# OSAGE CLUBHOUSE



PERMIT SET: AUGUST 5, 2020 REVISION #1-PLAN REVIEW COMMENTS: AUGUST 13, 2020







ARCHITECT

B+A ARCHITECTURE

100 W 31ST STREET, SUITE 100

KANSAS CITY, MO 64108

PH: 816-753-6100

CIVIL ENGINEER

OLSSON

1301 BURLINGTON STREET, SUITE 100

NORTH KANSAS CITY, MO 64116

PH: 816-361-1177

STRUCTURAL ENGINEER

PACKARD ENGINEERING

21021 OAK DRIVE

BELTON, MO 64012

PH: 816-767-7222

MEP ENGINEER

PKMR ENGINEERS

13300 W. 98TH STREET
LENEXA, KS 66215
PH: 913-312-0151

DEVELOPER
SUMMIT HOMES
120 SE 30TH STREET
LEE'S SUMMIT, MO 64082
PH: 816-246-6700



**AERIAL VIEW** 



SEAL:



08.13.2020

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#### **CODE INFORMATION**

OCCUPANCY USE GROUP: A-2 TYPE OF CONSTRUCTION: V-B

	REQUIRED/ALLOWED	PROVIDED
SQUARE FOOTAGE		
PER STORY	6,000 SQ.FT.	1,480 SQ.FT.
TOTAL BUILDING AREA	6,000 SQ.FT.	1,480 SQ.FT.
NUMBER OF STORY	1	1
BUILDING HEIGHT	40'	21'-5 1/4"
BUILDING ELEMENT FIRE RESISTANCE RAT	TING	
PRIMARY STRUCTURAL FRAME	0 HR	0 HR
BEARING WALL - EXTERIOR	0 HR	0 HR
BEARING WALL - INTERIOR	0 HR	0 HR
NONBEARING WALL AND PARTITIONS - EXTERIOR	0 FOR X >=30	0 HR
NONBEARING WALL AND PARTITIONS - INTERIOR	0 HR	0 HR
FLOOR CONSTRUCTION	0 HR	0 HR
ROOF CONSTRUCTION	0 HR	0 HR
FIRE PROTECTION AND RESISTANCE REQU	IIREMENTS	
FIRE BARRIERS - STAIR ENCLOSURES	N/A	N/A
FIRE PARTITIONS - DEMISING WALL	0 HR (IBC 708.3)	0HR
FIRE PARTITIONS - HOR. ASSEMBLIES	N/A	N/A
FIRE PARTITIONS - CORRIDOR WALLS	0 HR (IBC 1018.1 EX. 4)	0HR
FIRE PARTITIONS - AREA SEPARATIONS	N/A (IBC TABLE 508.4)	N/A
FIRE PROTECTION SYSTEM	AUTOMATIC SPRINKLER SYSTEM	N/A (IBC 903.2.1.2)
FIRE ALARM AND DETECTION	A MANUAL FIRE ALARM	N/A (IBC 907.2.1)

## EGRESS OCCUPANT LOAD

CLUBHOUSE	TYPE	SF/LOAD FACTOR	OCCUPANCY LOAD
	(1) ASSEMBLY	776/15	52
	(2) STORAGE	235/300	1
	TOTAL		53 (A)

#### ADDITIONAL OCCUPANT LOADS

	TYPE	SF/LOAD FACTOR	OCCUPANCY LOAD
	(1) P00L	2,698/50	54
	(2) POOL DECK	4,312/50	87
	(3) PATIO / OUTDOOR	609 /15	41
	TOTAL		182 (B)
TOTAL			235 (A+B)

TOTAL		235 (A+B)
EGRESS WIDTH - STAIRS (IBC 1005.3)	N/A	N/A
EGRESS WIDTH - CLUBHOUSE (PER IBC 1005.3)	53 x 0.2" = 10.6" MIN.	72" (EXIT DOORS)
NUMBER OF EXITS - CLUBHOUSE	2 (PER IBC 1006.2.1)	2
EGRESS WIDTH - POOL DECK (PER IBC 1005.3)	$182 \times 0.2$ " = $36.4$ " MIN.	72" (EXIT DOORS)
NUMBER OF EXITS - POOL DECK	2 (PER IBC 1006.2.1)	2
MAX. TRAVEL DISTANCE TO EXIT	200' MAX. (PER IBC 1017.2)	38'-0"
ROOF COVER CLASSIFICATION	В	В
ACCESSIBILITY		

N/A (PER 1108.2.2.1)

## ACCESSIBILITY WHEELCHAIR SPACES PLUMBING FIXTURES

TYPE - REQUIRED	MALE	FEMALE
WATER CLOSET	(235/2)/75=1.57 (~2)	(235/2)/75=1.57 (~
LAVATORIES	235/200=	1.18 (~2)
SERVICE SINK	1	
WATER FOUNTAIN	1 PER	500

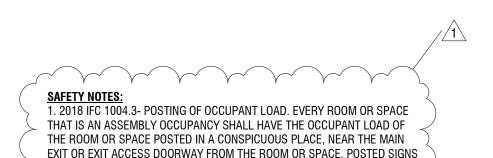
	TYPE	REQUIRED	PROVIDED
	WATER CLOSET	4	4
OTAL	LAVATORIES	2	5
	URINAL	N/A	1
	SERVICE SINK	1	1
	WATER FOUNTAIN	1	1

## APPLICABLE BUILDING CODES

2018 INTERNATIONAL BUILDING CODE
2018 INTERNATIONAL MECHANICAL CODE
2018 INTERNATIONAL PLUMBING CODE
2018 INTERNATIONAL FUEL GAS CODE
2018 INTERNATIONAL FIRE CODE
2017 NATIONAL ELECTRIC CODE
ICC/ANSI A117.1-2009

#### **DESIGN LOADS**

ROOF LIVE LOAD: 20PSF MIN.
 ROOF SNOW LOAD: 20PSF (GROUND SNOW LOAD)
 WIND: 93MPH, EXP. B



## OCCUPANT LOAD SIGNS: CLUBHOUSE: 53 POOL AREA: 182

MAINTAINED BY THE OWNER OR AUTHORIZED AGENT.

2. 2018 IFC 407.3- IDENTIFICATION. INDIVIDUAL CONTAINERS OF HAZARDOUS

MATERIALS, CARTONS OR PACKAGES SHALL BE MARKED OR LABELED IN

ACCORDANCE WITH APPLICABLE FEDERAL REGULATIONS. BUILDINGS,

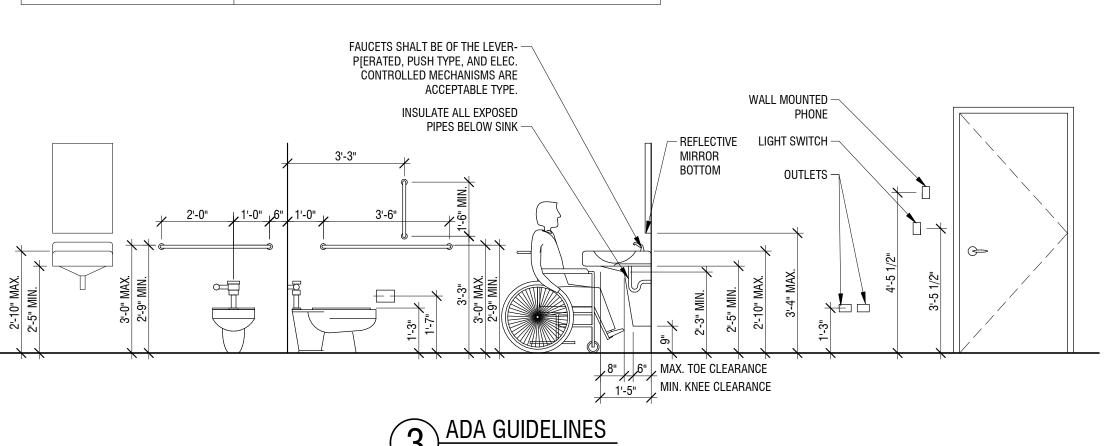
ROOMS AND SPACES CONTAINING HAZARDOUS MATERIALS SHALL BE

IDENTIFIED BY HAZARD WARNING SIGNS IN ACCORDANCE WITH SECTION

SHALL BE OF AN APPROVED LEGIBLE PERMANENT DESIGN AND SHALL BE

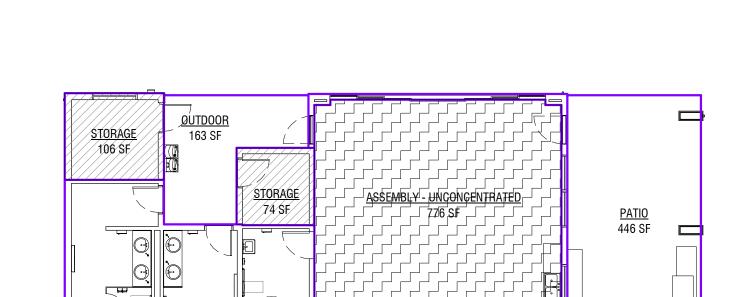
5003.5.
 LABEL POOL EQUIPMENT, CHEMICALS ARE STORED ON SITE.





N/A





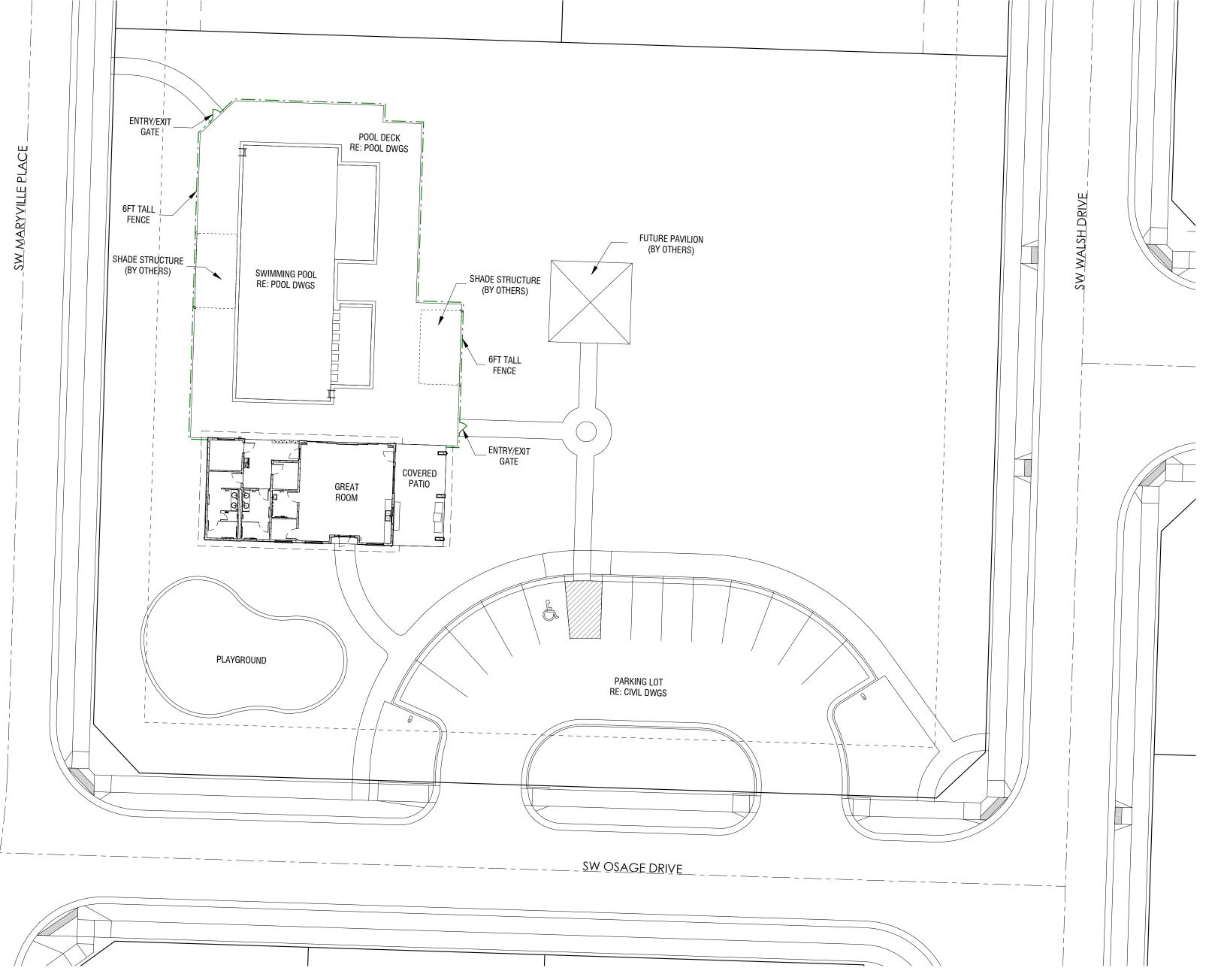
ASSEMBLY: 776 SQ.FT. OR 52 OCC. LOAD STORAGE: 235 SQ.FT.

**LEGEND** 

<u>storage</u>

AREA & OCCUPANT LOAD DIAGRAM

3/32" = 1'-0"



FIRE EXITING PLAN

3/32" = 1'-0"

ARCHITECTURE

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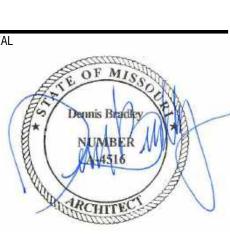
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13300 W 98TH STREET
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LANDSCAPE ARCHITECT
JASON MEIER
15245 METCALF AVE.

JASUN MEIER 15245 METCALF AVE. OVERLAND PARK, KS 66223 PH: 913-787-2817

OSAGE CLUBHOUSE
2025 SW M 150 HWY
LEE'S SUMMIT, MISSOURI 64082



	MCHITEC	
	08.05.2020	)
DA	TE ISSUED: AUGUST 05, 2020	
NO	. REVISION	DATE
1	Plan Review Comments	08/13/2019

DESIGNED BY: FCR
DRAWN BY: FCR
CHECKED BY: TT/DMB

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PROJECT INFORMATION

A001

- 7/8" MIN. THICK. THREE COAT

CEMENTITIOUS STUCCO (SCRATCH-

LUBHOUSE / M 150 HWY , MISSOURI 64082

ARCHITECT

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100 W 31ST STREET, SUITE 100

1301 BURLINGTON STREET, SUITE 100

NORTH KANSAS CITY, MO 64116

PACKARD ENGINEERING

- MANUFACTURED VENEER STONE INSTALLED PER M.F.C. INSTRUCTION

– MORTAR JOINT

OSAGE 2025 LEE'S SUMIN

08.05.2020

REVISION

DESIGNED BY: FCR DRAWN BY: FCR

CHECKED BY: TT/DMB

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## **SPECIFICATIONS:**

- A. GENERAL NOTES
- 1. The Contractor shall not make any changes from these plans without the Owner's written approval prior to the
- 2. The Contractor shall submit any price changes to the Owner for review and approval prior to making any changes in the work that would require a change in cost.
- The Contractor shall be responsible for picking up permits required by City of Lee's Summit, Missouri.
- 4. The Contractor shall field verify all conditions and report any discrepancies or concerns to the Owner prior to
- 5. All demolition materials and construction debris shall be the responsibility of each subcontractor and shall be disposed of in an dumpster provided by the General Contractor.
- 6. The Sub-Contractor shall be responsible for all concrete testing required in the specifications.
- The Contractor shall field verify site conditions before starting construction. Re: Civil drawings
- 8. The Contractor shall verify the location of all site utilities shown with local utility companies. Utility lines damaged will be replaced at no cost to the owner.
- 9. All sidewalks, driveway aprons and parking paving on the street right-of-way shall conform to the public works requirements of City of Lee's Summit, Missouri
- 10. If any unforeseen hazardous materials not identified within these construction documents are encountered in the construction process, immediately notify the Owner and stop work at the area of concern and wait for further instruction.
- 11. The Contractor shall check all plans before pouring foundation or concrete slabs to verify that all utility lines, beam pockets, anchor bolts and/or any other embedded or cast in place items are properly located and in place.
- B. SITE CLEARING
- Project Conditions:
- Remove trees, shrubs, grass, and other vegetation, improvements, or obstructions, as required to permit installation of new construction.
- 1.2. Completely remove stumps, roots, and other debris protruding through ground surface.
- Disposal of Waste Materials:
- 2.1. Remove waste materials from Owner's property.
- 2.2. Burning is not permitted on Owner's property. Transport removed materials to a City approved "dump site".
- C. EARTHWORK
- Rough Grading: Grade and rough contour site.
- 2. Excavation:
- 2.1. Bearing capacity 1,500 psi minimum
- 2.2. Excavate for building foundations.
- 2.3. Provide shoring where required.
- 3. Trenching.
- 3.1. Excavate trenches for utilities
- Compacted bed and compacted fill over utilities.
- 4. Backfilling: Provide all backfilling and such grading around the new construction as is necessary to prevent water from standing or draining against the building.
- Site Filling & Compacting:
- 5.1. Prepare sub-grade ready for sod, sidewalks and paving.
- Provide compacted aggregate base course for paved area.
- Finish Grading: Place and level topsoil materials prior to landscaping work.
- Classification of Excavated Materials: Excavation materials for this project shall be considered firm soil. Removal of concealed foundation, rock excavation, landfill areas, are not included in this contract. If these items are discovered, the Owner will provide testing and engineering to resolve this issue.
- 8.1. Protect all trees, shrubs, and/or other features remaining as a part of the final landscaping.
- 8.2. Protect above and below grade utilities which are to remain.
- Grade excavation top perimeter to prevent surface water runoff into excavation.
- Surplus Materials: Dispose of unsatisfactory excavated material and surplus satisfactory excavated materials away from the site.
- 10. Borrow: Obtain material required for fill or embankment in excess of that produced within the grading limits of the Work from borrow areas selected and paid for by the Contractor and approved by the Owner's
- 11. Excavating for Structures: In excavating for footings and foundations, take care not to disturb bottom of
- 11.1. Excavate by hand tools to final grade just before concrete is placed;
- 11.2. Trim bottoms to required lines and grades to leave solid base to receive concrete.
- 12. Filling & Backfilling: Backfill excavations as promptly as progress of the Work permits, but not until completion of the following:
- 12.1. Acceptance of construction below finish grade including, where applicable, dampproofing and
- Inspecting, testing, approving, and recording locations of underground utilities.
- 12.3. Removal of concrete formwork.
- Removal of shoring and bracing, and backfilling of voids with satisfactory materials.
- Removal of trash and debris.
- Placement of horizontal bracing on horizontally supported walls or setting of first floor joists and
- Placement of foundation drainage system.
- 13. Expansion Joints: Provide pre-molded joint filler for expansion joints abutting concrete curbs, structures, walks and other fixed objects.
- 14. Concrete Finishing: After completion of floating and when excess moisture or surface sheen has disappeared, complete troweling and finish surface as follows:
- 14.1. Broom finish by drawing a fine-hair broom across concrete surface perpendicular to line of traffic. Repeat operation if required to provide a fine line texture acceptable to the Owner's representative.
- 14.2. On inclined slab surfaces, provide a coarse, non-slip finish by scoring surface with a stiff-bristled broom, perpendicular to line of traffic.
- D. SODDING

Sod: Sod shall contain a good cover of living and growing grasses, must contain 80% good quality native blue grass and 90% free from all noxious weeks and annual grasses and strongly netted. Sod delivered to the job site must not be lifted more than 24 hours in advance of being laid.

- CONCRETE WORK (RE: STRUCTURAL NOTES)
- STRUCTURAL STEEL (RE: STRUCTURAL NOTES)

- G. ROUGH CARPENTRY
- Sizing, and Dimension: All dimension lumber and plywood shown on the Drawings or required to accomplish the work shall be of nominal dimensions unless shown otherwise on the Drawings.
- 2. Moisture Content: All dimension lumber and plywood shall be kiln dried having a moisture content of not more than 15% unless otherwise noted or hereinafter specified.
- 3. Framing Lumber:
- Plates, blocking, bracing, nailers and general utility purposes: SPF, standard or better
- General framing, joists: SPF#2 or better.
- 3.3. Rim Joist Rimboard or approved equal
- 4. Plywood:
- Floor Sheathing: 4'-0: x 8'-0" x 3/4" thick tongue & groove plywood, APA performance rated panels, interior grade C-D with exterior glue, or OSB - Contractor's option.
- Exterior Soffits: Hardie board or approved equal
- Pressure Treated Wood: For all plates in contact with the foundation.
- Provide pressure treated wood (ground contact) for all wood in contact with concrete.
- Joist Hangers: As required and as manufactured by Kant-Sag, Simpson, Teco or approved equal.
- Wood to Steel Beam Connectors: Power actuated fasteners; 5/32" diameter standard velocity fastening
- 5.3. Post Bases: Simpson or approved equal.
- 6. General Framing:

5. Rough Hardware:

- Install wood blocking and backing required for the work of other trades. Contractor to coordinate
- Fabricate headers full thickness of framing using pieces of stud material set on edge with spacers, or solid lumber of equivalent size.
- Provide double top plates. Lap members minimum 2 feet.
- 7. Bridging: Install wood cross bridging per truss manufacturer's instructions, and as required by current adopted IRC.
- INTERIOR ARCHITECTURAL WOODWORK
- Shelving: Provide wood pole and shelf at all closets unless noted otherwise, or aproved equal
- 2. Trim: Case molding, base trim and stair trim in standard shapes, finish grade wood. Type: Colonial or Princeton as selected by owner.
- 3. Quality Standard:
- Install woodwork to comply with AWI Section 1700.
- Install all work plumb, level, true, and straight with no distortions. Shim as required with concealed shims. Install to a tolerance of 1/4" in 8'-0" for plumb and level and with no variations in flushness of
- Scribe and cut woodwork to fit adjoining work and refinish cut surfaces or repair damaged finish at
- Anchor all work to blocking built in or directly attached to substrates. Secure to grounds, stripping and blocking with countersunk, concealed fasteners and blind nailing as required for a complete installation.
- THERMAL INSULATION
- Batt Insulation: in thickness as indicated on drawings. Comply with FS HH-I-521F, Type II, densities of not less than 0.5 lb per cubic ft. in manufacturer's standard lengths and width as required to coordinate with spaces to be insulated. Provide units with fire rating of 25 per ASTM E84 as manufactured by Certain-Teed Products Corp., Owens Corning Fiberglass Corp., or approved equal.
- Installation:
- 2.1. Extend insulation full thickness as shown over entire area to be insulated. Cut and fit tightly around obstructions, and fill voids with insulation. Remove projections which interfere with placement.
- Apply a single layer of insulation or required thickness, unless otherwise shown or required to make up total thickness.
- 3. Ceiling/ Roof Insulation: Fiberglass Batt Insulation: R-38 or better
- 4. Wall Insulation: R-20 or better
- 5. Comply with current adopted IECC
- J. ROOFING
- 1. Shingles:
- 1.1. Conform to UL "Prepared Roofing Materials "Shingles Class A" and Federal Specification SSS-291d.
- 1.2. Tamko, Heritage Premium Roofing Products, Inc. or approved equal, 50 warranty. Color to be selected
- Edge Trims & Flashing: Prefinished metal.
- 1.5. Installation:
  - 1.5.1. Apply one layer 15 Lb asphalt saturated roofing felt, over sound decking with a minimum 12" headlap and a 24" minimum side lap.
- 1.5.2. Install roofing prior to installation of guttering.
- 2. Standing Seam Metal Roof: Install per MFG instructions.
- K. JOINT SEALERS
- 1. Applications:
- 1.1. Where exterior paving abuts vertical structures.
- Exterior building wall joints including at windows, louvers, and exterior doors.
- 1.3. Flashing joints.
- All joints between dissimilar materials.
- 2.1. Prime or seal the joint surfaces wherever shown or recommended by the sealant manufacturer. Install sealant to depths as recommended by the sealant manufacturer.
- 2.3. Set all flashings, thresholds, sills and similar items in full bed of sealant.
- 3. Exterior & Interior Horizontal Joints: Where joints of surfaces are subject to traffic, use two-part polyurethane
- based, elastomeric sealant as follows: 3.1. Self leveling, complying with ASTM C9820-79, grade P, class 25, "Vulkem 45", one-part.
- 4. Interior Joints: Manufacturer's standard, one-part, no sag, mildew resistant, acrylic emulsion sealant complying with ASTM C 834.
- 5. Joint Fillers: provide resilient and non-extruding type pre-molded bituminous impregnated fiberboard where interior and exterior concrete slabs meet walls and similar isolation joints.
- 6. Bond Breaker Tape: Polyethylene tape or other plastic tape as recommended by the sealant manufacturer.
- WOOD DOORS & FRAMES
- 1. Interior doors shall be manufactured in accordance with NWWDA 1.S.1. 1-87, sec. 3.7.3 (B) and shall be faced with Craftsman Ceermont door facings as manufactured by Masonite in accordance with Basic Hardboard Product Standard ANSI/AHA 135.4-1982 (reaffirmed, 1988).

- 2. Fitting:
- 2.1. Pre-fit door to provide maximum clearance of 1/8" at sides and top and 3/4" at bottom unless otherwise
- Within four days of fitting each door, seal affected area with at least two coats of water white lacquer.
- M. WINDOWS AND SLIDING GLASS DOORS

Aluminum-Clad Wood Windows: Architectural Collection E-Series by Andersen or approved equal Sliding Glass Doors: Series 7600 by Western Window System or approved equal.

- N. STORE-FRONT SYSTEM
- General requirements
- 1.1. Scope: This section includes all labor, material and equipment necessary to complete all work specified herein and as indicated within the construction documents. The work of this section includes, but is not limited to; the furnishing and installation of all aluminum fixed systems.
- 2. Materials
- 2.1. Aluminum Fixed System: MANKO 2450FS storefront and 150 series front set glazed, fixed system with a poured-in-place thermal break with color to be determined by architect. Aluminum fixed system shall conform to the criteria of ANSI/AAMA 101-I.S2-97.
- 2.2. Glazing: PPG solarban 60. All glazing stops to be snap-in type.
- 3. Installation: 3.1. Use only skilled tradesman for the installation of the aluminum fixed system and components specified
- 3.2. Bring any discrepancies between the project plans and field conditions to the attention of the General Contractor prior to the commencement of any work in the area in question.
- Erect the aluminum fixed system and components square and true in strict accordance with the manufacturer's published installation instructions. The installer is to furnish adequate anchoring to maintain position and integrity of the fixed system when subjected to normal building movement and the
- Furnish and apply sealants in accordance with the manufacturer's published installation instructions
- GYPSUM DRYWALL
- 1. Exposed Gypsum Drywall:
- 1.1. Thickness of 1/2" where stud or rafter spacing is 16", 5/8" where stud or rater spacing exceeds 16".
- Sheet size to be maximum length available which will minimize end joints.
- 1.3. Stapling: Stapling of trim accessories will not be permitted.
- 2. Plastic Edge Trim: Plastic edge trim will not be permitted. Installation:
- 3.1. Stagger the boards so that corners of any four boards will not meet at a common point except in vertical
- 3.2. Install the gypsum wallboard to studs at right angles, making end joints, where required, over framing or
- Install ceiling drywall boards in the direction and manner which will minimize the number of end butt joints, and which will avoid end joints in the central area of each ceiling. Stagger end joints at least 1'-0".
- PAINTING Preparation: Wood Surfaces: Clean wood surfaces to be painted of all dirt, oil, or other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sand smooth those finished surfaces exposed to

4. Ceilings: Spray texture ceiling surfaces with medium texture popcorn finish. Paint or as approved by owner.

- view, and dust off.
- 2. Application: 2.1. Provide the best quality grade of the various types of coating as regularly manufactured by acceptable
  - paint manufacturers, i.e., Sherwin-Williams Paint Company or approved equal. Sand and dust between coats to remove defects visible to the unaided eye from a distance of five feet.
- Allow sufficient drying time between coats.

per manufacturer's specifications.

- Where spray application is used, apply each coat to provide the hiding equivalent of brush oats.
- Do not double back with spray equipment to build up film thickness of two coats in one pass.
- 3. Gypsum Drywall Systems (Walls): two (2) coats interior latex.

4. Wood Finish: by owner as selected

- CERAMIC/PORCELAIN TILE
- General requirements 1.1. Scope: This section includes all labor. material and equipment necessary to complete all work specified herein and as indicated within the construction documents. The work of this section includes, but is not limited to, the following areas; floors, walls, shower walls and floors, countertops, decks and balconies,
- patios and walkways. Quality Assurance: All workmanship and material shall be in conformance with applicable portions of ANSI Specifications and Standards and Handbook for Ceramic Tile Installation by the Tile Council of America, current edition.
- 2. Materials 2.1. Tile: Refer to the construction documents, see plans, finish schedule and interior elevations for areas
- Tile Backer Board: GEORGIA PACIFIC BUILDING PRODUCTS DensShield Tile Backer.

Acrylic Mortar Admix. Metal lath - 2.5 lbs/yard self furred expanded metal.

- Membranes: Cleavage Membrane: 15# roofing felt or approved equal; Moisture Barrier: 15# roofing felt; Waterproof Membrane: hot mopped felt, or approved equal. Mortar Bed: CUSTOM BUILDING PRODUCTS Custom-Float Bedding Mortar mixed with water and
- 2.5. Tile Adhesives: CUSTOM BUILDING PRODUCTS Master-Blend mixed with Custom-Flex latex. 2.6. Grout: CUSTOM BUILDING PRODUCTS Polyblend Sanded Colored Tile Grout - for joints 1/8" - 1/2". All grout colors shall be selected by the Owner.
- materials. CUSTOM BUILDING PRODUCTS Polyblend Ceramic Tile Caulk. Texture and color shall match 2.8. Tile Sealer: as recommended by CUSTOM BUILDING PRODUCTS and approved by Owner. Apply sealer

Elastomeric Joint Caulk: All joints between floors and walls and at all joints between tile and dissimilar

Preformed Shower Recesses: NOBLE Niches & Curbs #301 Square Niche, install per locations shown 2.9. within the construction drawings.

- 4.1. Examine surfaces which are to receive tile or stone. Verify that surfaces to receive tile are stable, flat, firm, dry, clean and free of oil, waxes and curing compounds. Do not proceed with work until defects or conditions which would adversely affect quality, execution and permanence of finish work are corrected. All concrete substrates shall be at least 28 days old, completely cured and free of hydrostatic conditions and/or moisture problems. Protect adjacent surfaces prior to beginning tile work.
- Installation Methods:
- 4.3. Over Wood Subfloor: Thin-set over glass mesh mortar units. Attach glass mesh mortar units to subfloor per manufacturer's recommendations.
- 4.4. Walls (Dry Locations): Thin-set over glass mesh mortar units.
- 4.5. Lay tile in grid pattern unless otherwise indicated on plans or directed by Architect. Terminate tile neatly at obstructions, edges and corners without disruption of pattern or joint alignment. Where tile cuts are necessary cuts shall be neat and scribed. Provide expansion joints, control joints, etc. as shown on plans and elsewhere as required.
- 4.6. Install grout in accordance with manufacturer's directions.
- 4.7. Clean and seal tile and grout in accordance with product manufacturer's recommendations.

#### R. EXTERIOR SIDING

#### Stone Veneer

- Stone veneer by Grand Canyon stone or approved equal
- 1.2. Installation: Cover the wall surface with a weather resistant barrier. Lap joints by applying felt horizontally with the upper layer lapped over the lower layer not less than 2" and end laps not less than 6". Barrier to be equal to U.S.C standard number 14-1. Install 2.5 lbs diamond mesh expanded metal lath. Use galvanized lath for exterior and black metal lath (non-galvanized) may be use for interior. Lap lath sides not less than  $\frac{1}{2}$ " and end laps not less than 1". (It is important to attach lath with the small diamonds pointing upwards.) On inside and outside corners turn the corner 16" minimum each way. (This is an important step.) Barrier to be equal to ASTM C-847.
- Mortar mix designs: 1.3.

DADTO DV	DODTI AND	MACONDY	LIVDDATELIME	OAND
PARTS BY	PORTLAND	MASONRY	HYDRATE LIME	SAND
VOLUME	CEMENT OR	CEMENT TYPE	OR LIME PUTTY	
MORTAR TYPE	BLENDED	(N)		
-	2	-	1	5 TO 7
S	3	-	-	5 TO 7
N	-	1	1½ TO 1¼	$2\frac{1}{4}$ TO 3
N	-	1	-	2 1⁄4 TO 3
lix for dry-stack s	eries			
PARTS BY	PORTLAND			SAND
VOLUME	CEMENT OR			
MORTAR TYPE	BLENDED			
_	3	* 2 PARTS THI	NSET MORTAR	7

- Setting coat: Select mortar type to be used from mortar chart. Mix per instructions and apply to wall in areas not to exceed 10 square feet or in areas that will not setup before stone is applied. Application
- method is the same as scratch coat. Weather conditions: In hot weather conditions it may become necessary to moisten the wall before applying the setting coat. Weather conditions may also require moistening the back of each stone. This is best done using a fine spray of water or a wet brush. This step is important to prevent excessive absorption or moisture from the mortar. Application must be protected from freezing temperatures by sheltering the wall as mortar will not set up properly under such conditions. Do not use anti-freeze
- compounds to lower the freezing point of mortar.
- 2. Stucco

BONDING AGENT 1 TO 1 (WITH WATER)

\* MUST BE LATEX MODIFIES THINSET FOR EXTERIOR USE MEETING ANSI A118.4

- Stucco system to be Dryvit systems. INC commercial Cement Plaster 3 or approved equal Description: Commercial Cement Plaster 3 consists of Dryvit Backstop NT air/water-resistive barrier, Dryvit CCP Base-Sanded or Concentrate, Dryvit acrylic primer and Dryvit acrylic coating or finish. CCP
- Base is applied directly to the properly installed paper backed metal lath (as required). Substrates shall comply with local code requirement and practices for use under cement plaster and
- shall be: Wood or metal framed wall assemblies sheathed with approved substrates. 2.4. Sealant: shall meet ASTM C 190 & approved by stucco MFG.
- Flashing shall be provided at all roof-wall intersections, windows, doors, chimneys, decks, balconies, and other areas as necessary to prevent water penetration behind Commercial Cement Plaster 3. Project conditions: as recommended by MFG

Prior to installation of Commercial Cement Plaster 3, it is the contractor's responsibility to ensure that

- the surfaces to receive stucco have been inspected to meet the requirement of the MFG. Installation per MFG recommendations
- TOILET ACCESSORIES Scope: This section includes all labor, material and equipment necessary to complete all work specified herein and as indicated within the construction documents. This section of work includes, but is not limited to; tissue
- dispenser, coat hooks, grab bars, etc. See Toilet Accessory schedule sheet A400

Installation: Install per manufacturer's instructions

- PLUMBING (See sheet P101)
- U. CABINETS
- Kitchen Cabinets & Restroom Vanities:
- 1.1. Plywood interior. 11 inch adjustable shelves in uppers. Shelves in bases. 1.2. Manufacturer: Profile Cabinet or equal

FINISH HARDWARE: Bright brass. See Door Hardware Schedule for details

Stained the same color as the door. See interior finish schedule and legend

EXTERIOR ACCESSORIES

- W. ELECTRICAL (See sheet E 201)
- Scope: This section includes all labor, material and equipment necessary to complete all work specified herein and as indicated within the construction documents. This section of work includes, but is not limited to; eaves, wall vents, out door restroom signs, grill, bench, etc.
- Installation: Install per manufacturer's instructions



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21021 OAK DRIVE BELTON, MO 64012 PH: 816-767-7222 MEP ENGINEER PKMR ENGINEERS

13300 W 98TH STREET

LENEXA, KS 66215

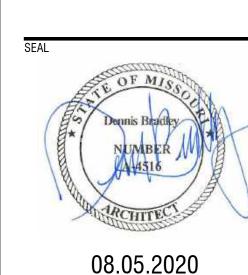
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PACKARD ENGINEERING

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NDITIONS SHOWN HEREON AND AT ONCE REPORT TO THE

RCHITECT ANY ERROR INCONSISTENCY OR OMISSION DISCOVER

SPECIFICATIONS

ALL PLAN DIMENSIONS GIVEN ARE TO FACE OF STUD OR MASONRY,

U.N.O.
REFER TO STRUCTURAL DRAWINGS FOR FRAMING INFORMATION
ALL DOOR OPENINGS TO BE LOCATED 4" FROM NEAREST WALL CORNER,

U.N.O.

SEE FINISH SCHEDULE ON SHEET A800 FOR MATERIAL INFORMATION

5. SEE DOOR/WINDOW SCHEDULE ON SHEET A600
6. SEE SHEET A400 FOR ENLARGED FLOOR PLANS

SECTION IDENTIFICATION

- SHEET DESIGNATION

— SHEET DESIGNATION

— ELEVATION IDENTIFICATION

ELEVATION:

DOOR DESIGNATION

WINDOW/STOREFRONT DESIGNATION

SPOT ELEVATION

WALL TYPE DESIGNATION

WALL TYPES

E1 EXTERIOR WALL, 2X6 WOOD STUD, STUCCO FINISHING. INSULATED

STUCCO FINISHING, INSULATED
RE: DETAIL 1 / A002
EXTERIOR WALL, 2X6 WOOD STUD,
STONE VENEER FINISHING, INSULATED
RE: DETAIL 2 / A002

RE: DETAIL 2 / A002

EXTERIOR COLUMN WRAP, WOOD
COLUMN, STUCCO FINISHING / STONE
VENEER BASE
RE: DETAILS 3 & 4 / A002

P1 TYPICAL INTERIOR WALL, 2X4 WOOD STUD, GYP. BOARD FINISHING

RE: DETAIL 5 / A002

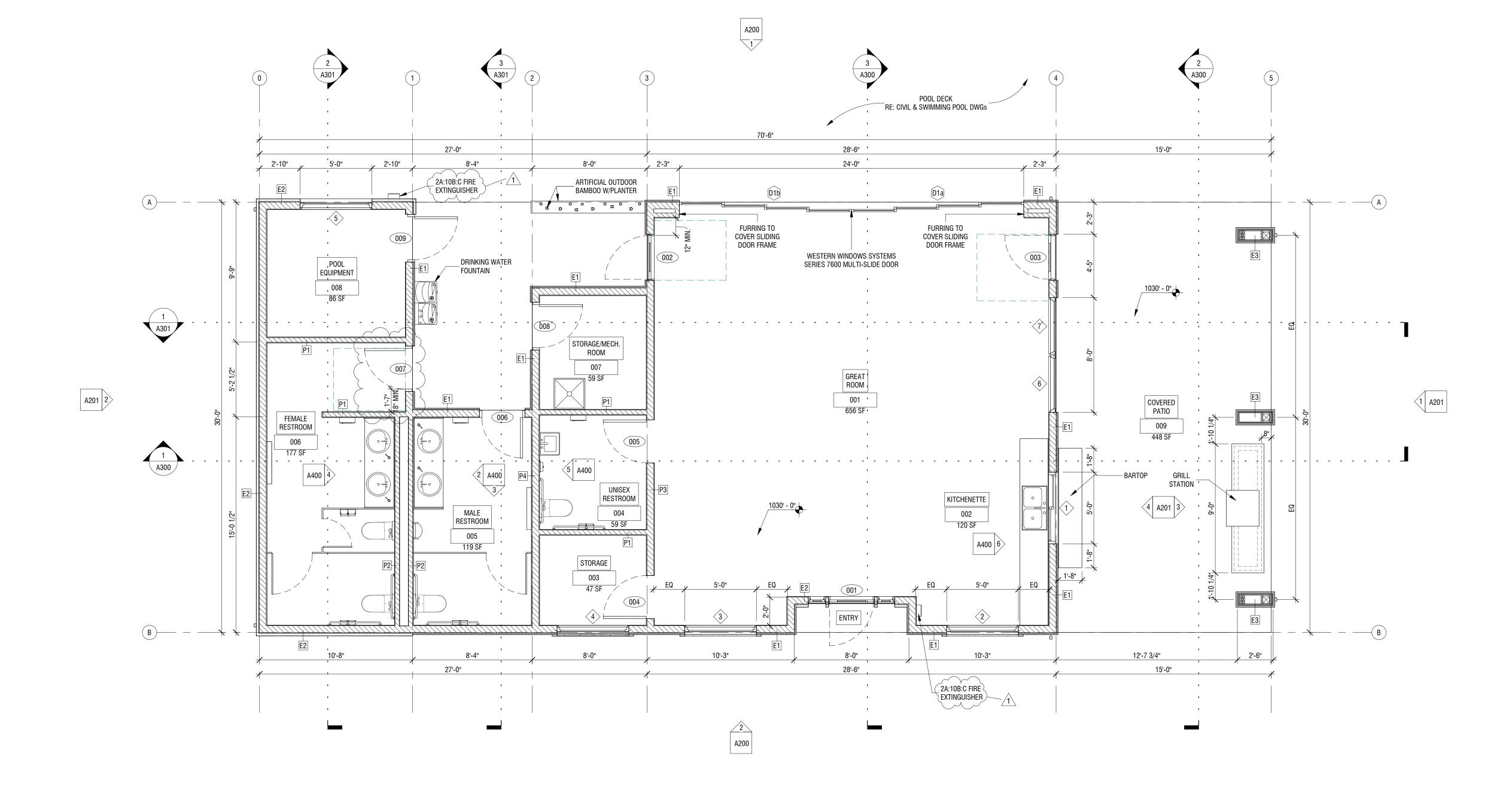
TYPICAL INTERIOR WALL, 2X4 WOOD STUD, 1 SIDE GYP. BOARD FINISHING RE: DETAIL 6 / A002

TYPICAL INTERIOR WALL, 2X6 WOOD

RE: DETAIL 7 / A002

TYPICAL INTERIOR WALL, 2X6 WOOD
STUD, GYP. BOARD FINISHING - PLUMBING
RE: DETAIL 8 / A002

STUD, GYP. BOARD FINISHING





1 FLOOR PLAN
1/4" = 1'-0"



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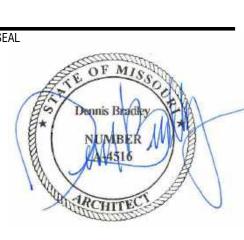
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OSAGE CLUBHOUSE
2025 SW M 150 HWY
LEE'S SUMMIT, MISSOURI 64082



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A100

### GENERAL NOTES

- REFER TO STRUCTURAL DRAWINGS FOR FRAMING INFORMATION
   INSTALL ALL ROOF PENETRATIONS AND EQUIPMENT (IE, VENT PIPES,
- ROOF VENTILATORS) ON THE REAR SIDE OF THE ROOF, TO THE GREATEST EXTENT POSSIBLE REFER TO PLUMBING DRAWINGS FOR ROOF DRAINS AND OVERFLOW

