

ALURA APARTMENTS - VILLAGE AT DISCOVERY PARK

POOL HOUSE

ALURA POOL HOUSE - VILLAGE AT DISCOVERY PARK

LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

PROJECT INFORMATION

SITE DATA					
SITE ZONING:	(SEE CIVIL)				
SITE SIZE:	(SEE CIVIL)				
SITE DENSITY:	(SEE CIVIL)				
NO. OF PARKING SPACES:	(SEE CIVIL)				
BUILDING OCCUPANT LOAD					
DWELLING UNITS	COMPLIANCE WITH	SQUARE FEET OF AREA	SQUARE FEET PER PERSON	CALC.	OCCUPANT LOAD
COMMUNITY ROOM	ADA 2010	678	15	45.20	(46) PERSONS
KITCHENETTE	ADA 2010	104	200	0.52	(1) PERSONS
MEN'S RESTROOM	ADA 2010	131			
WOMEN'S RESTROOM	ADA 2010	140			
POOL EQUIPMENT	ADA 2010	216			
TOTAL BUILDING OCCUPANT LOAD:					(47) PERSONS
CODES AND REGULATIONS					
BLDG. & RELATED CODES:	2018 IBC, IPC, IMC & 2018 IECC				
ELECT. CODE:	2017 NEC				
FIRE CODE:	2018 IFC				
ACCESSIBILITY:	ADA 2010, 2009 ICC/ANSI A117.1, FAIR HOUSING				
MISC.:	ALL APPLICABLE FEDERAL, STATE & LOCAL CODES, LAWS & ORDINANCES				
BUILDING CODE DATA					
USE GROUP:	A-3 (ASSEMBLY)				
CONSTRUCTION TYPE:	V-B				
EXT. WALL CONSTRUCTION:	NON-RATED				
OTHER WALL CONSTRUCTION:	1-HR RATED INTERIOR WALLS AND CEILING AT POOL EQUIPMENT ROOM, DRAFTSTOPPING IN ATTIC, UNRATED INTERIOR WALLS				
TOTAL ALLOW. AREA:	A-3 = 6,000 SF PER FLOOR				
TOTAL ACTUAL AREA:	1,509 SF				
ALLOW. HEIGHT & FLOORS:	A-3 = 40'-0", 1 STORY				
ACTUAL HEIGHT & FLOORS:	17'-4", 1 STORY				
SPRINKLER SYSTEM:	NONE REQUIRED, NONE TAKEN				

INDEX TO DRAWINGS

Sheet Number	Sheet Name	Sheet Issue Date	Current Revision Date	Current Revision Description
1 - COVER SHEET				
O.OP	COVER SHEET	15 APR 2025	13 JUN 2025	ADDENDUM #2
SP1.OP	SPECIFICATIONS	15 APR 2025	15 APR 2025	ISSUE SET
SP1.1P	SPECIFICATIONS	15 APR 2025	15 APR 2025	ISSUE SET
SP1.2P	SPECIFICATIONS	15 APR 2025	15 APR 2025	ISSUE SET
2 - STRUCTURAL (BY CROCKETT ENGINEERING CONSULTANTS)				
PS100	GENERAL STRUCTURAL DATA	15 APR 2025	15 APR 2025	ISSUE SET
PS200	FOUNDATION PLAN	15 APR 2025	15 APR 2025	ISSUE SET
PS210	FOUNDATION DETAILS	15 APR 2025	15 APR 2025	ISSUE SET
PS300	ROOF FRAMING PLAN	15 APR 2025	15 APR 2025	ISSUE SET
PS310	ROOF FRAMING DETAILS	15 APR 2025	15 APR 2025	ISSUE SET
PS311	ROOF FRAMING DETAILS	15 APR 2025	15 APR 2025	ISSUE SET
3 - ARCHITECTURAL				
A1.OP	POOL HOUSE DIMENSION PLAN	15 APR 2025	13 JUN 2025	ADDENDUM #2
A1.1P	POOL HOUSE ACCESSIBILITY PLAN	15 APR 2025	13 JUN 2025	ADDENDUM #2
A2.OP	POOL HOUSE ROOF PLAN, DETAILS NOTES	15 APR 2025	15 APR 2025	ISSUE SET
A3.OP	POOL HOUSE EXTERIOR ELEVATIONS	15 APR 2025	15 APR 2025	ISSUE SET
A4.OP	WALL SECTIONS	15 APR 2025	15 APR 2025	ISSUE SET
A4.1P	WALL SECTIONS	15 APR 2025	15 APR 2025	ISSUE SET
A4.2P	FRAMING DETAILS	15 APR 2025	15 APR 2025	ISSUE SET
A4.3P	BRICK FLASHING DETAILS	15 APR 2025	15 APR 2025	ISSUE SET
A5.OP	FIRE RATED ASSEMBLIES	15 APR 2025	15 APR 2025	ISSUE SET
A5.1P	FIRE RATED ASSEMBLIES	15 APR 2025	15 APR 2025	ISSUE SET
A6.OP	POOL HOUSE FINISH PLAN	15 APR 2025	13 JUN 2025	ADDENDUM #2
A7.OP	INTERIOR ELEVATIONS	15 APR 2025	13 JUN 2025	ADDENDUM #2
A7.1P	ELECTRICAL MOUNTING HEIGHT ELEVATIONS	15 APR 2025	15 APR 2025	ISSUE SET
4 - MEP (BY J-SQUARED ENGINEERING)				
MEP1	MECHANICAL ELECTRICAL PLUMBING COVER SHEET	15 APR 2025	15 APR 2025	ISSUE SET
MEP2	SITE UTILITIES PLAN	15 APR 2025	15 APR 2025	ISSUE SET
MEP3	SITE LIGHTING PLAN	15 APR 2025	15 APR 2025	ISSUE SET
M101	HVAC PLAN	15 APR 2025	15 APR 2025	ISSUE SET
M501	HVAC DETAILS & SCHEDULES	15 APR 2025	15 APR 2025	ISSUE SET
E101	ELECTRICAL PLAN	15 APR 2025	13 JUN 2025	ADDENDUM #2
FP101	FIRE PROTECTION PLAN	15 APR 2025	15 APR 2025	ISSUE SET
E501	ELECTRICAL DETAILS & SCHEDULES	15 APR 2025	16 MAY 2025	ADDENDUM #1
P101	PLUMBING PLAN	15 APR 2025	13 JUN 2025	ADDENDUM #2

NOTE: INDEX TO DRAWINGS HAS BEEN UPDATED TO REFLECT THE SHEETS REVISED BY ADDENDUM #2.

ARCHITECT'S JOB NO. 4938

PROJECT LOCATION MAP



SIGNATURE AREAS

NOTE: PROJECT CONSTRUCTION MUST BE IN COMPLIANCE WITH ALL APPLICABLE CODES, ORDINANCES, LAWS, AND REGULATIONS AS ENUMERATED ELSEWHERE IN THE PLANS AND SPECIFICATIONS.

ARCHITECT: WALLACE ARCHITECTS, LLC
302 CAMPUSVIEW DRIVE SUITE 208, COLUMBIA, MO 65201
BY: _____ DATE: _____

OWNER: THE VILLAGE AT DISCOVERY PARK, LLC
3622 ENDEAVOR AVE., STE. 101, COLUMBIA, MO 65201
BY: _____ DATE: _____

CONTRACTOR: INTRINSIC DEVELOPMENT, LLC
3622 ENDEAVOR AVE., STE. 101, COLUMBIA, MO 65201
BY: _____ DATE: _____

PM: RS DT: TY
PC: CD QC: MK

PLAN SET NO. _____

ADDENDUM #2

RELEASED FOR CONSTRUCTION
As Noted on Plans Review
Missouri Department of Transportation
#A-2012006244

M. RANDALL PORTER
ARCHITECT
#A-2012006244

13 JUN 2025

ALURA POOL HOUSE - VILLAGE AT DISCOVERY PARK
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

WALLACE ARCHITECTS, LLC
COLUMBIA, MO
P 573-258-7200

WALLACE ARCHITECTS, LLC
MISSOURI STATE CERTIFICATE OF AUTHORITY: 2003019614

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1ST ISSUE
15 APR 2025

ISSUE/REVISIONS
15 APR 2025 ISSUE SET
16 MAY 2025 ADDENDUM #1
13 JUN 2025 ADDENDUM #2

0.OP

JOB NO.
4938

6/13/2025 8:05:02 AM

D	C	B	A	1 DIVISION 03 - CONCRETE SECTION 03 35 11 - CONCRETE FLOOR FINISHES COATINGS Curing and Sealing Compound, Moisture Emission-Reducing, Membrane-Forming: Liquid, membrane-forming, clear sealer, for application to newly-placed concrete; capable of providing adequate bond for flooring adhesives, initially and over the long term; with sufficient moisture vapor impermeability to prevent deterioration of flooring adhesives due to moisture emission. Use this product to cure and seal all slabs to receive adhesively applied flooring. Comply with ASTM C309 and ASTM C1315 Type I Class A. VOC Content: Less than 100 g/L. Manufacturers: MasterKure CC 160 WB (formerly Kure-N-Seal) as manufactured by BASF Corp. Curing and Sealing Compound, Low Gloss: Liquid, membrane-forming, clear, non-yellowing acrylic, complying with ASTM C1315 Type 1 Class A. Application: Use at exposed slabs and toppings not scheduled to receive finish flooring. Vohicle: Water-based. VOC Content: OTC compliant. Manufacturers: Dayton Superior Corporation: Cure & Seal 1315 EF: www.daytonsuperior.com. Euclid Chemical Company, DIAMOND CLEAR VOX: www.euclidchemical.com. DIVISION 04 - MASONRY SECTION 04 26 13 - MASONRY VENEER BRICK UNITS Manufacturers: Belden Brick: www.beldenbrick.com. Endicott Clay Products Co: www.endicottcm.com. Meridian Brick LLC (formerly Boral USA): www.meridianbrick.com. Sioux City Brick and Tile Co: www.siouxcitybrick.com Facing Brick: ASTM C216, Type FBS Smooth, Grade SW. Color and Texture: As selected by Owner. MORTAR MATERIALS Portland Cement: ASTM C150/C150M, Type I; color as required to produce approved color sample. Hydrated Lime: ASTM C207, Type S. Mortar Aggregate: ASTM C144. Pigments for Colored Mortar: Pure, concentrated mineral pigments specifically intended for mixing into mortar and complying with ASTM C979/C979M. Water: Clean and potable. Packaged Dry Material for Mortar for Unit Masonry: Premixed Portland cement, hydrated lime and sand; complying with ASTM C1714/C1714M and capable of producing mortar of the specified strength in accordance with ASTM C270 with the addition of water only. Type: Type N. REINFORCEMENT AND ANCHORAGE Reinforcing Steel: ASTM A615/A615M, Grade 40 (40,000 psi) yield strength, deformed billet bars; galvanized. Residential Wall Ties: Corrugated formed sheet metal, 7/8 inch wide by 0.05 inch thick, hot dip galvanized to ASTM A 153/A 153M, Class B, sized to extend at least 1-1/2 inches into the veneer with at least 5/8 inch of mortar coverage from masonry face. THRU-WALL FLASHINGS Metal Flashing Materials: Stainless Steel Flashing: ASTM A666, Type 304, soft temper; 26 gauge, 0.0187 inch thick; finish 2B to 2D. Flashing Sealant/Adhesives: VOC-compliant sealants and adhesives as supplied or recommended by flashing manufacturer. ACCESSORIES Preformed Control Joints: Neoprene material. Provide with corner and tee accessories, fused joints. Joint Filler: Closed cell polyethylene; oversized 50 percent to joint width; self expanding, in maximum lengths available. Weeps: Type: Polyester mesh. Cleaning Solution: Non-acidic, not harmful to masonry work or adjacent materials. Penetrating Water Repellent: Penetrating, water-based silicone water repellent for concrete and masonry. LINTELS Prefabricated Steel Lintels, Galvanized: Install loose steel lintels over masonry openings where indicated on plans, or as required. MORTAR MIXING Mortar for Unit Masonry: ASTM C270, Proportion Specification. Colored Mortar: Proportion selected pigments and other ingredients to match Architect's sample, without exceeding manufacturer's recommended pigment-to-cement ratio. COURSING Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness. Brick Units: Bond: Running. DIVISION 05 - METALS SECTION 05 50 00 - METAL FABRICATIONS MATERIALS - STEEL Steel Sections: ASTM A36/A36M. Plates: ASTM A283/A283M. Pipe: ASTM A53/A53M, Grade B Schedule 40, black finish. Bolts, Nuts, and Washers: ASTM A307, Grade A, plain. Bolts, Nuts, and Washers: ASTM F3125/F3125M, Type 1, plain. Welding Materials: AWS D1.1/D1.1M; type required for materials being welded. Shop and Touch-Up Primer: SSPC-Paint 15, complying with VOC limitations of authorities having jurisdiction. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20, Type I - Inorganic, complying with VOC limitations of authorities having jurisdiction. FABRICATION Fit and shop assemble items in largest practical sections, for delivery to site. Fabricate items with joints tightly fitted and secured. FABRICATED ITEMS Ledge Angles and Lintels Not Attached to Structural Framing: For support of masonry; galvanized finish. FINISHES - STEEL Prime paint steel items.	2 DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES SECTION 06 20 00 - FINISH CARPENTRY DELIVERY, STORAGE, AND HANDLING Protect from moisture damage. Store flat, on level area, to prevent warping. FINISH CARPENTRY ITEMS Surface Burning Characteristics: Provide materials having fire and smoke properties as required by applicable code. Exterior Finish Carpentry Items: Manufacturers: Acceptable manufacturers of cellular PVC moldings and trim: Azek Building Products: www.azek.com. Door and Window Casings and Moldings at Masonry Veneer: Molded Cellular PVC; suitable for paint finish, in profiles scheduled below: Door and Window trim: To match Azek Brick mould, 1-1/2 inch x 2 inch. Interior Finish Carpentry Items (Pool Building): Manufacturers: Acceptable millwork manufacturers of casings, molding and trim. Woodgrain Millwork: www.woodgrain.com. Trimco Millwork: www.trimcomillwork.com. Metrie Inc.: www.metrie.com Moldings, Bases, Casings, and Miscellaneous Trim: Clear white pine, solid or finger jointed; primed for paint finish, in profiles as scheduled below: Door Trim: 1 1/16 inch x 2-1/4 inch Colonial Wood Casing. Baseboard Trim: 9/16 inch by 3-1/4 inch Colonial Wood Base. Window Sill: Furniture grade, 1 inch x 4 inch nominal, back primed with eased edges. LUMBER MATERIALS Softwood Lumber: Clear White Pine species, plain sawn, maximum moisture content of 6 percent; with vertical grain, of quality suitable for transparent finish. CELLULAR PVC MOLDINGS AND TRIM Cellular PVC Trim: Extruded, expanded PVC; UV-resistant, heat-stabilized, and rigid material. Density: 31 pounds per cubic foot, minimum. Flame Spread: ASTM E84, 75, maximum. PLASTIC LAMINATE MATERIALS ACCESSORIES Primer: As specified in Section 09 91 23. Wood Filler: Solvent base, tinted to match surface finish color. Epoxy Filler: As recommended by composite resin manufacturer, to match color of window sills. HARDWARE Countertop Support Brackets: Fixed, L-shaped, corner reinforced, face-of-wall mounting. Material: Steel. Finish: Manufacturer's standard, factory-applied, textured powder coat. Color: Black. Support Length: 24 inches. FABRICATION Cap exposed plastic laminate finish edges with material of same finish and pattern. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scrubbing and site cutting. SECTION 06 66 00 - ORNAMENTAL SIMULATED WOODWORK DELIVERY, STORAGE, AND HANDLING Deliver materials to site in manufacturer's original, unopened packaging, with labels clearly identifying product name and manufacturer. Store products on flat level surface to prevent warping. FIELD CONDITIONS Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Allow at least 24 hours for materials to adapt to conditions at project site prior to installation. MANUFACTURERS Gable Louvers: MidAmerica Components: www.midamericacomponents.com Fypon LLC: www.fypon.com Builders Edge/Tapco International Corp: www.buildersedge.com Factory-Fabricated Cellular PVC Column Covers: Elite Trimworks Inc.; Tapered square series: www.elitetrimworks.com Versatex Building Products LLC; Tapered Series: www.versatex.com HB&G Building Products Inc.; PermaWrap Series: www.hbgcolumns.com SIMULATED WOOD PRODUCTS Gable Louvers: Molded polyurethane foam with factory-applied UV resistant primer suitable for field applied paint finish. Style: As indicated on the Drawings. Factory-Fabricated Cellular PVC Column Covers: Premanufactured multi-piece, molded cellular PVC column cover, base and capital; UV stabilized, suitable for paint finish. Style: Square, tapered. Size: As indicated or required to accommodate structural wood post. Column Overall Height: As indicated on drawings. Column Wall Thickness: 1/2 inch. Shaft, Cap, and Base Construction: Two corner halves for field assembly. MATERIALS Cellular PVC, Extruded, expanded PVC; UV-resistant, heat-stabilized, and rigid material. Density: 31 pounds per cubic foot, minimum. Deflection/Warping: ASTM D648, Not less than 130 deg F. Polypropylene, Molded high-density, UV stabilized. Density: 4 pounds per cubic foot, minimum. Surface Burning Characteristics: Flame spread index of 75 maximum, smoke developed index of 450 or less, when tested in accordance with ASTM E84. Compressive Strength: Minimum 300 pounds per sq. inch. ACCESSORIES Fasteners: Manufacturer's standard concealed fasteners, galvanized steel. Adhesive: PVC plastic adhesive acceptable to manufacturer. Sealant (Urethane foam products): Urethane-based adhesive acceptable to manufacturer.	3 DIVISION 07 - THERMAL AND MOISTURE PROTECTION SECTION 07 21 00 - THERMAL INSULATION FIELD CONDITIONS Do not install insulation adhesives when temperature or weather conditions are detrimental to successful installation. FOAM BOARD INSULATION MATERIALS Extruded Polystyrene (XPS) Board Insulation: Comply with ASTM C578 with either natural skin or cut cell surfaces. Type: ASTM C578, Type IV. Type and Thermal Resistance, R-value: Type IV, 5.0 (0.88), minimum, per 1 inch thickness at 75 degrees F mean temperature. Products: DuPont de Nemours, Inc; Styrofoam Brand Highload 40: building.dupont.com. Kingspan Insulation LLC; GreenGuard XPS Type IV, 25 psi: www.kingspan.com. Owens Corning Corporation; FOAMULAR Extruded Polystyrene (XPS) Insulation: www.ocbuildingspec.com. GLASS FIBER BLANKET INSULATION MATERIALS Glass Fiber Batt Insulation: Flexible preformed batt or blanket, complying with ASTM C665; friction fit. Thermal Resistance at exterior walls: R-value of 20 minimum. Facing: Kraft paper. Products: CertainTeed Corporation: www.certainteed.com. Johns Manville: www.jm.com. Owens Corning Corporation: www.ocbuildingspec.com. FOAM INSULATION Single component polyurethane, low pressure foam sealant complying with ASTM E2178 for exterior wall penetrations. R-value: 1 inch of material at 72 degrees F: 4.7, minimum. Minimum Density: 1.0 pounds per cubic foot. Manufacturers: Dow Chemical Co.; Great Stuff: www.greatstuff.dow.com. FOMO Products Inc.; Handi Foam: www.fomo.com/handifoam. Touch 'n Seal Inc.; All Seasons: www.touch-n-seal.com. Single component polyurethane, low pressure, low pressure build, foam sealant complying with ASTM E2178 for windows and doors. R-value: 1 inch of material at 72 degrees F: 4.7, minimum. Minimum Density: 1.10 pounds per cubic foot. Manufacturers: Dow Chemical Co.; Great Stuff Window & Door: www.greatstuff.dow.com. FOMO Products Inc.; Handi Foam Window & Door: www.fomo.com/handifoam. Touch 'n Seal Inc.; No Warp: www.touch-n-seal.com. ACCESSORIES Tape: Reinforced polyethylene film with acrylic pressure sensitive adhesive. Insulation Fasteners: Lengths of unfinished, 13 gauge, 0.072 inch high carbon spring steel with chisel or mitered tips, held in place by tension, length to suit insulation thickness and substrate, capable of securely supporting insulation in place. Adhesive: Type recommended by insulation manufacturer for application. SECTION 07 21 26 - BLOWN INSULATION MATERIALS Refer to Specification/Selection Design sheets. Applications: Provide blown insulation in attic as indicated on drawings. Loose Fill Insulation: ASTM C739, cellulose fiber type, bulk for pneumatic placement. Thermal Transmittance (U-value): 0.27 BTU/hr sq ft deg F, maximum. Total Thermal Resistance at Attic: Garage and Maintenance Buildings: R-value of 38 (deg F hr sq ft)Btu, minimum. ACCESSORIES Roof Ventilation Baffles: Prefabricated ventilation channels for placement under roof sheathing with baffles to prevent wind-washing. SECTION 07 25 00 - WEATHER BARRIERS WATER-RESISTIVE AIR BARRIERS Description: Materials installed behind exterior wall coverings; designed to prevent liquid water from further penetration into exterior wall assembly. Primary materials include mechanically applied sheets; accessory materials include flashings and seam tapes. Water-Resistive and Air Barrier, Multilayers: Outer layers of nonwoven, spunbonded polypropylene with vapor permeable, watertight polymeric middle layer. Air Permeance: 0.004 cfm/sq ft, maximum, when tested in accordance with ASTM E2178. Water Vapor Permeance: 54 perms, minimum, when tested in accordance with ASTM E96/E96M using Procedure A - Desiccant Method, at 73.4 degrees F. Products: DuPont Building Innovations; Tyvek Home Wrap with FlexWrap NF, StraightFlash, StraightFlash VF, Tyvek Wrap Caps, and Tyvek Tape: www.dupont.com. Kingspan Insulation LLC; GreenGuard HPV Building Wrap with GreenGuard Butyl Flashing and GreenGuard SuperStretch Flashing: www.trustrgreenguard.com. National Shelter Products, Inc; DRYLine HP with Dryline Sheathing Tape, ATX Flashing, and ATX Flex Flashing: www.drylinewrap.com. ACCESSORIES Seal and Perimeter Tapes: As recommended by water-resistive barrier manufacturer. Flashings: As recommended by water-resistive barrier manufacturer for application. Flexible Flashing: Self-adhesive sheet flashing complying with ASTM D1970/D1970M, except slip resistance requirement is waived if not installed on a roof. SECTION 07 31 13 - ASPHALT SHINGLES MANUFACTURERS Asphalt Shingles: CertainTeed, Landmark Series: www.certainteed.com. GAF; Timberline American Harvest: www.gaf.com/sle. Owens Corning Corp; Oakridge: www.owenscorning.com. ASPHALT SHINGLES Asphalt Shingles: Asphalt-coated glass felt, mineral granule surfaced, complying with ASTM D3462/D3462M. Fire Resistance: Class A, complying with ASTM E108. Wind Resistance (Uplift): Class D, when tested in accordance with ASTM D7158/D7158M. Self-sealing type. Style: Laminated overlay. SHEET MATERIALS Smooth Surfaced Roll Roofing: Asphalt-coated organic felt, with smooth asphalt coating both sides, complying with ASTM D6380/D6380M, Class S, Type III, 51.1 lb/100 sq ft. Eave and Valley Protection Membrane: Self-adhering polymer-modified asphalt sheet complying with ASTM D1970/D1970M; 40 mil total thickness; with stripable treated release paper and polyethylene sheet top surface. Underlayment: Synthetic non-asphaltic sheet, intended by manufacturer for mechanically fastened roofing underlayment without sealed seams and meeting requirements of ASTM D226/D226M.	4 Division 08 - OPENINGS, WALLS, AND PARTITIONS SECTION 08 20 00 - WALLS AND PARTITIONS FIELD CONDITIONS Do not install wall or partition materials when temperature or weather conditions are detrimental to successful installation. FOAM BOARD INSULATION MATERIALS Extruded Polystyrene (XPS) Board Insulation: Comply with ASTM C578 with either natural skin or cut cell surfaces. Type: ASTM C578, Type IV. Type and Thermal Resistance, R-value: Type IV, 5.0 (0.88), minimum, per 1 inch thickness at 75 degrees F mean temperature. Products: DuPont de Nemours, Inc; Styrofoam Brand Highload 40: building.dupont.com. Kingspan Insulation LLC; GreenGuard XPS Type IV, 25 psi: www.kingspan.com. Owens Corning Corporation; FOAMULAR Extruded Polystyrene (XPS) Insulation: www.ocbuildingspec.com. GLASS FIBER BLANKET INSULATION MATERIALS Glass Fiber Batt Insulation: Flexible preformed batt or blanket, complying with ASTM C665; friction fit. Thermal Resistance at exterior walls: R-value of 20 minimum. Facing: Kraft paper. Products: CertainTeed Corporation: www.certainteed.com. Johns Manville: www.jm.com. Owens Corning Corporation: www.ocbuildingspec.com. FOAM INSULATION Single component polyurethane, low pressure foam sealant complying with ASTM E2178 for exterior wall penetrations. R-value: 1 inch of material at 72 degrees F: 4.7, minimum. Minimum Density: 1.0 pounds per cubic foot. Manufacturers: Dow Chemical Co.; Great Stuff: www.greatstuff.dow.com. FOMO Products Inc.; Handi Foam: www.fomo.com/handifoam. Touch 'n Seal Inc.; All Seasons: www.touch-n-seal.com. Single component polyurethane, low pressure, low pressure build, foam sealant complying with ASTM E2178 for windows and doors. R-value: 1 inch of material at 72 degrees F: 4.7, minimum. Minimum Density: 1.10 pounds per cubic foot. Manufacturers: Dow Chemical Co.; Great Stuff Window & Door: www.greatstuff.dow.com. FOMO Products Inc.; Handi Foam Window & Door: www.fomo.com/handifoam. Touch 'n Seal Inc.; No Warp: www.touch-n-seal.com. ACCESSORIES Tape: Reinforced polyethylene film with acrylic pressure sensitive adhesive. Insulation Fasteners: Lengths of unfinished, 13 gauge, 0.072 inch high carbon spring steel with chisel or mitered tips, held in place by tension, length to suit insulation thickness and substrate, capable of securely supporting insulation in place. Adhesive: Type recommended by insulation manufacturer for application. SECTION 07 21 26 - BLOWN INSULATION MATERIALS Refer to Specification/Selection Design sheets. Applications: Provide blown insulation in attic as indicated on drawings. Loose Fill Insulation: ASTM C739, cellulose fiber type, bulk for pneumatic placement. Thermal Transmittance (U-value): 0.27 BTU/hr sq ft deg F, maximum. 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ASPHALT SHINGLES Asphalt Shingles: Asphalt-coated glass felt, mineral granule surfaced, complying with ASTM D3462/D3462M. Fire Resistance: Class A, complying with ASTM E108. Wind Resistance (Uplift): Class D, when tested in accordance with ASTM D7158/D7158M. Self-sealing type. Style: Laminated overlay. SHEET MATERIALS Smooth Surfaced Roll Roofing: Asphalt-coated organic felt, with smooth asphalt coating both sides, complying with ASTM D6380/D6380M, Class S, Type III, 51.1 lb/100 sq ft. Eave and Valley Protection Membrane: Self-adhering polymer-modified asphalt sheet complying with ASTM D1970/D1970M; 40 mil total thickness; with stripable treated release paper and polyethylene sheet top surface. Underlayment: Synthetic non-asphaltic sheet, intended by manufacturer for mechanically fastened roofing underlayment without sealed seams and meeting requirements of ASTM D226/D226M.	5 DIVISION 09 - FINISHES SECTION 09 20 00 - PAINTS AND COATINGS FIELD CONDITIONS Do not install paint or coating materials when temperature or weather conditions are detrimental to successful installation. FOAM BOARD INSULATION MATERIALS Extruded Polystyrene (XPS) Board Insulation: Comply with ASTM C578 with either natural skin or cut cell surfaces. Type: ASTM C578, Type IV. Type and Thermal Resistance, R-value: Type IV, 5.0 (0.88), minimum, per 1 inch thickness at 75 degrees F mean temperature. Products: DuPont de Nemours, Inc; Styrofoam Brand Highload 40: building.dupont.com. Kingspan Insulation LLC; GreenGuard XPS Type IV, 25 psi: www.kingspan.com. Owens Corning Corporation; FOAMULAR Extruded Polystyrene (XPS) Insulation: www.ocbuildingspec.com. GLASS FIBER BLANKET INSULATION MATERIALS Glass Fiber Batt Insulation: Flexible preformed batt or blanket, complying with ASTM C665; friction fit. Thermal Resistance at exterior walls: R-value of 20 minimum. Facing: Kraft paper. Products: CertainTeed Corporation: www.certainteed.com. Johns Manville: www.jm.com. Owens Corning Corporation: www.ocbuildingspec.com. FOAM INSULATION Single component polyurethane, low pressure foam sealant complying with ASTM E2178 for exterior wall penetrations. R-value: 1 inch of material at 72 degrees F: 4.7, minimum. Minimum Density: 1.0 pounds per cubic foot. Manufacturers: Dow Chemical Co.; Great Stuff: www.greatstuff.dow.com. FOMO Products Inc.; Handi Foam: www.fomo.com/handifoam. Touch 'n Seal Inc.; All Seasons: www.touch-n-seal.com. Single component polyurethane, low pressure, low pressure build, foam sealant complying with ASTM E2178 for windows and doors. R-value: 1 inch of material at 72 degrees F: 4.7, minimum. Minimum Density: 1.10 pounds per cubic foot. Manufacturers: Dow Chemical Co.; Great Stuff Window & Door: www.greatstuff.dow.com. FOMO Products Inc.; Handi Foam Window & Door: www.fomo.com/handifoam. Touch 'n Seal Inc.; No Warp: www.touch-n-seal.com. ACCESSORIES Tape: Reinforced polyethylene film with acrylic pressure sensitive adhesive. Insulation Fasteners: Lengths of unfinished, 13 gauge, 0.072 inch high carbon spring steel with chisel or mitered tips, held in place by tension, length to suit insulation thickness and substrate, capable of securely supporting insulation in place. Adhesive: Type recommended by insulation manufacturer for application. SECTION 07 21 26 - BLOWN INSULATION MATERIALS Refer to Specification/Selection Design sheets. Applications: Provide blown insulation in attic as indicated on drawings. Loose Fill Insulation: ASTM C739, cellulose fiber type, bulk for pneumatic placement. Thermal Transmittance (U-value): 0.27 BTU/hr sq ft deg F, maximum. Total Thermal Resistance at Attic: Garage and Maintenance Buildings: R-value of 38 (deg F hr sq ft)Btu, minimum. ACCESSORIES Roof Ventilation Baffles: Prefabricated ventilation channels for placement under roof sheathing with baffles to prevent wind-washing. SECTION 07 25 00 - WEATHER BARRIERS WATER-RESISTIVE AIR BARRIERS Description: Materials installed behind exterior wall coverings; designed to prevent liquid water from further penetration into exterior wall assembly. Primary materials include mechanically applied sheets; accessory materials include flashings and seam tapes. Water-Resistive and Air Barrier, Multilayers: Outer layers of nonwoven, spunbonded polypropylene with vapor permeable, watertight polymeric middle layer. Air Permeance: 0.004 cfm/sq ft, maximum, when tested in accordance with ASTM E2178. Water Vapor Permeance: 54 perms, minimum, when tested in accordance with ASTM E96/E96M using Procedure A - Desiccant Method, at 73.4 degrees F. Products: DuPont Building Innovations; Tyvek Home Wrap with FlexWrap NF, StraightFlash, StraightFlash VF, Tyvek Wrap Caps, and Tyvek Tape: www.dupont.com. Kingspan Insulation LLC; GreenGuard HPV Building Wrap with GreenGuard Butyl Flashing and GreenGuard SuperStretch Flashing: www.trustrgreenguard.com. National Shelter Products, Inc; DRYLine HP with Dryline Sheathing Tape, ATX Flashing, and ATX Flex Flashing: www.drylinewrap.com. ACCESSORIES Seal and Perimeter Tapes: As recommended by water-resistive barrier manufacturer. Flashings: As recommended by water-resistive barrier manufacturer for application. Flexible Flashing: Self-adhesive sheet flashing complying with ASTM D1970/D1970M, except slip resistance requirement is waived if not installed on a roof. SECTION 07 31 13 - ASPHALT SHINGLES MANUFACTURERS Asphalt Shingles: CertainTeed, Landmark Series: www.certainteed.com. GAF; Timberline American Harvest: www.gaf.com/sle. Owens Corning Corp; Oakridge: www.owenscorning.com. ASPHALT SHINGLES Asphalt Shingles: Asphalt-coated glass felt, mineral granule surfaced, complying with ASTM D3462/D3462M. Fire Resistance: Class A, complying with ASTM E108. Wind Resistance (Uplift): Class D, when tested in accordance with ASTM D7158/D7158M. Self-sealing type. Style: Laminated overlay. SHEET MATERIALS Smooth Surfaced Roll Roofing: Asphalt-coated organic felt, with smooth asphalt coating both sides, complying with ASTM D6380/D6380M, Class S, Type III, 51.1 lb/100 sq ft. Eave and Valley Protection Membrane: Self-adhering polymer-modified asphalt sheet complying with ASTM D1970/D1970M; 40 mil total thickness; with stripable treated release paper and polyethylene sheet top surface. Underlayment: Synthetic non-asphaltic sheet, intended by manufacturer for mechanically fastened roofing underlayment without sealed seams and meeting requirements of ASTM D226/D226M.	6 DIVISION 10 - ROOFING SECTION 10 20 00 - ROOFING FIELD CONDITIONS Do not install roofing materials when temperature or weather conditions are detrimental to successful installation. FOAM BOARD INSULATION MATERIALS Extruded Polystyrene (XPS) Board Insulation: Comply with ASTM C578 with either natural skin or cut cell surfaces. Type: ASTM C578, Type IV. Type and Thermal Resistance, R-value: Type IV, 5.0 (0.88), minimum, per 1 inch thickness at 75 degrees F mean temperature. Products: DuPont de Nemours, Inc; Styrofoam Brand Highload 40: building.dupont.com. Kingspan Insulation LLC; GreenGuard XPS Type IV, 25 psi: www.kingspan.com. Owens Corning Corporation; FOAMULAR Extruded Polystyrene (XPS) Insulation: www.ocbuildingspec.com. GLASS FIBER BLANKET INSULATION MATERIALS Glass Fiber Batt Insulation: Flexible preformed batt or blanket, complying with ASTM C665; friction fit. Thermal Resistance at exterior walls: R-value of 20 minimum. Facing: Kraft paper. Products: CertainTeed Corporation: www.certainteed.com. Johns Manville: www.jm.com. Owens Corning Corporation: www.ocbuildingspec.com. FOAM INSULATION Single component polyurethane, low pressure foam sealant complying with ASTM E2178 for exterior wall penetrations. R-value: 1 inch of material at 72 degrees F: 4.7, minimum. Minimum Density: 1.0 pounds per cubic foot. Manufacturers: Dow Chemical Co.; Great Stuff: www.greatstuff.dow.com. FOMO Products Inc.; Handi Foam: www.fomo.com/handifoam. Touch 'n Seal Inc.; All Seasons: www.touch-n-seal.com. Single component polyurethane, low pressure, low pressure build, foam sealant complying with ASTM E2178 for windows and doors. R-value: 1 inch of material at 72 degrees F: 4.7, minimum. Minimum Density: 1.10 pounds per cubic foot. Manufacturers: Dow Chemical Co.; Great Stuff Window & Door: www.greatstuff.dow.com. FOMO Products Inc.; Handi Foam Window & Door: www.fomo.com/handifoam. Touch 'n Seal Inc.; No Warp: www.touch-n-seal.com. ACCESSORIES Tape: Reinforced polyethylene film with acrylic pressure sensitive adhesive. Insulation Fasteners: Lengths of unfinished, 13 gauge, 0.072 inch high carbon spring steel with chisel or mitered tips, held in place by tension, length to suit insulation thickness and substrate, capable of securely supporting insulation in place. Adhesive: Type recommended by insulation manufacturer for application. SECTION 07 21 26 - BLOWN INSULATION MATERIALS Refer to Specification/Selection Design sheets. Applications: Provide blown insulation in attic as indicated on drawings. Loose Fill Insulation: ASTM C739, cellulose fiber type, bulk for pneumatic placement. Thermal Transmittance (U-value): 0.27 BTU/hr sq ft deg F, maximum. Total Thermal Resistance at Attic: Garage and Maintenance Buildings: R-value of 38 (deg F hr sq ft)Btu, minimum. ACCESSORIES Roof Ventilation Baffles: Prefabricated ventilation channels for placement under roof sheathing with baffles to prevent wind-washing. SECTION 07 25 00 - WEATHER BARRIERS WATER-RESISTIVE AIR BARRIERS Description: Materials installed behind exterior wall coverings; designed to prevent liquid water from further penetration into exterior wall assembly. Primary materials include mechanically applied sheets; accessory materials include flashings and seam tapes. Water-Resistive and Air Barrier, Multilayers: Outer layers of nonwoven, spunbonded polypropylene with vapor permeable, watertight polymeric middle layer. Air Permeance: 0.004 cfm/sq ft, maximum, when tested in accordance with ASTM E2178. Water Vapor Permeance: 54 perms, minimum, when tested in accordance with ASTM E96/E96M using Procedure A - Desiccant Method, at 73.4 degrees F. Products: DuPont Building Innovations; Tyvek Home Wrap with FlexWrap NF, StraightFlash, StraightFlash VF, Tyvek Wrap Caps, and Tyvek Tape: www.dupont.com. Kingspan Insulation LLC; GreenGuard HPV Building Wrap with GreenGuard Butyl Flashing and GreenGuard SuperStretch Flashing: www.trustrgreenguard.com. National Shelter Products, Inc; DRYLine HP with Dryline Sheathing Tape, ATX Flashing, and ATX Flex Flashing: www.drylinewrap.com. ACCESSORIES Seal and Perimeter Tapes: As recommended by water-resistive barrier manufacturer. Flashings: As recommended by water-resistive barrier manufacturer for application. Flexible Flashing: Self-adhesive sheet flashing complying with ASTM D1970/D1970M, except slip resistance requirement is waived if not installed on a roof. SECTION 07 31 13 - ASPHALT SHINGLES MANUFACTURERS Asphalt Shingles: CertainTeed, Landmark Series: www.certainteed.com. GAF; Timberline American Harvest: www.gaf.com/sle. Owens Corning Corp; Oakridge: www.owenscorning.com. ASPHALT SHINGLES Asphalt Shingles: Asphalt-coated glass felt, mineral granule surfaced, complying with ASTM D3462/D3462M. Fire Resistance: Class A, complying with ASTM E108. Wind Resistance (Uplift): Class D, when tested in accordance with ASTM D7158/D7158M. Self-sealing type. Style: Laminated overlay. SHEET MATERIALS Smooth Surfaced Roll Roofing: Asphalt-coated organic felt, with smooth asphalt coating both sides, complying with ASTM D6380/D6380M, Class S, Type III, 51.1 lb/100 sq ft. Eave and Valley Protection Membrane: Self-adhering polymer-modified asphalt sheet complying with ASTM D1970/D1970M; 40 mil total thickness; with stripable treated release paper and polyethylene sheet top surface. Underlayment: Synthetic non-asphaltic sheet, intended by manufacturer for mechanically fastened roofing underlayment without sealed seams and meeting requirements of ASTM D226/D226M.	7 DIVISION 11 - SPECIALTIES SECTION 11 20 00 - SPECIALTIES FIELD CONDITIONS Do not install specialty materials when temperature or weather conditions are detrimental to successful installation. FOAM BOARD INSULATION MATERIALS Extruded Polystyrene (XPS) Board Insulation: Comply with ASTM C578 with either natural skin or cut cell surfaces. Type: ASTM C578, Type IV. Type and Thermal Resistance, R-value: Type IV, 5.0 (0.88), minimum, per 1 inch thickness at 75 degrees F mean temperature. Products: DuPont de Nemours, Inc; Styrofoam Brand Highload 40: building.dupont.com. Kingspan Insulation LLC; GreenGuard XPS Type IV, 25 psi: www.kingspan.com. Owens Corning Corporation; FOAMULAR Extruded Polystyrene (XPS) Insulation: www.ocbuildingspec.com. GLASS FIBER BLANKET INSULATION MATERIALS Glass Fiber Batt Insulation: Flexible preformed batt or blanket, complying with ASTM C665; friction fit. Thermal Resistance at exterior walls: R-value of 20 minimum. Facing: Kraft paper. Products: CertainTeed Corporation: www.certainteed.com. Johns Manville: www.jm.com. Owens Corning Corporation: www.ocbuildingspec.com. FOAM INSULATION Single component polyurethane, low pressure foam sealant complying with ASTM E2178 for exterior wall penetrations. R-value: 1 inch of material at 72 degrees F: 4.7, minimum. Minimum Density: 1.0 pounds per cubic foot. Manufacturers: Dow Chemical Co.; Great Stuff: www.greatstuff.dow.com. FOMO Products Inc.; Handi Foam: www.fomo.com/handifoam. Touch 'n Seal Inc.; All Seasons: www.touch-n-seal.com. Single component polyurethane, low pressure, low pressure build, foam sealant complying with ASTM E2178 for windows and doors. R-value: 1 inch of material at 72 degrees F: 4.7, minimum. Minimum Density: 1.10 pounds per cubic foot. Manufacturers: Dow Chemical Co.; Great Stuff Window & Door: www.greatstuff.dow.com. FOMO Products Inc.; Handi Foam Window & Door: www.fomo.com/handifoam. Touch 'n Seal Inc.; No Warp: www.touch-n-seal.com. ACCESSORIES Tape: Reinforced polyethylene film with acrylic pressure sensitive adhesive. Insulation Fasteners: Lengths of unfinished, 13 gauge, 0.072 inch high carbon spring steel with chisel or mitered tips, held in place by tension, length to suit insulation thickness and substrate, capable of securely supporting insulation in place. Adhesive: Type recommended by insulation manufacturer for application. SECTION 07 21 26 - BLOWN INSULATION MATERIALS Refer to Specification/Selection Design sheets. Applications: Provide blown insulation in attic as indicated on drawings. Loose Fill Insulation: ASTM C739, cellulose fiber type, bulk for pneumatic placement. Thermal Transmittance (U-value): 0.27 BTU/hr sq ft deg F, maximum. Total Thermal Resistance at Attic: Garage and Maintenance Buildings: R-value of 38 (deg F hr sq ft)Btu, minimum. ACCESSORIES Roof Ventilation Baffles: Prefabricated ventilation channels for placement under roof sheathing with baffles to prevent wind-washing. SECTION 07 25 00 - WEATHER BARRIERS WATER-RESISTIVE AIR BARRIERS Description: Materials installed behind exterior wall coverings; designed to prevent liquid water from further penetration into exterior wall assembly. Primary materials include mechanically applied sheets; accessory materials include flashings and seam tapes. Water-Resistive and Air Barrier, Multilayers: Outer layers of nonwoven, spunbonded polypropylene with vapor permeable, watertight polymeric middle layer. Air Permeance: 0.004 cfm/sq ft, maximum, when tested in accordance with ASTM E2178. Water Vapor Permeance: 54 perms, minimum, when tested in accordance with ASTM E96/E96M using Procedure A - Desiccant Method, at 73.4 degrees F. Products: DuPont Building Innovations; Tyvek Home Wrap with FlexWrap NF, StraightFlash, StraightFlash VF, Tyvek Wrap Caps, and Tyvek Tape: www.dupont.com. Kingspan Insulation LLC; GreenGuard HPV Building Wrap with GreenGuard Butyl Flashing and GreenGuard SuperStretch Flashing: www.trustrgreenguard.com. National Shelter Products, Inc; DRYLine HP with Dryline Sheathing Tape, ATX Flashing, and ATX Flex Flashing: www.drylinewrap.com. ACCESSORIES Seal and Perimeter Tapes: As recommended by water-resistive barrier manufacturer. Flashings: As recommended by water-resistive barrier manufacturer for application. Flexible Flashing: Self-adhesive sheet flashing complying with ASTM D1970/D1970M, except slip resistance requirement is waived if not installed on a roof. SECTION 07 31 13 - ASPHALT SHINGLES MANUFACTURERS Asphalt Shingles: CertainTeed, Landmark Series: www.certainteed.com. GAF; Timberline American Harvest: www.gaf.com/sle. Owens Corning Corp; Oakridge: www.owenscorning.com. ASPHALT SHINGLES Asphalt Shingles: Asphalt-coated glass felt, mineral granule surfaced, complying with ASTM D3462/D3462M. Fire Resistance: Class A, complying with ASTM E108. Wind Resistance (Uplift): Class D, when tested in accordance with ASTM D7158/D7158M. Self-sealing type. Style: Laminated overlay. SHEET MATERIALS Smooth Surfaced Roll Roofing: Asphalt-coated organic felt, with smooth asphalt coating both sides, complying with ASTM D6380/D6380M, Class S, Type III, 51.1 lb/100 sq ft. Eave and Valley Protection Membrane: Self-adhering polymer-modified asphalt sheet complying with ASTM D1970/D1970M; 40 mil total thickness; with stripable treated release paper and polyethylene sheet top surface. Underlayment: Synthetic non-asphaltic sheet, intended by manufacturer for mechanically fastened roofing underlayment without sealed seams and meeting requirements of ASTM D226/D226M.	8 DIVISION 12 - MECHANICAL, ELECTRICAL, AND PLUMBING SECTION 12 20 00 - MECHANICAL, ELECTRICAL, AND PLUMBING FIELD CONDITIONS Do not install mechanical, electrical, or plumbing materials when temperature or weather conditions are detrimental to successful installation. FOAM BOARD INSULATION MATERIALS Extruded Polystyrene (XPS) Board Insulation: Comply with ASTM C578 with either natural skin or cut cell surfaces. Type: ASTM C578, Type IV. Type and Thermal Resistance, R-value: Type IV, 5.0 (0.88), minimum, per 1 inch thickness at 75 degrees F mean temperature. Products: DuPont de Nemours, Inc; Styrofoam Brand Highload 40: building.dupont.com. Kingspan Insulation LLC; GreenGuard XPS Type IV, 25 psi: www.kingspan.com. Owens Corning Corporation; FOAMULAR Extruded Polystyrene (XPS) Insulation: www.ocbuildingspec.com. GLASS FIBER BLANKET INSULATION MATERIALS Glass Fiber Batt Insulation: Flexible preformed batt or blanket, complying with ASTM C665; friction fit. Thermal Resistance at exterior walls: R-value of 20 minimum. Facing: Kraft paper. Products: CertainTeed Corporation: www.certainteed.com. Johns Manville: www.jm.com. Owens Corning Corporation: www.ocbuildingspec.com. FOAM INSULATION Single component polyurethane, low pressure foam sealant complying with ASTM E2178 for exterior wall penetrations. R-value: 1 inch of material at 72 degrees F: 4.7, minimum. Minimum Density: 1.0 pounds per cubic foot. Manufacturers: Dow Chemical Co.; Great Stuff: www.greatstuff.dow.com. FOMO Products Inc.; Handi Foam: www.fomo.com/handifoam. Touch 'n Seal Inc.; All Seasons: www.touch-n-seal.com. Single component polyurethane, low pressure, low pressure build, foam sealant complying with ASTM E2178 for windows and doors. R-value: 1 inch of material at 72 degrees F: 4.7, minimum. Minimum Density: 1.10 pounds per cubic foot. Manufacturers: Dow Chemical Co.; Great Stuff Window & Door: www.greatstuff.dow.com. FOMO Products Inc.; Handi Foam Window & Door: www.fomo.com/handifoam. Touch 'n Seal Inc.; No Warp: www.touch-n-seal.com. ACCESSORIES Tape: Reinforced polyethylene film with acrylic pressure sensitive adhesive. Insulation Fasteners: Lengths of unfinished, 13 gauge, 0.072 inch high carbon spring steel with chisel or mitered tips, held in place by tension, length to suit insulation thickness and substrate, capable of securely supporting insulation in place. Adhesive: Type recommended by insulation manufacturer for application. SECTION 07 21 26 - BLOWN INSULATION MATERIALS Refer to Specification/Selection Design sheets. Applications: Provide blown insulation in attic as indicated on drawings. Loose Fill Insulation: ASTM C739, cellulose fiber type, bulk for pneumatic placement. Thermal Transmittance (U-value): 0.27 BTU/hr sq ft deg F, maximum. Total Thermal Resistance at Attic: Garage and Maintenance Buildings: R-value of 38 (deg F hr sq ft)Btu, minimum. ACCESSORIES Roof Ventilation Baffles: Prefabricated ventilation channels for placement under roof sheathing with baffles to prevent wind-washing. SECTION 07 25 00 - WEATHER BARRIERS WATER-RESISTIVE AIR BARRIERS Description: Materials installed behind exterior wall coverings; designed to prevent liquid water from further penetration into exterior wall assembly. Primary materials include mechanically applied sheets; accessory materials include flashings and seam tapes. Water-Resistive and Air Barrier, Multilayers: Outer layers of nonwoven, spunbonded polypropylene with vapor permeable, watertight polymeric middle layer. Air Permeance: 0.004 cfm/sq ft, maximum, when tested in accordance with ASTM E2178. Water Vapor Permeance: 54 perms, minimum, when tested in accordance with ASTM E96/E96M using Procedure A - Desiccant Method, at 73.4 degrees F. Products: DuPont Building Innovations; Tyvek Home Wrap with FlexWrap NF, StraightFlash, StraightFlash VF, Tyvek Wrap Caps, and Tyvek Tape: www.dupont.com. Kingspan Insulation LLC; GreenGuard HPV Building Wrap with GreenGuard Butyl Flashing and GreenGuard SuperStretch Flashing: www.trustrgreenguard.com. National Shelter Products, Inc; DRYLine HP with Dryline Sheathing Tape, ATX Flashing, and ATX Flex Flashing: www.drylinewrap.com. ACCESSORIES Seal and Perimeter Tapes: As recommended by water-resistive barrier manufacturer. Flashings: As recommended by water-resistive barrier manufacturer for application. Flexible Flashing: Self-adhesive sheet flashing complying with ASTM D1970/D1970M, except slip resistance requirement is waived if not installed on a roof. SECTION 07 31 13 - ASPHALT SHINGLES MANUFACTURERS Asphalt Shingles: CertainTeed, Landmark Series: www.certainteed.com. GAF; Timberline American Harvest: www.gaf.com/sle. Owens Corning Corp; Oakridge: www.owenscorning.com. ASPHALT SHINGLES Asphalt Shingles: Asphalt-coated glass felt, mineral granule surfaced, complying with ASTM D3462/D3462M. Fire Resistance: Class A, complying with ASTM E108. Wind Resistance (Uplift): Class D, when tested in accordance with ASTM D7158/D7158M. Self-sealing type. Style: Laminated overlay. SHEET MATERIALS Smooth Surfaced Roll Roofing: Asphalt-coated organic felt, with smooth asphalt coating both sides, complying with ASTM D6380/D6380M, Class S, Type III, 51.1 lb/100 sq ft. Eave and Valley Protection Membrane: Self-adhering polymer-modified asphalt sheet complying with ASTM D1970/D1970M; 40 mil total thickness; with stripable treated release paper and polyethylene sheet top surface. Underlayment: Synthetic non-asphaltic sheet, intended by manufacturer for mechanically fastened roofing underlayment without sealed seams and meeting requirements of ASTM D226/D226M.	9 DIVISION 13 - FURNITURE, FIXTURES, AND EQUIPMENT SECTION 13 20 00 - FURNITURE, FIXTURES, AND EQUIPMENT FIELD CONDITIONS Do not install furniture, fixtures, or equipment materials when temperature or weather conditions are detrimental to successful installation. FOAM
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DIVISION 09 - FINISHES

SECTION 09 21 16 - GYPSUM BOARD ASSEMBLIES

GYPSUM BOARD ASSEMBLIES

Provide completed assemblies complying with ASTM C840 and GA-216.
Fire-Rated Assemblies: Provide completed assemblies with the following characteristics:
Fire-Rated Partitions: UL listed assembly No. U305; One (1) hour rating.
Fire-Rated Roof/Ceiling Assemblies: UL listed assembly No. P556; one (1) hour rating.

