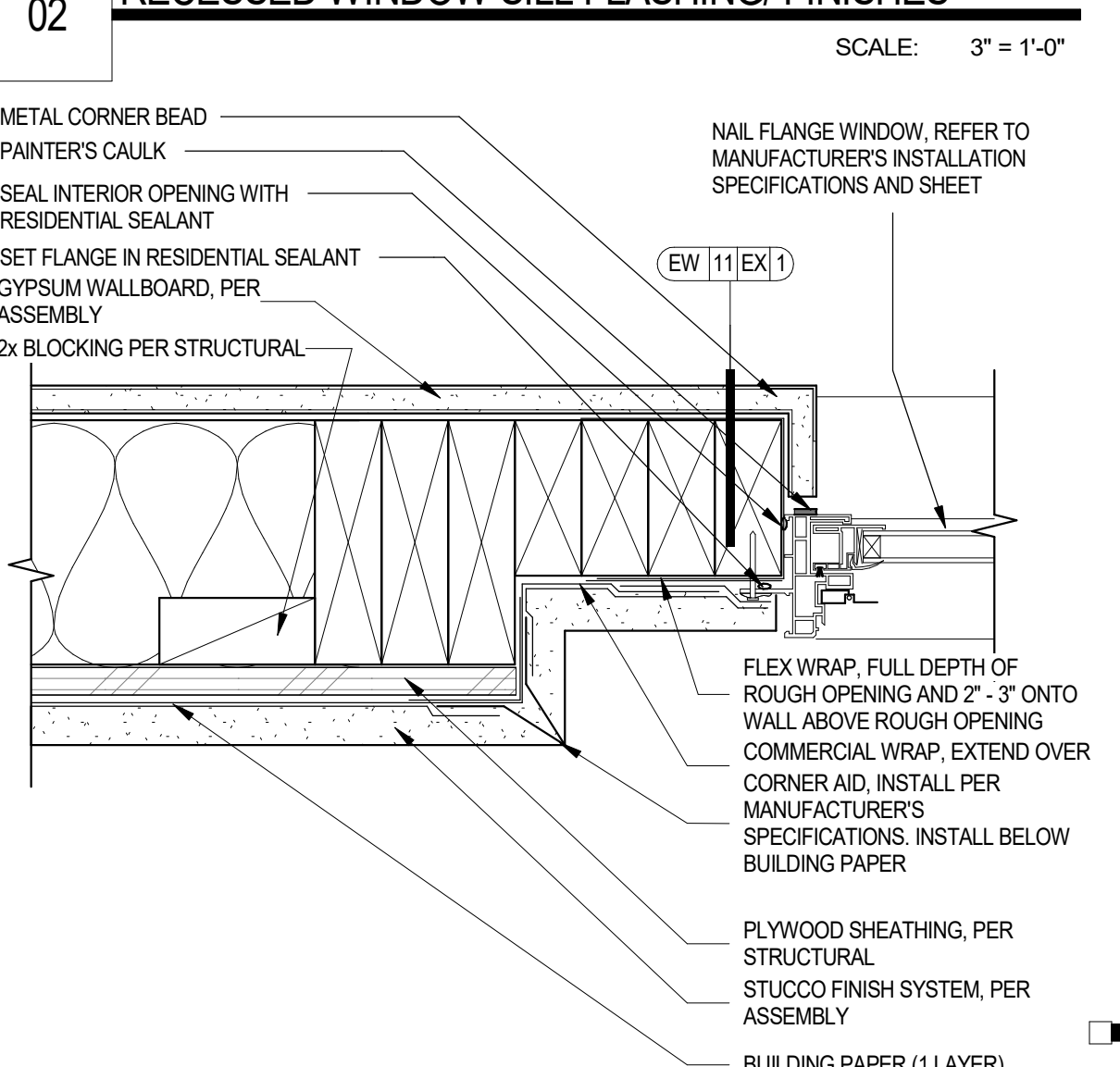
08 RECESSED WINDOW SILL AT POP OUT SHELF SCALE: 3" = 1'-0"



01 RECESSED WINDOW HEAD FLASHING/FINISHES SCALE: 3" = 1'-0"



02 RECESSED WINDOW SILL FLASHING/FINISHES SCALE: 3" = 1'-0"



03 RECESSED WINDOW JAMB FLASHING/FINISHES SCALE: 3" = 1'-0"

Project Name 1
Project Name 2
Street Address
City, state
Office of Rich Barber
ORB
Architecture, LLC
WorldHQ@ORBArch.com

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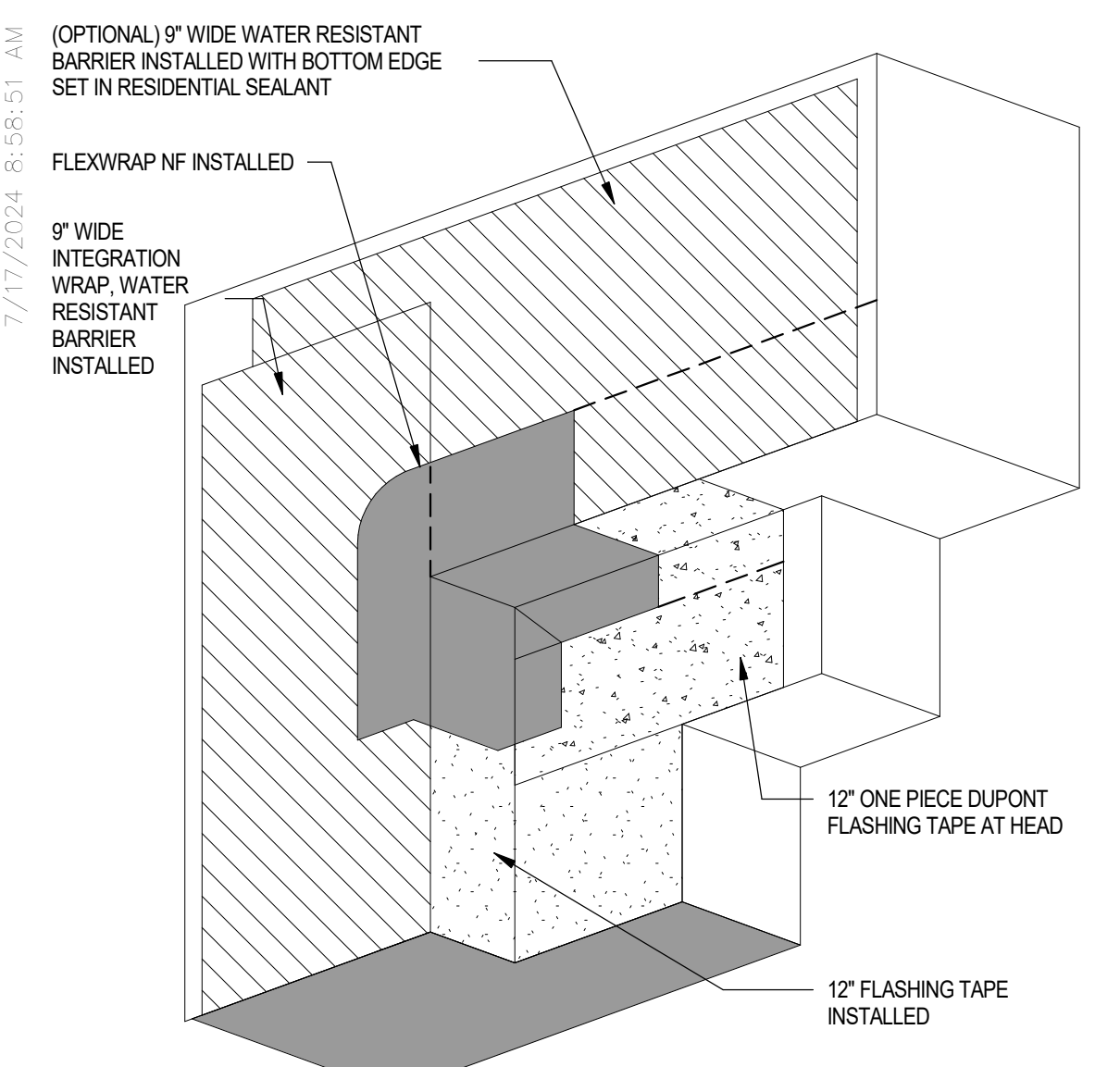
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REVISIONS/SUBMITTALS	DATE	DESCRIPTION
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CONSTRUCTION SET
DATE: July 17, 2024 ORB #: 00-000

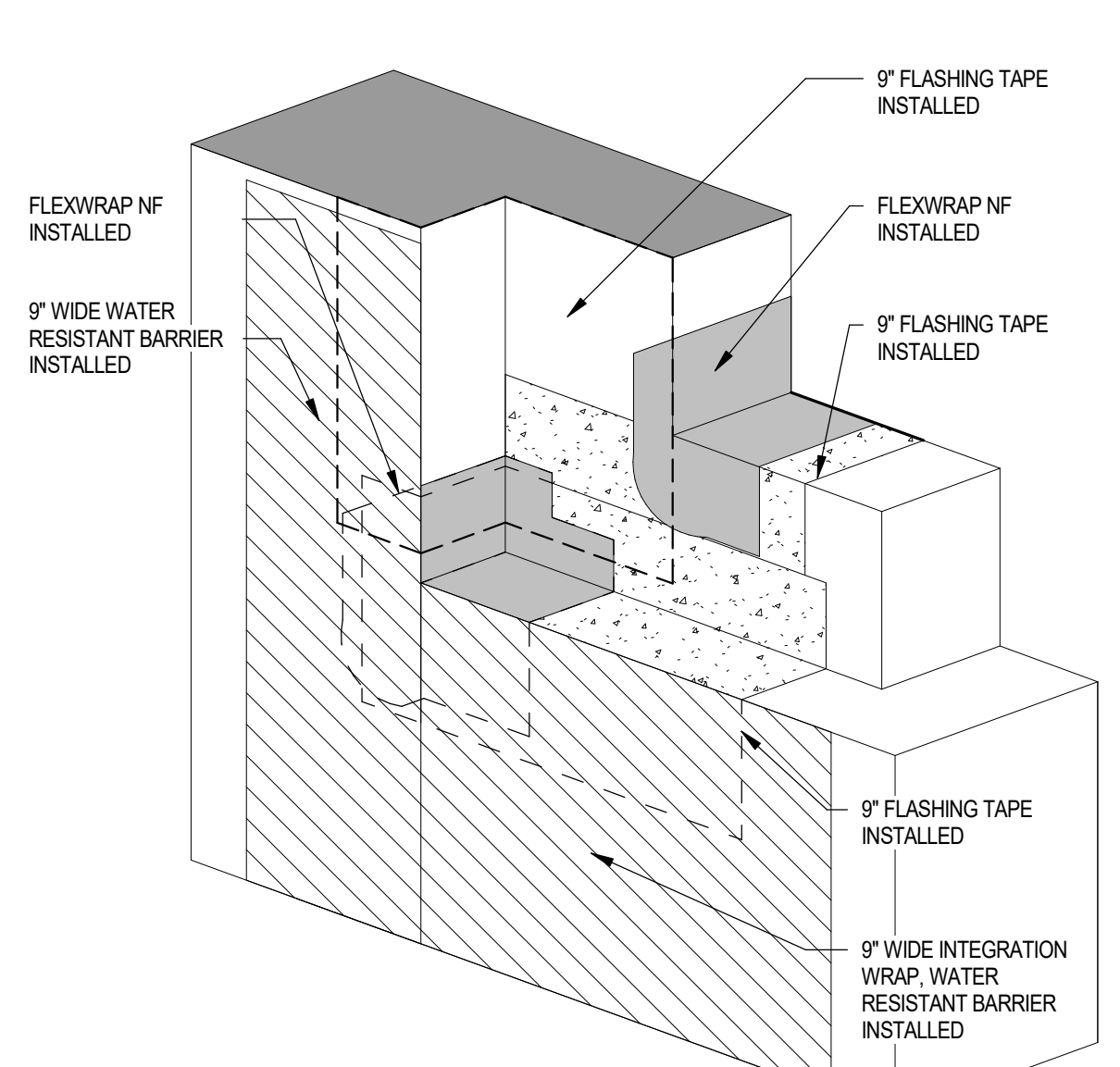
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WINDOW DETAILS TYVEK METHOD A

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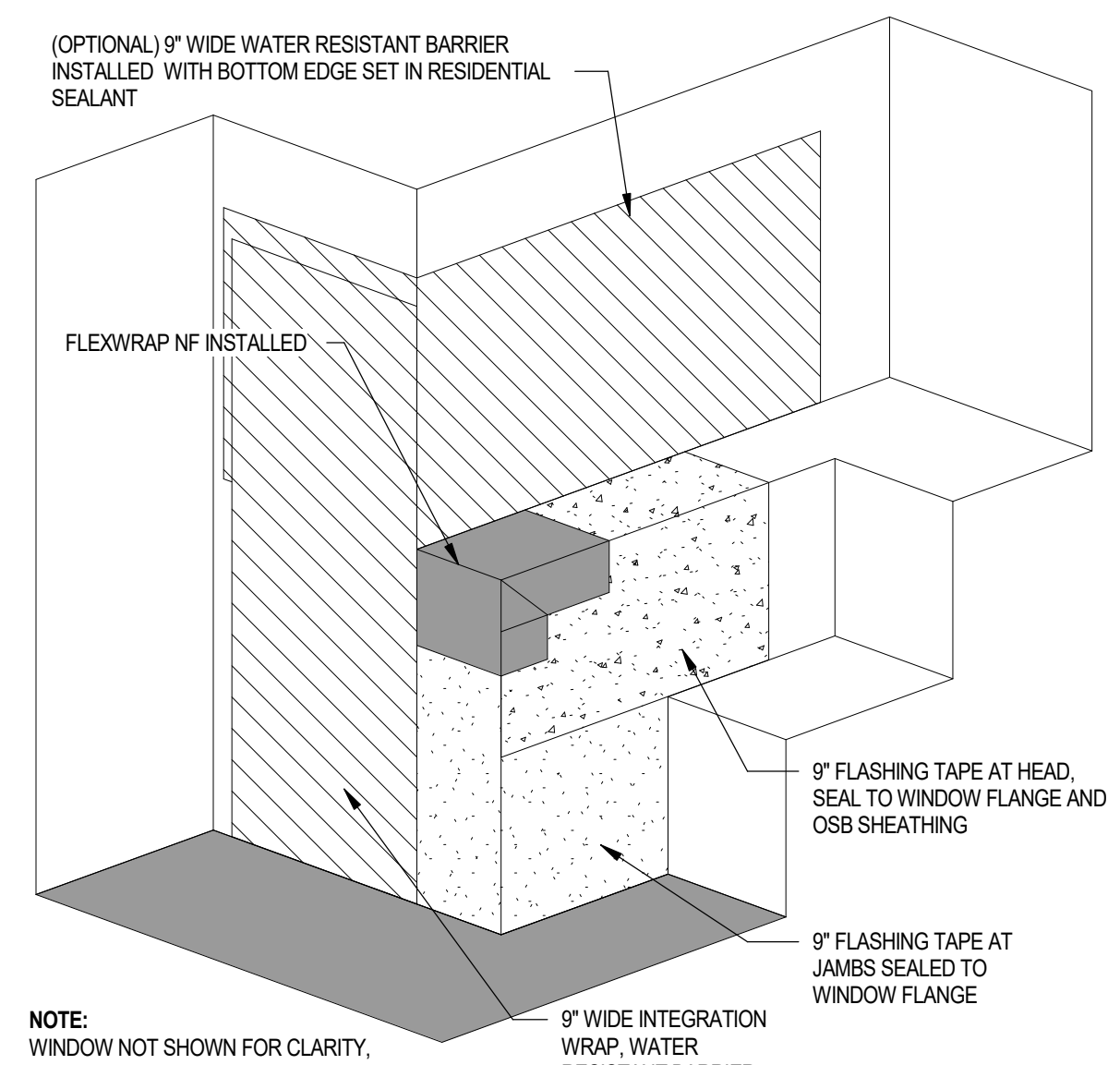
NOTE: WINDOW NOT SHOWN FOR CLARITY. INSTALLED PER MANUFACTURER RECOMMENDATIONS WITH INTERIOR PERIMETER SEALED ALL AROUND

21 TYPICAL RECESSED WINDOW HEAD - ISOMETRIC SCALE: 1" = 1'-0"



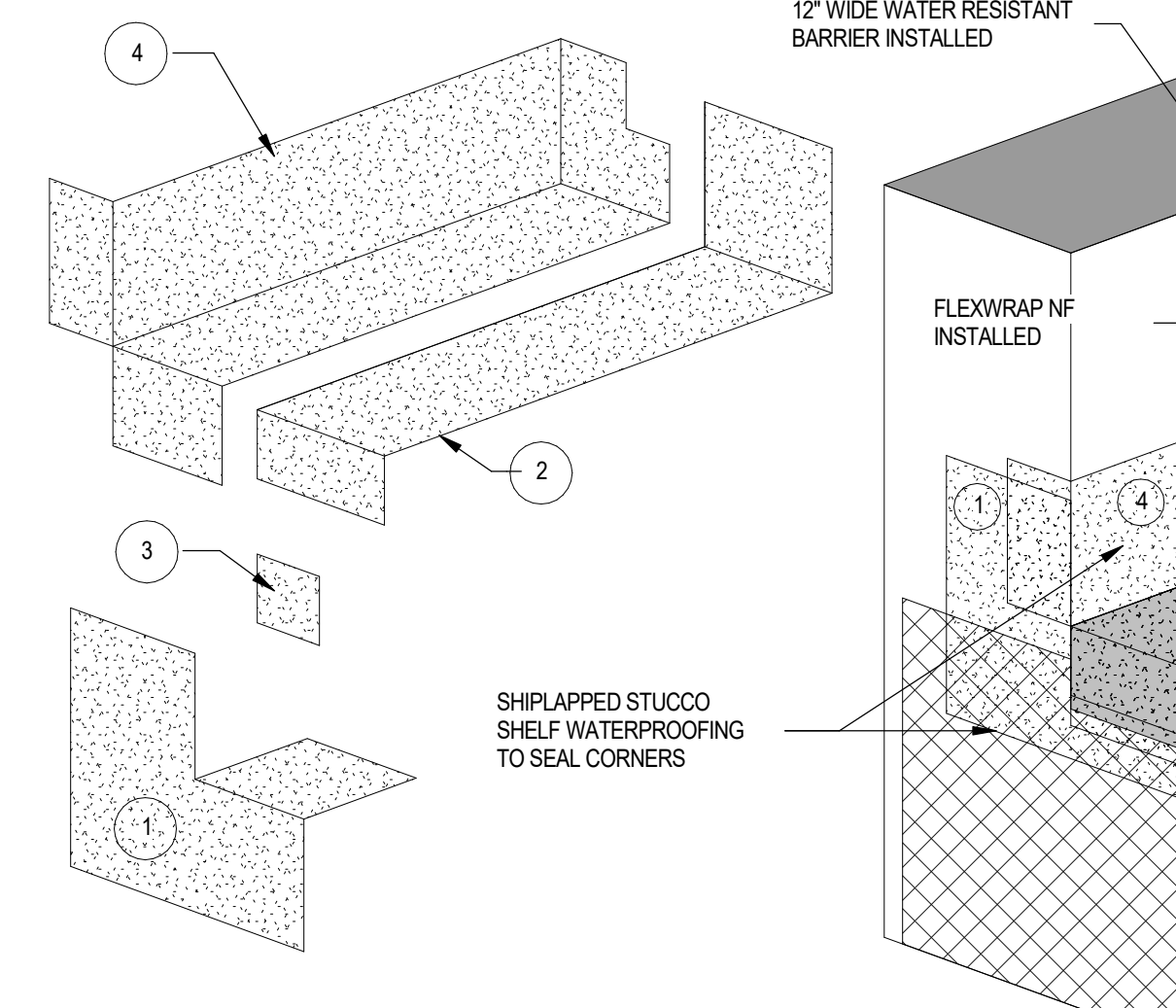
NOTE: WINDOW NOT SHOWN FOR CLARITY. INSTALLED PER MANUFACTURER RECOMMENDATIONS WITH INTERIOR PERIMETER SEALED ALL AROUND

17 TYPICAL RECESSED WINDOW SILL - ISOMETRIC SCALE: 1" = 1'-0"



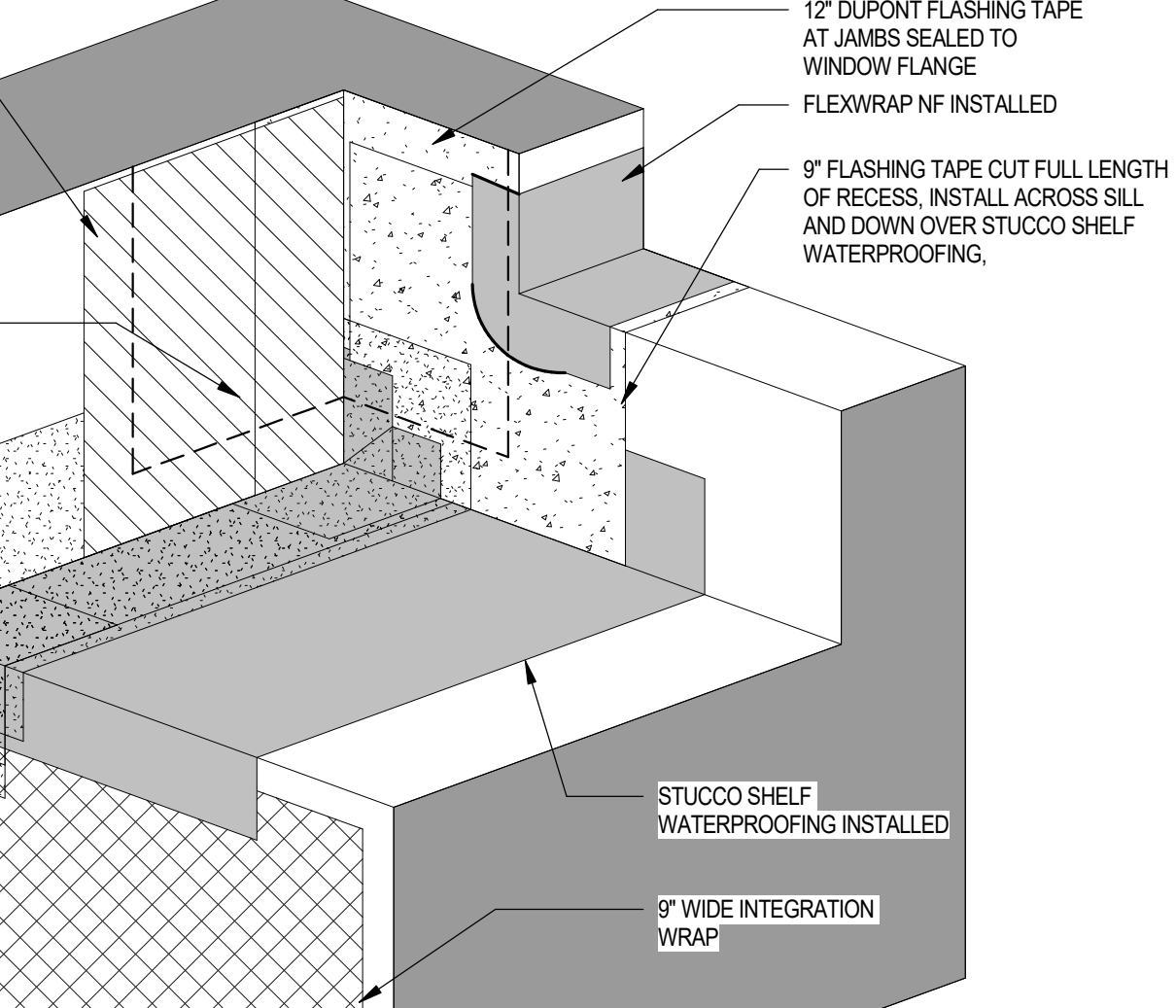
NOTE: WINDOW NOT SHOWN FOR CLARITY. INSTALLED PER MANUFACTURER WITH INTERIOR PERIMETER SEALED ALL AROUND

13 RECESSED WINDOW HEAD WITH POP OUT AT JAMB - ISOMETRIC SCALE: 1" = 1'-0"



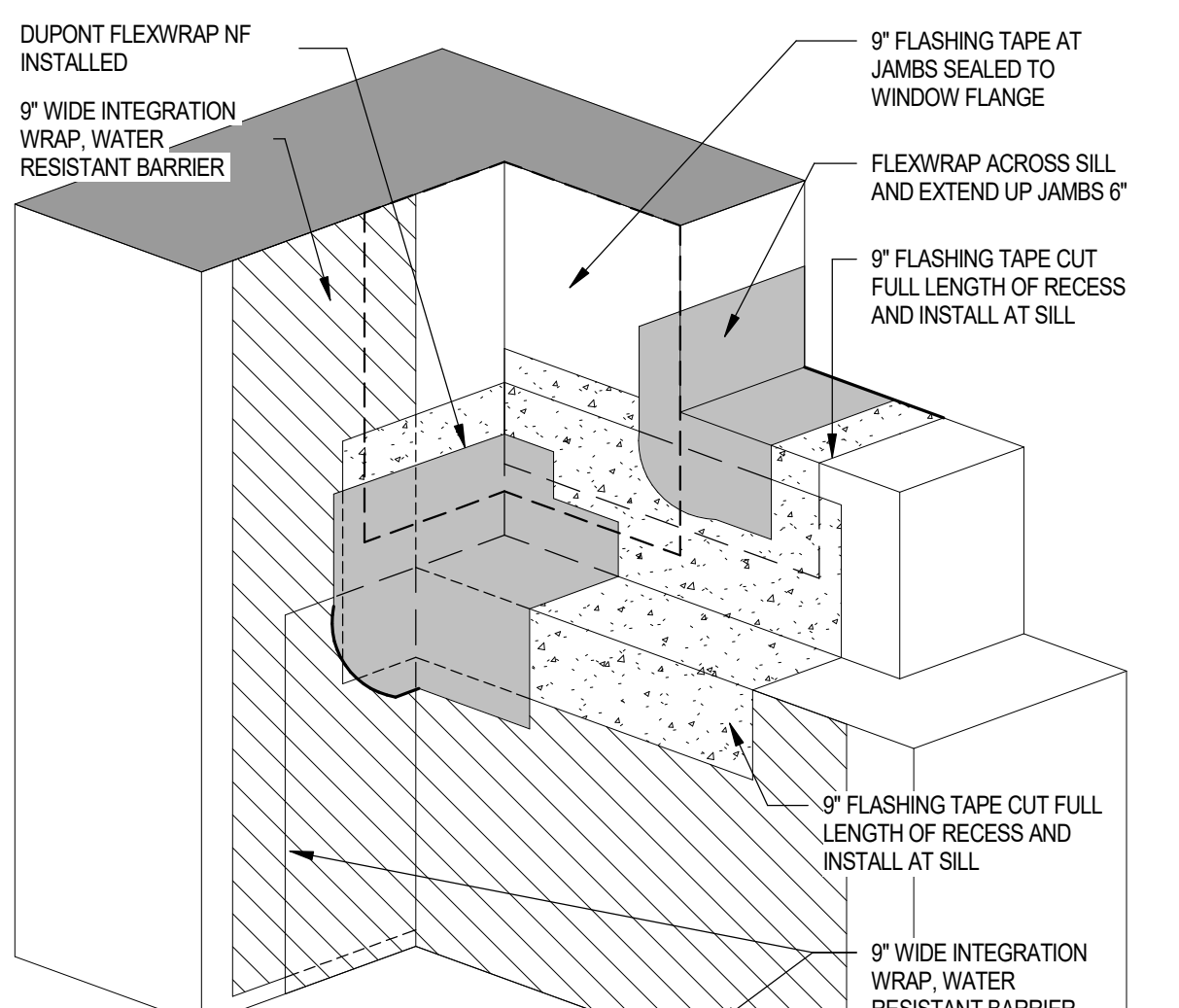
NOTE: WINDOW NOT SHOWN FOR CLARITY. INSTALLED PER MANUFACTURER RECOMMENDATIONS WITH INTERIOR PERIMETER SEALED ALL AROUND

22 RECESSED WINDOW SILL AT POP BELOW & AT SIDE - ISOMETRIC SCALE: 1" = 1'-0"



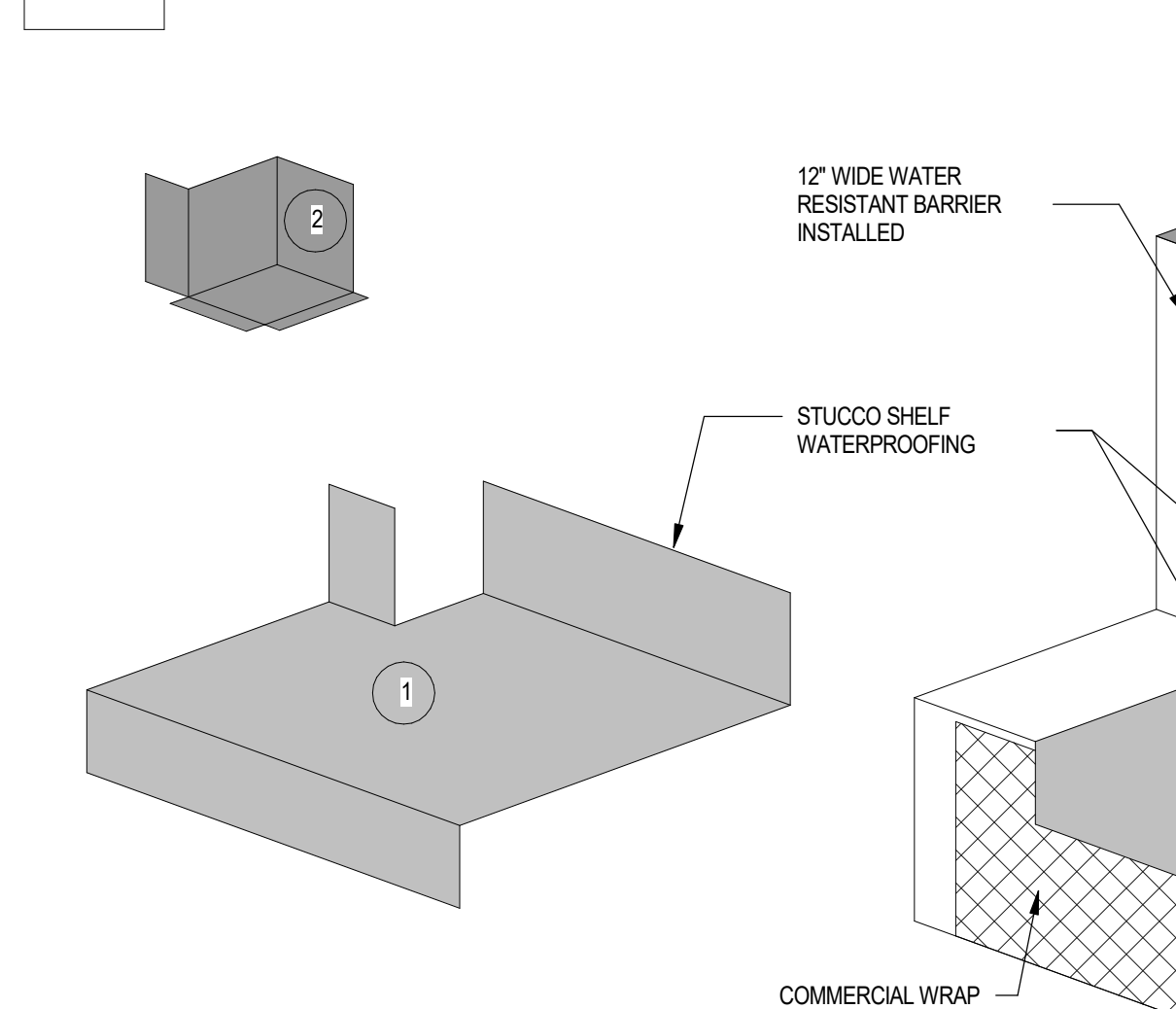
NOTE: WINDOW NOT SHOWN FOR CLARITY. INSTALLED PER STEP 9 WITH INTERIOR PERIMETER SEALED ALL AROUND PER STEP 14

14 RECESSED WINDOW SILL WITH POP OUT AT JAMB - ISOMETRIC SCALE: 1" = 1'-0"



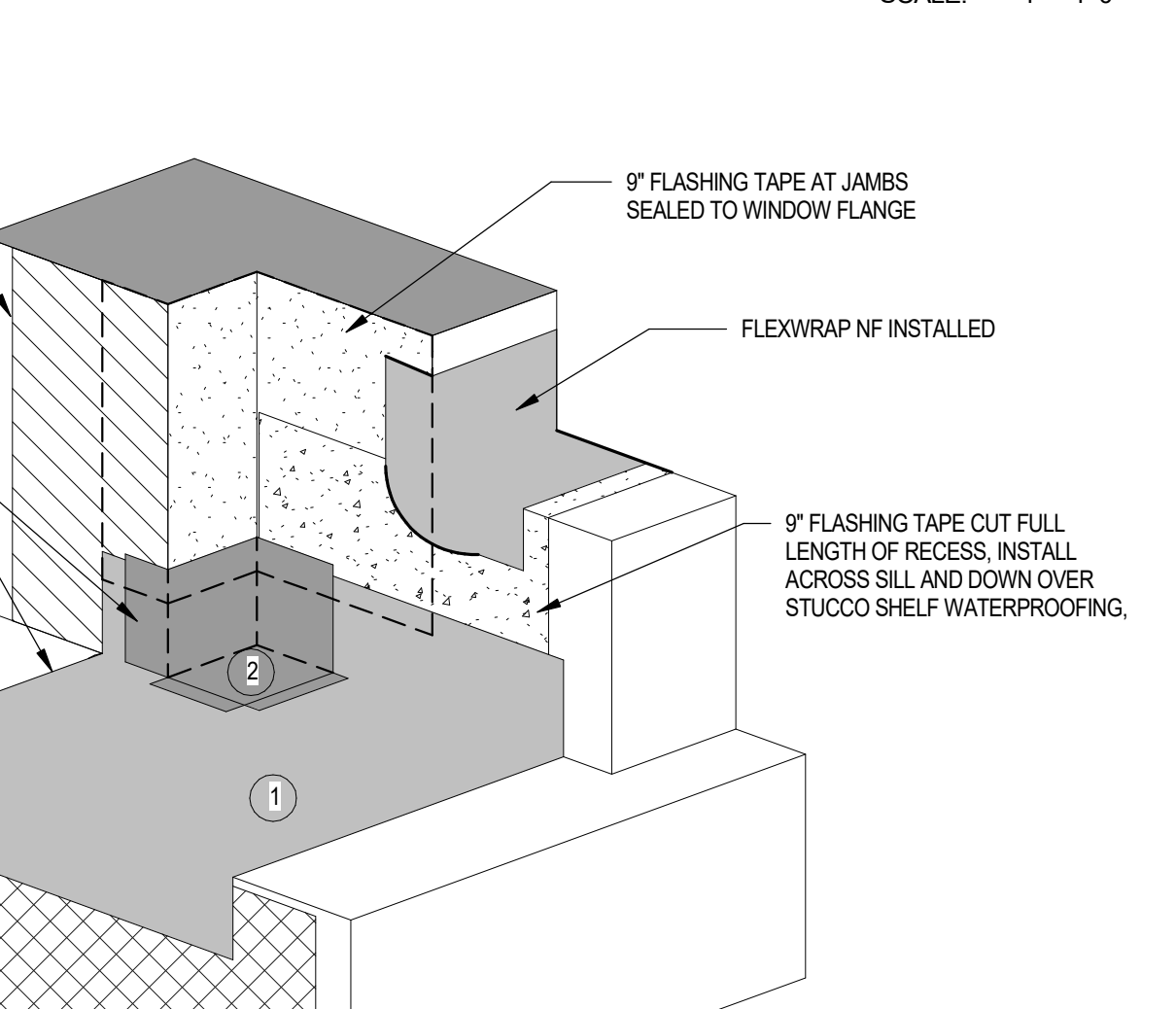
NOTE: WINDOW NOT SHOWN FOR CLARITY. INSTALLED PER MANUFACTURER RECOMMENDATIONS WITH INTERIOR PERIMETER SEALED ALL AROUND

15 RECESSED WINDOW SILL AT POP OUT SHELF - ISOMETRIC SCALE: 1" = 1'-0"



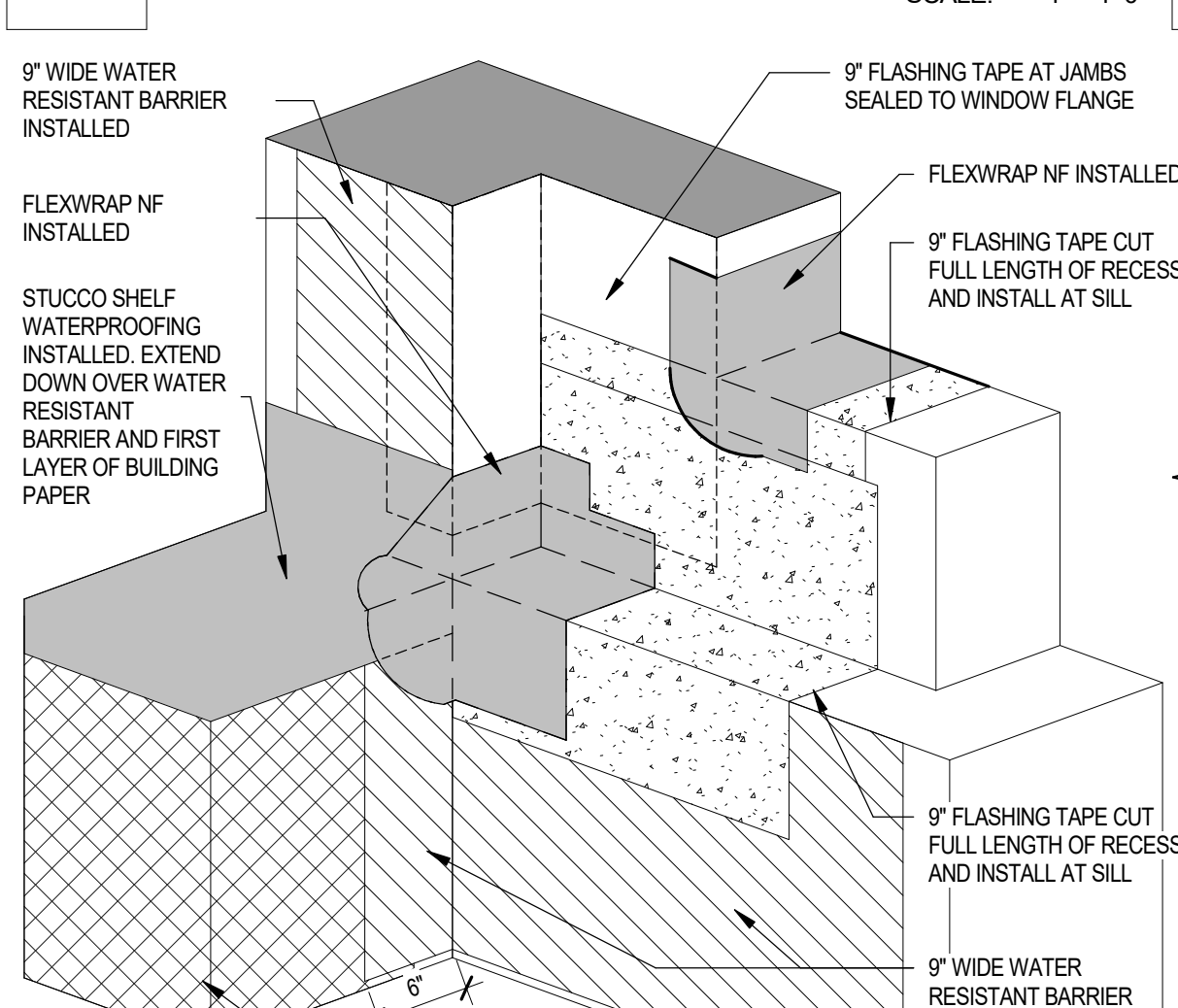
NOTE: WINDOW NOT SHOWN FOR CLARITY. INSTALLED PER MANUFACTURER RECOMMENDATIONS WITH INTERIOR PERIMETER SEALED ALL AROUND

23 RECESSED WINDOW SILL AT POP OUT SHELF - ISOMETRIC SCALE: 1" = 1'-0"



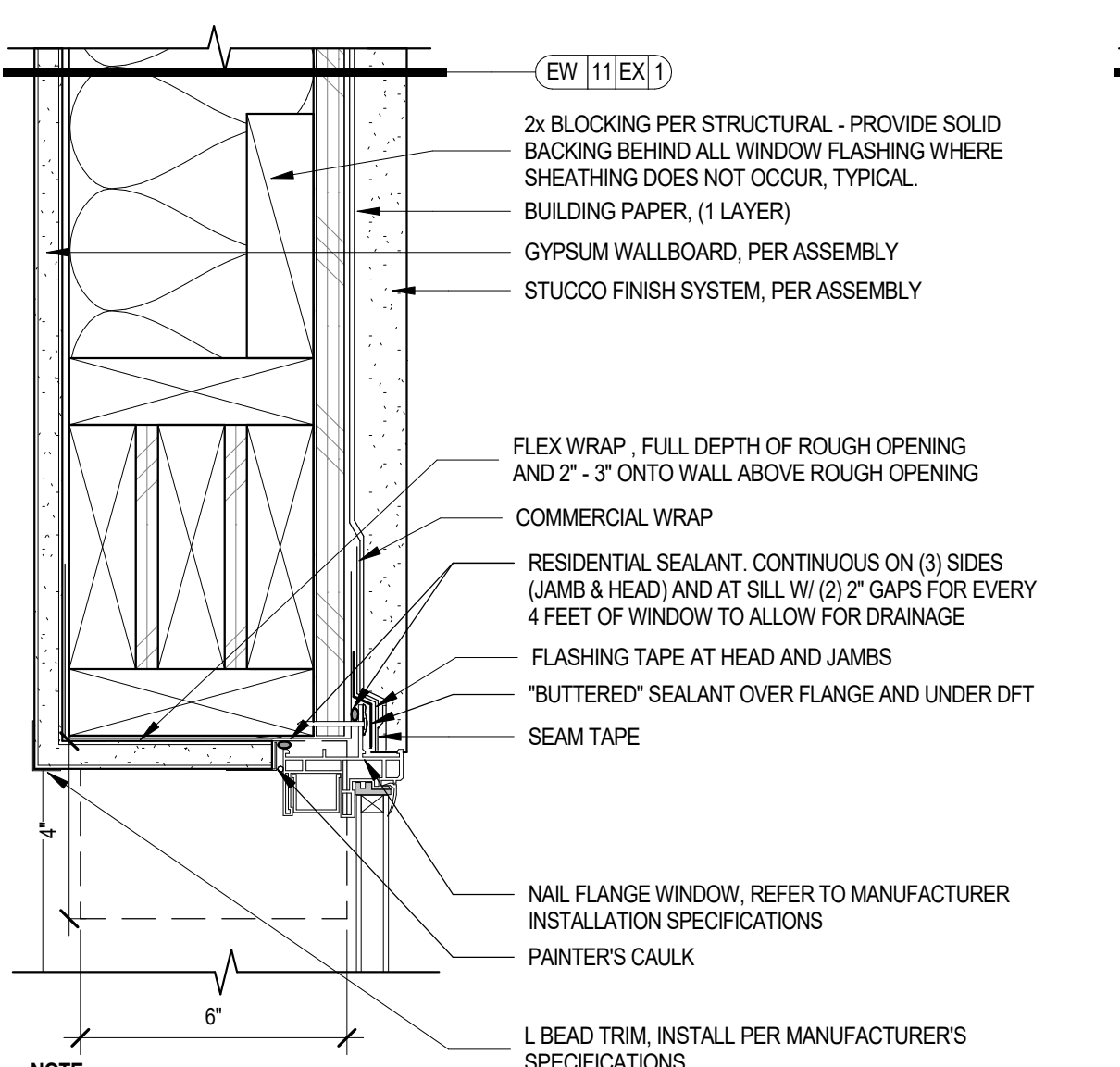
NOTE: WINDOW NOT SHOWN FOR CLARITY. INSTALLED PER MANUFACTURER RECOMMENDATIONS WITH INTERIOR PERIMETER SEALED ALL AROUND

16 RECESSED WINDOW HEAD WITH POP OUT AT JAMB & HEAD - ISOMETRIC SCALE: 1" = 1'-0"



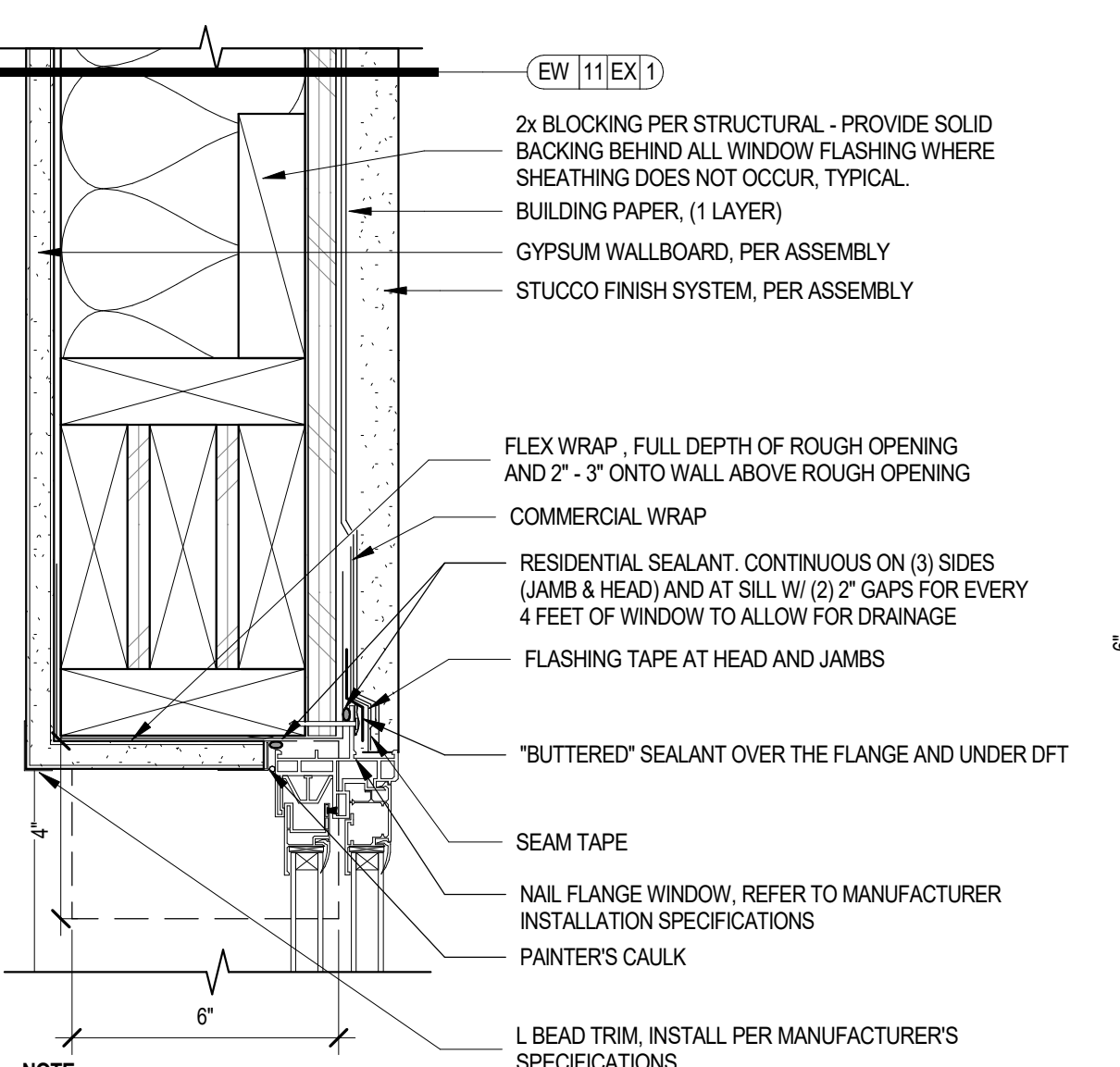
NOTE: REFER TO MANUFACTURER INSTALLATION GUIDELINES FOR INTEGRAL FLANGED WINDOWS IN FLUSH OPENING BEFORE WATER-RESISTIVE BARRIER (WATER RESISTANT BARRIER) IS INSTALLED.

10 FLUSH FIXED WINDOW SILL FLASHING/FINISHES SCALE: 3\"/>



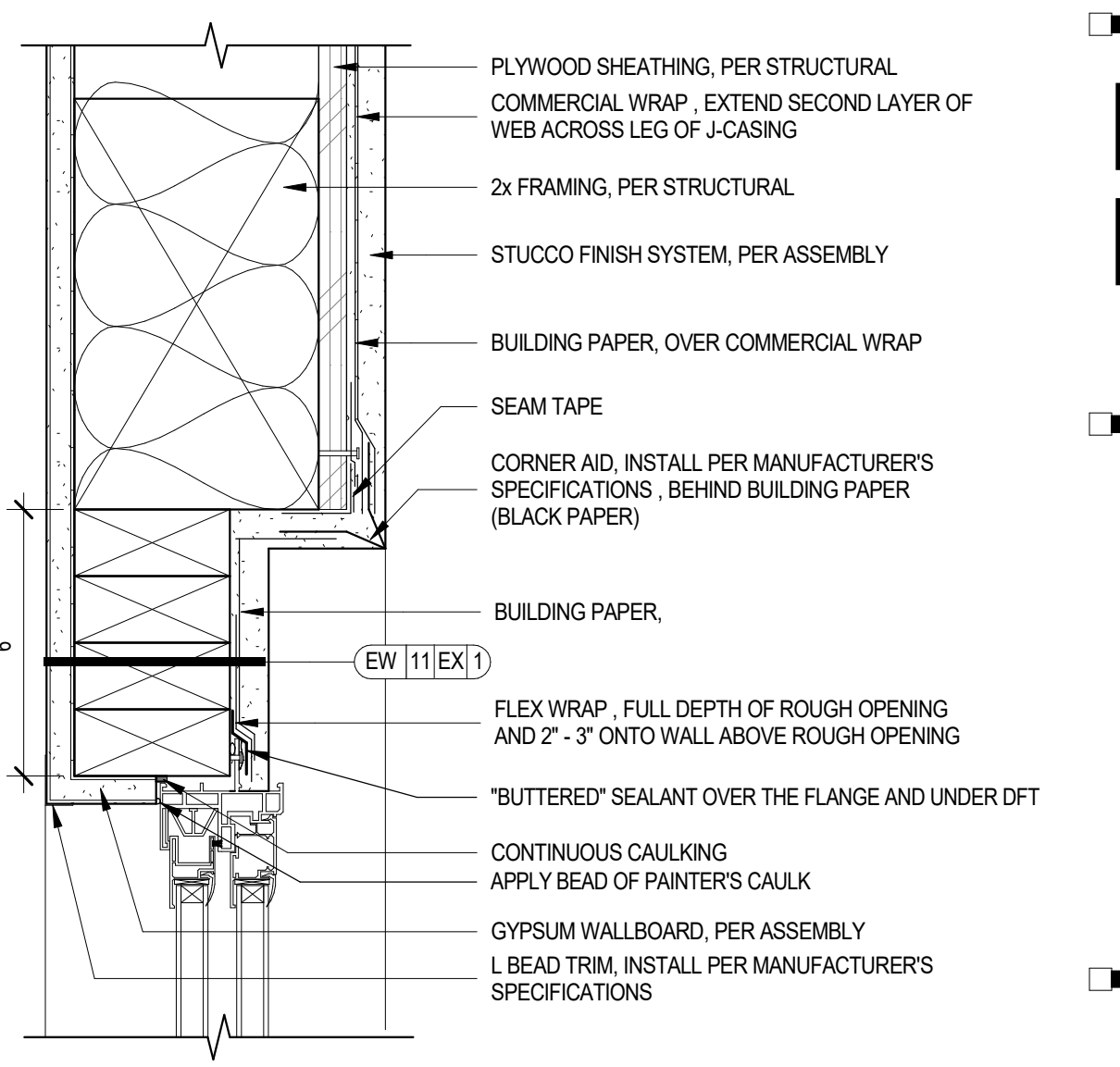
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09 FLUSH FIXED WINDOW HEAD FLASHING/FINISHES SCALE: 3\"/>



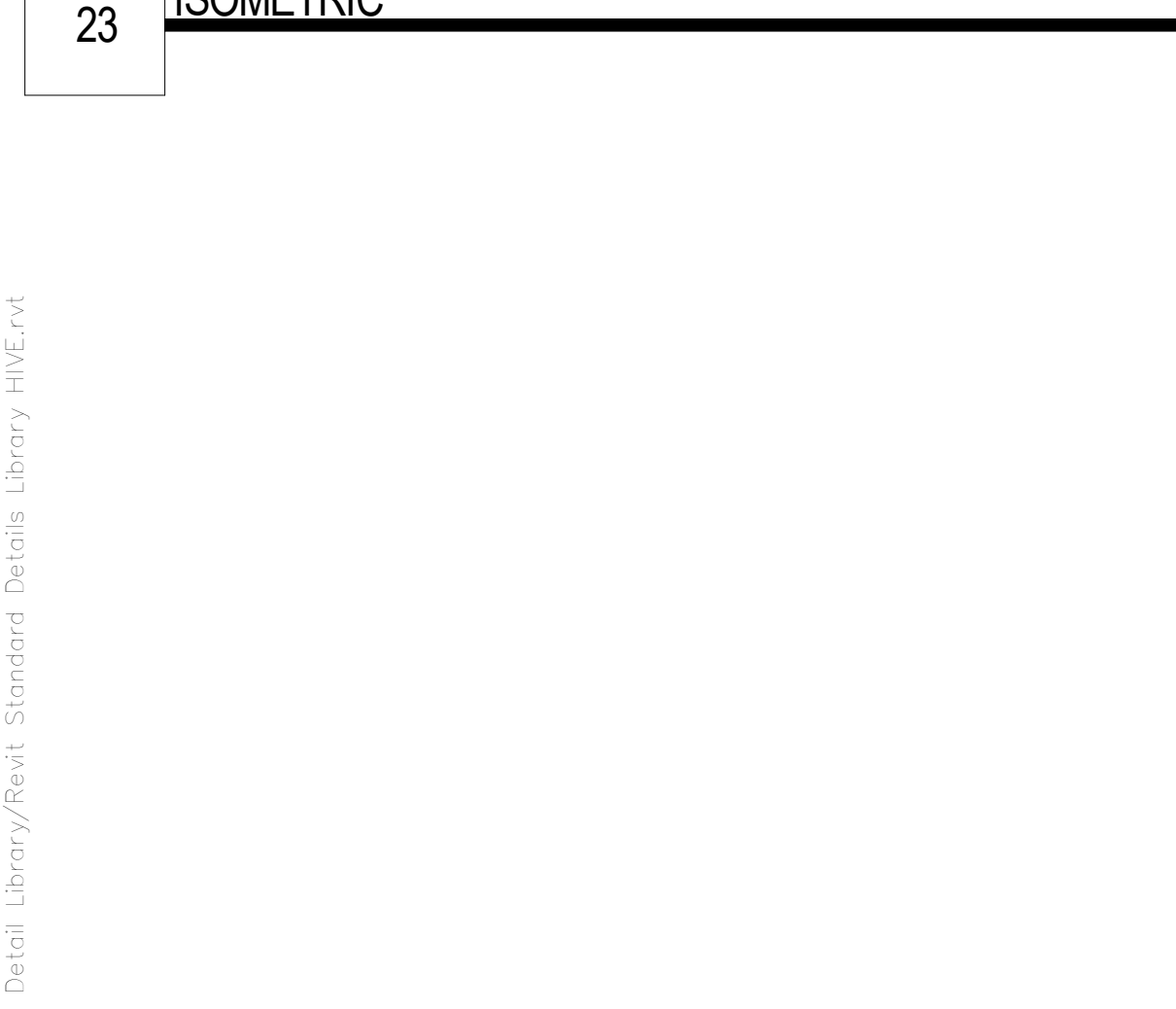
NOTE: REFER TO MANUFACTURER INSTALLATION GUIDELINES FOR INTEGRAL FLANGED WINDOWS IN FLUSH OPENING BEFORE WATER-RESISTIVE BARRIER (WATER RESISTANT BARRIER) IS INSTALLED.

05 FLUSH WINDOW HEAD FLASHING/FINISHES SCALE: 3\"/>



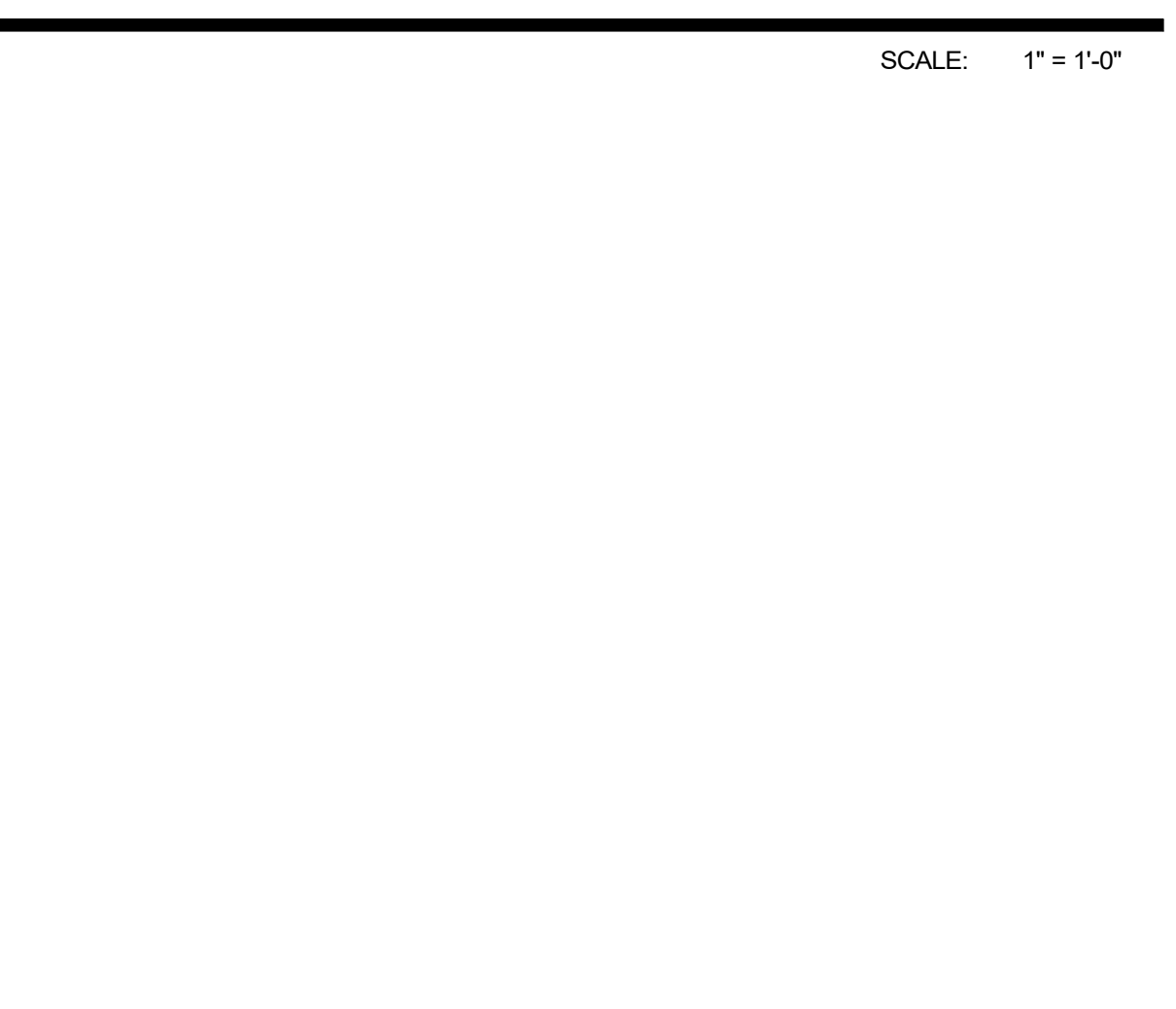
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01 RECESSED WINDOW HEAD FLASHING/FINISHES SCALE: 3\"/>



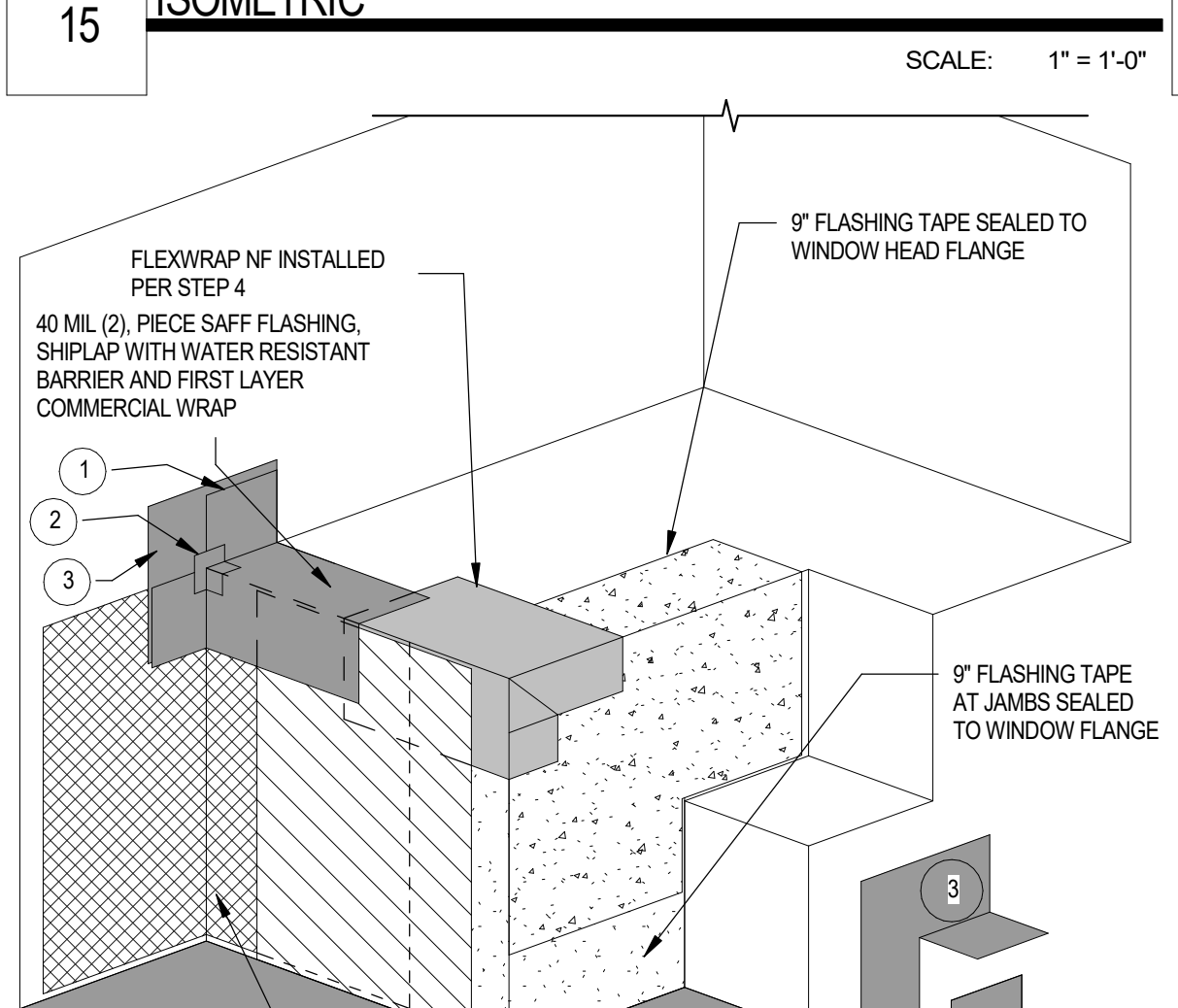
NOTE: WINDOW NOT SHOWN FOR CLARITY. INSTALLED PER MANUFACTURER RECOMMENDATIONS WITH INTERIOR PERIMETER SEALED ALL AROUND

11 FLUSH FIXED WINDOW JAMB FLASHING/FINISHES SCALE: 3\"/>



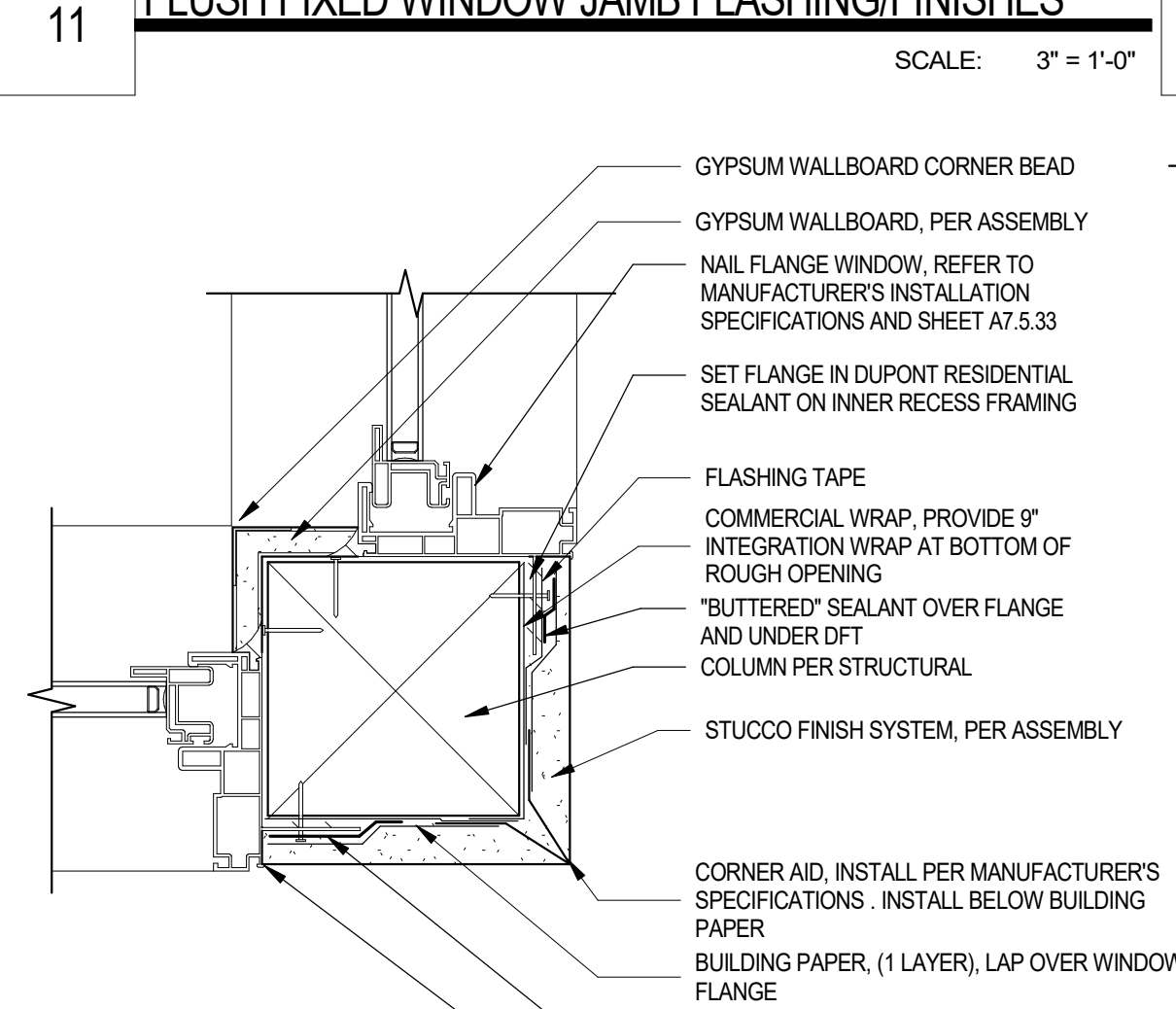
NOTE: REFER TO MANUFACTURER INSTALLATION GUIDELINES FOR INTEGRAL FLANGED WINDOWS IN FLUSH OPENING BEFORE WATER-RESISTIVE BARRIER (WATER RESISTANT BARRIER) IS INSTALLED.

07 FLUSH WINDOW JAMB FLASHING/FINISHES SCALE: 3\"/>



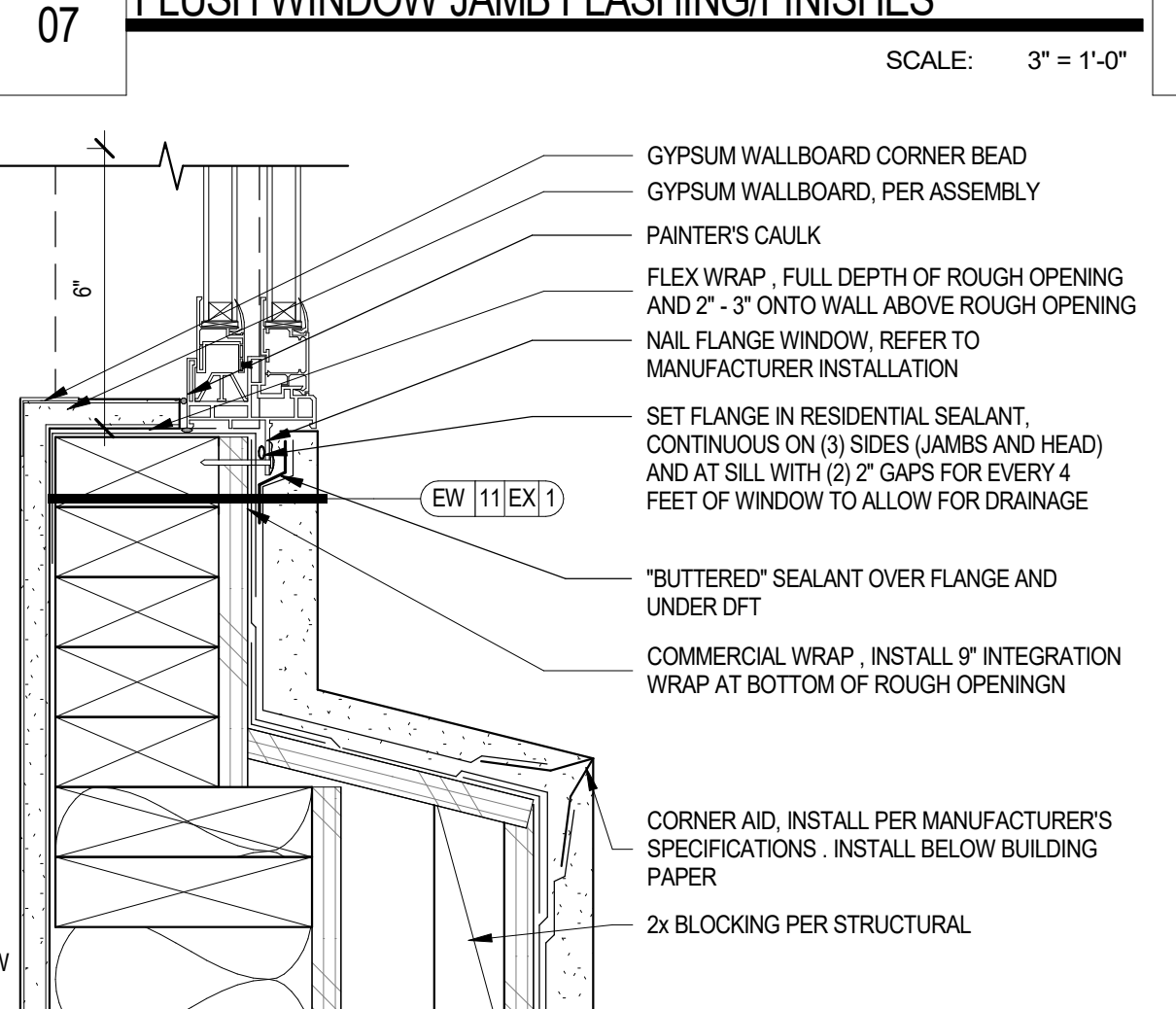
NOTE: REFER TO MANUFACTURER INSTALLATION GUIDELINES FOR INTEGRAL FLANGED WINDOWS IN RECESSED OPENING BEFORE WATER-RESISTIVE BARRIER (WATER RESISTANT BARRIER) IS INSTALLED.

03 RECESSED WINDOW JAMB FLASHING/FINISHES SCALE: 3\"/>



NOTE: REFER TO MANUFACTURER INSTALLATION GUIDELINES FOR INTEGRAL FLANGED WINDOWS IN RECESSED OPENING BEFORE WATER-RESISTIVE BARRIER (WATER RESISTANT BARRIER) IS INSTALLED.

12 FLUSH CORNER WINDOW JAMB FLASHING/FINISHES SCALE: 3\"/>



NOTE: REFER TO MANUFACTURER INSTALLATION GUIDELINES FOR INTEGRAL FLANGED WINDOWS IN RECESSED OPENING BEFORE WATER-RESISTIVE BARRIER (WATER RESISTANT BARRIER) IS INSTALLED.

08 RECESSED WINDOW SILL AT POP OUT SHELF SCALE: 3\"/>

Project Name 1
Project Name 2
Street Address
City, state
Office of Rich Barber Architecture, LLC
ORB
WorldHQ@ORBArch.com

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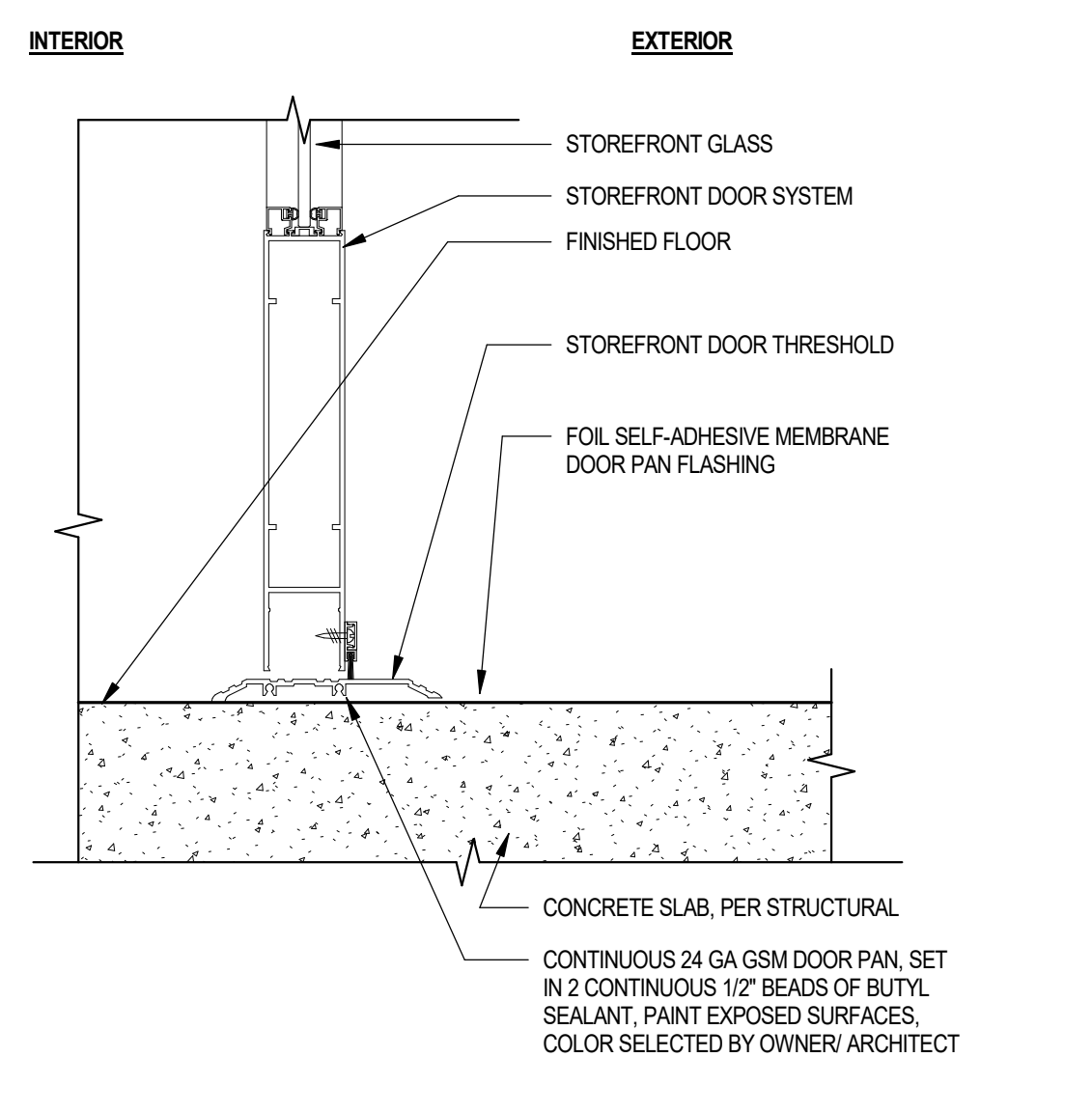
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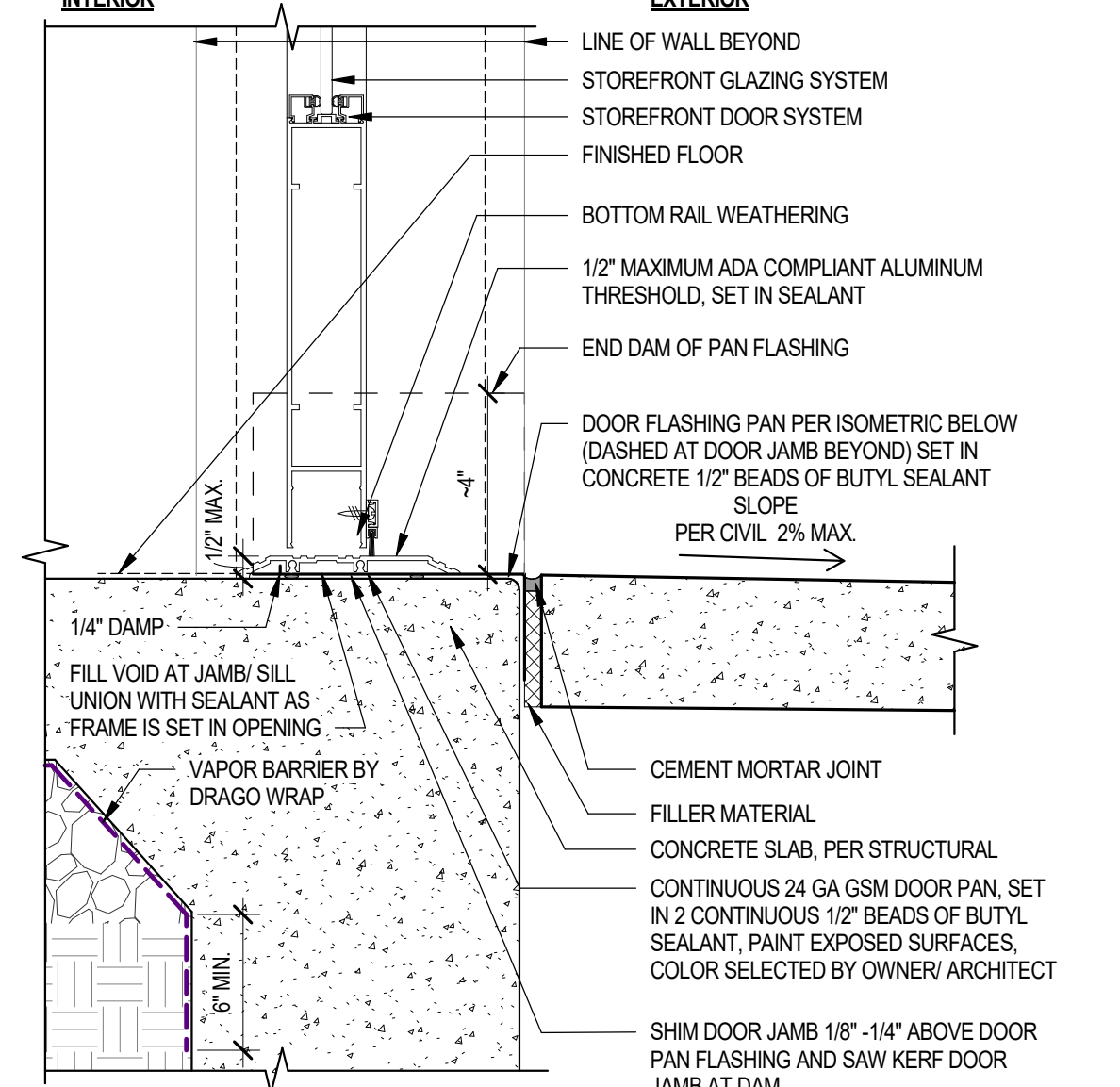
REVISIONS/SUBMITTALS	DATE	DESCRIPTION
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CONSTRUCTION SET
DATE: July 17, 2024 ORB #: 00-000

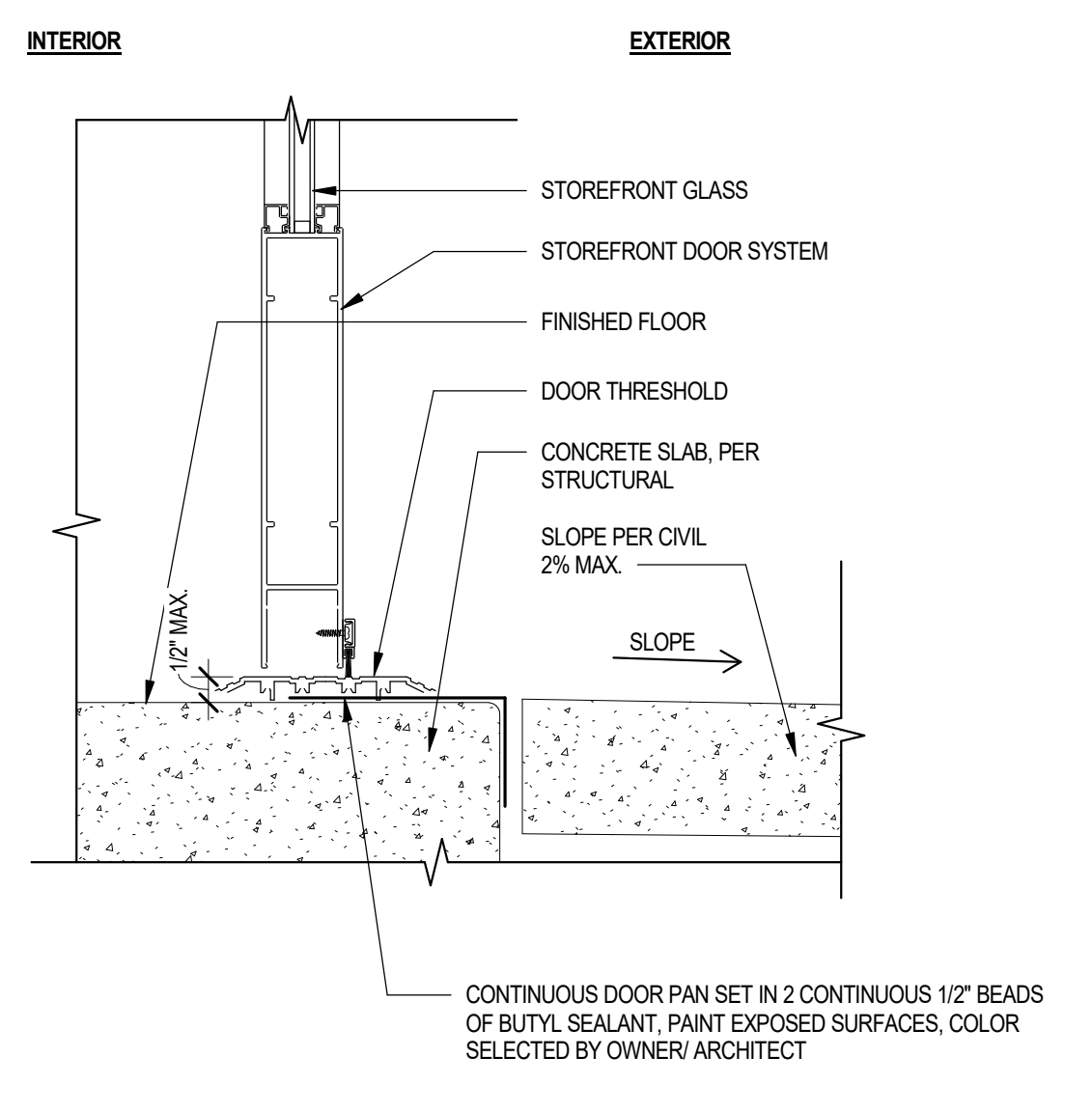
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WINDOW DETAILS TYVEK METHOD B



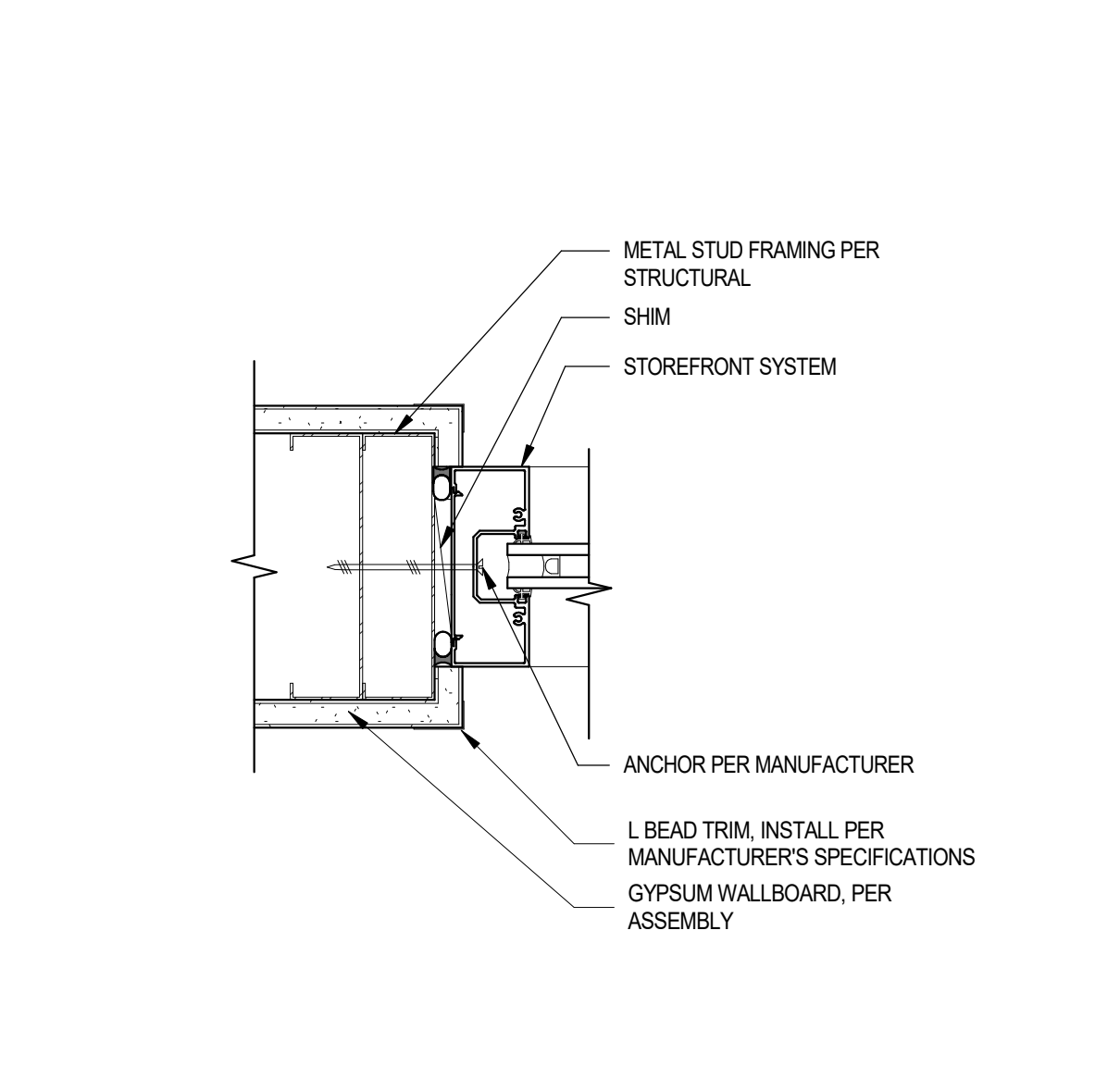
17 STOREFRONT DOOR SILL AT SLAB - INTERIOR SCALE: 3" = 1'-0"



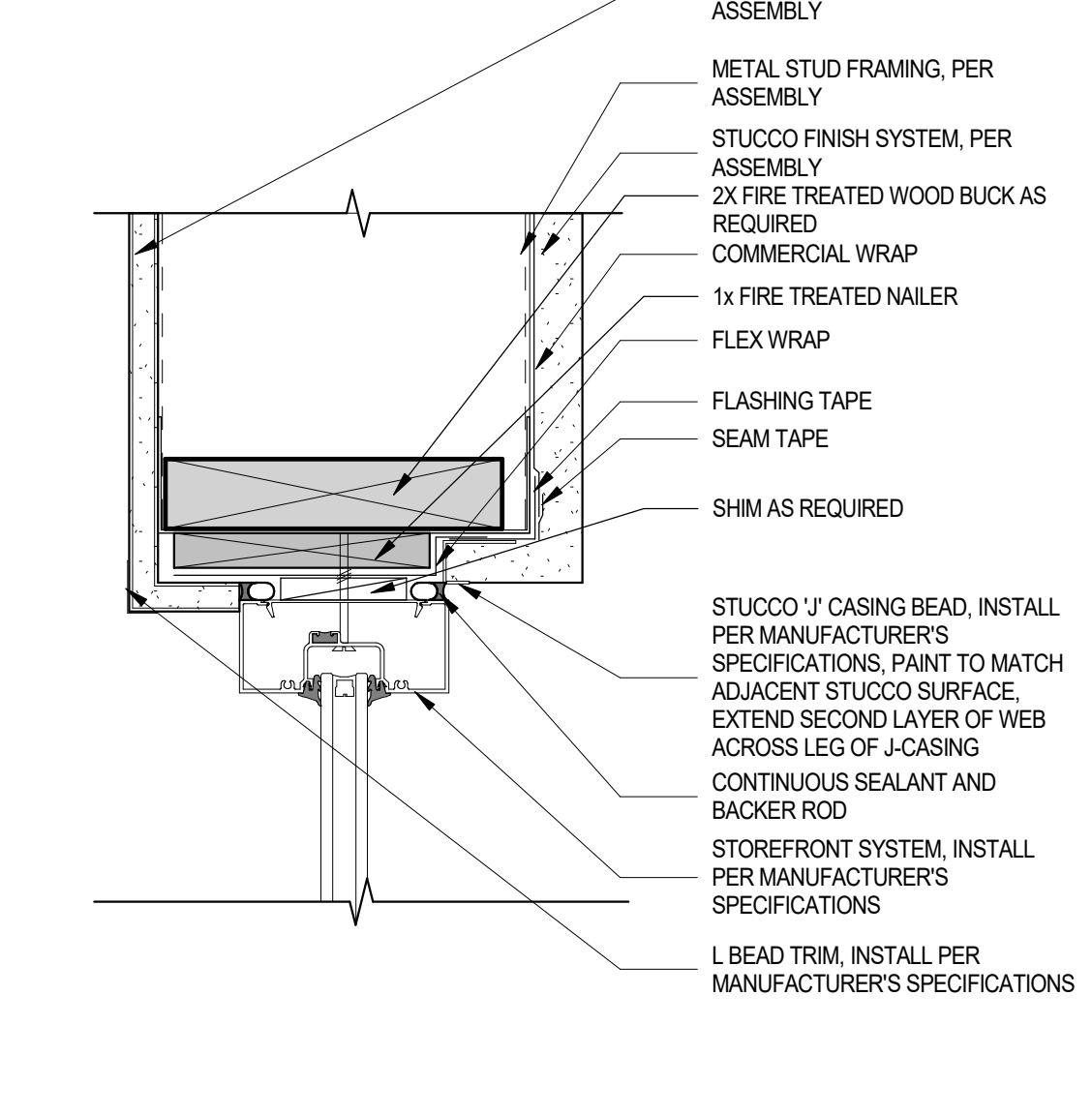
13 STOREFRONT DOOR SILL AT SLAB EDGE & SIDEWALK SCALE: 3" = 1'-0"



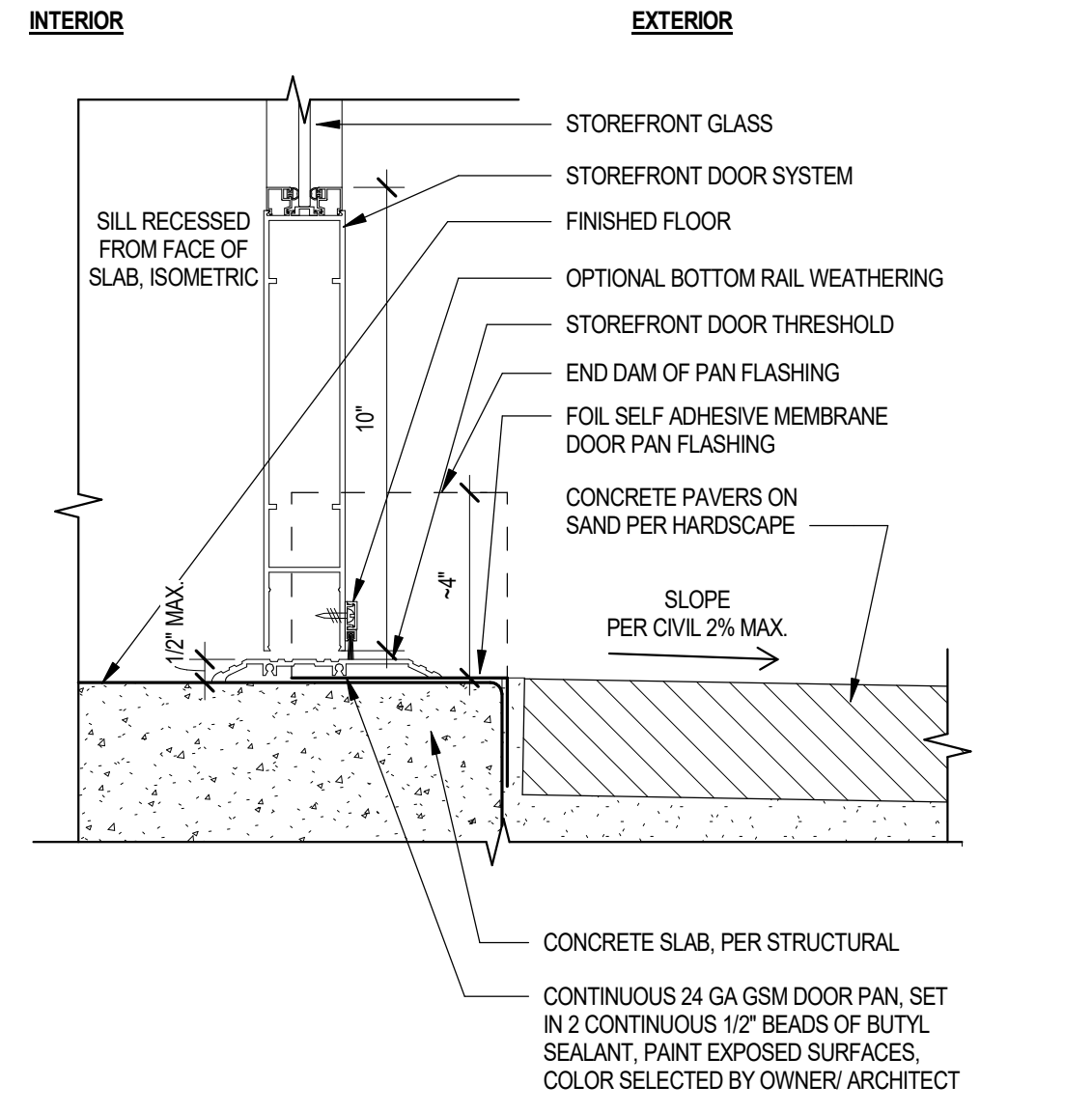
09 STOREFRONT DOOR SILL AT SLAB EDGE SCALE: 3" = 1'-0"



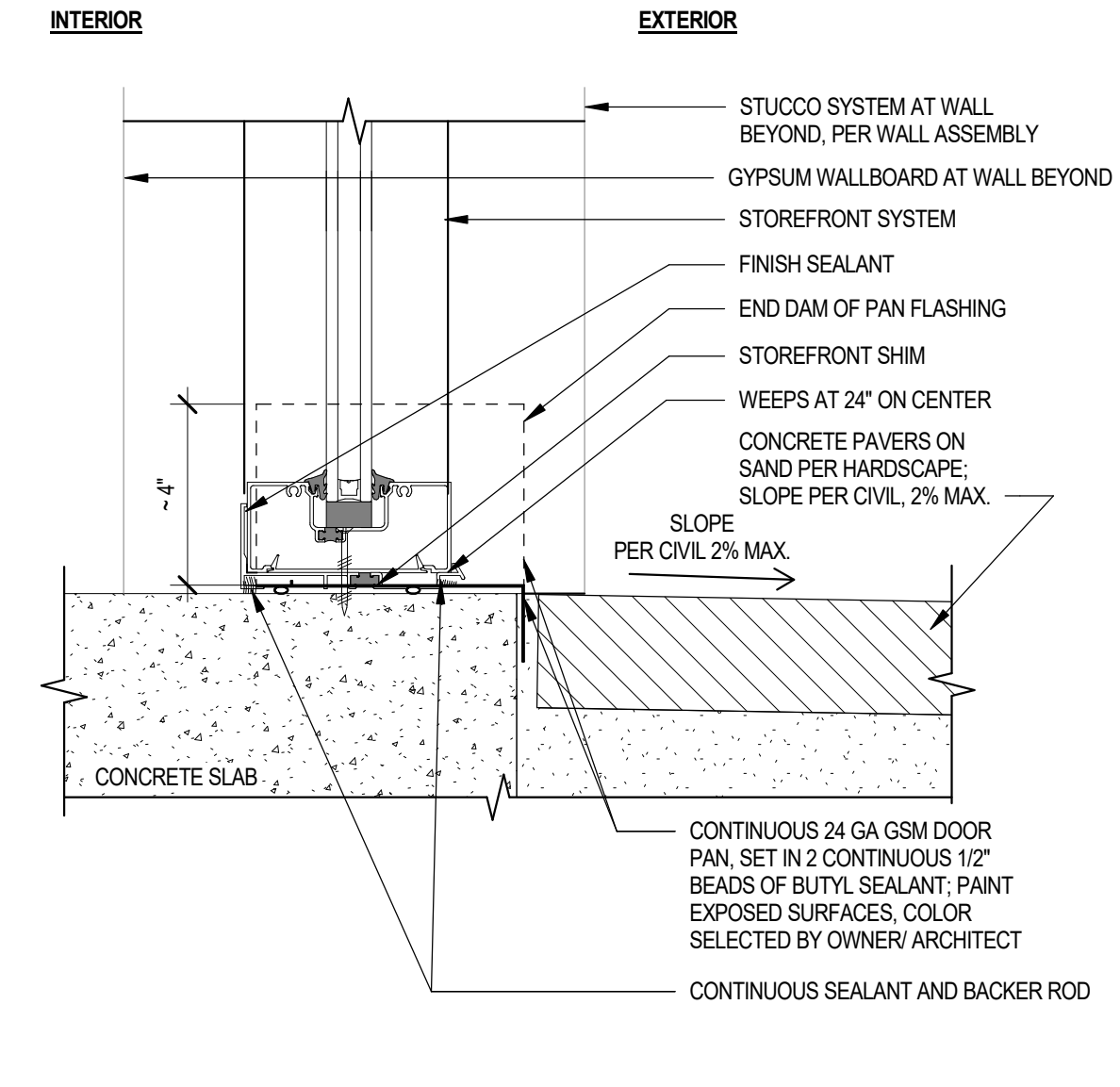
05 STOREFRONT JAMB-INTERIOR HEAD & SILL SIM. SCALE: 3" = 1'-0"



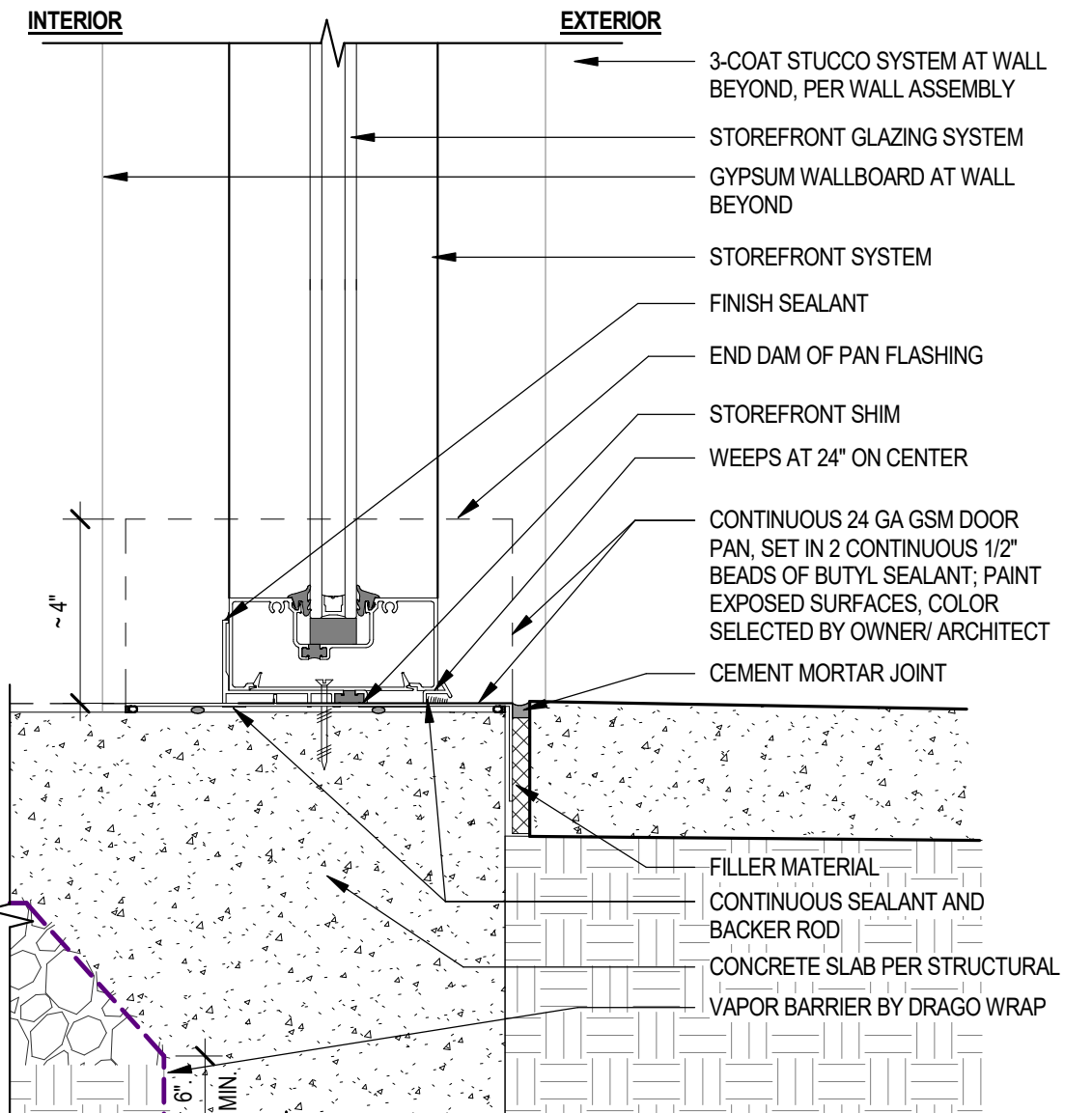
01 STOREFRONT DOOR HEAD SCALE: 3" = 1'-0"



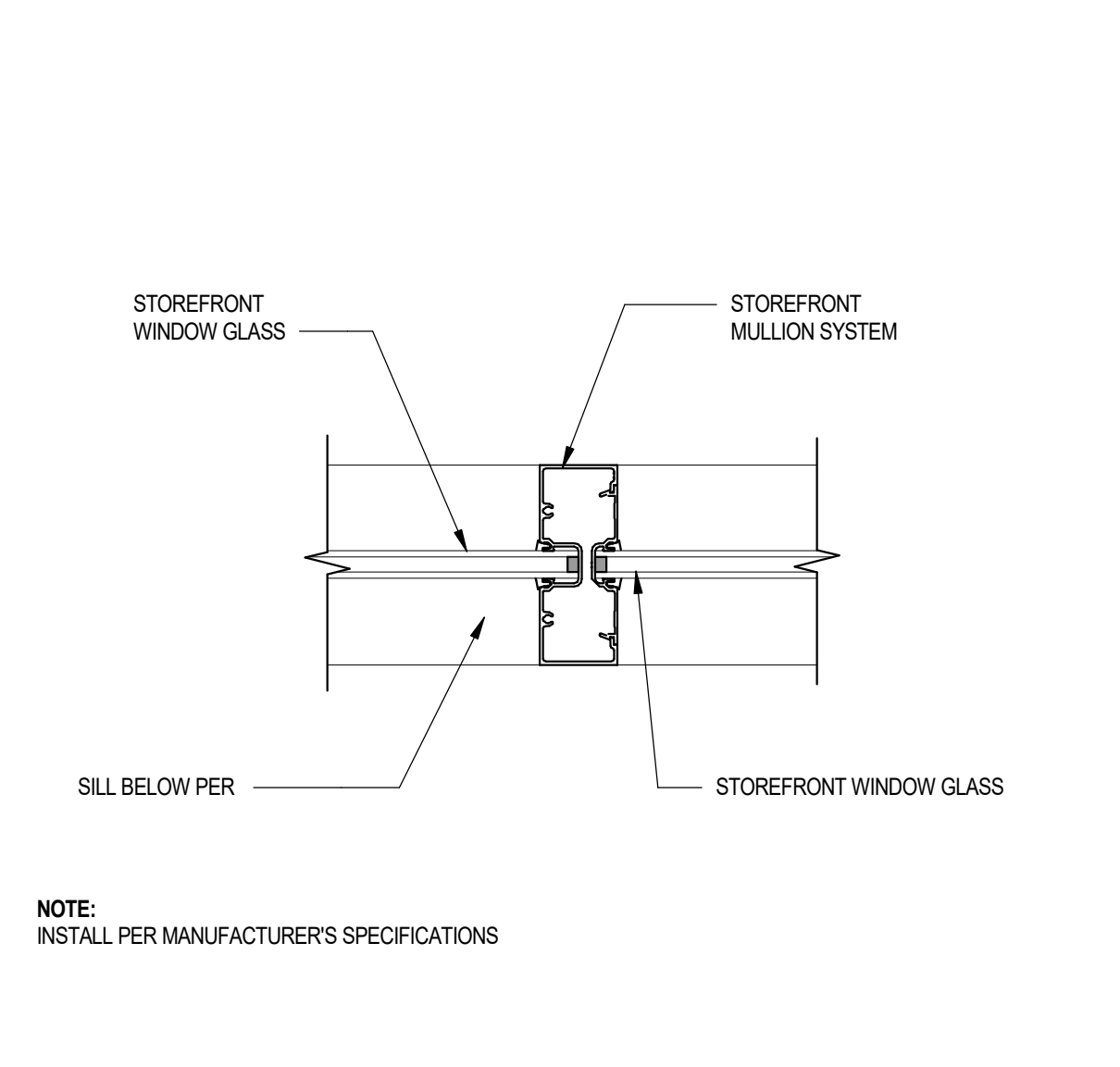
18 STOREFRONT DOOR SILL AT SLAB EDGE & PAVERS SCALE: 3" = 1'-0"



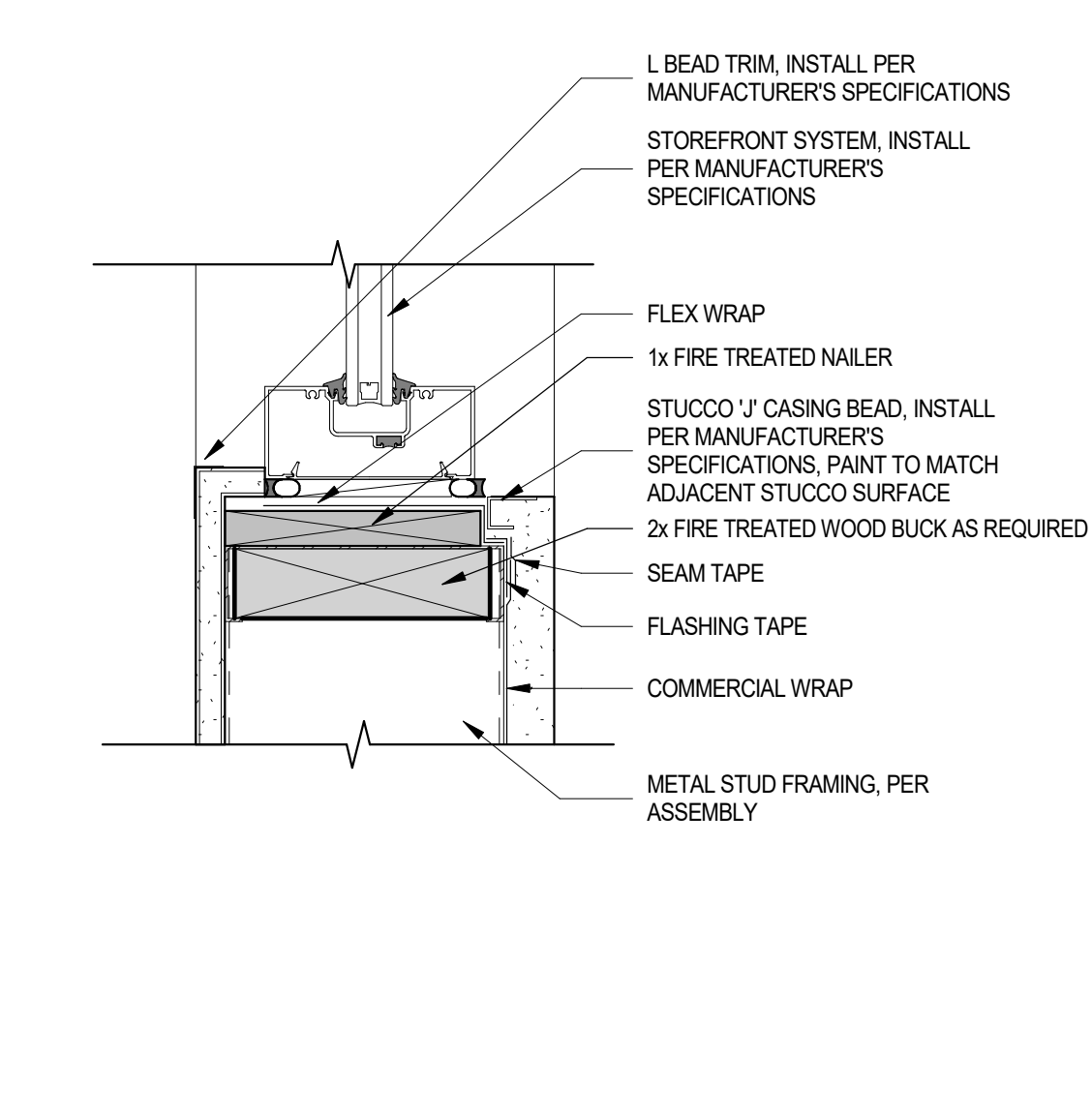
14 STOREFRONT SILL AT SLAB EDGE & PAVERS SCALE: 3" = 1'-0"



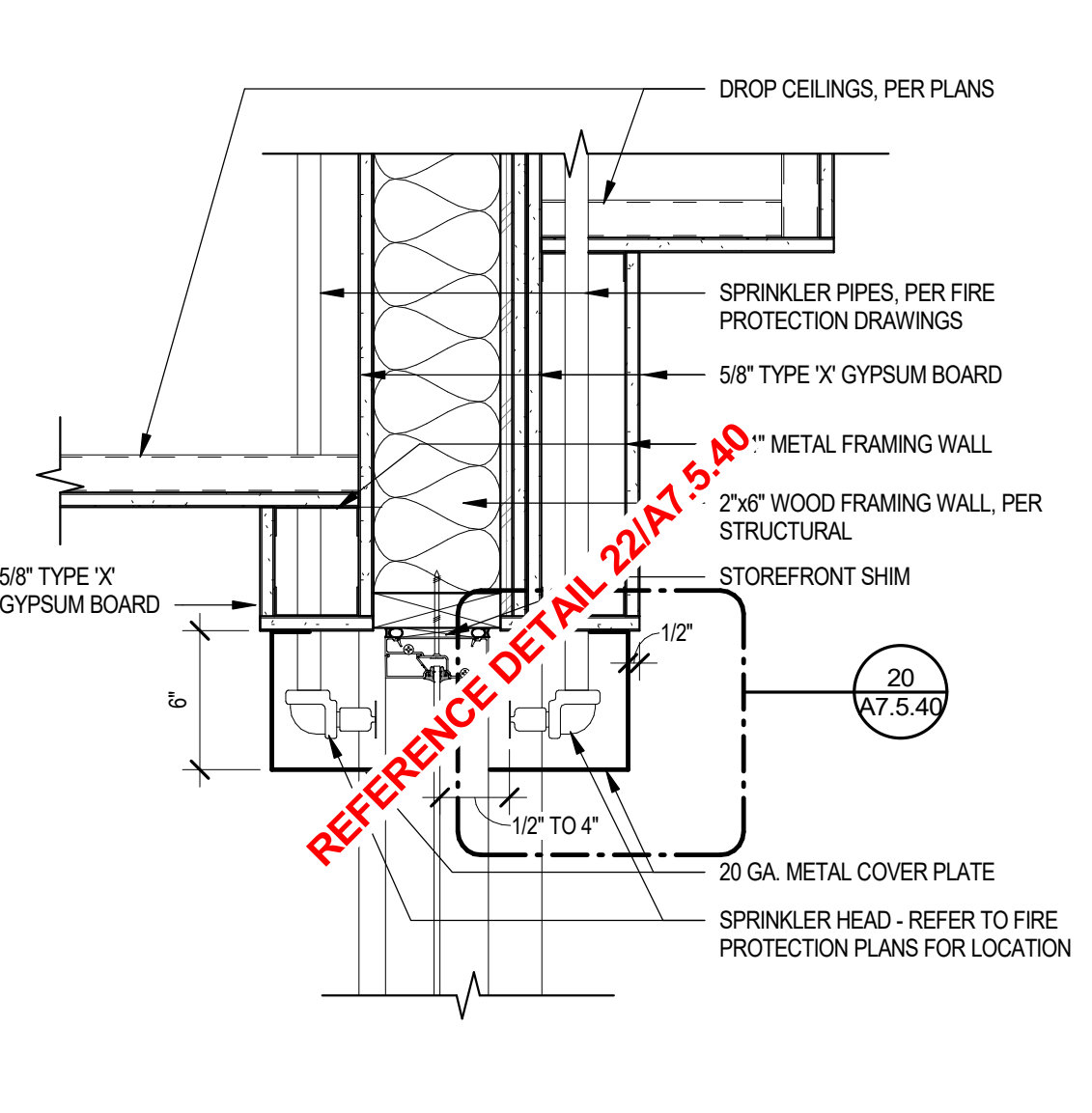
10 STOREFRONT SILL AT SLAB EDGE & SIDEWALK SCALE: 3" = 1'-0"



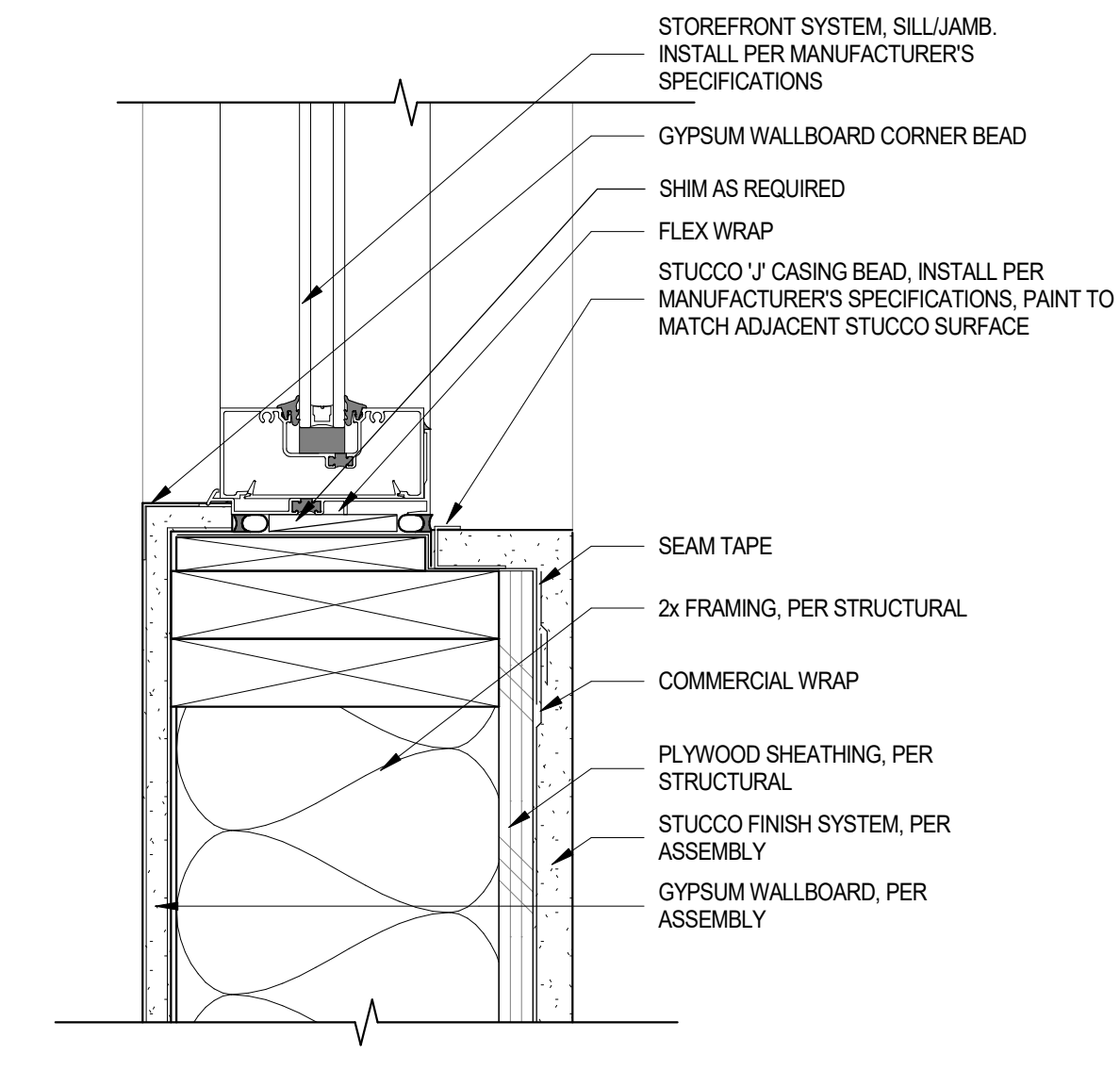
06 INTERMEDIATE MULLION SCALE: 3" = 1'-0"



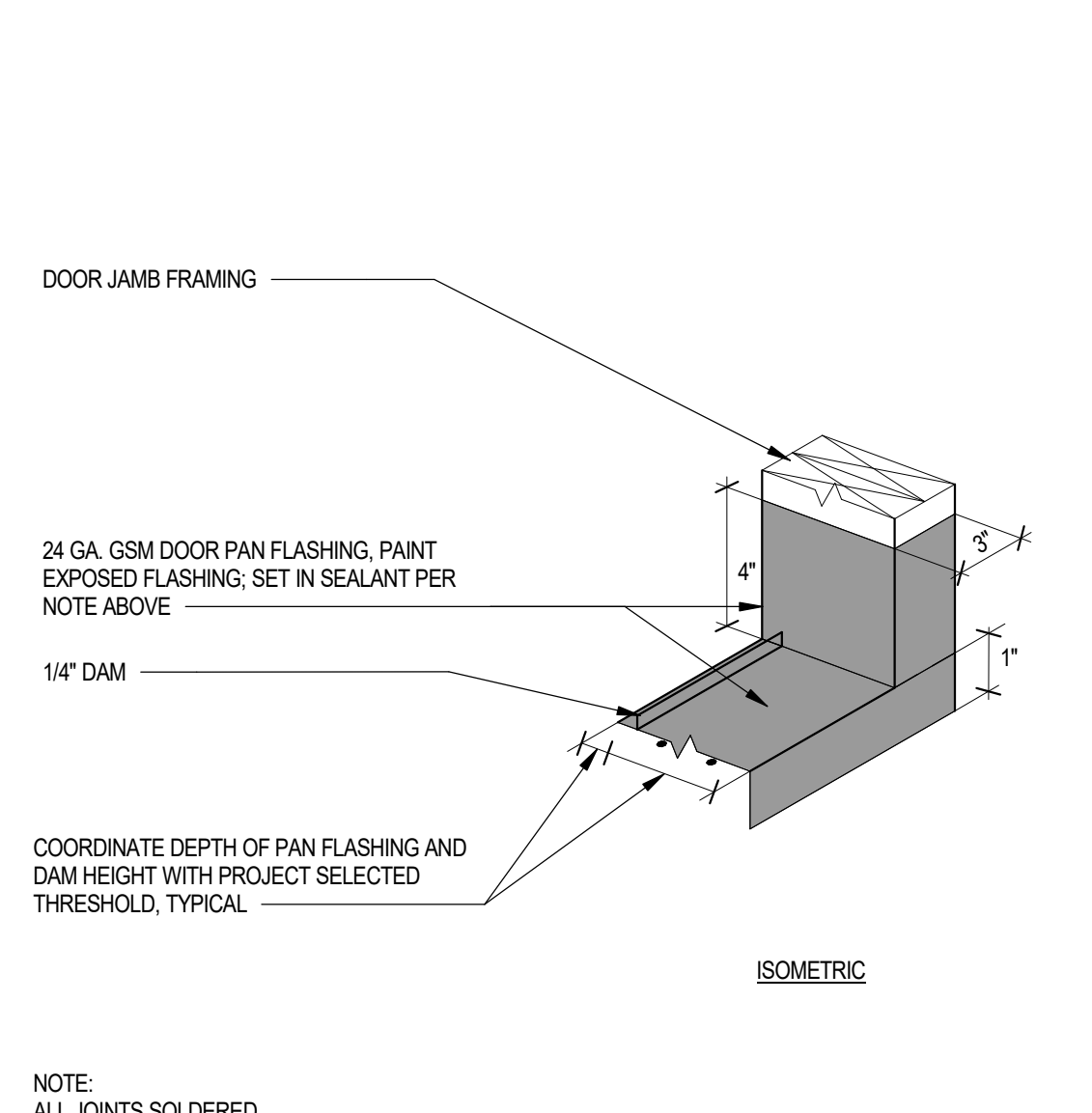
02 STOREFRONT SILL - METAL FRAMING - STUCCO SCALE: 3" = 1'-0"