ARCHITECTURE

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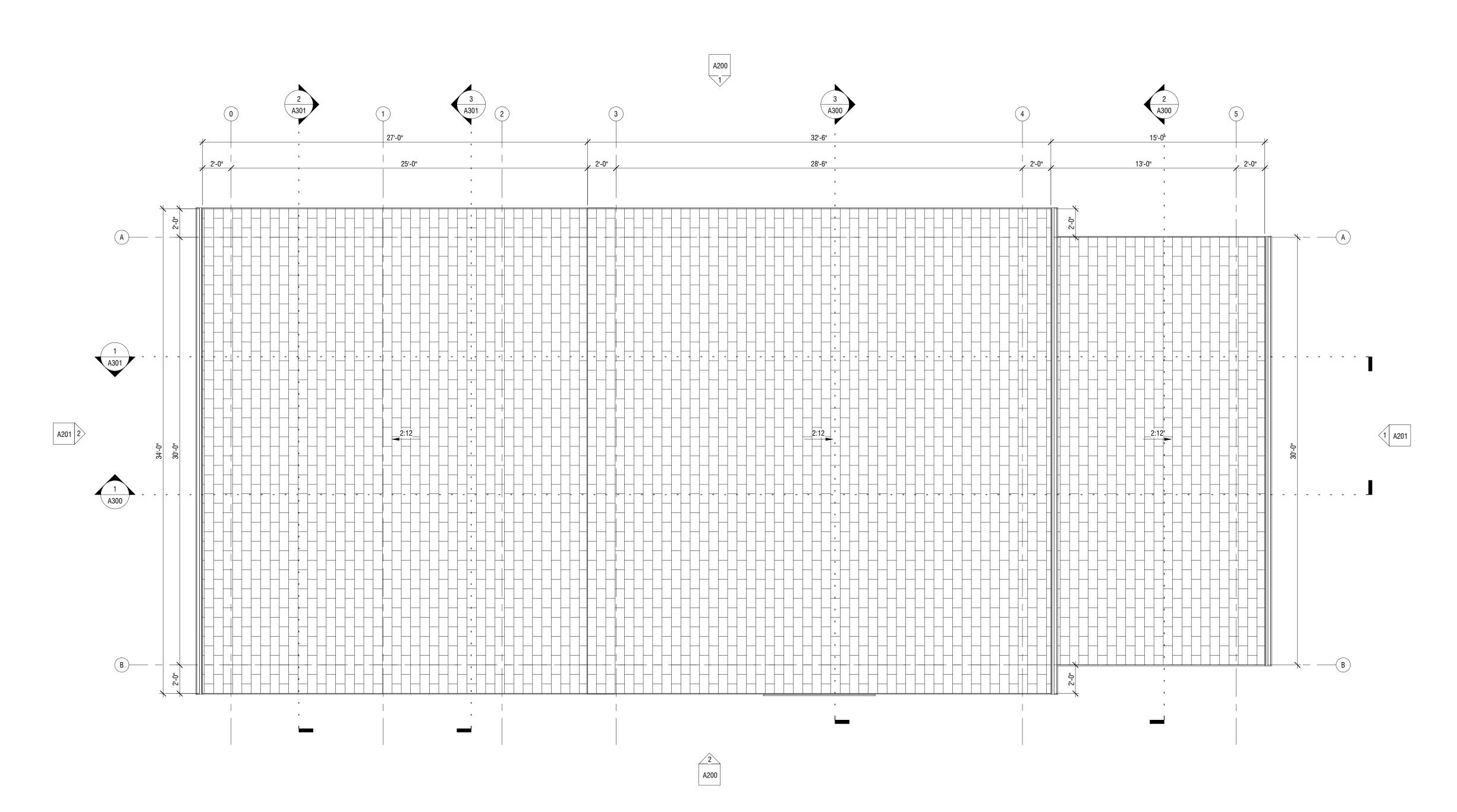
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ROOF PLAN



GREATEST EXTENT POSSIBLE

ROOF VENTILATORS) ON THE REAR SIDE OF THE ROOF, TO THE

ALL EXTERIOR MATERIAL TRANSITION, SILLS AND HEADERS WHICH SPLIT SYSTEM W/ GROUND MOUNTED CONDENSORS TO BE SCREENED FROM VIEWS BY LANDSCAPING INSTALL ALL ROOF PENETRATIONS AND EQUIPMENT (IE; VENT PIPES;











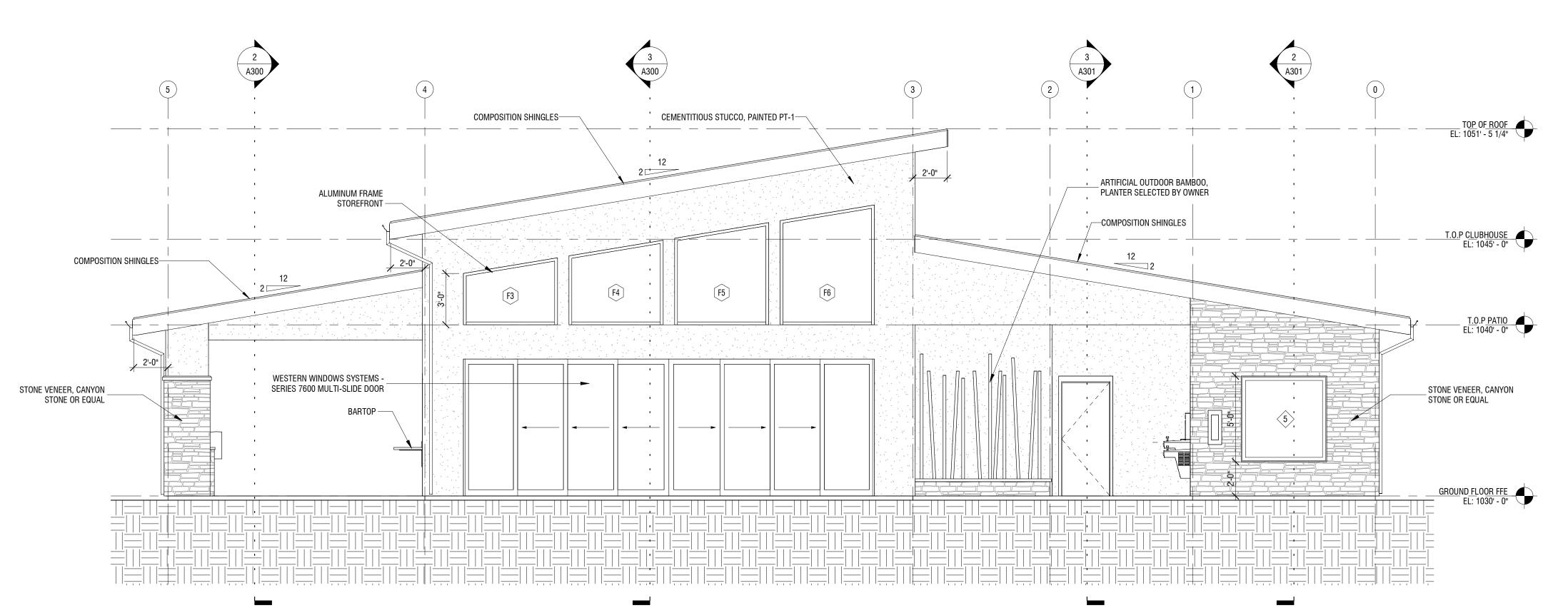
COMPOSITION SHINGLES

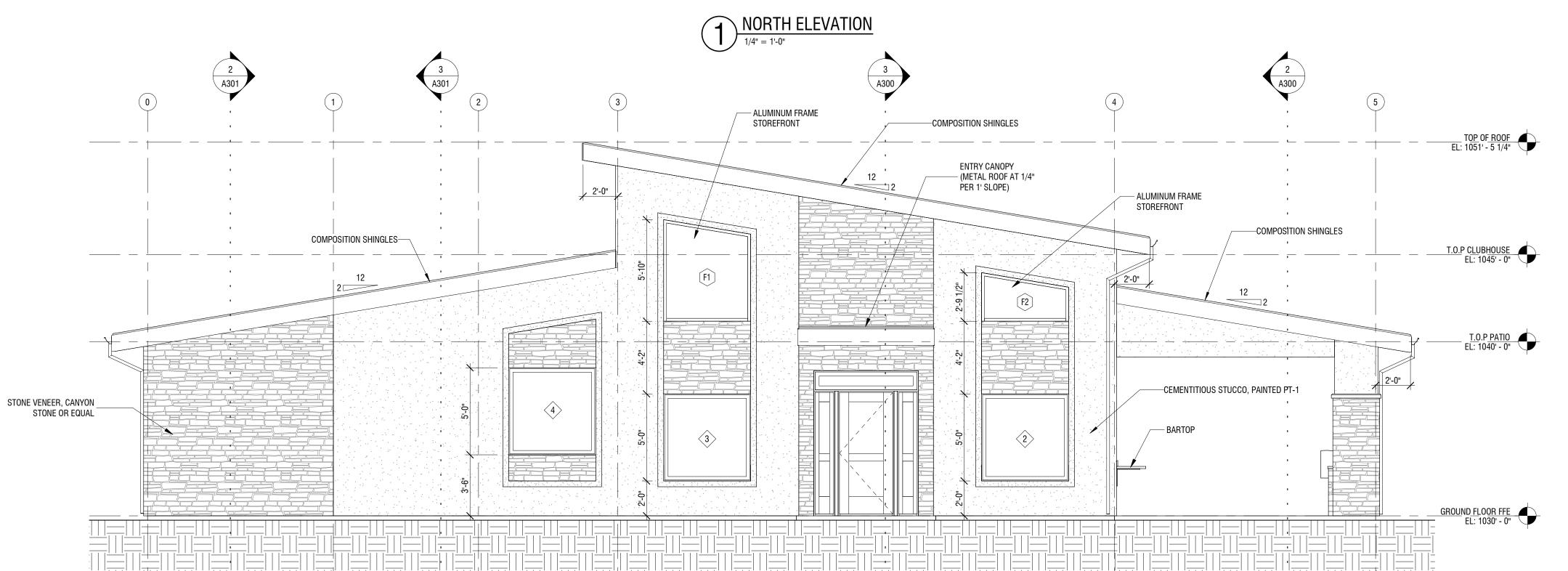
STONE VENEER

PT-1: SW9170 PT-2: SW7020 PT-3: SW7068

#### EXTERIOR FINISHING SCHEDULE

NO.	MATERIAL/ITEMS	DESCRIPTION	COLOR/FINISH
1	COMPOSITION SHINGLES	TAMKO, HERITAGE PREMIUM OR EQUAL	WEATHERED WOOD
2	STONE VENEER	CANYON STONE OR EQUAL	CANYON LEDGE/ COLOR: MOUNTAIN
3	CEMENTITIOUS STUCCO	DRYVIT, "OUTSULATION PLUS" OR EQUAL	PT-1: ACIER SW9170
4	FASCIA	SMART TRIM, LP OR EQUAL	PT-2: BLACK FOX SW7020
5	SOFFIT	SMART TRIM, LP OR EQUAL	COLOR: PT-2
6	TRIM	STUCCO FOAM TRIM	PT-3: GRIZZLE GRAY SW7068
7	GUTTER	24 GA. STEEL	MATCH TO WINDOW COLOR
8	WINDOWS	ANDERSEN ARCH. COLLECTION OR EQUAL	METAL - MATTE BLACK
9	EXTERIOR DOORS	METAL PANEL, PAINTED	MATCH TO WINDOW COLOR





1. 2018 IFC 501.1- ADDRESS NUMBERS. NEW AND EXISTING BUILDINGS SHALL HAVE APPROVED ADDRESS NUMBERS, BUILDING NUMBERS OR APPROVED BUILDING IDENTIFICATION PLACED IN A POSITION THAT IS PLAINLY LEGIBLE AND VISIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY. THESE NUMBERS SHALL CONTRAST WITH THEIR BACKGROUND. IN MULTI-ENTRANCES LOCATED ON DIFFERENT SIDES OF THE BUILDING, EACH DOOR SHALL BE ADDRESSED. ADDRESS NUMBERS SHALL BE ARABIC NUMBERS OR ALPHABET LETTERS. NUMBERS SHALL BE A MINIMUM OF 4 INCHES (102 MM) HIGH WITH A MINIMUM STROKE WIDTH OF 0.5 INCH (12.7 MM).



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> LUBHOUSE / M 150 HWY ; MISSOURI 64082 OSAGE 2025 LEE'S SUMIN



08.05.2020

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GREATEST EXTENT POSSIBLE



-CEMENTITIOUS STUCCO, PAINTED PT-1

INSTALLED PER M.F.C.GUIDELINES

1 1/2" THICKNESS GRANITE

COUNTER TOP

– METAL L BRACKET,

16" DEEP X 12" HIGH BLACK MATTE FINISH

GROUND FLOOR FFE EL: 1030' - 0"





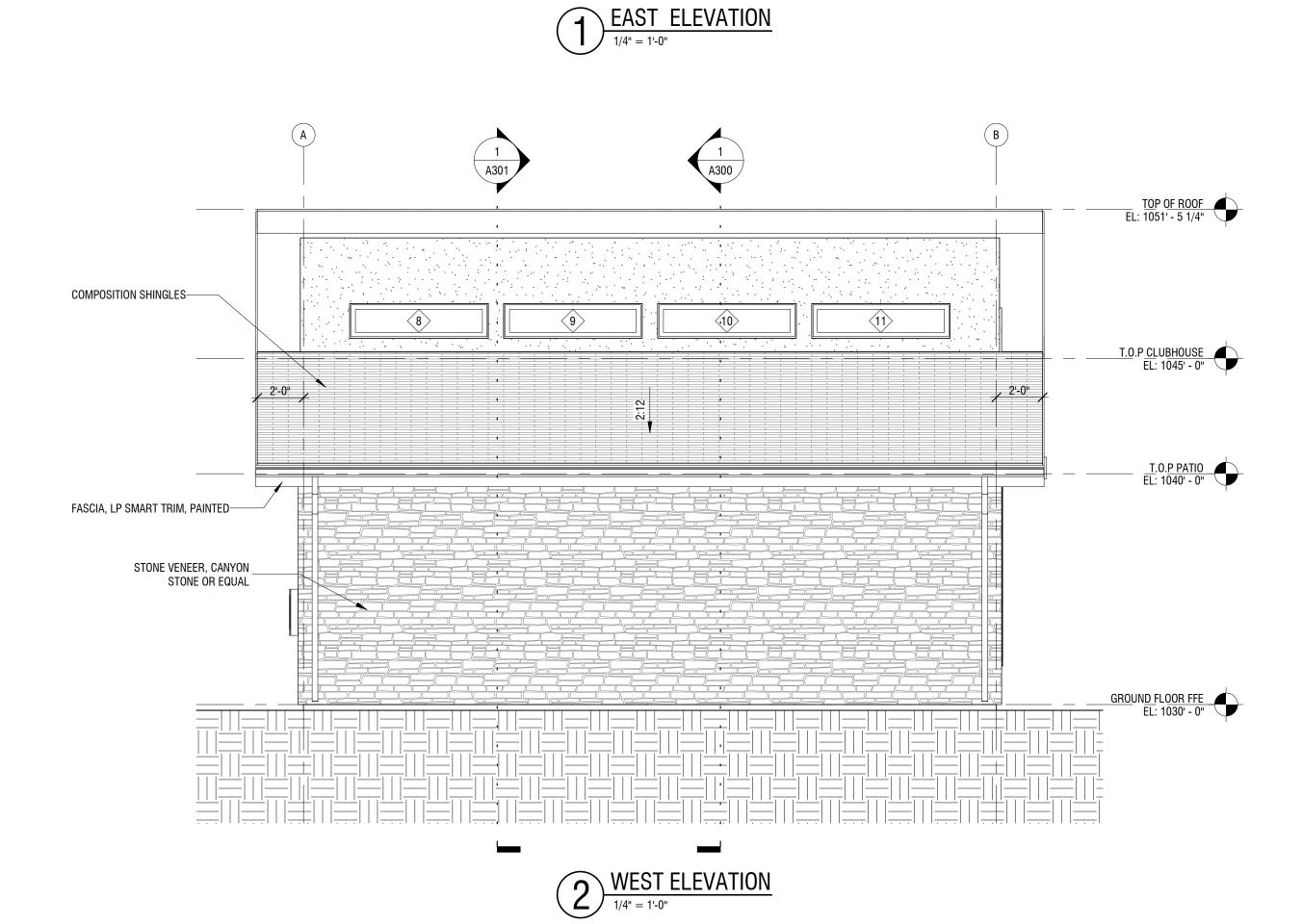




COMPOSITION SHINGLES

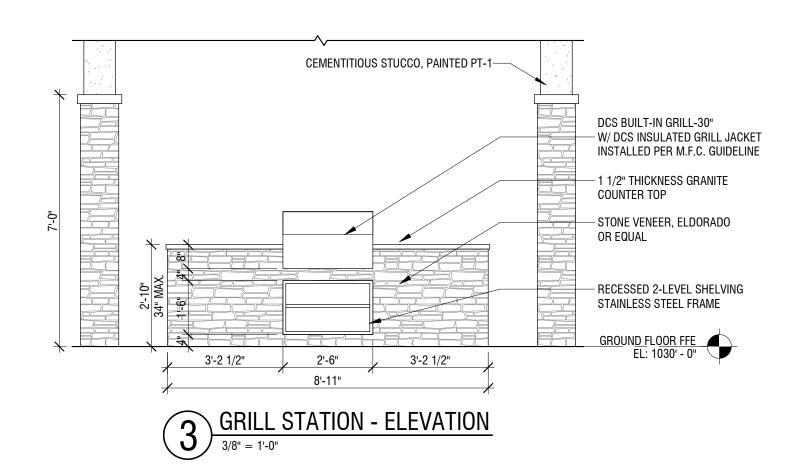
STONE VENEER PT-1: SW9170 PT-2: SW7020 PT-3: SW7068

	В	1 A300	1 A301	A	
COMPOSITION SHINGLES		52:15			T <u>O</u> P OF ROOF EL: 1051' - 5 1/4"
SHEET METAL GUTTER, PAINTED	2'-0"			2'-0"	T.O.P CLUBHOUSE EL: 1045' - 0"
ENTRY CANOPY (METAL ROOF AT 1/4" PER 1' SLOPE)		5:15			T.O.P PATIO EL: 1040' - 0"
CEMENTITIOUS STUCCO, PAINTED PT-1—  STONE VENEER, CANYON STONE OR		GRILL STATION 6	7		GROUND FLOOR FFE EL: 1030' - 0"
					EL: 1030' - 0"
			_		



#### EXTERIOR FINISHING SCHEDULE

NO.	MATERIAL/ITEMS	DESCRIPTION	COLOR/FINISH
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8	WINDOWS	ANDERSEN ARCH. COLLECTION OR EQUAL	METAL - MATTE BLACK
9	EXTERIOR DOORS	METAL PANEL, PAINTED	MATCH TO WINDOW COLOR





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E CLUBHOUSE 55 SW M 150 HWY MMIT, MISSOURI 64082 OSAGE 2025 SUMIN LEE'S SUMIN

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**BUILDING SECTIONS** 

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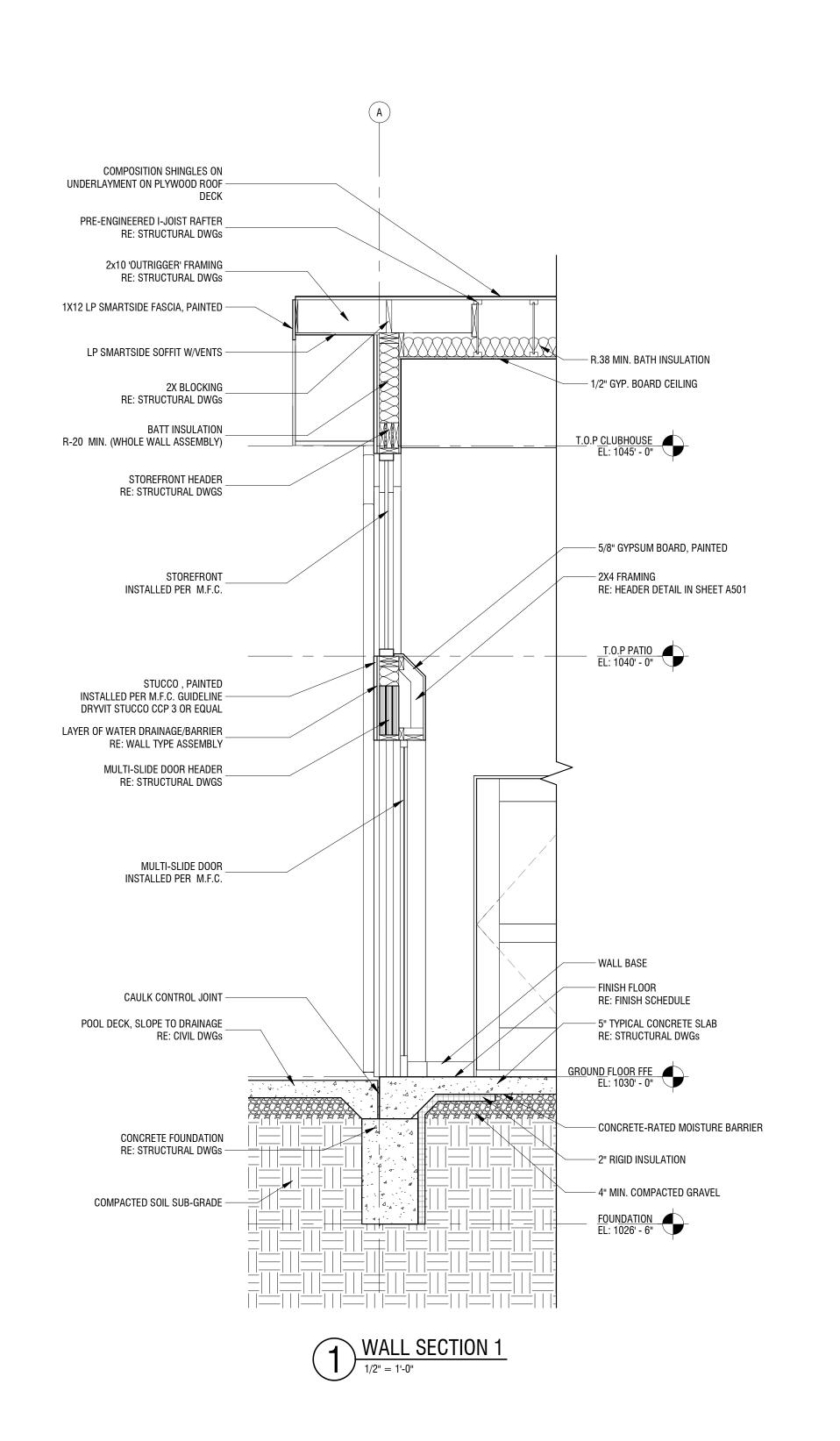


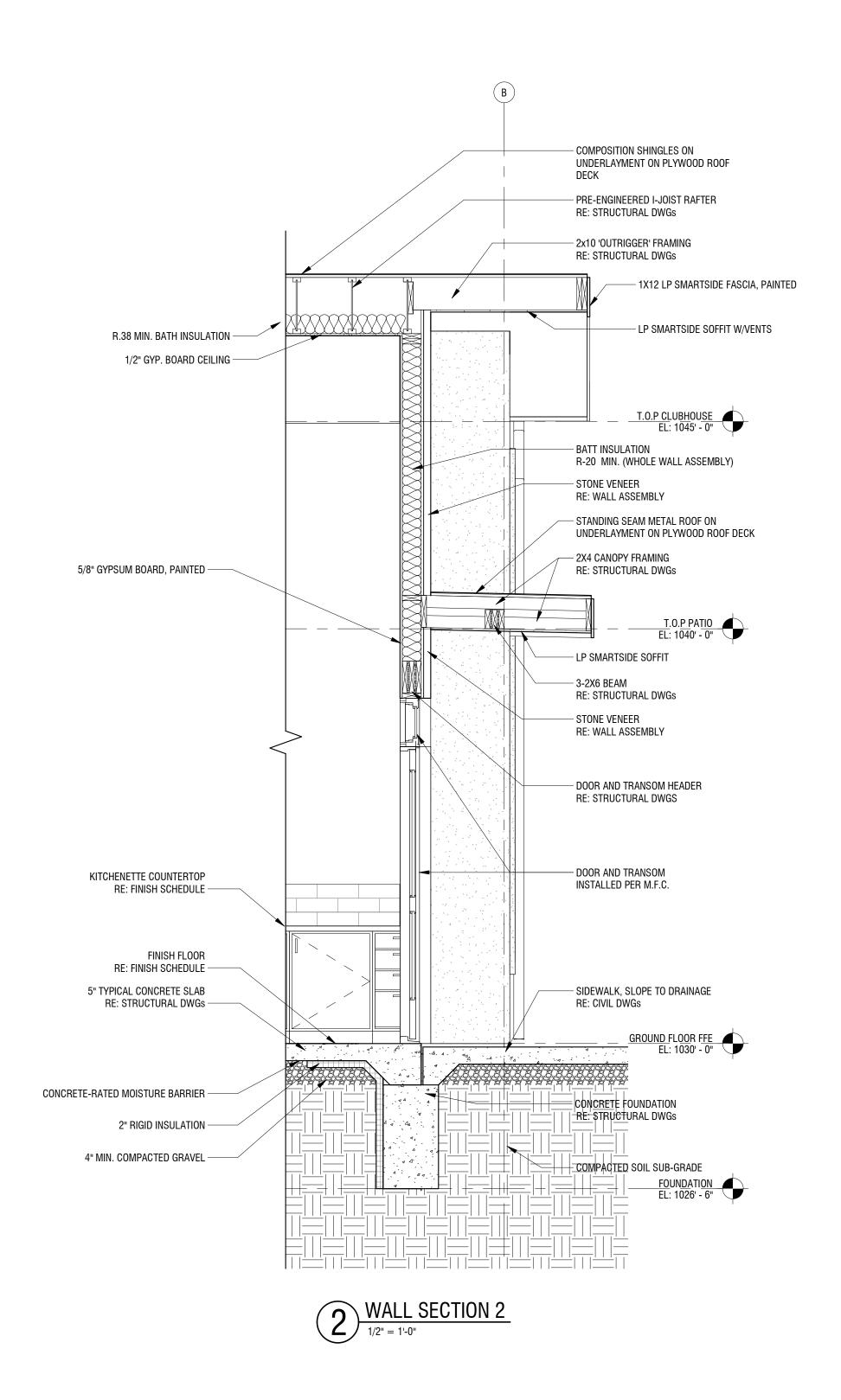
08.05.2020

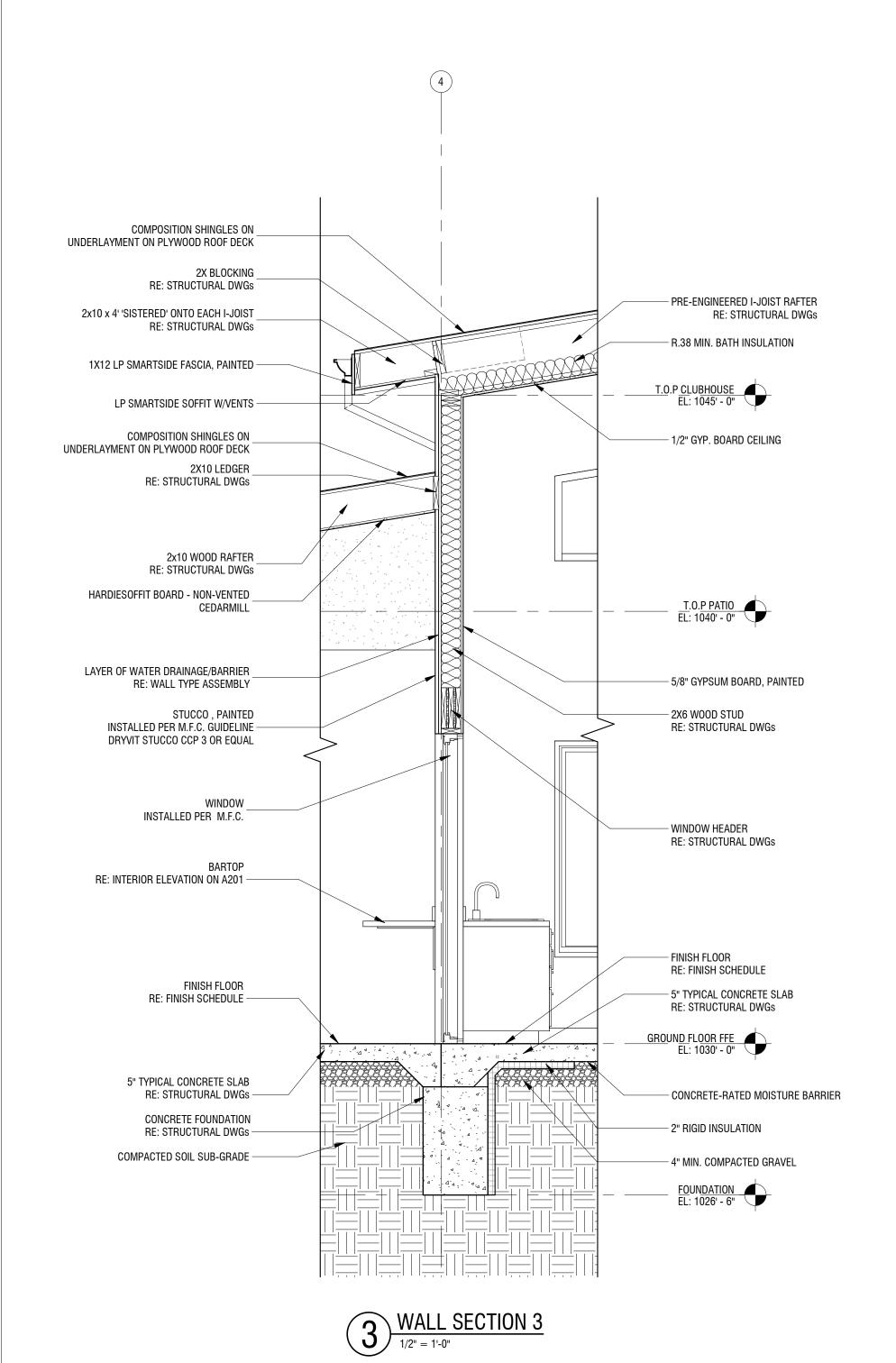
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**BUILDING SECTIONS** 









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PH: 816-361-1177 STRUCTURAL ENGINEER

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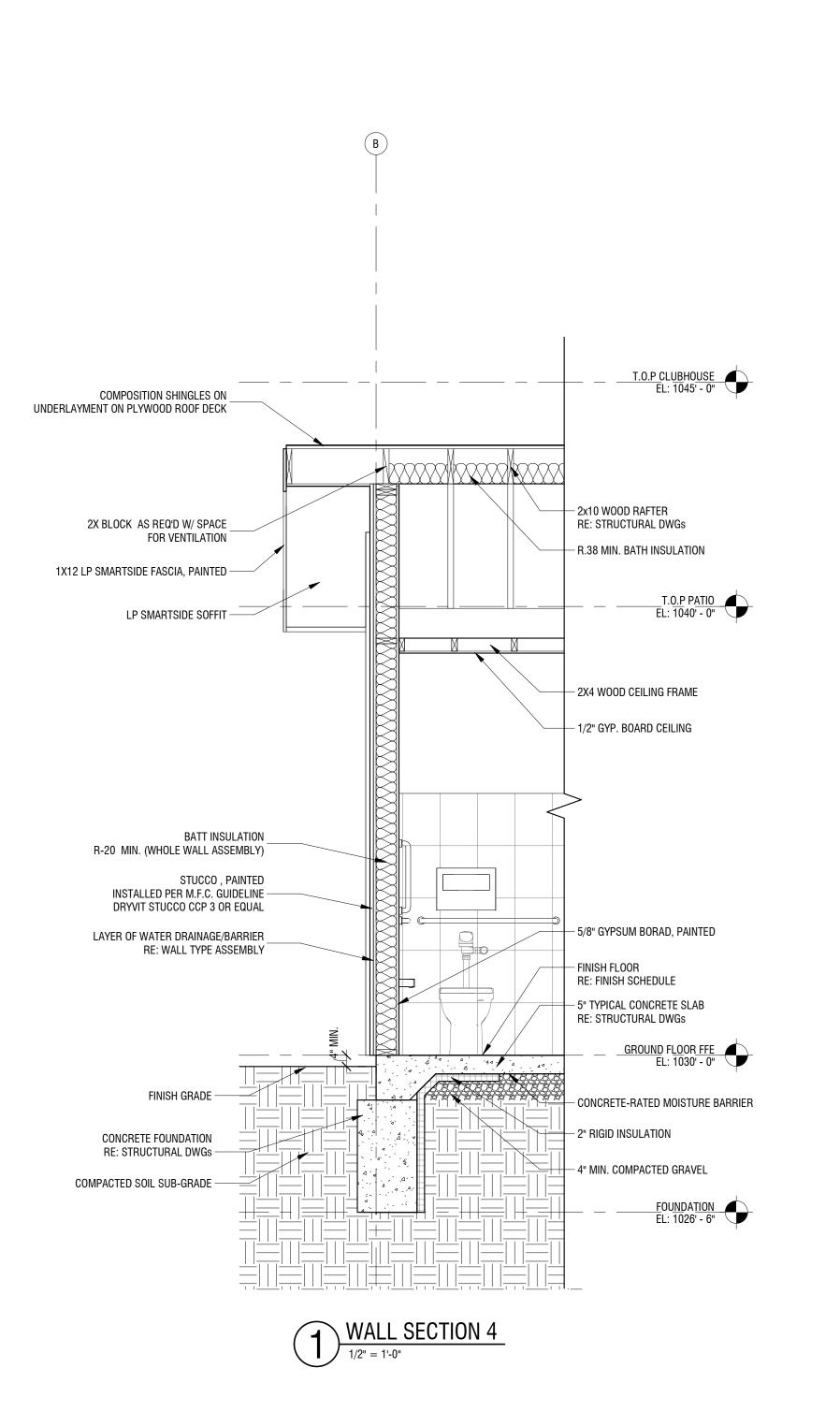
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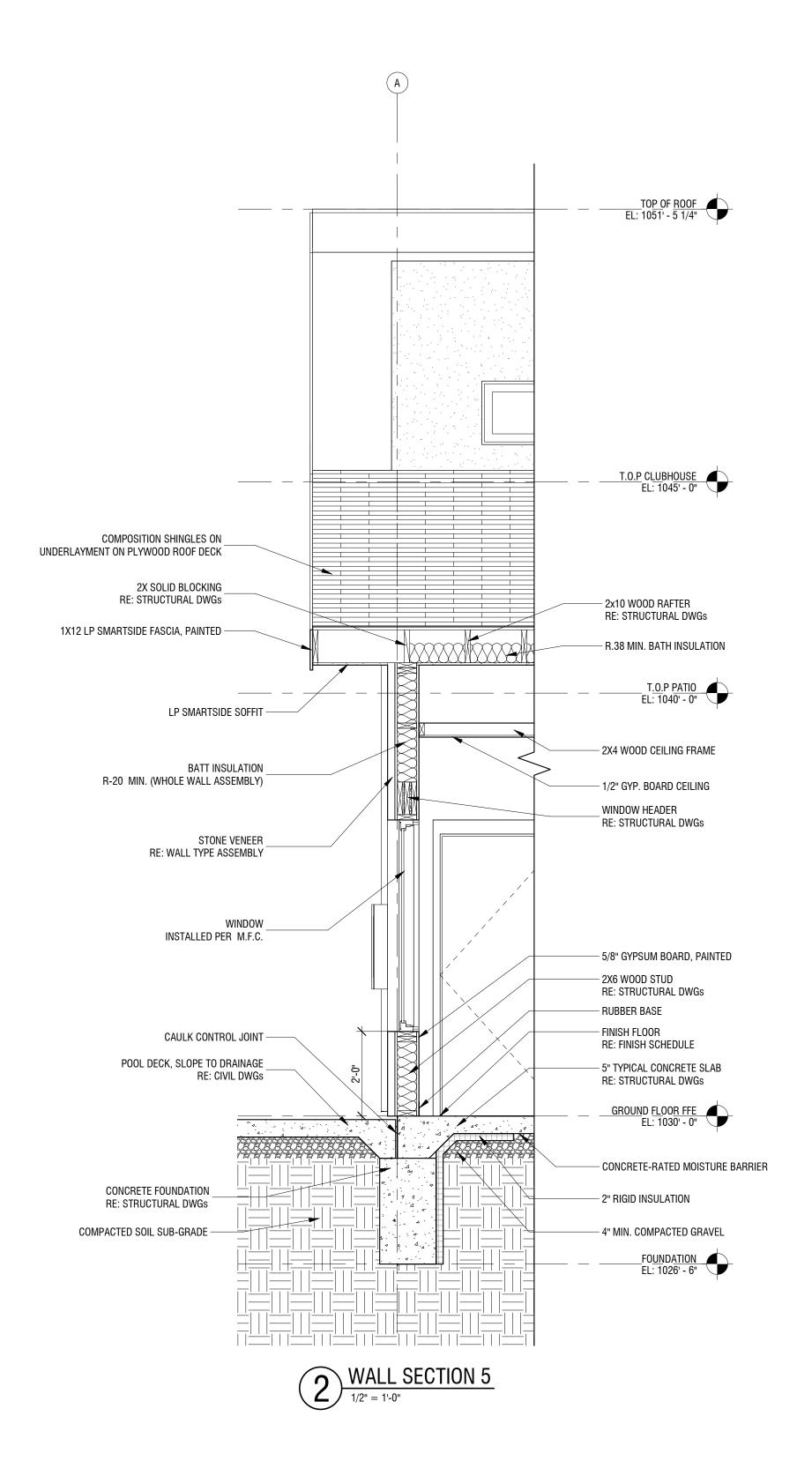
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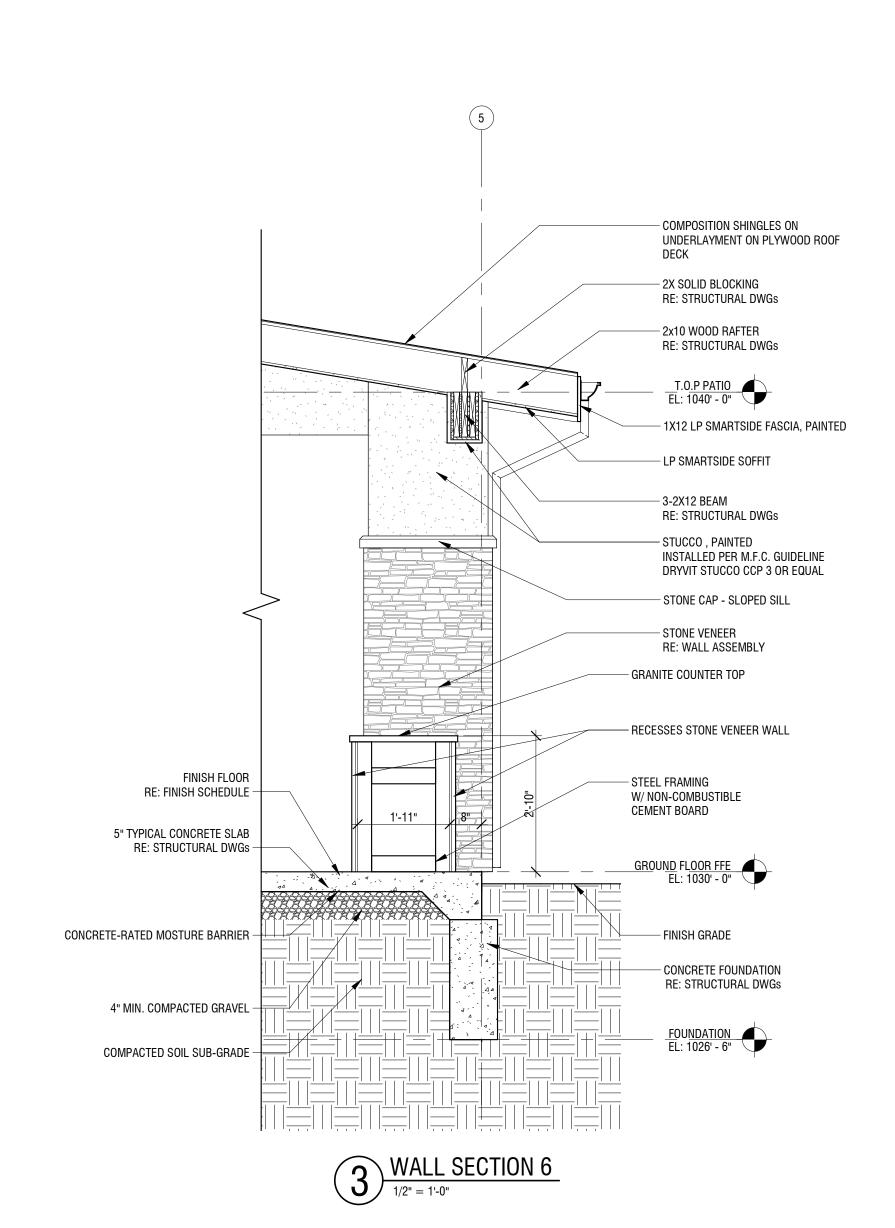
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DATE ISSUED: AUGUST 05, 2020 REVISION

DESIGNED BY: FCR DRAWN BY: FCR CHECKED BY: TT/DMB

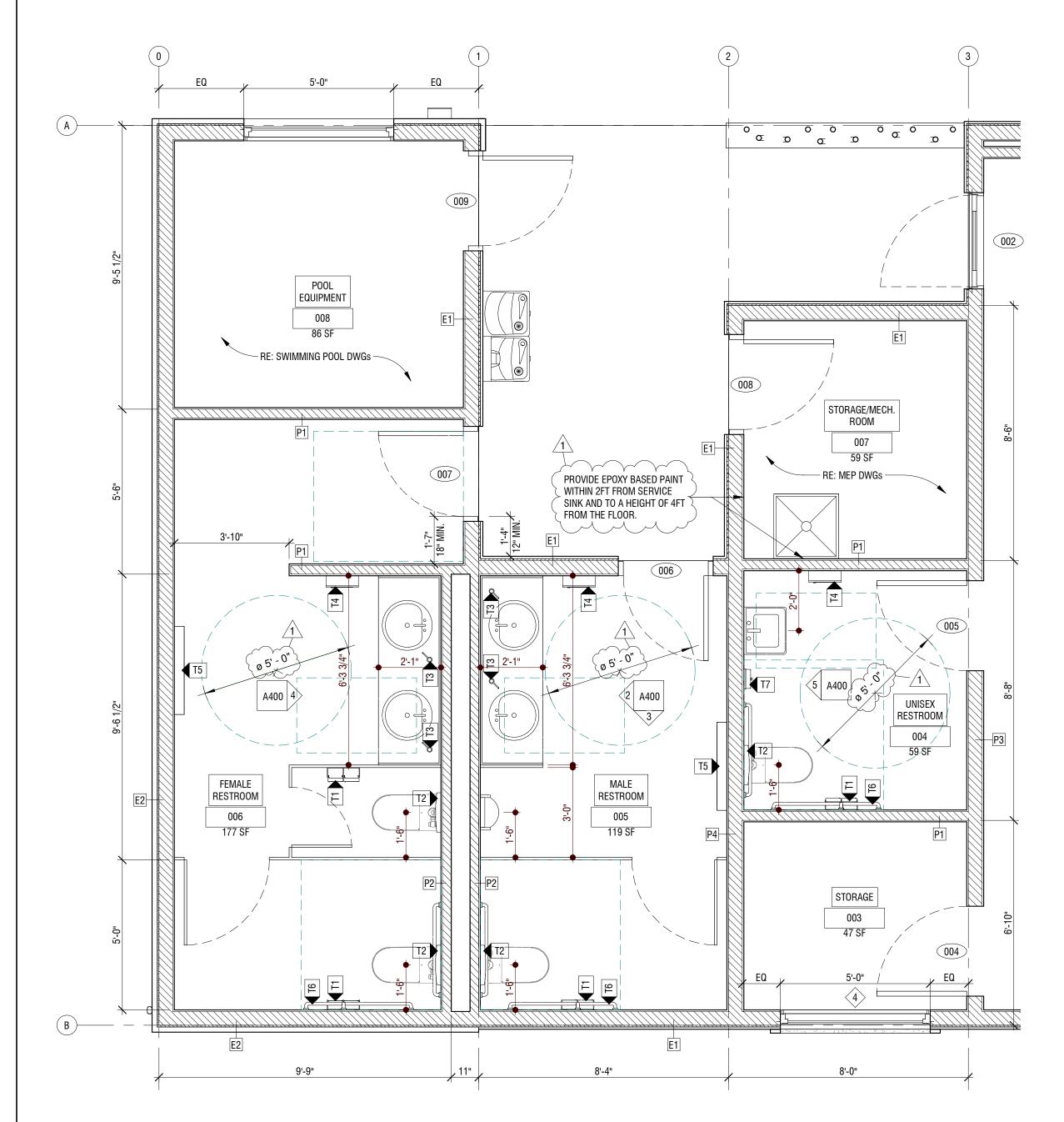
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WALL SECTIONS