METAL FRAMING MATERIALS

Steel Sheet: ASTM A1003/A1003M, subject to the ductility limitations indicated in AISI S220 or equivalent.

Non-structural Framing System Components: ASTM C645; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of wall framing of L/120 at 5 psf.

Resilient Furring Channels: Single or double leg configuration; 1/2 inch channel depth.

BOARD MATERIALS

Manufacturers - Gypsum-Based Board:
American Gypsum Company: www.american gypsum.com.
Georgia-Pacific Gypsum: www.gpgypsum.com.
National Gypsum Company: www.nationalgypsum.com.
USG Corporation: www.usg.com.

Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.

Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
Glass mat faced gypsum panels, as defined in ASTM C1658/C1658M, suitable for paint finish of the same core type shall be used in tub/shower alcoves.
Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
Mold resistant board is required at all damp locations.

Thickness:
Vertical Surfaces: 5/8 inch, or as indicated.
Ceilings: 5/8 inch.

Paper-Faced Products:
Mold-Resistant, Paper-Faced Products:

GYPSUM BOARD ACCESSORIES

Finishing Accessories: ASTM C1047, galvanized steel or rolled zinc, unless noted otherwise.
Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.
Joint Compound: Drying type, vinyl-based, ready-mixed.
Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inches in Thickness and Wood Members: ASTM C1002; self-piercing tapping screws, corrosion-resistant.

SECTION 09 30 00 - TILING

DELIVERY, STORAGE, AND HANDLING

Protect adhesives from freezing or overheating in accordance with manufacturer's instructions.

TILE

Manufacturers: All products of each type by the same manufacturer.
American Olean Corporation: www.americanolean.com.
Dall-Tile Corporation: www.dattile.com.
Crossville Inc: www.crossvilleinc.com.
Porcelain Tile: ANSI A137.1, standard grade.
Size: 6 by 6 inch, nominal.

Thickness: 1/4 inch.
Edges: Square.
Surface Finish: Non-slip.
Color(s): To be selected by Owner from manufacturer's standard range.

TRIM AND ACCESSORIES

Non-Ceramic Trim: Satin natural anodized extruded aluminum, style and dimensions to suit application, for setting using tile mortar or adhesive.

SETTING MATERIALS

Latex-Portland Cement Mortar Bond Coat: ANSI A118.4.

Applications: Use this type of bond coat where indicated, and where no other type of bond coat is indicated.

GROUTS

Standard Grout: ANSI A118.6 standard cement grout.
Applications: Use this type of grout where indicated and where no other type of grout is indicated.

MAINTENANCE MATERIALS

Grout Sealer: Liquid-applied, moisture and stain protection for existing or new Portland cement grout.
Composition: Water-based colorless silicone.

ACCESSORY MATERIALS

Waterproofing Membrane at Floors: Specifically designed for bonding to cementitious substrate under thick mortar bed or thin-set tile; complying with ANSI A118.10.

SECTION 09 65 00 - RESILIENT FLOORING

DELIVERY, STORAGE, AND HANDLING

Store all materials off of the floor in an acclimatized, weather-tight space.
Maintain temperature in storage area between 65 degrees F and 90 degrees F.

TILE FLOORING

Vinyl Plank: Printed film type, with transparent or translucent wear layer, floating floor.

Manufacturers:
Mannington Commercial; ADURA Flex: www.manningtoncommercial.com.
Metrolfloor Corporation; Aspecta Five LV1: www.aspecta flooring.com.
Shannon Specialty Floors, Inc; Tuf Stuf Woodland Path: www.shannonspecialtyfloors.com.

Minimum Requirements: Comply with ASTM F1700, of Class corresponding to type specified.
Mold and Microbial Resistance: Highly resistant when tested in accordance with ASTM D6329; certified in accordance with UL 2854.
VOC Content Limits: As specified in Section 01 61 16.
Plank Tile Size: 6 by 36 inch.
Wear Layer Thickness: 0.012 inch.
Total Thickness: 0.177 inch.
Color: To be selected by Owner from manufacturer's full range.

RESILIENT BASE

Resilient Base: ASTM F1861, Type TV, vinyl, thermoplastic; top set Style B, Cove.

Manufacturers:
Armstrong World Industries, Inc: www.armstrong.com.
Johnsontite, a Tarkett Company: www.johnsontite.com.
Roppe Corporation: www.roppe.com.

Height: 4 inches.
Thickness: 0.125 inch.
Finish: Satin.

WALL STOPS

Manufacturers:

Basis of Design: Trimco 1270 Series.
Rockwood; an Assa Abloy Group company: www.assaabloydss.com.
Hiawatha, Inc. division of Activar Construction Products Group, Inc: www.activarcp.com/hiawatha.
Trimco: www.trimcohardware.com.

Wall Stops: Comply with BHMA A156.16, Grade 3 and Resilient Material Retention Test as described in this standard.

ASTRAGALS

Manufacturers:

Pemko; an Assa Abloy Group company: www.assaabloydss.com.
National Guard Products, Inc: www.ngpinc.com.
Standard Metal Hardware Manufacturing Ltd; Astragals: www.smhardware.com.

Astragals: Comply with BHMA A156.22.

Provide surface mounted astragal to cover or fill space for full door height between pair of doors or door and adjacent jamb.
Type: Split, two parts, and with sealing gasket.
Material: Aluminum, with neoprene weatherstripping.

THRESHOLDS

Manufacturers:

Pemko; an Assa Abloy Group company: www.assaabloydss.com.
Hager Companies: www.hagerco.com.
National Guard Products, Inc: www.ngpinc.com.

Thresholds: Comply with BHMA A156.21.

Provide threshold at each exterior door, unless otherwise indicated.

Type: Low Profile.
Thresholds at outswinging exterior doors may be rabbeted with door stop type; 1/4 inch vertical rise, 1/2 inch total height; maximum 1:2 bevel.
Material: Aluminum.

KEY CONTROL SYSTEMS

Key Control Systems: Comply with guidelines of BHMA A156.28.

FIRE DEPARTMENT LOCK BOX

Manufacturers:

Knox Company; Knox-Box Rapid Entry System, 3200 Series: www.knoxbox.com.

Fire Department Lock Box:

Heavy-duty, surface mounted, solid stainless-steel box with hinged door and interior gasket seal; single drill resistant lock with dust covers.

FINISHES

Finishes: Provide door hardware of same finish, unless otherwise indicated.

Primary Finish: 619, satin nickel plated, clear coated, with brass or bronze base material; BHMA A156.18.

HARDWARE SETS

Group No 01: Garage Building "B" Entry door.

- | | | |
|---|----|--|
| 3 | EA | Hinges - 3-1/2 inch x 3-1/2 inch |
| 1 | EA | Dead latch - single cylinder with thumb turn |
| 1 | EA | Locking Leverset |
| 1 | EA | Accessible Threshold |

Group No 02: Pool Building Paired Entry doors.

Provide for each leaf in pair.

- | | | |
|---|----|--|
| 3 | EA | Hinges - 3-1/2 inch x 3-1/2 inch |
| 1 | EA | Exit Device with outside locking lever trimset |
| 1 | EA | Head and floor extension rods; concealed |
| 1 | EA | Closer |
| 1 | EA | Accessible Threshold |

Group No 03: Pool Building Exterior Door to Toilets

- | | | |
|---|----|----------------------------------|
| 3 | EA | Hinges - 3-1/2 inch x 3-1/2 inch |
| 1 | EA | Dead latch - Double cylinder |
| 1 | PR | Locking leverset |
| 1 | EA | Accessible Threshold |

Group No 04: Pool Building Machine Room Double Doors

Provide for each leaf in pair.

- | | | |
|---|----|--|
| 3 | EA | Hinges - 3-1/2 inch x 3-1/2 inch |
| 1 | EA | Dead latch - single cylinder with thumb turn - active leaf |
| 1 | EA | Passage Leverset - active leaf |
| 1 | PR | Flush Bolts; head/ floor - inactive leaf |
| 1 | PR | Astragal |
| 1 | EA | Threshold |

Group No 05: Pool Building Machine Room Interior Door - 45 Min Fire-rated
Provide Fire-rated hardware.

- | | | |
|---|----|--|
| 3 | EA | Hinges - 3-1/2 inch x 3-1/2 inch |
| 1 | EA | Dead latch - single cylinder with thumb turn |
| 1 | EA | Locking Leverset |
| 1 | EA | Closer |

Group No 06: Pool Building Toilet Room Doors

- | | | |
|---|----|--|
| 3 | EA | Hinges - 3-1/2 inch x 3-1/2 inch |
| 1 | EA | Privacy Leverset w/ push-button latching |
| 1 | EA | Wall-mounted Stop |

Group No 07: Pool Building secure Interior Doors

- | | | |
|---|----|----------------------------------|
| 3 | EA | Hinges - 3-1/2 inch x 3-1/2 inch |
| 1 | EA | Locking Leverset |
| 1 | EA | Wall-mounted Stop |

Group No 08: Pool Building Other Interior Doors

- | | | |
|---|----|----------------------------------|
| 3 | EA | Hinges - 3-1/2 inch x 3-1/2 inch |
| 1 | EA | Passage Leverset |
| 1 | EA | Wall-mounted Stop |

DESCRIPTION

Vinyl Windows: Factory fabricated frame and sash members of extruded, hollow, ultra-violet-resistant, polyvinyl chloride (PVC) with integral color; with factory-installed glazing, hardware, related flashings, anchorage and attachment devices.

Configuration: As indicated on drawings.

Product Type: H - Hung window, vertically sliding; Single Hung.

Product Type: FW - Fixed window.

Egress Units: Window units installed in dwelling unit bedrooms shall meet or exceed minimum requirements for classification as emergency egress units per the currently adopted edition of the building code.

Color: Black.

Energy Star Rating: Provide windows eligible for Energy Star Rating.

PERFORMANCE REQUIREMENTS

Grade: AAMA/WDMA/CSA 101/I.S.2/A440 requirements for specific window type:

Performance Class (PC): R.

Performance Grade (PG): 15, with minimum design pressure (DP) of 15.04 psf.

Air Leakage: Maximum of 0.30 cu ft/minute/sq ft at 1.57 psf differential pressure, when tested in accordance with ASTM E283.

Thermal Transmittance: U-factor of 0.25, maximum, that includes window glazing and frame system based on average window size required for project and determined in accordance with AAMA 1503, ASTM E1423, or NFRC 100.

Solar Heat Gain Coefficient (SHGC): SHGC value of 0.40 maximum.

Visible Light Transmittance: value of 0.52 minimum.

COMPONENTS

Glazing: Insulated double pane, annealed glass, clear, low-E coated, argon filled, with glass thicknesses as recommended by manufacturer for specified wind conditions.

Frame Depth: 4-1/2 inch minimum.

Insect Screens: Aluminum, extruded or roll-formed frame with mitered and reinforced corners; apply screen mesh taut to frame; secure to window with hardware to allow easy removal.

Frame Finish: Manufacturer's standard, color to match window frame and sash color.

HARDWARE

Vertical Sliding Sash: Concealed, heavy duty block and tackle balancers, provide two for each sash and jamb.

Sash lock: Lever handle and keeper with cam lock, provide at least one for each operating sash.

Window Opening Control Devices: ASTM F2090-13 opening control devices that limit opening size to less than 4 inches maximum with release function to permit window to open fully.

Required for all Dwelling Unit operable windows when sill is less than 36 inches above finish floor, and window unit is located greater than 72 inches above finish grade.

Finish of Exposed Hardware: Baked enamel, match interior sash and frame color.

SECTION 08 71 00 - DOOR HARDWARE

DESIGN AND PERFORMANCE CRITERIA

Provide specified door hardware as required to make doors fully functional, compliant with applicable codes, and secure to extent indicated.

Provide door hardware products that comply with the following requirements:

Applicable provisions of federal, state, and local codes.

Accessibility: UFAS, ADA Standards, and ICC A117.1 as applicable.

Fire-Rated Doors: NFPA 80, listed and labeled by qualified testing agency for fire protection ratings indicated, based on testing at positive pressure in accordance with NFPA 252 or UL 10C.

Hardware on Fire-Rated Doors: Listed and classified by UL (DIR) as suitable for application indicated.

HINGES

Hinges: Comply with BHMA A156.1, Grade 3.

Provide hinges on every swinging door.

Provide ball-bearing hinges at each door with closer.

Provide non-removable pins on exterior outswinging doors.

FLUSH BOLTS

Flush Bolts: Comply with BHMA A156.16, Grade 3.

Flush Bolt Throw: 3/4 inch, minimum.

Provides extension bolts in leading edge of door, one bolt into floor, one bolt into top of frame.

Pairs of Swing Doors: At inactive leaves, provide flush bolts of type as required to comply with code.

EXIT DEVICES

Manufacturers:

Corbin Russwin, Sargent, or Yale; an Assa Abloy Group company: www.assaabloydss.com.

Hager Companies: www.hagerco.com.

Von Duprin, an Allegion brand: www.allegion.com/us.

Exit Devices: Comply with BHMA A156.3, Grade 3.

Leverset design to match lockset trim.

Provide cylinder with cylinder dogging or locking trim.

Provide exit devices properly sized for door width and height.

Provide strike as recommended by manufacturer for application indicated.

CYLINDRICAL LOCKS

Manufacturers:

Basis of Design: Schlage 'Elan'.

Schlage, an Allegion brand: www.allegion.com/us.

Cylindrical Locks (Bored): Comply with BHMA A156.2, Grade 3.

Bored Hole: 2-1/8 inch diameter.

Latchbolt Throw: 1/2 inch, minimum.

Backset: 2-3/4 inch unless otherwise indicated.

AUXILIARY LOCKS (DEADLOCKS)

Manufacturers:

Basis of Design: Schlage 'B60' & 'B680'.

Yale; an Assa Abloy Group company: www.assaabloydss.com.

Hager Companies: www.hagerco.com.

Schlage, an Allegion brand: www.allegion.com/us.

Auxiliary Locks (Deadlocks): Comply with BHMA A156.36, Grade 3.

Type: Bored (cylindrical).

CLOSERS

Manufacturers: Surface Mounted:

Basis of Design: Falcon SC93/84; jamb top.

BEST, domakaba Group; EHD9000: www.bestaccess.com.

Sargent, Yale, or AdamsRite; an Assa Abloy Group company: www.assaabloydss.com.

Falcon or LCN, an Allegion brand: www.allegion.com/us.

Closers: Comply with BHMA A156.4, Grade 3.

Type: Surface mounted to door.

Provide door closer on each exterior door of the common areas.

At outswinging exterior doors, mount closer on interior side of door.

Provide adapter plate where required.

Insulated Steel Patio Doors:

Taylor Entrance Systems; Edgewood: www.taylordoor.com.

Bayer Built Inc; Select Steel Series: www.bayerbuilt.com.

Stanley Door Products; Sta-Tru Series: www.stanleydoors.com.

COMPONENTS

Garage Building Entry Door:

Configuration: Single door.

Pool Building Machine Room Doors:

Configuration: Double doors.

Frames: Provided and assembled by third party fabricators to manufacturer's specifications.

Frame: Milled from 5/4 kiln-dried white pine, finger-jointed composite at bottom of frame, profiled 1/2 inch stops, and factory-clad with prefinished metal or vinyl. Provide 6 degree sill gain prep.

Frame Depth: 4-9/16 inch, minimum.

Thresholds: Refer to Section 08 71 00 - Door Hardware.

Weatherstripping: Jacketed thermost closed-cell foam, press-fit in kerfs at jamb stops in frames.

Door Sweeps: Extruded thermoplastic elastomer, finned and chambered design, press-fit into bottom edge of doors.

PERFORMANCE REQUIREMENTS

Comply with AAMA/WDMA/CSA 101/I.S.2/A440 requirements in accordance with the following:

Performance Class (PC): R.

Design Pressure (DP): In accordance with applicable codes.

Water Penetration Resistance: No uncontrolled leakage on interior face when tested in accordance with ASTM E547 at differential pressure of 15 percent of Performance Grade (PG).

Air Leakage: Maximum of 0.30 cu ft/minute/sq ft at 1.57 psf differential pressure, when tested in accordance with ASTM E283.

Thermal Transmittance: U-factor of 0.35, maximum, that includes window glazing, door and frame system based on average window size required for project and determined in accordance with NFRC 100.

Forced Entry Resistance (FER): Tested to comply with ASTM F476 requirements having at least Grade 10 performance for each required swinging door assembly.

FABRICATION

Fabricate doors in accordance with door quality standard specified.

Cores constructed with stiles and rails:

Provide solid blocks at lock edge for hardware reinforcement.

Provide solid blocking for other thru-bolled hardware where scheduled.

Factory machine doors for hardware other than surface-mounted hardware, in accordance with hardware requirements and dimensions.

Factory fit doors for frame opening dimensions identified on shop drawings, with edge clearances in accordance with specified quality standard.

SECTION 08 36 13 - SECTIONAL OVERHEAD DOORS

SUBMITTALS

Product Data: Show component construction, anchorage method, and hardware.

MANUFACTURERS

Sectional Overhead Doors:

Clopay Building Products; Value Plus Series, Classic Collection: www.clopaydoor.com.
Overhead Door Corp.; Series 183, Traditional Collection: www.overheaddoor.com

Aluminum-Framed Storefront: Factory fabricated, factory finished aluminum framing members with infill, and related flashings, anchorage and attachment devices.

Glazing Rabbit: For 1 inch insulating glazing.

Glazing Position: Centered (front to back).

Finish: High performance organic coatings.

Finish Color: Black.

PERFORMANCE REQUIREMENTS

Wind Loads: Design and size components to withstand the specified load requirements without damage or permanent set, when tested in accordance

D
C
B
A

Color: To be selected by Owner from manufacturer's full range.

ACCESSORIES

Subfloor Filler: Fast-setting, portland-cement based; type recommended by adhesive material manufacturer.
Primers, Adhesives, and Seam Sealer: Waterproof; types recommended by flooring manufacturer.
Moldings, Transition and Edge Strips: Same material as flooring.
Sound Control Underlayment: Recycled rubber type.
Manufacturers:
Pli-teq, Inc; GenieMat RST: www.pliteq.com.
Roll Thickness: 3/8 inch, nominal.

SECTION 09 91 13 - EXTERIOR PAINTING

SECTION INCLUDES

Scope: Finish exterior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated, including the following:
Factory-primed Entry doors.
Exposed surfaces of steel lintels and ledge angles.
Galvanized roof flashings and drip edges.
Steel Bollards.
Mechanical and Electrical:
Exposed pipe and conduit.
Do Not Paint or Finish the Following Items:
Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
Items indicated to receive other finishes.
Fire rating labels, equipment serial number and capacity labels, and operating parts of equipment.
Stainless steel, anodized aluminum, bronze, terne-coated stainless steel, zinc, and lead. Floors, unless specifically indicated.
Brick, glass unit masonry, architectural concrete, cast stone, integrally colored plaster and stucco.
Glass.

DELIVERY, STORAGE, AND HANDLING

Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

FIELD CONDITIONS

Do not apply materials when surface and ambient temperatures are outside the paint product manufacturer's temperature ranges.
Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

MANUFACTURERS

Paints:
Behr Paint Company: www.behr.com.
Benjamin Moore Paints: www.benjaminmoore.com.
PPG Paints: www.ppgpaints.com.
Sherwin-Williams Company: www.sherwin-williams.com.

PAINTS AND FINISHES - GENERAL

Volatile Organic Compound (VOC) Content:
Provide paints and finishes that comply with the most stringent requirements specified in the following:

40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
Ozone Transport Commission (OTC) Model Rule, Architectural, Industrial, and Maintenance Coatings; www.otcair.org, specifically:
Opaque, Flat: 50 g/L, maximum.
Opaque, Nonflat: 150 g/L, maximum.
Opaque, High Gloss: 250 g/L, maximum.
Architectural coatings VOC limits of the State of Missouri.
Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site, or other method acceptable to authorities having jurisdiction.

Colors: To be selected from manufacturer's full range of available colors.

PAINT SYSTEMS - EXTERIOR

Paint E-OP - Exterior Surfaces to be Painted, Unless Otherwise Indicated: Including concrete masonry units, engineered wood siding, primed wood, primed metal, and primed urethane decorative elements.
Top Coat(s): Exterior Latex.
Paint ME-OP-3A - Ferrous Metals, Unprimed, Alkyd, 3 Coat:
Paint ME-OP-2A - Ferrous Metals, Primed, Alkyd, Water Based, 2 Coat:
Paint MgE-OP-3A - Galvanized Metals, Alkyd, 3 Coat:

PRIMERS

Primers: Provide the following unless other primer is required or recommended by manufacturer of top coats.
Interior/Exterior Latex Block Filler.
Rust-Inhibitive Water Based Primer; MPI #107.
Latex Primer for Exterior Wood; MPI #6.

SECTION 09 91 23 - INTERIOR PAINTING

SECTION INCLUDES

Scope: Finish interior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated.
Both sides and edges of plywood backboards for electrical and telecom equipment before installing equipment.
Both sides and all edges of interior wood doors.
Mechanical and Electrical:
Paint interior surfaces of air ducts that are visible through grilles and louvers with one coat of flat black paint to visible surfaces.
Do Not Paint or Finish the Following Items:
Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
Items indicated to receive other finishes.
Fire rating labels, equipment serial number and capacity labels, bar code labels, and operating parts of equipment.
Floors, unless specifically indicated.
Ceramic and other tiles.
Glass.
Concealed pipes, ducts, and conduits.

DELIVERY, STORAGE, AND HANDLING

Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

FIELD CONDITIONS

Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

MANUFACTURERS

Paints:
Behr Paint Company: www.behr.com.
Benjamin Moore Paints: www.benjaminmoore.com.
PPG Paints: www.ppgpaints.com.
Sherwin-Williams Company: www.sherwin-williams.com.

PAINTS AND FINISHES - GENERAL

Volatile Organic Compound (VOC) Content:
Provide paints and finishes that comply with the most stringent requirements specified in the following:
40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
SCAQMD 1113 Rule.
Ozone Transport Commission (OTC) Model Rule, Architectural, Industrial, and Maintenance Coatings; www.otcair.org, specifically:
Opaque, Flat: 50 g/L, maximum.
Opaque, Nonflat: 150 g/L, maximum.
Opaque, High Gloss: 250 g/L, maximum.
Architectural coatings VOC limits of the State of Missouri.
Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site, or other method acceptable to authorities having jurisdiction.

Colors: To be selected from manufacturer's full range of available colors.

PAINT SYSTEMS - INTERIOR

Paint I-OP - Interior Surfaces to be Painted, Unless Otherwise Indicated: Including gypsum board, wood, uncoated steel, and shop primed steel.
Top Coat(s): Interior Latex.
Primer: As recommended by top coat manufacturer for specific substrate.
Paint I-OP-MD-DT - Medium Duty Door/Trim: For surfaces subject to frequent contact by occupants, including metals and wood.
Top Coat(s): Interior Alkyd, Water Based.
Primer: As recommended by top coat manufacturer for specific substrate.

PRIMERS

Primers: Provide the following unless other primer is required or recommended by manufacturer of top coats.
Interior Latex Primer Sealer.
Latex Primer for Interior Wood.

DIVISION 10 - SPECIALTIES

SECTION 10 14 00 - SIGNAGE

SIGNAGE APPLICATIONS

Accessibility Compliance: Signs are required to comply with, UFAS, ADA Standards, and ICC A117.1 and applicable building codes, unless otherwise indicated; in the event of conflicting requirements, comply with the most comprehensive and specific requirements.
Room and Door Signs: Provide signs as indicated in Signage Schedule.
Sign Type: Flat signs with raised panel media as specified.
Interior Directional and Informational Signs:
Sign Type: Same as room and door signs.
Building Identification Signs:
Sign Type: Dimensional Letters and Numbers, 4 inch high minimum; wall-mounted.
Material: plastic letters & numbers.
Install at building exteriors as directed by Owner
Dwelling Unit Identification Signs:
Sign Type: Flat signs with raised panel media as specified.
Material: Fiberglass or Photopolymer signs.
Mounting: Countersunk Screws.
Install on outside wall at apartment entries as directed or indicated on drawings.
Office Directional Sign:
Sign Type: Flat signs with printed panel media as specified.
Material: Fiberglass or Photopolymer signs.
Size: 24 inch by 36 inch.
Mounting: Pole-mounted.
Text: 'OFFICE' with directional arrow (direction of arrow per Owner)
Monument Sign: Provide sign as indicated on Drawings.

Traffic Signs: Provide Parking/Traffic signs and mounting poles of types indicated on drawings.

SIGN TYPES

Flat Signs: Signage media without frame.
Color and Font: Unless otherwise indicated:
Character Font: Helvetica, Arial, or other sans serif font.
Character Case: Upper case only.
Background Color: Selected by Owner/Architect.
Character Color: Contrasting color.

TACTILE SIGNAGE MEDIA

Engraved Panels: Laminated colored plastic; engraved through face to expose core as background color.
Injection Molded Panels: One-piece acrylic plastic, with raised letters and braille.
Applied Character Panels: Acrylic plastic base, with applied acrylic plastic letters and braille.

DIMENSIONAL LETTERS

Plastic Letters:
Material: Injection molded plastic.

SECTION 10 28 00 - TOILET AND BATH ACCESSORIES

MANUFACTURERS

Fixture and Accessory Manufacturers:;
Better Homes Products, Inc.; www.betterhomesproducts.com.
Pfister, a Spectrum Brands company: www.pfisterfaucets.com.
Delta Faucet Company, Inc.: www.deltafaucet.com.

Commercial Toilet and Shower Accessories:

ASI - American Specialties, Inc: www.americanspecialties.com.
Bradley Corporation: www.bradleycorp.com.
Bobrick Washroom Equipment Inc.: www.bobrick.com.

MATERIALS

Accessories - General: Shop assembled, free of dents and scratches and packaged complete with anchors and fittings, steel anchor plates, adapters, and anchor components for installation.
Stainless Steel Sheet: ASTM A666, Type 304.
Galvanized Sheet Steel: Hot-dipped galvanized steel sheet, ASTM A653/A653M, with G90/Z275 coating.
Mirror Glass: Annealed float glass, ASTM C1036 Type 1, Class 1, Quality Q2, with silvering, protective and physical characteristics complying with ASTM C1503.
Adhesive: silicone, waterproof.
Fasteners, screws, and bolts: Corrosion resistant or stainless steel.

TOILET AND BATHROOM ACCESSORIES

Toilet Paper Dispenser: Single roll, surface mounted bracket type, nickel-plated solid brass.
Product: Candlestick Park #2209 manufactured by Better Homes Products, or equal.
Paper Towel Dispenser: Manual, roll paper type.
Cover: High-impact plastic.
Capacity: 8 inch diameter roll.
Mounting: Surface mounted.
Product: Model 2497 manufactured by Bradley, or equal.
Soap Dispenser: Liquid soap dispenser, wall-mounted, surface, with stainless steel cover and horizontal stainless steel tank and working parts; push type soap valve, check valve, and window gauge refill indicator, tumbler lock.
Products:
Model # B4112 manufactured by Bobrick, or equal..
Mirrors: Stainless steel framed, 1/4 inch thick annealed float glass; ASTM C1036.
Annealed Float Glass: Silvering, protective and physical characteristics in compliance with ASTM C1503.
Size: As indicated on drawings.
Grab Bars: Stainless steel, textured surface.
Standard Duty Grab Bars:
Dimensions: 1-1/2 inch outside diameter, minimum 0.05 inch wall thickness, concealed flange mounting, 1-1/2 inch clearance between wall and inside of grab bar.
Finish: Safety-grip.
Product: Series 632 manufactured by Bradley, or equal.

SECTION 10 44 00 - FIRE PROTECTION SPECIALTIES

MANUFACTURERS

Fire Extinguishers:
Kidde, a unit of United Technologies Corp: www.kidde.com.
Nystrom, Inc: www.nystrom.com.
Pyro-Chem, a Tyco Business: www.pyrochem.com.

FIRE EXTINGUISHERS

Fire Extinguishers - General: Comply with product requirements of NFPA 10 and applicable codes, whichever is more stringent.
Multipurpose Dry Chemical Type Fire Extinguishers: Carbon steel tank, with pressure gauge.
Stored Pressure Operated: Deep Drawn.
Class: A:B:C type.
Size: 5 pound; For installation in Community Room and Machine room.

ACCESSORIES

DIVISION 11 - EQUIPMENT

SECTION 11 30 13 - RESIDENTIAL APPLIANCES

KITCHEN APPLIANCES

Energy Star Rating: Provide Equipment Eligible for Energy Star Rating where available and applicable.
Refrigerator: Free-standing, side-by-side, and frost-free.
Capacity: Total minimum storage of 17.0 cubic ft, minimum 25 percent freezer capacity.
Energy Usage: Energy Star Rated.
Features: Include glass shelves, automatic icemaker, light in freezer compartment, and ADA compliant front-mounted controls.
Exterior Finish: Painted steel, color as selected by Owner.
Manufacturers:
To be selected by Owner.
Microwave: Countertop.
Capacity: 1.3 cubic ft.
Power: 1000 watts.
Height: 12 inches maximum.
Features: Include turntable.
Exterior Finish: Painted steel, color as selected by Owner.
Manufacturers:
To be selected by Owner.
Convection Oven, : Countertop.
Size: 12 inch.
Features: pre-programmed cooking fuctions, broil, interior light, non-stick coated racks, and timer.
Exterior Finish: Painted steel, color black.
Manufacturers:

DIVISION 12 - FURNISHINGS

SECTION 12 21 13 - HORIZONTAL LOUVER BLINDS

MANUFACTURERS

Horizontal Louver Blinds:
CACO Inc.: www.cacoinc.com
SWFContract, a division of Spring Window Fashions, LLC.: www.swfcontract.com.
Ball Blinds.
Grabr Blinds

BLINDS

Description: Horizontal slat louvers hung from full-width headrail with full-width bottom rail.
Provide 1 inch 'Mini-Blind' horizontal louver blinds at all Maintenance Building windows.
Manual Operation: Control of raising and lowering by counterbalance spring with full range locking; blade angle adjustable by control wand.
Plastic Slats: Extruded PVC, square slat corners.
Width: 1 inch.
Thickness: 0.017 inch.
Texture: Smooth.
Slat Support: Woven polypropylene cord, ladder configuration.
Head Rail: Pre-finished, formed steel box, with end caps; internally fitted with hardware, pulleys, and bearings for operation; same depth as width of slats.
Bottom Rail: Pre-finished, formed steel ; with end caps.
Color: Same as headrail.
Lift Cord: Braided nylon, continuous loop with restraining device; comply with WCMA A100.1.
Control Wand: Extruded solid plastic; hexagonal shape.

SECTION 12 35 30 - RESIDENTIAL CABINETS AND COUNTERTOPS

CABINETS

Manufacturers:
All Wood Cabinetry Inc.; "All Wood": www.allwoodfast.com
American Traditions/S&W Cabinets, Inc; Shaker Poplar: www.swcabinets.com
Wellborn Cabinet, Inc; Home Concepts - All Plywod: www.wellborn.com/#sie.
Wolf Home Products; Wolf Classic Cabinets: www.wolfhomeproducts.com/#sie.
Cabinet Box: Framed construction.
Cabinet Door/Drawer Configuration: Partial overlay.
Cabinet Doors:
3/4 inch kiln-dried hardwood frame; mortice and tenon construction, 1/4 inch plywood center panel with hardwood veneer finsh.
Drawers:
1/2 inch Birch plywood full box with butted joints, 1/4 inch Birch plywood bottom.
Shelves: 5/8 inch plywood.
Exposed shelf edges: Finish with manufacturer's standard edge banding, color coordinated with other exposed finishes.
Cabinet Hardware: As selected from manufacturer's standard types, styles and finishes.
Drawer and Cabinet Pulls: Satin nickel, wire pulls 4 inches wide
Exterior Finish: Factory-applied urethane; 2 color coats with top coat min.
Color: To be selected by Owner from manufacturer's standard line.

COUNTERTOPS

Kitchen Countertops: Post formed plastic laminate over particle board with, rolled edge, and coved to back splash.
Colors/Patterns: To be selected by Owner from manufacturer's standard line.

Vanity Countertops: Post formed plastic laminate over particle board, coved to back splash.
Colors/Patterns: To be selected by Owner from manufacturer's standard line.

WINDOW SILLS

Self edged plastic laminate over particle board with, square front nosing and self-edged sides.

FABRICATION

Shop assemble casework for delivery to site in units easily handled and to permit passage through building openings.
Fabricate tops and splashes in the largest sections practicable, with top surface of joints flush.
Provide back/end splash wherever counter edge abuts vertical surface unless otherwise indicated.

DIVISION 28 - ELECTRONIC SAFETY AND SECURITY

SECTION 28 10 00 - ACCESS CONTROL

ADMINISTRATIVE REQUIREMENTS

Coordination:
Coordinate the work with other installers to provide suitable door hardware as required for both access control functionality and code compliance.
Coordinate the work with other installers to provide power for equipment at required locations.
Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

DELIVERY, STORAGE, AND HANDLING

Receive, inspect, handle, and store products in accordance with manufacturer's instructions.
Store products in manufacturer's unopened packaging, keep dry and protect from damage until ready for installation.

MANUFACTURERS

Access Control Units - Basis of Design: DKS Door King; Series 1830.
Access Control Units:
Bosch Security Systems: www.boschsecurity.us/#sie.

DoorKing, Inc: www.doorking.com/#sie.
Honeywell International, Inc: www.honeywellaccess.com/#sie.

ACCESS CONTROL SYSTEM REQUIREMENTS

Provide new access control system consisting of required equipment, conduit, boxes, wiring, connectors, hardware, supports, accessories, software, system programming, etc. as necessary for a complete operating system that provides the functional intent indicated.
Surge Protection:
Provide surge protection for readers and door strikes/locks.
Access Control Points:
Exterior Doors:
Function: Operational and emergency.
Access: Controlled entry, free exit.
Peripherals on Secure Side:
Reader/Keypad: Contactless key fob reader.
Locking Device: Electric strike.
Configuration: Fail-secure.
Computers Required:
Workstation Computer(s):
Quantity: One.
Location(s): Leasing Office.
Peripherals required for each workstation computer:
Mouse and keyboard.
Monitor(s): One.
Alarm/report printer.
Interface with Other Systems:
Provide products compatible with other systems requiring interface with access control system.
Interface with electrically operated door hardware as specified in Section 08 71 00.
Provide products listed, classified, and labeled as suitable for the purpose intended.
Access Control Units and Readers: Listed and labeled as complying with UL 294.

ACCESS CONTROL UNITS AND SOFTWARE

Provide access control units and software compatible with readers to be connected.
Unless otherwise indicated, provide software and licenses required for fully operational system.
Access Control Unit:
Control Capability: 15 doors/ 15 readers.
Database:
Quantity of Access Codes Supported: 8000.
Operating Modes Supported:
Proximity key fob.
Features:
Dedicated power loss alarm input.
Supports database and event exporting.
Supports database backup.
Computers:
Workstation Computers: Unless otherwise indicated, workstation computer hardware and associated peripherals not furnished by access control system manufacturer to be provided by Contractor as part of work of this section, meeting access control system equipment manufacturer's recommended requirements.
Servers: Unless otherwise indicated, server hardware and associated peripherals not furnished by access control system manufacturer to be provided by Contractor as part of work of this section, meeting access control system equipment manufacturer's recommended requirements.

ACCESS CONTROL POINT PERIPHERALS

Provide devices compatible with control units and software.
Provide devices suitable for operation under the service conditions at the installed location.
Readers and Keypads:
General Requirements:
Provide readers compatible with credentials to be used.
Proximity Readers:
Utilize 125 kHz RF communication with compatible credentials.
Proximity Reader:
Read Range: Up to 12 inches.
Features:
Tamper output.

ACCESSORIES

Unless otherwise indicated, credentials to be provided by Contractor.

RELEASED FOR CONSTRUCTION
As Noted on Plans Review

Professional Services Department
Missouri State Capitol
Jefferson City, Missouri 64501

2012006244

15 APR 2025

M. RANDALL PORTER
ARCHITECT LICENSE
#A-2012006244

ALURA POOL HOUSE - VILLAGE AT DISCOVERY PARK
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

Wallace
ARCHITECTS L.L.C.

Columbia, MO
P 573-258-7200

WALLACE ARCHITECTS, LLC
MISSOURI STATE CERTIFICATE
OF AUTHORITY: 2003019614

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1ST ISSUE
15 APR 2025

ISSUE/REVISIONS

NO.	DATE	DESCRIPTION
1	15 APR 2025	ISSUE SET

SHEET NO.

SP1.2P

4/23/2025 9:58:24 AM

JOB NO.
4938

Alura Village Pool House

Lee's Summit, Jackson County, Missouri

GENERAL NOTES

ELEVATION DATUM
SEE ARCHITECTURAL DRAWINGS OR SITE PLAN FOR FINISH FLOOR ELEVATIONS

DESIGN SPECIFICATIONS
2018 INTERNATIONAL BUILDING CODE

EARTHWORK
EARTHWORK OPERATIONS SHALL BE PERFORMED UNDER THE DIRECTION OF A PROFESSIONAL TESTING AGENCY TO ASSURE COMPLIANCE WITH THE RECOMMENDATIONS OF THE SOILS REPORT PREPARED BY OLSSON, INC. DATED AUGUST 22, 2019.

CONCRETE

CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE CURRENT ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS, ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ACI 305 SPECIFICATIONS FOR HOT WATER CONCRETE, AND ACI 306 SPECIFICATIONS FOR COLD WEATHER CONCRETE, WITH THE FOLLOWING ADDITIONAL REQUIREMENTS:

- CONCRETE SHALL DEVELOP THE FOLLOWING 28-DAY MINIMUM COMPRESSIVE STRENGTH:
FOUNDATIONS - 3,000 PSI
CAST-IN-PLACE WALLS - 3,500 PSI
FLOOR SLAB - 4,000 PSI
EXTERIOR SLABS, WALLS AND CURBS - 4,000 PSI
- ALL FOOTINGS SHALL BEAR ON UNDISTURBED SOIL OR ENGINEERED FILL.
- CHLORIDE- BASED ADMIXTURES ARE PROHIBITED IN ALL REINFORCED CONCRETE.
- REINFORCING STEEL SHALL CONFORM TO ASTM A615, A616, OR A617, GRADE 60.
- ALL CONTINUOUS REINFORCING STEEL THAT MEETS AT A CORNER SHALL BE TIED TOGETHER WITH A CORNER BAR THAT HAS SUFFICIENT LAP DISTANCE IN EACH DIRECTION
- CONTINUOUS REINFORCING BARS LAP LENGTH SHALL BE A MINIMUM OF 48 BAR DIAMETERS UNLESS NOTED OTHERWISE
- CONCRETE SLUMP SHALL BE A MAXIMUM OF 4" +/- 1" (ASTM C- 143) AS DELIVERED IN THE FIELD. CONTRACTOR MAY USE CHEMICAL ADMIXTURES TO ATTAIN A MAXIMUM SLUMP OF 8" FOR WORKABILITY. NO WATER MAY BE ADDED TO THE CONCRETE MIX ON SITE UNLESS WATER IS WITHHELD AT THE BATCHING FACILITY. IF WATER IS WITHHELD AT THE BATCHING FACILITY IT SHOULD BE REFLECTED ON THE LOAD TICKET. THE TOTAL AMOUNT OF WATER IN THE MIX SHALL NOT EXCEED WHAT IS NOTED ON THE APPROVED MIXED. THIS SHALL BE NOTED IN THE SPECIAL INSPECTOR'S RECORDS.
- CONCRETE EXPOSED TO WEATHER, VEHICLES, AND/OR DECING CHEMICALS SHALL BE AIR-ENTRAINED WITH 6% (+/-) 1.5% ENTRAINED AIR BY VOLUME AT POINT OF DISCHARGE. DO NOT ALLOW AIR CONTENT OF TROWELED FINISHED FLOORS TO EXCEED 3%.
- SUBMIT CONCRETE MIX PROPORTIONS PRIOR TO START OF WORK. DO NOT BEGIN CONCRETE PRODUCTION UNTIL MIXES HAVE BEEN REVIEWED AND ARE ACCEPTABLE TO THE ENGINEER.
- READY MIX CONCRETE SHALL COMPLY WITH REQUIREMENTS OF ASTM C94.
- CONCRETE WORK EXECUTION
 - CONSTRUCT FORMS TO CORRECT SIZE, SHAPE, ALIGNMENT, ELEVATION AND POSITION; AND TO SUPPORT VERTICAL AND LATERAL LOADS.
 - POSITION, SUPPORT, AND SECURE REINFORCEMENT AGAINST DISPLACEMENT. MINIMUM CONCRETE COVER FOR REINFORCEMENT SHALL BE, UNLESS NOTED OTHERWISE ON THE DRAWINGS:
CAST AGAINST AND EXPOSED TO EARTH.....3 INCHES
EXPOSED TO EARTH OR WEATHER.....2 INCHES
NOT EXPOSED TO WEATHER OR
IN CONTACT WITH EARTH.....1 ½ INCHES
 - PROVIDE CONTROL JOINTS IN SLABS-ON-GRADE AT NOT GREATER THAN 15 FEET ON CENTER IN EACH DIRECTION. SAW CUT CONTROL JOINTS MINIMUM ¼ OF SLAB DEPTH, AS SOON AFTER SLAB FINISHING WITHOUT DISLODGING AGGREGATE.
 - STEEL TROWEL FINISH ALL INTERIOR CONCRETE SLABS, BROOM FINISH ALL EXTERIOR CONCRETE SLABS.
 - CURE ALL CONCRETE IN COMPLIANCE WITH ACI 301, USING A LIQUID TYPE MEMBRANE, NON-RESIDUAL, CURING COMPOUND COMPLYING WITH ASTM C309. ASSURE COMPATIBILITY WITH FINISH FLOOR COVERING.

TIMBER

TIMBER WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE CURRENT ANSI/AWC NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION WITH 2018 NDS SUPPLEMENT FOR WOOD CONSTRUCTION, WITH THE FOLLOWING SUPPLEMENTAL REQUIREMENTS:

- FOR COMMON MEMBER SIZES, THE SPECIES AND GRADES SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE:

A.	2X4	SPF No.1/No.2
B.	2X6	SPF No.1/No.2
C.	2X8	DF-L No.2
D.	2X10	DF-L S.S.
E.	2X12	DF-L S.S.
- EQUIVALENT (OR BETTER) GRADES & SPECIES MAY BE SUBMITTED FOR THE ENGINEER'S APPROVAL.
- SIZES SHOWN FOR LUMBER ARE NOMINAL SIZES.
- TIMBER EXPOSED TO WEATHER OR GROUND, OR IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE-IMPREGNATED BY AN APPROVED PROCESS AND PRESERVATIVE.
- SPICING OF JOISTS, STUDS, OR HEADERS IS PROHIBITED EXCEPT AS SHOWN.
- BOLTS SHALL CONFORM TO ASTM A307. HOLES SHALL BE DRILLED PER SECTION 12.1.3 OF THE 2018 ANSI/AWC NDS FOR WOOD CONSTRUCTION NDS SUPPLEMENT.
- LAG SCREWS AND WOOD SCREWS SHALL BE INSTALLED PER SECTIONS 12.1.4 & 12.1.5 RESPECTIVELY, OF THE 2018 ANSI/AWC NDS FOR WOOD CONSTRUCTION WITH 2018 NDS SUPPLEMENT.
- COMMON NAILS SHALL BE USED, UNLESS NOTED OTHERWISE. IN ADDITION, NAILS SHALL BE GALVANIZED, IF EXPOSED TO WEATHER OR MOISTURE. TOE-NAILS SHALL BE DRIVEN PER SECTION 12.1.6.3 OF THE 2018 ANSI/AWC NDS FOR WOOD CONSTRUCTION WITH 2018 NDS SUPPLEMENT.
- FASTENING SHALL BE PER THE IBC MINIMUM FASTENING SCHEDULE, TABLE 2304.10.1, UNLESS NOTED OTHERWISE.
- CONNECTIONS/CONNECTORS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

POST-INSTALLED ANCHORS

- ALL POST-INSTALLED ANCHORS SHALL MEET THE REQUIREMENTS OF THE CODE-CITED EDITION OF ACI 318, APPENDIX "D", AND SHALL BE ACCEPTABLE FOR BOTH CRACKED AND UNCRACKED CONCRETE.
- EXPANSION ANCHORS HAVE BEEN DESIGNED AS HILTI KWIK BOLT TZ ANCHORS, UNLESS NOTED OTHERWISE.
- ADHESIVE ANCHORS HAVE BEEN DESIGNED TO USE HILTI HIT HY 200 ADHESIVE IN CONCRETE OR SOLID MASONRY, UNLESS NOTED OTHERWISE.
- EQUIVALENT ANCHORS MAY BE SUBMITTED FOR THE ENGINEER'S APPROVAL. SUBMITTALS ARE THE CONTRACTOR'S RESPONSIBILITY AND MUST INCLUDE ICC ES EVALUATION REPORTS FROM THE INTERNATIONAL CODE COUNCIL (ICC).
- EMBEDMENT DEPTH IS DEFINED AS THE DISTANCE FROM THE SURFACE OF THE LOAD-BEARING BASE MATERIAL TO THE DEEPEST PART OF THE ANCHOR AFTER THE ANCHOR HAS BEEN DRIVEN INTO THE HOLE BUT NOT YET EXPANDED.
- ADHESIVE ANCHORS SHALL BE ACCEPTABLE FOR LONG-TERM LOADING. WHEN BASE MATERIAL TEMPERATURES ARE BELOW 40 DEG F, ONLY NON-EPOXY-BASED ADHESIVES SHALL BE USED.
- POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE DRAWINGS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER PRIOR TO USING POST-INSTALLED ANCHORS FOR MISSING OR MISPLACED CAST-IN-PLANE ANCHORS. CARE SHALL BE TAKEN TO AVOID CONFLICTS WITH EXISTING REINFORCING BARS. HOLES SHALL BE DRILLED AND CLEANED PER ANCHOR MANUFACTURER'S SPECIFICATIONS.
- STAINLESS STEEL ANCHORS ARE REQUIRED AT ALL PERMANENTLY EXPOSED WEATHER CONDITIONS.

PREFABRICATED WOOD TRUSSES

- FLOOR & ROOF TRUSSES SHALL BE DESIGNED IN ACCORDANCE WITH THE TRUSS PLATE INSTITUTE (TPI) DESIGN SPECIFICATION FOR METAL PLATE CONNECTED WOOD TRUSSES, AND THE ANSI/AWC NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION.
 - PROVIDE TEMPORARY AND PERMANENT BRACING ON ALL TRUSSES, AS REQUIRED TO PROVIDE MEMBER AND TRUSS STABILITY.
 - FLOOR & ROOF TRUSSES SHALL BE DESIGNED AND CONSTRUCTED FOR A MAXIMUM TOTAL LOAD DEFLECTION OF L/360 AND TO SAFELY SUPPORT THE FOLLOWING LOADS:
 - DEAD, LIVE, SNOW, WIND, EARTHQUAKE: SEE PROJECT DESIGN DATA ON COVER SHEET.
 - MECHANICAL PIPE LOAD: TRUSSES SHALL BE DESIGNED FOR A CONCENTRATED LOAD OF 250 LBS HUNG ANYWHERE ALONG THE BOTTOM CHORD.
 - OVER-FRAMING LOAD: TRUSSES SHALL ALSO BE DESIGNED TO SUPPORT ADDITIONAL OVERBUILD FRAMING, SUCH AS THAT WHICH FORMS VALLEYS AND HIPS ON ROOFS.
 - DRIFTED SNOW LOAD: TRUSSES SHALL BE DESIGNED TO SUPPORT DRIFTED SNOW LOADS IN ACCORDANCE WITH THE APPROPRIATE BUILDING CODE.
 - IN-PLANE LATERAL LOADS: TRUSSES SHALL BE DESIGNED TO SUPPORT ANY LATERAL LOADS CARRIED AXIALLY IN THE PLANE OF THE TRUSS, AS SHOWN ON THE PLANS.
 - GABLED END TRUSSES SHALL HAVE VERTICAL MEMBERS SPACED AT 16" O.C. MAXIMUM.
 - SUBMITTALS SHALL INCLUDE THE FOLLOWING:
 - SHOP DRAWINGS PREPARED UNDER THE SUPERVISION OF, AND SIGNED AND SEALED BY, A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS BUILT. THESE DRAWINGS SHALL INDICATE SPECIES, GRADE, AND SIZES OF LUMBER TO BE USED; PITCH, SPAN, CAMBER, CONFIGURATION, AND SPACING FOR EACH TYPE OF TRUSS REQUIRED; TYPE, SIZE, MATERIAL, FINISH, AND LOCATION OF METAL CONNECTOR PLATES; AND BEARING DETAILS. SHOW TRUSS LAYOUT AND ALL REQUIRED TEMPORARY AND PERMANENT BRACING AFFECTING THE STRUCTURAL CAPACITY OF THE TRUSSES.
- PROVIDE COMPLETE ENGINEERING DESIGN CALCULATIONS THAT INCLUDE DESIGN VALUES, DESIGN ANALYSIS INDICATING LOADING, ASSUMED ALLOWABLE STRESSES, STRESS DIAGRAM, AND CALCULATIONS, AND ANY OTHER INFORMATION NEEDED FOR REVIEW. THE CALCULATIONS SHALL HAVE BEEN SIGNED AND SEALED BY A QUALIFIED PROFESSIONAL ENGINEER WHO IS REGISTERED IN THE STATE WHERE THE PROJECT IS BUILT AND WHO IS RESPONSIBLE FOR PREPARATION OF THE CALCULATIONS.

SPECIAL INSPECTIONS

THE FOLLOWING ITEMS REQUIRE SPECIAL INSPECTION IN ACCORDANCE WITH CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE.

- CONCRETE GROUT DESIGN MIX (PERIODIC)
- PLACING OF CONCRETE AND REINFORCING STEEL (CONTINUOUS OF CONCRETE SAMPLING / PERIODIC OF REINFORCING)
- POST INSTALLED ANCHORS IN CONCRETE (CONTINUOUS)
- IN-SITU SOILS, EXCAVATIONS, FILLING & COMPACTION (PERIODIC)
- WOOD FRAMING:
 - SHEAR WALLS; WALL SIZE, CONFIGURATION, BLOCKING, PANEL GRADE, PANEL THICKNESS, AND FASTENING. (PERIODIC)
 - DIAPHRAGMS (FLOOR AND ROOF SHEATHING); SIZE, CONFIGURATION, BLOCKING, PANEL GRADE, PANEL THICKNESS, AND FASTENING. (PERIODIC)
 - FRAMING MEMBERS AND DETAILS (PERIODIC)
 - MATERIAL GRADE (PERIODIC)
 - CONNECTIONS; HANGERS, HOLD DOWNS, BUILT-UP COLUMNS, BUILT-UP BEAMS (PERIODIC)
 - PRE-ENGINEERED TRUSSES; FRAMING, CONNECTIONS, BRIDGING (PERIODIC)

THE CONTRACTOR SHALL REQUEST SPECIAL INSPECTION OF THE ITEMS LISTED ABOVE PRIOR TO THOSE ITEMS BECOMING INACCESSIBLE AND UNOBSERVABLE DUE TO PROGRESSION OF THE WORK.