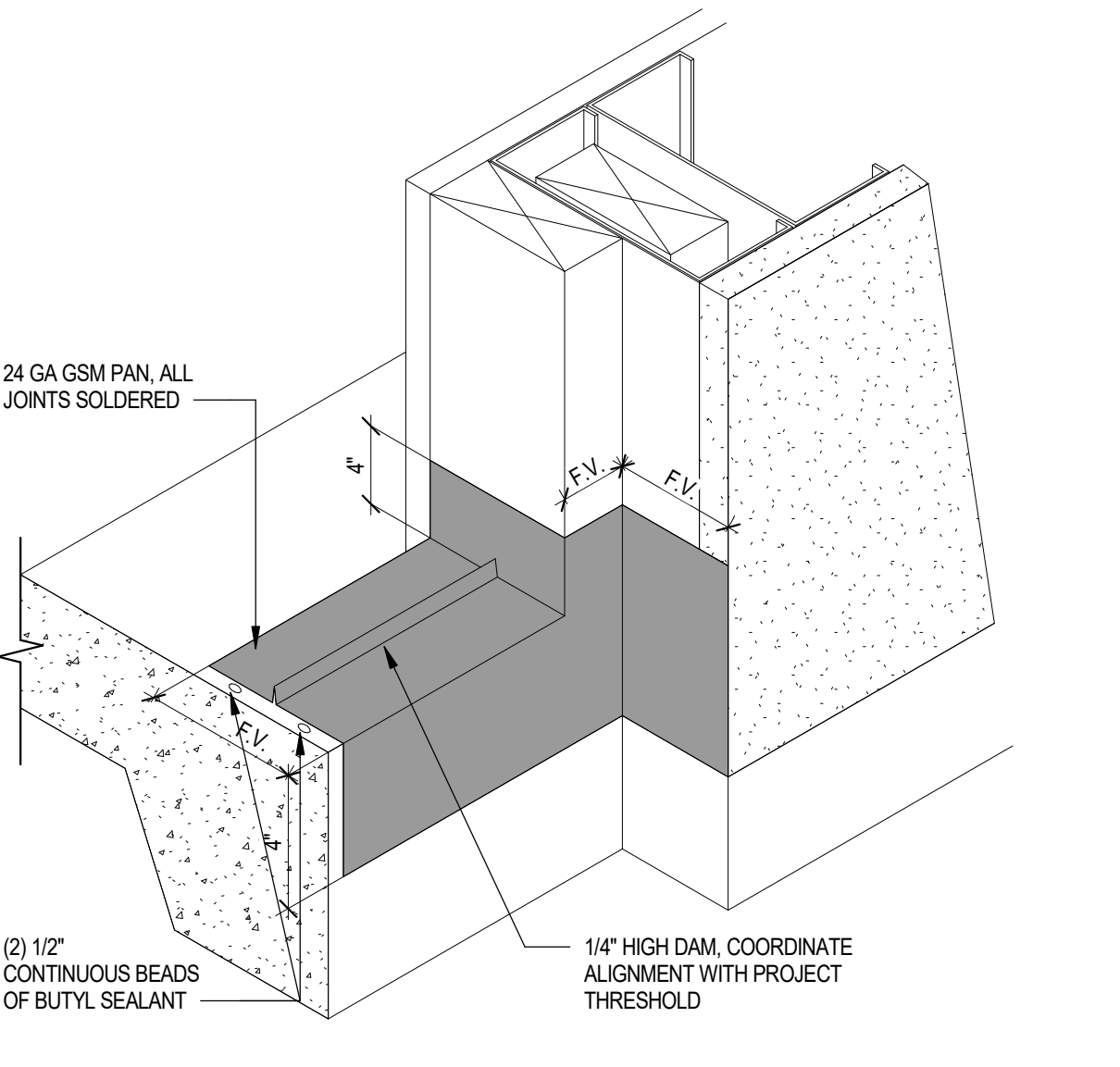
19 STOREFRONT HEAD - SPRINKLERS AT INTERIOR FRAMING SCALE: 1 1/2\"/>



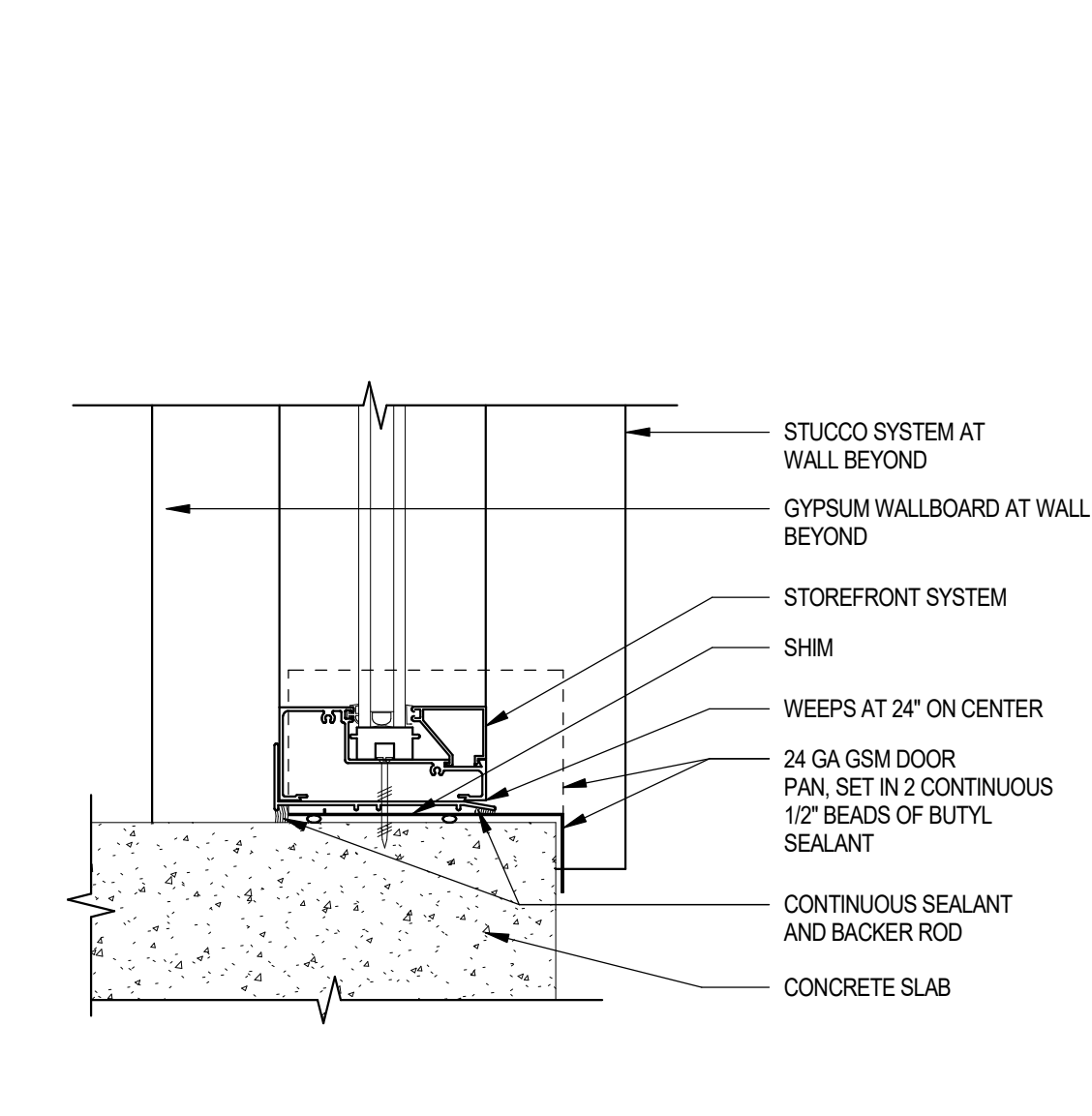
15 STOREFRONT SILL - WOOD FRAMING - STUCCO SYSTEM SCALE: 3" = 1'-0"



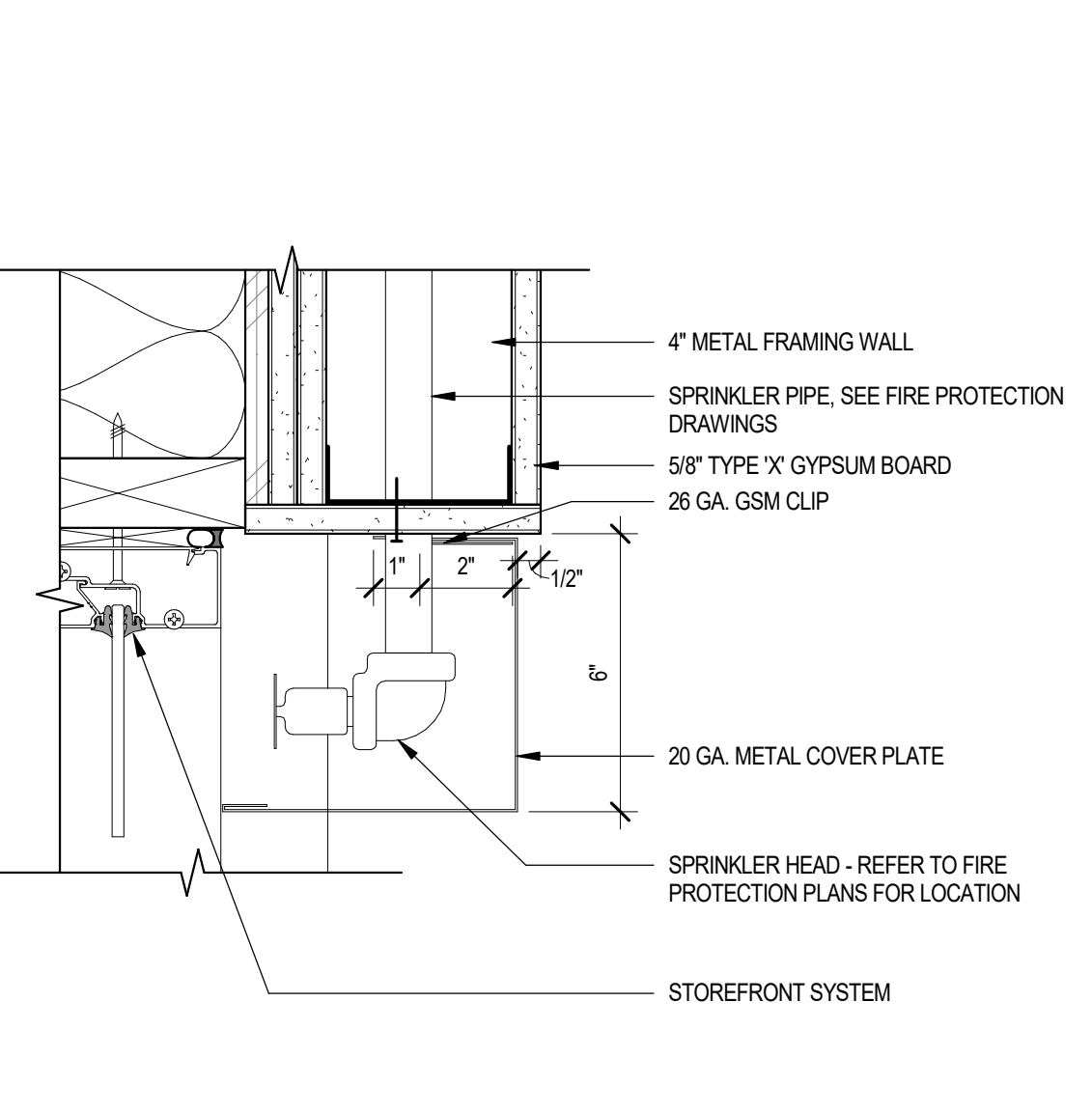
11 DOOR FLASHING PAN SCALE: 3" = 1'-0"



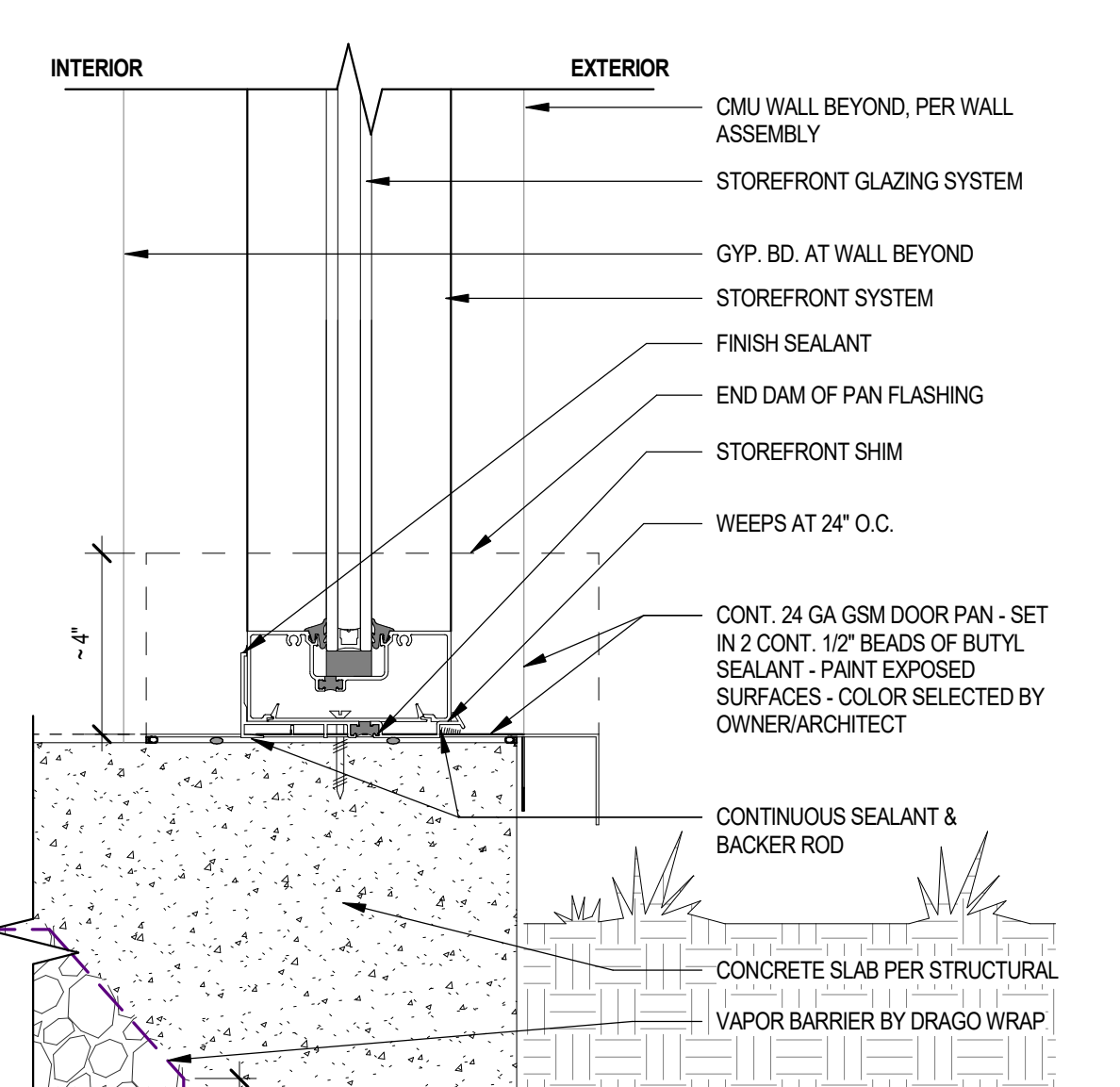
07 STOREFRONT SILL FLUSHED TO THE FACE OF SLAB SCALE: 3" = 1'-0"



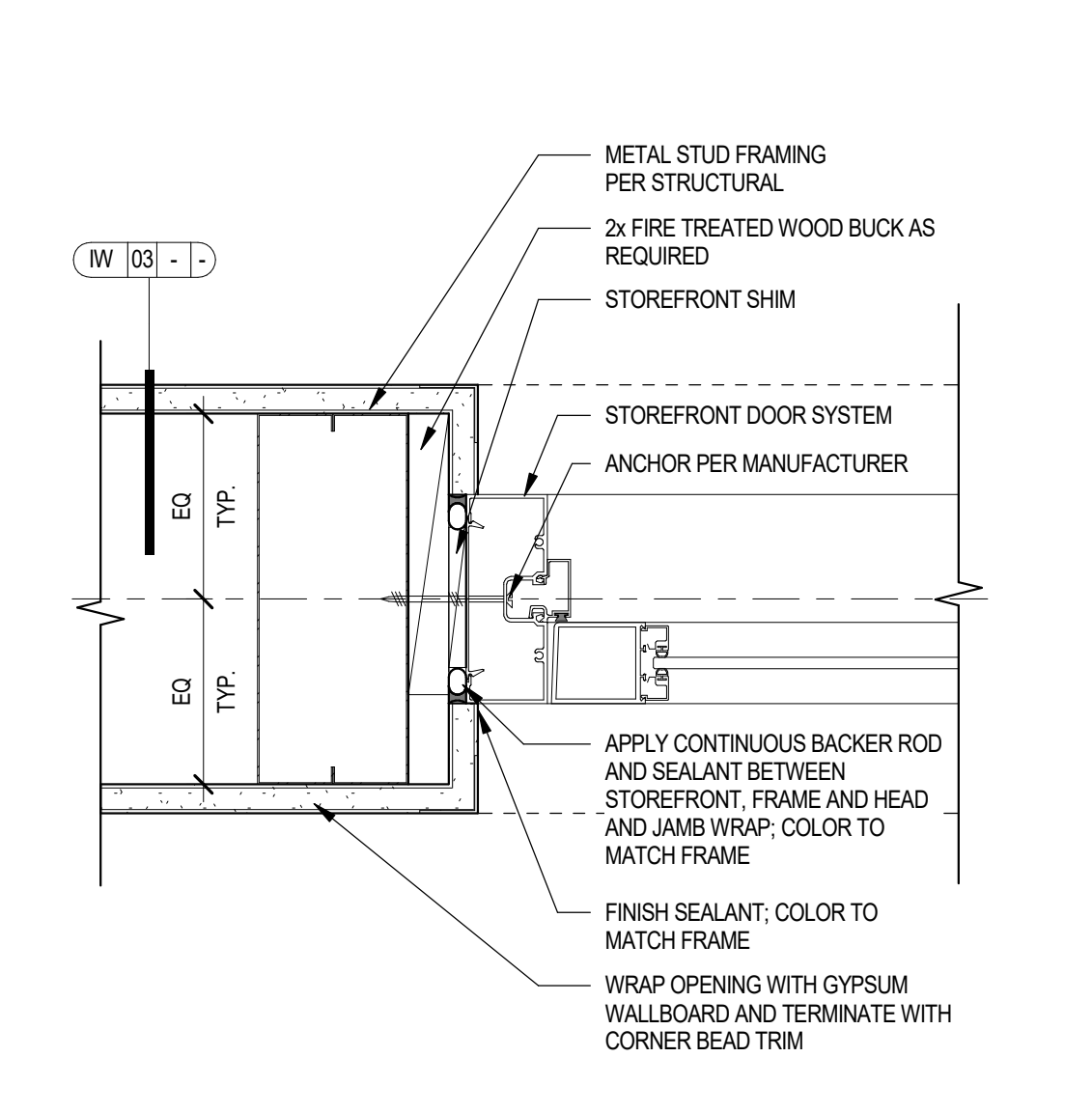
03 STOREFRONT SILL AT SIDELINE SCALE: 3" = 1'-0"



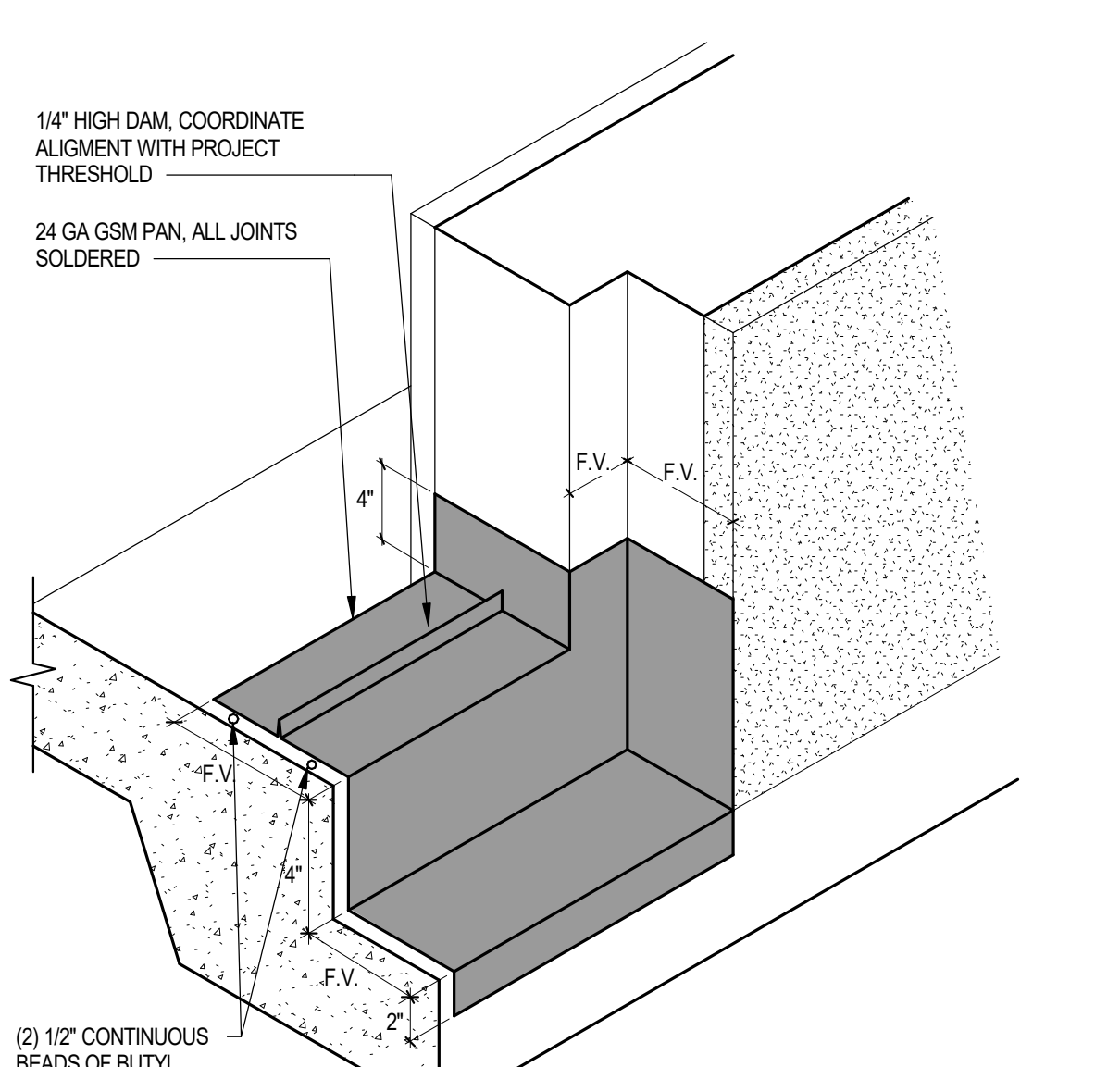
20 STOREFRONT HEAD - SPRINKLERS AT INTERIOR FRAMING SCALE: 3" = 1'-0"



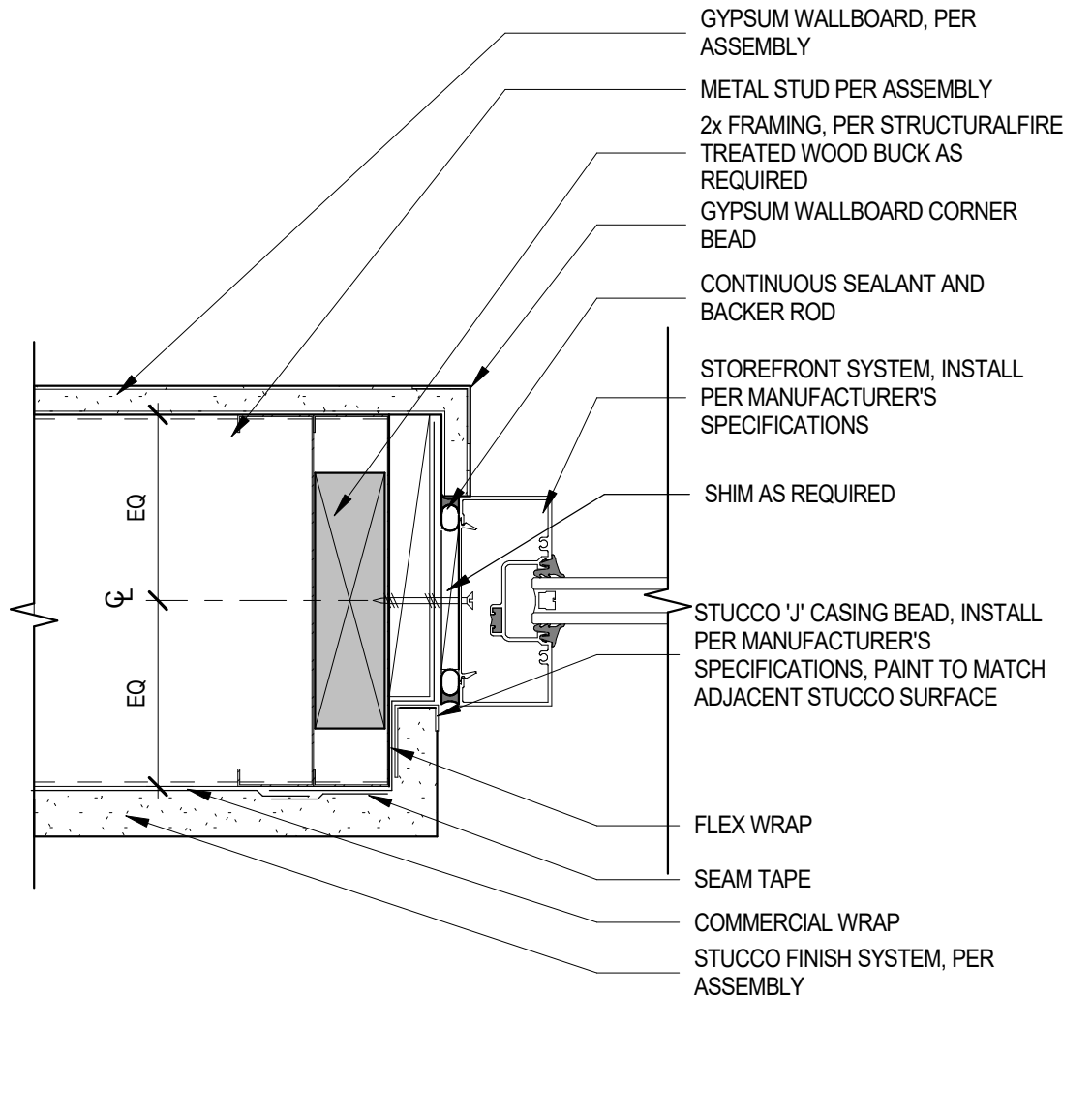
16 STOREFRONT SILL AT SLAB EDGE ON GRADE SCALE: 3" = 1'-0"



12 DOOR FLASHING PAN SCALE: 3" = 1'-0"



08 STOREFRONT SILL RECESSED FROM FACE OF SLAB SCALE: 3" = 1'-0"



04 STOREFRONT JAMB - METAL FRAMING - STUCCO SCALE: 3" = 1'-0"

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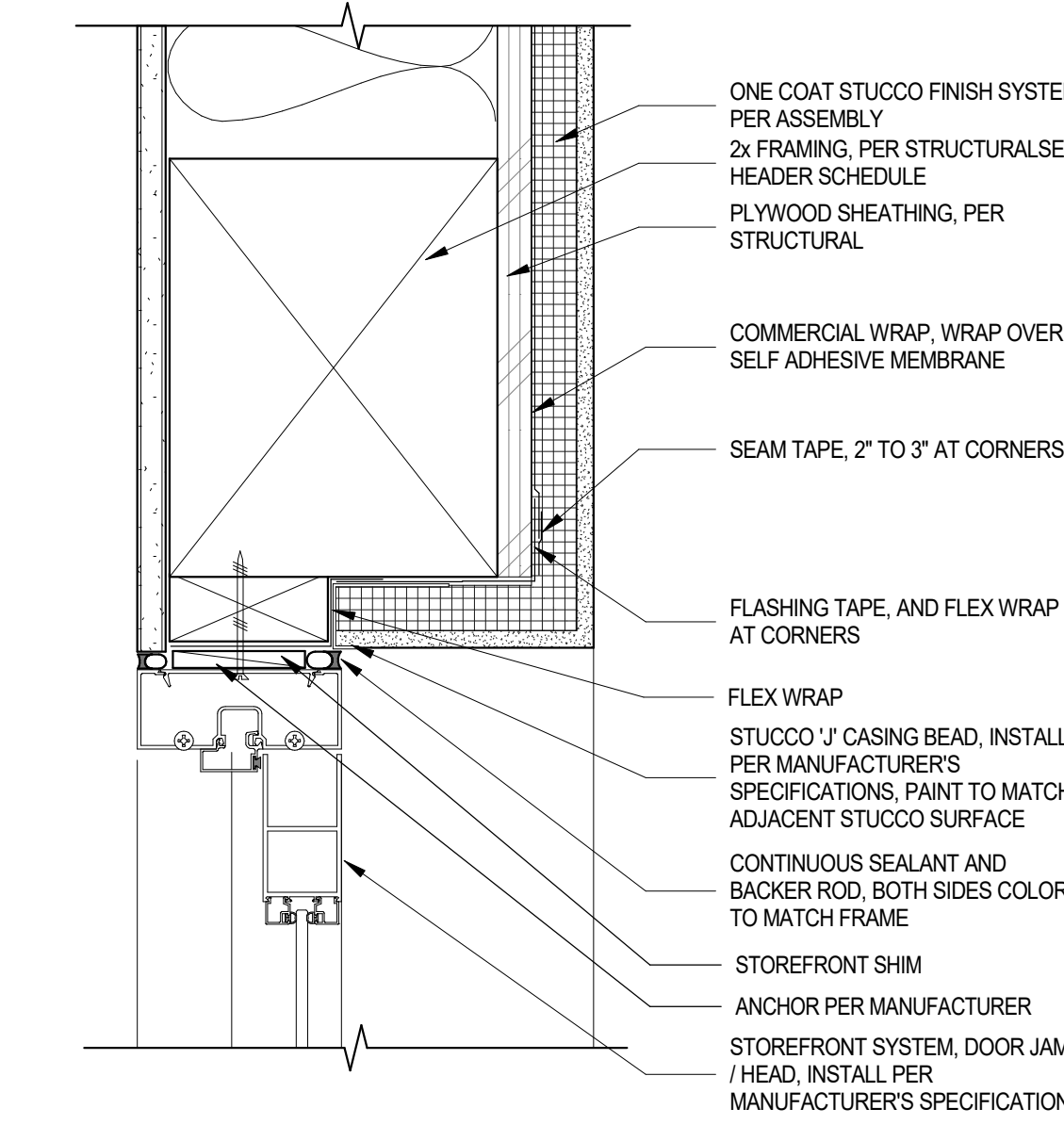
Notice of alternate billing (or payment) cycle
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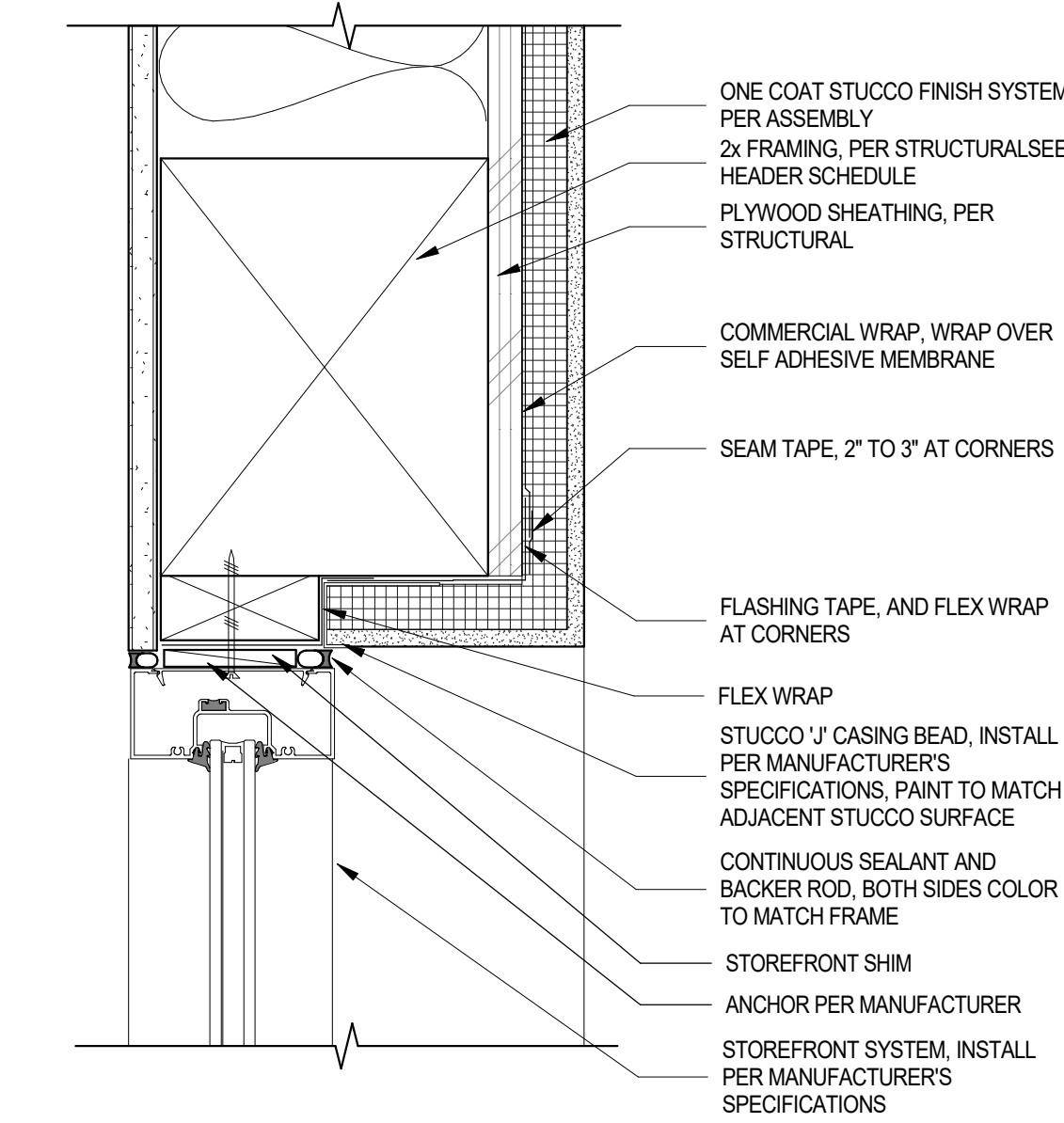
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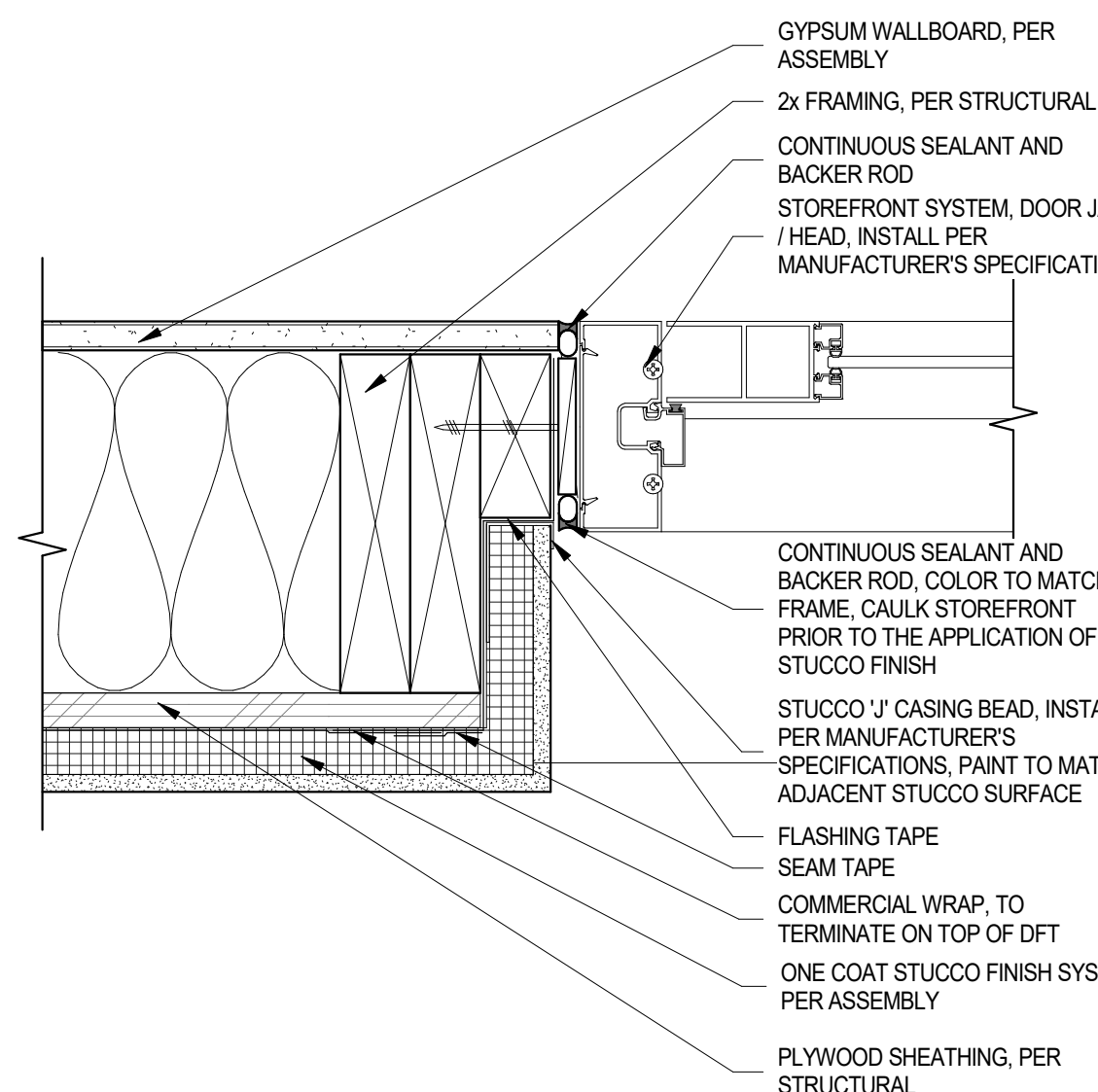
A7.5.40
STOREFRONT DETAILS



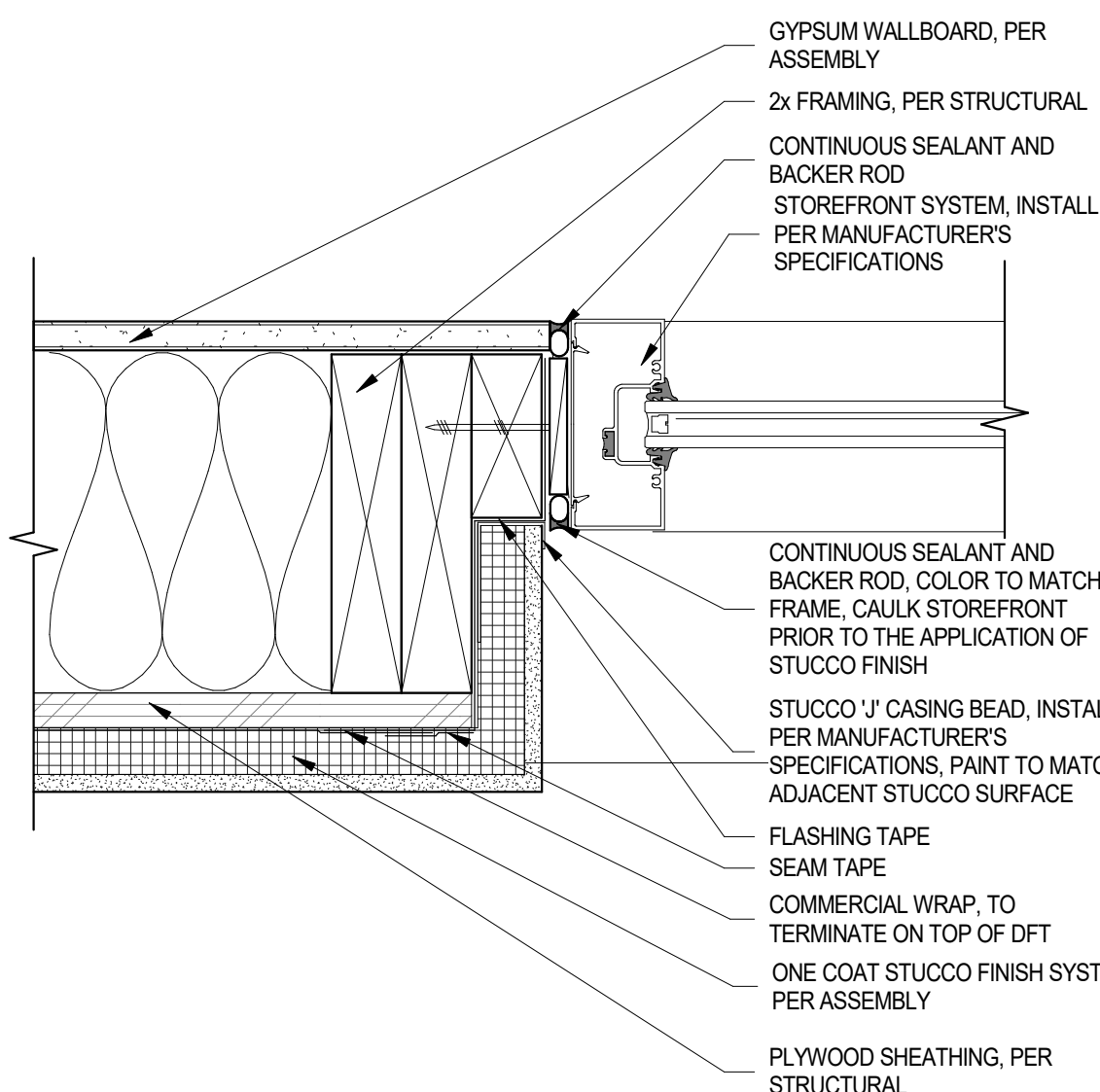
28 STOREFRONT DOOR HEAD - STUCCO FINISH SCALE: 3" = 1'-0"



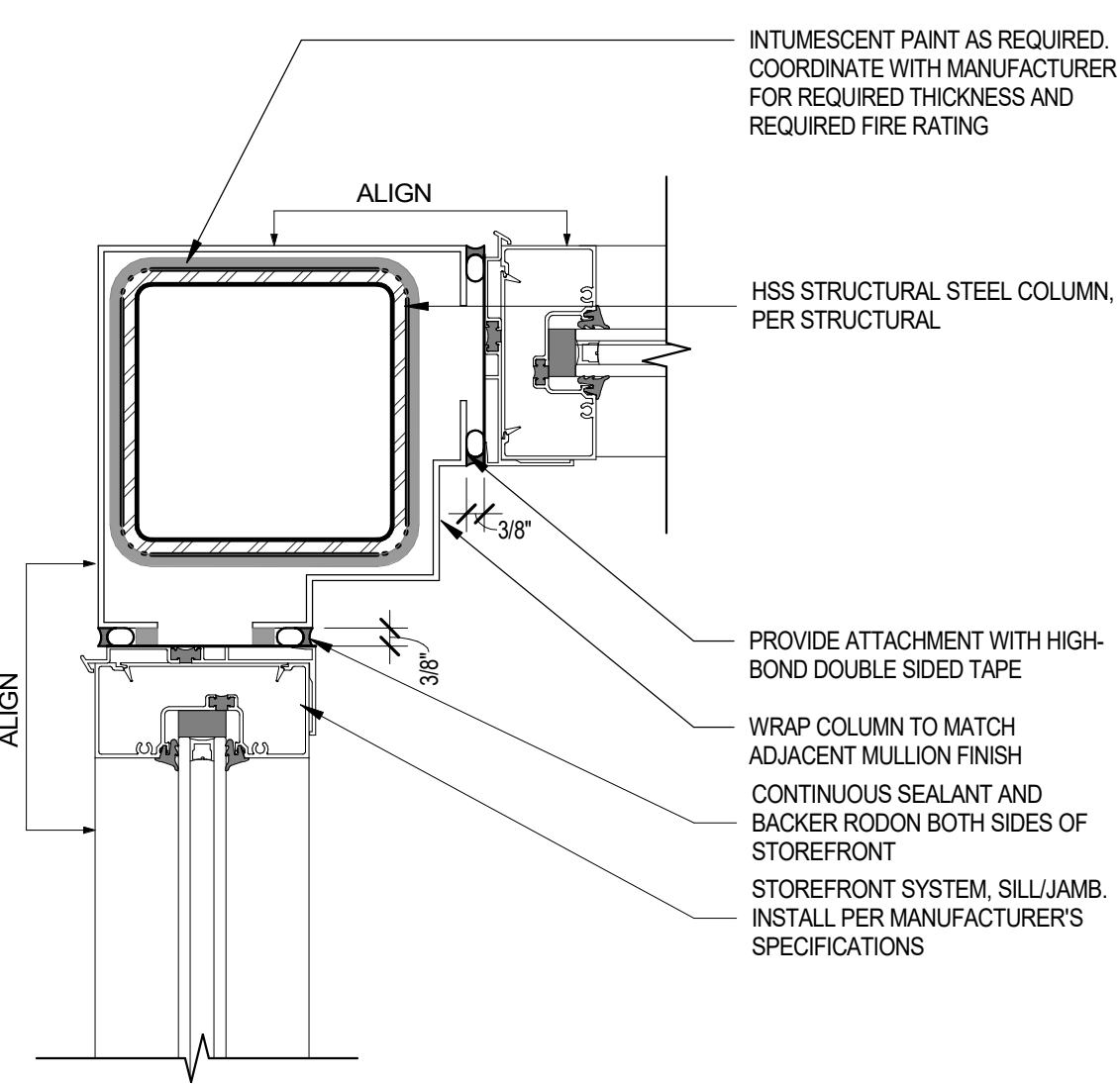
25 STOREFRONT HEAD - STUCCO FINISH SCALE: 3" = 1'-0"



29 STOREFRONT DOOR JAMB - STUCCO FINISH SCALE: 3" = 1'-0"



26 STOREFRONT JAMB - STUCCO FINISH SCALE: 3" = 1'-0"



27 STOREFRONT CORNER AT STEEL COLUMN SCALE: 3" = 1'-0"

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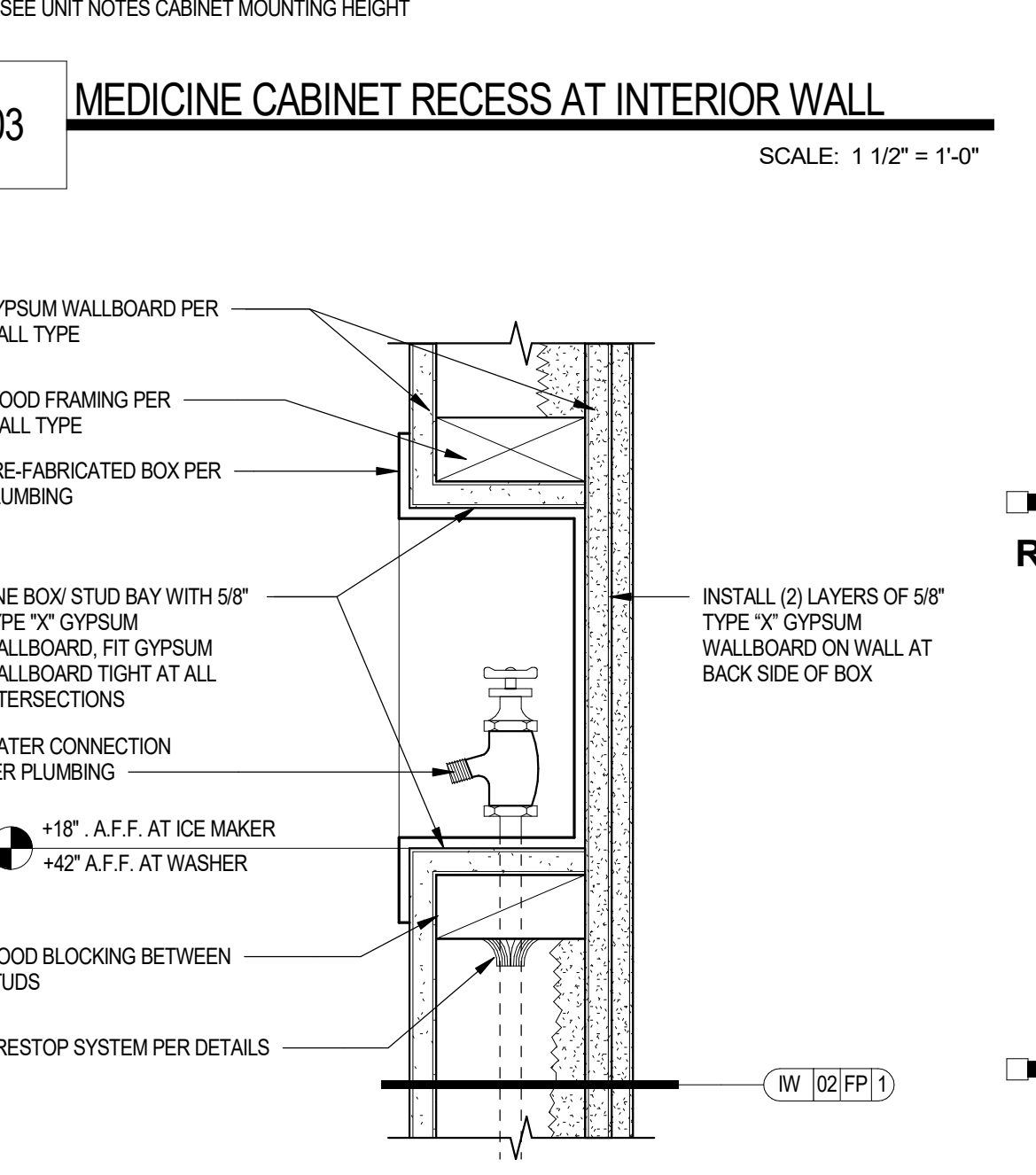
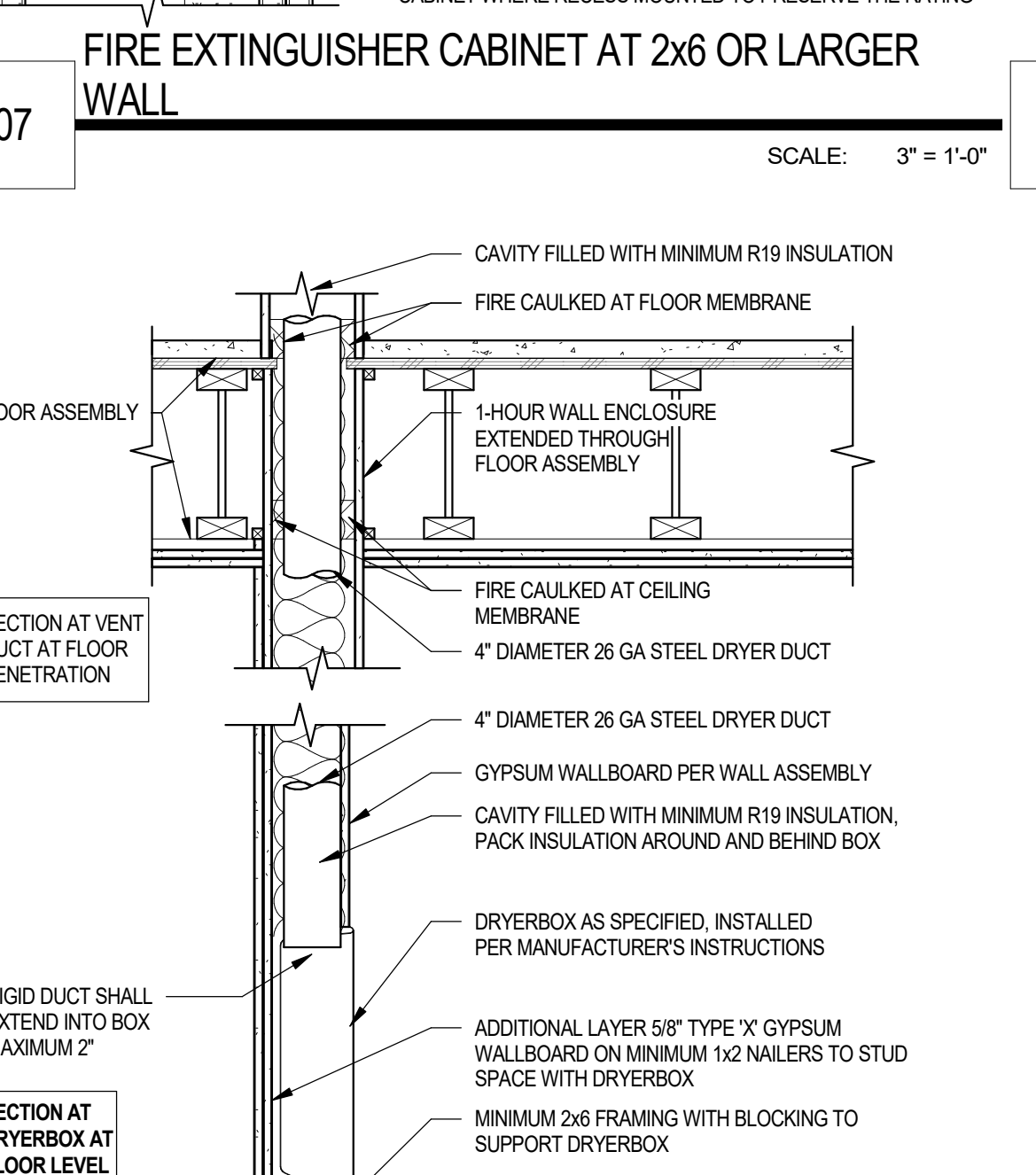
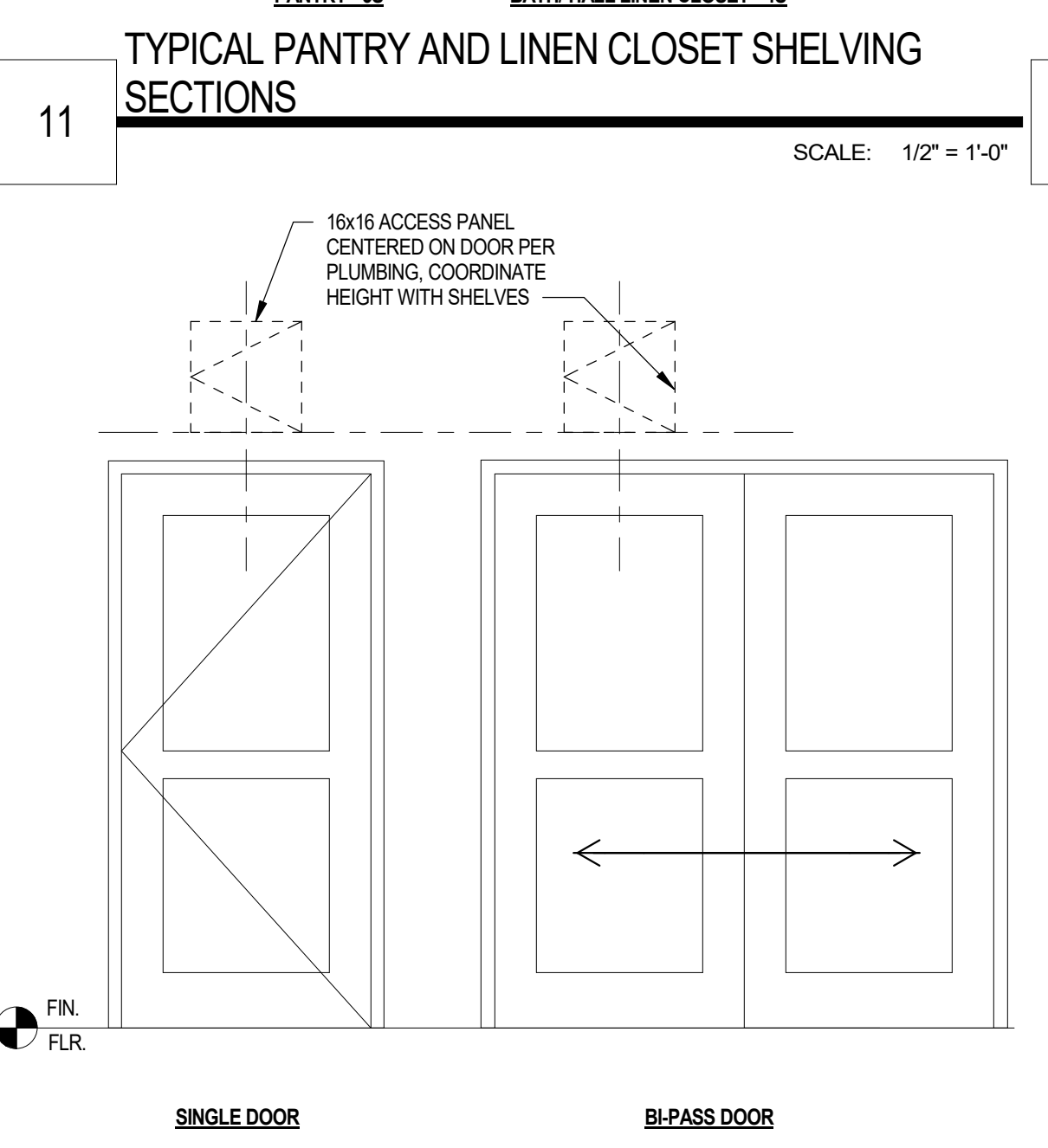
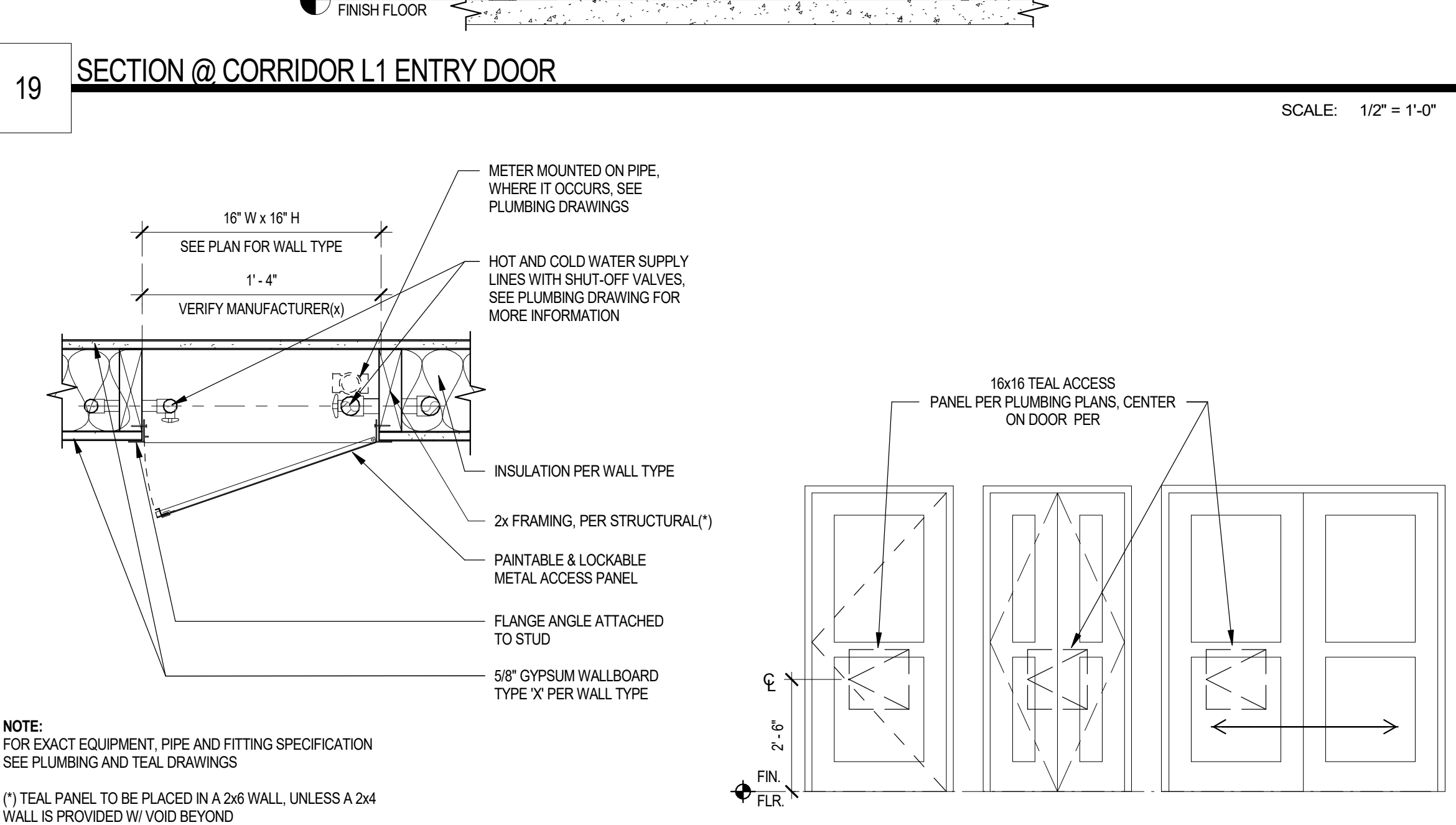
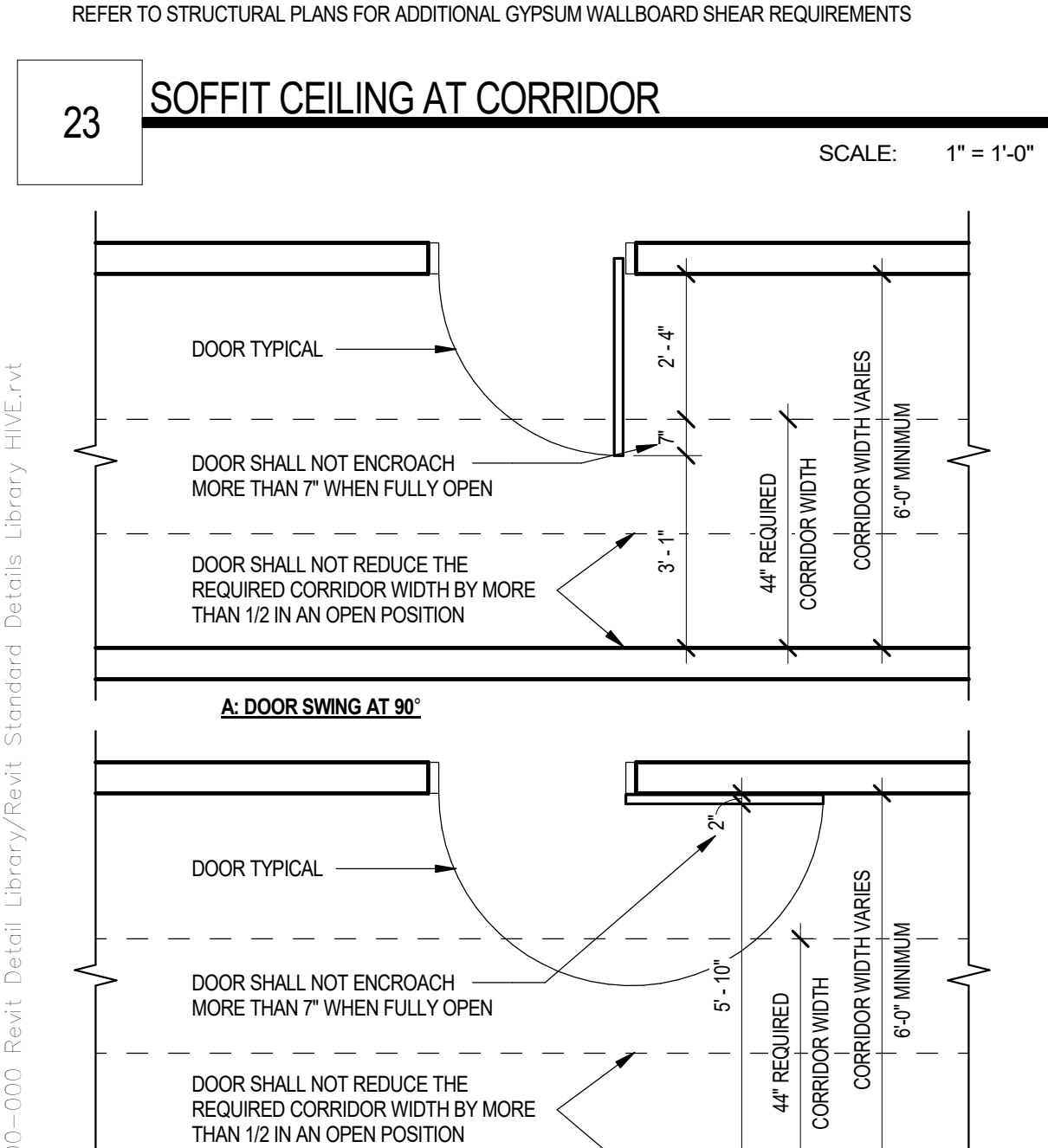
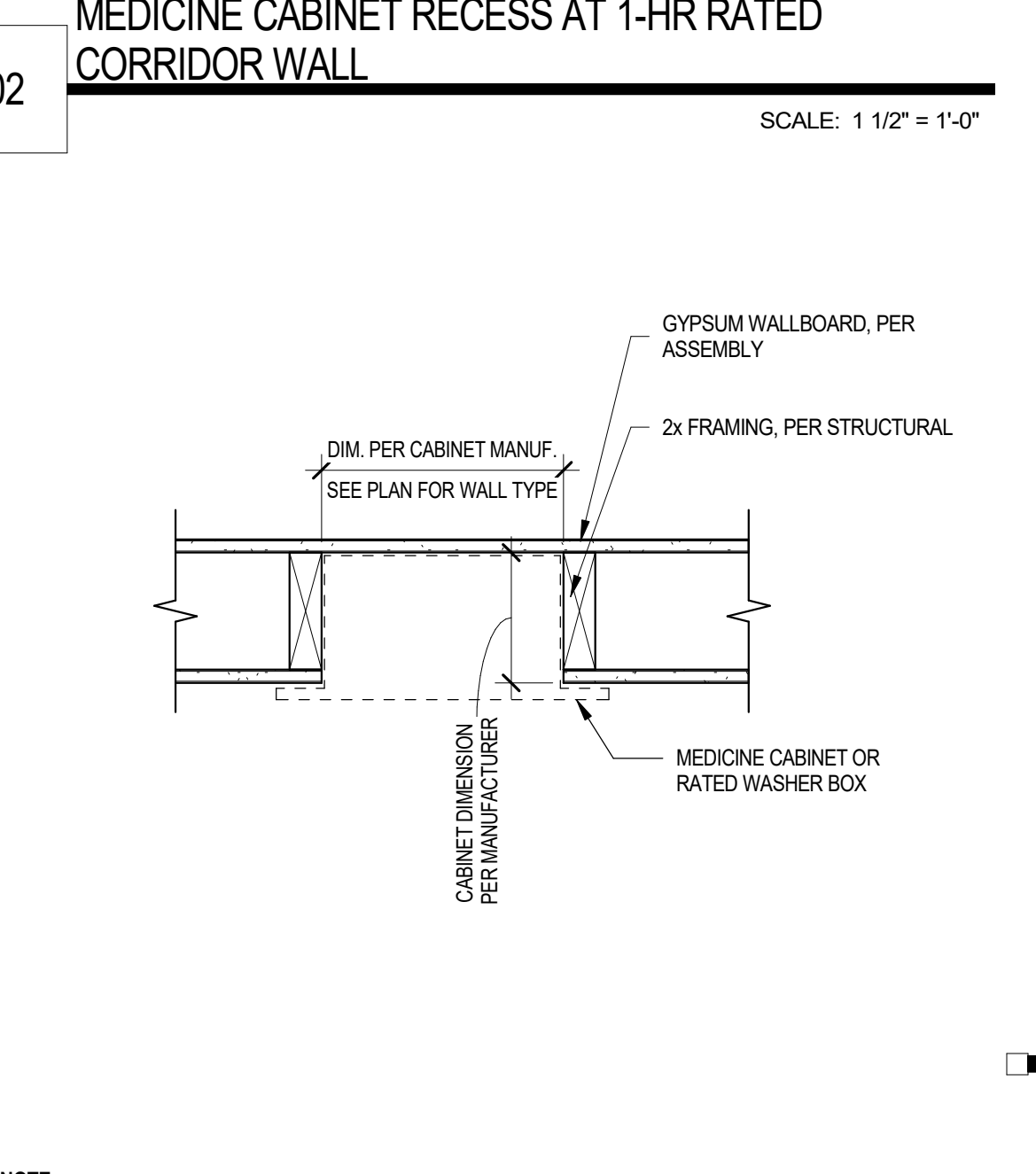
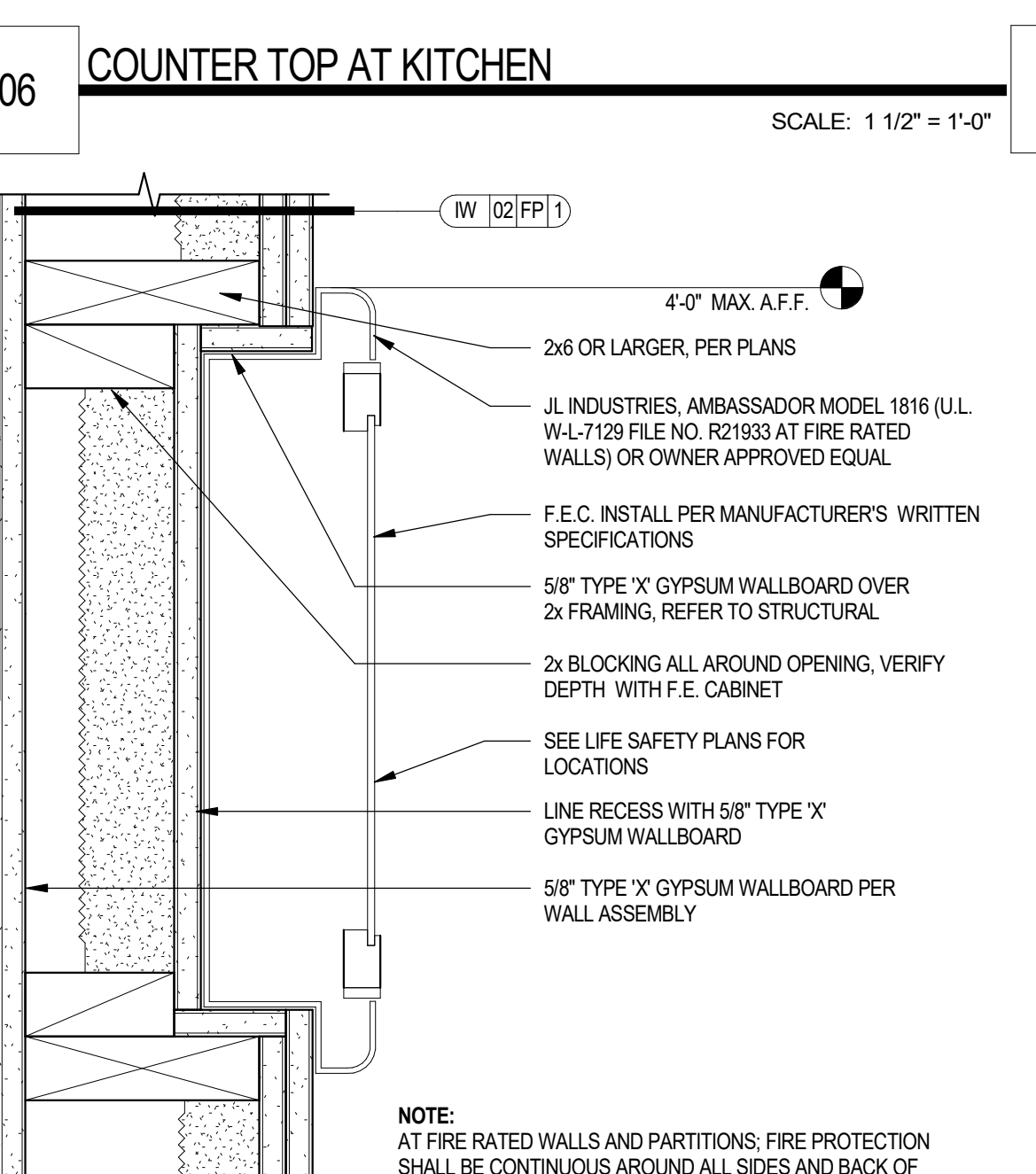
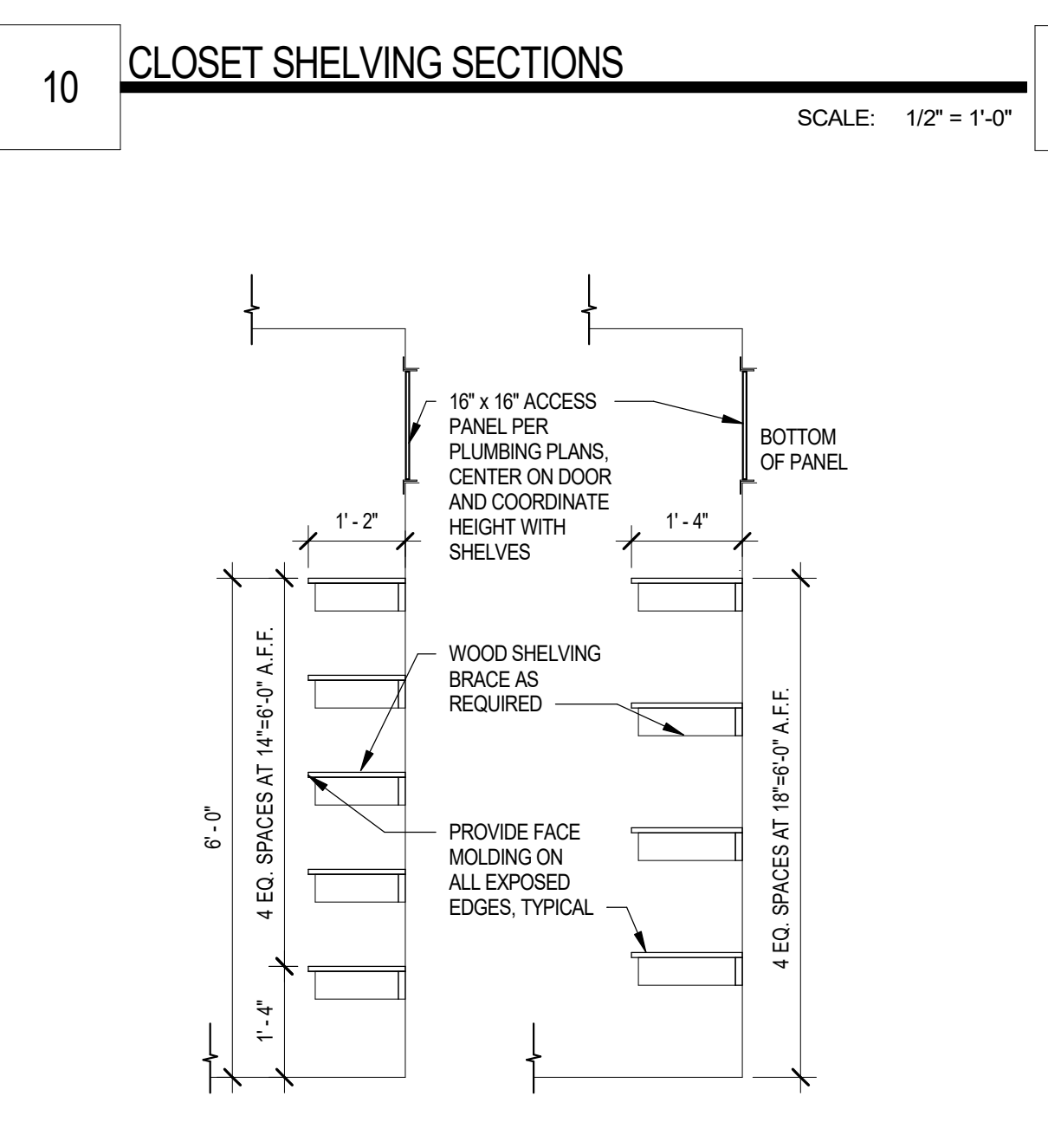
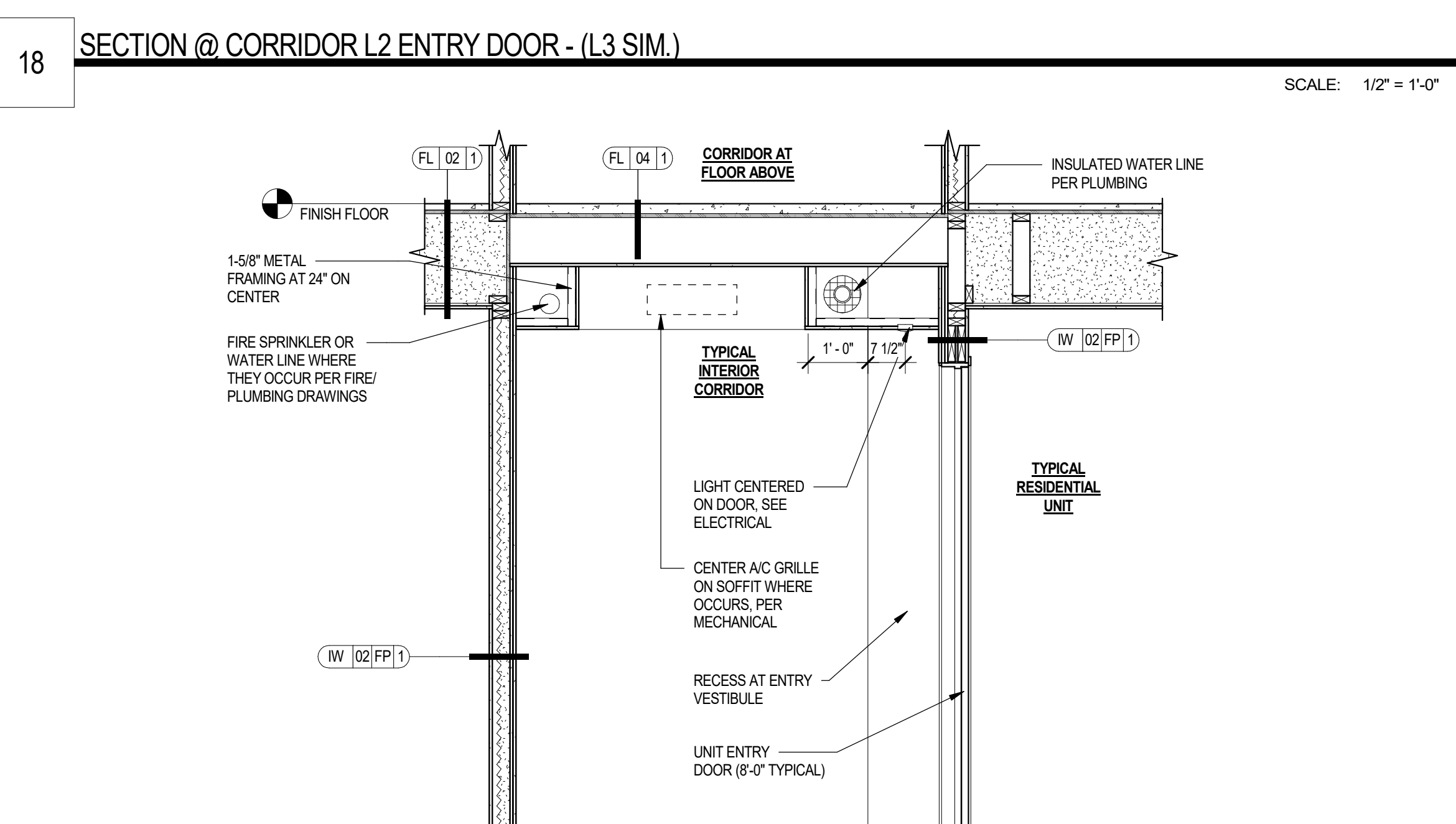
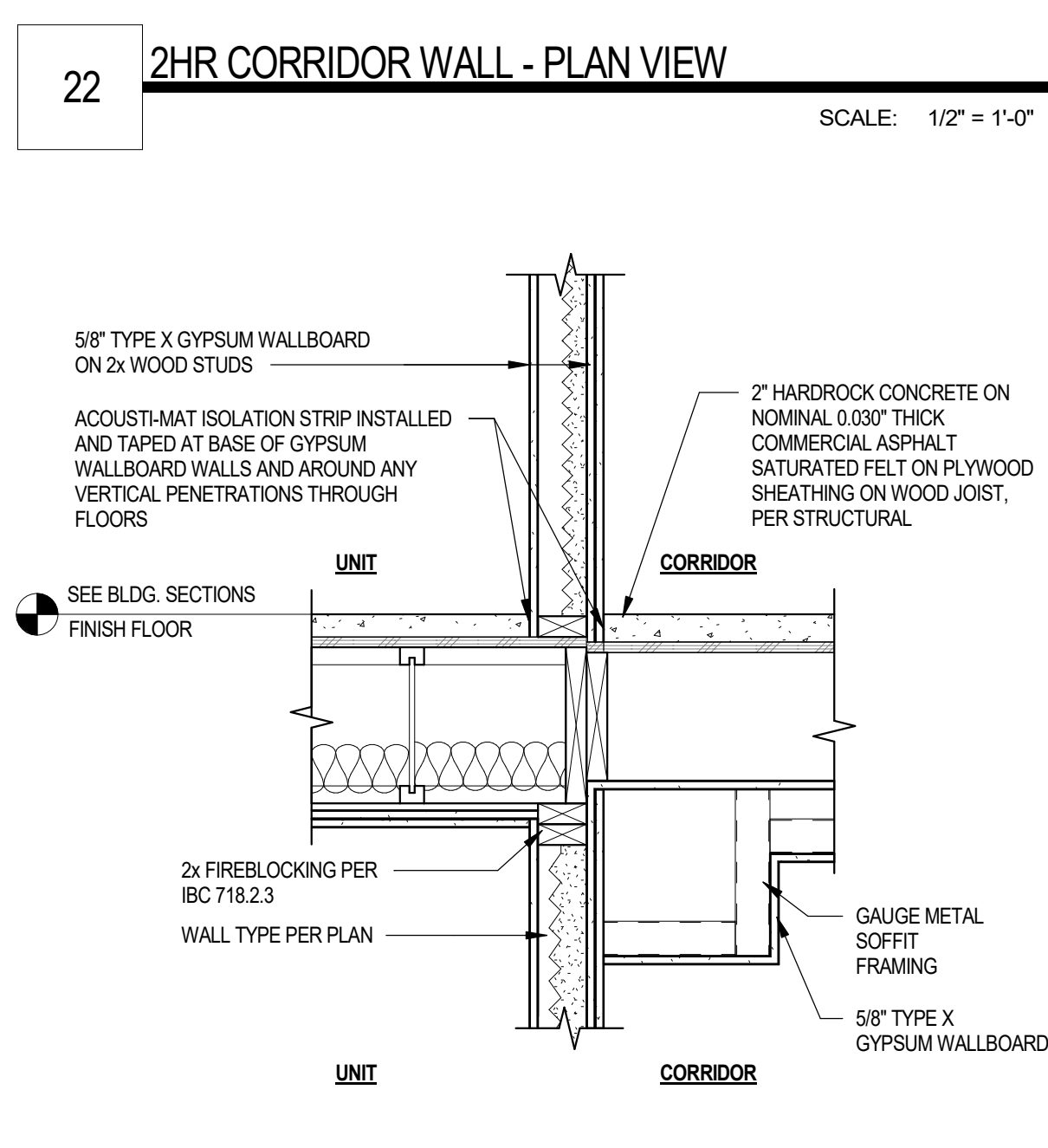
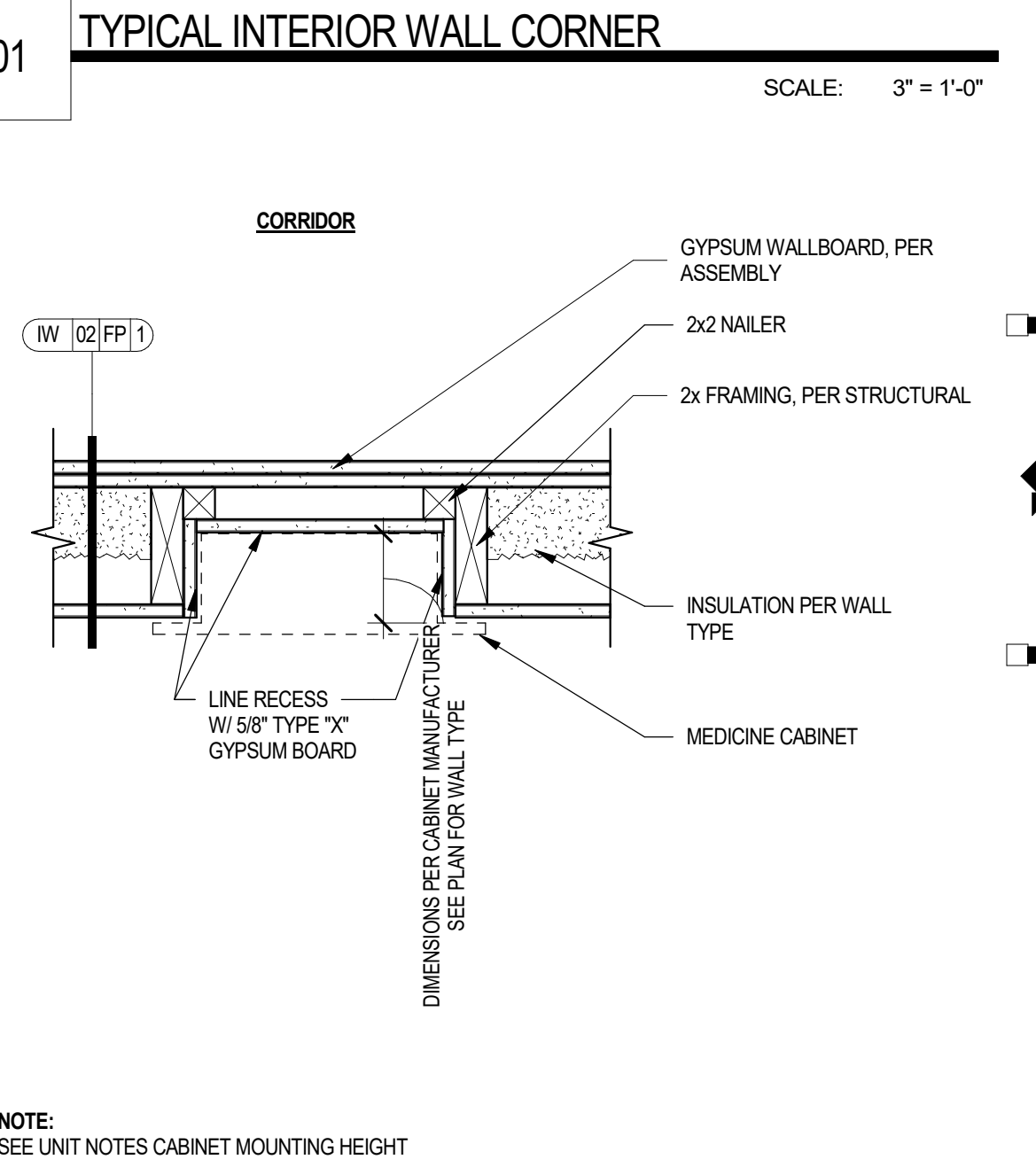
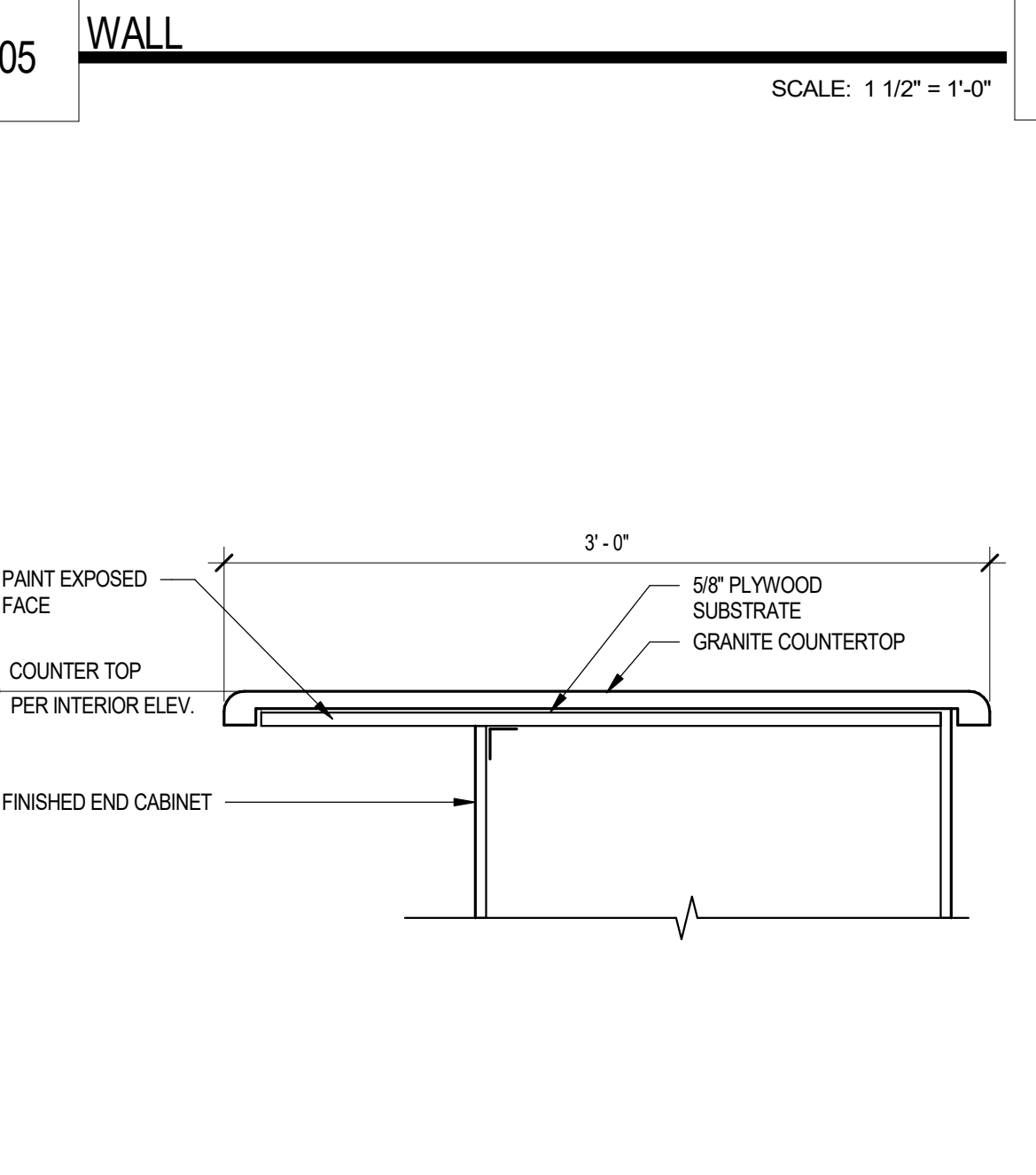
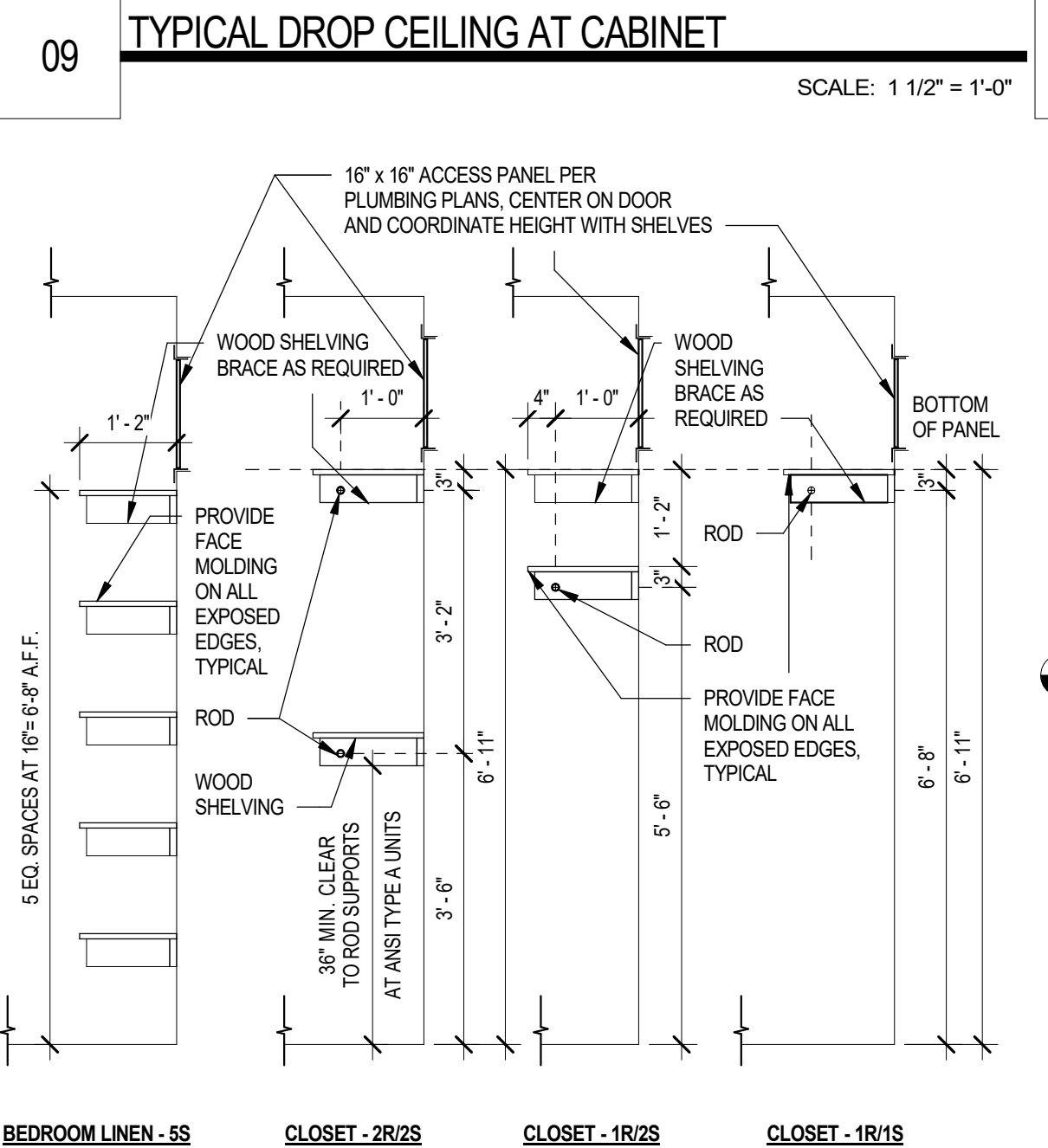
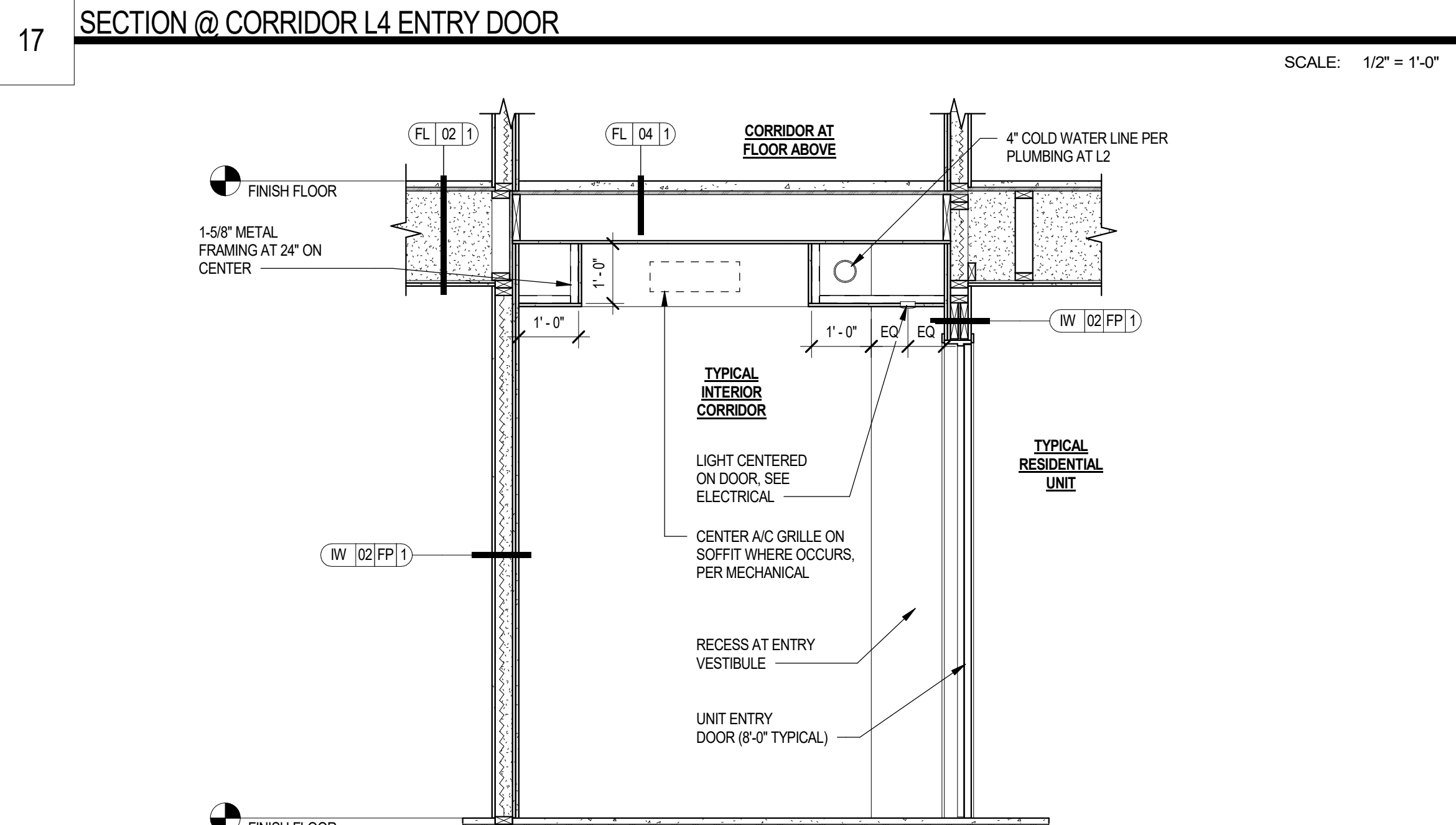
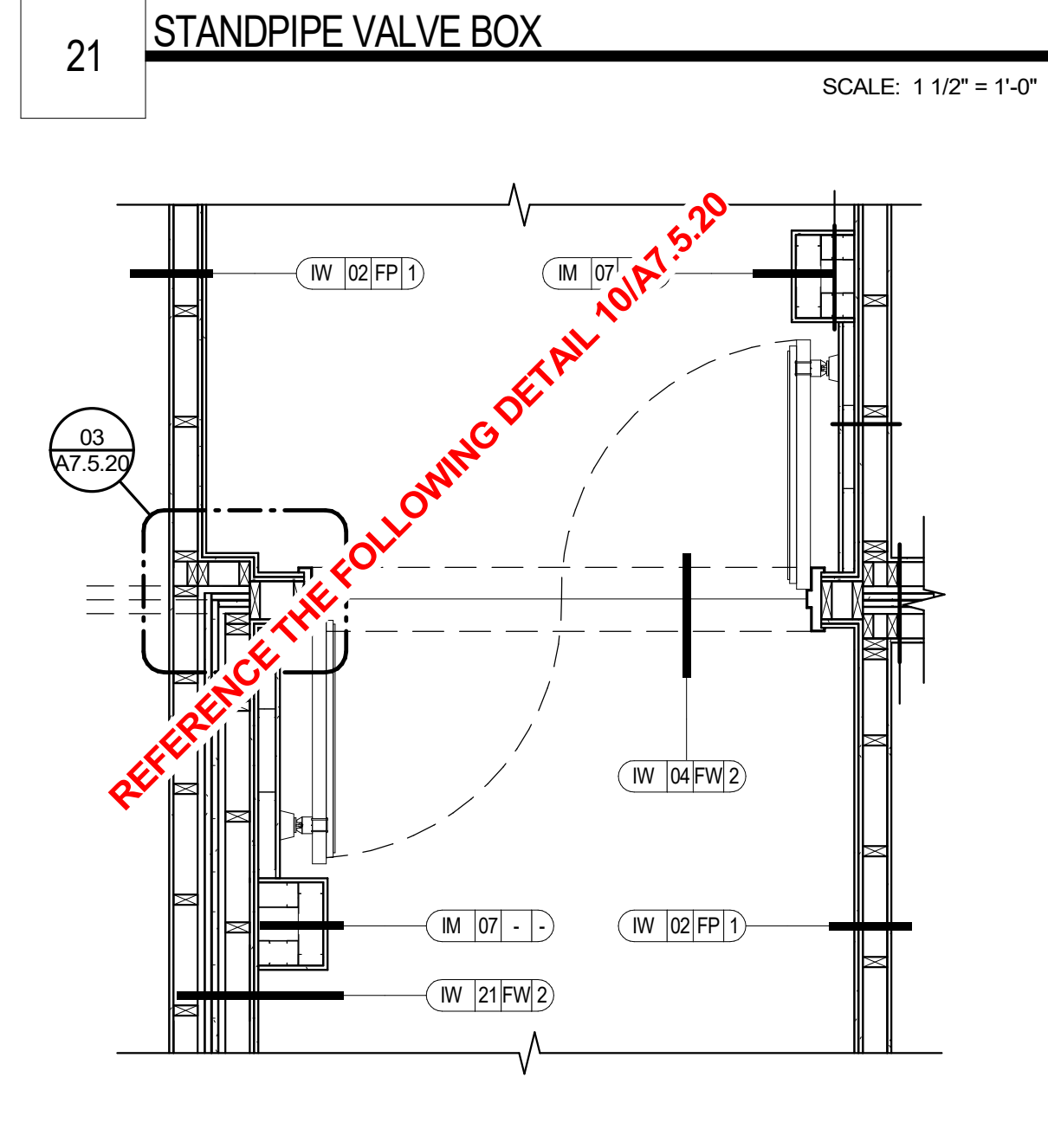
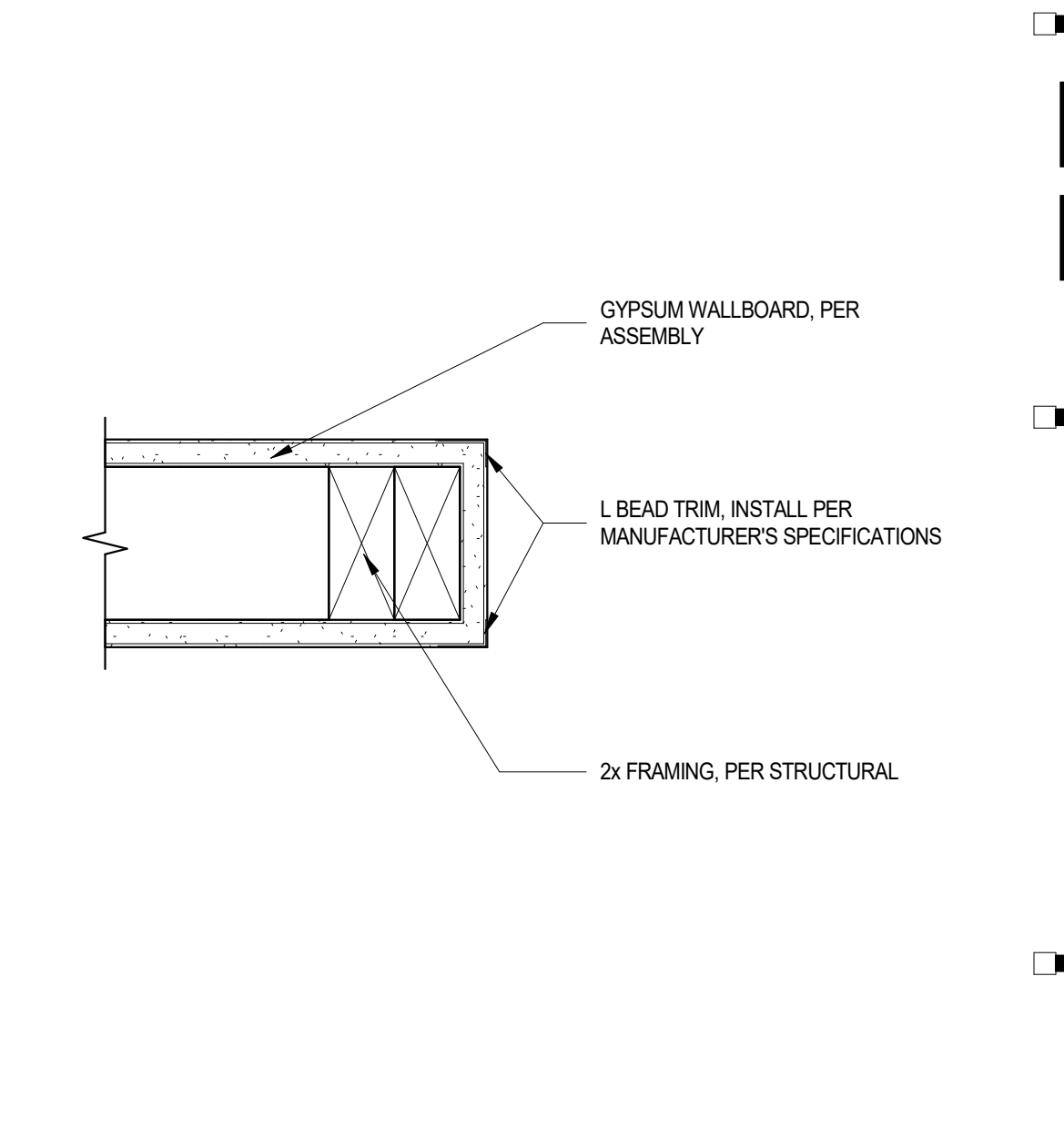
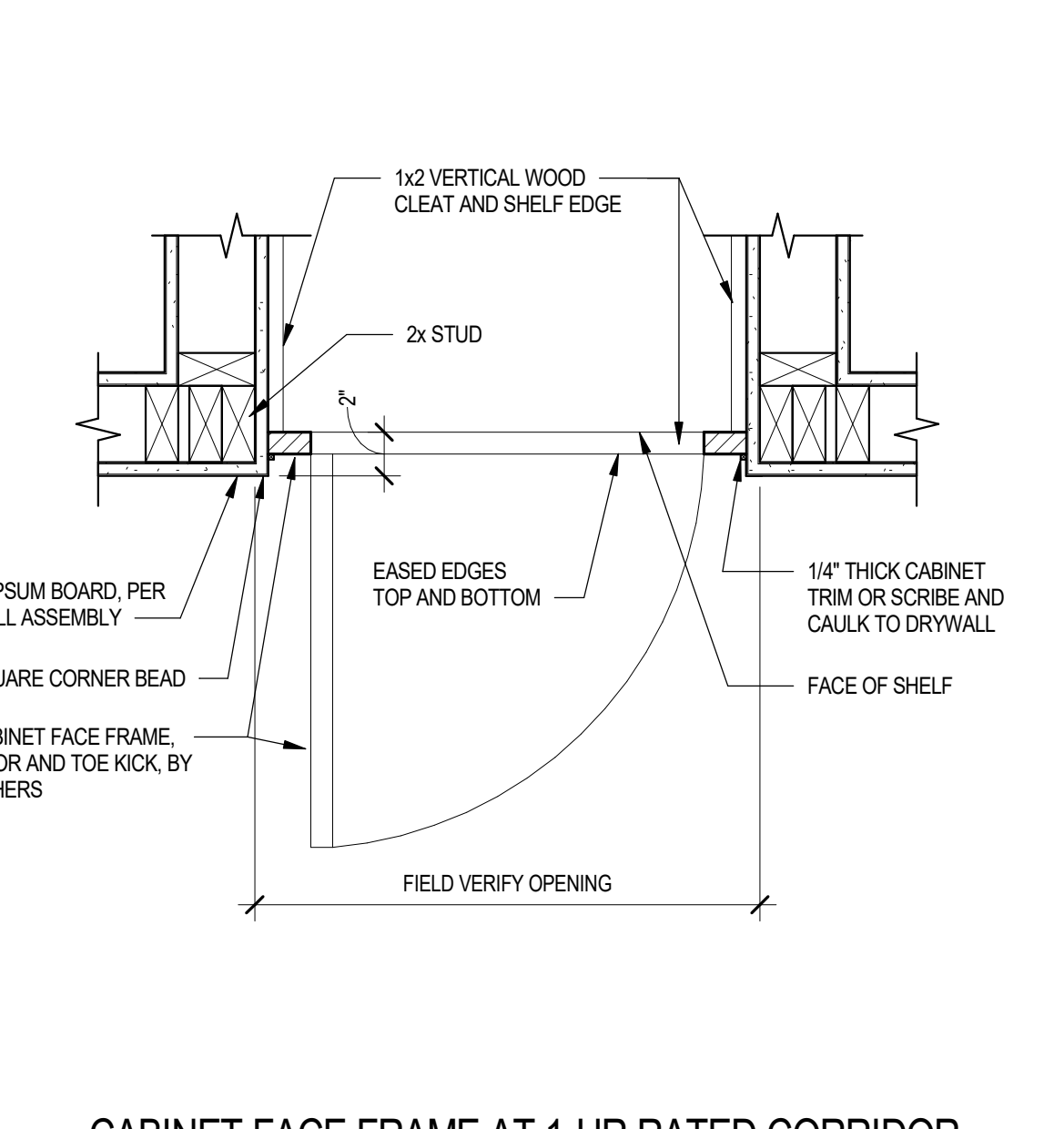
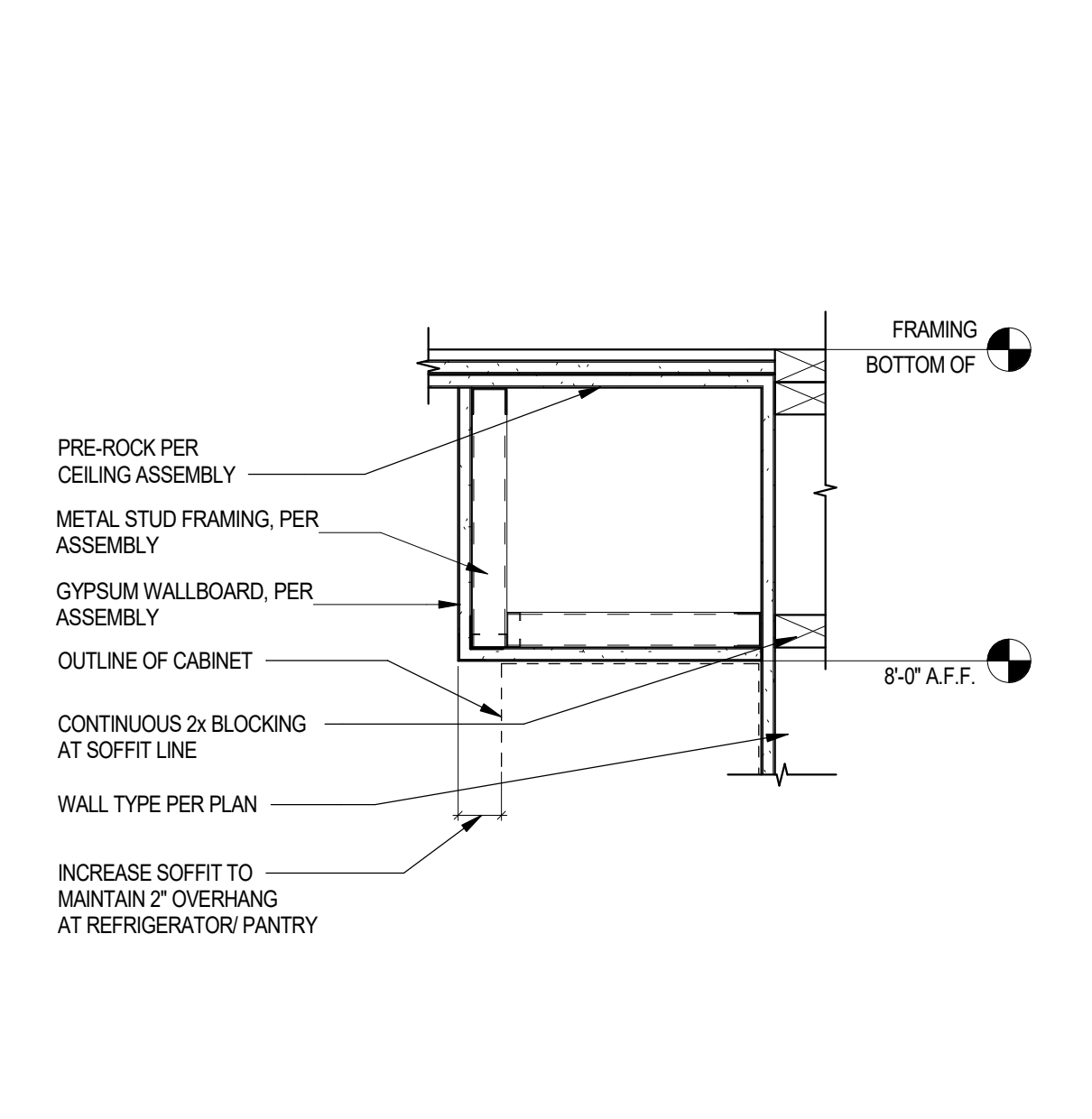
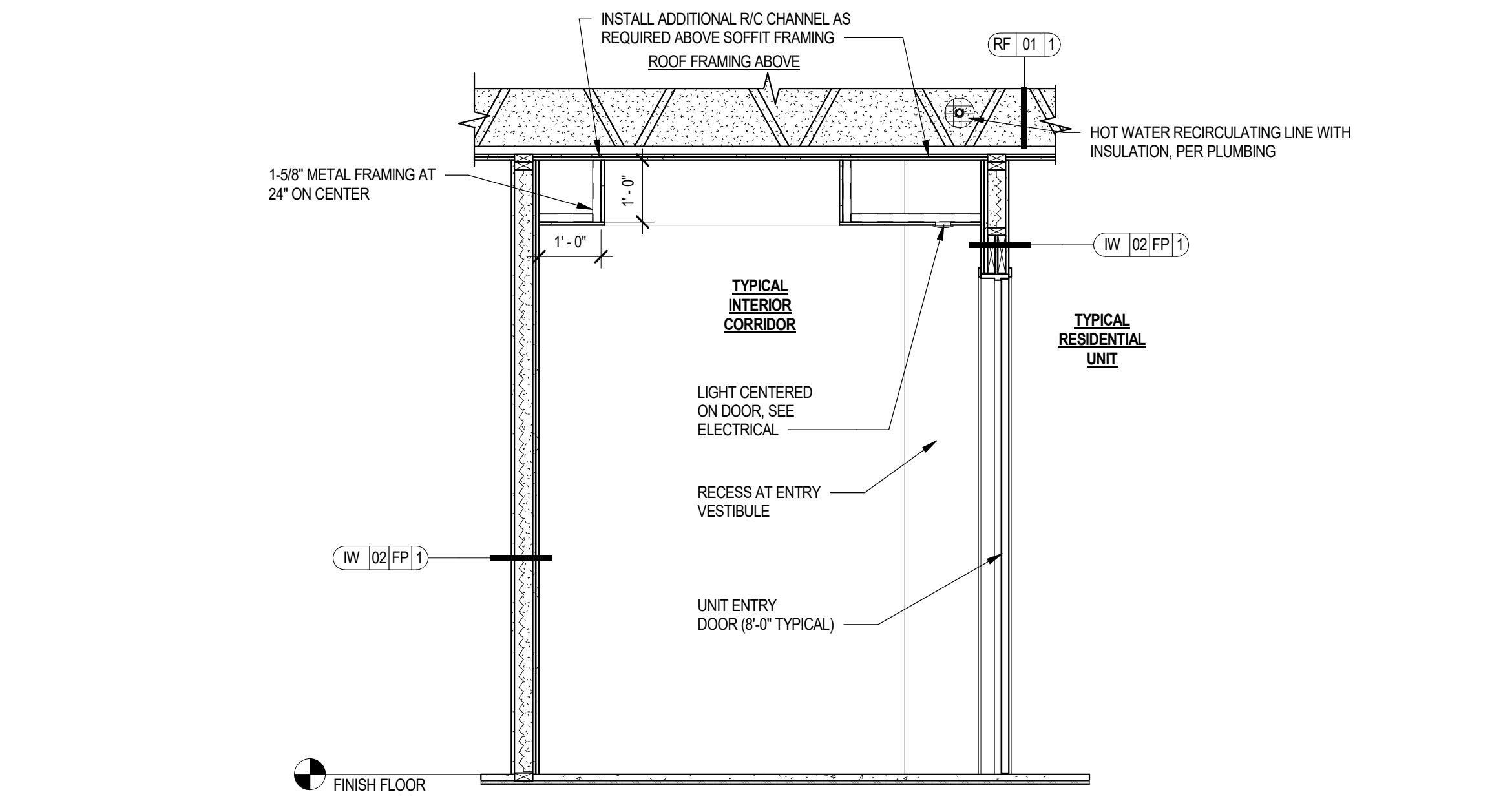
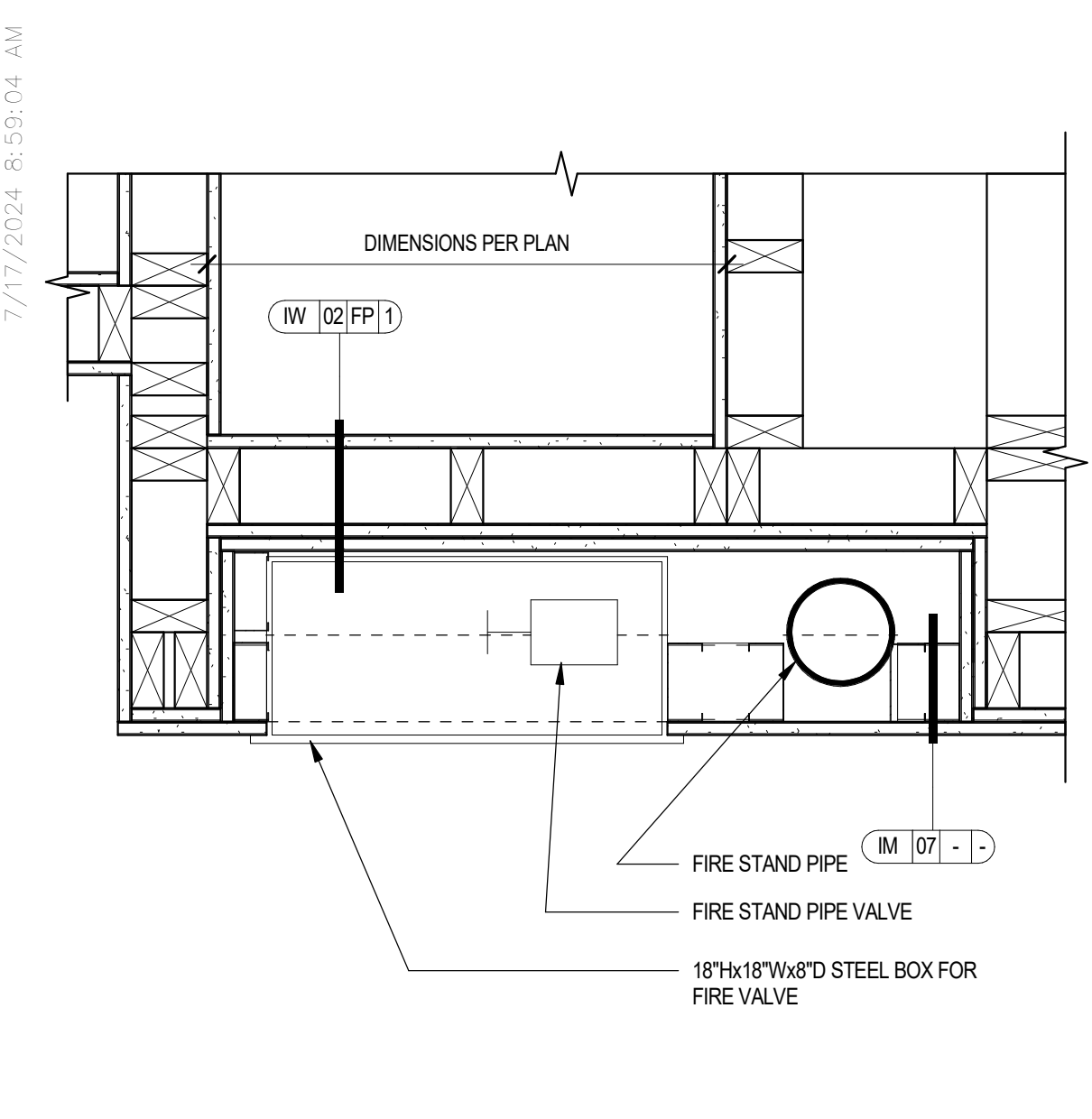
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A7.5.41
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7/17/2024 8:55:04 AM