### **GENERAL NOTES:**

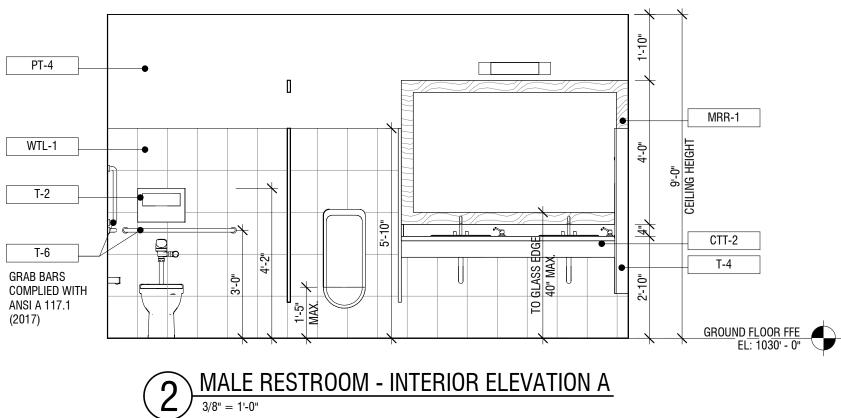
- 1. IN ADDITION TO BEING INSTALLED IN ACCORDANCE WITH THE PLUMBING SPECIFICATIONS AND FIXTURE MANUFACTURE'S INSTALLATION
- 2. REFER TO FINISH SCHEDULE, FINISH LEGEND AND SPECIFICATIONS FOR UN-SHOWED MATERIALS
- 3. RECOMMENDATIONS, ALL UNDERMOUNT SINKS AND VANITIES ARE TO BE SUPPORTED BY HERCULES UNIVERSAL SINK HARNESS

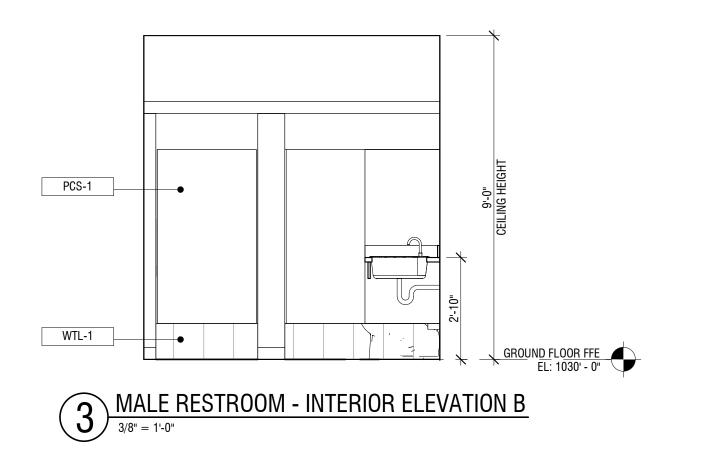
  4. WALLS AND PARTITIONS WITH 2 FEET OF SERVICE SINKS, URINALS AND
  - WALLS AND PARTITIONS WITH 2 FEET OF SERVICE SINKS, URINALS AND WATER CLOSETS SHALL HAVE A SMOOTH, HARD, NONABSORBENT SURFACE, TO A HEIGHT OF NOT LESS THAN 4 FEET ABOVE THE FLOOR, AND EXCEPT FOR STRUCTURAL ELEMENTS, THE MATERIALS USED IN SUCH WALLS SHALL BE OF A TYPE THAT IS NOT ADVERSELY AFFECTED BY

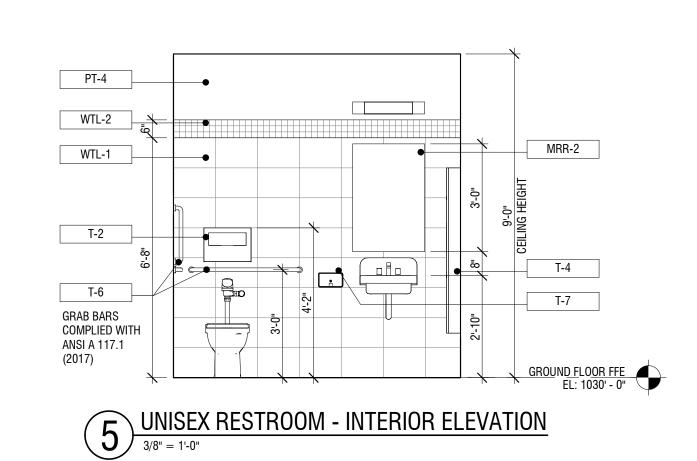


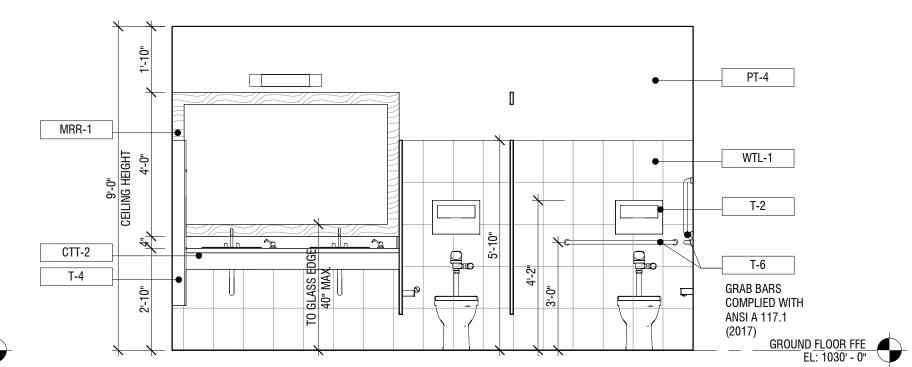
# RESTROOMS AREA - ENLARGED FLOOR PLAN 3/8" = 1'-0"

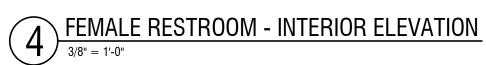
CODE	TYPE	MANUFACTURER & STYLE	NOTES
T1	TOILET TISSUE DISPENSER	BOBRICK B-699	
T2	TOILET SEAT COVER DISPENSER	BOBRICK B-4221	
T3	COUNTER MOUNTED SOAP DISPENSER	BOBRICK B-823	
T4	PAPER TOWEL DISPENSER/WASTE RECEPTACLE UNIT	BOBRICK B-43699	
T5	MOUNTED BABY CHANGING STATION	KOALA KARE KB200-00	ADA COMPLIANT
T6	GRAB BARS (SET OF 3 BARS 18", 36", 48")	BOBRICK B-5806 SERRIES	
T7	SURFACE-MOUNTED SOAP DISPENSER	BOBRICK B-2111	

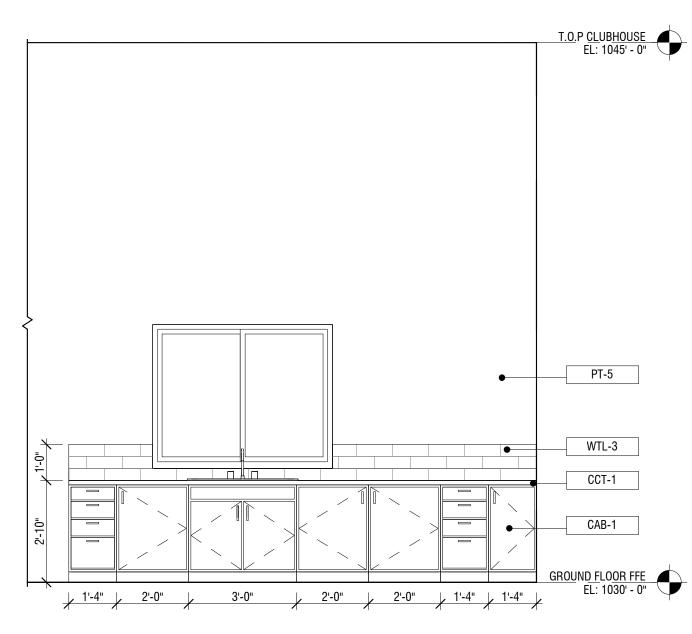












 $6^{\frac{\text{KITCHENETTE - INTERIOR ELEVATION}}{3/8" = 1"-0"}}$ 



ARCHITECT

B+A ARCHITECTURE

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OSAGE CLUBHOUSE
2025 SW M 150 HWY
LEE'S SUMMIT, MISSOURI 64082



	08.05.202	20
DAT	E ISSUED: AUGUST 05, 2020	0
NO.	REVISION	DA
1	Plan Review Comments	08/13/2

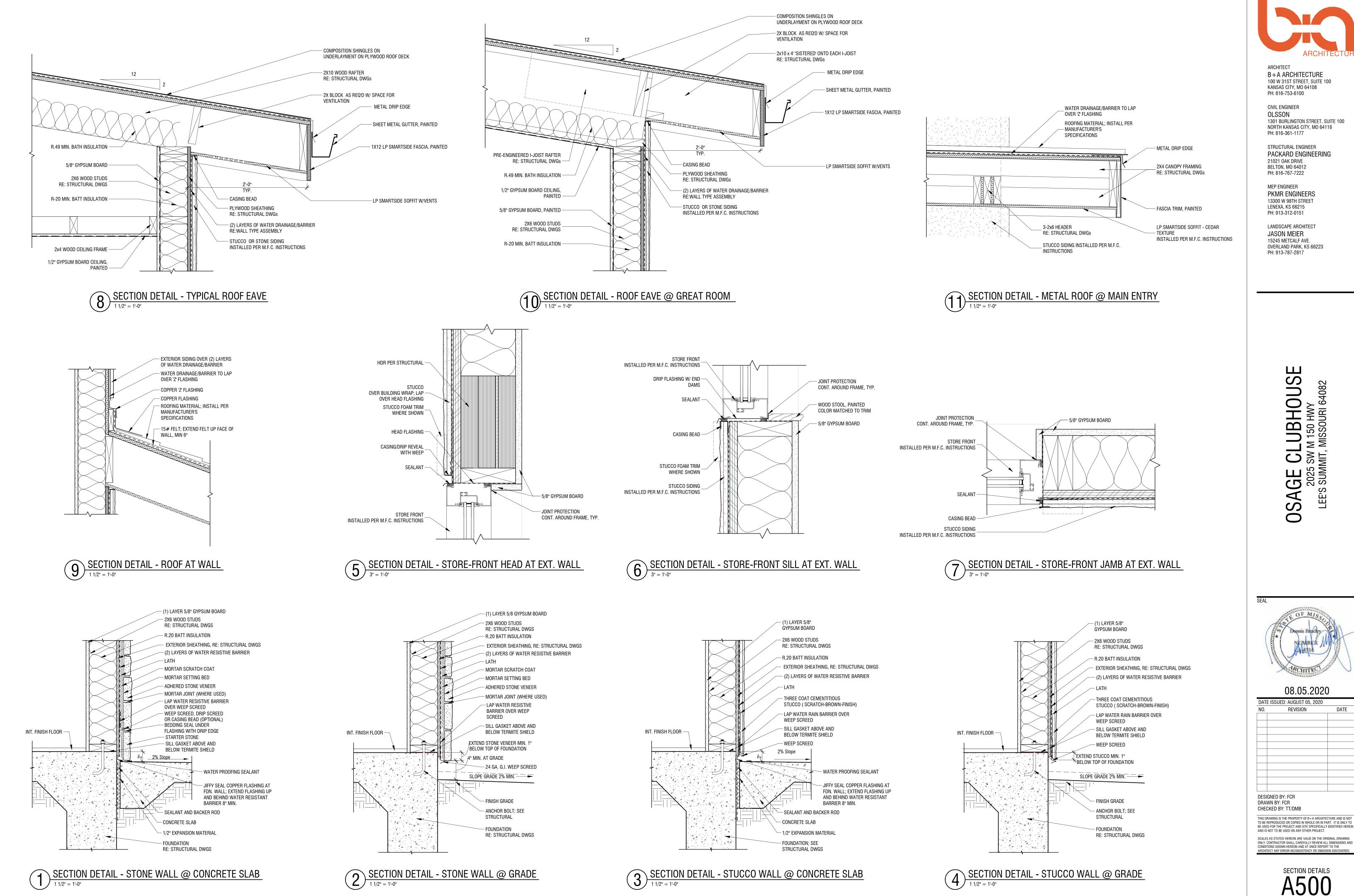
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ENLARGED PLANS & INT. ELEV.



**UBHOUS** OSAGE 2025 LEE'S SUMI

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PH: 913-312-0151 LANDSCAPE ARCHITECT JASON MEIER

15245 METCALF AVE. OVERLAND PARK, KS 66223 PH: 913-787-2817

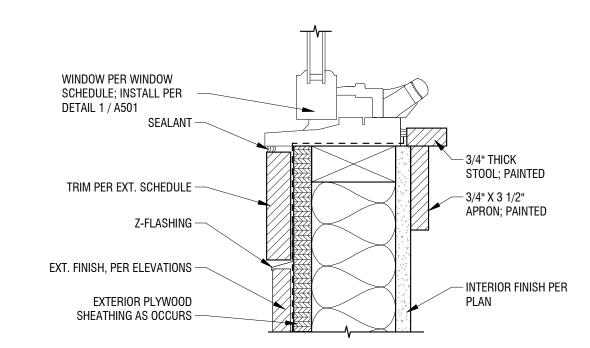
SECTION DETAILS

08.05.2020

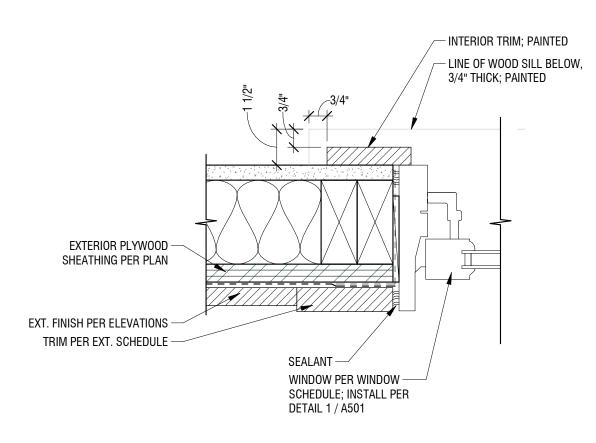
DATE

REVISION

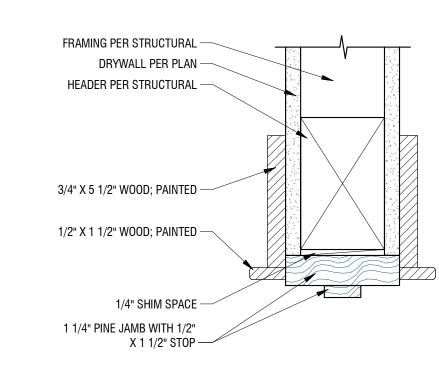
# 2 SECTION DETAIL - WINDOW HEAD EXT. WALL 3" = 1'-0"



3 SECTION DETAIL - WINDOW SILL AT EXT. WALL



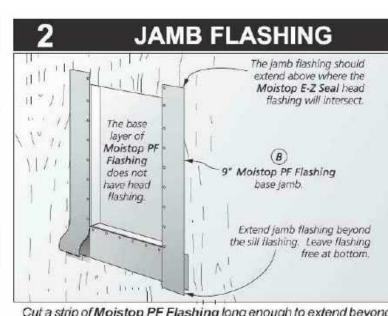
# SECTION DETAIL - WINDOW JAMB AT EXT. WALL 3" = 1'-0"



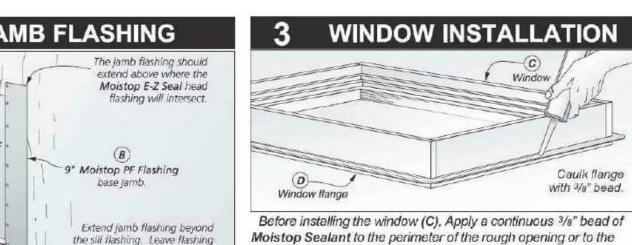
SECTION DETAIL - WOOD TRIM AT DOOR JAMB/HEADER



Once the rough opening is prepared, proceed by attaching Moistop PF Flashing (A) flush along the bottom of the rough opening. Be sure not to fasten the lower edge of the flashing so that Jumbo Tex®, Fortify® or WeatherSmart™ may be slipped up underneath the flashing in a weather-board fashion, extend the flashing beyond the jamb flashing to be applied later.



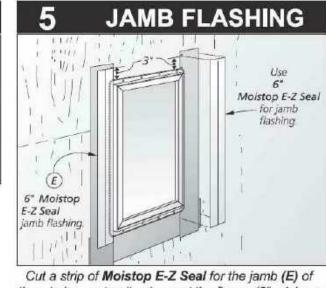
Cut a strip of Moistop PF Flashing long enough to extend beyond sill flashing already in place, and above where the Moistop E-Z Seal head flashing will intersect. Next attach the jamb flashing (B) flush to the edge of the rough opening leaving the bottom free.



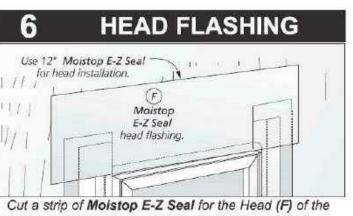
Repeat above steps for the remaining jamb.



Wipe the window flange (D) and base Moistop PF Flashing (B) layer clean before applying Moistop E-Z Seal. Cut the desired length of Moistop E-Z Seal with a sharp knife. Pull off the release paper and place the Moistop E-Z Seal on top of the window flange. Apply firm pressure along the entire self adhesive strip to ensure a continuous seal.



the window, extending beyond the flange (3" minimum top and bottom). Place the Moistop E-Z Seal on top of the flange (D) of the window and seal by applying pressure along the strip. Repeat for other jamb.

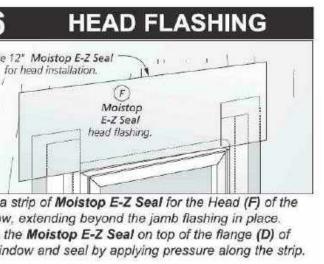


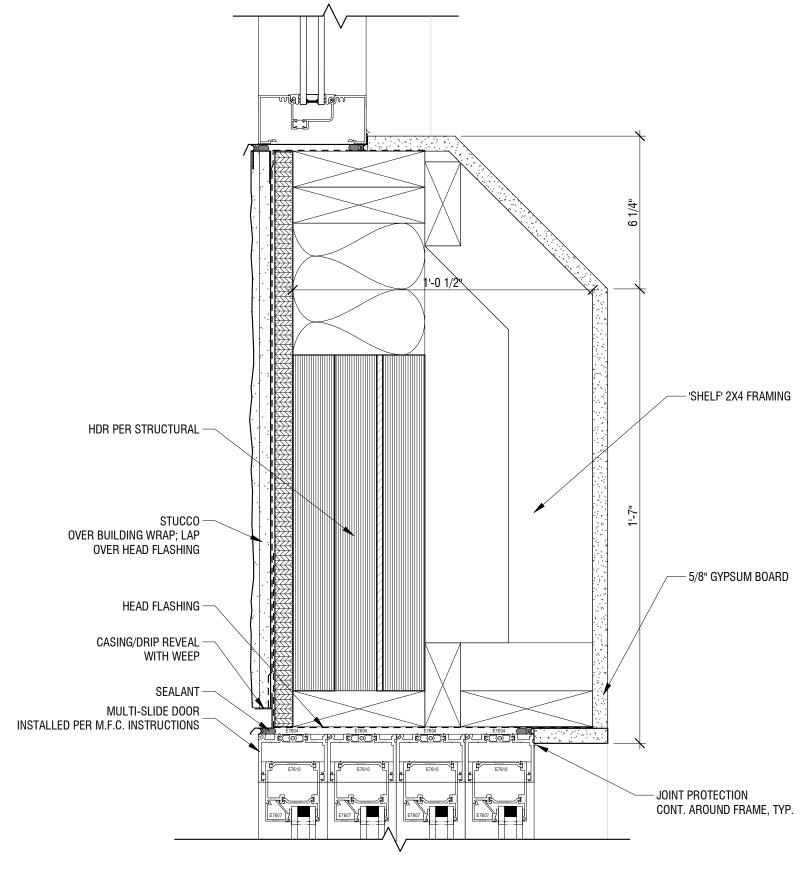
backside of the mounting flange (D) of the window. Install the

window according to the window manufacturer's instructions.

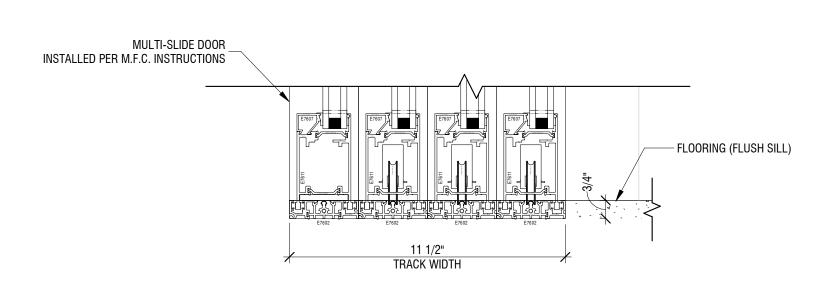
window, extending beyond the jamb flashing in place. Place the Moistop E-Z Seal on top of the flange (D) of the window and seal by applying pressure along the strip.



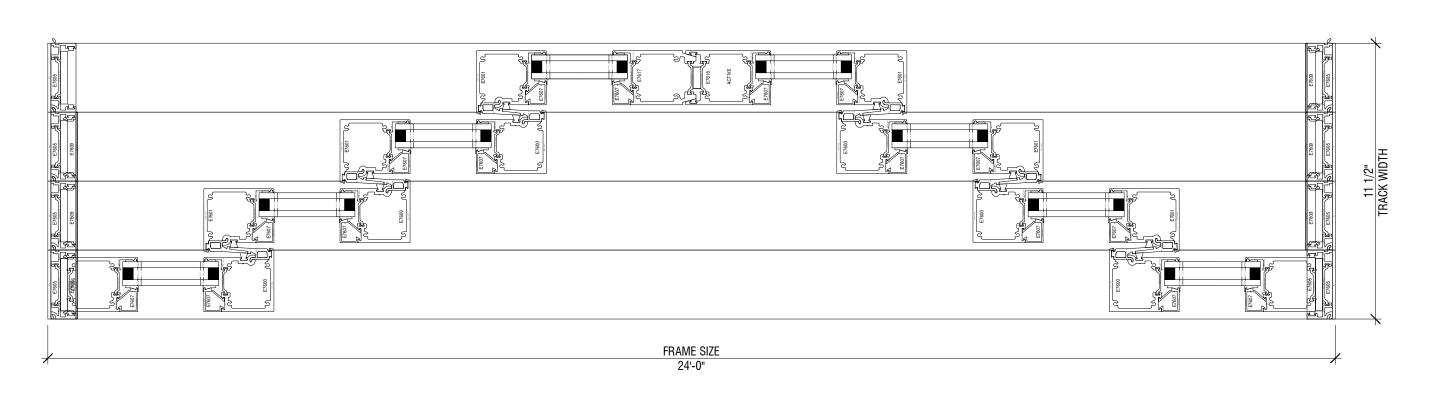




SECTION DETAIL - MULTI-SLIDE DOOR HEADER



8 SECTION DETAIL - MULTI-SLIDE DOOR SILL
3" = 1'-0"



 $6^{\frac{\text{MULTI-SLIDE DOOR FRAME}}{3" = 1"-0"}}$ 



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**UBHOUSE** OSAGE 2025 LEE'S SUMI

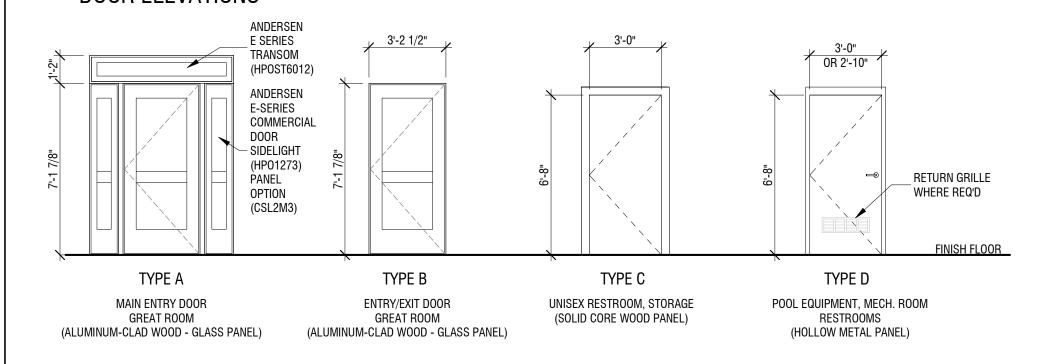
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### DOOR ELEVATIONS



							D00	R SCHEDU	JLE			
			SIZE			DOOR			F	RAME		
NO.	TYPE	WIDTH	HEIGHT	OPERATION	MATERIAL	FINISH	FIRE RATING	GLASS	MATERIAL	FINISH	HARDWARE SET	REMARKS
001	A	3' - 2 1/2"	7' - 1 7/8"	SW	ALUM. CLAD WOOD	COLOR TO MATCH WINDOW FRAMES	-	LOW E-4 GLASS	ALUM.	COLOR TO MATCH WINDOW FRAMES		ANDERSEN DOORS, E-SERIES, COMMERCIAL DOOR (ADA SILL) CONCEALED PANIC SYSTEM (CPS) CPS3273, PANEL OPTION CP2M3. ACCESS BY AUTHORIZED CARD CREDENTIAL OR MANUAL KEY. ALWAYS FREE EGRESS.
002	В	3' - 2 1/2"	7' - 1 7/8"	SW	ALUM. CLAD WOOD	MATCH DOOR 001	-	LOW E-4 GLASS	ALUM.	* SEE REMARKS	MATCH DOOR 001	MATCH DOOR 001
003	В	3' - 2 1/2"	7' - 1 7/8"	SW	ALUM. CLAD WOOD	MATCH DOOR 001	-	LOW E-4 GLASS	ALUM.	* SEE REMARKS	BY DOOR MANUFACTURER	MATCH DOOR 001, NOT AN EGRESS DOOR.
004	С	3' - 0"	6' - 8"	SW	S.C. WOOD	* SEE REMARKS	-	-	WOOD	* SEE REMARKS	8	COLOR MATCH TO PT-5
005	С	3' - 0"	6' - 8"	SW	S.C. WOOD	* SEE REMARKS		-	WOOD	* SEE REMARKS	8	COLOR MATCH TO PT-5
006	D	2' - 10"	6' - 8"	SW	H.M.	* SEE REMARKS	-	-	H.M.	* SEE REMARKS	4	RE: EXTERIOR MATERIAL SCHEDULE FOR COLOR
007	D	2' - 10"	6' - 8"	SW	H.M.	* SEE REMARKS	-	-	H.M.	* SEE REMARKS	4	RE: EXTERIOR MATERIAL SCHEDULE FOR COLOR
800	D	3' - 0"	6' - 8"	SW	H.M.	* SEE REMARKS	-	-	H.M.	* SEE REMARKS	2	RE: EXTERIOR MATERIAL SCHEDULE FOR COLOR
009	D	3' - 0"	6' - 8"	SW	H.M.	* SEE REMARKS	-	-	H.M.	* SEE REMARKS	2	RE: EXTERIOR MATERIAL SCHEDULE FOR COLOR

### ABBREVIATION LEGEND

SWSWINGH.M.HOLLOW METALS.C. WOODSOLID CORE WOODOHOVERHEADK.D.KNOCK DOWNALUM.ALUMINUM

#### DOOR NOTES

1. SEE EXTERIOR MATERIAL SCHEDULE FOR EXTERIOR DOOR FINISH COLOR 2. FOR INTERIOR DOOR COLOR, SEE DOOR SCHEDULE

#### DOOR HARDWARE SCHEDULE

**SET: 1.0** (NOT USED)

#### <u>SET: 2.0</u> DOORS: 008, 009

3	HINGE (HEAVY WEIGHT)	T4A3386 NRP 4-1/2" X 4-1/2"	US32D	MK
1	STOREROOM LOCK	PBR 8805FL LC	630	YΑ
1	CYLINDER RIM/MORTISE	AS REQUIRED (MATCH EXISTING K	EY SYSTEM)	
1	SURFACE CLOSER, HO	7500H	689 <sup>´</sup>	NO
1	THRESHOLD	2005AT		PE
1	GASKETING	2891AS		PE
1	RAINGUARD	346C		PE
1	SWEEP	315CN		PE

### <u>SET: 3.0</u> (NOT USED)

#### <u>SET: 4.0</u> DOORS: 006, 007

3	HINGE (HEAVY WEIGHT)	T4A3386 4-1/2" X 4-1/2"	US32D	MK
1	BATHRÒOM LOCK	PBR 8862FL IND	630	YΑ
1	SURFACE CLOSER	7500	689	NO
1	DOOR STOP	441	US26D	R0
1	THRESHOLD	171A		PE
1	GASKETING	S88D		PE

# DOOR HARDWARE TYPES

NOTE: SEE HARDWARE SPECIFICATIONS FOR MORE INFO; SEE HARDWARE SCHEDULE BELOW FOR MORE INFO

## POOL GATE NOTES

1. POOL GATE FINISH COLOR AND STYLE WILL MATCH POOL FENCE.
- 6FT TALL, BLACK METAL MONTAGE STYLE
2. POOL GATES WILL HAVE EXIT/PANIC HARDWARE.
3. POOL GATES WILL BE SET UP FOR FREE EGRESS.

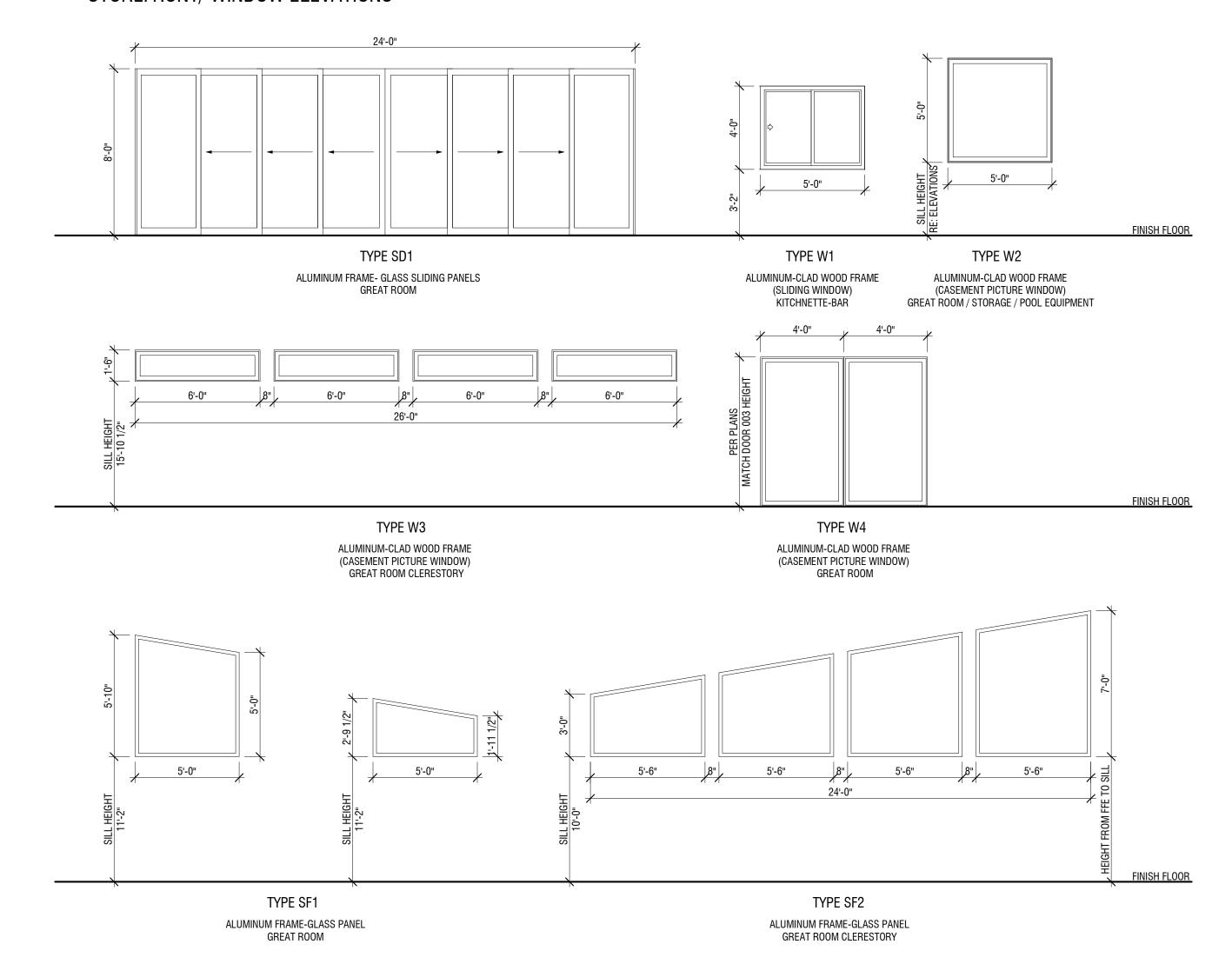
## <u>**SET: 5.0**</u> (NOT USED)

<u>SET: 6.0</u> (NOT USED) <u>SET: 7.0</u> (NOT USED)

#### <u>SET: 8.0</u> DOORS: 004, 005

3	HINGE (HEAVY WEIGHT)	T4A3786 NRP 4-1/2" X 4-1/2"	US26D	Mł
1	CYLINDRICAL LOCK (CLASSROOM)	PB 5408LN LESS CORE	626	YΑ
1	CYLINDER KEY IN LEVER	AS REQUIRED (MATCH EXISTING KEY	'SYSTEM)	
1	SURFACE CLOSER	PR8501	689	NC
1	KICK PLATE	K1050 10" X 2" LDW 4BE CSK	US32D	RC
1	WALL STOP	409	US32D	RC
1	GASKETING	S88D		PE

### STOREFRONT/ WINDOW ELEVATIONS



	SLIDING DOOR SCHEDULE									
	SIZE		SIZE							
NO.	TYPE	WIDTH	HEIGHT	FRAME	REMARKS					
			•							
D1a	SD1	12' - 0"	8' - 0"	ALUM. PAINTED, MATCH WINDOW FRAME	WESTERN WINDOW SYSTEMS, SERIES 7600 MULTI-SLIDE DOOR, FLUSH SILL/STANDARD LOW E-GLASS (06X0)					
D1b	SD1	12' - 0"	8' - 0"	ALUM. PAINTED, MATCH WINDOW FRAME	WESTERN WINDOW SYSTEMS, SERIES 7600 MULTI-SLIDE DOOR, FLUSH SILL/STANDARD LOW E-GLASS (06X0)					

STOREFRONT SCHEDULE								
NO.	WIDTH	HEIGHT	SILL HEIGHT	TYPE MARK	GLASS	FRAME FINISH	REMARK	
F1	5' - 0"	5' - 0"	11' - 2"	SF1	DOUBLE PANE	ALUM./PAINTED	COLOR MATCH TO WINDOW FRAME	
F2	5' - 0"	2' - 9 1/2"	11' - 2"	SF1	DOUBLE PANE	ALUM./PAINTED	COLOR MATCH TO WINDOW FRAME	
F3	5' - 6"	3' - 0"	10' - 0"	SF2	DOUBLE PANE	ALUM./PAINTED	COLOR MATCH TO WINDOW FRAME	
F4	5' - 6"	4' - 0"	10' - 0"	SF2	DOUBLE PANE	ALUM./PAINTED	COLOR MATCH TO WINDOW FRAME	
F5	5' - 6"	5' - 0"	10' - 0"	SF2	DOUBLE PANE	ALUM./PAINTED	COLOR MATCH TO WINDOW FRAME	
F6	5' - 6"	7' - 0"	10' - 0"	SF2	DOUBLE PANE	ALUM./PAINTED	COLOR MATCH TO WINDOW FRAME	

### GENERAL NOTES

1. U-VALUES SHALL COMPY WITH TABLE 502.3 OF IECC
2. REFER TO STORE FRONT/ WINDOW/ SLIDING DOOR SPECIFICATIONS
3. GLAZING TO BE PPG SOLARBAN 60:
SOLAR HEAT GAIN COEFFICIENT
VISIBLE LIGHT TRANSMITTANCE
U-VALUE
U-VALUE
ULTRAVIOLET ENERGY
20%

WINDOW SCHEDULE										
S	IZE									
WIDTH	HEIGHT	ТҮРЕ	GLASS	FINISH	REMARKS					
5' - 0"	4' - 0"	ALUMCLAD WOOD GLIDING WINDOW	LOW E-4 GLASS	INTERIOR/EXTERIOR: DARK BRONZE COLOR	ANDERSEN, ARCHITECTURAL COLLECTION E-SERIES - SLD5040					
5' - 0"	5' - 0"	ALUMCLAD WOOD FIXED CASEMENT WINDOW	LOW E-4 GLASS	INTERIOR/EXTERIOR: DARK BRONZE COLOR	ANDERSEN, ARCHITECTURAL COLLECTION E-SERIES - CMP5050					
5' - 0"	5' - 0"	ALUMCLAD WOOD FIXED CASEMENT WINDOW	LOW E-4 GLASS	INTERIOR/EXTERIOR: DARK BRONZE COLOR	ANDERSEN, ARCHITECTURAL COLLECTION E-SERIES - CMP5050					
5' - 0"	5' - 0"	ALUMCLAD WOOD FIXED CASEMENT WINDOW	LOW E-4 GLASS	INTERIOR/EXTERIOR: DARK BRONZE COLOR	ANDERSEN, ARCHITECTURAL COLLECTION E-SERIES - CMP5050					
5' - 0"	5' - 0"	ALUMCLAD WOOD FIXED CASEMENT WINDOW	LOW E-4 GLASS	INTERIOR/EXTERIOR: DARK BRONZE COLOR	ANDERSEN, ARCHITECTURAL COLLECTION E-SERIES - CMP5050					
4' - 0"	7' - 2"	ALUMCLAD WOOD FIXED CASEMENT WINDOW	LOW E-4 GLASS	INTERIOR/EXTERIOR: DARK BRONZE COLOR	ANDERSEN, ARCHITECTURAL COLLECTION E-SERIES					
4' - 0"	7' - 2"	ALUMCLAD WOOD FIXED CASEMENT WINDOW	LOW E-4 GLASS	INTERIOR/EXTERIOR: DARK BRONZE COLOR	ANDERSEN, ARCHITECTURAL COLLECTION E-SERIES					
6' - 0"	1' - 6"	ALUMCLAD WOOD FIXED CASEMENT WINDOW	LOW E-4 GLASS	INTERIOR/EXTERIOR: DARK BRONZE COLOR	ANDERSEN, ARCHITECTURAL COLLECTION E-SERIES					
6' - 0"	1' - 6"	ALUMCLAD WOOD FIXED CASEMENT WINDOW	LOW E-4 GLASS	INTERIOR/EXTERIOR: DARK BRONZE COLOR	ANDERSEN, ARCHITECTURAL COLLECTION E-SERIES					
6' - 0"	1' - 6"	ALUMCLAD WOOD FIXED CASEMENT WINDOW	LOW E-4 GLASS	INTERIOR/EXTERIOR: DARK BRONZE COLOR	ANDERSEN, ARCHITECTURAL COLLECTION E-SERIES					
6' - 0"	1' - 6"	ALUMCLAD WOOD FIXED CASEMENT WINDOW	LOW E-4 GLASS	INTERIOR/EXTERIOR: DARK BRONZE COLOR	ANDERSEN, ARCHITECTURAL COLLECTION E-SERIES					
	<b>WIDTH</b> 5' - 0" 5' - 0" 5' - 0"	WIDTH         HEIGHT           5' - 0"         4' - 0"           5' - 0"         5' - 0"           5' - 0"         5' - 0"           5' - 0"         5' - 0"           5' - 0"         5' - 0"           5' - 0"         5' - 0"           4' - 0"         7' - 2"           4' - 0"         7' - 2"           6' - 0"         1' - 6"           6' - 0"         1' - 6"           6' - 0"         1' - 6"	SIZE           WIDTH         HEIGHT         TYPE           5' - 0"         4' - 0"         ALUMCLAD WOOD GLIDING WINDOW           5' - 0"         5' - 0"         ALUMCLAD WOOD FIXED CASEMENT WINDOW           5' - 0"         5' - 0"         ALUMCLAD WOOD FIXED CASEMENT WINDOW           5' - 0"         5' - 0"         ALUMCLAD WOOD FIXED CASEMENT WINDOW           4' - 0"         7' - 2"         ALUMCLAD WOOD FIXED CASEMENT WINDOW           4' - 0"         7' - 2"         ALUMCLAD WOOD FIXED CASEMENT WINDOW           6' - 0"         1' - 6"         ALUMCLAD WOOD FIXED CASEMENT WINDOW           6' - 0"         1' - 6"         ALUMCLAD WOOD FIXED CASEMENT WINDOW           6' - 0"         1' - 6"         ALUMCLAD WOOD FIXED CASEMENT WINDOW           6' - 0"         1' - 6"         ALUMCLAD WOOD FIXED CASEMENT WINDOW	SIZE           WIDTH         HEIGHT         TYPE         GLASS           5' - 0"         4' - 0"         ALUMCLAD WOOD GLIDING WINDOW         LOW E-4 GLASS           5' - 0"         5' - 0"         ALUMCLAD WOOD FIXED CASEMENT WINDOW         LOW E-4 GLASS           5' - 0"         5' - 0"         ALUMCLAD WOOD FIXED CASEMENT WINDOW         LOW E-4 GLASS           5' - 0"         5' - 0"         ALUMCLAD WOOD FIXED CASEMENT WINDOW         LOW E-4 GLASS           5' - 0"         7' - 2"         ALUMCLAD WOOD FIXED CASEMENT WINDOW         LOW E-4 GLASS           4' - 0"         7' - 2"         ALUMCLAD WOOD FIXED CASEMENT WINDOW         LOW E-4 GLASS           6' - 0"         1' - 6"         ALUMCLAD WOOD FIXED CASEMENT WINDOW         LOW E-4 GLASS           6' - 0"         1' - 6"         ALUMCLAD WOOD FIXED CASEMENT WINDOW         LOW E-4 GLASS           6' - 0"         1' - 6"         ALUMCLAD WOOD FIXED CASEMENT WINDOW         LOW E-4 GLASS           6' - 0"         1' - 6"         ALUMCLAD WOOD FIXED CASEMENT WINDOW         LOW E-4 GLASS	SIZE   WIDTH   HEIGHT   TYPE   GLASS   INTERIOR/EXTERIOR: DARK BRONZE COLOR					