DESIGN DATA	
2018 INTERNATIONAL BUILDING CODE / ASCE 7-16	
BUILDING OCCUPANCY CATEGORY	II
ROOF LOAD DATA	
LIVE LOAD	20
ASPHALT SHINGLES • FELT	40
5/8" OSB ROOF SHEATHING	2.5
PRE-ENGINEERED WOOD TRUSSES • 2'-0" O.C.	40
INSULATION (BLOWN)	15
MECHANICAL ALLOWANCE	50
5/8" GYP. CEILING	3.0
SOLAR	50
TOTAL TO TRUSSES	45 lbs/sq.ft
RAIN LOADING DATA	
15 MINUTE RAIN INTENSITY	7.49 in/hr
60 MINUTE RAIN INTENSITY	3.52 in/hr
ROOF SNOW LOAD DATA* (*UNBALANCED & DRIFTING SNOW TO BE DETERMINED IN ADDITION TO UNIFORM LOAD, WHERE APPLICABLE)	
p_g =	20 lbs/sq.ft
C_e =	10
I_s =	10
C_t =	10
p_f =	1400 lbs/sq.ft
WIND DESIGN DATA	
V_{50} =	109 MPH (3-SECOND GUST)
RISK CATEGORY	II
EXPOSURE	B
INTERNAL PRESSURE COEFFICIENT •	+ 0.18
MAXIMUM COMPONENTS & CLADDING WIND	+/- 2497 lbs/sq.ft
EARTHQUAKE DESIGN DATA	
RISK CATEGORY	II
I_E =	10
S_S =	0.1
S_1 =	0.068
SITE CLASS	C
S_{DS} =	0.096
S_{D1} =	0.068
SEISMIC DESIGN CATEGORY	B
BASIC SEISMIC-FORCE-RESISTING SYSTEM • LIGHT-FRAME (WOOD) WALLS SHEATHED WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR RESISTANCE	
R =	6.5
Ω_o =	3.0
C_d =	4.0
DESIGN BASE SHEAR	$V = 0.013 W$
EQUIVALENT LATERAL FORCE PROCEDURE	
NET ALLOWABLE SOIL BEARING	
2,500 lbs/sq.ft**	
(**PER GEOTECHNICAL REPORT BY OLSSON, INC. DATED AUGUST 22, 2019)	

INDEX OF SHEETS	
COVER / GENERAL STRUCTURAL DATA	PS100
FOUNDATION PLAN	PS200
FOUNDATION DETAILS	PS210
ROOF FRAMING PLAN	PS300
ROOF FRAMING DETAILS	PS310-PS311

REVISIONS:

No.	Date
PERMIT SET	04/15/2025

THIS SHEET HAS BEEN SIGNED,
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STRUCTURAL ENGINEER

CROCKETT
ENGINEERING CONSULTANTS

1000 W. Nifong Blvd., Suite 1
Columbia, Missouri 65203
(573) 447-0592

www.crockettengineering.com
Crockett Engineering Consultants, LLC
Missouri Certificate of Authority
#200310101

CLIENT:

**INTRINSIC
DEVELOPMENT**

3822 ENDOAVOR AVE.
COLUMBIA, MISSOURI

Alura Village Pool House

Lee's Summit, Jackson County, Missouri

DRAWING INCLUDES:

GENERAL
STRUCTURAL DATA

DESIGNED: JWV

DRAWN: SEH

PROJECT NO.: 230286

SHEET:

S100

**RELEASED FOR
CONSTRUCTION**
As Noted on Plans Review
Development Services Department
Lee's Summit, Missouri
10/20/2025

NOTE:
ALL DIMENSIONS ARE FROM FACE OF FOUNDATION WALL OR FRAMING;
EDGE OF SLAB OR TRUSS/RAFTER; OR CENTERLINE
OF COLUMN, BEAM, OR JOIST UNLESS NOTED OTHERWISE.

FOUNDATION NOTES

- ① REENTRANT CORNER BARS, REFER TO TYPICAL CRACK CONTROL REINFORCING DETAIL ON SHEET S210.

REVISIONS:

[illegible]

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STRUCTURAL ENGINEER:

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CLIENT: **INTRINSIC
DEVELOPMENT**
3622 ENDEAVOR AVE.
COLUMBIA, MISSOURI

Alura Village Pool House

DRAWING INCLUDES:

FOUNDATION
PLAN

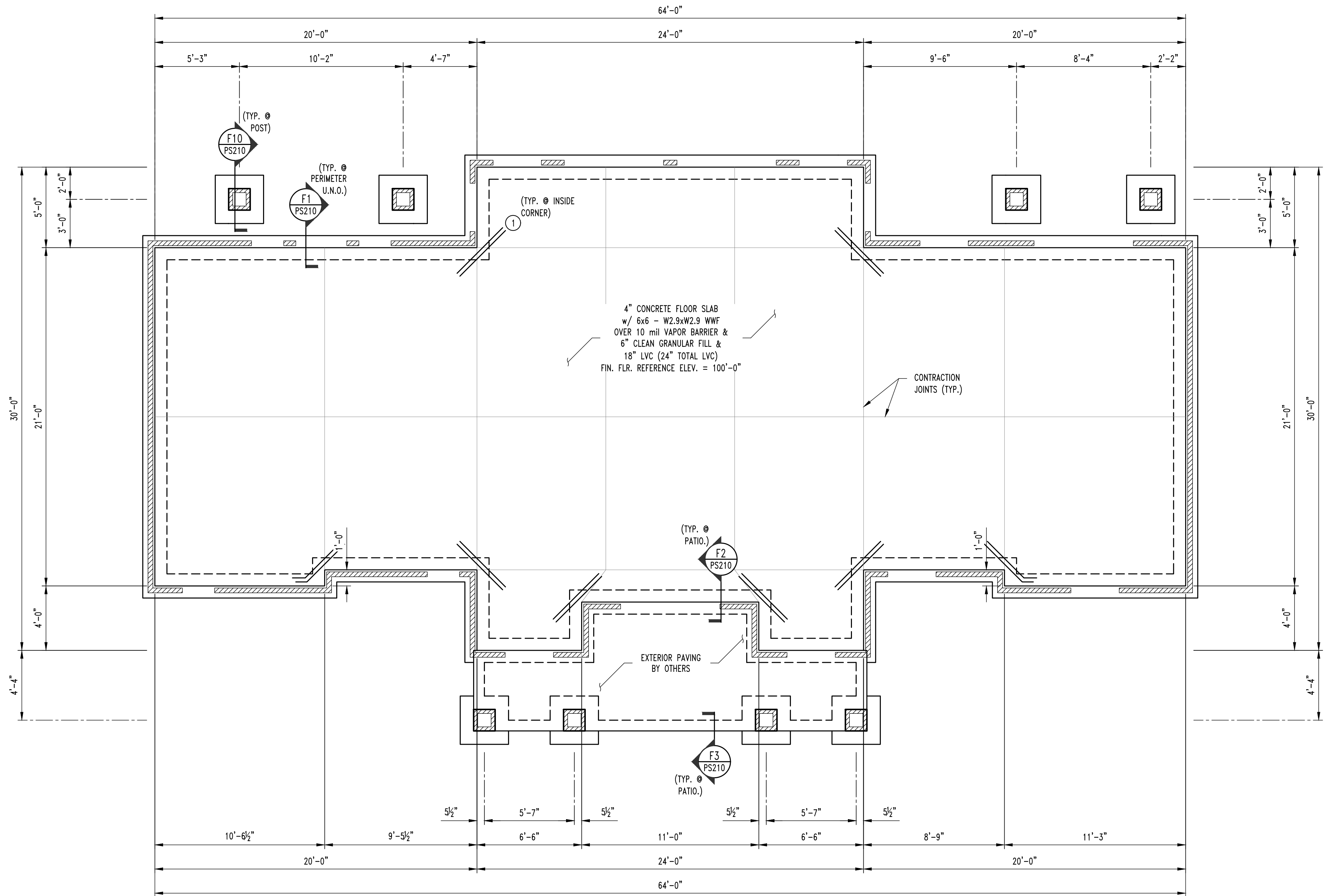
DESIGNED: JWV

DRAWN: SEH

PROJECT NO.: 230286

SHEET:

PS200

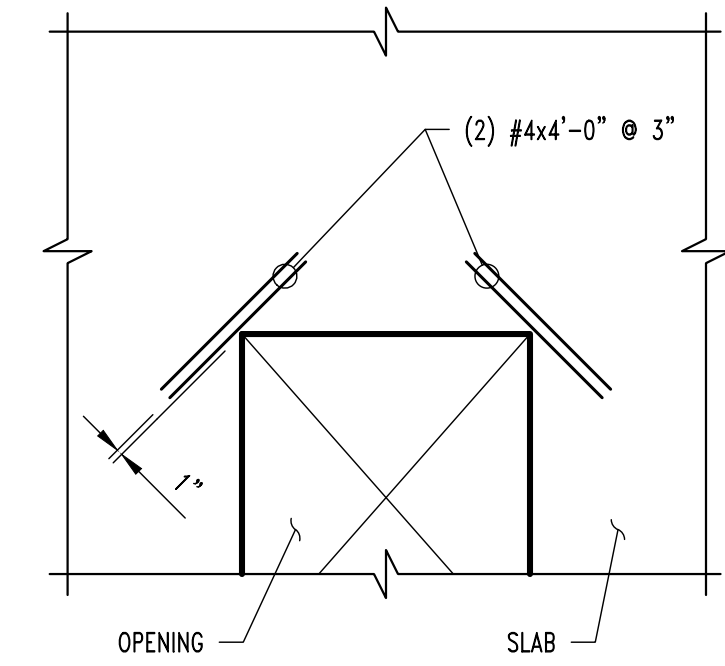


POOL HOUSE FOUNDATION PLAN

SCALE: $\frac{1}{4}" = 1'-0"$

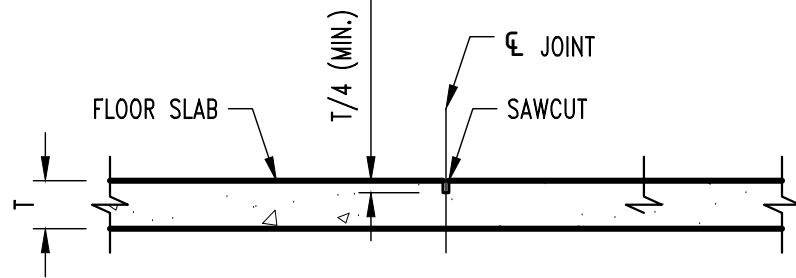


PLAN
NORTH

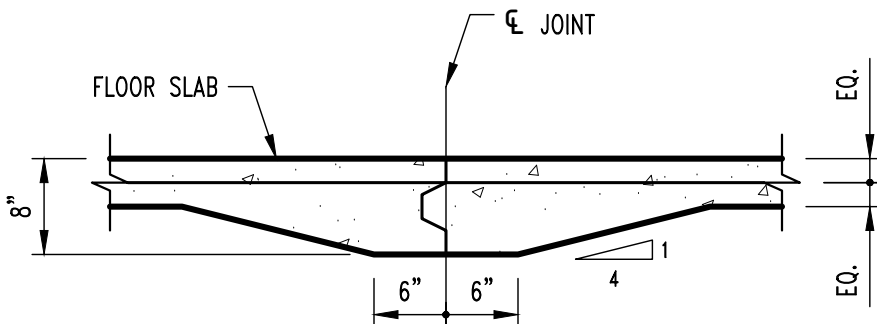


NOTE:
TYPICAL AT ALL REENTRANT CORNERS FOR
SLAB-ON-GRADE & STRUCTURAL SLAB.
REINFORCING TO BE CENTERED IN SLAB THICKNESS.

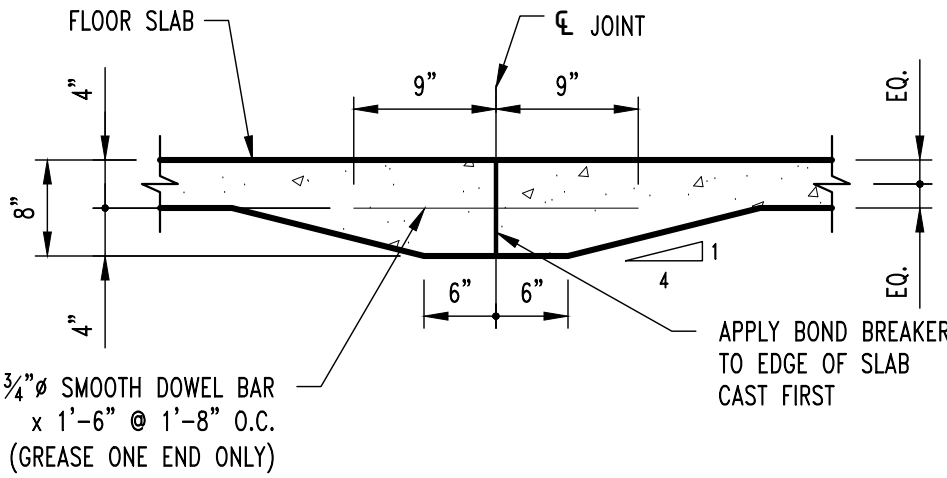
CRACK CONTROL REINFORCING



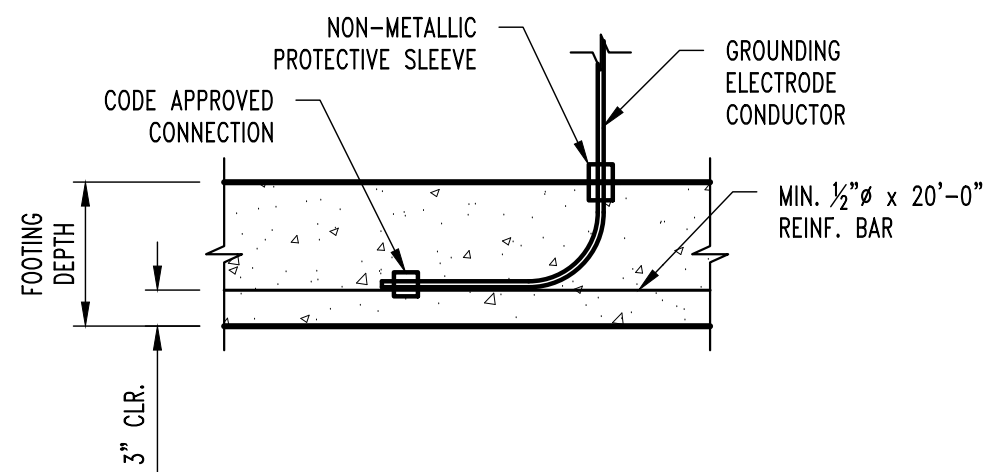
CONTRACTION JOINT



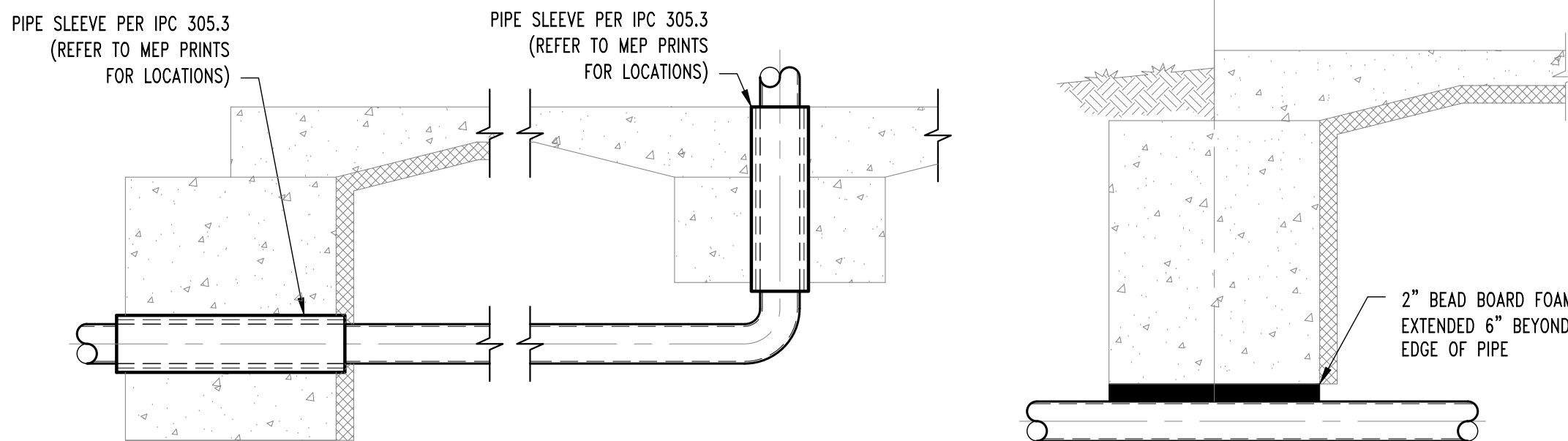
CONSTRUCTION JOINT



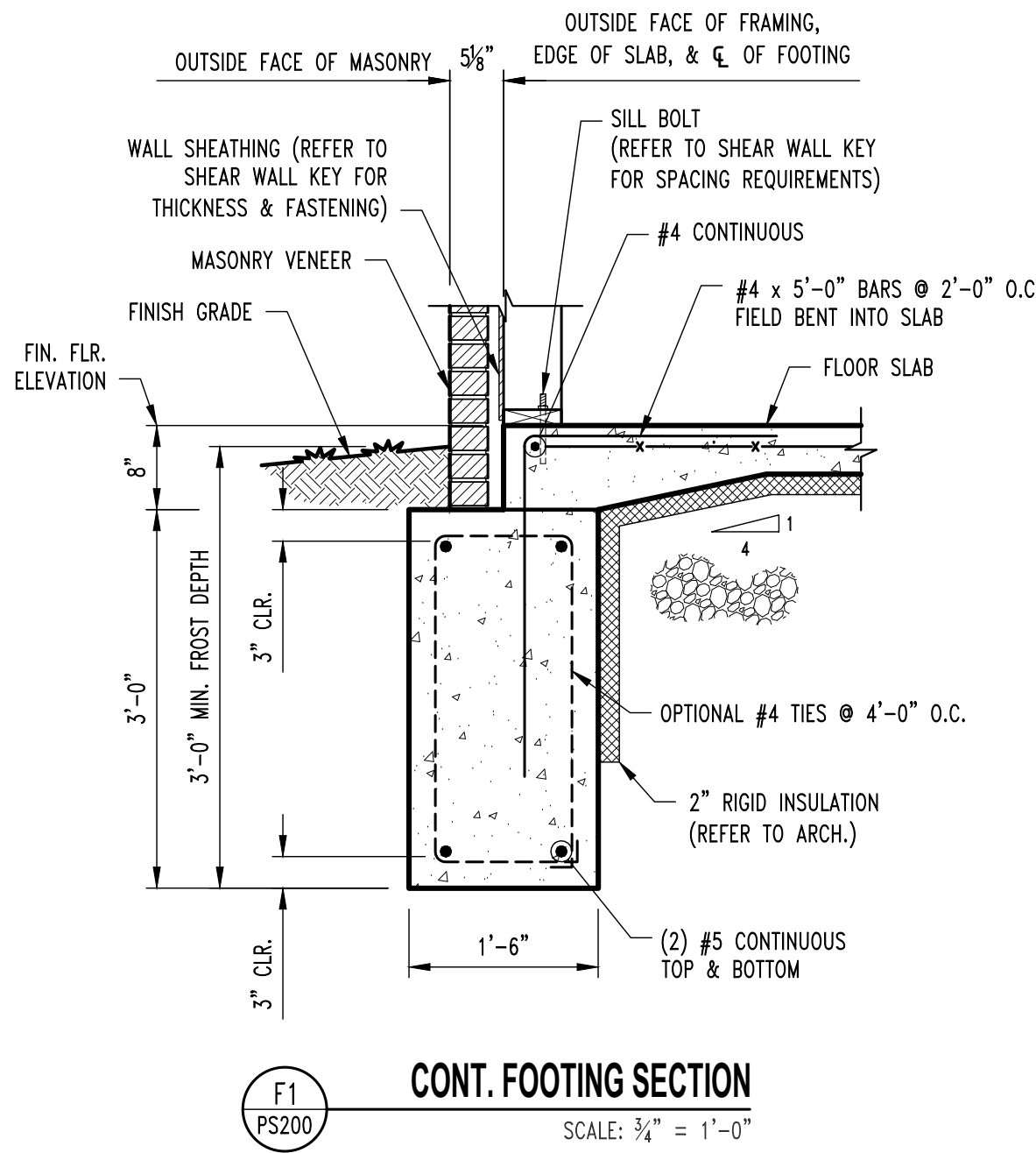
CONSTRUCTION JOINT



TYP. ELECTRICAL GROUNDING DETAIL @ FOOTING



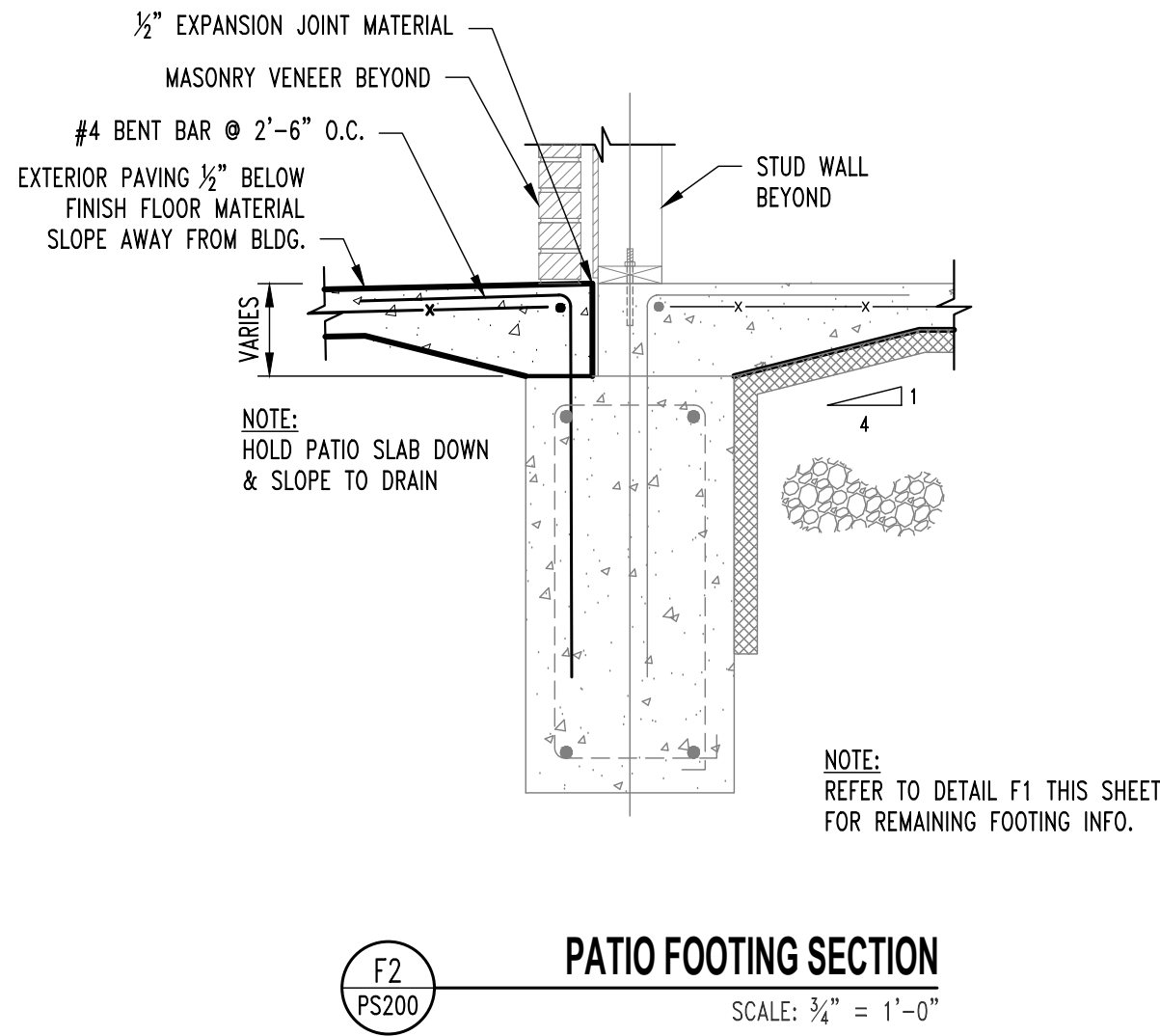
TYP. PLUMBING COORDINATION DETAILS



CONT. FOOTING SECTION

F1
PS200

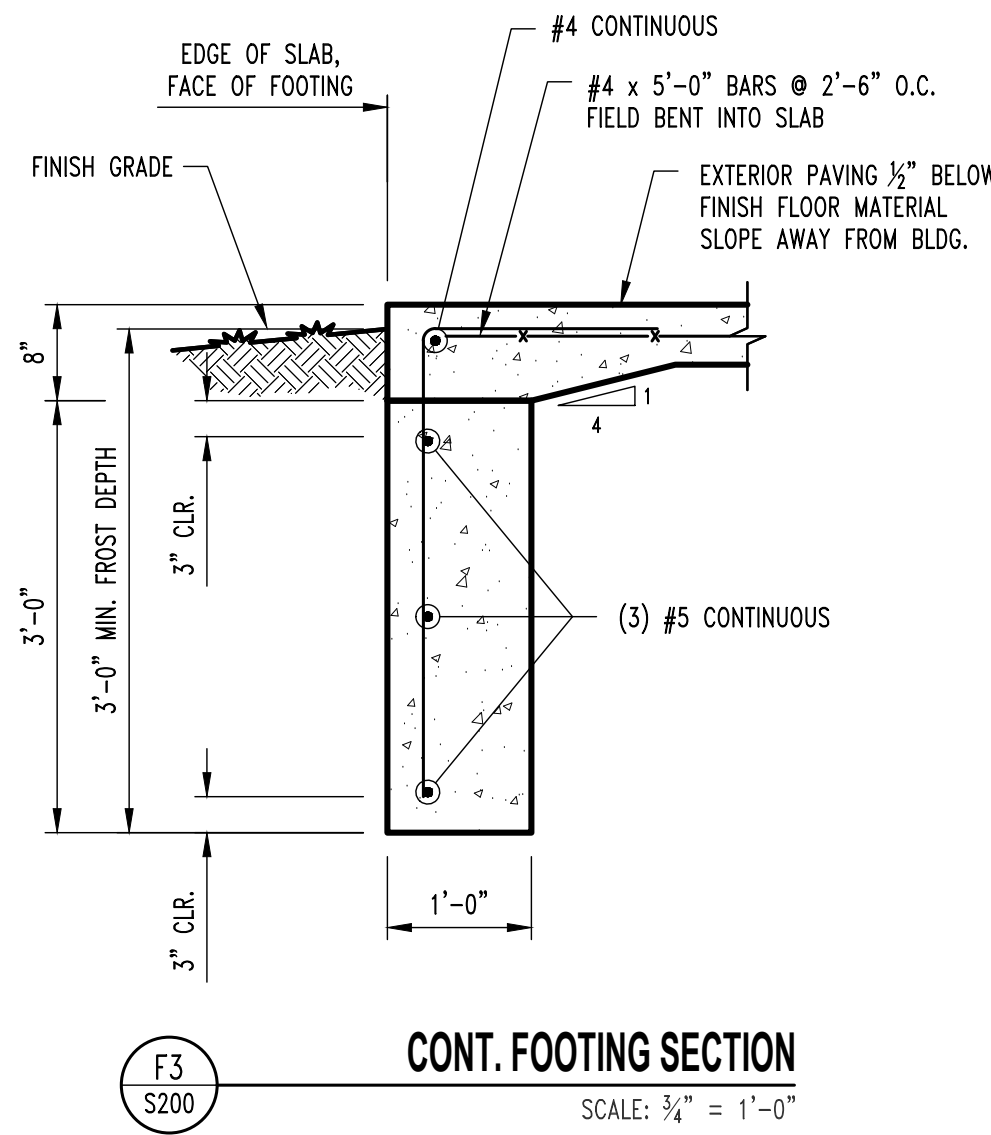
SCALE: 3/4" = 1'-0"



PATIO FOOTING SECTION

F2
PS200

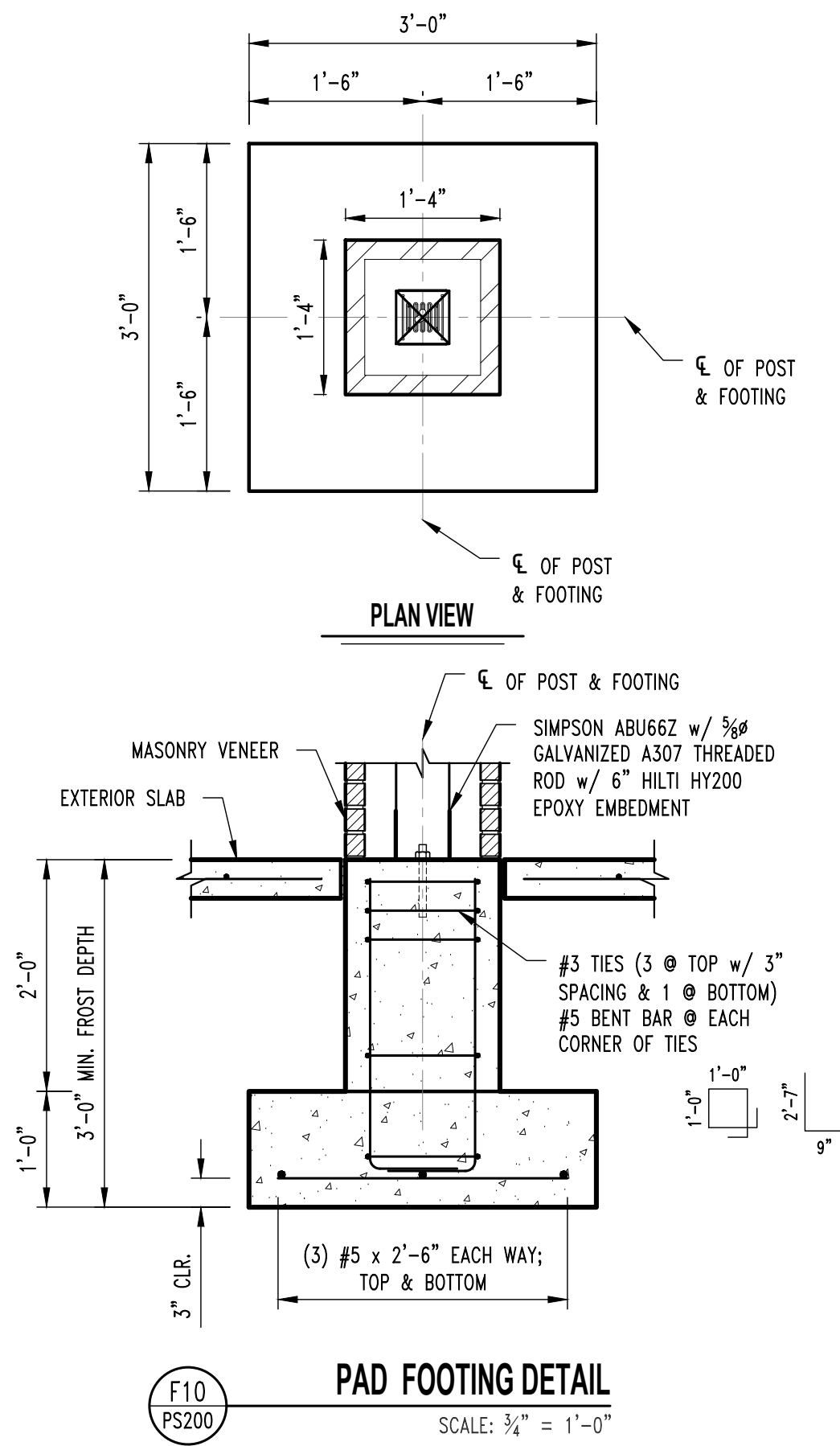
SCALE: 3/4" = 1'-0"



CONT. FOOTING SECTION

F3
S200

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



PAD FOOTING DETAIL

F10
PS200

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

REVISIONS:	
No.	Date
PERMIT SET	04/15/2025
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY	

STRUCTURAL ENGINEER:
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CLIENT:
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3822 ENDEAVOR AVE.
COLUMBIA, MISSOURI

Alura Village Pool House
Lee's Summit, Jackson County, Missouri

DRAWING INCLUDES:

FOUNDATION
DETAILS

DESIGNED: JWV
DRAWN: SEH
PROJECT NO.: 230286
SHEET: PS210

NOTE:
ALL DIMENSIONS ARE FROM FACE OF FOUNDATION WALL OR FRAMING;
EDGE OF SLAB OR TRUSS/RAFTER; OR CENTERLINE
OF COLUMN, BEAM, OR JOIST UNLESS NOTED OTHERWISE.

ROOF FRAMING NOTES

- FRAME ROOF OVER PRE-ENGINEERED TRUSSES TO
CREATE RIDGE, VALLEY, OR HIP AS SHOWN w/ 2x SPF
No.1/No.2 RAFTERS @ 16" O.C. OR PRE-ENGINEERED
TRUSSES @ 2'-0" O.C. MAX. (SHADED AREA)
- ATTIC ACCESS; REFER TO ARCHITECTURALS FOR
ADDITIONAL INFORMATION.
- GIRDER TRUSS
- 3-PLY BUILT-UP POST BENEATH GIRDER TRUSS
THIS LEVEL TO FLOOR SLAB
CONNECTIONS ARE AS FOLLOWS:
FLOOR SLAB: SIMPSON LITTPZ.
ROOF TRUSS: BY TRUSS MANUFACTURER
- REFER TO TYPICAL SHEAR WALL DETAIL ON SHEET S310.
- (2) TREATED So. PINE No.2 2x10's.

REVISIONS:

No.	Date
PERMIT SET	04/15/2025

THIS SHEET HAS BEEN SIGNED,
SEALED AND DATED ELECTRONICALLY

STATE OF MISSOURI
JARED W. VORLES
PROFESSIONAL ENGINEER
NUMBER
PE-201709037
04/15/2025

STRUCTURAL ENGINEER:
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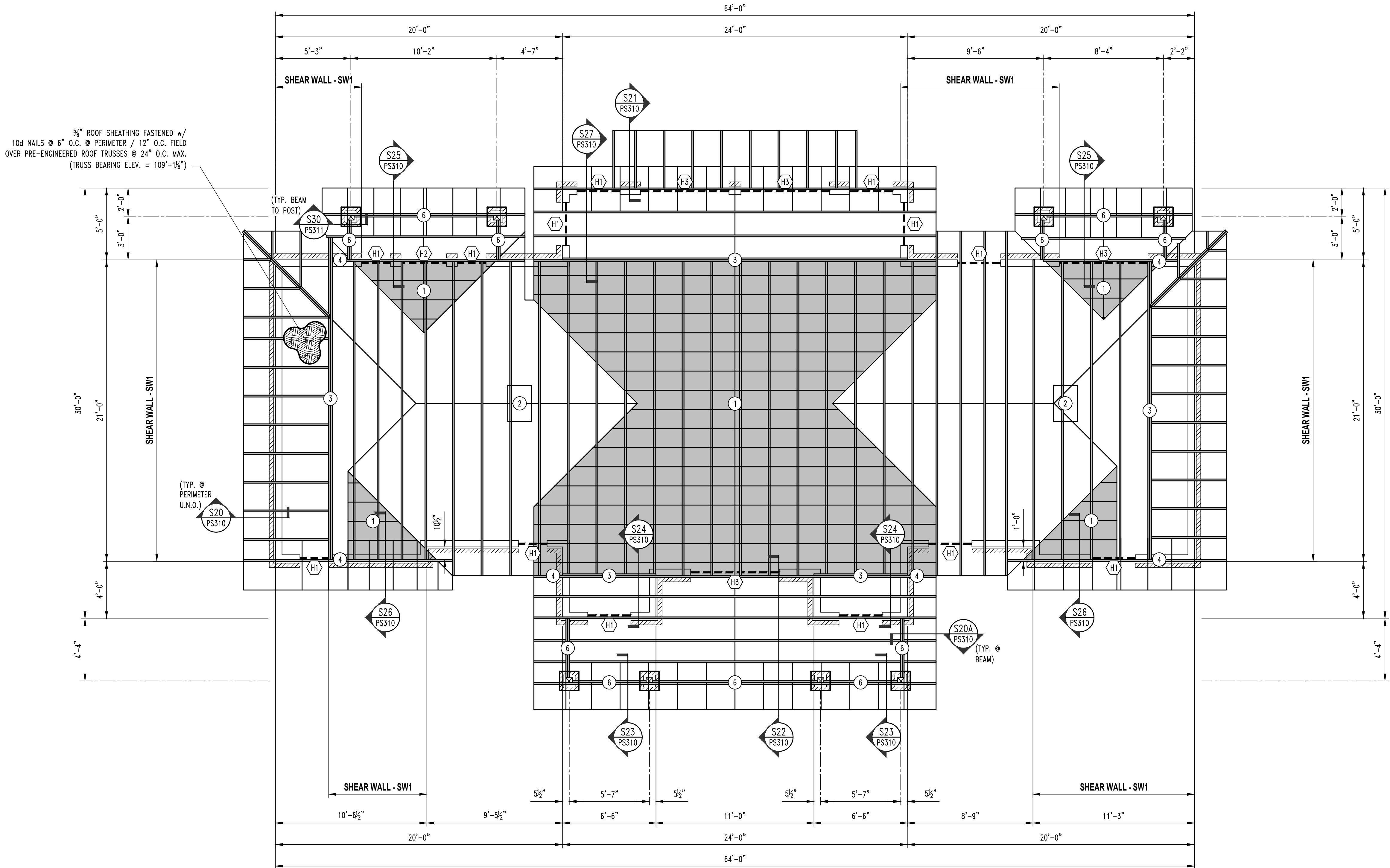
CLIENT:
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3822 ENDEAVOR AVE.
COLUMBIA, MISSOURI

Alura Village Pool House
Lee's Summit, Jackson County, Missouri

DRAWING INCLUDES:

ROOF FRAMING
PLAN

DESIGNED: JWW
DRAWN: SEH
PROJECT NO.: 230286
SHEET:
PS300



1
PS300
POOL HOUSE ROOF FRAMING PLAN
SCALE: 1/4" = 1'-0"
PLAN NORTH

BRICK LINTEL SCHEDULE		
LENGTH	MEMBER SIZE (GALVANIZED)	
L ≤ 4'-0"	L4x4x3/8 WITH 6" BEARING EACH END	
L ≤ 6'-6"	L6x4x3/8 (LLV) WITH 6" BEARING EACH END	

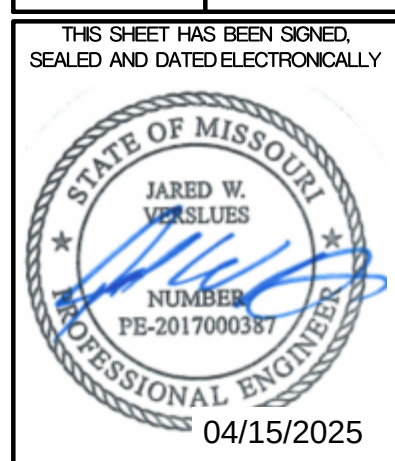
HEADER SCHEDULE			
LABEL	HEADER	CRIPPLE/JACK	JAMB/KING
"H1"	2 Ply 2x6 SPF No.1/No.2	Single Ply 2x6 SPF No.1/No.2	Single Ply 2x6 SPF No.1/No.2
"H1"	2 Ply 2x8 Doug. Fir No.2	Single Ply 2x6 SPF No.1/No.2	Single Ply 2x6 SPF No.1/No.2
"HZ"	2 Ply 2x10 Doug. Fir Sel. Struct.	2 Ply 2x6 SPF No.1/No.2	2 Ply 2x6 SPF No.1/No.2

SHEAR WALL KEY

- SW1 SHEAR WALL
FIRST FLOOR:
- 7/16" OSB SHEATHING FASTENED WITH 8D NAILS @ 4" O.C. @ PERIMETER / 12" O.C. FIELD
 - 1/2" DIAMETER X 6" SIMPSON TITEN HD ANCHOR SCREWS @ 3'-0" O.C.
 - REQUIRES SIMPSON DTT2Z-SDS2.5 HOLDOWN FASTENED TO 2-PLY STUDS W/ (8) 1/4" X 1-1/2" SDS SCREWS W/ 1/2" DIAMETER A307 THREADED ROD W/ 16" TOTAL (8" INTO FOOTING) SIMPSON "AT-3G" EPOXY EMBEDMENT AT EACH END OF THE SHEAR WALL

- TYPICAL SHEAR WALL UNLESS NOTED
- 7/16" OSB SHEATHING FASTENED WITH 8D NAILS @ 4" O.C. @ PERIMETER / 12" O.C. FIELD
 - 1/2" DIAMETER X 6" SIMPSON TITEN HD ANCHOR SCREWS @ 3'-0" O.C.
 - NO HOLDOWNS REQUIRED

REVISIONS:	
No.	Date
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STRUCTURAL ENGINEER:
CROCKETT
ENGINEERING CONSULTANTS
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Missouri Certificate of Authority
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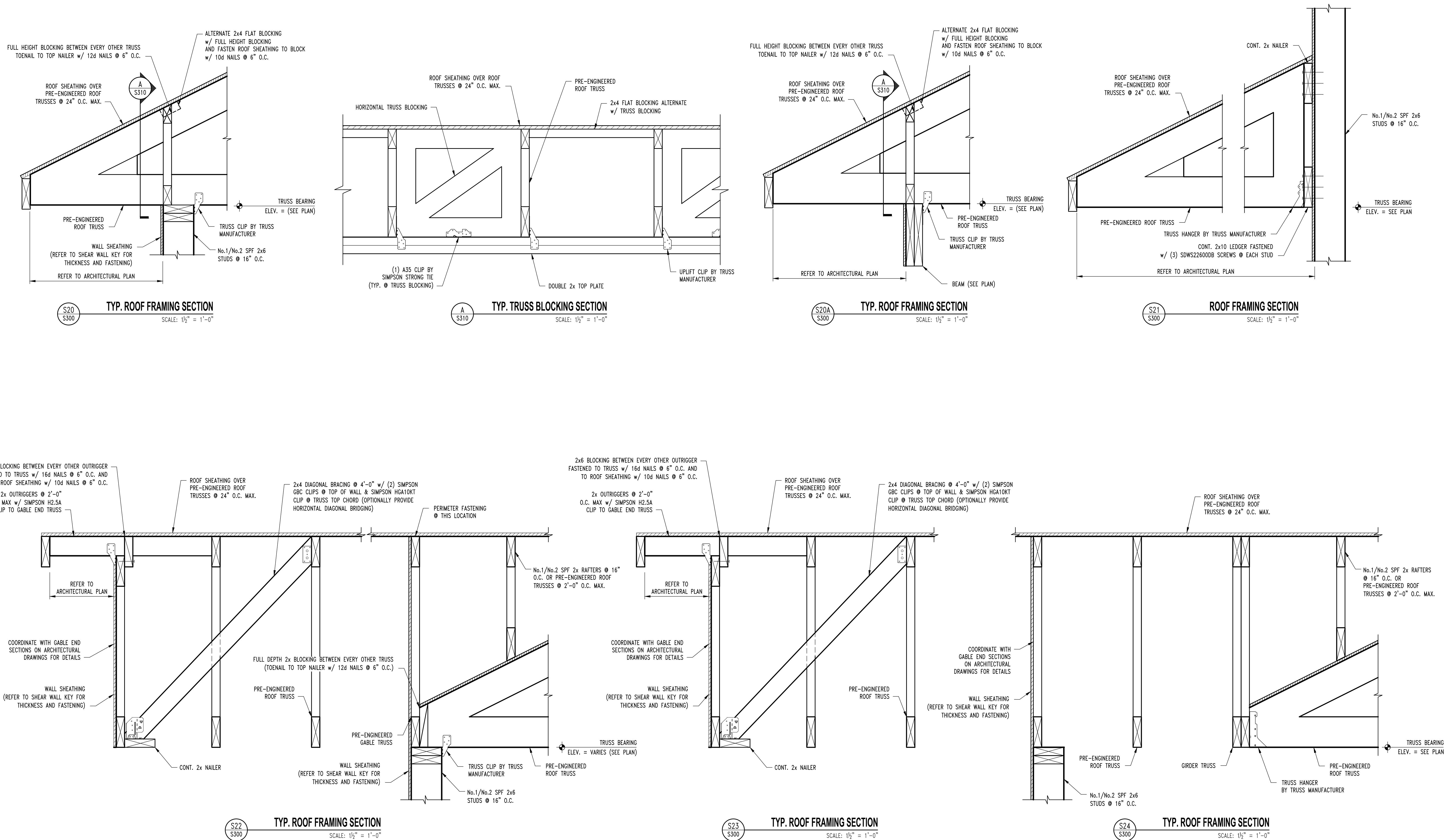
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DEVELOPMENT**
3822 ENDAVOR AVE.
COLUMBIA, MISSOURI

Alura Village Pool House
Lee's Summit, Jackson County, Missouri

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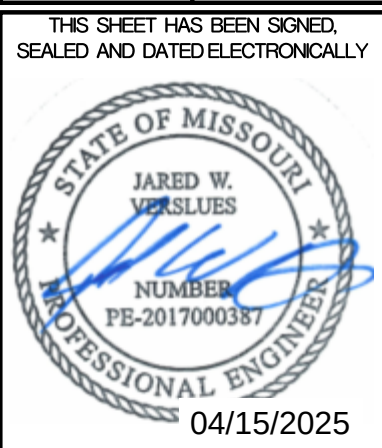
ROOF FRAMING
DETAILS

DESIGNED: JWW
DRAWN: SEH
PROJECT NO.: 230286
SHEET:
PS310



REVISIONS:

No.	Date
PERMIT SET	04/15/2025



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Alura Village Pool House
Lee's Summit, Jackson County, Missouri