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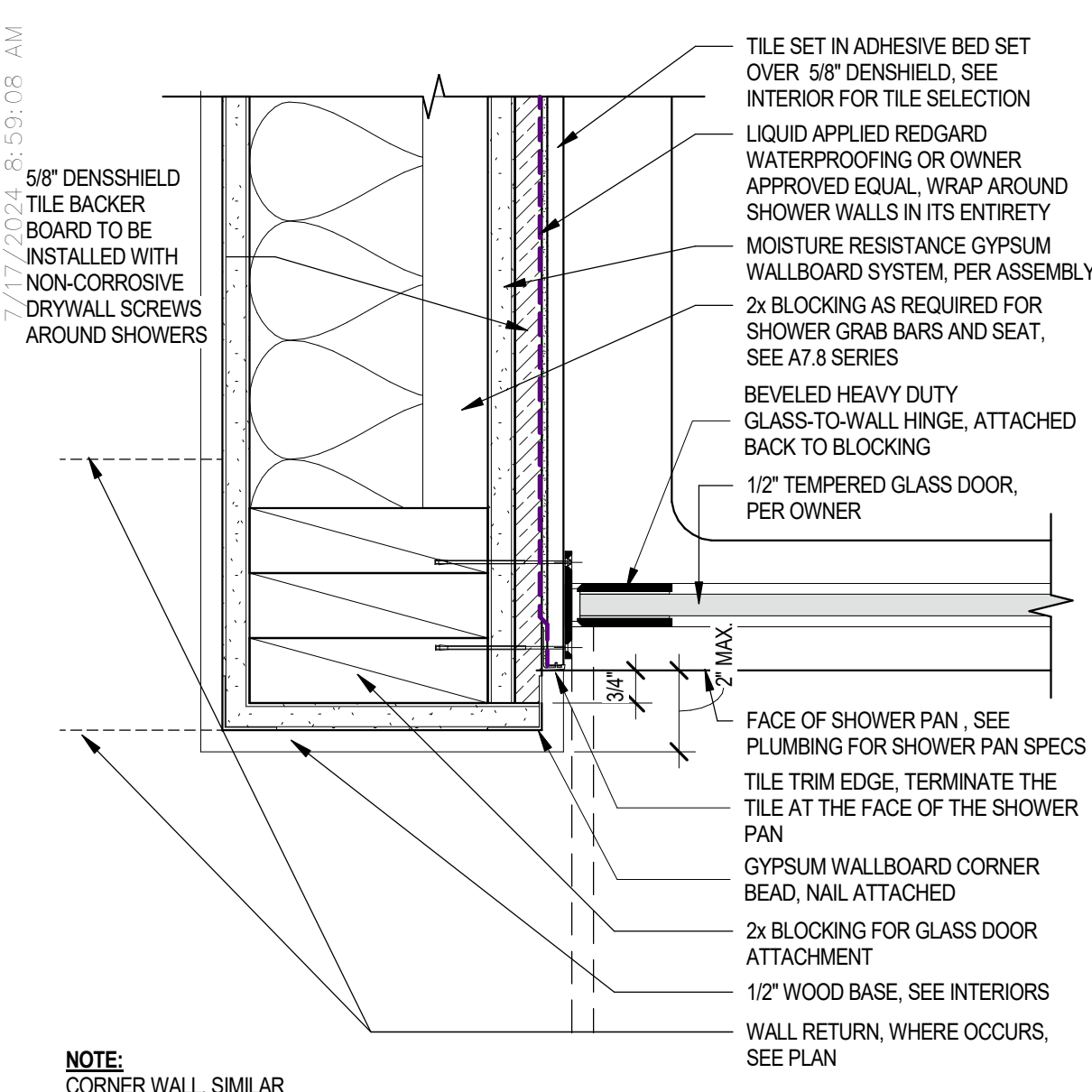
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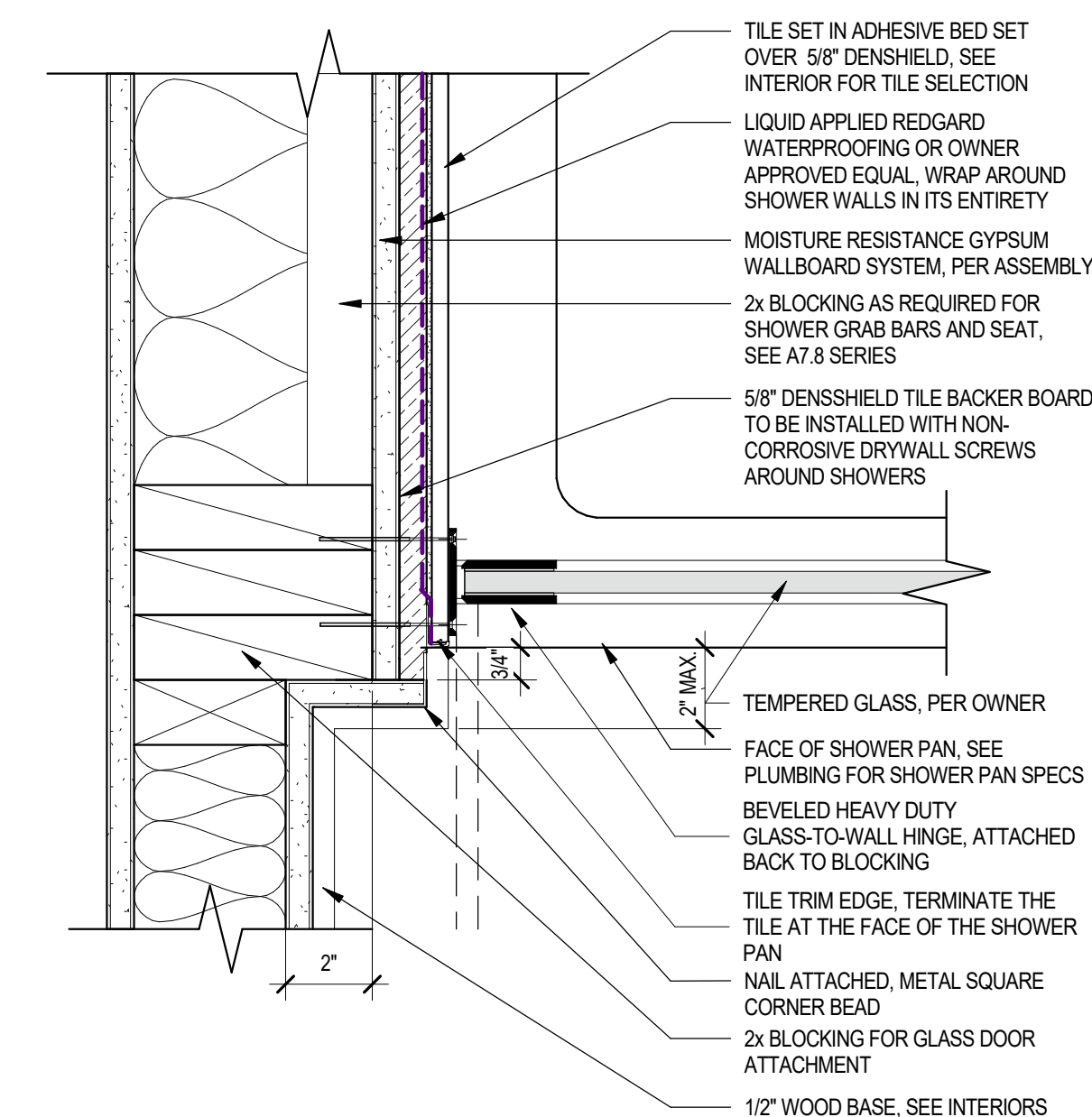
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A7.6.10
UNIT & CORRIDOR DETAILS WOOD FRAMING

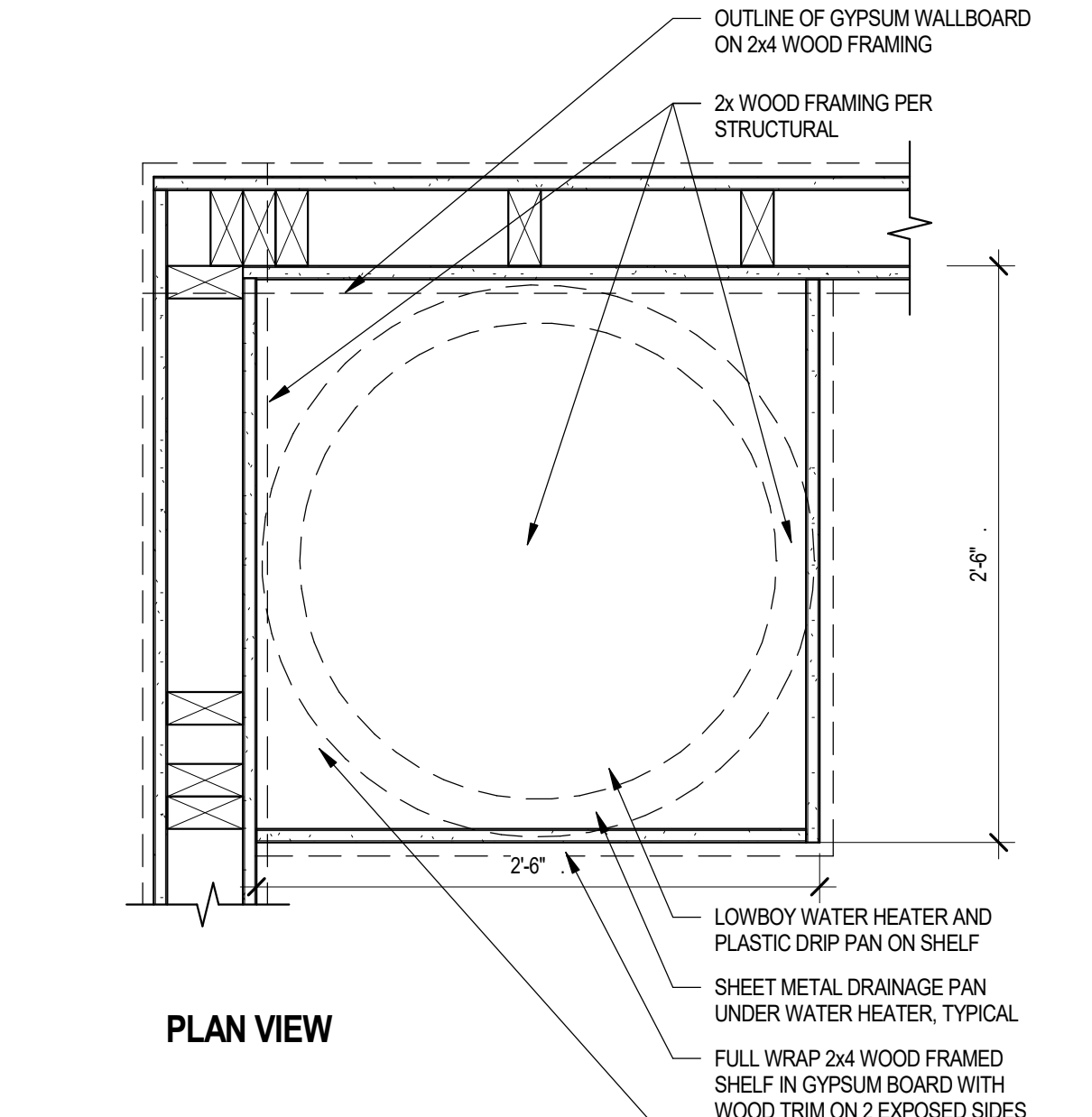
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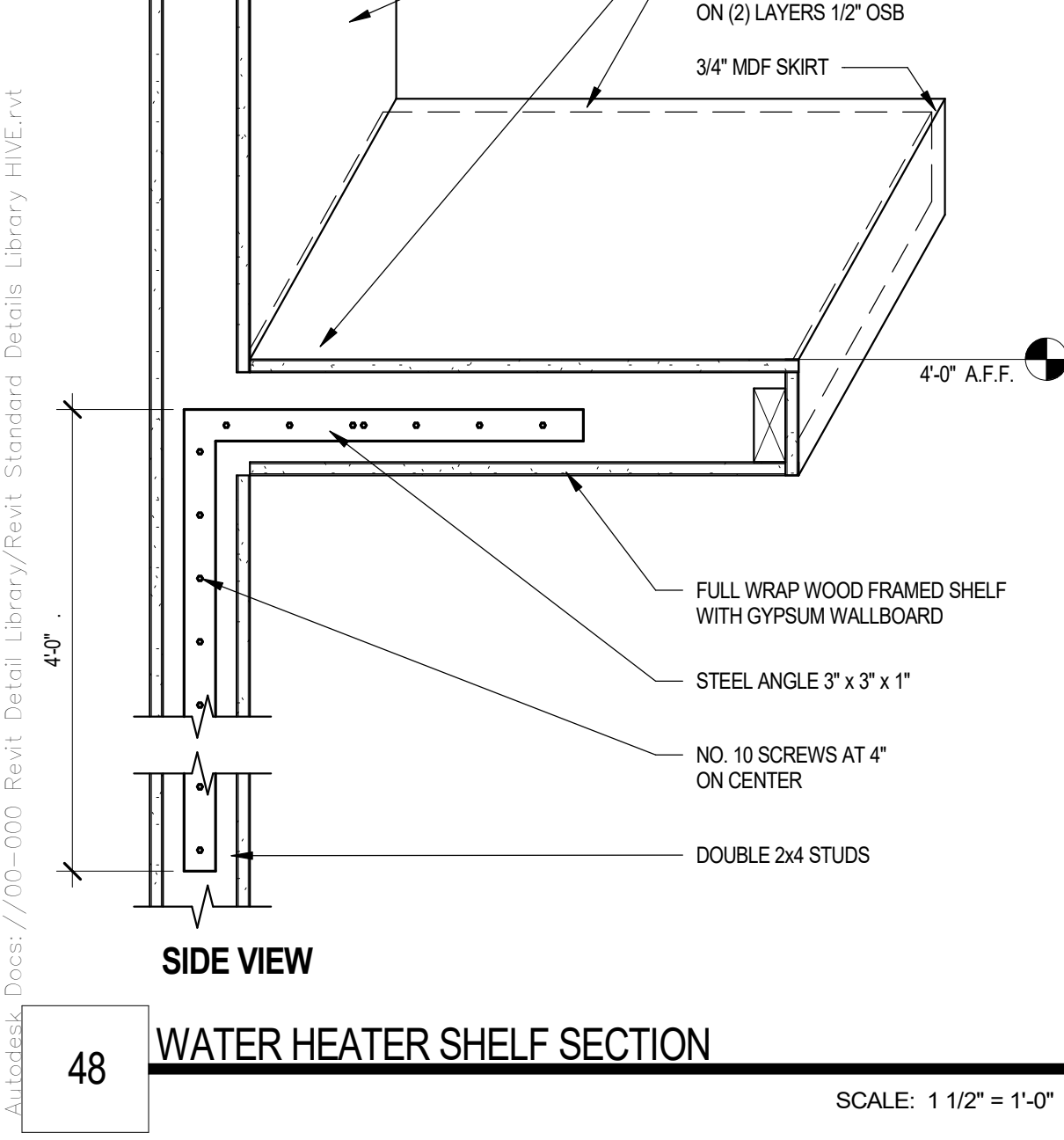
45 GLASS SHOWER DOOR AT WING WALL - PLAN
SCALE: 3\"/>



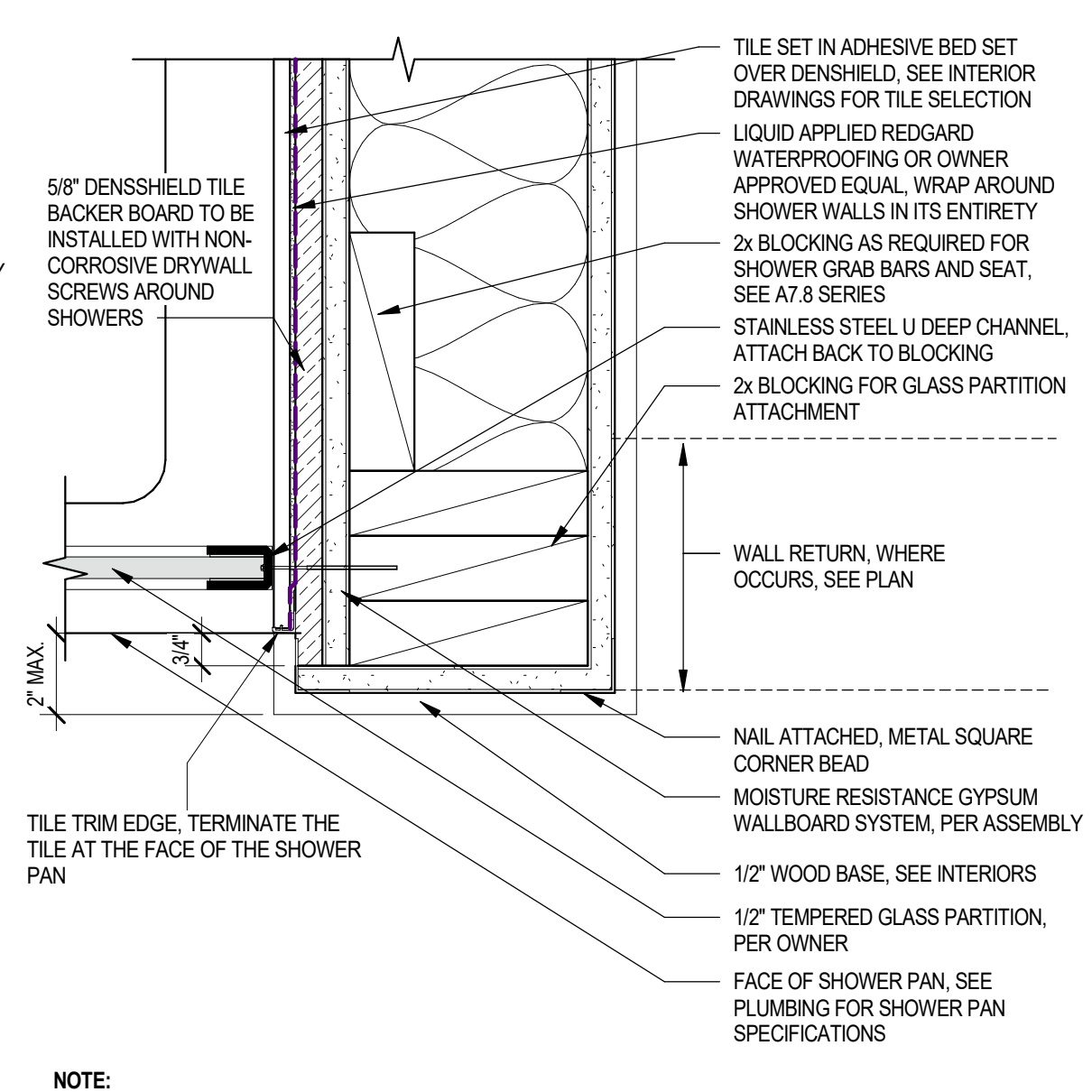
46 GLASS DOOR AT STEPPED WALL - PLAN
SCALE: 3\"/>



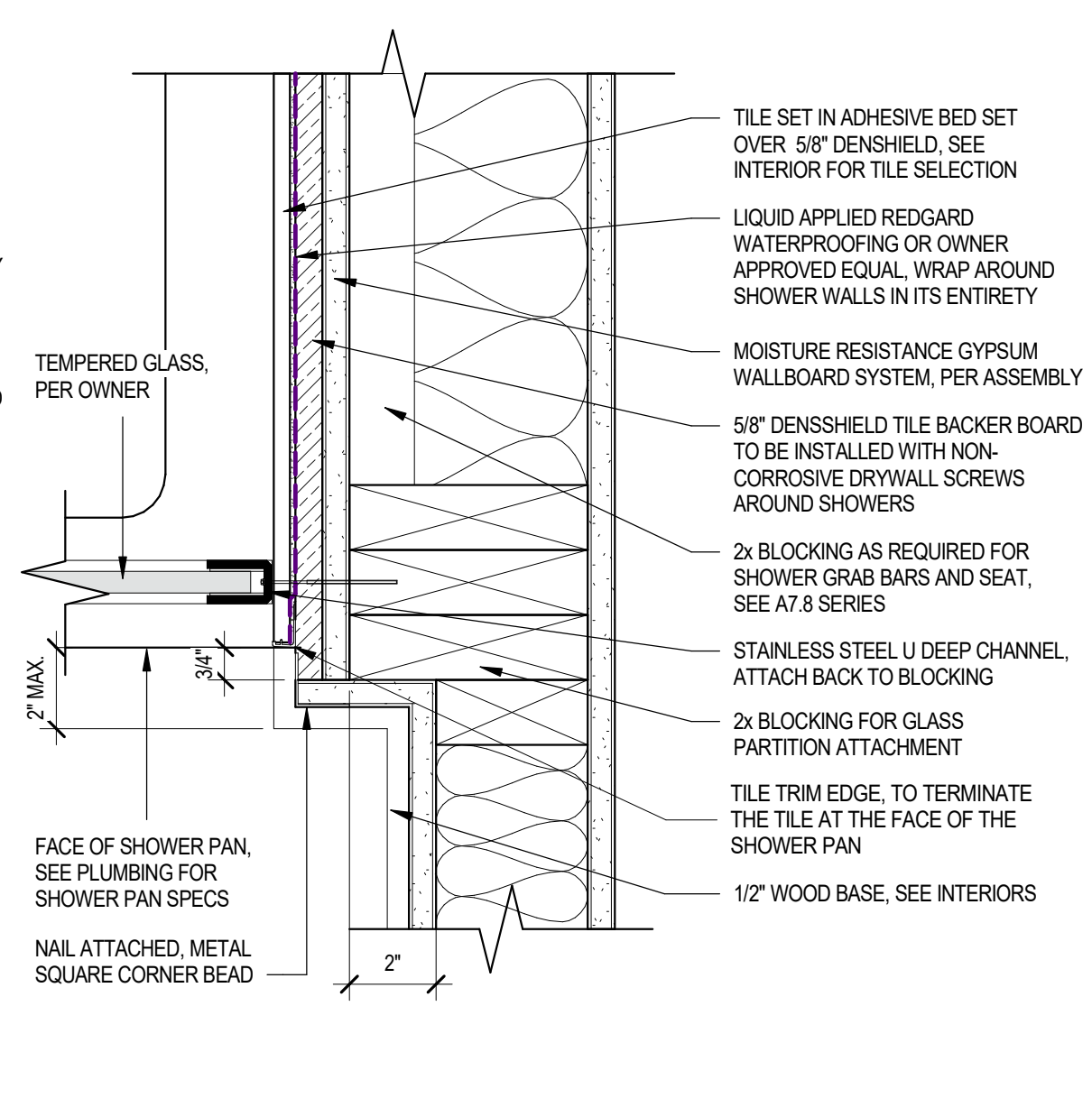
47 WATER HEATER SHELF SECTION
SCALE: 1 1/2\"/>



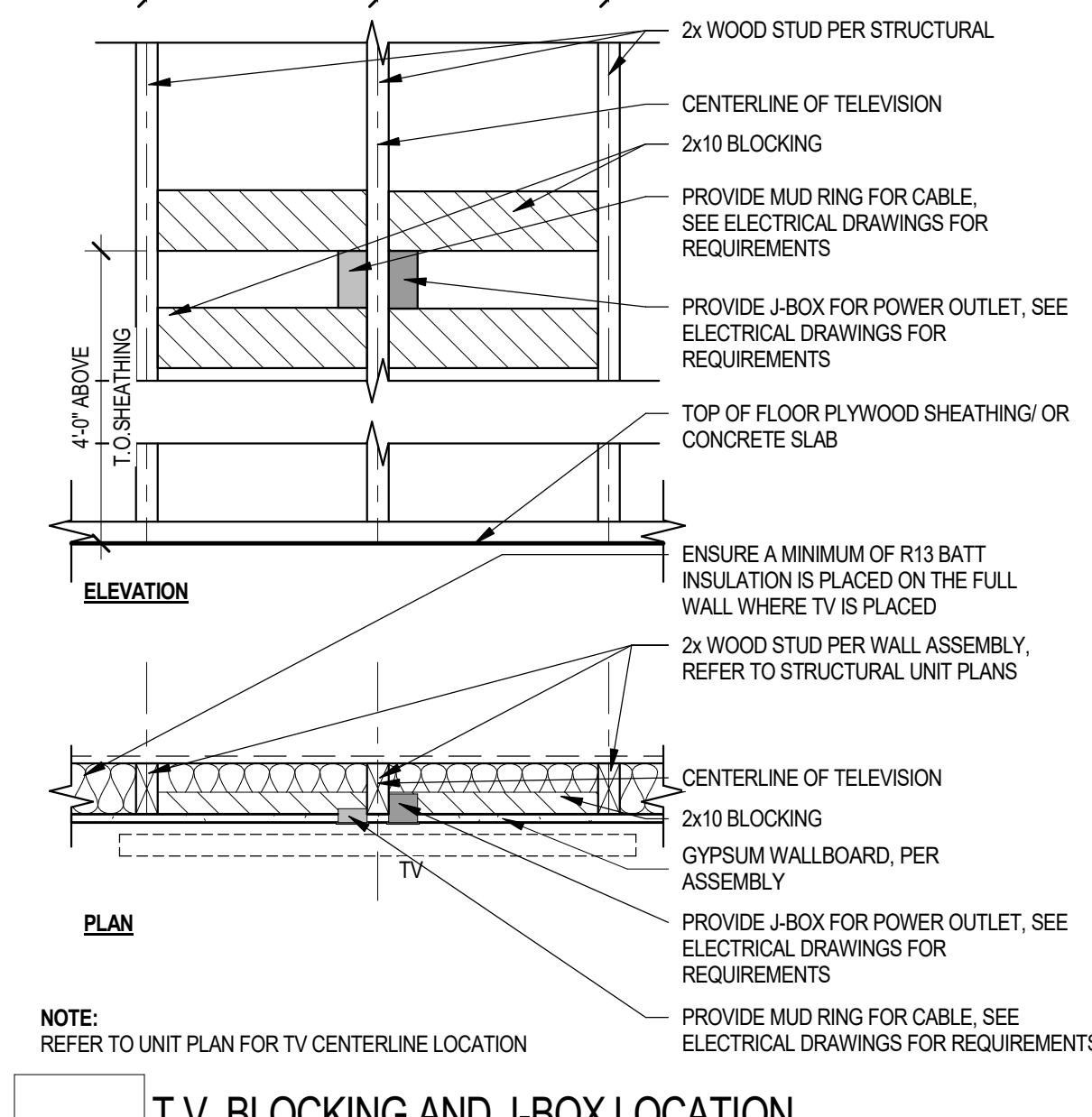
48 WATER HEATER SHELF SECTION
SCALE: 1 1/2\"/>



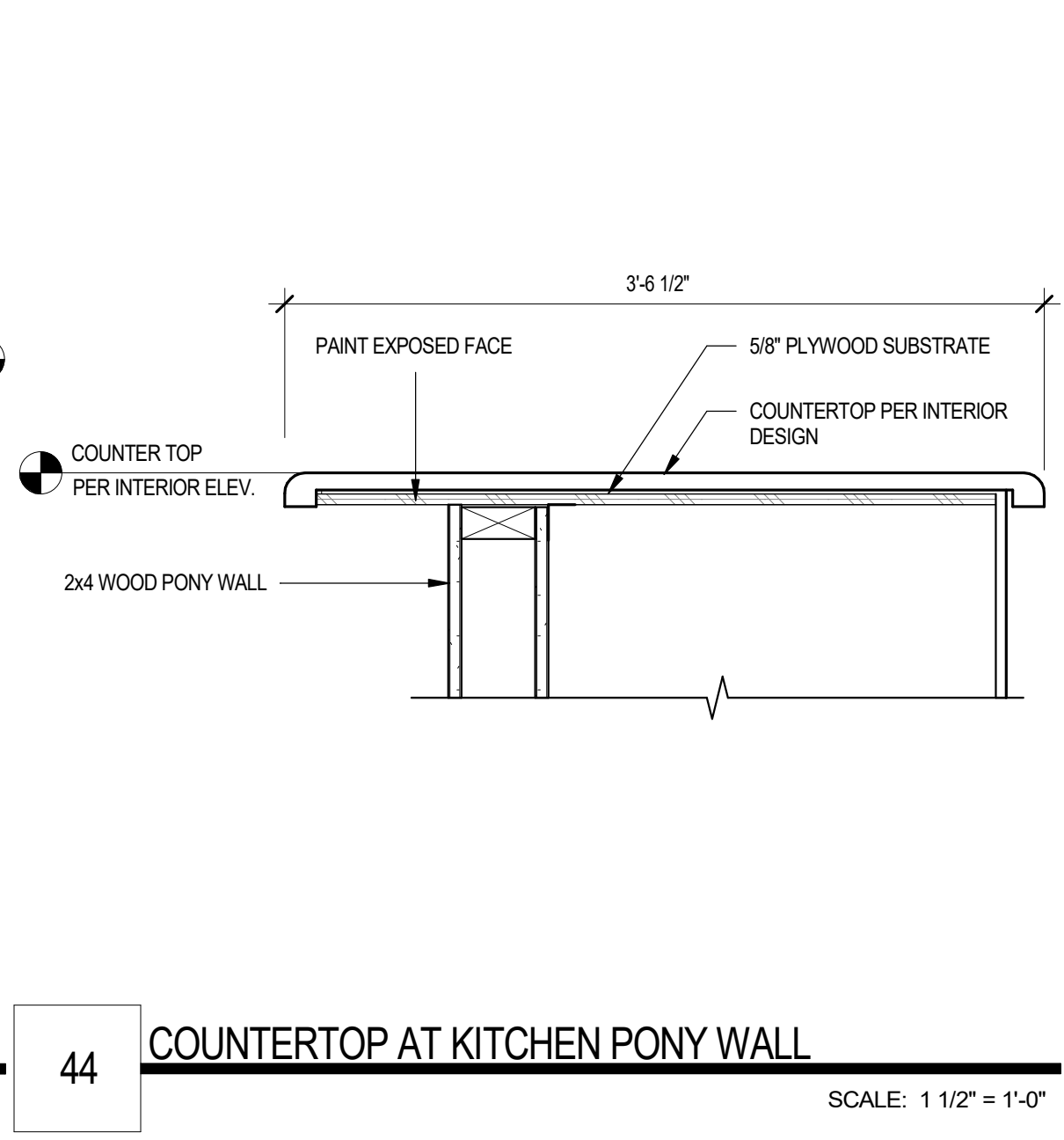
41 SHOWER GLASS PARTITION AT WING WALL - PLAN
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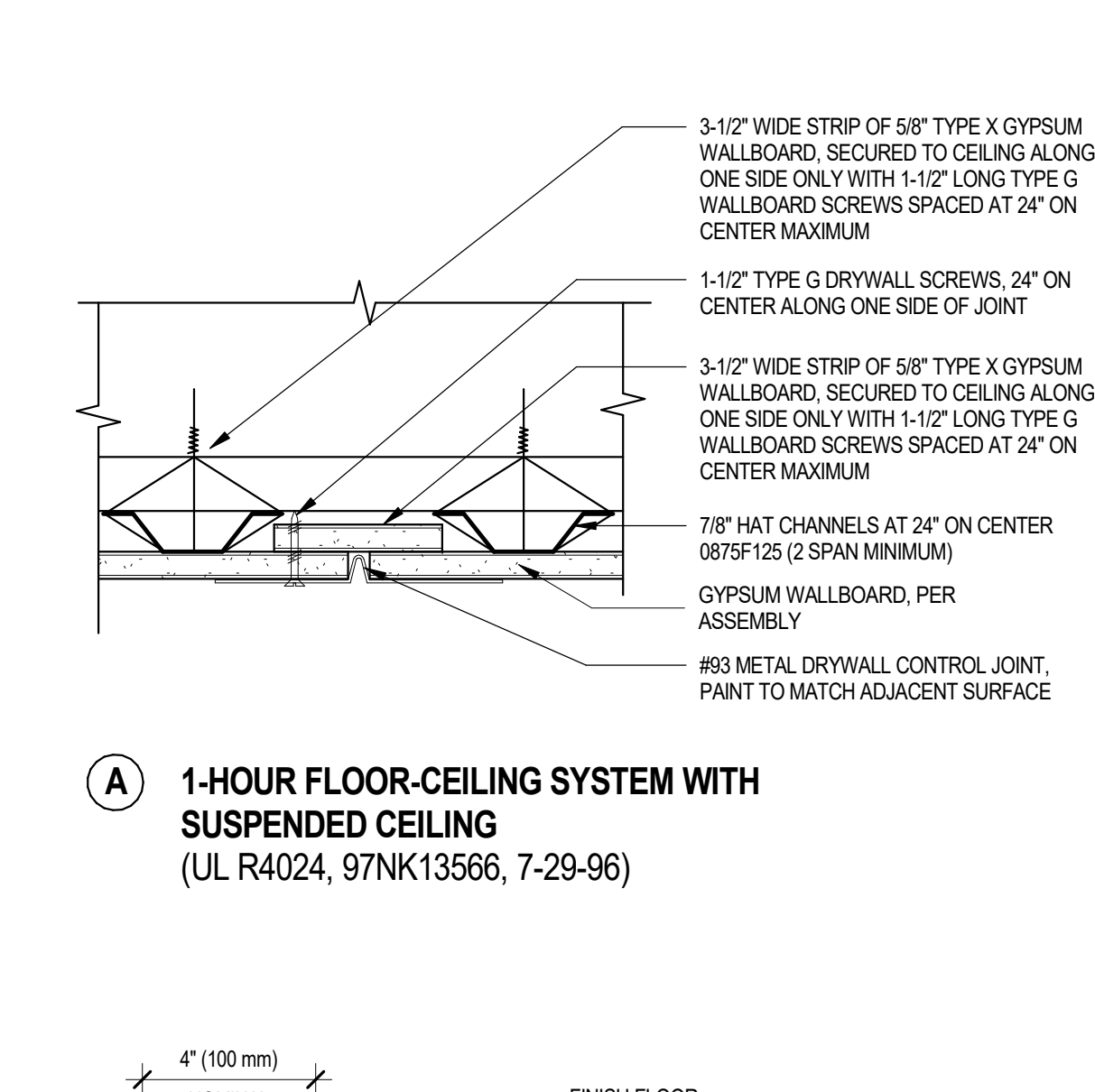
42 GLASS PARTITION AT STEPPED WALL - PLAN
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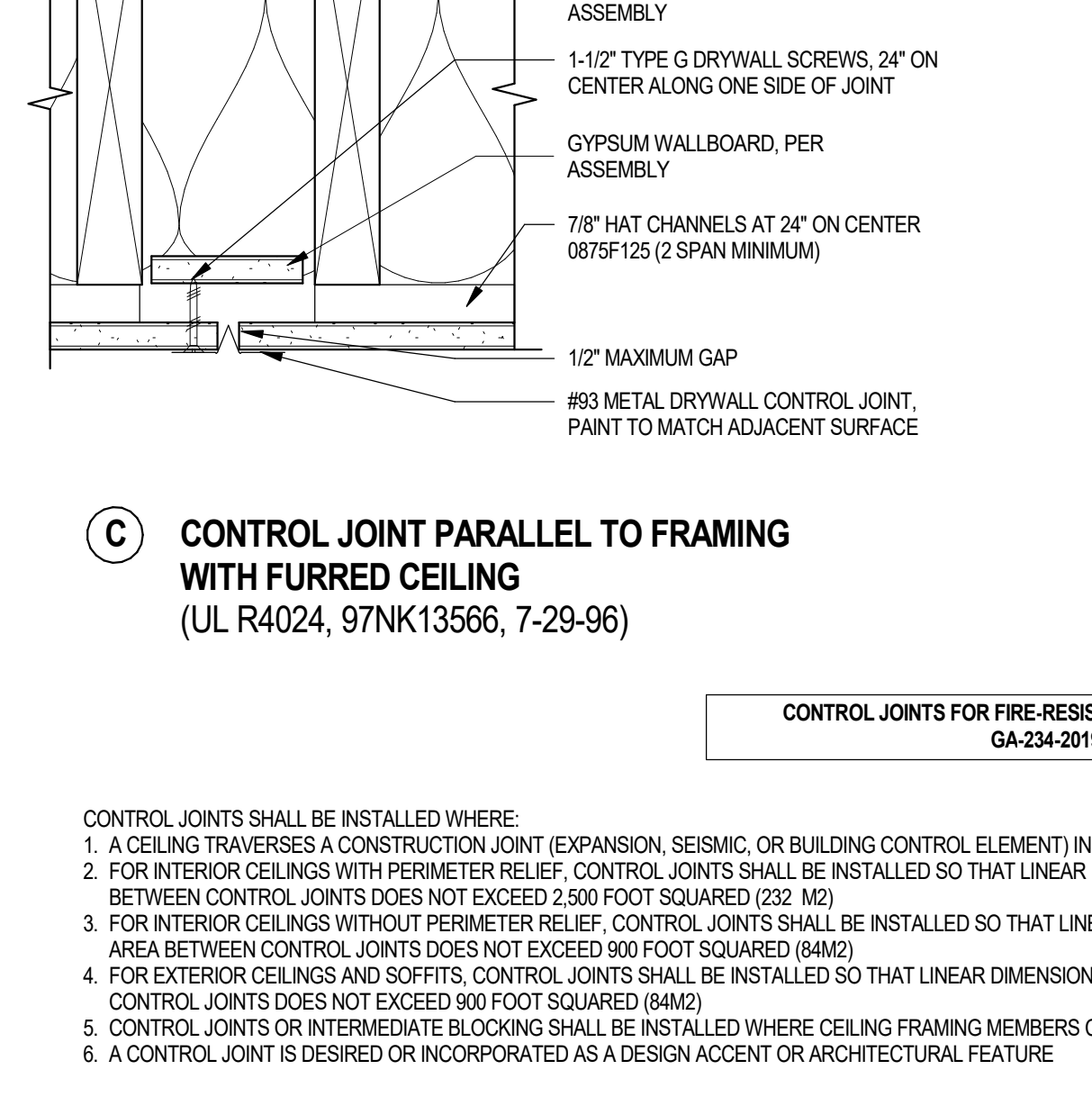
43 T.V. BLOCKING AND J-BOX LOCATION
SCALE: 1\"/>



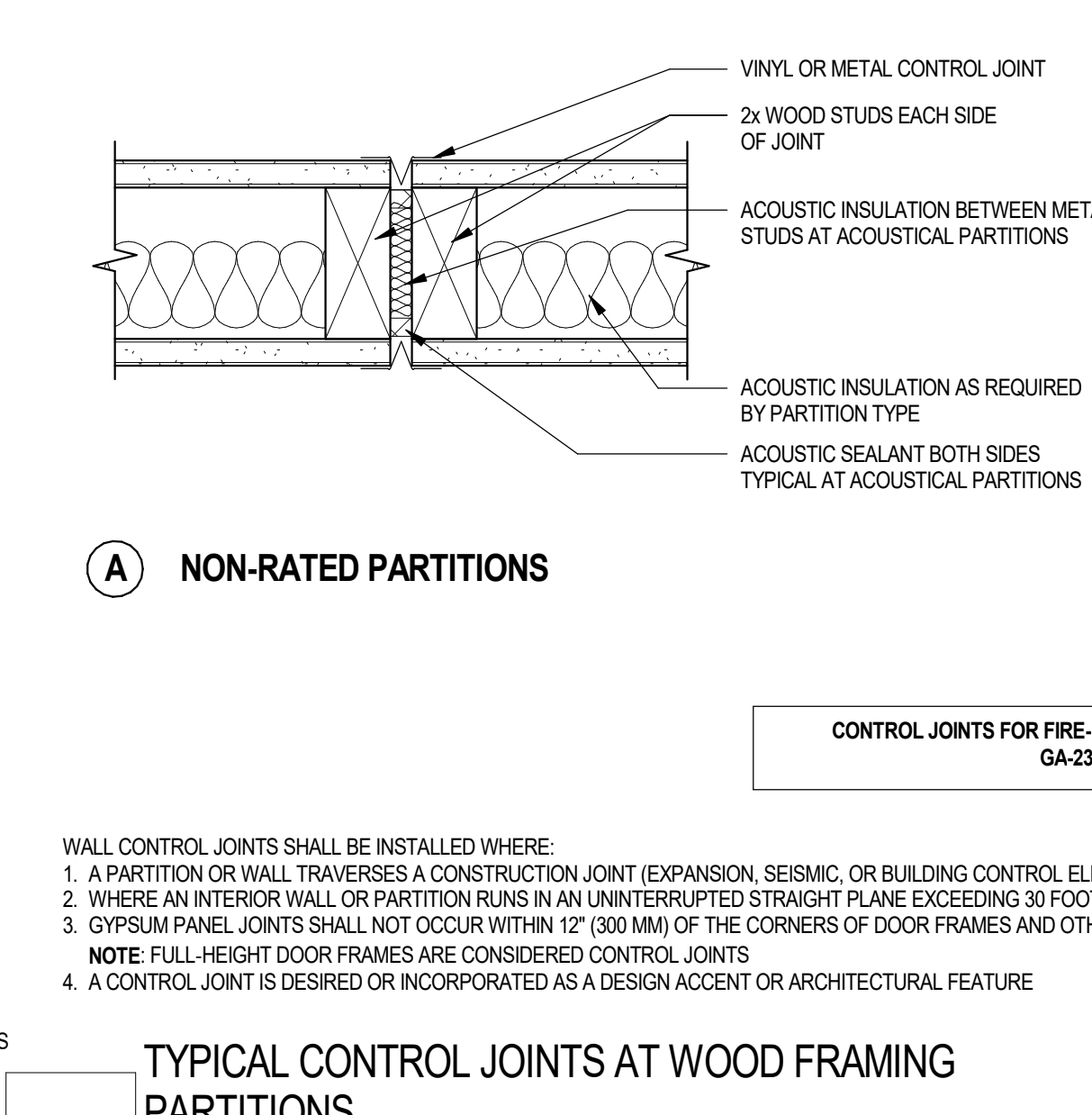
44 COUNTERTOP AT KITCHEN PONY WALL
SCALE: 1 1/2\"/>



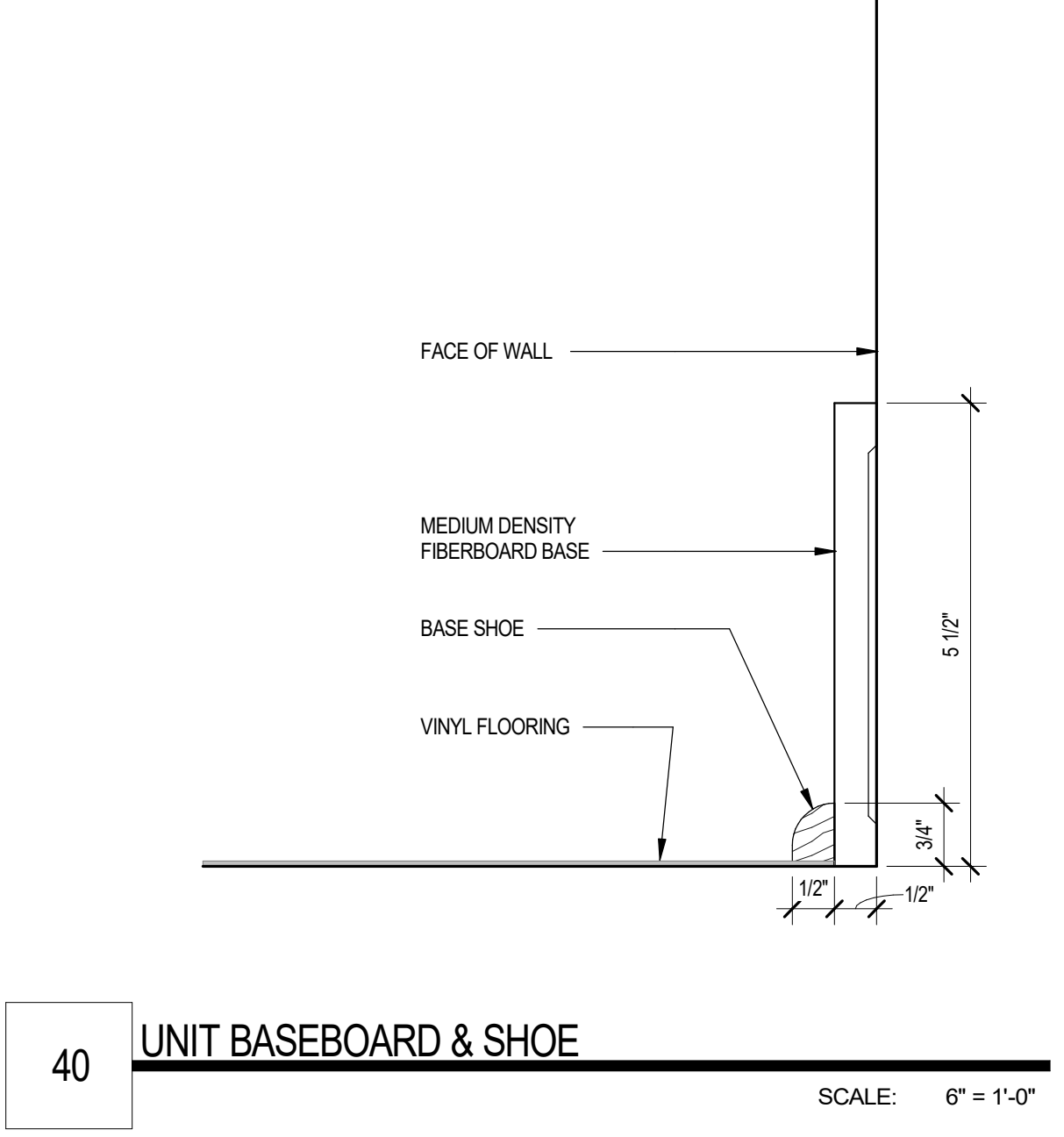
A 1-HOUR FLOOR-CEILING SYSTEM WITH SUSPENDED CEILING
(UL R4024, 97NK13566, 7-29-96)



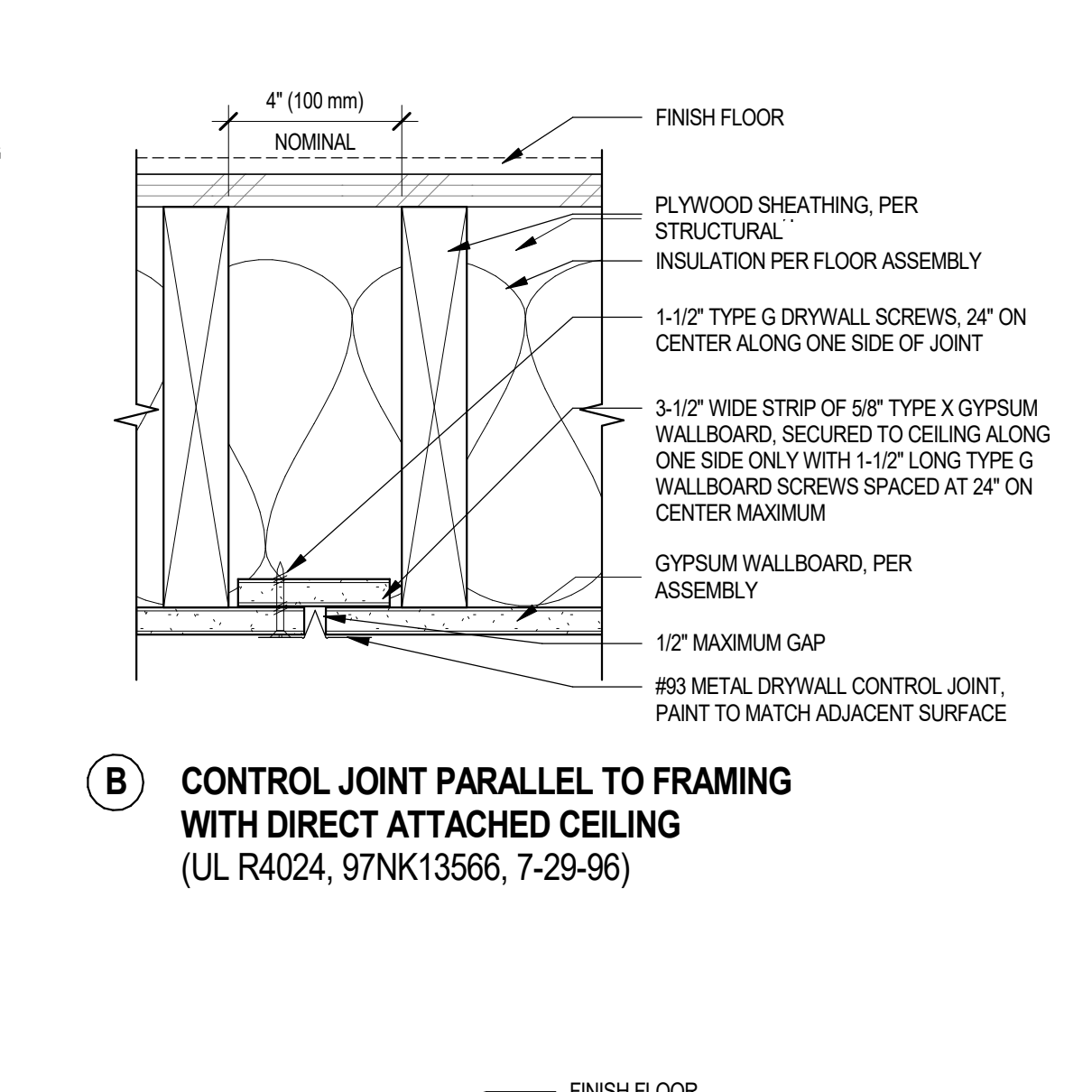
C CONTROL JOINT PARALLEL TO FRAMING WITH FURRED CEILING
(UL R4024, 97NK13566, 7-29-96)



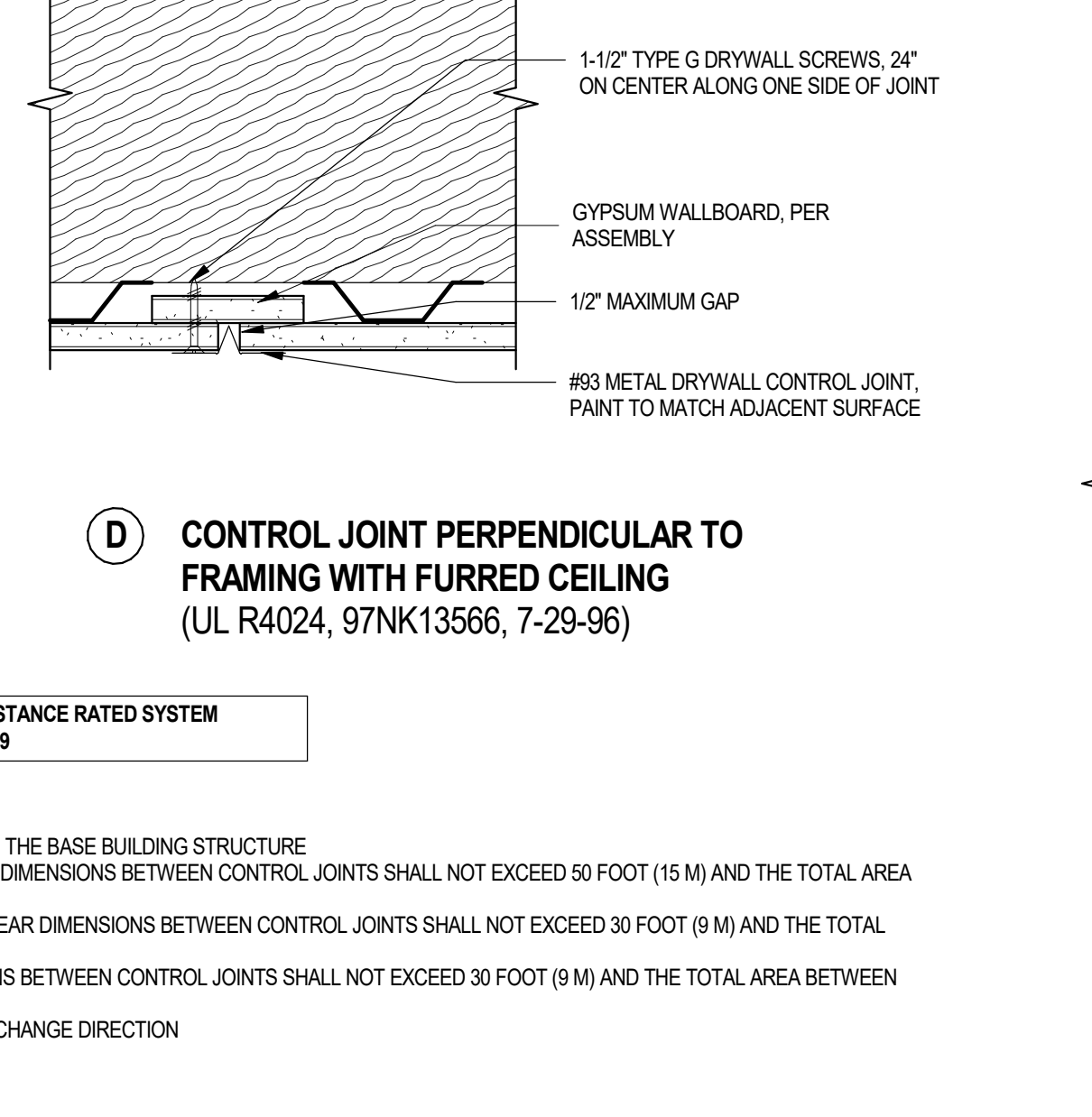
39 TYPICAL CONTROL JOINTS AT WOOD FRAMING PARTITIONS
SCALE: 3\"/>



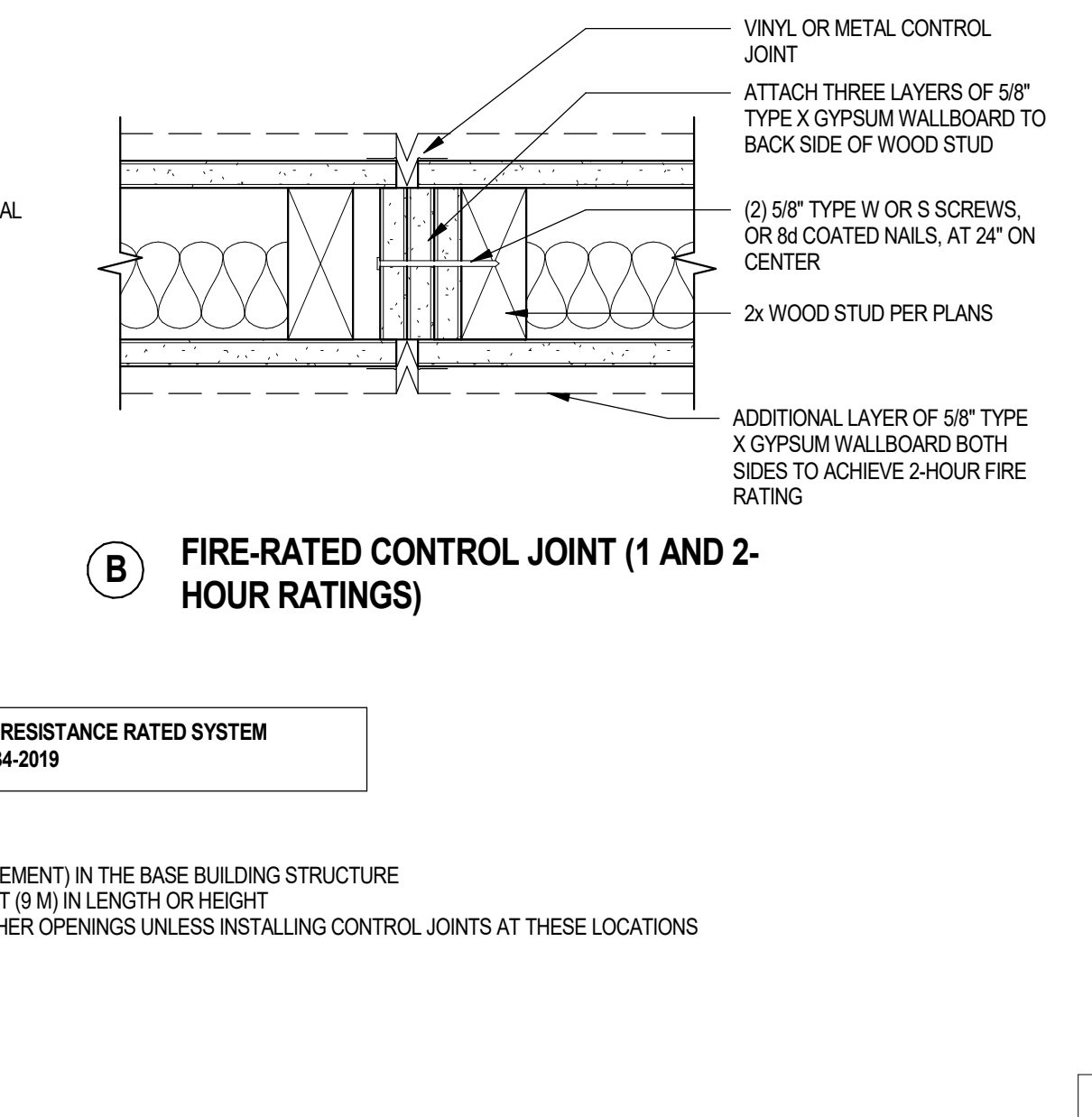
40 UNIT BASEBOARD & SHOE
SCALE: 6\"/>



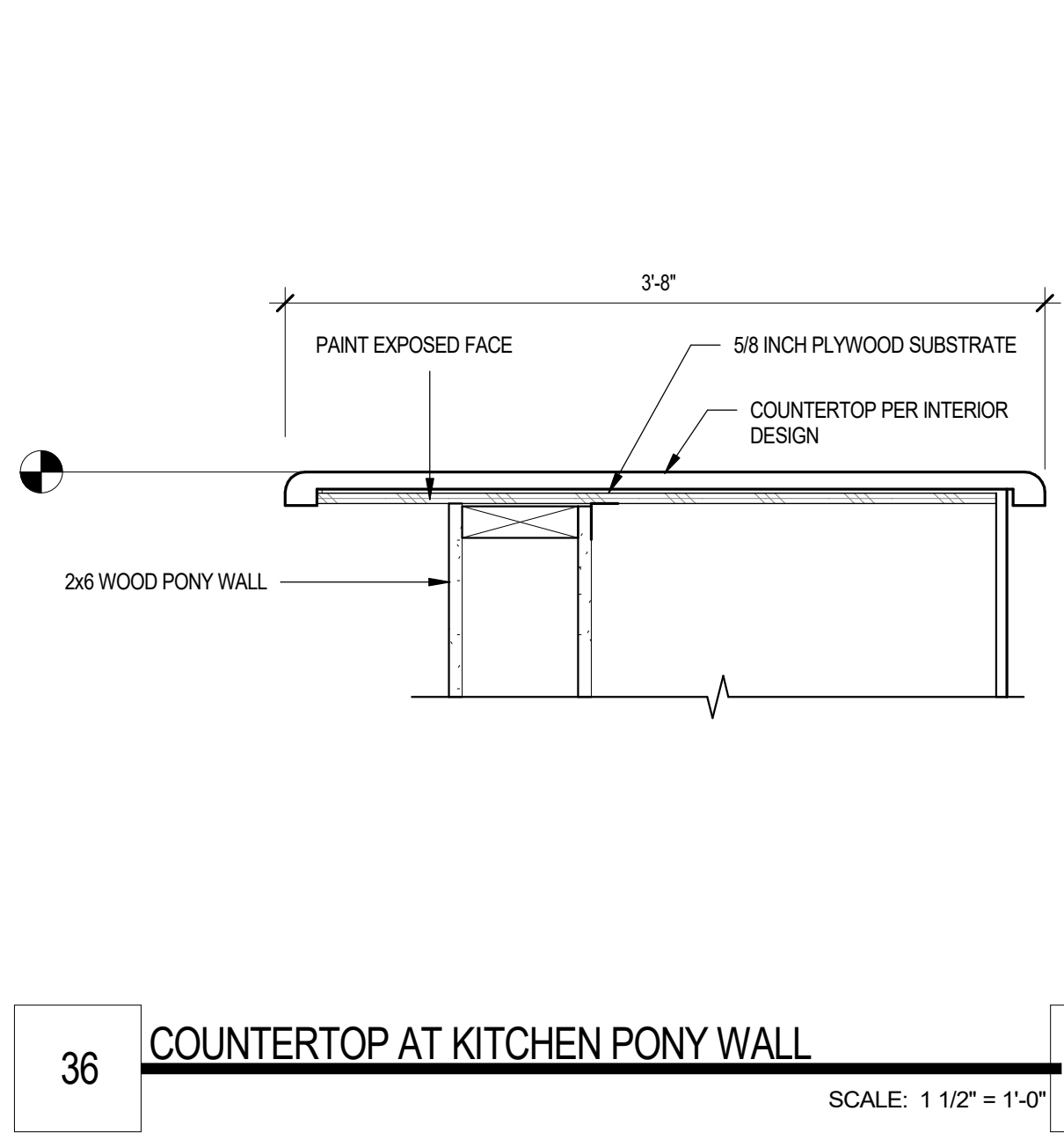
B CONTROL JOINT PARALLEL TO FRAMING WITH DIRECT ATTACHED CEILING
(UL R4024, 97NK13566, 7-29-96)



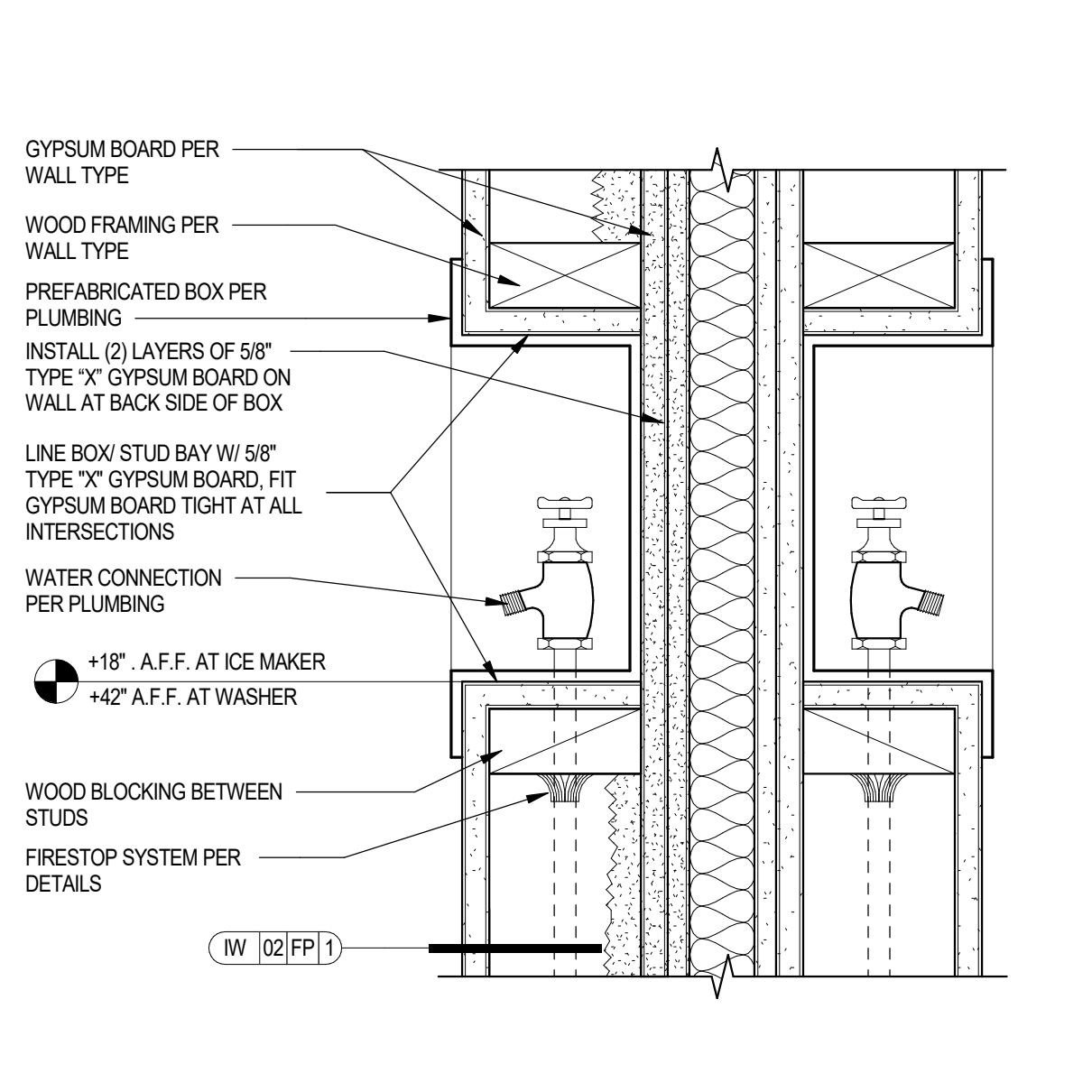
D CONTROL JOINT PERPENDICULAR TO FRAMING WITH FURRED CEILING
(UL R4024, 97NK13566, 7-29-96)



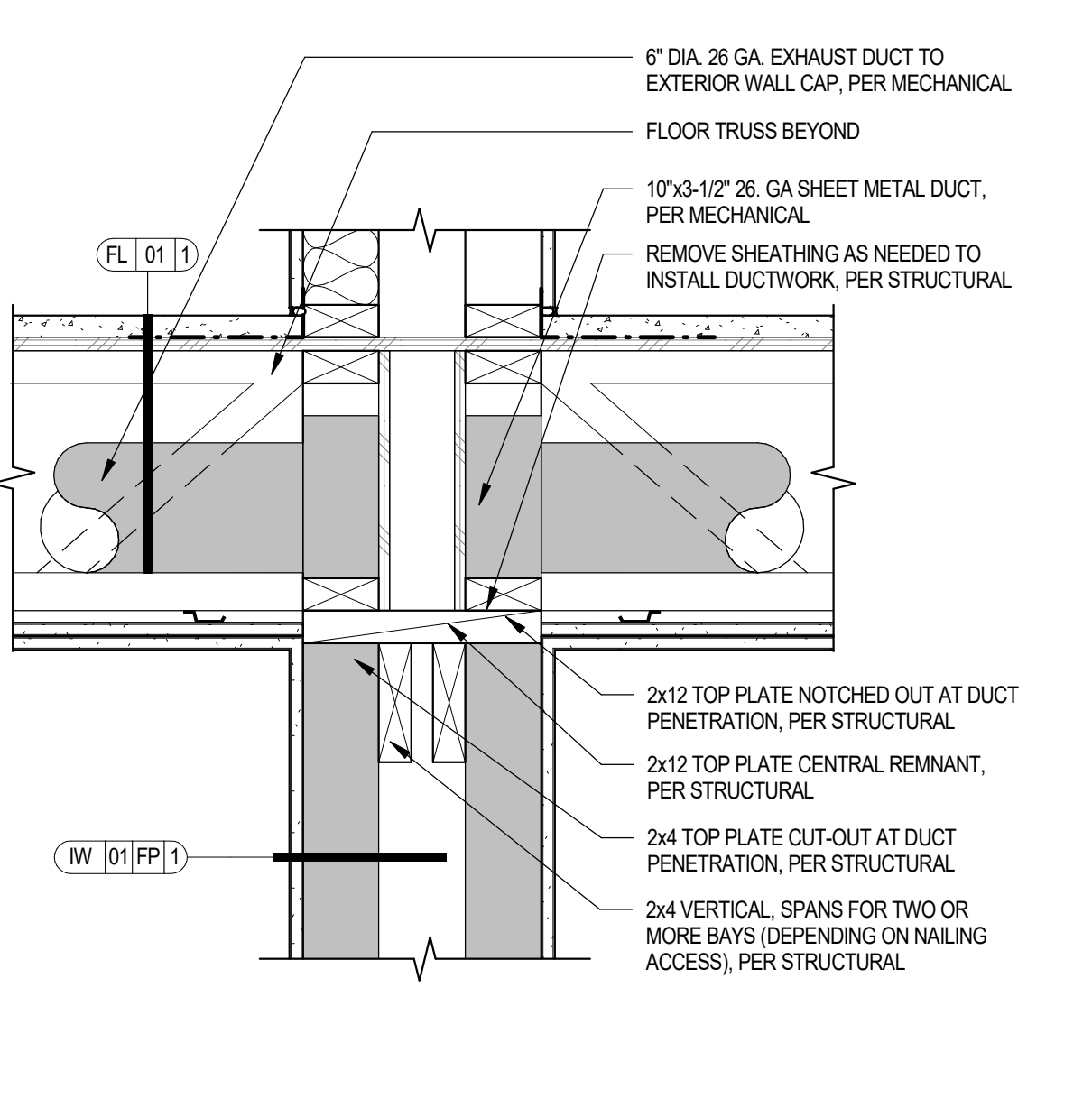
38 TYPICAL CONTROL JOINTS AT CEILINGS
SCALE: 3\"/>



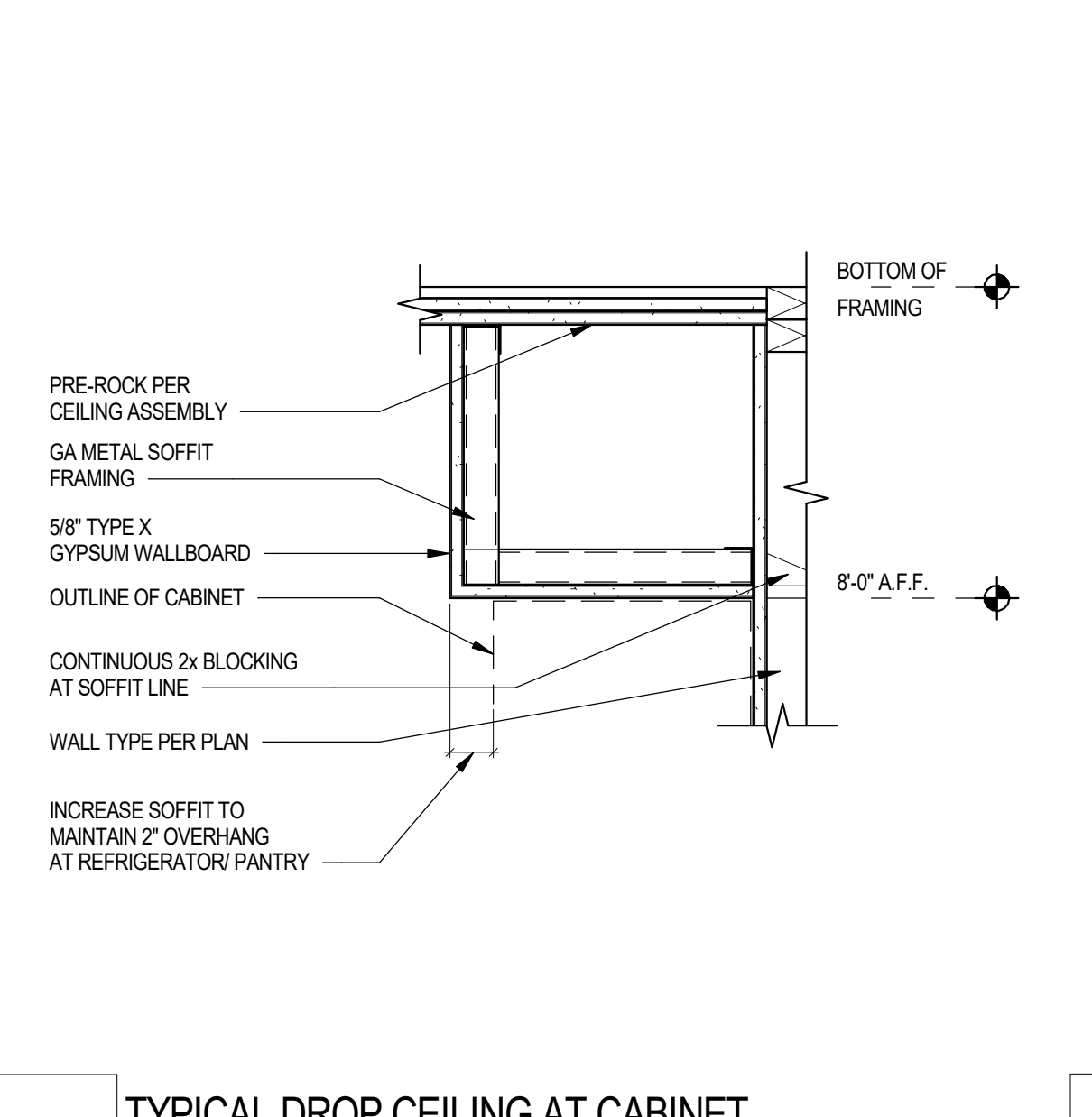
36 COUNTERTOP AT KITCHEN PONY WALL
SCALE: 1 1/2\"/>



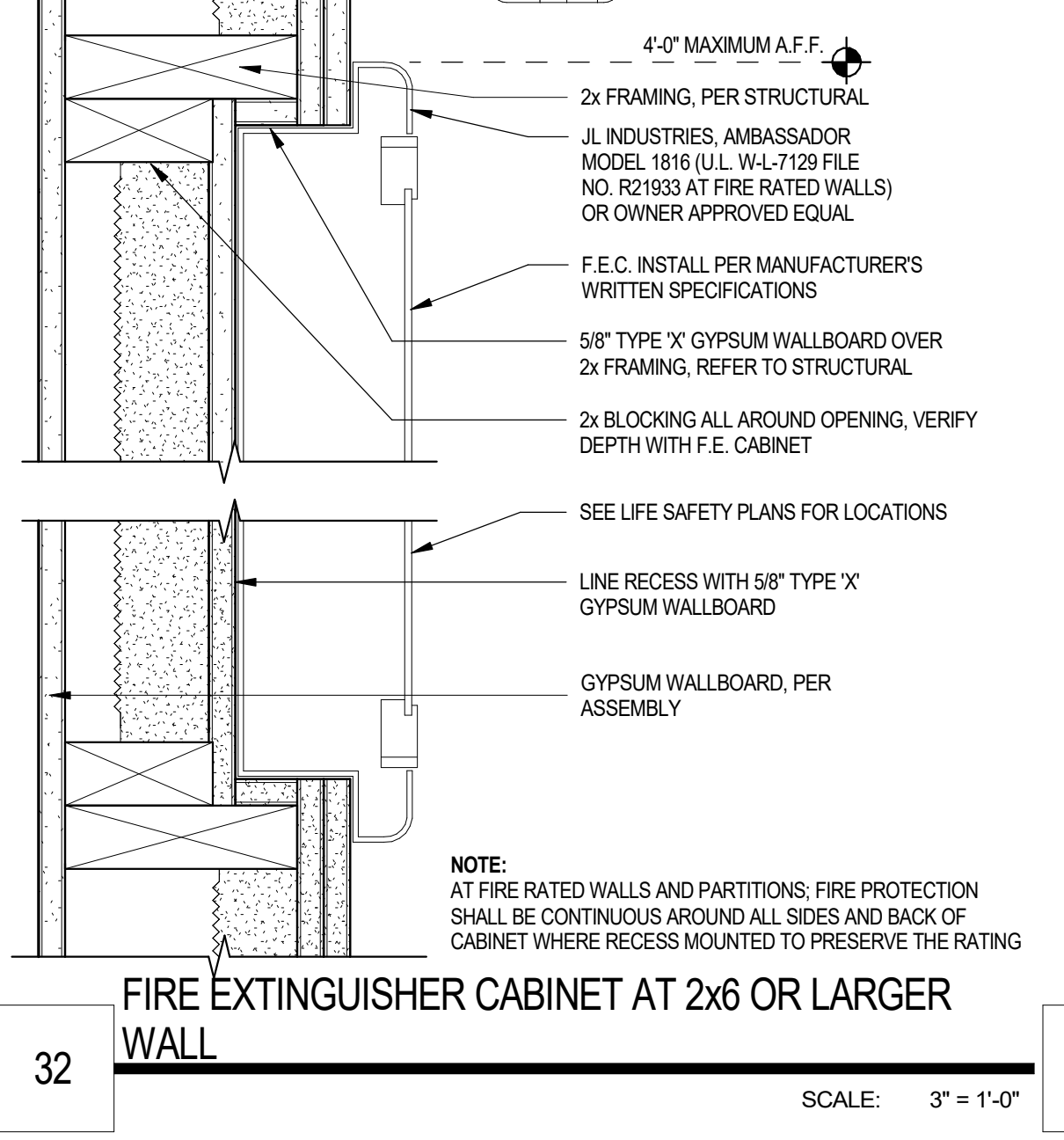
29 WATER BOX DETAIL AT UNIT SEPARATION WALLS
SCALE: 3\"/>



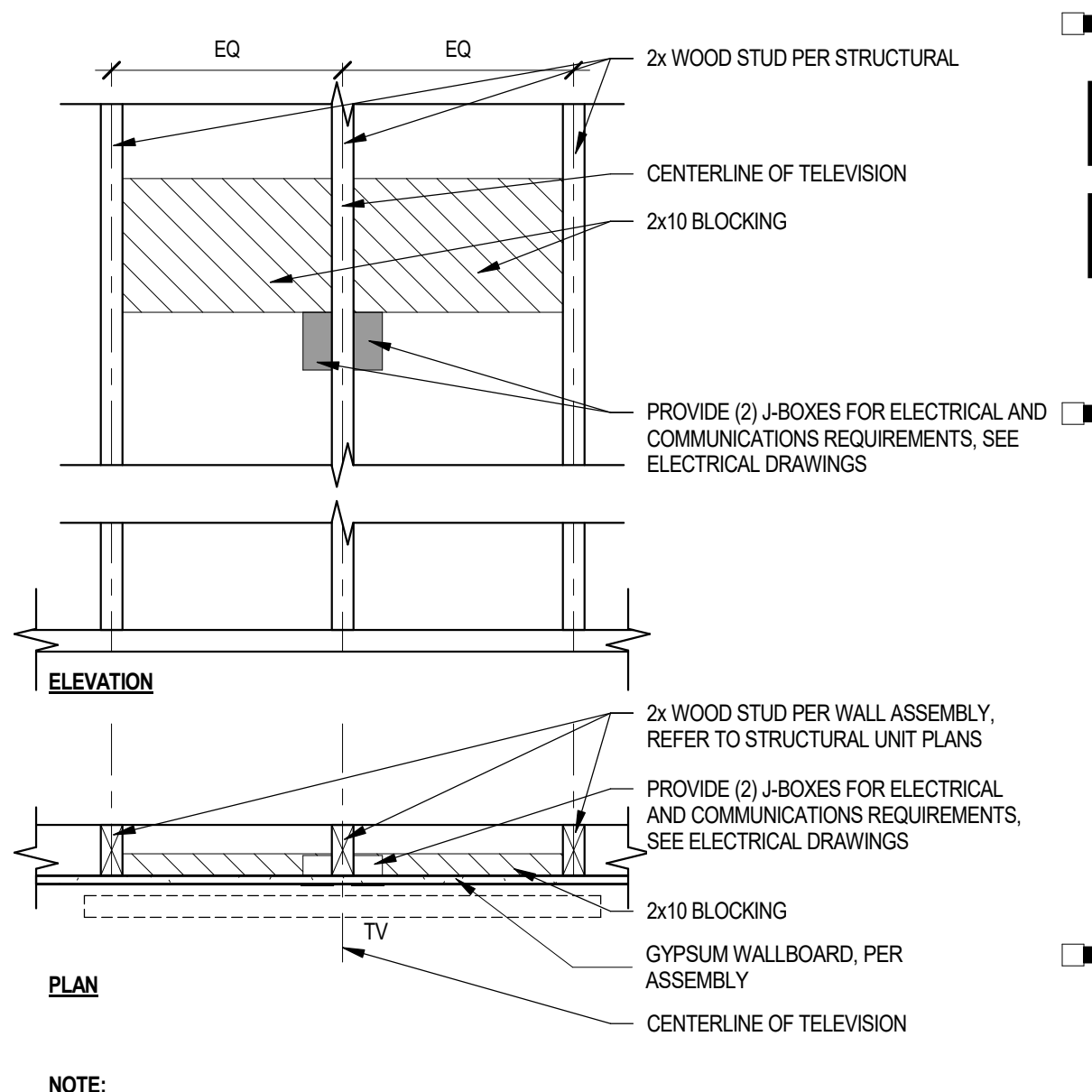
30 MICROWAVE EXHAUST DUCTWORK
SCALE: 1 1/2\"/>



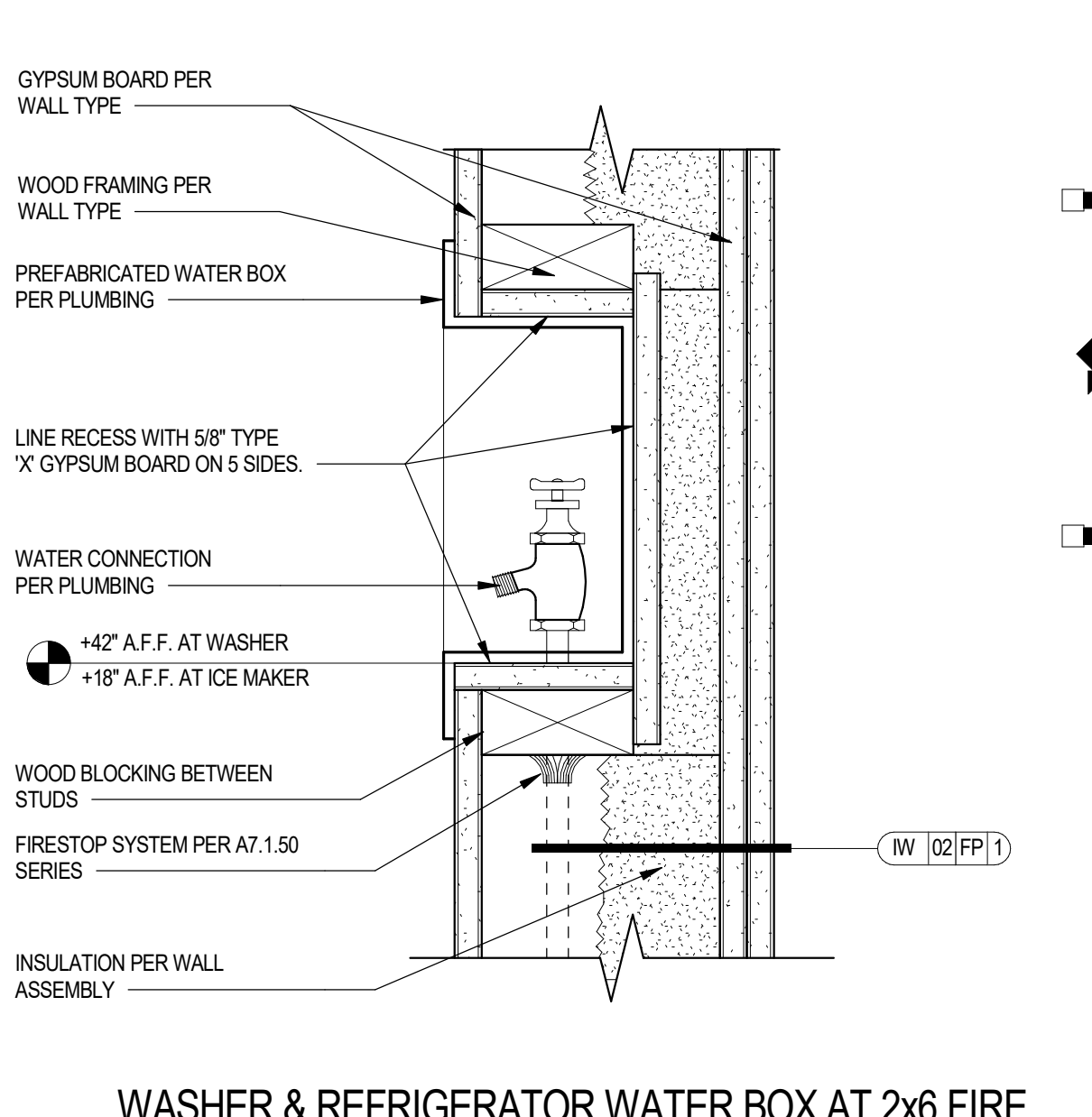
31 TYPICAL DROP CEILING AT CABINET
SCALE: 1 1/2\"/>



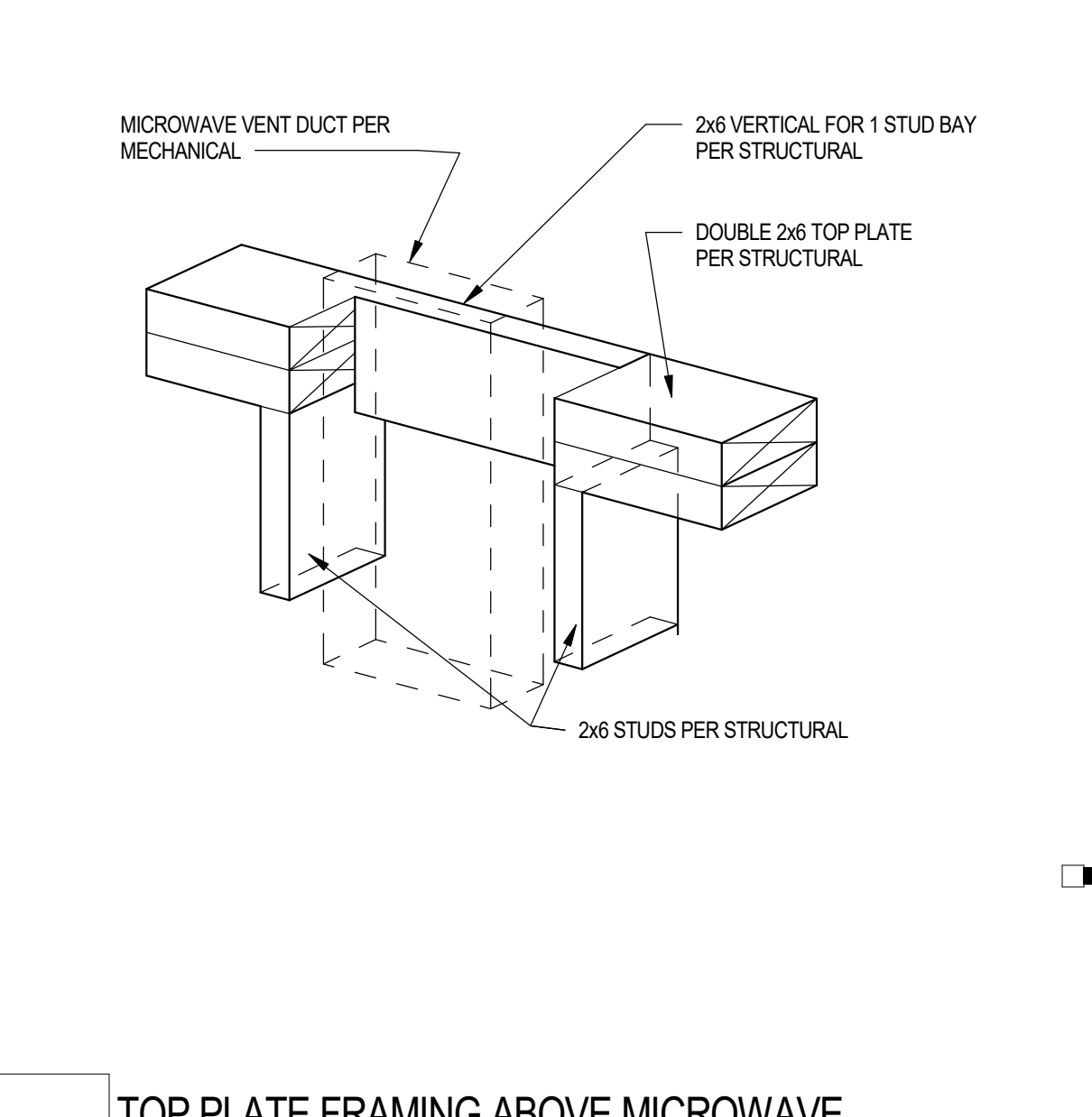
32 FIRE EXTINGUISHER CABINET AT 2X6 OR LARGER WALL
SCALE: 3\"/>



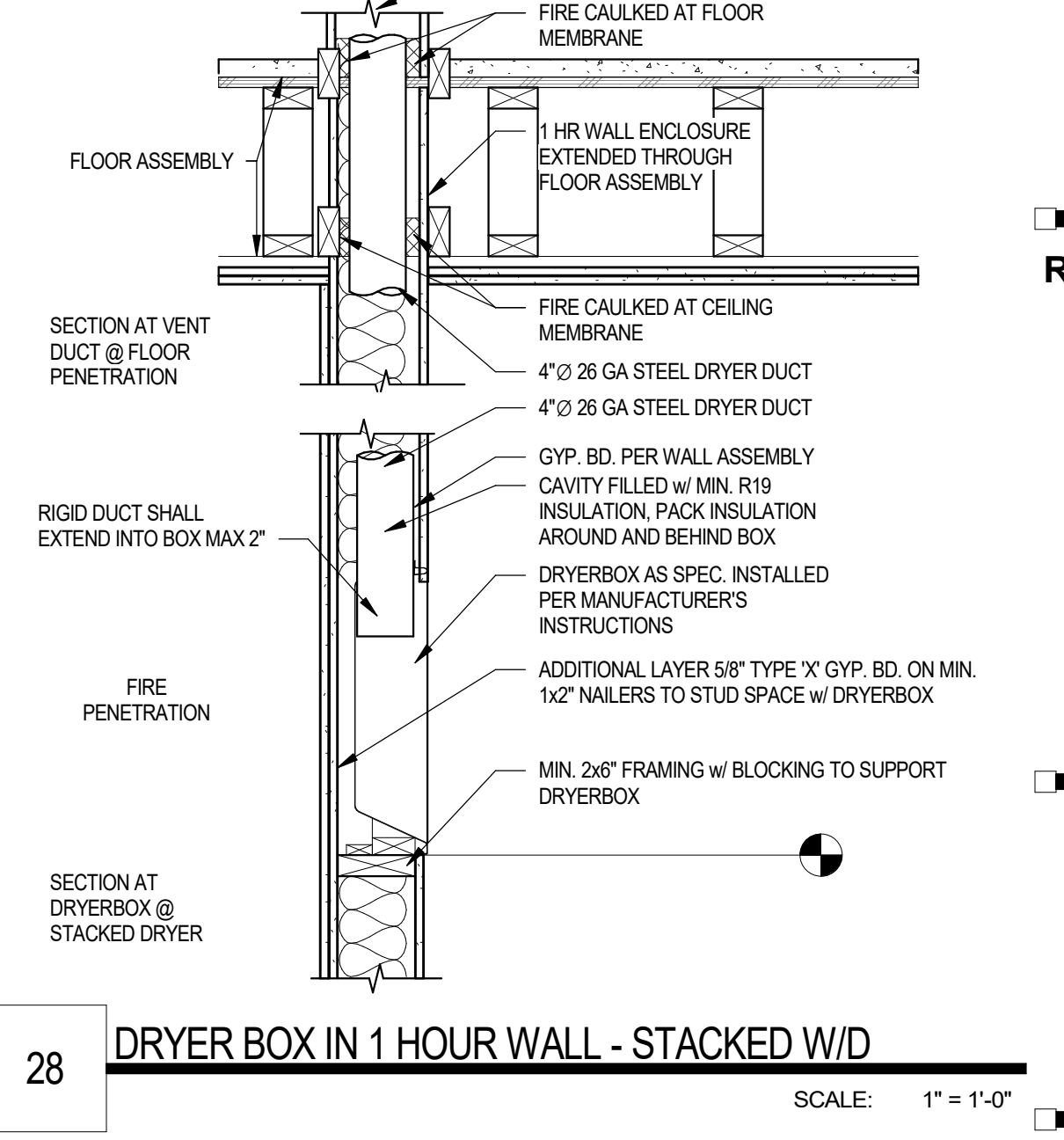
25 T.V. BLOCKING AND J-BOX LOCATION
SCALE: 1\"/>



26 WASHER & REFRIGERATOR WATER BOX AT 2X6 FIRE RATED WALL
SCALE: 3\"/>



27 TOP PLATE FRAMING ABOVE MICROWAVE
SCALE: 1\"/>



28 DRYER BOX IN 1 HOUR WALL - STACKED W/D
SCALE: 1\"/>

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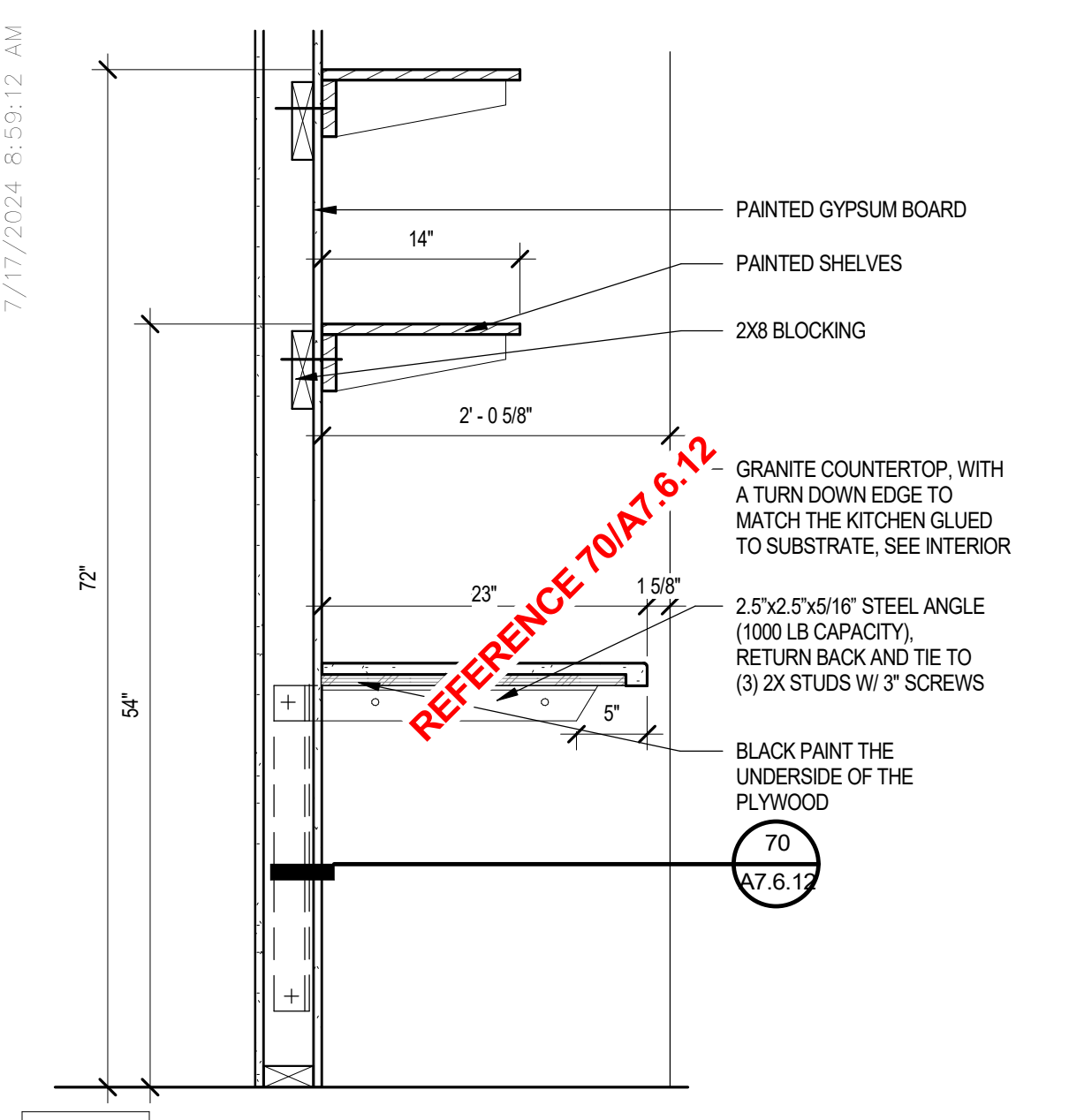
See the owner or its designated agent shall provide this information to the Architect.

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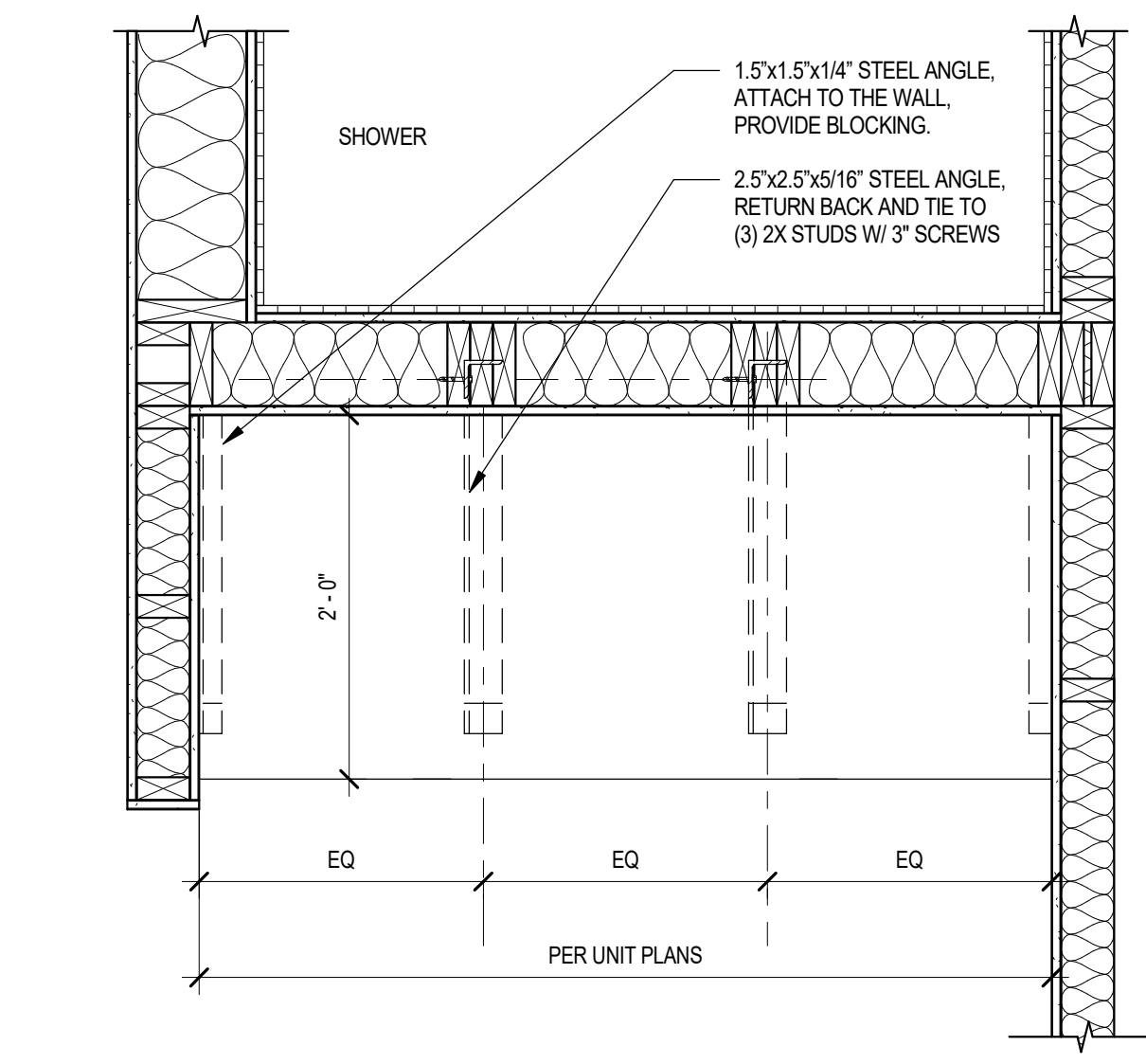
DATE	DESCRIPTION

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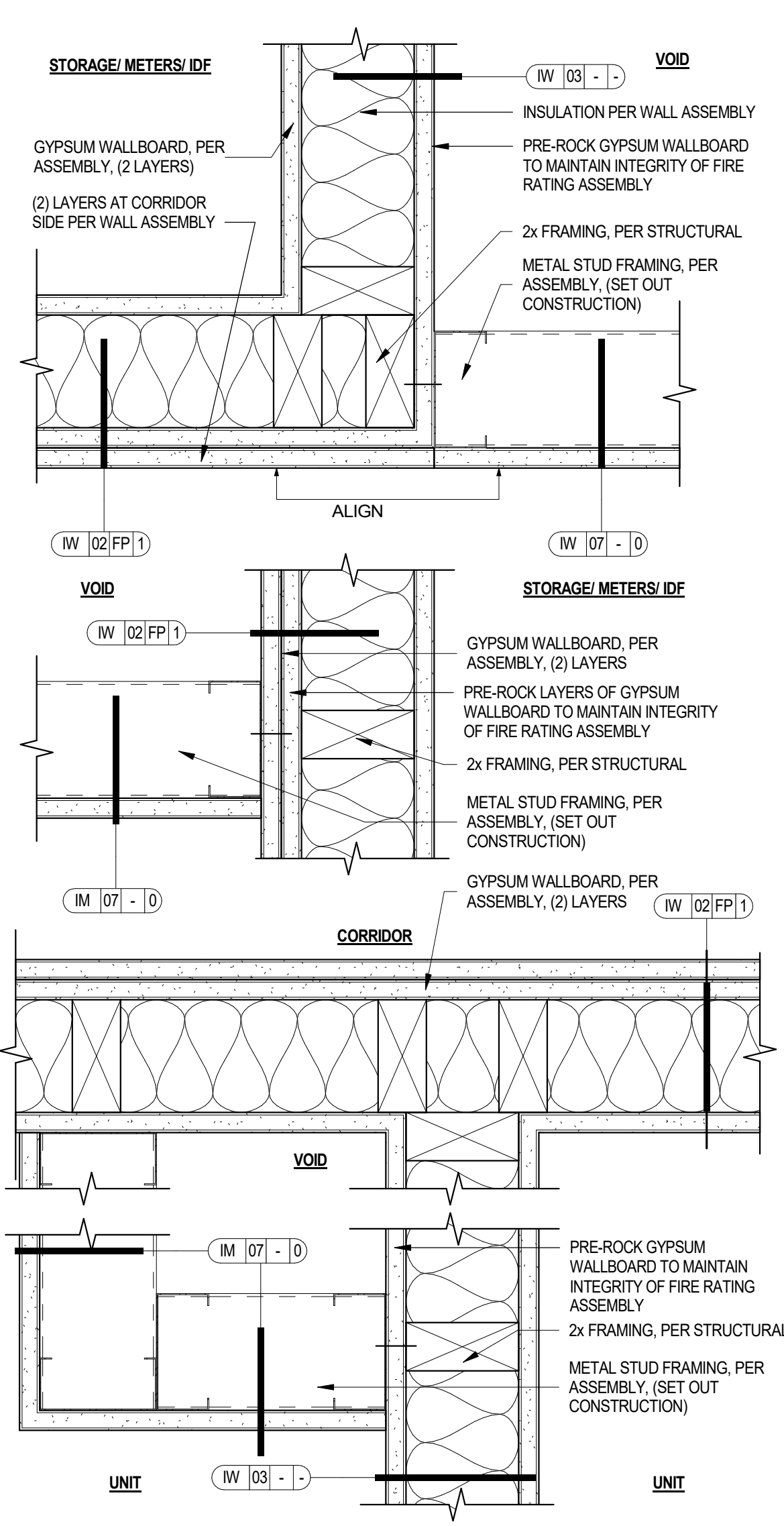
A7.6.11
UNIT & CORRIDOR DETAILS WOOD FRAMING



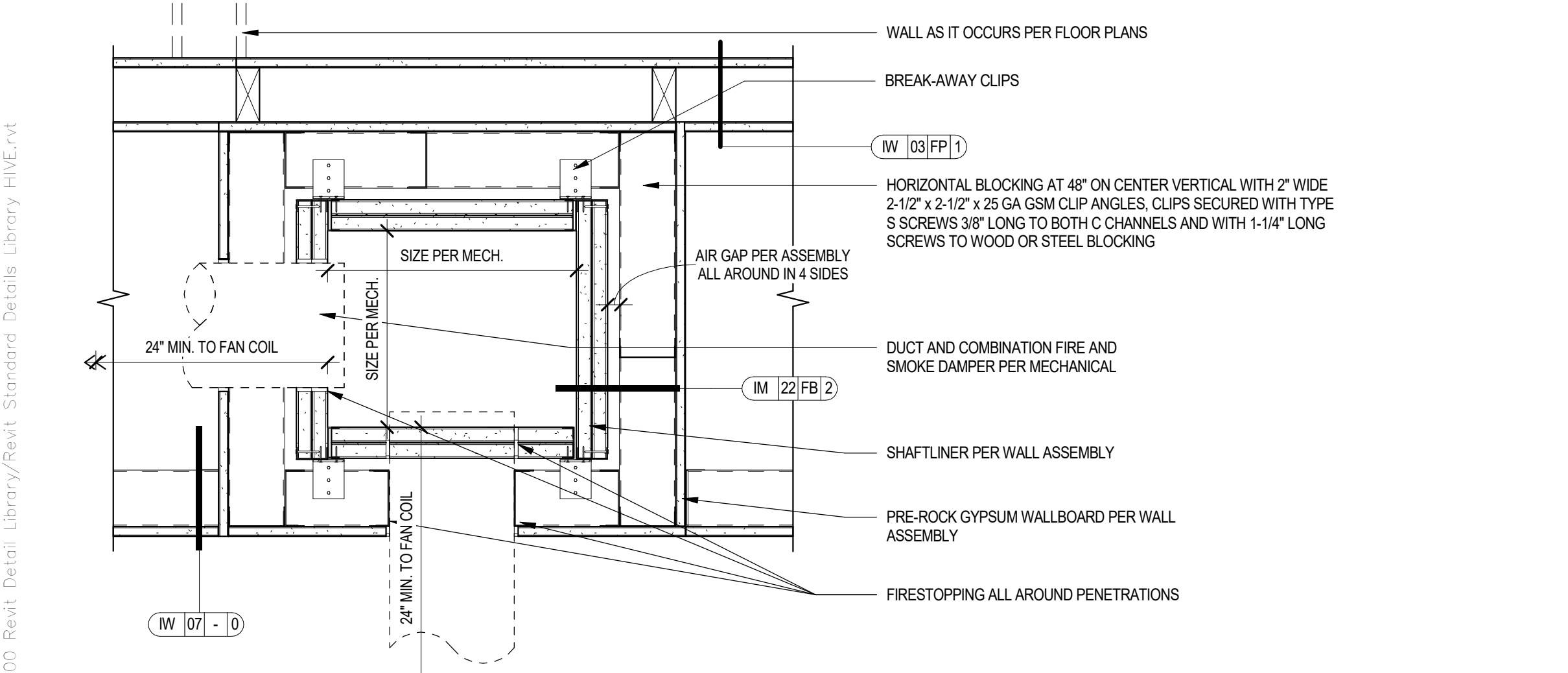
69 DESK NOOK SECTION SCALE: 1" = 1'-0"



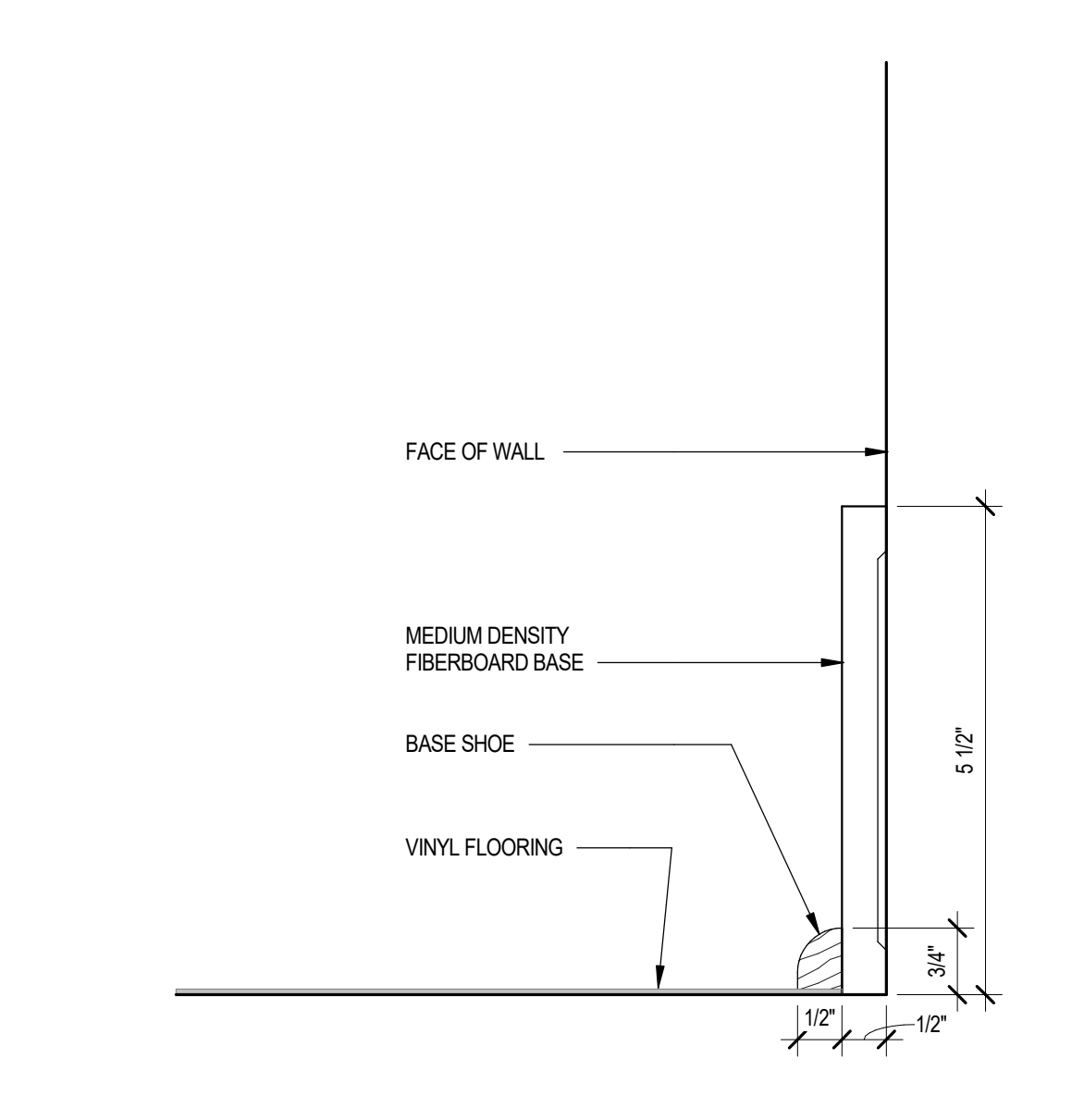
70 DESK NOOK - PLAN SCALE: 1" = 1'-0"



67 SET OUT CONSTRUCTION WALL TRANSITION TO WOOD FRAMING - PLAN VIEW SCALE: 3" = 1'-0"

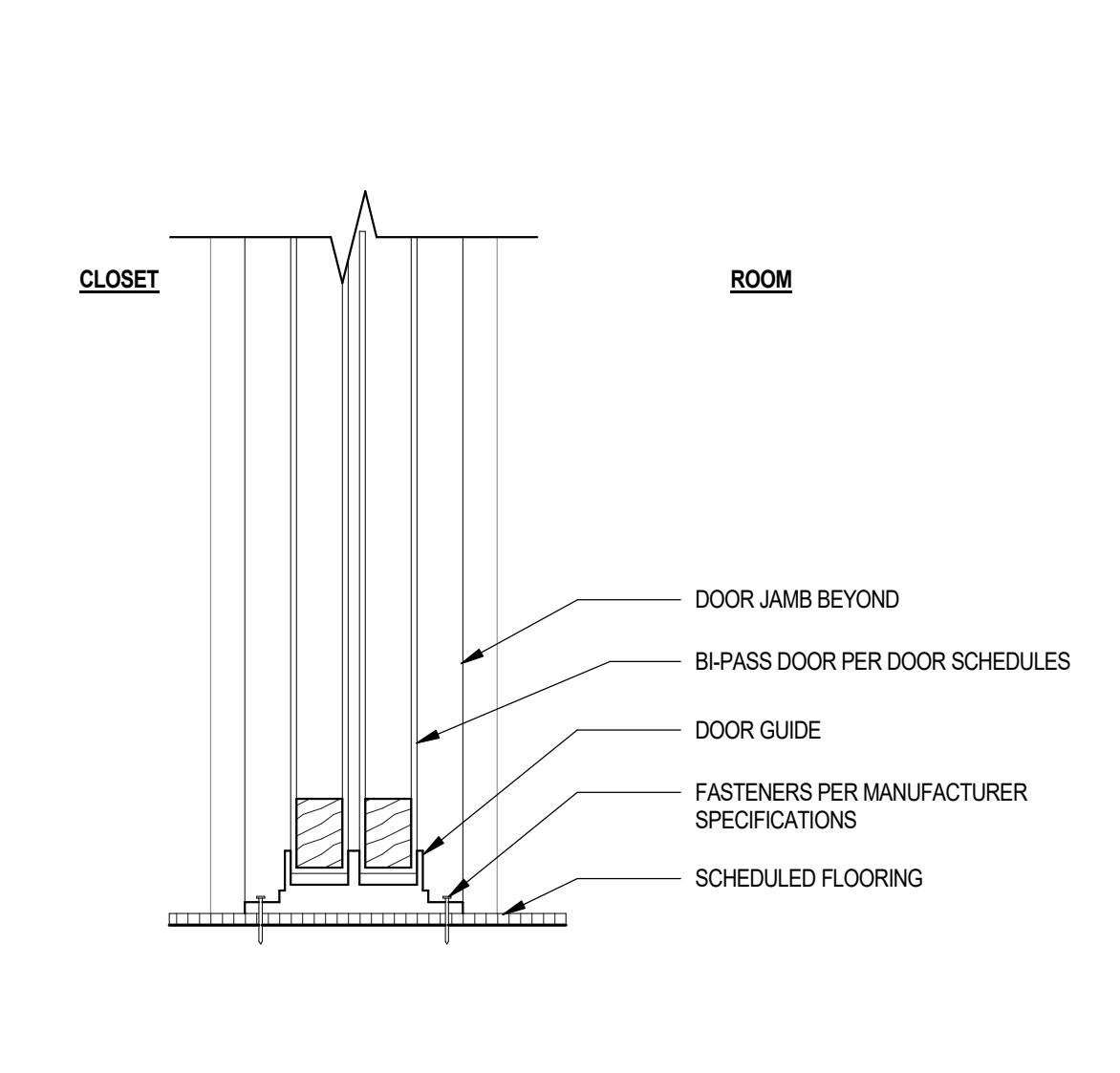


72 CORRIDOR 2-HR FRESH AIR SHAFT SCALE: 1 1/2" = 1'-0"



64 UNIT BASEBOARD & SHOE SCALE: 6" = 1'-0"

57 BI-PASS DOOR HEAD SCALE: 3" = 1'-0"

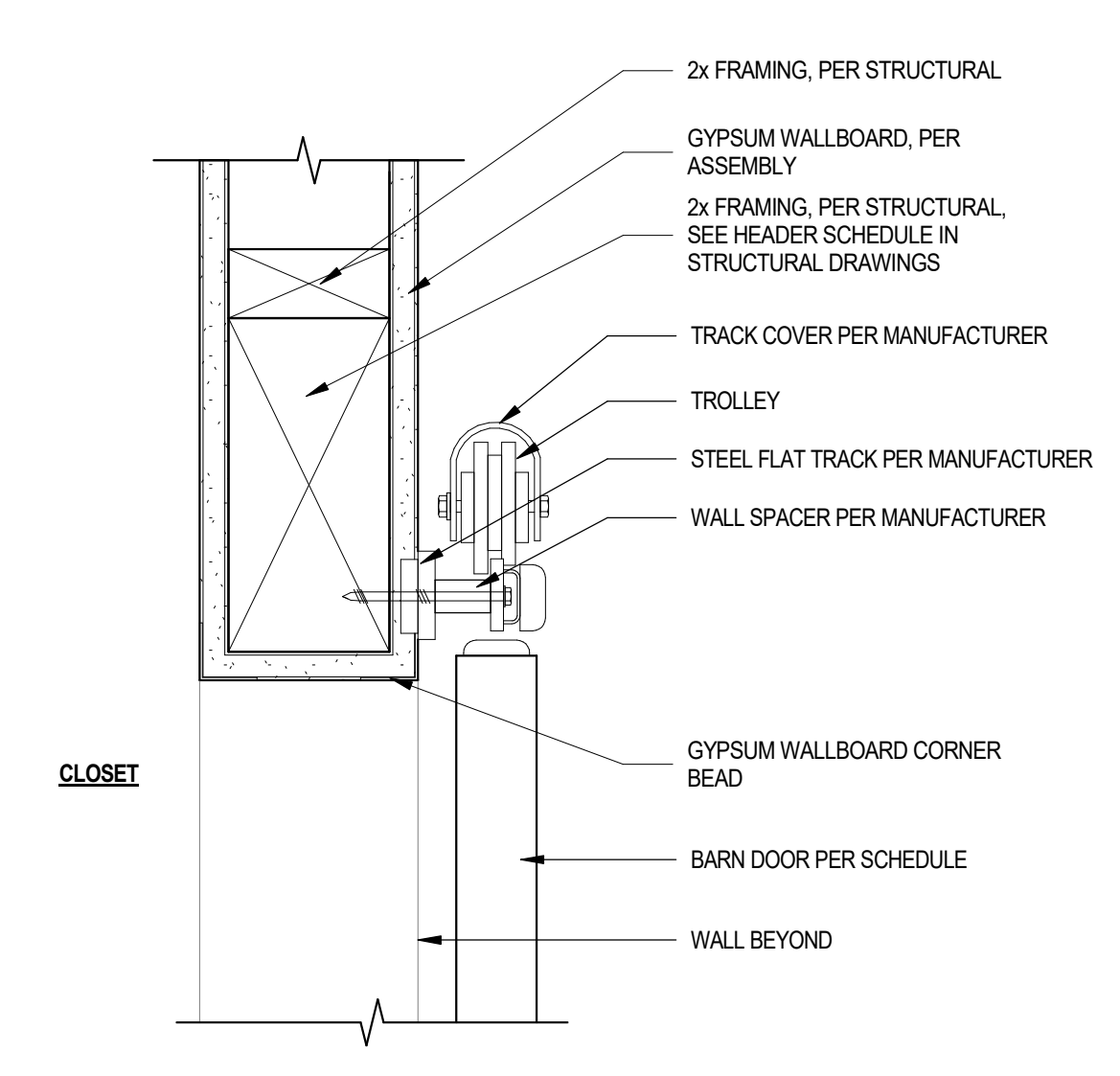


58 BI-PASS DOOR SILL SCALE: 3" = 1'-0"

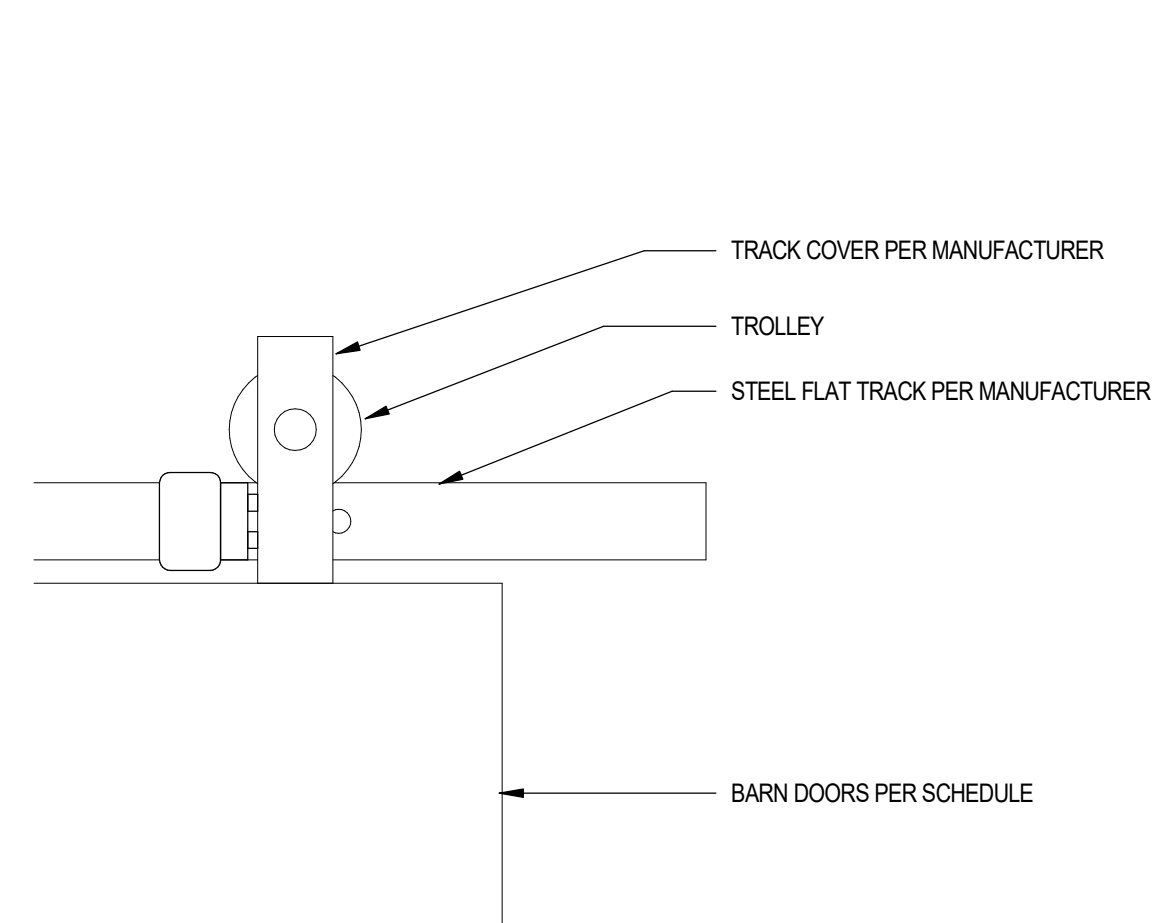


60 DOOR SILL ABOVE GRILLE AT MECH. CLOSET SCALE: 3" = 1'-0"

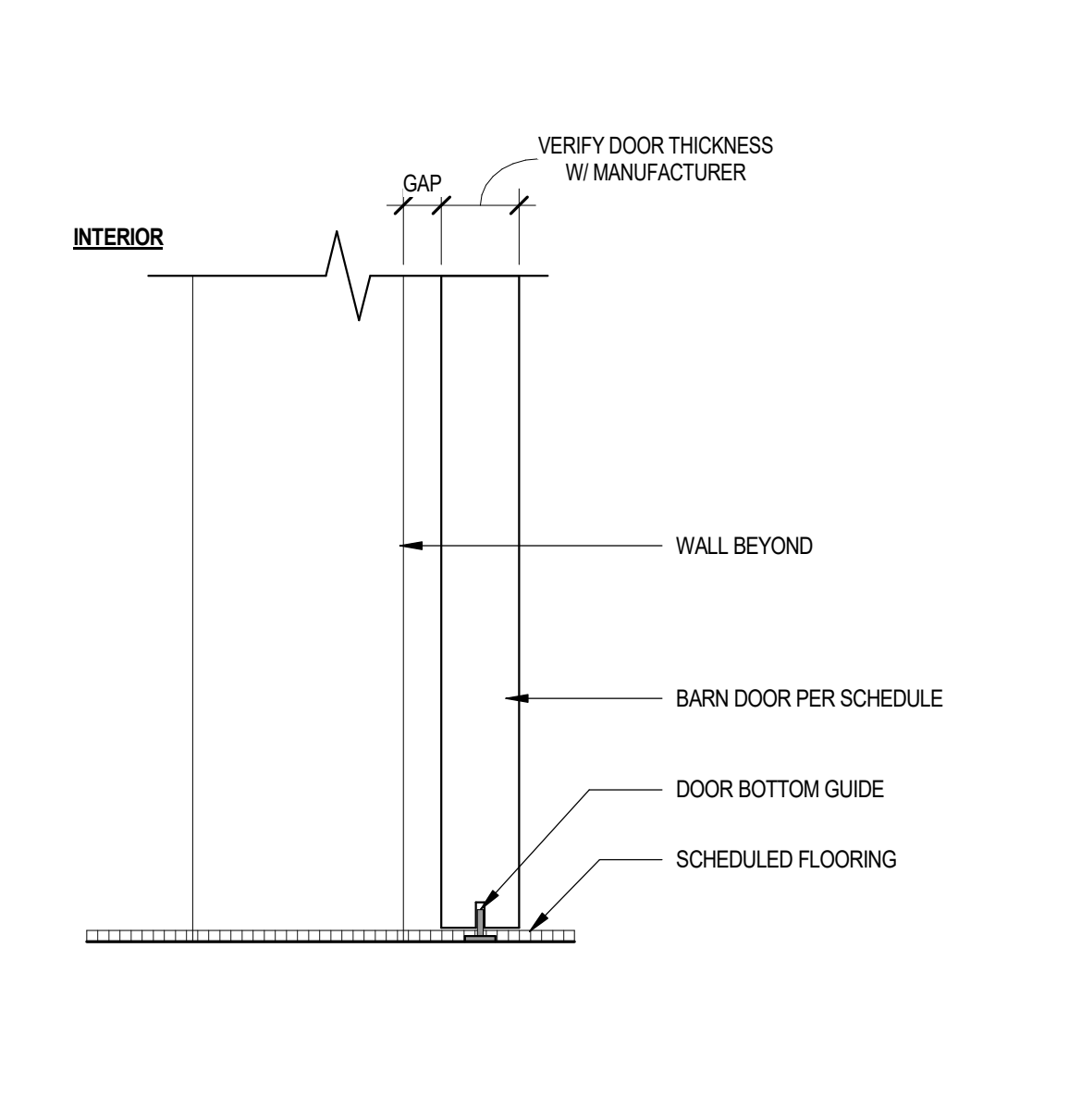
53 BARN DOOR JAMB SCALE: 3" = 1'-0"



54 BARN DOOR HEAD SCALE: 3" = 1'-0"

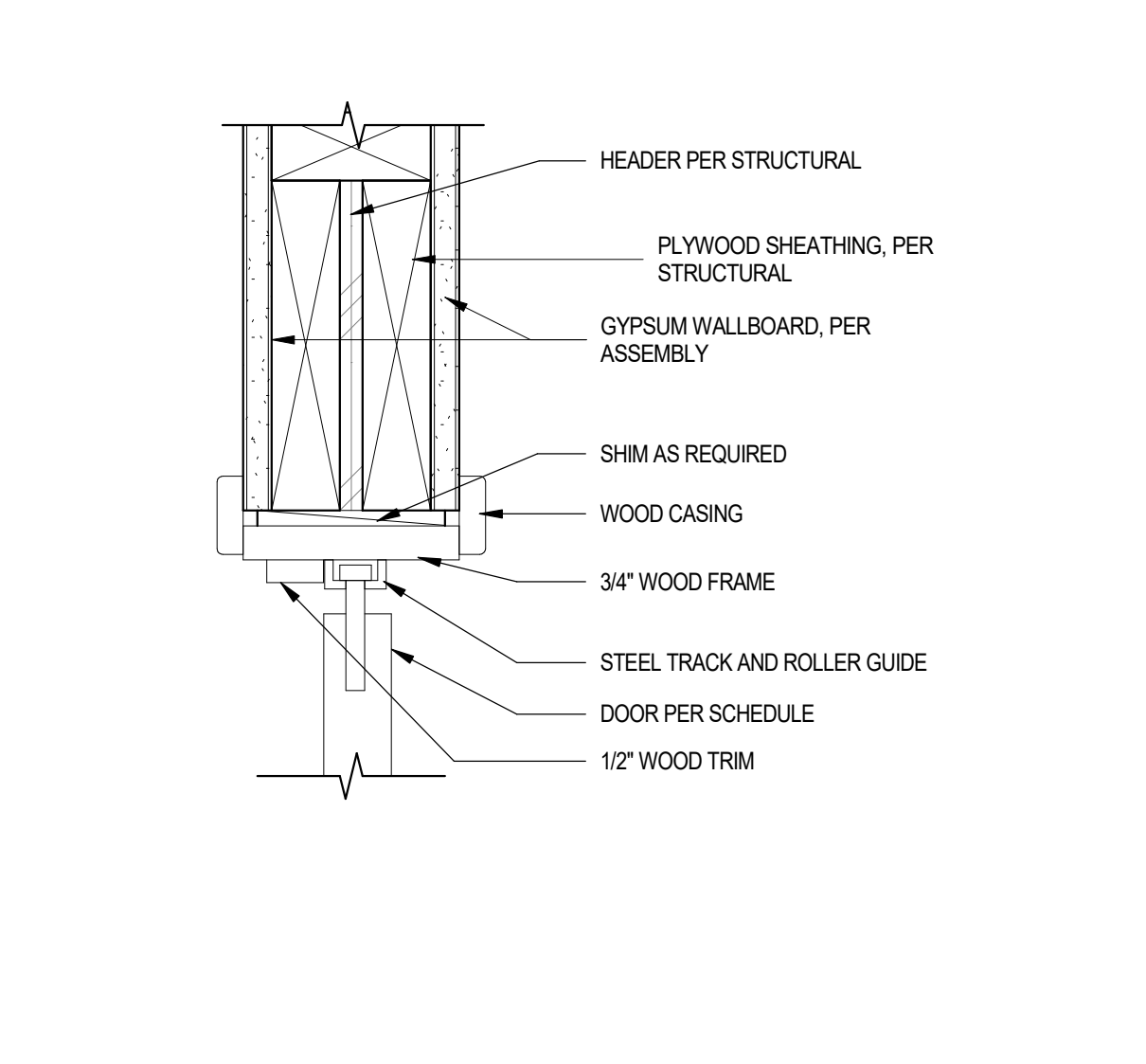


55 BARN DOOR ELEVATION SCALE: 3" = 1'-0"

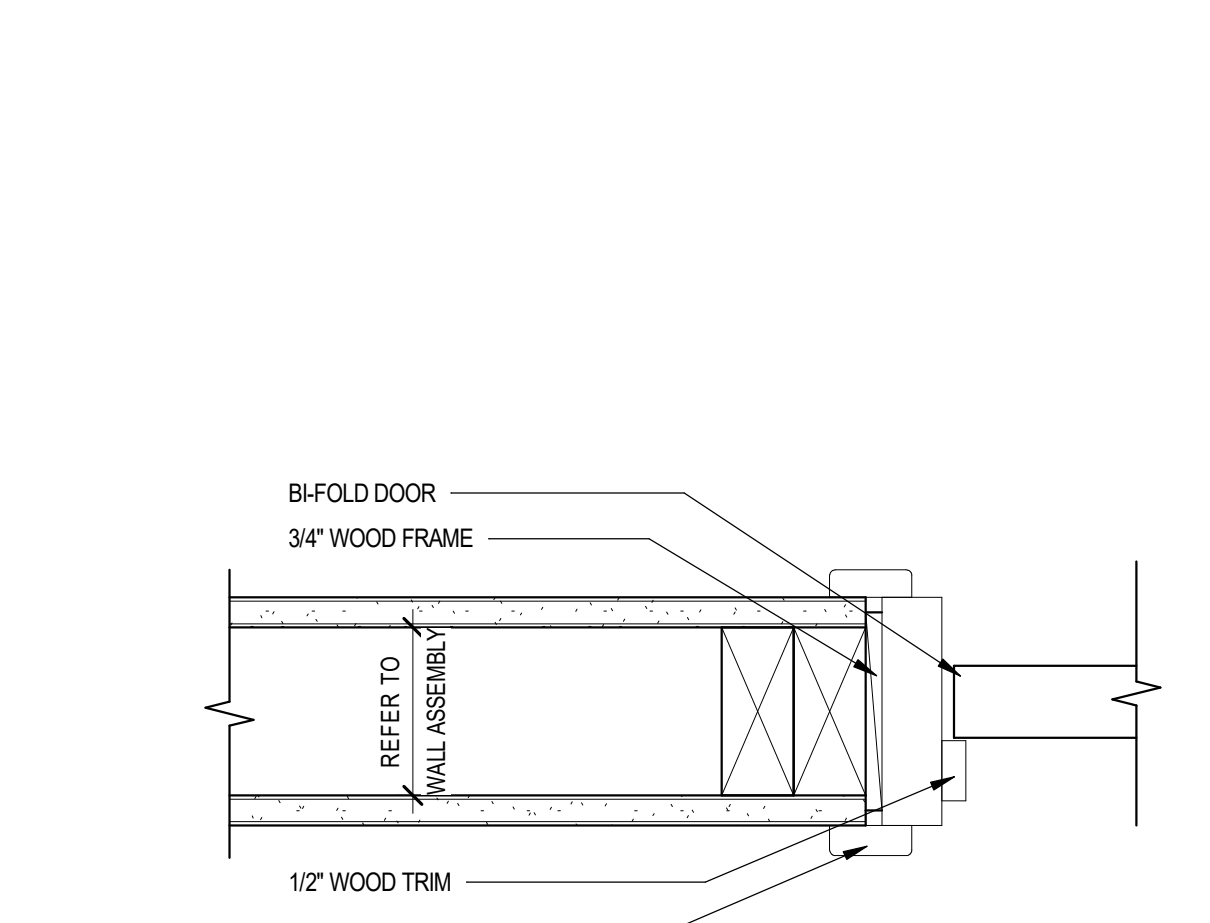


56 BARN DOOR SILL SCALE: 3" = 1'-0"

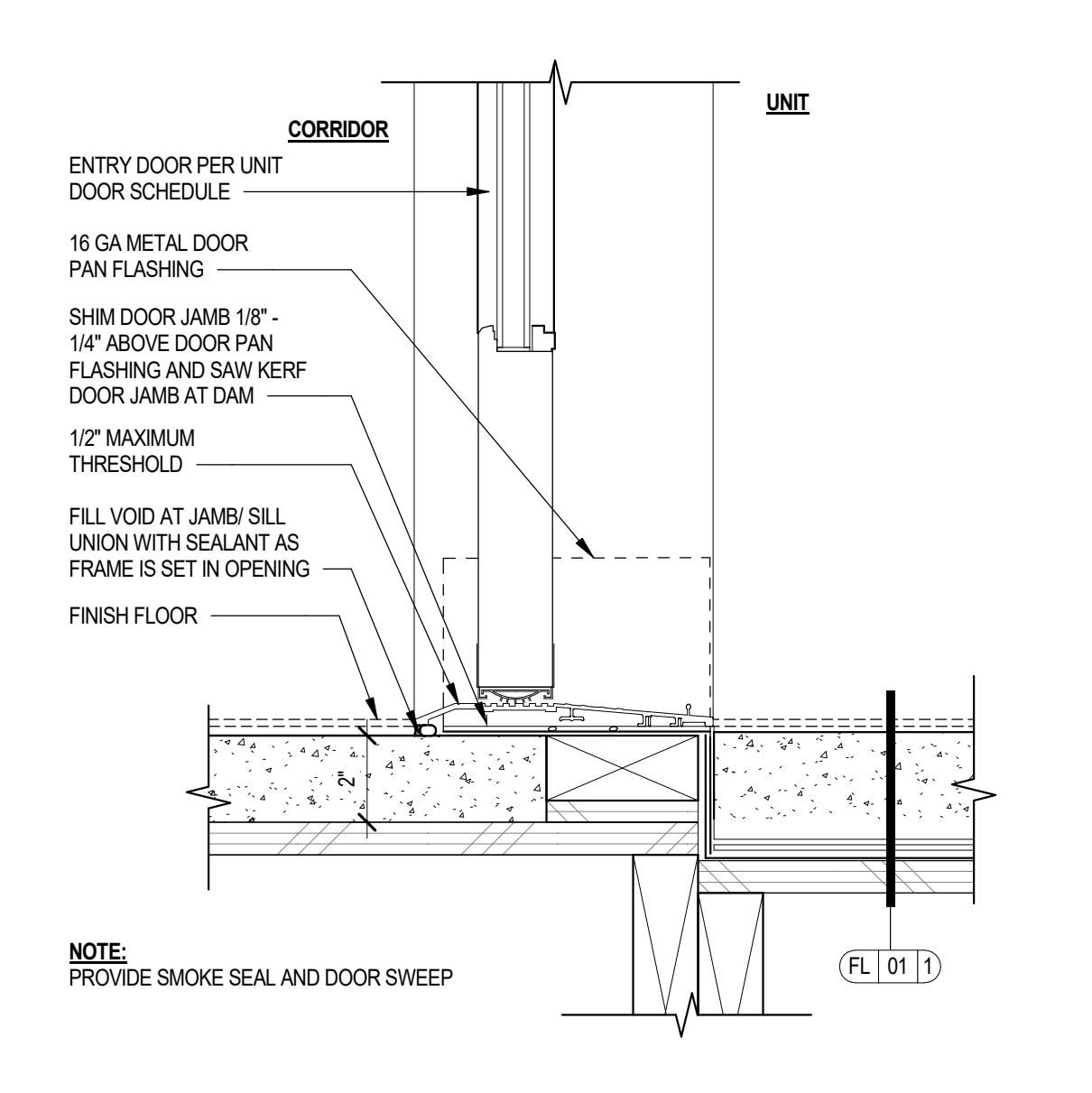
49 UNIT ENTRY DOOR CASING SCALE: 3" = 1'-0"



50 BI-FOLD DOOR HEAD SCALE: 3" = 1'-0"



51 BI-FOLD DOOR JAMB SCALE: 3" = 1'-0"



52 ENTRY DOOR THRESHOLD AT WOOD FRAMING SCALE: 3" = 1'-0"

Project Name 1
Project Name 2
Street Address
City, state

Office of Rich Barber Architecture, LLC
ORB
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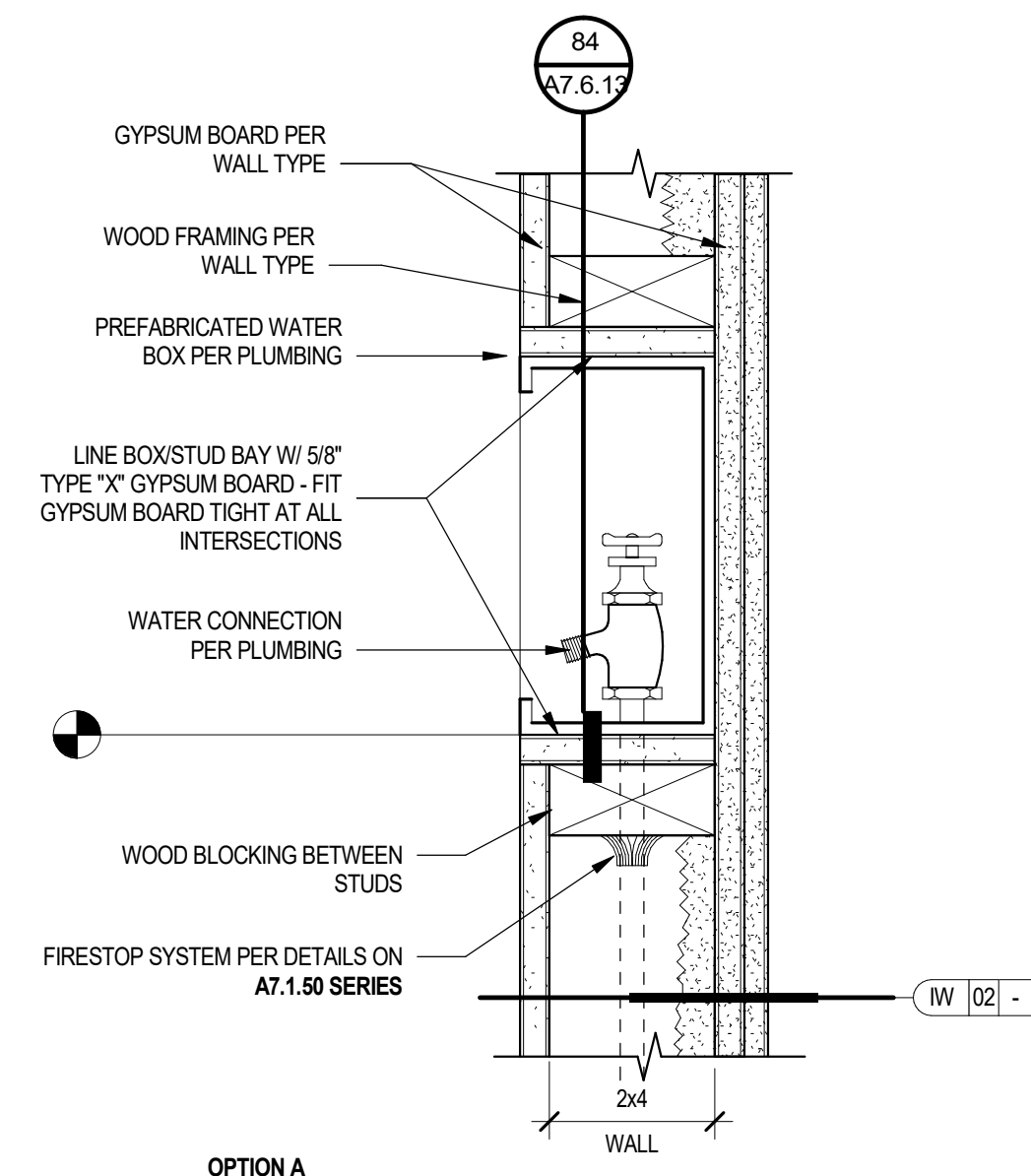
Notice of alternate billing (or payment) cycle
This contract states (they above) the owner to require the submission of bills or estimates in billing cycles other than thirty days. (This contract may allow the owner to make payment on some alternative schedule after consultation and approval or release and estimate. A written description of such other billing (estimate) cycle applicable to this project is available from the owner or the owner's designated agent at ADVANCE RESIDENTIAL COMPANY, 2525 S. CAMELBACK RD., SUITE 500, PHOENIX, AZ 85016 (602) 778-2822.
Over the owner or its designated agent shall provide this information to the contractor.