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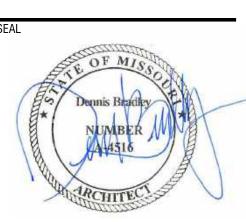
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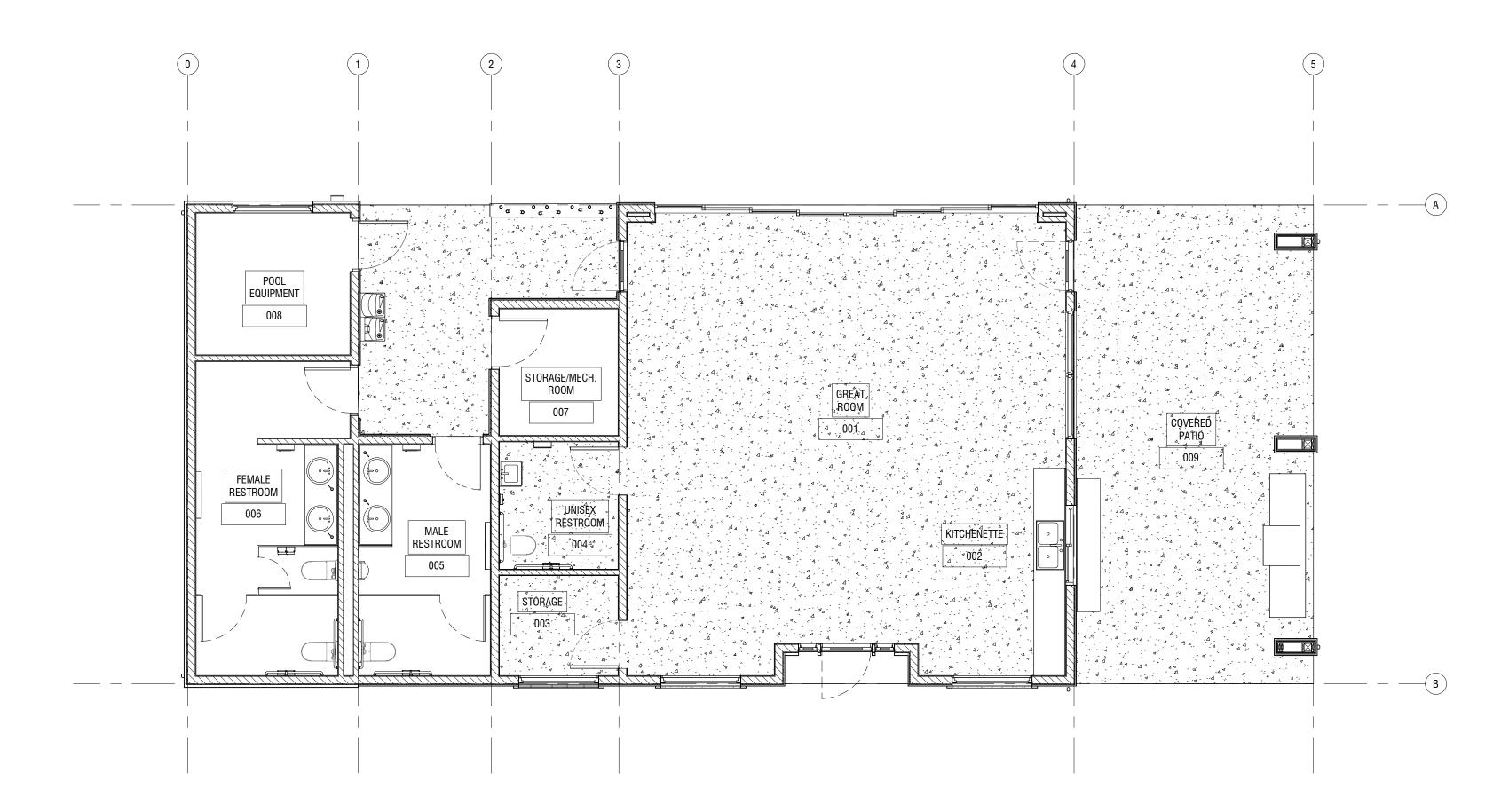
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DOOR/WINDOW SCHEDULES

AGOO

#### FINISH NOTES

- 1. FINISH ITEMS TO BE INSTALLED PER MANUFACTURER'S APPROVED PROCEDURES, METHODS AND APPLICABLE
- STANDARDS
  2. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION



GROUND FLOOR - FINISH PLAN

MATERIAL LEGEND

STAINED CONCRETE FLOOR

EPOXY FLOOR FINISH

FINISH SO	CHEDULE									
ROOM NUMBER	NAME	FLOORING	WALL BASE	TRIM	N-WALL	S-WALL	E-WALL	W-WALL	CEILING FINISH	REMARKS
001	GREAT ROOM	STC	WDB/PT-4	-	PT-5	PT-5	PT-5	PT-5	GB/PT-4	
002	KITCHENETTE	STC	WDB/PT-4	-	-	PT-5	PT-5	-	GB/PT-4	
03	STORAGE	STC	WDB/PT-5	-	PT-4	PT-4	PT-4	PT-4	GB/PT-4	CEILING HEIGHT: 9FT
004	UNISEX RESTROOM	STC	TLB-1	-	PT-4	WTL-1	PT-4	WTL-1	WGB/PT-4	CEILING HEIGHT: 9FT
05	MALE RESTROOM	EPX	-	-	PT-4	WTL-1	PT-4	WTL-1	WGB/PT-4	CEILING HEIGHT: 9FT
06	FEMALE RESTROOM	EPX	-	-	PT-4	WTL-1	WTL-1	PT-4	WGB/PT-4	CEILING HEIGHT: 9FT
07	STORAGE/MECH. ROOM	EPX	RB	-	PT-4	PT-4	PT-4	PT-4	GB/PT-4	CEILING HEIGHT: 9FT
08	POOL EQUIPMENT	EPX	RB	-	PT-4	PT-4	PT-4	PT-4	WGB/PT-4	CEILING HEIGHT: 9FT
009	COVERED PATIO	STC	-	-	-	-	-	STUCCO, PT-1	LP	RE: EXTERIOR MATERIALS FOR PT-1

CODE	MATERIAL	MANUFACTURER	PRODUCT	COLOR/TEXTURE	FINISH	SIZE	NOTES
FLOORIN	IG						
STC	STAINED CONCRETE						
EPX	EPOXY						
WALL-TI	LE						
TLB-1	TRIM - FLOOR BULLNOSE	DALTILE	LINDEN POINT	LP21 GRIGIO	MATTE	3" X 12"	1/16" GROUT GR-1
WTL-1	PORCELAIN TILE	DALTILE	LINDEN POINT	LP21 GRIGIO-WALL TILE	MATTE	10" X 14"	1/16" GROUT GR-1
WTL-2	PORCELAIN TILE	DALTILE	LINDEN POINT	LP21 GRIGIO-MOSAIC	MATTE	2" X 2"	1/8" GROUT GR-1
WTL-3	CERAMIC TILE	DALTILE	COLOR WHEEL COLLECTION	MATTE SUEDE GRAY 0782	MATTE	4" X 12"	1/16" GROUT GR-1
WALL-0	THERS				-	-	
PCS-1	TOILET PARTITIONS	ASI ACCURATE PARTITIONS	POWDER COATED STEEL	LIGHT GRAY 990			OVERHEAD BRACED
RB	RUBBER BASE	JOHNSONITE / TARKETT	THERMOSET RUBBER	23 VAPOR GREY		4"	TOELESS, TYPE TS
WDB	WOOD BASE	PACIFIC MUTUAL DOOR & WINDOW	BASE: PR430	PT-4		4 1/4"	
PAINT							
PT-4	PAINT (INTERIOR WALL/CEILING)	SHERWIN WILLIAMS	-	ALABASTER - SW 7008	FLAT	-	PROVIDE MOCK UP FOR
PT-5	PAINT (BASE/TRIMS/DOOR)	SHERWIN WILLIAMS	-	REPOSE GRAY - SW 7015	SEMI-GLOSS	-	OWNER/ ARCHITECT APPROVAL
CEILING							
GB	GYPSUM BOARD	-	-	PT-4	FLAT	-	
WGB	WATER RESISTANT GYP. BOARD	-	-	PT-4	FLAT	-	
LP	LP SMARTSIDE	LP	SOFFIT PANELS	CEDAR TEXTURE		-	
GROUT							
GR-1	GROUT	MAPEI	-	27-SILVER	-	-	PROVIDE MOCK UP FOR OWNER
							ARCHITECT APPROVAL
MILL WO	DRK				•		
CAB-1	CABINETRY	PROFILE OR EQUAL	-	SHERWIN WILLIAMS STAIN	-	-	PROVIDE SHOP-DRAWINGS FOR
				COLOR NEW EBONY (SW 3135)			OWNER/ ARCHITECT APPROVAL
CTT-1	COUNTER TOP	DALTILE	QUARTZ	LINCOLN WHITE NQ59	MATTE	3/4"	
CTT-2	COUNTER TOP	DALTILE	QUARTZ	CABRINI GREY NQ51	MATTE	3/4"	
MIRR-1	BATHROOM MIRROR	SIX PRODUCTS	S-COLLECTION-SPM-C004	0048	-	-	
MIRR-2	BATHROOM MIRROR	BOBRICK	B-293 2436	_	_	24" X 36"	

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LEE'S SUMMIT, MISSOURI 64082

Dennis Bradley
NUMBER
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DATE ISSUED: AUGUST 05, 2020

NO. REVISION DATE

DESIGNED BY: FCR

DESIGNED BY: FCR
DRAWN BY: FCR
CHECKED BY: TT/DMB

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FINISH PLAN & SCHEDULE

A800

#### GENERAL STRUCTURAL NOTES:

#### DESIGN LIVE LOADS: (Per 2018 International Building Code, Unfactored ASD values shown)

- a. Roof----- 20psf (min.); Ground Snow = 20psf
- Floor------------------100 psf (assembly)
- Storage & Mechanical——— 125 psf
- Corridor, Exits & Patio--- 100 psf
- Wind Load----- ASD Wind Speed<93mph; Risk Cat=II; Iw=I.0; Exp. C; GCpi=0.18 (0.55 Patio) f. Earthquake Load———— R.C.=II; le=1.00; Ss=0.1g; Sl=0.068g; Assumed Site Class D; Sds=0.107; Sd1=0.109; S.D.C. = B; Wood Shear Walls R=6.5

#### \_FIELD\_VERIFICATION:

- a. Contractor shall thoroughly inspect and survey the existing site and related infrastructure to verify conditions, dimensions, elevations, framing, etc. which affect the work shown on the drawings.
- b. Report any variations or discrepancies to the Architect and Engineer before proceeding.

#### FOUNDATION DESIGN:

- (spread footings)
- a. Design of foundations is based upon an assumed allowable vertical bearing pressure of 1500 psf for continuous, and individual spread footings (net, for full dead plus live loads), on suitable existing soil or shallow compacted structural fill 16" below existing interior slab or 36" below exterior grade (min).
- b. Field verify all bearing soils meet assumption (per a KS registered Geotech'l Engineer) prior to placing rebar.
- c. Overexcavate 12" (min) and provide a "cushion" of structural fill for 20' along new wall footings in the natural soils beyond all transitions of bearing wall footings from natural soil bearing to structural fill bearing.
- d. Bearing surfaces should be protected from either inundation or excessive drying during the excavation
- e. All loose soils or soils softened due to moisture concentration in the excavation should be removed prior to pouring concrete for foundations. Replace such unsuitable soils with structural fill as needed.
- f. If soils with moderate to high shrink/swell potential are exposed in excavations for slab or foundation bearing, undercut and replace such unsuitable soil with at least 2 feet (vert & lateral) of structural fill.
- g. All structural fill shall be appropriate for use on this project site and exhibit less than moderate shrink/ swell potential. The structural fill shall not contain rocks larger than 5" and shall be placed in loose lifts that are 8" thick (or less) compacted to 95% (min) of the maximum density as determined by Standard Proctor Procedures (ASTM D 698). Moisture content shall be controlled to within a range of -3 to +2percent around the optimum.

#### REINFORCED CONCRETE:

a. All concrete design is based on current edition of the "Building Code Requirements for Reinforced Concrete" (ACI 318).

process. Provide good surface drainage during construction.

- b. All structural concrete shall have minimum 28—day compressive strength of <u>4000</u> psi (except footings, which may be 3,000 psi).
- c. Concrete shall be proportioned utilizing Type I or I/II cement (except, concrete exposed directly to soil with high sulfate content shall use Type II cement). Concrete susceptible to freezing shall be formulated for maximum frost resistance in accordance with the <u>ACI Manual of Concrete Practice</u>.
- d. Contractor shall notify Architect of cold joint locations prior to or during concrete forming if they differ from those shown on the plans.
- e. Cold or hot weather concreting procedures shall be provided as recommended in the ACI Manual of Concrete Practice
- f. All exposed edges and corners shall be chamfered 0.75".
- g. All anchor bolts for beam and column bearing plates shall be placed with setting templates into forms before concrete is poured.

#### REINFORCING STEEL:

- a. All detailing, fabrication, and placement of reinforcing steel shall be in accordance with the ACI Manual of Concrete Practice.
- b. Reinforcing bars shall conform to the current ASTM Specification A615 and shall be grade 60, except ties, field bent bars where permitted by note on plan, or bars to be welded which shall be grade 40 or weldable grade 60.
- c. Unless noted otherwise: At splices in concrete, lap bars 36 diameters. At splices in masonry, lap bars 42 diameters. At corners, make horizontal bars continuos or provide corner bars. Around openings in walls and slabs, provide 2-#4's, extending 2-0 beyond each edge of opening, each way.
- d. Except as noted on the drawings, minimum concrete protection for reinforcement shall be in accordance with ACI 318.
- e. Welded wire fabric shall conform to ASTM Specification A-185.

#### **GROUT:**

a. All grout used beneath bearings shall be non-shrink, non-metallic w/28 day f'c = 5,000 psi.

#### POST-INSTALLED ANCHORS:

a. Resin Adhesive Anchors (called for or to replace cast—in anhcor bolts called for) shall be "HILTI HIT—ICE or HIT HY-200", "Ramset/Red Head - Epcon", or approved equivalent, with these embeds for general bolts in concrete: 9" for 3/4" dia bolts, 7 1/2" for 5/8"dia and 6" for 1/2"dia

#### SHOP DRAWINGS (DEFERRED SUBMITTALS):

a. Furnish pdf copy by email of each set of shop and erection drawings for: I-Joists and reinforcing bars to Architect and Structural Engineer for review and acceptance prior to fabrication.

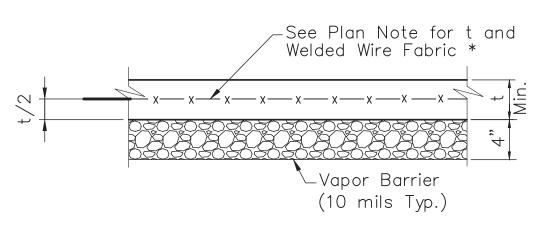
#### STRUCTURAL ERECTION AND BRACING REQUIREMENTS:

- a. The structural drawings illustrate the completed structure with all elements in their final positions, properly supported and braced.
- b. The Contractor, in the proper sequence, shall provide shoring and bracing as may be required during construction to achieve the final completed structure.

#### SPECIAL INSPECTIONS (Structural Only):

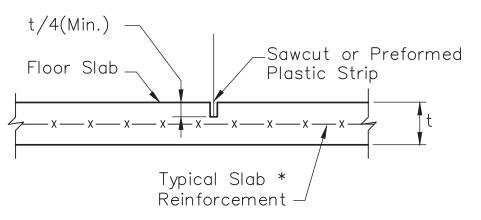
- a. Special Inspections per the IBC (2012 Chapter 1705) that may be required for this project by the governing agency's Building Official include, but may not be limited to, the following (that are not 'lined—out'):
  - 1. Periodic inspections of any excavated foundation bearing soil/rock depth and material 2. Periodic inspections/tests of any structural fill material and base preparation
  - 3. Continuous inspections of any structural fill density, placement, and compaction 4. Periodic inspections of any reinforcing steel (rebar) material and placement
  - -5. Continuous inspections of concrete sampling and placement
  - 6. Periodic inspections of concrete mix design, form work, and curing
  - 7. Periodic inspections of anchor bolt material and placement
- 8. Periodic inspections of any post-installed anchors and placement in concrete 9. Quality Assurance (QA) for structural steel system erection per AISC 360-10, Chapter N 10.Periodic inspections of cold—formed steel decking material, placement and fastening 11.Periodic inspections of prefabricated wood I—Joist material, placement, bridging and fastening
- b. Special Inspector for the work noted above shall be 'third party' agent provided by Owner and approved by the governing agency's Building Official (B.O.).
- c. Quality Assurance (QA) for structural steel fabrication shall be provided per AISC 360-10, Chapter N by the fabricator's agent/inspector (if reg'd by the B.O. - ref Section N7).
- d. Quality Control (QC) for structural steel fabrication and erection shall be provided per AISC 360-10, Chapter N by the respective agent/inspector for the fabricator and/or erector.

## **ABBREVIATIONS** ABC = Aggregate Base Course T.O.S. = Top of Steel GSN = General Structural Notes T.O.W. = Top of Wall UNO = Unless Noted Otherwise F.V. = Field Verify WWF = Welded Wire Fabric T&B = Top & Bottom E.W. = Each Way O.C. = On Center PSF = Pounds Per Square Foot SIM = Similar NTS = Not to Scale O.H. = Opposite Hand O.F. = Outside Face E.F. = Each Face I.F. = Inside Face LEGEND INDICATES TRENCHED CONCRETE FOOTING INDICATES THICKENED SLAB CONCRETE FOOTING INDICATES COLUMN (WOOD) INDICATES OPNG IN FLR OR ROOF. VERIFY SIZE & LOCATION w/ ARCH'L & MECH'L DWGS. MOST OPNGS & OPNG FRMG ARE NOT SHOWN ON PLAN INDICATES WOOD RAFTER/JOIST INDICATES BUILT-UP WOOD HEADER INDICATES WOOD BEAM

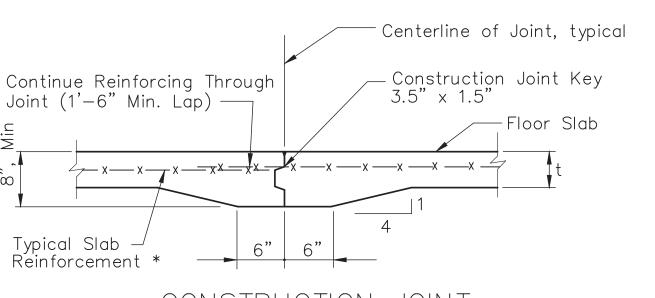


## TYPICAL SLAB-ON-GRADE SECTION

Reinforced Concrete Slab on 4" Aggregate Base Course \* - WWF MUST BE PLACED AT SLAB MID-DEPTH



CONTRACTION JOINT \* - WWF MUST BE PLACED AT SLAB MID-DEPTH



CONSTRUCTION JOINT \* - WWF MUST BE PLACED AT SLAB MID-DEPTH

SLAB-ON-GRADE & CONTROL JOINTS Provide a control joint where indicated per plan, typical.



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SEAL (DANIEL J. PACKARD, P.E., d.b.a. PACKARD ENGINEERING) **``** DANIEL J. PACKARD NUMBER PE-24486 . 000

ISSUED: JULY 31, 2020 REVISION DATE DESIGNED BY DJP DRAWN BY DJP CHECKED BY DJP

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## PLAN KEY NOTES:

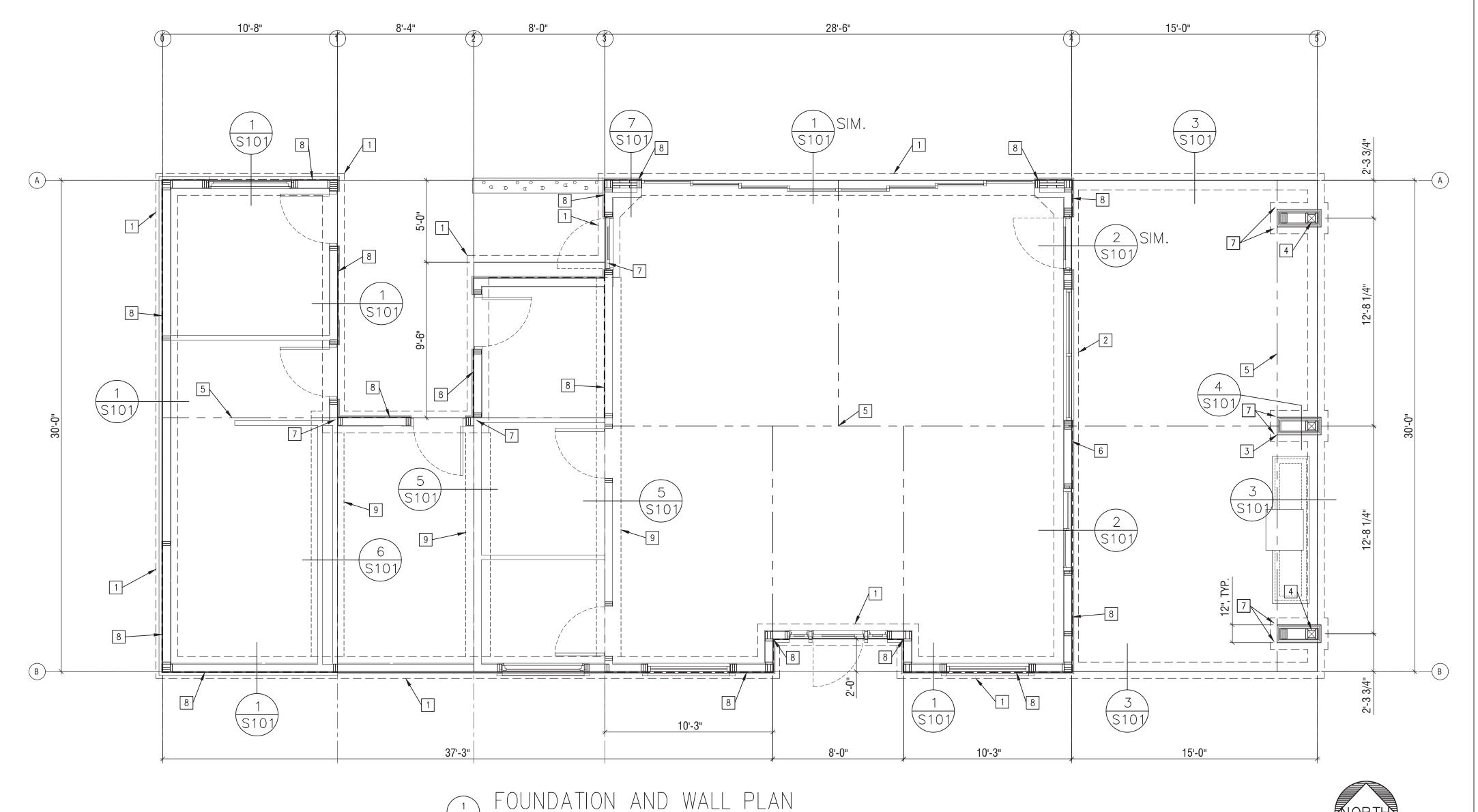
- 1 TRENCHED FOOTING 16" WIDE X 30" DEEP, TYPICAL AT BUILDING SLAB EDGES. TOP OF FOOTING IS 12", MINIMUM, BELOW SLAB SURFACE. REINF w/2 - #5 CONT, TOP & BOTTOM.
- WIDEN TRENCHED FOOTING AT THIS EXTERIOR WALL TO 1'-6" WIDE. PROVIDE TYPICAL TRENCHED FOOTING HORIZONTAL REINFORCING THROUGH WIDER FOOTING.
- 3 PROVIDE EXTERIOR PIER OVER THE FOOTING AT THIS 'PATIO COLUMN' ELEMENT = 12" WIDE  $\times$  2'-8" LONG. SEE THE APPLICABLE DETAIL/SECTION.
- 4 P.T. 6X6 COLUMN w/ SIMPSON MPB66Z BASE EMBEDDED INTO PIER/FOOTING PER DETAIL.
- APPROXIMATE LOCATIONS OF SLAB-ON-GRADE CRACK CONTROL JOINTS ARE SHOWN THUS
- 6 DON'T CONNECT SLAB-ON-GRADE AT PATIO TO STEM WALLS AND ENCLOSED BUILDING SLAB EDGES, TYPICAL. PROVIDE CONT 1/2" EXPANSION JOINT MATERIAL
- 7 PROVIDE A DIAGONAL #4 BAR X 32" AT MID-DEPTH OF SLAB AND CENTERED NEAR EACH INSIDE CORNER OF STEM WALL-TO-SLAB JOINT, TYPICAL.
- 8 DASHED LINE WHERE SHOWN THUS INDICATES SHEAR WALL SHEATHING AT WALL FACE ABOVE PER APPLICABLE GENERAL FRAMING NOTE. SHEATH WALL ABOVE AND BELOW ANY WINDOWS INCLUDED WITHIN THE WALL LENGTH INDICATED.
- 9 THICKENED SLAB FOUNDATION PER APPLICABLE DETAIL/SECTION.
  - FASTEN THIS SHEAR WALL'S SHEATHING PANELS TO SUPPORTING FRAMING w/ 8d NAILS @ 4" O.C. ALONG PANEL EDGES AND @ 8" O.C. OTHERWISE.

## GENERAL WALL FRAMING NOTES:

- 1. ALL FRAMING TO BE LEFT EXPOSED OR IN CONTACT WITH CONCRETE SHALL BE PRESSURE TREATED SOUTHERN PINE #1, OR BETTER.
- 2. ALL INTERIOR WOOD FRAMING MEMBERS SHALL BE #2 (FOR HORIZ) OR STUD (FOR VERT) GRADE KILN DRIED SOUTHERN PINE, OR BETTER, UNO. FRAMING SHALL BE CLOSELY FITTED, ACCURATELY SET TO REQUIRED LINES AND HEIGHTS AND SECURELY FASTENED IN PLACE. PROVIDE SOLID BLOCKING AT HORIZONTAL JOINTS OF PANEL EDGES IN SHEAR WALLS. ALL CONNECTIONS IN FRAMING TO BE FASTENED IN ACCORDANCE WITH THE "RECOMMENDED FASTENING SCHEDULE" IN TABLE 2304.9.1 OF THE INTERNATIONAL BUILDING CODE. SEE ARCH'L DRAWINGS FOR BLOCKING REQUIRED AT WALLS FOR ATTACHMENT OF MISCELLANEOUS ITEMS LIKE HANDRAILS, GRAB BARS, FURNACE SHELVES, ETC.
- 3. BEAMS & COLUMNS THAT ARE BUILT-UP w/ MULTIPLE MEMBERS MUST BE ATTACHED BY GLUE & 2 ROWS OF 16d NAILS AT 12" O.C. FOR EACH PIECE
- 4. CONTRACTOR SHOULD PLACE EARLY ORDERS FOR SIMPSON OR APPROVED EQUIVALENT PRODUCTS. COSTS FOR REMEDIAL DESIGNS DUE TO UN-APPROVED ALTERNATE MATERIALS/CONNECTORS WILL BE BORNE BY CONTRACTOR.
- 5. SHEATH ALL INDICATED WALL STUD FACES AT SHEAR WALLS WITH 15/32", MIN, APA RATED (32/16) EXT OR EXP1 PANELS. NAIL w/ 8d @ 6" O.C. AT PANEL EDGES ON SUPPORTS AND DOUBLE THAT SPACING ON OTHER/INTERMEDIATE SUPPORTS, EXCEPT WHERE DETAILED OR NOTED OTHERWISE. BLOCK ALL PANEL EDGES NOT SUPPORTED BY STUDS. PROVIDE 2 - 2X6 STUDS (MIN.) AT EACH END OF EACH SHEATHED/SHEAR WALL.
- 6. SEE SHEET S200 FOR BUILT UP COLUMNS TO BE PROVIDED IN WALL FRAMING UNDER BEAMS AND HEADERS ABOVE, TYPICAL UNLESS NOTED OTHERWISE.

## GENERAL FOUNDATION NOTES:

- 1. CONCRETE SLAB—ON—GRADE TO BE 4", MIN, THICK REINFORCED w/ WWF 6X6— W2.1XW2.1 AT MID—DEPTH. ALL INTERIOR FLOOR SLABS TO BE UNDERLAIN BY 10 MIL, MIN, VAPOR BARRIER AND 4", MIN, CRUSHED STONE BASE COURSE OVER COMPACTED NATIVE SOIL OR STRUCTURAL FILL ADEQUATE FOR ALLOWABLE NET BEARING STRENGTH OF 1500 PSF.
- 2. SEE ARCHITECTURAL DRAWINGS FOR BUILDING DIMENSIONS AND TO VERIFY DIMENSIONS SHOWN (WHICH ARE TO OUTSIDE FACE OF STUD OR 'STOREFRONT' WALL OR COLUMN CENTERLINE).
- 3. SEE DETAILS ON SHEET SOO1 FOR CRACK CONTROL JOINTS TO BE SAWN OR FORMED (AT CONTRACTOR'S OPTION) INTO SLAB-ON-GRADE WHERE SHOWN





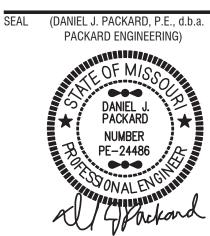
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PACKARD ENGINEERING)

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DANIEL J. PACKARD

NUMBER PE-24486

JULY 31, 2020

DATE

ISSUED: JULY 31, 2020

DESIGNED BY DJP

DRAWN BY DJP

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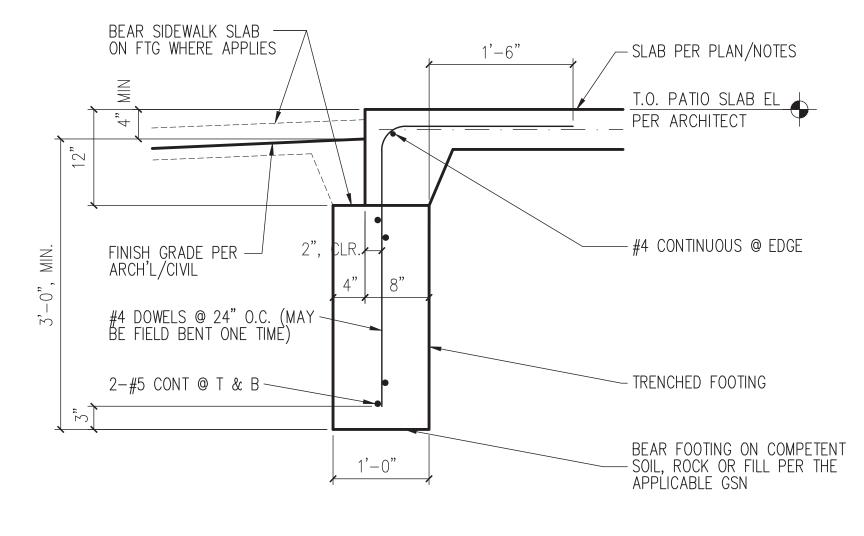
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ARCHITECTURE

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HICKENED SLAB 2-WALL FOUNDATION SECTION SCALE = NONE

2'-0"

SEE ARCH'L DRAWINGS FOR FINISHES, TYPICAL

2X4 STUDS @ 16" O.C. —

1/2" ANCHOR BOLT @ 48", MAX, O.C. (OR APPROVED EQUIVALENT)

BEAR FOOTING ON COMPETENT SOIL, ROCK OR FILL PER THE

APPLICABLE GSN AND ANY

GEOTECH'L ENG'R/REPORT

2X4 CONTINUOUS BRIDGING

& 2X4 TIE BETWEEN STUDS - @ 48" VERT O.Ç. NAIL TIE

TO EA STUD w/4 - 10d

- 2X4 TREATED PLATE

— SLAB PER PLAN/NOTES

1059'-6"

#4 X 22" @ 24" O.C.

— SLAB CRACK CONTROL JOINT

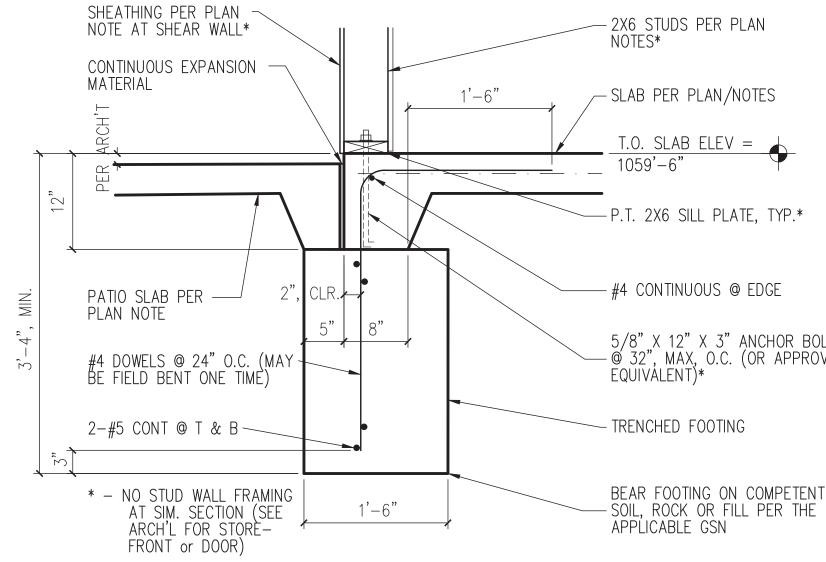
5/8" ANCHOR BOLT @ 32",

MAX, O.C. (OR APPROVED

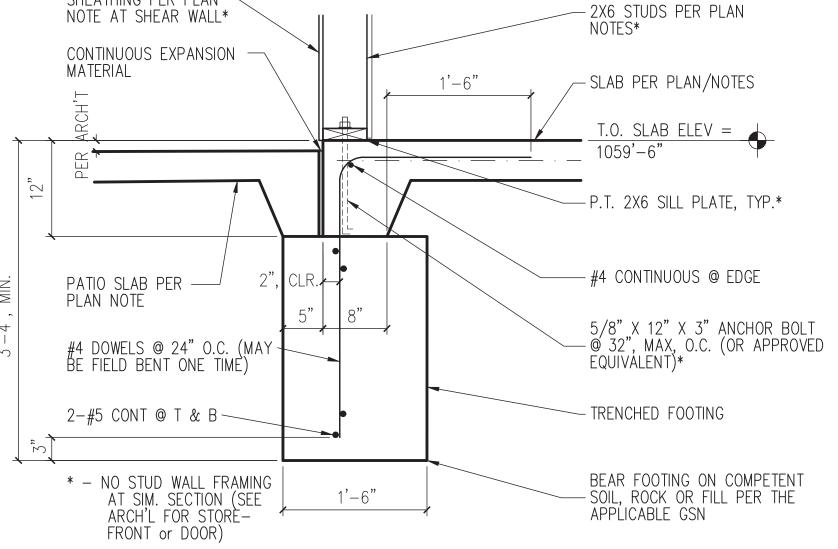
3 - #5 CONTINUOUS @ 10" O.C.

T.O. SLAB ELEV =

SCALE = NONE

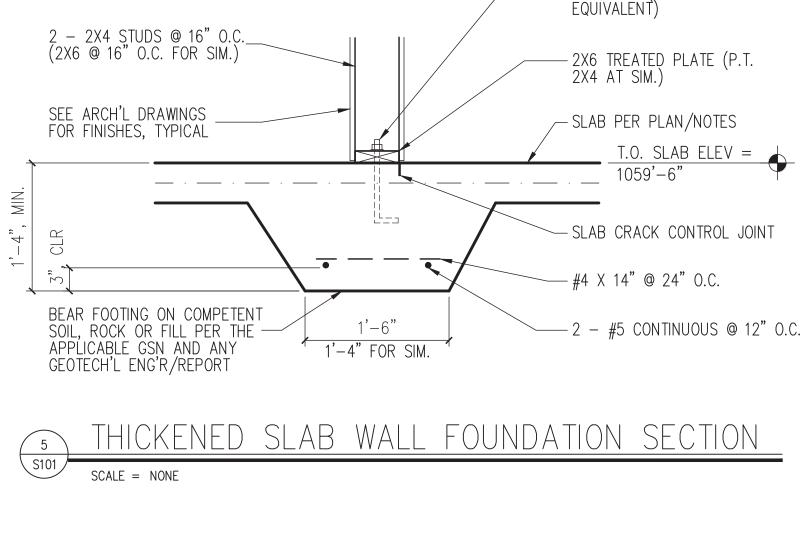


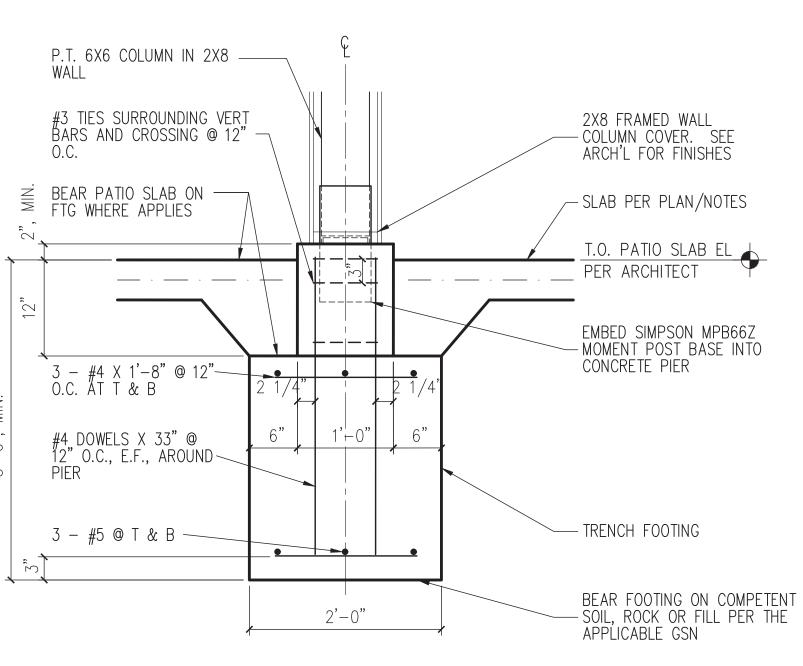
EXT'R WALL AT PATIO FOUNDATION SECTION SCALE = NONE

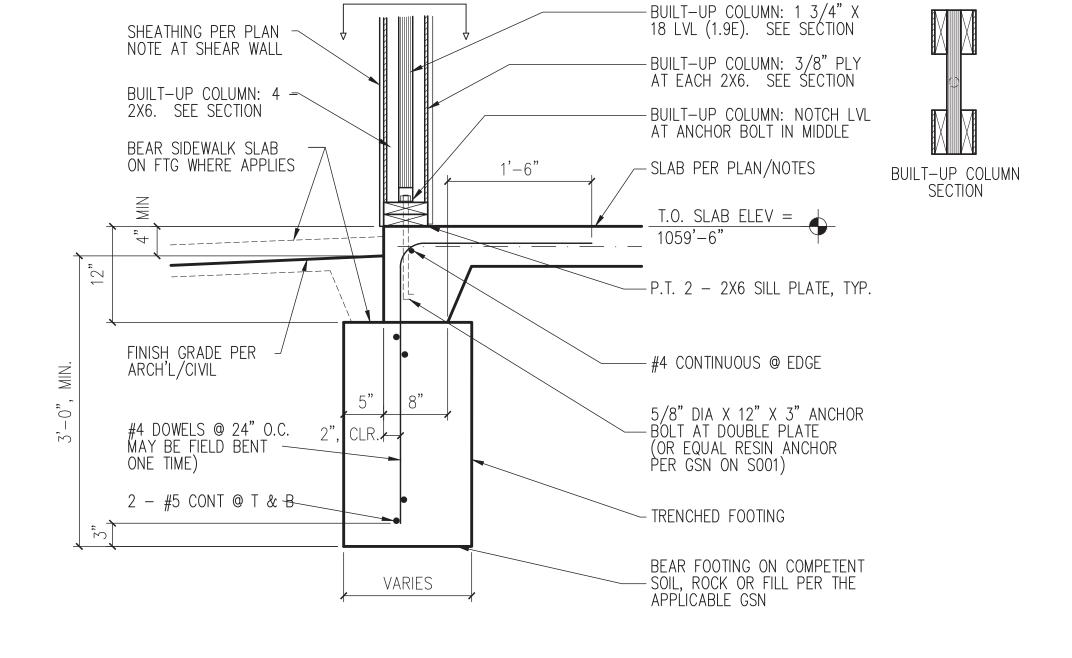


SHEATHING PER PLAN - NOTE AT SHEAR WALL\* 2X6 STUDS PER PLAN BEAR SIDEWALK SLAB — ON FTG WHERE APPLIES - SLAB PER PLAN/NOTES T.O. SLAB ELEV = 1059'-6" ------ P.T. 2X6 SILL PLATE, TYP.\* #4 CONTINUOUS @ EDGE FINISH GRADE PER — ARCH'L/CIVIL 5/8" X 12" X 3" ANCHOR BOLT — @ 32", MAX, O.C. (OR APPROVED EQUIVALENT)\* #4 DOWELS @ 24" O.C. (MAY BE FIELD BENT ONE TIME) 2-#5 CONT @ T & B -TRENCHED FOOTING \* - NO STUD WALL FRAMING AT SIM. SECTION (SEE ARCH'L FOR STORE-BEAR FOOTING ON COMPETENT - SOIL, ROCK OR FILL PER THE APPLICABLE GSN FRONT)

EXTERIOR WALL FOUNDATION SECTION SCALE = NONE







SHEAR FRAME COLUMN FOUNDATION SECTION SCALE = NONE

PATIO TIMBER COLUMN FOUNDATION SECTION SCALE = NONE

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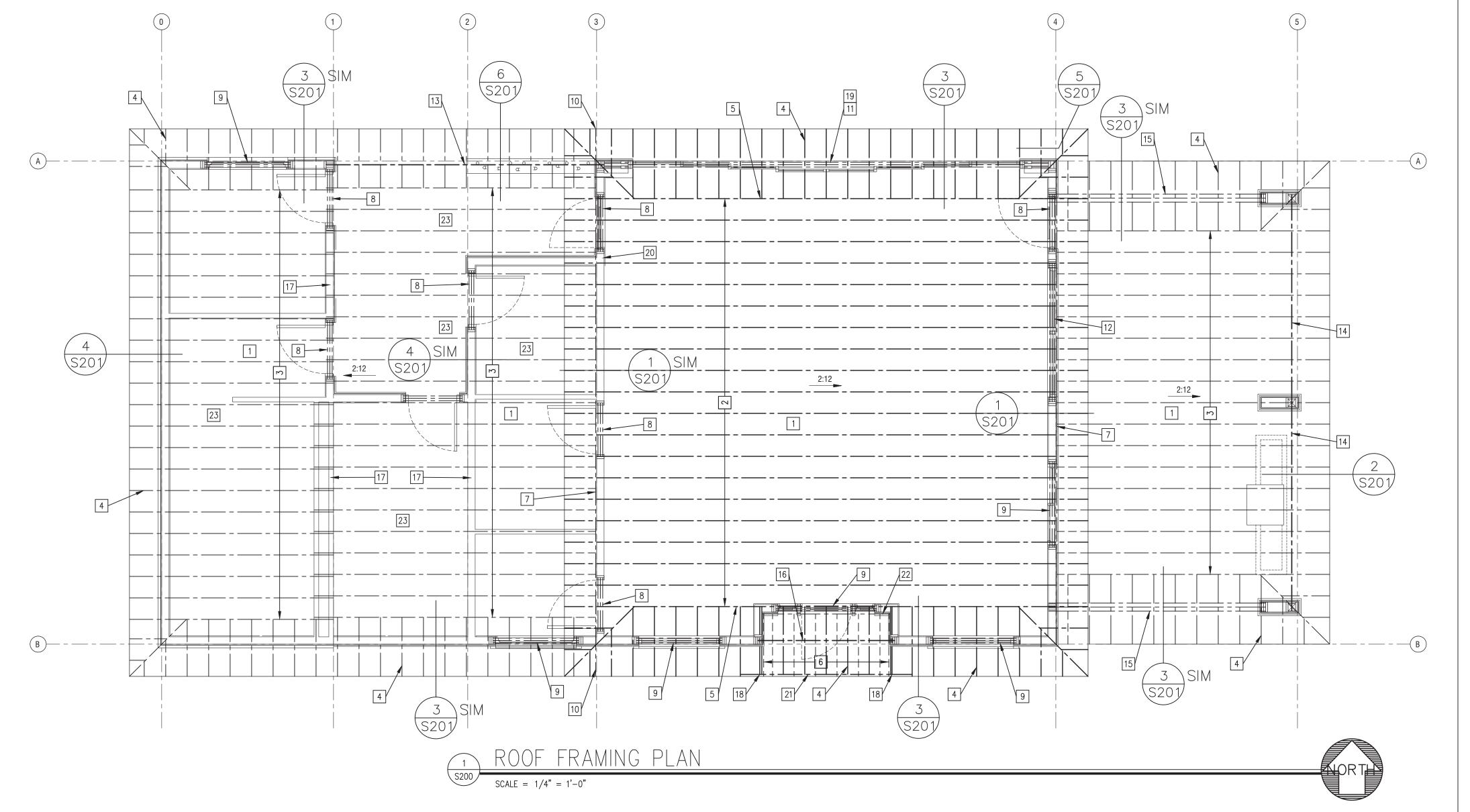
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## PLAN KEY NOTES:

- 1 TYPICAL ROOF DECKING = 15/32", MIN, APA RATED (32/16) EXT, OR EXP 1, SHEATHING. CLIP OR BLOCK ALL UNSUPPORTED PANEL EDGES. NAIL w/ 8d @ 6" O.C. AT PANEL EDGES ON SUPPORTS AND @ 12" O.C. ON INTERMEDIATE SUPPORTS.
- 2 14" PRE-ENGINEERED WOOD I-JOIST @ 16" O.C. AT ROOF OVER GREAT ROOM. ALIGN TO BEAR DIRECTLY OVER STUD(S) AT EXTERIOR FRAMED WALLS.
- 2X10 RAFTERS @ 16" (+/-) O.C., TYPICAL WHERE SHOWN THUS (UNLESS NOTED OTHERWISE). ALIGN TO BEAR DIRECTLY OVER STUD(S) AT EXTERIOR FRAMED WALLS, TYPICAL.
- 4 2X10 'OUTRIGGER' FRAMING @ 16" O.C. TO BE USED AT MONOSLOPE SIDE OVERHANG FRAMING, TYPICAL.
- 5 FASTEN CONTINUOUS SOLID NAILER TO EXTERIOR SIDE OF WOOD I—JOIST WEB FOR FASTENING OF 'OUTRIGGER' FRAMING, TYPICAL.
- 6 2X4 'CANOPY' FRAMING @ 16" (MAX) O.C. CANTILEVER OVER 'CANOPY' BEAM AT ENTRY ALCOVE. FASTEN EACH TO BEAM w/ SIMPSON H2.5A.
- 7 2X10 LEDGER w/ LEDGERLOKS INTO STUDS @ 16" O.C. AT LOWER ROOF CONNECTION TO TALLER EXTERIOR WALL. FACE HANG RAFTERS FROM LEDGER w/ SIMPSON LUS210 AT EACH.
- 8 HEADER = 3 2X8 (MIN), TYPICAL UNLESS NOTED OTHERWISE. BEAR EACH END IN WALL ON 1 2X6 JACK STUD (WITH 1 2X6 KING STUD). KING STUDS TO BE FULL HEIGHT OF WALL.
- 9 HEADER = 3 2X10. BEAR EACH END IN WALL ON 1 2X6 JACK STUD (WITH 2 2X6 KING STUDS). KING STUDS TO BE FULL HEIGHT OF WALL.
- [10] EXTEND END OF 2X10 LEDGER TO LOWER OVERHANG EDGE HERE. FASTEN 2X10 LEDGER TO WALL CORNER STUDS w/ 3 LEDGERLOKS
- HEADER =  $3 1 \frac{3}{4}$ "X14" LVL (1.9E). BUILD EACH END INTO 2'-3" SHEAR FRAME COLUMN PER DETAIL.
- HEADER = 3 2X12. BEAR EACH END IN WALL ON 2 2X6 JACK STUDS (WITH 2 2X6 KING STUDS). KING STUDS TO BE FULL HEIGHT OF WALL.
- P.T. 3 2X12 w/ 2 1/2" PLYS BEAM. BEAR EACH END IN WALL ON 3 2X6 (MIN.) BUILT-UP STUD COLUMN. ALSO PROVIDE 2 2X6 FULL HEIGHT STUDS ALONGSIDE SOUTH FACE OF BEAM AT EACH BEARING (GLUE AND FACE-NAIL LAPPING 2X6 TO BEAM w/ 16d @ 2" O.C., EACH WAY).
- P.T. 3 2X12 w/ 2 1/2" PLYS BEAM. BEAR EACH END ON TREATED 6X6 COLUMN w/ SIMPSON AC6 CAP. ALSO PROVIDE A 2X8 FULL HEIGHT STUD ALONGSIDE EAST AND WEST FACES OF COLUMN AND BEAM AT EACH BEARING (GLUE AND FACE-NAIL EACH LAPPING 2X8 TO COLUMN AND EACH BEAM w/ 16d @ 4" O.C.).
- 3-2X10 HEADER OVER PATIO END OPENING. BEAR AT EAST ON 2-2X8 JACK STUDS (w/ 1 2X8 KING STUD). BEAR AT WEST IN WALL ON 3-2X6 (MIN.) STUDS.
- 3 2X6 w/2 1/2" PLYS 'CANOPY' BEAM OVER ENTRY ALCOVE. BEAR ON 2 2X6, MIN., IN WALL CORNER AT EACH END. PROVIDE 2 KING STUDS AT EACH END ALSO.
- 17 PROVIDE SOLID BLOCKING BETWEEN JOISTS OVER THIS BEARING WALL, TYPICAL.
- DOUBLE 2X10 ROOF 'OUTRIGGER' OVER EACH SIDE WALL OF ENTRY ALCOVE AND FASTEN TO DOUBLED 2X10 RIM w/ INVERTED SIMPSON LUS210-2.
- HEADERS ABOVE STOREFRONT WINDOWS = 3 2X8 (MIN). BEAR EACH END IN WALL ON 1 2X6 JACK STUD (WITH 1 2X6 KING STUD). KING STUDS TO BE FULL HEIGHT OF WALL ABOVE MULTI-DOOR LVL HEADER.
- PROVIDE HEADERS OVER CLERESTORY WINDOWS AT THIS WALL (NOT SHOWN) PER KEY NOTE 9 ABOVE.
- DOUBLE THE HIGH ROOF 2X10 RIM X 10'-6 1/2" ACROSS/OVER THE ENTRY ALCOVE.
- 22 2X10 LEDGER w/ LEDGERLOKS INTO STUDS @ 16" O.C. AT CANOPY ROOF CONNECTION TO TALLER EXTERIOR WALL. FACE HANG RAFTERS FROM LEDGER w/ SIMPSON LUS24 AT EACH.
- PROVIDE CEILING JOISTS BELOW @ 16" O.C. USING 2X4s AT SPAN UP TO 9'-0"; 2X6s AT SPAN UP TO 14'-0" AND 2X8s AT SPAN UP TO 17'-6". SEE ARCH'L DRAWINGS FOR CEILINGS.

## GENERAL ROOF FRAMING NOTES:

- 1. WOOD 2X FRAMING AT PATIO ROOF, AND ANY TO BE LEFT EXPOSED OTHERWISE, SHALL BE PRESSURE TREATED SOUTHERN PINE #1, OR BETTER.
- 2. INTERIOR WOOD FRAMING MEMBERS SHALL BE #2 KILN DRIED SOUTHERN PINE OR BETTER, UNO. FRAMING SHALL BE CLOSELY FITTED, ACCURATELY SET TO REQUIRED LINES AND HEIGHTS AND SECURELY FASTENED IN PLACE. PROVIDE SOLID BLOCKING AT ALL JOINTS IN WALL SHEATHING MATERIALS. UNSUPPORTED ROOF DECKING JOINTS MUST BE CLIPPED IF NOT BLOCKED. ALL CONNECTIONS IN FRAMING TO BE FASTENED IN ACCORDANCE WITH THE "RECOMMENDED FASTENING SCHEDULE" IN TABLE 2304.9.1 OF THE INTERNATIONAL BUILDING CODE.
- 3. "LVL" = MICROLLAM (1.9E LAMINATED VENEER LUMBER); "LSL" = TIMBERSTRAND (1.55E LAMINATED STRAND LUMBER) AND "PSL" = PARALLAM (2.0E PARALLEL STRAND LUMBER). ALL ARE BY iLEVEL/WEYERHAEUSER. I-JOISTS MAY BE PER GEORGIA PACIFIC OR WEYERHAEUSER. APPROVED EQUIVALENTS MAY BE USED.
- 4. BEAMS & COLUMNS THAT ARE BUILT-UP w/ MULTIPLE MEMBERS MUST BE ATTACHED BY GLUE & 2 ROWS OF 16d NAILS AT 12" O.C. FOR EACH PIECE
- 5. CONTRACTOR SHOULD PLACE EARLY ORDERS FOR LVL, LSL, PSL, I-JOIST, SIMPSON OR APPROVED EQUIVALENT PRODUCTS. COSTS FOR REMEDIAL DESIGNS DUE TO UN-APPROVED ALTERNATE MATERIALS/CONNECTORS WILL BE BORNE BY CONTRACTOR.
- 6. SEE ARCHITECTURAL DRAWINGS FOR BUILDING DIMENSIONS AND TO VERIFY DIMENSIONS SHOWN (WHICH ARE TO OUTSIDE FACE OF STUD).





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MIT, MISSOURI

DANIEL J. PACKARD, P.E., d.b.a.
PACKARD ENGINEERING)

DANIEL J.
PACKARD
NUMBER
PE-24486
JULY 31, 2020

ISSUED: JULY 31, 2020

NO REVISION DAT

ISSUED: JULY 31, 2020

NO. REVISION DATE

DESIGNED BY DJP

DESIGNED BY DJP DRAWN BY DJP CHECKED BY DJP

ANY OTHER PROJECT.

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INCONSISTENCY OR OMISSION DISCOVERED.

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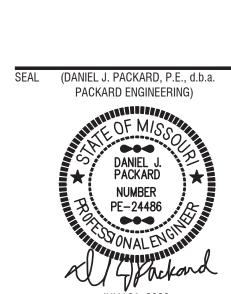
OLATHE, KANSAS 66061

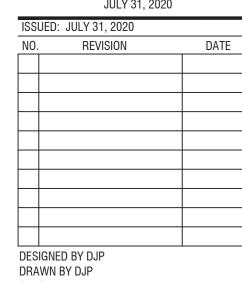
PHELPS ENGINEERING, INC.

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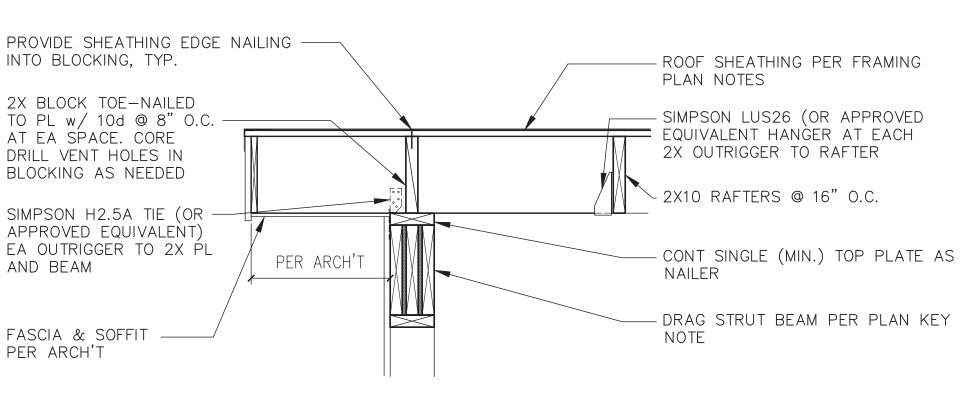
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DRAWN BY DJP
CHECKED BY DJP
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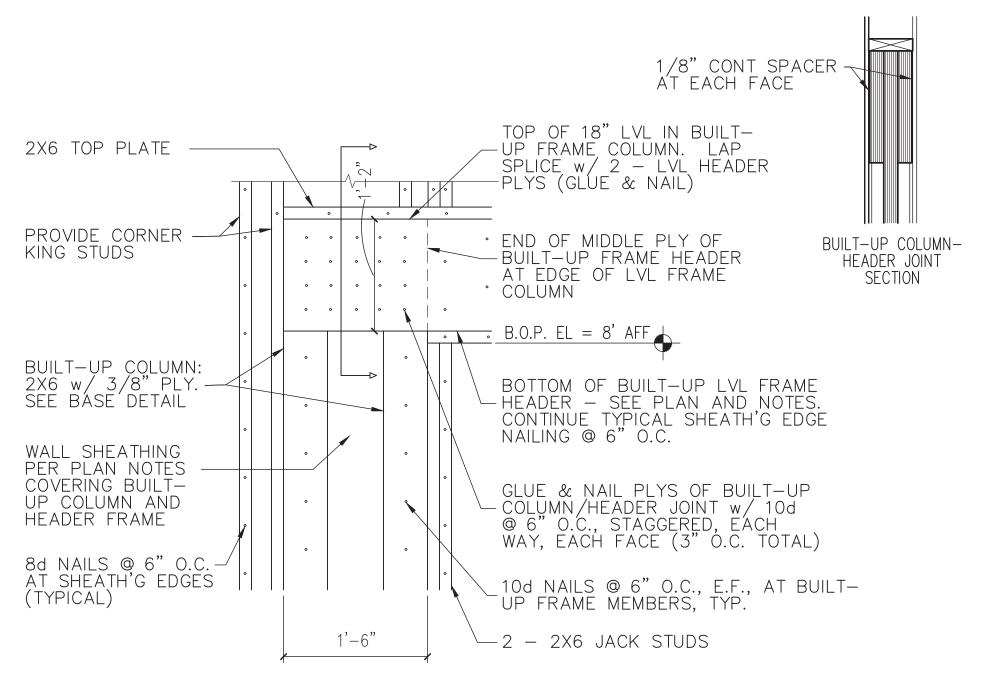
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PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREIN AND IS NOT TO BE USED ON

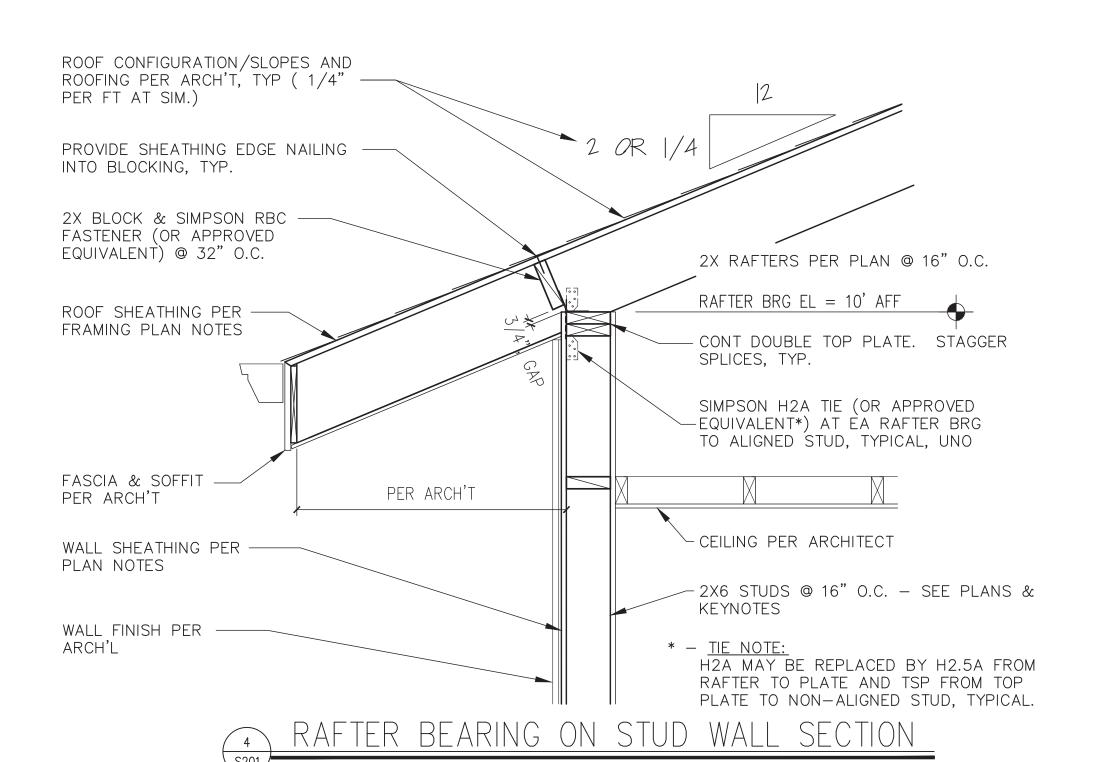
S201



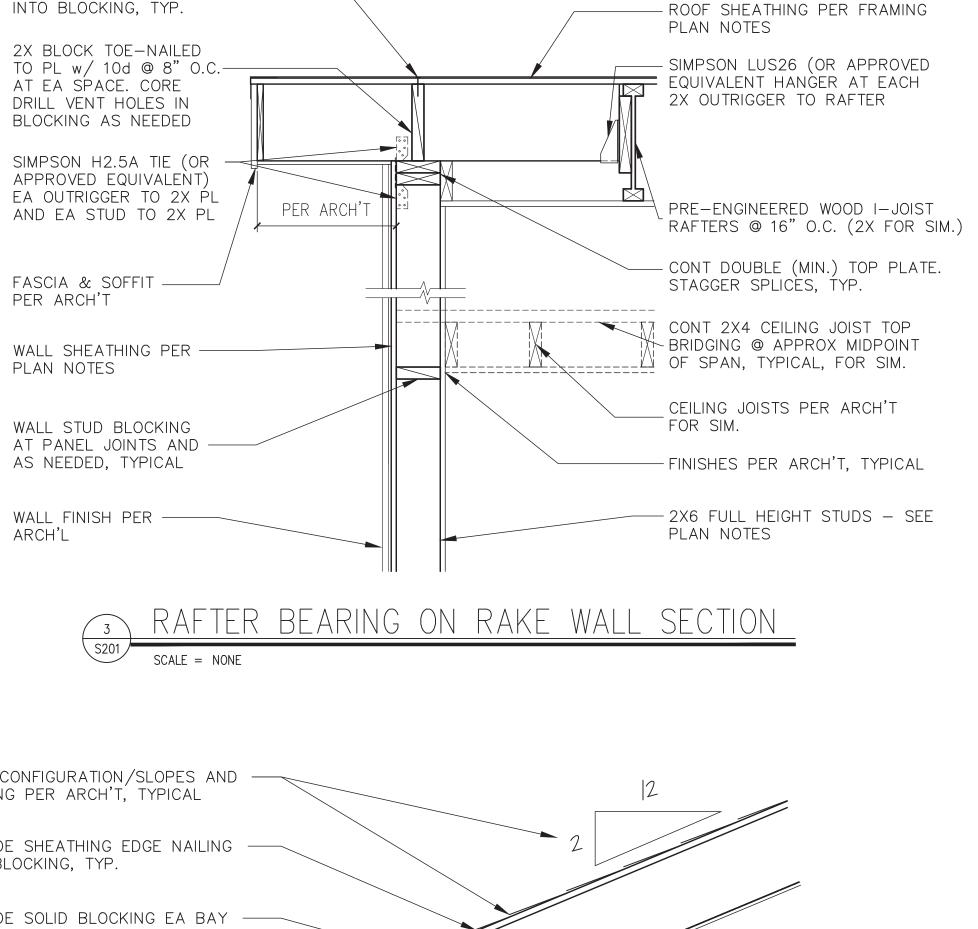
# OUTRIGGER BEARING ON DRAG STRUT BEAM SECTION SCALE = NONE



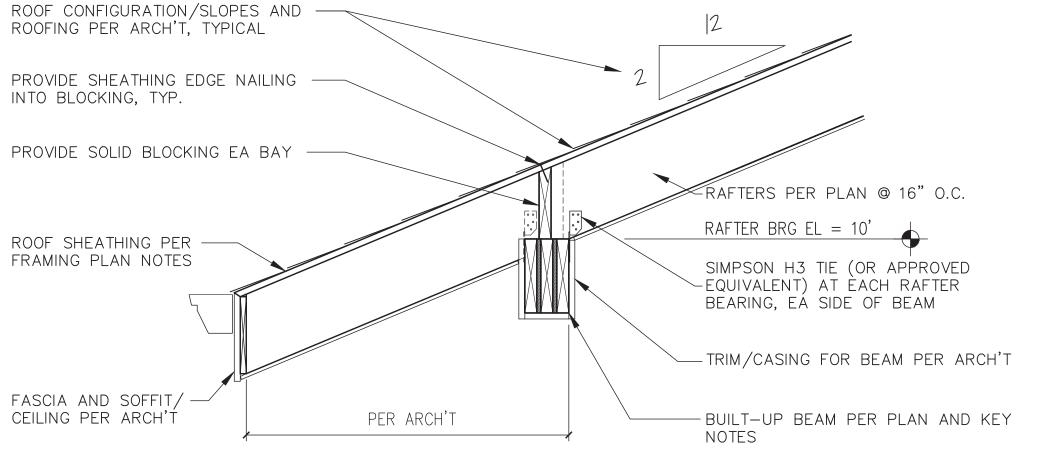
# LVL SHEAR FRAME HEADER-COLUMN JOINT DETAIL SCALE = NONE



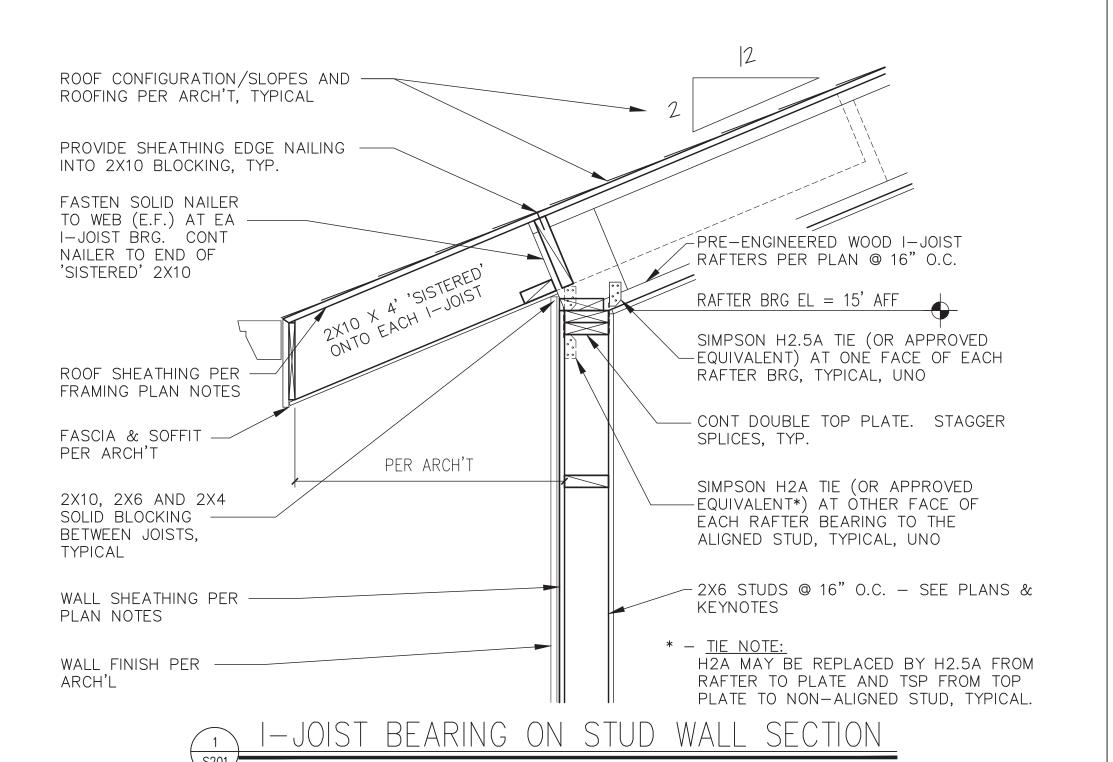
SCALE = NONE



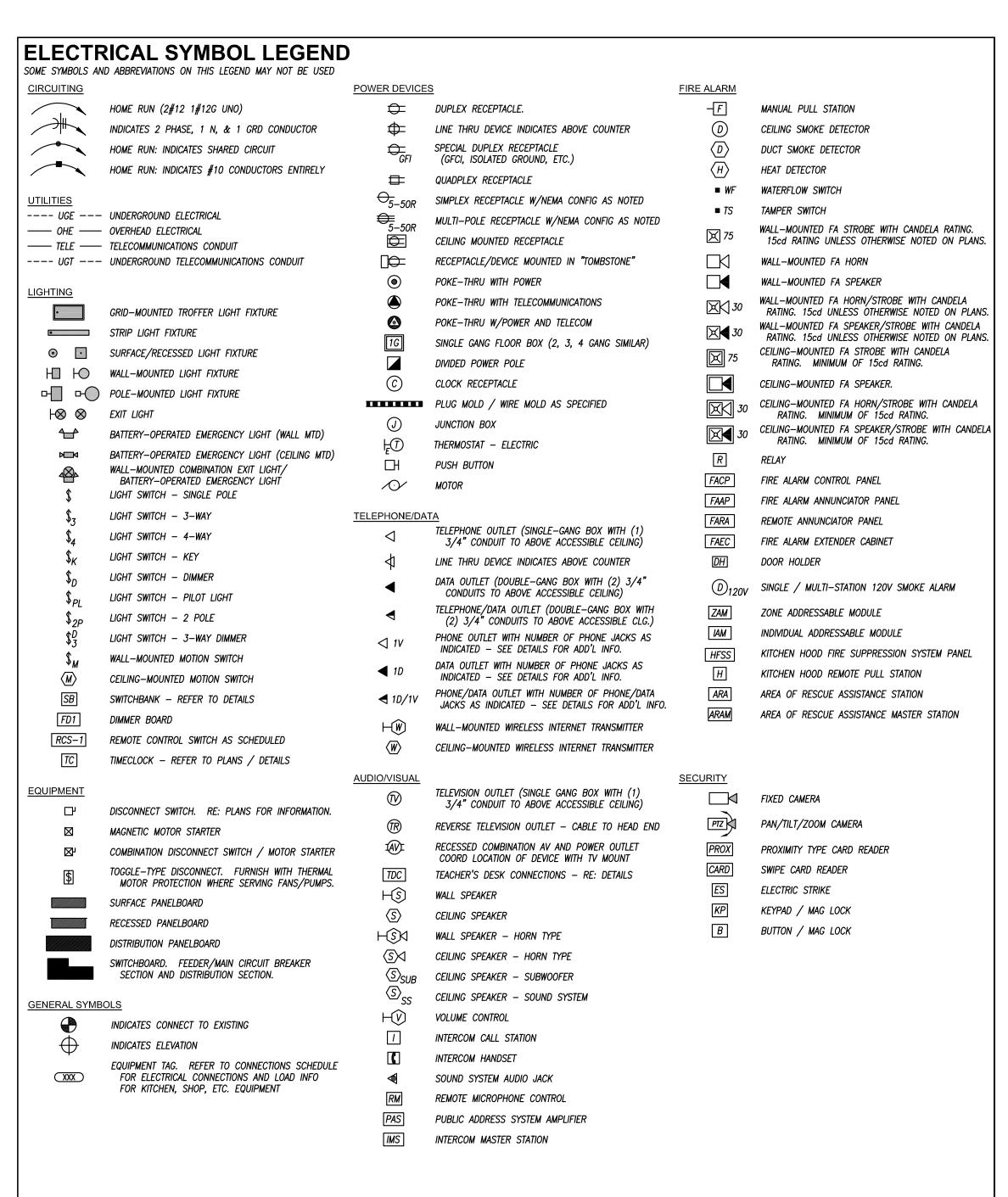
PROVIDE SHEATHING EDGE NAILING -

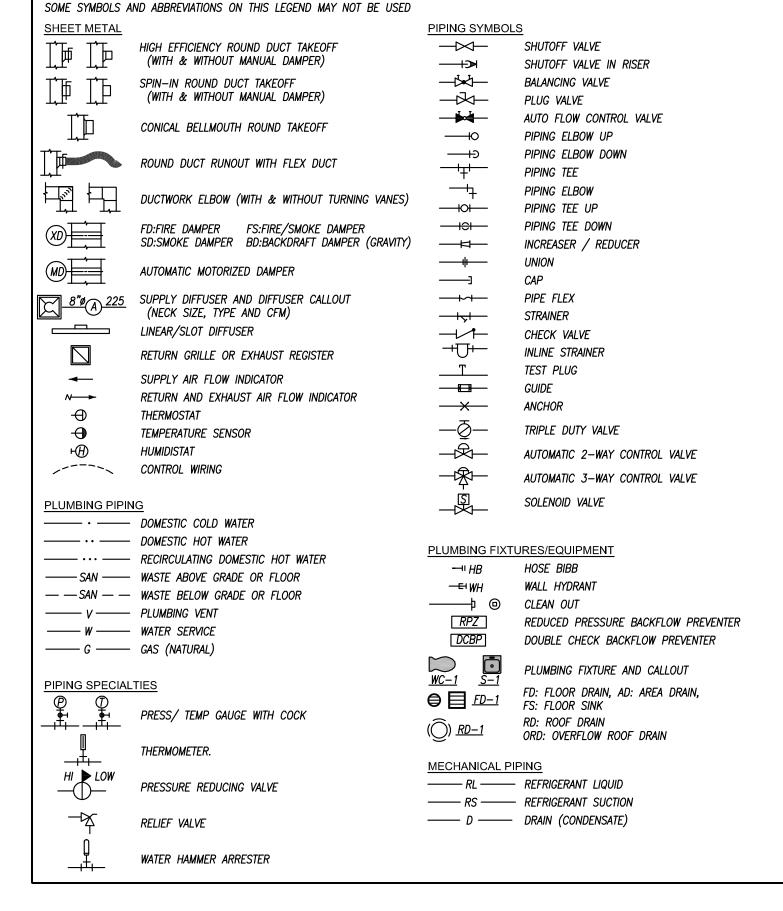


# RAFTER BEARING ON BEAM SECTION SCALE = NONE



SCALE = NONE





**MECHANICAL AND PLUMBING SYMBOL LEGEND** 

# ARCHITECT B+A ARCHITECTURE 100 W 31ST STREET, SUITE 100

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DEVELOPER SUMMIT HOMES 120 SE 30TH STREET LEE'S SUMMIT. MO 64082 PH: 816-326-2909

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1. COORDINATE REQUIREMENTS FOR INSTALLATION OF SYSTEMS AND SOME ROOM NAMES MAY NOT BE SHOWN FOR PURPOSE OF CLARIFYING PLAN. REFER TO ARCHITECTURAL PLANS FOR 2. THE CONTRACTOR SHALL COORDINATE THE ROUTING AND PATH OF

2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN AND KEEP AT THE JOB SITE. AN UP TO DATE SET OF "RECORD DRAWINGS" SHOWING ALL CHANGES FROM THE ORIGINAL PLANS. THE CONTRACTOR SHALL DELIVER THE "RECORD DRAWINGS" TO THE ENGINEER AT THE CONCLUSION OF THE PROJECT ELECTRONICALLY.

SHALL INCLUDE ALL COSTS, EQUIPMENT. MATERIAL. ACCESSORIES, ETC. REQUIRED FOR A FULLY COMPLETE, FUNCTIONAL AND CODE COMPLIANT INSTALLATION.

ALL DIMENSIONAL INFORMATION SHALL BE OBTAINED FROM BE OBTAINED FROM MEP DRAWINGS.

COORDINATE WITH THE OWNER FOR ALL FEES AND DATA NEEDED FOR THIS.

## GENERAL NOTES

SHEET INDEX

MEP001 COVER SHEET MEP101 SITE PLAN

MEP202

P201

MEP201 MECHANICAL SPECIFICATIONS

HVAC PLAN

PLUMBING PLAN

LIGHTING PLAN

POWER PLAN

ELECTRICAL SPECIFICATIONS

ELECTRICAL RISER DIAGRAM

MECHANICAL SCHEDULES AND DETAILS

PLUMBING SCHEDULES AND DETAILS

REFERENCE TO ROOM NAMES NOT SHOWN.

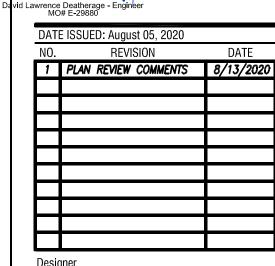
3. THESE DRAWINGS ARE DIAGRAMMATIC. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS (NEW AND EXISTING). DIMENSIONS. AND CLEARANCES PRIOR TO THE COMMENCEMENT OF WORK AND

4. FINAL LOCATIONS OF ALL DEVICES, LIGHT FIXTURES, EQUIPMENT ETC SHALL BE INDICATED ON THE ARCHITECTURAL DRAWINGS.

ARCHITECTURAL PLANS. NO DIMENSIONAL INFORMATION SHALL 5. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS. APPROVALS, LICENSES, ETC. AS NEEDED FOR THE COMPLETE INSTALLATION AND PROJECT. THE CONTRACTOR SHALL

# DAVID LAWRENCE DEATHERAGE

# NUMBER William E. Kent - Enginee DATE ISSUED: August 05, 2020 REVISION



Designe Author Checker

PEARSON KENT MCKINLEY RAAF ENGINEERS LLC

MO State Certificate of Authority #E-2002020886

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RCHITECT ANY ERROR INCONSISTENCY OR OMISSION DISCOVERE

COVER SHEET

FIRE SEALING NOTES

A/E	ARCHITECT / ENGINEER	ELEV	ELEVATION	МН	MANHOLE	1.	COORDINATE CONSTRUCTION OF OPENINGS AND PENETRATING ITEMS
ÄFF	ABOVE FINISHED FLOOR	ЕМ	EMERGENCY FIXTURE/DEVICE	MLO	MAIN LUGS ONLY		TO ENSURE THAT THROUGH-PENETRATION FIRESTOP SYSTEMS ARE
AFG	ABOVE FINISHED GRADE	EWT	ENTERING WATER TEMPERATURE	NFA	NET FREE AREA		INSTALLED ACCORDING TO SPECIFIED AND APPLICABLE UL
AG	ABOVE GRADE	EΧ	EXISTING ITEM	NL	NIGHT LIGHT	_	REQUIREMENTS.
AHJ	AUTHORITY HAVING JURISDICTION	FFA	FROM FLOOR ABOVE	OA	OUTSIDE AIR	2.	COORDINATE SIZING OF SLEEVES, OPENINGS, CORE—DRILLED HOLES,
AHU	AIR HANDLING UNIT	FFB	FROM FLOOR BELOW	ORD	OVERFLOW ROOF DRAIN		OR CUT OPENINGS TO ACCOMMODATE THROUGH—PENETRATION FIRESTOP SYSTEMS.
ARCH	ARCHITECT	FFC0	FINISHED FLOOR CLEAN OUT	P/C	PLUMBING CONTRACTOR	7	DO NOT COVER UP THROUGH—PENETRATION FIRESTOP SYSTEM
BFP	BACKFLOW PREVENTER	FGC0	FLUSH GRADE CLEAN OUT	PSI	POUNDS PER SQUARE INCH	J.	INSTALLATIONS UNTIL EXAMINED BY INSPECTOR, IF REQUIRED BY
BG	BELOW GRADE	FL	FLOW LINE	PVC	POLYVINYLCHLORIDE		AUTHORITIES HAVING JURISDICTION.

ra return air

RE/REF REFER / REFERENCE

RELOCATED ITEM

RPZ REDUCED PRESSURE ZONE

SURGE PROTECTIVE DEVICE

RELIEF FAN

RESTROOM

SUPPLY AIR

SHUNT TRIP

TFB TO FLOOR BELOW

TYPICAL

*TAMPERPROOF* 

VTR VENT THROUGH ROOF

WCO WALL CLEANOUT

WP WEATHERPROOF

WG WIRE GUARD

TRANSFER AIR

TO FLOOR ABOVE

UNO UNLESS NOTED OTHERWISE

VARIABLE REFRIGERANT FLOW

RR

SPD

TΑ

TFA

TYP

VRF

**ABBREVIATIONS** 

BMS BUILDING MANAGEMENT SYSTEM

CM COORDINATE MOUNTING HEIGHT

DCVA DOUBLE CHECK VALVE ASSEMBLY

CD

CD

BLDG BUILDING

CLG COOLING

CO CLEAN OUT

DIA DIAMETER

DOWN

EA EXHAUST AIR

CONDUIT

CANDELA

COLD DECK

CTE CONNECT TO EXISTING

DCW DOMESTIC COLD WATER

DHW DOMESTIC HOT WATER

E/C ELECTRICAL CONTRACTOR

EDF ELECTRIC DRINKING FOUNTAIN

DDC DIRECT DIGITAL CONTROLS

DRINKING FOUNTAIN

DHWR DOMESTIC HOT WATER RETURN

FLR FLOOR

FP FIRE PROTECTION

FPM FEET PER MINUTE

FWCO FLUSH WALL CLEAN OUT

GROUND / GANG

GFIP GFI-PROTECTED DEVICE

ISOLATED GROUND

LWT LEAVING WATER TEMPERATURE

M/C MECHANICAL CONTRACTOR

JUNCTION BOX

LED LIGHT EMITTING DIODE

MAU MAKE UP AIR UNIT

MCB MAIN CIRCUIT BREAKER

GPM GALLONS PER MINUTE

HOT DECK

HEATING

MA MIXED AIR

MECH MECHANICAL

IG

GENERAL CONTRACTOR

GROUND FAULT CIRCUIT INTERUPTER SA

4. COMPATIBILITY: PROVIDE THROUGH-PENETRATION FIRESTOP SYSTEMS THAT ARE COMPATIBLE WITH ONE ANOTHER: WITH THE SUBSTRATES FORMING OPENINGS; AND WITH THE ITEMS, IF ANY, PENETRATING THROUGH-PENETRATION FIRESTOP SYSTEMS, UNDER CONDITIONS OF SERVICE AND APPLICATION. AS DEMONSTRATED BY THROUGH-PENETRATION FIRESTOP SYSTEM MANUFACTURER BASED ON

TESTING AND FIELD EXPERIENCE. 5. PROVIDE COMPONENTS FOR EACH THROUGH-PENETRATION FIRESTOP SYSTEM THAT ARE NEEDED TO INSTALL FILL MATERIALS. USE ONLY COMPONENTS SPECIFIED BY THROUGH-PENETRATION FIRESTOP SYSTEM MANUFACTURER AND APPROVED BY QUALIFIED TESTING AND INSPECTING AGENCY FOR FIRESTOP SYSTEMS INDICATED.

6. PROVIDE SLEEVES THROUGH ALL FIRE—RATED WALLS AND FILL VOIDS SURROUNDING SLEEVES AND INTERIOR TO SLEEVES AROUND PIPING WITH FIRE STOP PUTTY WITH U.L. LISTED 3 HOUR RATING INSTALLED AS PER MANUFACTURERS RECOMMENDATIONS.

7. FIRE SEAL ALL PIPING, CONDUIT, CABLE, ETC PENETRATIONS ROUTED THROUGH FIRE RATED WALLS. 8. PROVIDE FIRE RATED ENCLOSURES OR WRAPS ON LIGHT FIXTURES AND OTHER ITEMS PENETRATING FIRE RATED CEILINGS, FLOOR/CEILING/ CEILING/ROOF ASSEMBLIES TO MAINTAIN UL LISTING

FOR CONSTRUCTION.

1. COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST ADOPTED VERSION OF THE INTERNATIONAL PLUMBING CODE, LOCAL AND STATE CODES, AND REQUIREMENTS OF THE AHJ.

**GENERAL PLUMBING NOTES** 

**GEN. MECHANICAL NOTES** 

LOCAL AND STATE CODES, AND REQUIREMENTS OF THE AHJ.

PROVIDED BY THE M/C CONTRACTOR OR SUBS.

AND FASTENED FROM STRUCTURE.

1. COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE

2. ANY POWER FOR CONTROL SYSTEMS TO BE PROVIDED BY E/C IS

3. ALL EQUIPMENT SHALL BE ADEQUATELY AND PROPERLY SUPPORTED

4. ALL EQUIPMENT AND ACCESSORIES INSTALLED IN CONCEALED SPACES

5. EACH AIR HANDLING UNIT OVER 2000CFM SHALL BE PROVIDED WITH

6. START UP AND ADJUST ALL EQUIPMENT AND VERIFY ALL MECHANICAL

REFER TO SPECIFICATIONS FOR ANY ADDITIONAL REQUIREMENTS.

REQUIRED BY AHJ. COORDINATE WITH OTHER TRADES.

REQUIRING ACCESS SHALL BE PROVIDED WITH ACCESS DOORS

MEETING ANY FIRE REQUIREMENTS OF THE WALL/CEILING THEY ARE

A SMOKE DETECTOR TO SHUT DOWN THE UNIT PER IMC 606 AS

SYSTEMS IN OPERATE IN ACCORDANCE WITH THEIR INTENDED

PURPOSES. SUBMIT BALANCE AND START UP REPORTS TO THE A/E.

LATEST ADOPTED VERSION OF THE INTERNATIONAL MECHANICAL CODE.

INDICATED ON ELECTRICAL PLANS. ANY ADDITIONAL LINE VOLTAGE

OR LOW VOLTAGE POWER REQUIRED BY THE M/C OR

SUBCONTRACTORS TO HAVE A FULLY FUNCTIONING SYSTEM SHALL BE

2. NO PIPING SHALL BE INSTALLED WHERE IT WILL SUBJECT TO FREEZING TEMPERATURES. PIPING IN EXTERIOR WALLS SHALL BE INSTALLED ON THE WARM SIDE OF BUILDING INSULATION, INSULATED AND THE CHASE SHALL BE VENTILATED WITH GRILLES ALLOWING INDOOR AMBIENT CONDITIONS TO CIRCULATE THROUGH THE CHASE.

3. PROVIDE CLEANOUTS IN THE FOLLOWING LOCATIONS: 3.1. IN ALL HORIZONTAL DRAINS (WITHIN THE BUILDING) NOT MORE THAN 100 FEET APART.

3.2. IN BUILDING SEWERS LOCATED NO MORE THAN 100 FEET APART MEASURED FROM THE UPSTREAM ENTRANCE OF THE CLEANOUT. 3.3. EACH CHANGE OF DIRECTION OF THE BUILDING DRAIN OR HORIZONTAL WASTE OR SOIL LINES GREATER THAN 45 DEGREES. WHERE MORE THAN ONE CHANGE OF DIRECTION OCCURS IN A RUN OF PIPING, ONLY ONE CLEANOUT SHALL BE REQUIRED FOR

EACH 40 FEET OF DEVELOPED LENGTH OF THE DRAINAGE PIPING. 3.4. AT THE BASE OF EACH WASTE OR SOIL STACK. 3.5. NEAR THE JUNCTION OF THE BUILDING DRAIN AND BUILDING

LOCAL AND STATE CODES, AND REQUIREMENTS OF THE AHJ. ARCHITECTURAL CASEWORK AND ELEVATIONS. 3. RFFF.R TO MOUNTING HEIGHTS DETAIL FOR MOUNTING HEIGHTS OF

FROM VIEW WHERE REASONABLY POSSIBLE.