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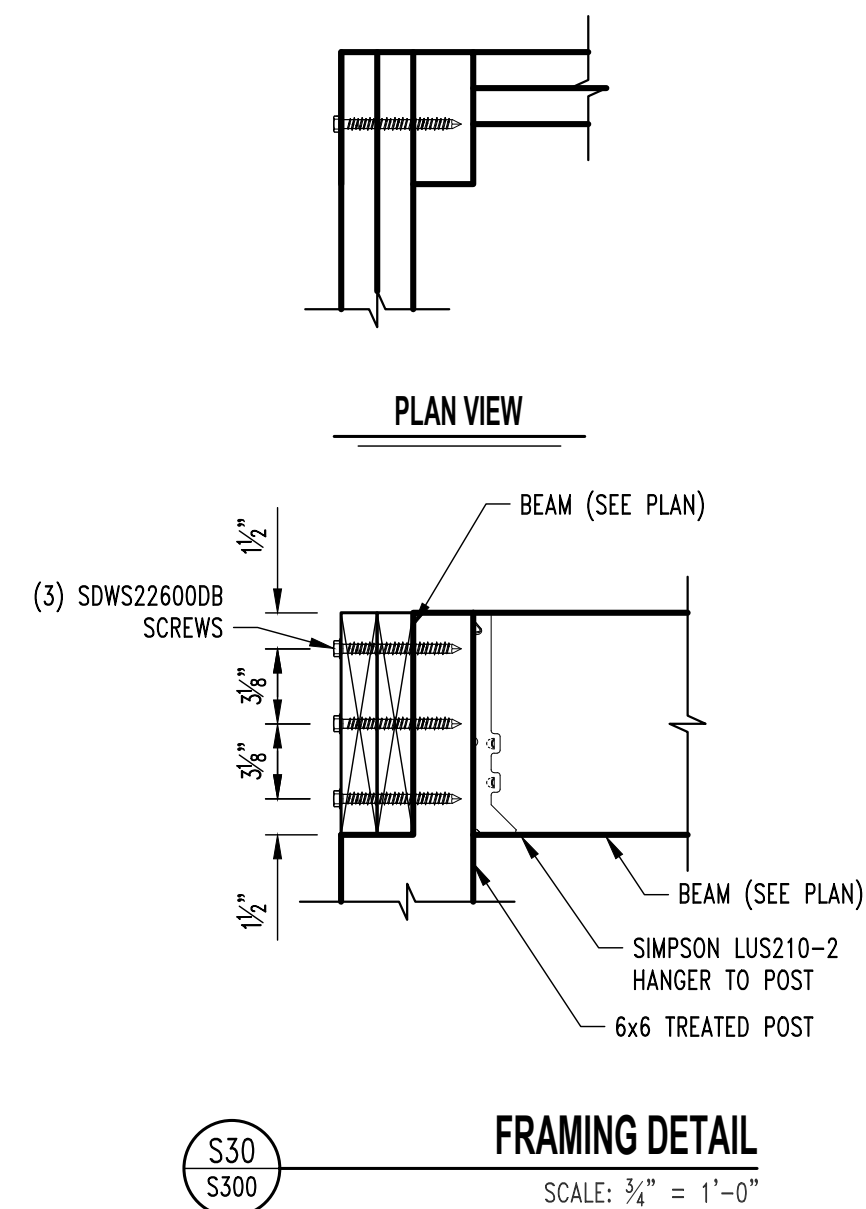
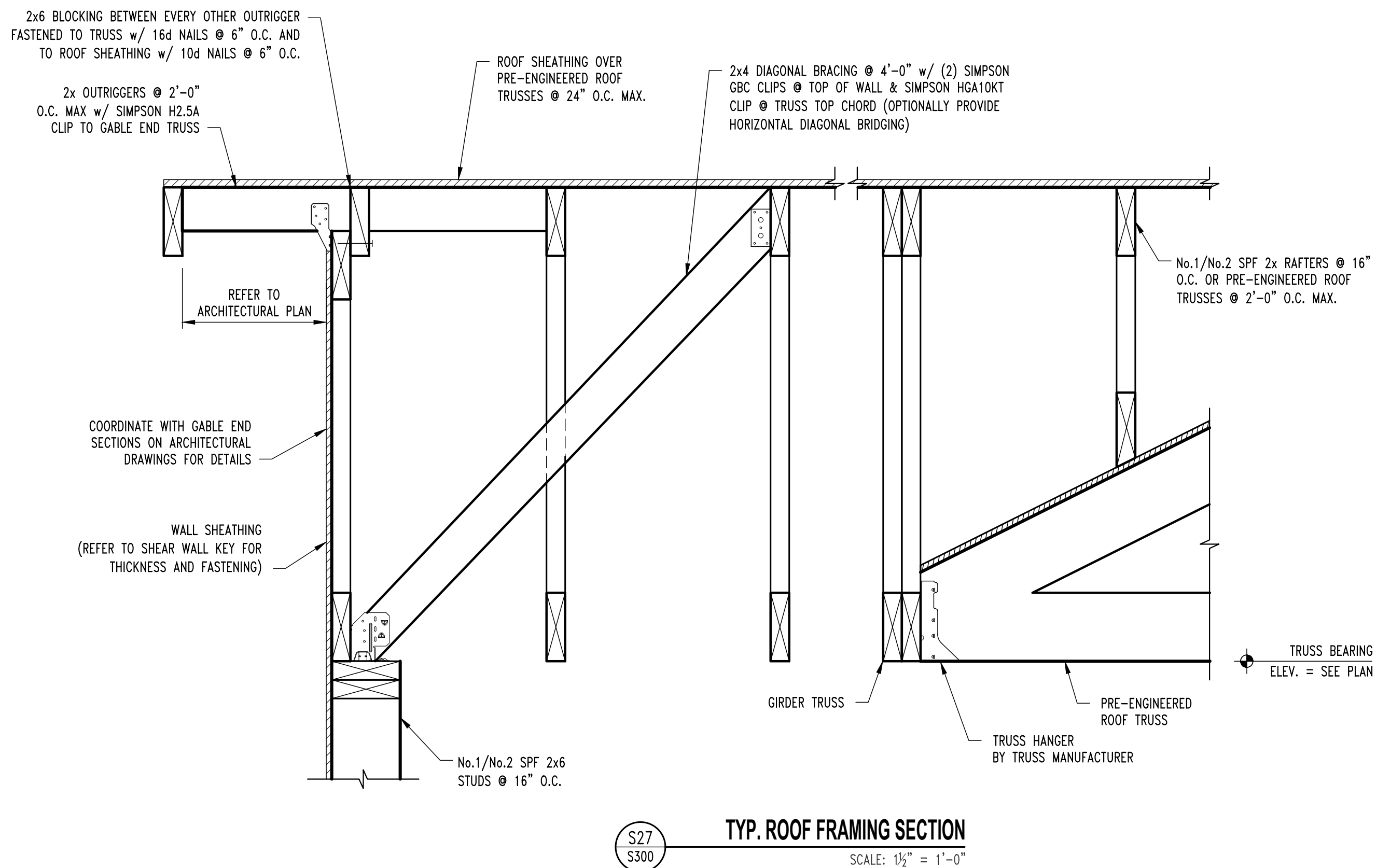
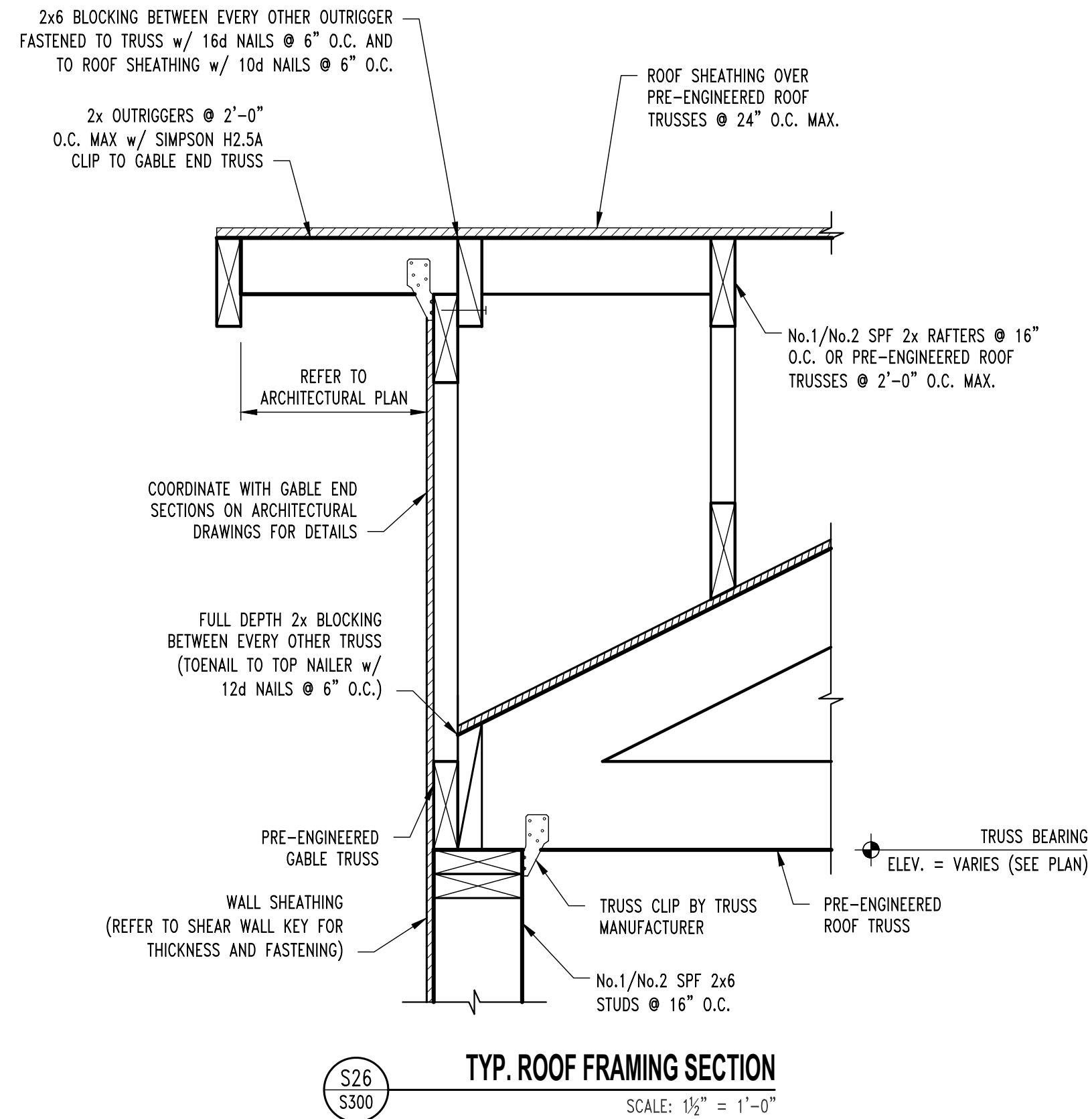
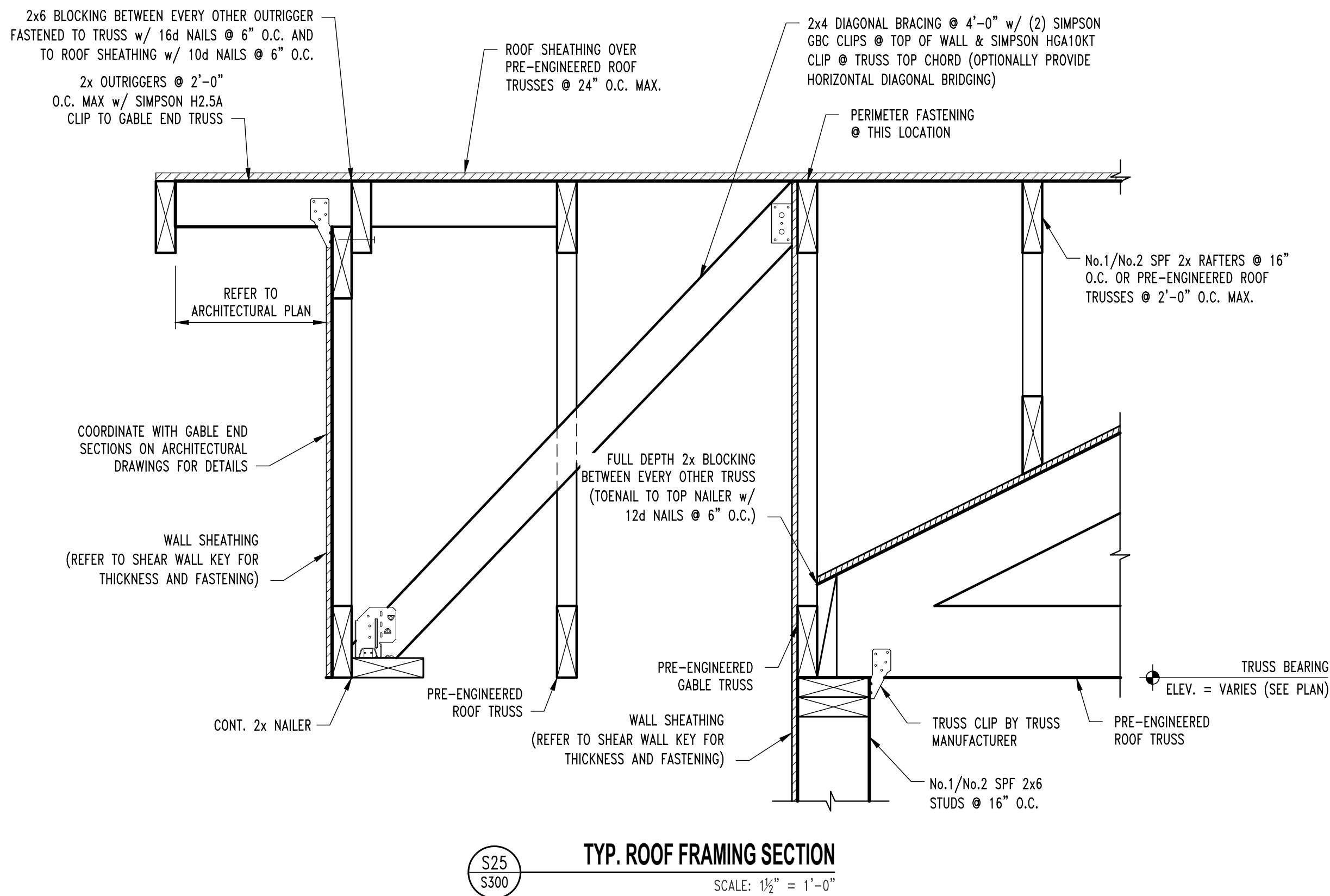
ROOF FRAMING
DETAILS

DESIGNED: JWV

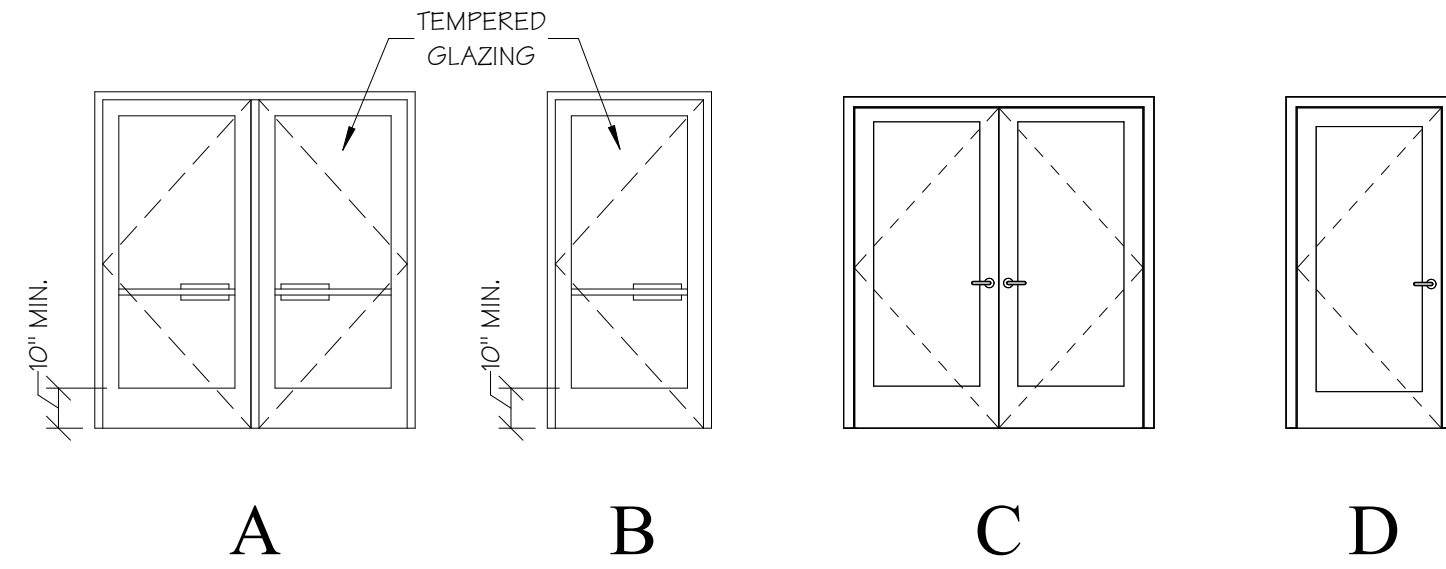
DRAWN: SEH

PROJECT NO.: 230286

SHEET:
PS311



DOOR SCHEDULE							
MARK	DOOR SIZE	ELEV.	FRAME MTL.	PANEL MTL.	GLAZING	DOOR HARDWARE	REMARKS
1	PR. 3'-0" x 6'-8" x 1 3/4"	A	ALUMINUM	ALUMINUM	TEMPERED LOW "E"	SEE SPECS.	INSULATED STORE FRONT DOOR, DESIGN BUILD BY STOREFRONT CONTRACTOR, WEATHERSTRIPPING, CLOSER, PANIC HARDWARE & ACC. THRESHOLD
2	3'-0" x 6'-8" x 1 3/4"	B	ALUMINUM	ALUMINUM	TEMPERED LOW "E"	SEE SPECS.	INSULATED STORE FRONT DOOR, DESIGN BUILD BY STOREFRONT CONTRACTOR, WEATHERSTRIPPING, CLOSER, PANIC HARDWARE & ACC. THRESHOLD
3	PR. 3'-0" x 6'-8" x 1 3/4"	C	WD	INSUL. FIBERGLASS	NONE	SEE SPECS.	SINGLE PANEL, WEATHER STRIPPING, ACC. THRESHOLD & CATCH CHAIN
4	3'-0" x 6'-8" x 1 3/8"	D	WD	WD HC	NONE	SEE SPECS.	1-PANEL MASONITE, PRE-HUNG W/ STAIN NICKEL HINGES
5	3'-0" x 6'-8" x 1 3/8"	D	HOLLOW METAL	HOLLOW METAL	NONE	SEE SPECS.	1-PANEL, 45 MIN. FIRE RATED & SPRING HINGES



DOOR NOTES	
1)	ALL DOORS TO HAVE LEVER HANDLE HARDWARE. (U.N.O)
2)	ALL ENTRY DOORS SHALL COMPLY WITH ANSI A117.1 ACCESSIBILITY REQUIREMENTS.
3)	PROVIDE 1/2" HIGH MAX, 1:2 SLOPE THRESHOLD AT ALL ENTRY DOORS.
4)	CONTRACTOR TO PROVIDE & INSTALL DOOR STOPS @ ALL DOORS.
5)	CAULK/SEAL ALL EXTERIOR THRESHOLDS.

WALL NOTES	
1)	DIMENSIONS ARE STUD FACE TO STUD FACE UNLESS NOTED OTHERWISE.
2)	PROVIDE SOLID BLOCKING BEHIND GRAB BARS, CURTAIN RODS, ALL CABINETS AND ALL SOFFITS.
3)	ALL EXTERIOR WALLS FRAMED W/ 2x6's 16" O.C. & COVERED W/ (1) LAYER OF 5/8" GYP. BD. AT INTERIOR. PER WALL SECTION
4)	ALL INTERIOR WALLS FRAMED WITH 2x4's OR 2x6's (ALL PLUMBING WALLS) 16" O.C. AND COVERED WITH (1) LAYER 1/2" GYP. BD. (EACH SIDE).
5)	1-HR STORAGE WALL FRAMED WITH 2x4's 16" O.C. AND COVERED WITH (1) LAYER 5/8" TYPE "X" GYP. BD. (EACH SIDE).

GENERAL NOTES	
1)	CONTRACTOR SHALL FURNISH & INSTALL 4" BUILDING NUMBERS FOR POOL HOUSE AS REQUIRED BY CITY OR LOCAL POSTMASTER.
2)	CLOSETS SHALL HAVE EPOXY-COATED WIRE SHELVING.
3)	PRIME & PAINT WALLS BEHIND MILLWORK.
4)	APPLY SILICONE CAULK BETWEEN CONCRETE AND BOTTOM OF THE DRYWALL.
5)	SEAL CONCRETE FLOOR TO REDUCE MOISTURE PENETRATION.
6)	APPROXIMATELY SIZED BLINDS SHALL BE PROVIDED AND INSTALLED FOR EACH GLAZED OPENING, INCLUDING PAIRED WINDOWS (PROVIDED WITH TWO SETS) AND DOOR GLAZING WHERE HALF LITE OR LARGER.

W2

5/8" TYP. "X" GYP. BD.

R-13 INSUL.

2x4 WOOD STUDS @ 16" O.C.

4-3/4" WALL
1-HR RATED (UL U305)

W3

1/2" GYP. BD. (MOLD GUARD @ DAMP WALLS @ BATHROOM, KITCHEN & LAUNDRY)

INSULATE BATHROOM WALL

2x6 WOOD STUDS @ 16" O.C.

6-1/2" WALL (NOT RATED)

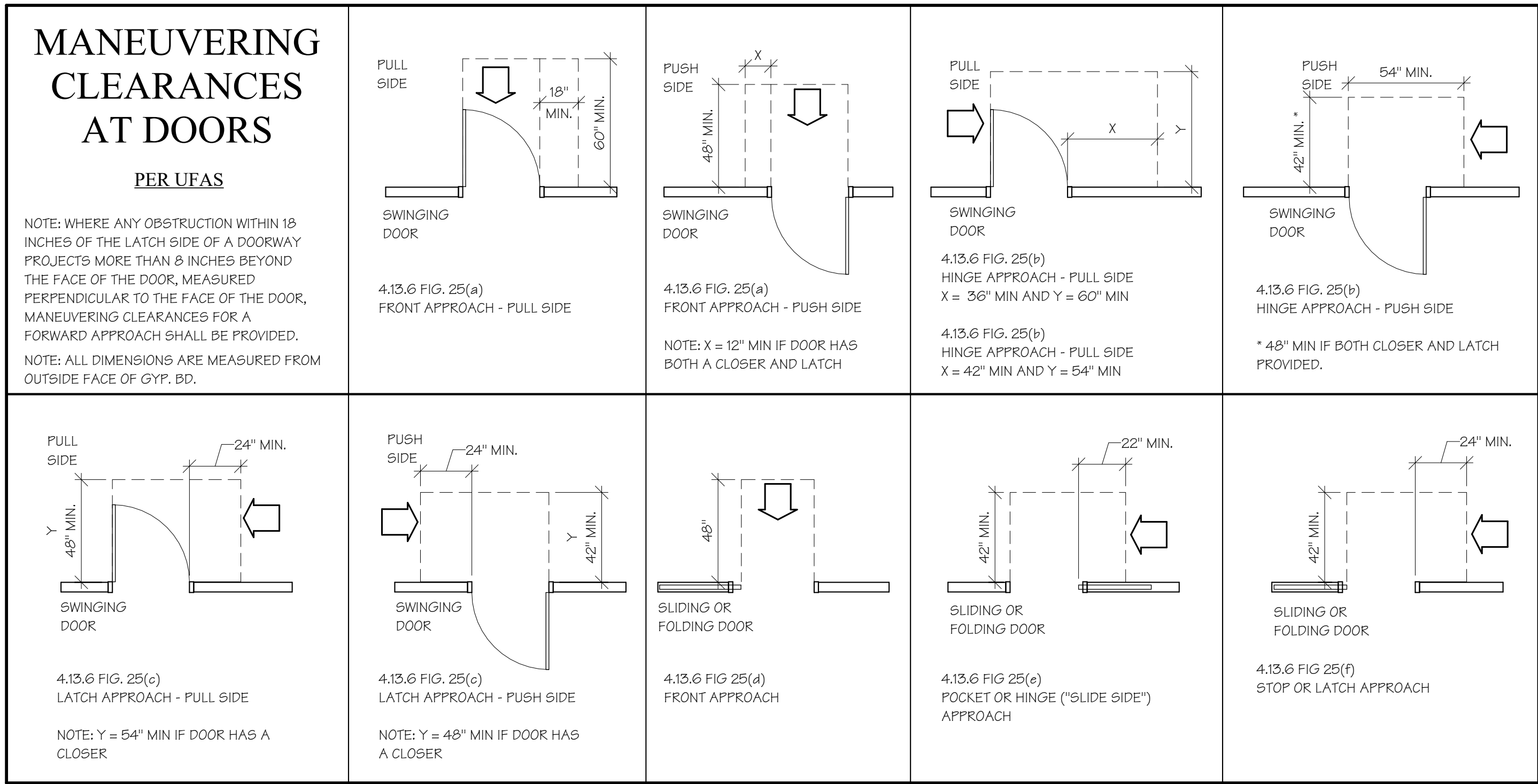
- SEAL ALL RIM/BAND JOIST AND INCLUDE AN AIR BARRIER. THE USE OF SPRAY FOAM IS RECOMMENDED.
- SEAL ALL PENETRATIONS IN BOTTOM AND TOP PLATES.
- SEAL SHEETROCK WITH A CONTINUOUS BEAD OF ACOUSTIC SEALANT OR DRYWALL ADHESIVE AT BOTH BOTTOM AND TOP PLATES OF ALL INTERIOR AND EXTERIOR WALLS. THIS SHOULD GO IN-BETWEEN THE PLATE AND DRYWALL TO CREATE A GASKET.
- SPACE BEHIND ALL WALL ELECTRICAL BOXES SHOULD BE INSULATED AND AIR SEALED BEING SURE TO SEAL ELECTRICAL KNOCKOUTS. SPRAY FOAM IS RECOMMENDED FOR THIS APPLICATION.
- SEAL ALL PENETRATION IN HVAC CLOSET.
- SEAL ALL PLENUM TO AHU CONNECTIONS.
- SEAL ALL SEAMS IN DUCTWORK WITH MASTIC.
- TAPE OR CAULK EXTERIOR SHEATHING SEAMS.
- SPRAY FOAM WINDOWS TO FILL GAPS BETWEEN WINDOW/DOOR AND ROUGH OPENING.
- PROVIDE ATTIC KNEEWALL INSULATION WITH SEALED ATTIC-SIDE AIR BARRIER.
- IF ELECTRIC PANEL IS INSTALLED ON EXTERIOR WALL, AN AIR BARRIER SHALL EXTEND BEHIND BOX OR AIR-SEALED BOX SHALL BE INSTALLED.
- INSTALL INSULATION AND SEALED AIR BARRIER BEHIND TUB/SHOWERS ON EXTERIOR WALLS.
- INSTALL WIND WASH BAFFLE AND DAM FOR AIR-PERMEABLE INSULATION.

AF. EXTERIOR SHEETROCK

- GAPS AROUND ALL HVAC BOOTHS WHERE THEY PENETRATE THE CEILING/SOFFIT DRYWALL SHOULD BE SEALED.
- PLUMBING PENETRATIONS BELOW SINKS, BEHIND SHOWERHEADS, MECHANICAL CLOSET AND BEHIND TOILET WATER LINES SHALL BE SEALED.
- WATER LINES BEHIND REFRIGERATOR SHALL BE SEALED.
- HOLE BEHIND KITCHEN RANGE SHALL BE SEALED.
- GAP AT DRYWALL AROUND WASHER/DRYER BOX SHALL BE SEALED.
- ALL INTERIOR AND EXTERIOR PLUG IN AND SWITCH BOXES SHALL BE SEALED WHERE THE BOX PENETRATES THE SHEETROCK.
- GAPS AROUND CEILING LIGHT BOXES SHALL BE SEALED.
- ATTIC ACCESSSES SHALL BE SEALED.
- GAPS UNDER BASEBOARDS SHALL BE CAULKED IF SHEETROCK IS NOT SEALED TO PLATES AS STATED ABOVE.
- GAPS AROUND EXHAUST FANS WHERE THE HOUSING PENETRATES THE SHEET ROCK IS SEALED.
- TUB TO FLOOR CONNECTION SHALL BE SEALED.
- FIREPLACE HOUSINGS SHALL BE SEALED TO FINISHED SURFACE.
- GAPS AROUND ALL KITCHEN VENTS SHALL BE SEALED.
- ALL OTHER HOLES IN THE SHEETROCK SHALL BE SEALED.



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



- POOL HOUSE BATH NOTES
- 1) INSTALL GRAB BARS WITH ROUND HEAD SCREWS.

2) PROVIDE & INSTALL (1) 36" HORIZONTAL GRAB BAR BEHIND & (1) 42" HORIZONTAL GRAB BAR BESIDE WATER CLOSET ON WALL @ 34" A.F.F. & (1) 18" VERTICAL GRAB BAR BESIDE WATER CLOSET ON WALL @ 40" FROM REAR WALL. (SEE BATH ELEVATIONS SHEET A7.0)

3) BOTTOM OF MIRROR TO REST ON COUNTERTOP BACKSPLASH.

4) VANITY SINK FAUCET TO BE LEVER TYPE, & EXPOSED PIPING TO BE WRAPPED W/ PIPE WRAP.

5) EXTEND VINYL FLOORING BENEATH LAV. SPACE.

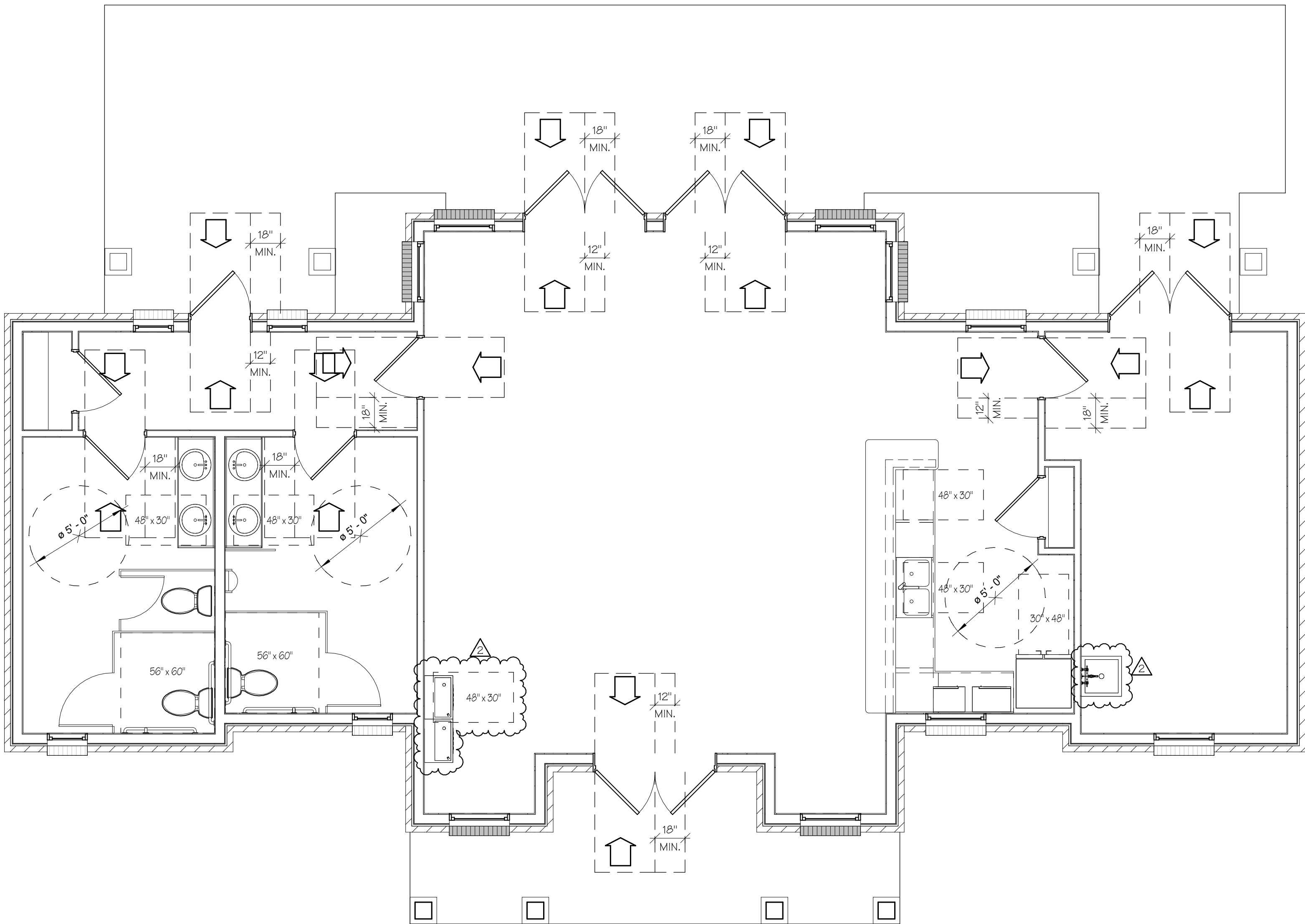
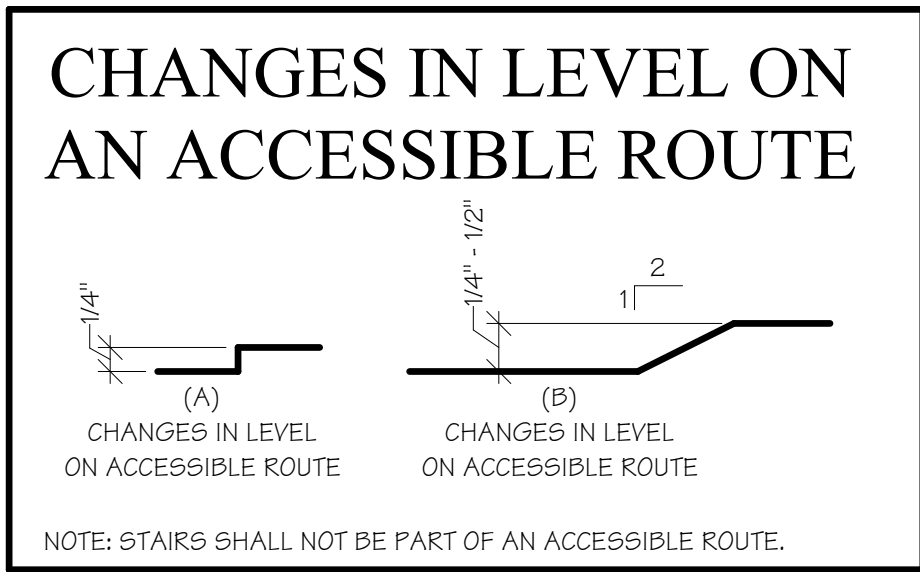
- POOL HOUSE KITCHEN NOTES
- 1) COUNTER HEIGHT SHALL BE 34" A.F.F. TO TOP OF SINK.

2) EXTEND VINYL FLOORING BENEATH SINK SPACE AND THE 30" WORKSPACE.

3) TOE KICK SPACE @ BOTTOM OF BASE CABINETS SHALL REMAIN 4" MIN. (STANDARD)

4) ADD SWITCHES FOR CONTROL OF LIGHT OVER SINK & GARBAGE DISPOSAL.

5) INSULATE EXPOSED PIPING BELOW KITCHEN SINK W/ PIPE WRAP.



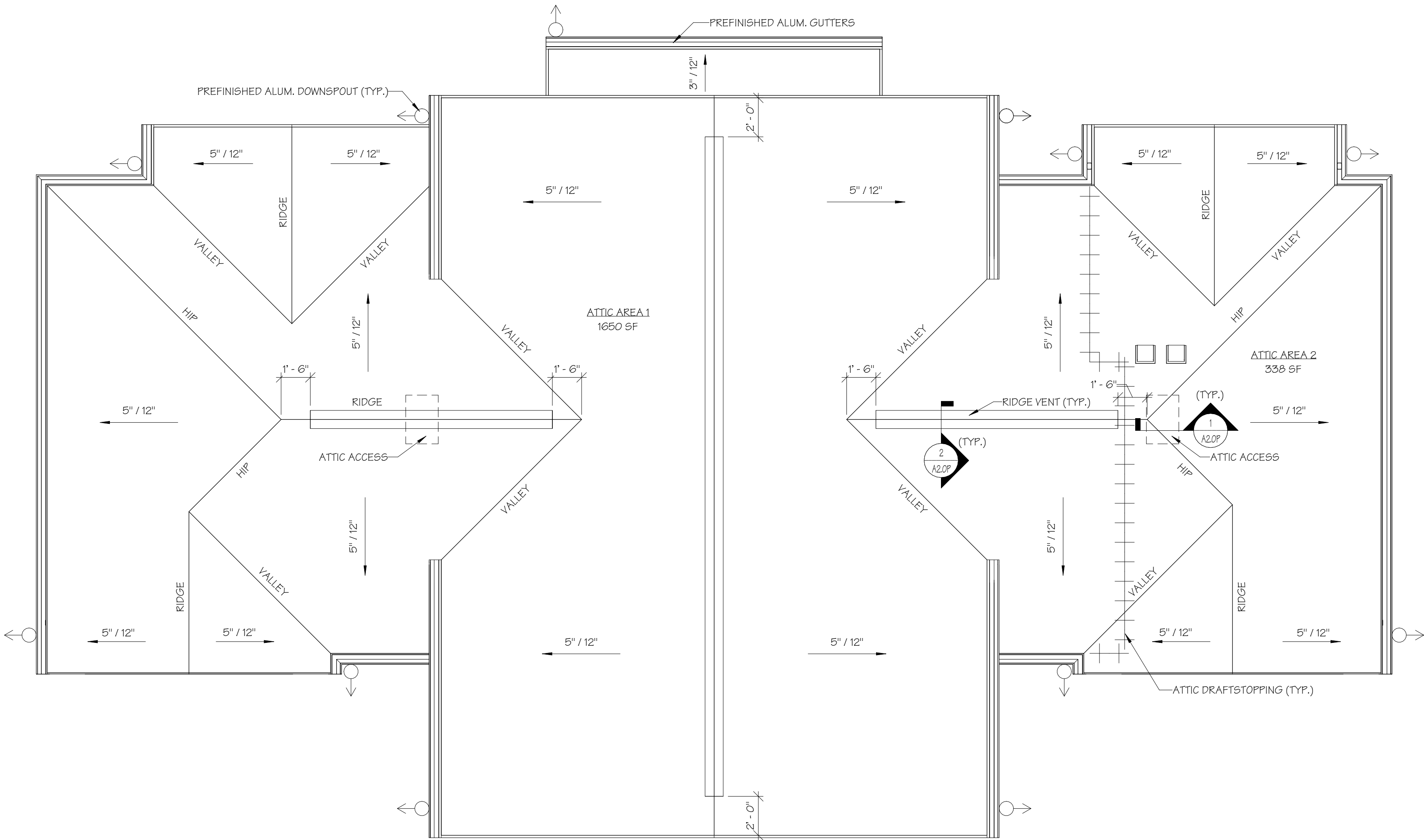
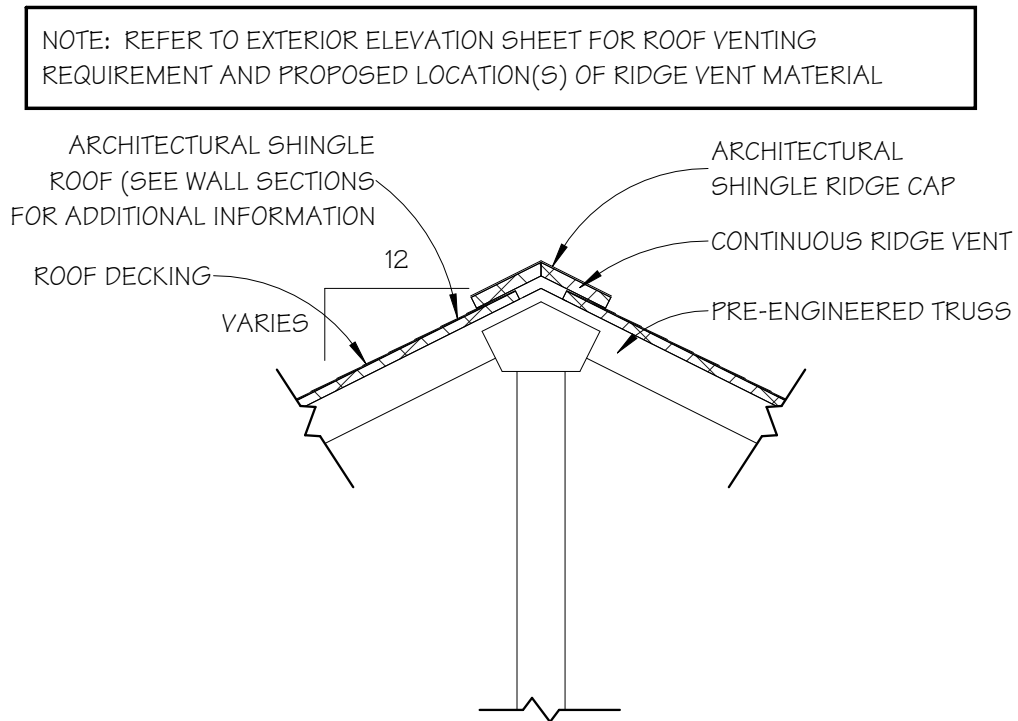
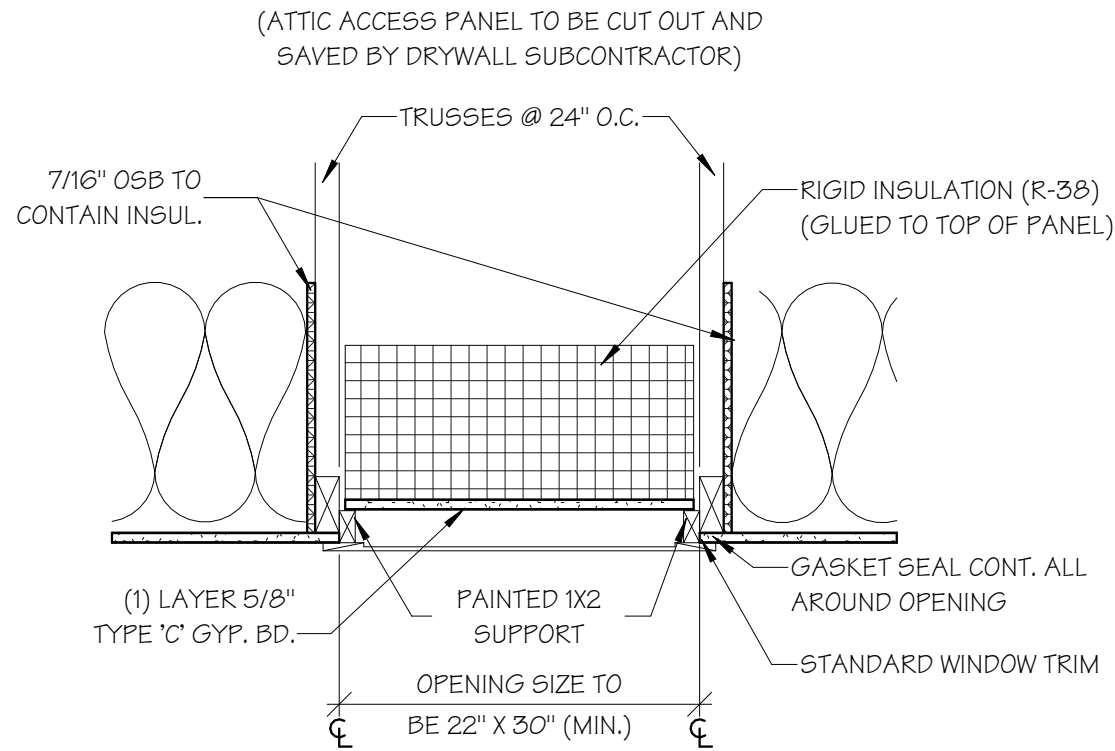
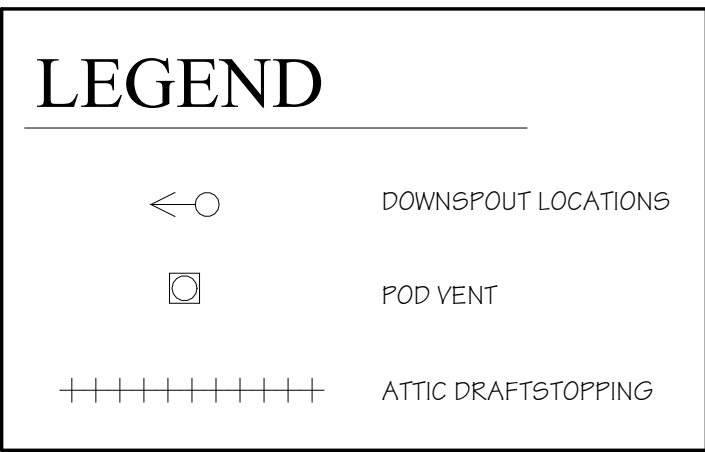
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A1.1P
SCALE: 1/4" = 1'-0"

POOL HOUSE ACCESSIBILITY PLAN

ATTIC COMPARTMENT VENTILATION				
NAME	AREA	TOTAL REQ'D VENT. (SQ. IN.)	SOFFIT VENT (SQ. IN.)	ROOF VENT (SQ. IN.)
ATTIC AREA 1	1650 SF	792	396	396
ATTIC AREA 2	338 SF	162	81	81

- GENERAL ATTIC VENTILATION NOTES**
- TOTAL FREE AREA SHALL EQUAL 1/300 OF ATTIC AREAS W/50% OF VENT AREA WITHIN 3' VERTICAL OF ROOF PEAK AND 50% AT SOFFITS.
 - SPECIFIED RIDGE VENT LENGTHS BASED ON 18 SQ. IN. FREE AREA PER LINEAL FOOT. ADJUST VENT LENGTH AS REQUIRED BASED ON FREE AREA OF SPECIFIC VENTILATOR USED.
 - SPECIFIED VENTILATION POD QUANTITY BASED ON 50 SQ. IN. FREE AREA PER POD. ADJUST QUANTITY AS REQUIRED BASED ON FREE AREA OF SPECIFIC VENTILATION POD USED.

- ATTIC DRAFTSTOPPING NOTES**
- DRAFTSTOPPING MATERIALS SHALL NOT BE LESS THAN 1/2" GYPSUM BOARD, 3/8" WOOD STRUCTURAL PANEL, 3/8" PARTICLEBOARD, 1" NOMINAL LUMBER, CEMENT FIBERBOARD, BATTS OR BLANKETS OF MINERAL WOOL OR GLASS FIBER, OR OTHER APPROVED MATERIALS ADEQUATELY SUPPORTED.
 - DRAFTSTOPPING SHALL BE PROVIDED IN ATTICS, OVERHANGS, OR OTHER CONCEALED ROOF SPACES.
 - THE ATTIC SPACE SHALL BE SUBDIVIDED BY DRAFTSTOPS INTO AREAS NOT EXCEEDING 3,000 SF.



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Professional Services Department
Missouri State Building, Missouri
Jefferson City, Missouri 64576

M. RANDALL PORTER
ARCHITECT
2012006244

15 APR 2025

M. RANDALL PORTER
ARCHITECT LICENSE
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ALURA POOL HOUSE - VILLAGE AT DISCOVERY PARK
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

Wallace
ARCHITECTS L.L.C.

Columbia, MO
P 573-258-7200

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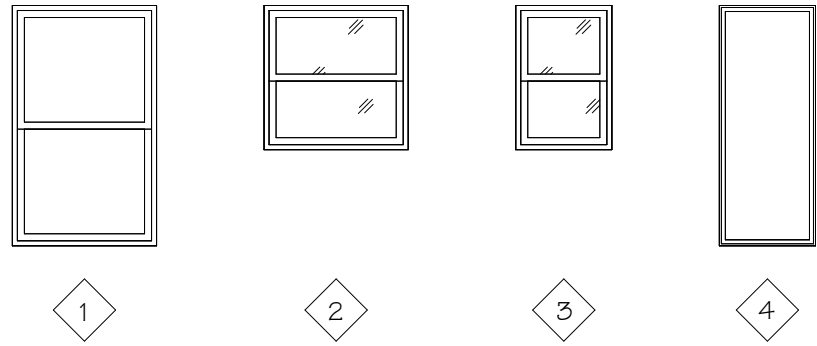
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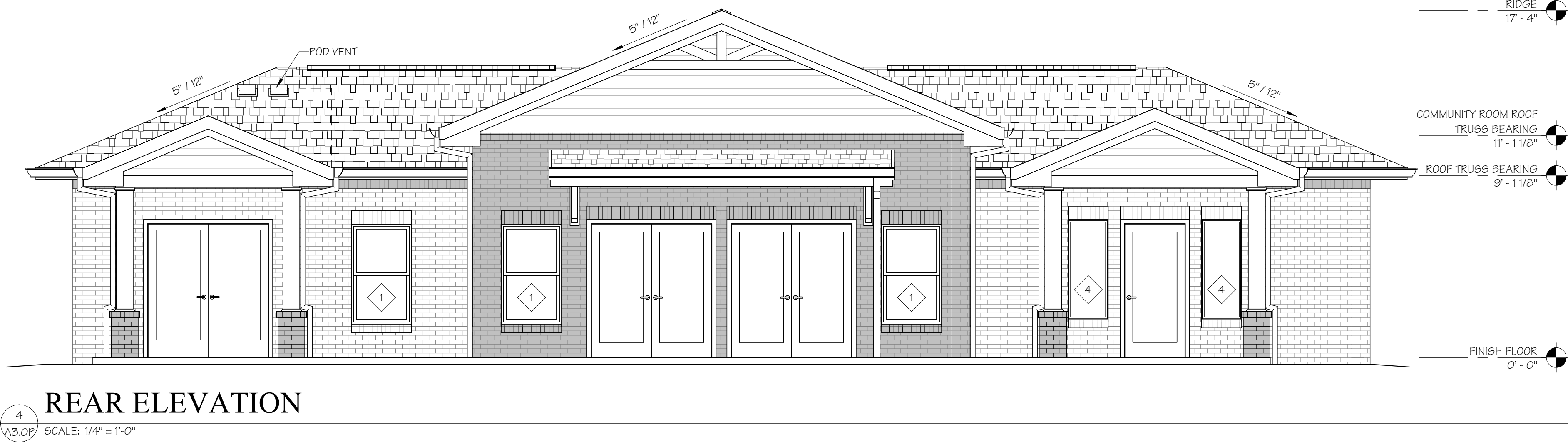
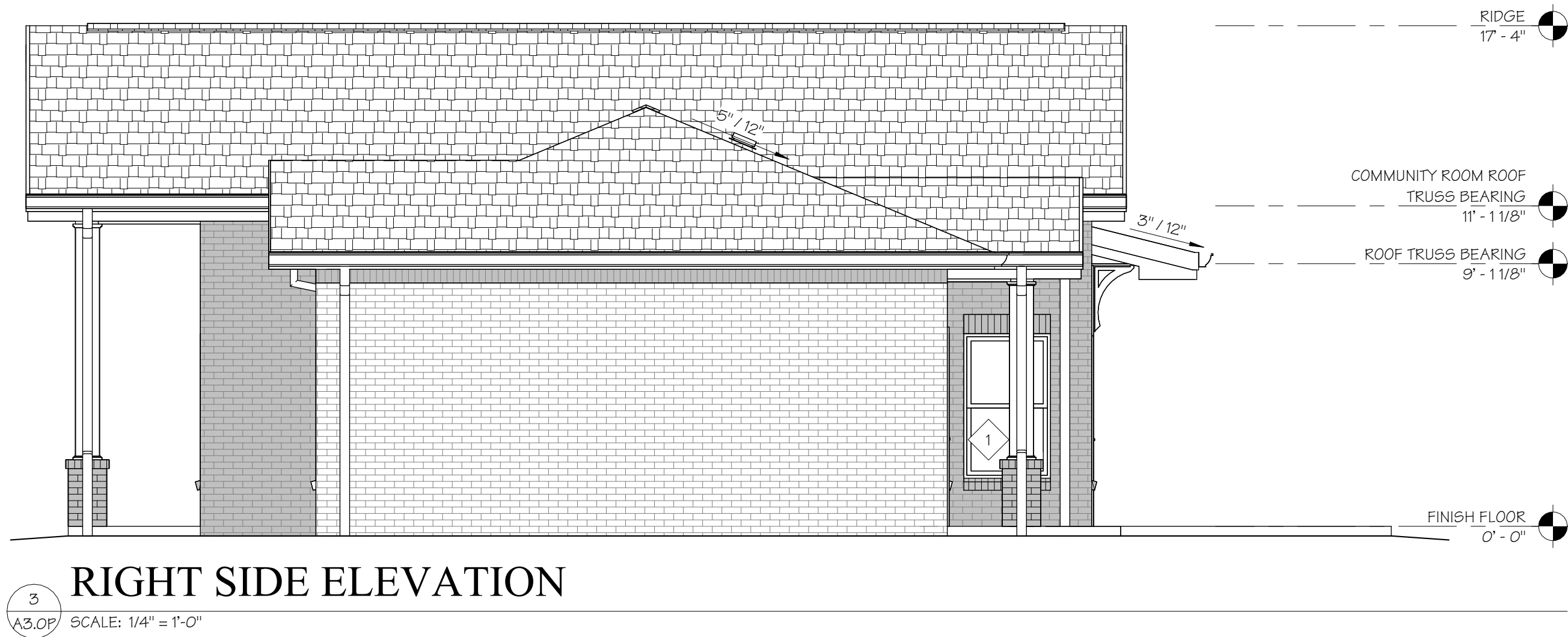
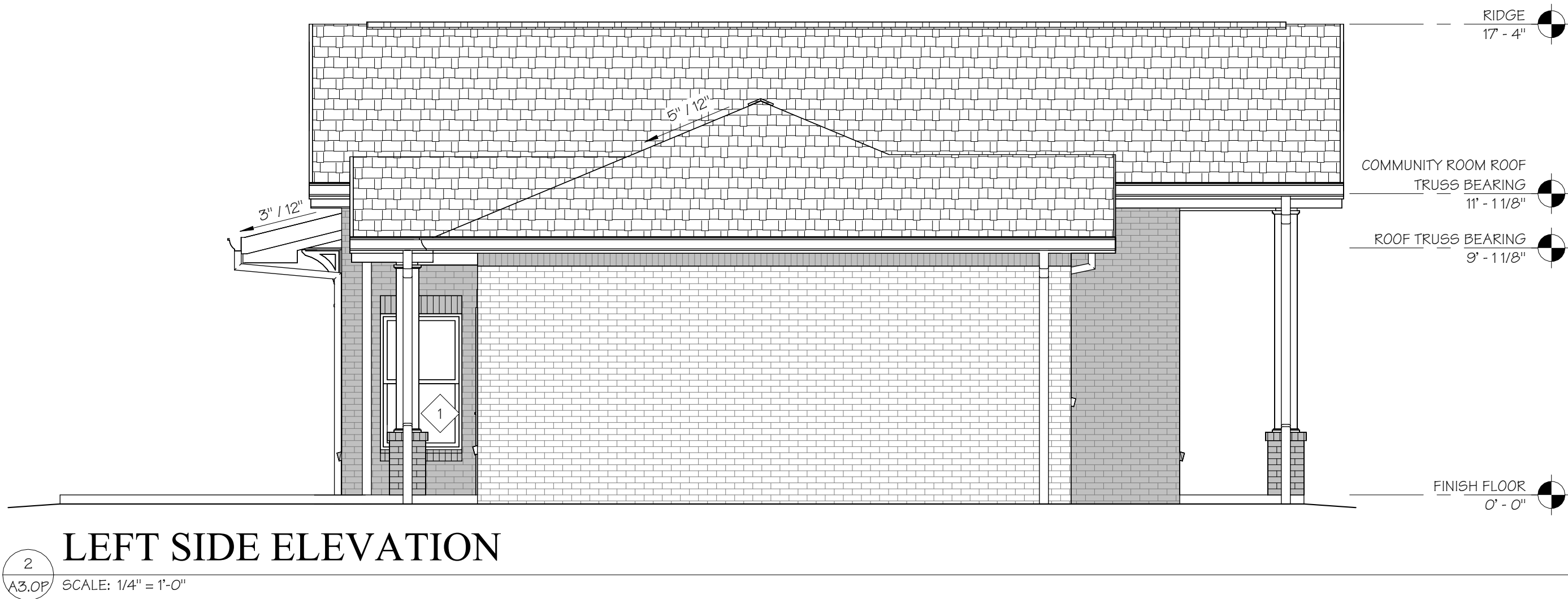
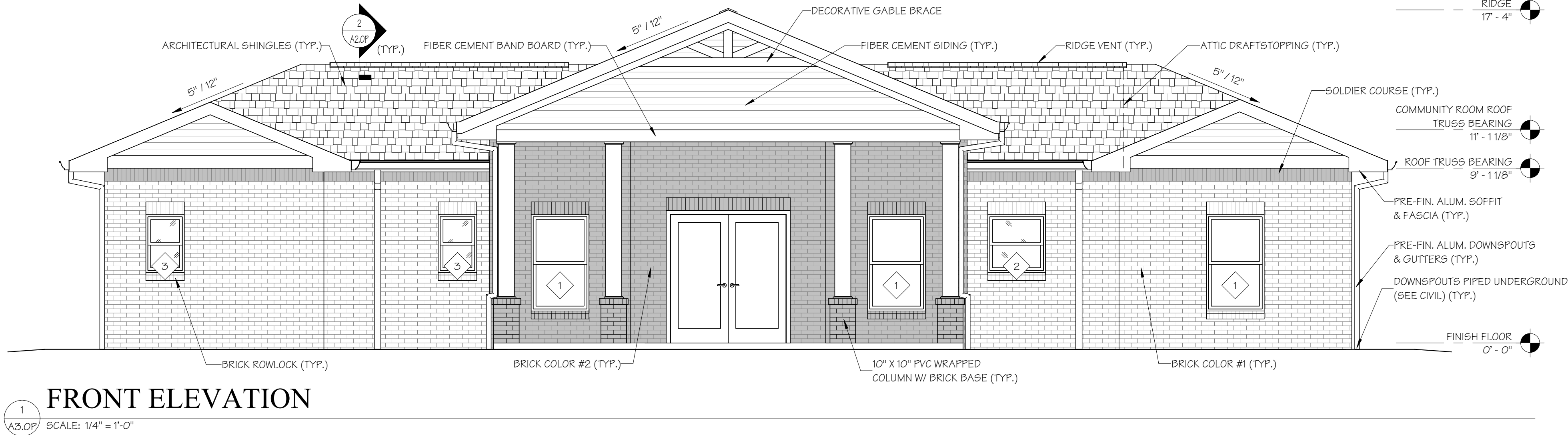
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WINDOW SCHEDULE TYPE MARK				
MARK	UNIT SIZE	GLAZING	HARDWARE	COMMENTS
1	3' - 0" X 5' - 0"	INSUL. LOW 'E'	STANDARD	SINGLE HUNG W/ SCREENS, U-FACTOR = 0.32 MAX, SHGC = 0.40 MAX.
2	3' - 0" X 3' - 0"	INSUL. LOW 'E'	STANDARD	SINGLE HUNG W/ SCREENS, U-FACTOR = 0.32 MAX, SHGC = 0.40 MAX.
3	2' - 0" X 3' - 0"	INSUL. LOW 'E'	STANDARD	SINGLE HUNG W/ SCREENS, U-FACTOR = 0.32 MAX, SHGC = 0.40 MAX.
4	2' - 0" X 5' - 0"	INSUL. LOW 'E'	NONE	FIXED, U-FACTOR = 0.32 MAX, SHGC = 0.40 MAX.