REVISIONS/SUBMITTALS

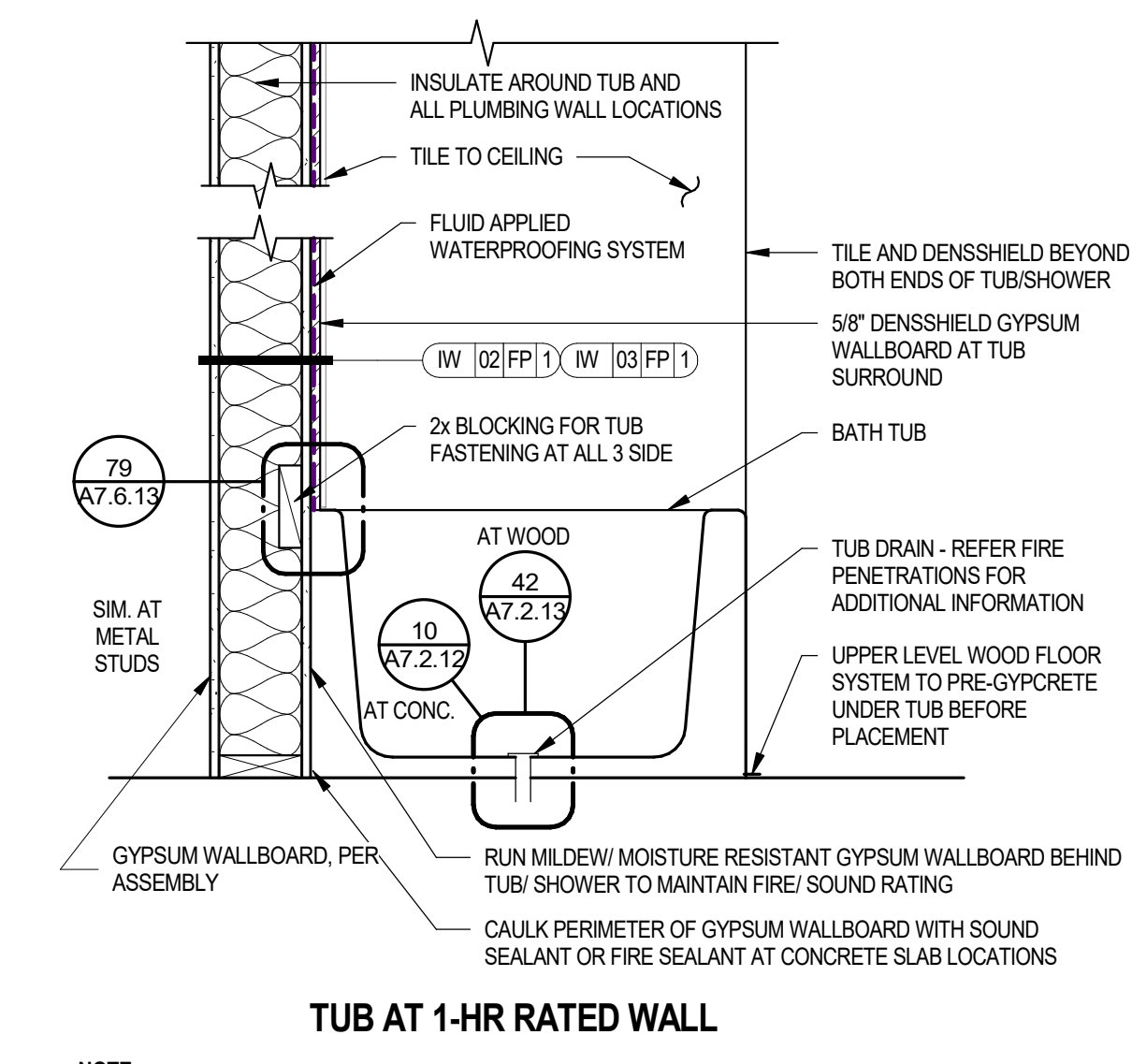
DATE	DESCRIPTION
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DATE: July 17, 2024 ORB #: 00-000

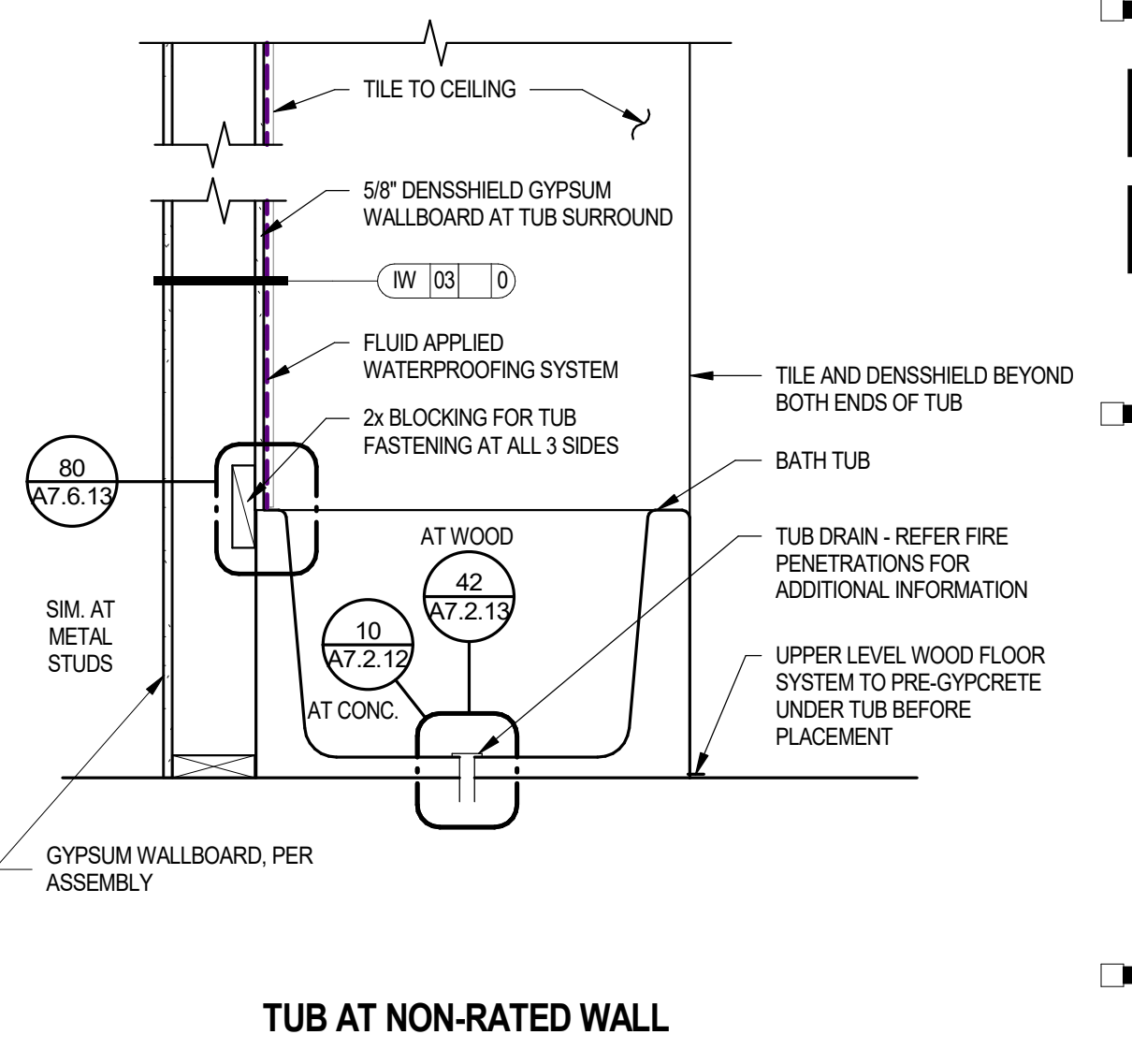
A7.6.12
UNIT & CORRIDOR DETAILS WOOD FRAMING



OPTION A



TUB AT 1-HR RATED WALL

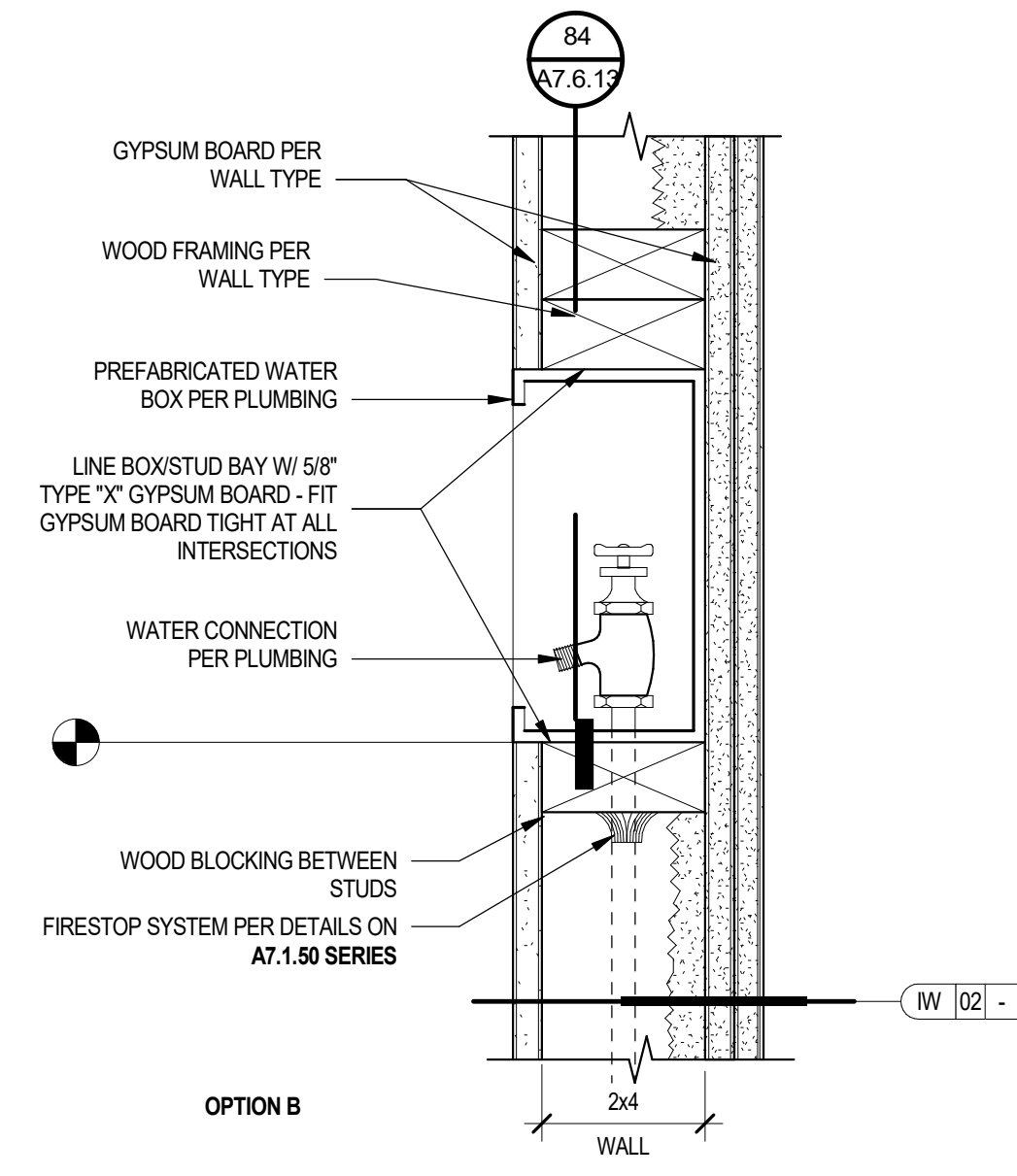


TUB AT NON-RATED WALL

NOTE: ALL FASTENERS AT TUB SHOWER SHALL BE NON-CORROSIVE REFER TO LIFE SAFETY PLANS FOR RATED WALL LOCATIONS

77 BATH TUB WALL SECTION

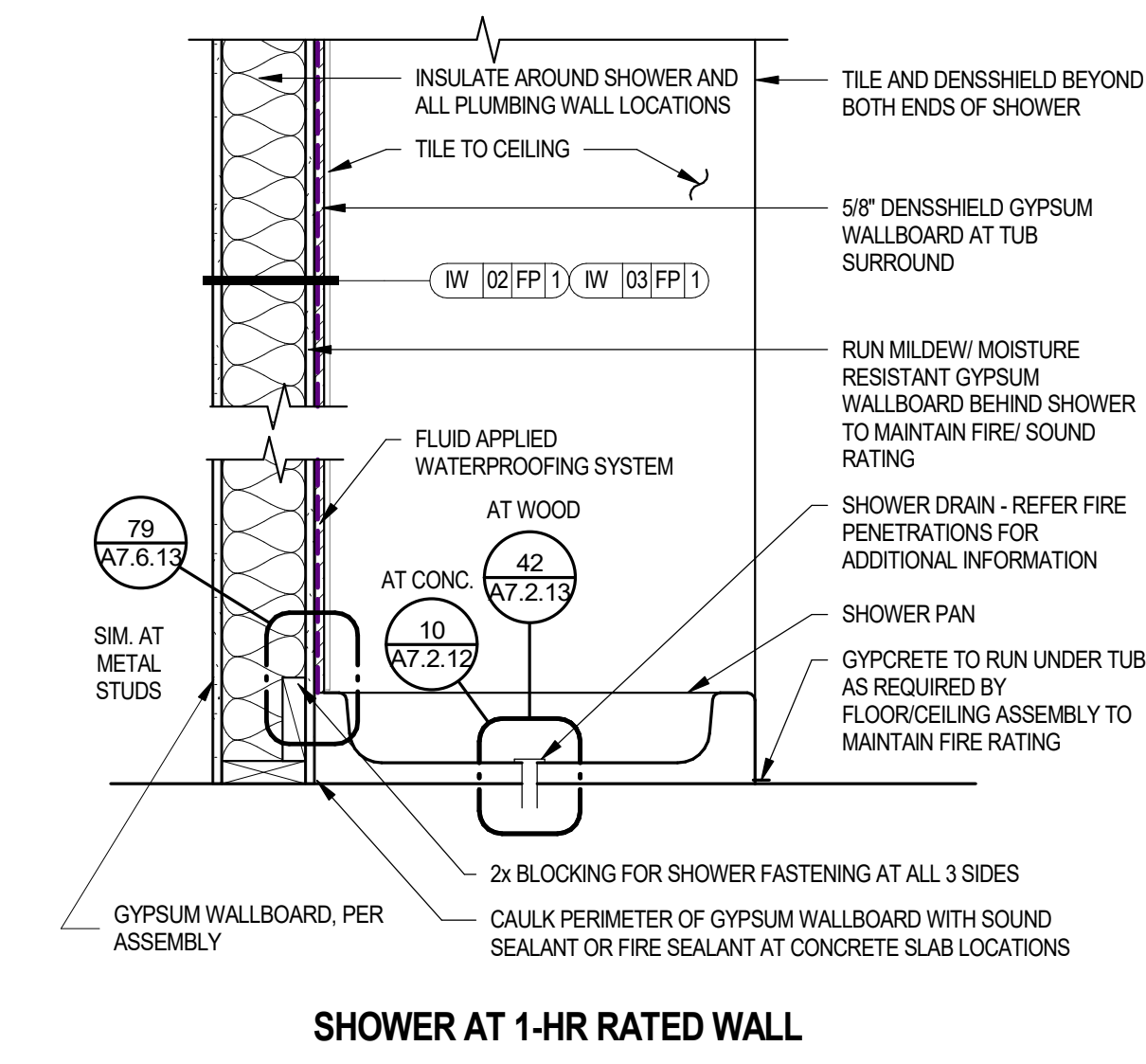
SCALE: 1" = 1'-0"



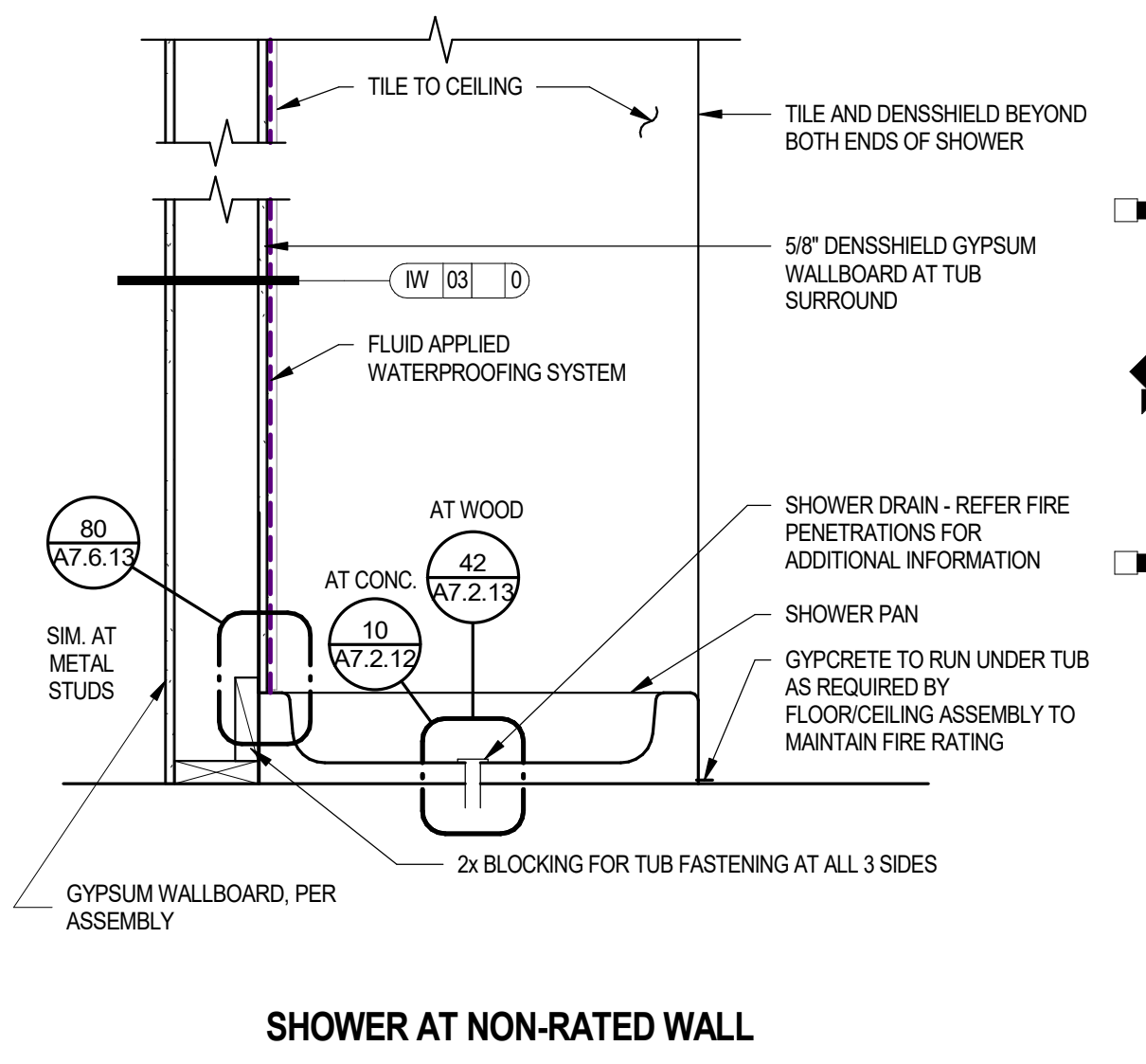
OPTION B

82 WASHER & REFRIGERATOR WATER BOX AT 2x4 FIRE RATED WALL

SCALE: 3" = 1'-0"



SHOWER AT 1-HR RATED WALL

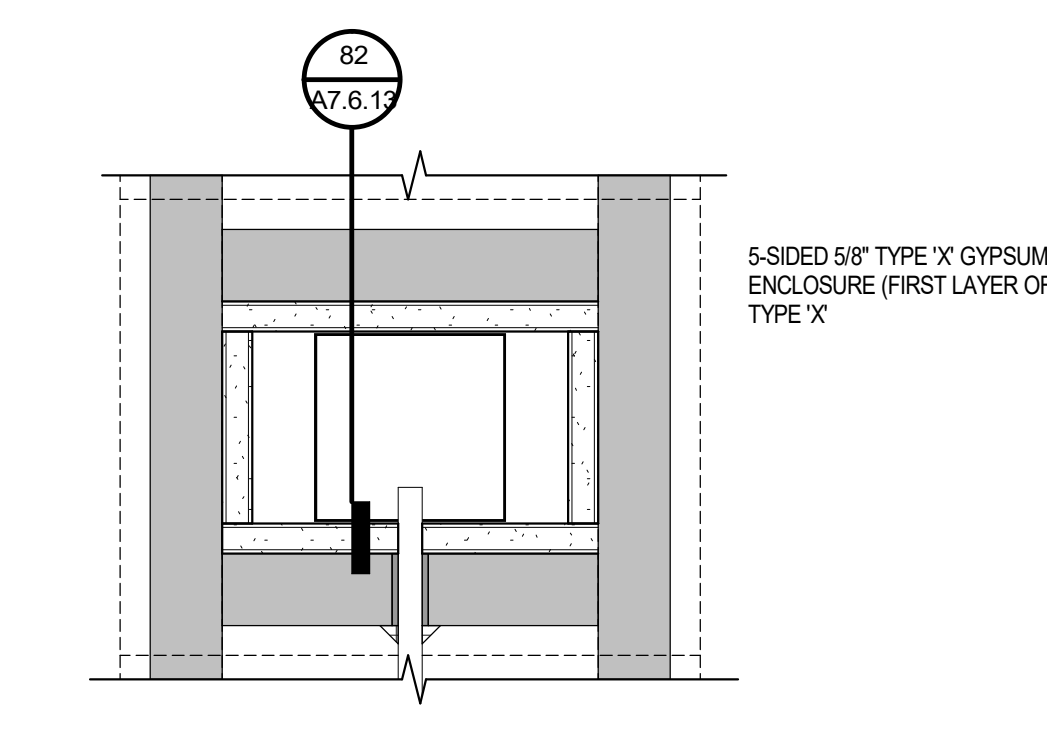


SHOWER AT NON-RATED WALL

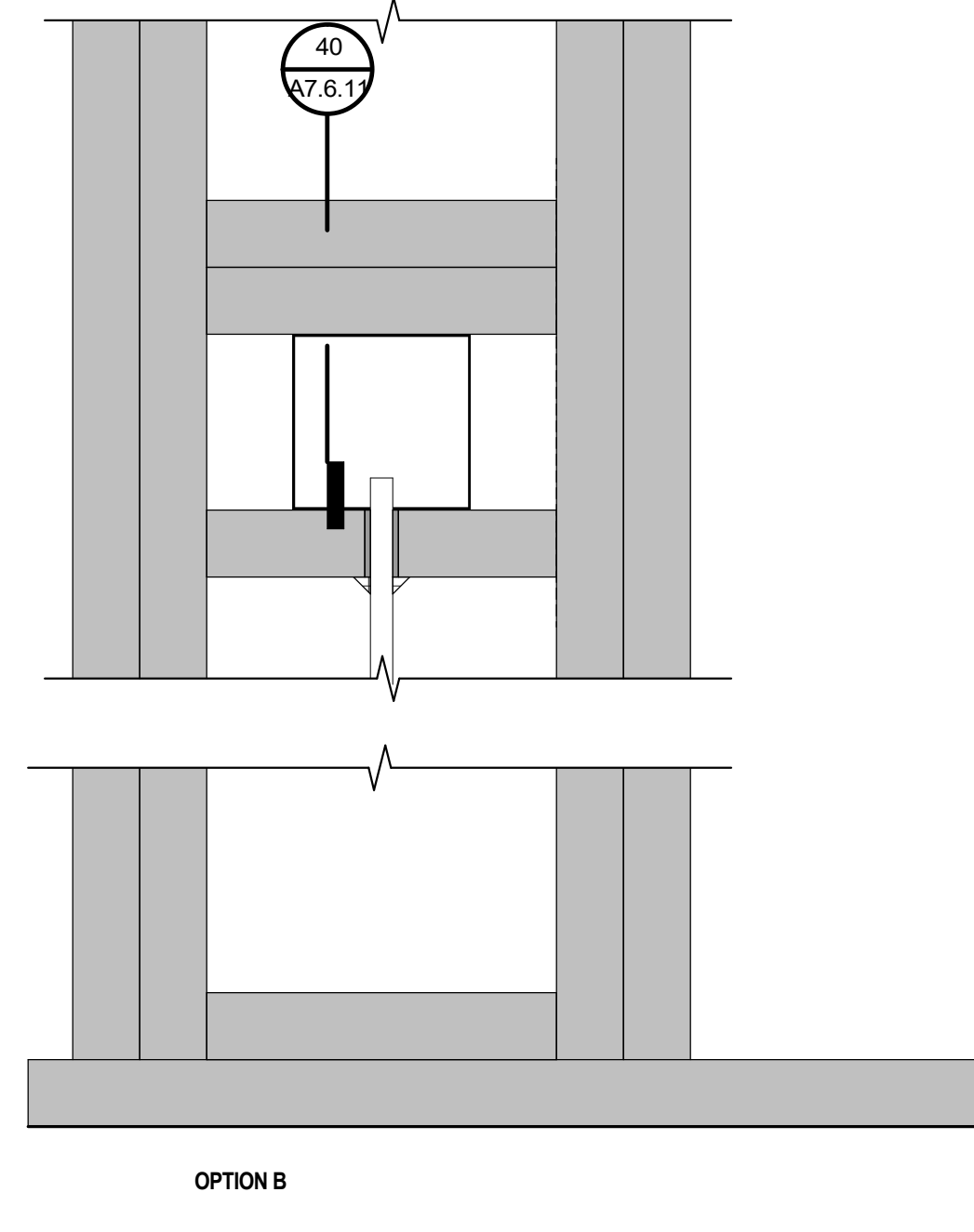
NOTE: ALL FASTENERS AT TUB SHOWER SHALL BE NON-CORROSIVE REFER TO LIFE SAFETY PLANS FOR RATED WALL LOCATIONS

78 SHOWER WALL SECTION

SCALE: 1" = 1'-0"



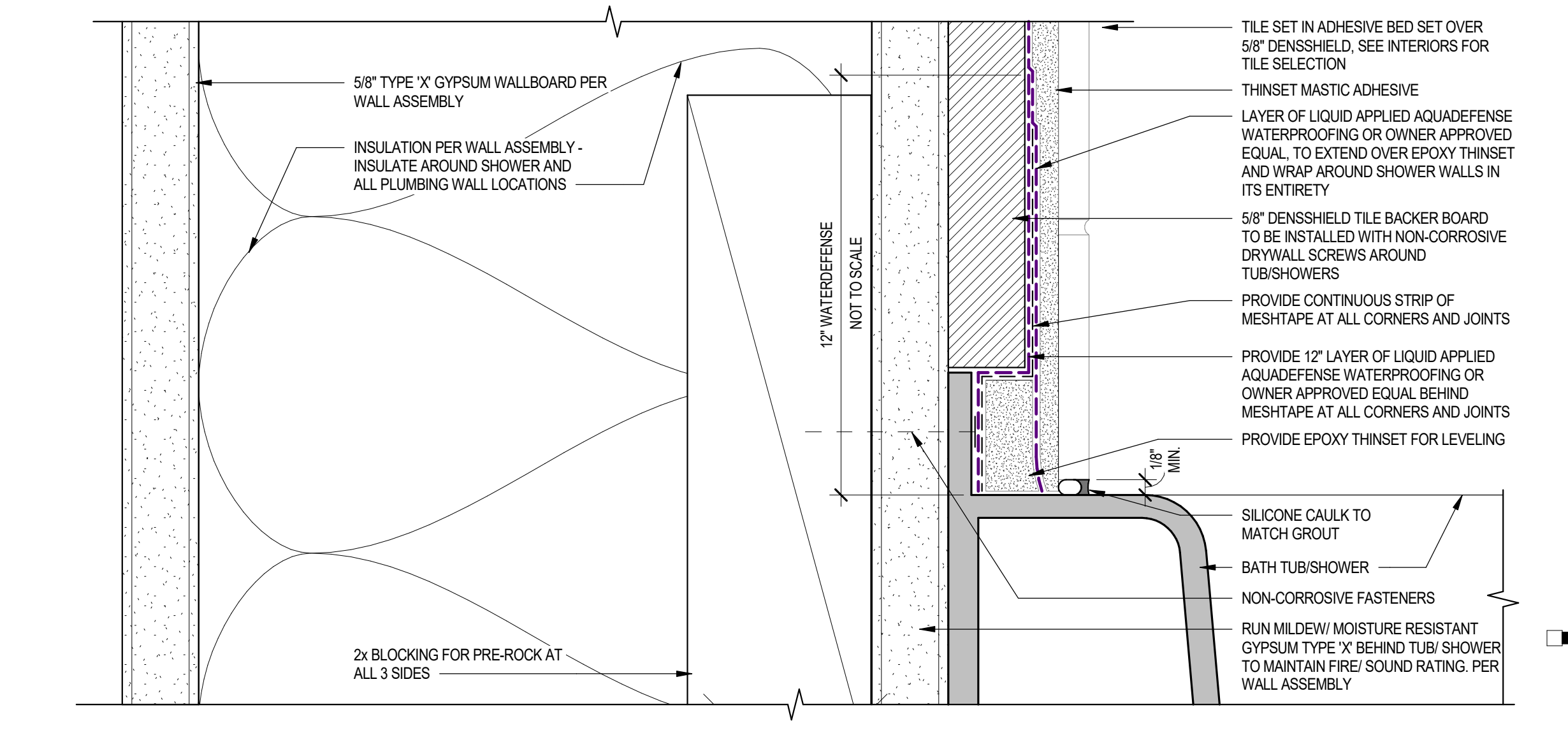
OPTION A



OPTION B

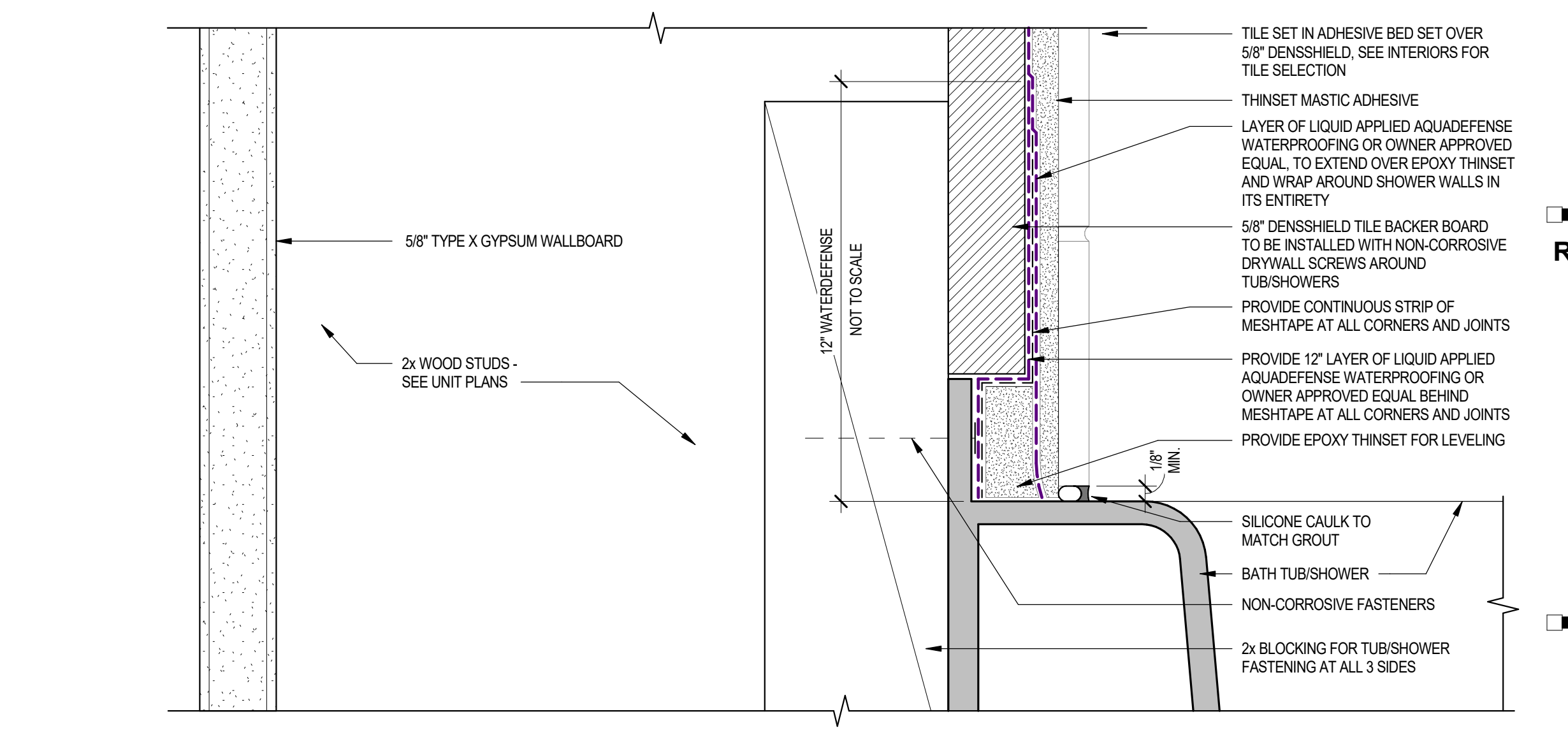
84 WATER BOX AT WOOD FRAMED RATED WALLS - ELEV.

SCALE: 3" = 1'-0"



79 WATERPROOFING AT BATH TUB/SHOWER FLANGE - 1-HR RATED CONDITION

SCALE: 12" = 1'-0"



80 WATERPROOFING AT TUB/SHOWER FLANGE - NON-RATED CONDITION

SCALE: 12" = 1'-0"

Project Name 1
Project Name 2
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City, state

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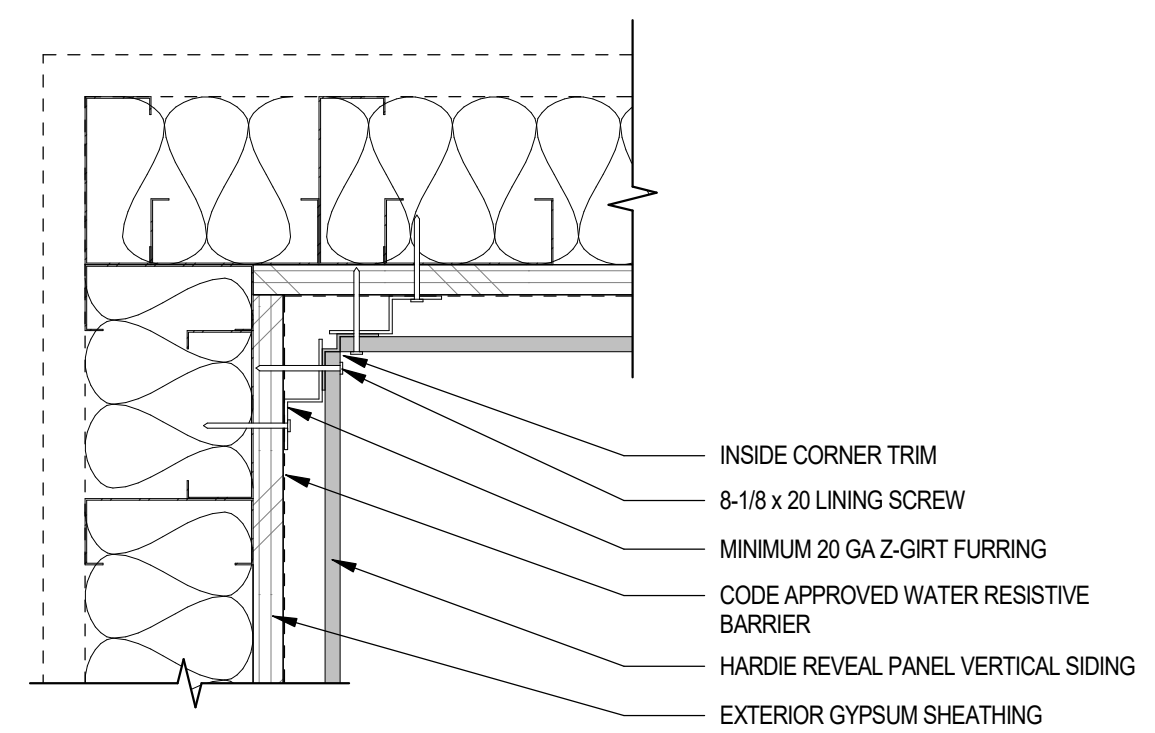
ORB Architecture, LLC 2018

Notice of alternate billing (or payment) cycle
This contract states (may state) the owner to require the submission of billings or estimates in billing cycles other than thirty days. (This contract may allow the owner to make payment on some alternative schedule other than thirty days and approval of billings and estimates). A written description of such other billing (and/or) cycle applies to the project is available from the owner or the owner's designated agent at:
ALABAMA RESIDENTIAL CONTRACT
2525 S. CAMELBACK RD., SUITE 500, PHOENIX, AZ 85016
(602) 778-2822
Ask the owner or its designated agent what provide this alternate billing cycle.

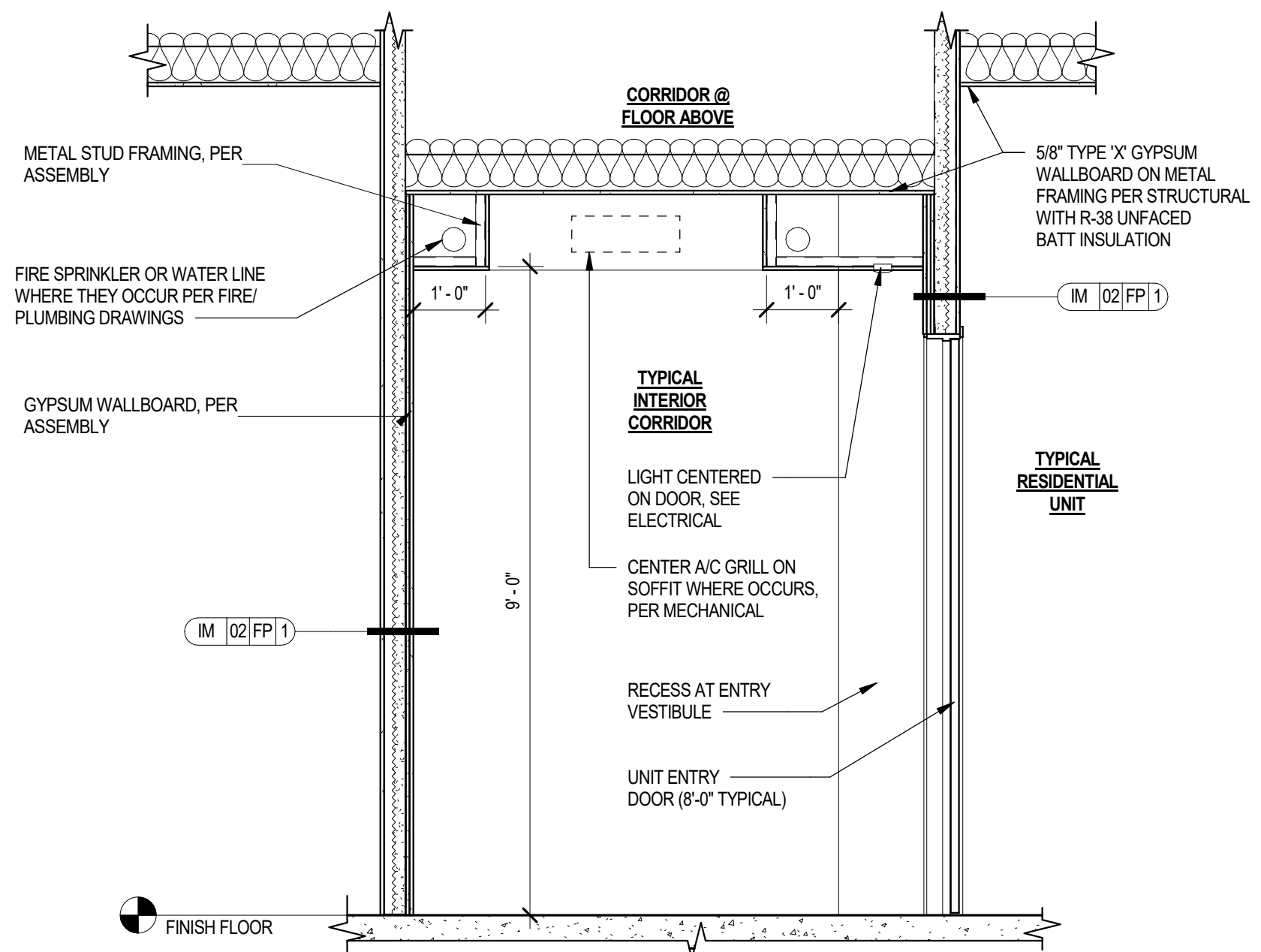
REVISIONS/SUBMITTALS	DATE	DESCRIPTION
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DATE: July 17, 2024 ORB #: 00-000

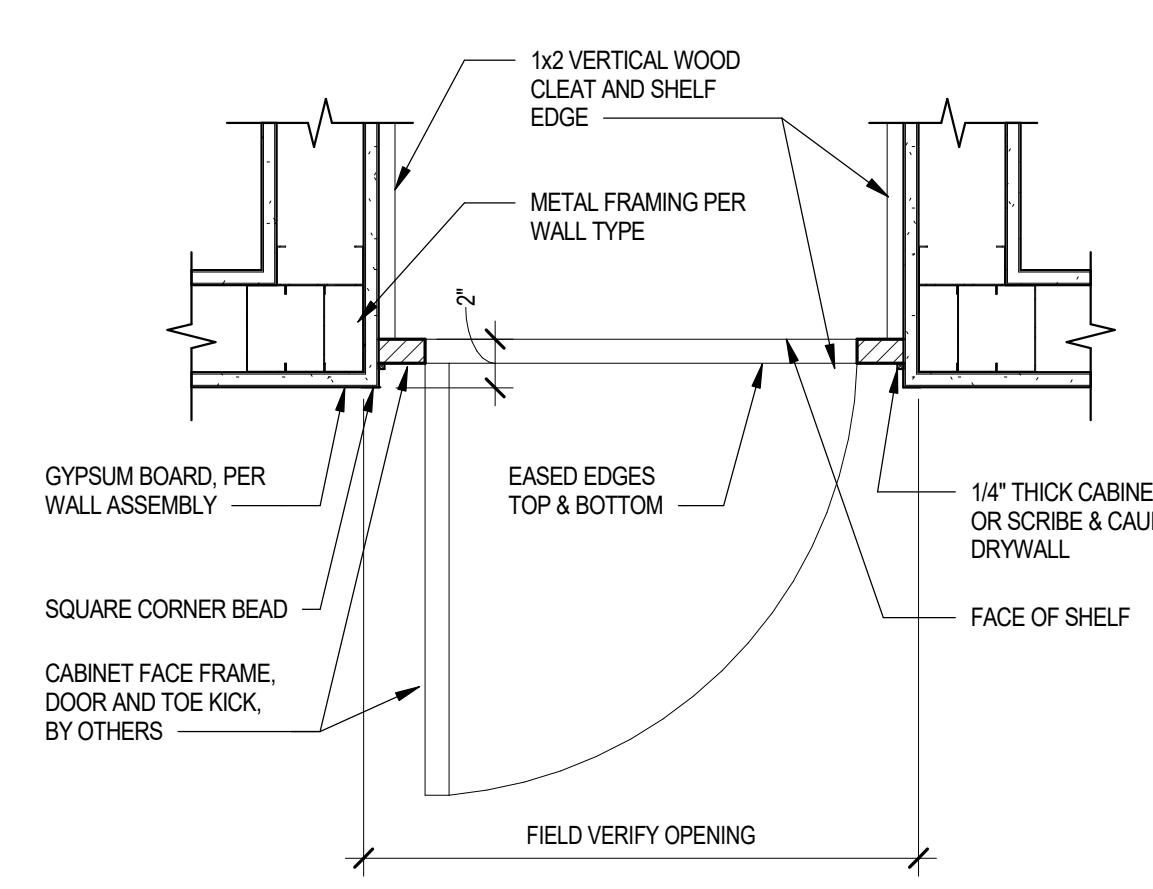
A7.6.13
UNIT & CORRIDOR DETAILS WOOD FRAMING



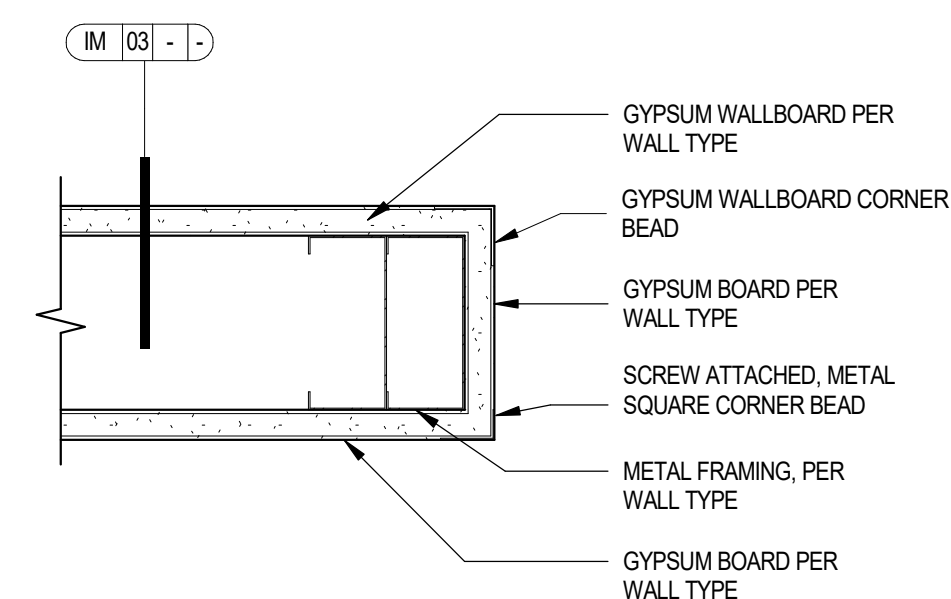
17 PLAN DETAIL - INSIDE CORNER TRIM
SCALE: 3" = 1'-0"



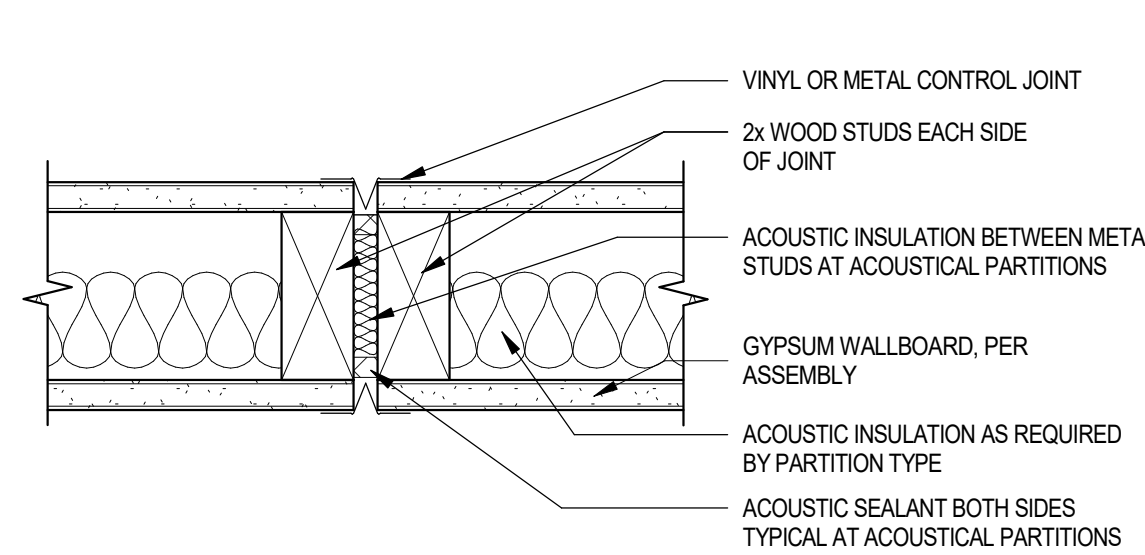
13 SECTION @ CORRIDOR P2 ENTRY DOOR
SCALE: 1/2" = 1'-0"



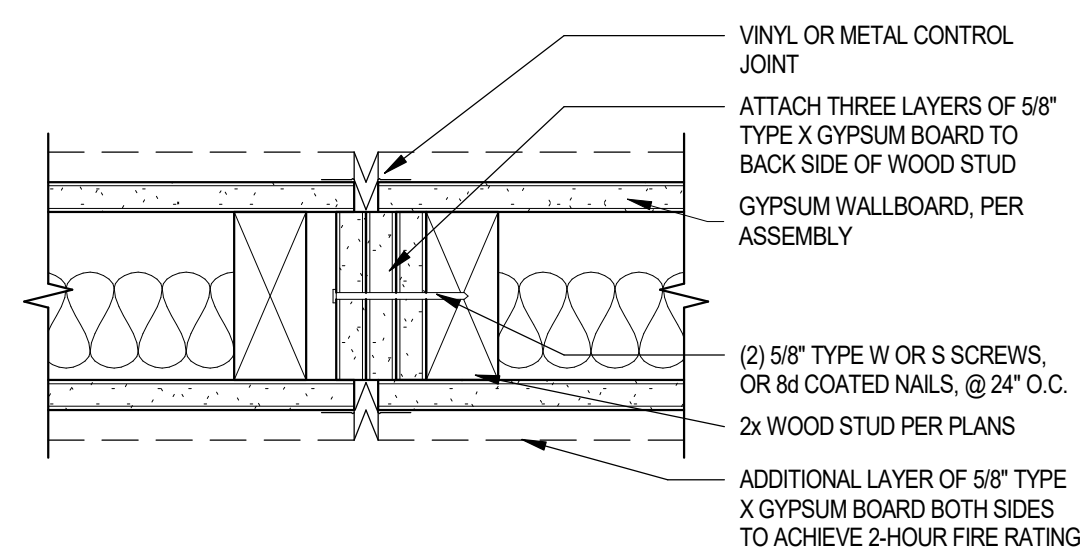
05 CABINET FACE FRAME
SCALE: 1 1/2" = 1'-0"



01 TYPICAL INTERIOR WALL CORNER
SCALE: 3" = 1'-0"



A NON-RATED PARTITIONS

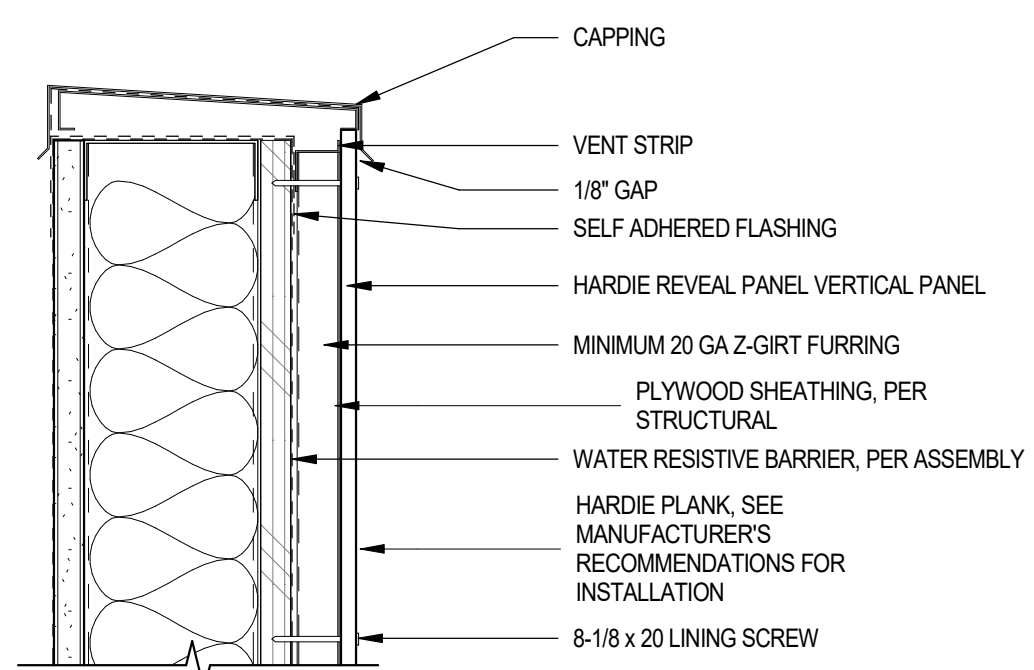


B FIRE-RATED CONTROL JOINT (1 AND 2 HOUR RATINGS)

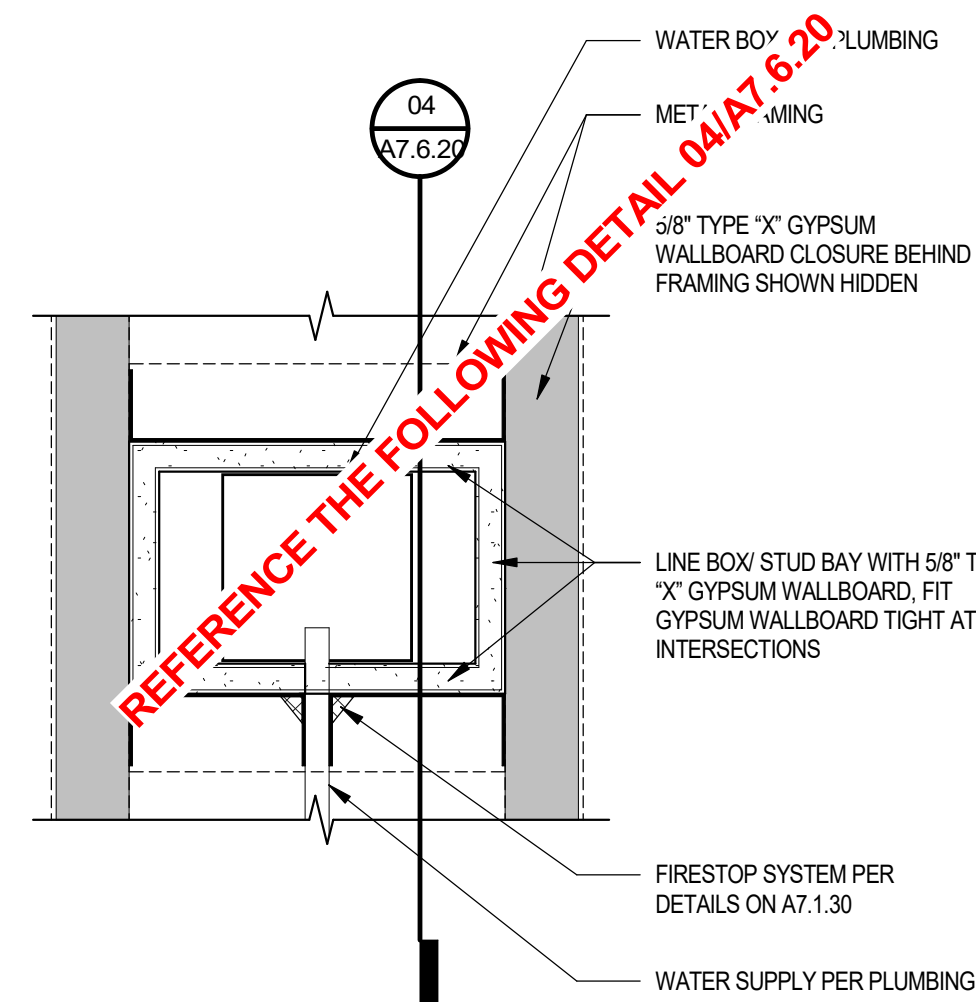
CONTROL JOINTS FOR FIRE-RESISTANCE RATED SYSTEM
GA-234-2019

- WALL CONTROL JOINTS SHALL BE INSTALLED WHERE:
1. A PARTITION OR WALL TRAVERSES A CONSTRUCTION JOINT (EXPANSION, SEISMIC, OR BUILDING CONTROL ELEMENT) IN THE BASE BUILDING STRUCTURE
 2. WHERE AN INTERIOR WALL OR PARTITION RUNS IN AN UNINTERRUPTED STRAIGHT PLANE EXCEEDING 30 FT (9 M) IN LENGTH OR HEIGHT
 3. GYPSUM PANEL JOINTS SHALL NOT OCCUR WITHIN 12" (300 MM) OF THE CORNERS OF DOOR FRAMES AND OTHER OPENINGS UNLESS INSTALLING CONTROL JOINTS AT THESE LOCATIONS
- NOTE: FULL-HEIGHT DOOR FRAMES ARE CONSIDERED CONTROL JOINTS
4. A CONTROL JOINT IS DESIRED OR INCORPORATED AS A DESIGN ACCENT OR ARCHITECTURAL FEATURE

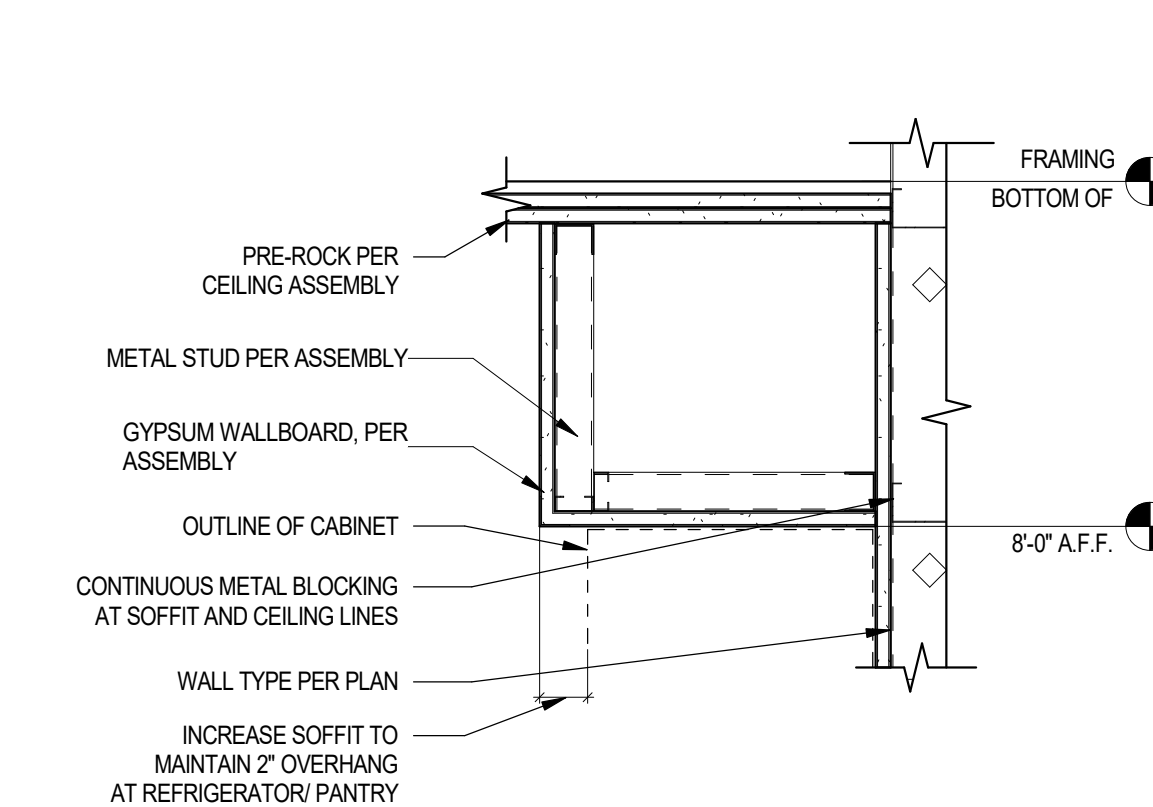
22 CONTROL JOINTS @ NON-RATED & RATED WALLS
SCALE: 3" = 1'-0"



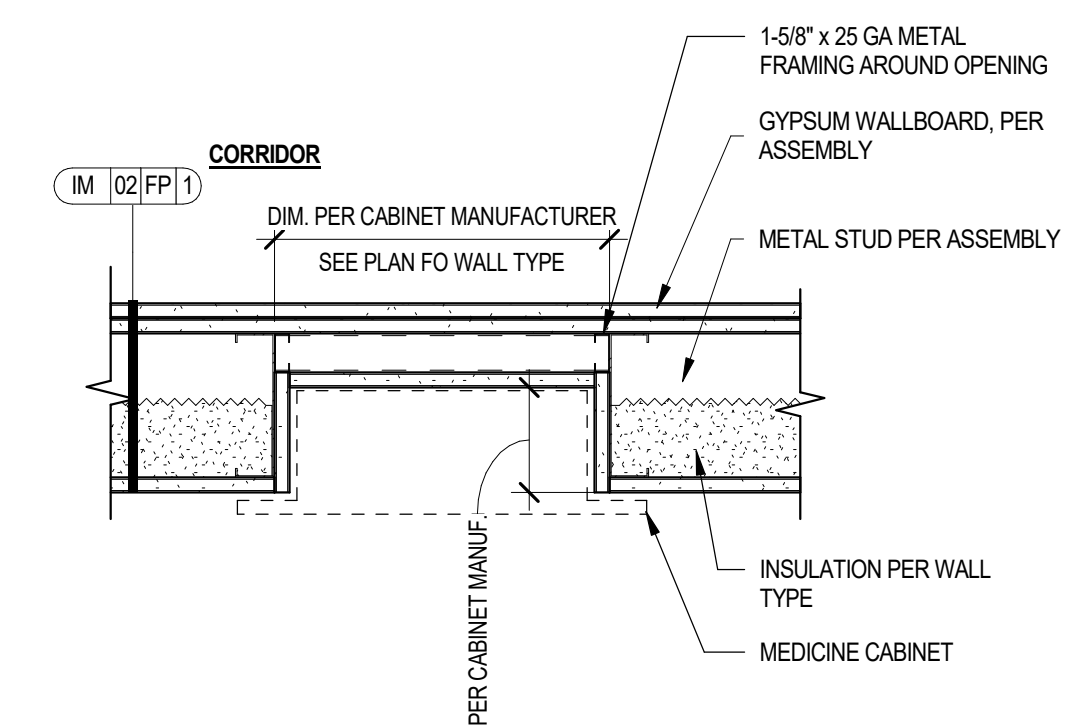
14 SECTION DETAIL - VENTED PARAPET WALL
SCALE: 3" = 1'-0"



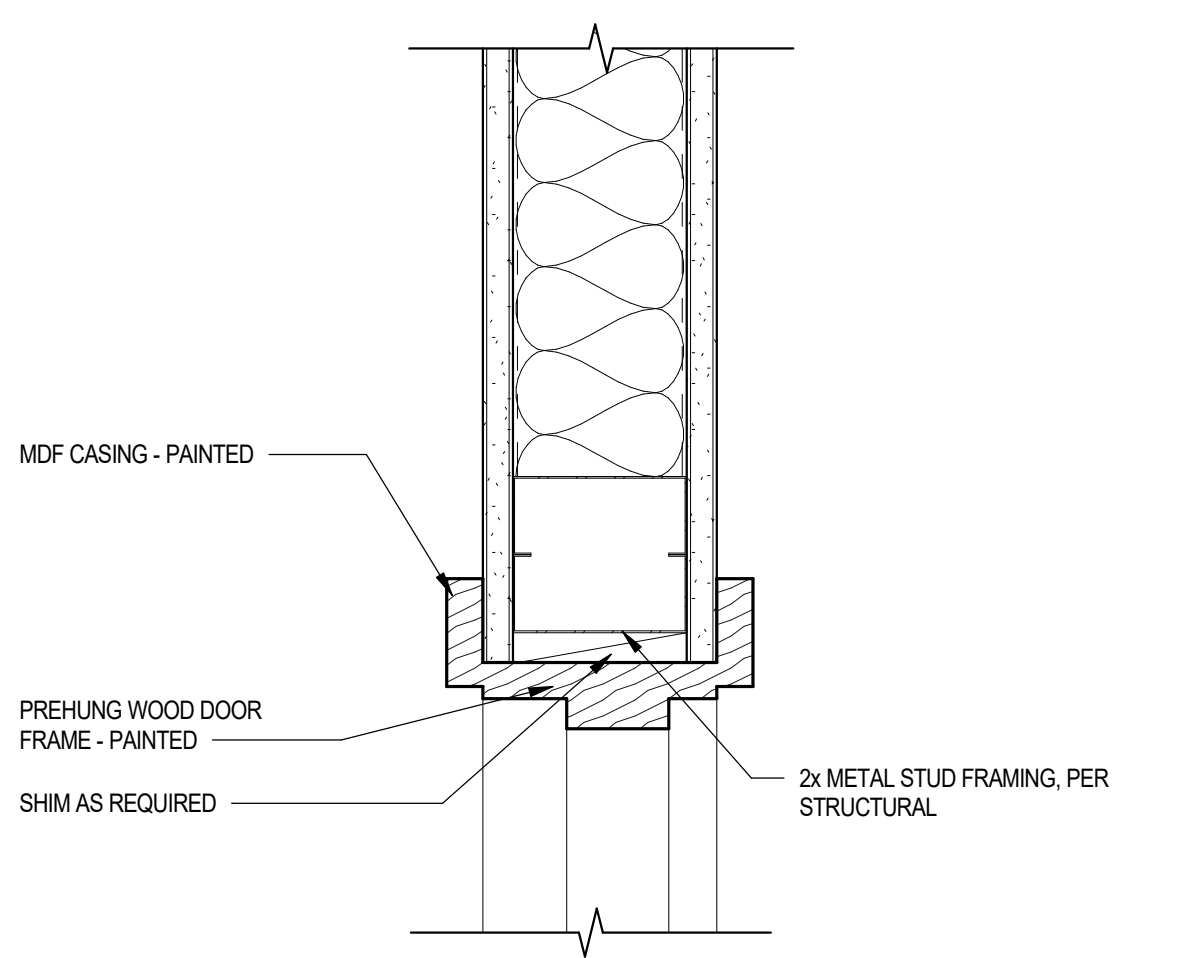
10 WATER BOX AT METAL FRAMED RATED WALLS - ELEV.
SCALE: 3" = 1'-0"



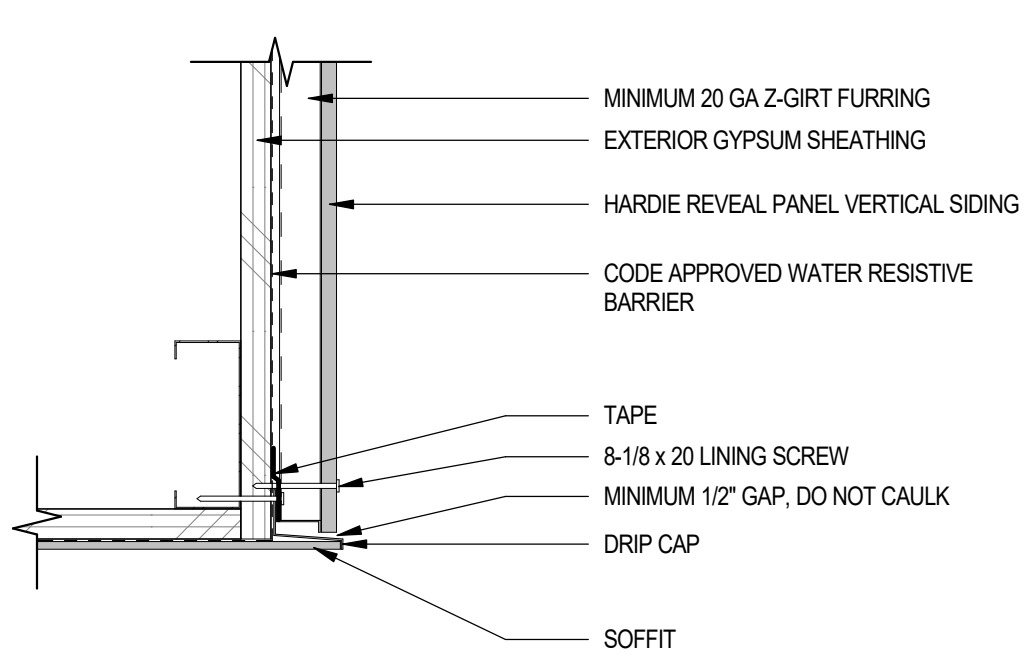
06 TYPICAL DROP CEILING AT CABINET
SCALE: 1 1/2" = 1'-0"



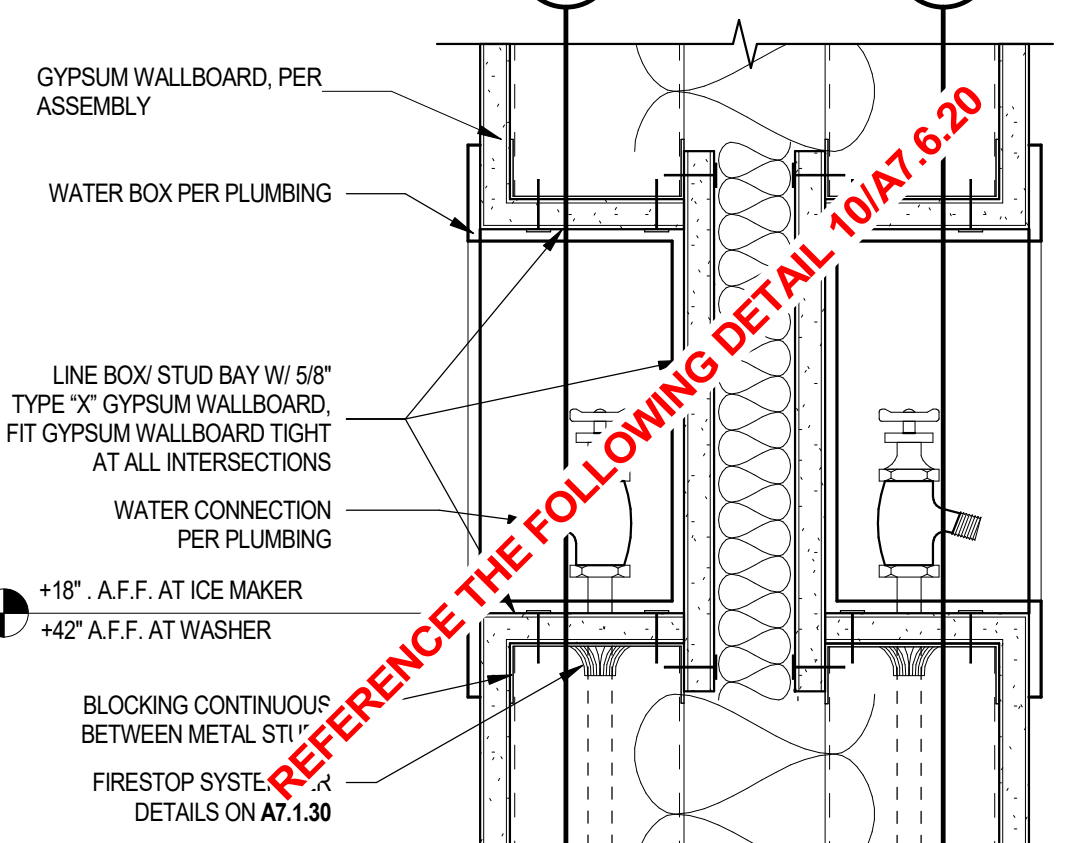
02 MEDICINE CABINET RECESS AT 1-HR RATED CORRIDOR WALL
SCALE: 1 1/2" = 1'-0"



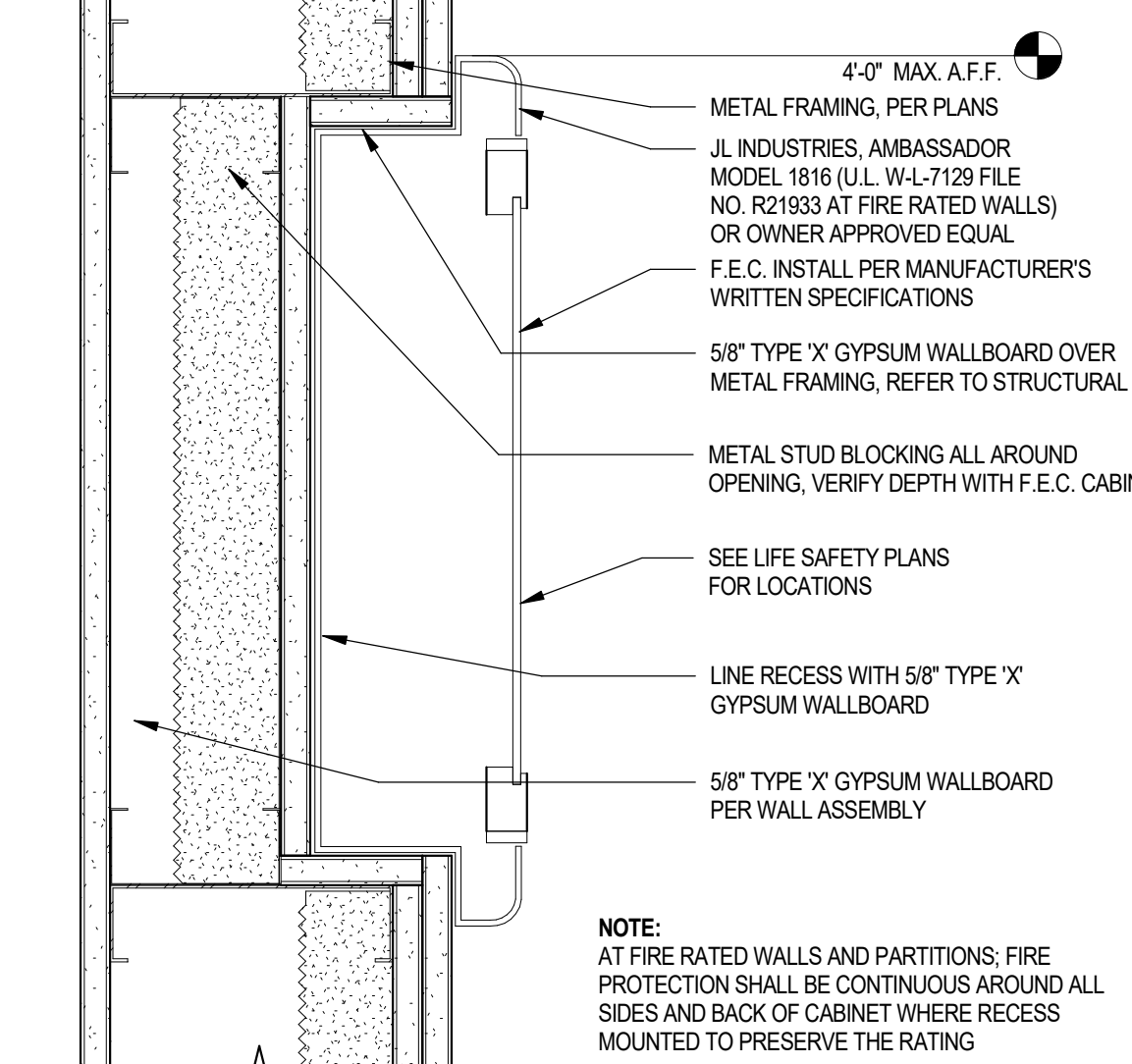
23 WOOD DOOR FRAME HEAD DETAIL @ METAL FRAMING
SCALE: 3" = 1'-0"



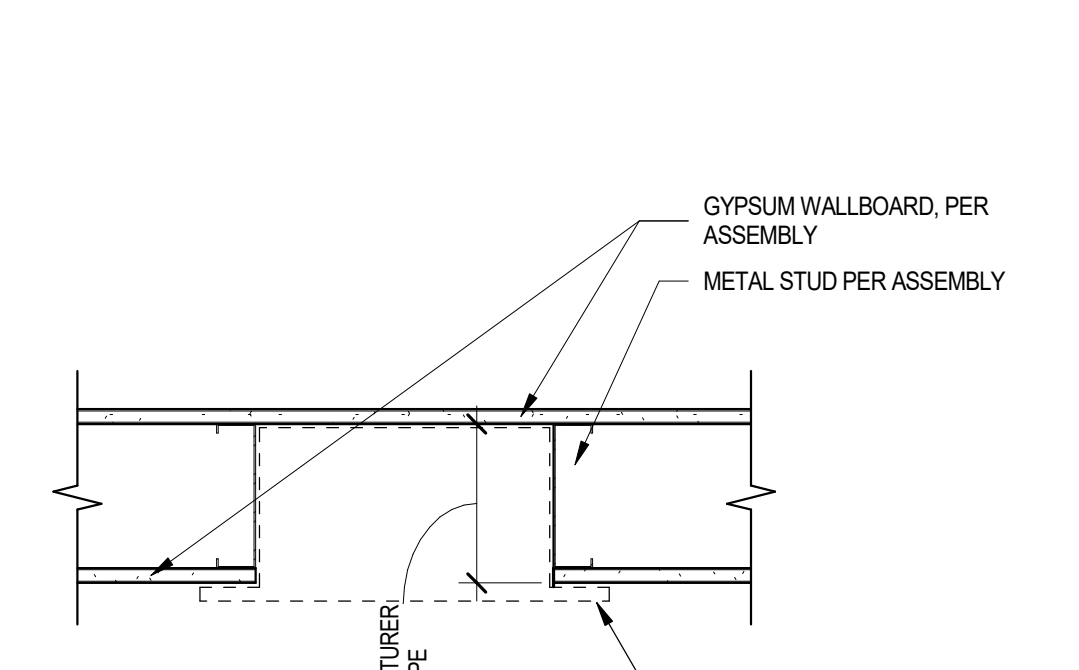
15 SECTION DETAIL - SOFFIT FLASHING INTERSECTION METAL FRAME
SCALE: 3" = 1'-0"



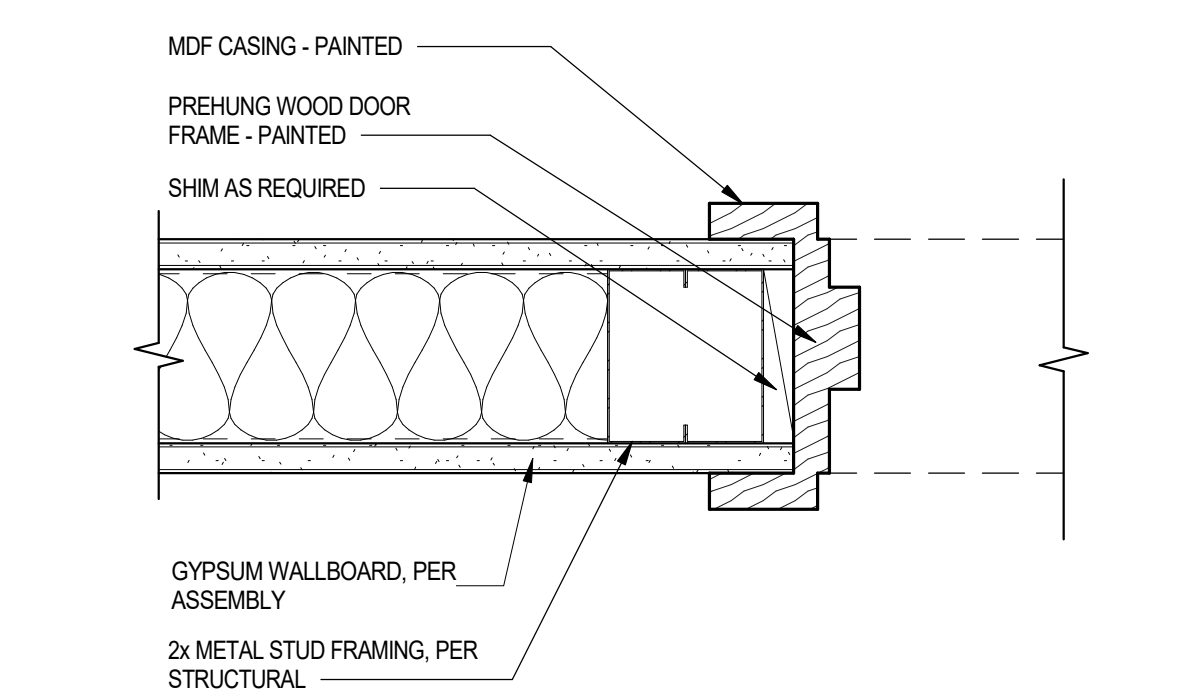
11 WATER BOX DETAIL AT UNIT SEPARATION WALLS
SCALE: 3" = 1'-0"



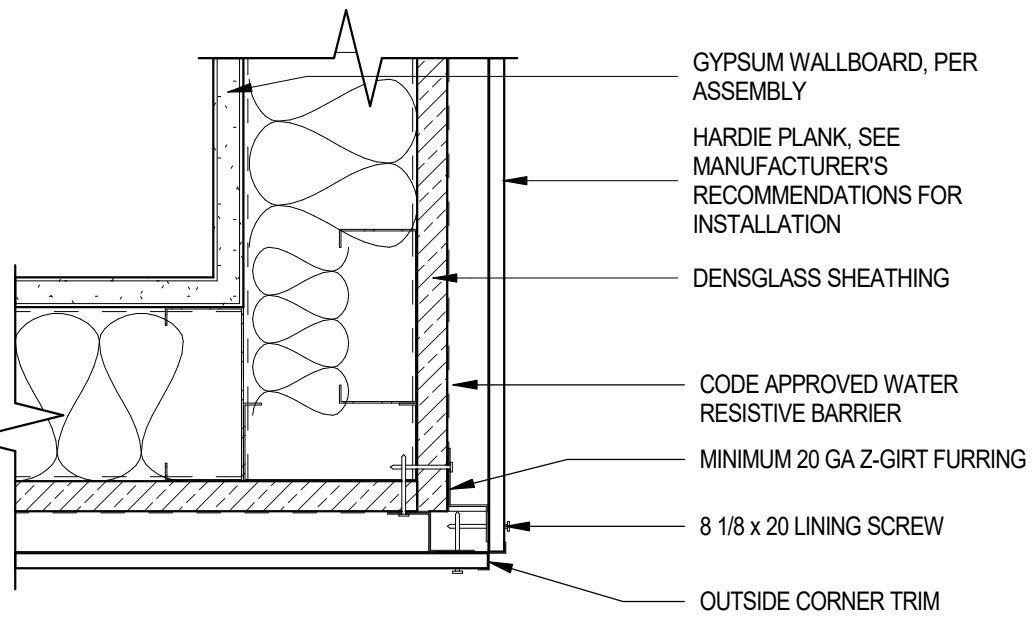
07 FIRE EXTINGUISHER CABINET AT 2x6 OR LARGER WALL
SCALE: 3" = 1'-0"



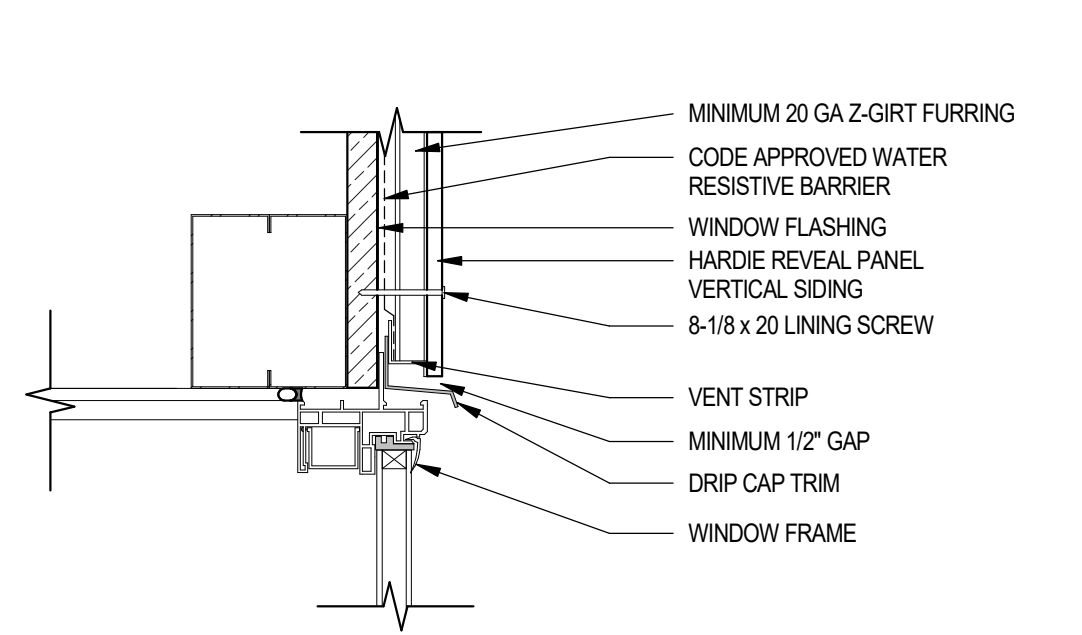
03 MEDICINE CABINET RECESS AT INTERIOR WALL
SCALE: 1 1/2" = 1'-0"



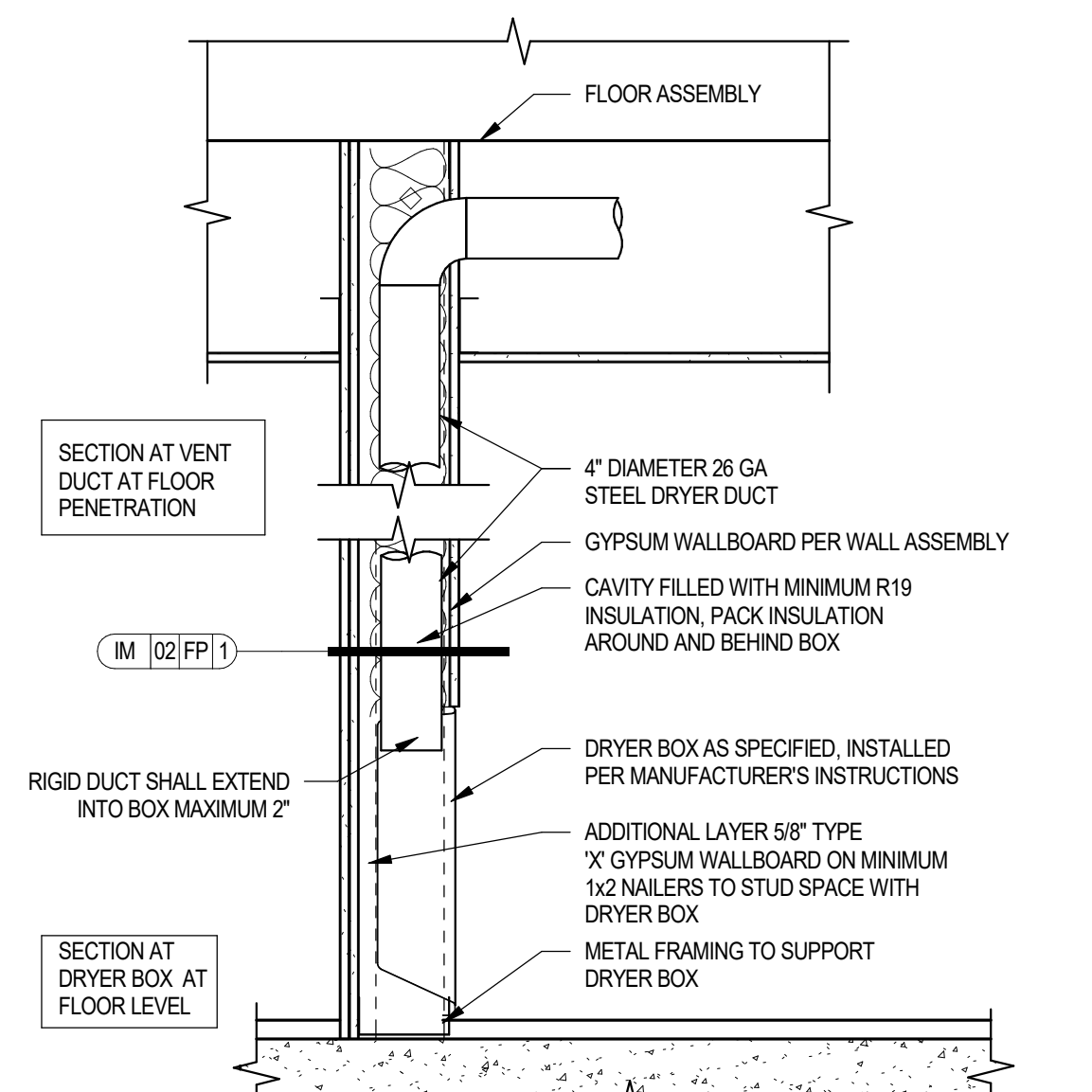
24 WOOD DOOR FRAME JAMB DETAIL @ METAL FRAMING
SCALE: 3" = 1'-0"



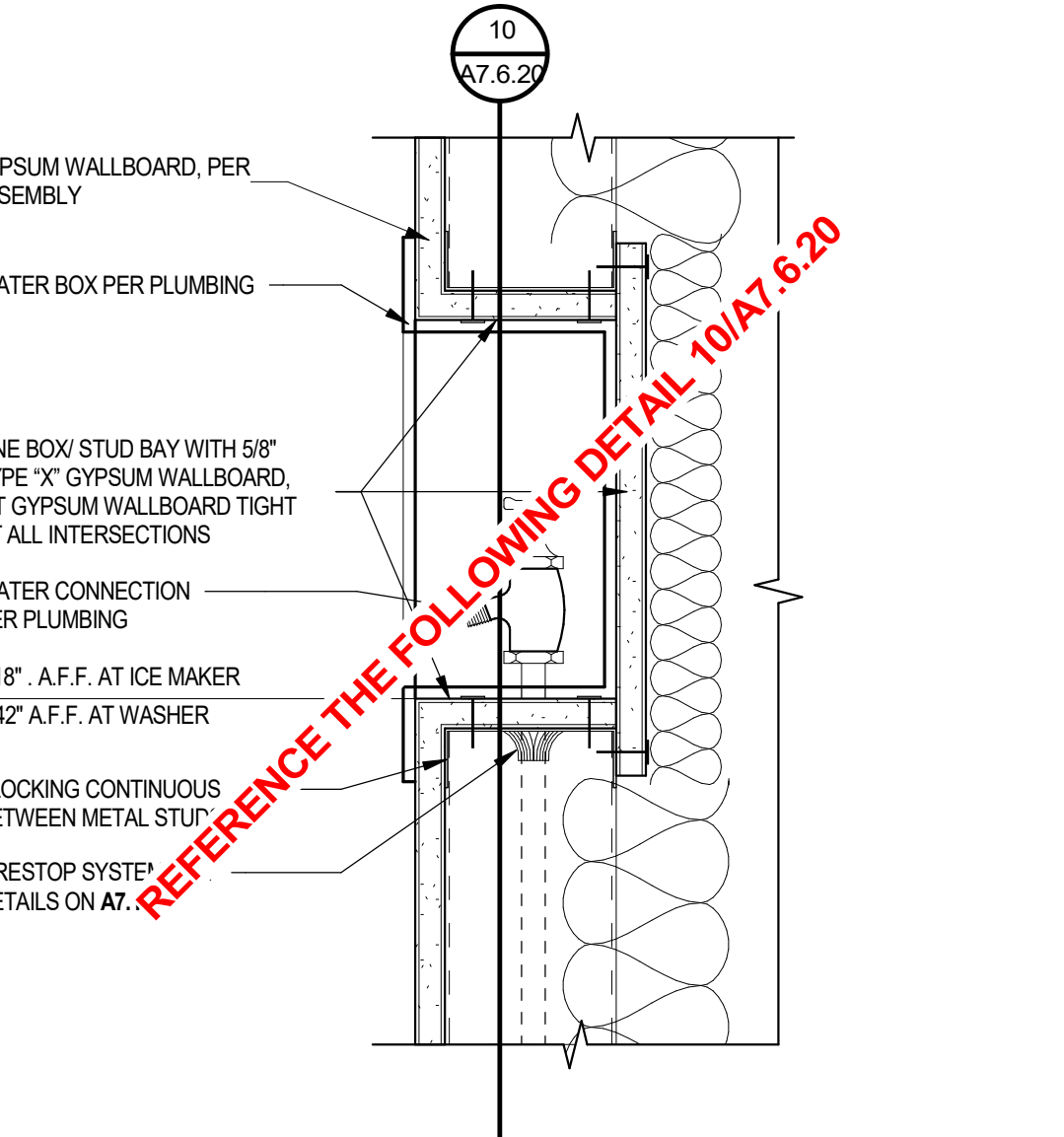
16 PLAN DETAIL - OUTSIDE CORNER TRIM
SCALE: 3" = 1'-0"



12 SECTION DETAIL - ALUMINIUM WOODEN HEAD
SCALE: 3" = 1'-0"



08 DRYERBOX IN 1 HOUR RATED WALL
SCALE: 1" = 1'-0"



04 WATER BOX DETAIL AT RATED WALLS
SCALE: 3" = 1'-0"

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Project Name 2
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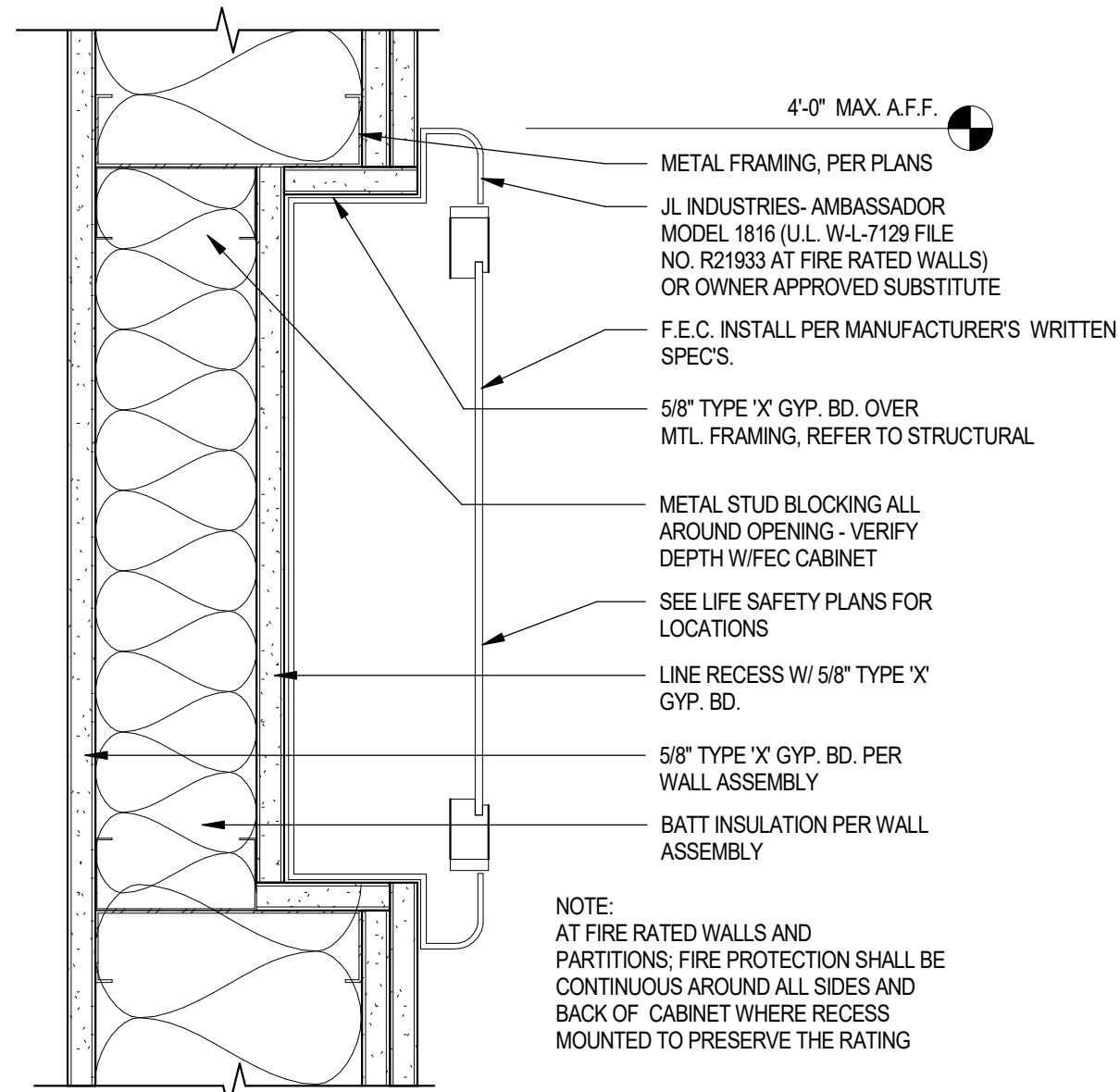
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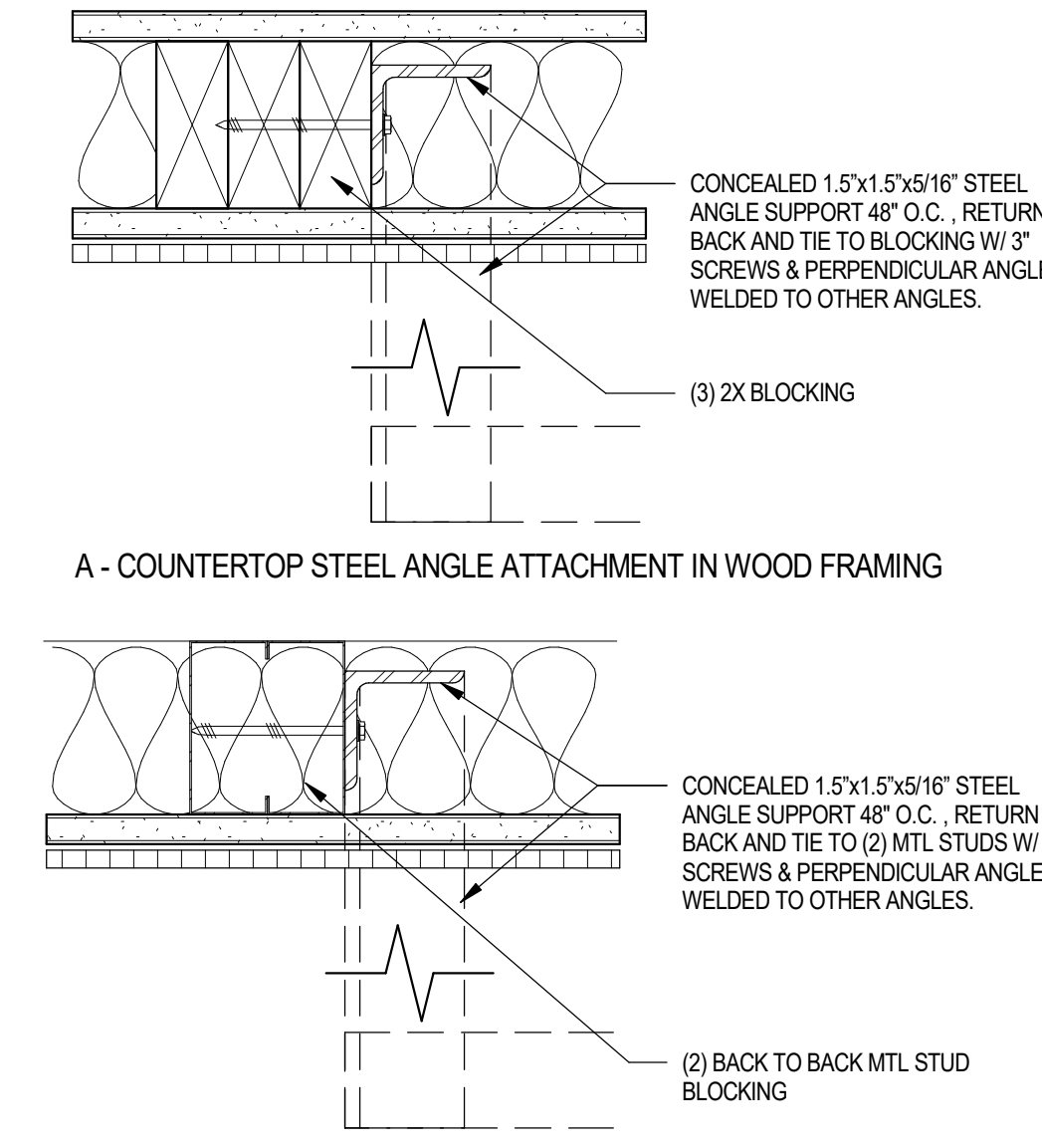
REVISIONS/SUBMITTALS
DATE DESCRIPTION

DATE: July 17, 2024 ORB #: 00-000

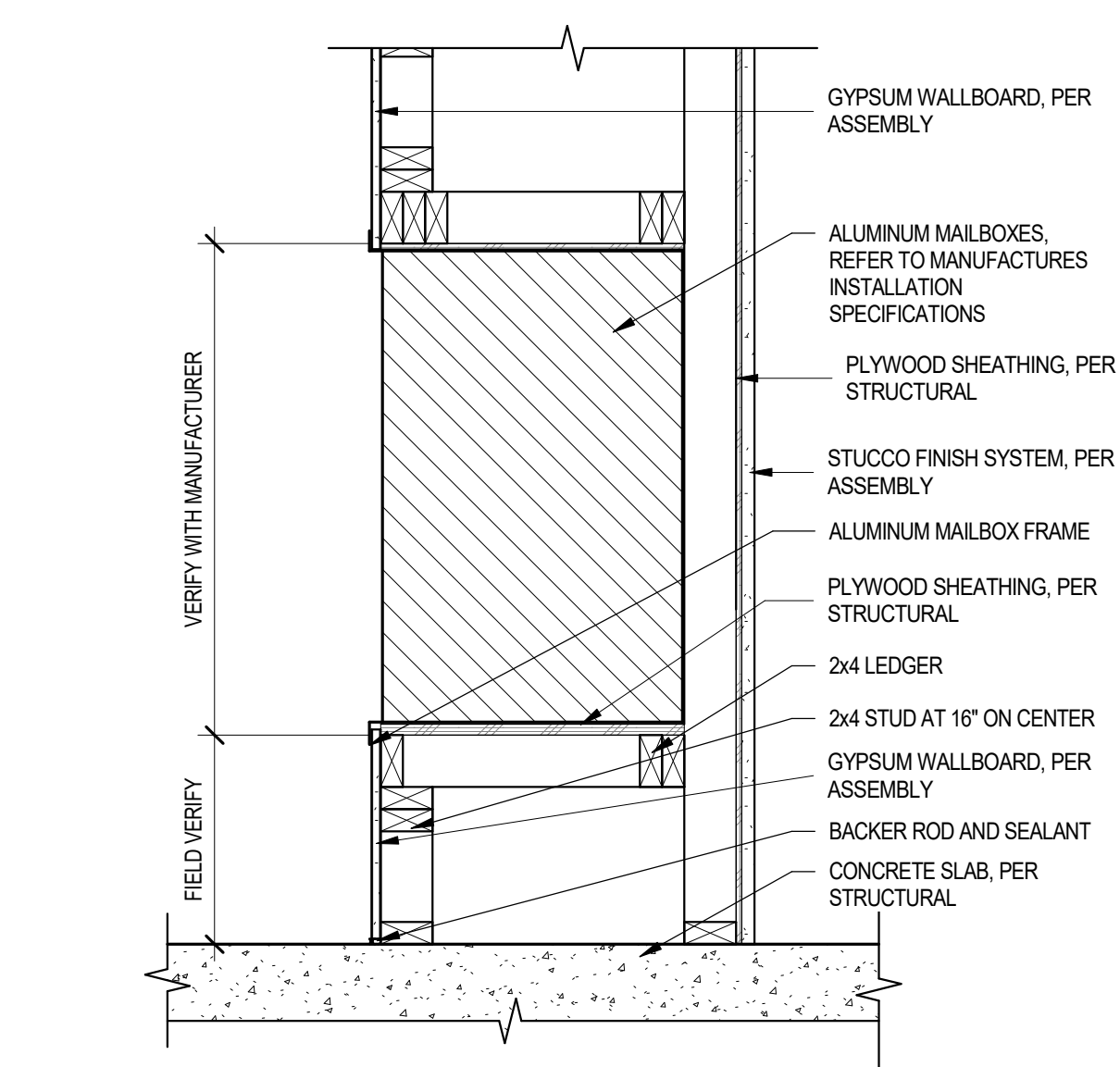
A7.6.20
UNIT & CORRIDOR DETAILS METAL FRAMING 01-09



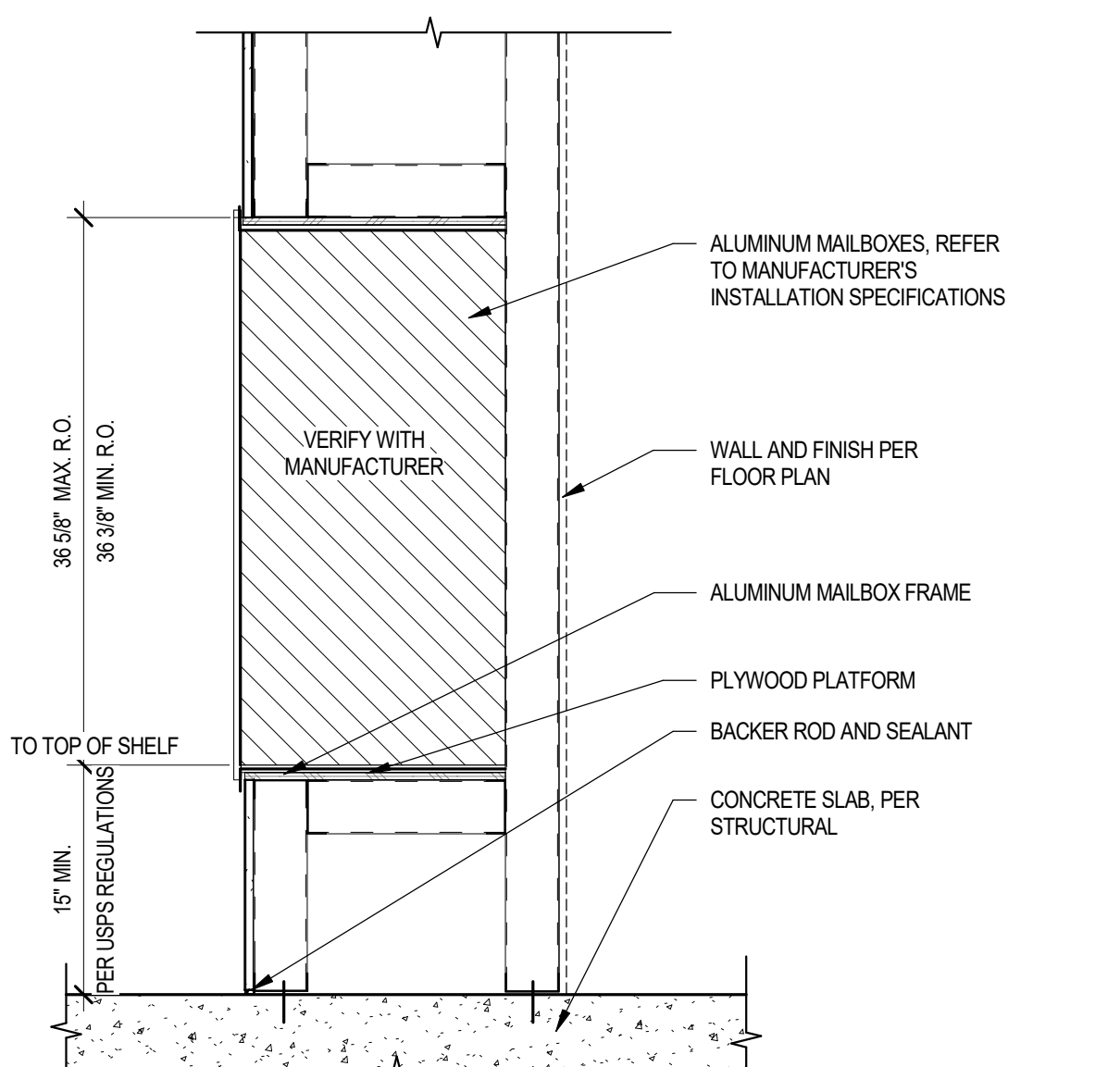
01 FIRE EXTINGUISHER CABINET AT METAL FRAMING
SCALE: 3" = 1'-0"