ALL DEVICES NOT INDICATED OTHERWISE. 4. PROVIDE ALL EMPTY CONDUITS WITH PULL STRINGS AND BUSHED 5. CONTRACTOR SHALL CONCEAL ALL CONDUIT. FITTINGS, AND DEVICES

**GENERAL ELECTRICAL NOTES** 

1. COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST ADOPTED VERSION OF THE NATIONAL ELECTRICAL CODE, 2. COORDINATE LOCATIONS OF RECEPTACLES, SWITCHES, ETC. WITH

THE LIGHT FIXTURE. MAINTAIN A MINIMUM OF 24" CLEARANCE FROM THESE ITEMS WHENEVER POSSIBLE.

COORDINATION NOTES

ALL SYSTEMS, CONDUITS, PIPES, DUCTS, ETC WITH THE POSITION

AND LAYOUT OF THE STRUCTURE. THE CONTRACTOR IS RESPONSIBLE

FOR PROVIDING NECESSARY OFFSETS, TURNS, RISES AND DROPS

FOR SYSTEMS AND COMPONENTS AS NEEDED TO INSTALL THE MEP

SYSTEMS TO CLEAR STRUCTURE, CEILINGS, ETC AND OTHER SYSTEMS

3. COORDINATE WORK WITH OTHER TRADES TO INSTALL SYSTEMS ABOVE

4. CHECK SPACE REQUIREMENTS WITH OTHER TRADES AND

STRUCTURE/CONSTRUCTION TO ENSURE THAT ALL MATERIALS AND

FOUIPMENT CAN BE INSTALLED IN THE SPACE ALLOTTED INCLUDING

FINISHED SUSPENDED CEILINGS AND OTHER SPACES, CHASES, ETC

WITHIN THE BUILDING. MAKE MODIFICATIONS THERETO AS REQUIRED

TO BE PROVIDED UNDER THEIR RESPECTIVE SECTIONS IN AMPLE

6. WHEREVER WORK INTERCONNECTS WITH WORK OF OTHER TRADES.

COORDINATE WITH THOSE TRADES TO ENSURE THAT ALL

SUBCONTRACTORS HAVE THE INFORMATION NECESSARY SO THAT

THEY MAY PROPERLY INSTALL ALL CONNECTIONS AND EQUIPMENT.

IDENTIFY ALL ITEMS OF WORK THAT REQUIRE ACCESS SO THAT THE

CEILING TRADE WILL KNOW WHERE TO INSTALL ACCESS DOORS AND

7. COORDINATE, PROJECT AND SCHEDULE WORK WITH OTHER TRADES IN

8. DRAWINGS SHOW THE GENERAL RUNS OF CONDUITS, PIPING AND

DUCTWORK AND APPROXIMATE LOCATION OF OUTLETS. ANY

SIGNIFICANT CHANGES IN LOCATION OF ITEMS NECESSARY IN ORDER

TO MEET FIELD CONDITIONS SHALL BE BROUGHT TO THE IMMEDIATE

ATTENTION OF THE ARCHITECT/ENGINEER AND RECEIVE HIS APPROVAL

BEFORE SUCH ALTERATIONS ARE MADE. ALL SUCH MODIFICATIONS

9. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION AND REPAIR

10. ADJUST LOCATION OF PIPING, DUCTWORK, ETC. TO PREVENT

OF SURFACES, AREAS AND PROPERTY THAT MAY BE DAMAGED AS A

INTERFERENCES, BOTH ANTICIPATED AND ENCOUNTERED. DETERMINE

THE EXACT ROUTE AND LOCATION OF EACH ITEM PRIOR TO

FABRICATION. MAKE OFFSETS, TRANSITIONS AND CHANGES IN

DIRECTION IN SYSTEMS AS REQUIRED TO MAINTAIN ADEQUATE

ADDITIONAL COORDINATION DRAWINGS AND ORGANIZE ON-SITE

MEETINGS WITH ALL RELATED SUBCONTRACTORS TO COORDINATE THE

WORK BETWEEN TRADES . DRAWINGS SHALL CLEARLY SHOW THE

SUBMITTED FOR REVIEW PRIOR TO COMMENCING SHOP FABRICATION

WORK AND ITS RELATION TO THE WORK OF OTHER TRADES, AND BE

12. COORDINATE WITH LOCAL UTILITY PROVIDERS FOR THEIR

13. COORDINATE THE MOUNTING OF SUSPENDED LIGHT FIXTURES

UTILIZING INDIRECT LIGHT SO THAT CONDUIT, DUCTWORK.

STRUCTURAL MEMBERS, ETC. ARE NOT LOCATED DIRECTLY ABOVE

REQUIREMENTS FOR SERVICE CONNECTIONS AND PROVIDE ALL

NECESSARY PAYMENTS, MATERIALS, LABOR AND TESTING TO

11. WHEREVER THE WORK IS OF SUFFICIENT COMPLEXITY, PREPARE

SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER.

ACCORDANCE WITH THE CONSTRUCTION SEQUENCE.

RESULT OF CONSTRUCTION ACTIVITIES.

CLEARANCES AND HEADROOM.

OR ERECTION IN THE FIELD.

ACCOMPLISH THE WORK.

5. TRANSMIT TO OTHER TRADES ALL INFORMATION REQUIRED FOR WORK

CEILING HEIGHTS INDICATED ON ARCHITECTURAL PLANS.

EQUIPMENT WITH ALL OTHER TRADES.

IN POTENTIAL CONFLICT WITH ROUTING.

AND APPROVED.

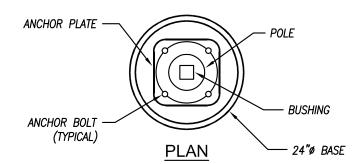
TIME FOR INSTALLATION.

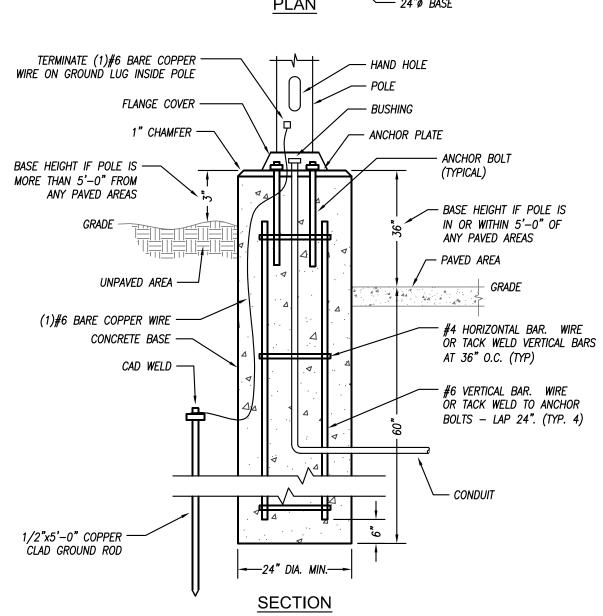
#### **GENERAL SITE PLAN NOTES**

- REFER TO GENERAL NOTES ON MEP COVER SHEET FOR ADDITIONAL REQUIREMENTS OF WORK.
- 2. REFER TO CIVIL PLANS FOR CONTINUATION OF SERVICES BEYOND 5'-0" FROM BUILDING UNLESS OTHERWISE SHOWN.
- REFER TO RESPECTIVE FLOOR PLANS FOR CONTINUATION OF SERVICES INSIDE BUILDING AND/OR EXACT LOCATIONS OF EQUIPMENT.
- 4. CONTACT UTILITY LOCATING SERVICE TO LOCATE EXACT LOCATION OF ALL EXISTING UTILITIES BELOW GRADE.

### SITE PLAN KEYED NOTES

- 1 REFER TO CIVIL DRAWINGS FOR CONTINUATION.
- 2 PROVIDE CONDUIT AND CONDUCTORS TO ROUGH—IN LOCATIONS OF POOL LIGHT & DECK FIXTURES. COORDINATE EXACT REQUIREMENTS AND ROUGH—IN LOCATIONS WITH POOL DRAWINGS. (TYPICAL)
- CARD READER. COORDINATE EXACT LOCATION AND ALL CONNECTION REQUIREMENTS WITH OWNER SPECIFIED SYSTEM. PROVIDE ROUGH—IN AND 1" CONDUIT BACK TO STORAGE ROOM.
- REFER TO POOL DRAWINGS FOR IN-POOL LIGHTING AND BONDING REQUIREMENTS.





POLE BASE DETAIL

NOT TO SCALE







ARCHITECT B+A ARCHITECTURE 100 W 31ST STREET, SUITE 100 KANSAS CITY, MO 64108 PH: 816-753-6100

CIVIL ENGINEER PHELPS ENGINEERING, INC 1270 N. WINCHESTER OLATHE, KS 66061 PH: 913-393-1155

STRUCTURAL ENGINEER PACKARD ENGINEERING 10417 INDIANA AVE. KANSAS CITY, MO 64137 PH: 816-767-7222

MEP ENGINEER PKMR ENGINEERS 13300 W. 98TH STREET LENEXA, KS 66215 PH: 913-312-0151

DEVELOPER SUMMIT HOMES 120 SE 30TH STREET LEE'S SUMMIT, MO 64082 PH: 816-326-2909

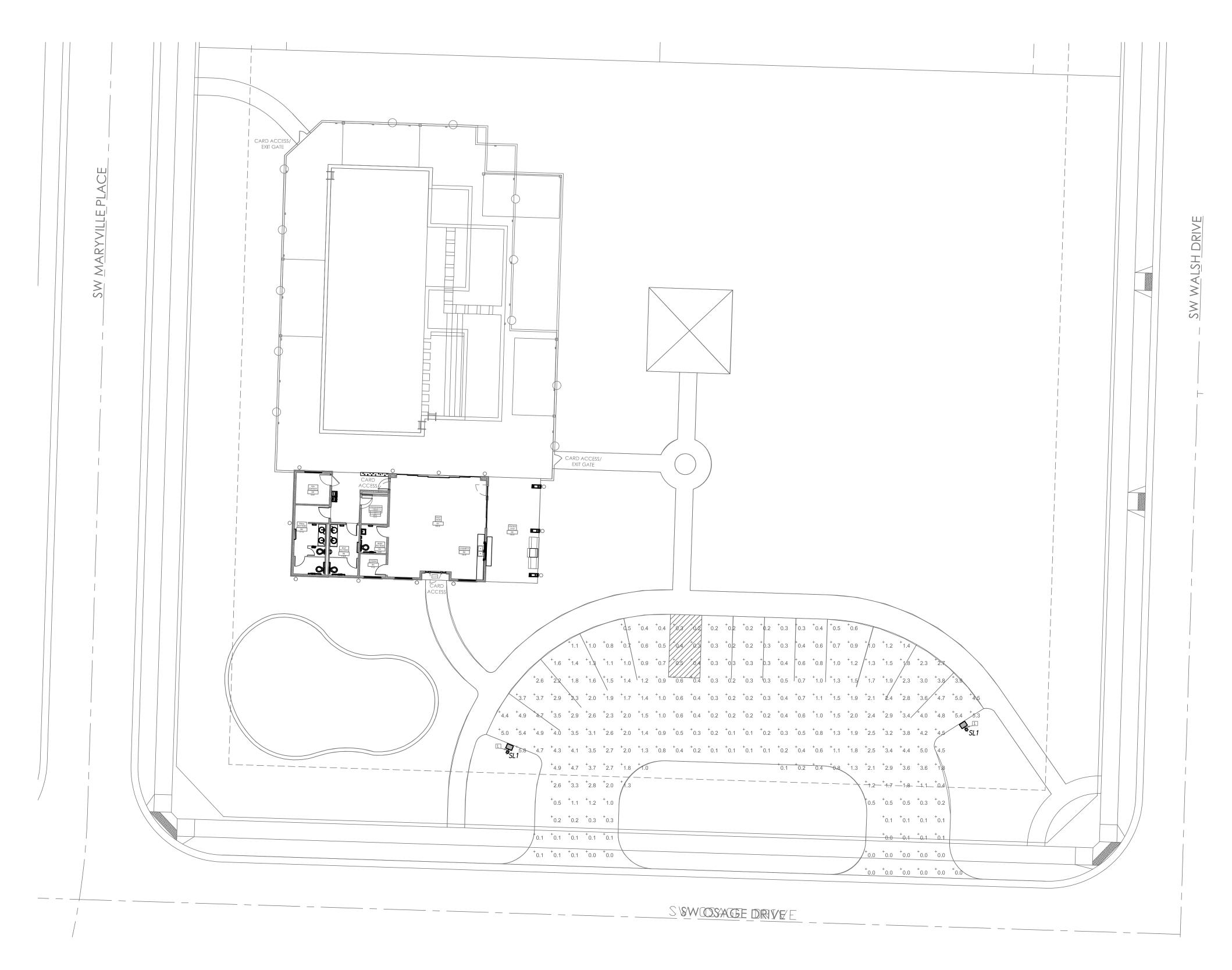
> LUBHOUSE SW M 18 2025 LEE'S SI

1 PLAN REVIEW COMMENTS 8/13/2020

Designer Author Checker

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SCALES AS STATED HEREON ARE VALID ON THE ORIGINAL DRAWING ONLY. CONTRACTOR SHALL CAREFULLY REVIEW ALL DIMENSIONS AND CONDITIONS SHOWN HEREON AND AT ONCE REPORT TO THE ARCHITECT ANY ERROR INCONSISTENCY OR OMISSION DISCOVERED.





PARKING LOT	STAT	ISTICS	3		
DESCRIPTION	MAINTAI	NED LIGHTING	UNIFORMITY		
DESCRIPTION	AVG. (F.C.)	MAX. (F.C.)	MIN. (F.C.)	MAX. / MIN.	AVG. / MIN.
PARKING LOT STATISTICS	1.3	7.0	0.0	N/A	N/A

## NOTES:

NUMBERS INDICATE FOOTCANDLE LEVELS AT GRADE.
 CALCULATIONS PERFORMED USING VISUAL 2.05.

3. THERE SHALL BE NO DIRECT ILLUMINATION OF RESIDENTIAL PROPERTIES ADJACENT TO THIS

PROPERTY OR ACROSS PUBLIC RIGHT-OF-WAY.

LIGHT FIXTURE SCHEDULE - SITE LIGHTING										
FIXTURE TYPE	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	LAMP NUMBER / DESCRIPTION						
S1	McGraw-Edison	GALLEON LED	GLEON-AF-02-LED-E1-SL2- GALLEON LED FIXTURE. DARK BRONZE FINISH. POLE FIXTURE AT 15'-0" AFF MOUNTING HEIGHT	129W, 13088 LUMEN LED MODULE 4000K						





ARCHITECT
B+A ARCHITECTURE
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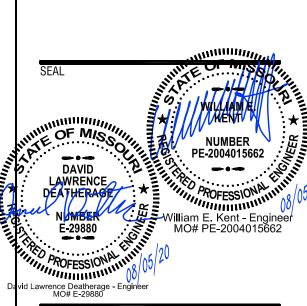
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LENEXA, KS 66215
PH: 913-312-0151

DEVELOPER
SUMMIT HOMES
120 SE 30TH STREET
LEE'S SUMMIT, MO 64082
PH: 816-326-2909

OSAGE POOL CLUBHOUSE
2025 SW M 150 HWY
LEE'S SUMMIT, MO 64082



DAT	E ISSUED: August 05, 2020	
NO.	REVISION	DAT
1	PLAN REVIEW COMMENTS	8/13/

Designer Author Checker

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MEP102

APPLICABILITY A. These general requirements apply to all divisions (21, 22, 23, 26, 27, 28). Refer to individual divisions as included for specific information regarding each trade or scope of

**GENERAL REQUIREMENTS** 

A. Furnish & install all labor & materials required for complete, functioning, mechanical & plumbing systems w/ all associated equipment & apparatus as shown on plans. B. Obtain & pay for all permits required for execution of this work & shall make arrangements for modifications to water, gas & sewer connections to building as

C. All materials shall be new & shall bare UL label where applicable. D. Visit site & observe conditions under which work will be done. Any discrepancies shall be called to architect's attention. No subsequent allowance will be made in contract for any error or negligence on contractor's part.

E. Final acceptance of work shall be subject to condition that all systems, equipment, apparatus & appliances operate satisfactorily as designed & intended. Work shall include required adjustment of systems & control equipment installed under these specifications.

F. Warrant to owner quality of materials, equipment, workmanship & operation of equipment provided under these specifications for one year from & after completion of building & acceptance of mechanical systems by owner.

G.All materials installed in plenums shall be noncombustible or have flame/smoke index of no more than 25/50 in accordance w/ ASTM e 84.

H. Requirements under Division one & general & supplementary conditions of these specifications shall be part of this section. Contractor shall become thoroughly acquainted w/ its contents as to requirements that affect this Division of work required under this section includes material, Equipment, appliances, Transportation, Services, & labor required to complete entire system as required by drawings & specifications.

I. The specifications & drawings for project are complementary, & portions of work described in one, shall be provided as if described in both. In event of discrepancies notify engineer & request clarification prior to proceeding w/ work involved.

EXTENT OF CONTRACT WORK

A. Provide MEP systems indicated on drawings, specified or reasonably implied. In addition to specific equipment called out in plans and specifications, provide every device, component, programming, interlocking and accessory necessary for proper operation and completion of totally functional MEP systems

B. In no case will claims for "Extra Work" be allowed for work about which Contractor could have been informed before bids were taken.

C. Contractor shall become familiar with equipment provided by other contractors that require plumbing connections and controls.

D. Electrical work required to install and control plumbing equipment, which is not shown on plans or specified under Division 26, shall be included in Contractor's base bid proposal. E. All automatic temperature control devices shall be mounted as indicated in automatic temperature control section of specifications.

F. The cost of larger wiring, conduit, control and protective devices resulting from installation of equipment which was not used for basis of design as outlined in specifications shall be paid for by the supplying Contractor at no cost to Owner or Architect Engineer

G.Contractor shall be responsible for providing supervision to other trade Contractors to insure that required connections, interlocking and interconnection of MEP equipment is made to attain intended control sequences and system operation.

H. Contractor shall obtain complete MEP data on shop drawings and shall list this data on an approved form that shall be presented on request, to other trade Contractors. Data shall be complete with wiring diagrams received to date and shall contain necessary data on electrical components of plumbing equipment such as HP, voltage, amperes, watts. locked rotor current to allow other trade Contractors to order support or other equipment coordinated as required in his contract.

. <u>DEFINITIONS</u>

A. Whenever used in these specifications or drawings, following terms shall have indicated

B. Furnish: term "Furnish" is used to mean "supply & deliver to project site. Ready for unloading, unpacking, assembly. Installation & similar operations.

C.Install: term "Install" is used to describe operations at project site including actual "unloading, unpacking. Assembly. Erection. Placing. Anchoring. Applying, working to

dimension. Finishing, curing, protecting, cleaning. & similar operations." D.Provide: term "Provide" means "to Furnish & Install. Complete & ready for intended use." furnished by owner or furnished by others; item will be furnished by owner or others. It is to be installed & connected under requirements of this Division, complete & ready for operation, including items incidental to work, including services necessary for proper installation & operation. Installation shall be included under guarantee required by this

E. Engineer: where referenced in this Division, "Engineer" is engineer of record & design professional for work under this Division, & is consultant to, & an authorized representative of, architect. As defined in general &/or supplementary conditions. When used in this Division. It means increased involvement by. & obligations to, engineer, in

addition to involvement by. & obligations to, "Architect". F. AHJ: local code &/or inspection agency (authority) having jurisdiction over work. G.The terms "Approved equal", "Equivalent". Or "Equal" are used synonymously & shall mean "accepted by or acceptable to engineer as equivalent to item or manufacturer

H. The term "approved" shall mean labeled, listed. Or both. By nationally recognized testing laboratory (e.g. UL. ETL. CSA). & acceptable to AHJ over this project.

PREBID SITE VISIT

A. Prior to submitting bid. Visit site of proposed work & become fully informed as to conditions under which work is to be done. Failure to do so will not be considered sufficient justification to request or obtain extra compensation over & above contract

MATERIAL & WORKMANSHIP

A. Provide new material, equipment. & apparatus under this contract unless otherwise stated herein. Of best quality normally used for purpose in good commercial practice & free from defects. Model numbers listed in specifications or shown on drawings are not necessarily intended to designate required trim, written descriptions of trim govern model

B. Pipe, fittings, specialties & valves shall be manufactured in USA. Work performed under this contract shall provide neat & "workmanlike" appearance when completed to satisfaction of architect & engineer. Workmanship shall be finest possible by experienced mechanics. Installations shall comply w/ applicable codes & laws. Complete installation shall function as designed & intended w/ respect to efficiency, capacity, noise level. etc. Abnormal noise caused by rattling equipment, piping, ducts, air devices & squeaks in rotating components will not be acceptable. In general materials & equipment shall be of commercial specification grade in quality. Light duty & residential equipment is not acceptable.

C.Remove from premises waste material present from work, including cartons, crating, paper, stickers, &/or excavation material not used.

D. Clean equipment installed under this contract to present neat & clean installation at

E. Repair or replace public & private property damaged as result of work performed under this contract to satisfaction of authorities & regulations having jurisdiction.

COORDINATION A. Coordinate work w/ other trades so various components of systems will be installed at proper time will fit available space & will allow proper service access for maintenance. Components which are installed without regard to above shall be relocated at no

additional cost to owner. B. Unless otherwise indicated, general contractor will provide chases & openings in building construction required for installation of systems specified herein. Contractor shall furnish general contractor w/ information where chases & openings are required.

C.Keep informed as to work of other trades engaged in construction of project & execute work in manner as to not interfere w/ or delay work of other trades. Figured dimensions shall be taken in preference to scale dimensions.

D. Contractor shall take his own measurements at building, as variations may occur. Contractor will be held responsible for errors that could have been avoided by proper checking & inspection.

E. Provide materials w/ trim that will properly fit types of ceiling, wall. Or floor finishes actually installed. Model numbers listed in specifications or shown on drawings are not intended to designate required trim

F. Obtain equipment submittal information for all pieces of equipment to be connected to from other trades that clearly indicates all connection requirements, locations, sizes, and similar requirements. Obtain this information in ample time to coordinate other trade submittals and equipment coordination. Where requirements differ from that on plans or differs from provisions made in the work, immediately notify the architect/engineer. Do

not proceed with work that is incompatible with equipment provided. G.Coordinate construction operations included in different sections of the specifications to ensure efficient and orderly installation of each part of the work. Coordinate construction operations, included in different sections, that depend on each other for proper installation, connection, and operation.

H. Each contractor shall coordinate its construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the work. Each contractor shall coordinate its operations with operations, included in different sections, that depend on each other for proper installation, connection, and

I. Schedule construction operations in sequence required to obtain the best results where installation of one part of the work depends on installation of other components, before or

J. Coordinate installation of different components with other contractors to ensure maximum

accessibility for required maintenance, service, and repair.

repair of all components, including mechanical and electrical.

K. Make adequate provisions to accommodate items scheduled for later installation. L. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and

M.Prepare coordination drawings if limited space availability necessitates maximum utilization of space for efficient installation of different components or if coordination is required for installation of products and materials fabricated by separate entities. Content: project-specific information, drawn accurately to scale. Do not base coordination drawings on reproductions of the contract documents or standard printed data. Include the following information, as applicable:

1) Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems. 2) Indicate required installation sequences.

3) Indicate dimensions shown on the contract drawings and make specific note of dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to architect for resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the contract.

N. Meetings: conduct project coordination meetings at regular intervals. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.

1) Attendees: each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with project and authorized to conclude matters relating to the work. Notify architect of meeting.

2) Agenda: review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. 3) Combined contractor's construction schedule: review progress since the last

coordination meeting. Determine whether each contractor is on time, ahead or behind schedule, in relation to construction schedule. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the contract time. Discuss impact of various contractor schedules upon other contractors and how to remedy impacts.

4) Review present and future needs of each contractor present O. After shop drawings have been reviewed and approved by all parties, transmit a set of submittals to each other trade (eg Plumbing, Mechanical, Electrical, Controls, etc) that

will interface with installation. Each other contractor shall review the submittal for coordination and return a stamped submittal indicating they have reviewed the submittal for coordination purposes

ARCHITECTURAL VERIFICATION AND RELATED DOCUMENTS

A. Contractor shall consult all Architectural Drawings and specifications in their entirety incorporating and certifying all millwork, furniture, and equipment rough-in including utility characteristics such as voltage, phase, amperage, pipe sizes, duct sizes, including height, location and orientation. Shop drawings incorporating these requirements should be submitted to the Architect for approval prior to installation or rough in. 9. ORDINANCES & CODES

A. Work performed under this contract shall. At minimum, be in conformance w/ applicable

national, state & local codes having jurisdiction. B. Installation work performed under this contract shall be in strict compliance w/ current applicable codes adopted by local AHJ including any amendments & standards as set forth by National Fire Protection Association (NFPA). Underwriters Laboratories (UL), Occupational Safety & Health Administration (OSHA), American Society of Mechanical Engineers (ASME), American Society of Heating, Refrigeration, & Air Conditioning Engineers (ASHRAE). American national standards institute (ANSI), American Society of Testing Materials (ASTM) & other national standards & codes where applicable.

C. Where contract documents exceed requirements of referenced codes. Standards, etc. contract documents shall take precedence.

D. Procure & pay for permits & licenses required for accomplishment of work herein described. Where required, obtain. Pay for & furnish certificates of inspection to owner. Contractor will be held responsible for violations of law.

A.Drawings and specifications indicate minimum construction standard. Should any work indicated be sub standard to any ordinances, laws, codes, rules or regulations bearing on work, Contractor shall promptly notify Architect Engineer in writing before proceeding

with work knowing it to be contrary to any ordinances, laws, rules, and regulations,

with work so that necessary changes can be made. However, if the Contractor proceeds

Contractor shall thereby have assumed full responsibility for and shall bear all costs required to correct non complying work.

1. PROTECTION OF EQUIPMENT & MATERIALS A. Store & protect from damage equipment & materials delivered to job site. Cover as required to protect from dirt & damage. Plug or cap open ends of ductwork & piping systems while stored & installed during construction when not in use to prevent entrance of debris into systems. Equipment & material that has been damaged by construction activities will be rejected, & contractor is obligated to furnish new equipment & material of like kind. Keep premises broom clean from foreign material created during work performed under this contract. Piping, equipment, etc. Shall have neat & clean

appearance at completion. 12. SUBSTITUTIONS

A. The base bid shall include only products from manufacturers specifically named in drawings & specifications. No substitution will be considered prior to receipt of bids unless written request for approval to bid has been received by engineer at least ten calendar days prior to date for receipt of bids. Request shall include name of material or equipment for substitution & complete description of proposed substitute including drawings, cuts, performance & test data & other information for evaluation. Statement setting forth changes in other materials, equipment or other work that incorporation of

substitute would require shall be included. B. The intent of these specifications is to allow ample opportunity for Contractor to use his ingenuity and abilities to perform the work to his and the Owner's best advantage, and to permit maximum competition in bidding on standards of materials and equipment

C.Material and equipment installed under this contract shall be first class quality, new,

unused and without damage.

D. In general, these specifications identify required materials and equipment by naming one or more manufacturer's brand, model, catalog number and/or other identification. The first named manufacturer or product is used as the basis for design; other manufacturers named must furnish products consistent with specifications of first named product as determined by Engineer. Base bid proposal shall be based only on materials and equipment by manufacturers named, except as hereinafter provided.

E. Where materials or equipment are described but not named, provide required items of first quality, adequate in every respect for intended use. Such items shall be submitted to Architect Engineer for review prior to procurement.

F. Materials and equipment proposed for substitutions shall be equal to or superior to that specified in construction, efficiency, utility, aesthetic design, and color as determined by Architect Engineer whose decision shall be final and without further recourse. Physical size of substitute brand shall be no larger than space provided including allowances for access for installation and maintenance. Requests must be accompanied by complete descriptive and technical data including manufacturer's name, model and catalog number, photographs or cuts, physical dimensions, operating characteristics and any other information needed for comparison.

G. The burden of proof of merit of proposed substitute is upon proposer. Engineer's decision of approval or disapproval to bid of proposed substitution shall be final. Terms approved". "approved equal", & "equal" refer to approval by engineer as an acceptable alternate bid. No substitutions will be considered that are not bid as an alternate.

H. No material substitutions shall be considered for approval after to award of contract. Coordinate & verify w/ other trades whether or not substituted equipment can be installed as shown on construction drawings without modification to associated systems or architectural or engineering design. Include additional costs for architectural & engineering design fees in bid if drawing modifications are required because of substituted equipment.

A. Equipment to be furnished under this contract, items requiring coordination between contractors & sheet metal ductwork fabrication drawings. Before submitting shop drawings verify equipment submitted is mutually compatible & suitable for intended use & will fit available space & allow ample room for maintenance. Engineer's checking & subsequent approval of such shop drawings will not relieve contractor from responsibility for errors in dimensions, details, size of members, quantities, omissions of components or fittings; coordination of electrical requirements; or for coordinating items w/ actual building conditions. Proceed w/ procurement & installation of equipment only after receiving approved shop drawings relative to each item.

B. Submittal data shall be neatly organized, identified & indexed. Each item or model number shall be clearly marked & accessories indicated. Label catalog data w/ equipment identification acronym or number as used on drawings & include performance curves, capacities, sizes, materials, finishes, wiring diagrams & deviations from specified equipment or materials. Mark out inapplicable items. Shop drawings will be returned without review if above mentioned requirements are not met.

C.Requirements shall be met electronically & submitted as pdf in files less than 10mb. D. Contractor's stamp, which shall certify that stamped drawings have been checked by contractor, comply w/ drawings & specifications, & have been coordinated w/ other

E. Transmit submittals as early as required to support project schedule. Allow for two weeks a/e review time, plus duplication of this time for resubmittals, if required. Transmit submittals as soon as possible after notice to proceed & before construction starts. Engineer's submittal reviews will not relieve contractor from responsibility for errors in dimensions, details, size of members, or quantities; or for omitting components or fittings; or for not coordinating items w/ actual building conditions.

F. Final copies shall be furnished to owner as part of O&M documents in hard & electronic

14. OPERATION & MAINTENANCE INSTRUCTIONS

A. Collect & compile complete brochure of equipment furnished & installed on this project. Include operational & maintenance instructions, manufacturer's catalog sheets, wiring diagrams, parts lists, approved shop drawings, test & balance reports, & descriptive literature as furnished by equipment manufacturer, include an inside cover sheet that lists project name, date, owner, architect, consulting engineer, general contractor, sub-contractor, & an index of contents. Submit three copies of literature bound in 3-ring binders w/ index & tabs separating equipment types to architect at termination of work. Final approval of plumbing systems will be withheld until manual is received & deemed complete by architect & engineer. Provide "as-built" drawings (see Division 1 & general

B. These requirements may shall also be provided to the owner in a well organized pdf electronic submission & delivered on a DVD or USB thumbdrive.

A. Provide factory trained & authorized representative to train owner's designated personnel on operation & maintenance of equipment provided for this project. Provide training to include but not be limited to an overview of system &/or equipment as it relates to facility as whole; operation & maintenance procedures & schedules related to startup & shutdown, troubleshooting, servicing, preventive maintenance & appropriate operator intervention; & review of data included in operation & maintenance manuals. Submit certification letter to architect stating that owner's designated representative has been trained as specified herein. Letter shall include date, time, attendees & subject of training. Contractor & owner's representative shall sign certification letter indicating agreement that training has been provided. Schedule owner training w/ at least 7 days' advance notice.

6. SPARE PARTS A.Furnish to owner, w/ receipt one set of spare filters of each type required for each unit. In addition to spare set of filters, install new filters prior to testing, adjusting, & balancing work & before turning system over to owner B. Furnish one complete set of belts for each fan.

17. <u>EQUIPMENT LABELS:</u>

A.Material and thickness: multilayer, multicolor, plastic labels for mechanical engraving, 1/16 inch thick, and having predrilled holes for attachment hardware. Black letters on

B. Minimum label size: length and width vary for required label content, but not less than 2-1/2 by 3/4 inch. C.Minimum letter size: 1/4" for name of units if viewing distance is less than 24 inches, 1/2"

for viewing distances up to 72" & proportionately larger lettering for greater viewing distances. Include secondary lettering two-thirds to three-fourths the size of principal 18. <u>WARRANTIES</u> A. Warrant each system & each element thereof against all defects due to faulty

workmanship design or material for period of 12 months from date of substantial completion unless specific items are noted to carry longer warranty in construction documents or manufacturer's standard warranty exceeds 12 months. Remedy all defects, occurring within warranty period(s) stated in general conditions & Division 1. Warranties shall include labor & material. Make repairs or replacements without any additional costs to owner. Perform remedial work promptly, upon written notice from engineer or owner. B. At time of substantial completion, deliver to owner all warranties in writing & properly executed including term limits for warranties extending beyond one year period. Each

warranty instrument being addressed to owner & stating commencement date & term. 9. CUTTING & PATCHING A.Perform cutting of walls, floors, ceilings, etc. As required to install work under this section. Obtain permission from architect prior to cutting. Do not cut or disturb structural members without prior approval from architect. Cut holes as small as possible. General contractor shall patch walls, floors, etc. As required by work under this section. Patching shall match original material & construction. Repair & refinish areas disturbed by work to condition of adjoining surfaces in manner satisfactory to architect.

20.<u>EXCAVATION AND BACKFILL</u> A.Perform necessary excavation to receive work. Provide necessary sheathing, shoring, cribbing, tarpaulins, etc. For this operation, and remove it at completion of work. Perform excavation in accordance with appropriate section of these specifications, and in

B. Excavate trenches of sufficient width to allow ample working space, and no deeper than necessary for installation work. C. Conduct excavations so no walls or footings are disturbed or injured. Backfill

excavations made under or adjacent to footing with selected earth or sand and tamp to compaction required by architect engineer. Mechanically tamp backfill under concrete and pavings in six inch layers to 95% standard density, reference Division 2. D. Backfill trenches and excavations to required heights with allowance made for

settlement. Tamp fill material thoroughly and moistened as required for specified compaction density. Dispose of excess earth, rubble and debris as directed by architect. E. When available, refer to test hole information on architectural or civil drawings or specifications for types of soil to be encountered in excavations.

A. Coordinate rough-in w/ general construction & other trades. Conceal piping & conduit rough-in except in unfinished areas & where otherwise shown.

compliance with osha safety standards.

23. ACCESS DOORS V.Provide access doors in ceilings, walls, etc. Where indicated or required for access or maintenance to concealed valves & equipment installed under this section. Provide concealed hinges, screwdriver-type lock, anchor straps; manufactured by Milcor, Zurn, Titus, or equal. Obtain architect's approval of type, size. Location & color before ordering. 24. PENETRATIONS

A. Seal mechanical floor, exterior wall & roof penetrations watertight & weathertight. Seal around mechanical penetrations w/ 3M CP-25 fire barrier caulk (thickness as required & recommended by manufacturer) to maintain resistance rating of fire-rated assemblies. Provide prefabricated roof curbs manufactured by Custom Curb, Pate, Thycurb or approved equal. Provide roof curb w/ factory installed wood nailer; welded, 18 gauge galvanized steel shell, base plate & flashing; 1-1/2" thick, 3 pound rigid insulation; fully mitered 3-inch raised cant; cover of weather-resistant, weather-proof material & pipe collar of weather-resistant material w/ stainless steel pipe clamps. Make roof penetrations by authorized roofing contractor when required. 25.MOTORS & STARTERS

A. Provide motors & starting equipment where not furnished w/ equipment package. Motors shall have copper windings, class b insulation, & standard squirrel cage w/ starting torque characteristics suitable for equipment served. Motors for air handling equipment shall be selected for quiet operation. Each motor shall be checked for proper rotation after electrical connection has been completed. Provide dripproof enclosure for locations for motors exposed to weather. Motors shall be manufactured by Century, GE,

protected from weather & not in air stream of fan; & totally enclosed fan cooled enclosure Westinghouse, or approved equal. Provide every motor, except fractional horsepower single phase motors w/ an approved type of "built-in" thermal overload protection, w/ motor starter. Each starter shall be provided w/ overload heaters sized to motor rating, & every three phase motor starter shall have overload heaters in each phase. Ambient compensated heaters shall be installed wherever necessary. Unless noted otherwise, motor starters shall be furnished by Division 22/23 contractor for installation & connection by Division 26 contractor. Starters shall be Allen-Bradley, Clark, Furnas, Square D, or approved equal.

26.ELECTRICAL WIRING A.Line voltage wiring shall be provided by Division 26. Line voltage control & interlock

wiring for mechanical systems shall also be provided by Division 26 contractor. Low voltage control wiring shall be provided by Division 22/23 contractor. Furnish wiring diagrams to Division 26 contractor as required for proper equipment hookup. Coordinate w/ Division 26 contractor actual wire sizing amps for submitted mechanical equipment to ensure proper installation

DISCONNECT SWITCHES A. Provide heavy-duty horsepower rated safety switches rated in accordance with NEMA enclosed switch standard KS 1\_1969 and I98 standard.

C. Equivalents by: GE, Eaton, Siemens, Square D. 28.<u>REFRIGERANT & OIL</u>

B. Each piece of electrical equipment shall be provided with a disconnecting means.

A.Provide full refrigerant & oil charge in refrigeration systems. Maintain for full term of warranty.

29. FINAL TESTING & ADJUSTMENTS A.Final system testing. Balancing & adjustments shall be performed by contractor certified

0.EQUIPMENT FURNISHED BY OTHERS

by NEBB, AABC or other approved agency. Perform test readings on fans, units, coils, etc. & adjust equipment to deliver specified amounts of air or water. Prepare testing & balancing report log showing air supply quantities, air entering & leaving temperatures & pressures, fan & unit test readings, motor voltage & amp draws, etc., & submit PDF of final compilation of data to architect for evaluation & approval before final inspection of project. Balance air systems to within plus or minus 10 percent for terminal devices & branch lines & plus or minus 5 percent for main ducts & air handling equipment of amount of air shown on drawings. Further adjustments shall be made to obtain uniform temperature in spaces. Adjust equipment to operate as intended by specification. Align bearings & replace bearings that have dirt or foreign material in them w/ new bearings without additional cost to owner. Balance contractor shall include in report any improperly installed or missing balancing devices that would negatively impact system operation. Adjust thermostats & control devices to operate as intended. Adjust burners, pumps, fans, etc. For proper & efficient operation. Certify to architect that adjustments have been made & that system is operating satisfactorily. Further adjustments shall be made to obtain uniform temperature in spaces. Calibrate, set, & adjust automatic temperature controls. Check proper sequencing of interlock systems, & operation of safety controls.

A. Provide necessary equipment & accessories that are not provided by equipment supplier or owner to complete installation of cooking equipment, washing equipment, etc., furnished by others, in locations as indicated on drawings &/or described in general notes to this contractor. Equipment & accessories not provided by equipment supplier may include flues, vents, intakes, associated roof jacks & caps to outdoors, dampers. In-line fans, roof fans, control interlocks, etc. As required for proper operation of complete system in accordance w/ manufacturer's instructions. Contractor shall be responsible for correct rough-in dimensions, & shall verify same w/ architect &/or equipment supplier

prior to service installations. 31.<u>SETTING, ADJUSTMENT AND EQUIPMENT SUPPORTS</u>

A. Work shall include mounting, alignment and adjustment of systems and equipment. Set equipment level on adequate foundation and provide proper anchor bolts and isolation as shown, specified or required by manufacturers in installation instructions. Level, shim and grout equipment bases as recommended by manufacturer. Mount motors, align and adjust drive shafts and belts according to manufacturer's instructions.

B. Equipment failures resulting from improper installation or field alignment shall be repaired or replaced by Contractor at no cost to Owner. C.Floor or pad mounted equipment shall not be held in place solely by its own dead weight.

Include anchor fastening in all cases. D. Provide floor or slab mounted equipment with 3 1/2" high concrete bases unless specified otherwise. Individual concrete pad shall be no less than 4" wider and 4" longer than equipment, and shall extend no less than 2" from each side of equipment.

E. Provide each piece of equipment or apparatus suspended from ceiling or mounted above floor level with suitable structural support, platform or carrier in accordance with best-recognized practice. Verify that structural members of buildings are adequate to support equipment and unless otherwise indicated on plans or specified, arrange for their inclusion and attachment to building structure. Provide hangers with vibration isolators. F. Submit details of hangers, platforms and supports together with total weights of mounted equipment to Architect\_Engineer for review before proceeding with fabrication or

34. FIRE BARRIERS

AF. General: for penetrations through fire-resistance-rated constructions, including both empty openings and openings containing penetrating items, provide through-penetration firestop systems that are produced and installed to resist spread of fire according to requirements indicated, resist passage of smoke and other gases, and maintain original fire-resistance rating of construction penetrated.

END OF GENERAL MEP REQUIREMENTS

DIVISION 220000 - PLUMBING 1. PLUMBING GENERAL REQUIREMENTS

AI. Refer to GENERAL MECHANICAL. ELECTRICAL AND PLUMBING requirements

2. PIPING & INSULATION A. Water service piping shall be copper type K tubing, ductile iron with mechanical joints or PVC AWWA C900 piping properly bedded and supported.

B. Water piping - all water piping shall be 95-5 tin-antimony joined type L copper. Insulate w/ fiberglass w/ ASJ & PVC covers. Thickness in accordance w/ ASHRAE 90.1. C. Waste & vent piping - CI bell & spigot below grade or hubless CI w/ neoprene gasket fittings w/ stainless steel bands above grade. Sched 40 PVC w/ solvent welds may be used where allowed by local code. PVC not allowed in plenums.

D. Gas piping - Provide Sched 40 cont. Weld carbon steel w/ corresponding fittings. Provide threaded fittings. Provide iron body-brass plug gas stops. Provide 2 coats paint on exterior gas piping.

3. PIPING IDENTIFICATION A.Provide pipe markers and flow direction arrows at 10'\_0" maximum spacing to identify piping in mechanical rooms and 20'\_0" maximum spacing in all other areas. B. Pipe marker nomenclature/colors shall meet applicable ANSI standard and OSHA requirements from Seaton or equal. Submit for approval list of colors and wording prior to purchase of pipe markers.

4. <u>VALVES</u> A.Equivalent valves listed on current comparison charts of specified valve manufacturers

by Milwaukee, Stockham, Powell, Red-White, Crane, Apollo, Mueller, Muessco, Watts, Havs. Rockwell-Nordstrom. B. Ball valves - 2" & under - bronze full port w/ teflon seats, bronze ball & insulated handle. C.Check valves - 2" & smaller screwed or solder bronze check valve, 200 psi-wog/125

psi-wsp, teflon or bronze disc & seat ring. 2-1/2" & larger flanged, ASTM 126 iron body, bronze trimmed, 200psi-wog/125 psi-wsp. D.Plug valves - 1" & smaller iron body gas cock, 175 PSI\_WOG bronze plug E. Installation

1) Install necessary valves within piping systems to provide required flow control, to allow isolation for inspection, maintenance and repair of each piece of equipment or fixture, and on each main and branch service loop. 2) Each valve shall be installed so that it is easily accessible for operation visual

inspection, and maintenance and wherever possible, gate, check and ball valves shall be installed on a horizontal run with the handle upright and within 15 degrees of vertical. Butterfly valves shall be installed with the stem in the horizontal position and the handle at 90 degrees from vertical. 3) Valves installed in piping systems shall be compatible with system maximum test pressure, pipe materials, pipe joining method, and fluid or gas conveyed in system.

A. See schedules for further requirements and specific fixtures. B. Fixtures: American Standard, Kohler, Crane, Zurn, Toto.

C. Stainless steel fixtures: Elkay, Just, Moen Commercial D. Fittings & supports: Josam, Smith, Wade, Zurn, Or Jonespec.

E. Seats: Church, Olsonite, Bemis Or Beneke. F. Drinking fountains: Halsey Taylor, Elkay, Oasis, Or Haws.

G. Trim by Moen, Delta, Eljer, Kohler, American St&Ard, Crane, Sloan. H. Flushvalves: Sloan, Zurn, Toto

I. Drains by Wade, Zurn, Woodford, Smith, Josam. J. Wall hydrants Josam series 71000 w/ connections for 3/4" pipe & hose. Non-freezing w/ key, vacuum breaker, locking cover. Equivalent by J.R. Smith, Wade, Woodford or Zurn. K. Downspout nozzels - Wade series 3940 cast bronze downspout nozzles w/ threaded outlet & flange to secure nozzle to wall.