WINDOW NOTES	
1)	GLAZING WITHIN 24" OF DOORS SHALL BE TEMPERED GLASS.
2)	MAX. SILL HGT. @ 36" A.F.F.
3)	REFER TO WALL SECTIONS FOR BRICK DETAILS AROUND WINDOW OPENINGS.
4)	INSTALL BLINDS AT WINDOWS (FULL WIDTH X FULL HEIGHT)

BUILDING NOTES	
1)	BRICK CONTROL JOINTS EVERY 20'-0" MAX.
2)	CONTRACTOR SHALL FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS.



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City of Des Moines, Missouri
2024-03-28

M. RANDALL PORTER
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Missouri

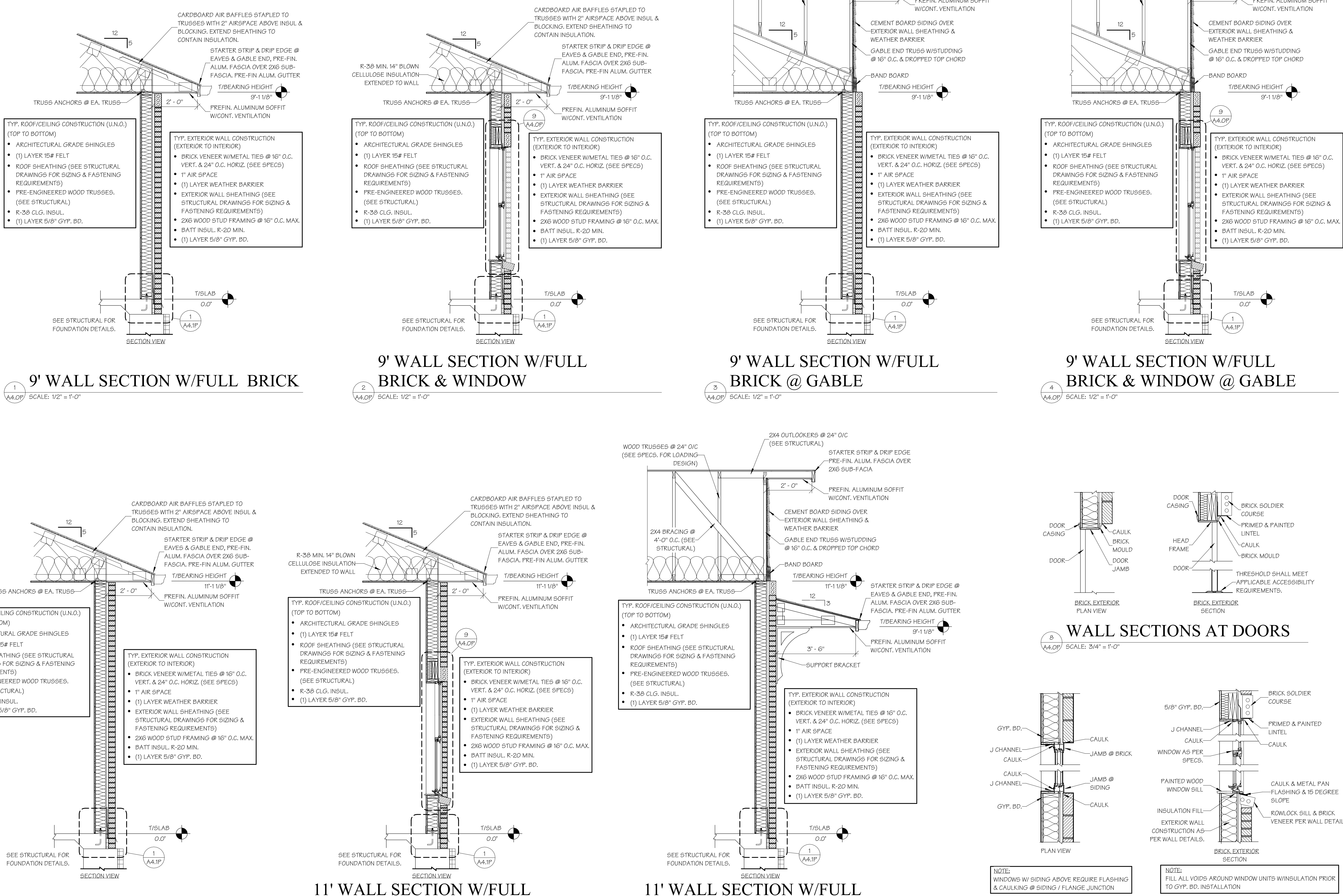
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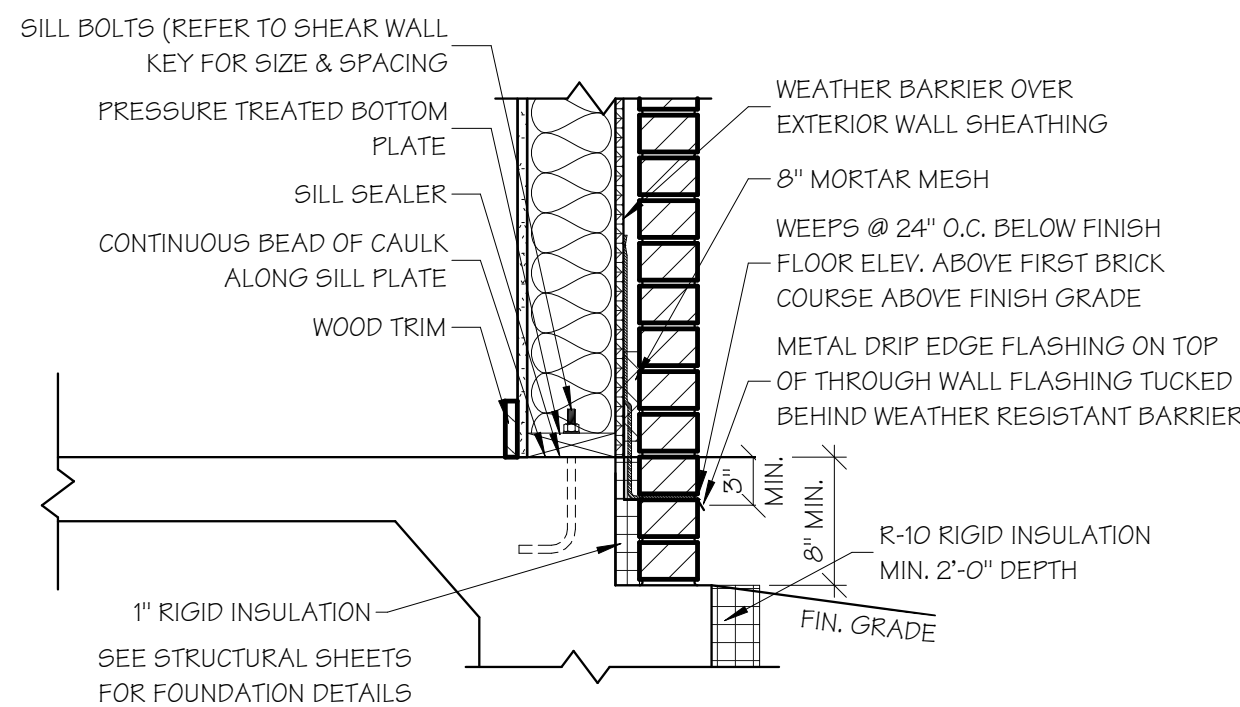
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LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

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P 573-258-7200

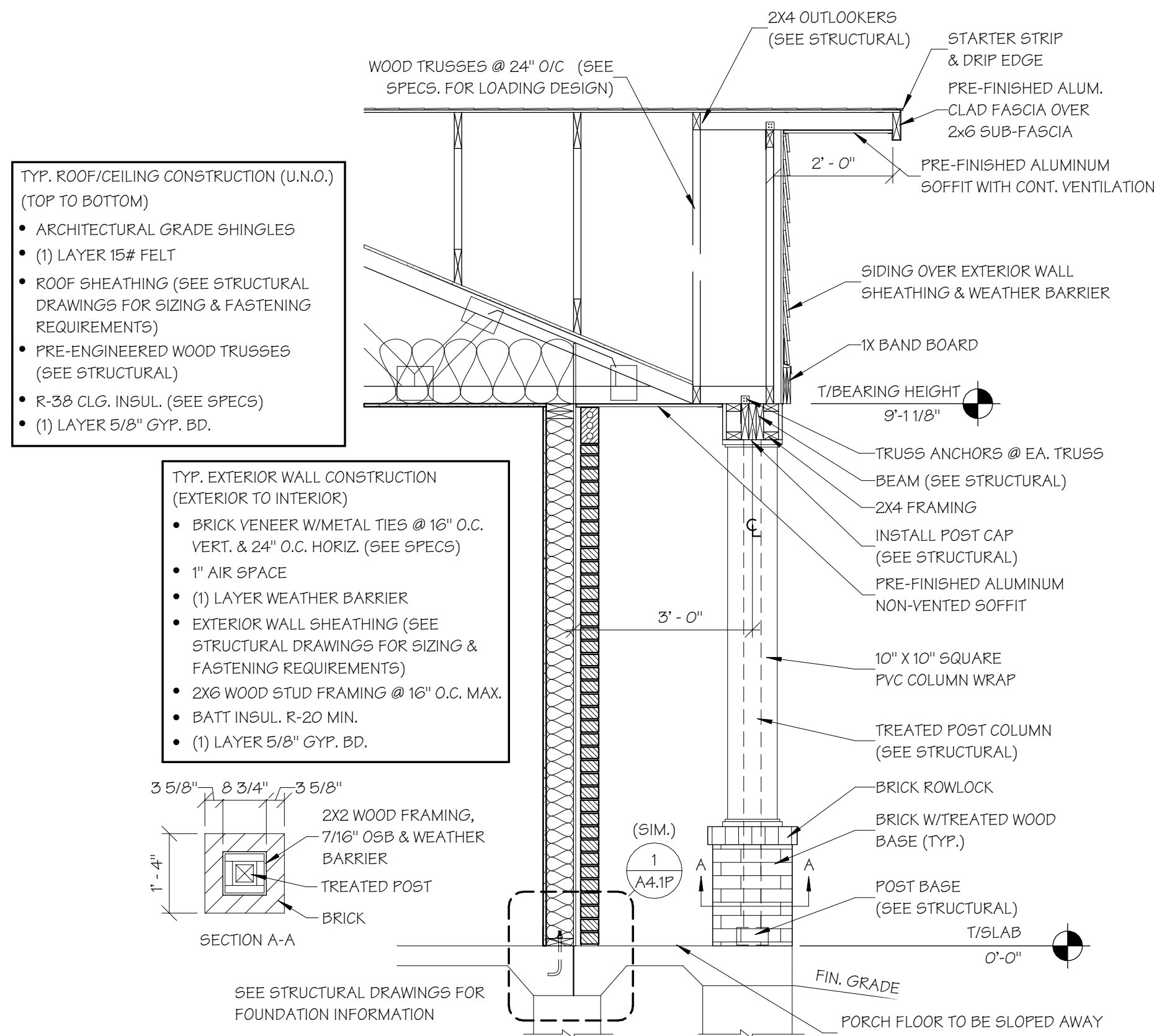
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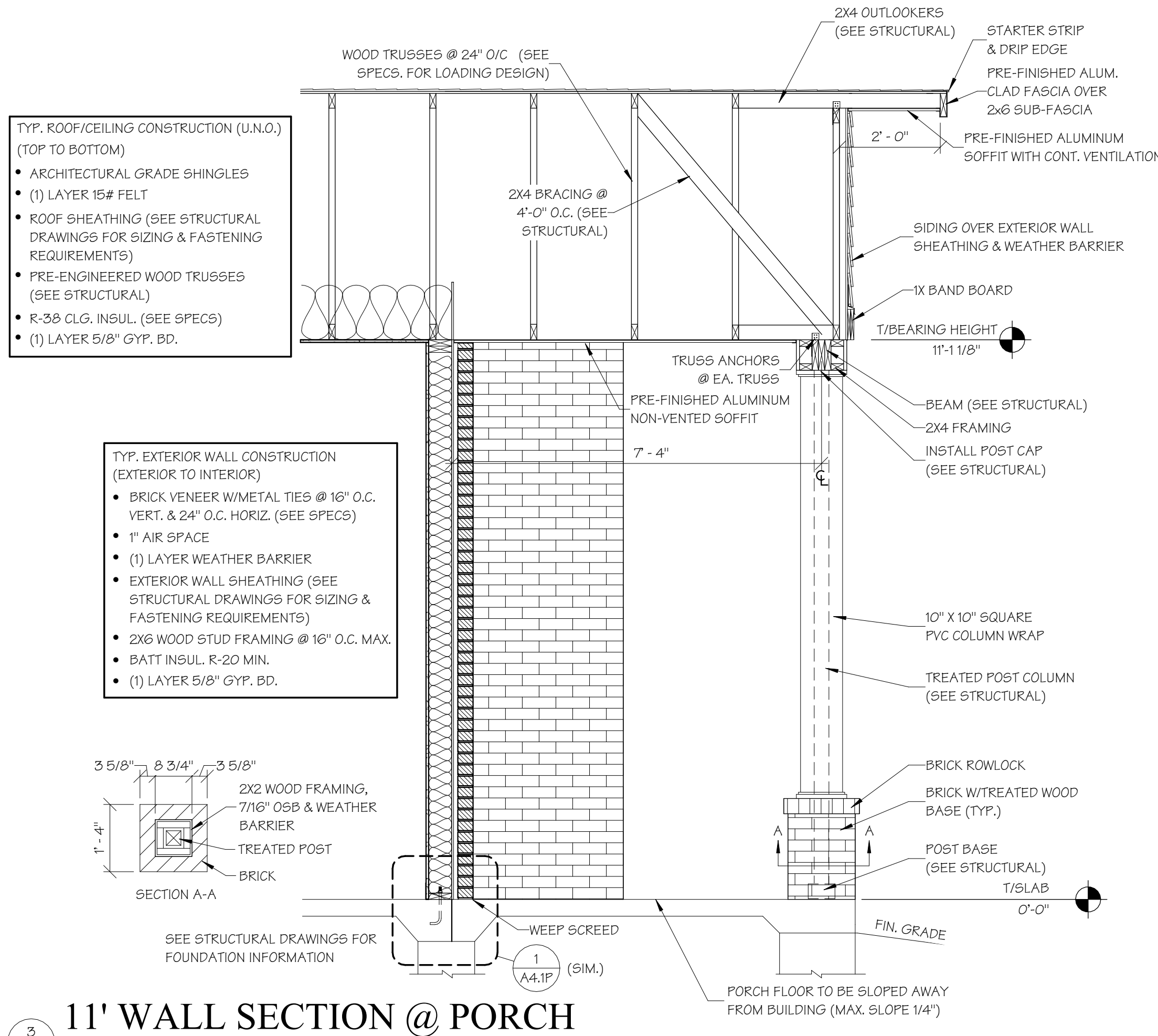




FOUNDATION FLASHING DETAIL



9' WALL SECTION @ PORCH



11' WALL SECTION @ PORCH

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Missouri State Seal

Professional Services Department
Professional Engineer
2012006244

M. RANDALL PORTER

2012006244

M. Randall Porter

15 APR 2025

M. RANDALL PORTER
ARCHITECT LICENSE
#A-2012006244

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Wallace

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4.2P SCALE: $1/2" = 1'-0"$

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

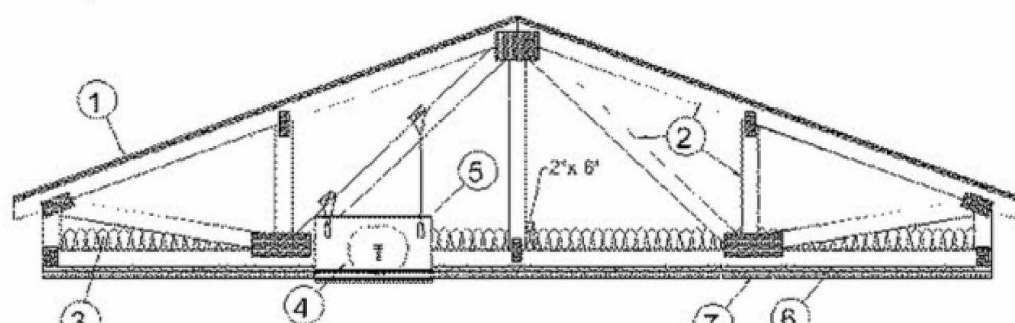
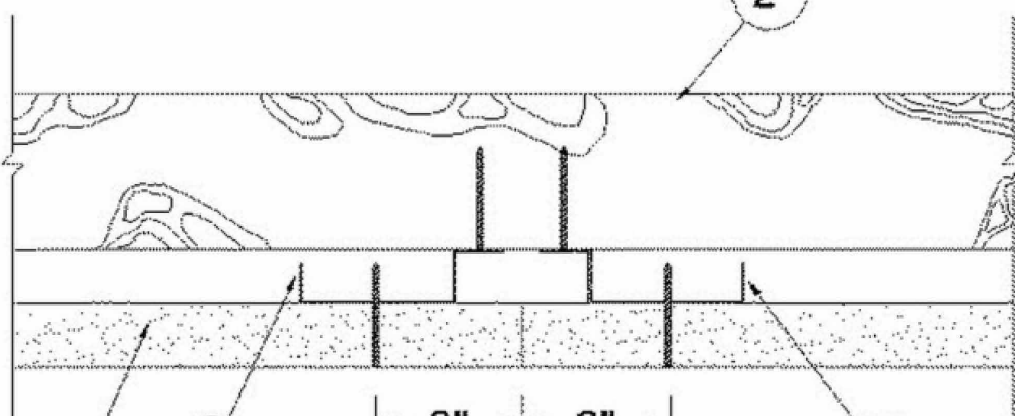
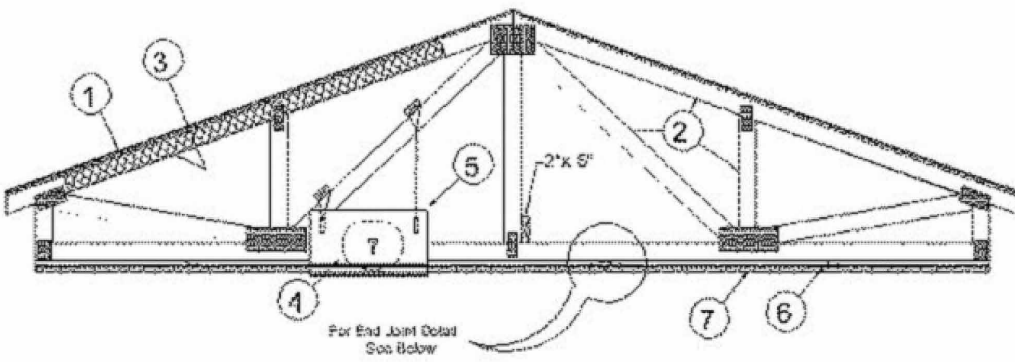


Design No. P556

December 6, 2023

Unrestrained Assembly Rating — 1 Hr.
Finish Rating — 24 or 25 Min (See Items 3, 3A and 3B)
This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.



Alternate Insulation Placement

1. **Roofing System** — Any UL Class A, B, or C Roofing System (TGfU) or Prepared Roof Covering (TFWZ) acceptable for use over nom 15/32 in. thick wood structural panels, min. grade "C-D" or "Sheathing". Nom 15/32 in. thick wood structural panels secured to trusses with No. 6d ringed shank nails. Nails spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Construction adhesive is optional and may be used with either nails or staples.

2. **Trusses** — Pitch or Parallel chord trusses, spaced a max of 24 in. OC, fabricated from nom 2 by 4 lumber, with lumber oriented vertically or horizontally. Truss members secured together min 0.0556 in. thick galv steel plates. Plates have 5/16 in. long teeth projecting perpendicular to the plane of the plate. The teeth are in pairs facing each other (made by the same punch), forming a split tooth type plate. Each tooth has a chisel point on its outside edge. These points are diagonally opposite each other for each pair. The top half of each tooth has a twist for stiffness. The pairs are repeated on approximately 7/8 in. centers with four rows of teeth per inch of plate width. Minimum parallel chord truss depth shall be 18 in. Where the truss intersects with the interior face of the exterior wall, the min truss depth shall be 5-1/4 in. with a min roof slope of 3/12 and a min. average depth of 18 in. Where the truss intersects with the interior face of the exterior walls, the min truss depth may be reduced to 3 in. If the batts and blankets (Item 3) are used as shown in the above illustration (Alternate Insulation Placement) and are firmly packed against the intersection of the bottom chords and the plywood sheathing.

3. **Batts and Blankets** — (Optional) -Glass fiber insulation, secured to the wood structural panel with staples spaced 12 in. OC or to the trusses with 0.090 in. diam galv steel wires spaced 12 in. OC. Any glass fiber insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance, having a min density of 0.5 pcf. As an option, the insulation may be fitted in the concealed space, draped over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. The Finish Rating is 24 min. when the insulation is draped over the resilient channels and gypsum board ceiling membrane and 25 min. when it is installed on underside of the plywood deck or when it is omitted.

3A. **Loose Fill Material** — As an alternate to Item 3 — Any thickness of loose fill material bearing the UL Classification Marking for Surface Burning Characteristics, having a min density of 0.5 pcf, fitted in the concealed space, draped over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. The finished rating when loose fill material is used has not been determined.

3B. **Fiber, Sprayed** — As an alternate to Items 3 and 3A (not evaluated for use with Items 6B, 6C, 6D and 6E) — Any thickness of spray-applied cellulose insulation material, having a min density of 0.5 lb/ft³, applied with water, over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. Fiber, Sprayed is applied with moisture in accordance with the application instructions supplied with the product. The finish rating when Fiber Sprayed is used has not been determined. Alternate application method: The fiber is applied without water or adhesive in accordance with the application instructions supplied with a minimum density of 0.5 lb/ft³ over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. Alternate application method: The fiber is applied without water or adhesive to a nominal density of 3.5 lb/ft³ behind netting (Item 9) stapled to the rafters. The netting is stapled at both lower edges of the rafters creating a cavity to accept the cellulose fiber.

APPLIGATE GREENBRIER ACQUISITION LLC — Insulmax and SANCTUARY for use with wet or dry application. INSS15LD, INSS15LD, and INSS41LD are to be used for dry application only.

3C. **Foamed Plastic** — (As an alternate to Item 3 - Not Shown) — Spray foam insulation applied directly to the underside of the underside of the roofing system (Item 1). Spray foam insulation installed to a maximum thickness of 10 in. at a nominal 0.5 lb/ft³ density, while maintaining a minimum 8-1/2 in. clearance between the spray foam insulation and the gypsum board (Item 7). When spray foam insulation is used, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (Item 7) installed at 6 in. OC to allow for maximum 3 in. spacing off ends of the gypsum board joints. Gypsum board (Item 7) to be installed using 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and butt end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a ceiling radiation damper in the concealed space, minimum 1 in. clearance to be maintained between damper housing and spray foam insulation. Limited to resilient channels, Item 6 only, no Item 6 alternates. The finished rating when this insulation is used has not been determined.

SES FOAM INC — Sureseal

3D. **Foamed Plastic** — (As alternate to Item 3 - Not Shown) — Spray foam insulation applied directly to the underside of the roofing system (Item 1). Spray foam insulation installed to a maximum thickness of 10 in. at a nominal 0.5 lb/ft³ or 2.0 lb/ft³ density, depending on the product installed. When spray foam insulation is installed, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (Item 7) spaced maximum 3 in. away from gypsum butt joints. Gypsum board (Item 7) to be installed using minimum 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and butt end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a ceiling radiation damper in the concealed space, minimum 1 in. clearance to be maintained between damper housing and spray foam insulation. Limited to resilient channels, Item 6 only, no Item 6 alternates. The finished rating when this insulation is used has not been determined.

BASF CORP — Enertite® NM, Enertite® G, FE178®, Sprayite® 178, Sprayite® 81206, Walltite® 200, Walltite® US, Walltite® US-N, and Walltite® HP+

3E. **Foamed Plastic** — (As an alternate to Item 3 - Not Shown) — Spray foam insulation applied directly to the underside of the underside of the roofing system (Item 1). Spray foam insulation installed to a maximum thickness of 17 in. at a nominal 0.5 lb/ft³ density, while maintaining a minimum 1-1/2 in. clearance between the spray foam insulation and the gypsum board (Item 7). When spray foam insulation is used, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (Item 7) installed at 6 in. OC to allow for maximum 3 in. spacing off ends of the gypsum board joints. Gypsum board (Item 7) to be installed using 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and butt end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a fire damper (Items 5 through 5B) in the concealed space, no clearance is necessary between damper housing and spray foam insulation. Limited to resilient channels, Item 6 only, no Item 6 alternates. The finished rating when this insulation is used has not been determined.

SES FOAM INC — EasySeal5, EasySeal ULD

3F. **Foamed Plastic** — (As an alternate to Item 3 - Not Shown) — Spray foam insulation applied directly to the underside of the underside of the roofing system (Item 1). Spray foam insulation installed to a maximum thickness of 17 in. at a nominal 0.5 lb/ft³ density, while maintaining a minimum 1-1/2 in. clearance between the spray foam insulation and the gypsum board (Item 7). When spray foam insulation is used, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (Item 7) installed at 6 in. OC to allow for maximum 3 in. spacing off ends of the gypsum board joints. Gypsum board (Item 7) to be installed using 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and butt end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a fire damper (Items 5 through 5B) in the concealed space, no clearance is necessary between damper housing and spray foam insulation. Limited to resilient channels, Item 6 only, no Item 6 alternates. The finished rating when this insulation is used has not been determined.

EVEREST SYSTEMS LLC — Opticell 0.5

4. **Air Duct** — For use with **Ceiling Dampers** - Any UL Class 0 or Class 1 flexible air duct installed in accordance with the instructions provided by the damper manufacturer.

5. **Ceiling Damper** — Max 14 in. long by 14 in. wide by 18 in. high ceiling damper with boot or box assembly, fabricated from galv steel. The aggregate area of the register opening(s) through the ceiling membrane shall not exceed 98 sq. in. per 100 sq ft of ceiling area. Damper assembly installed in accordance with the manufacturers installation instructions.

AIRE TECHNOLOGIES INC — Model S50 w/Boot, S50EA w/Boot, S1 w/Boot, S0 w/Box, S0EA w/Box or S1 w/Box.

AIRVAC INDUSTRIES — Series AVI-50 w/Boot, AVI-50EA w/Boot, AVI-51 w/Boot, AVI-50 w/Box, AVI-50EA w/Box, AVI-51 w/Box.

5A. **Alternate Ceiling Damper** — Max 12 in. diameter damper and insulated register box assembly. The maximum size of the register box assembly is nom. 20 in. long by 20 in. wide and 4 in. high fabricated from galv. Steel. Aggregate area of the register opening(s) through the ceiling membrane shall not exceed 128 sq. in. per 100 sq ft of ceiling area. Damper assembly installed in accordance with the manufacturers installation instructions.

AIRE TECHNOLOGIES INC — Series 57

AIRVAC INDUSTRIES — Model AVI-57B

5B. **Alternate Ceiling Damper** — Max 20 in. long by 16 in. wide by 4 in. high rectangular damper with duct board plenum box assembly. The maximum outer dimensions of the plenum box assembly is 23-1/2 in. long by 19-1/2 in. wide and 17 in. high fabricated from 6pcf, 1-1/2 to 2 in. thick Knauf Air Duct Board M*. Aggregate area of the register opening(s) through the ceiling membrane shall not exceed 160 sq. in. per 100 sq ft ceiling area. Damper assembly installed in accordance with the manufacturers installation instructions.

AIRE TECHNOLOGIES INC — Series 58

AIRVAC INDUSTRIES — Series AVI-58

5C. **Alternate Ceiling Damper** — (Optional). To be used with Air Duct Item 4) — For use with min. 18 in. deep trusses. Max 7-11/32 in. long by 7-11/16 in. long fabricated from galvanized steel. Aggregate area of the register opening(s) through the ceiling membrane shall not exceed 28.5 sq. in. per 100 sq ft of ceiling area. Damper assembly installed in accordance with the manufacturer's installation instructions.

AIRE TECHNOLOGIES INC — Models TIG-CRD2.

AIRE TECHNOLOGIES INC — Models SG-CRD2.

5E. **Alternate Ceiling Damper** — (Optional). To be used with Air Duct Item 4) — For use with min. 18 in. deep trusses. Max 10-13/32 in. long by 10-22/32 in. wide fabricated from galvanized steel. Aggregate area of the register opening(s) through the ceiling membrane shall not exceed 56 sq. in. per 100 sq ft of ceiling area. Damper assembly installed in accordance with the manufacturer's installation instructions.

AIRE TECHNOLOGIES INC — Models SMT-CRD2

5F. **Alternate Ceiling Damper** — (Optional). To be used with Air Duct Item 4) — For use with min. 18 in. deep trusses. Max 8-13/16 in. long by 8-1/2 in. long fabricated from galvanized steel. Aggregate area of the register opening(s) through the ceiling membrane shall not exceed 37.5 sq. in. per 100 sq ft of ceiling area. Damper assembly installed in accordance with the manufacturer's installation instructions.

AIRE TECHNOLOGIES INC — Models GBR-CRD2

6. **Furring Channels** — Resilient channels formed of 25 MSG galv steel, spaced 16 in. OC, installed perpendicular to trusses. When batt and blanket material, Item 3, is draped over the resilient channel/gypsum board ceiling membrane, the spacing shall be 12 in. OC. Channels secured to each truss with 1-1/4 in. long Type S steel screws. Channels overlapped 4 in. at splices. Channels oriented opposite at board butt joints (spaced 6 in. OC) as shown in the above illustration.

6A. **Steel Framing Members** - (Not Shown) — As an alternate to Item 6, furring channels and Steel Framing Members* as described below.

a. **Furring Channels** — Formed of No. 25 MSG galv steel, 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 16 in. OC perpendicular to trusses. When batt insulation (Item 3) is draped over the resilient channel/gypsum board ceiling membrane, the resilient channel spacing shall be reduced to 12 in. OC. Channels secured to trusses as described in Item 6. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap.

b. **Steel Framing Members** — Used to attach furring channels (Item a) to the wood trusses (Item 2). Clips spaced 48 in. OC. RISC-1 and RISC-1 (2/75) clips secured to alternating trusses with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. RISC-V and RISC-V (2/75) clips secured to alternating trusses with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips. RISC-1 and RISC-V clips for use with 2-9/16 in. wide furring channels. RISC-1 (2/75) and RISC-V (2/75) clips for use with 2-23/32 in. wide furring channels. Adjoining channels are overlapped as described in Item a. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7.

PAC INTERNATIONAL L L C — Types RISC-1, RISC-V, RISC-1 (2/75), RISC-V (2/75).

6B. **Steel Framing Members** — (Not Shown) - As an alternate to Items 6 and 6A.

a. **Furring Channels** — Hat-shaped furring channels, 7/8 in. deep by 2-5/8 in. wide at the base and 1-1/4 in. wide at the face, formed from No. 25 ga. galv steel, spaced max 16 in. OC perpendicular to trusses and Cold Rolled Channels (Item 6B). Furring channels secured to Cold Rolled Channels at every intersection with a 1/2 in. pan head self-drilling screw through each furring channel leg. Ends of adjoining channels overlapped 4 in. and tied together with two double strand No. 18 SWG galv steel wire ties, one at each end of overlap. Supplemental furring channels at base layer and outer layer gypsum board butt joints are not required. Batts and Blankets, draped over furring channels as described in Item 3. Two layers of gypsum board attached to furring channels as described in Item 7.

b. **Cold Rolled Channels** — 1-1/2 in. by 1/2 in., formed from No. 16 ga. galv steel, positioned vertically and parallel to trusses, friction-fitted into the channel caddy on the Steel Framing Members (Item 6Bd). Adjoining lengths of cold rolled channels lapped min. 6 in. and wire-tied together with two double strand 18 SWG galv steel wire ties, one at each end of overlap.

c. **Blocking** — Where truss design does not permit direct, full contact of the hanger bracket, a piece of nominal 2 by 4 in. lumber (blocking), min. 6 in. long to permit full contact of the hanger bracket, to be secured vertically to the side of the truss (Item 2) at the top and bottom of the blocking at each Steel Framing Member (Item 6Bd) location.

d. **Steel Framing Members** — Hangers spaced 48 in. OC, max along truss, and secured to the Blocking (Item 6Bc) on alternating trusses with a single 5/16 in. by 2 in. hex head lag bolt or four 6-11/4 in. drywall screws through mounting holes) on the hanger bracket. The two 1/4 in. long steel teeth on the hanger are embedded in the side of the blocking. Hanger positioned on blocking and leveling bolt height adjusted such that furring channels be flush with bottom of trusses before gypsum board installation. Spring gauge of hanger chosen per manufacturer's instructions.

KINETICS NOISE CONTROL INC — Type ICW.

6C. **Steel Framing Members** — (Not Shown) - As an alternate to Items 6, 6A and 6B.

a. **Furring Channels** — Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep installed perpendicular to wood structural members. Channels spaced a max of 16 in. OC when no insulation (Item 3, 3A or 3B) is fitted in the concealed space or a max of 12 in. OC when insulation (Item 3, 3A or 3B) is fitted in the concealed space. Channels secured to trusses as described in Item 6C. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire near each end of overlap.

b. **Steel Framing Members** — Used to attach furring channels (Item 6Ca) to trusses (Item 2). Clips secured to the bottom chord of each truss (24 in. OC) with one No. 8 by 2-1/2 in. long coarse drywall screw through center grommet. Furring channels are friction fitted into clips. Adjoining channels are overlapped as described in Item 6Ca. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7.

PLUJIK INC — Type Genie Clip

6D. **Steel Framing Members** — (Not Shown) - As an alternate to Items 6, 6A, 6B and 6C.

a. **Main runners** — Installed perpendicular to trusses — Nom 10 or 12 ft long, 15/16 in. or 1-1/2 in. wide face, spaced 4 ft OC. Main runners hung a min of 2 in. from bottom chord of trusses with 12 SWG galv steel wire. Wires located a max of 48 in. OC.

b. **Cross tees or channels** — Nom 4 ft long, 15/16 in. or 1-1/2 in. wide face or cross channels, nom 4 ft long, 1-1/2 wide face, installed perpendicular to the main runners, spaced 16 in. OC. Additional cross tees or channels used at 8 in. from each side of butt end gypsum board end joints. The cross tees or channels may be riveted or screw-attached to the wall angle or channel to facilitate the ceiling installation.

c. **Wall angles or channels** — Used to support steel framing member ends and for screw-attachment of the gypsum board — Min 0.016 in. thick painted or galvanized steel angle with 1 in. legs or min. 0.016 in. thick painted or galvanized steel channel with a 1 by 1-1/2 by 1 in. profile, attached to walls at perimeter of ceiling with fasteners 16 in. OC.

CGC INC — Type DGL or RX.

USG INTERIORS LLC — Type DGL or RX.

6E. **Alternate Steel Framing Members** — (Not Shown) - As an alternate to Items 6, 6A, 6B, 6C and 6D, furring channels and Steel Framing Members as described below.

a. **Furring Channels** — Formed of No. 25 MSG galv steel, 2-5/8 in. wide by 7/8 in. deep, spaced 16 in. OC, perpendicular to trusses. When batt insulation (Item 3, 3A or 3B) is draped over the resilient channel/gypsum board ceiling membrane, the resilient channel spacing shall be reduced to 12 in. OC. Channels secured to trusses as described in Item b.

b. **Steel Framing Members** — Used to attach furring channels (Item a) to the wood trusses (Item 2). Clips spaced at 48" OC and secured to the bottom of the trusses with one 2 in. Coarse Drywall Screw with 1 in. diam washer through the center hole. Furring channels are then friction fitted into clips. Ends of channels are overlapped 6" and tied together with double strand of No. 18 AWG galvanized steel wire. Additional clips are required to hold the Gypsum Butt joints as described in Item 7.

STUCCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237 or A237R

6F. **Steel Framing Members** — (Not Shown) - As an alternate to Items 6 through 6E. Not for use with Items 3, 3A, or 3B. Main runners nom 12 ft long, spaced 72 in. OC. Main runners suspended by min 12 SWG galv steel hanger wires spaced 48 in. OC. Cross tees, nom 6 ft long, installed perpendicular to main runners and spaced 24 in. OC. Additional 6 ft long cross tees required at each gypsum board joint end with buttend gypsum board and joints centered between cross tees spaced 8 in. OC. The main runners and cross tees may be riveted or screw attached to the wall angle or channel to facilitate the ceiling installation.

USG INTERIORS LLC — Type DGL or RX

6G. **Alternate Steel Framing Members** — (Not Shown) - As an alternate to Items 6 through 6F furring channels and Steel Framing Members as described below.

a. **Furring Channels** — Formed of No. 25 MSG galv steel, 2-1/2 in. wide by 7/8 in. deep, spaced 16 in. OC, perpendicular to trusses. When batt insulation (Item 3, 3A or 3B) is draped over the resilient channel/gypsum board ceiling membrane, the resilient channel spacing shall be reduced to 12 in. OC. Channels secured to trusses as described in Item b.

b. **Steel Framing Members** — Used to attach furring channels (Item a) to the wood trusses (Item 2). Clips spaced at 48" OC and secured to the bottom of the trusses with one 2-1/2 in. Coarse Drywall Screw with 1 in. diam washer through the center hole. Furring channels are then friction fitted into clips. Ends of channels are overlapped 6" and tied together with double strand of No. 18 AWG galvanized steel wire. Additional clips are required to hold the Gypsum Butt joints as described in Item 7.

REGUPO, AMERICA — Type SonuClip

6H. **Furring Channels** — For use with **American Gypsum Co. Type AG-C gypsum board only**. Resilient channels formed of 25 MSG galv steel, spaced 16 in. OC, installed perpendicular to trusses. When insulation material, Item 3, 3A or 3B, is applied over the resilient channel/gypsum board ceiling membrane, the spacing may remain at 16 in. OC. Channels secured to each truss with 1-1/4 in. long Type S steel screws. Channels overlapped 4 in. at splices. Channels oriented opposite at gypsum board butt joints (spaced 6 in. OC) as shown in the above illustration.

7. **Gypsum Board** — One layer of nom 5/8 in. thick, 4 ft wide, installed with long dimension perpendicular to resilient channels with 1 in. long Type S screws spaced 12 in. OC and located a min of 1/2 in. from side joints and 3 in. from the end joints. At end joints, two resilient channels are used, extending a min of 6 in. beyond both ends of the joint. When insulation (Item 3, 3A, 3B) is draped over the resilient channel/gypsum board ceiling membrane, screws shall be installed at 8 in. OC.

When **Steel Framing Members** (Item 6A or 6C) are used, sheets installed with long dimension perpendicular to furring channels and side joints of sheet located borehole trusses. Gypsum board screws are driven through channel spaced 12 in. OC in the field when no insulation (Item 3, 3A, 3B) is fitted in the concealed space, or 8 in. OC in the field when insulation (Item 3, 3A, 3B) is fitted in the concealed space, draped over the furring channel/gypsum board ceiling membrane. Gypsum board butt joints shall be staggered min. 2 ft within the assembly, and occur between the main furring channels. At the gypsum board butt joints, each end of the gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 6 in. on each end. The furring channels shall be spaced approximately 3-1/2 in. OC and be attached to the trusses with one clip at each end of the channel. Screw spacing along the butt joint to attach the gypsum board to the furring channels shall be 8 in. OC. Second (outer) layer of gypsum board required when furring channels (Item 6A, a) are spaced 24 in. OC and insulation is fitted in the concealed space, draped over the furring channel/gypsum board ceiling membrane. Outer layer of gypsum board attached to the furring channels using 1-5/8 in. long Type S bugle-head screws spaced 8 in. OC at butt end joints and 12 in. OC in the field. Butt end joints centered on the continuous furring channels and offset a min of 16 in. from butt end joints of base layer. Butt end joints of outer layer to be offset minimum 18 in. from butt end joints of base layer.

When **Steel Framing Members** (Item 6B) are used, two layers of nom 5/8 in. thick, 4 ft wide gypsum board are installed with long dimensions perpendicular to furring channels. (Item 6Ba). Base layer attached to the furring channels using 1 in. long Type S bugle head steel screws spaced 8 in. OC along butt end joints and 12 in. OC in the field of the board. Butt end joints centered on the continuous furring channels. Butt end layer joints to be offset a min of 16 in. in adjacent courses. Outer layer attached to the furring channels using 1-5/8 in. long Type S bugle head steel screws spaced 8 in. OC at butt end joints and 12 in. OC in the field. Butt end joints centered on the continuous furring channels and offset a min of 16 in. from butt end joints of base layer. Butt end joints of outer layer to be offset min 16 in. from butt end joints of base layer.

When **Steel Framing Members** (Item 6E) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type S bugle-head steel screws spaced 8 in. OC. In the field of the board, Gypsum board butt end joints shall be staggered minimum 48 in. and centered over main furring channels. At the gypsum board butt joints, each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 3 in. on each end. The two support furring channels shall be spaced approximately 3 in. in from end joint. Screw spacing along the gypsum board butt joint and along both additional channels shall be 3 in. OC. Butt joint furring channels shall be attached with one RESILMOUNT Sound Isolation Clip at each end of the channel.

When **Steel Framing Members** (Item 6F) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board sheets installed with long dimension (side joints) perpendicular to the 6 ft long cross tees with the end joints staggered min 4 ft and centered between cross tees which are spaced 8 in. OC. Gypsum board side joints may occur beneath or between main runners. Prior to installation of the gypsum board sheets, backer strips consisting of nom 7-3/4 in. wide pieces of gypsum board are to be laid atop the cross tee flanges and centered over each butt end joint location. The backer strips are to be secured to the flanges of the cross tees at opposite corners of the backer strip with hold down clips to prevent the backer strips from being uplifted during screw-attachment of the gypsum board sheets. Gypsum board fastened to cross tees with 1 in. drywall screws spaced 1 in. and 4 in. from the side joints and max 8 in. OC in the field of the board. The butt end joints are to be secured to the backer strip with No. 10 by 1-1/2 in. long Type G laminating screws located 1 in. from each side of the butt end joint and spaced 1 in. and 4 in. from the side joints and max 8 in. OC in the field of the board.

When **Steel Framing Members** (Item 6G) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type S bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board butt end joints shall be staggered minimum 48 in. and centered over main furring channels. At the gypsum board butt joints, an additional single length of furring channel shall be installed and be spaced approximately 3 in. from the butt joint (6 in. from the continuous furring channels) to support the floating end of the gypsum board. Each of these shorter sections of furring channel shall extend one truss beyond the width of the gypsum panel and be attached to the adjacent trusses with one SonuClip at every truss involved with the butt joint.

FIRESTOPPING SPECIAL INSPECTION:

1. FOR R-2 OCCUPANCIES >250 OCCUPANTS, SPECIAL INSPECTION IS REQUIRED FOR FIRESTOPPING INCLUDING THROUGH-PENETRATIONS, MEMBRANE PENETRATION FIRESTOPS, FIRE-RESISTANT JOINT SYSTEMS AND PERIMETER FIRE CONTAINMENT SYSTEMS.
2. PENETRATION FIRESTOPS ARE REQUIRED TO BE TESTED, LISTED AND INSPECTED BY AN APPROVED AGENCY IN ACCORDANCE WITH ASTM E2174.
3. FIRE-RESISTANT JOINT SYSTEMS ARE REQUIRED TO BE TESTED, LISTED AND INSPECTED BY AN APPROVED AGENCY IN ACCORDANCE WITH ASTM E2393.

AMERICAN GYPSUM CO — Types AG-C

CGC INC — Types C, IP-X2, IPC, IAR.

CERTAINTED GYPSUM INC — Type C

CERTAINTED GYPSUM INC — Type C, IGC-C/A

GEORGIA-PACIFIC GYPSUM L L C — Type TG-C

NATIONAL GYPSUM CO — Types eXP-C, FSW-G, FSW-C, FSK-G, FSK-C.

THAI GYPSUM PRODUCTS PCL — Type C

UNITED STATES GYPSUM CO — Types C, IP-X2, IPC, IAR.

USG BORAL DRYWALL SFZ LLC — Type C

USG MEXICO S A DE C V — Types C, IP-X2, IPC, IAR.

7A. **Gypsum Board** — For use with **Steel Framing Members** (Item 6D) when **Batts and Blankets*** (Item 3) are not used - One layer of nom 5/8 in. thick by 48 in. wide boards, installed with long dimension parallel to the main runners. Gypsum board fastened to each cross tee or channel with five gypsum board screws, with one screw located at the midspan of the cross tee or channel, one screw located 12 in. from and on each side of the cross tee or channel mid span and one screw located 1-1/2 in. from each gypsum board side joint. Except at gypsum board end joints, gypsum board screws shall be located on alternating sides of cross tee flange. At gypsum board end joints, gypsum board screws shall be located 1/2 in. from the joint. Gypsum board fastened to main runners with gypsum board screws 1/2 in. from side joints, midway between intersections with cross tees or channels (16 in. OC). End joints of adjacent gypsum board sheets shall be staggered not less than 32 in. Gypsum board sheets screw attached to leg of wall angle with gypsum board screws spaced 12 in. OC. Joints treated as described in Item 7. For use with **Steel Framing Members*** (Item 6D) when **Batts and Blankets*** (Item 3) are used - 5/8 in. thick, 4 ft wide installed with long dimension perpendicular to cross tees with side joints centered along main runners and end joints centered along cross tees. Fastened to cross tees with 1 in. long steel gypsum board screws spaced 8 in. OC in the field and 8 in. OC along end joints. Fastened to main runners with 1 in. long gypsum board screws spaced midway between cross tees. Screws along sides and ends of boards spaced 3/8 to 1/2 in. from board edge. End joints of the sheets shall be staggered with spacing between joints on adjacent boards not less than 4 ft OC.

CGC INC — Type C or IP-X2.

UNITED STATES GYPSUM CO — Type C or IP-X2.

USG BORAL DRYWALL SFZ LLC — Type C

USG MEXICO S A DE C V — Type C or IP-X2.

7B. **Gypsum Board** (As an alternative to Items 7 and 7A) — Nom 5/8 in. thick, 48 in. wide gypsum board, installed and secured as described in Items 7 and 7A with max screw spacing 8 in. OC.

CGC INC — Type ULIX

UNITED STATES GYPSUM CO — ULIX

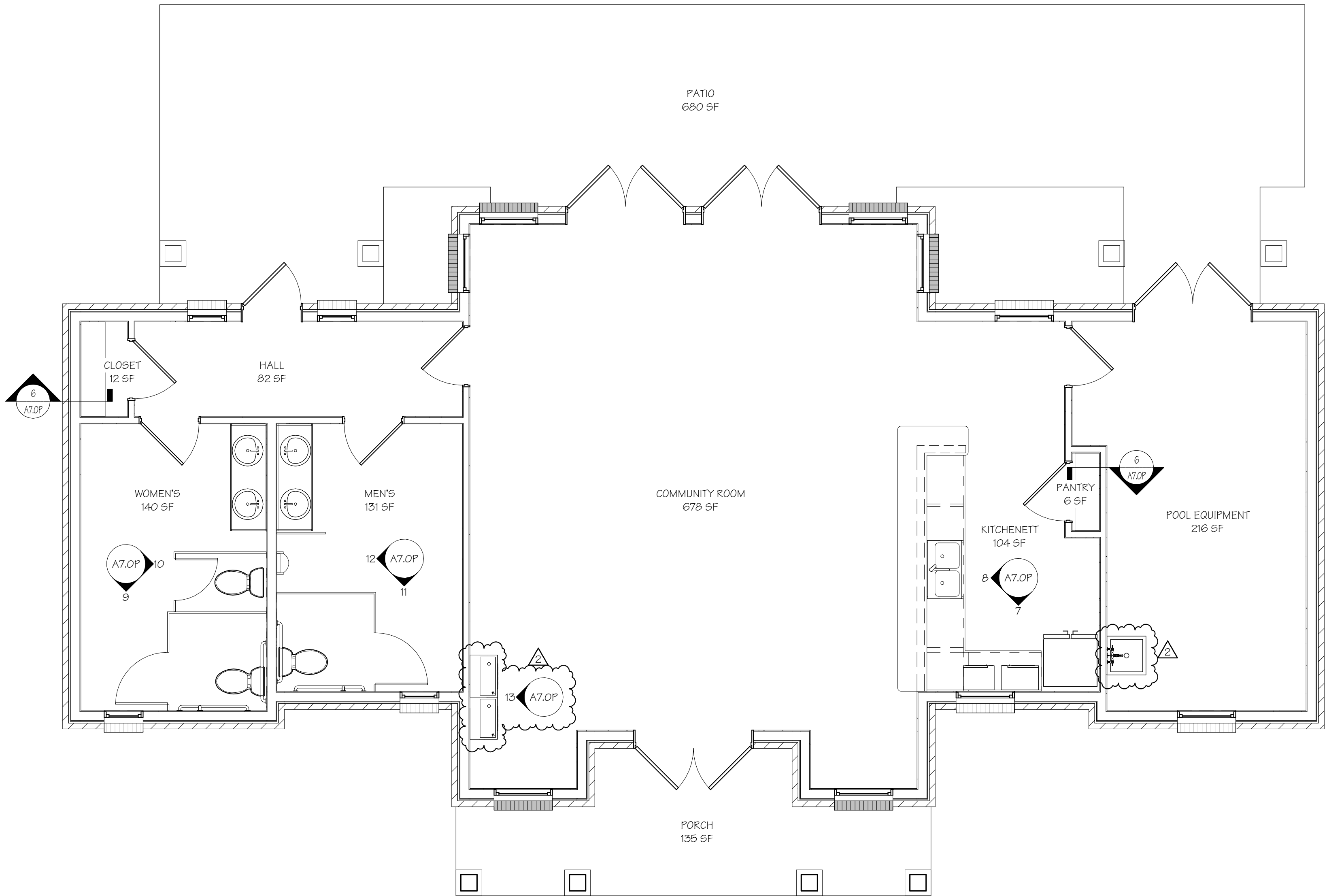
7C. **Gypsum Board** — (As an alternative to Item 7) — For use when no insulation is used. Nom 5/8 in. thick, 48 in. wide gypsum board, installed as described in Item 7 with resilient channels (Item 6) spaced 24 in. OC.