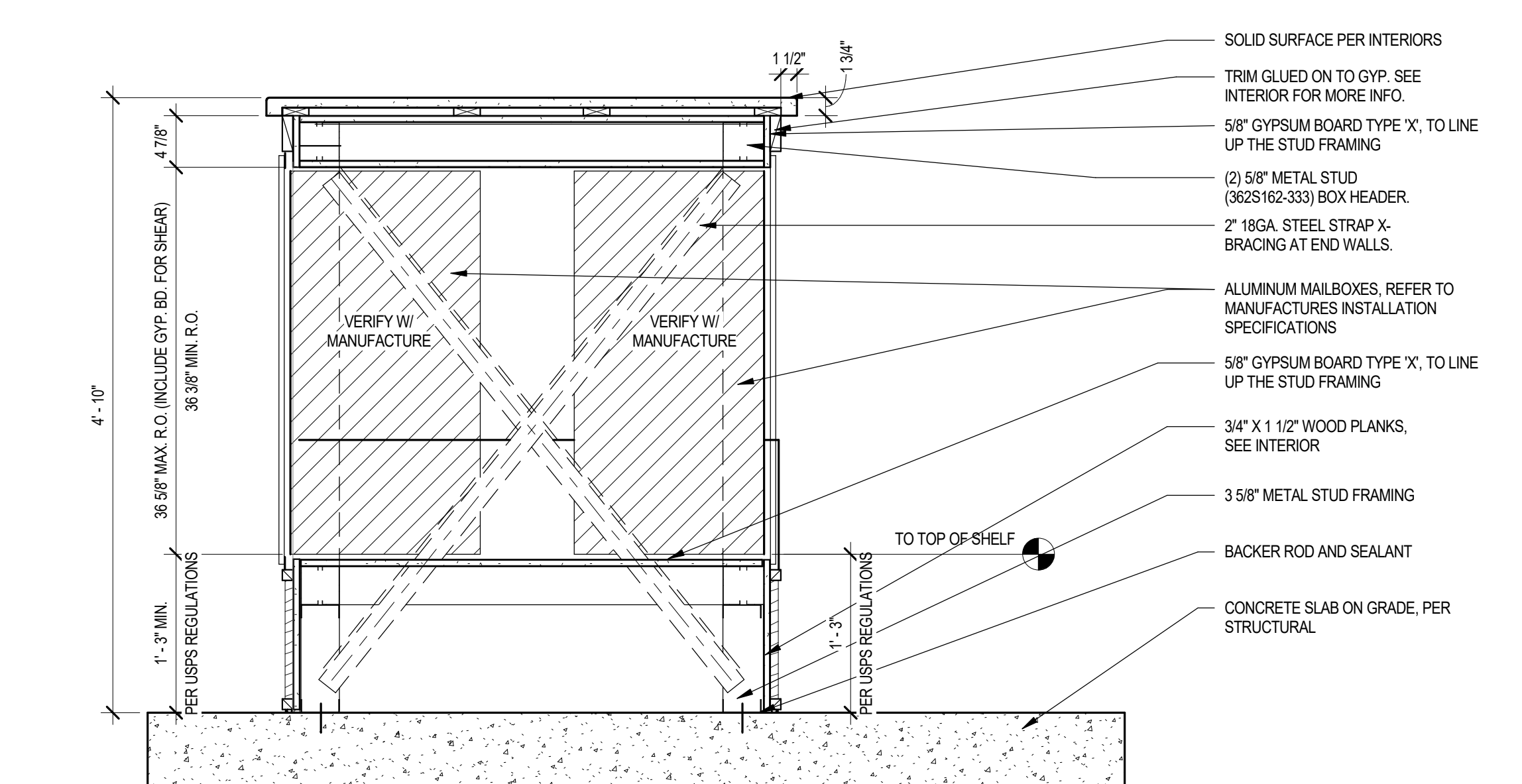
06 COUNTERTOP STEEL ANGLE ATTACHMENT
SCALE: 3" = 1'-0"



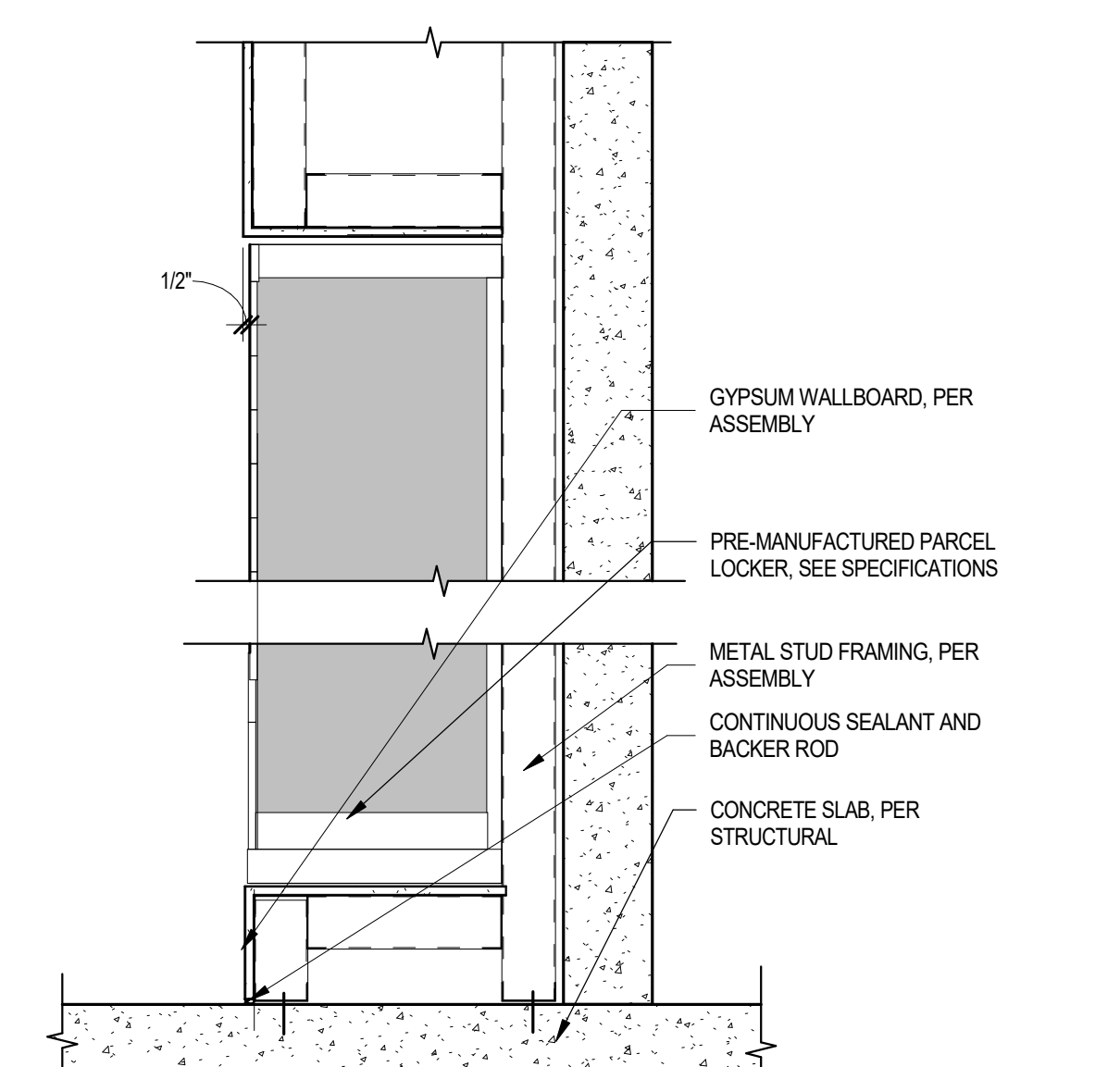
02 MAIL KIOSK WOOD FRAMING
SCALE: 1" = 1'-0"



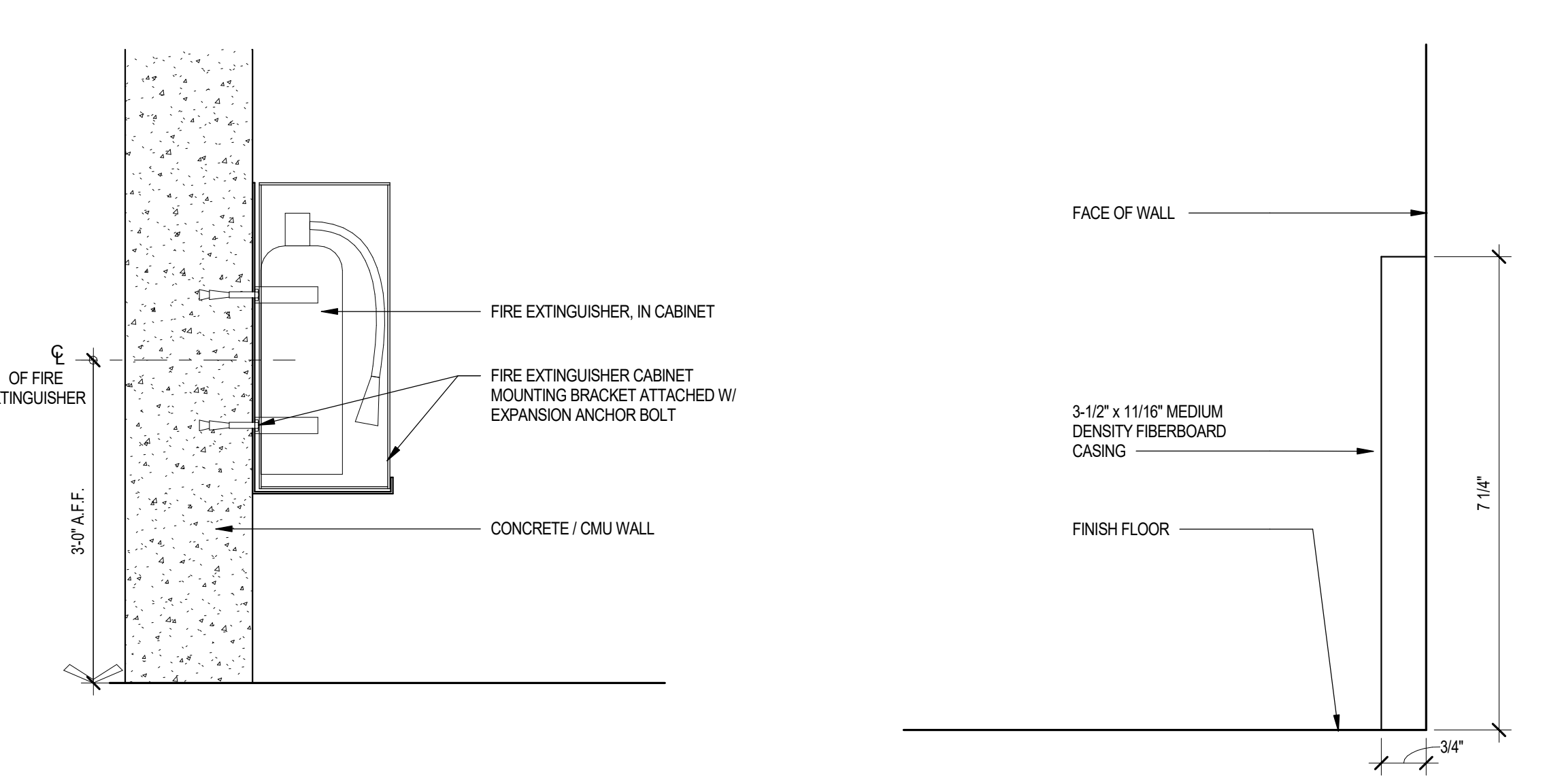
11 SINGLE SIDED MAIL KIOSK - METAL FRAMING
SCALE: 1" = 1'-0"



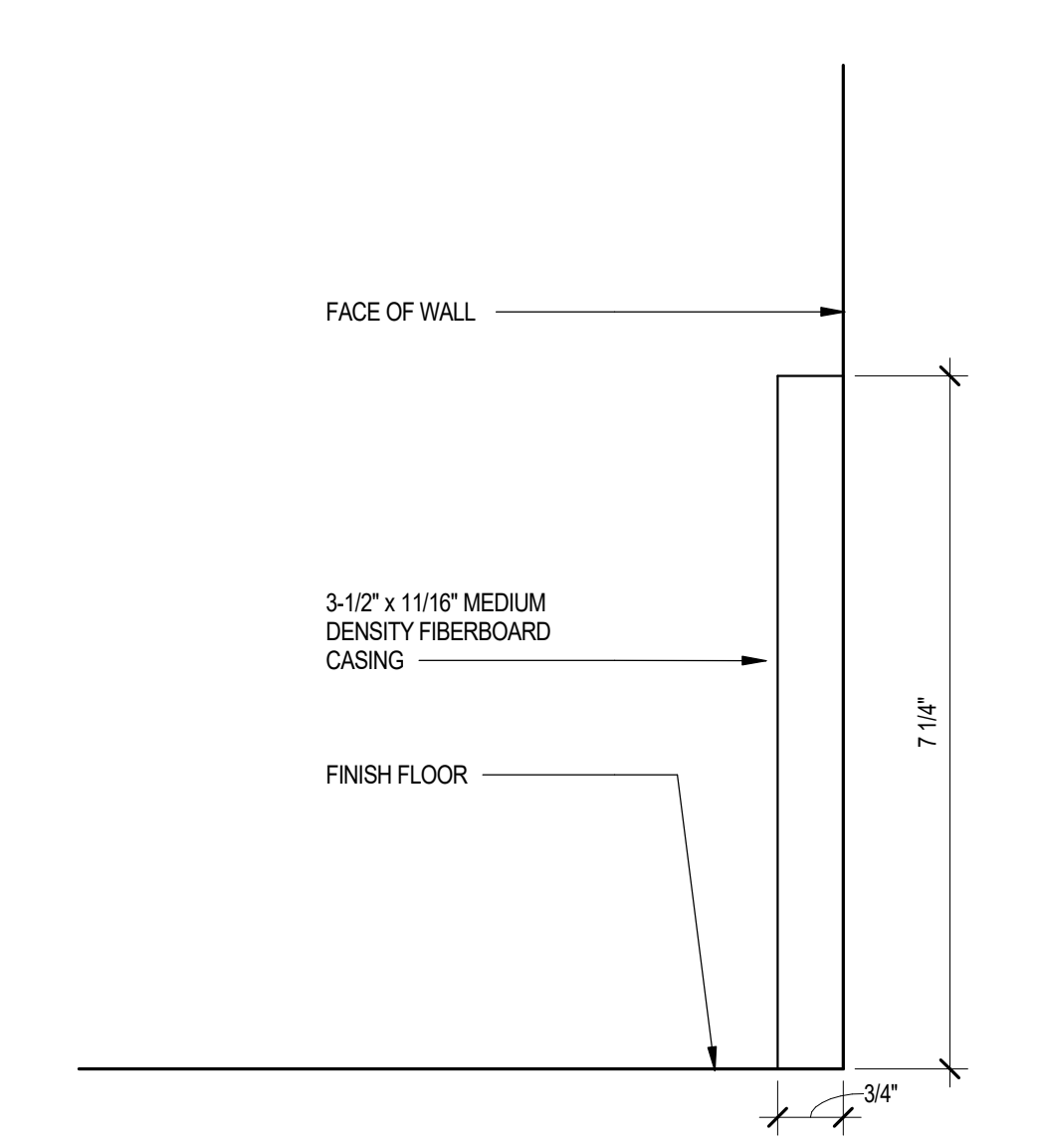
07 DOUBLE SIDED MAIL KIOSK - METAL FRAMING
SCALE: 1" = 1'-0"



12 PARCEL LOCKER - METAL FRAMING
SCALE: 1" = 1'-0"



08 SURFACE MOUNT FIRE EXTINGUISHER CABINET
SCALE: 1 1/2" = 1'-0"



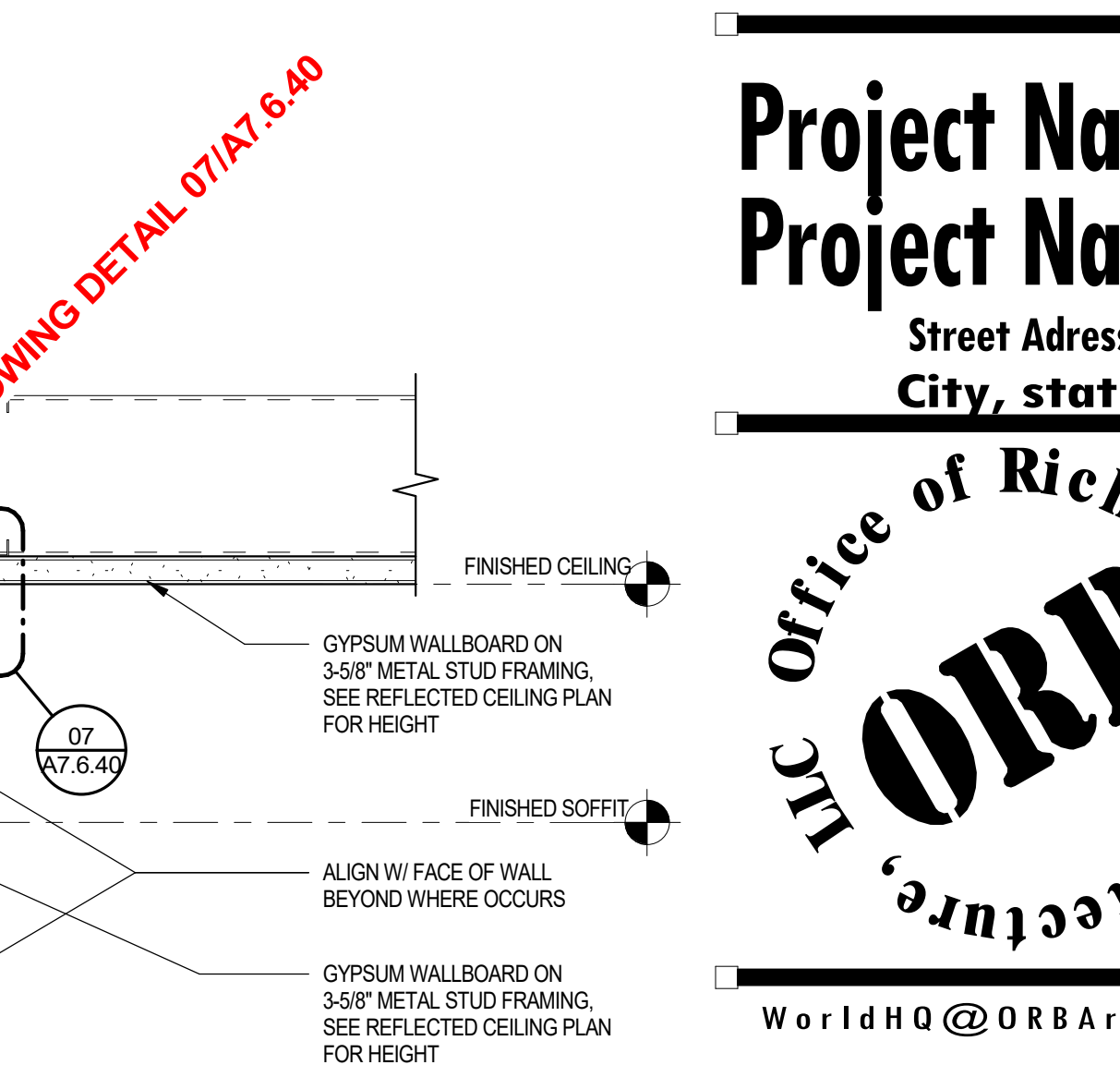
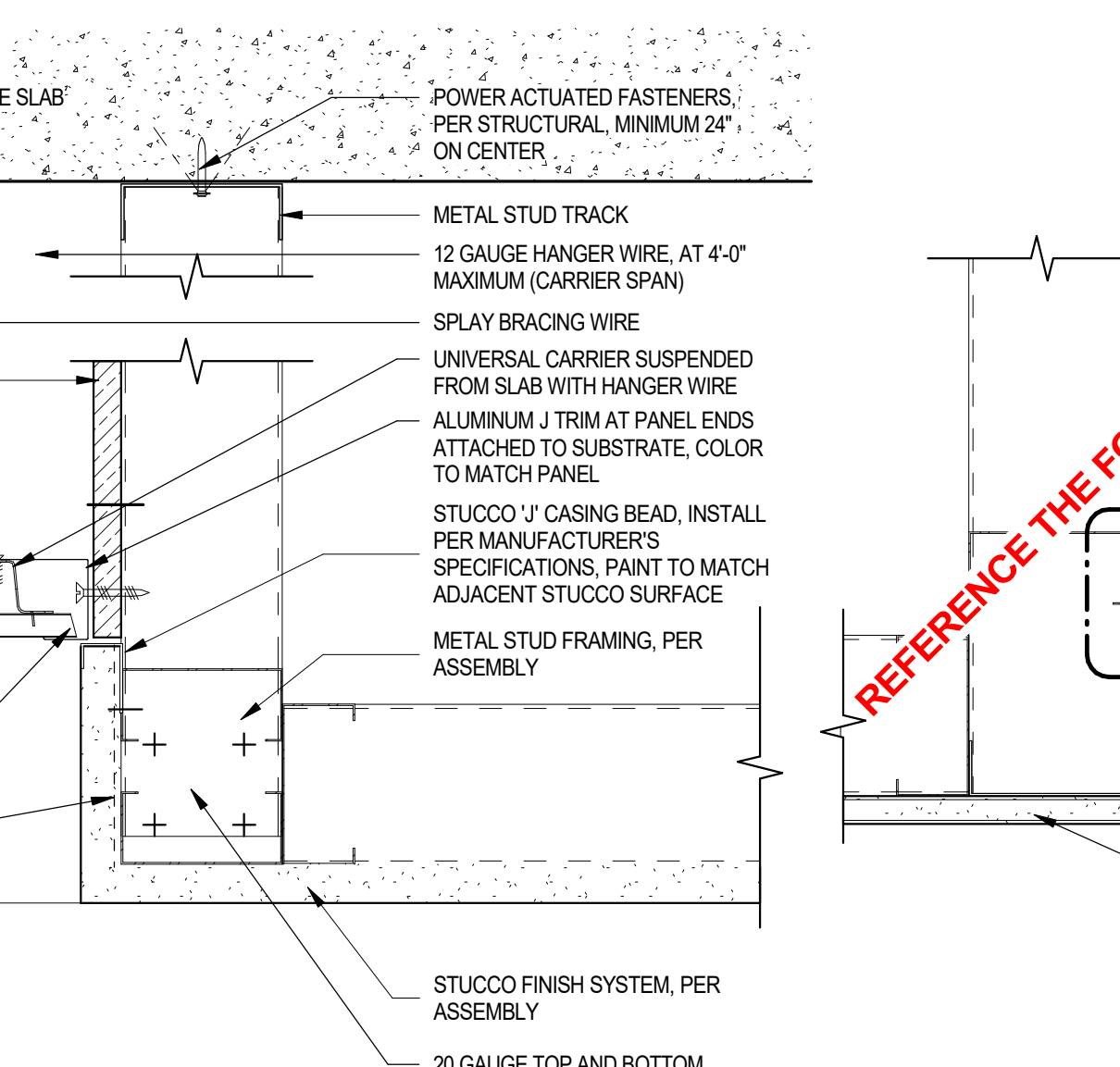
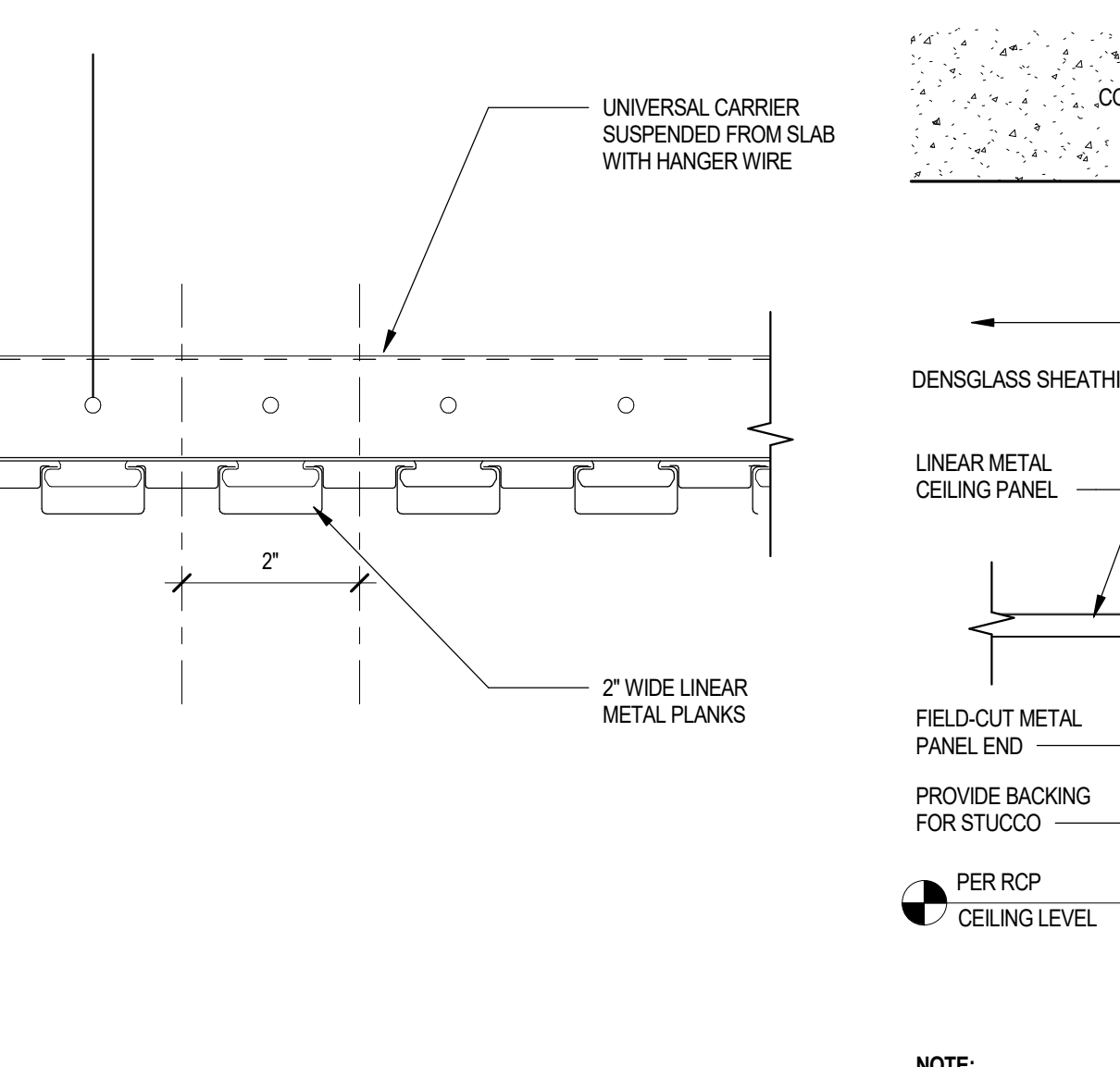
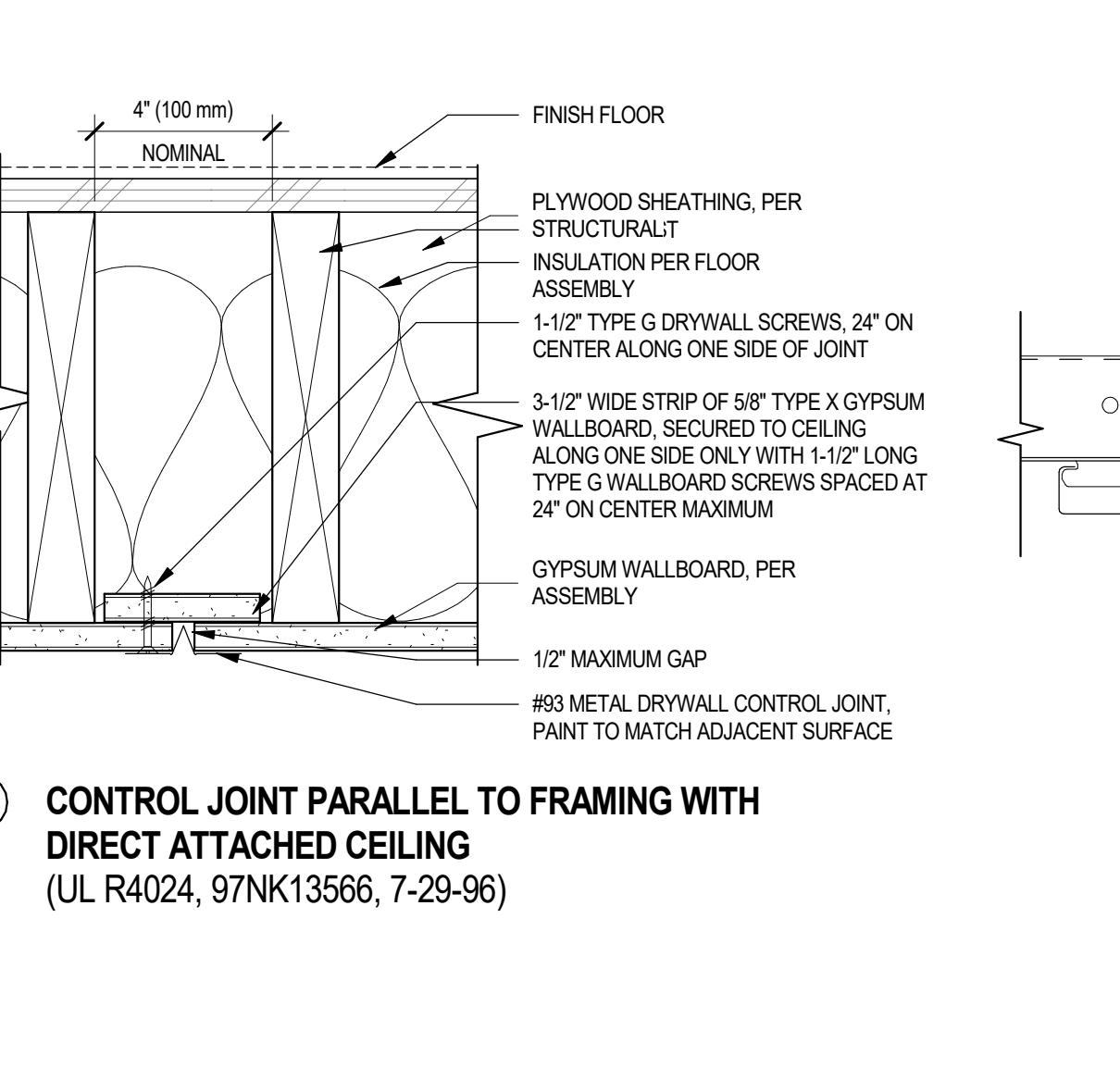
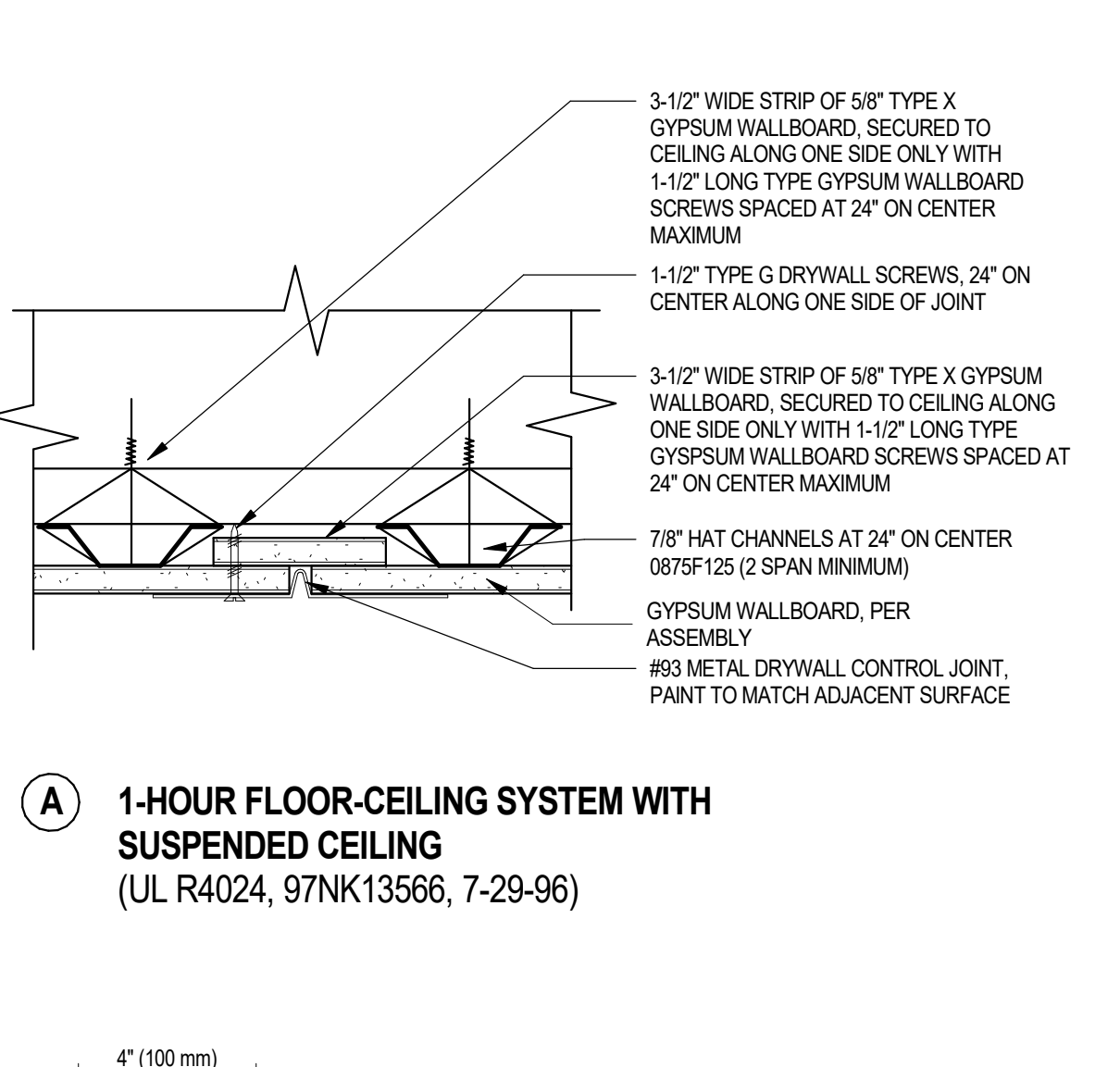
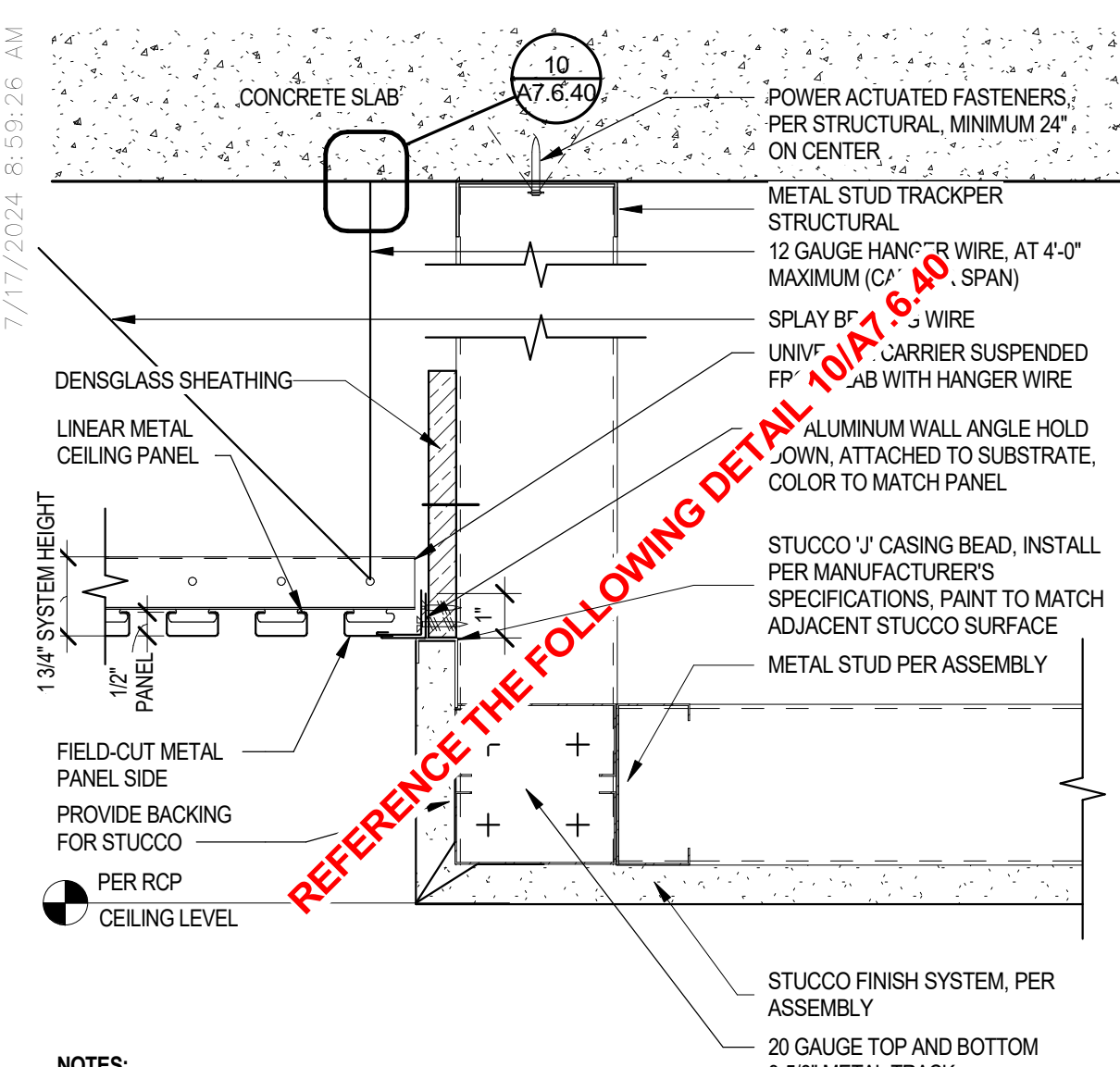
04 COMMON AREA BASEBOARD
SCALE: 6" = 1'-0"

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REVISIONS/SUBMITTALS	
DATE	DESCRIPTION

DATE: July 17, 2024 ORB #: 00-000



21 LINEAR METAL CEILING AT STUCCO SOFFIT - CROSS SECTION SCALE: 3" = 1'-0"

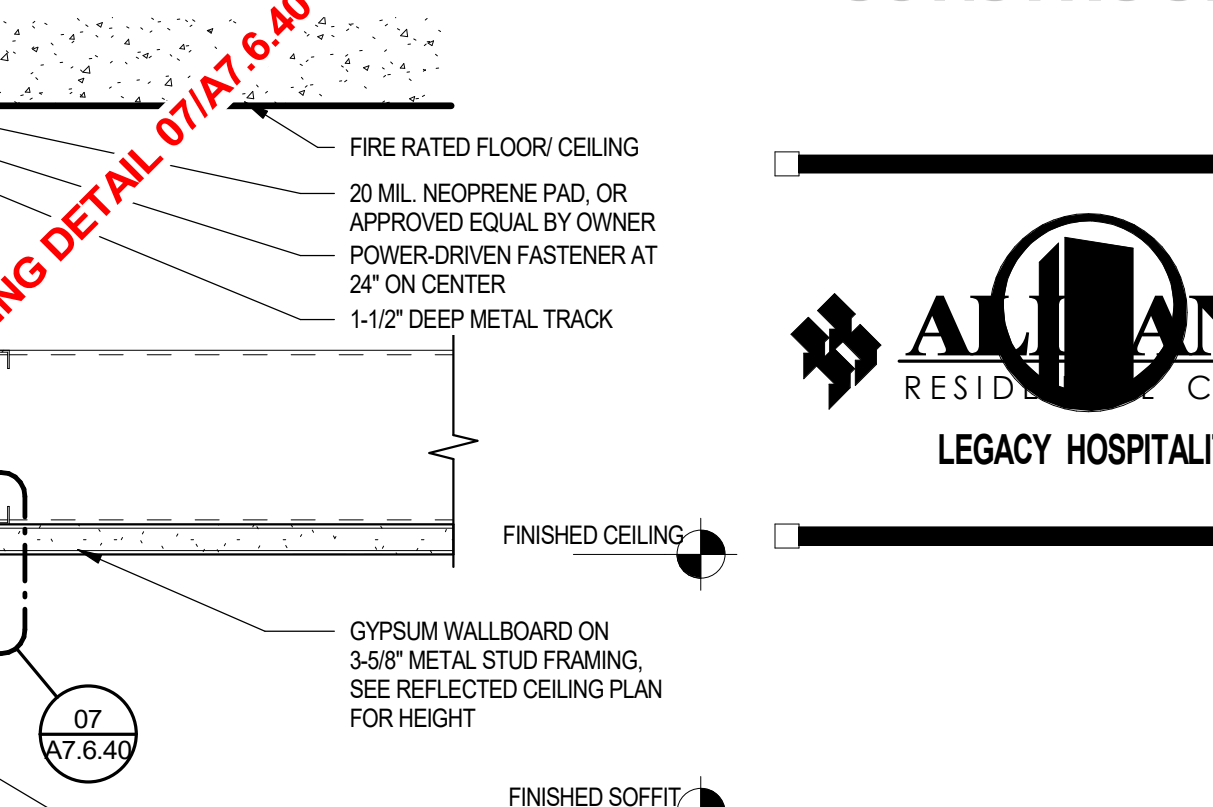
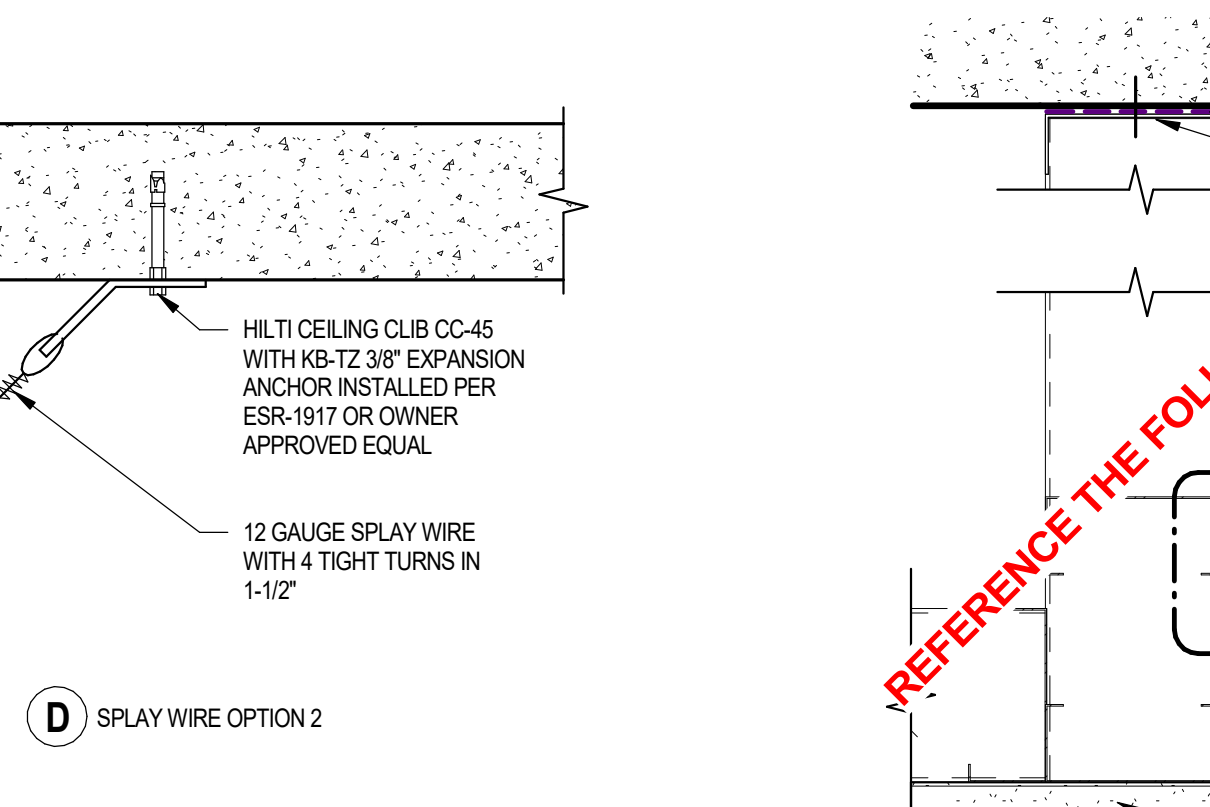
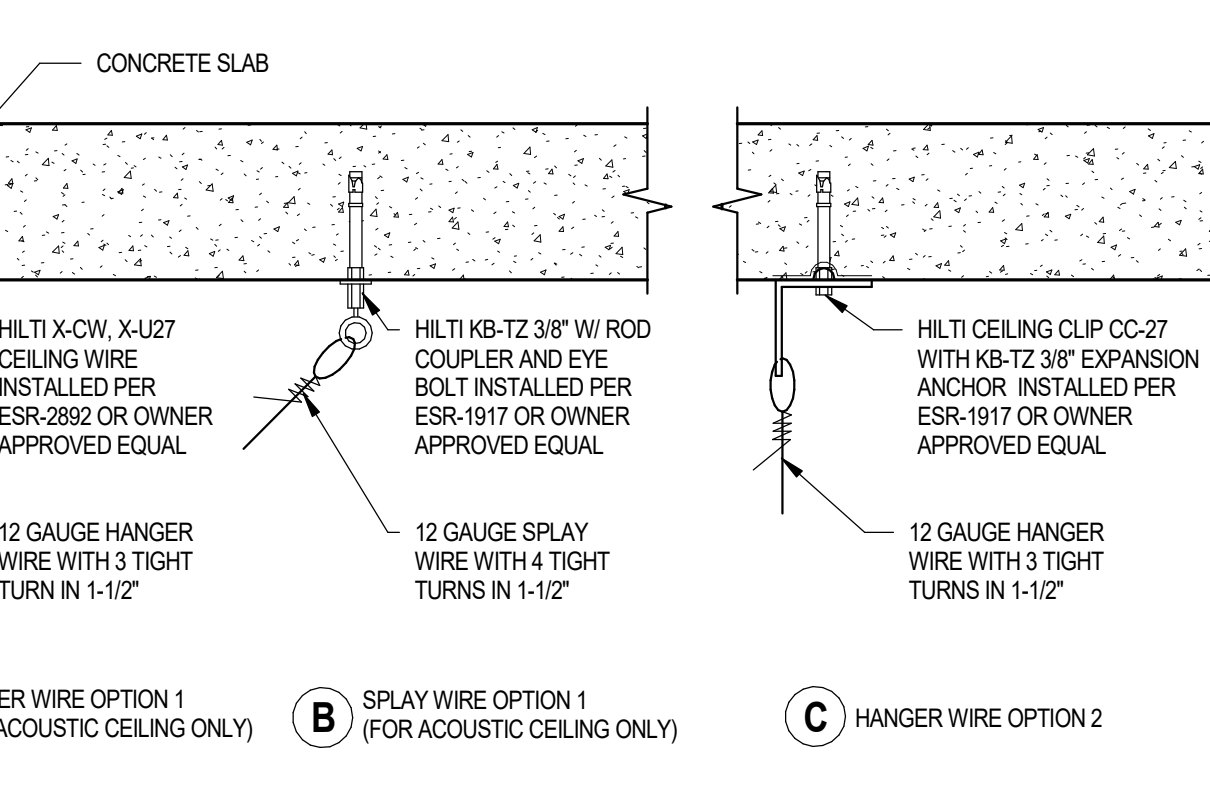
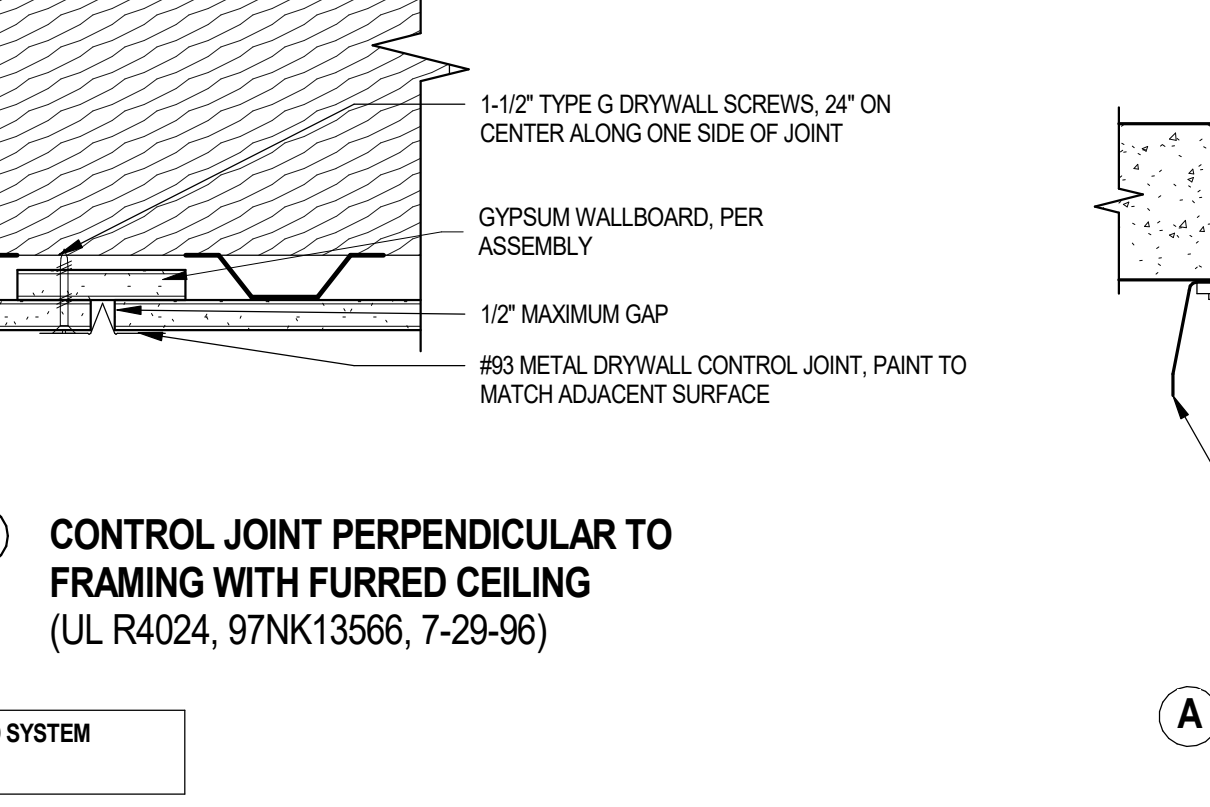
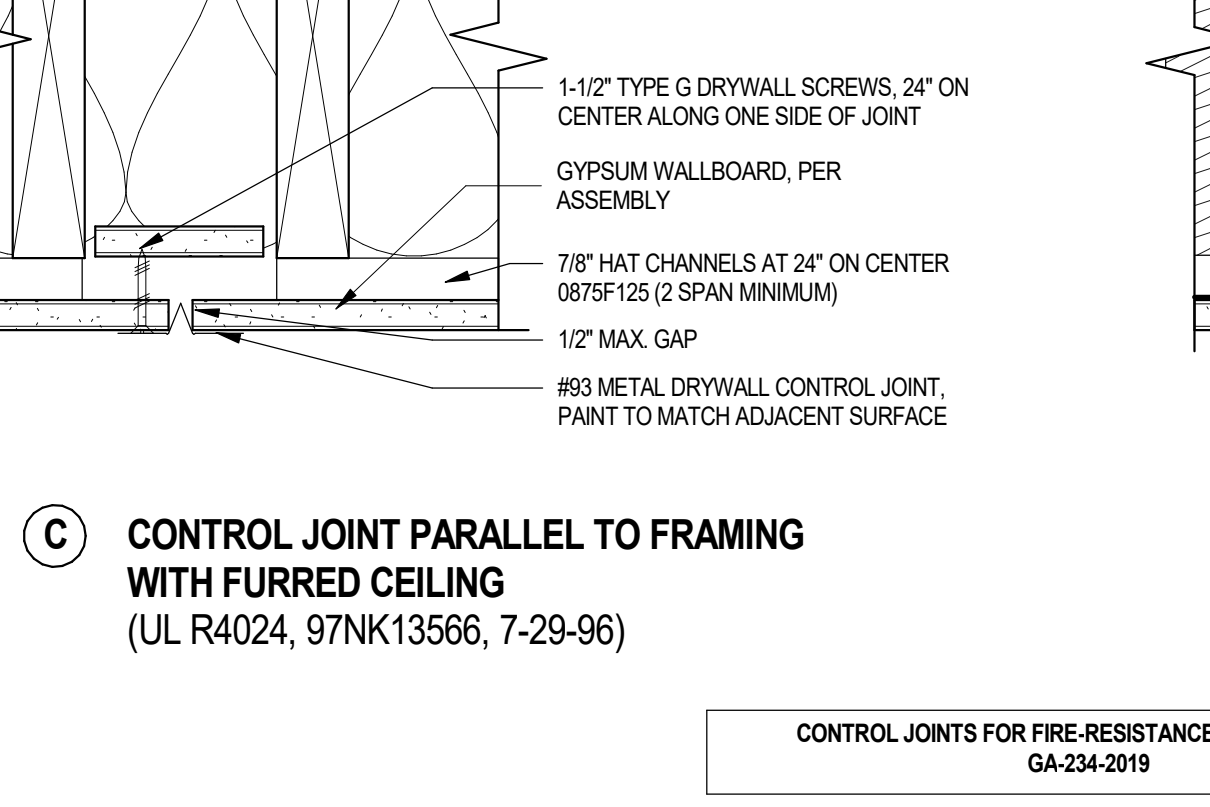
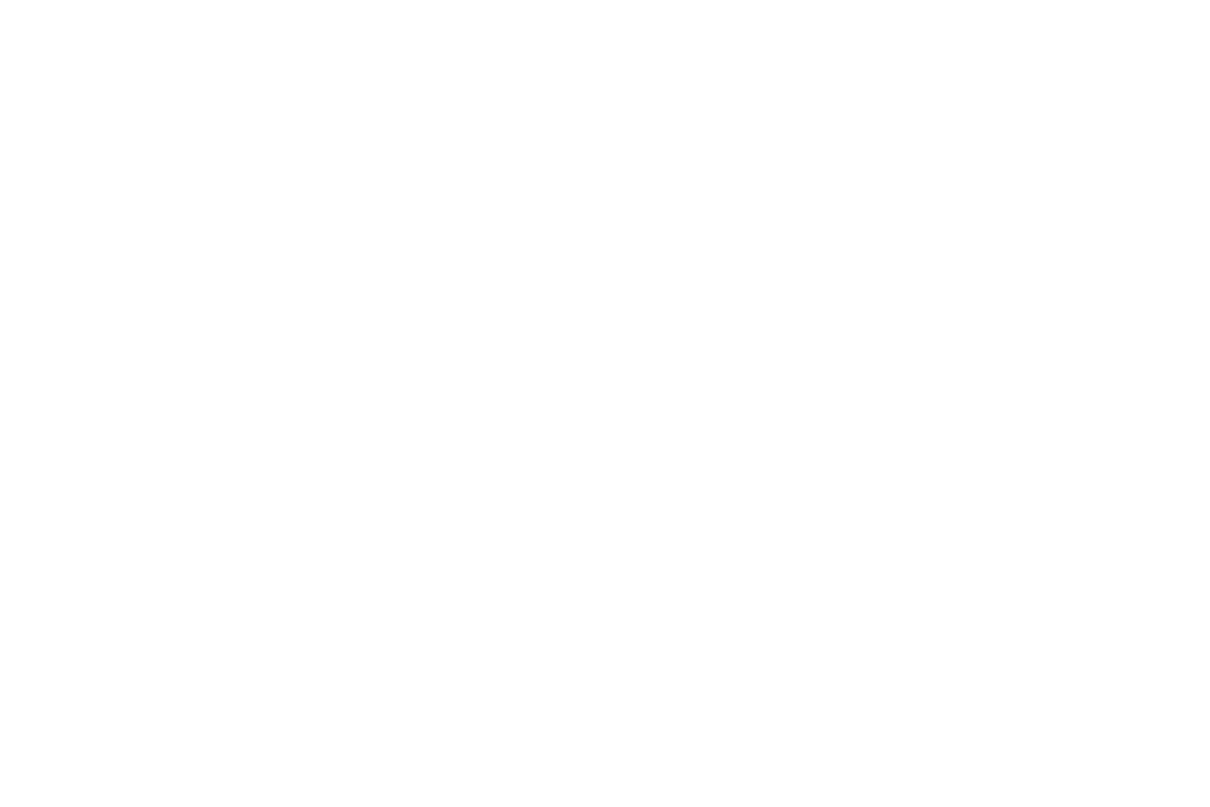
A 1-HOUR FLOOR-CEILING SYSTEM WITH SUSPENDED CEILING (UL R4024, 97NK13566, 7-29-96) SCALE: 3" = 1'-0"

B CONTROL JOINT PARALLEL TO FRAMING WITH DIRECT ATTACHED CEILING (UL R4024, 97NK13566, 7-29-96) SCALE: 3" = 1'-0"

09 LINEAR METAL CEILING - CROSS SECTION SCALE: 6" = 1'-0"

05 LINEAR METAL CEILING AT STUCCO SOFFIT - TRANSVERSE SECTION SCALE: 3" = 1'-0"

01 GYPSUM BOARD DROPPED SOFFIT SCALE: 3" = 1'-0"



CONTROL JOINTS FOR FIRE-RESISTANCE RATED SYSTEM
GA-234-2019

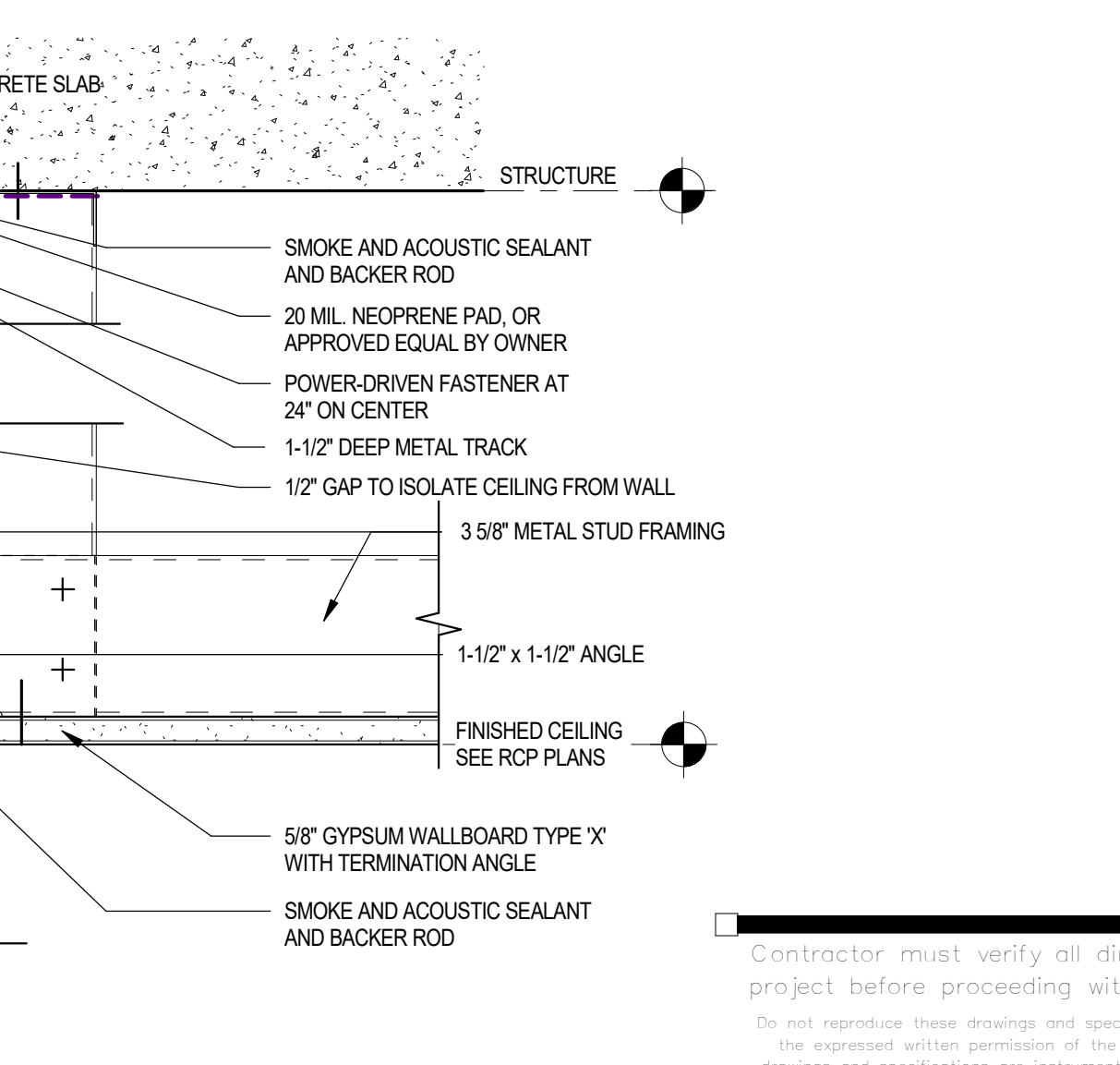
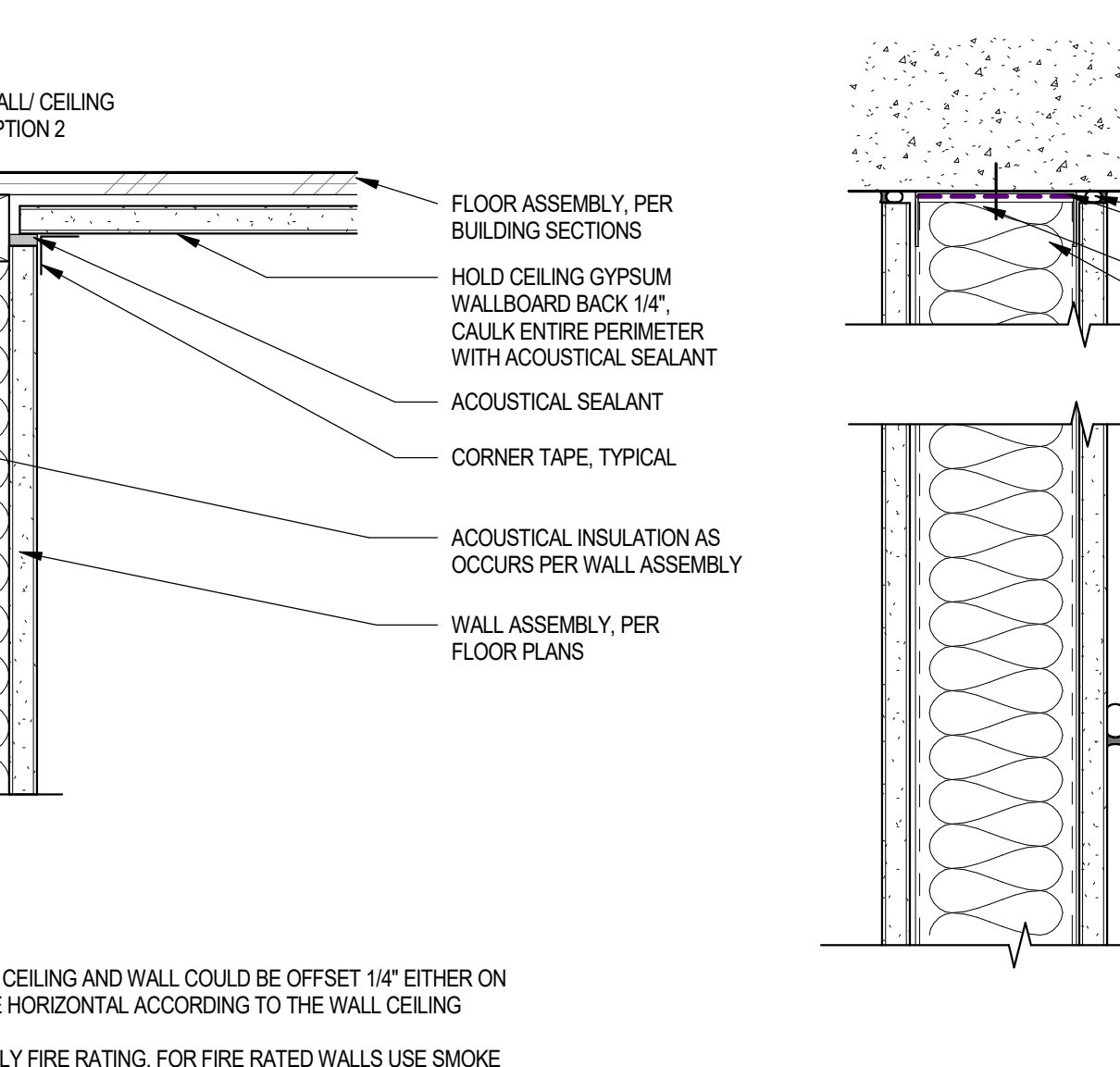
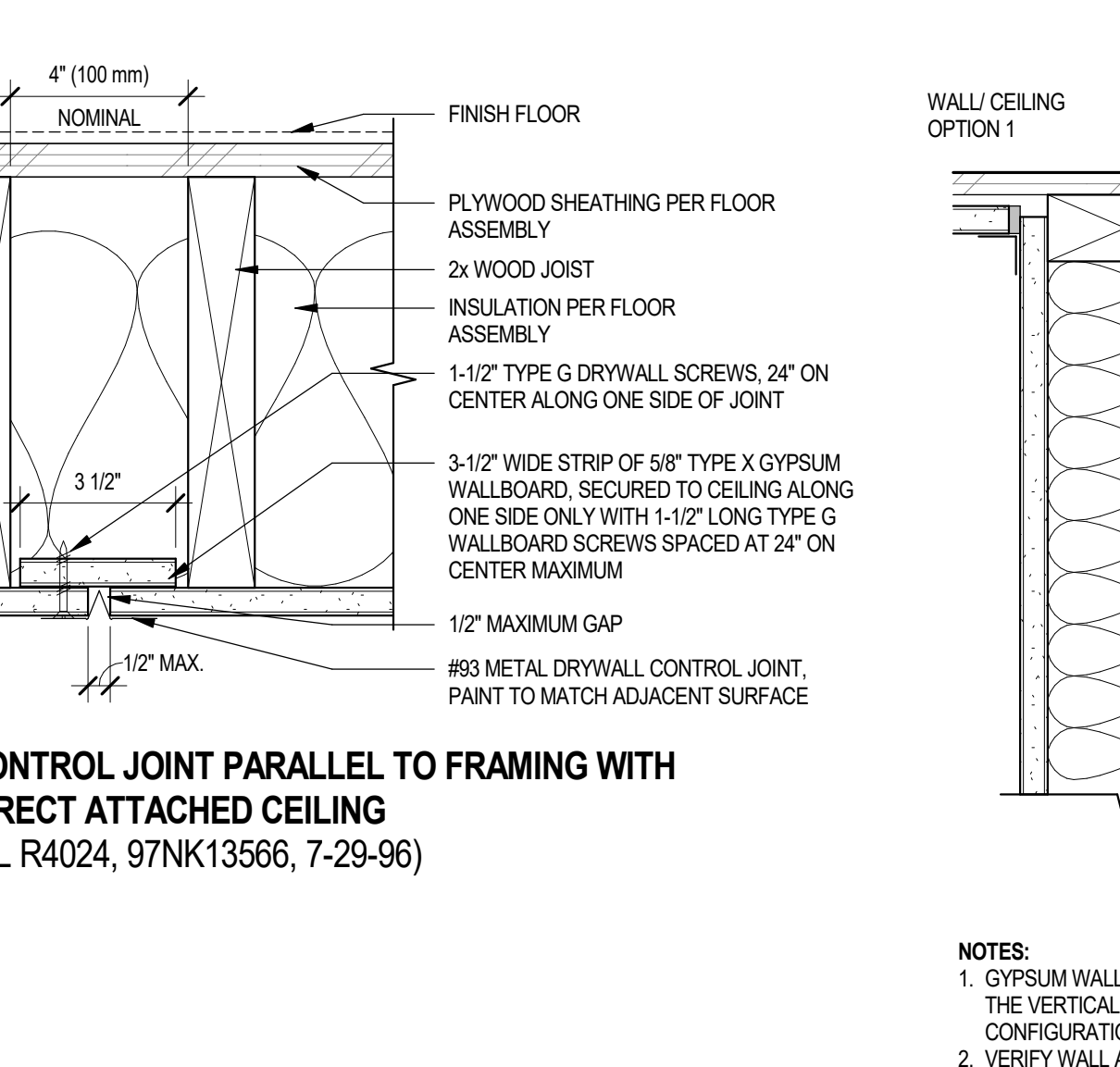
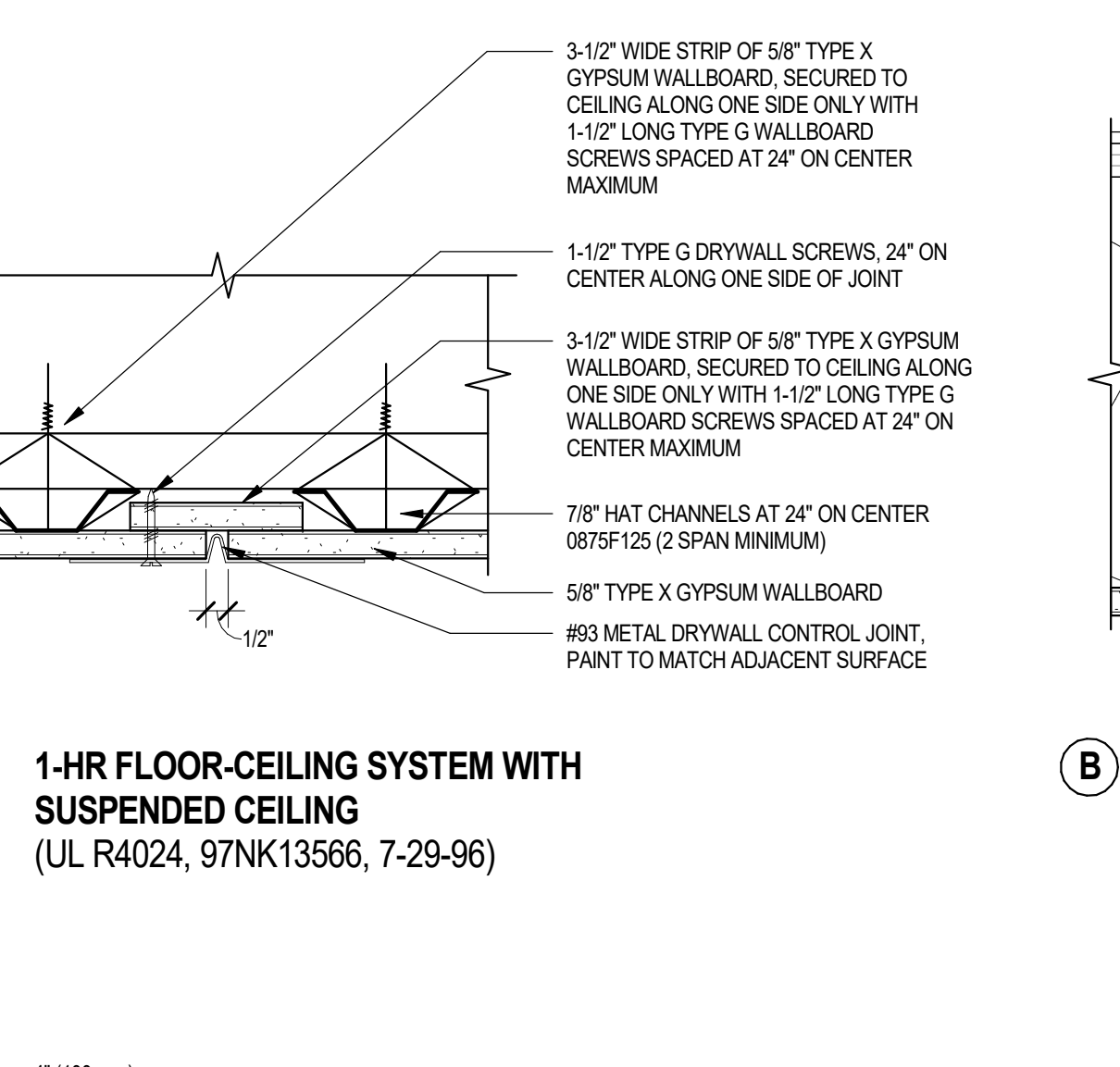
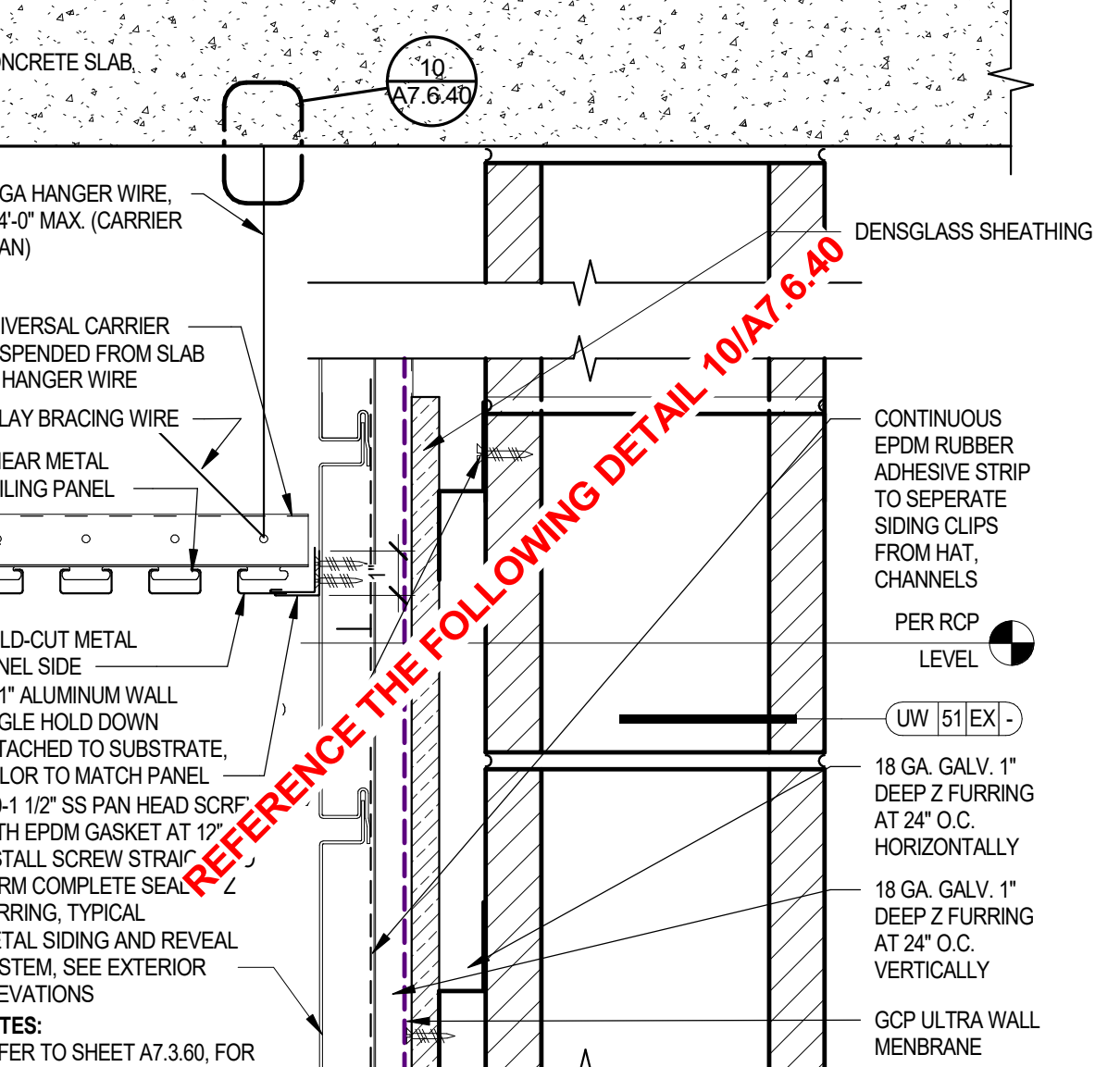
CONTROL JOINTS SHALL BE INSTALLED WHERE:
1. A CEILING TRAVERSES A CONSTRUCTION JOINT (EXPANSION, SEISMIC, OR BUILDING CONTROL ELEMENT) IN THE BASE BUILDING STRUCTURE
2. FOR INTERIOR CEILINGS WITH PERIMETER RELIEF, CONTROL JOINTS SHALL BE INSTALLED SO THAT LINEAR DIMENSIONS BETWEEN CONTROL JOINTS SHALL NOT EXCEED 50 FEET (15 M) AND THE TOTAL AREA BETWEEN CONTROL JOINTS DOES NOT EXCEED 2500 FEET SQUARED (232 M²)
3. FOR INTERIOR CEILINGS WITHOUT PERIMETER RELIEF, CONTROL JOINTS SHALL BE INSTALLED SO THAT LINEAR DIMENSIONS BETWEEN CONTROL JOINTS SHALL NOT EXCEED 30 FEET (9 M) AND THE TOTAL AREA BETWEEN CONTROL JOINTS DOES NOT EXCEED 900 FEET SQUARED (84M²)
4. FOR EXTERIOR CEILINGS AND SOFFITS, CONTROL JOINTS SHALL BE INSTALLED SO THAT LINEAR DIMENSIONS BETWEEN CONTROL JOINTS SHALL NOT EXCEED 30 FEET (9 M) AND THE TOTAL AREA BETWEEN CONTROL JOINTS DOES NOT EXCEED 900 FEET SQUARED (84M²)
5. CONTROL JOINTS OR INTERMEDIATE BLOCKING SHALL BE INSTALLED WHERE CEILING FRAMING MEMBERS CHANGE DIRECTION
6. A CONTROL JOINT IS DESIRED OR INCORPORATED AS A DESIGN ACCENT OR ARCHITECTURAL FEATURE

NOTES:
1. PROVIDE MINIMUM EMBEDMENT AND COVER PER STRUCTURAL DRAWINGS, AS APPLICABLE
2. ALTERNATE ASSEMBLY: HILTI CEILING CLIP C-27 WITH HBT-3/8" EXPANSION ANCHOR INSTALLED PER ESR-1917 OR OWNER APPROVED EQUAL.
3. ALL ANCHORAGE CONDITIONS ARE APPROVED FOR USE IN STRUCTURAL CONCRETE FLOOR/ ROOF ASSEMBLIES PER THE REFERENCED ASSEMBLY REPORTS
4. OTHER ASSEMBLIES MAY BE SUBSTITUTED, SUBJECT TO APPROVAL

18 TYPICAL CONTROL JOINTS AT CEILINGS SCALE: 3" = 1'-0"

10 HANGER WIRE CONNECTIONS SCALE: 1 1/2" = 1'-0"

02 GYPSUM BOARD DROPPED SOFFIT - CONCRETE SLAB SCALE: 3" = 1'-0"



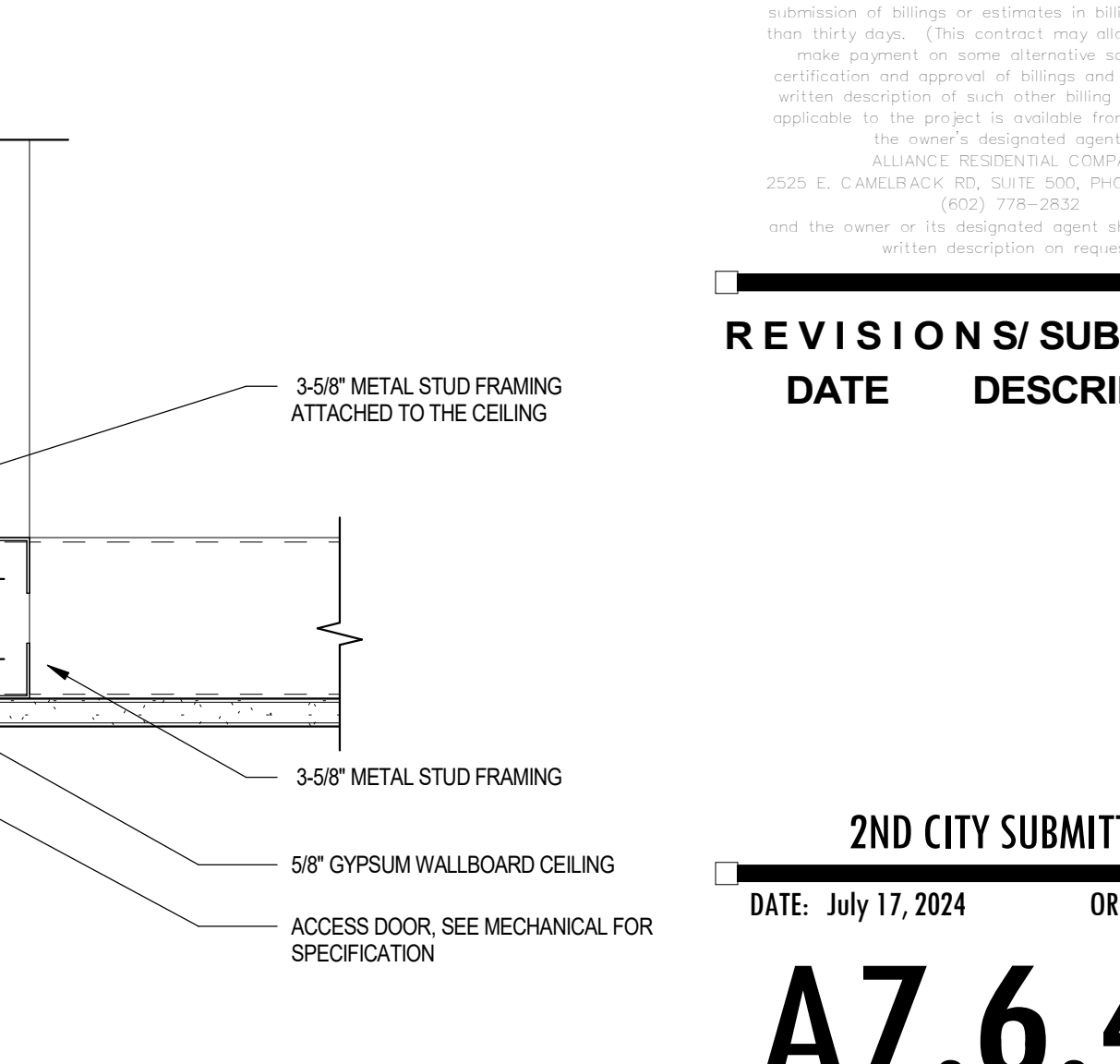
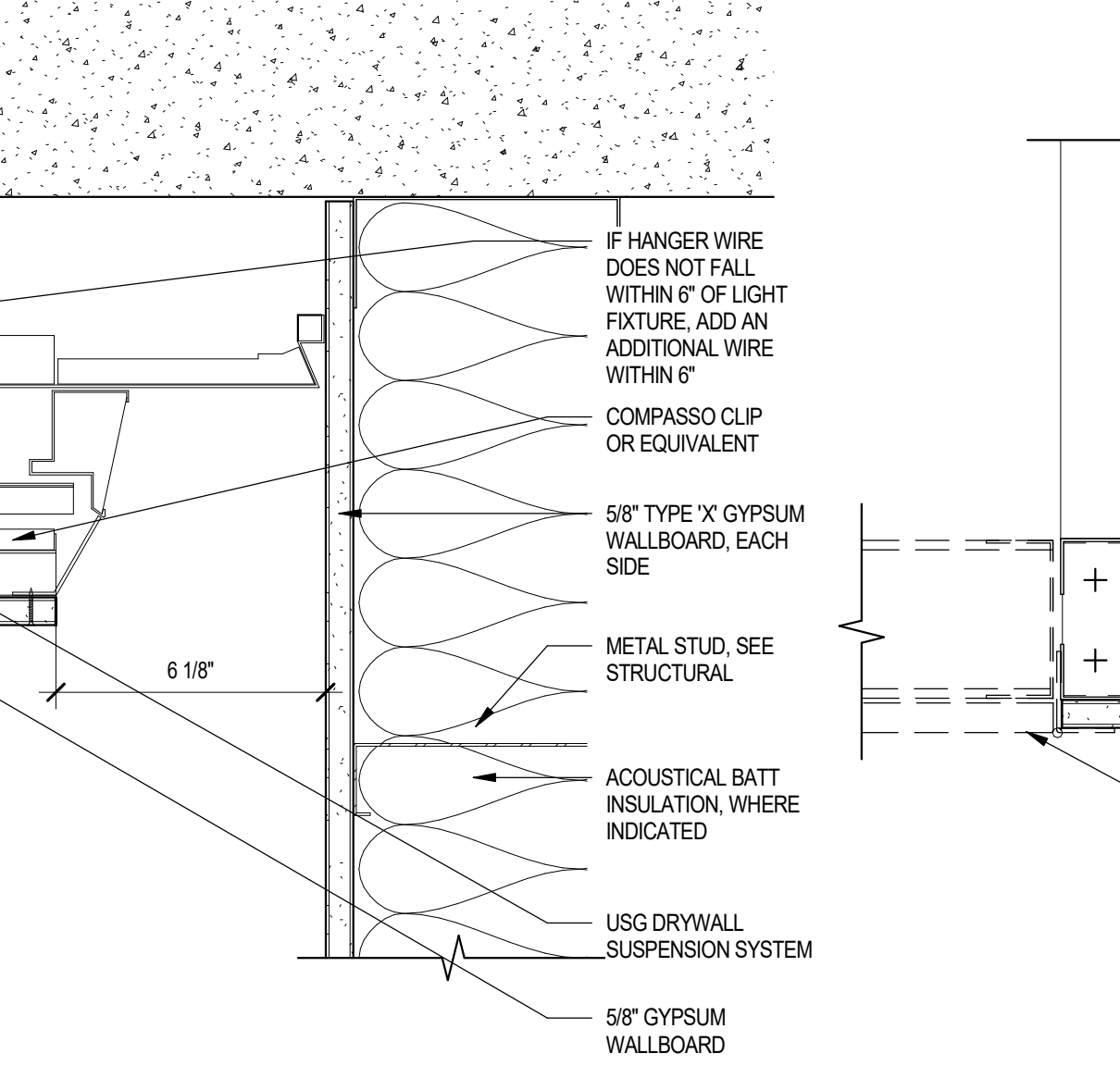
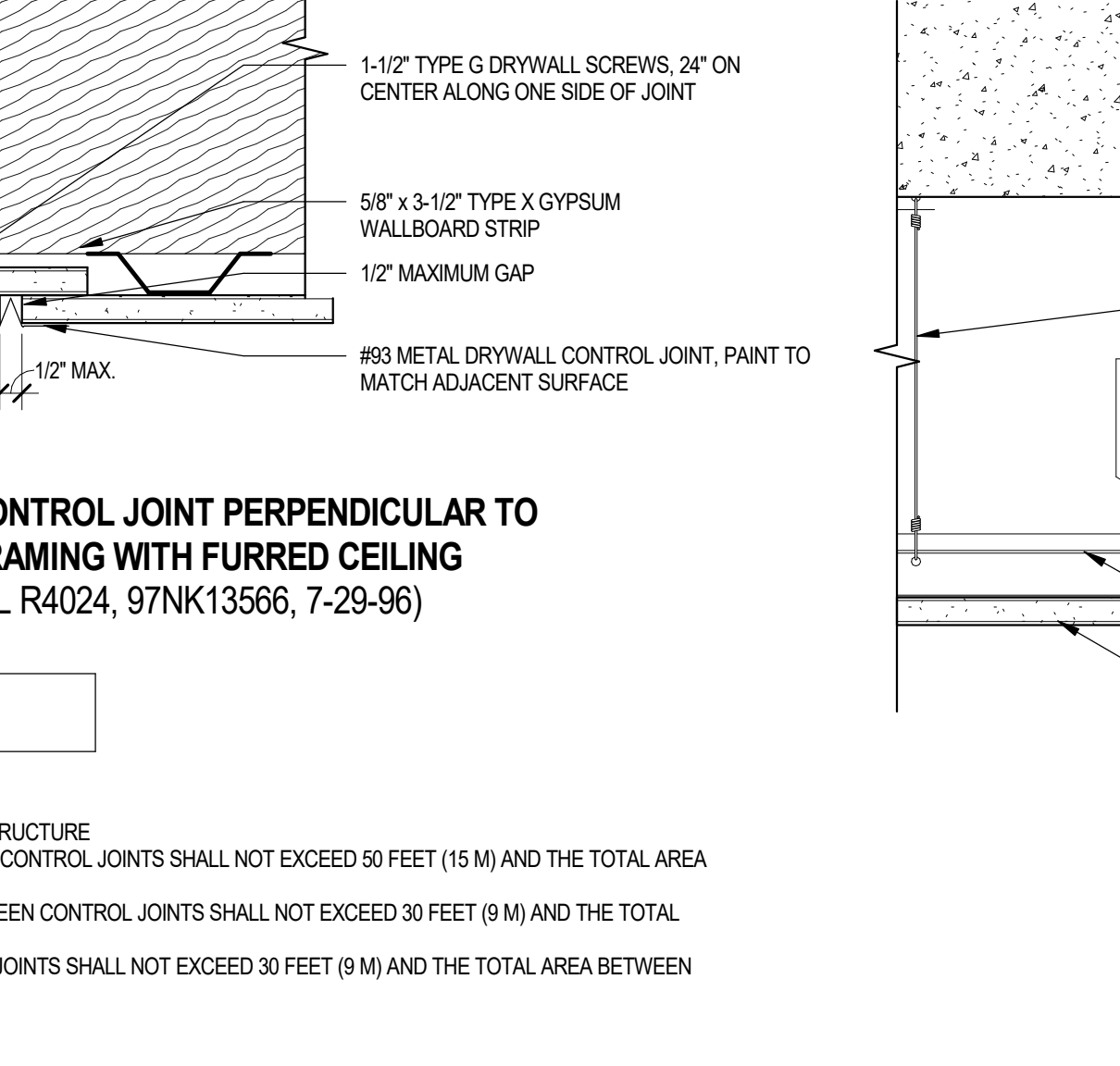
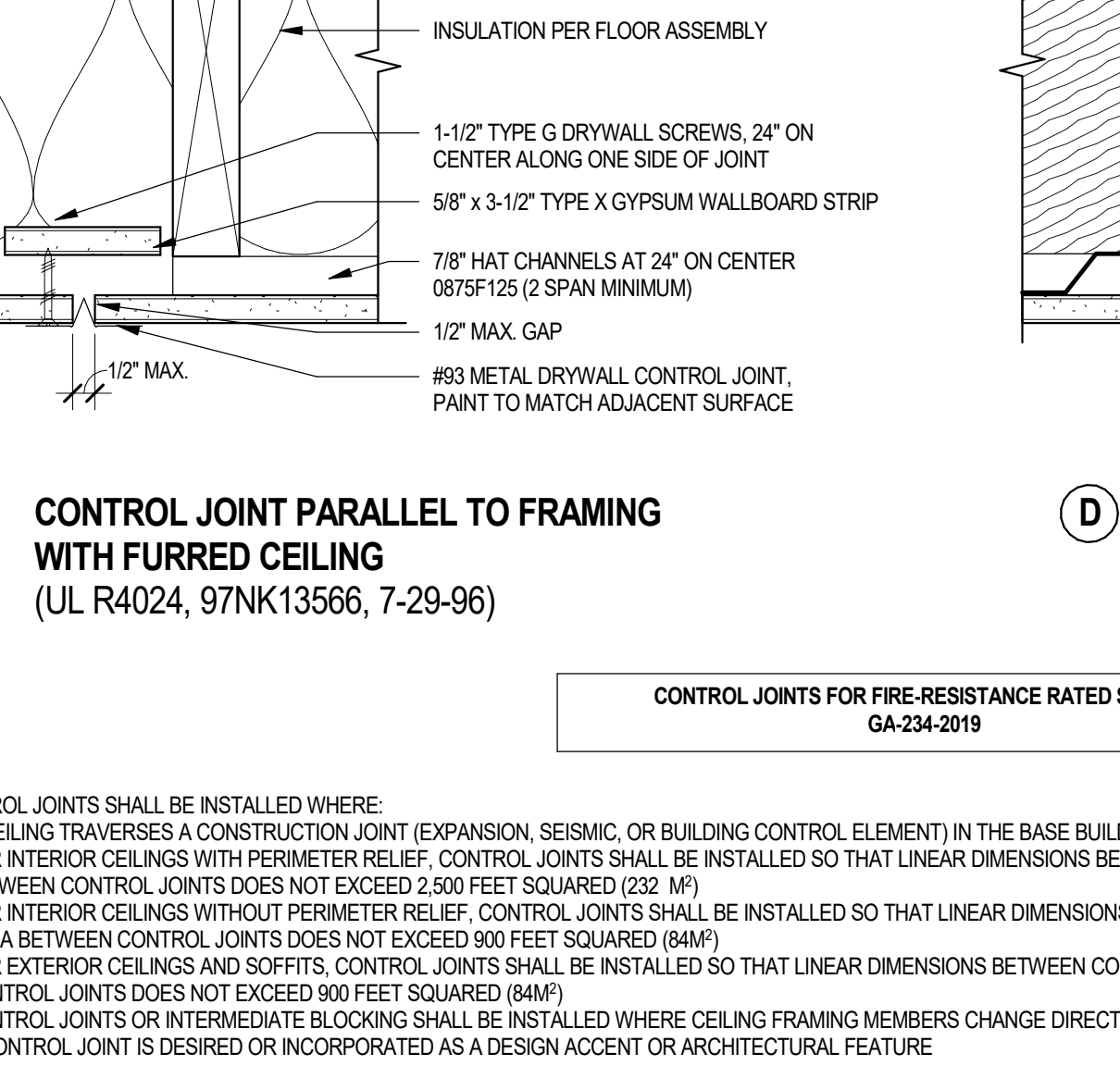
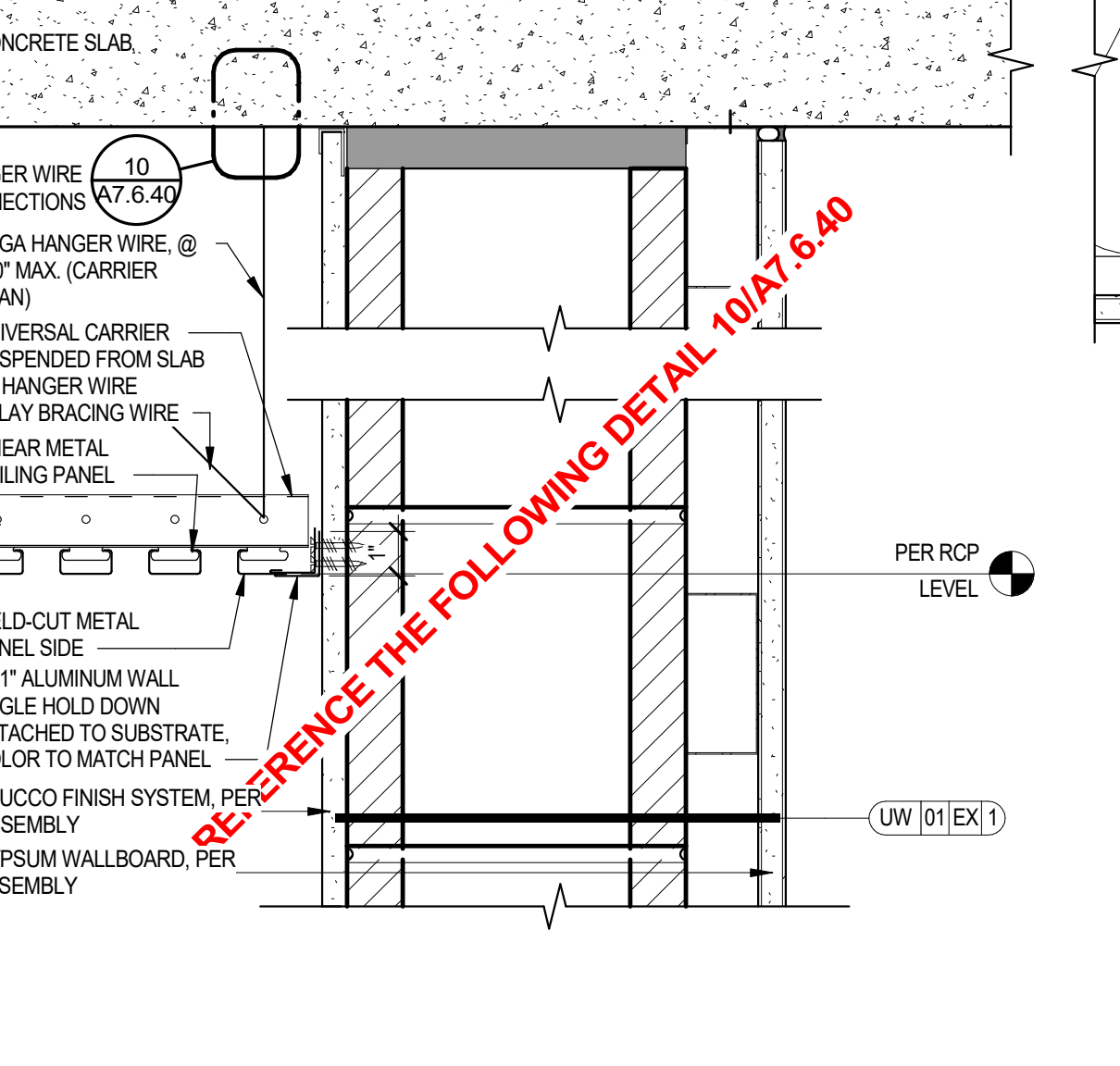
19 LINEAR METAL CEILING AT MTL. SIDING AT MTL. FRAMING WALL - CROSS SECTION SCALE: 3" = 1'-0"

A 1-HR FLOOR-CEILING SYSTEM WITH SUSPENDED CEILING (UL R4024, 97NK13566, 7-29-96) SCALE: 3" = 1'-0"

B CONTROL JOINT PARALLEL TO FRAMING WITH DIRECT ATTACHED CEILING (UL R4024, 97NK13566, 7-29-96) SCALE: 3" = 1'-0"

07 ACOUSTICS - TYPICAL WALL CEILING TERMINATION SCALE: 3" = 1'-0"

03 GYPSUM BOARD CEILING TERMINATION @ WALL SCALE: 3" = 1'-0"



20 LINEAR METAL CEILING AT BRICK VENEER CMU WALL - CROSS SECTION SCALE: 3" = 1'-0"

16 TYPICAL CONTROL JOINTS AT CEILINGS SCALE: 3" = 1'-0"

08 CEILING COVE LIGHTING SCALE: 3" = 1'-0"

04 ACCESS DOOR PROFILE @ CEILING, TYP. SCALE: 3" = 1'-0"

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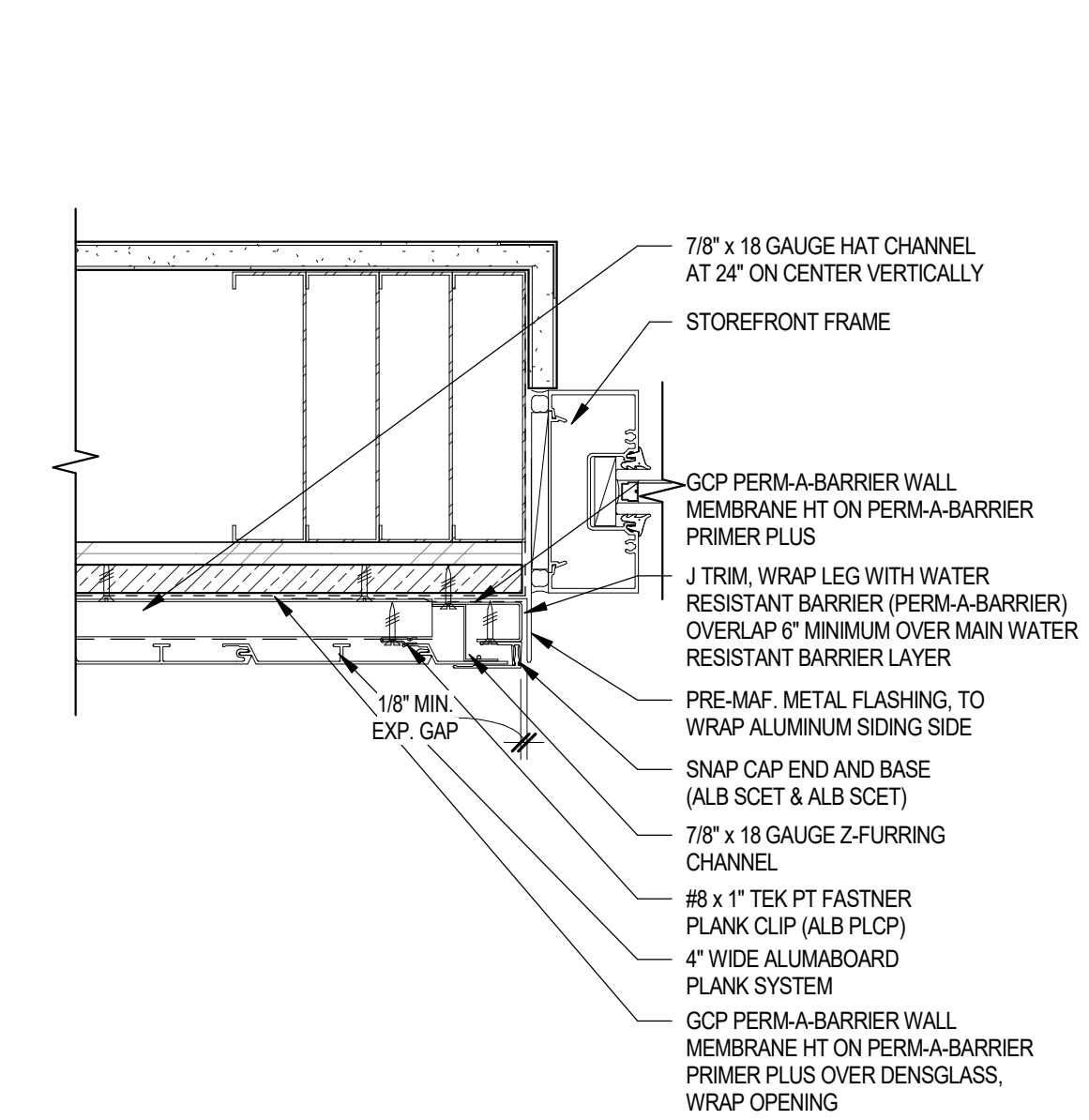
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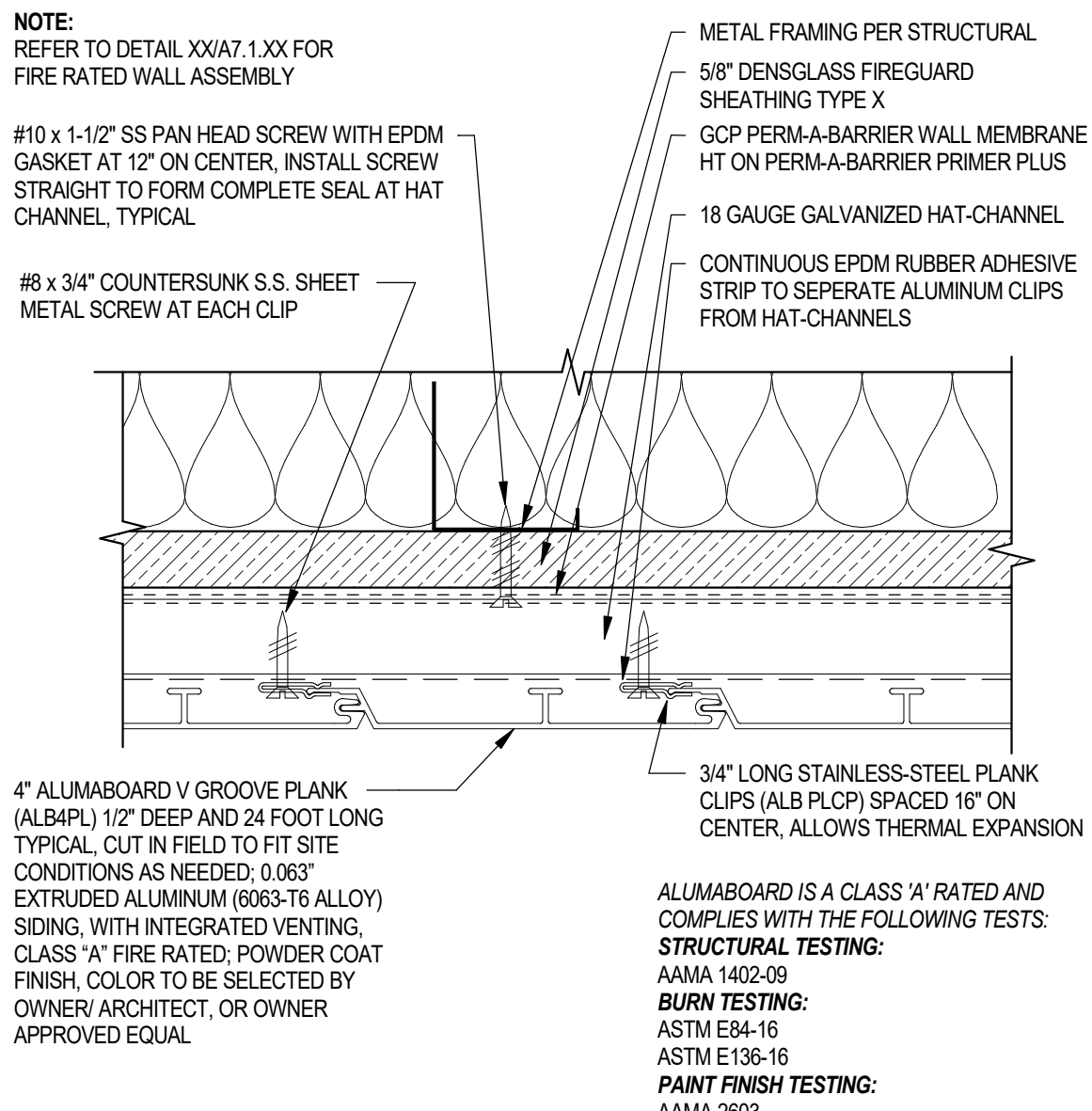
2ND CITY SUBMITTAL
DATE: July 17, 2024 ORB #: 00-000

A7.6.40
REFLECTED CEILING DETAILS

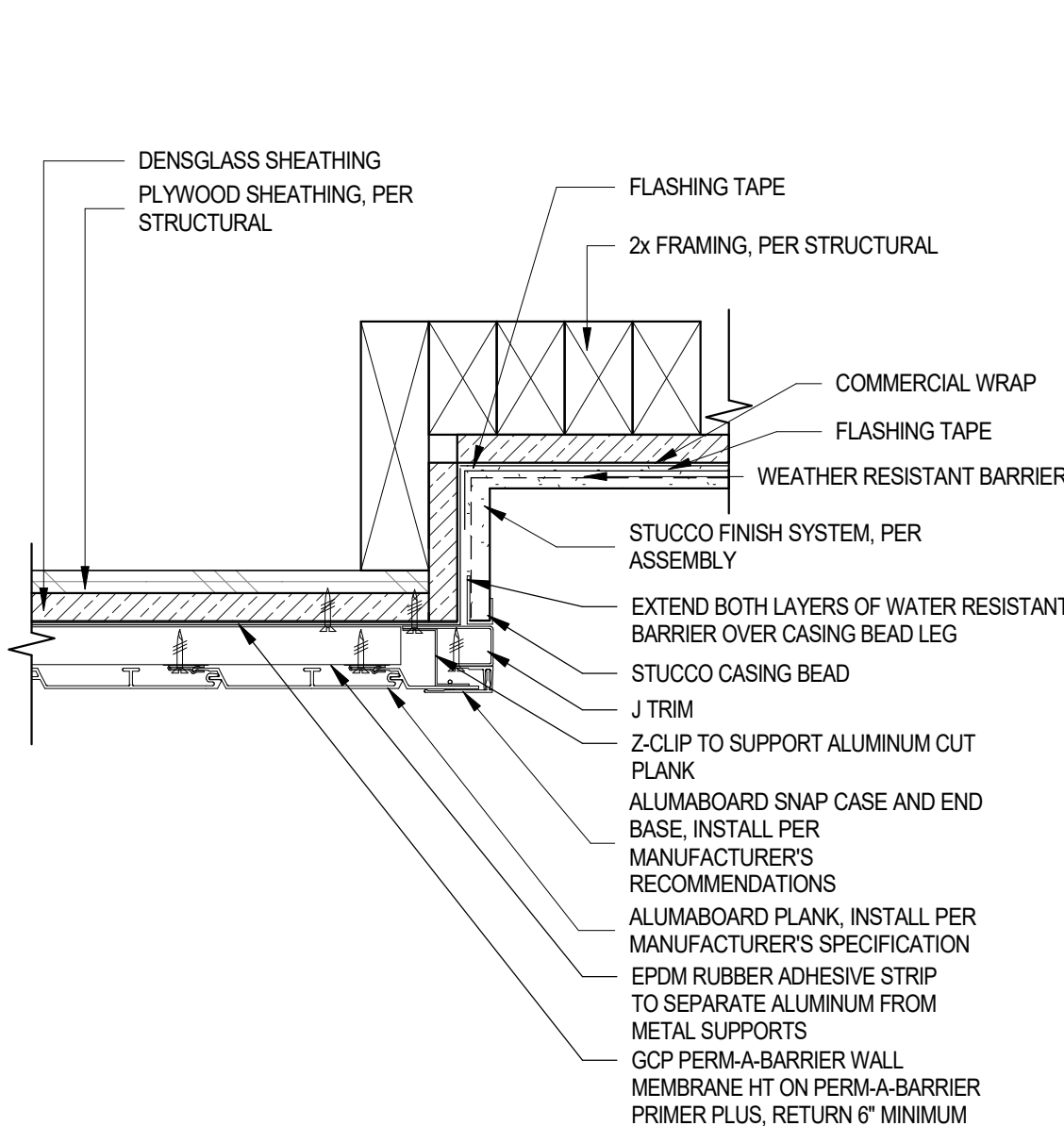
Autodesk Docs // 000-000 Revit Detail Library/Revit - Standard Details Library/H41E.rvt



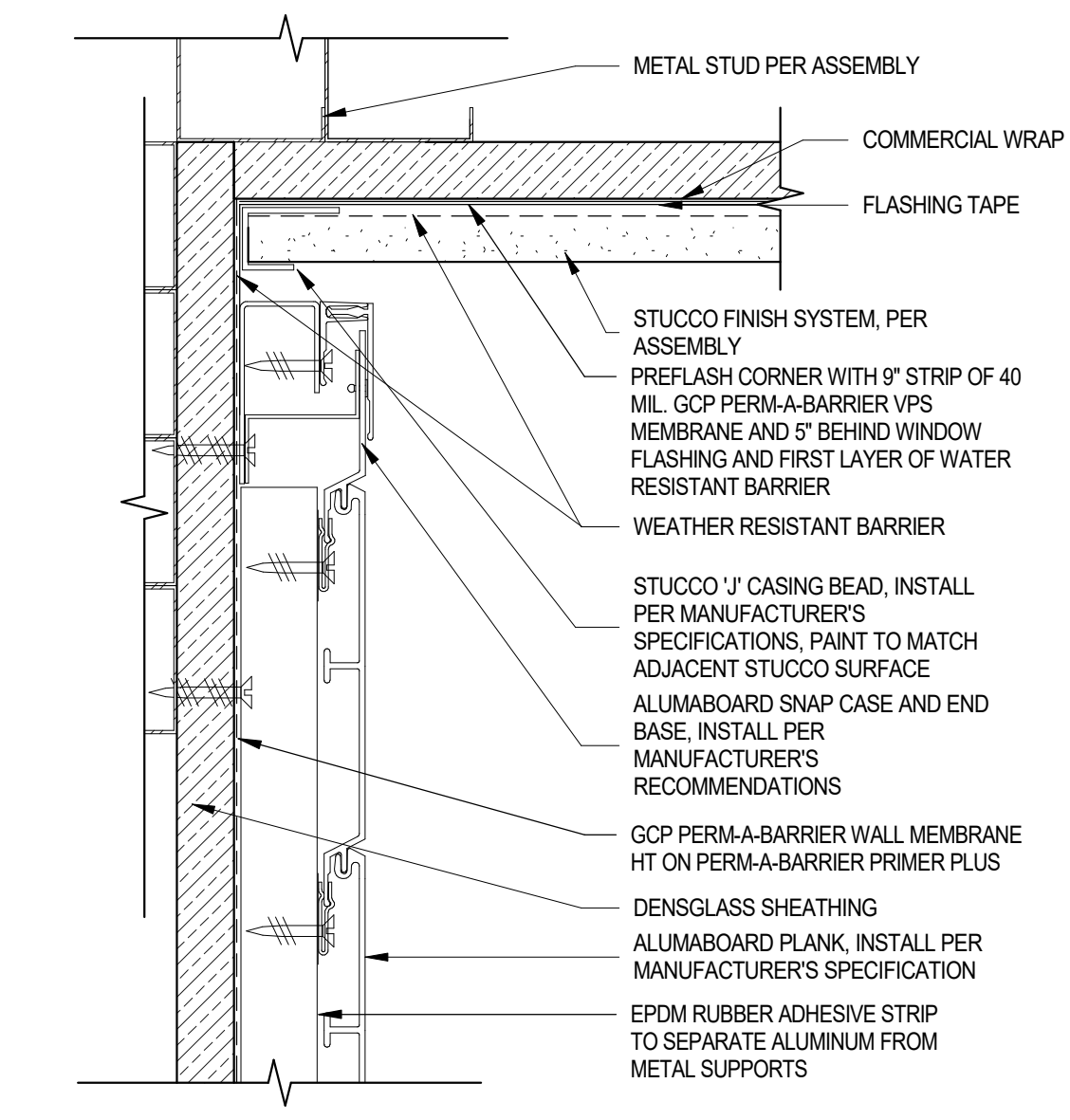
21 ALUMABOARD VERTICAL JAMB SCE SCALE: 3" = 1'-0"



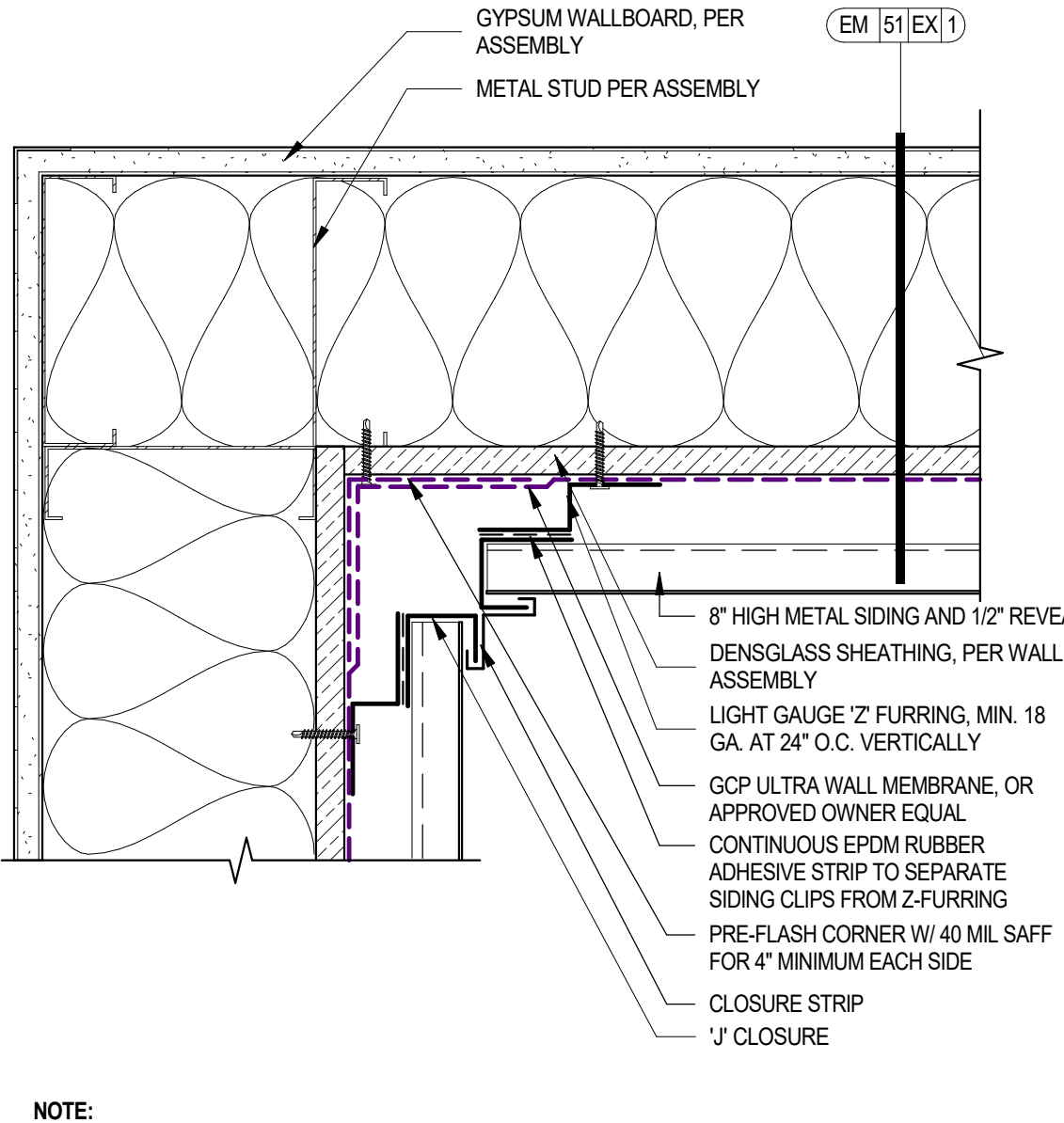
22 ALUMABOARD METAL PANEL - METAL FRAMING SCALE: 6" = 1'-0"



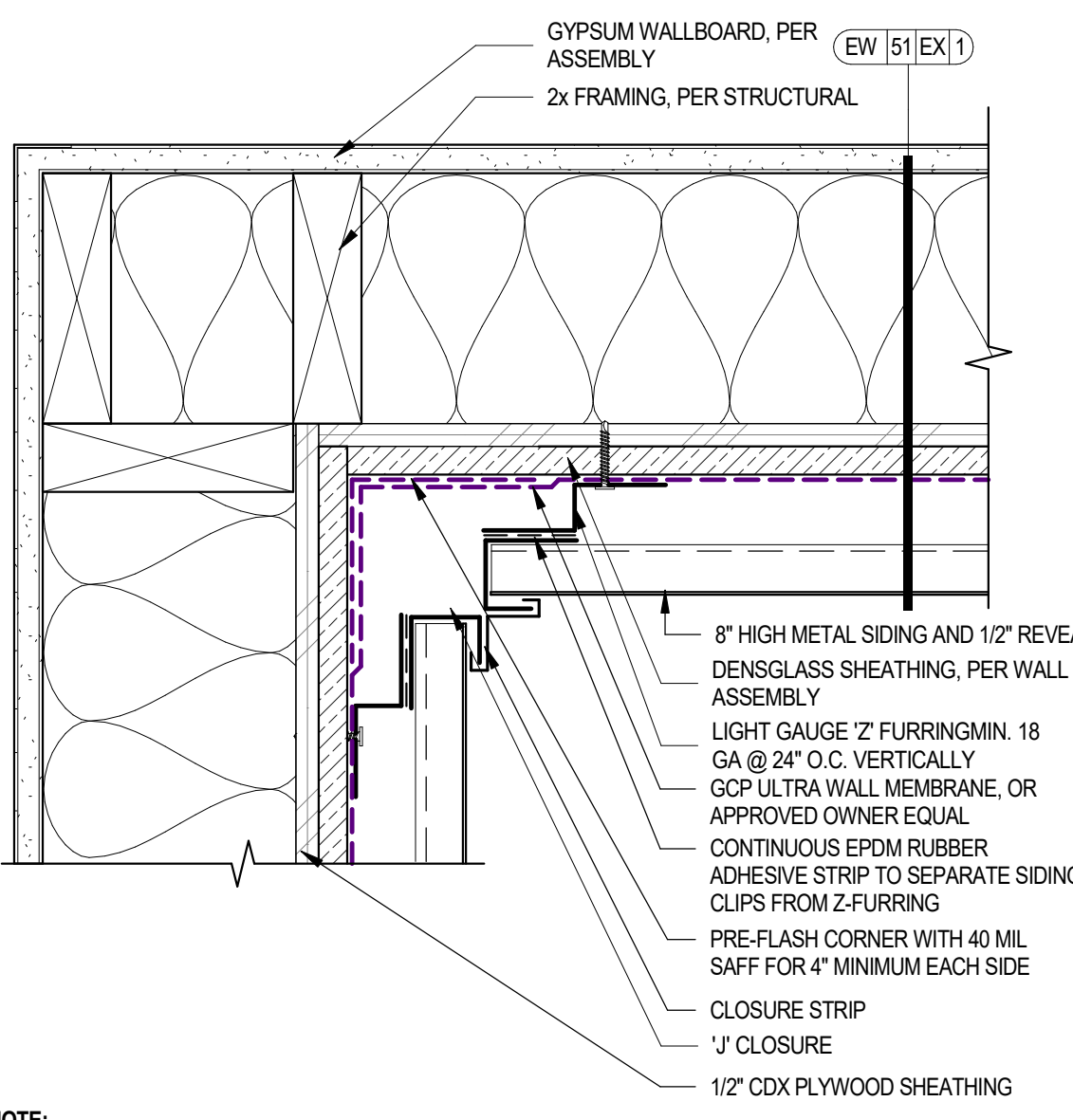
17 ALUMABOARD JAMB AT WINDOW RECESS SCALE: 3" = 1'-0"