PLUMBING EQUIPMENT

A. See schedules for further requirements and specific equipment.

backflow preventer complete with strainers and valves

breaker in plain brass finish.

trouble shooting can be accomplished.

C. After piping is in place test lines to insure no leaks.

7. PLUMB<u>ING EXECUTION</u>

B. Tankless water heaters as scheduled by State, Rheem, Rinnai, Noritz, A.O. Smith, Bosch. Refer to schedule for capacities and characteristics. Standard: ANSI Z21.10.3/CSA 4.3 for gas-fired, instantaneous, domestic-water heaters for indoor application. Construction: Copper piping or tubing complying with NSF 61 barrier materials for potable water, without storage capacity

C.Provide gas pressure regulators with internal relief and low pressure cut\_off as manufactured by Fisher Controls or Equimeter. Units shall be of size capable of capacities and pressures as shown on plans or as required for proper service. Verify capacities and pressures with each piece of equipment served.

D. Backflow preventers provide where shown on plans the following types of backflow preventers. Provide isolation valve ahead of backflow preventers, Equivalent backflow prevents by Watts, Febco, Lawler. 1) Reduced pressure zone principle (1/4"-1/2"): watts series 009 reduced pressure

2) Reduced pressure zone principle (3/4"-10"): watts series 909 reduced pressure backflow preventer complete with strainers and valves. Provide isolation valve ahead of backflow preventers. Provide with air gap fitting and pipe to floor drain. 3) Pressure vacuum breakers (1/2"-2"): watts series 800m4qt pressure vacuum

breaker with integral ball valve shut offs. 4)Pressure vacuum breakers (3/8"-1/2"): watts series 008qt pressure vacuum breaker for anti-spill applications, with integral ball valve shut offs. 5) Atmospheric vacuum breaker (1/4"-3"): watts series 288a atmospheric vacuum

6) Hose bibb vacuum breakers vacuum breakers for hose end connections shall be Watts series 8 non-removable type. E. Provide thermometers and wells at all water heaters. Provide pressure test plugs and

A.Provide unions or flanged joints in each pipe line preceding connections to equipment to allow removal for repair or replacement. Provide all screwed & control valves w/ unions adjacent to each connection. Provide screwed end valves w/ union adjacent to valve unless valve can be otherwise easily removed from line.

gauges at water/fire services, booster pumps, etc. so that proper testing/ balancing &

B. All piping shall be properly supported with hangers and supports specifically intended for that purpose. Provide clevis hangers, unistrut brackets and pipe clamps and similar systems. Protect integrity of insulation and provide rigid insulation inserts or pipe saddles as necessary.

D. All piping & equipment shall be supported properly from structure. E. Escutcheons - provide nickel-brass or chrome plated on all exposed pipes when passing thru wall or ceiling of finished rooms.

F. Verify floor materials used from architectural plans & provide proper cleanout tops, where they occur in carpet, quarry tile, vinyl tile or ceramic tile

G.Provide water hammer arrestors for all plumbing banks w/ fixtures utilizing flush valves in any capacity. Locate arrester between last two fixtures served on branch line.

END OF DIVISION 22000

**DIVISION 230000 - MECHANICAL** 

MECHANICAL GENERAL REQUIREMENTS

A. Refer to GENERAL MECHANICAL, ELECTRICAL & PLUMBING requirements . SHEET METAL WORK

A.HVAC ductwork shall be galv sheet metal of gauges & joint types specified in SMACNA manual. Provide turning vanes in elbows. B. Coordinate routing of ductwork w/ other contractors such that piping, electrical conduit, & associated supports are not routed through ductwork. Construct supply ducts to meet

SMACNA positive pressure of 3" WG. Construct return, outdoor & exhaust ductwork upstream of fans to meet SMACNA negative pressure of 1" WG, construct exhaust ductwork downstream of fans to meet SMACNA positive pressure of 1" WG. C.Exposed ductwork to be field painted shall have galvanized metal primer applied in shop

after fabrication & prior to shipping. D. Seal ductwork w/ heavy liquid sealant, Hardcast Irongrip 601, Design Polymer DP 1010, United McGill duct sealer or approved equal, applied according to sealant manufacturer's

instructions. E. Exposed spiral duct shall be Lindab or approved equal gasketed style. F. Ducts shall be connected to fans, fan casings & fan plenums by means of flexible

connectors. Flexible connectors shall be neoprene coated glass cloth canvas

connections, Duro-Dyne, Elgen, Ventfabric or equal. Flexible connectors shall have

flame spread of 25 or less & smoke developed rating not higher than 50. Make airtight

joints & install w/ minimum 1-1/2" slack. G.All ductwork must be supported properly from structure.

3. DUCTWORK SPECIALTIES

A Flexible ducts - Thermaflex or equal sound rated type G-KM insulated (duct w/o published acoustical attenuation ratings not acceptable). Take off fitting shall be hi-eff style w/ locking damper. Maximum length of flexible ductwork shall be 5'-0".

B. Diffusers & grilles - see schedule. Equivalent by Price, Tuttle & Bailey, Titus, Metal-Aire, Krueger. Coordinate color, mounting w/ duct, ceilings, architect. Select air devices to limit room noise level to no higher than NC-30 unless otherwise shown. Provide devices w/ soft plastic gasket to make an airtight seal against mounting surface. Coordinate final location, frame, & mounting type of air devices w/ architectural reflected ceiling plans. Submit complete shop drawings including information on noise level, pressure drop, throw, cfm for each air device, styles, borders, etc. Clearly marked w/ specified equipment number. Provide ceiling supply air diffusers & return air grilles of lay-in or surface mounted type as required to be compatible w/ ceiling construction. Provide ceiling diffusers & grilles w/ white enamel finish unless noted otherwise. Provide slot plenums by diffuser manufacturer. Plenums shall be internally insulated by manufacturer.

C.Louvers - Greenheck type FSK-400 fabricated galvanized steel louver w/ trim flange. Equivalent by Ruskin, Louvers & Dampers, Greenheck, American Warming & Ventilating, Industrial Louvers, Acme. Coordinate finish w/ architect. D. Provide balancing dampers, manufactured by Ruskin, Greenheck, Nailor Industries,

Cesco, Louvers & Dampers, Pottorff or approved equal, where 'shown on drawings & wherever necessary for complete control of air flow. Splitter dampers shall be controlled by locking quadrants; provide young regulator or ventlok end bearings for damper rod. Rectangular volume dampers shall be opposed blade interlocking type. Round volume dampers shall be butterfly type consisting of circular blade mounted to shaft. E. Damper leakage for outside air dampers shall not exceed 6.5 cfm/square foot in full

model number for outside air dampers is Ruskin model CD-50. 4. DUCT INSULATION WORK

A. Duct insulation & wraps shall meet flame/smoke rating of 25/50 per ASTM E 84. B. Line all low pressure supply & return air ductwork w/ 1/2" liner. Line all medium pressure supply w/ 1" liner.

closed position at 4" wg pressure differential across damper. Reference manufacturer &

C.Line all transfer boots w/ 1/2" liner.

D.Do no wrap exposed spiral ducts. Provide pre-manufactured 1/2" or 1" round liner for all exposed round ducts. Contractor has the option to use double wall perforated lined round spiral ducts for exposed ducts. Wrap all concealed round supply HVAC ductwork w/ Certainteed 1-1/2" thick insulation w/ vapor barrier in concealed locations or in unfinished shell spaces.

E. Wrap all outside air HVAC ductwork w/ Certainteed 1-1/2" thick insulation w/ vapor barrier in concealed locations. Exposed installations shall use 1-1/2" thick rigid board insulation or lined with 1" liner.

A. Refrigerant piping - copper tube type acr, hard temper nitrogenized refrigerant tube ASTM b-88. Type L or K. Brazed joints. Insulate w/ Armaflex in thickness per ASHRAE 90.1. Provide UV stabilized exterior rated or coated Armaflex outdoors.

EXHAUST FANS F. Equivalent by Cook, Penn, Acme, Greenheck, Jennaire.

G.Provide w/ 14" min. Curb. Provide grease trim & ventilated curb extensions for grease H. Bearings shall be designed for 200,000 hours operation. Variable pitch motor sheaves shall be standard.

I. Fans shall be furnished with acceptable electrical disconnect & birdscreen. Provide

single phase motor equipped fans with motor rated start relay. Provide multiphase motor equipped fans with magnetic motor starter. Provide local disconnect means for all fans. Coordinate location of starter & disconnects with other trades. 8. FURNACES, EVAPORATORS, & CONDENSING UNITS

A. Furnace - Min 90% eff natural gas, AGA cert. Aluminized steel HX, multi-speed direct drive blower motor. Provide 2" or 3" plastic C/A & flue piping complete w/ concentric termination kits. 2" MERV 7 filters. Mount filter in slide rack w/ hinged door & latch in R/A duct work. Coil - blow-thru D/X module, fully insulated metal casing w/ drain pan & duct flanges, copper tubes w/ aluminum fins, w/ TXV B. Condensing unit - heavy gauge base, scroll compressor(s). Rated seer not less than

where condensing units are located below evaporator coils. Louvered coil hail guards. 30 deg low ambient.

C.Equivalent by Trane, Lennox, York, Carrier. 9. PROGRAMMABLE THERMOSTATS A. Stages of cooling & heating as required by stages on specified equipment. 7-day programming capability w/ 2 occ/unocc periods/day. Auto heat/cool change over. Locking setpoints to prevent tampering. Provide w/ all interfaces to other equipment as required.

10.3. (1) yr parts & labor system warranty & additional 4 yr compressor only warranty.

Anti-short cycle prevention controls. Provide liquid line anti-migration valve for all

systems with lines longer than 100 feet. Provide unit with suction line accumulators

B. Thermostats by Honeywell, Johnson Controls, White-Rogers, Trane, Carrier or approved

MECHANICAL EXECUTION

12. STARTUP SERVICE

10. WALL & CEILING HEATERS A. Nickel-chromium heating wire, free from expansion noise & hum, mounted in ceramic inserts in a galvanized-steel housing; with fuses in terminal box for overcurrent protection & limit controls for high-temperature protection. Terminate elements in stainless-steel machine-staked terminals secured with stainless-steel hardware. Manufacturers: Berko, Chromalox, Indeeco, Markel, Marley, QMark.

A. Coordinate w/ e/c to provide all wiring between equipment, dampers, thermostats & all other required controls & devices. M/C is responsible for all control & interlock wiring unless specifically shown on electrical drawings. All electrical work shall comply w/ electrical specifications. B. All piping shall be properly supported with hangers & supports specifically intended for

that purpose. Provide clevis hangers, unistrut brackets & pipe clamps & similar systems.

Protect inetgrity of insulation & provide rigid insulation inserts or pipe saddles as C. All exterior control wiring shall be in conduit.

D.Provide ground-mounted units on 4", reinforced concrete base, 6" larger than unit on E. Provide factory-authorized service start up on equipment. Train owner's maintenance personnel on startup, shutdown, troubleshooting, servicing, preventive maintenance.

A.Engage a factory-authorized service representative to perform startup service for all

equipment & systems. B. Complete installation & startup checks according to manufacturer's written instructions & do the following:

2) Inspect for visible damage to furnace combustion chamber. 3) Inspect for visible damage to compressor, air-cooled outside coil, & fans.

4) Inspect internal insulation.

1) Inspect for visible damage to unit casing.

5) Verify that labels are clearly visible. 6) Verify that clearances have been provided for servicing.

7) Verify that controls are connected & operable.

8) Verify that filters are installed.

9) Clean outside coil & inspect for construction debris.

10)Clean furnace flue & inspect for construction debris.

11)Connect & purge gas line. 12) Adjust vibration isolators.

13)Inspect operation of barometric dampers. 14)Lubricate bearings on fan.

15)Inspect fan-wheel rotation for movement in correct direction without vibration & binding.

16) Adjust fan belts to proper alignment & tensjon. 17) Start unit according to manufacturer's written instructions.

18) Start refrigeration system in summer only. 19) Complete startup sheets & attach copy with contractor's startup report.

20)Inspect & record performance of interlocks & protective devices; verify

21)Operate unit for an initial period as recommended or required by manufacturer.

22)Perform the following operations for both minimum & maximum firing & STRUCTURAL ENGINEER adjust burner for peak efficiency. Adjust pilot to stable flame. PACKARD ENGINEERING 23)Measure gas pressure on manifold. 10417 INDIANA AVE.

ARCHITECT

B+A ARCHITECTURE

KANSAS CITY. MO 64108

PH: 816-753-6100

CIVIL ENGINEER

1270 N. WINCHESTER

OLATHE, KS 66061

PH: 913-393-1155

MEP ENGINEER

PH: 913-312-0151

SUMMIT HOMES

120 SE 30TH STREET

PH: 816-326-2909

LEE'S SUMMIT, MO 64082

DEVELOPER

100 W 31ST STREET, SUITE 100

PHELPS ENGINEERING, INC.

24) Measure combustion-air temperature at inlet to combustion chamber. KANSAS CITY, MO 64137 25)Measure flue-gas temperature at furnace discharge. PH: 816-767-7222 26)Calibrate thermostats.

27)Adjust & inspect high-temperature limits. PKMR ENGINEERS 28)Inspect outside-air dampers for proper stroke & interlock with return-air 13300 W. 98TH STREET LENEXA. KS 66215 29)Start refrigeration system & measure & record the following:

30)Coil leaving-air, dry- & wet-bulb temperatures. 31)Coil entering-air, dry- & wet-bulb temperatures. 32)Outside-air, dry-bulb temperature.

34)Inspect controls for correct sequencing of heating, mixing dampers, refrigeration, & normal & emergency shutdown. 35)Measure & record the following minimum & maximum airflows. Plot fan

36)Supply-air volume. 37)Return-air volume.

volumes on fan curve.

38)Relief-air volume. 39)Simulate maximum cooling demand & inspect the following:

33)Outside-air-coil, discharge-air, dry-bulb temperature.

40) Short circuiting of air through outside coil or from outside coil to outside-air 41) Verify operation of remote panel, including pilot-light operation & failure

43) Warm-up for morning cycle. 44) Alarms

operation of power vents. Provide one spare set of clean filters & deliver to owner. C. Adjusting

modes. Inspect the following:

42) High-limit heat exchanger.

1) Adjust initial temperature & humidity set points. 2) Set field-adjustable switches & circuit-breaker trip ranges as indicated. 3) Occupancy adjustments: when requested within 12 months of date of substantial completion, provide on-site assistance in adjusting system to suit actual occupied

After startup & performance testing, change filters, vacuum heat exchanger

& cooling & outside coils, lubricate bearings, adjust belt tension, & inspect

purpose, without additional cost. D. Demonstration

END OF DIVISION 23000

conditions. Provide up to two visits to site outside normal occupancy hours for this E. Engage a factory-authorized service representative to train owner's maintenance personnel to adjust, operate, & maintain all HVAC equipment & systems.

**UBHOUS**  $\bigcirc$ 4

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DATE ISSUED: August 05, 20 1 PLAN REVIEW COMMENTS 8/13/2020

Author Checker

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MECHANICAL SPECIFICATIONS

#### SECTION 26000 - ELECTRICAL

GENERAL ELECTRICAL REQUIREMENTS

A.Refer to GENERAL MECHANICAL, ELECTRICAL & PLUMBING requirements. B. Wiring of Mechanical Equipment

> 1) Provide all raceways & power wiring for all division 23 equipment requiring electrical connections, including, but not limited to, pumps, water heaters, & HVAC equipment, & all line voltage control & interlock wiring not provided under division 23. Connect per manufacturers' wiring diagrams. Coordinate with division 23 for disconnects furnished w/ equipment, & provide all disconnect switches as required. After installing wiring, verify that each motor load has correct phase rotation.

2) Verify actual "maximum overcurrent protection" (MOCP) device ratings & "minimum circuit ampacity" (MCA) conductor sizing for mechanical equipment from equipment nameplate. Base electrical installations on actual required amperages, which may vary somewhat from conductor & equipment sizes shown on drawings; however, in no case, reduce size of conductors indicated on drawings without authorization from engineer. Provide properly sized electrical wiring & equipment without extra cost to owner. Notify engineer of all changes required in electrical installation due to equipment variances so that effects on feeders, branch circuits, panelboards, fuses & circuit breakers can be checked prior to purchasing & installation. Be responsible for coordinating w/ division 23 to verify actual ampacities & correct sizes of all conductors & overcurrent protective devices for all equipment, & correct overload heaters for all motors, when starters are provided under division 26.

#### C. Wiring of Thermostats. Time, & Temperature Controls

1) Provide all raceways, power wiring, & line-voltage control and interlock wiring not provided under division 23, for all thermostats, temperature control devices, & controls, including, but not limited to, night-stats, water heater interlocks, time switches & override timers. See mechanical drawings for locations & temperature control diagrams. Low-voltage conductors for thermostats & temperature control system may be run exposed above finished accessible ceilings, if approved & listed for this purpose, but shall be installed in conduit within walls & where exposed in work areas.

#### . CONDUIT & CONDUCTORS

A.Follow circuiting shown on plans. Use no conduit smaller than 3/4" & no conductors smaller than #12 ga. Unless noted otherwise.

B. Conductors #10 and smaller shall be solid.

- C.If no conductor size is indicated on drawings for branch circuit, provide conductors & conduit sized per NFPA 70 & based on indicated branch circuit
- overcurrent protective device (OCPD) rating & number of poles. D. Wire shall be in non-flexible metallic conduit (EMT, IMC or RMC) for:
- 1) All circuits & feeders greater than 30A.

exceeding 6 feet in unsupported lengths.

- 2) Kitchen circuits.
- 3) Home runs. E. MC cable acceptable for branch convenience circuits & lighting circuits. Do not daisy chain light fixtures. Provide cable whips of sufficient lengths to allow for relocating each light fixture within 5-foot radius of its installed location, but not
- 1) Do not use MC cable for following: homeruns to panelboards, where exposed to view or damage, hazardous locations, in concrete, block walls or wet locations, & when disallowed by local AHJ or landlord. 2) Provide health care rated MC for patient care areas (as defined by the
- NEC) when not in conduit. F. Conduit installed below grade shall be schedule 80 PVC heavy wall plastic conduit meeting NEMA standards & UL listed for underground & exposed use. Provide GRS radius bends & risers as conduits rise above grade or above floor
- G.Lighting & receptacle circuit conductors shall be copper THHN-THWN-2 600 volt, 75 deg c, color coded as described under applicable codes. No romex, plastic flex tubing etc permitted. Light fixture wire insulation shall have temp rating not
- less than individual fixture manufacturers recommended rating. H. Circuits w/ no. 8 or larger conductors, motor circuits, power & feeder circuits & building service feeders shall be copper THHN-THWN-2 600 volt, 75 deg c. I. All materials used to terminate, splice or tap conductors: designed for, properly sized for, & UL listed for specific application & conductors involved, & installed in strict accordance w/ manufacturer's recommendations, using the manufacturer's
- J. Where wiring is indicated as installed, but connection is indicated "future" or "by other division, trades, or contracts", leave minimum 3-foot "pigtail" at box, tape ends of conductors, & cover box.
- K. Number of conductors in specific raceway "home run" is indicated w/ cross lines (tick marks) on each "circuit run" on drawings. In general, direction of branch circuit "home run" routing is indicated on drawings, complete w/ circuit numbers & panelboard designation. Continue all such "home run" wiring to designated panelboard, as though "circuit runs" were indicated in their entirety.
- L. Wiring shall have insulation of proper color to match NEC color code. In larger sizes, where properly colored insulation is not available, use vinyl plastic electrical tape of appropriate color around each conductor at all termination points, junction & pull boxes.

#### GROUNDING

- A Supplement grounded neutral of secondary distribution system w/ equipment grounding system, installed so that metallic structures, enclosures, raceways, junction boxes, outlet boxes, cabinets, machine frames, portable equipment & other conductive items operate continuously at ground potential & provide low
- impedance path for ground fault currents. B. System shall comply w/ national electrical code, drawings & as specified.
- C.Provide equipment ground bus in base of low voltage, switchgear brazed or otherwise adequately connected by an approved method to ground rods. D.Provide in conduit green insulated copper ground conductor to main metallic
- water service entrance & connect by means of adequate ground clamps. E. Equipment grounding conductors for branch circuit home runs shown on drawings shall indicate an individual & separate ground conductor for that branch circuit which shall be terminated at branch circuit panelboard, switchboard, or
- other distribution equipment. F. Provide low voltage distribution system w/ separate green insulated equipment grounding conductor for each single or three-phase feeder. Single phase 120 volt branch circuits for lighting & power shall consist of phase & neutral
- conductors & green ground conductor installed in common conduit which shall serve as grounding conductor. G.Grounding conductors shall be as shown on plans or if not specifically shown

#### shall be no smaller than that required by NEC. **RACEWAY INSTALLATION**

- A.Install all conductors & cable in raceways continuous without taps or splices. Splice or tap only in approved boxes & enclosures w/ approved solderless connectors, or crimp connectors & terminal blocks for control wiring, & keep to minimum required. Insulate all splices, taps, & joints as required by codes.
- B. Install all circular raceways concealed above suspended ceilings or concealed in walls or floors wherever possible except where otherwise indicated. 1) All conduit, junction boxes, etc. Above ceilings shall be supported from
- structure. Pipe sleeves, hangers & supports shall be furnished & set & contractor shall be responsible for proper & permanent locations. 2) Support all conductors & cables in vertical installations, as required by NFPA 70, by installing cable supports or plug-type conduit riser supports, or wire-mesh safety grips.
- C. Provide GRS for all conduits run underground, exposed to weather, or exposed to other hazardous conditions. Provide GRS installed below grade w/ corrosion resistant bonded-plastic or approved mastic coating. This shall include 90-degree elbow below grade & entire vertical transition to above grade.
- D.Provide interlocking spacers for multiple runs of UG conduits in same trench. E. All other raceway may be EMT where approved by local code. Use compression type fittings for EMT, w/ all fittings UL listed for environment in which they are
- F. Use FMC for final connection to each motor & transformer, & to any device that would otherwise transmit motion, vibration, or noise. Use LFMC where exposed to liquids, vapors or sunlight.
- 1) Provide all FMC & LFMC w/ an insulated bonding conductor. G.Install raceways parallel & perpendicular to building lines.
- H.Install raceways to requirements of structure & to requirements of all other work on project. Install raceway to clear all openings, depressions, pipes, ducts, reinforcing steel, & other immovable obstacles. Install raceways set in forms for

concrete structure in such manner that installation will not affect strength of

structure. I. Install raceways continuous between connections to outlets, boxes & cabinets w/ minimum possible number of bends & not more than equivalent of four 90-degree bends between connections. Use manufactured elbows for all 45- & 90-degree bends, unless approved by engineer in advance. Make other bends smooth & even & without flattening raceway or flaking galvanizing or enamel.

Radii of bends shall be as long as possible & never shorter than corresponding

trade elbow. Use long radius elbows where necessary, indicated, or both. J. Securely fasten raceways in place w/ approved straps, hangers & steel supports as required. Attach raceway supports to building structure. Hang single raceways

- for feeders w/ malleable split ring hangers w/ rod & turnbuckle suspension from inserts spaced not over 10 feet apart in construction above.
- K. Clamp groups of horizontal feeder raceways to steel channels that are suspended from inserts spaced not over 10 feet apart in construction above. Securely clamp vertical feeder raceways to structural steel members attached to structure. Install cable clamps for support of vertical feeders where required. Add raceway supports within 12 inches of all bends, on both sides of bends. Do not
- support raceways from suspended ceiling components. L. Ream raceway ends, thoroughly clean raceways before installation, & keep clean after installation. Plug or cover openings & boxes as required to keep raceways clean during construction & fish all raceways clear of obstructions before pulling conductors wires. Provide raceways of ample size for pulling of wire & not smaller than code requirements & not less than 3/4", unless indicated otherwise on drawings.
- M.Protect all raceway installations against damage during construction. Repair all raceways damaged or moved out of line after roughing-in to meet engineer's
- approval without additional cost to owner N. Align & install true & plumb all raceway terminations at panelboards,
- switchboards, motor control equipment & junction boxes. O.Install approved expansion/deflection fittings where raceways pass through (if
- embedded) or across (if exposed) expansion joints. P. Install pull wire in each empty raceway that is left for installation of conductors or cables under other divisions or contracts. Use polypropylene or monofilament plastic line. Leave min. 24" slack at each end.
- Q.Make all joints & connections in manner that will ensure mechanical strength & electrical continuity.
- R.Effectively seal raceways, by installing conduit fitting at boundary of two spaces, & filling it w/ an approved pliable material, after conductors or cables have been installed & tested, whenever raceways pass from non-cooled to cooled spaces or transition from outside facility or enclosure to inside, whether buried or exposed. **BUSHINGS & LOCKNUTS**
- A.Rigidly terminate conduits entering sheet metal enclosures to enclosure w/ bushing & locknut on inside & locknut or an approved hub on outside. Conduit
- shall enter enclosure squarely. B. Provide bushings & locknuts made of galvanized malleable iron w/ sharp, clean-cut threads. Where EMT enters box, provide approved EMT compression
- C.Use insulated, grounding, or combination, bushings wherever connection is subject to vibration or moisture when required by NFPA 70, or both.
- 6. JUNCTION & OUTLET BOXES A. All boxes including light fixture, switch, receptacle, & similar outlet boxes: National Electrical Appleton Steel City Raco, or approved equal galyanized steel knockout boxes, suitable in design to purpose they serve & space they occupy. Size as required for specific function or as required by NFPA 70.
- whichever is larger. 1) Lighting fixture boxes in ceilings shall not be less than 4" octagonal knockout type.
- B. Set all outlet boxes in walls, columns, floors, or ceilings so they are flush w/ finished surface, accurately set, & rigidly secured in position. Provide plaster rings, extension rings &/or masonry rings as req'd for flush mounting. Provide approved cast outlet boxes, w/ hubs & weatherproof covers, in all areas subject to damp, wet, or harsh conditions.
- C. Coordinate locations of outlet boxes. Outlets are only approx located on small scale drawings. Use great care in actual location by consulting various large scale detailed drawings used by other division trades, & by securing definite locations from architect.
- D. All outlets, shall be mounted w/ bottom at 18" AFF & switches w/ bottom at 44" AFF floor unless noted otherwise on plans. Refer to arch for other required elevations & cabinetry coordination.

#### **ELECTRICAL IDENTIFICATION**

- A. Manufactured labels for each panelboard & transformer. Typewritten panel schedules mounted in panels
- B. Printed tape style label for each receptacle indicating panel & circuit #. C.Manufactured labels for all disconnect switches indicating equipment served.
- D.Branch circuits identify each circuit w/ wire markers when enclosure label & wire colors do not provide enough information to identify each circuit without tracing. Feeders & branch circuit home runs w/ wire marker w/ panel & ckt #. Box covers above lay-in ceilings neatly marked w/ indelible marker.

E. Fire alarm - nameplate on each fire alarm terminal cabinet, Label all wiring.

- 8. DIGITAL LIGHTING CONTROLS A. Provide DLM systems consisting of lighting control panels, room controllers,
- motion sensors, daylight sensors, & other other controls as necessary to achieve lighting switching & dimming control indicated on the drawings. B. Provide all interconnecting wiring, controls, programming & owner training for the
- C.Provide systems by: Cooper, Hubbell, Leviton, Phillips, Sensor Switch, Watt Stopper, Lutron. D Execution:
- occupants & energy savings. Adjust time delays. 2) Provide documentation of room by room system configuration including: sensor parameters, time delays, sensitivities, & daylighting setpoints, sequence of operation, load parameters.

1) Calibrate all sensor time delays & sensitivity for proper detection of

3) Post start-up tuning - 30 days after occupancy contractor shall adjust sensors to meet the owner's requirements. Provide a detailed report to the architect / owner of post start-up activity.

A.Branch circuit 208/240v panels shall be capacity shown w/ tin plated copper bussing & braced for minimum of 10,000a aic or as otherwise noted or required (series rated acceptable). Bolt on circuit breakers. 480v panels same except 14,000a aic min. or as otherwise noted. Minimum 20" wide w/ galv steel enclosure w/ hinged door & keyed lock. Coord trim w/ mounting location. Typewritten card directory

#### B. Equivalent by Square D, Siemens, Cutler Hammer, Or GE. 10. WIRING DEVICES

#### A. Color of devices as directed by architect.

- B. Convenience outlets:
  - 1) Spec grade 20 amp duplex w/ ground & SS wall plates. Other outlets shall be verified w/ equipment suppliers for proper NEMA configurations. Provide GFCI rated devices where indicated & as req'd per code.
- 2) Equivalent devices by Cooper/Eaton, Hubbell, Leviton, Pass & Seymour/Legrand C Switches:
- 1) Light switches spec grade 20 amp toggle switches w/ SS wall plates. 2) Wall motion switches - spec grade, pir, override.
- 3) Ceiling motion switches spec grade, dual technology, model as req'd by room configuration, all necessary power packs & relays. 4) Wall motion switches (bathroom) - dual relay, spec grade, PIR, 2nd relay
- for operation of exhaust fan delay. 5) Dimmer Switches: Modular, full-wave, solid-state units with integral, quiet on-off switches, with audible frequency and EMI/RFI suppression filters. Continuously adjustable slider; with single-pole or three-way switching.
- Comply with UL 1472, 600W or 1200W as required by load. Incandescent Lamp Dimmers: 120 V; control shall follow square-law dimming curve. On-off switch positions shall bypass dimmer module. LED Dimmers: Modular; compatible with dimming drivers in fixture(s); if other than 0-10V dimming is provided, verify dimmer is compatible with driver for full range of dimming (100-10%).
- 6) Equivalent devices by Leviton, Bryant, Hubbell, Wattstopper, Lithonia, Sensor Switch.

#### D. Weatherproof cover plates:

- 1) Provide GFCI receptacles for weatherproof receptacles.
- 2) For wet locations: in-use NEMA 3R, UL-labeled plates die cast metal and
- 3) For damp locations: UL-listed for wet locations w/ cover(s) closed; die-cast aluminum or type 302 SS; single-cover for switches & vertically mounted receptacles; double-cover for horizontally mounted receptacles; self-closing

#### 11. DISCONNECT (SAFETY) SWITCHES

- A Disconnect (safety) switches: Square D, Siemens, Cutler Hammer, or General Electric fused or non-fused (as indicated on drawings or required) NEMA KS1, heavy duty, externally operated, visible-blade safety switches; NEMA enclosure type indicated on drawings or suitable for environment in which installed. Based on fusible switch & fuse sizes indicated, include class R. J. or L fuse provisions as applicable.
- B. Where indicated, provide fusible switches permanently labeled as suitable for use as service entrance equipment, w/ integral & separate neutral & ground assemblies, suitable for sizes of conductors indicated. Do not double-lug any terminations not specifically listed as suitable for more than one conductor.

C.Provide switches where not furnished w/ starting equipment, at all other points required by NFPA 70, & where indicated on drawings.

#### 12. <u>LUMINAIRES</u>, <u>LAMPS & BALLASTS</u>

controls indicated and provided.

E Execution:

A.Refer to lighting fixture schedule plans for fixture types.

- B. Equivalent luminaires by Hubbell, Infinity, Lithonia, Williams, Eaton [Cooper]. C.LED Fixtures
- 1) Lamps & modules: Philips, General Electric, Osram/Sylvania, Cree, Nichia. 2) LED components, lamps, drivers, and fixtures shall comply with: PCC 47 CFR Part 15; UL 8750; ANSI/NEMA Standards C78.377, NEMA SSL-1,
- C82.77, IESNA Standards TM-16-05, RP-16, LM-79, LM-80 and TM-21. 3) Drivers shall be integral to the fixture unless otherwise shown or specified. D. Emergency ballasts/drivers/batteries/inverters - shall be Bodine, lota. Coordinate voltages and outputs for min. 90 minute operation with fixtures scheduled and
- 1) Provide lighting fixtures w/ lamps & accessories req'd for hanging. Coord mounting of lighting fixtures w/ architect & G/C. Additional fixture supports shall be provided by E/C. Supports shall comply w/ latest edition of NEC. Provide lighting fixture securing clips as required. Consult arch plans for ceiling types & provide surface & recessed lighting fixtures w/ appropriate mounting components & accessories.
- 2) Fixtures mounted in fire rated ceilings shall be provided & installed w/ fire rated enclosures to maintain ceiling integrity. 3) Poles & support components: comply w/ AASHTO LTS-4. Provide steel poles in color as specified or selected by architect. Provide bolt covers.
- 13. ADJUSTING. ALIGNING & TESTING A. Adjust, align, & test all electrical equipment on this project provided under this division & all electrical equipment furnished by others for installation or wiring

under this division for proper operation. Test all systems & equipment according

to requirements in NETA ATS (latest edition) & all additional requirements

Provide concrete base for pole & ground rod.

B. In following sections. Maintain following on project premises at all times: true RMS reading voltmeter, true RMS reading ammeter, & megohmmeter insulation resistance tester. Provide test data readings as requested or as required by

#### 14. SYSTEM START UP

- A.Prior to starting up electrical systems:
- 1) Check all components & devices.
- 2) Lubricate items accordingly.
- 3) Tighten screws & bolts for connectors & terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486a & UL 486b. 4) Check & record building's service entrance voltage, grounding conditions,
- grounding resistance, & proper phasing. B. Replace all burned-out lamps & lamps used for temporary construction lighting in
- permanent light fixtures. C. After all systems have been inspected & adjusted, confirm all operating features required by drawings & specifications & make final adjustments as necessary.

#### SECTION 27000 - COMMUNICATIONS

END OF DIVISION 26000

- 1. GENERAL ELECTRICAL REQUIREMENTS
- A.Refer to GENERAL MECHANICAL, ELECTRICAL & PLUMBING requirements.
- 2. TELECOMMUNICATIONS SYSTEMS PROVISIONS
- A. Provide incoming telephone and/or data service raceways as indicated on
- drawings or as required by serving telecommunications company.
- B. Provide 3/4-inch thick plywood board, fire-retardant- treated & stamped FRT, securely anchored to wall, at location & of size as indicated on drawings.
- C.Provide flush mounted telephone and/or data outlet boxes w/ 3/4-inch EMT stub-up concealed to accessible ceiling space at locations as indicated on

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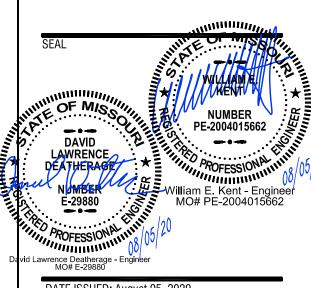
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DATE ISSUED: August 05, 20 1 PLAN REVIEW COMMENTS 8/13/2020

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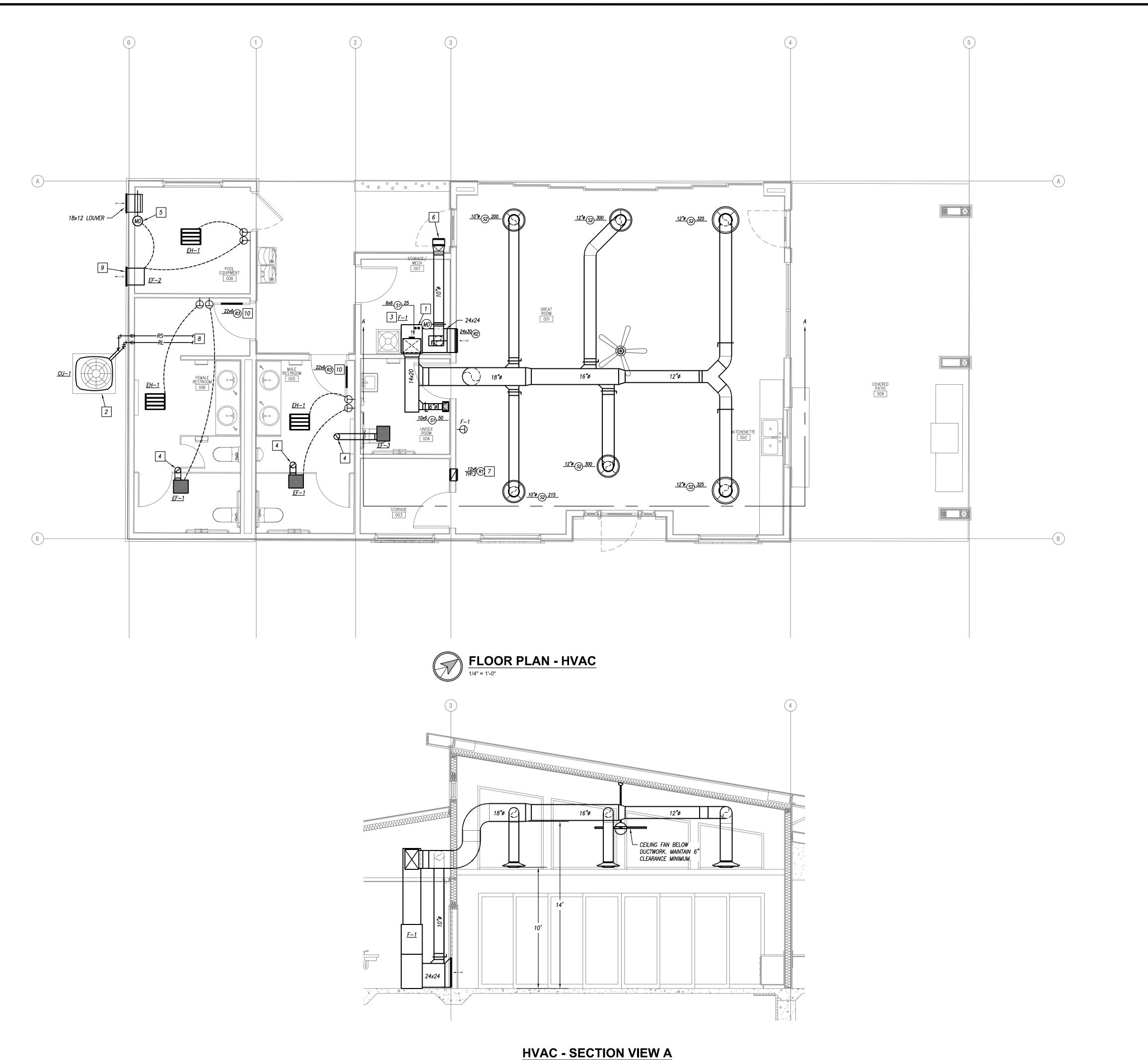
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CHITECT ANY ERROR INCONSISTENCY OR OMISSION DISCOVERED

ELECTRICAL SPECIFICATIONS



- 1. REFER TO GENERAL NOTES ON MEP COVER SHEET FOR ADDITIONAL REQUIREMENTS OF WORK.
- 2. ROUND BRANCH DUCT RUNOUTS AND FLEXIBLE DUCT SHALL BE THE SAME
- 4. ALL AIR DISTRIBUTION DEVICES SHALL HAVE LOCKABLE VOLUME CONTROL
- 6. DUCT SIZES SHOWN ON PLANS ARE INSIDE FREE AREA.

- 2 INSTALL CU-1 ON A 4" CONCRETE HOUSEKEEPING PAD.

- 9 INSTALL PACKAGED WALL FAN 12" BELOW CEILING AND MAINTAIN 10' CLEARANCE FROM ALL O.A. INLETS.

#### **GENERAL HVAC NOTES**

- 3. MAXIMUM FLEXIBLE DUCT LENGTH SHALL BE 5'-0".
- WITH TURNING VANES.
- 7. PROVIDE ACCESS DOORS IN DUCTS AHEAD OF ALL AUTOMATIC, FIRE, AND
- 8. FOR BALANCING THE OUTSIDE AIRFLOW QUANTITIES, REFER TO HVAC

- 4 TERMINATE EXHAUST DUCT WITH 6" ROOF CAP AND MAINTAIN 10' CLEARANCE FROM ALL O.A. INLETS.
- 8 ROUTE REFRIGERANT LINES THRU ATTIC TO F-1.

SIZE AS THE DIFFUSER NECK UNLESS NOTED OTHERWISE.

5. ALL 90 DEGREE TURNING ELBOWS SHALL BE SMOOTH ROUND OR SQUARE

SMOKE DAMPERS.

#### **HVAC PLAN KEYED NOTES**

1 ROUTE INTAKE AND EXHAUST DUCT UP THROUGH ROOF. TERMINATE WITH CONCENTRIC ROOF CAP. REFER TO DETAIL.

- 3 ROUTE CONDENSATE DRAIN TO JANITOR'S SINK. REFER TO PLUMBING PLANS FOR EXACT LOCATION.
- 5 INSTALL O.A. LOUVER 12" BELOW CEILING, MAINTAIN 10' CLEARANCE FROM ALL EXHAUST TERMINATIONS, AND INTERLOCK DAMPER ACTUATOR WITH FAN
- 6 10" OUTSIDE AIR DUCT. TERMINATE 12"x18" WALL LOUVER.
- 7 INSTALL RETURN AIR TRANSFER ABOVE DOOR. PROVIDE WITH SOUND ATTENUATION DEVICE BY TAMARACK OR SIMILAR.
- 10 INSTALL RETURN GRILLE LOW ON DOOR 12" A.F.F.

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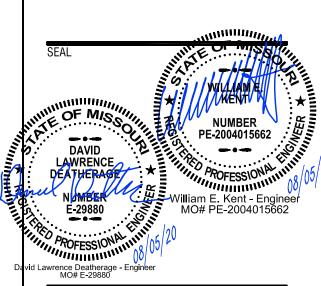
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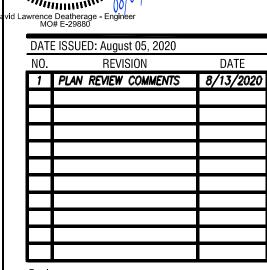
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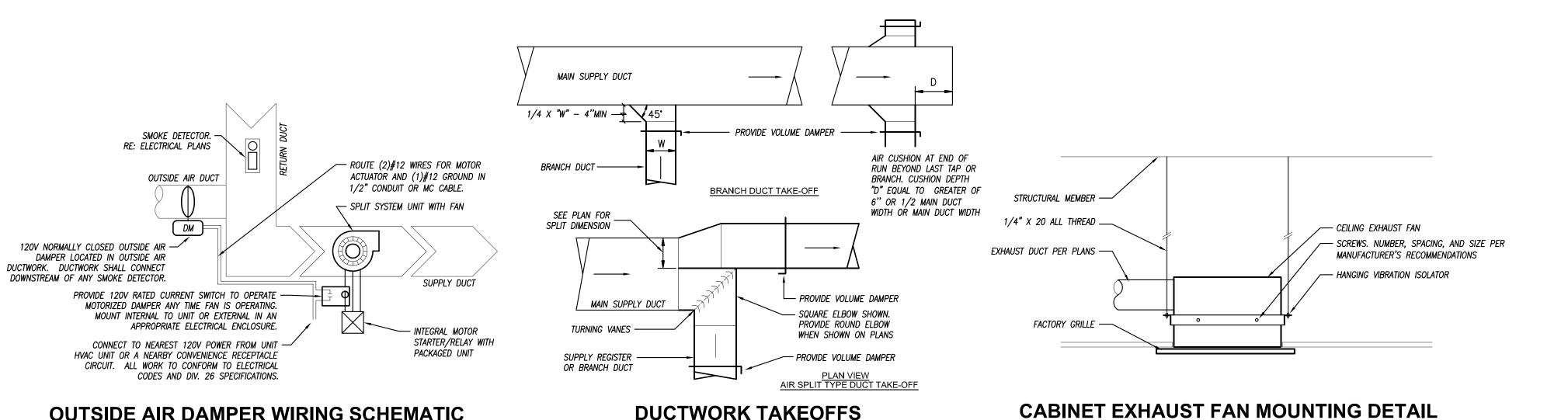
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NOT TO SCALE

**OUTSIDE AIR DAMPER WIRING SCHEMATIC** 

NOT TO SCALE

NOT TO SCALE



**DUCTWORK TAKEOFFS** 

NOT TO SCALE

GRILLE, REGISTER & DIFFUSER SCHEDULE VOLUME | FINISH MODEL NUMBER MANUFACTURER MOUNT TYPE FACE SIZE (IN) NECK SIZE (IN) DAMPER COLOR SUPPLY TITUS 300RL STEEL GRILLE WITH 3/4" SPACING AND 35" DEFLECTION | SURFACE/WALL | NECK SIZE + 2-1/2" AS INDICATED NO WHITE 1 S2 STEEL DUCT AS INDICATED YES — O.B. PAINTABLE TITUS ADJUSTABLE ROUND CONCENTRIC CONE DIFFUSER AS INDICATED RETURN 350RL STEEL 35 DEG SINGLE DEFLECTION AEROBLADE 3/4" SPACING AS INDICATED TITUS AS INDICATED NO | WHITE

**GENERAL REMARKS:** 

R3

TITUS

1. PROVIDE WITH ALL NECESSARY MOUNTING HARDWARE.

2. COORDINATE FINISH WITH ARCHITECT. PROVIDE GALVANIZED OR MILL FINISH WHERE DUCTWORK IS NOT TO BE PAINTED. PROVIDE PRIMED PAINTABLE FINISH WHEN DUCTWORK IS TO BE PAINTED.