FINISH SCHEDULE				
NAME	FLOOR FINISH	BASE FINISH	WALL FINISH	CEILING FINISH
POOL HOUSE				
CLOSET	VINYL PLANK	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
COMMUNITY ROOM	VINYL PLANK	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
HALL	VINYL PLANK	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
KITCHENETT	VINYL PLANK	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
MEN'S	PORCELAIN	4" COVE BASE	PAINTED GYP. BD. (PORCELAIN TILE 4' TALL)	PAINTED GYP. BD.
PANTRY	VINYL PLANK	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
PATIO	SEALED CONCRETE	NO ADDITIONAL FINISH	NO ADDITIONAL FINISH	NO ADDITIONAL FINISH
POOL EQUIPMENT	SEALED CONCRETE	WOOD BASE	PAINTED GYP. BD.	PAINTED GYP. BD.
PORCH	SEALED CONCRETE	NO ADDITIONAL FINISH	NO ADDITIONAL FINISH	NO ADDITIONAL FINISH
WOMEN'S	PORCELAIN	4" COVE BASE	PAINTED GYP. BD. (PORCELAIN TILE 4' TALL)	PAINTED GYP. BD.

POOL HOUSE BATH NOTES	
1)	INSTALL GRAB BARS WITH ROUND HEAD SCREWS.
2)	PROVIDE & INSTALL (1) 36" HORIZONTAL GRAB BAR BEHIND & (1) 42" HORIZONTAL GRAB BAR BESIDE WATER CLOSET ON WALL @ 34" A.F.F. & (1) 18" VERTICAL GRAB BAR BESIDE WATER CLOSET ON WALL @ 40" FROM REAR WALL. (SEE BATH ELEVATIONS SHEET A7.D)
3)	BOTTOM OF MIRROR TO REST ON COUNTERTOP BACKSLASH.
4)	VANITY SINK FAUCET TO BE LEVER TYPE, & EXPOSED PIPING TO BE WRAPPED W/ PIPE WRAP.
5)	EXTEND VINYL FLOORING BENEATH LAV. SPACE.

POOL HOUSE KITCHEN NOTES	
1)	COUNTER HEIGHT SHALL BE 34" A.F.F. TO TOP OF SINK.
2)	EXTEND VINYL FLOORING BENEATH SINK SPACE AND THE 30" WORKSPACE.
3)	TOE KICK SPACE @ BOTTOM OF BASE CABINETS SHALL REMAIN 4" MIN. (STANDARD)
4)	ADD SWITCHES FOR CONTROL OF LIGHT OVER SINK & GARBAGE DISPOSAL.
5)	INSULATE EXPOSED PIPING BELOW KITCHEN SINK W/ PIPE WRAP.

GENERAL NOTES	
1)	CONTRACTOR SHALL FURNISH & INSTALL 4" BUILDING NUMBERS FOR POOL HOUSE AS REQUIRED BY CITY OR LOCAL POSTMASTER.
2)	CLOSETS SHALL HAVE EPOXY-COATED WIRE SHELVEYING.
3)	PRIME & PAINT WALLS BEHIND MILLWORK.
4)	APPLY SILICONE CAULK BETWEEN CONCRETE AND BOTTOM OF THE DRYWALL.
5)	SEAL CONCRETE FLOOR TO REDUCE MOISTURE PENETRATION.
6)	APPROPRIATELY SIZED BLINDS SHALL BE PROVIDED AND INSTALLED FOR EACH GLAZED OPENING, INCLUDING PAIRED WINDOWS (PROVIDED WITH TWO SETS) AND DOOR GLAZING WHERE HALF LITE OR LARGER.



1
A6.OP
SCALE: 1/4" = 1'-0"

POOL HOUSE FINISH PLAN

RELEASED FOR
CONSTRUCTION
As Noted on Plans Review

DESIGN SERVICES DEPARTMENT
Columbia, Missouri
66203

M. RANDALL
PORTER
2012006244
ARCHITECT

13 JUN 2025

M. RANDALL PORTER
ARCHITECT LICENSE
#A-2012006244

ALURA POOL HOUSE - VILLAGE AT DISCOVERY PARK
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

Wallace
ARCHITECTS L.L.C.
Columbia, MO
P 573-258-7200

WALLACE ARCHITECTS, LLC
MISSOURI STATE CERTIFICATE
OF AUTHORITY: 2003019614

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1ST ISSUE
15 APR 2025

ISSUE/REVISIONS	
15 APR 2025	ISSUE SET
16 MAY 2025	ADDENDUM #1
13 JUN 2025	ADDENDUM #2

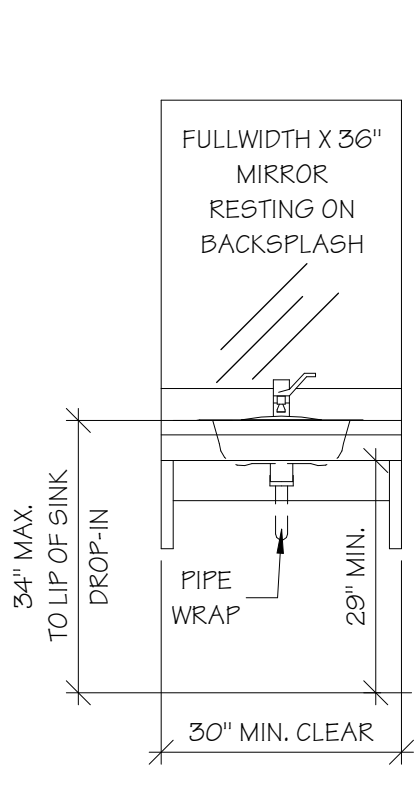
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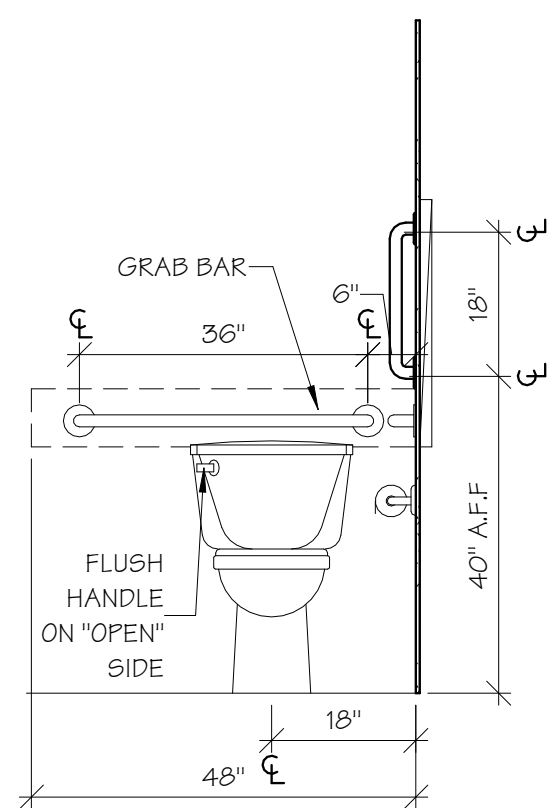
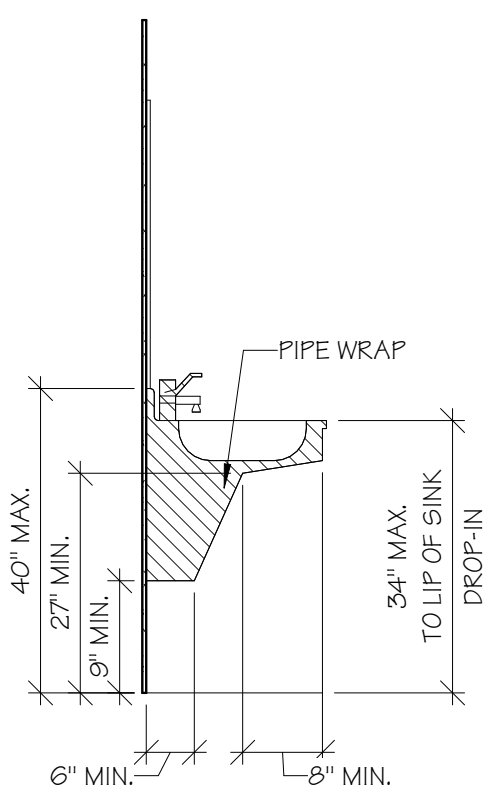
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ADDENDUM #2



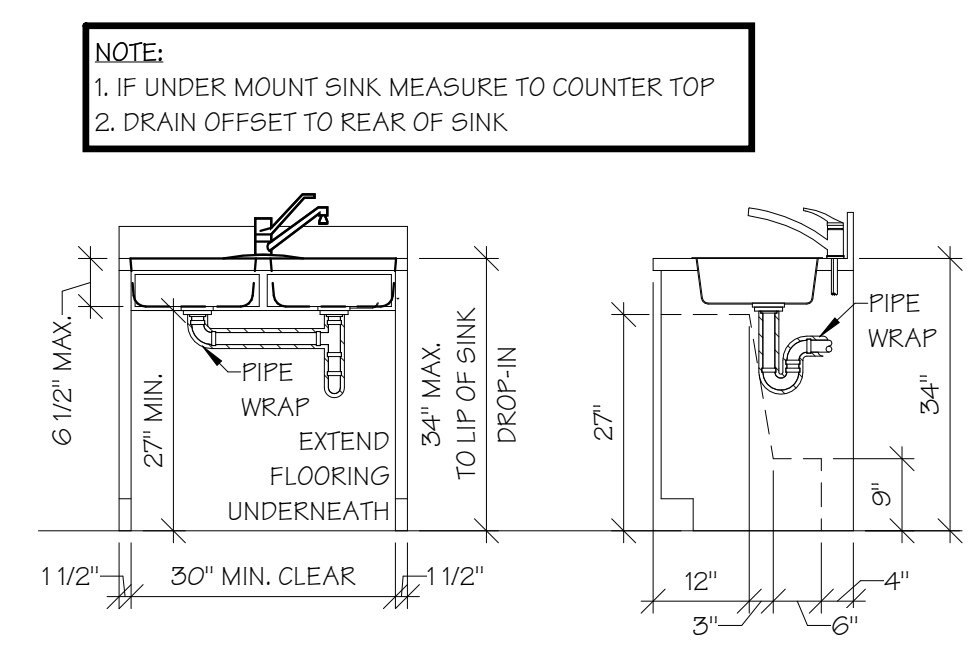
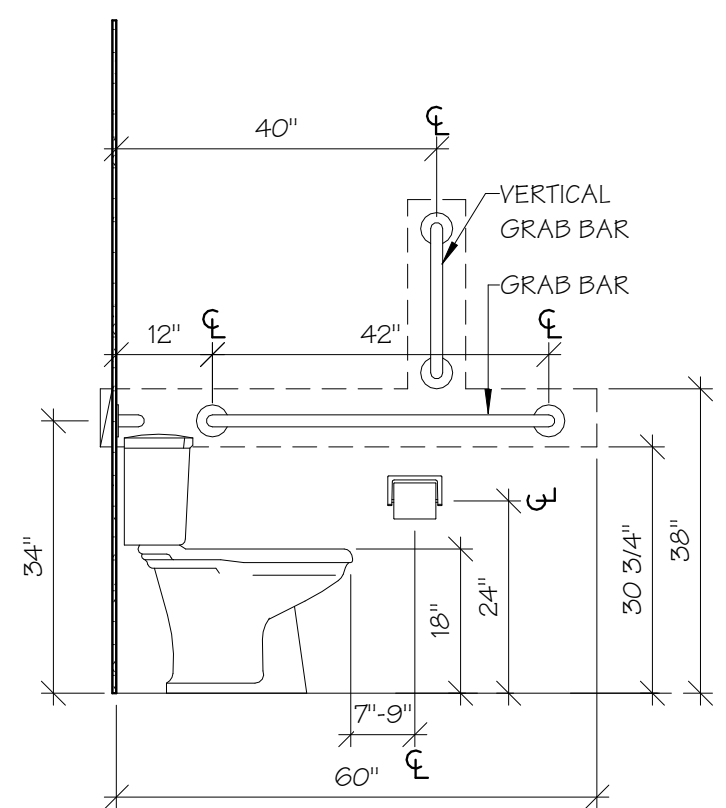
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ADA WALL HUNG
VANITY ELEVATIONS



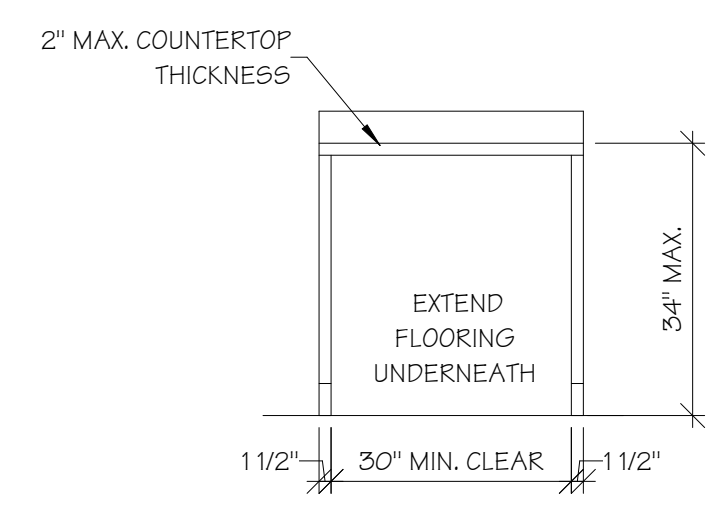
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SCALE: 1/2" = 1'-0"

PUBLIC ADA TANK TYPE
WATER CLOSET ELEVATIONS



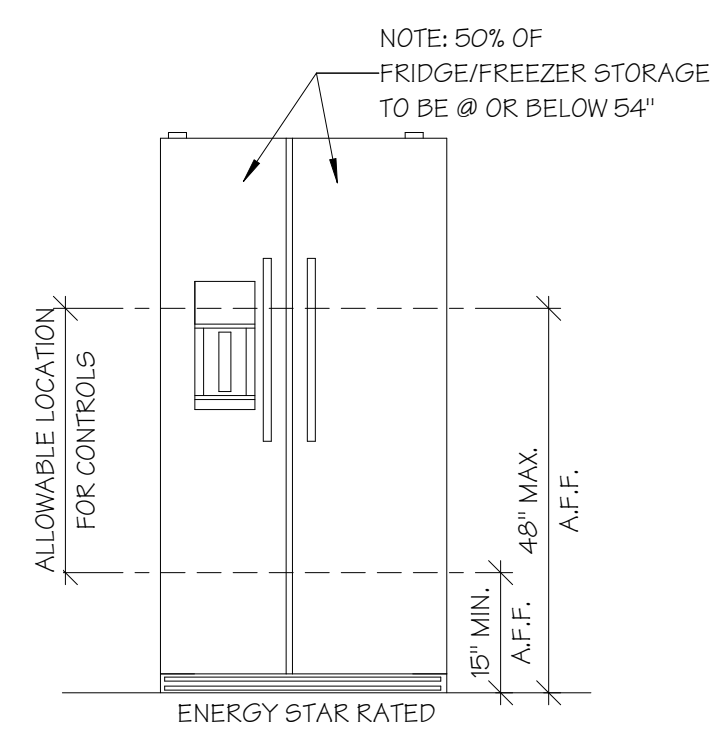
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A7.OP
SCALE: 1/2" = 1'-0"

ADA OPEN FRONT SINK



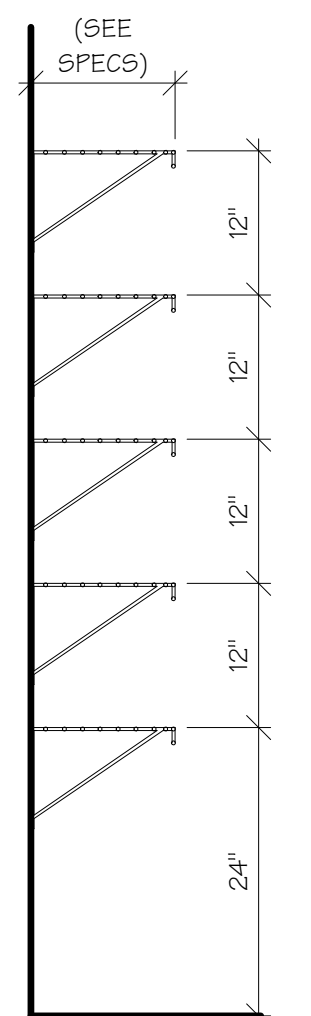
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A7.OP
SCALE: 1/2" = 1'-0"

ADA OPEN
FRONT WORKSTATION



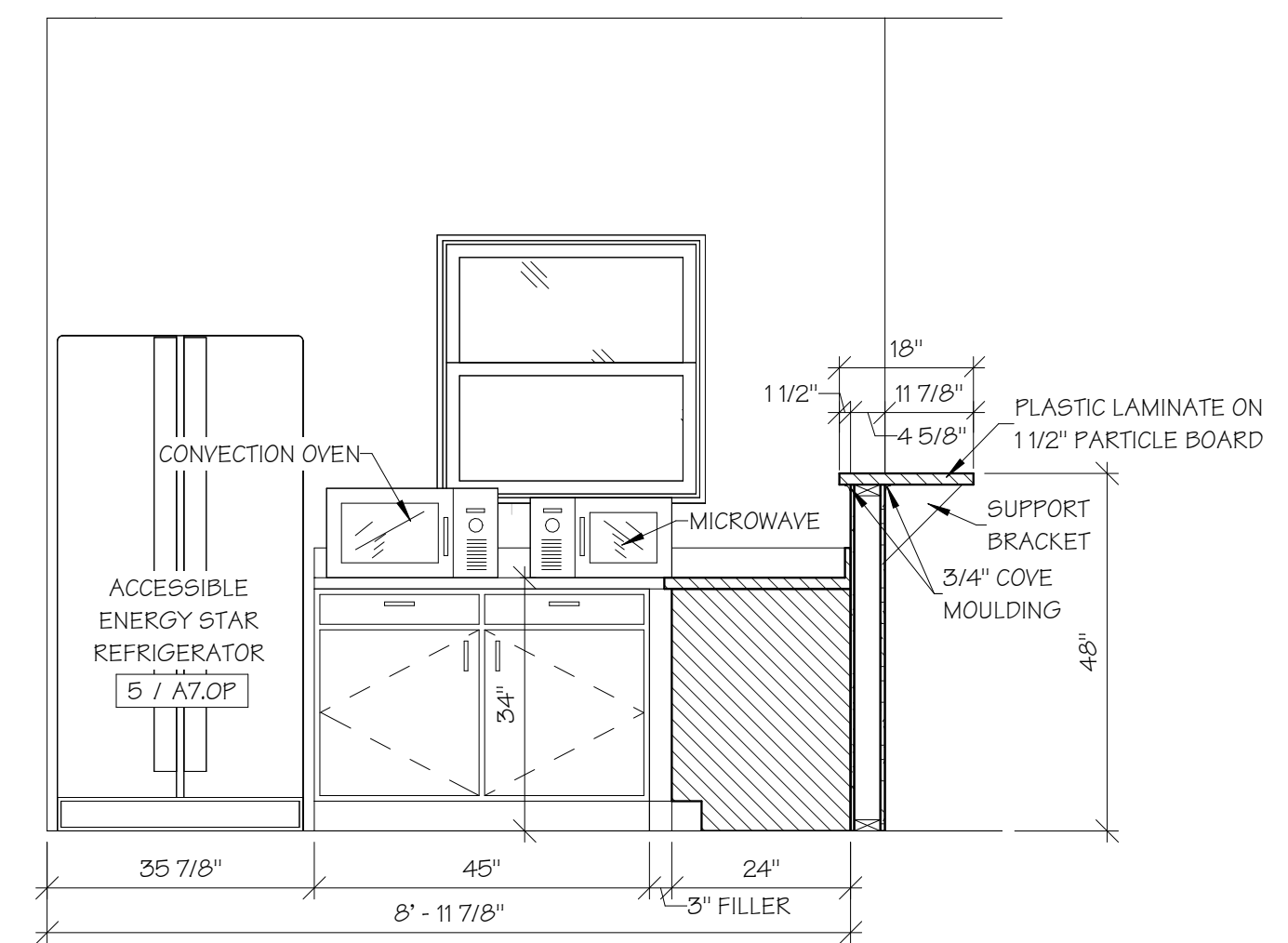
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ADA SIDE-BY-SIDE
REFRIGERATOR



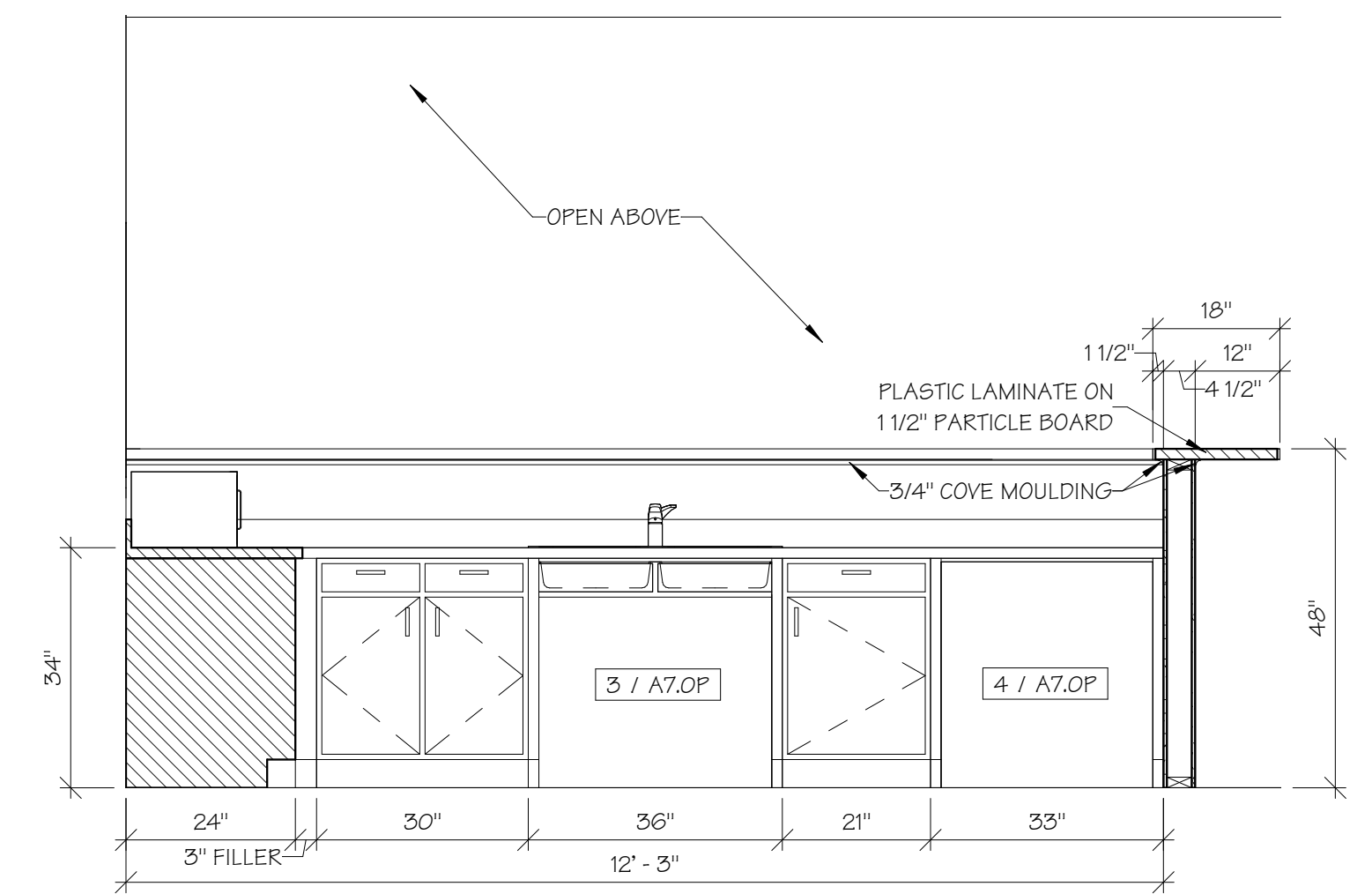
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SCALE: 3/4" = 1'-0"

SHELVING



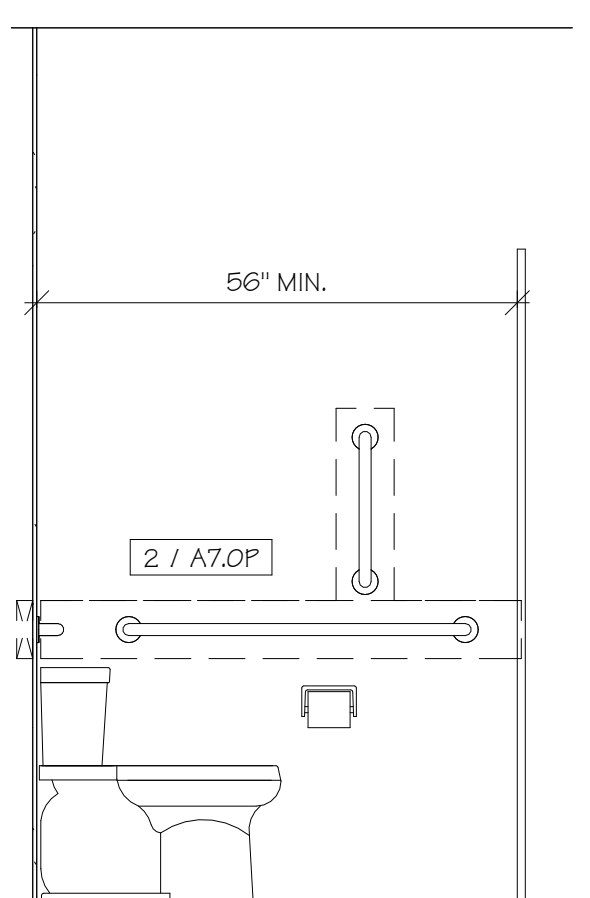
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A7.OP
SCALE: 1/2" = 1'-0"

KITCHENETTE ELEV. 1



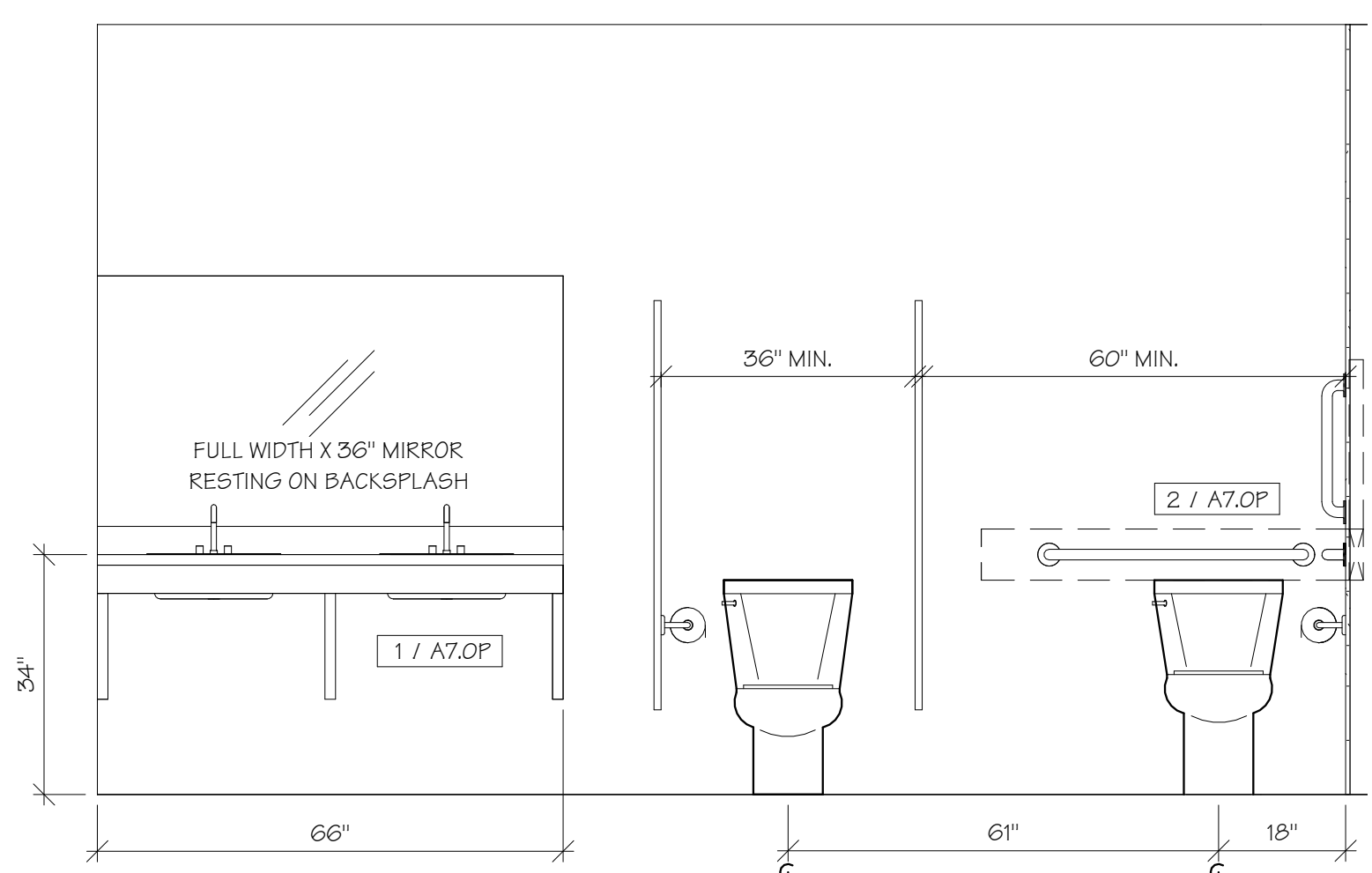
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SCALE: 1/2" = 1'-0"

KITCHENETTE ELEV. 2



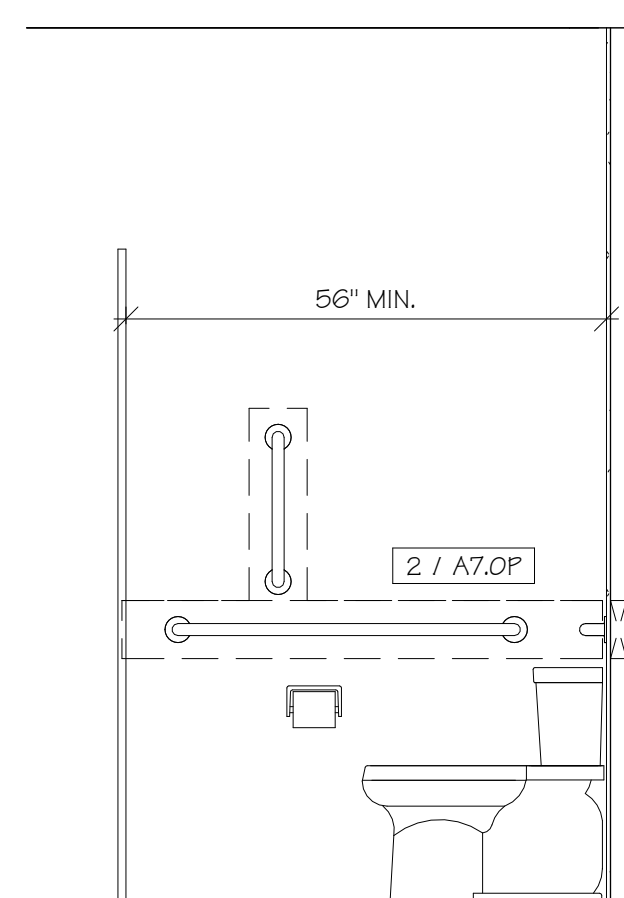
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A7.OP
SCALE: 1/2" = 1'-0"

WOMEN'S BATH
ELEV. 1



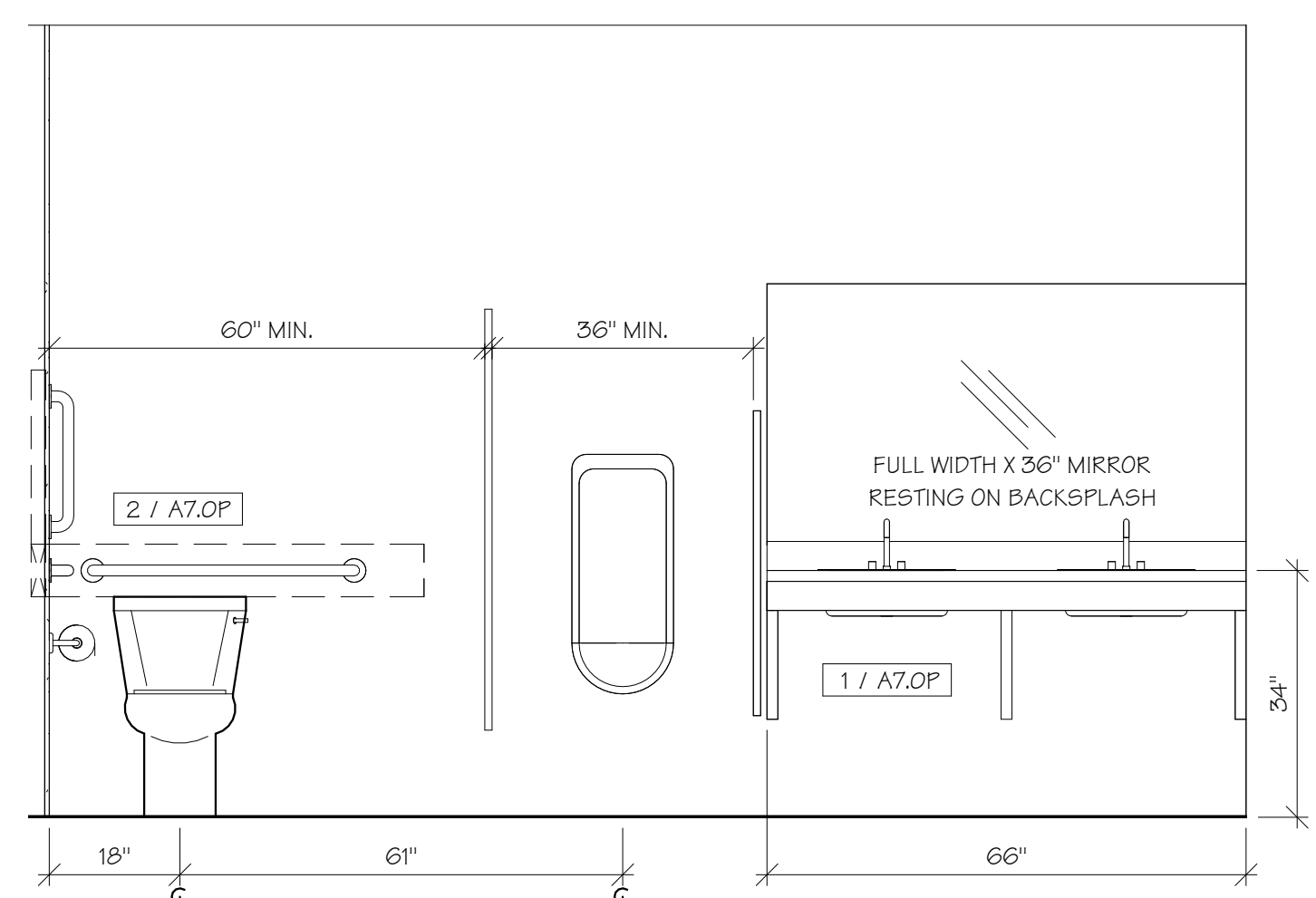
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WOMEN'S BATH ELEV. 2



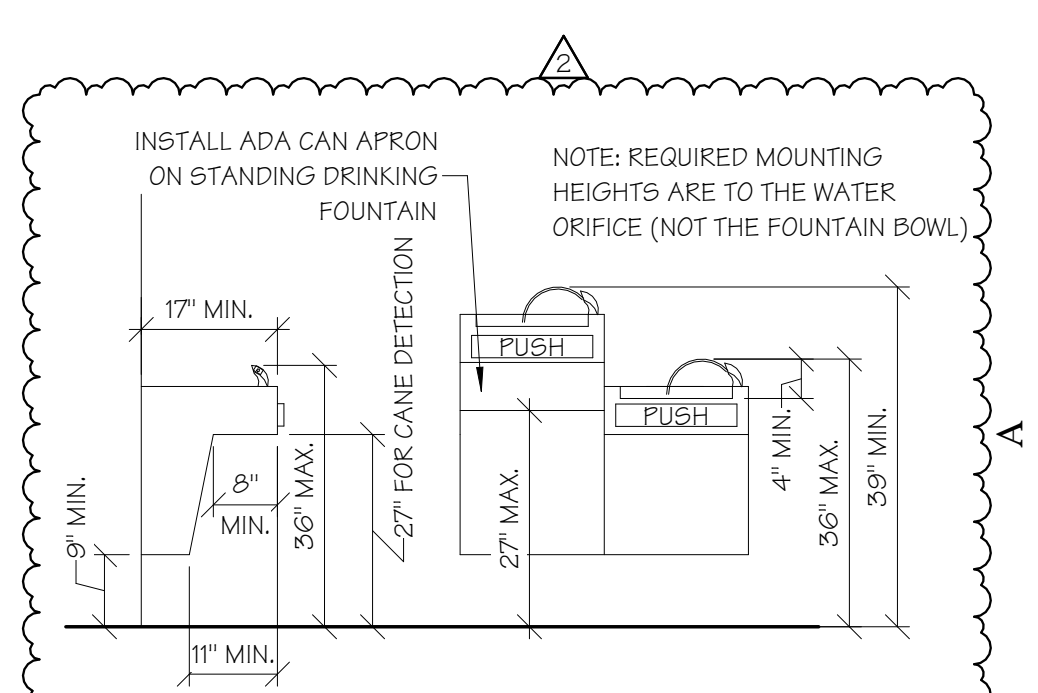
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MEN'S BATH
ELEV. 1



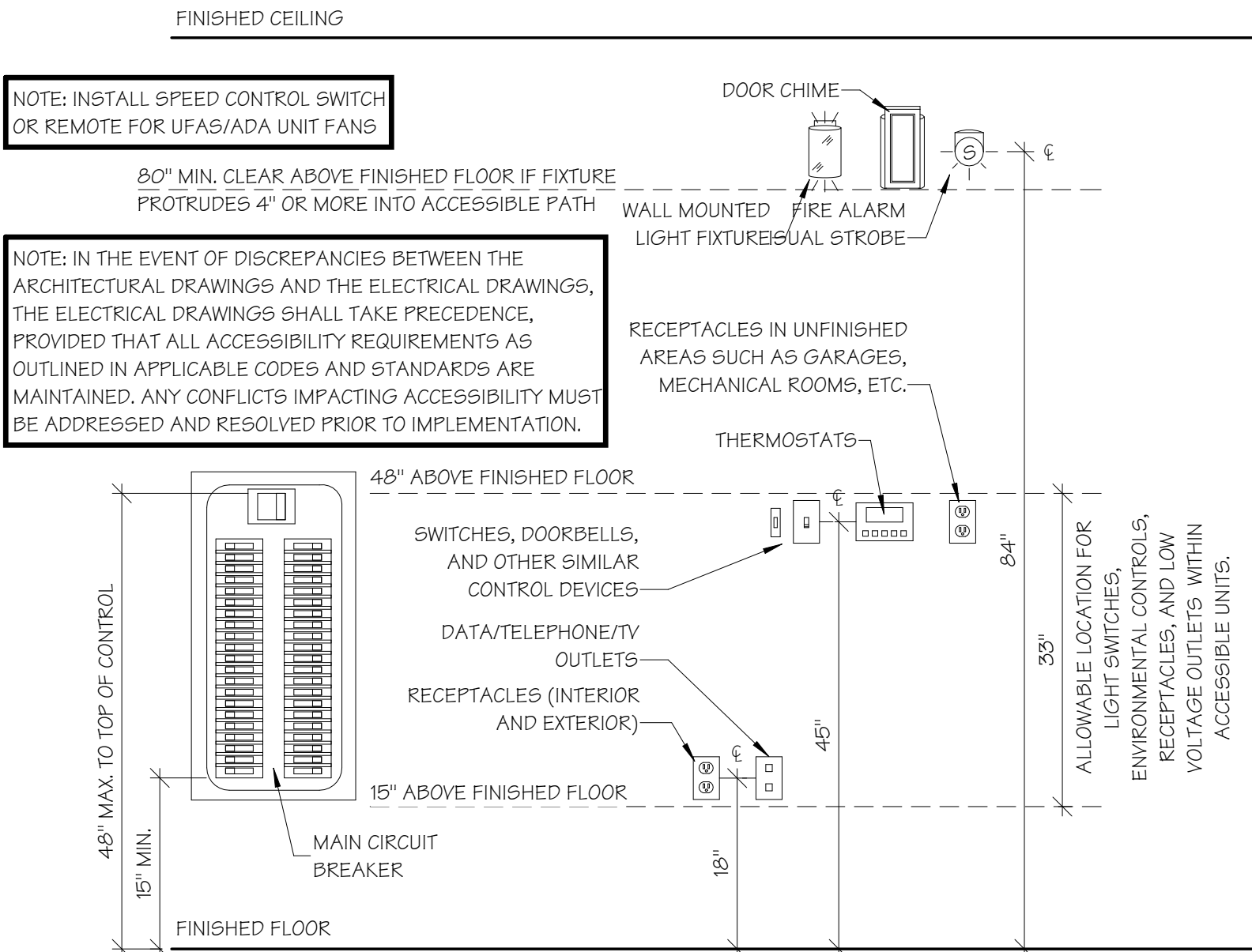
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MEN'S BATH ELEV. 2



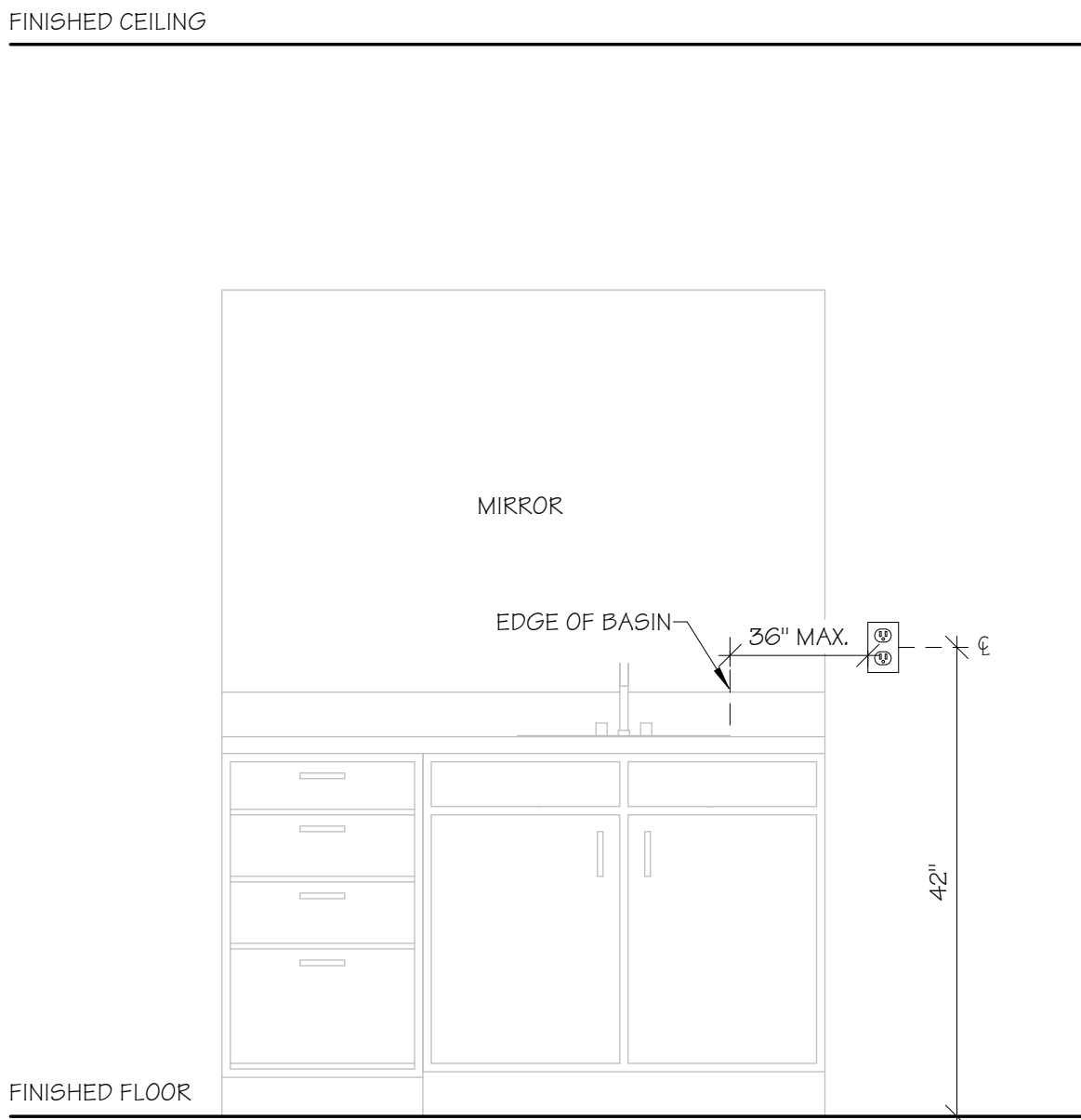
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SCALE: 1/2" = 1'-0"

WATER FOUNTAIN



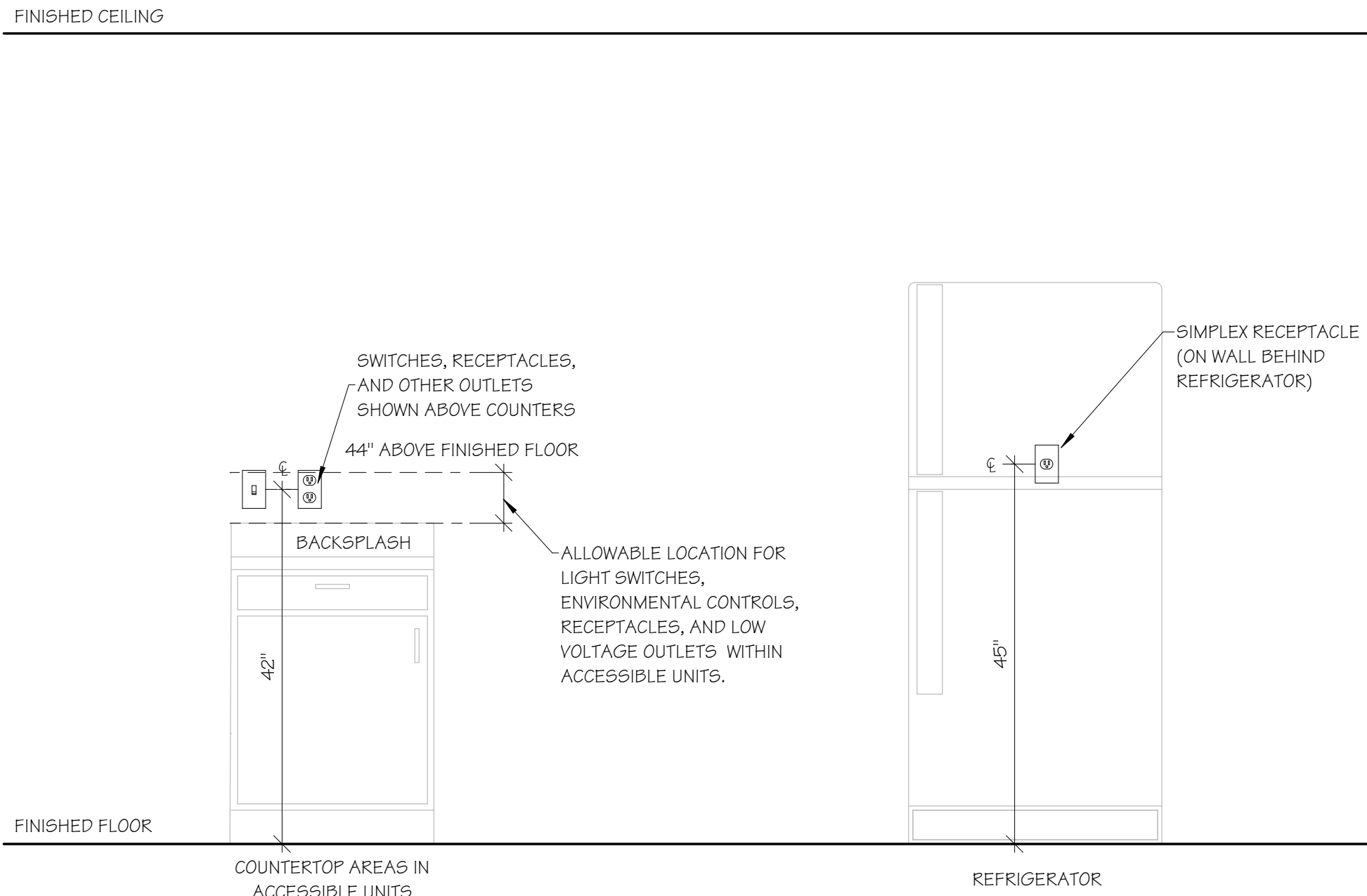
AREAS WITH NO OBSTRUCTIONS ELECTRICAL MOUNTING HEIGHTS (SCHEMATIC)

1
A7.1P SCALE: 3/4" = 1'-0"



BATHROOM LAVATORY ELECTRICAL MOUNTING HEIGHTS (SCHEMATIC)

3
A7.1P SCALE: 3/4" = 1'-0"



KITCHEN ELECTRICAL MOUNTING HEIGHTS (SCHEMATIC)

7
A7.1P SCALE: 3/4" = 1'-0"

ALURA POOL HOUSE - VILLAGE AT DISCOVERY PARK
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

Wallace
ARCHITECTS L.L.C.
Columbia, MO
P 573-258-7200

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A7.1P

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4938

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4/23/2025 7:33:02 AM

RELEASED FOR
CONSTRUCTION
As Noted on Plans Review
Missouri State Department
of Transportation
M. RANDALL
PORTER
2012006244
ARCHITECT
15 APR 2025
M. RANDALL PORTER
ARCHITECT LICENSE
#A-2012006244



J-SQUARED
ENGINEERING

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

The Village at Discovery Park Alura Apartments Pool House

Northeast Douglas Street
Lee's Summit, Jackson County, Missouri

GENERAL MEP SPECIFICATIONS

- GENERAL**
 - ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH LOCALLY ADOPTED CODES AND ORDINANCES. IT IS THE RESPONSIBILITY OF CONTRACTOR TO REVIEW AND UNDERSTAND ALL DRAWINGS AND SPECIFICATIONS IN CONTRACT DOCUMENTS. EACH CONTRACTOR IS RESPONSIBLE FOR ALL WORK ASSOCIATED WITH THEIR TRADE, REGARDLESS OF WHERE WORK IS DEPICTED IN PROJECT DRAWINGS OR SPECIFICATIONS.
 - LAYOUT OF SYSTEMS SHOWN ON PLANS ARE APPROXIMATE AND SCHEMATIC IN NATURE. ALL SYSTEMS WILL NEED TO BE FIELD-COORDINATED. CONTRACTOR SHALL INCLUDE THIS COORDINATION IN THEIR SCOPE AND INCLUDE ALL COSTS OF MODIFYING LAYOUT AS REQUIRED IN THEIR BID. PLANS ARE NOT INTENDED TO BE SHOP DRAWINGS FROM WHICH MATERIALS CAN BE ORDERED, FABRICATED, OR INSTALLED WITHOUT ADDITIONAL FIELD MEASUREMENTS AND COORDINATION.
 - NOT ALL SPECIFIC PIECES AND COMPONENTS OF EACH SYSTEM ARE DETAILED OR OUTLINED ON PLANS. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY PARTS AND LABOR TO PRODUCE A COMPLETE AND FULLY OPERATIONAL SYSTEM UNLESS STATED OTHERWISE ON PLANS. CONTRACTOR IS TO PROVIDE AND INCLUDE ALL EQUIPMENT AND MATERIAL NEEDED TO COMPLETE WORK ASSOCIATED WITH THEIR BID UNLESS ANY ITEMS ARE SPECIFICALLY NOTED ON PLANS AS PROVIDED BY OTHERS. ALL MATERIALS TO BE NEW, FIRST CLASS, AND INSTALLED PER MANUFACTURER'S PUBLISHED INSTRUCTIONS.
 - WHERE CONFLICTS EXIST BETWEEN MEP PLANS AND CIVIL, ARCHITECTURAL, OR STRUCTURAL PLANS, NOTIFY MEP ENGINEER OF DISCREPANCIES FOR CLARIFICATION PRIOR TO PERFORMING ANY WORK THAT MAY CONTRADICT INFORMATION ELSEWHERE IN THE PROJECT PLANS.
 - THESE PLANS ARE NOT TO BE SCALED. SEE ARCHITECTURAL PLANS FOR DIMENSIONS. WHERE THERE IS A CONFLICT BETWEEN ARCHITECTURAL DIMENSIONS AND MEP DIMENSIONS, ARCHITECTURAL SHALL GOVERN.
 - CONTRACTOR IS TO INCLUDE IN THEIR SCOPE THE COST OF ALL PERMITS, INSPECTIONS, METERING, TAPS, ETC. ASSOCIATED WITH THEIR WORK.
 - CONTRACTOR IS RESPONSIBLE FOR ALL EXCAVATION, CUTTING, CORING, PATCHING, AND BACKFILL REQUIRED TO COMPLETE THEIR WORK, UNLESS NOTED OTHERWISE ON PLANS.
 - SPECIFIC EQUIPMENT MANUFACTURERS AND/OR MODEL NUMBERS LISTED ON PLANS ARE TO ESTABLISH A BASIS-OF-DESIGN FOR QUALITY AND PERFORMANCE, VERIFY THAT SUBSTITUTIONS WILL BE ACCEPTABLE PRIOR TO PURCHASE & INSTALLATION.
 - NOTIFY ENGINEER OF ANY MAJOR PLAN DISCREPANCIES OR CONFLICTS PRIOR TO PROVIDING BIDS OR COMPLETING ANY WORK.
 - SEE DISCIPLINE SHEETS FOR ADDITIONAL TRADE SPECIFIC SPECIFICATIONS.
 - WHERE SHUTDOWN OF ANY EXISTING UTILITY OR SERVICE TO BUILDING IS REQUIRED FOR COMPLETION OF WORK, COORDINATE OUTAGE WITH OWNER AS TO NOT DISRUPT TYPICAL OPERATIONS.
- WORKMANSHIP**
 - SYSTEMS SHALL BE INSTALLED IN A FIRST-CLASS MANNER USING BEST ACCEPTABLE METHODS AND PRACTICES.
 - ALL SYSTEMS SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO BUILDING ORIENTATION. COMPONENTS SHALL BE INSTALLED LEVEL AND PLUMB WITH ATTENTION GIVEN TO OVERALL AESTHETICS.
 - CONTRACTOR IS RESPONSIBLE FOR COORDINATING EQUIPMENT LOCATIONS AND SYSTEM ROUTING WITH OTHER TRADES PRIOR TO INSTALLATION.
 - CONTRACTOR TO GUARANTEE ALL MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE THE COMPLETED PROJECT IS RELEASED TO THE OWNER, UNLESS NOTED OTHERWISE ON PLANS.
 - DURING INSTALLATION OF MATERIALS OR ACTIVITIES IN NEW WORK SCOPE, AVOID DAMAGING EXISTING SURFACES AND EQUIPMENT TO REMAIN. ANY DAMAGE TO EXISTING SURFACES OR EQUIPMENT SHALL BE CORRECTED AT NO COST TO OWNER.