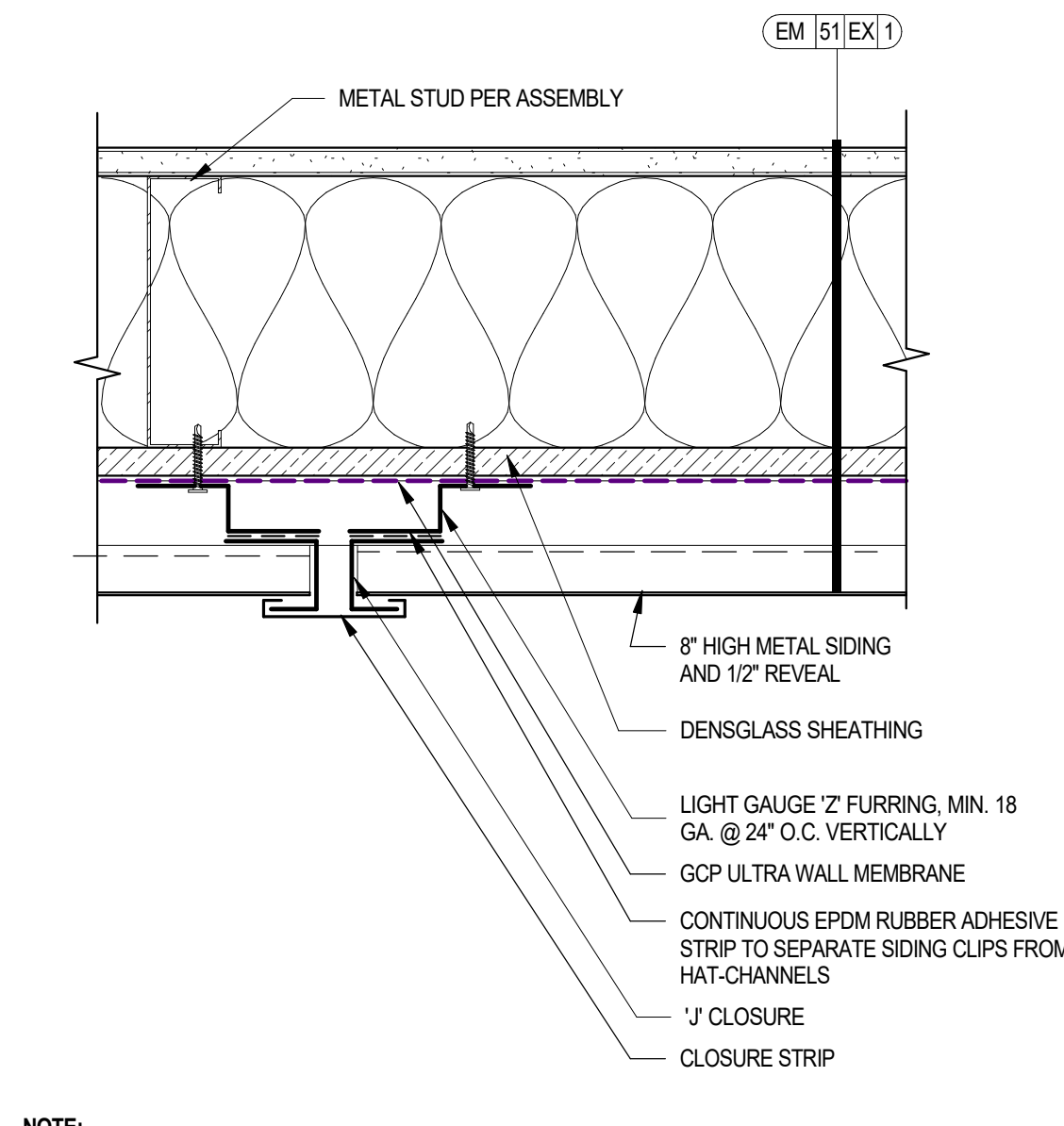
18 ALUMABOARD METAL PANEL AT INSIDE CORNER SCALE: 6" = 1'-0"



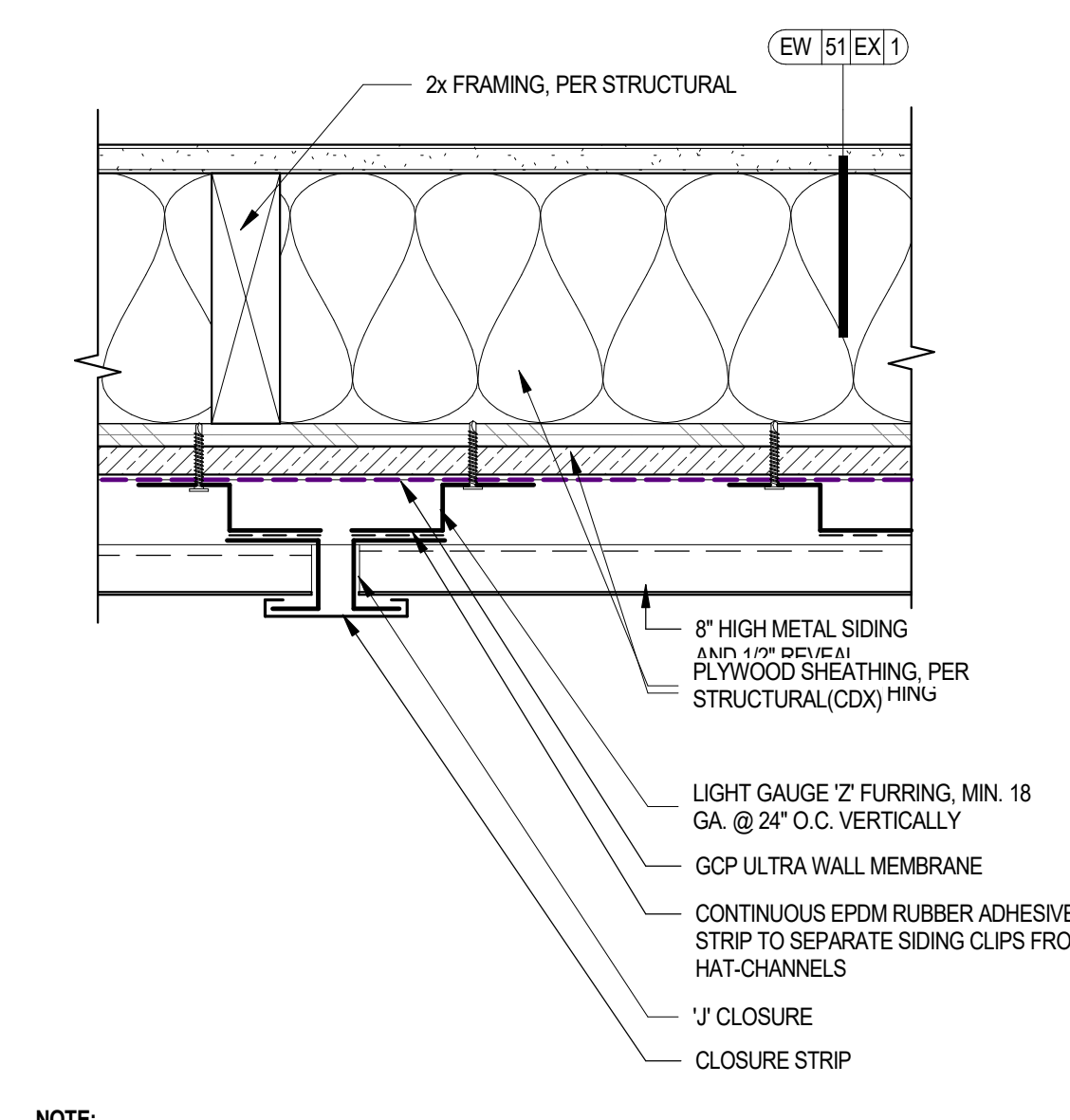
13 METAL SIDING INSIDE CORNER - METAL FRAMING SCALE: 3" = 1'-0"



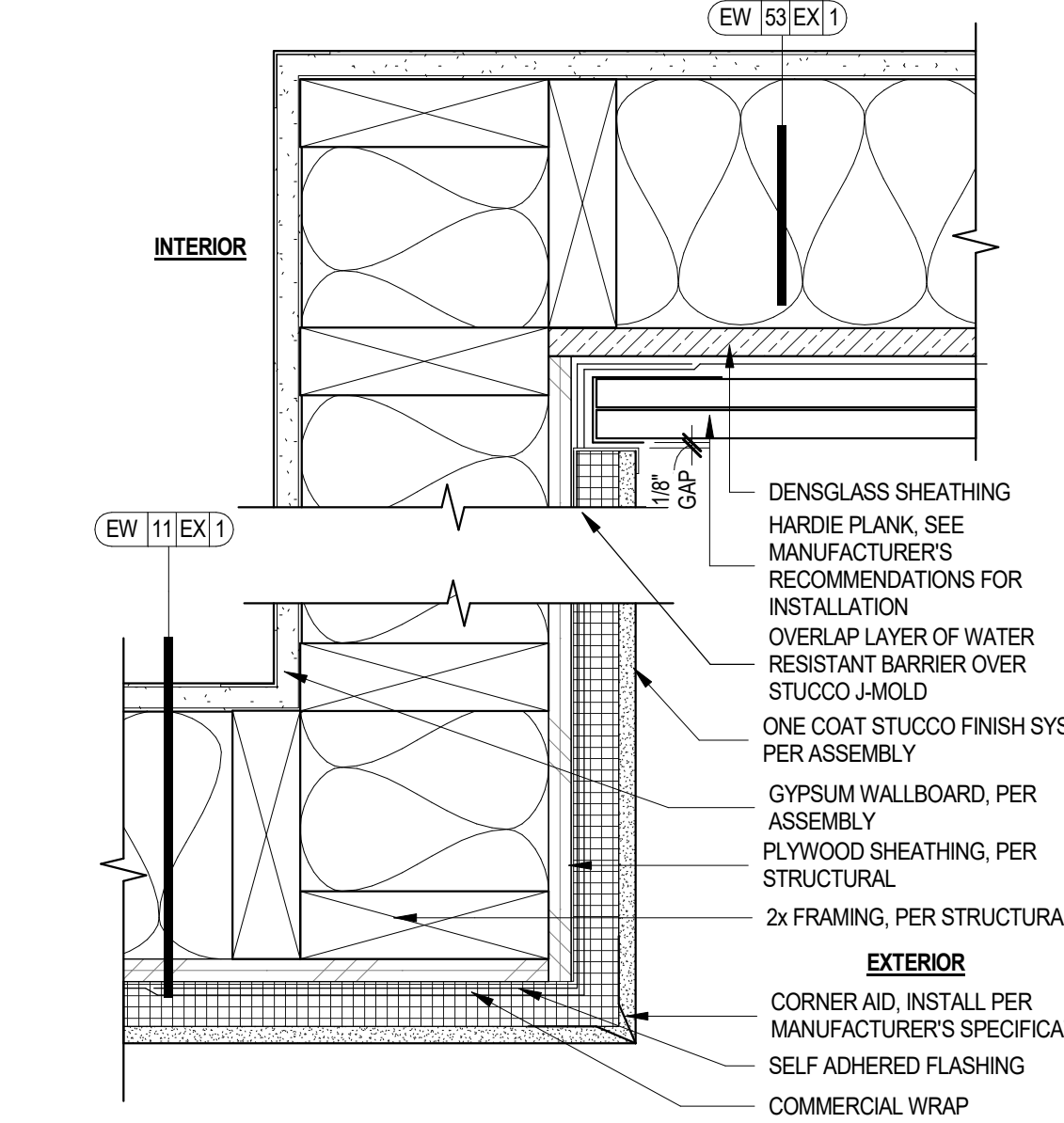
14 METAL SIDING INSIDE CORNER - WOOD FRAMING SCALE: 3" = 1'-0"



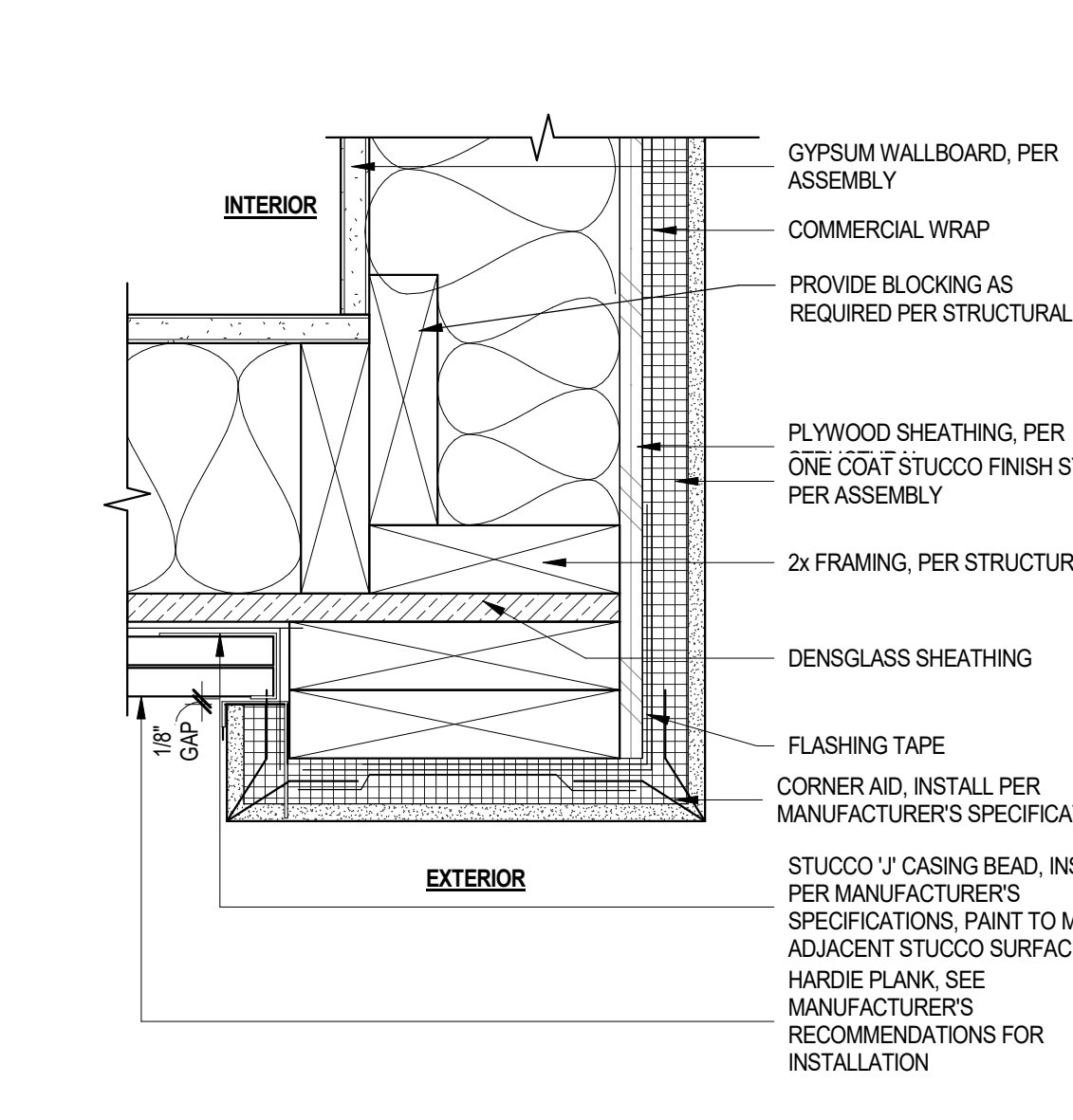
09 METAL SIDING - METAL FRAMING SCALE: 3" = 1'-0"



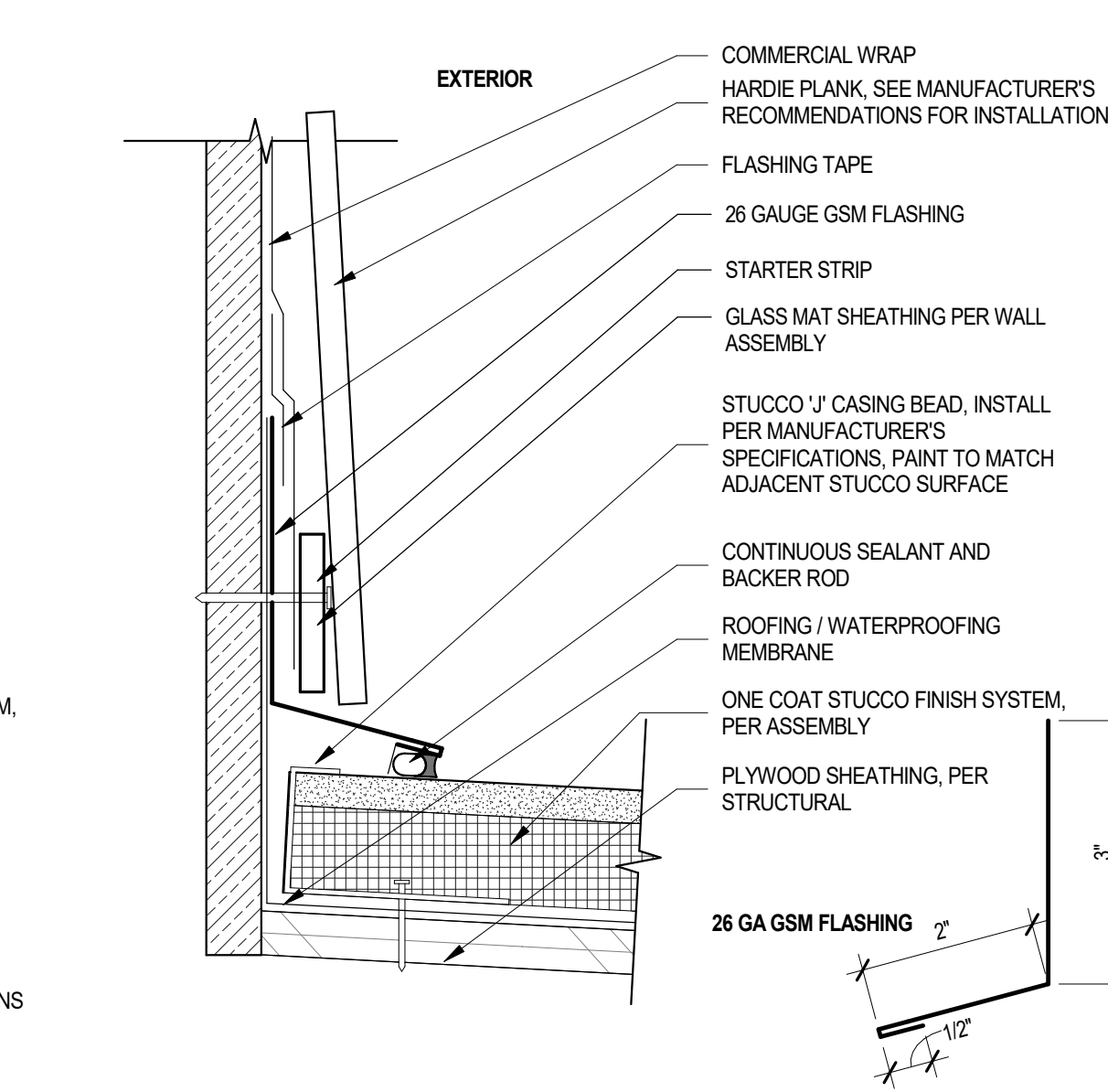
10 METAL SIDING - WOOD FRAMING SCALE: 3" = 1'-0"



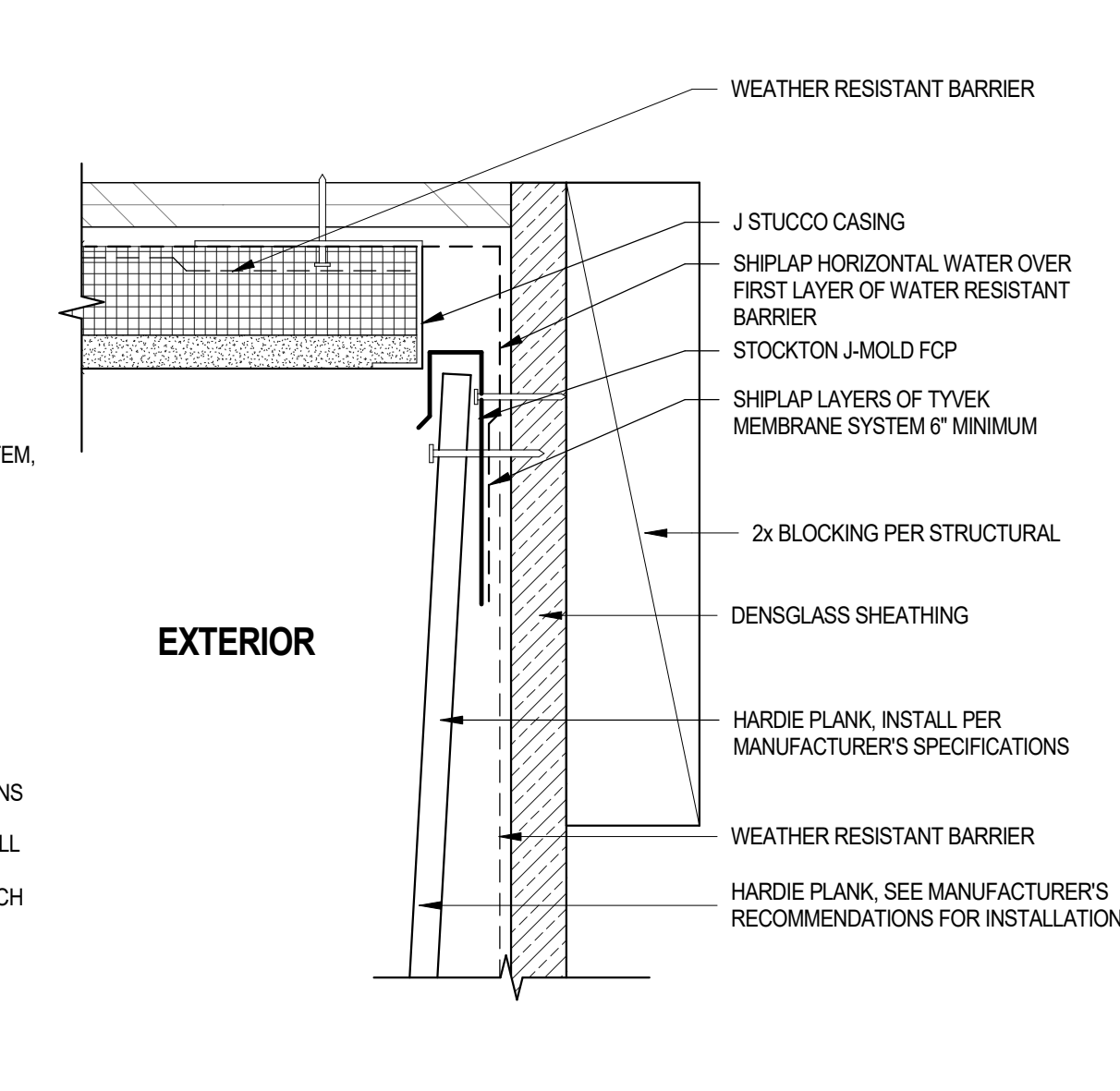
05 STUCCO TO HARDIE BOARD AT INSIDE CORNER - PLAN DETAIL SCALE: 3" = 1'-0"



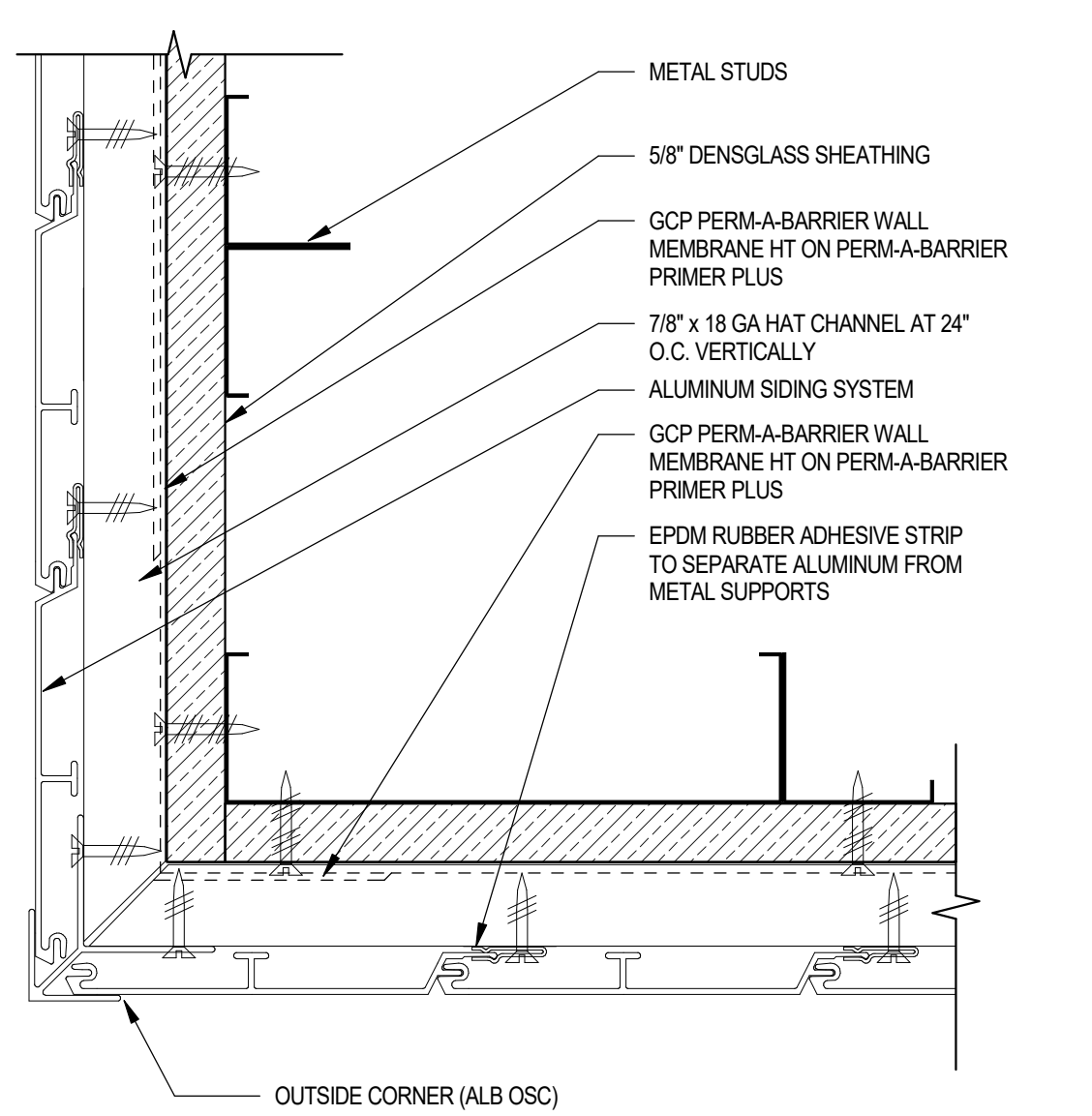
06 STUCCO TO HARDIE BOARD AT OUTSIDE CORNER - PLAN DETAIL SCALE: 3" = 1'-0"



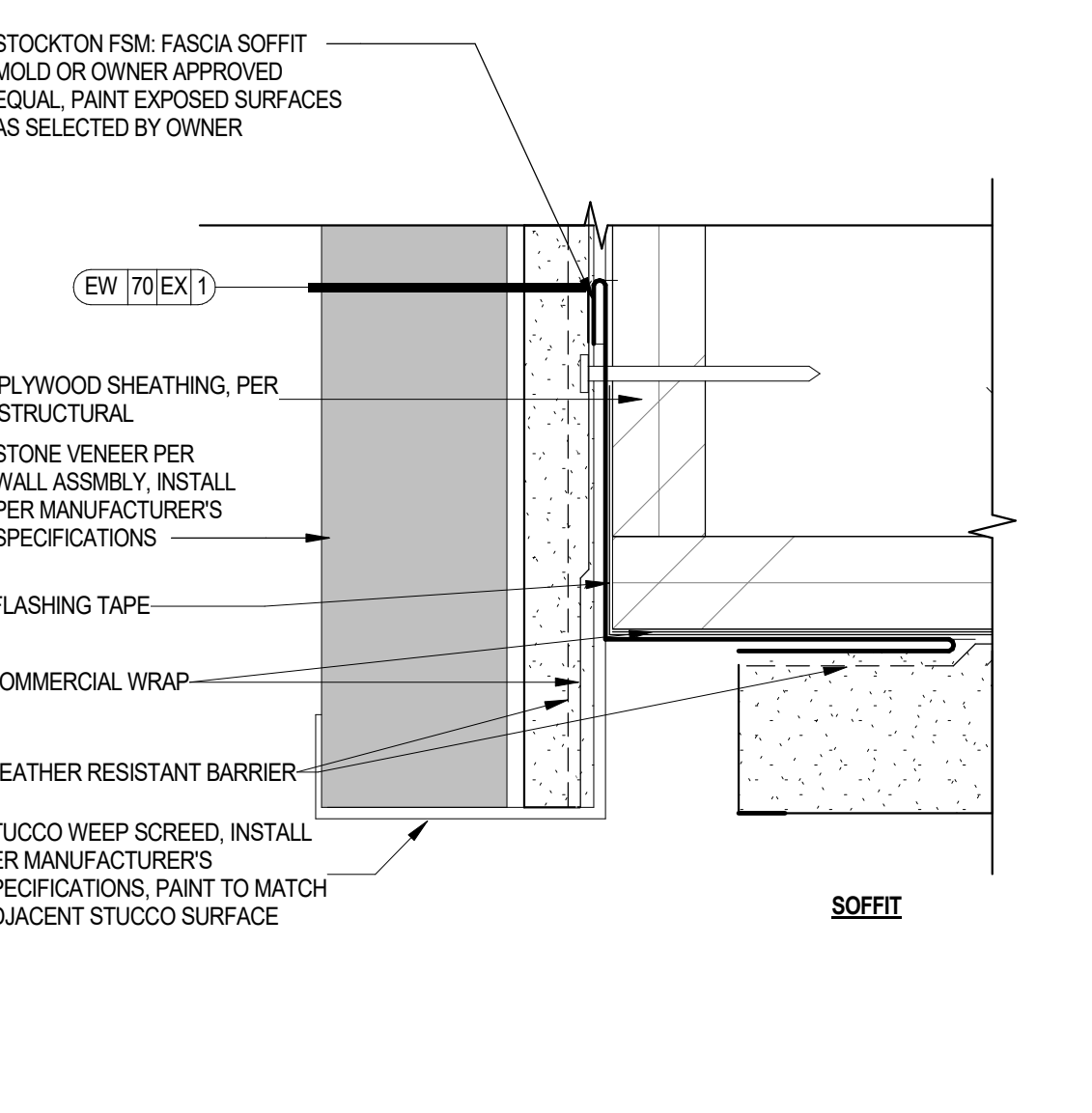
01 HARDIE BOARD TO STUCCO SHELF CONDITION - SECTION DETAIL SCALE: 6" = 1'-0"



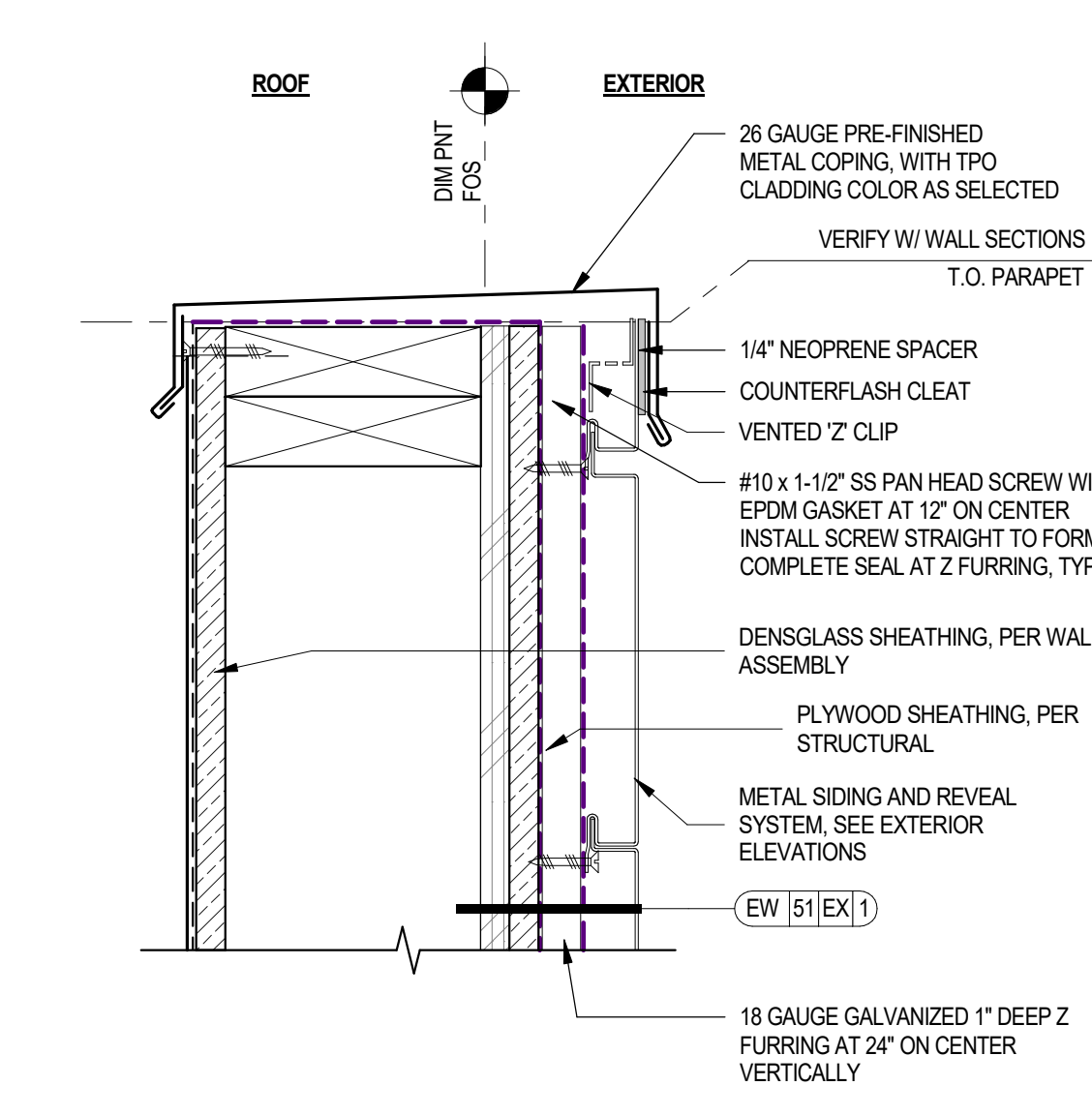
02 HARDIE BOARD TO STUCCO HEAD CONDITION - SECTION DETAIL SCALE: 6" = 1'-0"



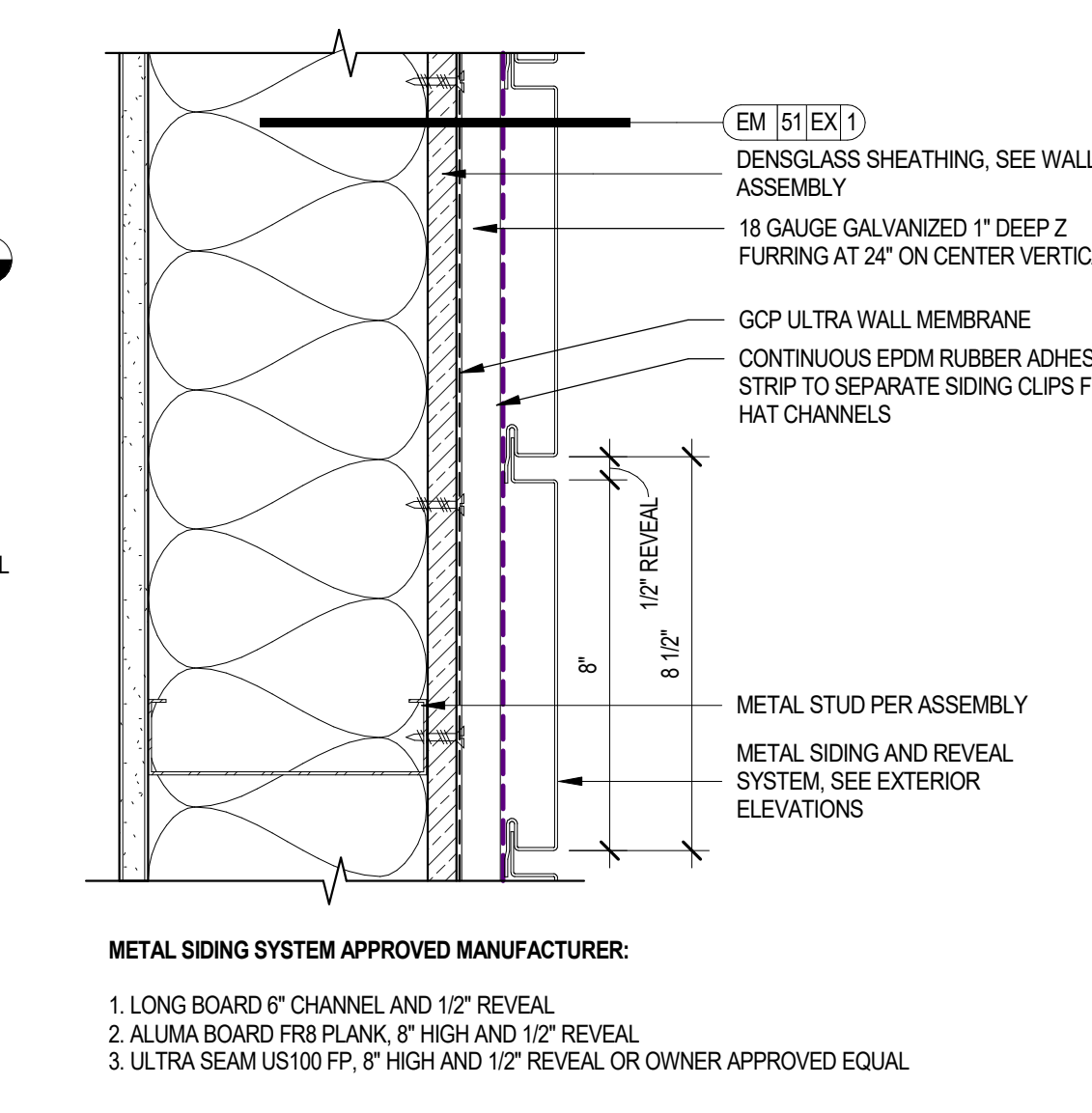
19 ALUMABOARD METAL PANEL AT OUTSIDE CORNER SCALE: 6" = 1'-0"



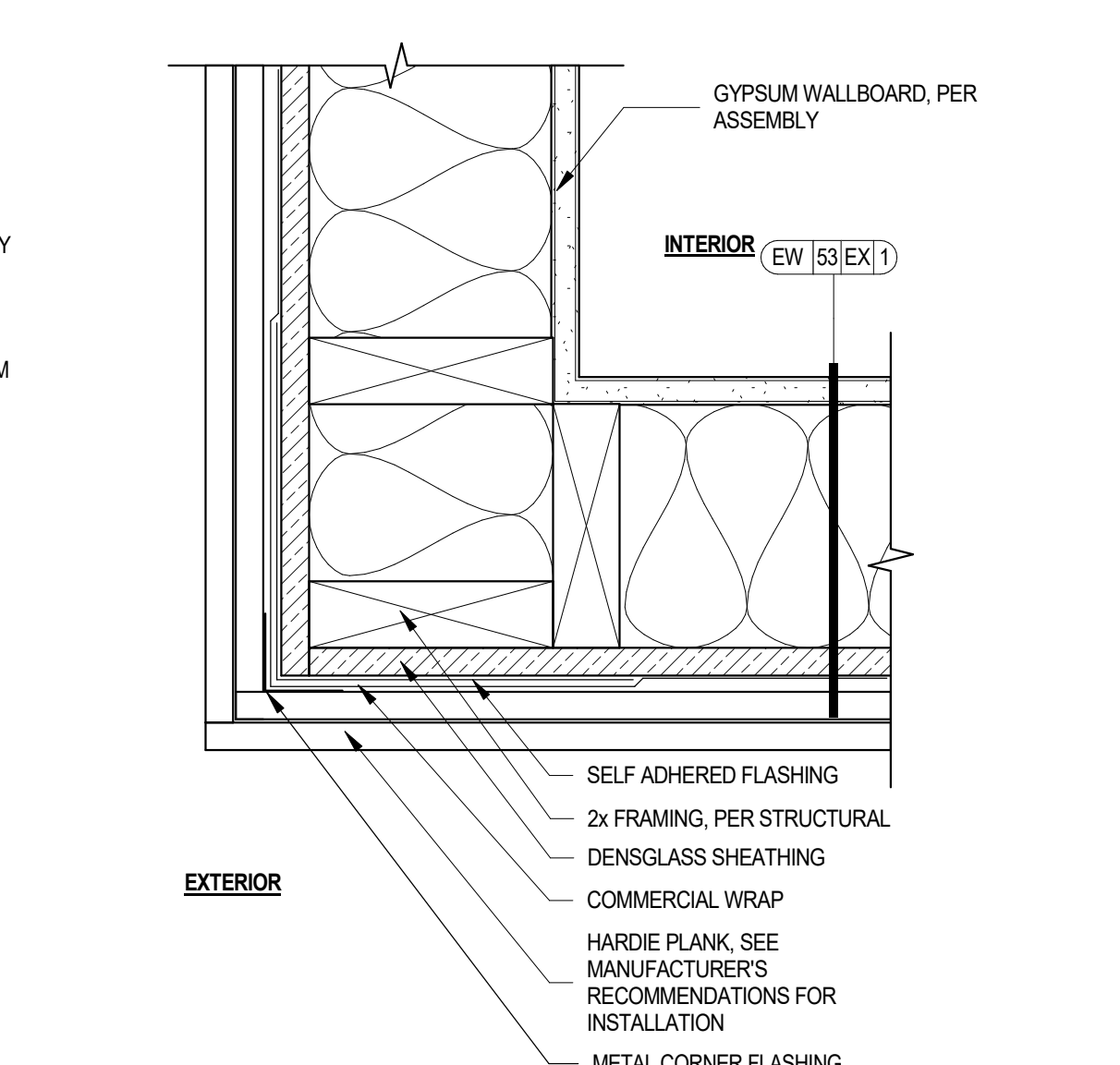
15 FASCIA / STUCCO SOFFIT EDGE AT STONE VENEER FINISH SCALE: 12" = 1'-0"



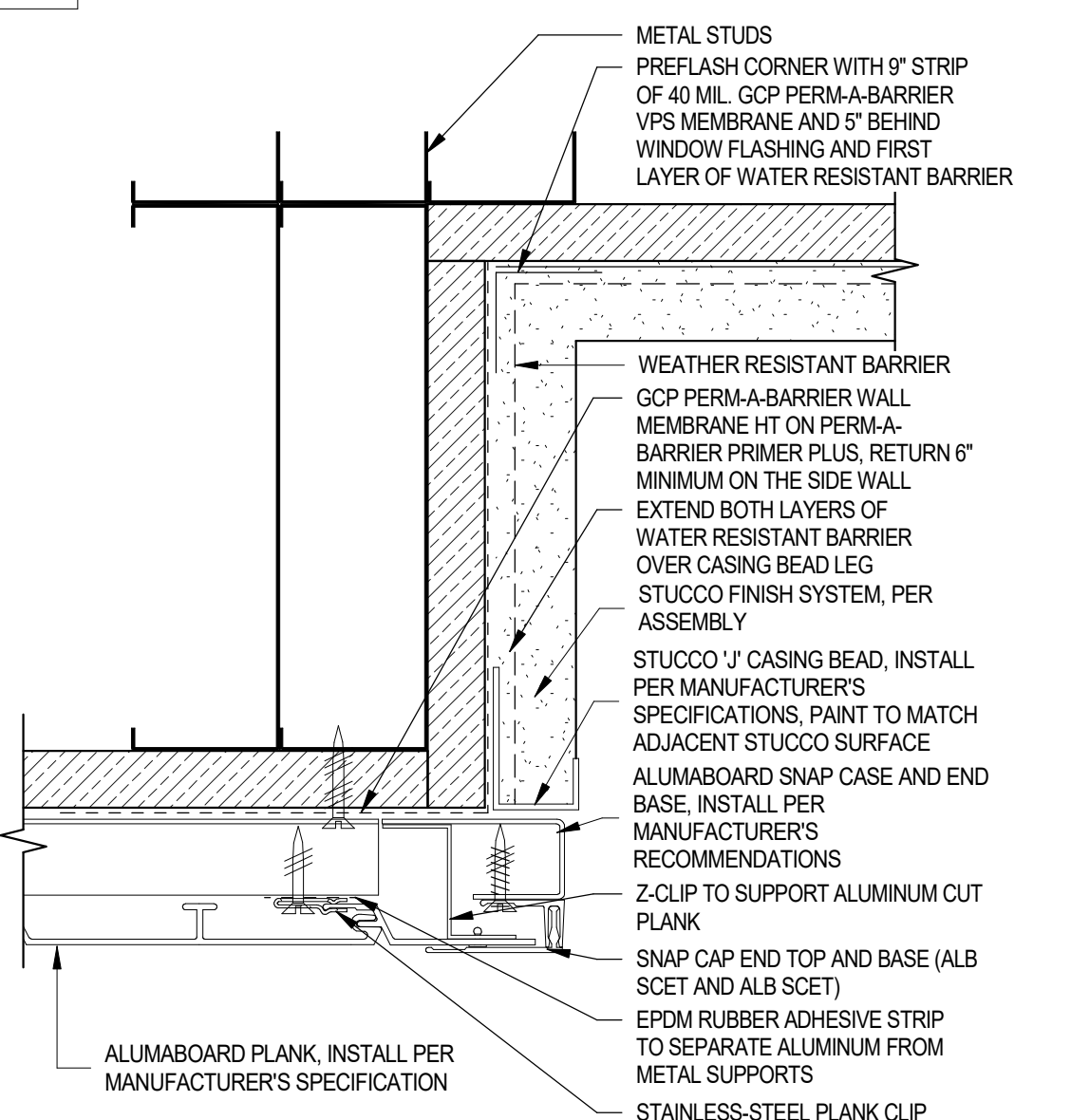
11 METAL SIDING TERMINATION AT ROOF PARAPET - WOOD FRAMING SCALE: 3" = 1'-0"



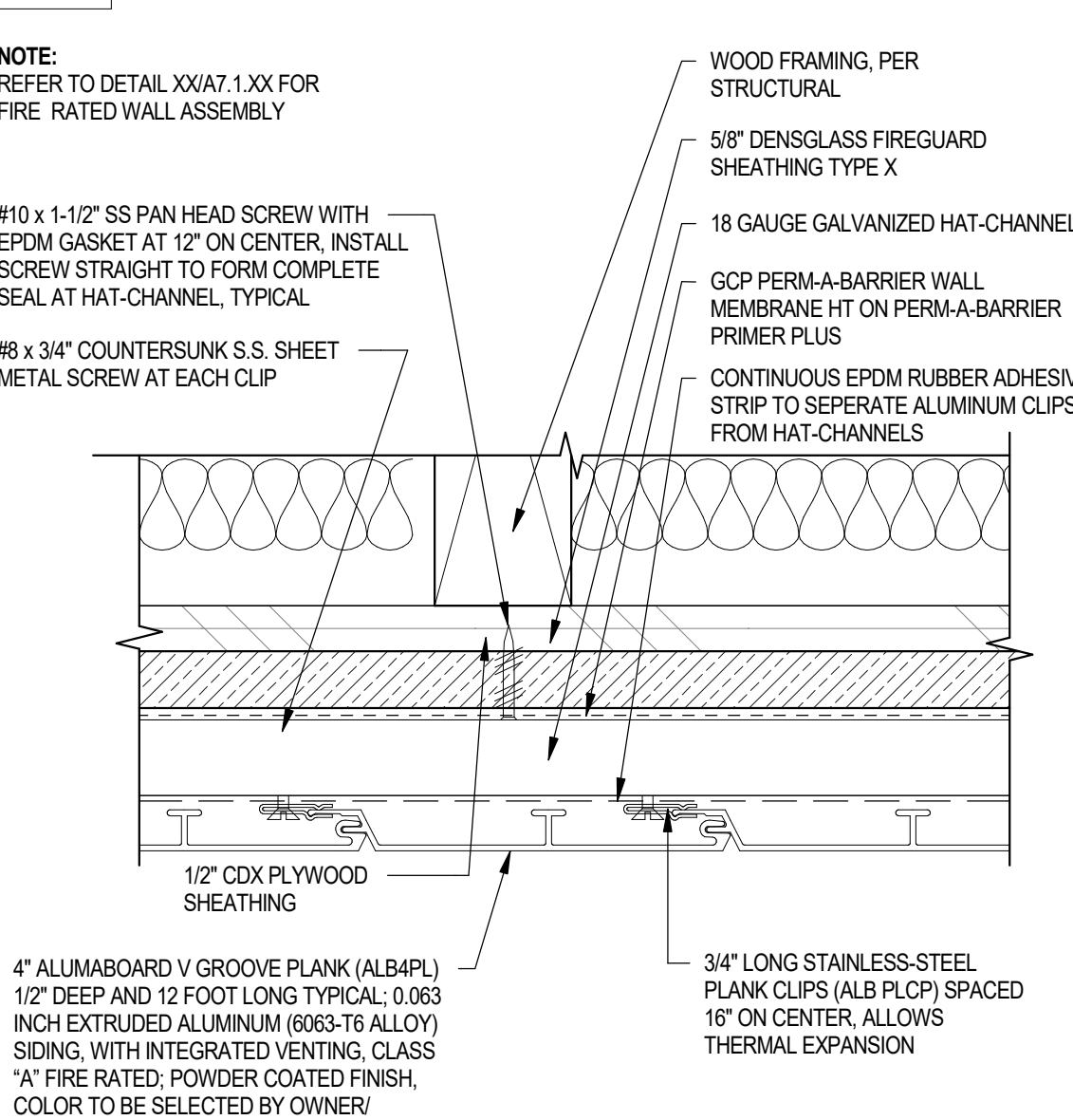
07 METAL SIDING - METAL FRAMING SCALE: 3" = 1'-0"



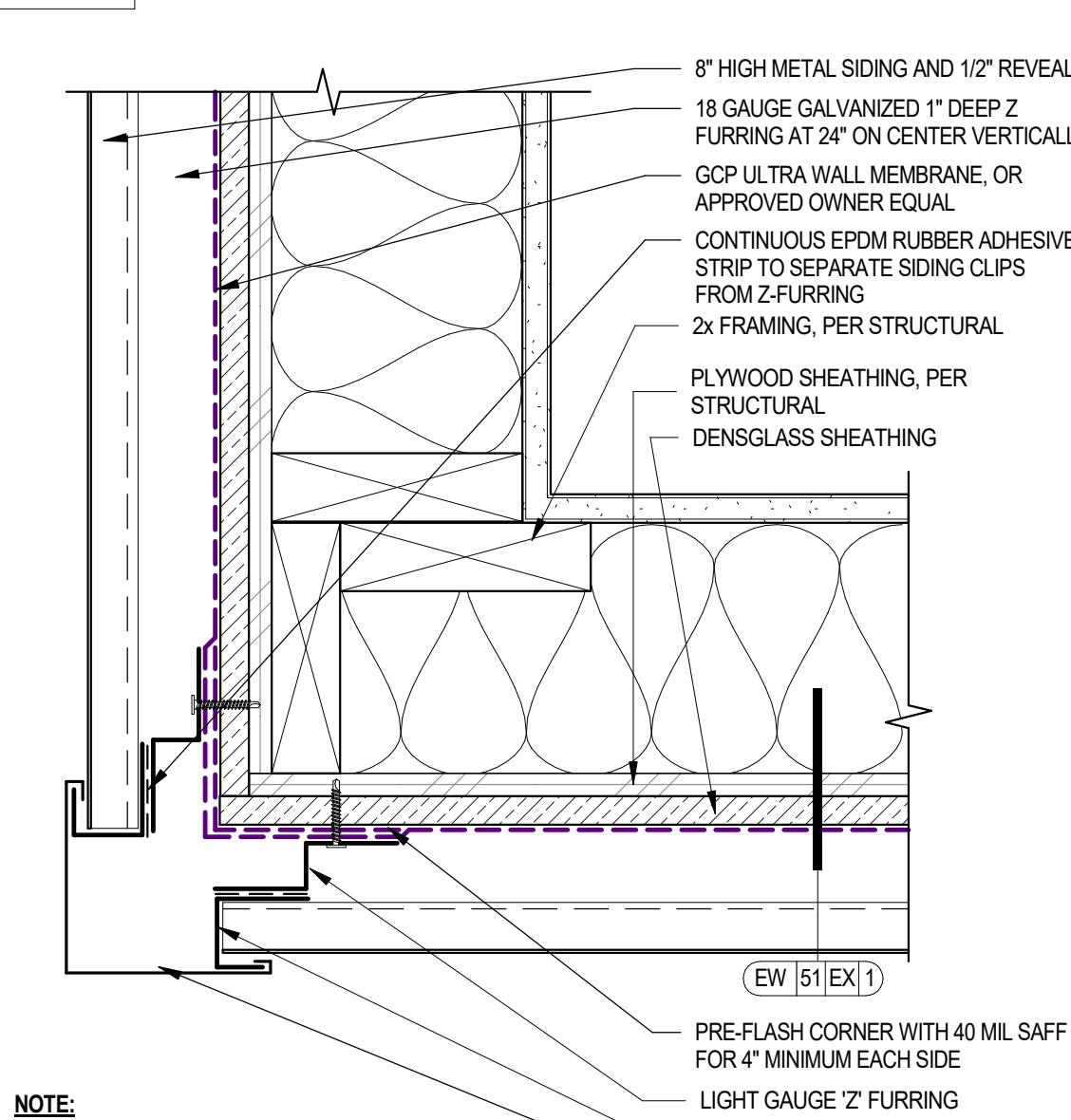
03 HARDIE BOARD FINISH AT OUTSIDE CORNER - PLAN DETAIL SCALE: 3" = 1'-0"



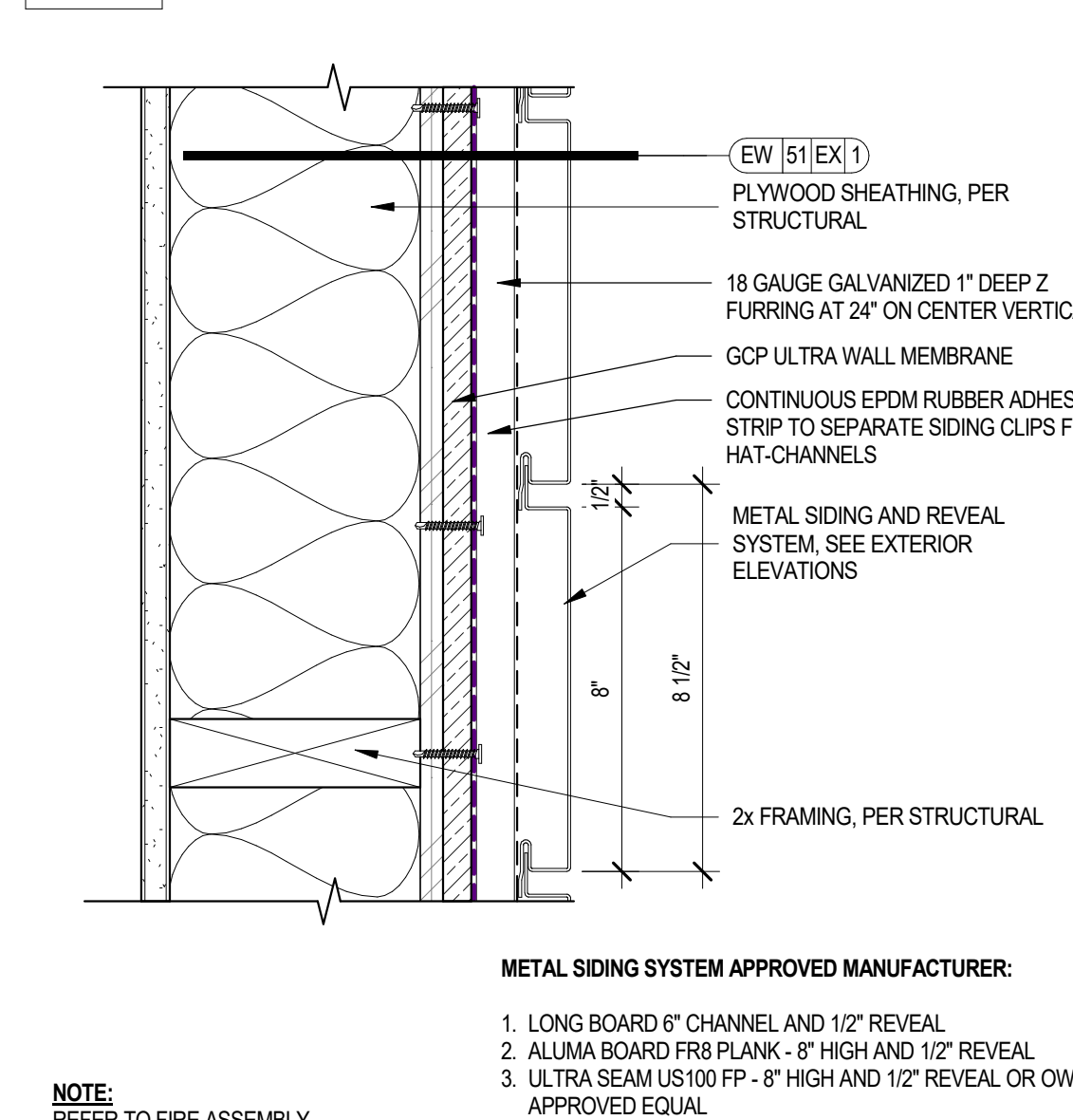
20 ALUMABOARD METAL PANEL AT INSIDE CORNER BUMP OUT SCALE: 6" = 1'-0"



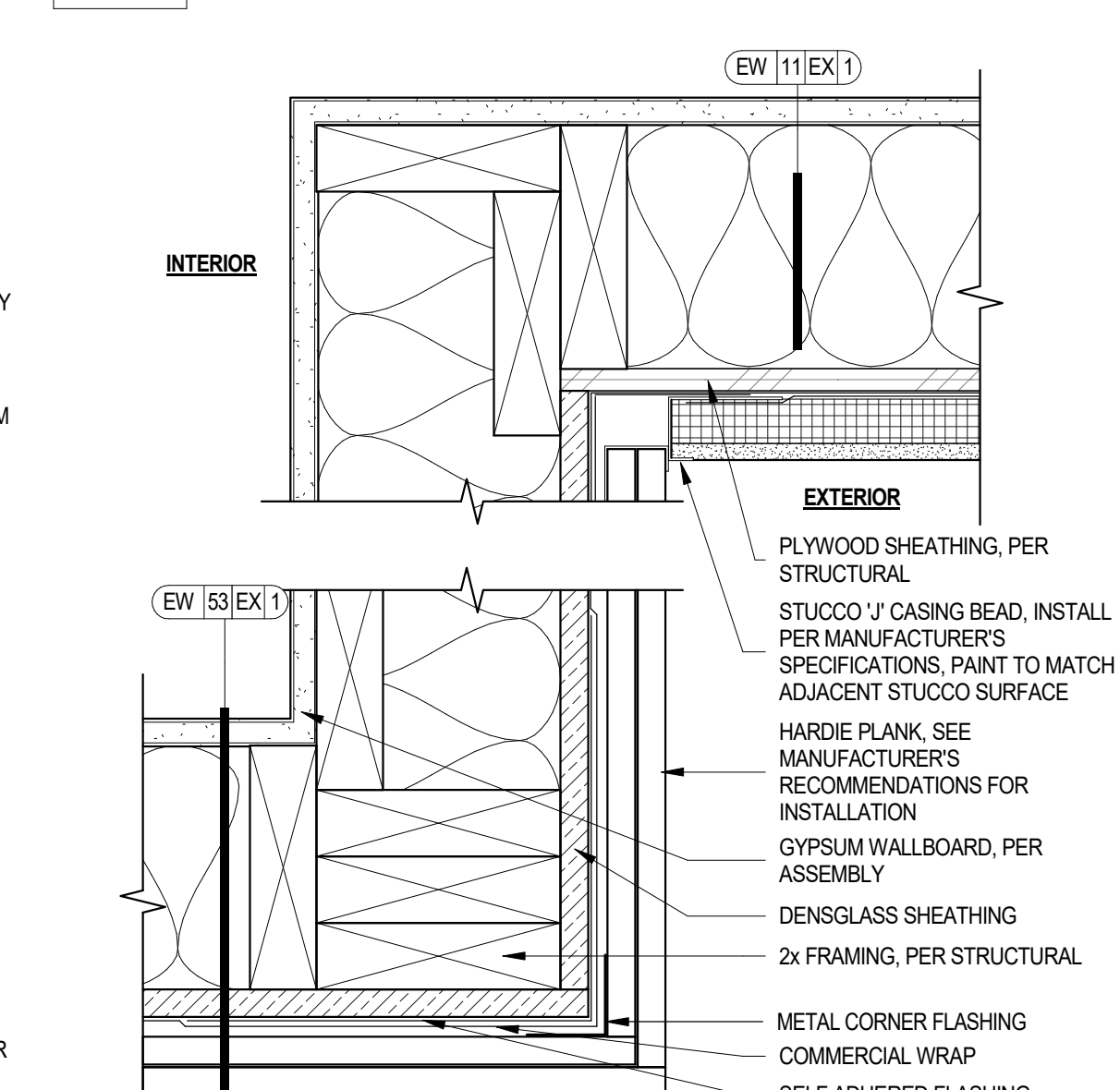
16 ALUMABOARD METAL PANEL - WOOD FRAMING SCALE: 6" = 1'-0"



12 METAL SIDING OUTSIDE CORNER - WOOD FRAMING SCALE: 3" = 1'-0"



08 METAL SIDING - WOOD FRAMING SCALE: 3" = 1'-0"



04 STUCCO TO HARDIE BOARD AT INSIDE CORNER - PLAN DETAIL SCALE: 3" = 1'-0"

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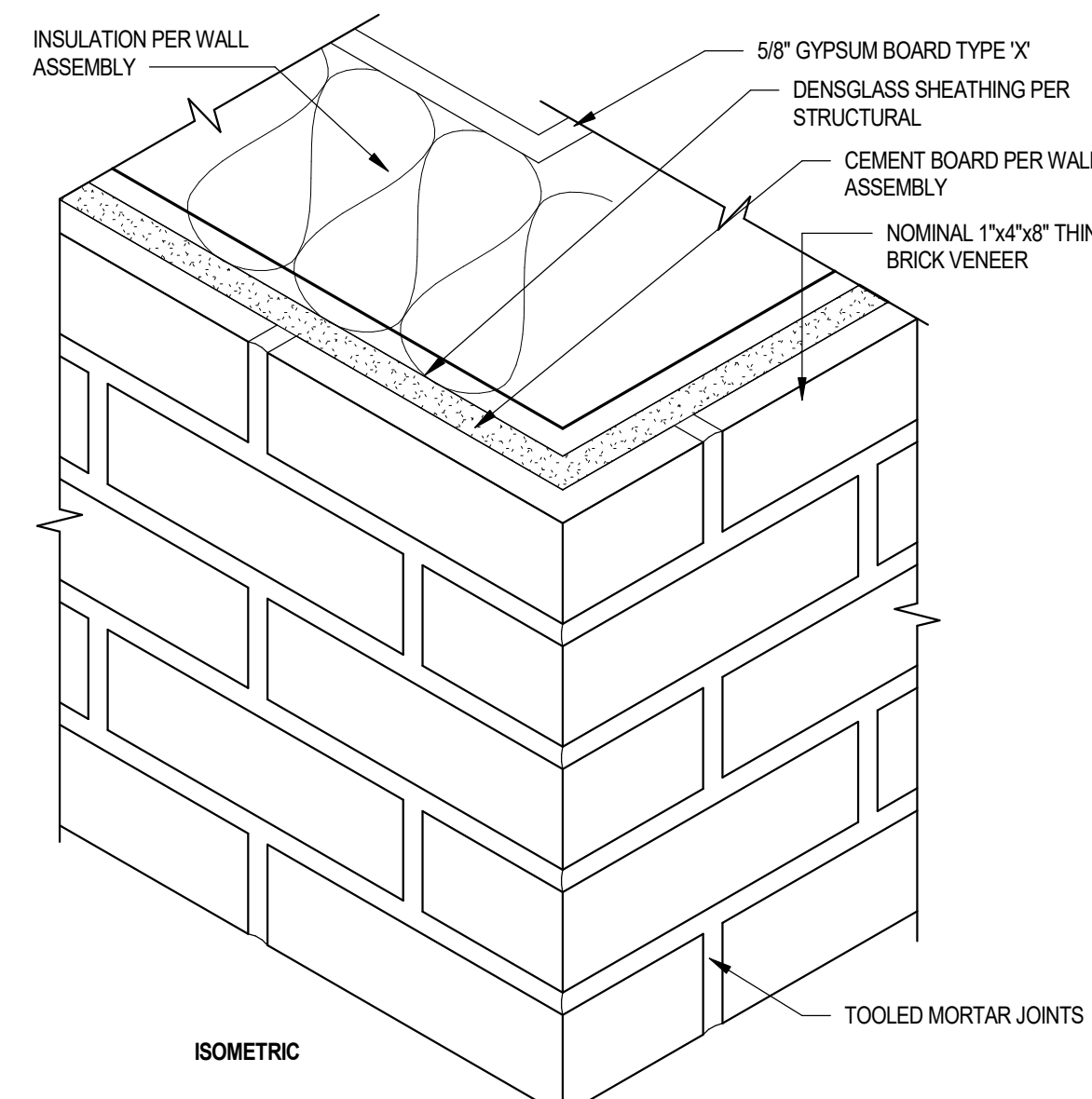
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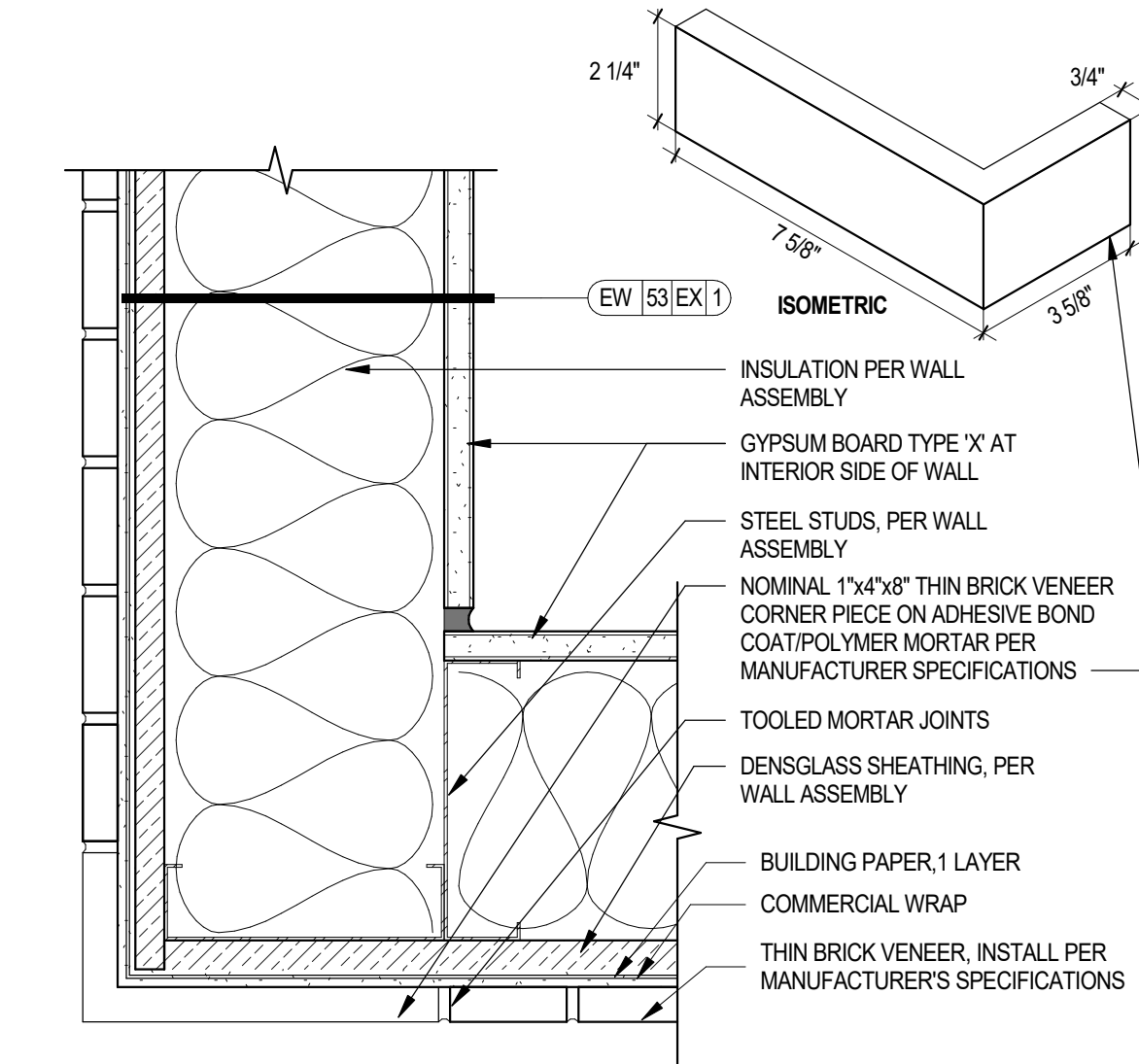
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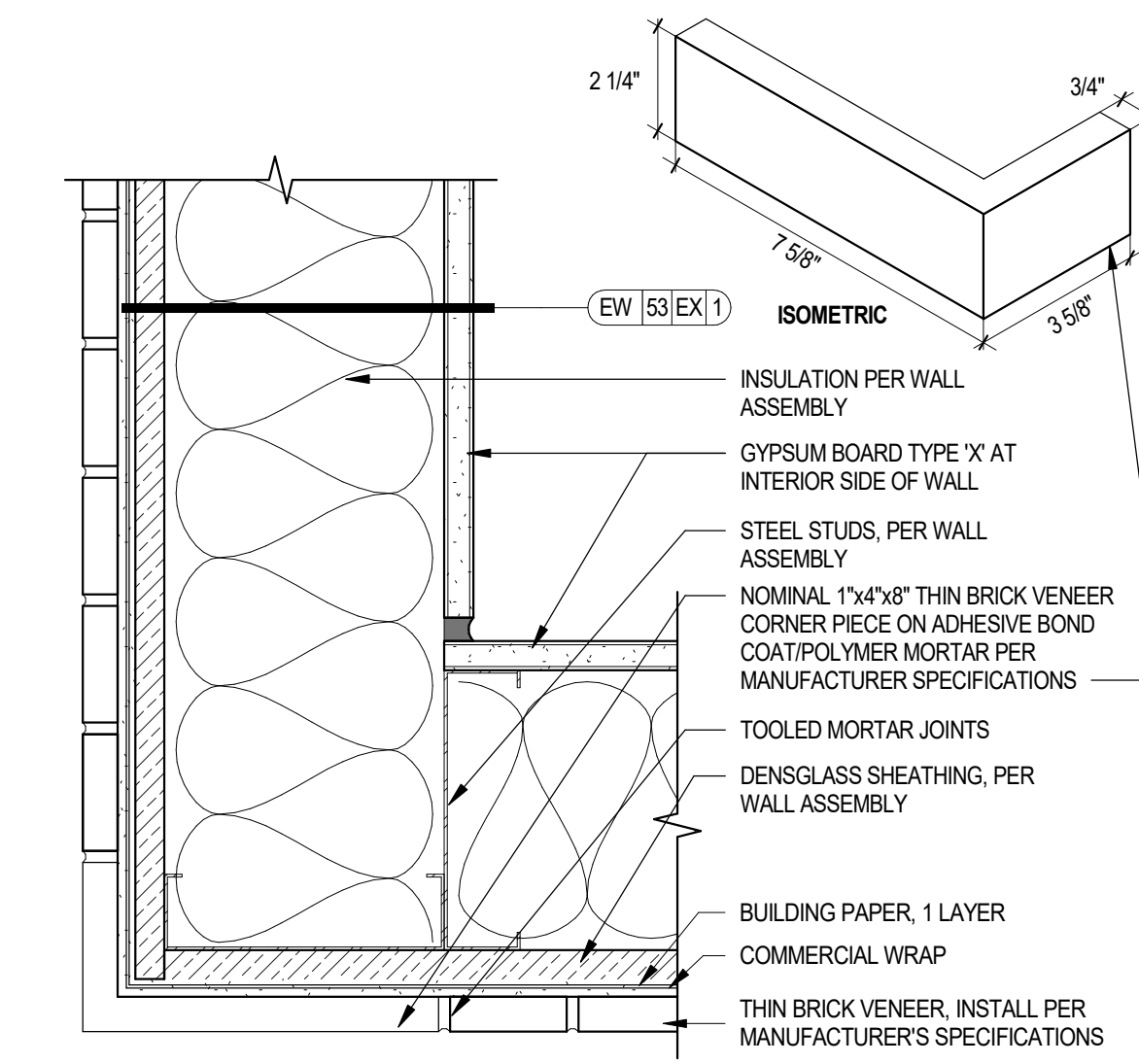
A7.7.20
EXTERIOR CLADDING DETAILS



01 BRICK VENEER @ CORNER EDGE ISOMETRIC
SCALE: 3" = 1'-0"



02 BRICK VENEER @ CORNER EDGE - PLAN VIEW
SCALE: 3" = 1'-0"



03 BRICK VENEER VERTICAL CONTROL JOINT AT WOOD FRAMING
SCALE: 3" = 1'-0"

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ALLIANCE RESIDENTIAL COMPANY
2525 E. CAMERLACK RD., SUITE 500, PHOENIX, AZ 85016
(602) 778-2822
and the owner or its designated agent shall provide this written description of payment.

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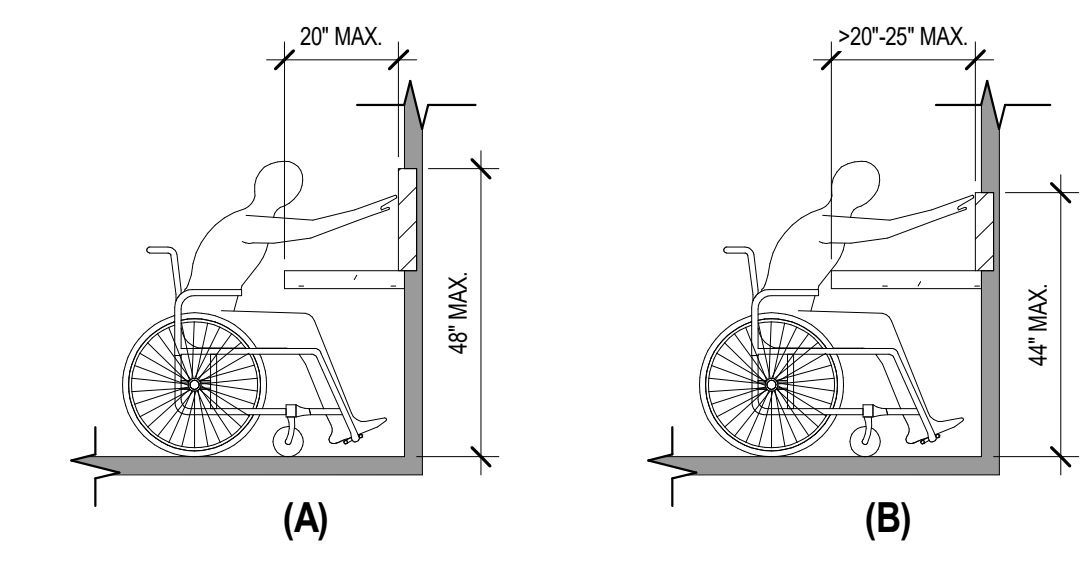
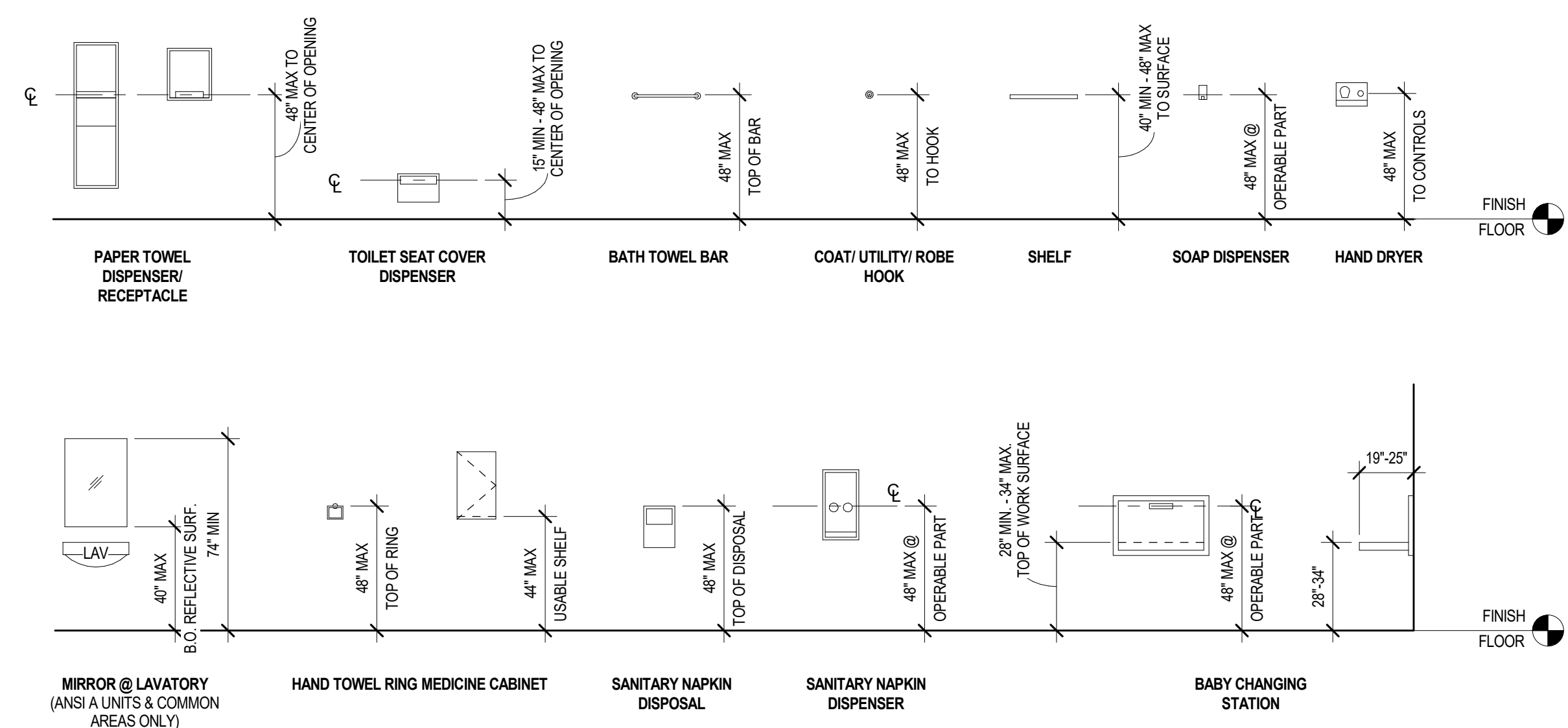


FIGURE 308.2.2
OBSTRUCTED HIGH FORWARD REACH

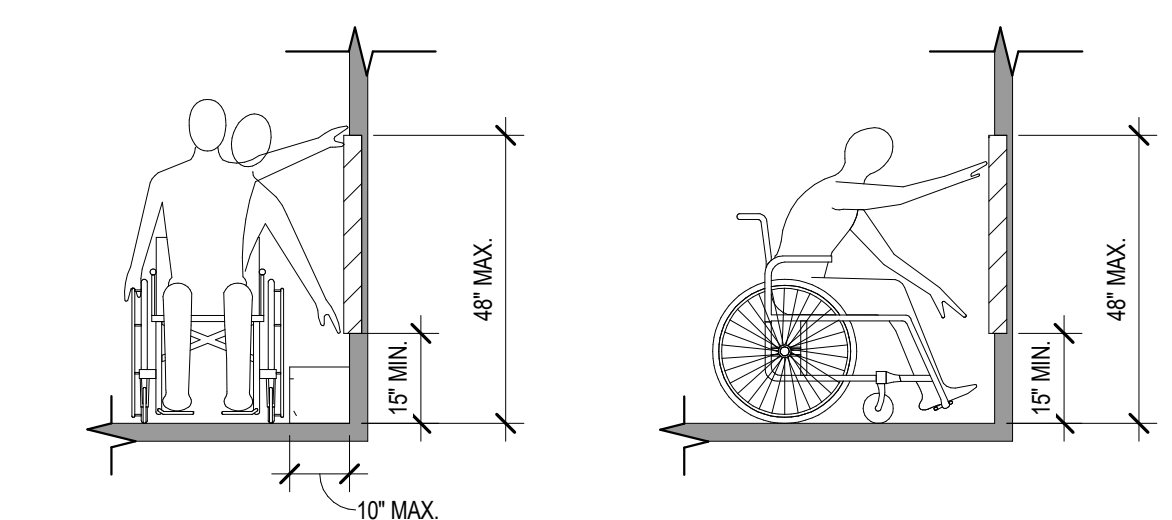


FIGURE 308.3.1
UNOBSTRUCTED SIDE REACH

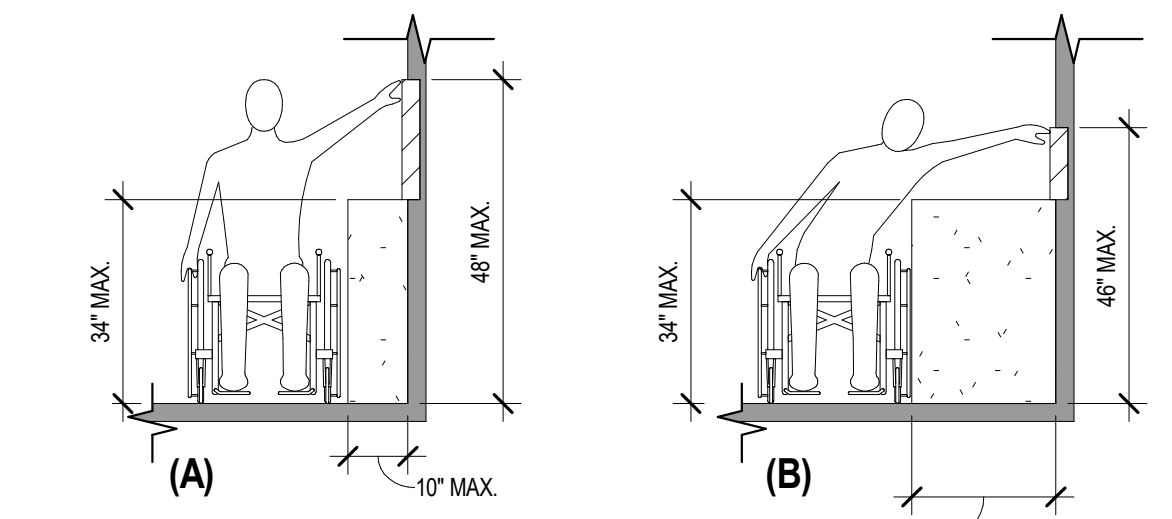
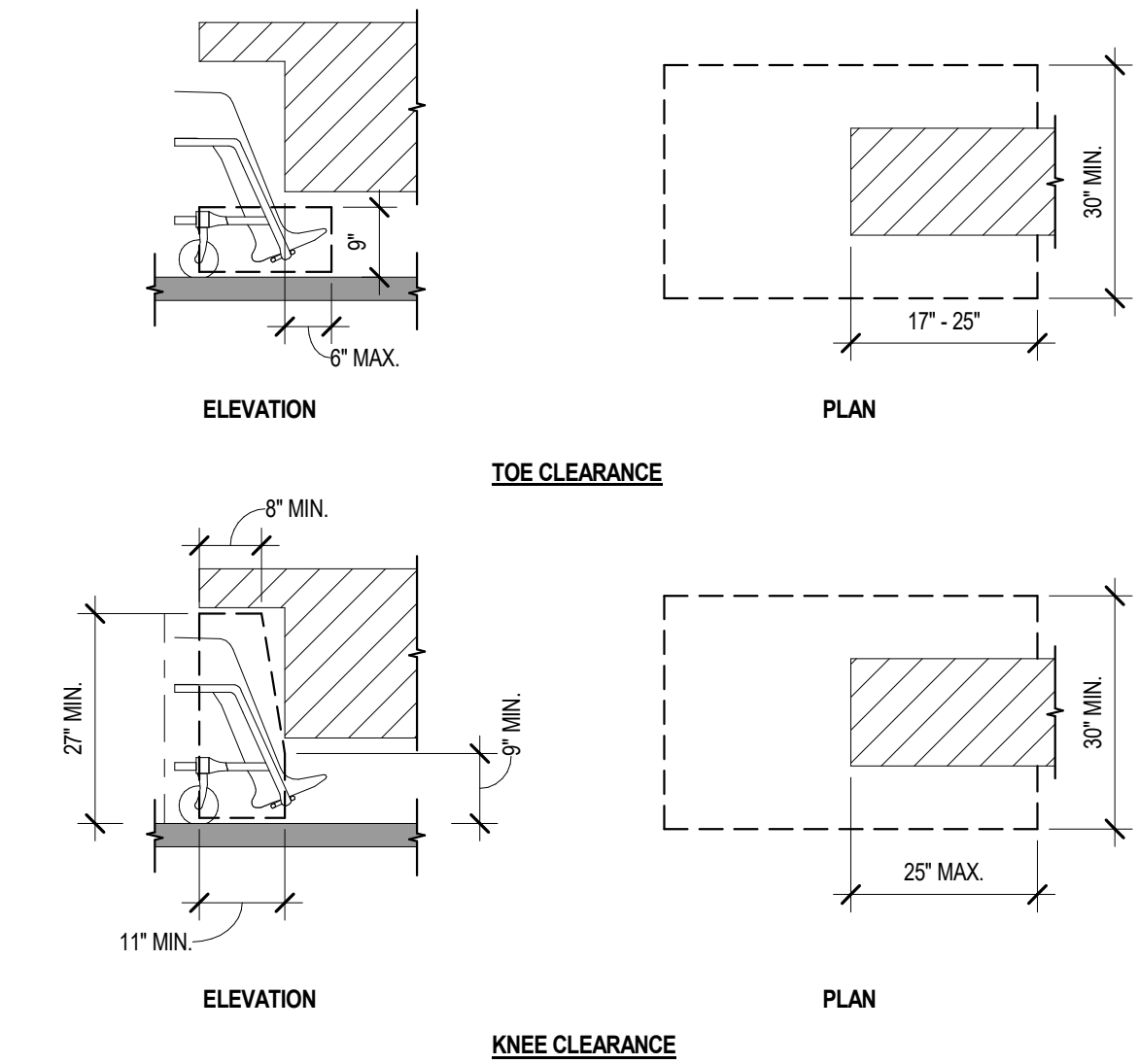
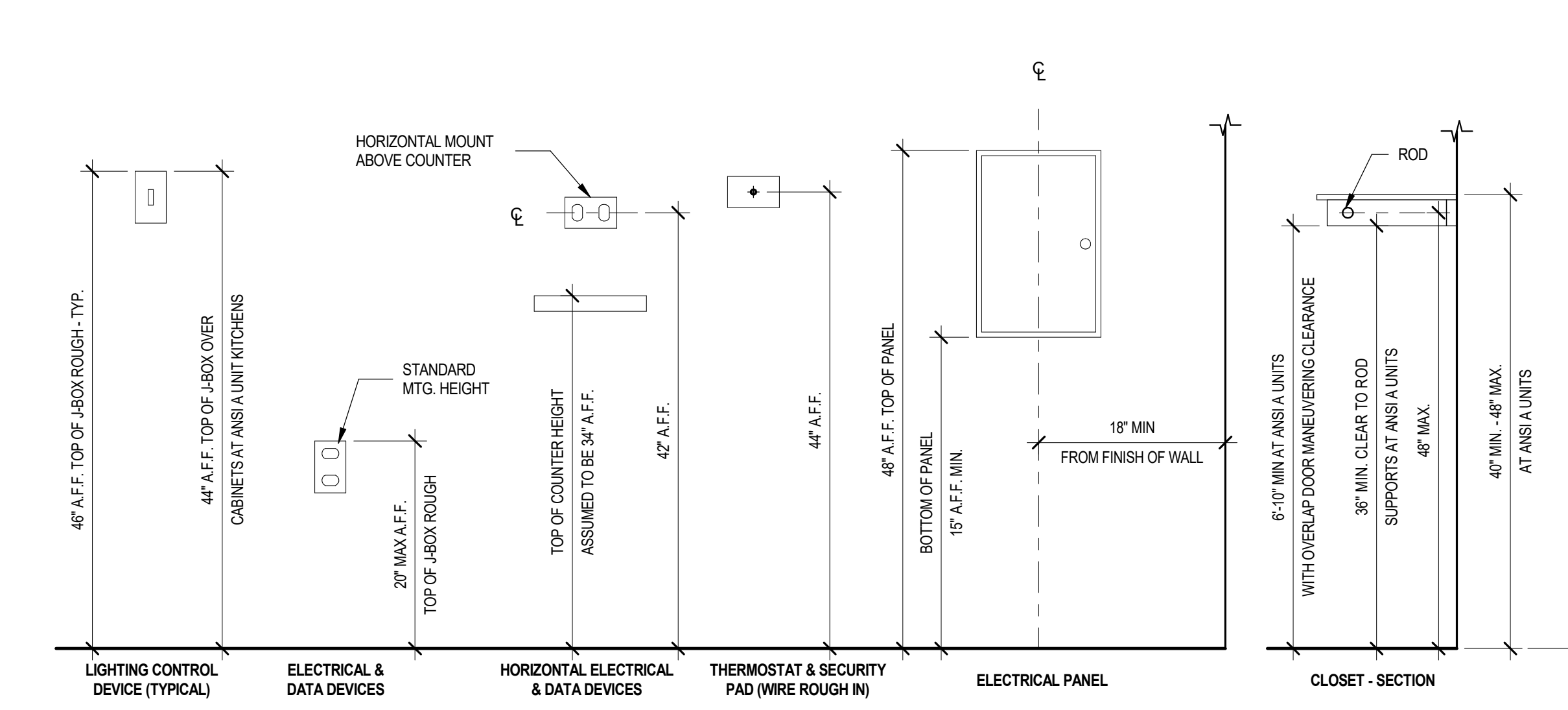


FIGURE 308.3.2
OBSTRUCTED HIGH SIDE REACH

09 RESTROOM FIXTURE MOUNTING HEIGHTS
(ICC A117.1-2009 - 603.3 - 603.6) SCALE: 1/4" = 1'-0"

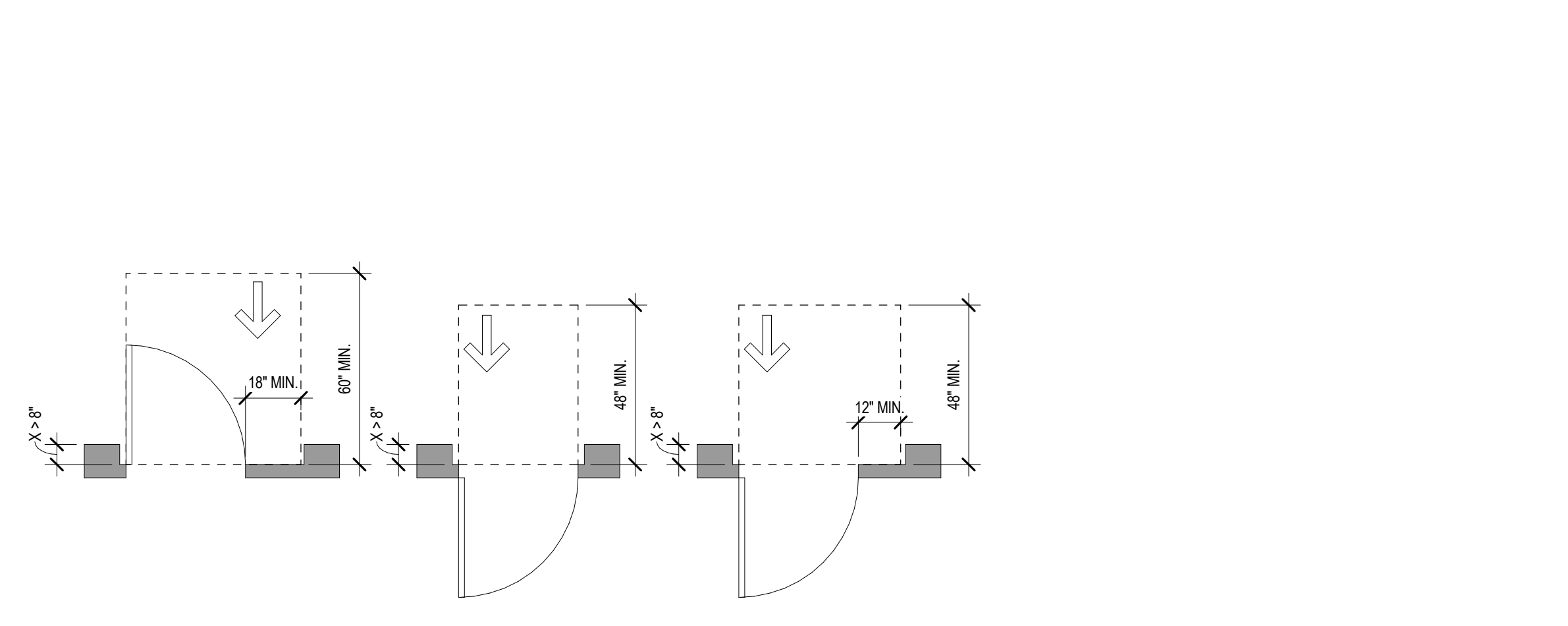


14 KNEE & TOE CLEARANCE
(ICC A117.1-2009 - SECTIONS 306.1) SCALE: 1/2" = 1'-0"

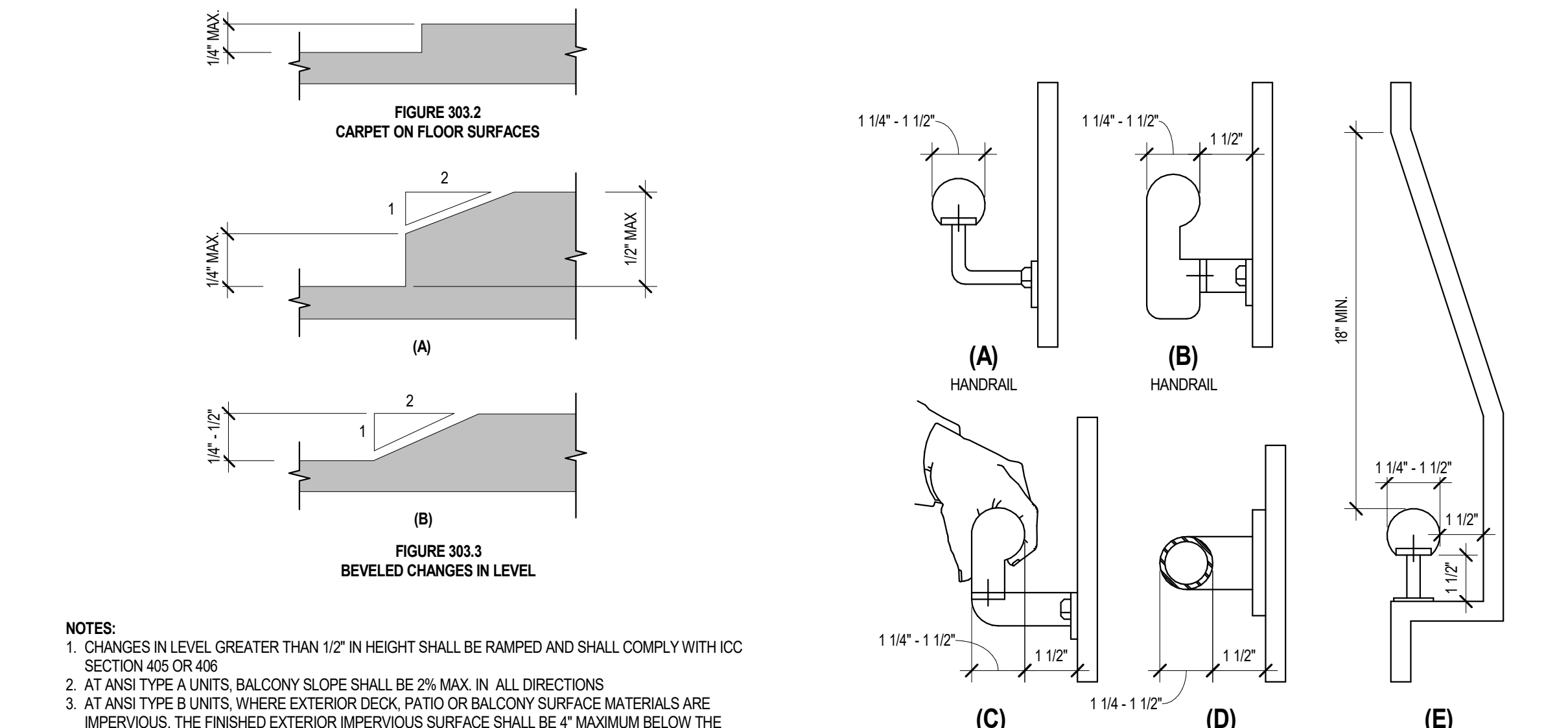


10 MOUNTING HEIGHTS
(FHA CHAPTER 9) (ICC A117.1-2009 - SECTIONS 308 & 803.5) SCALE: 1" = 1'-0"

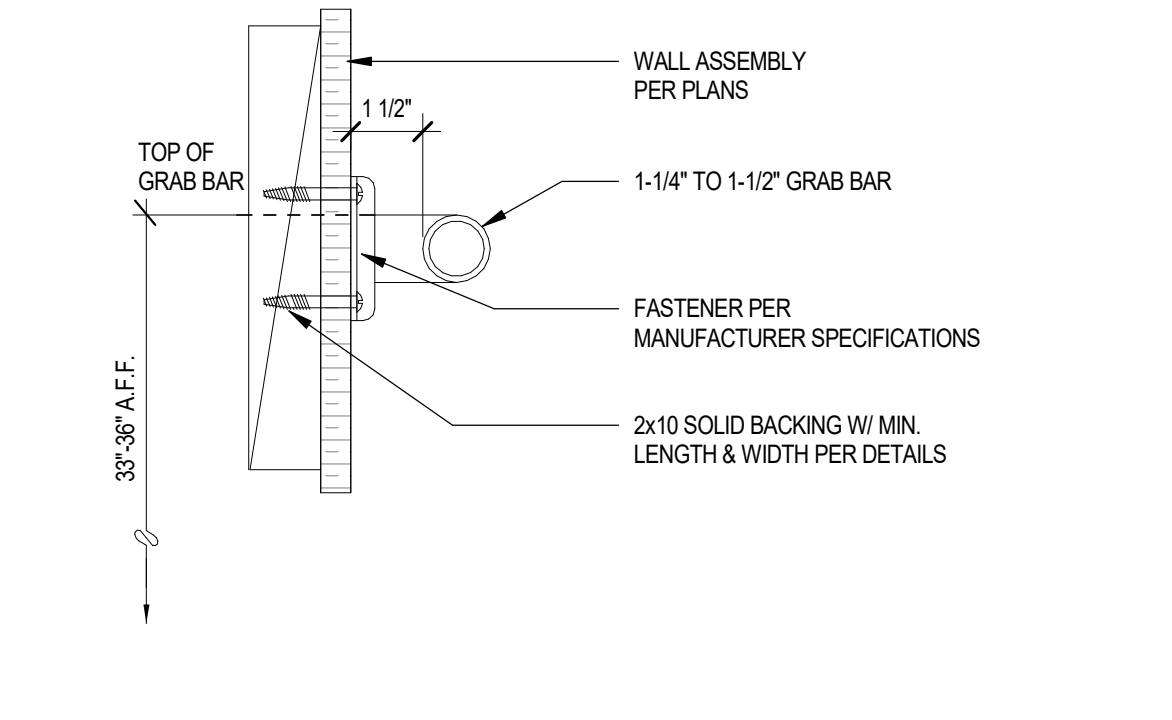
02 ACCESSIBLE REACH RANGES
(ICC A117.1-2009 - SECTION 308) (2010 ADA - SECTION 308) SCALE: 3/8" = 1'-0"



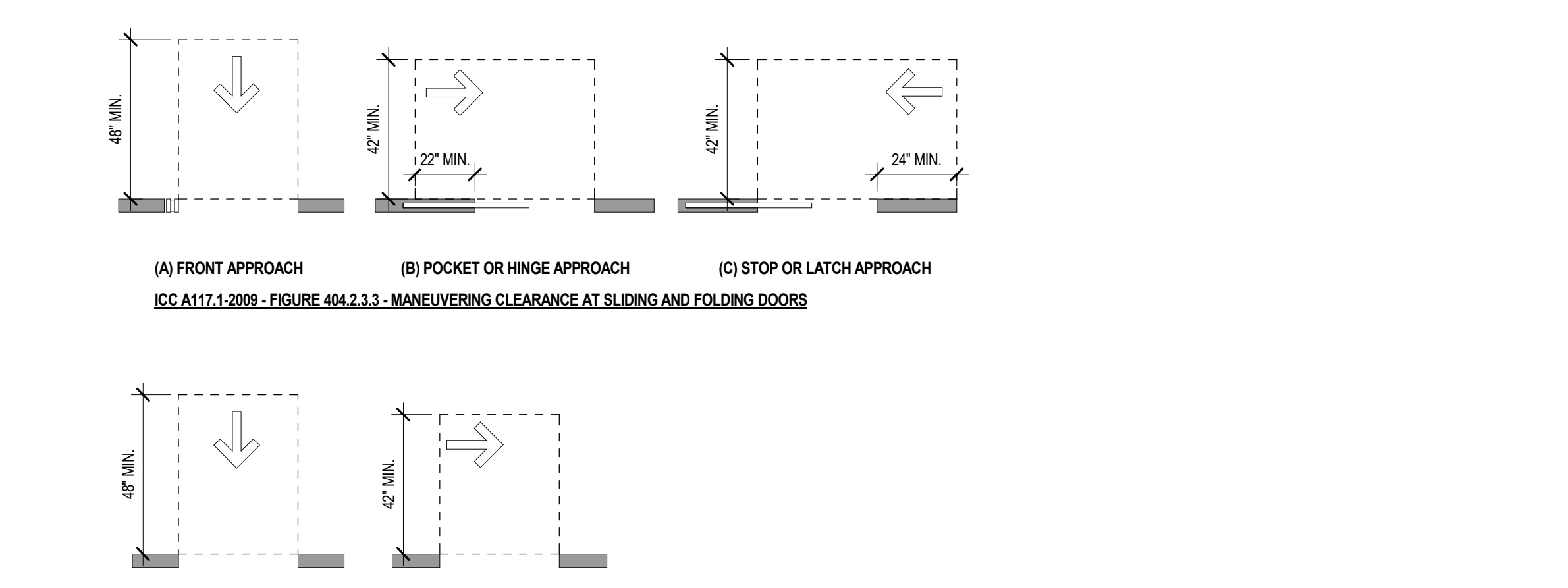
11 CHANGES IN LEVEL REQUIREMENTS
(ICC A117.1-2009 - SECTIONS 303.2 & 303.3) (2010 ADA - SECTIONS 303.2 & 303.3) SCALE: 1" = 1'-0"



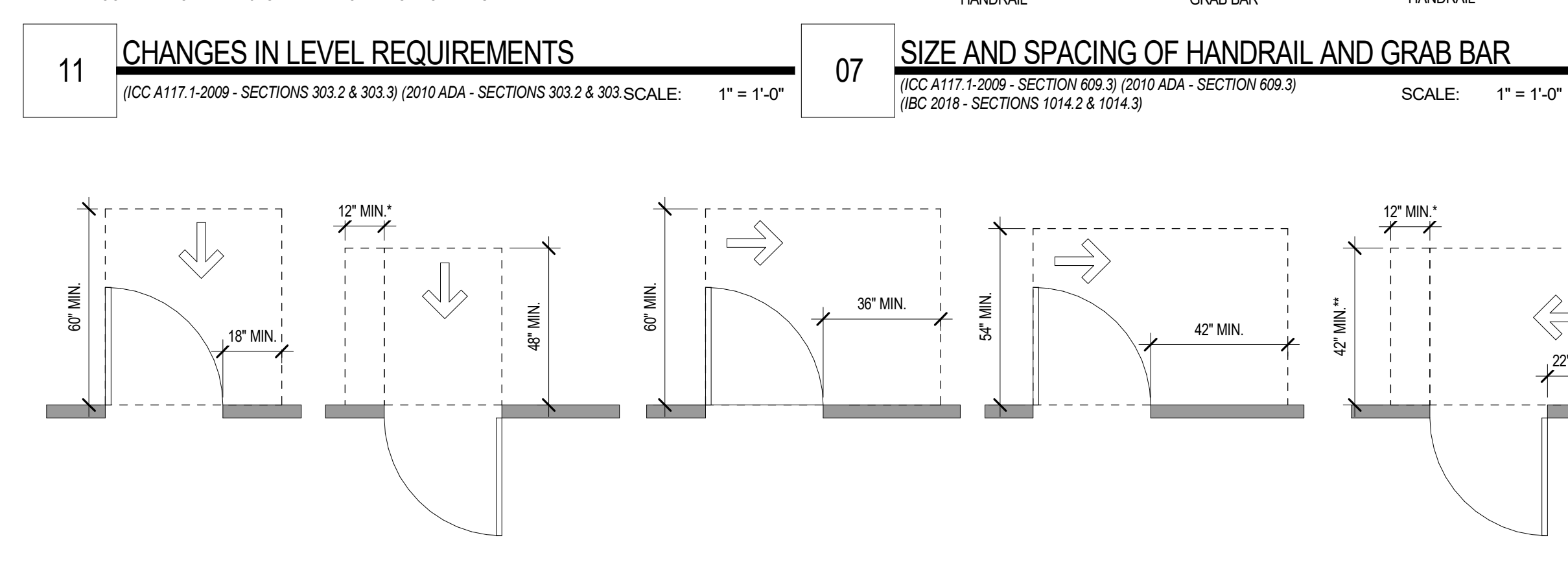
07 SIZE AND SPACING OF HANDRAIL AND GRAB BAR
(ICC A117.1-2009 - SECTION 609.3) (IBC 2018 - SECTIONS 1014.2 & 1014.3) SCALE: 1" = 1'-0"



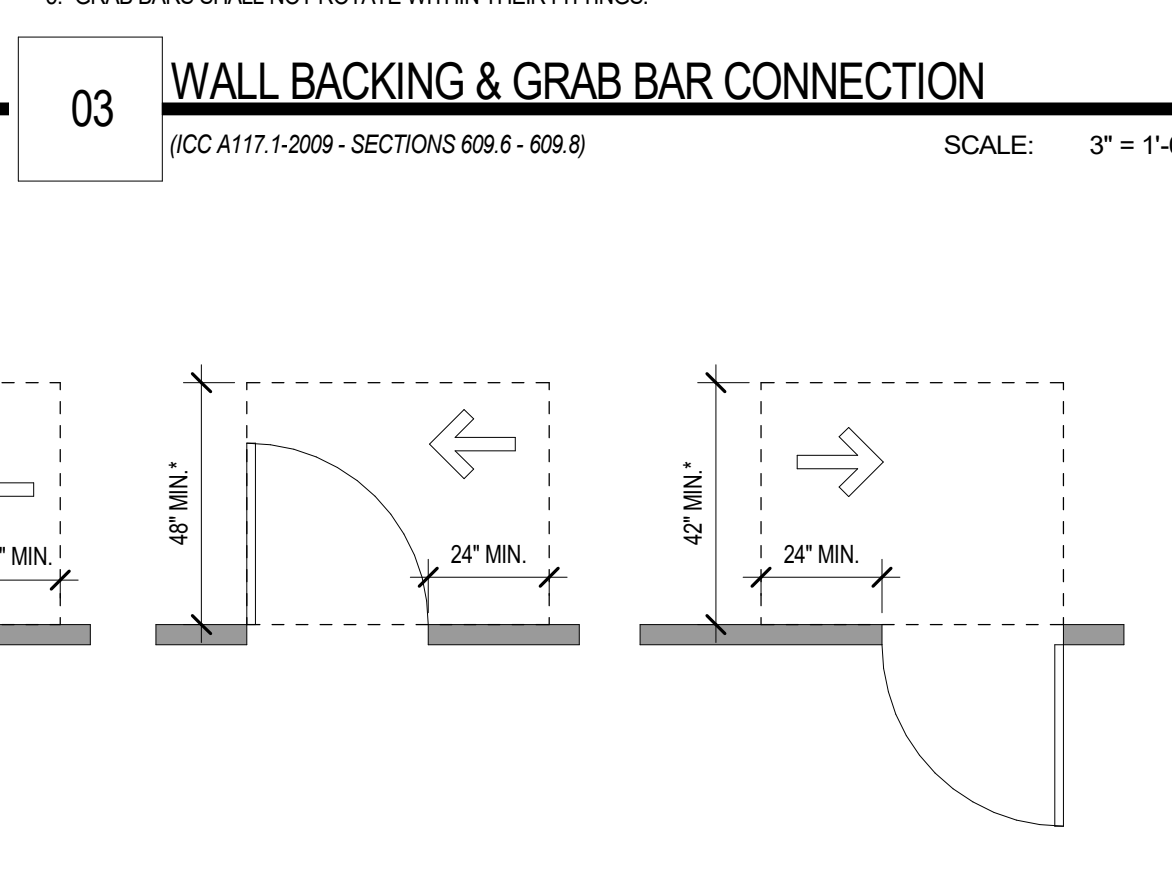
03 WALL BACKING & GRAB BAR CONNECTION
(ICC A117.1-2009 - SECTIONS 609.6 - 609.8) SCALE: 3" = 1'-0"



12 ANSI ACCESSIBLE ROUTE/TYPICAL SWING DOOR CLEARANCES
(ICC A117.1-2009 - SECTION 404.2.3) (ICC A117.1-2009 - FIGURES 404.2.3.3 - 404.2.3.5) (2010 ADA - SECTION 404.2.4) (2010 ADA - FIGURES 404.2.4.2 & 404.2.4.3) SCALE: 1/2" = 1'-0"



11 CHANGES IN LEVEL REQUIREMENTS
(ICC A117.1-2009 - SECTIONS 303.2 & 303.3) (2010 ADA - SECTIONS 303.2 & 303.3) SCALE: 1" = 1'-0"



03 WALL BACKING & GRAB BAR CONNECTION
(ICC A117.1-2009 - SECTIONS 609.6 - 609.8) SCALE: 3" = 1'-0"

- ANSI ACCESSIBLE DOOR CLEARANCES REQUIRED IN THE FOLLOWING LOCATIONS:
1. ALL DOORS IN ANSI TYPE 'A' UNITS
 2. ENTRY DOOR IN ANSI TYPE 'B' UNITS
 3. ALL COMMON AREAS DOORS
 4. ALL PEDESTRIAN GATES (INCLUDING POOL GATES)
- DOORS SHALL COMPLY WITH SECTION 404 (ICC/ANSI A117.1-2009 WHICH INCLUDES, BUT IS NOT LIMITED TO):
1. DOOR HARDWARE: ANSI 404.2.6
 2. CLOSING SPEED: ANSI 404.2.7
 3. OPENING FORCE: ANSI 404.2.8
 4. DOOR SURFACE: ANSI 404.2.9

- ANSI ACCESSIBLE DOOR CLEARANCES REQUIRED IN THE FOLLOWING LOCATIONS:
1. ALL DOORS IN ANSI TYPE 'A' UNITS
 2. ENTRY DOOR IN ANSI TYPE 'B' UNITS
 3. ALL COMMON AREAS DOORS
 4. ALL PEDESTRIAN GATES (INCLUDING POOL GATES)
- DOORS SHALL COMPLY WITH SECTION 404 (ICC/ANSI A117.1-2009 WHICH INCLUDES, BUT IS NOT LIMITED TO):
1. DOOR HARDWARE: ANSI 404.2.6
 2. CLOSING SPEED: ANSI 404.2.7
 3. OPENING FORCE: ANSI 404.2.8
 4. DOOR SURFACE: ANSI 404.2.9

- ANSI ACCESSIBLE DOOR CLEARANCES REQUIRED IN THE FOLLOWING LOCATIONS:
1. ALL DOORS IN ANSI TYPE 'A' UNITS
 2. ENTRY DOOR IN ANSI TYPE 'B' UNITS
 3. ALL COMMON AREAS DOORS
 4. ALL PEDESTRIAN GATES (INCLUDING POOL GATES)
- DOORS SHALL COMPLY WITH SECTION 404 (ICC/ANSI A117.1-2009 WHICH INCLUDES, BUT IS NOT LIMITED TO):
1. DOOR HARDWARE: ANSI 404.2.6
 2. CLOSING SPEED: ANSI 404.2.7
 3. OPENING FORCE: ANSI 404.2.8
 4. DOOR SURFACE: ANSI 404.2.9

20 ANSI ACCESSIBLE ROUTE/SPECIAL CONDITION DOOR CLEARANCES
(ICC A117.1-2009 - SECTION 404.2.3) (ICC A117.1-2009 - FIGURES 404.2.3.3 - 404.2.3.5) (2010 ADA - SECTION 404.2.4) (2010 ADA - FIGURES 404.2.4.2 & 404.2.4.3) SCALE: 1/2" = 1'-0"

12 ANSI ACCESSIBLE ROUTE/TYPICAL SWING DOOR CLEARANCES
(ICC A117.1-2009 - SECTION 404.2.3) (ICC A117.1-2009 - FIGURE 404.2.3.3) (2010 ADA - SECTION 404.2.4) (2010 ADA - FIGURE 404.2.4.1) SCALE: 1/2" = 1'-0"

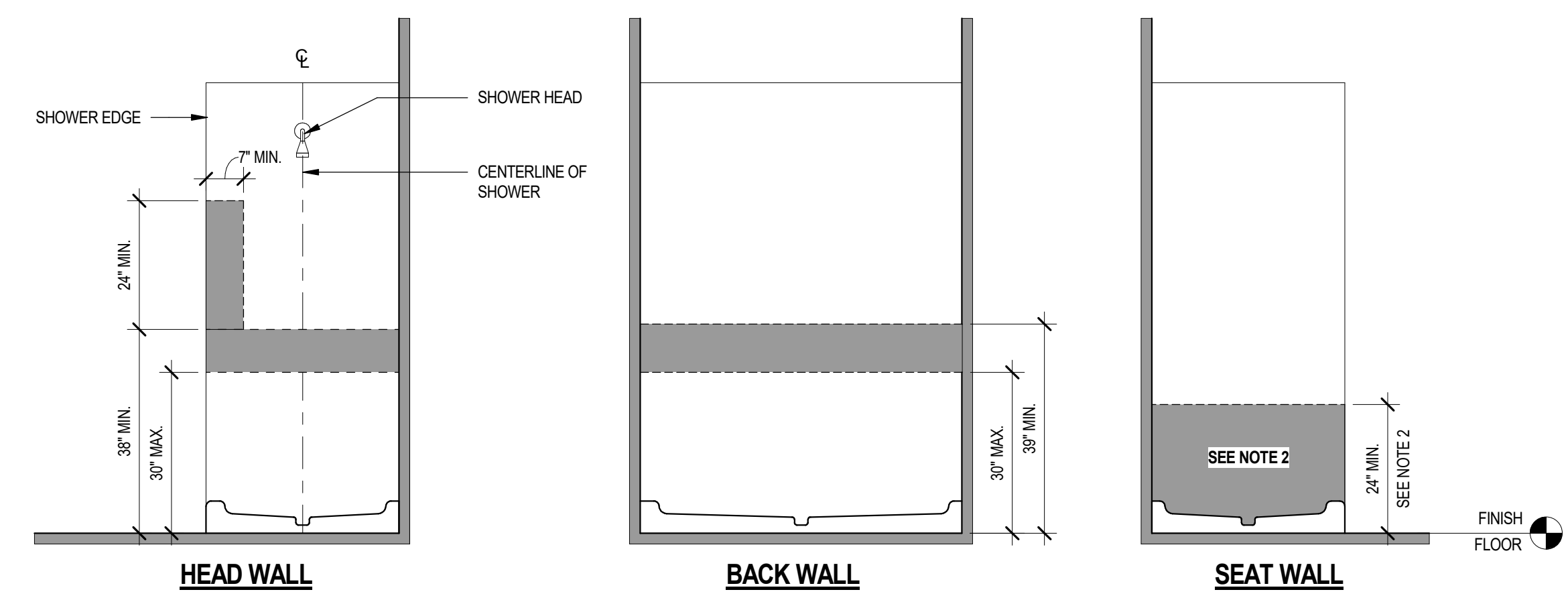
03 WALL BACKING & GRAB BAR CONNECTION
(ICC A117.1-2009 - SECTIONS 609.6 - 609.8) SCALE: 3" = 1'-0"

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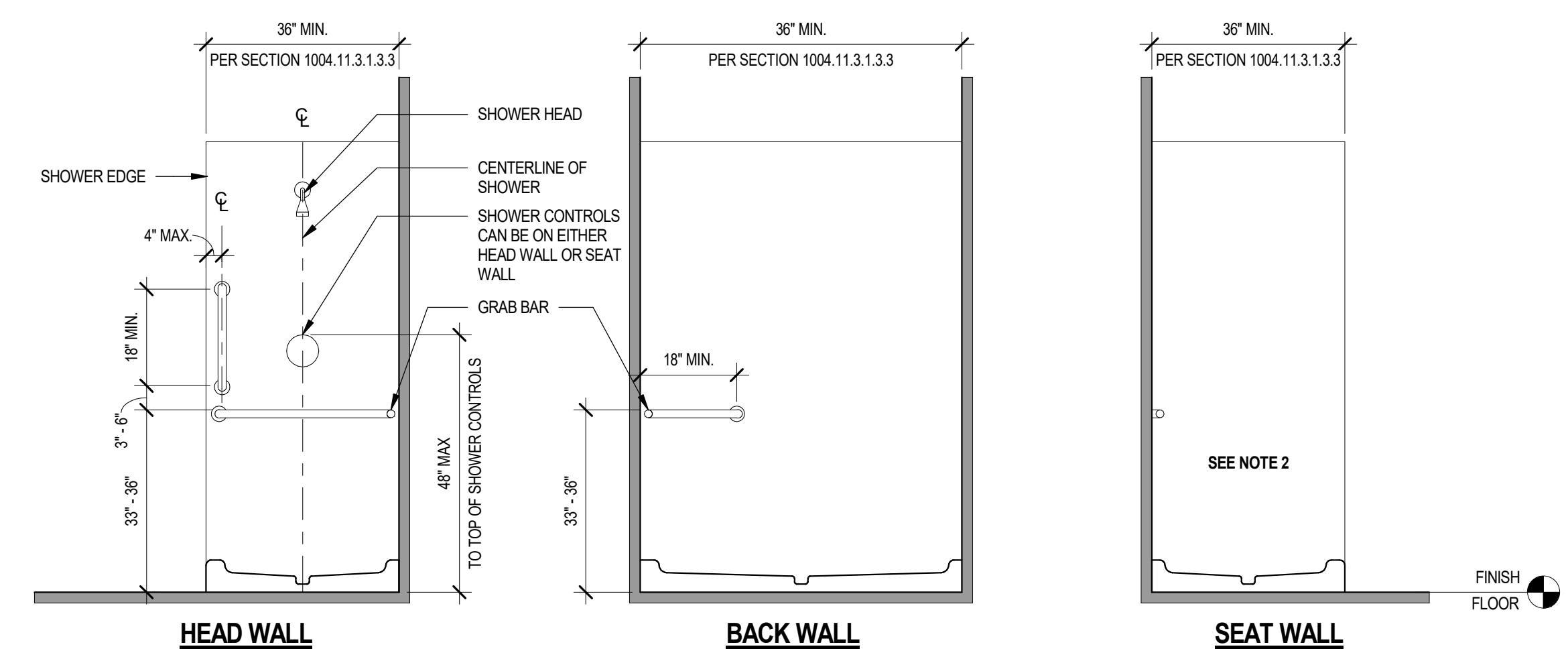
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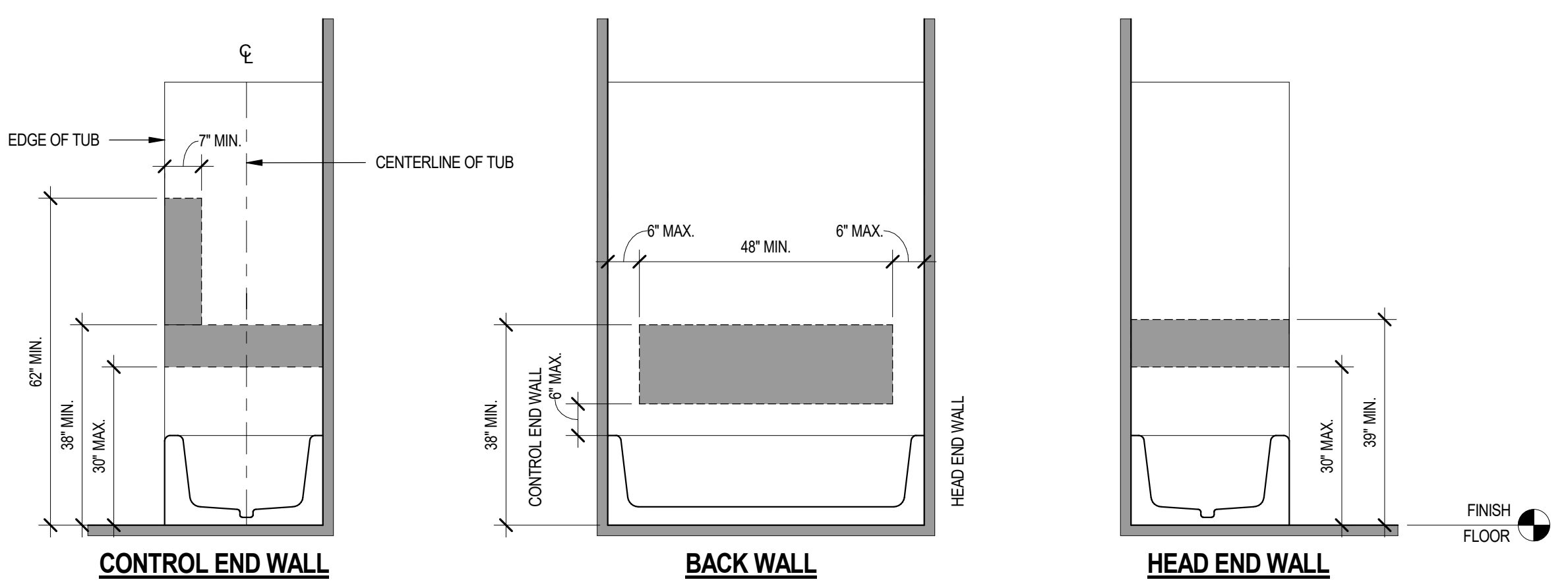


ANSI TYPE B - REINFORCEMENT FOR SHOWERS
(ICC A117.1-2009 - SECTIONS 1004.11.1 & 608.3.1)

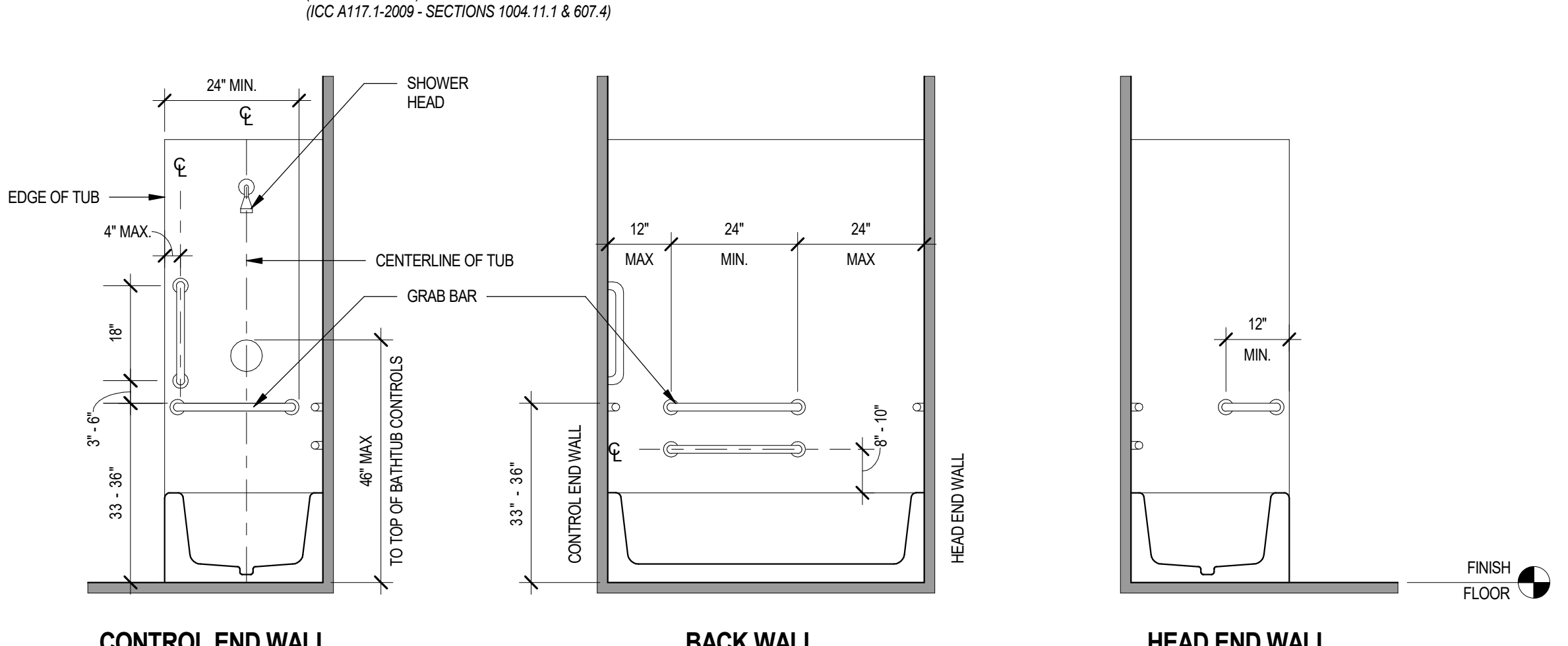


ANSI TYPE B - GRAB BARS FOR SHOWER
(ICC A117.1-2009 - SECTIONS 1004.11.1 & 608.3.1)

NOTES: (ICC/ANSI A117.1-2009)
1. PER SECTIONS 1004.11.1 & 608.3.1 REINFORCEMENT SHALL BE PROVIDED FOR THE FUTURE INSTALLATION OF GRAB BARS AND SHOWER SEATS AT SHOWER COMPARTMENTS.
2. IN SHOWER COMPARTMENTS LARGER THAN 36 INCHES IN WIDTH AND 36 INCHES IN DEPTH REINFORCEMENT FOR A SHOWER SEAT IS NOT REQUIRED PER SECTION 1004.11.3.1.3.3.
3. GRAB BARS SHALL BE INSTALLED MEASURING FROM FINISH FLOOR TO THE TOP OF THE GRIPPING SURFACE. TYPICAL, UNLESS SPECIFIED OTHERWISE.
4. IN CASE OF SHOWER DOOR BEING INSTALLED, ACCESS TO SHOWER SHALL BE FROM CONTROL WALL SIDE.



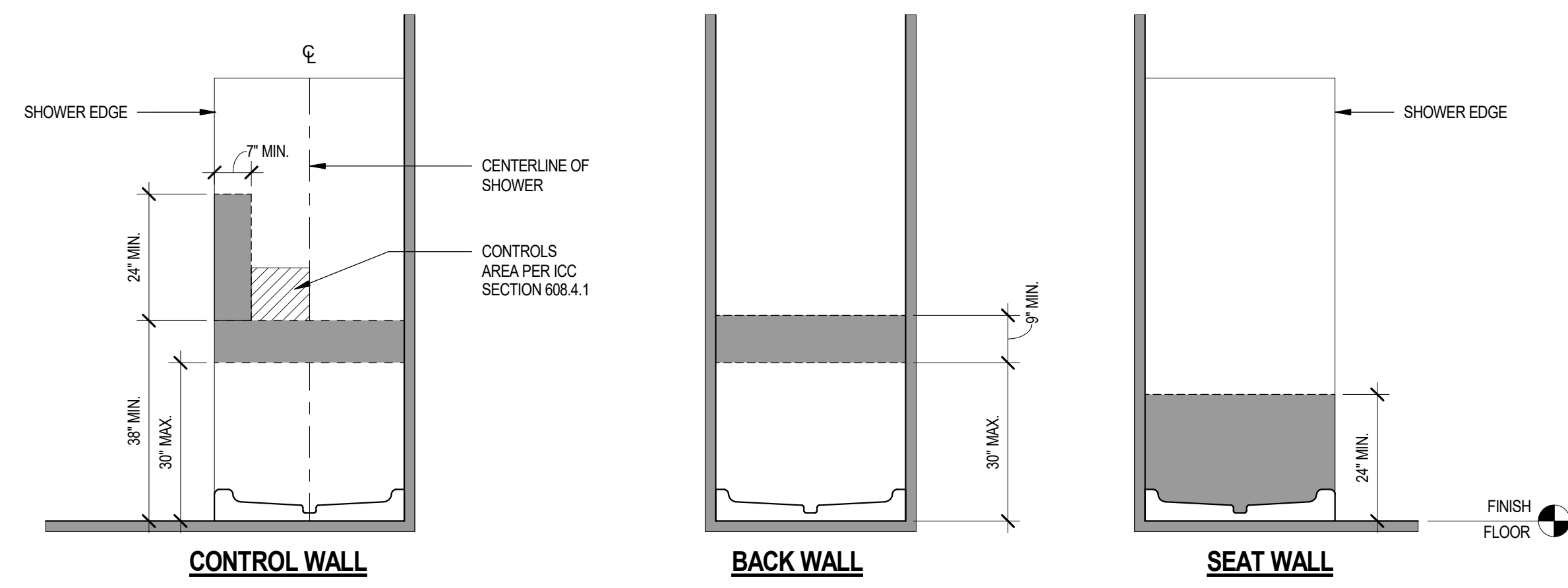
ANSI TYPE B - REINFORCEMENT FOR BATHTUBS
(FHA CHAPTER 6)
(ICC A117.1-2009 - SECTIONS 1004.11.1 & 607.4)



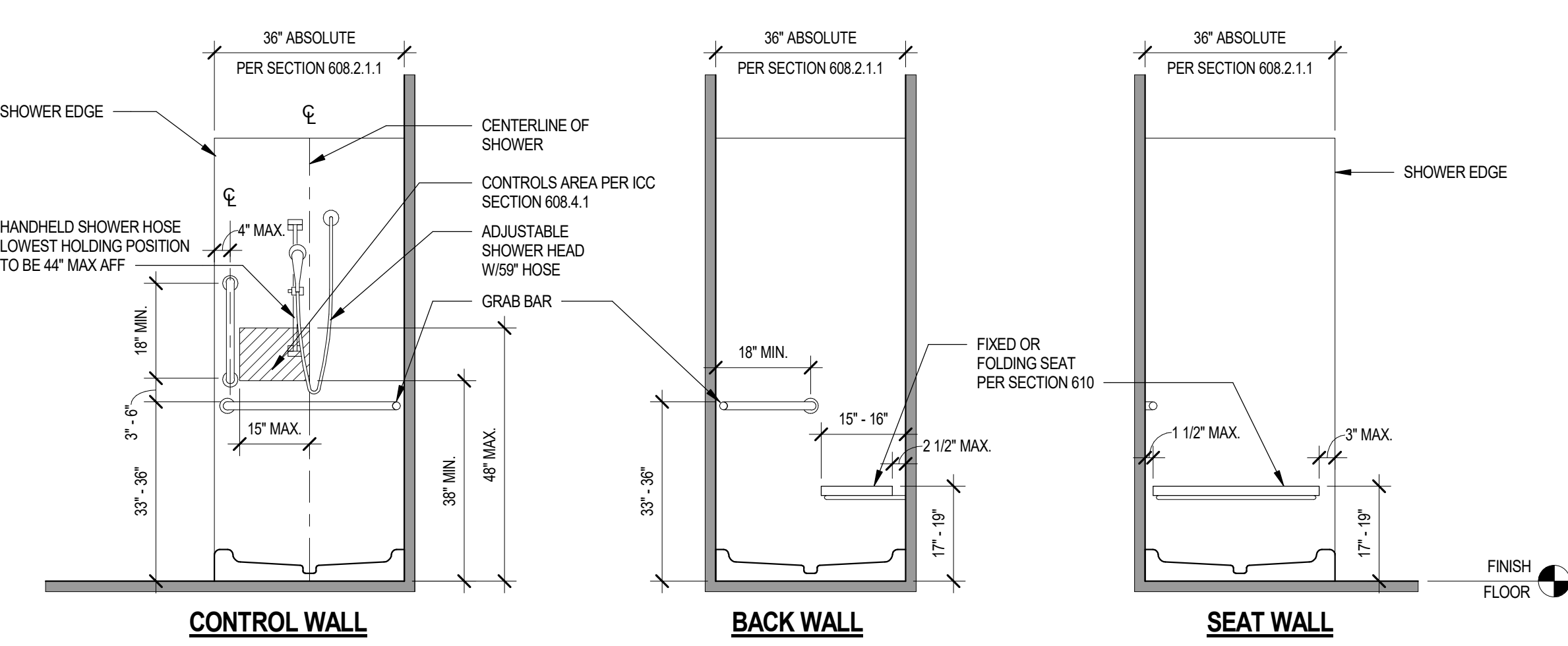
ANSI TYPE B - GRAB BARS FOR BATHTUB
(ICC A117.1-2009 - SECTIONS 1004.11.1 & 607.4)

NOTES: (ICC/ANSI A117.1-2009)
1. PER SECTIONS 1004.11.1 & 607.4 REINFORCEMENT SHALL BE PROVIDED FOR THE FUTURE INSTALLATION OF GRAB BARS AT BATHTUBS.
2. GRAB BARS SHALL BE INSTALLED MEASURING FROM FINISH FLOOR TO THE TOP OF THE GRIPPING SURFACE. TYPICAL, UNLESS SPECIFIED OTHERWISE.

14 ANSI B - REINFORCEMENT AND GRAB BAR FOR SHOWERS
SCALE: 1/2" = 1'-0"



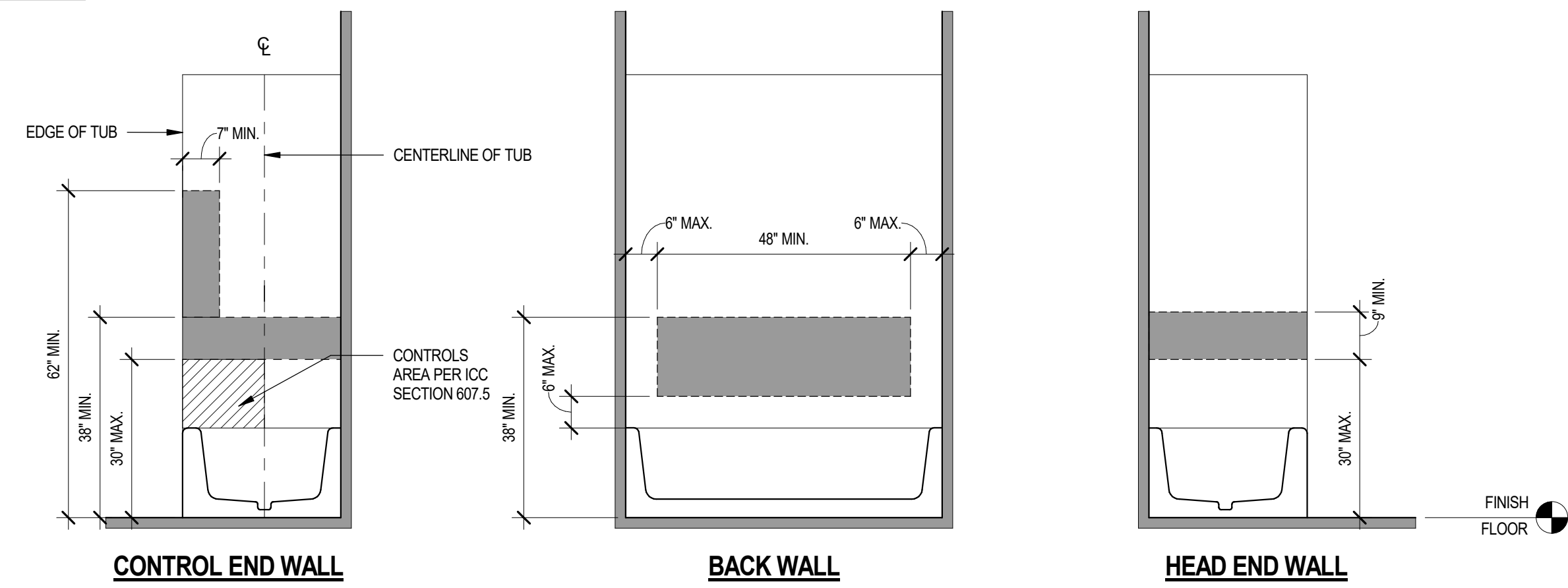
ANSI TYPE A - REINFORCEMENT FOR TRANSFER-TYPE SHOWER
(ICC A117.1-2009 - SECTIONS 1003.11.1 & 608.3.1)



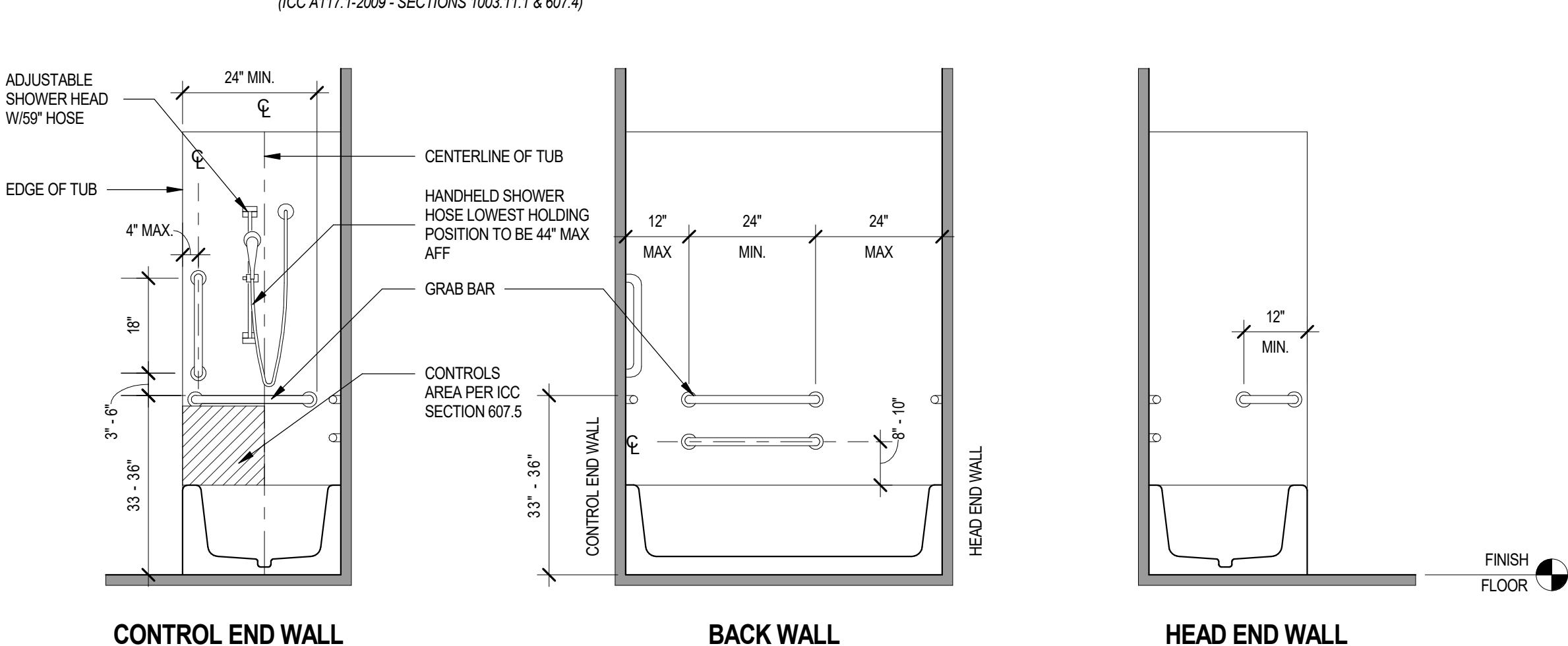
ANSI TYPE A - GRAB BARS FOR TRANSFER-TYPE SHOWER
(ICC A117.1-2009 - SECTIONS 1003.11.1 & 608.3.1)

NOTES: (ICC/ANSI A117.1-2009)
1. PER SECTIONS 1003.11.1 & 608.3.1 REINFORCEMENT SHALL BE PROVIDED FOR THE FUTURE INSTALLATION OF GRAB BARS AND SHOWER SEATS AT SHOWER COMPARTMENTS.
2. THE HEIGHT OF SHOWER COMPARTMENT SEATS SHALL BE 17 INCHES MINIMUM AND 19 INCHES MAXIMUM ABOVE THE BATHROOM FLOOR, MEASURED TO THE TOP OF THE SEAT.
3. SEATS SHALL COMPLY WITH ICC SECTION 610.3.1 OR 610.3.2.
4. GRAB BARS SHALL BE INSTALLED MEASURING FROM FINISH FLOOR TO THE TOP OF THE GRIPPING SURFACE. TYPICAL, UNLESS SPECIFIED OTHERWISE.
5. IN CASE OF SHOWER DOOR BEING INSTALLED, ACCESS TO SHOWER SHALL BE FROM CONTROL WALL SIDE.

06 ANSI B - REINFORCEMENT AND GRAB BAR FOR BATHTUBS
SCALE: 1/2" = 1'-0"



ANSI TYPE A - REINFORCEMENT FOR BATHTUBS
(FHA CHAPTER 6)
(ICC A117.1-2009 - SECTIONS 1003.11.1 & 607.4)



ANSI TYPE A - GRAB BARS FOR BATHTUB
(ICC A117.1-2009 - SECTIONS 1003.11.1 & 607.4)

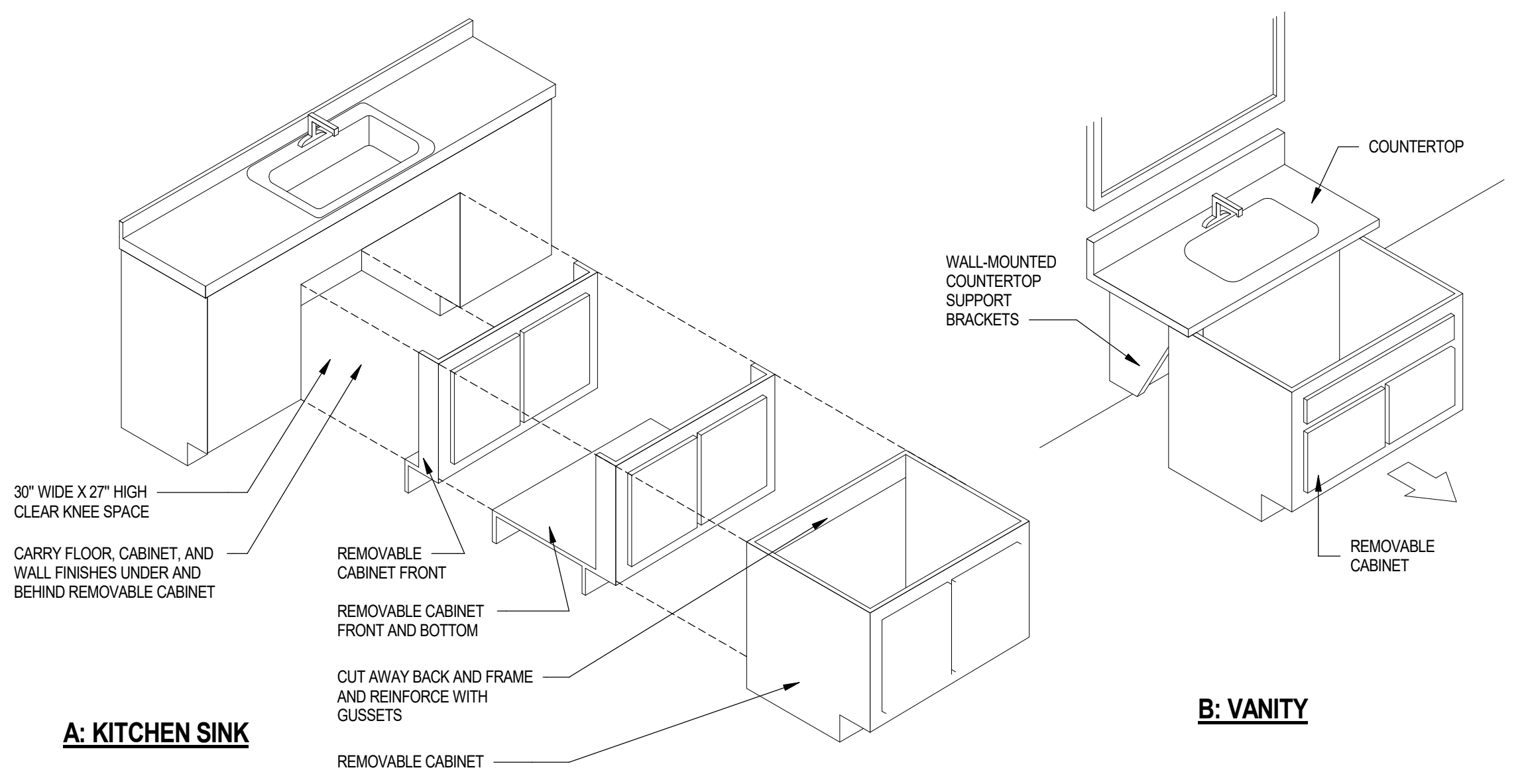
NOTES: (ICC/ANSI A117.1-2009)
1. PER SECTIONS 1003.11.1 & 607.4 REINFORCEMENT SHALL BE PROVIDED FOR THE FUTURE INSTALLATION OF GRAB BARS AT BATHTUBS.
2. GRAB BARS SHALL BE INSTALLED MEASURING FROM FINISH FLOOR TO THE TOP OF THE GRIPPING SURFACE. TYPICAL, UNLESS SPECIFIED OTHERWISE.

Contractor must verify all dimensions at project before proceeding with this work. Do not reproduce these drawings and specifications without the expressed written permission of the Architect. The drawings and specifications are instruments of service and shall remain the property of the Architect whether the project for which they are made is executed or not. These drawings and specifications shall not be used for any other projects, for additions to this project, or for completion of this project by others except by the expressed written permission of the Architect.

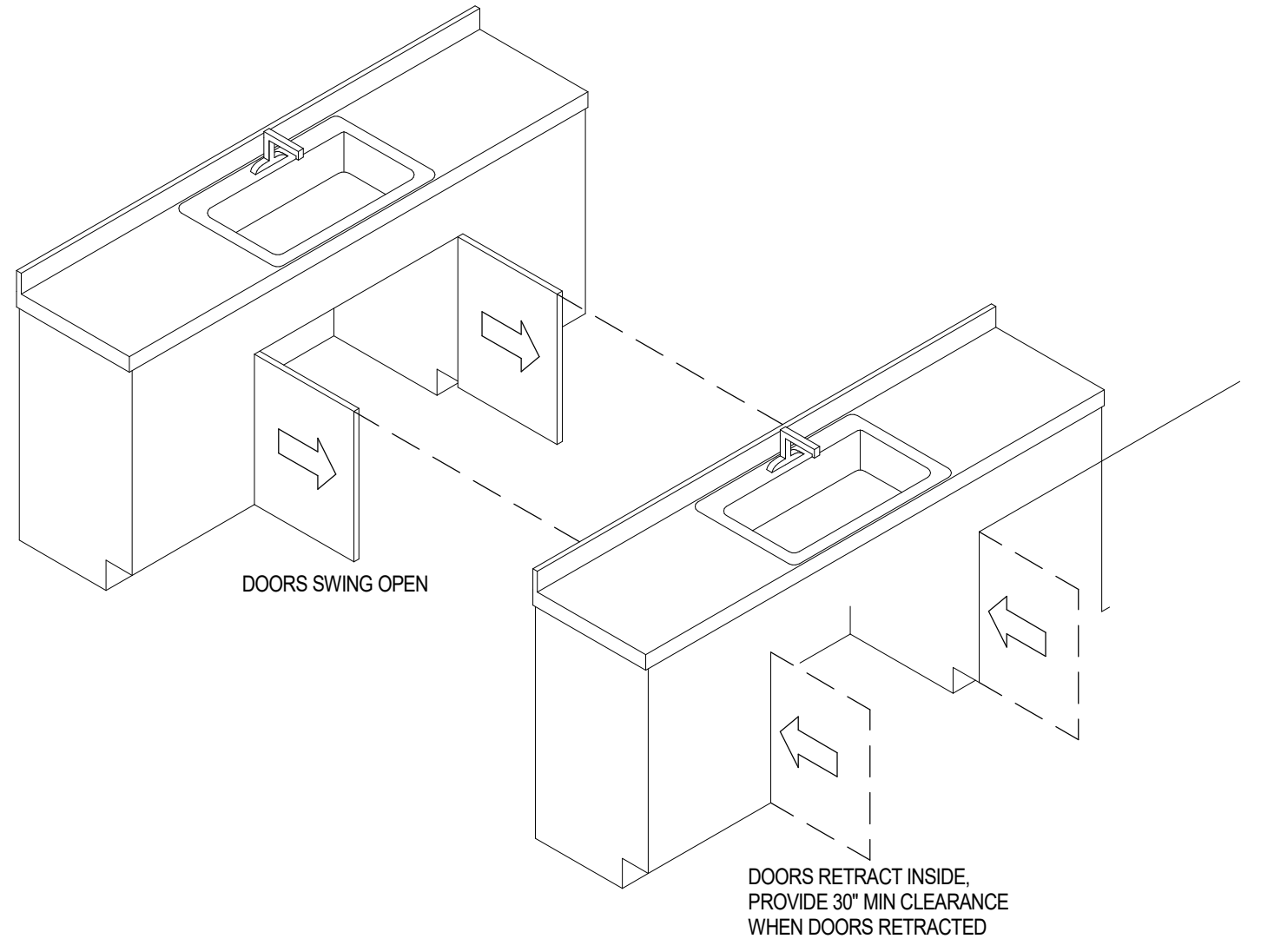
Notice of alternate billing (or payment) cycle
This contract allows (they allow) the owner to require the submission of bills or estimates in billing cycles other than thirty days. (This contract may allow the owner to make payment on some alternative schedule other than thirty days and approval of alternate billing cycle shall be in writing and approved in writing and estimated. A written description of such other billing cycle shall be submitted to the project by others except by the expressed written permission of the Architect.)

REVISIONS/SUBMITTALS

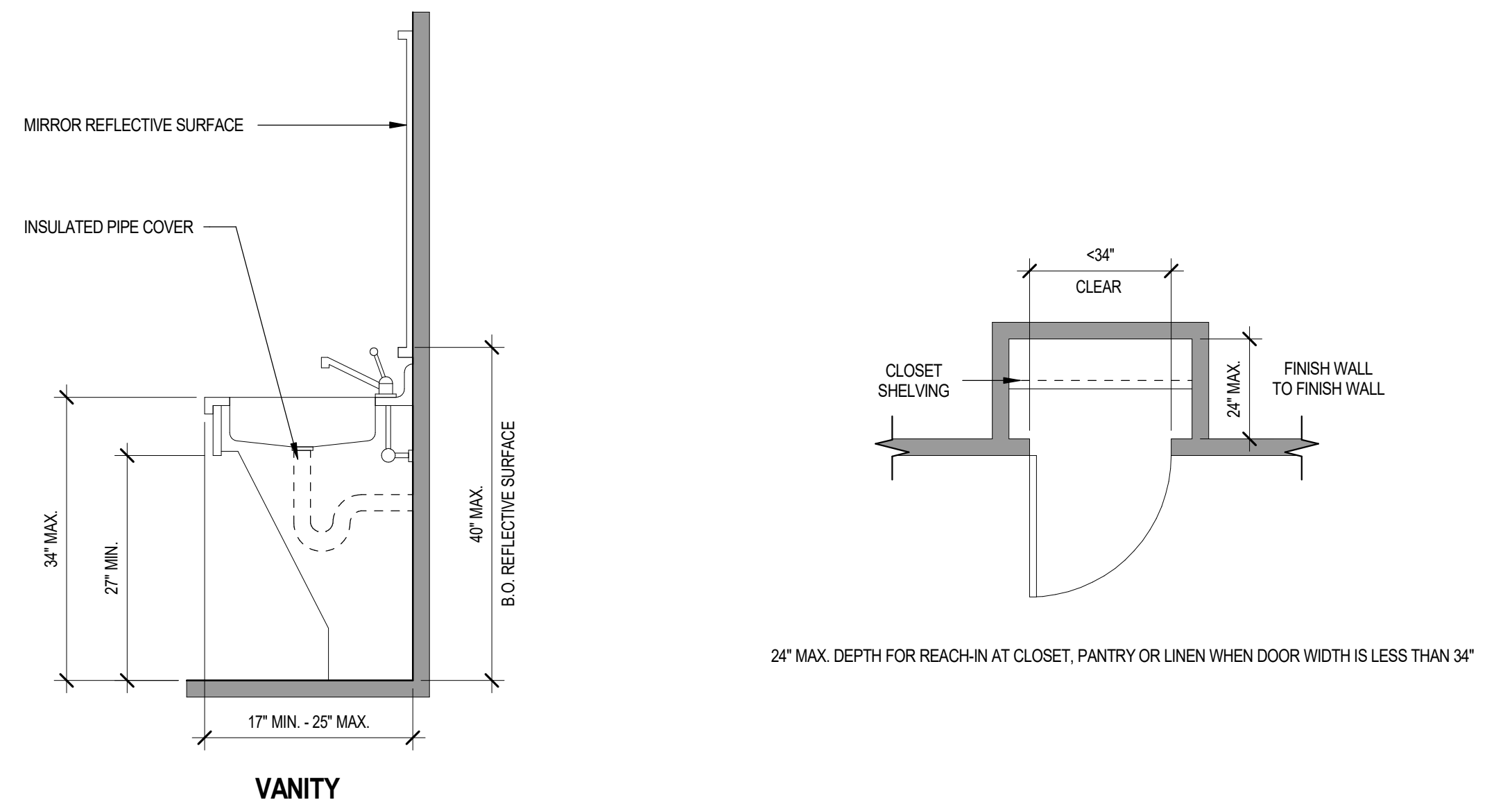
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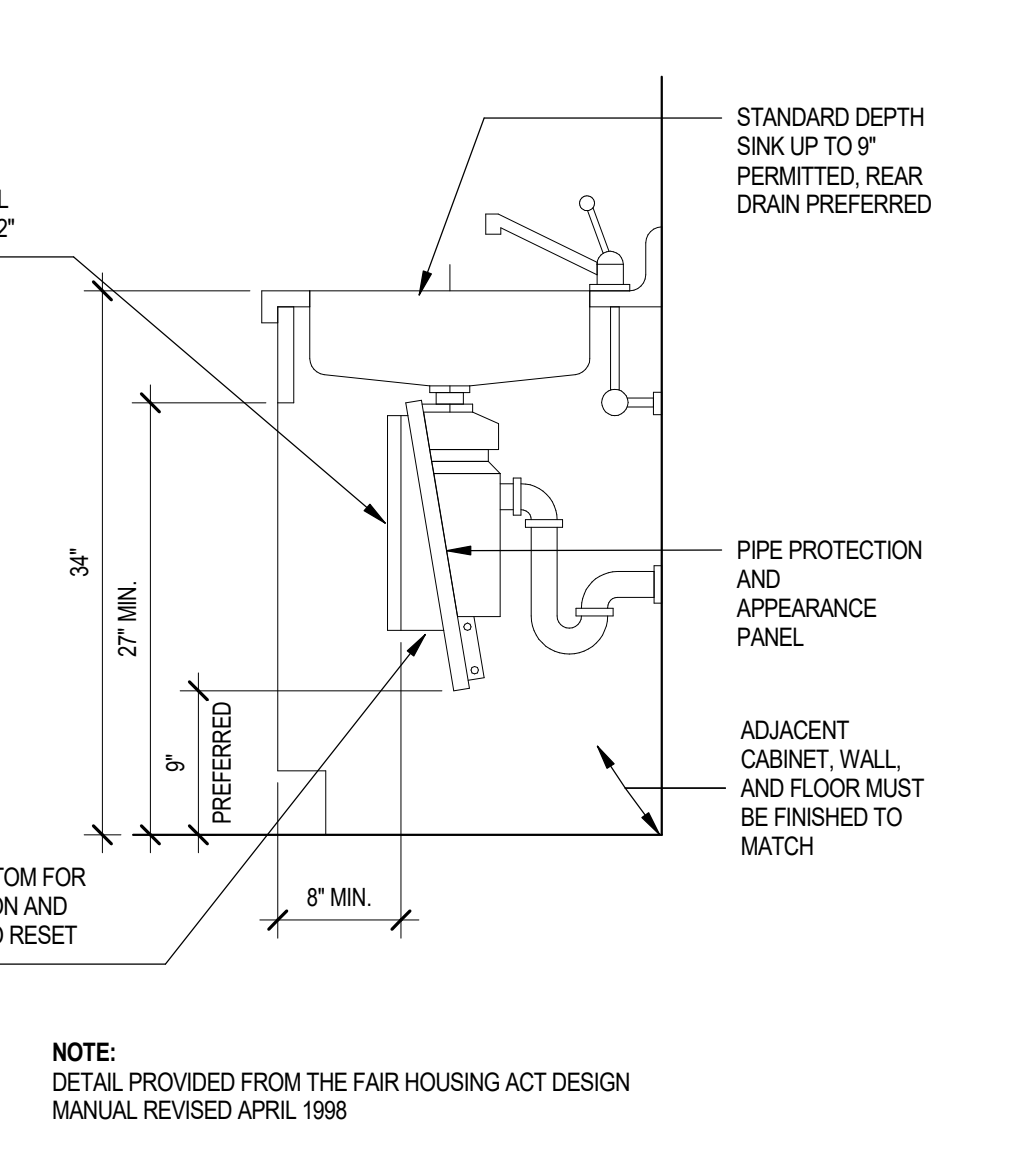
45 REMOVABLE BASE CABINETS
 (FHA CHAPTER 7.12) (ICC A117.1-2009 - SECTION 1003.12.4.1) SCALE: 3/8" = 1'-0"



46 REMOVABLE BASE CABINETS OPTION 2
 (FHA CHAPTER 7.12) (ICC A117.1-2009 - SECTION 1003.12.4.1) SCALE: 3/8" = 1'-0"

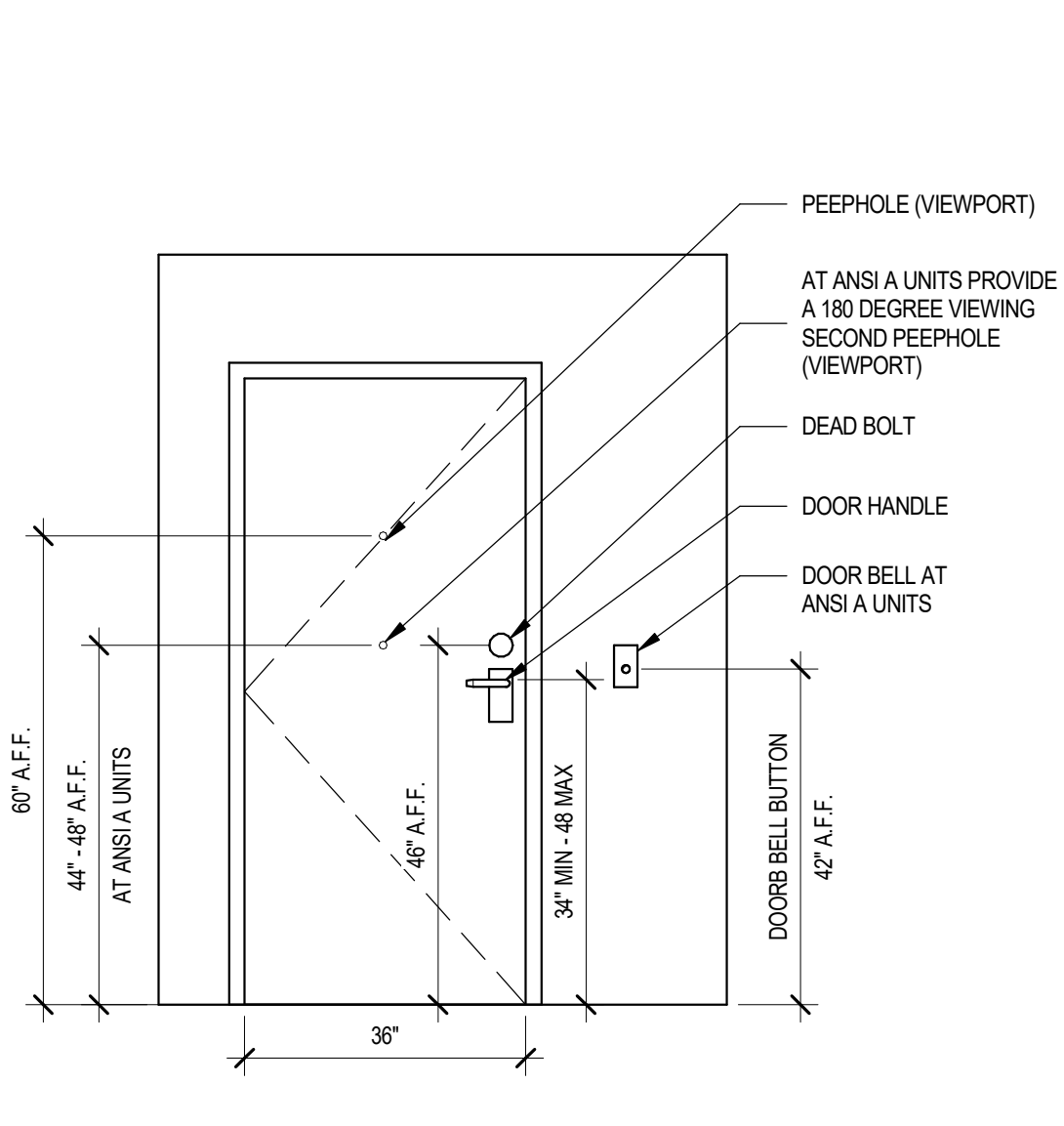


47 TYPE A UNIT BATH ACCESSORIES
 (ICC A117.1-2009 - SECTION 606) SCALE: 3/4" = 1'-0"

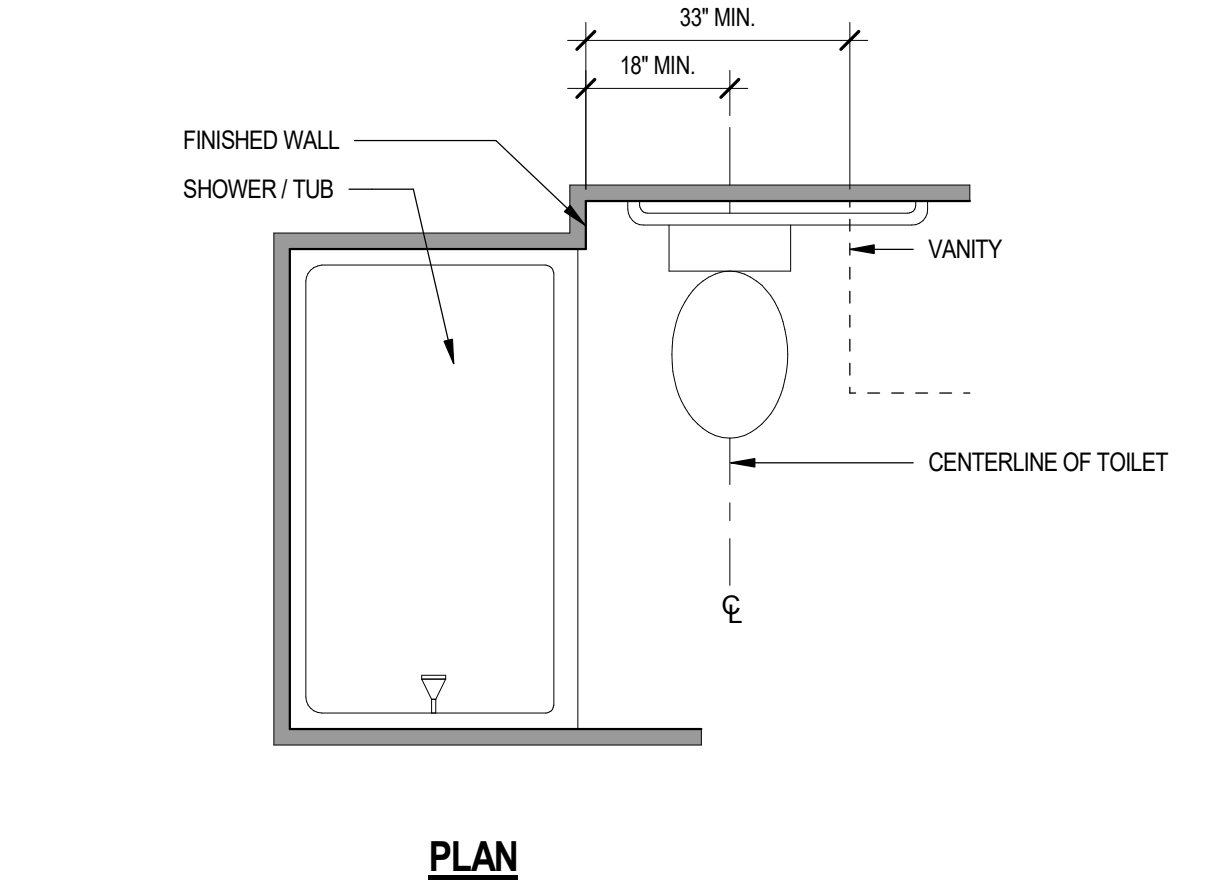


48 KNEE SPACE AT ACCESSIBLE SINK WITH GARBAGE DISPOSAL
 (FHA - CHAPTER 7.15) (ICC A117.1-2009 - SECTION 306.2) SCALE: 1" = 1'-0"

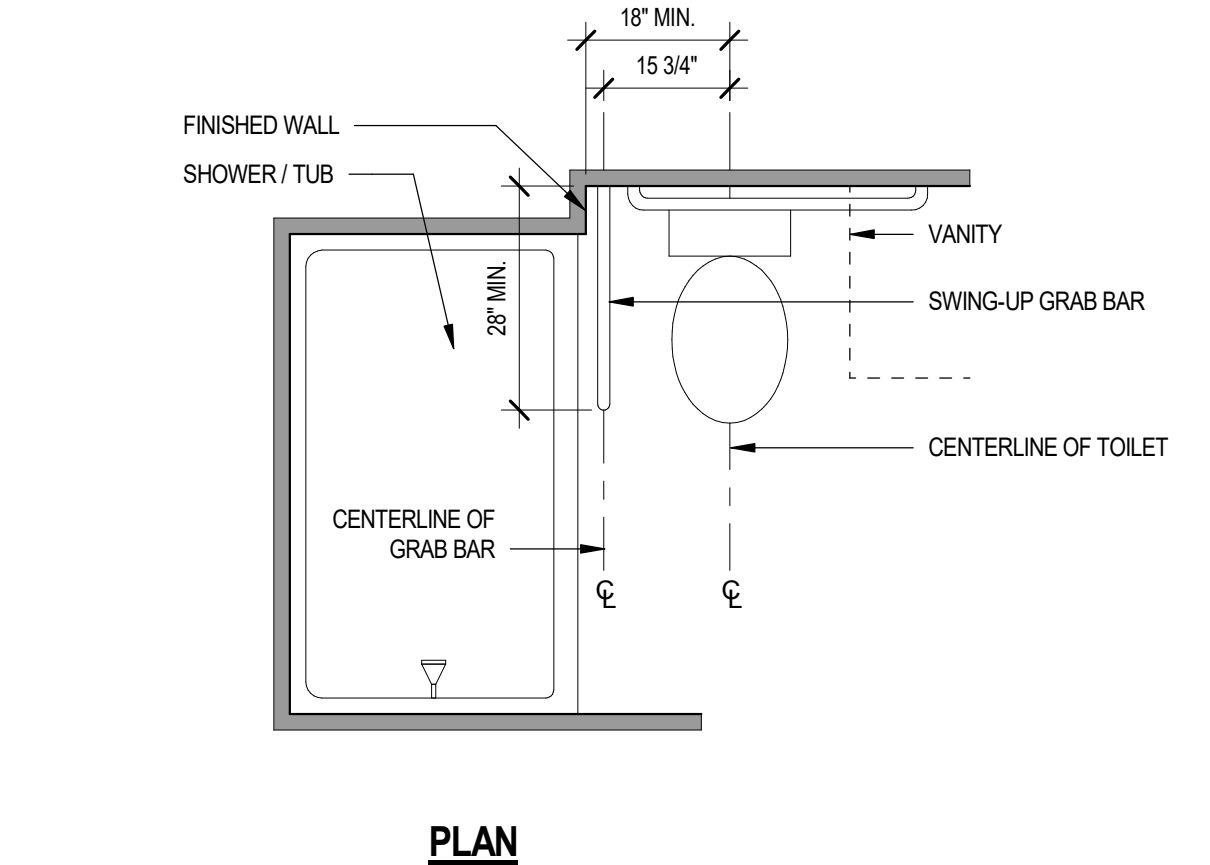
43 CLOSET REACH-IN DIM.
 (ICC A117.1-2009 - SECTION 404.2.2) SCALE: 3/8" = 1'-0"



44 ENTRY DOOR COMPONENTS
 (ICC A117.1-2009 - SECTION 404.2.2, 404.2.8) SCALE: 1/2" = 1'-0"



ANSI B - REINFORCEMENT FOR TOILETS AT NO CORNER CONDITION
 (FHA CHAPTER 6) (ICC A117.1-2009 - SECTIONS 1004.11.1.1 & 604.5)



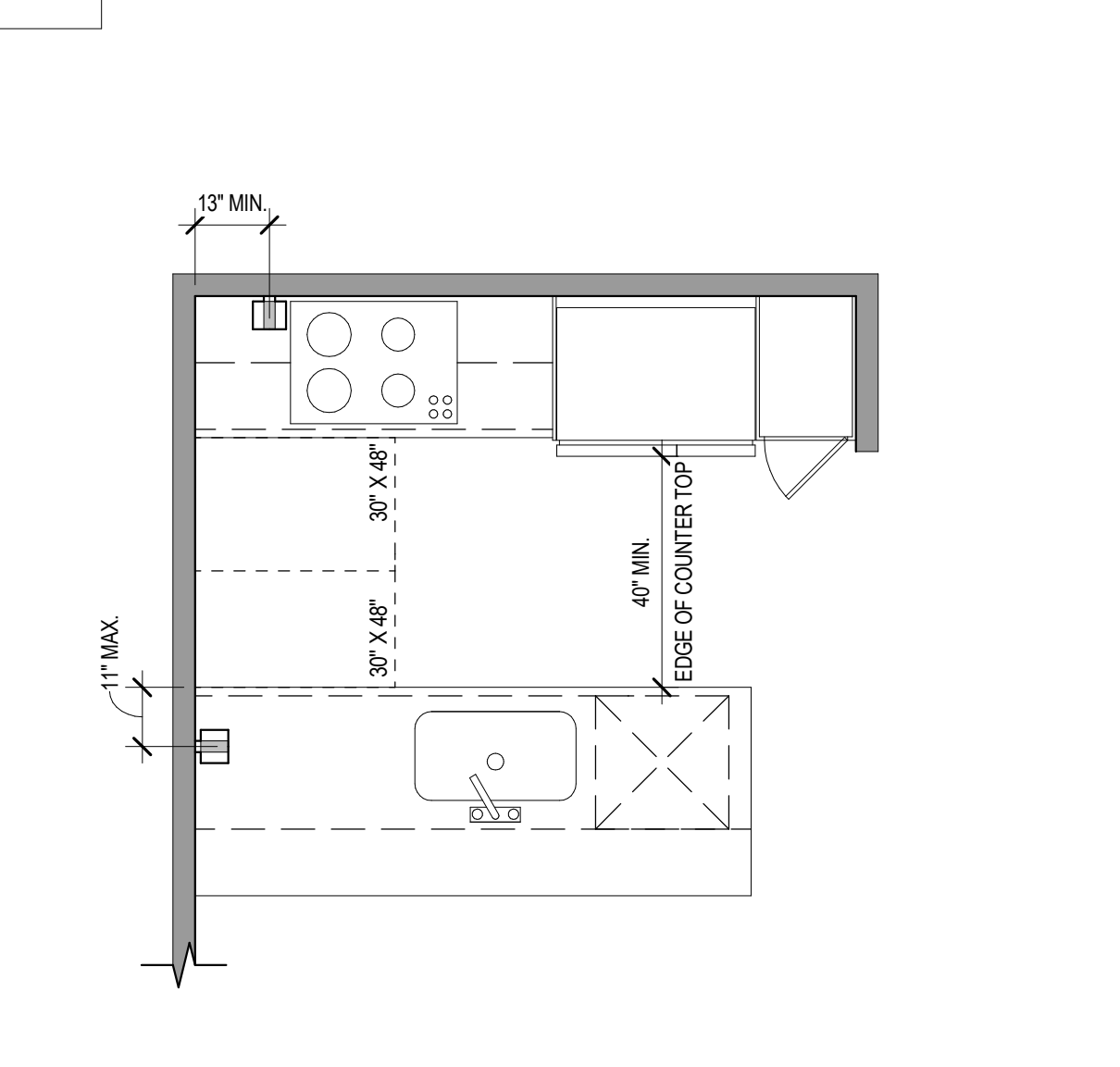
ANSI TYPE B - GRAB BARS FOR TOILETS AT NO CORNER CONDITION
 (ICC A117.1-2009 - SECTIONS 1004.11.1.1 & 604.5)

NOTES: (ICC/ANSI A117.1-2009)

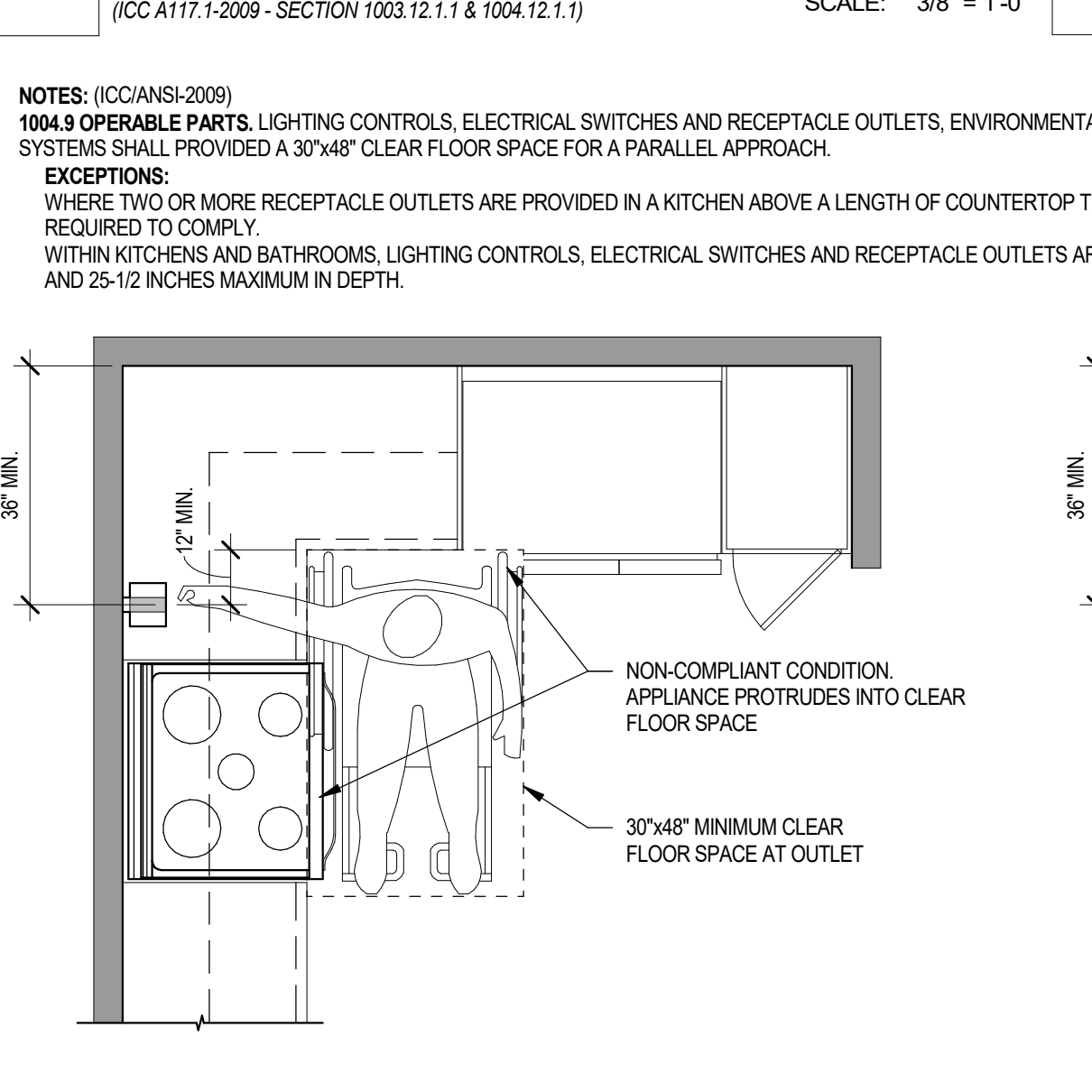
- PER SECTIONS 1004.11.1.1 REINFORCEMENT SHALL BE PROVIDED FOR THE FUTURE INSTALLATION OF GRAB BARS COMPLYING WITH SECTION 604.5 AT WATER CLOSETS.
- AT WATER CLOSETS WHERE A SIDE WALL IS NOT AVAILABLE FOR 42-INCH GRAB BAR COMPLYING WITH SECTION 604.5, REINFORCEMENT FOR A SWING-UP GRAB BAR COMPLYING WITH SECTION 1004.11.1.1 SHALL BE PERMITTED.
- AT WATER CLOSETS WHERE WALL SPACE WILL NOT PERMIT A GRAB BAR COMPLYING WITH SECTION 604.5, REINFORCEMENT FOR A REAR WALL GRAB BAR 24 INCHES MINIMUM IN LENGTH CENTERED ON THE WATER CLOSET SHALL BE PROVIDED PER SECTION 1004.11.1 EXCEPTION 3.
- GRAB BARS SHALL BE INSTALLED MEASURING FROM FINISH FLOOR TO THE TOP OF THE GRIPPING SURFACE, TYPICAL, UNLESS SPECIFIED OTHERWISE.
- AT WATER CLOSETS WHERE A SIDE WALL IS NOT AVAILABLE FOR A 42-INCH GRAB BAR COMPLYING WITH SECTION 604.5, REINFORCEMENT FOR TWO SWING-UP GRAB BARS COMPLYING WITH SECTION 1004.11.1.1 SHALL BE PERMITTED TO BE INSTALLED IN LIEU OF REINFORCEMENT FOR REAR WALL AND SIDE WALL GRAB BARS.

SOLID BLOCKING, SEE DETAIL 03A7.8.10

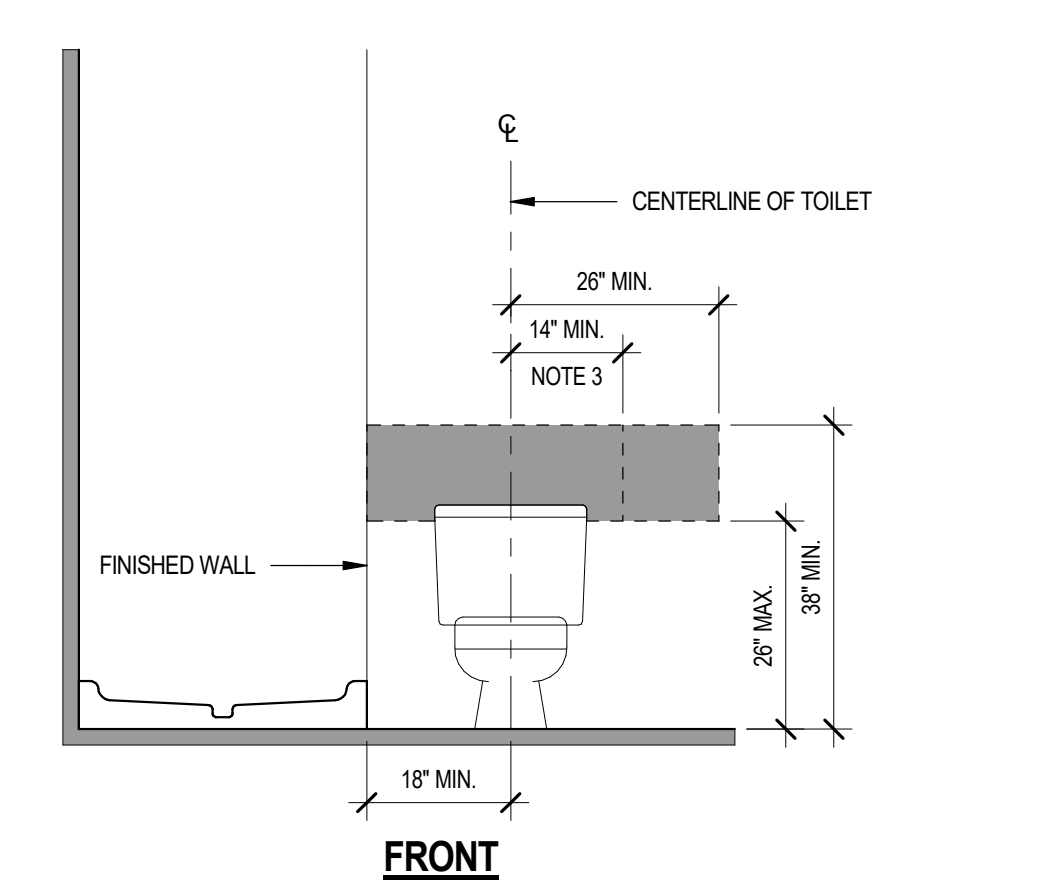
38 ANSI B - REINFORCEMENT AND GRAB BAR FOR TOILETS AT NO CORNER CONDITION
 SCALE: 1/2" = 1'-0"



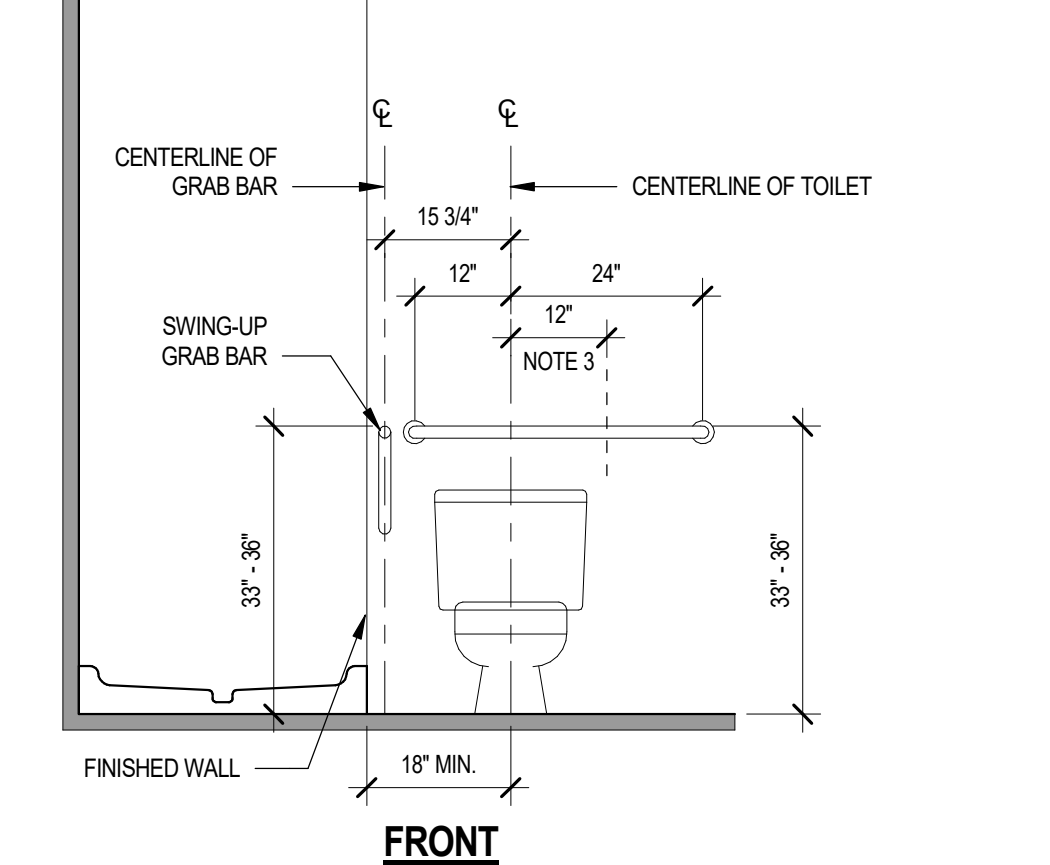
39 POWER OUTLET LOCATIONS AND CLEARANCES AT U-SHAPE KITCHENS
 (ICC A117.1-2009 - SECTION 1003.12.1.1 & 1004.12.1.1) SCALE: 3/8" = 1'-0"



40 POWER OUTLET LOCATIONS AND CLEARANCES AT KITCHENS
 (ICC A117.1-2009 - SECTION 1004.9) SCALE: 1/2" = 1'-0"



ANSI B - REINFORCEMENT FOR TOILETS AT CORNER W/ LONG WALL
 (FHA CHAPTER 6) (ICC A117.1-2009 - SECTIONS 1004.11.1 & 604.5)



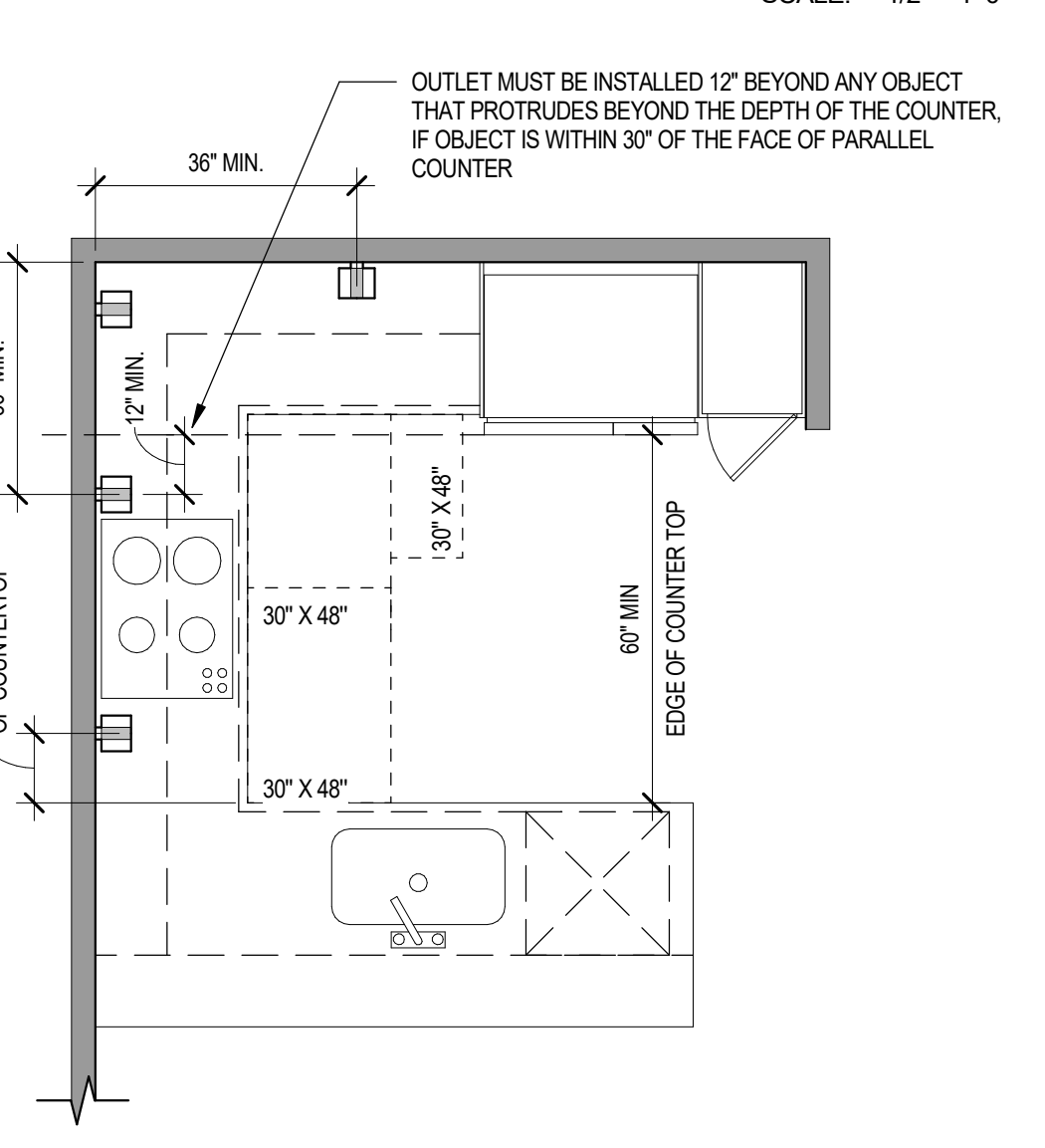
ANSI TYPE B - GRAB BARS FOR TOILETS AT CORNER CONDITION
 (ICC A117.1-2009 - SECTIONS 1004.11.1 & 604.5)

NOTES: (ICC/ANSI A117.1-2009)

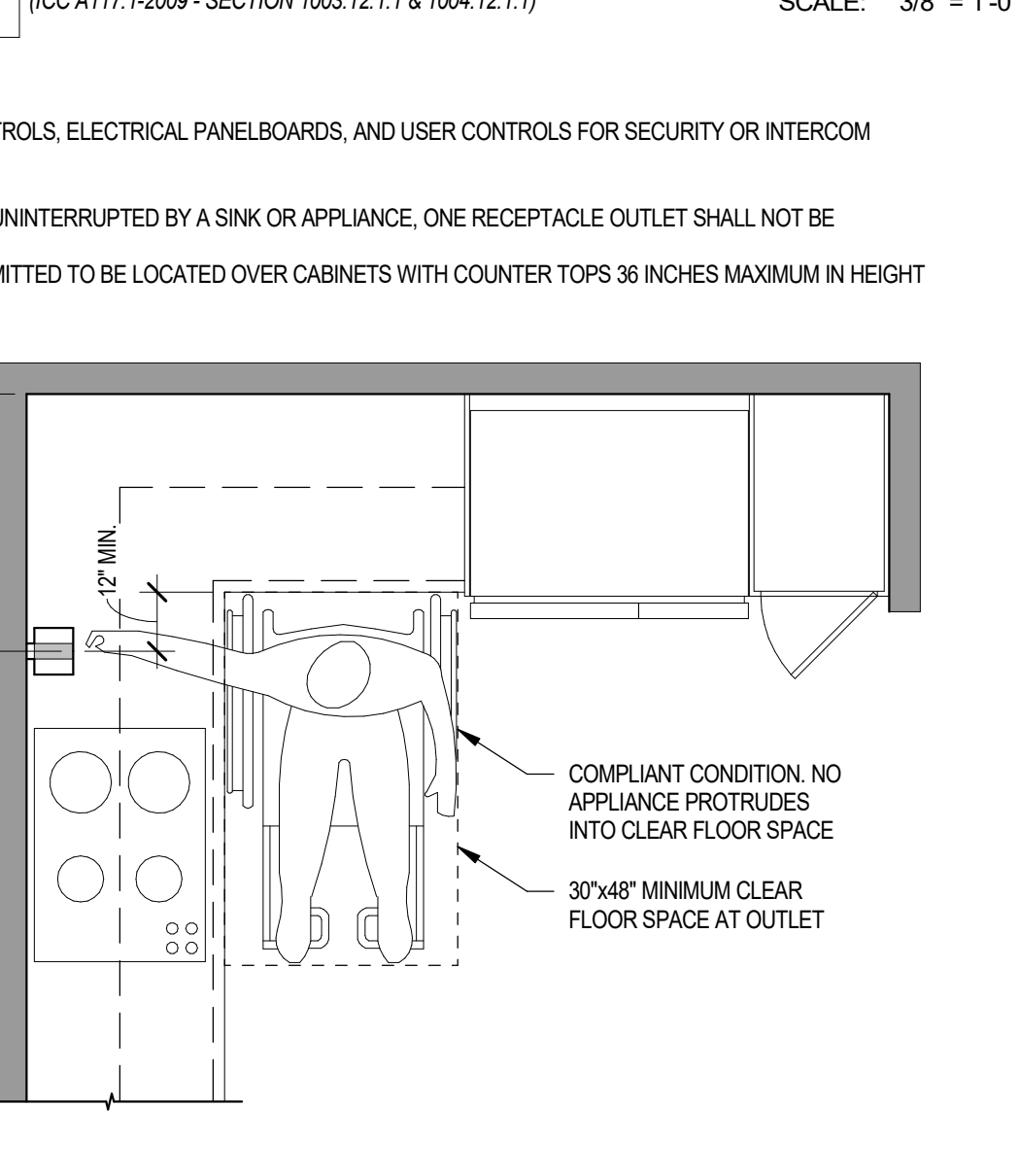
- PER SECTIONS 1004.11.1 REINFORCEMENT SHALL BE PROVIDED FOR THE FUTURE INSTALLATION OF GRAB BARS COMPLYING WITH SECTION 604.5 AT WATER CLOSETS.
- AT WATER CLOSETS WHERE WALL SPACE WILL NOT PERMIT A GRAB BAR COMPLYING WITH SECTION 604.5, REINFORCEMENT FOR A REAR WALL GRAB BAR 24 INCHES MINIMUM IN LENGTH CENTERED ON THE WATER CLOSET SHALL BE PROVIDED PER SECTION 1004.11.1 EXCEPTION 3.
- GRAB BARS SHALL BE INSTALLED MEASURING FROM FINISH FLOOR TO THE TOP OF THE GRIPPING SURFACE, TYPICAL, UNLESS SPECIFIED OTHERWISE.
- AT WATER CLOSETS WHERE A SIDE WALL IS NOT AVAILABLE FOR 42-INCH GRAB BAR COMPLYING WITH SECTION 604.5, REINFORCEMENT FOR A SIDEWALL GRAB BAR, 24 INCHES MINIMUM IN LENGTH, LOCATED 12 INCHES MAXIMUM FROM THE REAR WALL, SHALL BE PROVIDED PER SECTION 1004.11.1 EXCEPTION 4.

SOLID BLOCKING, SEE DETAIL 03A7.8.10

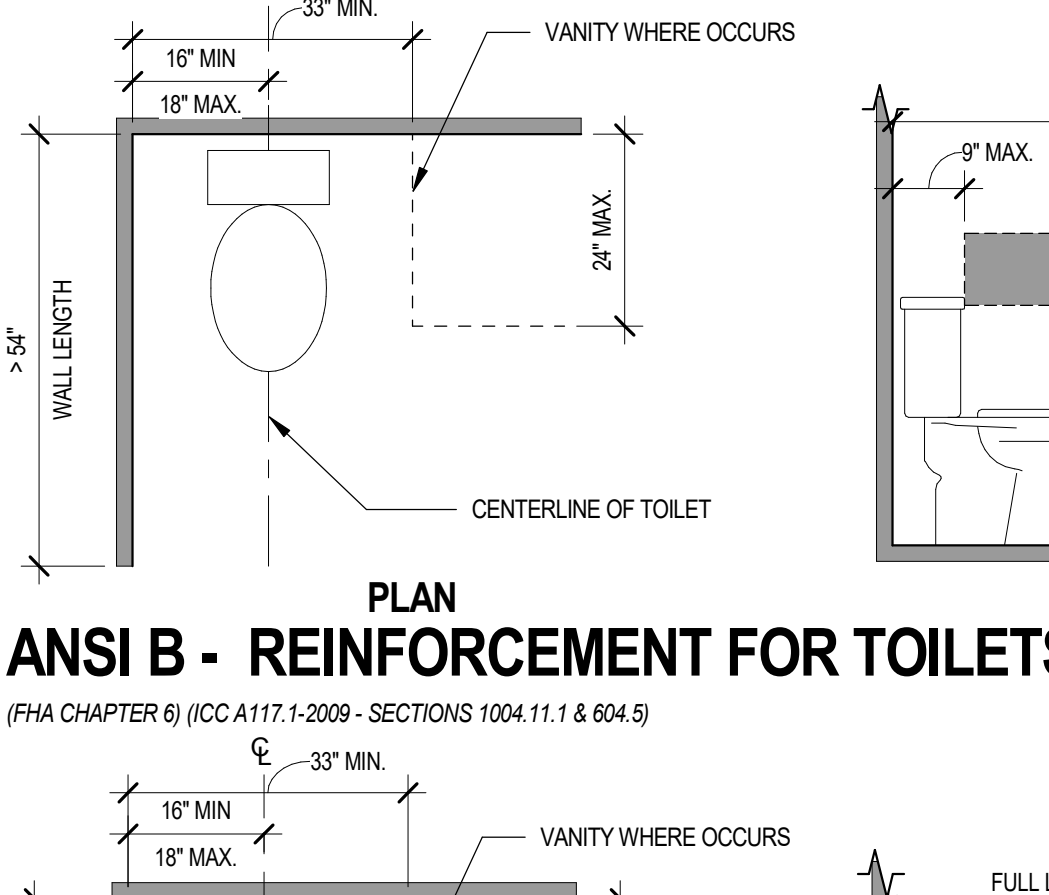
30 ANSI B - REINFORCEMENT AND GRAB BAR FOR TOILETS AT CORNER CONDITION
 SCALE: 1/2" = 1'-0"



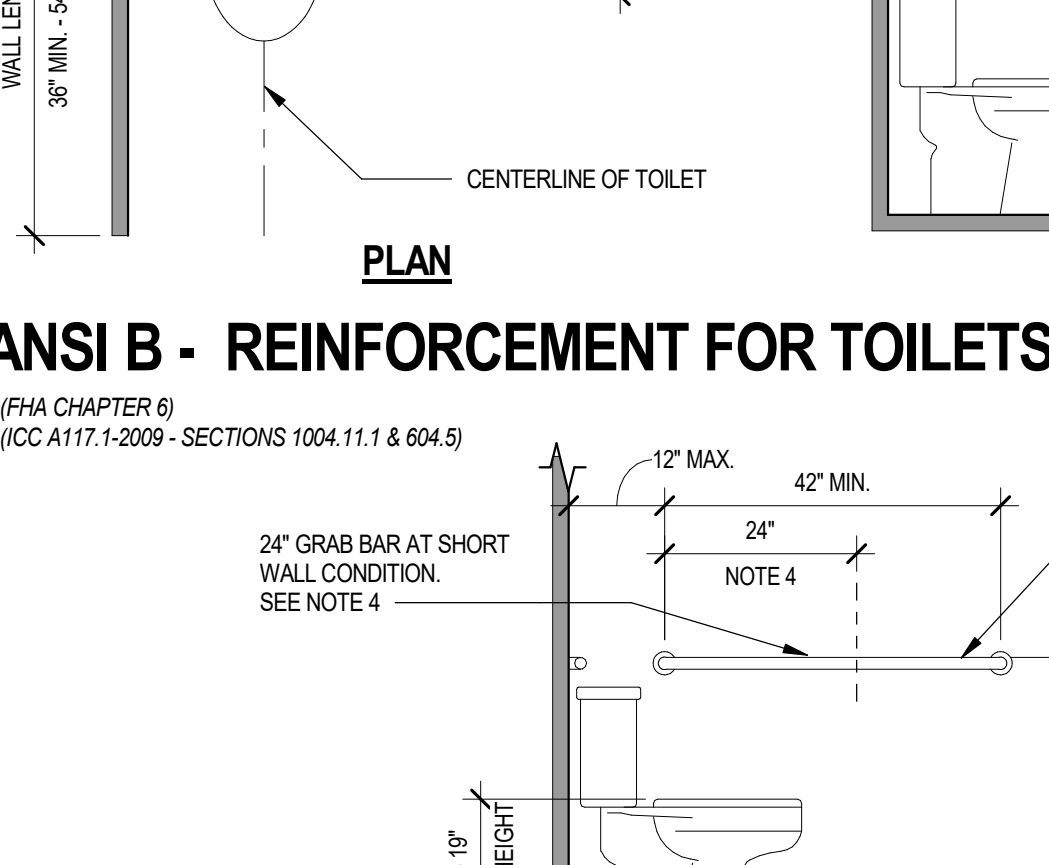
35 POWER OUTLET LOCATIONS AND CLEARANCES AT U-SHAPE KITCHENS
 (ICC A117.1-2009 - SECTION 1003.12.1.1 & 1004.12.1.1) SCALE: 3/8" = 1'-0"



40 POWER OUTLET LOCATIONS AND CLEARANCES AT KITCHENS
 (ICC A117.1-2009 - SECTION 1004.9) SCALE: 1/2" = 1'-0"



ANSI B - REINFORCEMENT FOR TOILETS AT CORNER W/ SHORT WALL
 (FHA CHAPTER 6) (ICC A117.1-2009 - SECTIONS 1004.11.1 & 604.5)



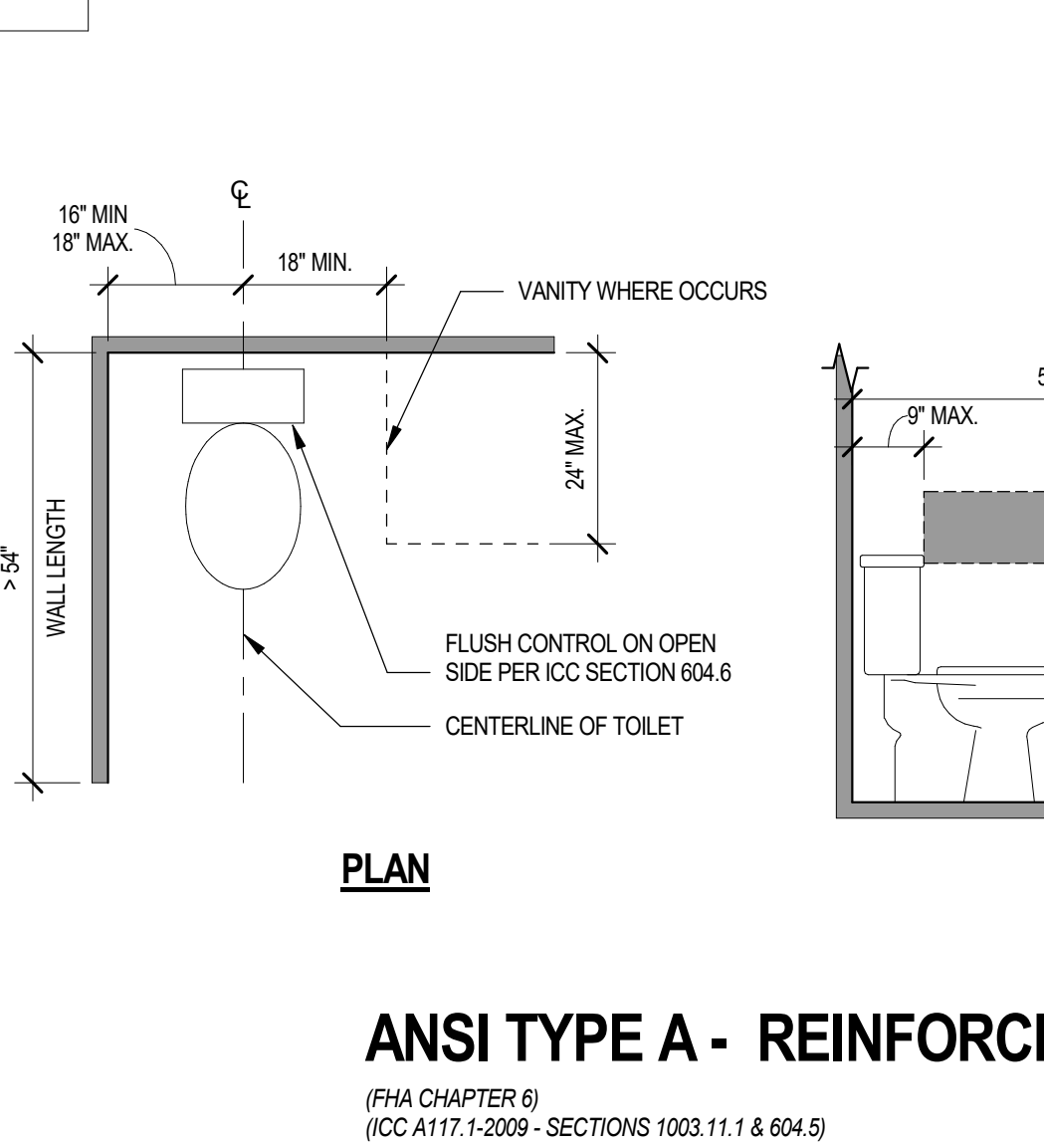
ANSI TYPE B - GRAB BARS FOR TOILETS AT CORNER CONDITION
 (ICC A117.1-2009 - SECTIONS 1004.11.1 & 604.5)

NOTES: (ICC/ANSI A117.1-2009)

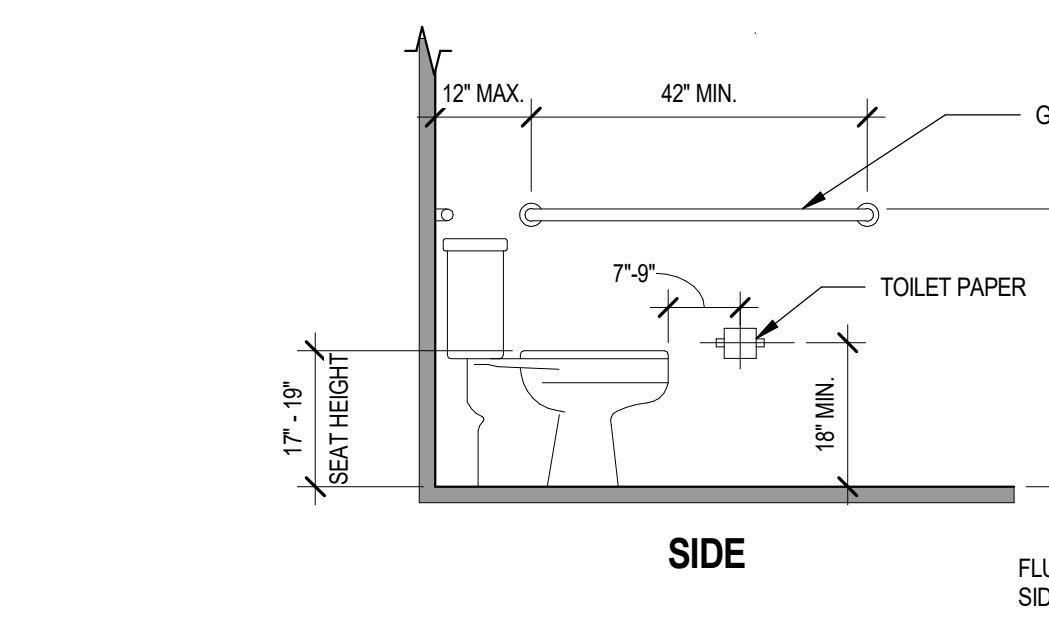
- PER SECTIONS 1004.11.1 REINFORCEMENT SHALL BE PROVIDED FOR THE FUTURE INSTALLATION OF GRAB BARS COMPLYING WITH SECTION 604.5 AT WATER CLOSETS.
- AT WATER CLOSETS WHERE WALL SPACE WILL NOT PERMIT A GRAB BAR COMPLYING WITH SECTION 604.5, REINFORCEMENT FOR A REAR WALL GRAB BAR 24 INCHES MINIMUM IN LENGTH CENTERED ON THE WATER CLOSET SHALL BE PROVIDED PER SECTION 1004.11.1 EXCEPTION 3.
- GRAB BARS SHALL BE INSTALLED MEASURING FROM FINISH FLOOR TO THE TOP OF THE GRIPPING SURFACE, TYPICAL, UNLESS SPECIFIED OTHERWISE.
- AT WATER CLOSETS WHERE A SIDE WALL IS NOT AVAILABLE FOR 42-INCH GRAB BAR COMPLYING WITH SECTION 604.5, REINFORCEMENT FOR A SIDEWALL GRAB BAR, 24 INCHES MINIMUM IN LENGTH, LOCATED 12 INCHES MAXIMUM FROM THE REAR WALL, SHALL BE PROVIDED PER SECTION 1004.11.1 EXCEPTION 4.

SOLID BLOCKING, SEE DETAIL 03A7.8.10

30 ANSI B - REINFORCEMENT AND GRAB BAR FOR TOILETS AT CORNER CONDITION
 SCALE: 1/2" = 1'-0"



ANSI TYPE A - REINFORCEMENT FOR TOILETS
 (FHA CHAPTER 6) (ICC A117.1-2009 - SECTIONS 1003.11.1 & 604.5)



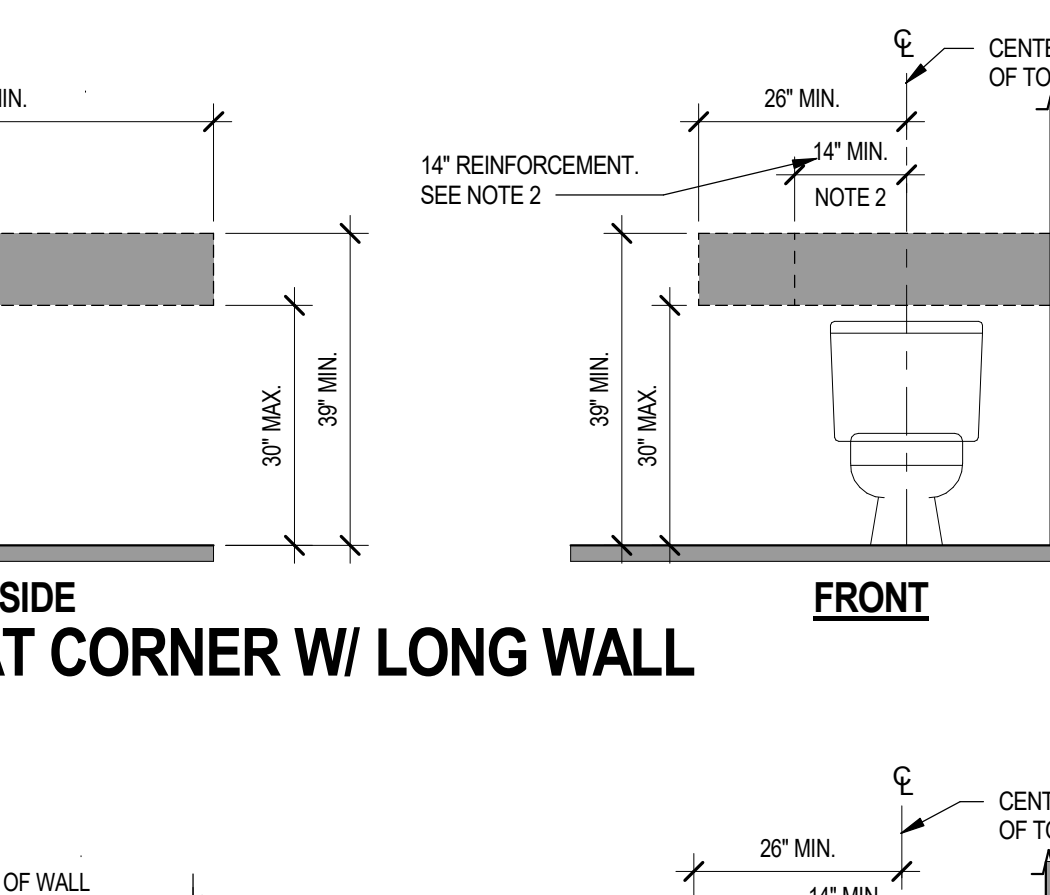
ANSI TYPE A - GRAB BARS FOR TOILETS
 (ICC A117.1-2009 - SECTIONS 1003.11.1 & 604.5)

NOTES: (ICC/ANSI A117.1-2009)

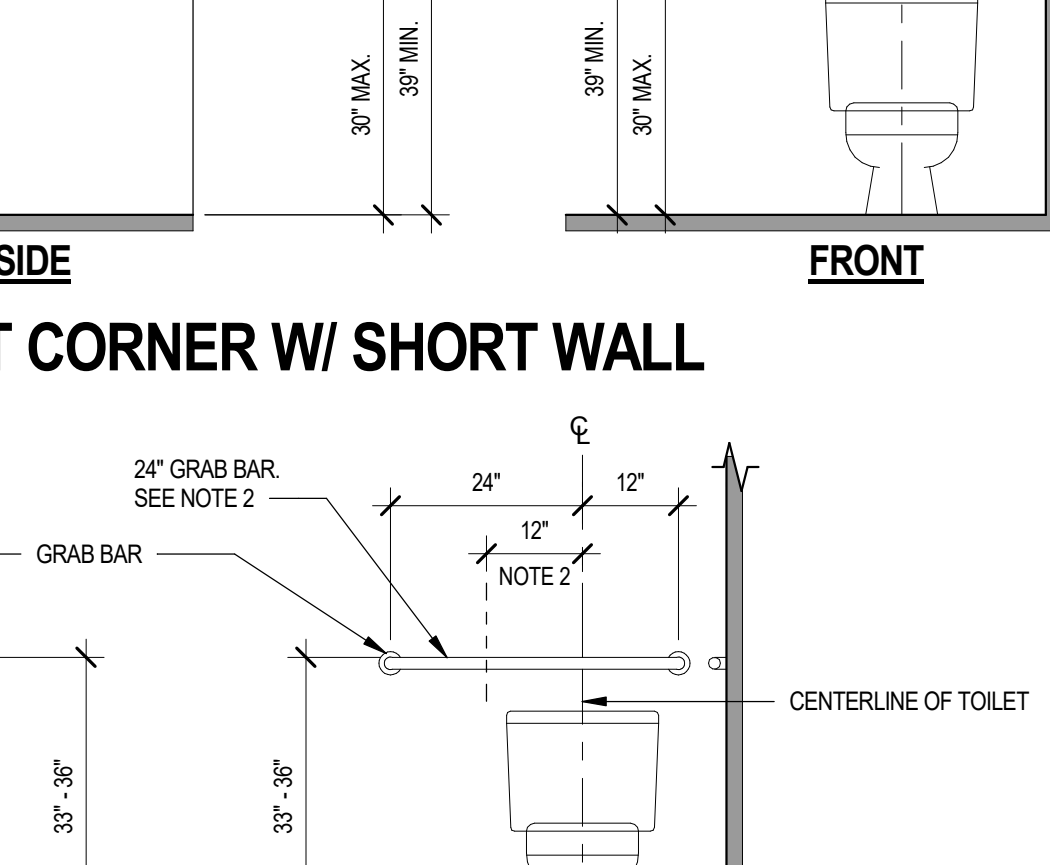
- PER SECTIONS 1003.11.1 REINFORCEMENT SHALL BE PROVIDED FOR THE FUTURE INSTALLATION OF GRAB BARS COMPLYING WITH SECTION 604.5 AT WATER CLOSETS.
- WHERE THE LAVATORY OVERLAPS THE WATER CLOSET CLEARANCE IN ACCORDANCE WITH THE EXCEPTION TO SECTION 1003.11.2.4.4 REINFORCEMENT AT THE WATER CLOSET REAR WALL FOR A 24-INCH MINIMUM LENGTH GRAB BAR, CENTERED ON THE WATER CLOSET, SHALL BE PROVIDED PER SECTION 1003.11.1 EXCEPTION 4.
- GRAB BARS SHALL BE INSTALLED MEASURING FROM FINISH FLOOR TO THE TOP OF THE GRIPPING SURFACE, TYPICAL, UNLESS SPECIFIED OTHERWISE.

SOLID BLOCKING, SEE DETAIL 03A7.8.10

32 ANSI A - REINFORCEMENT AND GRAB BAR FOR TOILETS
 SCALE: 1/2" = 1'-0"



ANSI B - REINFORCEMENT FOR TOILETS AT CORNER W/ LONG WALL
 (FHA CHAPTER 6) (ICC A117.1-2009 - SECTIONS 1004.11.1 & 604.5)



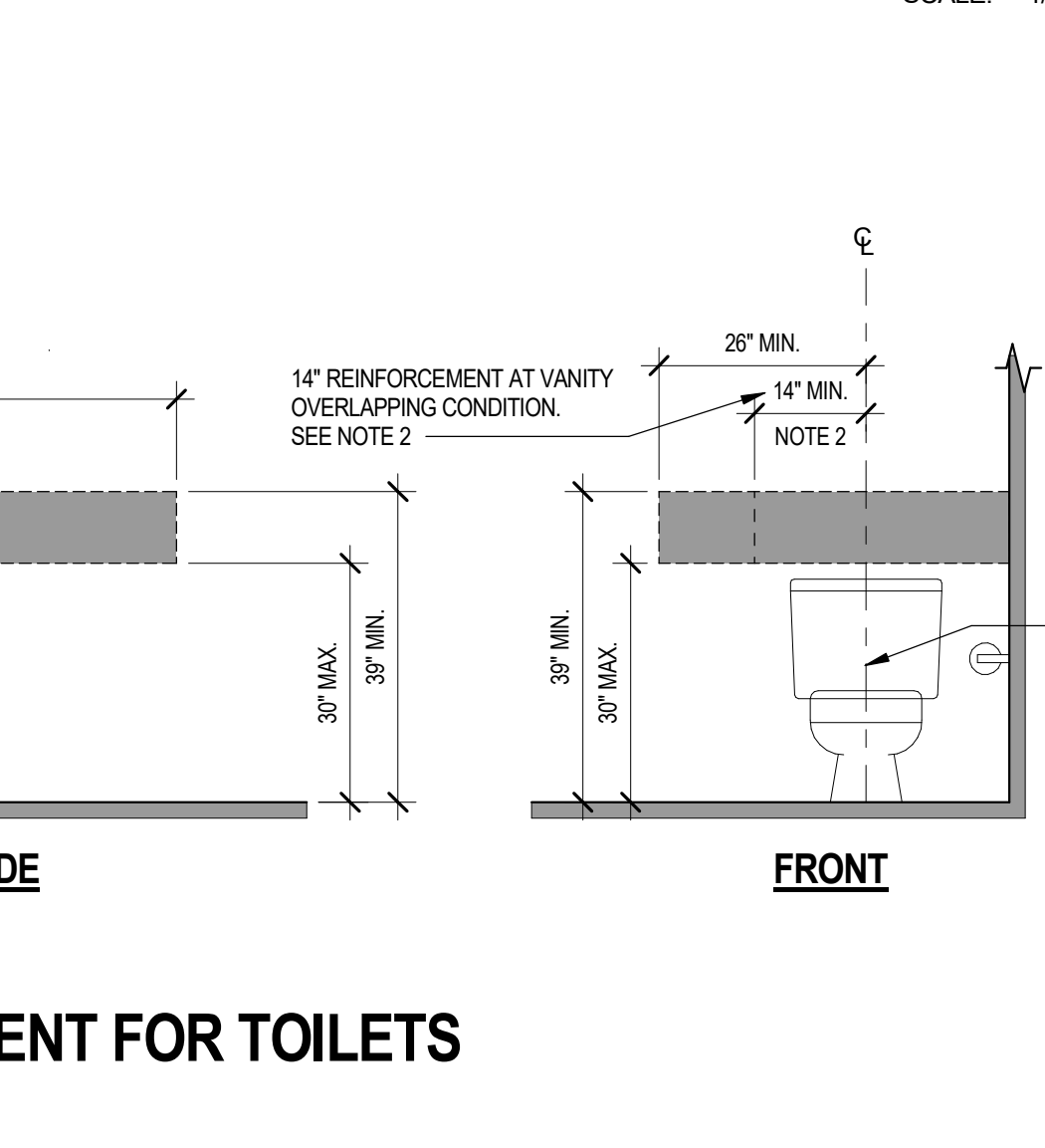
ANSI TYPE B - GRAB BARS FOR TOILETS AT CORNER CONDITION
 (ICC A117.1-2009 - SECTIONS 1004.11.1 & 604.5)

NOTES: (ICC/ANSI A117.1-2009)

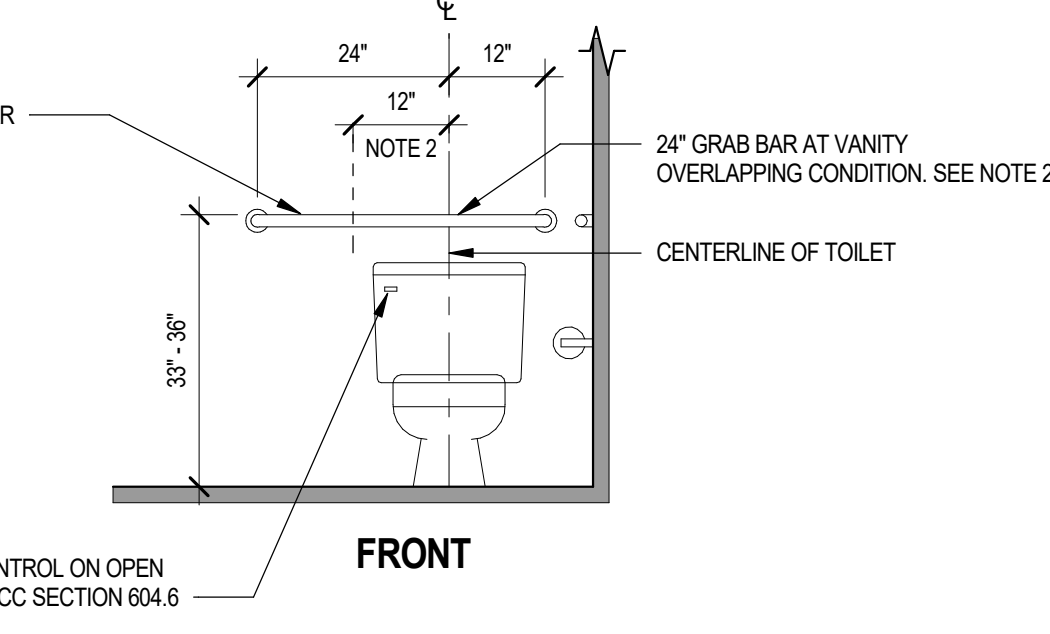
- PER SECTIONS 1004.11.1 REINFORCEMENT SHALL BE PROVIDED FOR THE FUTURE INSTALLATION OF GRAB BARS COMPLYING WITH SECTION 604.5 AT WATER CLOSETS.
- AT WATER CLOSETS WHERE WALL SPACE WILL NOT PERMIT A GRAB BAR COMPLYING WITH SECTION 604.5, REINFORCEMENT FOR A REAR WALL GRAB BAR 24 INCHES MINIMUM IN LENGTH CENTERED ON THE WATER CLOSET SHALL BE PROVIDED PER SECTION 1004.11.1 EXCEPTION 3.
- GRAB BARS SHALL BE INSTALLED MEASURING FROM FINISH FLOOR TO THE TOP OF THE GRIPPING SURFACE, TYPICAL, UNLESS SPECIFIED OTHERWISE.
- AT WATER CLOSETS WHERE A SIDE WALL IS NOT AVAILABLE FOR 42-INCH GRAB BAR COMPLYING WITH SECTION 604.5, REINFORCEMENT FOR A SIDEWALL GRAB BAR, 24 INCHES MINIMUM IN LENGTH, LOCATED 12 INCHES MAXIMUM FROM THE REAR WALL, SHALL BE PROVIDED PER SECTION 1004.11.1 EXCEPTION 4.

SOLID BLOCKING, SEE DETAIL 03A7.8.10

30 ANSI B - REINFORCEMENT AND GRAB BAR FOR TOILETS AT CORNER CONDITION
 SCALE: 1/2" = 1'-0"



ANSI TYPE A - REINFORCEMENT FOR TOILETS
 (FHA CHAPTER 6) (ICC A117.1-2009 - SECTIONS 1003.11.1 & 604.5)



ANSI TYPE A - GRAB BARS FOR TOILETS
 (ICC A117.1-2009 - SECTIONS 1003.11.1 & 604.5)

NOTES: (ICC/ANSI A117.1-2009)

- PER SECTIONS 1003.11.1 REINFORCEMENT SHALL BE PROVIDED FOR THE FUTURE INSTALLATION OF GRAB BARS COMPLYING WITH SECTION 604.5 AT WATER CLOSETS.
- WHERE THE LAVATORY OVERLAPS THE WATER CLOSET CLEARANCE IN ACCORDANCE WITH THE EXCEPTION TO SECTION 1003.11.2.4.4 REINFORCEMENT AT THE WATER CLOSET REAR WALL FOR A 24-INCH MINIMUM LENGTH GRAB BAR, CENTERED ON THE WATER CLOSET, SHALL BE PROVIDED PER SECTION 1003.11.1 EXCEPTION 4.
- GRAB BARS SHALL BE INSTALLED MEASURING FROM FINISH FLOOR TO THE TOP OF THE GRIPPING SURFACE, TYPICAL, UNLESS SPECIFIED OTHERWISE.

SOLID BLOCKING, SEE DETAIL 03A7.8.10

32 ANSI A - REINFORCEMENT AND GRAB BAR FOR TOILETS
 SCALE: 1/2" = 1'-0"

Project Name 1
Project Name 2
 Street Address
 City, state

Office of Rich Barber
ORB
 Architecture, LLC
 WorldHQ@ORBArch.com

PRELIMINARY
 NOT FOR
 CONSTRUCTION

ALLIANCE
 RESIDENTIAL COMPANY
 LEGACY HOSPITALITY

Contractor must verify all dimensions at project before proceeding with this work. Do not reproduce these drawings and specifications without the expressed written permission of the Architect. The drawings and specifications are instruments of service and shall remain the property of the Architect whether the project for which they are made is completed or not. These drawings and specifications shall not be used for any other projects, for additions to this project, or for completion of this project by others except by the expressed written permission of the Architect.

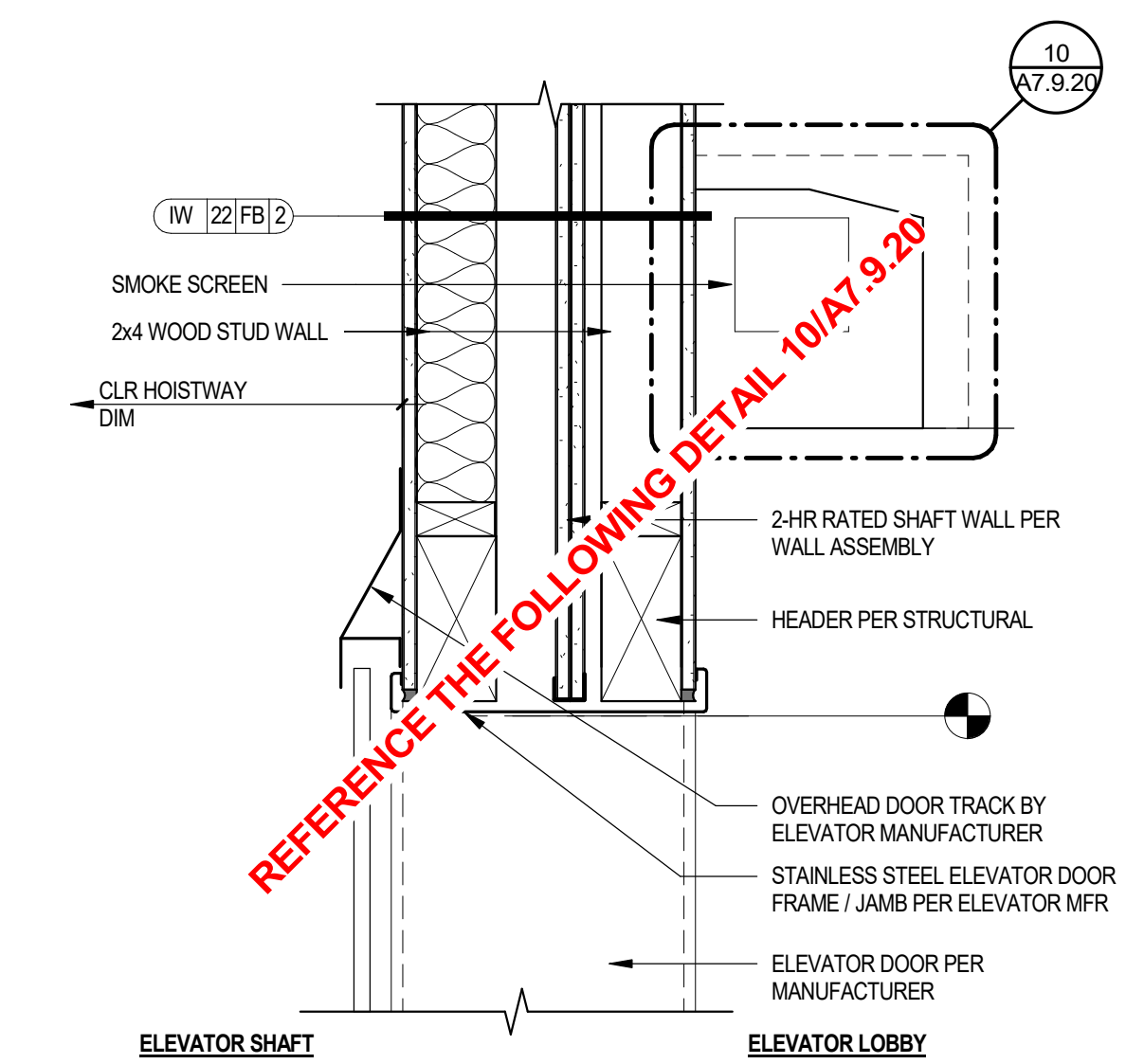
Notice of alternate billing (or payment) cycle: This contract allows (may allow) the owner to require the submission of bills or estimates in billing cycles other than thirty days. (This contract may allow the owner to make payment on some alternative schedule after consultation and approval of billing cycle extension.) A written description of such other billing (estimate) cycle applicable to the owner's designated agent at ALLIANCE RESIDENTIAL COMPANY, 2525 S. CAMELBACK RD., SUITE 500, PHOENIX, AZ 85016. Over the owner or its designated agent shall provide this written description of billing cycle extension.