DEFERRED SUBMITTAL NOTES

- FIRE ALARM SYSTEM**
 - FIRE ALARM CONTRACTOR SHALL PROVIDE DEFERRED SUBMITTAL PACKAGE FOR FIRE ALARM SYSTEM. SUBMITTAL SHALL INCLUDE BATTERY CALCULATIONS, VOLTAGE DROP CALCULATIONS, EQUIPMENT SPECIFICATIONS FOR DEVICES AND PANELS, ETC. DESIGN SHALL BE SEALED BY A QUALIFIED DESIGN PROFESSIONAL LICENSED BY THE STATE.
 - FIRE ALARM SYSTEM COMPONENTS SHOWN (IF APPLICABLE) ARE GENERAL AND SCHEMATIC IN NATURE, SHOWN FOR APPROXIMATE ROUGH-IN LOCATIONS AND QUANTITIES ONLY. CONTRACTOR TO VERIFY EXACT DEVICE LOCATIONS AND REQUIREMENTS WITH FIRE ALARM SYSTEM DESIGNER OF RECORD PRIOR TO ROUGH-IN.
- FIRE SPRINKLER SYSTEM**
 - FIRE SPRINKLER CONTRACTOR TO PROVIDE DEFERRED SUBMITTAL PACKAGE FOR FIRE SPRINKLER SYSTEM. SUBMITTAL SHALL INCLUDE HYDRAULIC CALCULATIONS AND SPRINKLER SYSTEM DRAWINGS SEALED BY A QUALIFIED DESIGN PROFESSIONAL LICENSED BY THE STATE.
 - WHERE COMBINED FIRE & DOMESTIC WATER SUPPLY LINES ARE SHOWN ON PLANS, INSTALLING CONTRACTOR SHALL VERIFY WITH FIRE SPRINKLER CONTRACTOR THAT INCOMING LINE SIZE IS ADEQUATE FOR FIRE SUPPRESSION SYSTEM.

REFERENCED CODES IN EFFECT

PROJECT HAS BEEN DESIGNED IN COMPLIANCE WITH THE FOLLOWING CODES LISTED BELOW, BUT THIS IS NOT AN EXHAUSTIVE LIST. PROJECT SHALL COMPLY WITH ALL APPLICABLE CODES, STANDARDS, AND LOCAL REQUIREMENTS.

- 2018 INTERNATIONAL MECHANICAL CODE
- 2018 INTERNATIONAL PLUMBING CODE
- 2018 INTERNATIONAL FUEL GAS CODE
- 2018 INTERNATIONAL FIRE CODE
- 2017 NATIONAL ELECTRIC CODE

FIRE RATED PENETRATION NOTES

- THIS BUILDING CONTAINS FIRE RATED ASSEMBLIES. SEE ARCHITECTURAL PLANS FOR LOCATIONS AND DETAILS.
- A UL-LISTED FIRESTOP SYSTEM SHALL BE INSTALLED AT EACH PENETRATION OF A HORIZONTAL OR VERTICAL RATED ASSEMBLY IN ACCORDANCE WITH ASTM E814 OR UL 1479.
- EACH CONTRACTOR IS RESPONSIBLE FOR PROVIDING PROTECTION FOR THEIR PENETRATIONS THRU RATED ASSEMBLIES.
- GENERAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND MAINTAINING A CATALOG OF ALL UL LISTED FIRESTOP ASSEMBLIES, AND KEEPING A PHYSICAL COPY OF DETAILS FOR EACH USED FIRESTOP ASSEMBLY ON SITE FOR REFERENCE.

SHEET LIST TABLE

SHEET #	SHEET TITLE
MEP1	MECHANICAL ELECTRICAL PLUMBING COVER SHEET
MEP2	SITE UTILITIES PLAN
MEP3	SITE LIGHTING PLAN
M101	HVAC PLAN
M501	HVAC DETAILS & SCHEDULES
E101	ELECTRICAL PLAN
FP101	FIRE PROTECTION PLAN
E501	ELECTRICAL DETAILS & SCHEDULES
P101	PLUMBING PLAN

RELEASED FOR
CONSTRUCTION
As Noted on Plans Review

STATE OF MISSOURI

JAMES P. WATSON

NUMBER PE-2015017071

PROFESSIONAL ENGINEER

James Watson, P.E.
PE-2015017071
MO Certificate of Authority # 2018029680

April 15, 2025

J-SQUARED
ENGINEERING

2400 Bluff Creek Drive, Suite 101
Columbia, Missouri 65201
573.234.4492
www.j-squaredeng.com

J2 PROJECT No:	J21357
J2 DESIGN:	ACW
ISSUE TITLE	DATE
PERMIT SET	04 - 15 - 2025

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

The Village at Discovery Park Alura Apartments

Northeast Douglas Street
Lee's Summit, Jackson County, Missouri

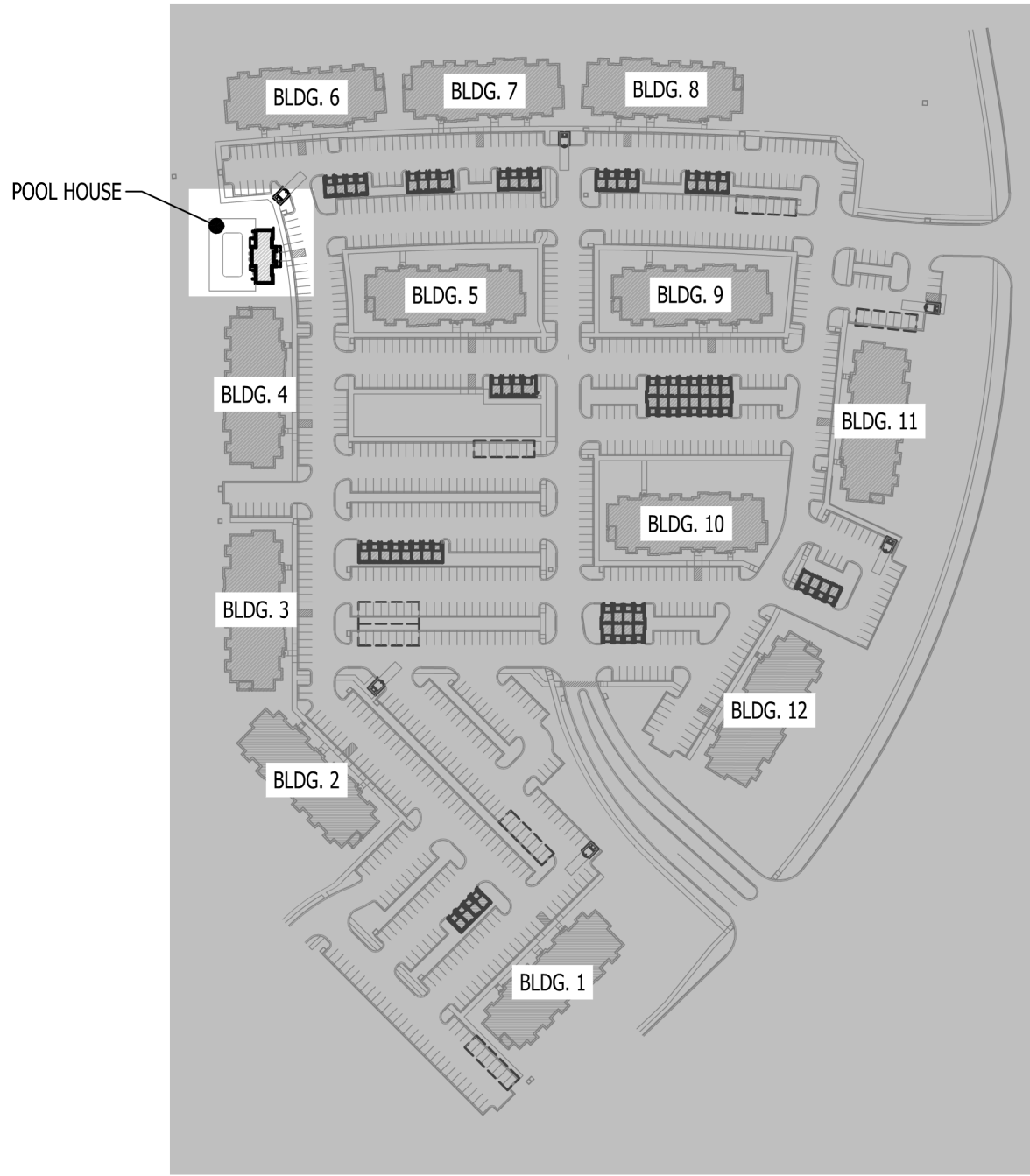
AHJ APPROVAL STAMP

SHEET TITLE

MECHANICAL
ELECTRICAL
PLUMBING
COVER SHEET

SHEET NUMBER

MEP1



SITE UTILITIES PLAN SYMBOL LEGEND

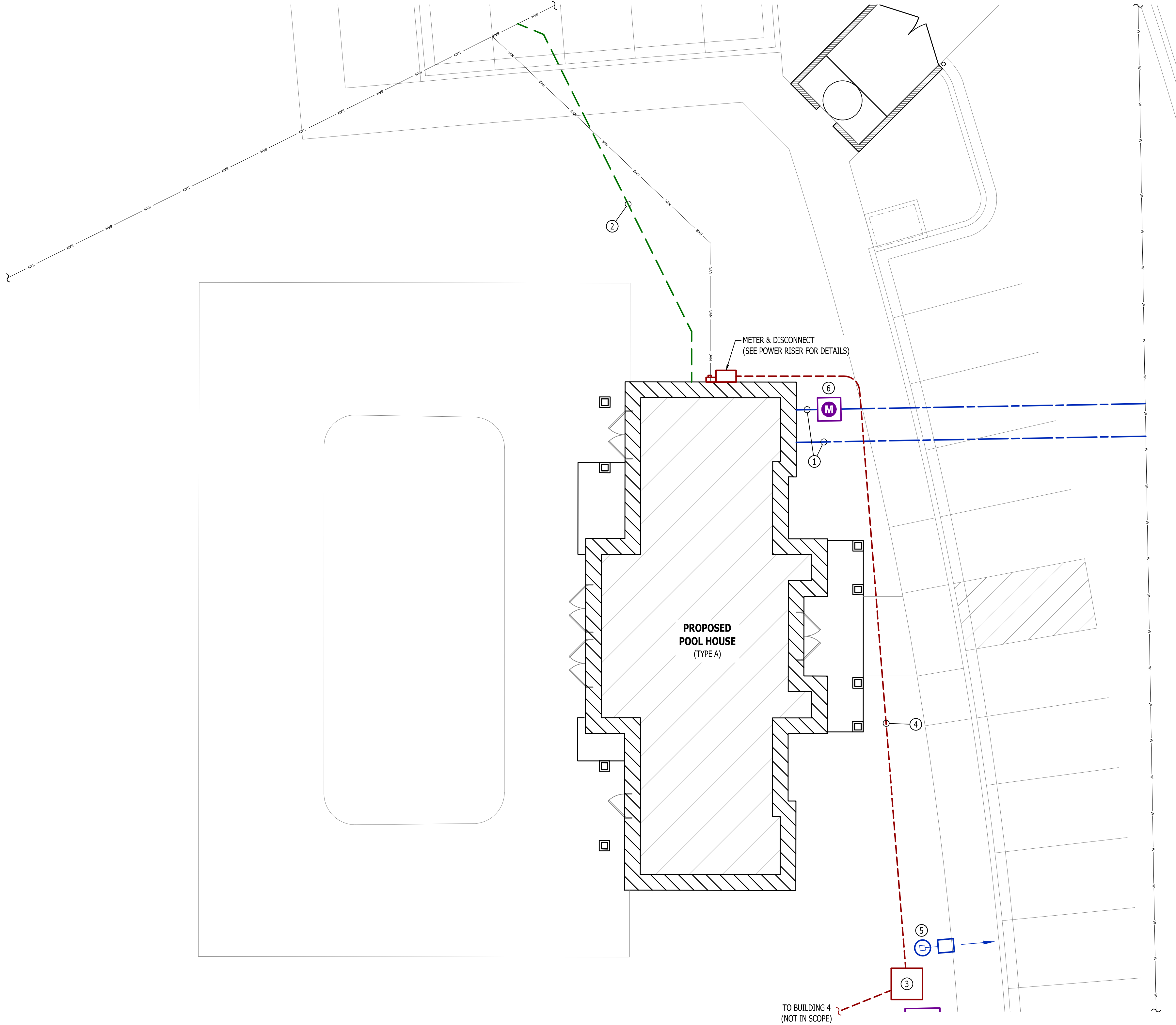
- SANITARY SEWER PIPING
- COLD WATER LINE
- WATER METER
- VALVE
- GAS LINE
- GAS METER
- TIE INTO EXISTING
- ELECTRIC

SITE UTILITIES PLAN GENERAL NOTES:

- REFER TO CIVIL PLANS FOR EXACT UTILITY LOCATIONS, CONNECTIONS, DETAILS, ETC.
- COORDINATE EXACT LOCATIONS OF ALL ELECTRICAL CONDUITS & EQUIPMENT WITH EVERY.

SITE UTILITIES PLAN KEY NOTES:

- 6" UN-METERED SPRINKLER LINE & 1/2" CW DOMESTIC LINE TO POOL EQUIPMENT ROOM (SEE PLUMBING PLANS FOR CONTINUATION).
- 4" SAN (SEE PLUMBING PLANS FOR DETAILS).
- PROPOSED PAD-MOUNTED TRANSFORMER (SEE POWER RISER FOR DETAILS).
- UNDERGROUND SECONDARY CONDUIT/CONDUCTORS (SEE POWER RISER FOR DETAILS).
- POLE LIGHT (SEE SITE LIGHTING PLANS FOR DETAILS).
- 1/2" CW DOMESTIC LINE TO METER IN PIT (SEE WATER RISER DETAILS).



SITE UTILITIES PLAN

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

RELEASED FOR CONSTRUCTION
As Noted on Plans Review
Missouri
2024/05/15
J-Squared Engineering Services Department

James Watson, P.E. April 15, 2025
PE-2015017071
MO Certificate of Authority # 2018029680

J-SQUARED
ENGINEERING

2400 Bluff Creek Drive, Suite 101
Columbia, Missouri 65201
573.234.4492
www.j-squaredeng.com

J2 PROJECT No:	J21357
J2 DESIGN:	ACW
ISSUE TITLE	DATE
PERMIT SET	04 - 15 - 2025

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

The Village at Discovery Park Alura Apartments

Northeast Douglas Street
Lee's Summit, Jackson County, Missouri

AHJ APPROVAL STAMP

SHEET TITLE

SITE UTILITIES
PLAN

SHEET NUMBER

MEP2

1. SITE PHOTOMETRIC CALCULATIONS SHOWN HAVE BEEN CALCULATED PER SPECIFIED LIGHT FIXTURES AT INDICATED MOUNTING HEIGHTS, AND ANY CHANGES OR ITERATIONS TO LIGHTING LAYOUT SHOWN WILL REQUIRE RECALCULATING SITE PHOTOMETRICS AND WILL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR / EQUIPMENT SUPPLIER.
2. PHOTOMETRIC CALCULATIONS SHOWN DO NOT INCLUDE EXISTING LIGHT FIXTURE(S), ONLY NEW POLE LIGHT FIXTURE(S) SHOWN. CALCULATIONS ALSO INCLUDE NEW POLE LIGHT FIXTURES ON ADJACENT LOTS AS PART OF THIS DEVELOPMENT. REFER TO ADJACENT BUILDING SITE LIGHTING AND MASTER SITE LIGHTING PLANS FOR DETAILS & CALCULATIONS SUMMARIES.

POLE MUST MEET EPA RATING FOR 80MPH WIND (ASCE 7-93) WITH SPECIFIED HEAD CONFIGURATION

- HANDHOLE @ COVER PLATE
- POLE ANCHOR BOLTS PER MANUFACTURER RECOMMENDATIONS
- 1/2" CHAMFER ALL EDGES
- 24" MIN. TO CURB / PAVING
- CIRCUIT CONDUIT & CONDUCTORS TO POWER SOURCE / NEXT POLE
- ATTACH COPPER EQUIPMENT GROUND CONDUCTOR TO INTERNAL LUG WELDED TO INTERIOR OF POLE
- TYP. POLE BASE REINFORCING:
#3 HORIZONTAL TIES (20") AT 12' O.C.
w/ #4 VERTICAL BARS AT PERIMETER AT 6" O.C.
- CONCRETE TO BE MIN. 3000psi
- 24"Ø
- 30" MIN.
- "X" DEPTH BELOW FINISH GRADE (SEE CHART)
- FINISH GRADE
- PVC CONDUIT STUBBED UP ADJACENT TO HANDHOLE (NUMBER & SIZE REQUIRED)

SCALE: 1" = 200 ft

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

**Northeast Douglas Street
Lee's Summit, Jackson County, Missouri**

J2 PROJECT No:		J2135
J2 DESIGN:		ACV
ISSUE TITLE		DATE
PERMIT SET	04 - 15 - 2021	

The Village at Discovery Park Alura Apartments

**Northeast Douglas Street
Lee's Summit, Jackson County, Missouri**

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

AHJ APPROVAL STAMP

SHEET TITLE

HVAC PLAN

SHEET NUMBER

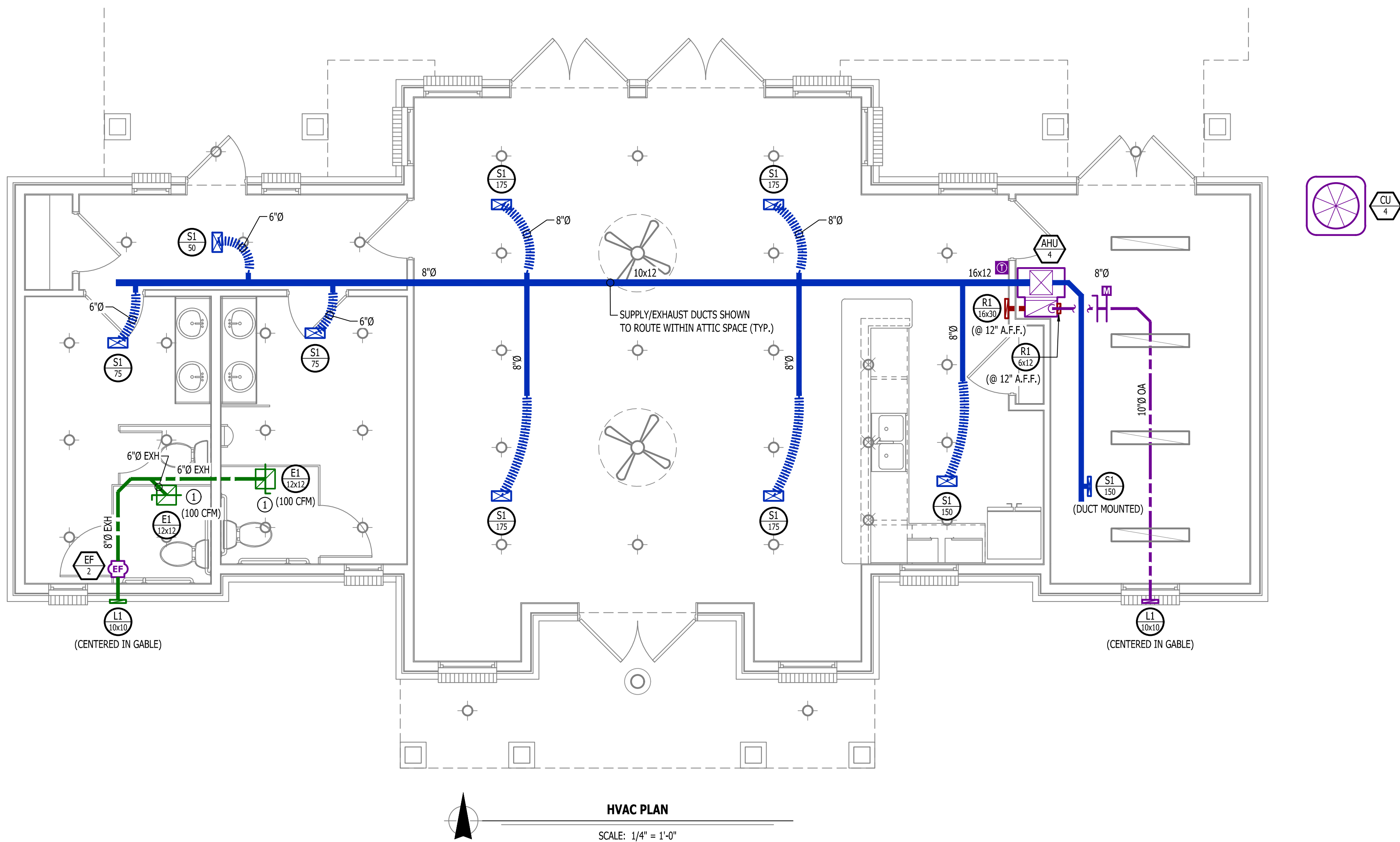
M101

 ← EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)
 ← EQUIPMENT REFERENCE NUMBER
 ← DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)
 ← CUBIC FEET PER MINUTE (CFM) / FACE SIZE

- | | |
|--|--|
|  | SUPPLY DUCTWORK |
|  | RETURN DUCTWORK |
|  | EXHAUST DUCTWORK |
|  | FLEX DUCT |
|  | SUPPLY DIFFUSER (HATCH INDICATES "NO FLOW ZONE") |
|  | RETURN DIFFUSER |
|  | BALANCE DAMPER |
|  | MOTORIZED DAMPER |
|  | CEILING RADIATION DAMPER |
|  | BACK DRAFT DAMPER |
|  | THERMOSTAT |

1. SEE M500 & M600 SERIES SHEETS FOR HVAC SCHEDULES, DETAILS, REQUIREMENTS, ETC.
2. SUPPLY DUCTWORK FROM AHU AT FLOOR/CEILING PENETRATION SHALL BE PROTECTED BY A FIRE DAMPER. INSTALL PER MANUFACTURER'S SPECIFICATIONS.

① BALANCE EXHAUST FLOW TO AMOUNT SHOWN (XXX CFM)



HVAC PLAN

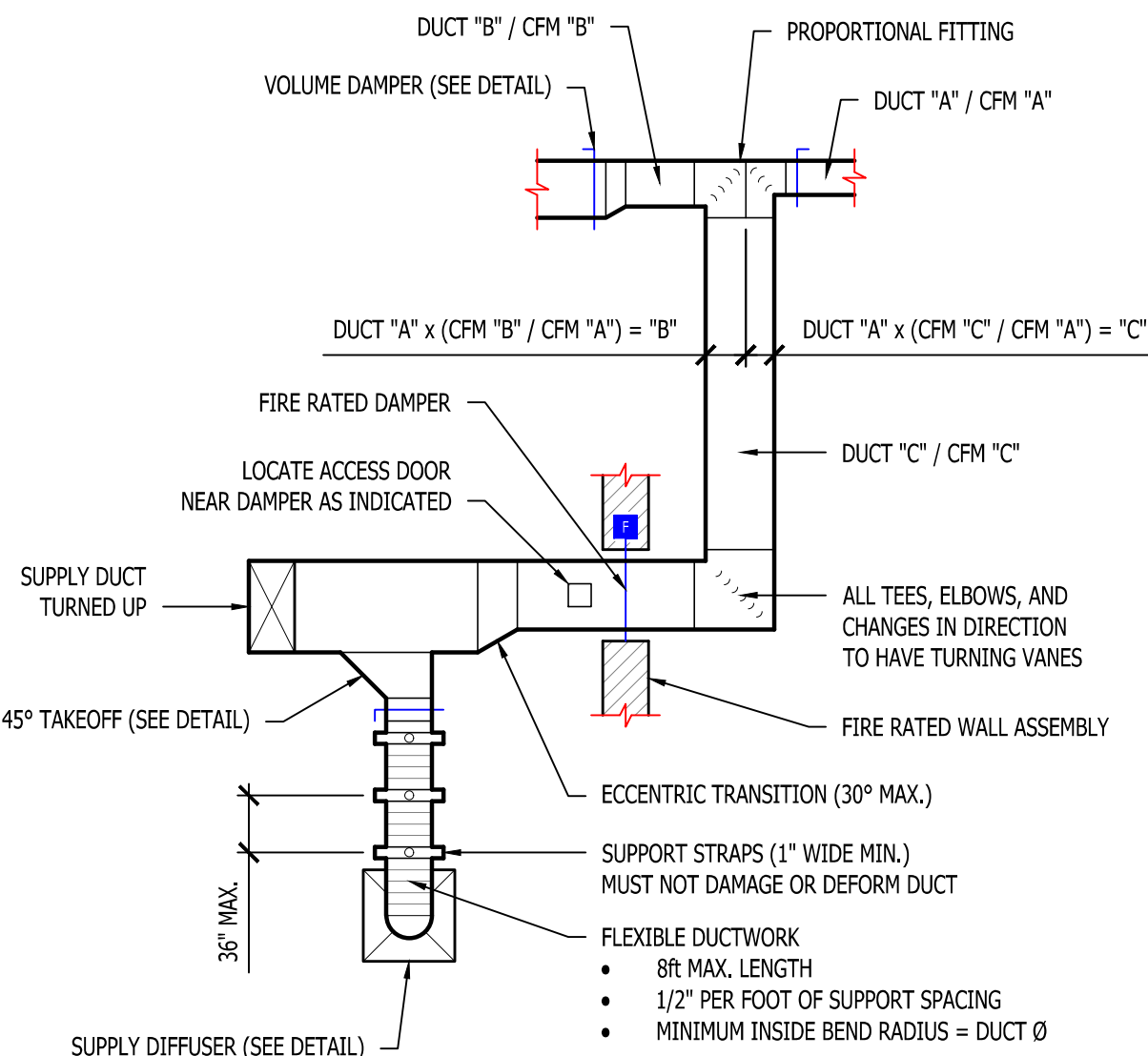
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HVAC SPECIFICATIONS

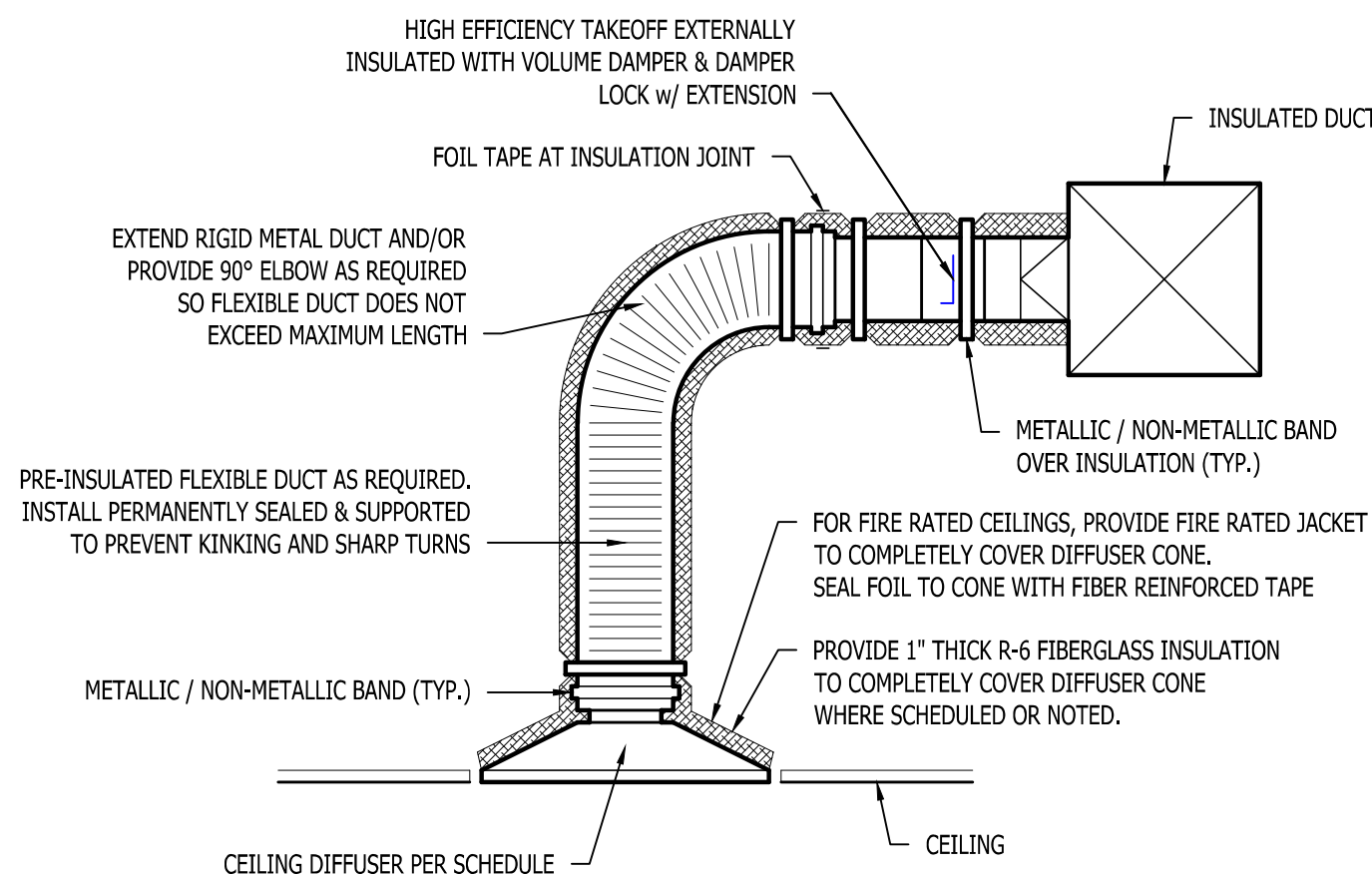
1. GENERAL
- 1.1. REFER TO GENERAL MEP SPECIFICATIONS SECTION FOR ADDITIONAL REQUIREMENTS.
2. WORKMANSHIP
- 2.1. COORDINATE WITH ALL OTHER TRADES SO THAT HVAC EQUIPMENT AND DUCT WORK DOES NOT BLOCK REQUIRED ACCESS OR CLEARANCE TO ANY EQUIPMENT, ACCESS PANELS, ELECTRICAL JUNCTION BOXES, ELECTRICAL PANELS, ETC.
- 2.2. ALL HVAC EQUIPMENT IS TO BE INSTALLED PER MANUFACTURER'S PUBLISHED RECOMMENDATIONS AND/OR INSTALLATION INSTRUCTIONS.
- 2.3. ALL EQUIPMENT TO BE INSTALLED LEVEL AND PLUMB, PARALLEL OR PERPENDICULAR TO BUILDING ORIENTATION WHERE POSSIBLE.
- 2.4. ROOFTOP MOUNTED RTU'S & EXHAUST FANS SHALL BE INSTALLED ON CURBS PER MANUFACTURER'S INSTRUCTIONS. CURB HEIGHT SHALL PROVIDE A MINIMUM OF 12" BETWEEN EQUIPMENT AND TOP OF ROOF IN ALL LOCATIONS.
- 2.5. GRADE MOUNTED RTUS, CONDENSING UNITS, AND HEAT PUMPS TO BE INSTALLED ON 4" REINFORCED CONCRETE PAD EXTENDING 4" BEYOND EACH EDGE OF THE EQUIPMENT, OR A MANUFACTURER APPROVED PRE-MANUFACTURED BASE.
- 2.6. APPROPRIATE ATTENTION SHALL BE GIVEN TO INDOOR AIR QUALITY THROUGHOUT CONSTRUCTION; PROTECT INSIDE OF NEW DUCTWORK & AIR-HANDLING EQUIPMENT FROM DUST, DIRT, DEBRIS, PAINT, MOISTURE, ETC. INSULATION SHALL BE REPLACED IF EXPOSED TO MOISTURE. AN INDEPENDENT, PROFESSIONAL DUCT CLEANING COMPANY SHALL CLEAN ALL NEW DUCTWORK IF EQUIPMENT WAS USED DURING CONSTRUCTION, AND EQUIPMENT/COILS SHALL ALSO BE THOROUGHLY CLEANED.
- 2.7. FIELD COORDINATE LOCATIONS OF ALL DIFFUSERS, GRILLES, REGISTERS, ETC. WITH LIGHT FIXTURE LOCATIONS AND ADJUST AS NECESSARY.
3. EQUIPMENT
- 3.1.1. ALL EQUIPMENT SHOWN ON MECHANICAL PLANS SHALL BE PROVIDED & INSTALLED BY MECHANICAL CONTRACTOR UNLESS NOTED OTHERWISE.
- 3.2. ALL EQUIPMENT MUST PROVIDE PERFORMANCE AS SPECIFIED ON PLANS, WHERE SPECIFIC MANUFACTURERS AND/OR MODELS ARE INDICATED ON PLANS, CONTRACTOR TO PROVIDE MODEL INDICATED OR APPROVED EQUAL. VERIFY SUBSTITUTION APPROVAL PRIOR TO PURCHASE OR INSTALLATION OF EQUIPMENT.
- 3.3. CONTRACTOR TO SUPPLY SUBMITTALS FOR ALL EQUIPMENT FOR REVIEW BY ARCHITECT AND ENGINEER. FORMAL APPROVAL SHALL BE RECEIVED BY CONTRACTOR PRIOR TO EQUIPMENT PURCHASE.
- 3.4. CONTRACTOR TO SHARE APPROVED EQUIPMENT SUBMITTALS WITH ANY PERTINENT ELECTRICAL OR PLUMBING REQUIREMENTS WITH RESPECTIVE CONTRACTORS WITHIN TWO WEEKS OF RECEIVING APPROVED SUBMITTALS FROM ARCHITECT/ENGINEER.
- 3.5. ALL EQUIPMENT SHOWN ON PLANS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS WITH ADEQUATE ACCESS AND CLEARANCE FOR SERVICING OR REPLACEMENT.
- 3.6. ALL HORIZONTAL FURNACES WITH AC COILS SHALL BE EQUIPPED WITH CORROSION RESISTANT DRAIN PAN. DRAIN PAN TO DISCHARGE TO SANITARY WASTE VIA INDIRECT CONNECTION WITH AIR GAP. DRAIN PAN TO PROVIDE SECONDARY OVERFLOW OR FLOAT SWITCH INTERLOCKED WITH UNIT TO SHUT DOWN UNIT ON HIGH WATER SIGNAL.
- 3.7. ALL EXTERIOR REFRIGERANT COILS TO BE PROTECTED BY FACTORY EQUIPPED HAIL GUARDS.
- 3.8. REFRIGERANT PIPING TO BE ACR COPPER OR TYPE L COPPER.
- 3.9. ALL AIR HANDLING EQUIPMENT SHALL BE EQUIPPED WITH MERV-8 FILTRATION AT RETURN OPENING UNLESS OTHERWISE NOTED.
- 3.10. ALL AIR FILTERS SHALL BE SIZED FOR A MAXIMUM FACE VELOCITY OF 500FPM.
- 3.11. PROVIDE & INSTALL ALL EQUIPMENT FLUES/VENTS PER MANUFACTURER'S SPECIFICATIONS. TERMINATIONS SHALL BE AT LEAST 10' FROM ANY FRESH AIR INTAKE.
- 3.12. PROVIDE NEW AIR FILTERS IN ALL EQUIPMENT PRIOR TO TESTING & BALANCING AND BEFORE TURNING OVER SYSTEM(S) TO OWNERSHIP.
- 3.13. IF ANY EXISTING EQUIPMENT IS TO BE REUSED, CLEAN AND INSPECT EQUIPMENT PRIOR TO BEGINNING WORK. VERIFY THAT EQUIPMENT IS IN GOOD WORKING CONDITION, REPORT ANY DEFICIENCIES TO ENGINEER.
4. DUCTWORK
- 4.1. DUCTWORK TO BE GALVANIZED STEEL, SEAL CLASS B, CONSTRUCTED PER SMACNA STANDARDS.
- 4.2. DUCTWORK THICKNESS:
- 4.2.1. 26 GA. MINIMUM UP TO 16" DUCT
- 4.2.2. 24 GA. UP TO 20"
- 4.2.3. 22 GA. UP TO 24"
- 4.2.4. 20 GA. UP TO 28"
- 4.2.5. 18 GA. UP TO 36"
- 4.3. TURNING VANES SHALL BE PROVIDED AND INSTALLED AT ALL 90° BENDS AND TEES.
- 4.4. ALL DUCT DIMENSIONS LISTED ARE TO INTERIOR OF DUCT LINER UNLESS NOTED OTHERWISE ON PLANS.
- 4.5. BALANCE DAMPERS MUST BE PROVIDED TO ALLOW ADJUSTMENT AT EACH AIR TERMINAL.
- 4.5.1. WHERE BRANCH TAKEOFF IS ACCESSIBLE (ABOVE LAY-IN CEILING OR EXPOSED DUCT), BALANCE DAMPER IS TO BE INSTALLED AT TAKEOFF.
- 4.5.2. WHERE TAKEOFF IS INACCESSIBLE (IN ATTIC OR SOFFIT), BALANCE DAMPER IS TO BE LOCATED SUCH THAT IT IS ACCESSIBLE FROM FACE OF AIR DEVICE.
- 4.6. HVAC CONTRACTOR RESPONSIBLE FOR ALL DUCTWORK TRANSITIONS AND FITTINGS AS REQUIRED FOR FINAL CONNECTIONS TO HVAC EQUIPMENT.
- 4.7. UNLESS NOTED OTHERWISE ON PLANS, FLEXIBLE DUCT CONNECTIONS MAY USED FROM BRANCH DUCTS TO FINAL AIR DEVICES, BUT SHALL NOT EXCEED 8'-0" IN LENGTH. FLEXIBLE DUCT CONNECTORS MUST BE SUPPORTED PER PLAN DETAILS.
5. INSULATION
- 5.1. DUCTWORK
- 5.1.1. SEE "TYPICAL DUCT INSULATION DIAGRAM" FOR INSTALLATION SPECIFIC REQUIREMENTS.
- 5.1.2. INTERNAL DUCT LINER TO BE EQUAL TO 'JOHNS MANVILLE LINACOUSITC R-300'.
- 5.1.3. EXTERNAL DUCT WRAP TO INCLUDE VAPOR BARRIER. EQUAL TO 'JOHNS MANVILLE MICROLITE' WITH FSK JACKET.
- 5.1.4. WHERE INSULATION IS REQUIRED IN "TYPICAL DUCT INSULATION DIAGRAM", INCLUDE INSULATION ON ALL FITTINGS, INCLUDING CANVAS FLEX CONNECTION FITTINGS.
- 5.2. REFRIGERANT PIPING
- 5.2.1. SPLIT SYSTEM (SUCTION LINE ONLY) - 1" CLOSED CELL ELASTOMERIC FOAM (EQUAL TO 'AERMAFLEX AP').
- 5.3. VRV/VRF SYSTEMS (BOTH SUCTION AND HOT GAS LINES) 1 1/2" EPDM (EQUAL TO 'AEROFLEX AEROCCEL AC') WITHIN CONDITIONED SPACES & 2" EPDM (EQUAL TO 'AEROFLEX AEROCCEL AC') IN UNCONDITIONED SPACES, AND WITH BANDED ALUMINUM SHIELDING IN EXTERIOR SPACES.
- 5.4. CONDENSATE PIPING
- 5.4.1. SPLIT SYSTEMS - WHERE CONDENSATE PIPING IS LOCATED IN UNCONDITIONED SPACE, INSULATE WITH 1/2" ELASTOMERIC. NO INSULATION REQUIRED WITHIN CONDITIONED SPACES.
- 5.4.2. VRV/VRF - INSULATE WITH 1/2" ELASTOMERIC.
6. TESTING AND BALANCING
- 6.1. ALL SYSTEMS MUST BE BALANCED TO WITHIN 10% OF VALUES INDICATED ON PLAN.
- 6.2. HVAC CONTRACTOR TO PROVIDE WRITTEN BALANCE REPORT INCLUDING FLOW VALUES INDICATED ON PLANS, INITIAL MEASURED FLOW VALUES, AND FINAL MEASURED VALUES.
- 6.3. THIRD PARTY CERTIFIED TEST AND BALANCE NOT REQUIRED UNLESS OTHERWISE NOTED ON PLANS OR WITHIN PROJECT MANUAL.

RECTANGULAR		RECTANGULAR	
• SUPPLY =	1" LINER	• SUPPLY =	1" LINER & 1 1/2" WRAP
• RETURN =	1" LINER	• RETURN =	1" LINER & 1 1/2" WRAP
• EXHAUST =	NONE	• EXHAUST =	1 1/2" WRAP
• OUTSIDE AIR =	2" WRAP	• OUTSIDE AIR =	NONE
ROUND		ROUND	
• SUPPLY =	1 1/2" WRAP	• SUPPLY =	2" WRAP
• RETURN =	NONE	• RETURN =	2" WRAP
• EXHAUST =	NONE	• EXHAUST =	1 1/2" WRAP
• OUTSIDE AIR =	2" WRAP	• OUTSIDE AIR =	NONE
SPIRAL		SPIRAL	
• SUPPLY =	NONE	• SUPPLY =	2" WRAP
• RETURN =	NONE	• RETURN =	2" WRAP
• EXHAUST =	NONE	• EXHAUST =	1 1/2" WRAP
• OUTSIDE AIR =	2" WRAP	• OUTSIDE AIR =	NONE

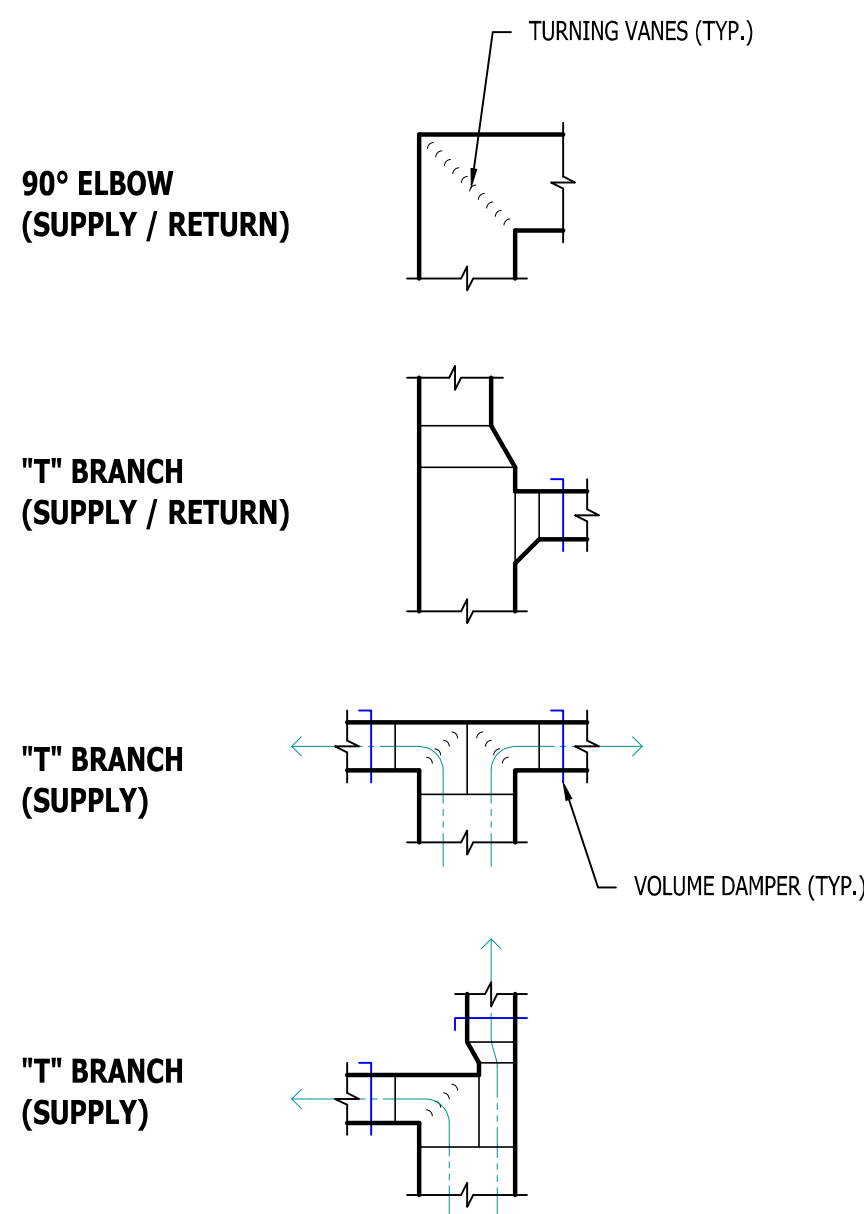
TYPICAL BUILDING INTERIOR DUCT INSULATION DIAGRAM



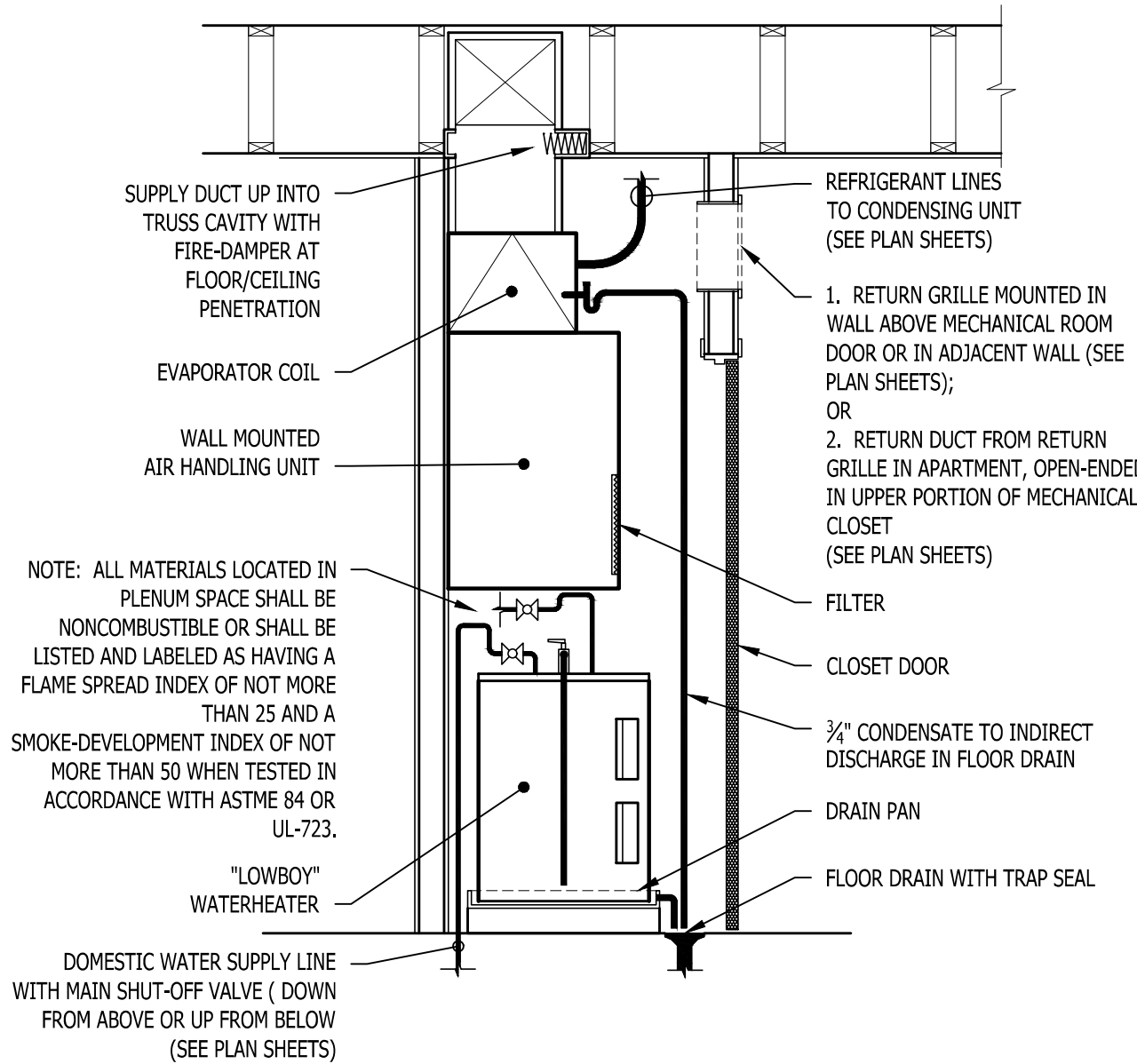
TYPICAL DUCTWORK DETAIL



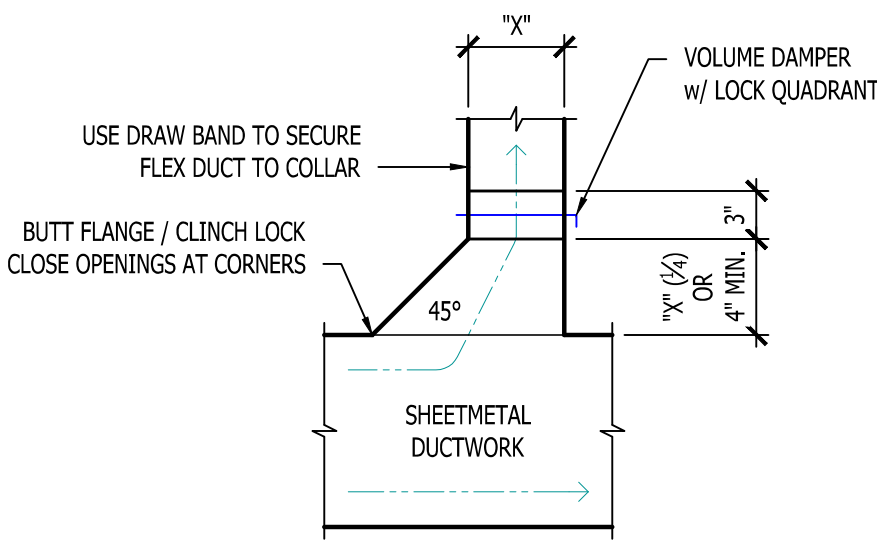
TYPICAL LAY-IN DIFFUSER DETAIL



TYPICAL DUCTWORK FITTINGS DETAIL



STACKED WATER HEATER / AHU DETAIL



TYPICAL 45° TAKEOFF DETAIL

AIR DEVICE SCHEDULE						
TAG	SERVICE	MANUFACTURER (OR EQUAL)	MODEL (OR EQUAL)	SIZE	COLOR / FINISH	NOTES
L1	OA / EXH	POTTORFF	EFD	AS INDICATED	PRIMED	PAINT TO MATCH EXTERIOR
R1	RETURN	PRICE	530	AS INDICATED	WHITE	
S1	SUPPLY	PRICE	520	12x6	WHITE	
E1	EXHAUST	PRICE	530	AS INDICATED	WHITE	
NOTES:						
1. VERIFY AIR DEVICE FINISHES WITH OWNER/ARCHITECT PRIOR TO INSTALLATION						

SPLIT SYSTEM SCHEDULE - POOL HOUSE															
TAG	EQUIPMENT DESCRIPTION	AREA SERVED	SIZE (TONS)	ORIENTATION	TOTAL AIRFLOW (CFM)	OA AIRFLOW MAX / MIN (CFM)	HEATING		COOLING (1A: 80 DB/ 67 WB, OA: 95 DB)			ELECTRICAL			NOTES
							ELECTRIC (KW) 240V (208V)	SENSIBLE (KBTU)	TOTAL (KBTU)	MIN EFF. (SEER)	VOLTS/ PH	MCA	OCF		
AHU-4	AIR HANDLER	POOL HOUSE	3.0	UPFLOW	1200	220 / 0	15 (10.8)	-	-	-	208/1	51 / 22	60 / 25	1, 2, 5	
CU-4	CONDENSING UNIT	POOL HOUSE	3.0	-	-	-	-	24.5	33.6	13	208/1	19	30	3, 4	
NOTES:															
1. PROVIDE AND INSTALL 7 DAY PROGRAMABLE HONEYWELL THERMOSTAT. COORDINATE EXACT MOUNTING LOCATION WITH OWNER.															
2. INCLUDE CORROSION RESISTANT DRAIN PAN WITH OVERFLOW SWITCH WIRED TO SHUT DOWN UNIT.															
3. WITH FACTORY HAIL GUARD.															
4. LOW AMBIENT PACKAGE FOR OPERATION TO 0° F.															
5. WITH MOTORIZED OUTSIDE AIR DAMPER TO OPEN DURING OCCUPIED HOURS SET THRU THERMOSTAT SCHEDULE															

POWER PLAN GENERAL NOTES:

1. SEE E500 & E600 SERIES SHEETS FOR POWER SCHEDULES, DETAILS, REQUIREMENTS, ETC.

POWER PLAN KEY NOTES:

- ① POWER FOR ACCESS CONTROL; COORDINATE EXACT LOCATION & REQUIREMENTS WITH DOOR HARDWARE SUPPLIER/INSTALLER.
- ② WIRE THRU OCCUPIED HOURS TIMER.
- ③ WIRE DRINKING FOUNTAIN RECEPTACLE DOWNSTREAM OF GFCI RECEPTACLE SO THAT DRINKING FOUNTAIN RECEPTACLE IS GFCI PROTECTED.