REVISIONS/SUBMITTALS

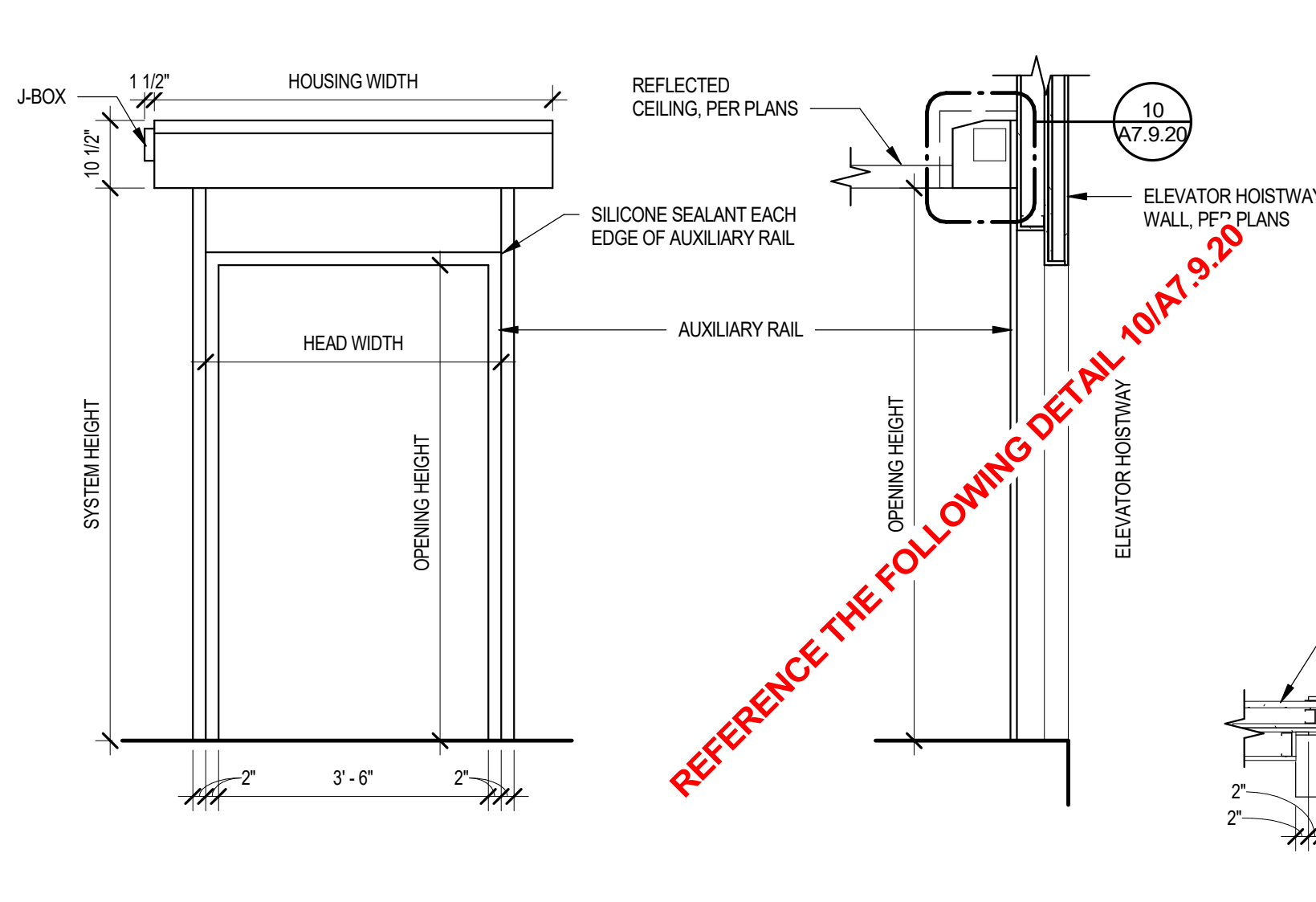
DATE	DESCRIPTION
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1ST CITY SUBMITTAL
 DATE: July 17, 2024 ORB #: 00-000

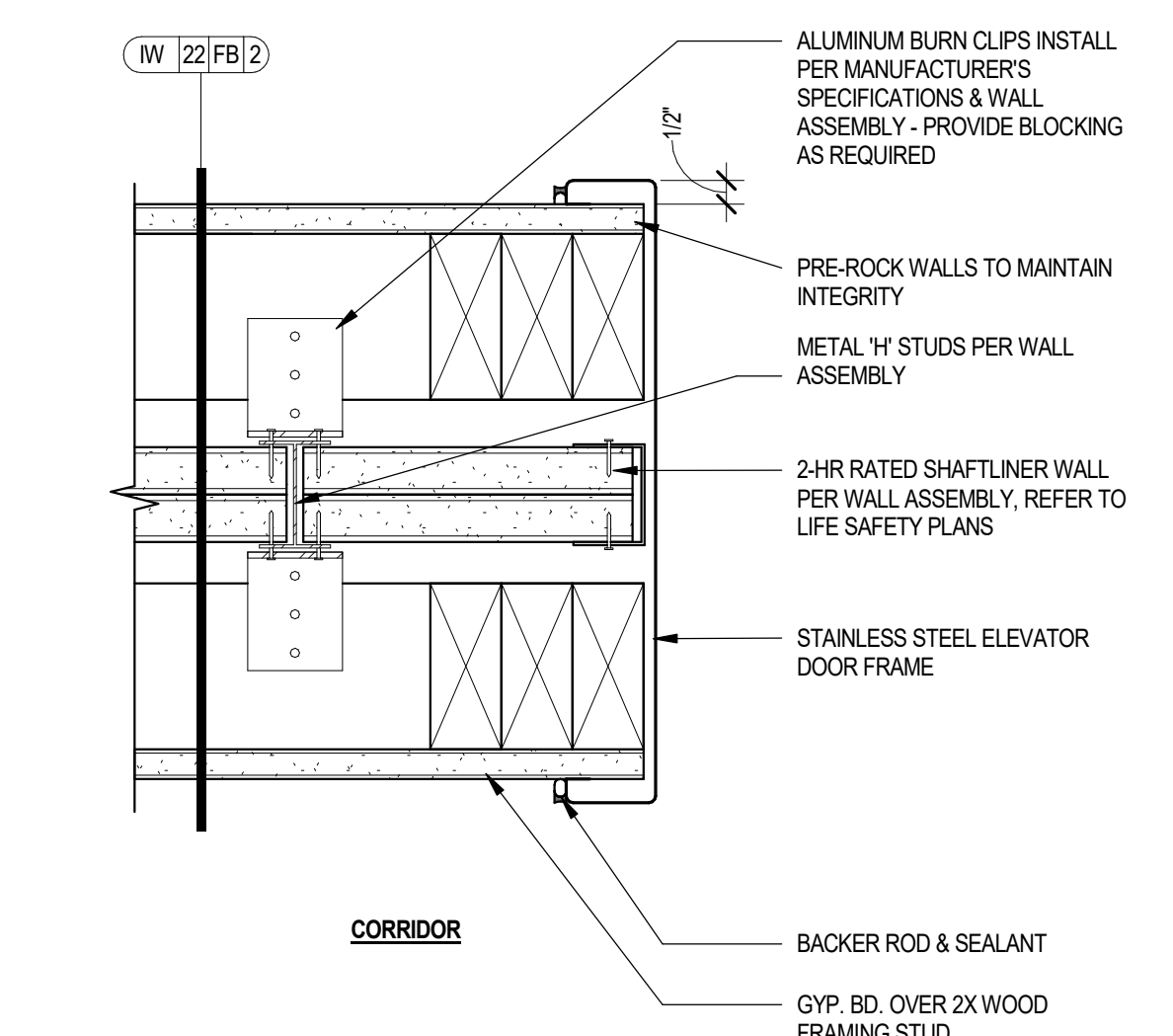
A7.8.12
 ACCESSIBILITY DETAILS - UNITS
 25-48



17 ELEVATOR - DOOR HEAD AT WOOD FRAMED SHAFT
SCALE: 1 1/2" = 1'-0"



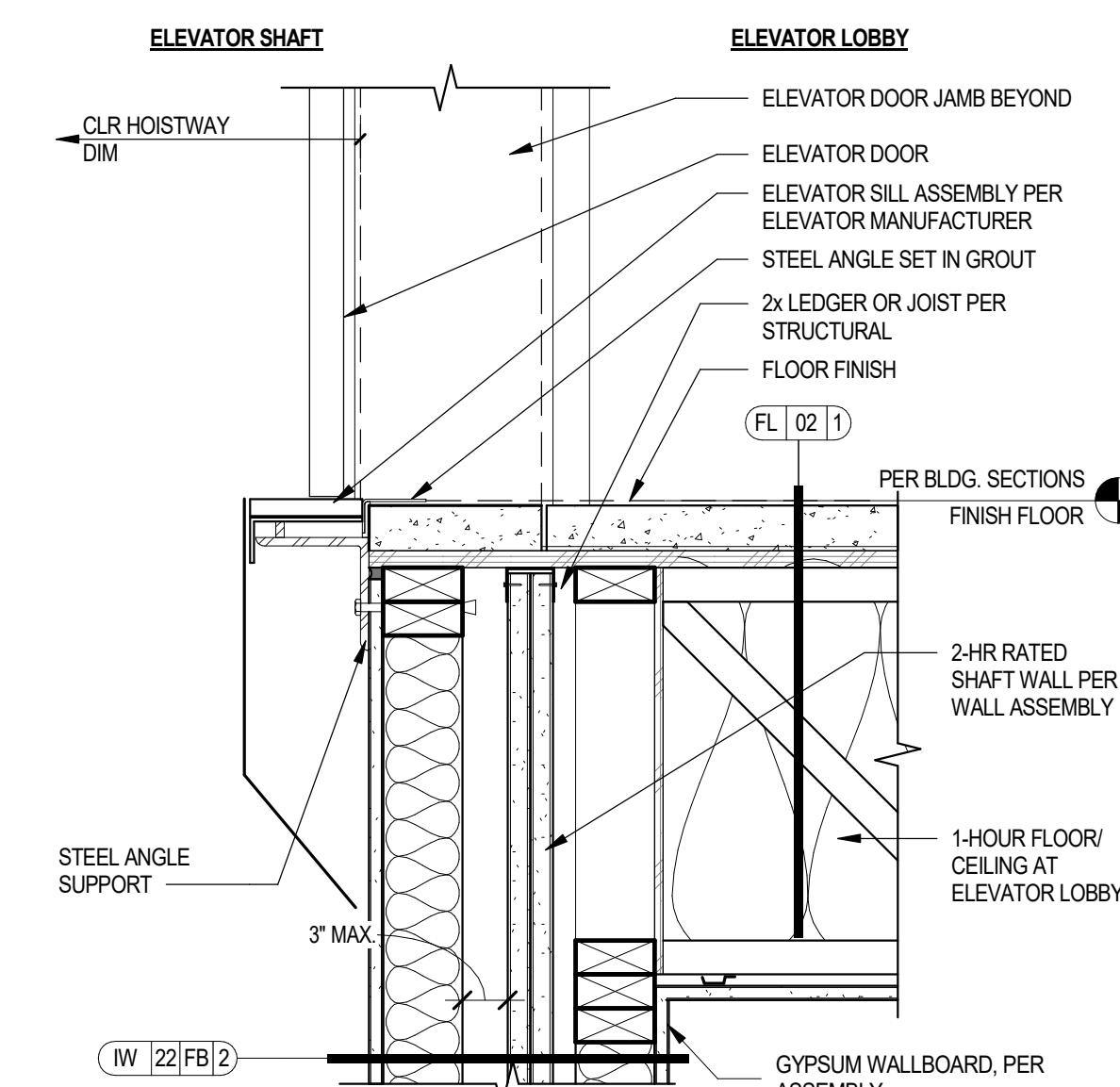
13 HOISTWAY OPENING PROTECTION - SMOKEGUARD
PER 2018 IBC 3008.3.3
SCALE: 1/2" = 1'-0"



18 ELEVATOR - DOOR JAMB AT WOOD FRAMED SHAFT
SCALE: 3" = 1'-0"



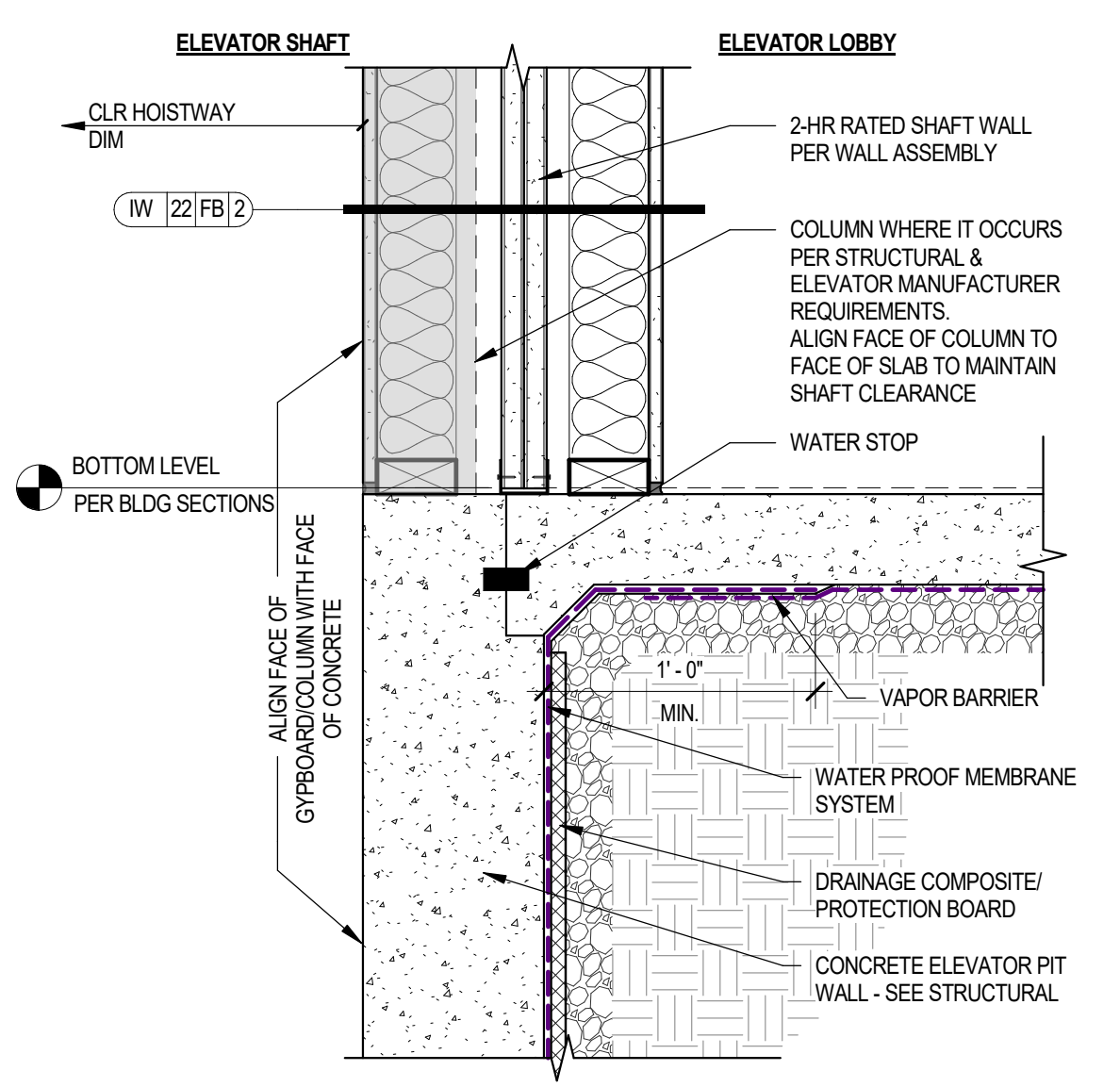
10 ELEVATOR SMOKE DOOR - M200 HOUSING DETAIL
SCALE: 3" = 1'-0"



19 ELEVATOR - DOOR SILL AT WOOD FRAMED CORRIDOR - WOOD FRAMED SHAFT
SCALE: 1 1/2" = 1'-0"



06 ELEVATOR CAB
SCALE: 1/4" = 1'-0"

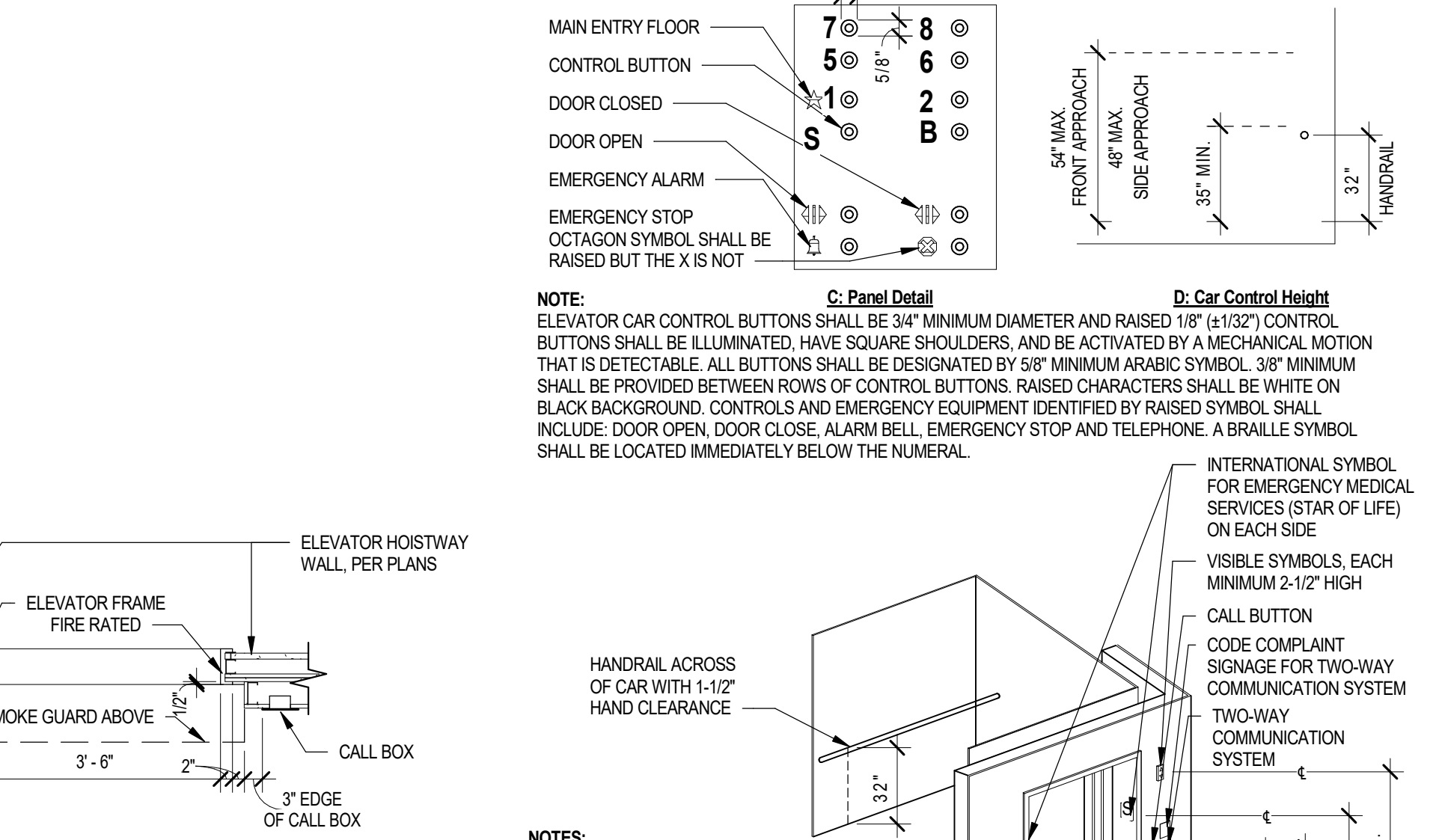


20 ELEVATOR - DOOR SILL AT BOTTOM LEVEL - WOOD FRAMED SHAFT
SCALE: 1 1/2" = 1'-0"

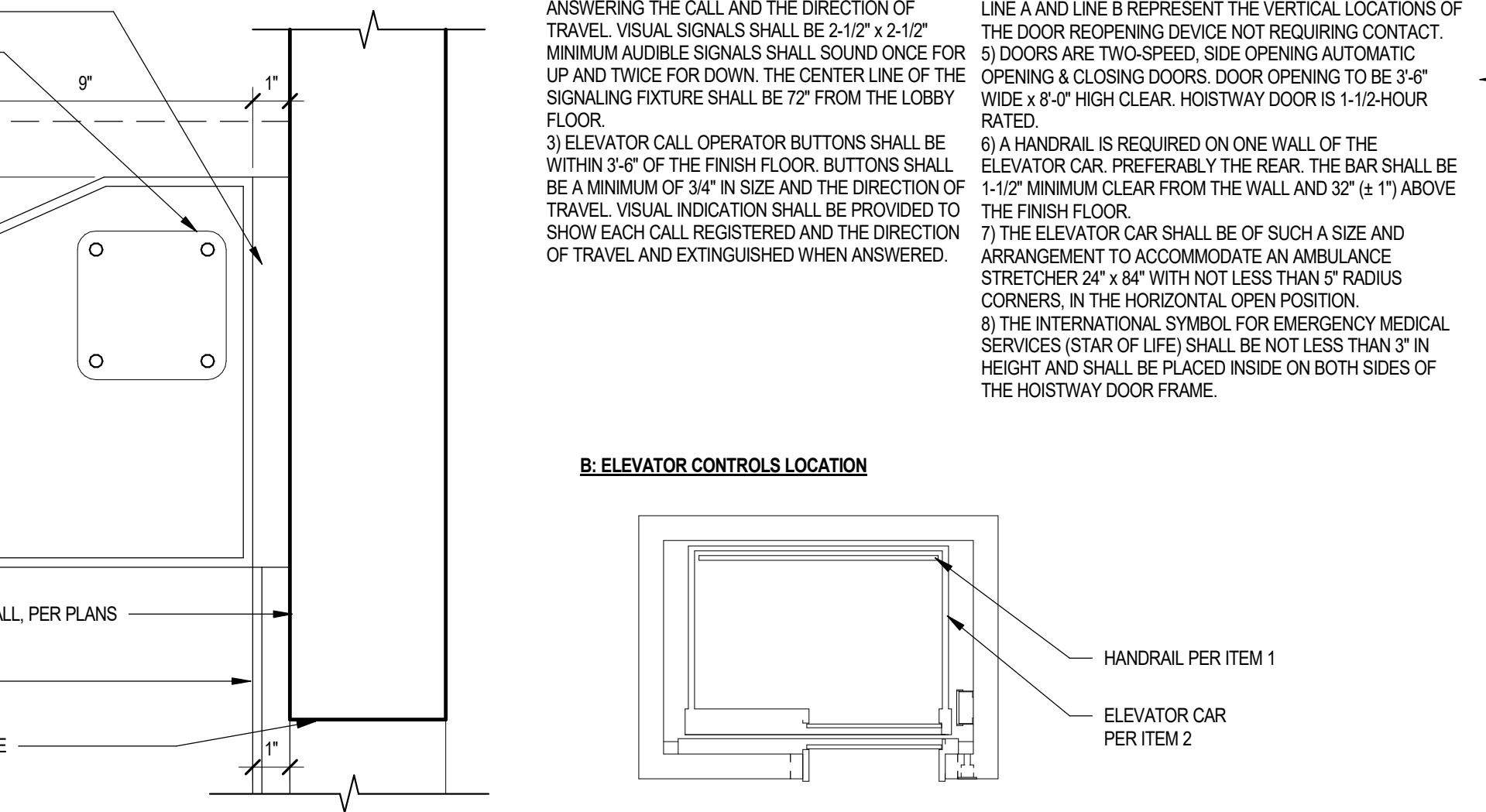


07 ELEVATOR - DOOR SILL AT BOTTOM LEVEL
SCALE: 1 1/2" = 1'-0"

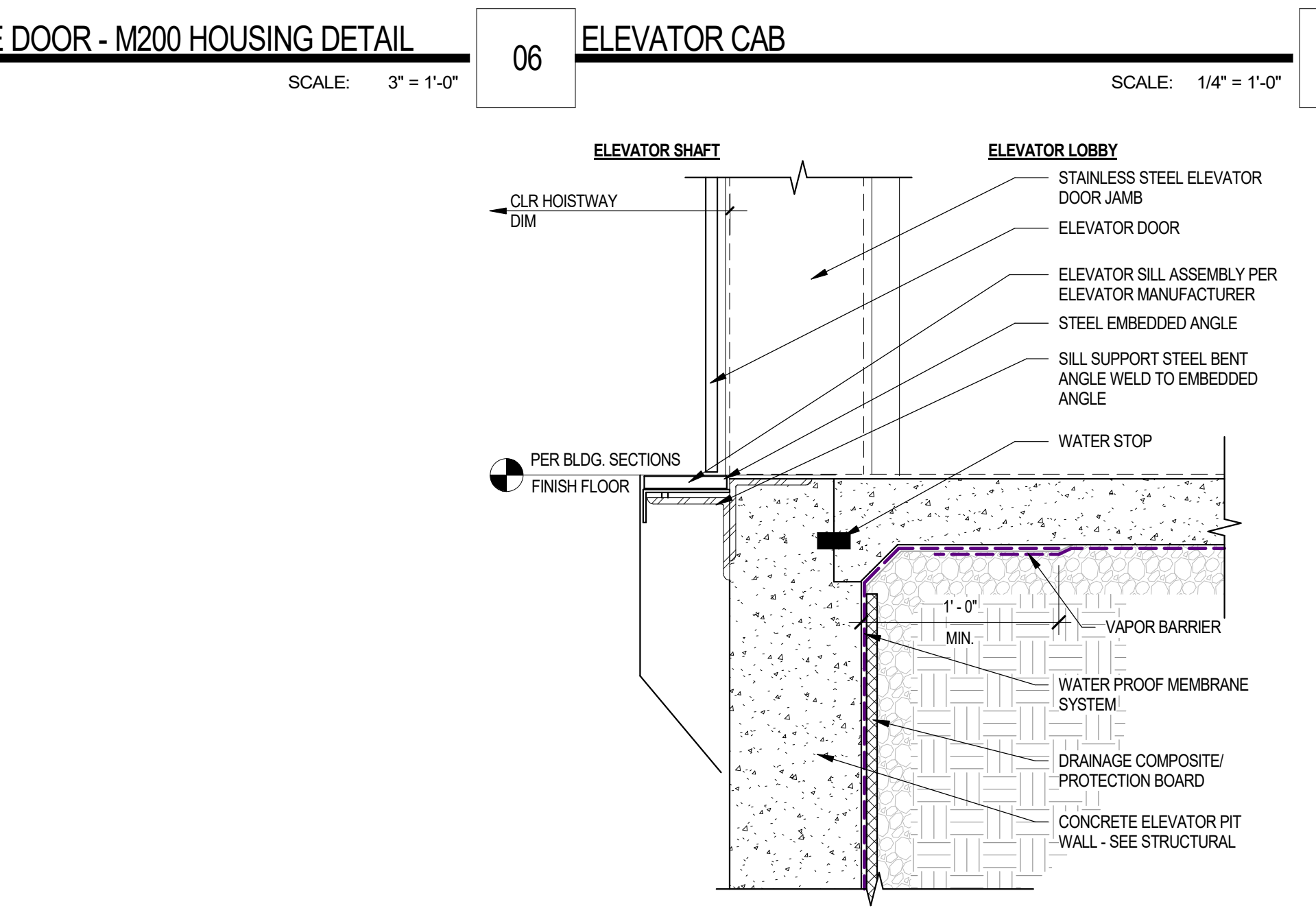
08 ELEVATOR PIT LADDER
SCALE: 3/4" = 1'-0"



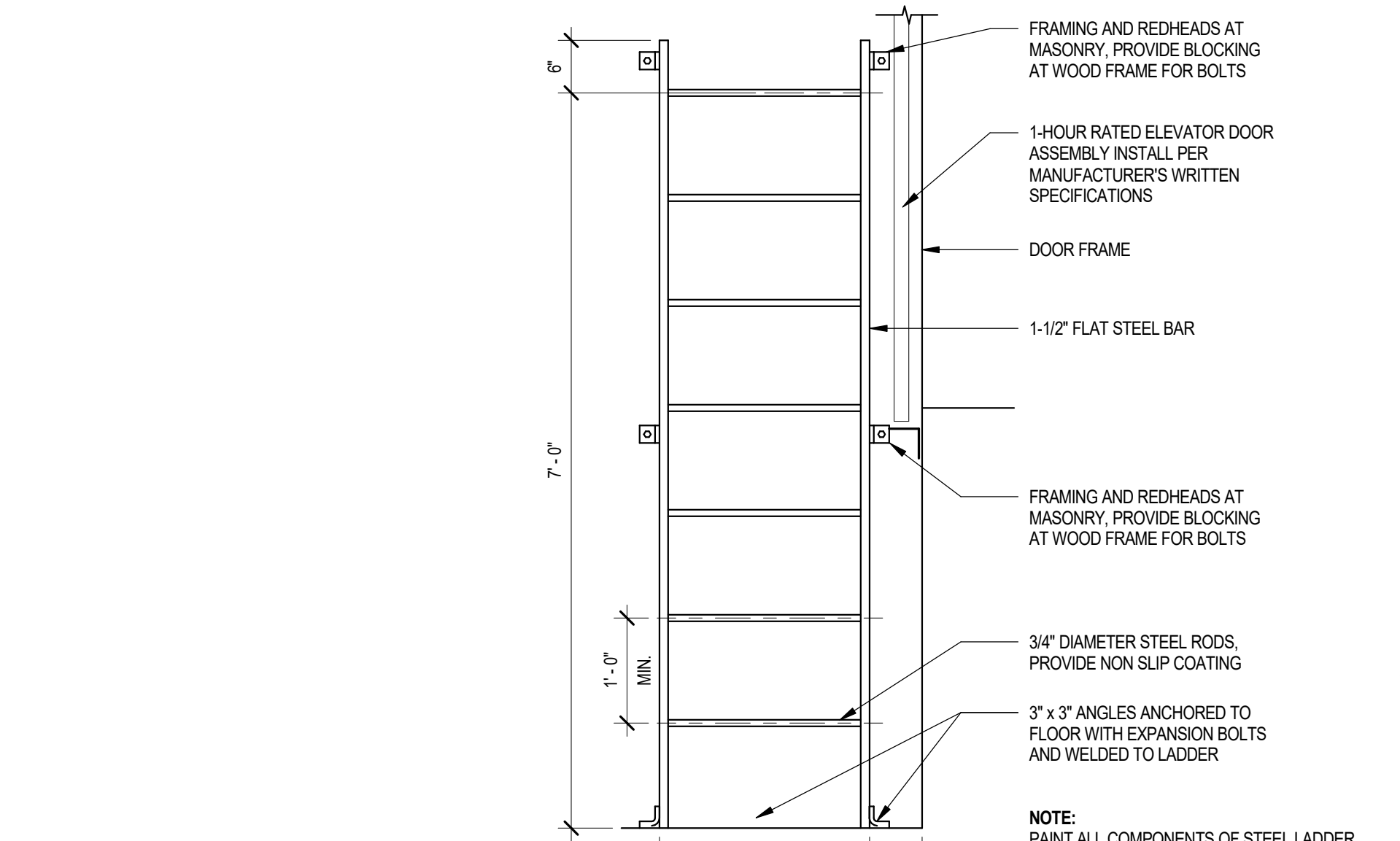
01 ELEVATOR - DOOR HEAD
SCALE: 1 1/2" = 1'-0"



02 ELEVATOR - DOOR SILL AT WOOD FRAMED CORRIDOR
SCALE: 1 1/2" = 1'-0"



03 ELEVATOR - DOOR SILL AT CONCRETE SLABS
SCALE: 1 1/2" = 1'-0"



04 RECESSED PIT AT ELEVATOR
SCALE: 1" = 1'-0"

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Tel: (802) 778-2822
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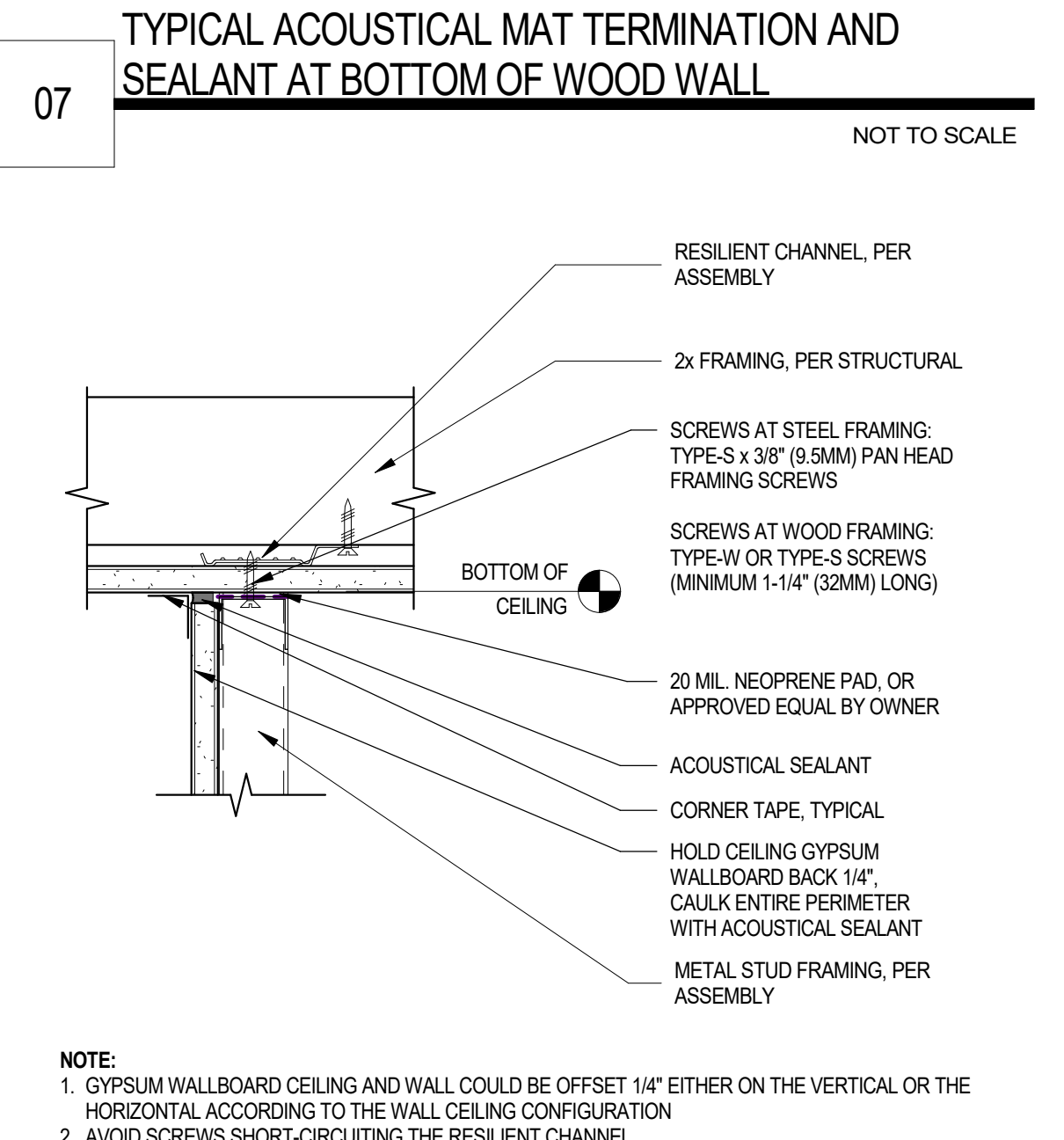
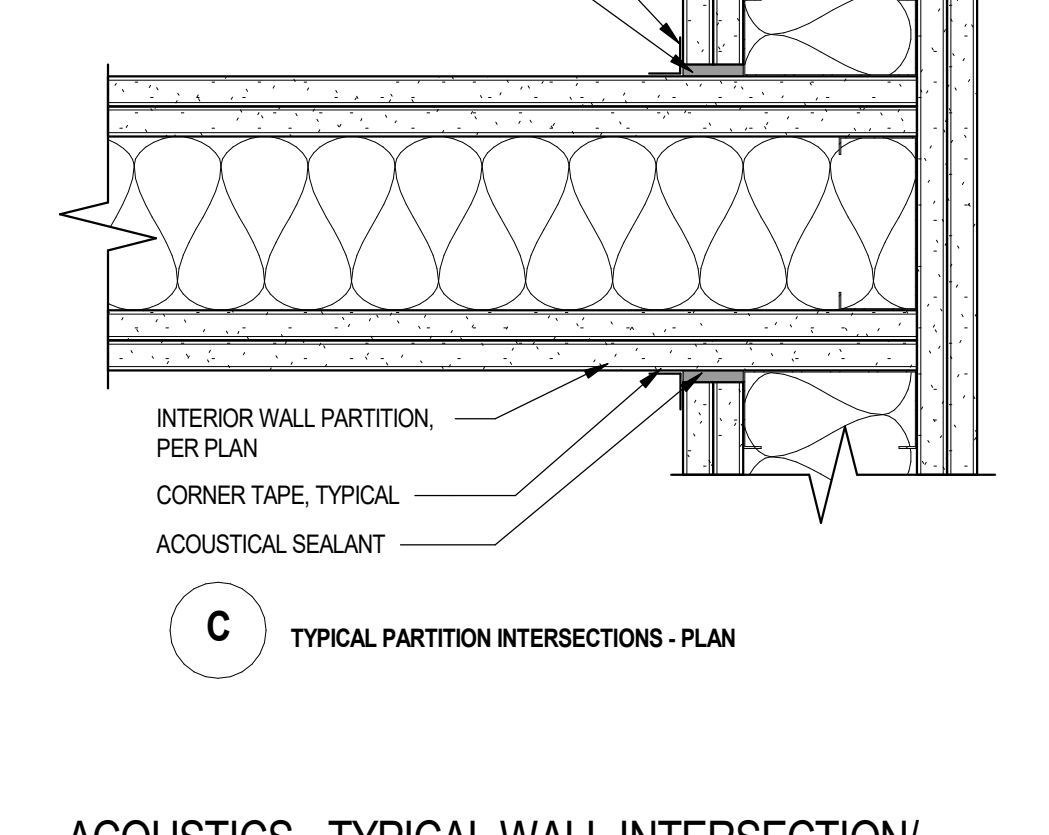
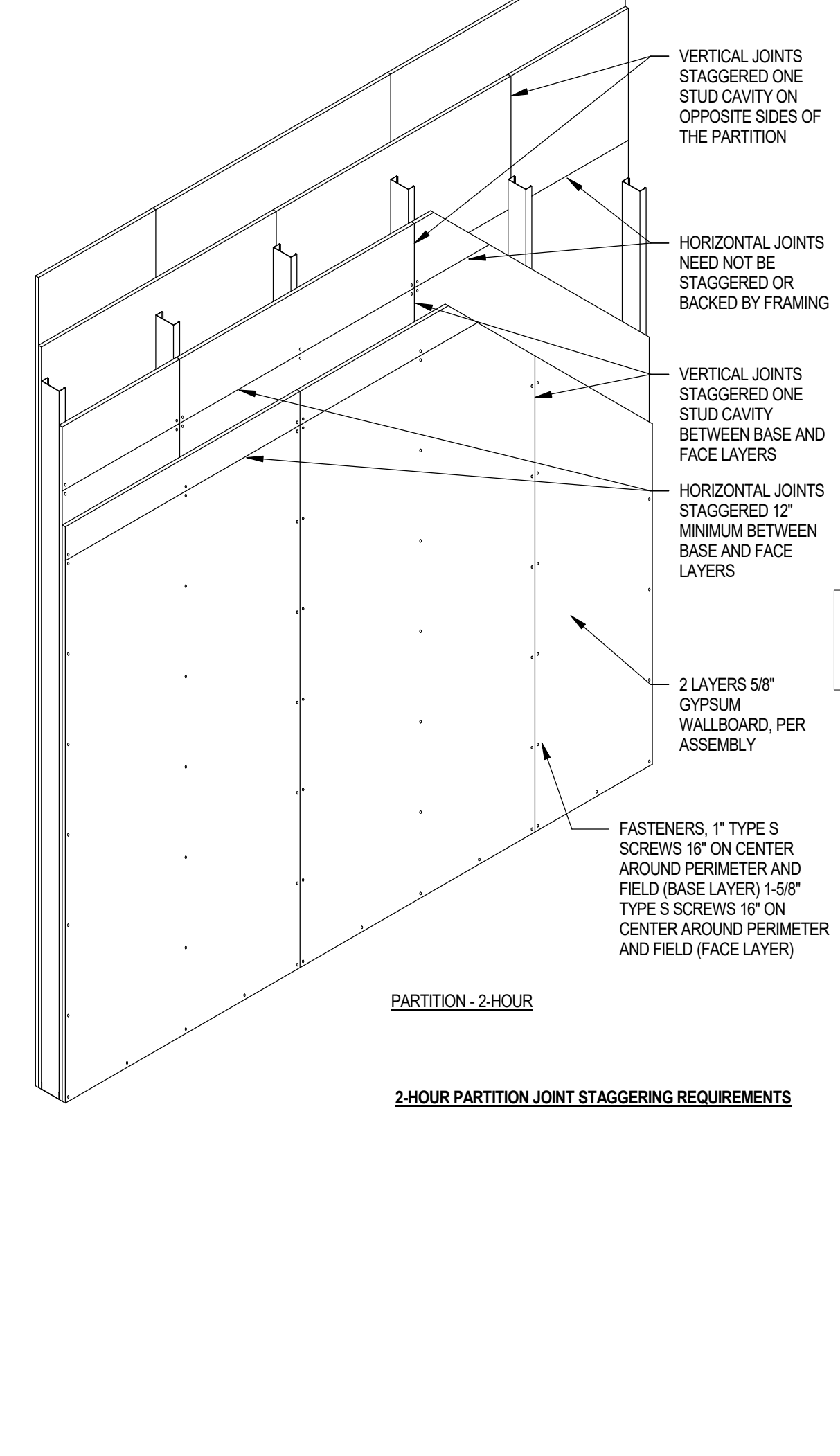
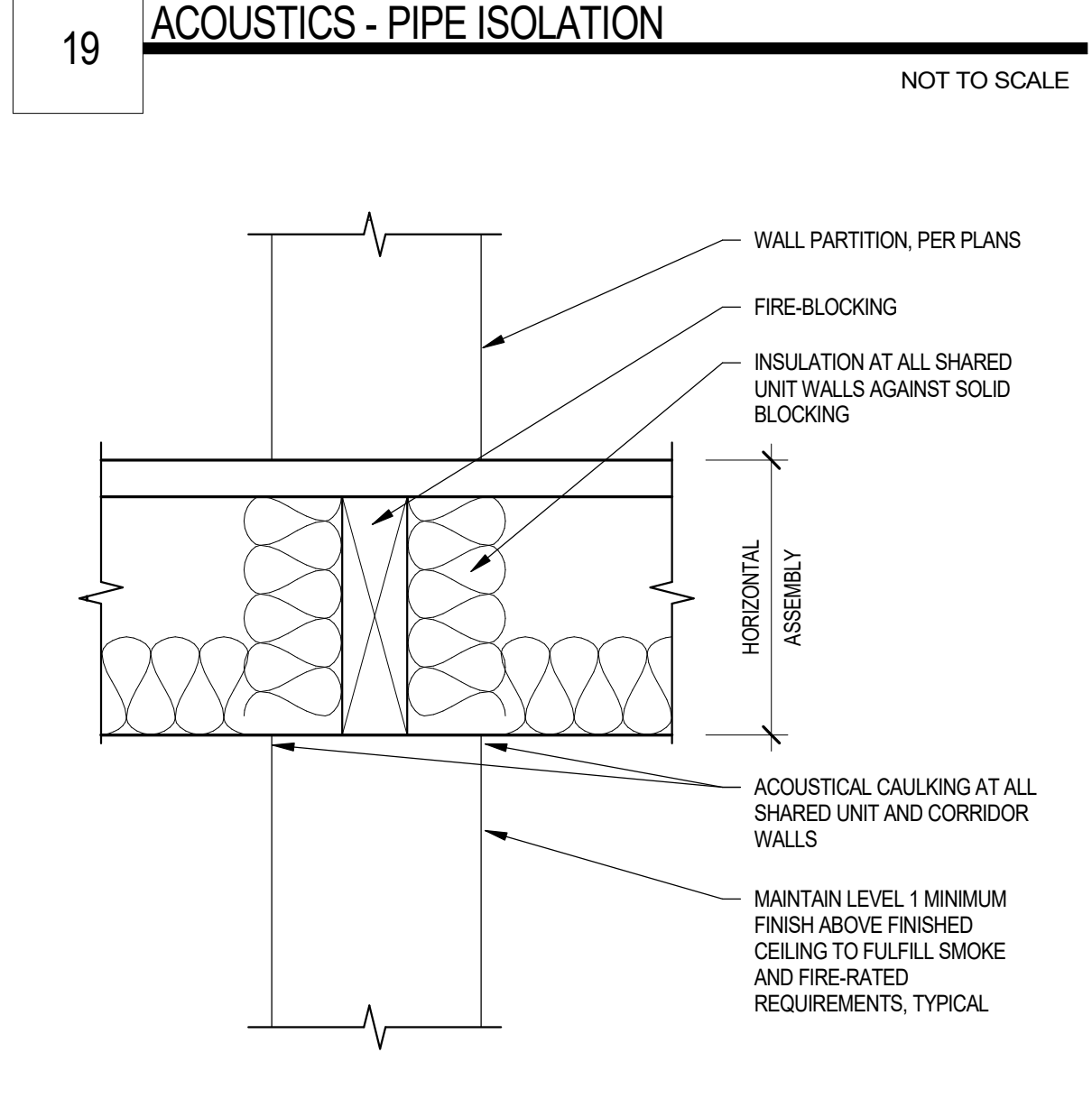
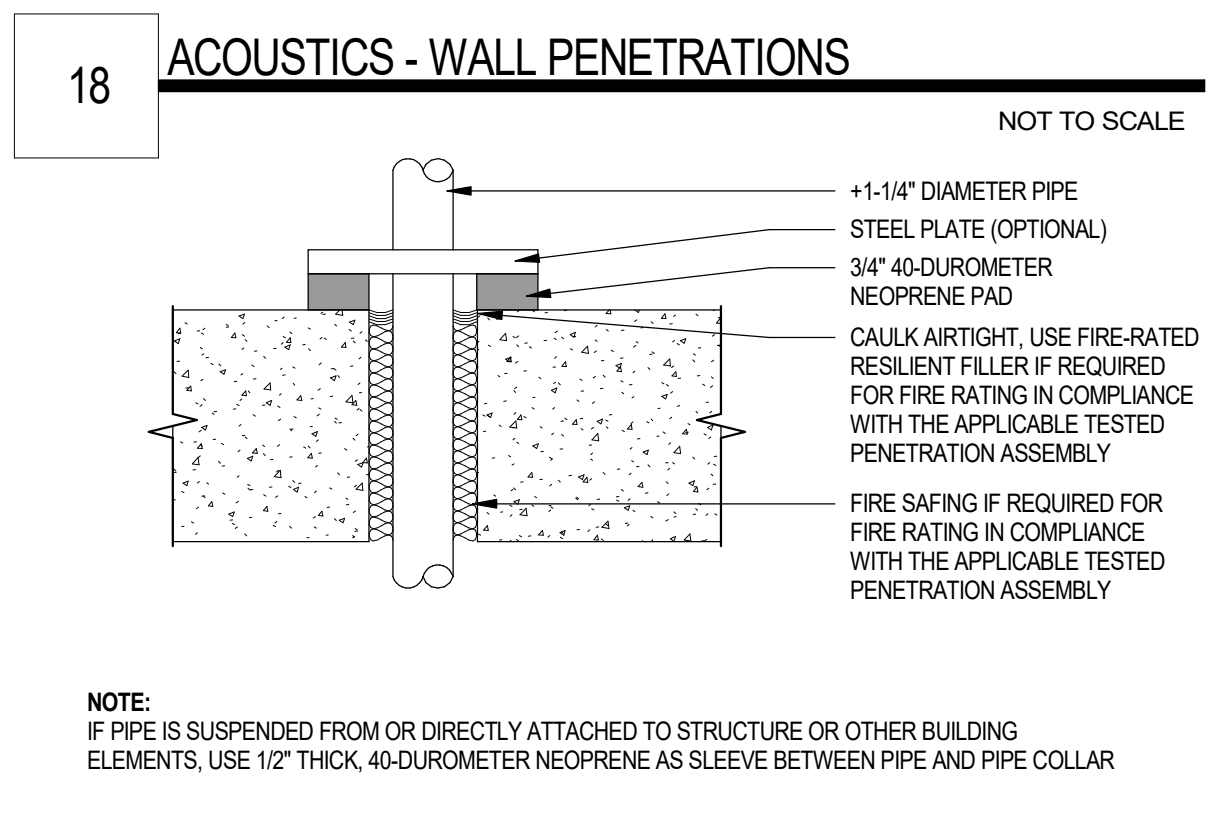
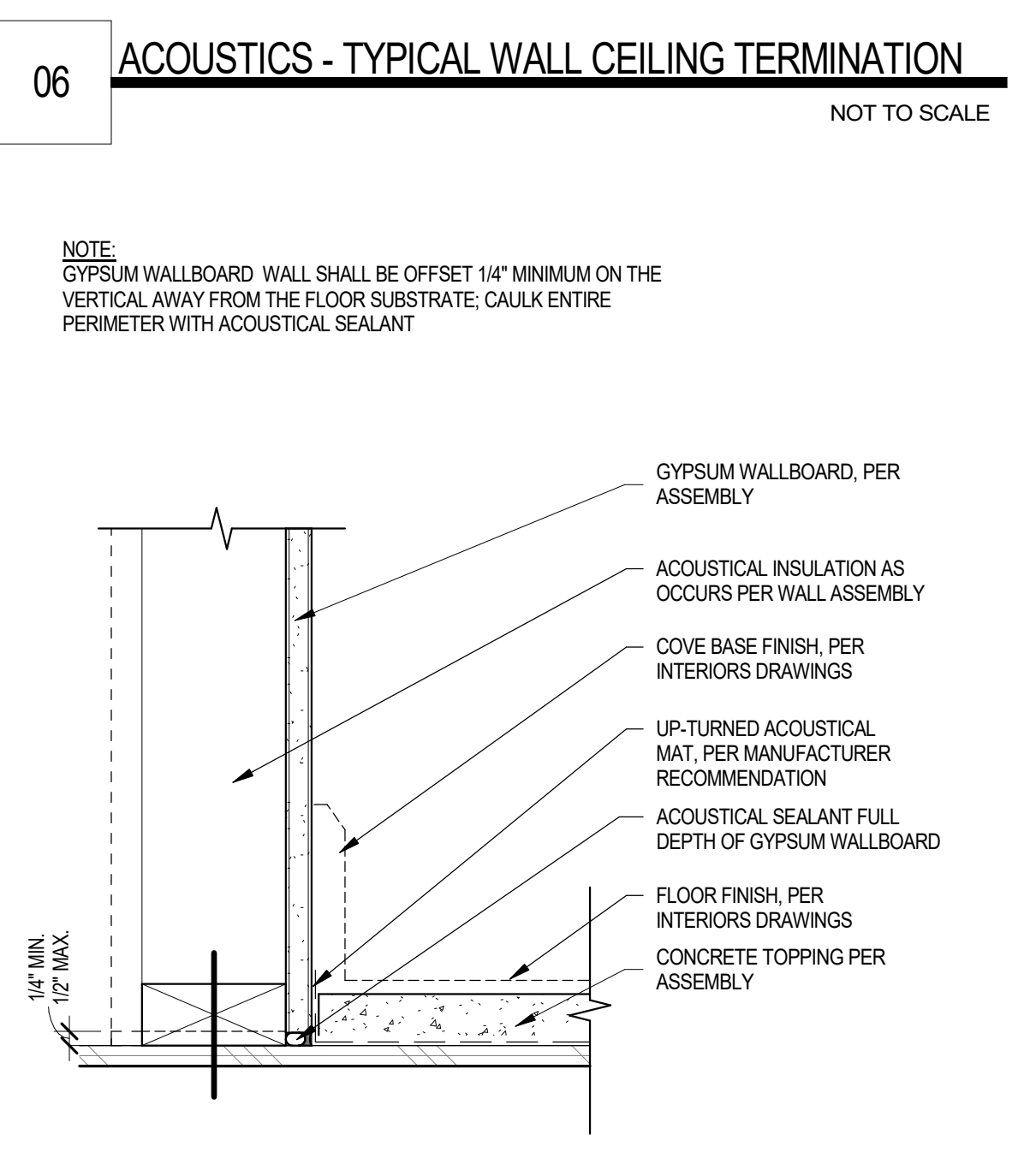
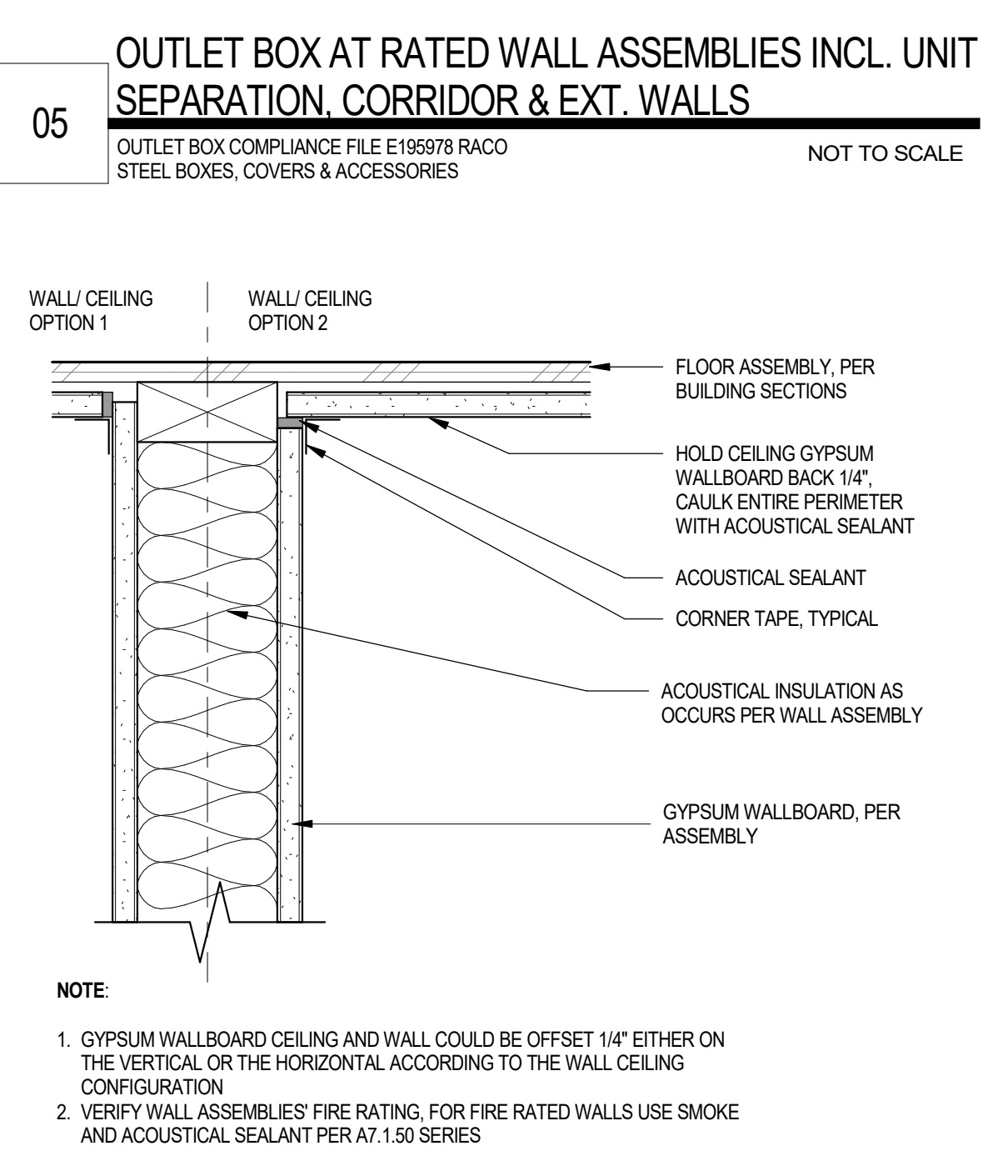
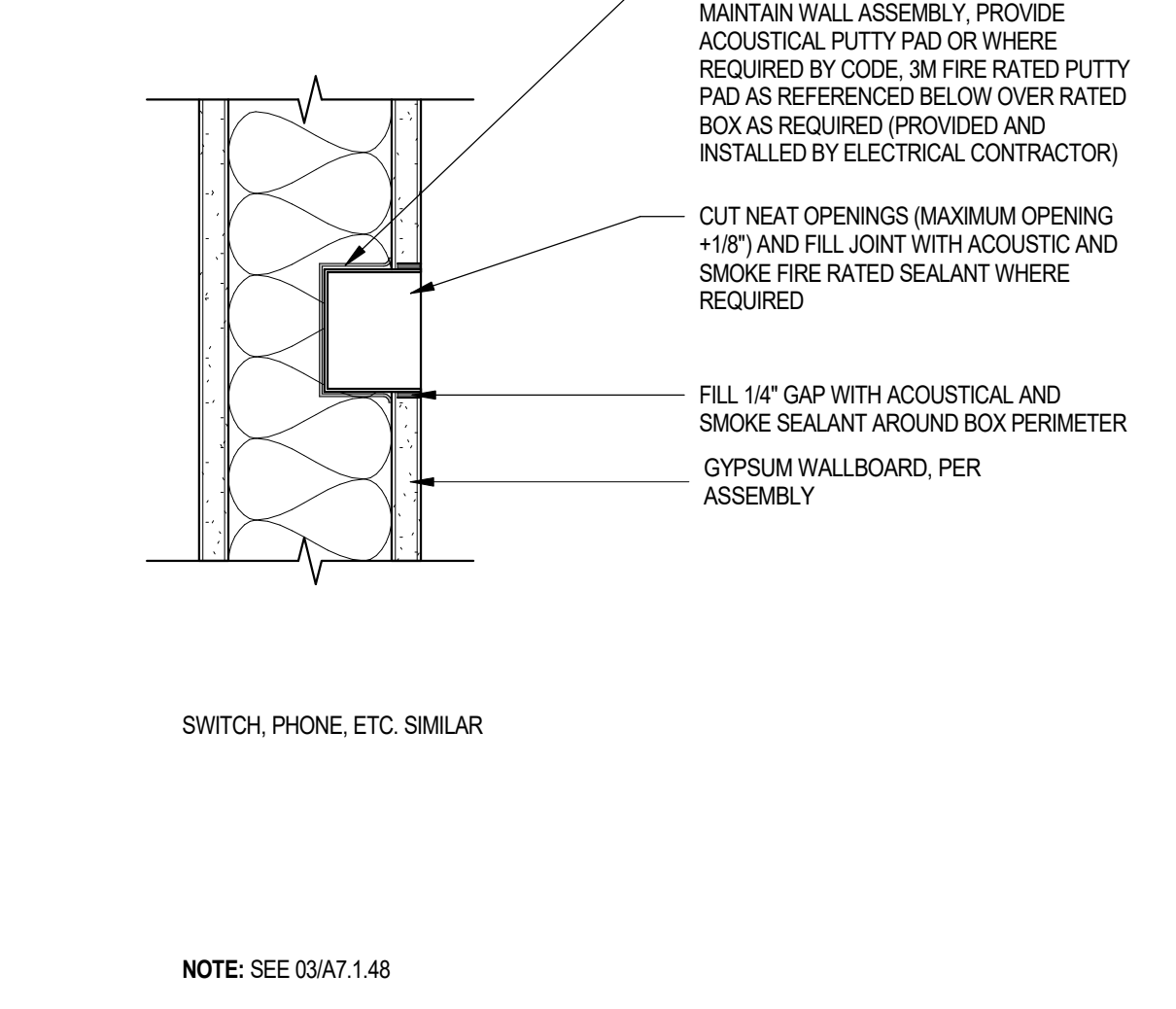
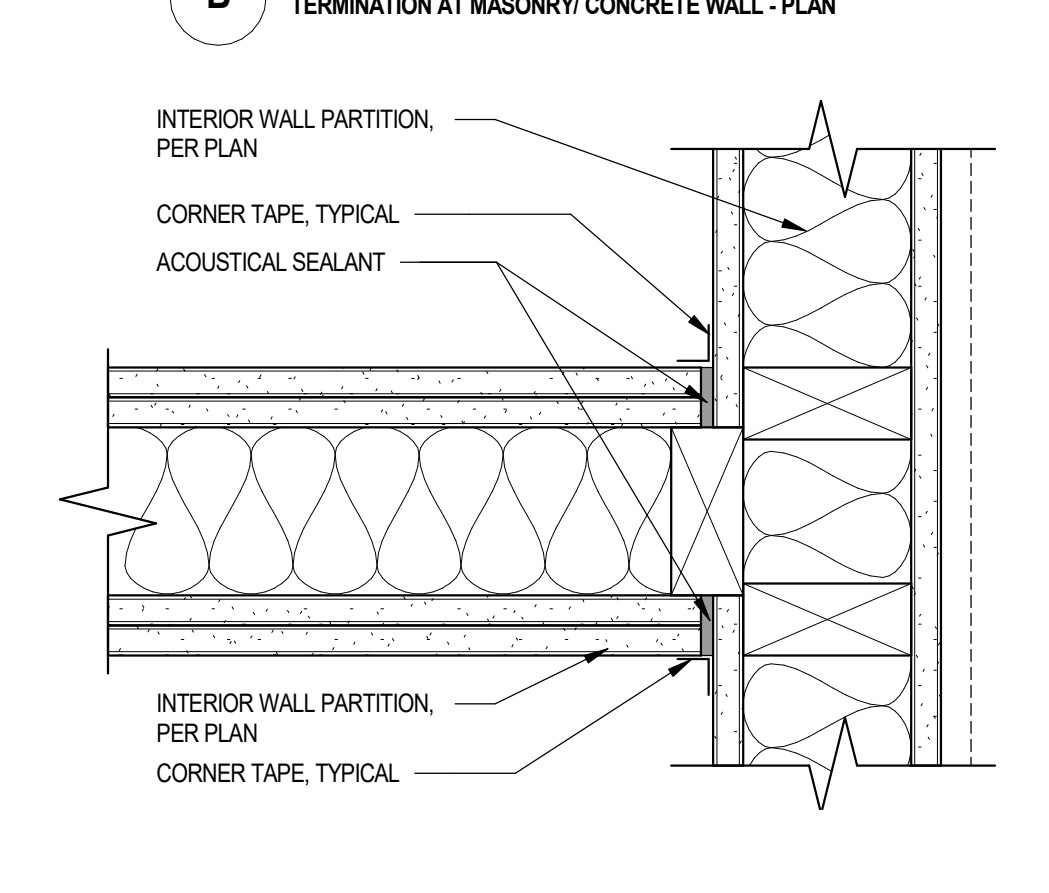
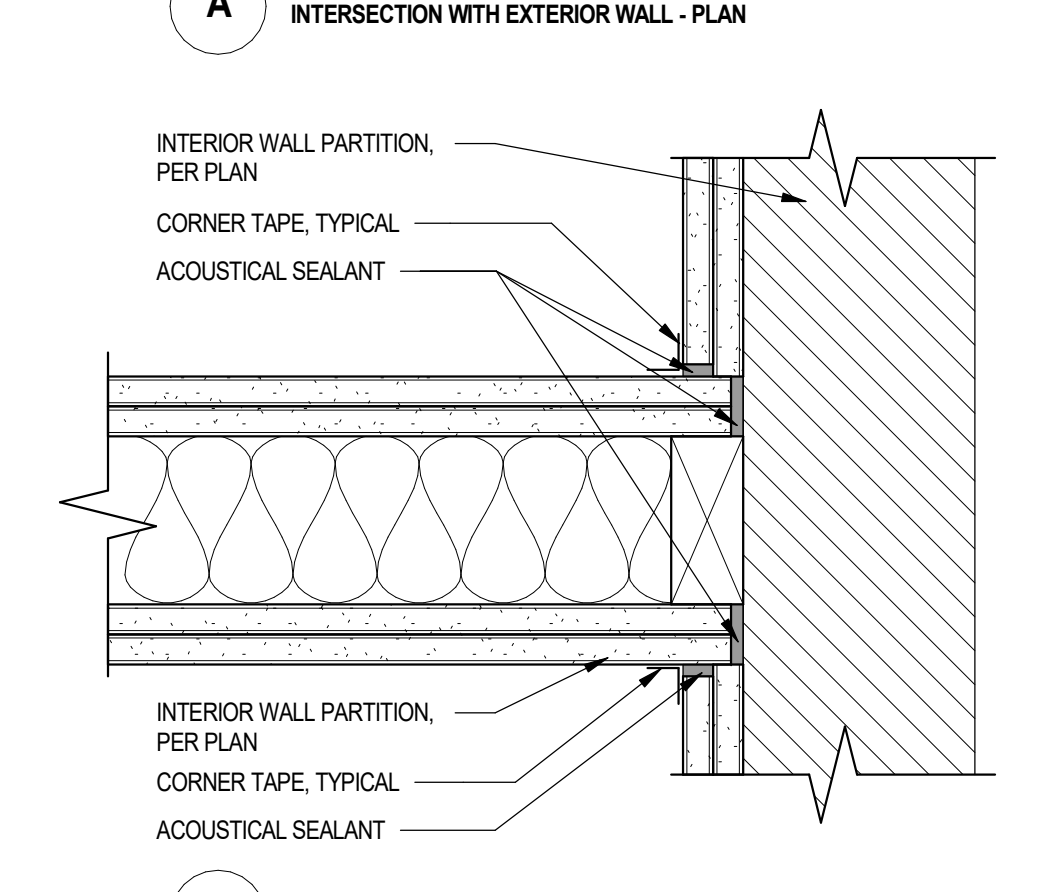
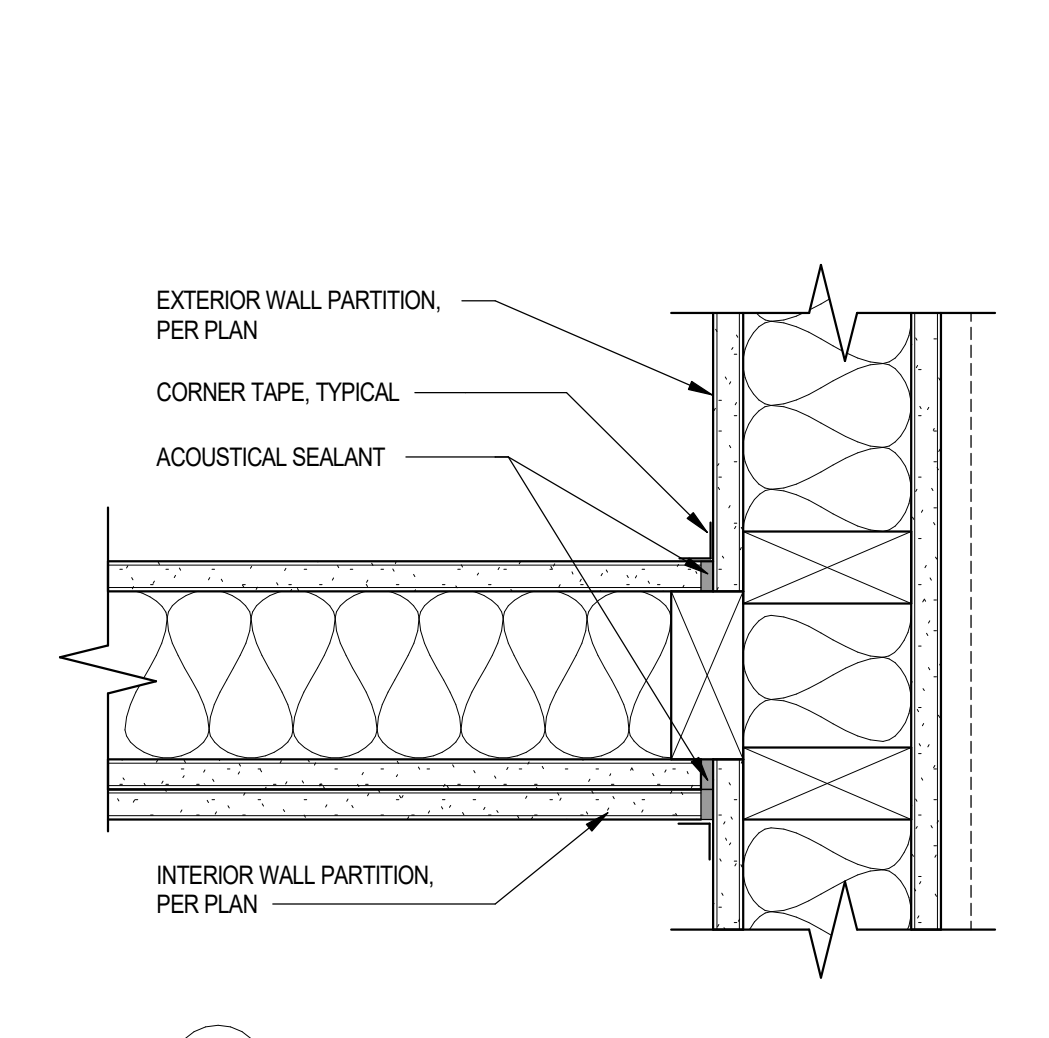
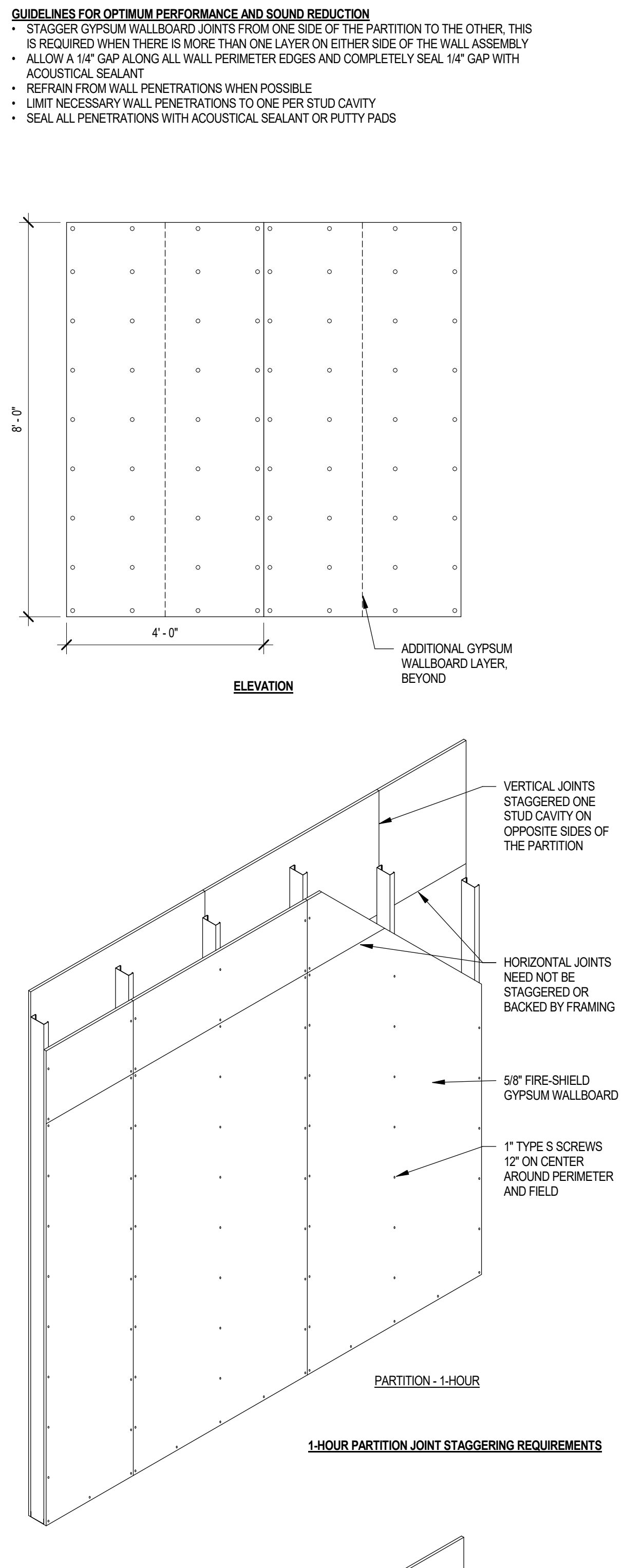
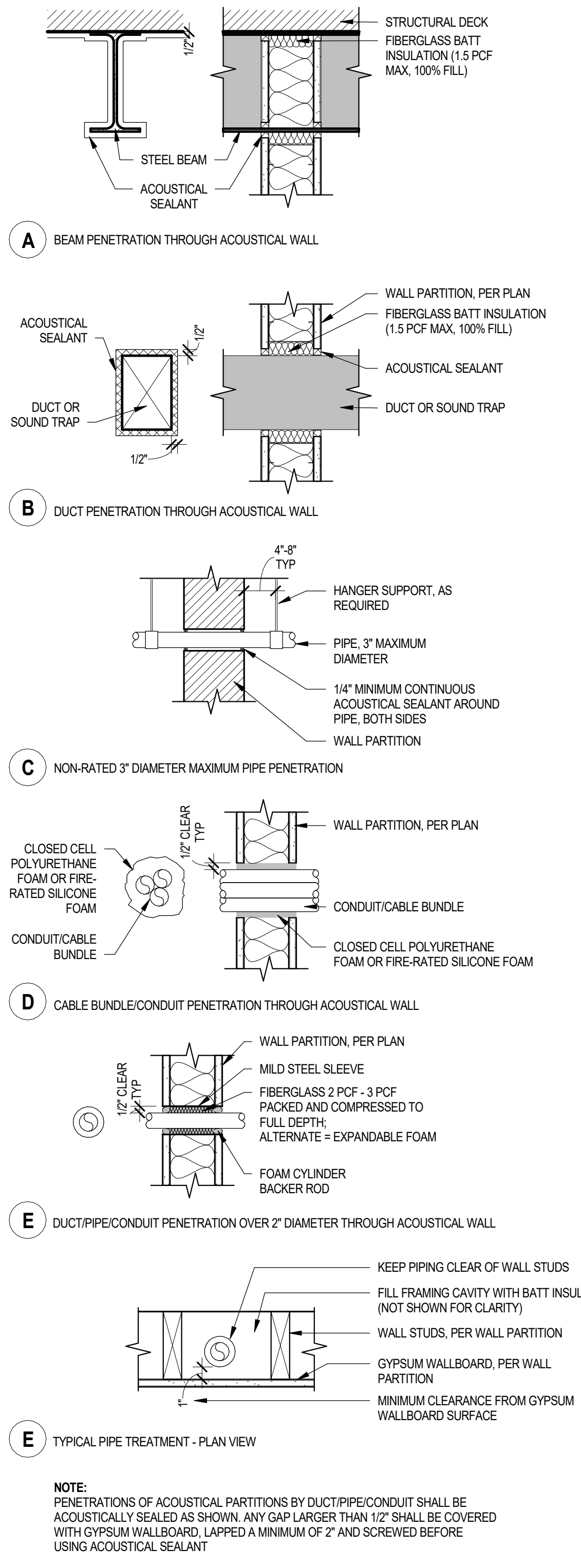
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A7.9.20

ELEVATOR & TRASH CHUTE DETAILS



ACOUSTICAL GENERAL NOTES

- UNLESS OTHERWISE NOTED, ANY SOUND-RATED PARTITION MUST EXTEND TO STRUCTURE AND BE SEALED TO IT (SEE ITEM 2).
- PARTITIONS MUST BE SEALED AT TOP, SIDES AND BASE WITH CALKING.
- WHERE CALKING IS CALLED FOR, USE SILICONE-BASED, NON-HARDENING COMPOUNDS.
- ELECTRICAL OR OTHER OUTLET BOXES MUST NOT BE INSTALLED BACK-TO-BACK SEPARATE BY AT LEAST ONE STUD SPACE.
- OUTLET BOXES MUST BE CALKED ALL AROUND. HOLES IN BOXES MUST ALSO BE CALKED.
- PENETRATION OF SOUND RETARDANT PARTITIONS (I.E., DUCTWORK, CONDUIT, OR PLUMBING) MUST BE SEALED WITH CALKING (SEE ITEM 7).
- PIPE CONDUIT OR DUCTWORK RUNS WITHIN, OR PENETRATION THROUGH A DOUBLE-STUDDED PARTITION, MUST NOT RIGIDLY TIE THE TWO SETS TOGETHER. ANY INTERCONNECTING ELEMENTS MUST BE VIBRATION-ISOLATED, EITHER BY MEANS OF A FLEXIBLE CONNECTION, OR BY PACKING AROUND THE PENETRATION ON ONE SIDE WITH SPONGE NEOPRENE OR GLASS FIBER (SO THAT NO CONTACT IS MADE WITH THE WALL SURFACE BEFORE CALKING).
- ADDITIONAL VIBRATION ISOLATION MAY BE REQUIRED FOR PLUMBING AS CALLED FOR IN THE PLUMBING SPECIFICATIONS.
- CMU PARTITIONS MUST BE CONSTRUCTED FROM DENSE AGGREGATE UNITS WITH THE CORE SPACES FILLED WITH GROUT. SEAL ALL EXPOSED SURFACES OF CMU WITH TWO GENEROUS COATS OF PAINT. ON DOUBLE-WALL PARTITIONS, INNER SURFACES SHOULD NOT BE SEALED.
- WHERE A DEMISING PARTITION ABUTS A CONTINUOUS PARTITION, (E.G. A PARTY WALL BETWEEN UNITS ABUTTING A CORRIDOR WALL), THE GYPSUM WALLBOARD SURFACE ALONG THE CONTINUOUS PARTITION MUST BE BROKEN AT THE JOINT OF THE INTERSECTION TO PREVENT FLEXURAL SOUND TRANSMISSION. A SAW CUT IS GENERALLY A SUFFICIENT BREAK.
- CMU PARTITIONS MUST BE CONSTRUCTED FROM DENSE AGGREGATE UNITS WITH THE CORE SPACES FILLED WITH GROUT. SEAL ALL EXPOSED SURFACES OF CMU WITH TWO GENEROUS COATS OF PAINT. ON DOUBLE-WALL PARTITIONS, INNER SURFACES SHOULD NOT BE SEALED.
- UNLESS OTHERWISE NOTED, INSULATION SHALL BE DESIGNATED "SOUND CONTROL" AND THICKNESS SHALL BE PER INSULATION TABLE. SECURE INSULATION TO PREVENT SAGGING.
- GYPSUM WALLBOARD SHALL BE TYPE X, UNLESS OTHERWISE STATED IN ASSEMBLIES.
- REFERENCE ASTM C919-08 STANDARD PRACTICE FOR USE OF SEALANTS IN ACOUSTICAL APPLICATIONS.

PLUMBING

- PLUMBING SERVING BATHROOMS AND KITCHENS MUST BE SUPPORTED ONLY ON THE SIDE OF THE DOUBLE-STUD DEMISING WALLS OF THE UNIT SERVED BY THE PIPING, AND MUST NOT CROSS OVER THE GAP BETWEEN THE DOUBLE STUDS WITH CONNECTION TO THE OTHER SIDE OF THE FRAMING. THE STUD CAVITY SHOULD BE FILLED WITH BATT INSULATION.
- ALL PLUMBING IN RESIDENTIAL SPACES SHOULD BE ISOLATED FROM THE STRUCTURE, WITH NO DIRECT CONTACT BETWEEN PIPING (SUPPLY AND WASTE) AND GYPSUM WALLBOARD, FRAMING, OR FLOOR SLABS. SUPPLY AND WASTE LINES PASSING THROUGH OCCUPIED SPACES IN A RESIDENTIAL UNIT SHOULD BE CONNECTED TO STUDS USING A RESILIENT MATERIAL BETWEEN THE PIPING AND THE STUDS. THIS RECOMMENDATION IS PARTICULARLY APPLICABLE TO WALLS ADJACENT TO BEDROOMS. A VARIETY OF PRE-MANUFACTURED PIPING ISOLATORS ARE COMMERCIALY AVAILABLE FROM THE HOLIDRITTE COMPANY, OR OWNER APPROVED EQUAL.
- THE PREFERRED MATERIAL FOR WASTE LINES IS CAST IRON TO MINIMIZE SOUND LEVELS OF WASTE FLOW IN RESIDENTIAL UNITS. THE NOISE FROM PROPOSED ABS LINES CAN BE REDUCED BY WRAPPING THE PIPES WITH A SOUND-ISOLATING JACKET, SUCH AS KINETICS RNM PRODUCTS. WITH THE UNDERSTANDING THAT IT WILL NOT ISOLATE PLUMBING NOISE AS WELL AS CAST IRON, ALLOW SUFFICIENT WALL THICKNESS TO ENSURE THAT WASTE LINES CAN BE INSTALLED WITHOUT CONTACTING EITHER WALL SURFACE.
- PIPING RISERS RUNNING BETWEEN FLOORS SHOULD NOT DIRECTLY CONTACT FRAMED OR SLAB FLOOR ASSEMBLIES. THE FLOOR PENETRATION SHOULD BE OVERSIZED, WITH ANY GAP BETWEEN THE RISER PIPING AND FLOOR FILLED WITH MINERAL WOOL AND CALKED AIRTIGHT ON BOTH SIDES OF THE PENETRATION, OR SEALED AIRTIGHT WITH RESILIENT FIRESTOPPING MATERIAL. PROVIDE SLEEVES AT PENETRATIONS IN FRAMED FLOORS OR SLABS TO ENCLOSE THE PIPING WITHIN THE PENETRATION, AND FILL THE GAP BETWEEN THE SLEEVE AND THE PIPING AS ABOVE. THIS RECOMMENDATION IS STRICTLY FOR ACOUSTICAL PURPOSES AND MUST BE REVIEWED FOR COMPLIANCE WITH APPLICABLE BUILDING CODES. CLAMPS FOR FLOOR RISERS SHOULD BE ISOLATED FROM THE STRUCTURE WITH NEOPRENE PADS. TO AVOID OVERCOMPRESSION OF THE NEOPRENE, PROVIDE LOAD-SPREADING STEEL PLATE ON THE UPPER SIDE OF THE NEOPRENE PADS.

ACOUSTICS - TYPICAL WALL CEILING TERMINATION

NOT TO SCALE

NOTE: GYPSUM WALLBOARD WALL SHALL BE OFFSET 1/4" MINIMUM ON THE VERTICAL, AWAY FROM THE FLOOR SUBSTRATE, CALK ENTIRE PERIMETER WITH ACOUSTICAL SEALANT.

TYPICAL ACOUSTICAL MAT TERMINATION AND SEALANT AT BOTTOM OF WOOD WALL

NOT TO SCALE

NOTE: GYPSUM WALLBOARD CEILING AND WALL COULD BE OFFSET 1/4" EITHER ON THE VERTICAL OR THE HORIZONTAL ACCORDING TO THE WALL CEILING CONFIGURATION.

2. AVOID SCREWS SHORT-CIRCUITING THE RESILIENT CHANNEL.

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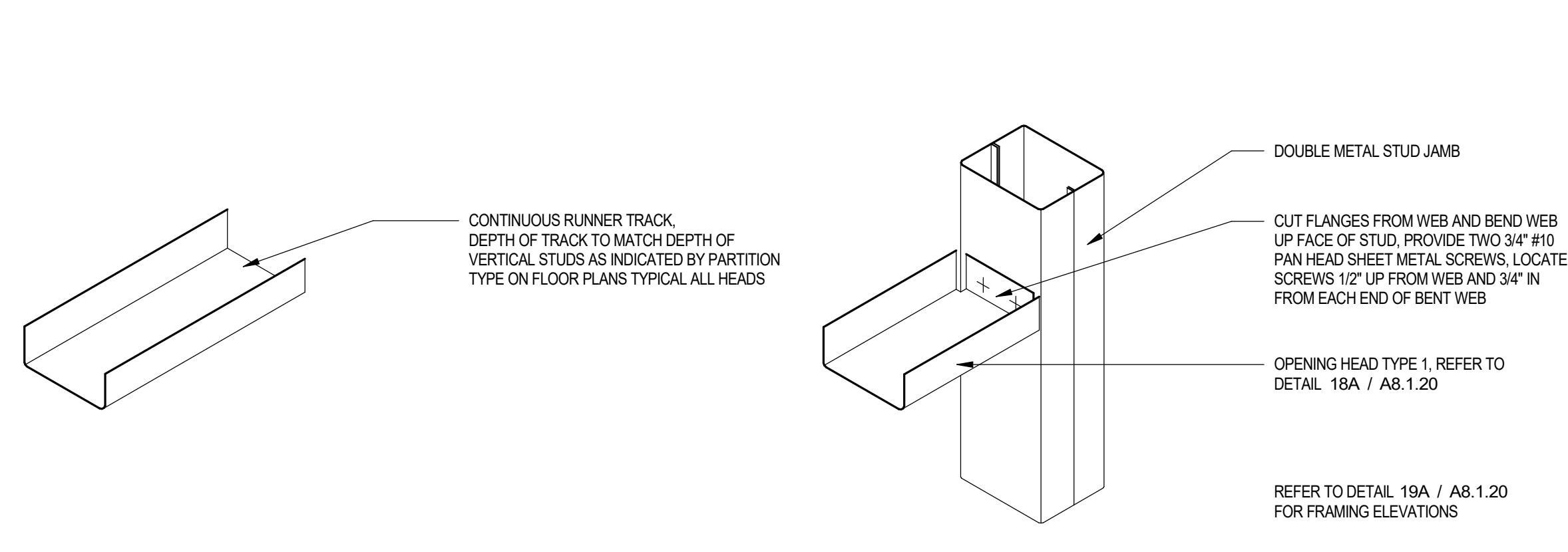
Over the owner or its designated agent shall provide this information to the contractor at the time of contract execution.

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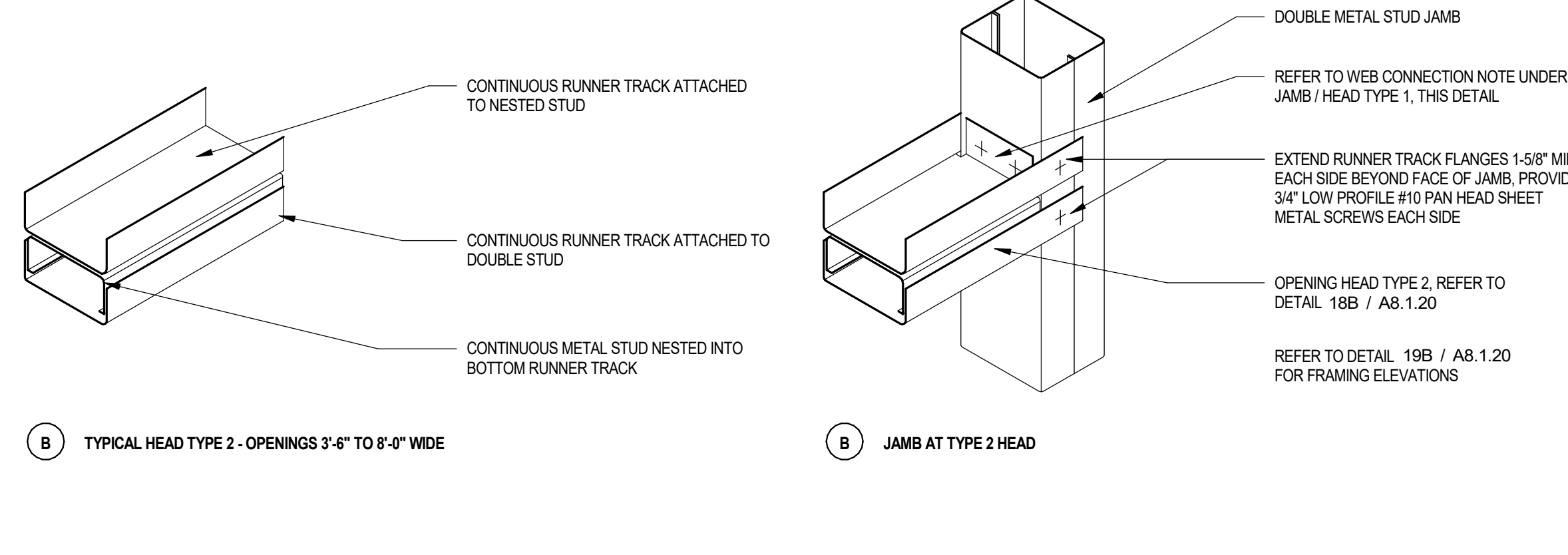
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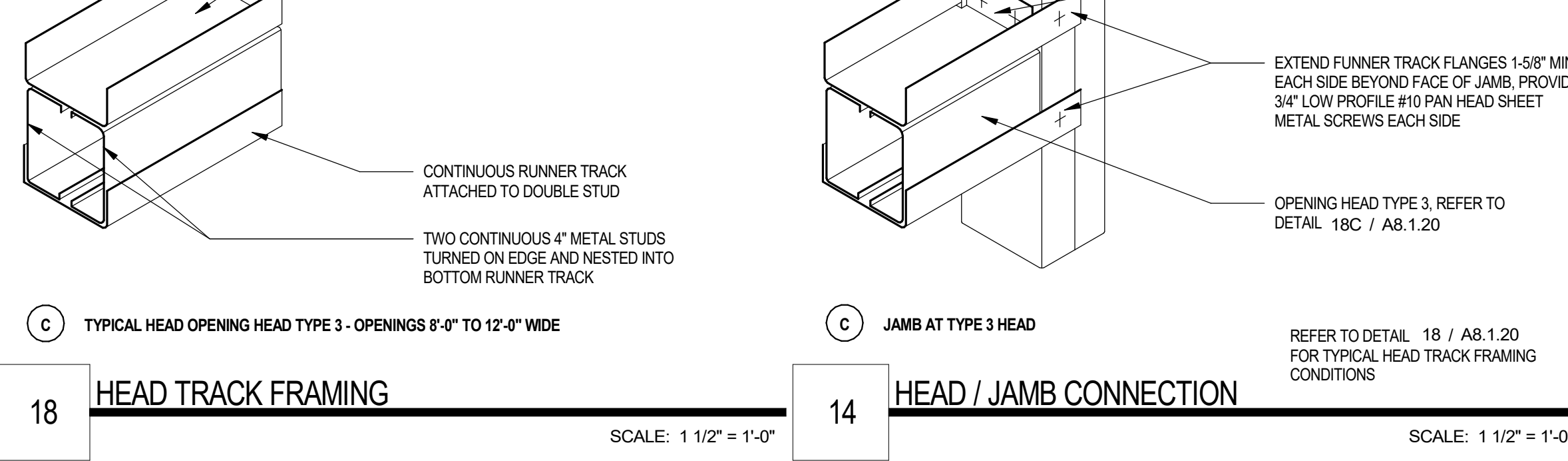
A8.1.10
ACOUSTICAL DETAILS WOOD FRAMING



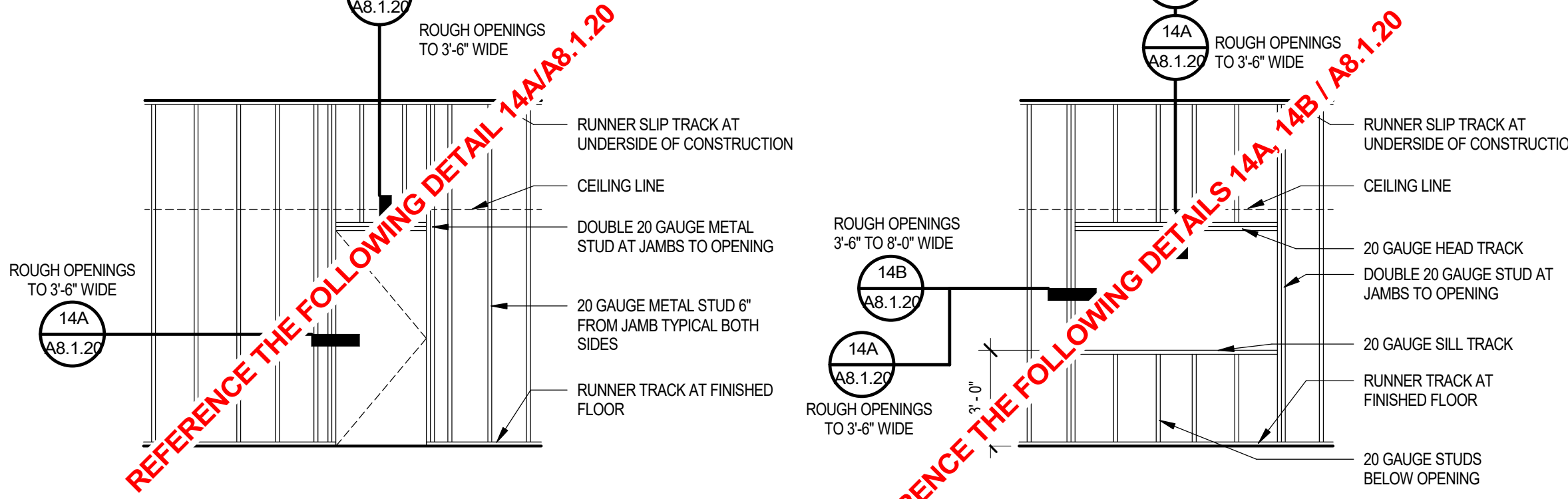
18 HEAD TRACK FRAMING
SCALE: 1 1/2" = 1'-0"



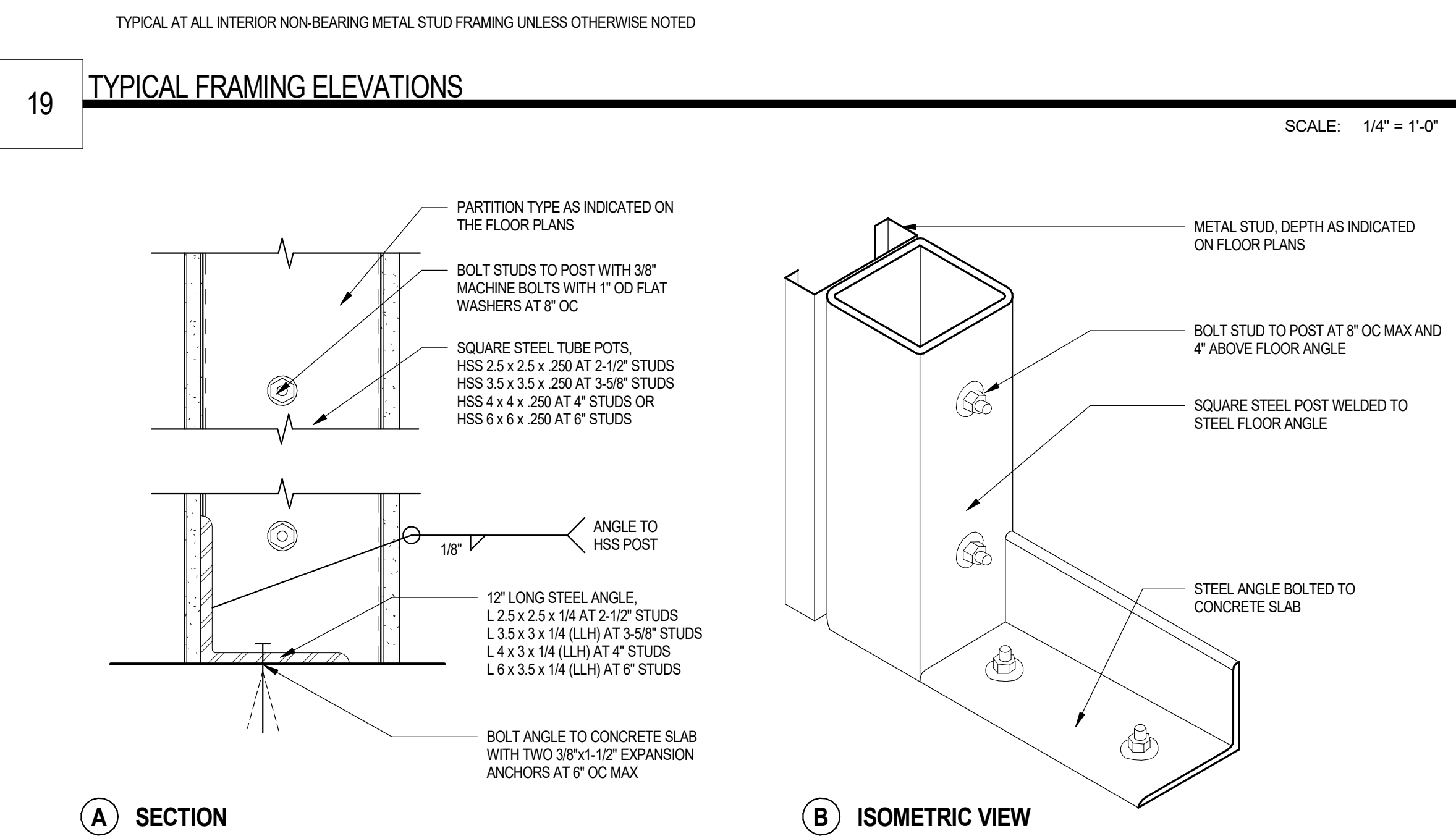
14 HEAD / JAMB CONNECTION
SCALE: 1 1/2" = 1'-0"



10 INTERSECTION FRAMING AND PRIORITY OF PARTITIONS
SCALE: 1 1/2" = 1'-0"



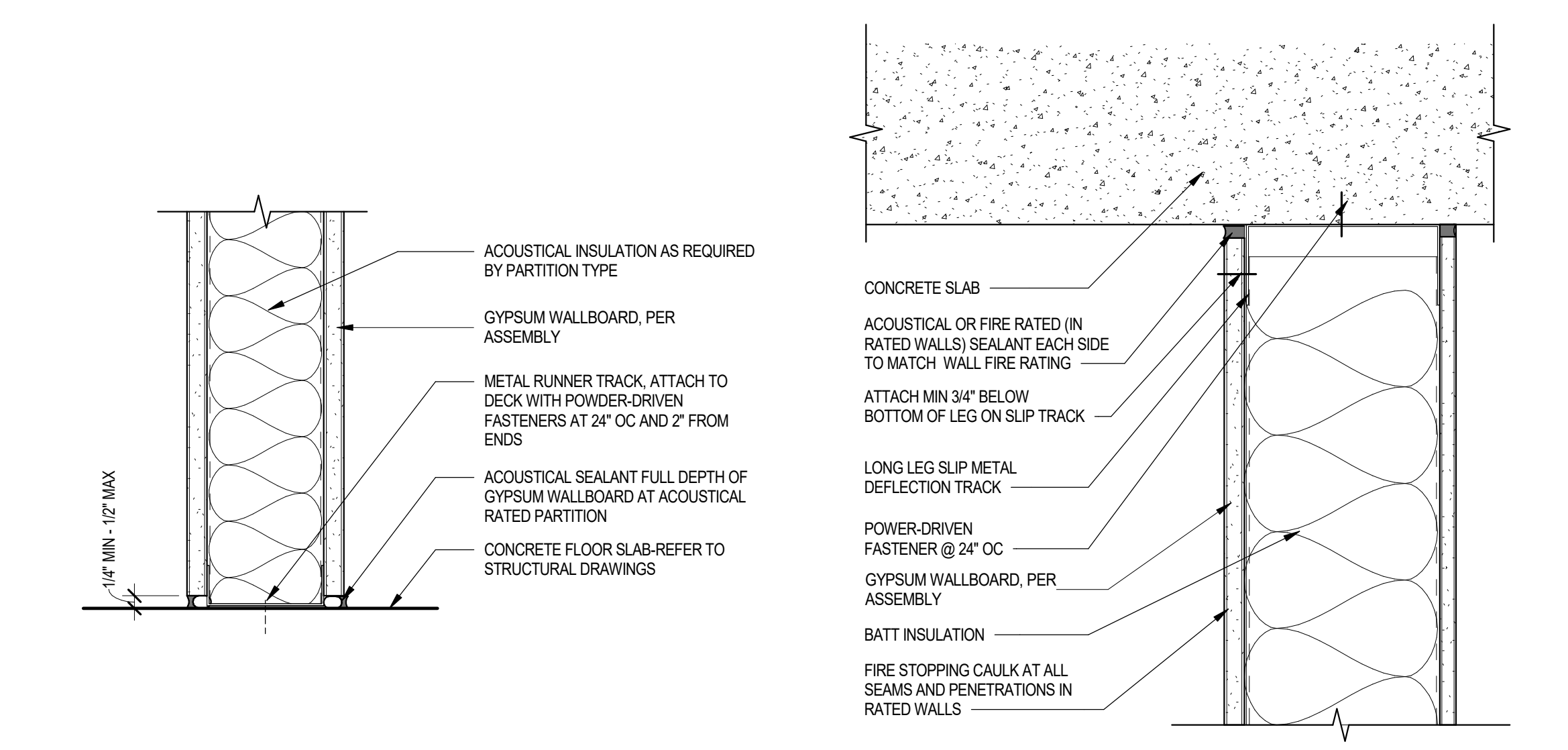
19 TYPICAL FRAMING ELEVATIONS
SCALE: 1 1/4" = 1'-0"



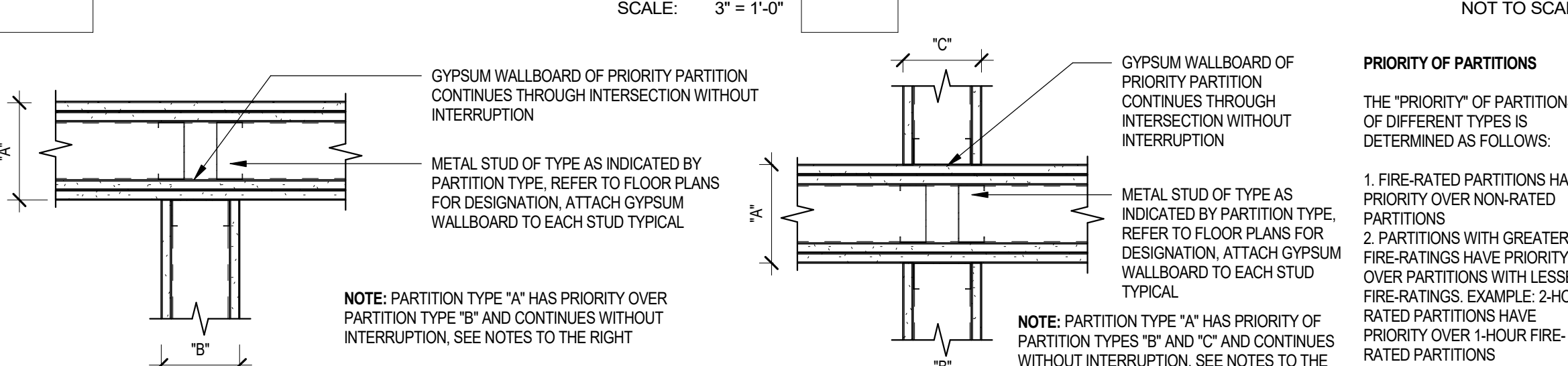
12 SUSPENDED PARTITION - TYPICAL DETAILS
SCALE: 1 1/2" = 1'-0"



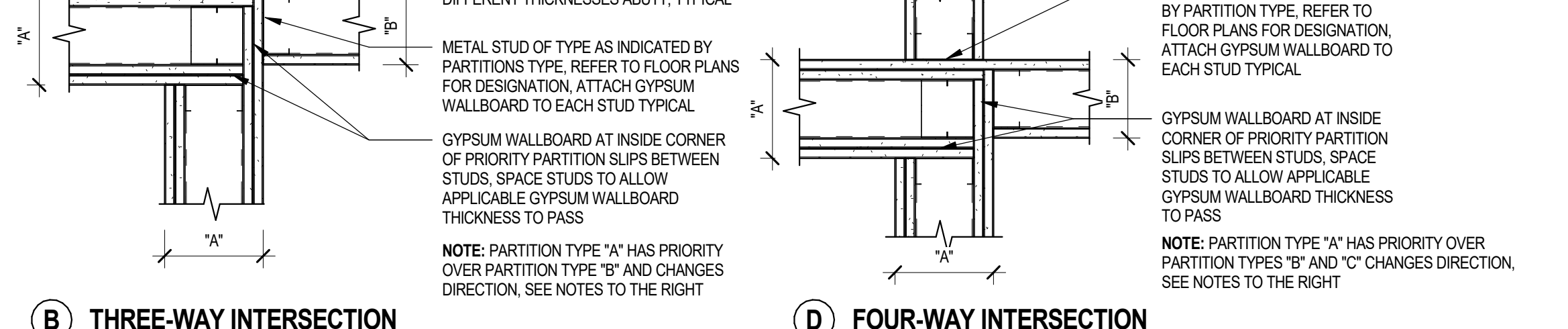
20 PARTIAL HEIGHT PARTITION BRACING AND ANCHORAGE
SCALE: 3" = 1'-0"



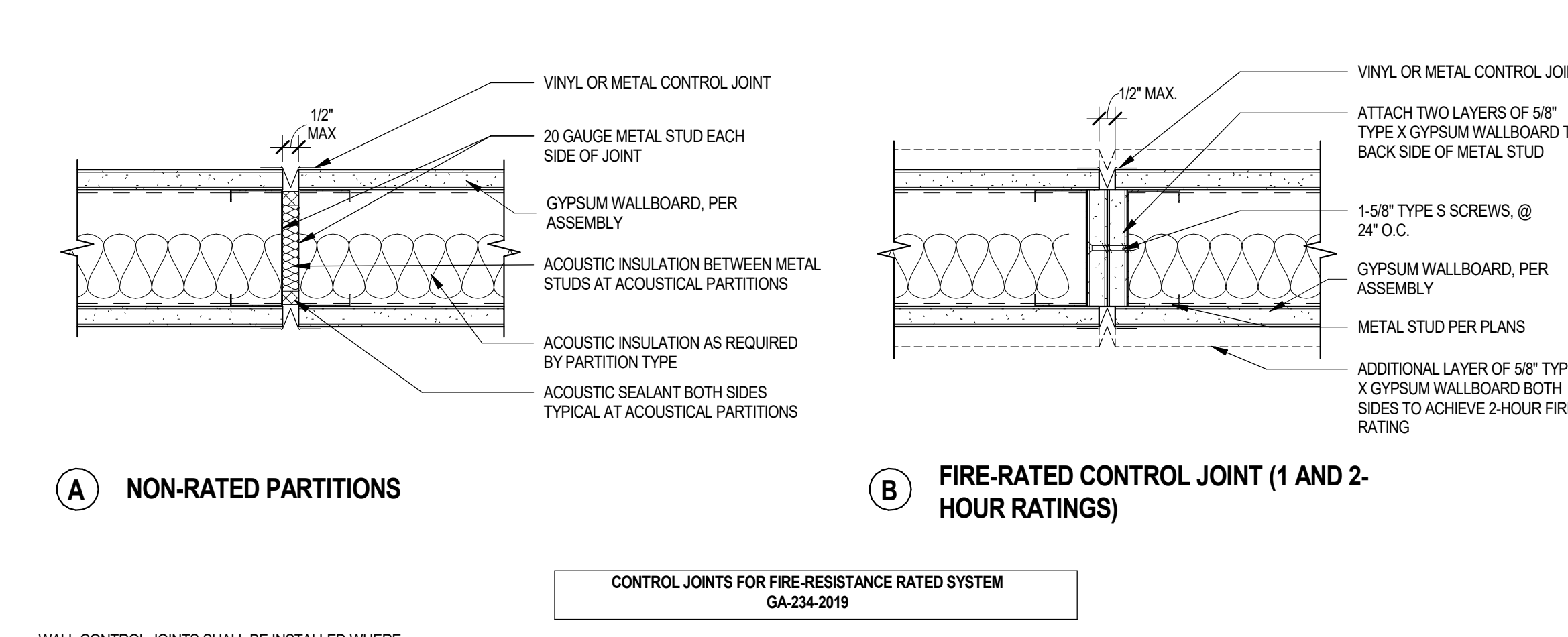
09 TYPICAL NON-RATED PARTITION BASE DETAIL (METAL STUD)
SCALE: 3" = 1'-0"



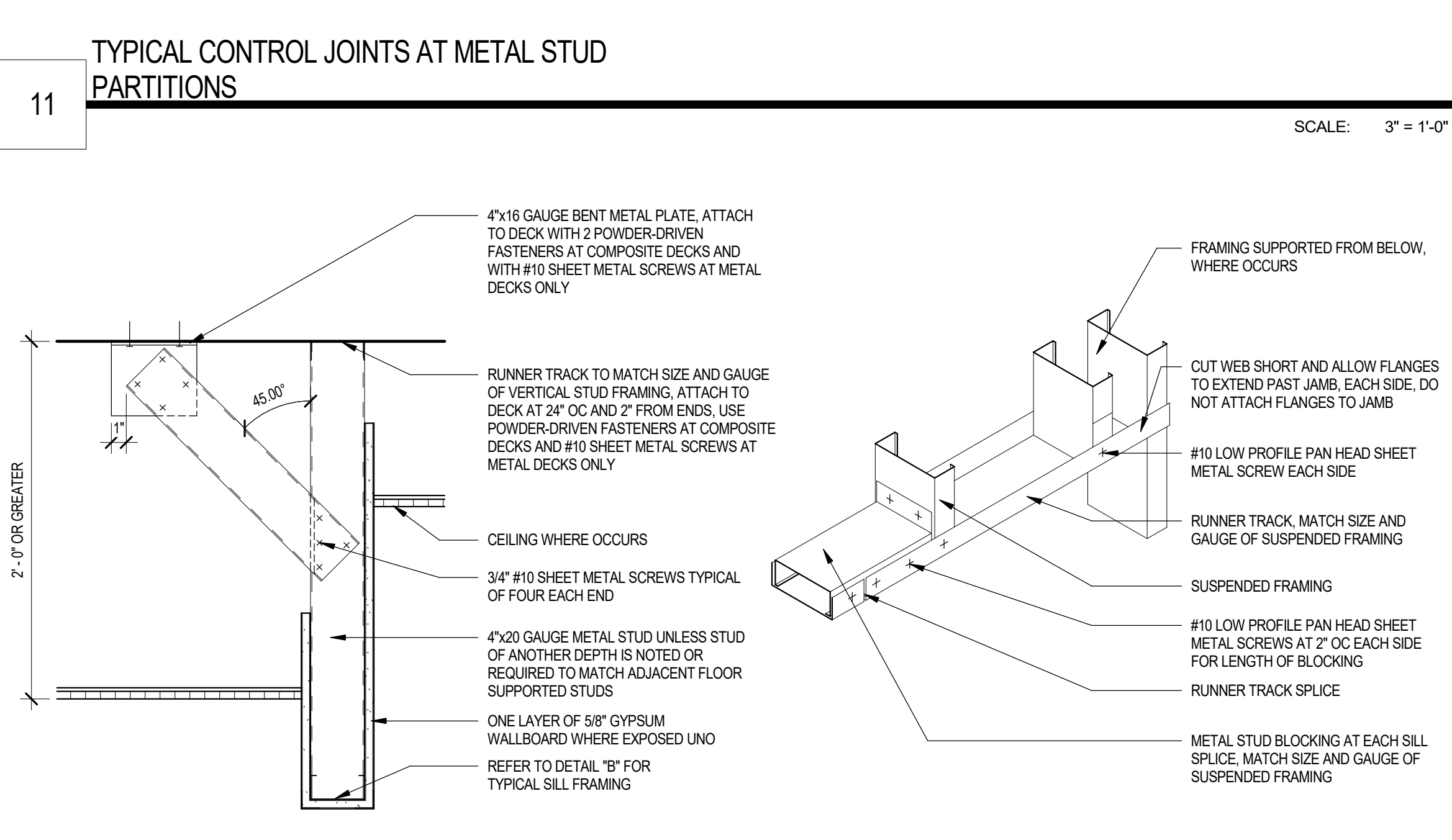
05 DEFLECTION TRACK DETAIL
NOT TO SCALE



10 INTERSECTION FRAMING AND PRIORITY OF PARTITIONS
SCALE: 1 1/2" = 1'-0"



11 TYPICAL CONTROL JOINTS AT METAL STUD PARTITIONS
SCALE: 3" = 1'-0"



03 HANDRAIL & GRAB BAR BLOCKING & ATTACHMENT
SCALE: 3" = 1'-0"



12 SUSPENDED PARTITION - TYPICAL DETAILS
SCALE: 1 1/2" = 1'-0"

PARTITION NOTES

- PARTITIONS ARE DIMENSIONED TO THE CENTER OF PARTITION ASSEMBLY UNLESS OTHERWISE NOTED AS FOM (FACE OF WALL). FURRING IS DIMENSIONED TO THE FINISHED FACE OF FURRED WALL.
- PARTITION TYPE INDICATORS ARE INDEPENDENT OF APPLIED FINISHES. SEE FINISH SCHEDULE AND/OR THE DESIGNATIONS ON THE PLANS FOR ADDITIONAL INFORMATION REGARDING APPLIED FINISHES.
- WHERE PARTITION TYPE DESIGNATION ON FLOOR PLANS IS INTERRUPTED BY DOOR OPENING, GLAZED PARTITION, ETC., CONSTRUCTION ABOVE INTERRUPTION AND WHERE APPLICABLE BELOW IS TO BE THE SAME AS THAT DESIGNATED FOR THE PARTITION IN WHICH THE INTERRUPTION OCCURRED.
- THE MINIMUM REQUIREMENTS FOR CONSTRUCTION OF EACH PARTITION TYPE AS EXPRESSED BY THE INDICATED FIRE RATING REFERENCE ARE INCORPORATED BY REFERENCE AND ARE APPLICABLE TO THE WORK OF THIS PROJECT. HOWEVER, ADDITIONAL AND/OR MORE RESTRICTIVE REQUIREMENTS MAY BE INDICATED BY THE SPECIFICATIONS AND DRAWINGS. SUCH REQUIREMENTS ALSO APPLY AND SHALL GOVERN. SUCH REQUIREMENTS INCLUDE BUT ARE NOT LIMITED TO:
 - USE 5/8" THICK GYPSUM WALLBOARD THROUGHOUT.
 - USE 16" ON CENTER MAXIMUM STUD SPACING UNLESS OTHERWISE NOTED. THE SPACING STATED BY THE REFERENCED APPROVAL OR TEST REPORT IS THE MAXIMUM SPACING.
 - USE STUDS OF GAUGE INDICATED ON THE DRAWINGS OR IN THE SPECIFICATIONS. THE GAUGE STATED BY THE REFERENCED APPROVAL OR TEST REPORT IS THE MINIMUM GAUGE.
 - USE STUDS OF DEPTH INDICATED BY THE DRAWINGS. THE DEPTH STATED BY THE REFERENCED APPROVAL OR TEST REPORT IS THE MINIMUM DEPTH.
- INSTALL ONE LAYER OF 5/8" TYPE X GYPSUM WALLBOARD INTERIOR GYPSUM WALLBOARD (WHERE GYPSUM WALLBOARD OCCURS) OF BASIC PARTITION AT THE FOLLOWING LOCATIONS:
 - WITHIN 2 FEET HORIZONTALLY AND 4 FEET VERTICALLY OF JANITORS SINKS.
 - AT OTHER LOCATIONS AS INDICATED BY THE ARCHITECTURAL FINISH SCHEDULE.
- INSTALL ONE LAYER OF 5/8" TYPE X GLASS-MAT, WATER-RESISTANT BACKING BOARD (W/1 LB/FT²) GYPSUM WALLBOARD (WHERE GYPSUM WALLBOARD OCCURS) OF BASIC PARTITION AT THE FOLLOWING LOCATIONS:
 - AT WET LOCATIONS, SUCH AS SHOWER STALLS AND TUB SURROUNDS.
 - WHERE CERAMIC TILE FINISHES ARE INDICATED. REFER TO FINISH SCHEDULE, PLANS AND/OR INTERIOR ELEVATIONS.
 - AT OTHER LOCATIONS AS INDICATED BY THE ARCHITECTURAL FINISH SCHEDULE.

FRAMING NOTES

- EXISTING FLOOR CEILING DECK OF THIS BUILDING IS A POST-TENSIONED CONCRETE SLAB. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THAT THE LOCATIONS OF ALL PENETRATIONS AND ATTACHMENTS DO NOT CONFLICT WITH THE SLAB TENDONS. X-RAY OF THE SLAB MAY BE REQUIRED.
- ALL INTERIOR NON-LOAD-BEARING METAL WALL FRAMING EXCEEDING 6 FEET IN HEIGHT SHALL RESIST A HORIZONTAL LOAD OF NOT LESS THAN 5 PSF, UNLESS OTHERWISE NOTED OR REQUIRED BY THE SPECIFICATIONS.
- GAUGE THICKNESS DESIGNATION IS BASED ON THE FOLLOWING MIL THICKNESS FOR INTERIOR NON-LOAD-BEARING PARTITION FRAMING, ALL 35 KSI PER THE STEEL STUD MANUFACTURERS ASSOCIATION (SSMA):
 - 18 MIL = 25 GAUGE
 - 30 MIL = 20 GAUGE
 - 43 MIL = 18 GAUGE
 - 54 MIL = 16 GAUGE
- ALL INTERIOR NON-LOAD-BEARING METAL WALL FRAMING SHALL BE 25 GAUGE INSTALLED AT 16" ON CENTER UNLESS OTHERWISE NOTED.
- ALL INTERIOR NON-LOAD-BEARING METAL WALL FRAMING SHALL BE INSTALLED WITH A DEFLECTION CRITERIA OF L/240 UNLESS OTHERWISE NOTED OR REQUIRED BY THE SPECIFICATIONS.
- WHERE AN ADDITIONAL INTERIOR WALL FINISH IS APPLIED TO THE BASE PARTITION SUCH AS TILE, VENEER, WOOD PANELING, OR SIMILAR, INTERIOR NON-LOAD-BEARING METAL WALL FRAMING SHALL BE INSTALLED WITH A DEFLECTION CRITERIA OF L/360 UNLESS OTHERWISE NOTED OR REQUIRED BY THE SPECIFICATIONS.
- LIMITING HEIGHTS OF INTERIOR NON-LOAD-BEARING FRAMING SHALL BE PER THE MANUFACTURERS SPAN TABLES BASED ON THE FOLLOWING CRITERIA OUTLINED IN THIS SET OF DRAWINGS AND THE PROJECT MANUAL: HORIZONTAL LOADING, STUD DEPTH, STUD SPACING, AND DEFLECTION CRITERIA.
- PROVIDE 20 GAUGE (OR GREATER AS REQUIRED) METAL WALL FRAMING AT THE FOLLOWING LOCATIONS:
 - DOUBLE STUD JAMB ASSEMBLIES AT OPENINGS.
 - FIRST STUD IN THE PARTITION BEYOND THE DOUBLE STUD JAMB ASSEMBLY. LOCATE STUD 'D' FROM DOUBLE STUD ASSEMBLY.
 - STUDS TO WHICH GLASS-MAT BACKER WATER-RESISTANT BACKER BOARD, SPECIFIED IN SECTION 09300, ARE INSTALLED FOR WET AREAS.
 - STUDS TO WHICH ABUSE RESISTANT AND HIGH-IMPACT GYPSUM WALL PANELS ARE ATTACHED.
 - STUDS TO WHICH WALL MOUNTED EQUIPMENT, INCLUDING OWNER FURNISHED EQUIPMENT, IS FASTENED.
 - STUD INFILL AND SILL TRACK BEHIND WINDOW OPENINGS.
 - STUDS INSTALLED FOR OPENING HEADS BETWEEN DOUBLE STUD JAMB ASSEMBLIES.

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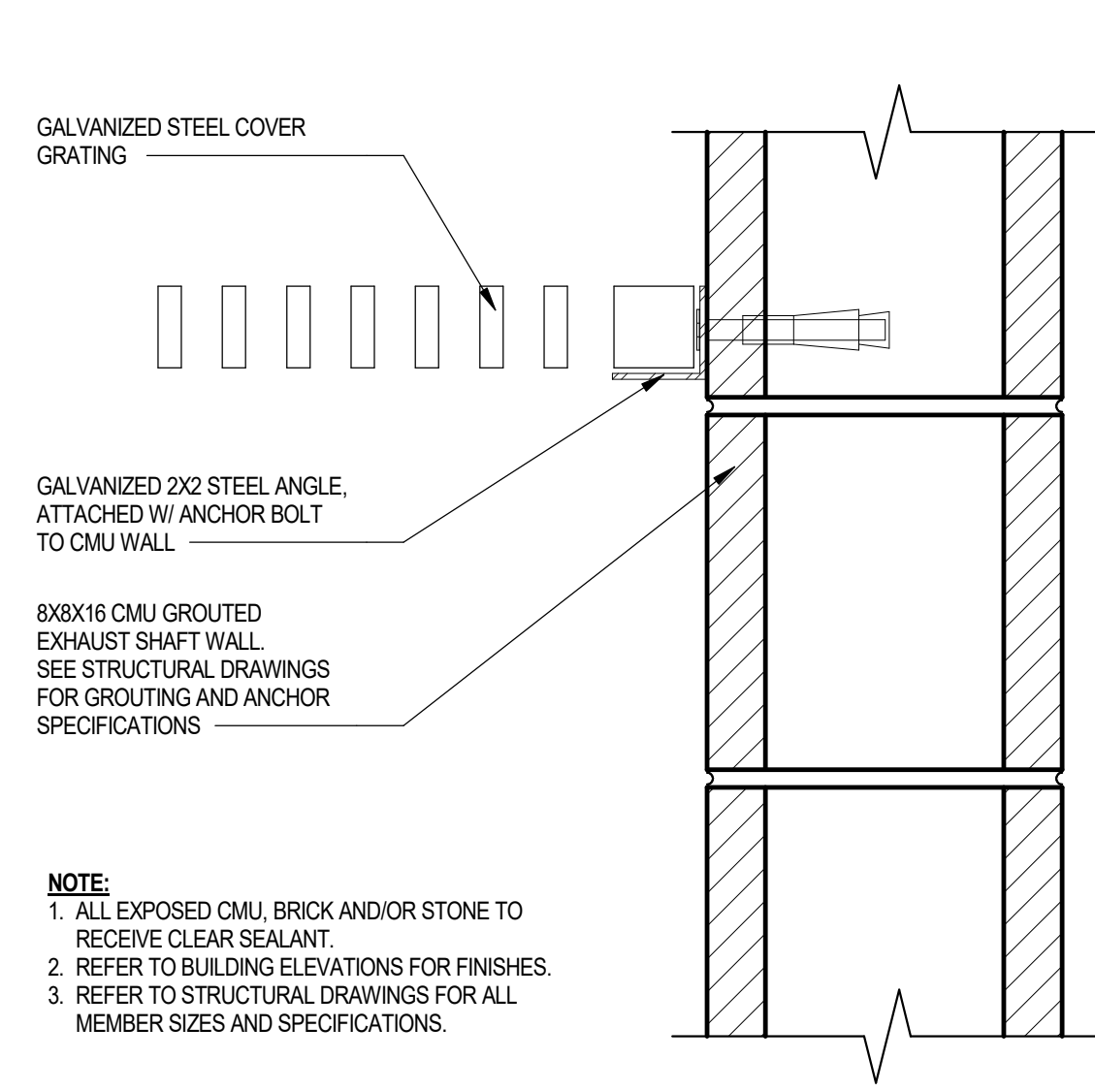
- BENDING STRESS IN A GRAB BAR INDUCED BY THE MAXIMUM BENDING MOMENT FROM THE APPLICATION OF 250 LB PER FT SHALL BE LESS THAN THE ALLOWABLE STRESS FOR THE MATERIAL OF THE GRAB BAR.
- SHEAR STRESS INDUCED IN A GRAB BAR BY THE APPLICATION OF 250 LB PER FT SHALL BE LESS THAN THE ALLOWABLE SHEAR STRESS FOR THE MATERIAL OF THE GRAB BAR. IF THE CONNECTION BETWEEN THE GRAB BAR AND ITS MOUNTING BRACKET OR OTHER SUPPORT IS CONSIDERED TO BE FULLY RESTRAINED, THEN DIRECT AND TORSIONAL SHEAR STRESSES SHALL BE TOTALLED FOR THE COMBINED SHEAR STRESS, WHICH SHALL NOT EXCEED THE ALLOWABLE SHEAR STRESS.
- SHEAR FORCE INDUCED IN A FASTENER OR MOUNTING DEVICE FROM THE APPLICATION OF 250 LB PER FT SHALL BE LESS THAN THE ALLOWABLE LATERAL LOAD OF EITHER THE FASTENER OR MOUNTING DEVICE OR THE SUPPORTING STRUCTURE, WHICHEVER IS THE SMALLER ALLOWABLE LOAD.
- TENSION FORCE INDUCED IN A FASTENER BY A DIRECT TENSION FORCE OF 250 LB PER FT PLUS THE MAXIMUM MOMENT FROM THE APPLICATION OF 250 LB PER FT SHALL BE LESS THAN THE ALLOWABLE WITHDRAWAL LOAD BETWEEN THE FASTENER AND THE SUPPORTING STRUCTURE.
- GRAB BARS SHALL NOT ROTATE WITHIN THEIR FITTINGS.

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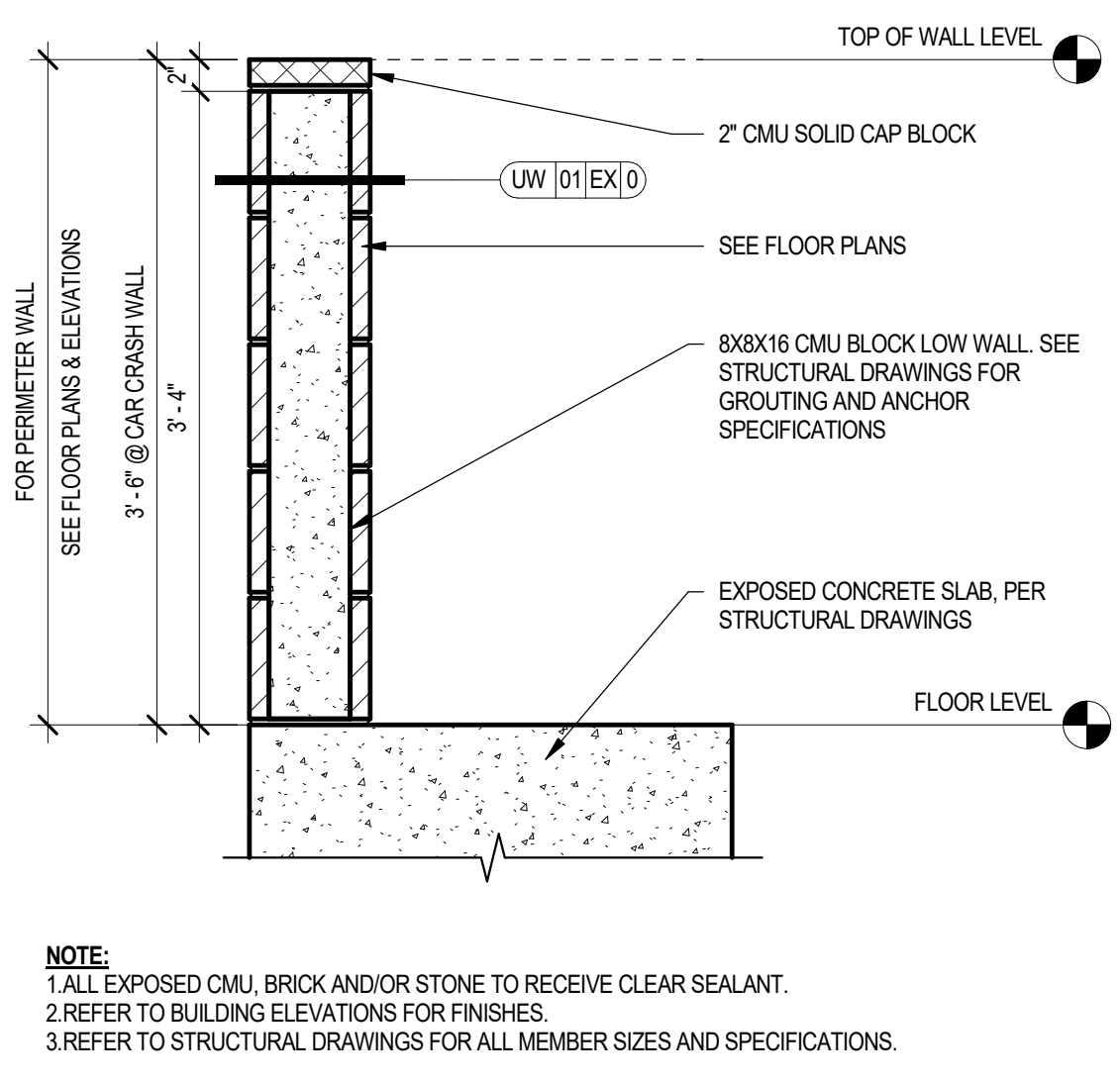
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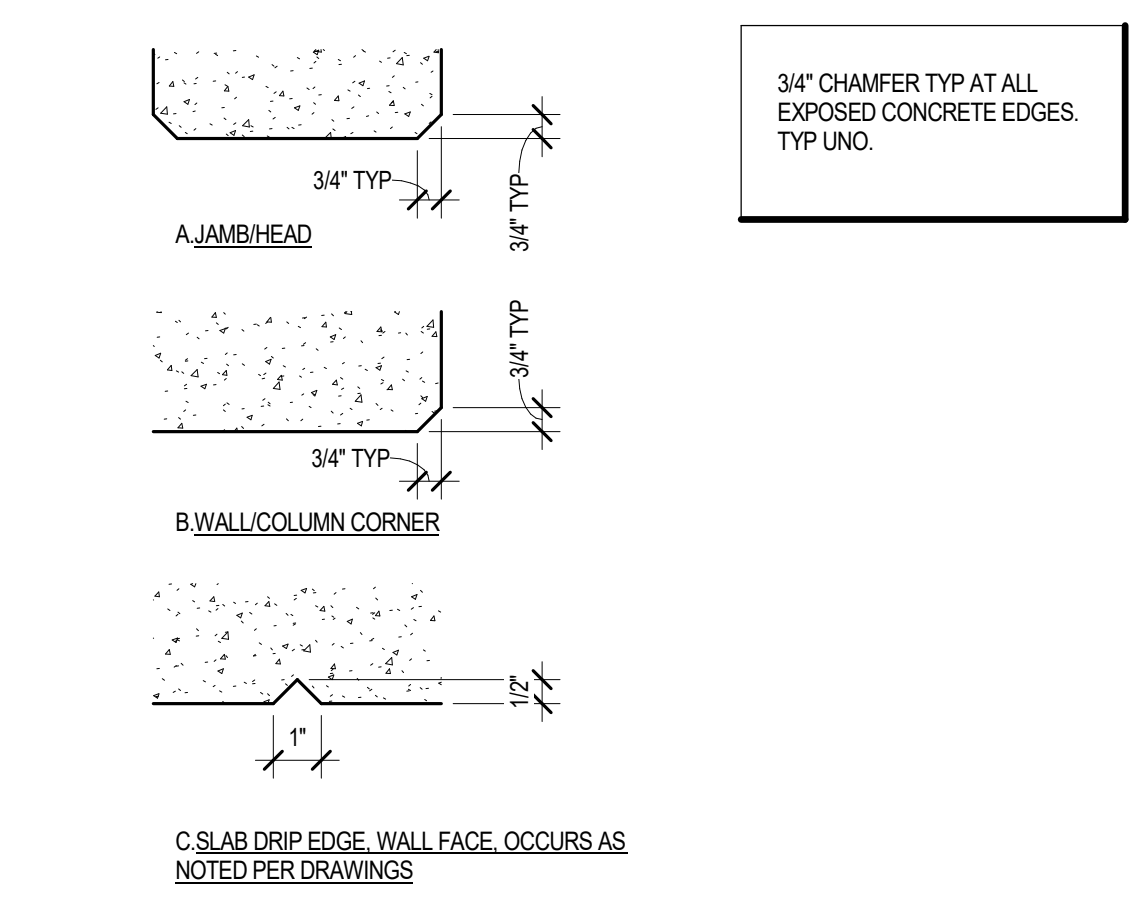
A8.1.20
LIGHT METAL STUD FRAMING
DETAILS



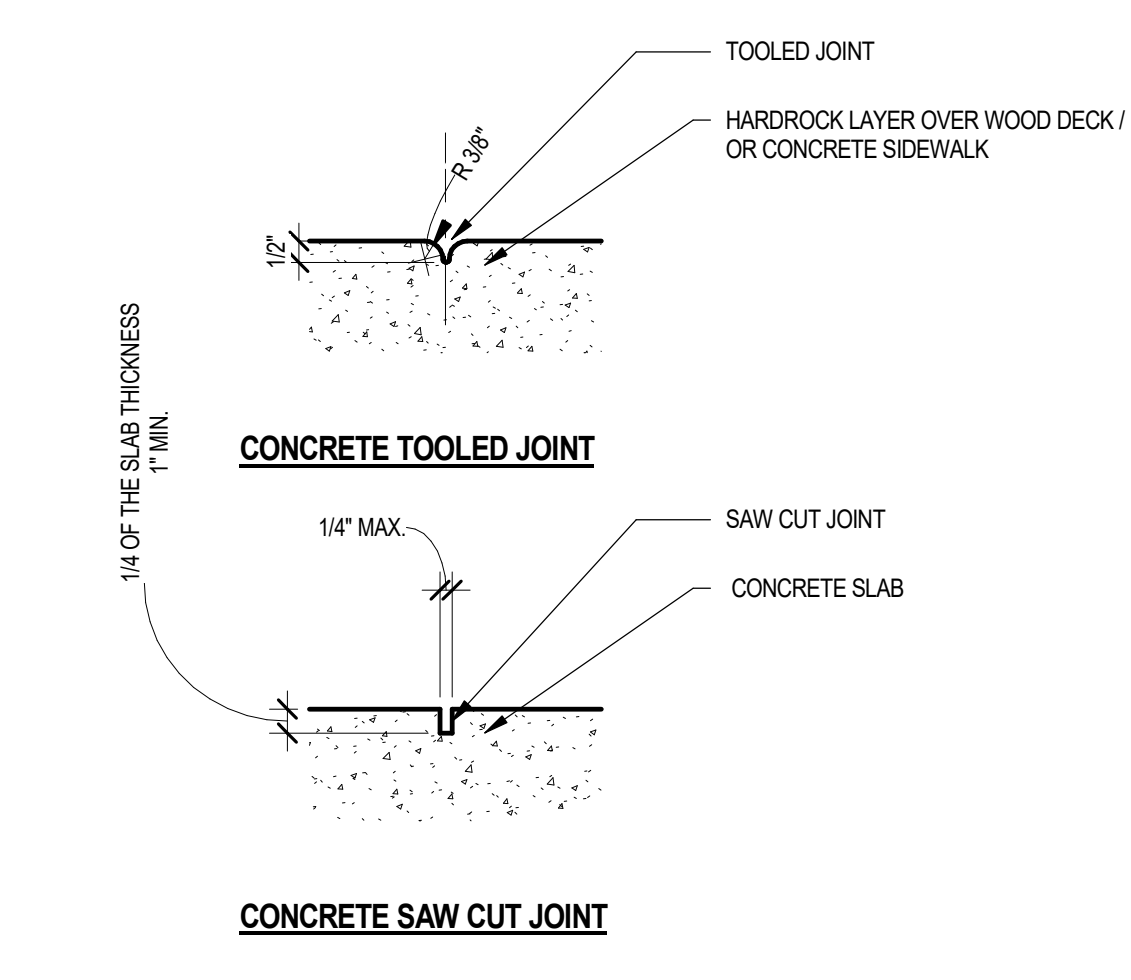
05 EXHAUST SHAFT METAL GRATING @ CMU WALL SCALE: 3" = 1'-0"



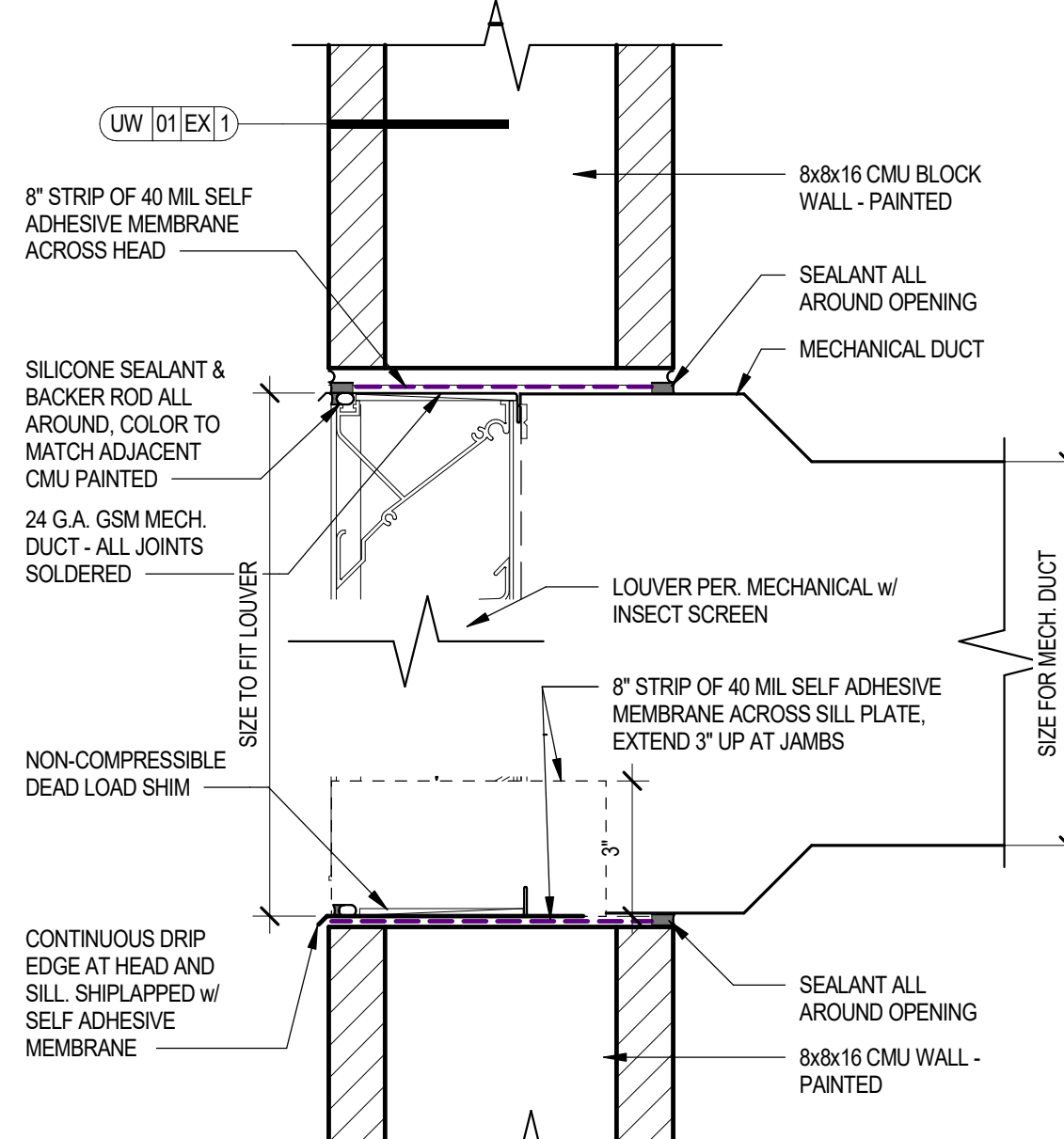
01 CMU CAR CRASH WALL & LOW WALL AT PARKING SCALE: 1" = 1'-0"



02 CONCRETE CORNERS & EDGES SCALE: 3" = 1'-0"



03 CONCRETE CONTRACTION (CONTROL) JOINTS SCALE: 3" = 1'-0"



04 MECH. VENTS AT EXTERIOR CMU WALL SCALE: 3" = 1'-0"

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Note: the owner or its designated agent shall provide this written description of payment.

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