POWER PLAN SYMBOL LEGEND

- CIRCUIT WIRING
- PK-XX CIRCUIT TAG
- ⬤ JUNCTION BOX
- XX ⬤ +42 RECEPTACLE
- INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
- *"WP" = WEATHERPROOF OUTDOOR RECEPTACLE
- ⬤ GFCI DUPLEX CONVENIENCE RECEPTACLE
- ⬤ 208V RECEPTACLE
- ⬤ QUADPLEX CONVENIENCE RECEPTACLE
- ▼ DATA / PHONE JACK; BOX WITH 1" CONDUIT & CAT6 CABLE BACK TO MEDIA PANEL LOCATION (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
- ⬤ DISCONNECT
- ⬤ 120V IONIZATION SMOKE 520Hz LOW FREQUENCY ALARM WITH SILENCING CAPABILITIES & LOW-VOLTAGE CONTACTS WIRED TO SHUT DOWN AHU UPON FIRE DETECTION. COORDINATE WITH HVAC CONTRACTOR. SMOKE DETECTOR MUST BE LOCATED AT LEAST 3' FROM CEILING FAN BLADES AND AT LEAST 10' FROM ANY COOKING APPLIANCE (FIELD-COORDINATE)

LIGHTING PLAN SYMBOL LEGEND

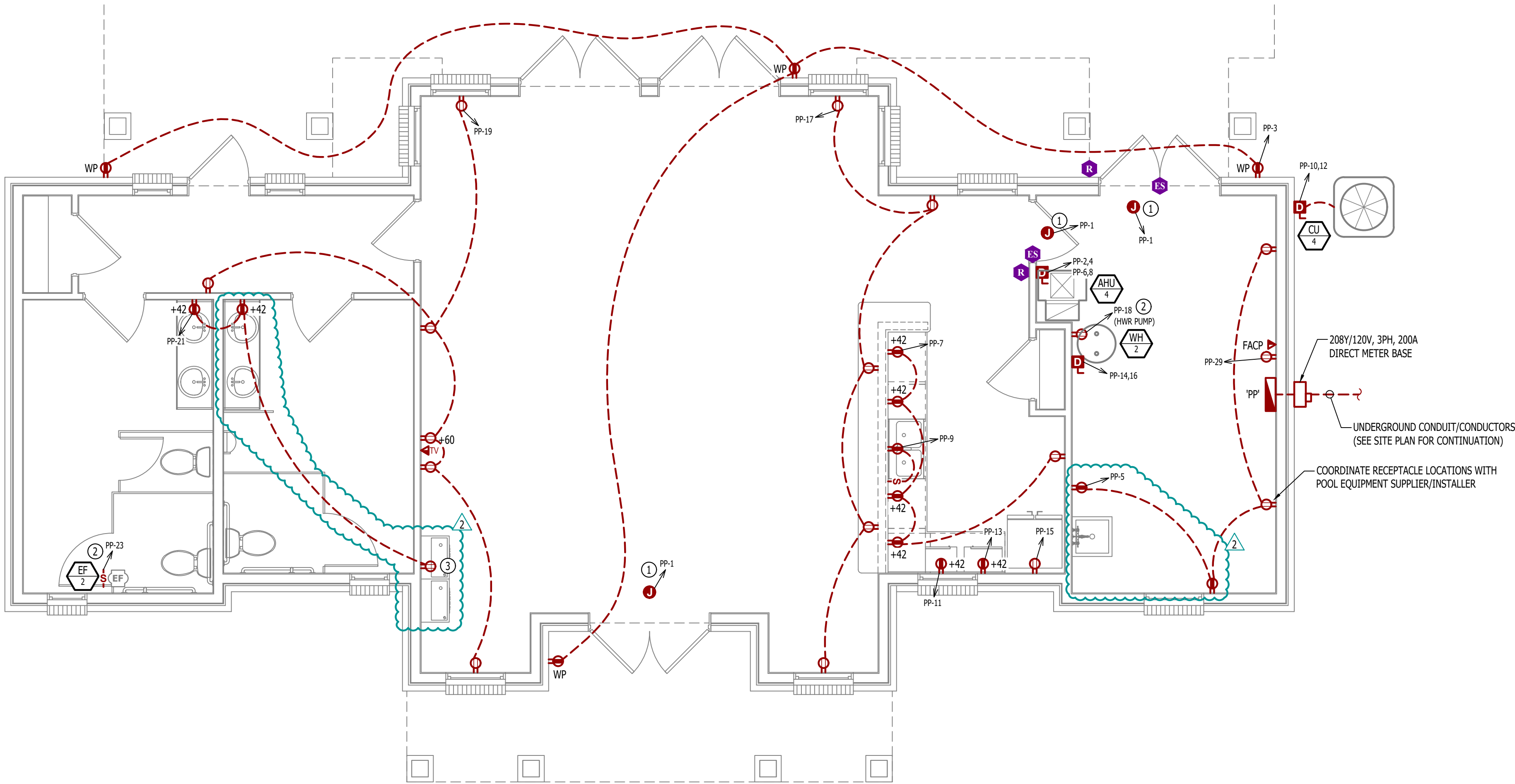
- ⬤ X1 LIGHTING FIXTURE
- "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE)
- ⬤ TOGGLE SWITCH
- ⬤ SWITCH TYPE
- ⬤ DIMMER SWITCH

LIGHTING PLAN GENERAL NOTES:

1. SEE E500 & E600 SERIES SHEETS FOR ADDITIONAL ELECTRICAL NOTES, DETAILS, & SCHEDULES.

LIGHTING PLAN KEY NOTES:

- ① WIRE THRU EXTERIOR PHOTOCELL.



DEFERRED SUBMITTAL NOTES

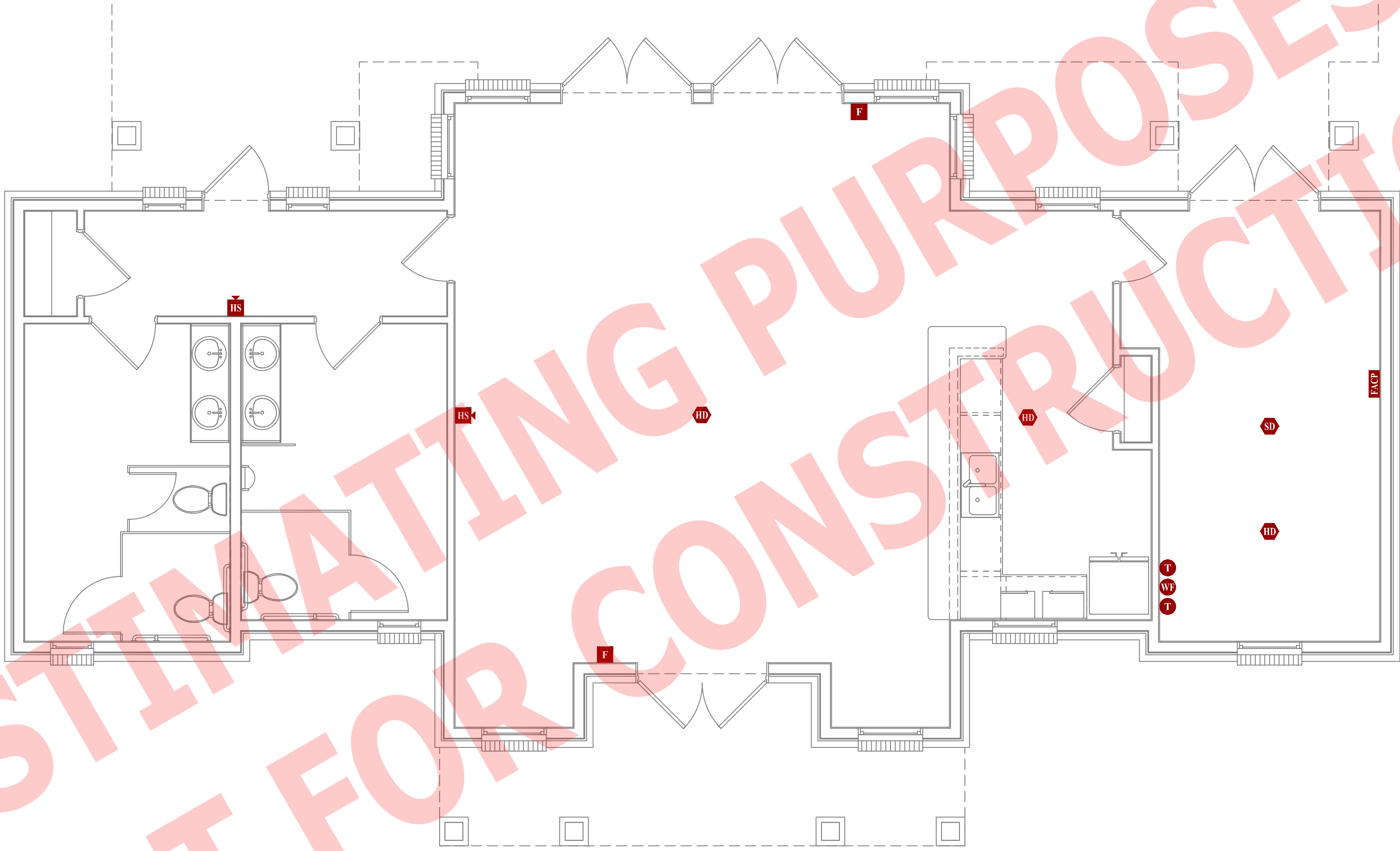
1. FIRE ALARM CONTRACTOR SHALL PROVIDE DEFERRED SUBMITTAL PACKAGE FOR FIRE ALARM SYSTEM. SUBMITTAL SHALL INCLUDE BATTERY CALCULATIONS, VOLTAGE DROP CALCULATIONS, EQUIPMENT SPECIFICATIONS FOR DEVICES AND PANELS, ETC. DESIGN SHALL BE SEALED BY A QUALIFIED DESIGN PROFESSIONAL LICENSED BY THE STATE.
2. FIRE ALARM SYSTEM COMPONENTS SHOWN (IF APPLICABLE) ARE GENERAL AND SCHEMATIC IN NATURE, SHOWN FOR APPROXIMATE ROUGH-IN LOCATIONS AND QUANTITIES ONLY. CONTRACTOR TO VERIFY EXACT DEVICE LOCATIONS AND REQUIREMENTS WITH FIRE ALARM SYSTEM DESIGNER OF RECORD PRIOR TO ROUGH-IN.

FIRE ALARM SYSTEM SPECIFICATIONS

1. FIRE ALARM SYSTEM SHALL BE AN ADDRESSABLE SYSTEM THAT IS NONCODED, UL-LISTED, WITH MULTIPLEX SIGNAL TRANSMISSION AND HORN/STROBE EVACUATION.
2. EVERY FIRE ALARM SYSTEM COMPONENT SHALL BE UL-LISTED AND UL-CERTIFIED, TESTED BY MANUFACTURERS AS A COMPLETE SYSTEM, AND MEET ALL APPLICABLE REQUIREMENTS OF NFPA 72.
3. ALL FIRE ALARM WIRING TO BE PLENUM RATED.
4. ALL INITIATING DEVICES INSTALLED IN UNCONDITIONED SPACES SHALL BE CONVENTIONAL DEVICES SUITABLE FOR USE IN EXTREME HIGH AND LOW TEMPERATURES AND HIGH HUMIDITY. SUCH DEVICES SHALL BE SUPERVISED BY ADDRESSABLE MONITOR MODULES LOCATED IN CONDITIONED SPACES.
5. QUANTITIES, TYPES, AND LOCATIONS OF INITIATING DEVICES AND OUTPUT MODULES FOR INTERCONNECTION WITH FIRE SUPPRESSION MUST BE COORDINATED WITH CONTRACTORS THAT ARE RESPONSIBLE FOR THOSE SYSTEMS.

FIRE ALARM PLAN SYMBOL LEGEND

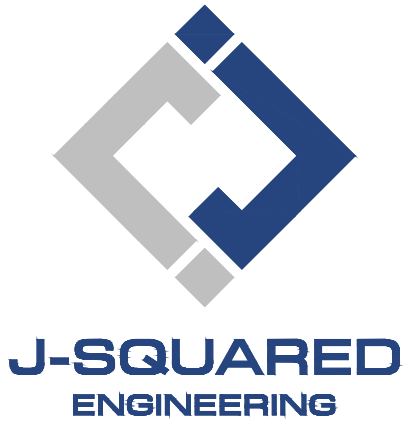
- | | |
|-------------|--------------------------------|
| F | MANUAL PULL STATION |
| M | MODULE |
| O | OUTPUT MODULE |
| SD | SMOKE DETECTOR |
| HD | HEAT DETECTOR |
| CO | CARBON MONOXIDE DETECTOR |
| S | STROBE - CEILING MOUNT |
| S | STROBE - WALL MOUNT |
| HS | HORN STROBE - WALL MOUNT |
| HS | HORN STROBE - CEILING MOUNT |
| SS | SPEAKER STROBE - WALL MOUNT |
| SS | SPEAKER STROBE - CEILING MOUNT |
| T | TAMPER SWITCH |
| WF | WATER FLOW SWITCH |
| FACP | FIRE ALARM CONTROL PANEL |
| ANN | FIRE ALARM ANNUNCIATOR |



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

FOR ESTIMATING PURPOSES ONLY.
NOT FOR CONSTRUCTION.

James Watson, P.E. April 15, 2025
PE-2015017071
MO Certificate of Authority # 2018029680



2400 Bluff Creek Drive, Suite 101
Columbia, Missouri 65201
573.234.4492
www.j-squaredeng.com

J2 PROJECT No: J21357

J2 DESIGN: ACW

ISSUE TITLE DATE

PERMIT SET 04 - 15 - 2025

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

The Village at Discovery Park Alura Apartments

Northeast Douglas Street
Lee's Summit, Jackson County, Missouri

AHJ APPROVAL STAMP

SHEET TITLE

FIRE PROTECTION PLAN

SHEET NUMBER

FP101



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J2 PROJECT No:	J21357
J2 DESIGN:	ACW
ISSUE TITLE	DATE
PERMIT SET	04 - 15 - 2025
ADDENDUM 1	05 - 16 - 2025



The Village at Discovery Park Alura Apartments

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

Northeast Douglas Street
Lee's Summit, Jackson County, Missouri

AHJ APPROVAL STAMP

SHEET TITLE

ELECTRICAL DETAILS &
SCHEDULES

SHEET NUMBER

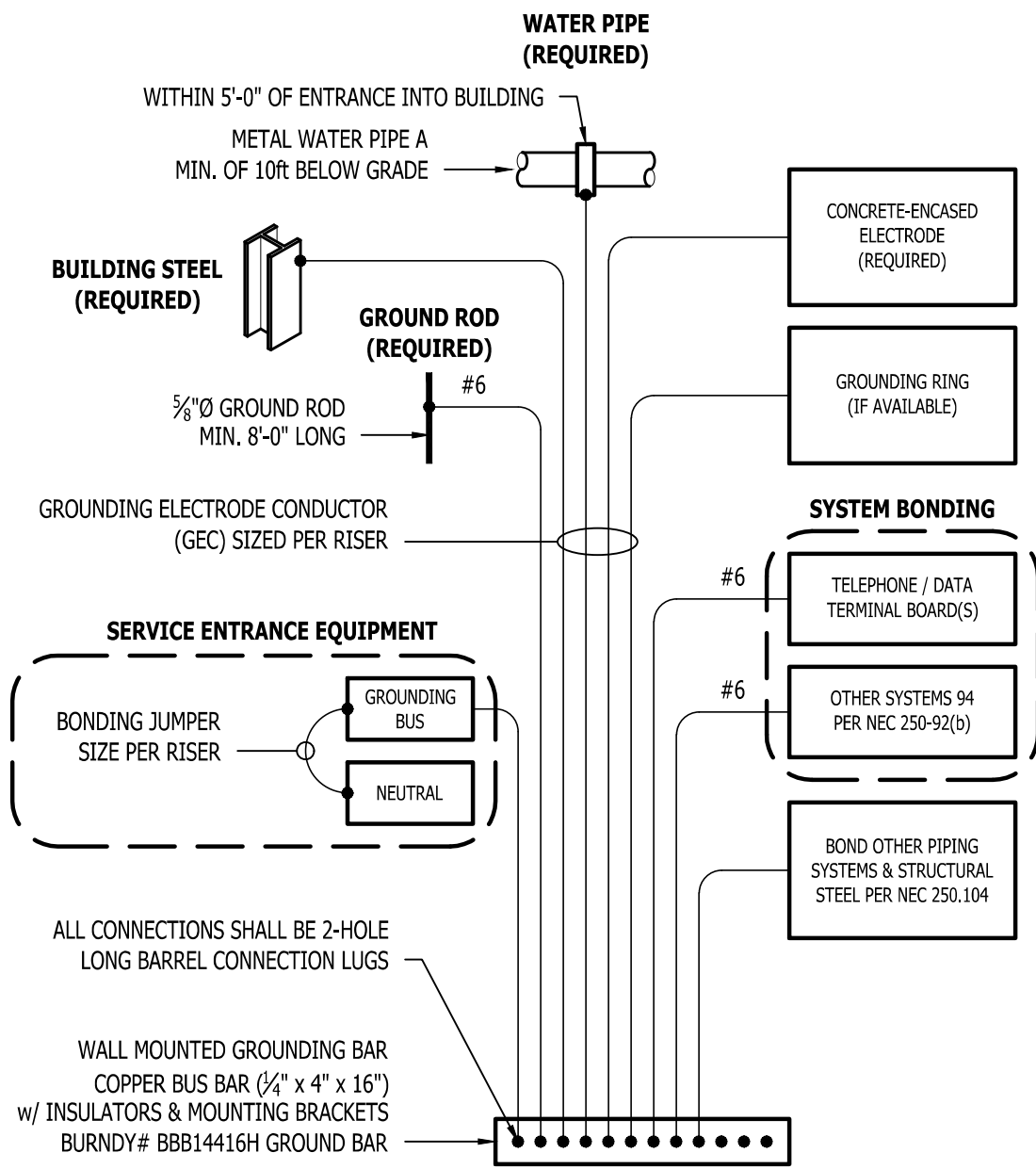
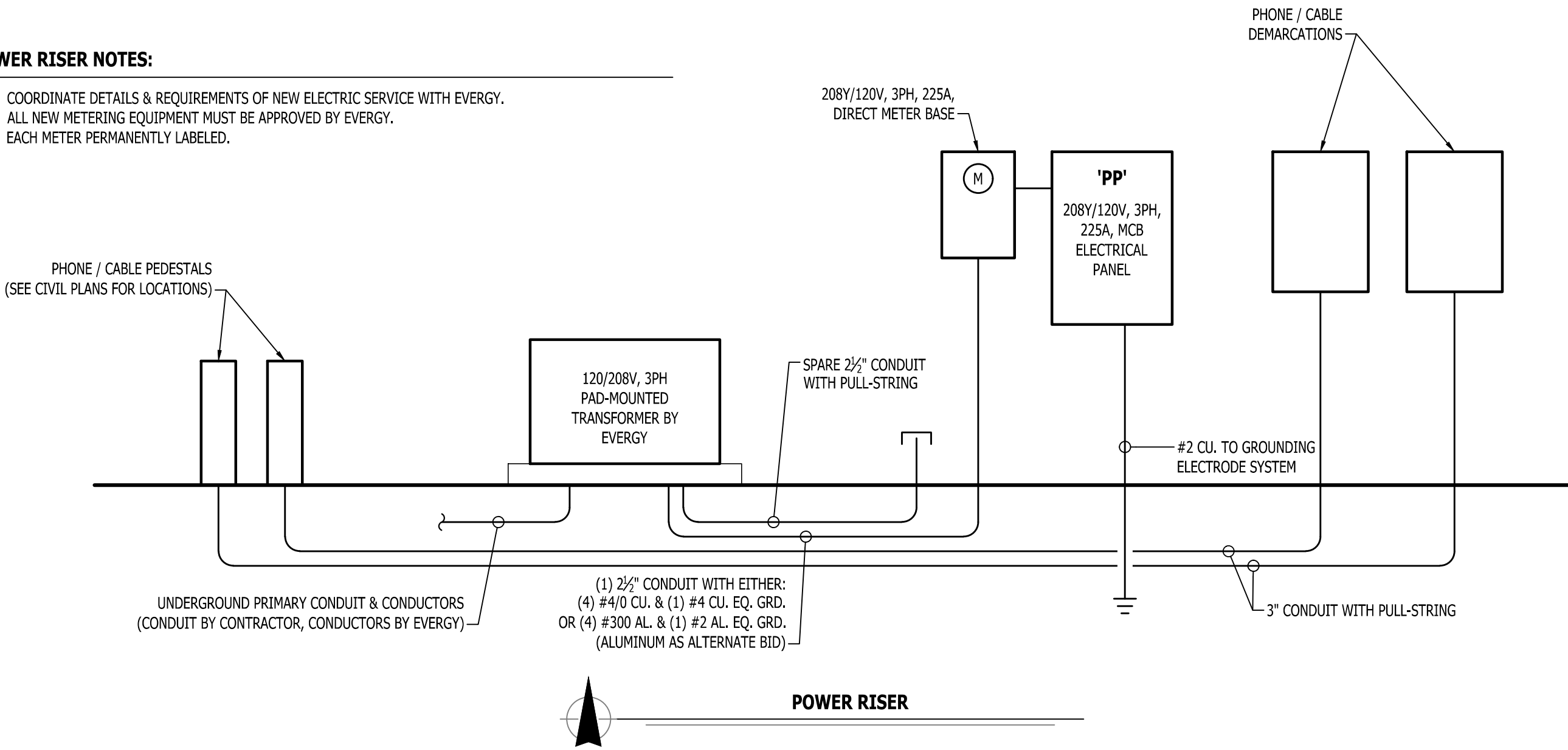
E501

POOL-HOUSE PANEL 'PP' SCHEDULE									
PANEL SPECIFICATIONS							TOTAL L CONNECTED LOAD		
VOLTAGE: 120/208V 3-PH			NEMA RATING: 1				PHASE "A" LOAD: 125.5 AMPS		
CAPACITY: 225A MCB			PANEL MOUNTING: SURFACE				PHASE "B" LOAD: 125 AMPS		
AIC-RATING: 22KA							PHASE "C" LOAD: 66 AMPS		
CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUIT NUMBER	
1	ACCESS CONTROLS	20-1	3	A	51	60-2	AHU-4	2	
3	EXTERIOR RECEPTS.	20-1	6	B	51	-	-	4	
5	POOL EQUIPMENT ROOM RECEPTS.	20-1	6	C	22	25-2	AHU-4	6	
7	KITCHENETTE AREA COUNTER RECEPTS.	20-1	6	A	22	-	-	8	
9	KITCHENETTE DISPOSAL	20-1	8	B	19	30-2	CU-4	10	
11	KITCHENETTE APPLIANCE	20-1	8	C	19	-	-	12	
13	KITCHENETTE APPLIANCE	20-1	8	A	22	30-2	WATER HEATER WH-2	14	
15	KITCHENETTE APPLIANCE	20-1	8	B	22	-	-	16	
17	OPEN AREA RECEPTS.	20-1	7.5	C	1	20-1	HWR PUMP	18	
19	OPEN AREA RECEPTS.	20-1	10.5	A		20-1	SPARE	20	
21	RESTROOM RECEPTS.	20-1	3	B		20-1	SPARE	22	
23	EXHAUST FAN EF-2	20-1	1	C		20-1	SPARE	24	
25	EXTERIOR LIGHTING	20-1	3	A			OPEN	26	
27	INTERIOR LIGHTING	20-1	8	B			OPEN	28	
29	FACP	20-1	1.5	C			OPEN	30	
31	SPARE	20-1		A			OPEN	32	
33	SPARE	20-1		B			OPEN	34	
35	SPARE	20-1		C			OPEN	36	
37	SPARE	20-1		A			OPEN	38	
39	SPARE	20-1		B			OPEN	40	
41	SPARE	20-1		C			OPEN	42	
NOTES: A: PANEL SHALL BE EQUAL TO SQUARE D MODEL "QO" B: ELECTRICIAN SHALL VERIFY EXACT EQUIPMENT OVERCURRENT PROTECTION REQUIREMENTS PRIOR TO PURCHASE & INSTALLATION OF EQUIPMENT. C: AFTER COMPLETION OF WORK, ELECTRICIAN SHALL PROVIDE A TYPE WRITTEN PANEL DIRECTORY IN NEW PANEL.									

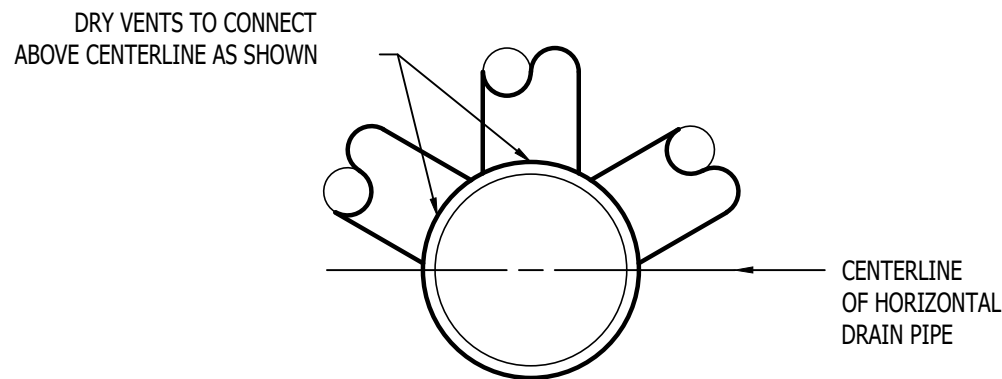
LIGHT FIXTURE SCHEDULE										
TAG	MANUFACTURER (OR EQUAL)	MODEL NUMBER (OR EQUAL)	DESCRIPTION	MOUNTING	LUMEN OUTPUT	CCT (°K)	CRI	VOLTS	WATTS	NOTES
C1	HALO	HLCE6129FS1E	6" LED SURFACE CAN	SURFACE / CEILING	1,200	3000	90	120	15	
C2	HALO	SLD6129S1EMW	6" LED SURFACE CAN	SURFACE / CANOPY	1,200	4000	90	120	16	WITH PAINTABLE TRIM - PAINT TO MATCH ADJACENT MATERIAL
E2	SURE LITES	APCH7RG WITH APWR2	INTERIOR EXIT LIGHT WITH EXTERIOR REMOTE HEAD	CEILING	-	-	-	120	1	WITH RED LETTERS
E3	SURE LITES	SEL50	EMERGENCY EGRESS LIGHT	INTERIOR WALL	-	-	-	120	1	
F2	-	-	CEILING FAN	SURFACE / CEILING	-	-	-	120	50 MAX	SELECTED BY OWNER
P1	ROYAL PACIFIC	4430-BN	LED PENDANT	SURFACE / CEILING	600	3000	80	120	8	
P2	-	-	DECORATIVE PENDANT	SURFACE / PENDANT	-	-	-	120	50 MAX	SELECTED BY OWNER
S1	METALLUX	45NX-SL3-LW-UNV-CC83-CD-1-FKO-U	4" LED STRIP	SURFACE / CEILING	4,511	4000	70	120	38	WITH 'ELL4W' EMERGENCY BATTERY BACKUP WHERE INDICATED
V1	ROYAL PACIFIC	4904-BN-4	LED VANITY	SURFACE / WALL	2,110	3000	80	120	30	
W2	TECH LIGHTING	700QWVEX9404ZUNV	UP / DOWN WALL SCONCE	EXTERIOR WALL	554	4000	90	120	19	
NOTES: 1. LIGHT FIXTURES PROVIDED BY OWNER THRU NATIONAL ACCOUNT AND INSTALLED BY ELECTRICAL CONTRACTOR. 2. ALL FIXTURE QUANTITIES TO BE VERIFIED BY ELECTRICAL CONTRACTOR PRIOR TO ORDERING. 3. CONTACT JUSTIN HATFIELD (573) 289-0880 (JHATFIELD@LAIWEB.NET) OR PAUL WARNER (314) 531-3500 (PWARNER@LAIWEB.NET) AT LIGHTING ASSOCIATES FOR NATIONAL ACCOUNT DETAILS. 4. CONTACT TRAVIS VOGT (417) 621-5210 (TVOGT@CED1135.COM) AT CED-PHILLIPS & COMPANY FOR NATIONAL ACCOUNT DETAILS.										

POWER RISER NOTES:

- COORDINATE DETAILS & REQUIREMENTS OF NEW ELECTRIC SERVICE WITH EVERGY.
- ALL NEW METERING EQUIPMENT MUST BE APPROVED BY EVERGY.
- EACH METER PERMANENTLY LABELED.

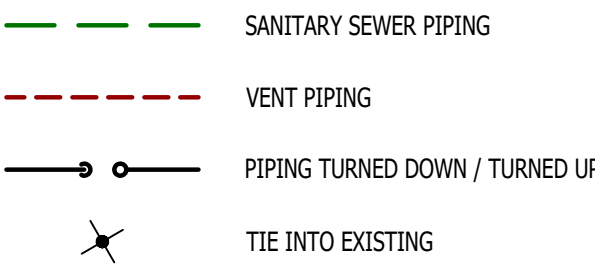


TYPICAL GROUNDING & BONDING DETAIL



DRY VENT DETAIL

SANITARY SEWER PLAN SYMBOL LEGEND



SANITARY SEWER PLAN GENERAL NOTES:

- REFER TO P500 AND/OR P600 SERIES SHEETS FOR ADDITIONAL PLUMBING NOTES, DETAILS, REQUIREMENTS, AND SCHEDULES.
- PLUMBING CONTRACTOR SHALL REVIEW ALL PROJECT DOCUMENTS AND COORDINATE LOCATION OF ALL EQUIPMENT, PIPING, HANGERS / SUPPORTS, ETC. WITH HVAC AND ELECTRICAL TRADES BEFORE INSTALLATION OF ANY MATERIAL. ADDITIONAL COSTS ASSOCIATED WITH LACK OF COORDINATION WILL NOT BE REIMBURSED.

PLUMBING CONNECTION SIZING SCHEDULE

FIXTURE		SANITARY PIPING		SUPPLY PIPING	
TYPE	TYPICAL ABBREVIATION	WASTE CONNECTION	VENT CONNECTION	COLD WATER CONNECTION	HOT WATER CONNECTION
DRINKING FOUNTAIN	DF	1-1/2"	1-1/4"	1/2"	-
FLOOR DRAIN	FD	3"	2"	-	-
HAND / HAIR SINK	HS / SK	2"	1-1/4"	1/2"	1/2"
HOSE BIBB	HB	-	-	3/4"	-
LAVATORY	LAV	1-1/2"	1-1/4"	1/2"	1/2"
MOP SINK	MS	3"	1-1/2"	1/2"	1/2"
ICE MAKER OUTLET BOX	REF	-	-	1/2"	-
SHOWER	SH	3"	1-1/2"	1/2"	1/2"
URINAL	UR	2"	1-1/4"	3/4"	-
WATER CLOSET (FLUSH TANK)	WC	3"	2"	1/2"	-
WATER CLOSET (FLUSH VALVE)	WC	3"	2"	1"	-

NOTES:

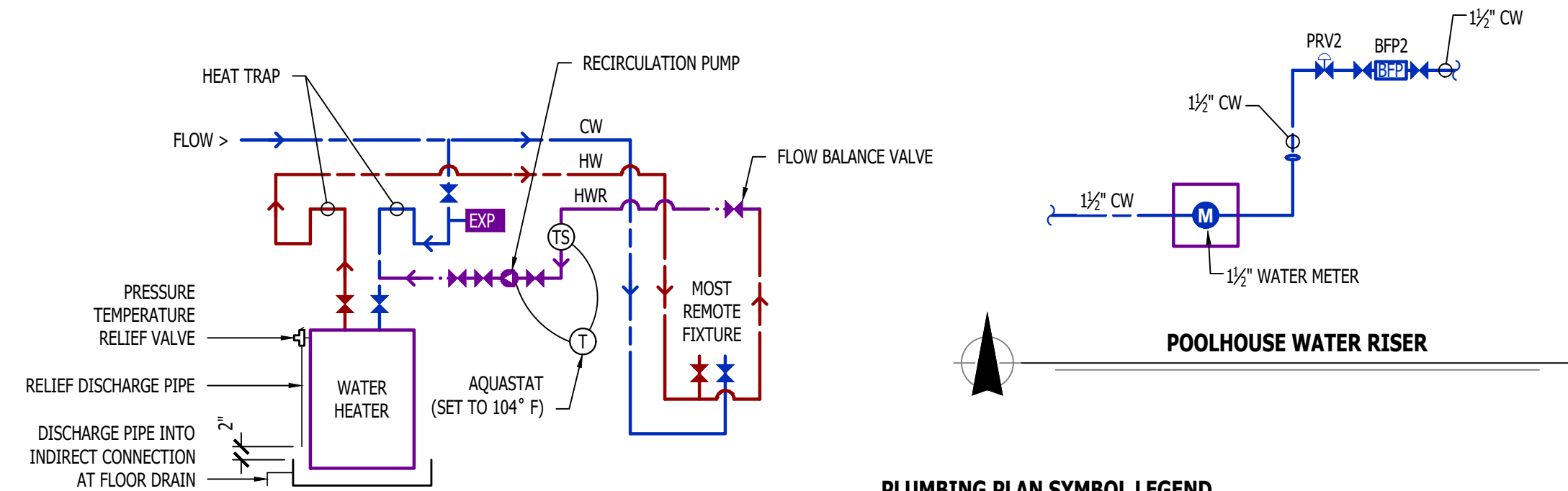
- SIZES SHOWN ABOVE ARE TYPICAL UNLESS NOTED OTHERWISE ON PLANS

PLUMBING FIXTURE SCHEDULE

TAG	DESCRIPTION	MANUFACTURER (OR EQUAL)	MODEL (OR EQUAL)	NOTES
BFP2	BACKFLOW PREVENTER	WILKINS	975XL2	RP2 - 3/4"
DF1	DRINKING FOUNTAIN	ELKAY	EZ5TL8LC	HI/LOW
EXP2	EXPANSION TANK	WATTS	PLT-5	
FCO1	FLOOR CLEAN OUT	ZURN	Z1400	
FD1	FLOOR DRAIN	ZURN	Z415-BZ	WITH Z1072 TRAP SEAL
FPHB1	FROST PROOF HOSE BIB	WOODFORD	MODEL 67	
FS1	FLOOR SINK	ZURN	FD2370	
LAV2	LAVATORY (DROP-IN W/ MANUAL FAUCET)	AMERICAN STANDARD	0475.028	WITH ZURN Z81104-XL FAUCET, 1/4 TURN STOPS, BRAIDED STAINLESS STEEL SUPPLIES, & 'TMV1'
MS1	MOP SINK	FIAT	MSB2424	WITH ZURN Z843M1 FAUCET WITH WALL HOOK
PRV2	PRESSURE REDUCING VALVE	ZURN	600XL	1-1/2"
REF1	REFRIGERATOR BOX	SIOUX CHIEF	696-G1000	
RP1	RECIRCULATION PUMP	GRUNDFOS	UP10-16 AUTO	
SK2	DOUBLE COMPARTMENT SINK W/DISPOSAL (33x22x7)	ELKAY	CR3322	WITH TWO HANDLED ZURN Z871C4-XL FAUCET AND INSINKERATOR BADGER 1 DISPOSAL WITH POWER CORD
TMV1	THERMOSTATIC MIXING VALVE - POINT OF USE	WATTS	LFUSG	
UR1	URINAL - MANUAL FLUSH	AMERICAN STANDARD	6550.001	WITH ZURN Z6003AV-WS1 MANUAL FLUSH VALVE (1.0 GPM/FLUSH)
WC1	WATER CLOSET - STANDARD HEIGHT - TANK	AMERICAN STANDARD	215CA.004	WITH CHURCH 7200SLEC SEAT AND COVER, STAINLESS BRAIDED SUPPLY, AND 1/4 TURN SHUT-OFF.
WC2	WATER CLOSET - ADA HEIGHT - TANK	AMERICAN STANDARD	215AA.004	WITH CHURCH 7200SLEC SEAT AND COVER, STAINLESS BRAIDED SUPPLY, AND 1/4 TURN SHUT-OFF.
WCO1	WALL CLEAN OUT			
WH1	WATER HEATER - ELECTRIC - LOWBOY	AO SMITH	ECLB-40	38 GALLON, 208V 1PH, 4500W; WITH 'EXP1'
YCO1	YARD CLEAN OUT	ZURN	Z1400	

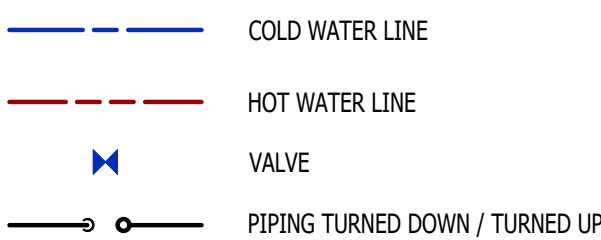
NOTES:

- VERIFY NECESSARY FIXTURES MEET ADA REQUIREMENTS WITH ARCHITECT PRIOR TO INSTALLATION



HOT WATER RECIRCULATION DETAIL

PLUMBING PLAN SYMBOL LEGEND

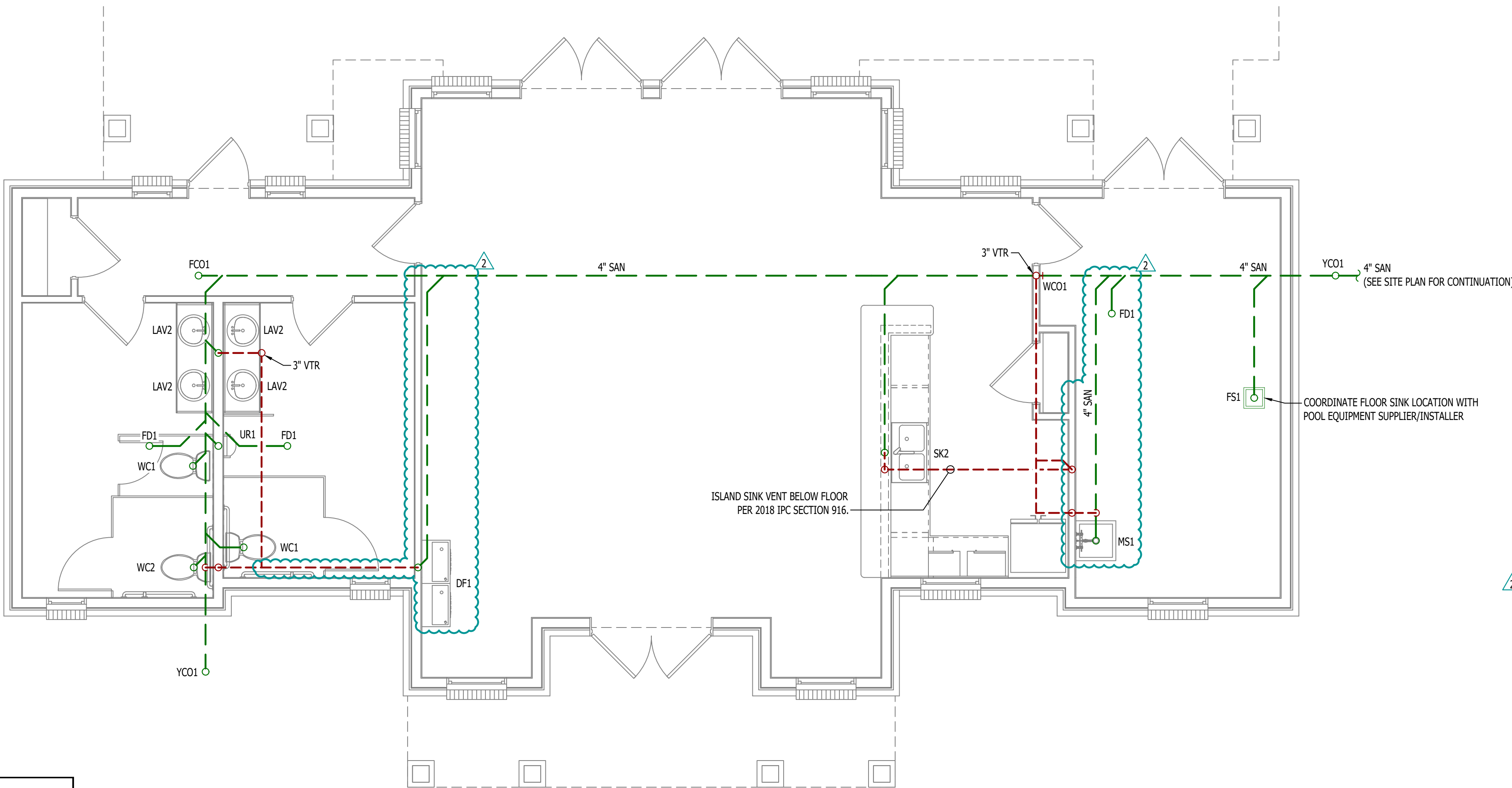


WATER PLAN GENERAL NOTES:

- SEE P500 &/OR P600 SERIES SHEETS FOR ADDITIONAL PLUMBING NOTES, DETAILS, & SCHEDULES.
- ALL PLUMBING LOCATED ON EXTERIOR WALLS SHALL ROUTE WITHIN INSULATION BARRIER.
- ALL DOMESTIC SUPPLY LINES SERVING MORE THAN (1) FIXTURE SHALL BE 3/4" UNLESS NOTED OTHERWISE.

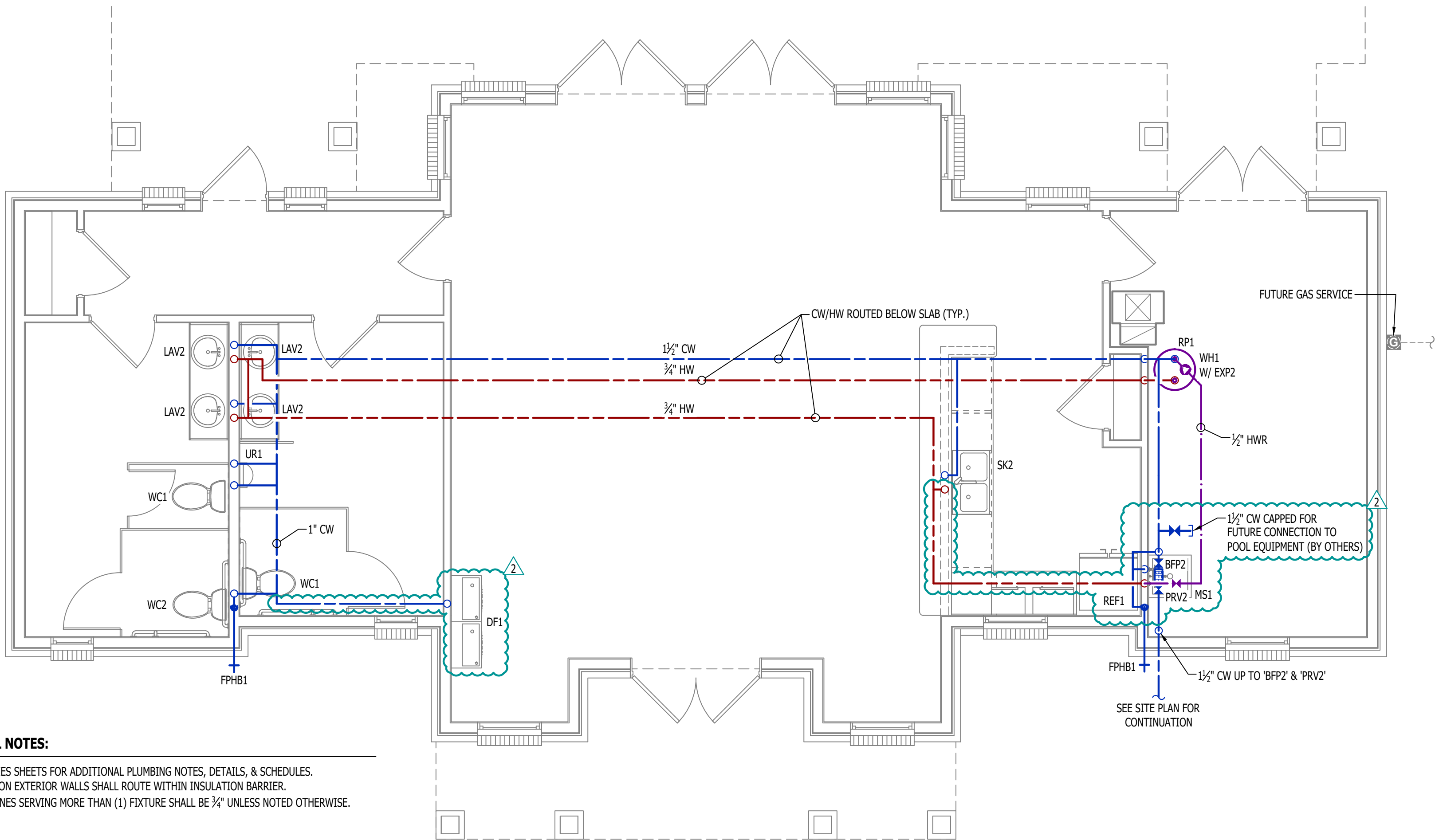
WATER PLAN KEY NOTES:

- 1" CW PIPE UP FROM BELOW WITH SHUT-OFF VALVE IN ACCESSIBLE LOCATION. SEE OVERALL PLUMBING PLANS FOR DETAILS.



SANITARY SEWER PLAN

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



WATER PLAN

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

RELEASED FOR CONSTRUCTION
As Noted on Plans Review

James Watson, P.E.
PE-2015017071
MO Certificate of Authority # 2018029680

June 13, 2025

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J2 PROJECT No:	J21357
J2 DESIGN:	ACW
ISSUE TITLE	DATE
PERMIT SET	04 - 15 - 2025
ADDENDUM 2	06 - 13 - 2025

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

The Village at Discovery Park Alura Apartments

Northeast Douglas Street
Lee's Summit, Jackson County, Missouri

AHJ APPROVAL STAMP

SHEET TITLE

PLUMBING PLAN

SHEET NUMBER

P101