STEEL

3. PROVIDE WITH AUXILIARY FRAME WHEN INSTALLED IN DOOR FOR INSIDE FINISH.

T–700 STEEL

FURNACE SCHEDULE													
PLAN	MANUFACTURER	MODEL	CFM	O.A.	FAN DAT	Α	C	OOLING		HEATING		ELECTRICAL	REMARKS
MARK	MANUFACTURER	NUMBER	C IV	CFM	E.S.P. (IN)	HP	COIL MODEL	CAPACITY (MBH)	INPUT (MBH)	OUTPUT (MBH)	EFF.	ELECTRICAL	KEWAKKS
F-1	DAIKIN	DM92SS0805	1,990	300	0.5"	1/2	CAPF4860	60.0	80.0	73.6	92.0%	120V / 1PH	1
<u>REMARKS</u> 1. HIGH	<u>S:</u> EFFICIENCY FURNACE.												

AS INDICATED

AS INDICATED

AS INDICATED

AS INDICATED

NO

NO

WHITE

WHITE 3

HVAC PIPINO	MAT	ERIAL S	SCHED	ULE				
PIPING					FIELD TEST	ALLOWABLE IN	INSUL	ATION
SYSTEM	SIZE	TYPE/SCHED	MATERIAL	ACCEPTABLE FITTINGS	PRESSURE/TIME	PLENUMS	TYPE	THICKNESS
CONDENSATE DRAIN INTERIOR	1/2" - 2"	L	COPPER	SOLDER, PRO-PRESS	10 FT - 1/2HR	YES	FIBERGLASS W/ ASJ	1/2" (PLENUM ONLY,
REFRIGERANT LINES	1/2" - 2"	ACR	COPPER	BRAZED		YES	ELASTOMERIC	3/4"

1. ALL PIPING AND MATERIALS IN PLENUMS MUST MEET ASTM E84 FLAME/SMOKE RATING OF 25/50.

35 DEG SINGLE DEFLECTION AEROBLADE 3/4" SPACING

INVERTED V-BLADE SIGHT PROOF

- 2. ALL INSULATION THICKNESSES SHALL MEET ASHRAE 90.1 2007 REQUIREMENTS AT A MINIMUM.
- 3. REFER TO SPECIFICATIONS FOR MORE DETAILED INFORMATION.

	EXH	HAUST FA	AN SC	HEDULE									
	PLAN	MANUFACTURER	MODEL	TYPE	SERVICE			AN DAT			ELECTRICAL	CONTROL	REMARKS
L	MARK		NUMBER			CFM	E.S.P. (IN)	HP	DRIVE	RPM			
I	EF-1	COOK	GC-148	CEILING CABINET	BATHROOM	132	0.250	46W	DIRECT	1,075	120V / 1PH	THERMOSTAT	2
ſ	EF-2	соок	10XP24D133	WALL FAN	POOL EQUIP.	400	0.125	1/2	DIRECT	1,300	120V / 1PH	THERMOSTAT	2
	EF-3	COOK	GC-128	CEILING CABINET	BATHROOM	63	0.250	30W	DIRECT	750	120V / 1PH	THERMOSTAT	1
ſ	REMARK:	S:											

1. UNIT OPERATION SHALL BE INTEGRATED WITH LIGHT SWITCH. DEPOVIDE WITH LINE VOLTAGE THERMOSTAT

Ζ.	PRUVIUE	WIIH	LINE	VULIAGE	IHERMUSIAI.

DUCT	WORK INSU	LATION SCHEDU	JLE				
		DUCT					
PURPOSE	DUTY	LOCATION	STYLE	MATERIAL	APPLICATION	THICKNESS	NOTES
SUPPLY		CONCEALED	RECTANGULAR	FIBERGLASS	LINED	1/2"	
	LOW PRESSURE/VELOCITY	CONCEALED	ROUND	MINERAL FIBER	WRAPPED	1-1/2"	
		EXPOSED	ROUND	FIBERGLASS	LINED	1"	3
	ALL	UNCONDITIONED ATTICS	ALL	MINERAL FIBER	WRAPPED	1-1/2"	4
RETURN	LOW PRESSURE/VELOCITY	CONCEALED	RECTANGULAR	FIBERGLASS	LINED	1/2"	
	LOW PRESSURE/ VELOCITI	CONCEALED	ROUND	MINERAL FIBER	WRAPPED	1-1/2"	
	ALL	UNCONDITIONED ATTICS	ALL	MINERAL FIBER	WRAPPED	1-1/2"	4
EXHAUST	LOW PRESSURE/VELOCITY	CONCEALED	RECTANGULAR	FIBERGLASS	LINED	1/2"	
	LOW FRESSURE/VELOCITY	CONCEALED	ROUND	FIBERGLASS	LINED	1/2"	1
OUTSIDE AIR	ALL	CONCEALED OR MECH. SPACE	ROUND	MINERAL FIBER	WRAPPED	1-1/2"	

#### NOTES:

- 1. PROVIDE LINER ONLY WITHIN 10' OF FAN FOR ACCOUSTICS.
- 2. THICKNESS SHALL ENCAPSULATE DUCT CONSTRUCTION.
- 3. CONTRACTOR OPTION TO USE ROUND DUCT LINER OR PROVIDE PERFORATED LINER DOUBLE WALL DUCT (SOLID LINER FOR OUTSIDE AIR DUCTS).
- 4. IN ADDITION TO OTHER SCHEDULED INSULATION.

GENERAL REMARKS (APPLICABLE TO ALL TYPES):

- 1) ALL DUCTWORK, INSULATION AND MATERIALS IN PLENUMS MUST MEET ASTM E84 FLAME/SMOKE RATING OF 25/50.
- 2) ALL INSULATION THICKNESSES SHALL MEET ASHRAE 90.1 2010 REQUIREMENTS AT A MINIMUM. 3) REFER TO SPECIFICATIONS FOR MORE DETAILED INFORMATION FOR INSULATION PRODUCTS AND SYSTEMS.

PLAN	MANUFACTURER	MODEL	CAPACITY	MINIMUM	AMBIENT	ELE	CTRICAL		REMARKS
//ARK	WANUFACTURER	NUMBER	(MBH)	SEER	TEMP. (°F)	VOLTS / PH	M.C.A.	M.O.C.P.	KEWAKKS
CU-1	DAIKIN	DX14SN060	60.0	14.0	105°	230V / 1PH	32.8	50	1,2

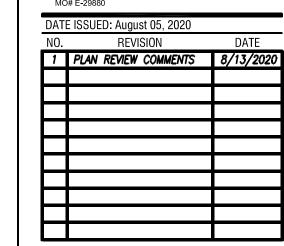
1. COOLING CAPACITY BASED ON A SUCTION TEMPERATURE OF 49°F.

	2. PROVIDE WITH 4" CONCRETE	E PAD.								
NOTES:  1. CONDENSING UNIT MANUFACTURER TO SIZE ALL REFRIGERANT LINES AND PROVIDE ALL ACCESSORIES FOR VERTICAL RUNS AS REQUIRED.		ELE	ECTRIC HE	EATE	R SCHE	DUL	E.			E E
2. INSULATE REFRIGERANT SUCTION LINES — REFER TO SPECIFICATIONS.		PLAN MARK	MANUFACTURER	MODEL NUMBER	TYPE	CFM	KW	VOLTAGE	REMARKS	售

#### <u>REMARKS:</u>

- 1. PROVIDE WITH INTEGRAL THERMOSTAT AND DISCONNECT. 2. PROVIDE WITH ALL NECESSARY SUPPORTS, HANDERS, ETC.
- 3. INSTALL WITH CLEARANCES PER MANUFACTURER'S RECOMMENDATIONS.

QMARK CDF-SE CEILING HEATER 300 2.0 240 1,2,3



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DEVELOPER SUMMIT HOMES

120 SE 30TH STREET

LEE'S SUMMIT, MO 64082 PH: 816-326-2909

**UBHOUSE** 

P0 2025 EE'S SI

OSAGE

PACKARD ENGINEERING

CIVIL ENGINEER

100 W 31ST STREET, SUITE 100

PHELPS ENGINEERING. INC

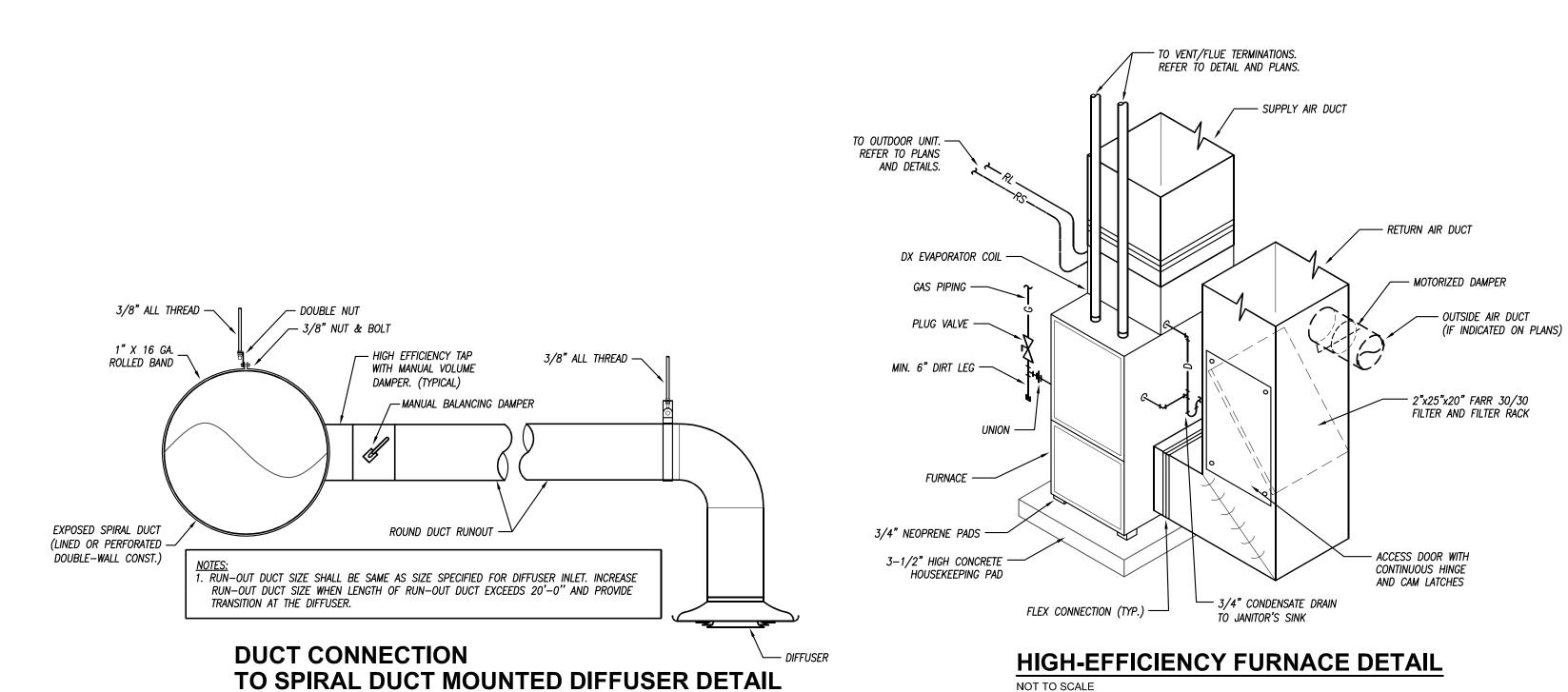
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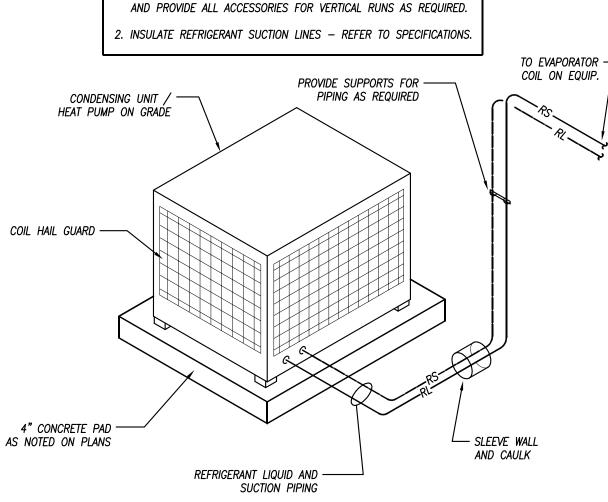
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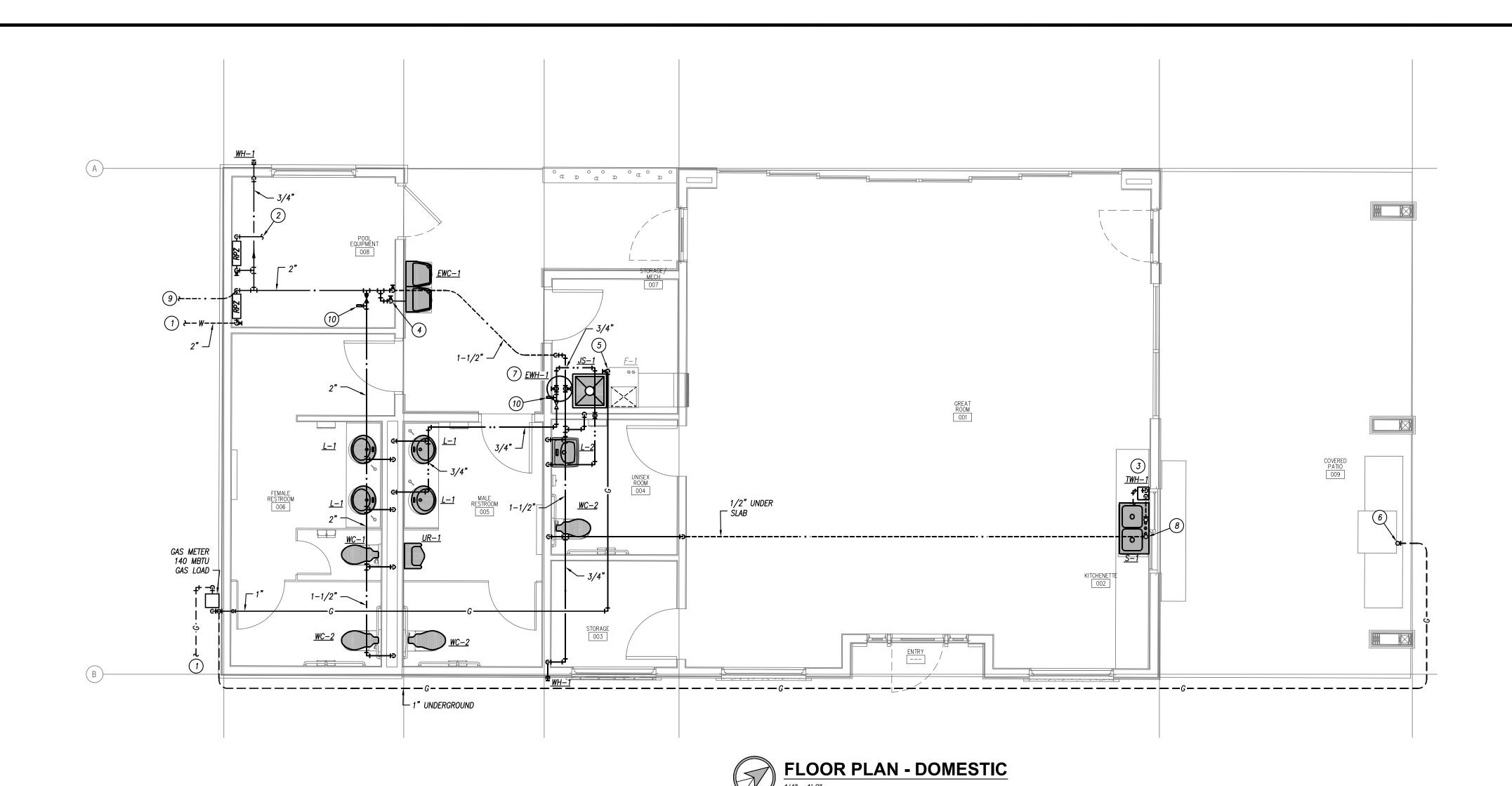
> MECHANICAL SCHEDULES AND DETAILS

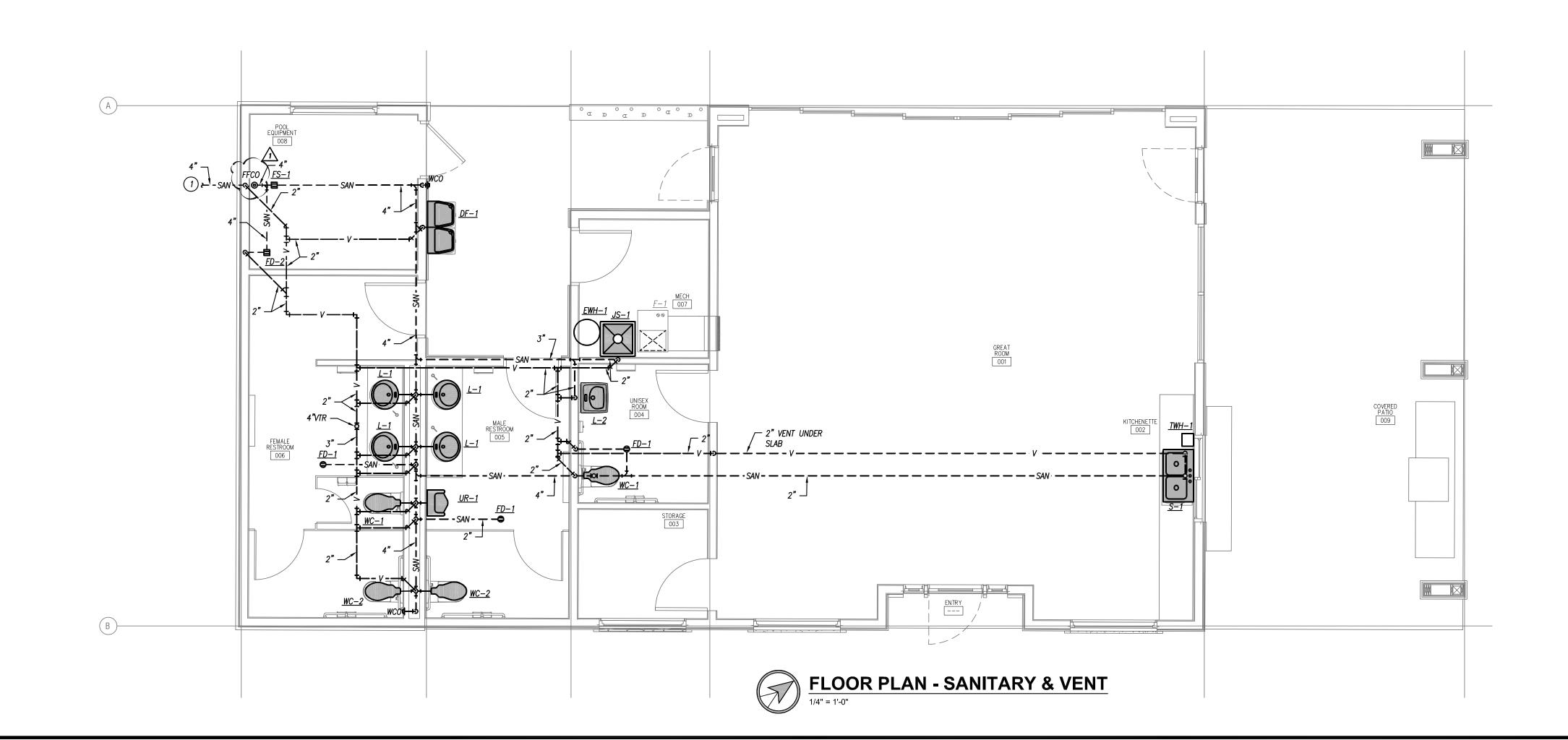
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**CONDENSING UNIT / HEAT PUMP DETAIL** 





#### **GENERAL PLUMBING NOTES**

- REFER TO GENERAL NOTES ON MEP COVER SHEET FOR ADDITIONAL REQUIREMENTS OF WORK.
- 2. REFER TO PLUMBING FIXTURE / DRAIN SCHEDULES FOR PIPING SIZES FOR INDIVIDUAL CONNECTIONS TO FIXTURES AND RISERS NOT SHOWN ON PLANS.
- 3. NO SANITARY OR VENT PIPING BELOW GRADE SHALL BE LESS THAN 2".
- NO DOMESTIC WATER PIPING SHALL BE SMALLER THAN 3/4" UNLESS NOTED OTHERWISE.
- VENT PIPING BELOW FLOOD RIM OF FIXTURE.

  6. NOT ALL INTERIOR CLEANOUTS ARE SHOWN FOR DRAWING CLARITY.
  CONTRACTOR SHALL INSTALL ALL CODE—REQUIRED CLEANOUTS (RE: GENERAL
  NOTES ON COVER SHEET). COORDINATE EXACT LOCATIONS OF CLEANOUTS

5. ALL VENT PIPING SHOWN IS DIAGRAMMATIC. USE APPROPRIATE FITTINGS FOR

7. PROVIDE 1/2" TRAP PRIMER PIPING FOR ALL FLOOR DRAINS TO NEAREST TRAP PRIMER VALVE. PIPING SHALL BE TYPE "K" SOFT COPPER SEAMLESS WITH NO JOINTS FROM VALVE TO DRAIN.

WITH ARCHITECT.

#### PLUMBING PLAN KEYED NOTES

- 1) REFER TO CIVIL PLANS FOR CONTINUATION, COORDINATE EXACT LOCATION WITH PLANS
- 2) 3/4" POOL WATER MAKE-UP LINE. REFER TO POOL PLANS FOR CONNECTION.
- 3) INSTALL TANKLESS WATER HEATER UNDER COUNTER. ROUTE HOT WATER TO SINK BELOW COUNTER.
- 4) ROUTE DCW SUPPLY TO EWC-1 UNDER COUNTER TO AND LOCATE SHUT-OFF VALVE IN AN ACCESSIBLE LOCATION UNDER COUNTER TOP FOR EXTERIOR DRINKING FOUNTAIN WINTERIZATION.
- 5) EXTEND 1" NG PIPING DOWN TO FURNACE. REFER TO MECHANICAL PLANS FOR EXACT LOCATION OF FURNACE.
- 6 1" GAS LINE UP THROUGH SLAB WITH SHUT OFF VALVE CONCEALED IN GRILL STATION.

  7 INSTALL WATER HEATER ON SHELF ABOVE JANITOR'S SINK. SHOWN HERE FOR CLARITY.
- (8) DCW STUB UP THRU FLOOR TO SERVE S-1 AND TWH-1.
- 9 TO IRRIGATION SYSTEM. COORDINATE SIZE, LOCATION, AND CONTINUATION WITH IRRIGATION CONTRACTOR OR ARCHITECT.
- 10) PROVIDE COMPRESSED AIR QUICK CONNECT FOR WINTERIZATION.



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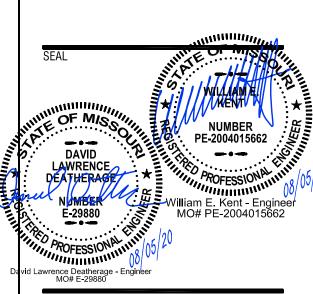
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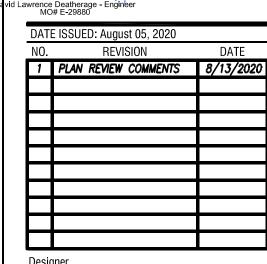
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DEVELOPER
SUMMIT HOMES
120 SE 30TH STREET

120 SE 30TH STREET LEE'S SUMMIT, MO 64082 PH: 816-326-2909

GE POOL CLUBHOUSE 2025 SW M 150 HWY





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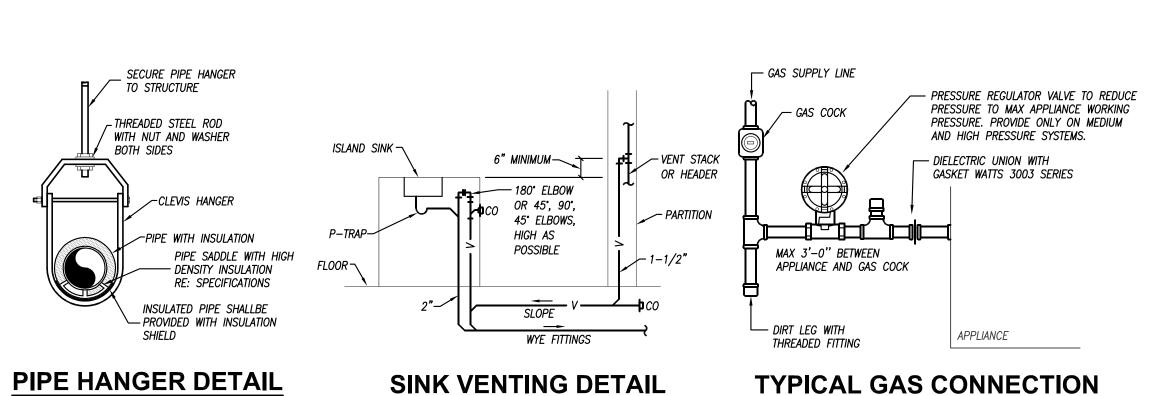
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PLUMBING PLAN
P101



- EXTERIOR GRADE,

PAVEMENT, OR SIDEWALK

NOT TO SCALE

WATER HAMMER ARRESTER PDI SIZE "A" SHUTOFF VALVE IN ACCESSIBLE LOCATION ABOVE CEILING -EXTERIOR BUILDING - ALL CLEANOUTS IN FINISHED FLOOR AREAS LENGTH OF SHAFT TO SUIT THICKNESS SHALL HAVE NICKLE-BRONZE ACCESS COVERS, INSULATED 3/4" COLD OF WALL. ADJUSTABLE FRAMES, AND BRONZE PLUGS. WATER PIPE — — CUT WALL AS REQUIRED. INSTALL WALL · FINISHED FLOOR HYDRANT, GROUT OR OTHERWISE REPAIR — CEILING WALL NEATLY AROUND FACE OF BOX, TO SEAL WATERTIGHT. INSTALL RISER INSIDE PARTITION WHERE AVAILABLE. REFER TO PLANS. IF RISER IS BOX TYPE NON-FREEZE WALL HYDRANT, EXPOSED, ANCHOR TIGHT TO WALL, INTERIOR TO WITH INTEGRAL VACUUM BREAKER, WALL INSULATION. T-HANDLE QUARTER-TURN OPERATOR, 3/4" HOSE CONNECTION, AND LOCKING ELBOWS AS REQUIRED -- DUCTILE IRON, OR CAST IRON, EXTENSION BODY WITH SERRATIONS PROVIDED FOR CUT-OFF ADJUSTMENTS.

VALVE INTERIOR TO WALL

WALL CLAMP

INSTALL ± 24" ABOVE GRADE.

SUIT MASONRY SEAMS. —

ADJUST HEIGHT IF/AS REQUIRED TO

INTERIOR FLOOR -

NOT TO SCALE

- WASTE LINE

FLOOR CLEANOUT DETAIL

NOT TO SCALE

**NON-FREEZE WALL HYDRANT DETAIL** NOT TO SCALE

NOT TO SCALE TO BUILDING DOMESTIC

WATER SERVICE W/ IRRIGATION

NOT TO SCALE

WATER SYSTEM -PRESSURE GAUGE (TYP) -PRESSURE REDUCING VALVE WHERE WHERE NOTES: WATER PRESSURE EXCEEDS 80 PSI. -. BACKLFOW PREVENTER MANUFACTURER AND REDUCED PRESSURE BACKFLOW INSTALLATION SHALL BE AS APPROVED BY LOCAL AND STATE AUTHORITIES AND IN ACCORDANCE TO LISTING PREVENTER FOR IRRIGATION SYSTEM. OF DEVICE. — TO IRRIGATION SYSTEM 2. ALL PIPING TO BE RIGIDLY SUPPORTED AND INSTALLED IN SUCH A MANNER AS TO BE DRAINABLE. EXTERIOR — FULL LINE SIZE WYE STRAINER WITH 3/4" BLOWDOWN -REDUCED PRESSURE SERVICE MAIN BACKFLOW PREVENTER ABOVE FLOOR SHUT-OFF VALVE -FULL SIZE DRAIN CONNECTION GRADE — FLOOR DRAIN FINISHED FLOOR EXTEND SLEEVE 4 - TERMINATE BACKFLOW DISCHARGE AFF & CAULK WATERTIGHT DRAIN PIPING ABOVE A FLOOR DRAIN WHOSE DRAIN CONNECTION IS TWICE DOMESTIC WATER SERVICE— THE DIAMETER OF BACKFLOW DRAIN THRUST BLOCK PORT SIZE SLEEVE FOUNDATION

REDUCED PRESSURE BACKFLOW PREVENTER DETAIL

PLUMBING FIXTURE SCHEDULE FITTINGS AND TRIM PLUMBING FIXTURE PIPE SIZES MARK FIXTURE MODEL FIXTURE DESCRIPTION REMARKS FITTINGS MODEL FITTINGS AND DESCRIPTION WASTE | VENT | DCW | DHW HALSEY—TAYLOR ADA-COMPLIANT, DUAL-HEIGHT, BARRIER-FREE, ELECTRIC WATER COOLER. PROVIDES 8.0 GPM OF 50°F WATER AT 90°F AMBIENT. HAC8FSBLQ ADA-COMPLIANT FRONT AND SIDE PUSHBARS. LEAD FREE. MOUNT WITH MIN. 27" KNEE CLEARANCE AND SPOUT AT NO MORE THAN EXPOSED, AUTOMATIC DRAINING, NON-FREEZE, ANIT-SIPHON WALL HYDRANT COMPLETE WITH INTEGRAL BACKFLOW PREVENTER. BRASS Z1310 CASING, ALL-BRONZE INTERIOR PARTS. NON-TURNING OPERATING ROD WITH FREE-FLOATING COMPRESSION CLOSURE VALVE. REPLACEABLE BRONZE SEAT AND SEAT WASHER. COMBINATION 3/4" FEMALE AND 1" MALE IP INLET CONNECTION STANDARD. INCLUDES OPERATING KEY. JANITORS SINK: 24"x24"x10", WHITE, ONE-PIECE MOLDED STONE C.P. SERVICE SINK FITTING WITH VACUUM BREAKER, 3/4" HOSE MOP BASIN. UNIT SHALL BE ONE HOMOGENOUS PIECE. STAINLESS THREAD ON SPOUT, ADJUSTABLE WALL BRACE, PAIL HOOK, AND MSB-2424 897–CP STEEL INTEGRAL DRAIN BODY WITH CAULKED CONNECTION FOR 3" 1/2" FLANGED FEMALE ADJUSTABLE ARMS WITH INTEGRAL STOPS CAULK BETWEEN WALL AND FLANGE WITH GE SILICONE SEALANT. PIPE. PROVIDE STAINLESS STEEL BUMPER AND WALL GUARDS, MOP BRACKETS, HOSE RACK. ADA-COMPLIANT. COUNTER TOP-MOUNTED LAVATORY. 16" OVAL, AMERICAN STANDARD FAUCET: SINGLE HANDLE CHROME PLATED CAST BRASS MIXING WHITE VITREOUS CHINA, SELF-RIMMING BASIN WITH FAUCET HOLES FAUCET, 4" CENTERS, 4-3/4" SPOUT, 2.2GPM VANDAL PROOF 2200-4-2300-4KABCP | ON 4" CENTERS. REFER TO ARCHITECTURAL DRAWINGS FOR AERATOR, 4-5/8" METAL LEVER HANDLE, CERAMIC VOLUME "AQUALYN" MOUNTING HEIGHT. CONTROL & HOT WATER LIMIT STOP CARTRIDGE. NO POP UP. L-2 AMERICAN STANDARD ADA-COMPLIANT WALL-HUNG LAVATORY. 20"x18" WHITE VITREOUS FAUCET: SINGLE HANDLE CHROME PLATED CAST BRASS MIXING 2" | 1-1/2" | FAUCET, 4" CENTERS, 4-3/4" SPOUT, 2.2GPM VANDAL PROOF 0355.012 CHINA BOWL WITH 4" BACK FOR USE WITH CONCEALED ARM 2200-4-2300-4KABCP HANGER. FAUCET HOLES COORDINATED WITH FAUCET AND TRIM. AERATOR, 4-5/8" METAL LEVER HANDLE. CERAMIC VOLUME PROVIDE CONCEALED ARM CARRIER. MOUNT TOP OF RIM AT 34" CONTROL & HOT WATER LIMIT STOP CARTRIDGE. NO POP UP. DECK-MOUNTED FAUCET WITH 9-1/2" SWING L-TYPE SPOUT. 2" 2" 1/2" 33" X 22" DOUBLE COMPARTMENT STAINLESS STEEL SINK. EACH LR-3322 BOWL DIMENSIONS ARE 13-1/2L X 16W X 8-1/8D SELF-RIMMING 200-AL8ABCP 2-3/4" METAL LEVER HANDLES WITH QUATURN CARTRIDGE. WITH 1-3/4 IN. RADIUS COVED CORNERS. SEAMLESS #18 GAUGE, POLÍSHED CHROME FINISH. PROVIDE WITH SIDE SPRAY. 2.2GPM. TYPE 302 NICKEL-BEARING STAINLESS STEEL. LK-6K-H SATIN PROVIDE BASKET STRAINER FINISH. FULLY UNDERCOATED. FAUCET HOLES COORDINATED WITH FAUCET AND TRIM. MINIMUM 36" CABINET SIZE REQUIRED IN-SINK-ERATOR GARBAGE DISPOSAL. 1/2 HP MOTOR, STAINLESS STEEL GALVANIZED STEEL CONSTRUCTION AND GRINDING ELEMENTS, PERMANENTLY BADGER 5 LUBRICATED BEARINGS. PROVIDE WITH STAINLESS STEEL SINK FLANGE AND STOPPER. UR-1 AMERICAN STANDARD WALL-HUNG URINAL. WHITE VITREOUS CHINA. 3/4" TOP SPUD. EXPOSED URINAL FLUSH VALVE. BATTERY POWERED CHROME-PLATED. 3/4" I.P.S. SCREWDRIVER BACK-CHECK ANGLE 6561.017 1.0 GALLON SIPHON JET FLUSHING ACTION. MOÚNT FIXTURE RIM G2 8186-1 AT 24" A.F.F. STOP WITH PROTECTIVE CAP. ADJUSTABLE TAILPIECE. 1.0 GALLON, VACUUM BREAKER FLUSH CONNECTION AND SPUD COUPLING FOR 3/4" TOP SPUD. PROVIDE WALL AND SPUD FLANGES. MAXIMUM PROVIDE FLOOR-MOUNTED, HEAVY-DUTY TUBULAR STEEL UPRIGHTS, HANDLE HEIGHT PER ADA STANDARDS. ADJUSTABLE CARRIER, PLATED HANGER, AND ALL OTHER REQUIRED MOUNTING HARDWAR WC−1 AMERICAN STANDARD 1.6 GALLON, FLOOR-MOUNTED FLUSH VALVE WATER CLOSET. TOP 4" 2" 1-1/4" EXPOSED WATER CLOSET FLUSH VALVE. BATTERY POWERED SPUD AND FLAT BOLT COVERS. WHITE VITREOUS CHINA ELONGATED CHROME-PLATED. HANDS FREE OPERATION. 1" I.P.S. G2 8111 BOWL. 15" HIGH. SCREWDRIVER BACK-CHECK ANGLE STOP WITH PROTECTIVE CAP. 2234.001 ADJUSTABLE TAILPIECE. 1.6 GPF, VACUUM BREAKER FLUSH CONNECTION AND SPUD COUPLING FOR 1-1/2" TOP SPUD. WHITE, SOLID PLASTIC, OPEN-FRONT SEAT FOR ELONGATED BOWL. CHURCH PROVIDE WALL AND SPUD FLANGES. MOUNTING HEIGHT PER INTEGRAL BUMPERS. EXTERNALCHECK HINGES WITH STAINLESS 9500C MANUFACTURER'S RECOMMENDATIONS AND IN ACCORDANCE WITH STEEL POSTS. ADA GUIDELINES WC-2 AMERICAN STANDARD 2" 1-1/4" ADA-COMPLIANT, 1.6 GALLON, FLOOR-MOUNTED FLUSH VALVE EXPOSED WATER CLOSET FLUSH VALVE. BATTERY POWERED WATER CLOSET. TOP SPUD AND FLAT BOLT COVERS. WHITE CHROME-PLATED. HANDS FREE OPERATION. 1" I.P.S. MADERA SCREWDRIVER BACK-CHECK ANGLE STOP WITH PROTECTIVE CAP. VITREOUS CHINA ELONGATED BOWL. 16-1/2" HIGH. 3043.001 ADJUSTABLE TAILPIECE. 1.6 GPF, VACUUM BREAKER FLUSH CONNECTION AND SPUD COUPLING FOR 1-1/2" TOP SPUD. WHITE, SOLID PLASTIC, OPEN-FRONT SEAT FOR ELONGATED BOWL.

REMARKS:

1. PROVIDE CHROME-PLATED BRASS TAILPIECE AND GRID DRAIN.

STEEL POSTS.

2. PROVIDE CHROME-PLATED BRASS P-TRAP.

CHURCH

9500C

3. PROVIDE LOOSE KEY STOPS AND FLEXIBLE RISERS.

4. PROVIDE CONCEALED ARM TYPE CARRIER WITH SQUARE, TUBULAR STEEL UP-RIGHTS AND BLOCK TYPE BASES. 5. INSULATE EXPOSED TAILPIECE, P-TRAP, AND WATER RISERS. REFER TO SPECIFICATIONS FOR INSULATION METHODS.

INTEGRAL BUMPERS. EXTERNALCHECK HINGES WITH STAINLESS

6. PROVIDE FLUSH VALVE HANDLE ON WIDE SIDE OF STALL.

7. PROVIDE HANDLE STOPS AND FLEXIBLE RISERS.

8. PROVIDE CHROME-PLATED BRASS TAILPIECE AND BASKET STRAINER.

GENERAL NOTES (APPLICABLE TO ALL FIXTURES):

1) ALL PUBLIC LAVATORIES AND SINKS SHALL BE PROVIDED WITH ANTI-SCALD ASSE 1070 LISTED VALVE ON HOT WATER SUPPLY.

		OLATIO	OOIILD	OLL	
PIPING					FIELD TEST
SYSTEM	SIZE	TYPE/SCHED	MATERIAL	ACCEPTABLE FITTINGS	PRESSURE/TII
DOMESTIC COLD WATER	1/2"-2-1/2"	L	COPPER	SOLDER, PRO-PRESS	130 PSI - 1/2
DOMESTIC HOT WATER & HW RETURN	1/2"-2-1/2"	L	COPPER	SOLDER, PRO-PRESS	130 PSI - 1/2
DOM. HOT & COLD BELOW GRADE	1/2"-1-1/4"	κ	COPPER	CONTINUOUS TUBING, BRAZED	130 PSI - 1/2

PLENUMS FIBERGLASS W/ ASJ YES FIBERGLASS W/ ASJ YES 3/4" (HOT ONLY) ELASTOMERIC YES NATURAL GAS - ABOVE GRADE SCH. 40 STEEL- SEEMLES THREADED IRON 75 PSI – 1HR ---NATURAL GAS BELOW GRADE ALLSDR-11 POLYETHYLENE FUSION JOINTS 100 PSI - 1HR ----10 FT - 1/2HR 2"-8" SOIL & WASTE BELOW GRADE SCH. 40 SOLVENT JOINED DRINKING FOUNT. DRAIN ELASTOMERIC ------------10 FT - 1/2HR SOLDER, PRO-PRESS RPZ AND SIMILAR EXPOSED DRAIN LINES ALL COPPER 1/2"-2" 10 FT - 1/2HR FIBERGLASS W/ ASJ /2" (PLENUM ONL) SOLDER PRO-PRESS CONDENSATE DRAIN INTERIOR COPPER 130 PSI - 1/2HR DOM. WATER SERVICE BELOW GRADE 1"-3" COPPER CONTINUOUS TUBING, BRAZED

PROVIDE WALL AND SPUD FLANGES. MOUNTING HEIGHT PER

MANUFACTURER'S RECOMMENDATIONS AND IN ACCORDANCE WITH

1. ALL PIPING AND MATERIALS IN PLENUMS MUST MEET ASTM E84 FLAME/SMOKE RATING OF 25/50. 2. ALL INSULATION THICKNESSES SHALL MEET ASHRAE 90.1 — 2007 REQUIREMENTS AT A MINIMUM

PIPING MATERIAL & INSULATION SCHEDULE

3. REFER TO SPECIFICATIONS FOR MORE DETAILED INFORMATION.

WA	WATER HEATER SCHEDULE - ELECTRIC										
PLAN MARK	MANUFACTURER	MODEL NUMBER	GALLONS	USE	STYLE	HT (IN)	# HTG. ELEMENTS	WATTS	RECOVERY @ 90°F RISE	VOLTAGE/ PHASE	REMARKS
EWH-1	STATE	EN6	28	RESIDENTIAL	LOW BOY	30	2	4,500	21	240V / 1PH	1,2

<u>REMARKS:</u>

. "LOWBOY"—TYPE WATER HEATER. 2. MOUNT ON SHELF. REFER TO DETAIL .

<u>REMARKS:</u>

1. PROVIDE WITH NICKEL BRONZE TOP.

TANKLESS WATER HEATER SCHEDULE - ELECTRIC										
PLAN MARK	MANUFACTURER	MODEL NUMBER	USE	STYLE	# HTG. ELEMENTS	WATTS	RECOVERY @ 90°F RISE	VOLTAGE/ PHASE	REMARKS	
TWH-1	EEMAX	MT010240	LIGHT COMM.	TANKLESS	1	9500	0.73 GPM	240V / 1PH	1	

. INSTANTANEOUS—TYPE WATER HEATER. MOUNT BELOW CABINETRY AND INSTALL 0.5 GPM AERATOR PROVIDED WITH HEATER ON SINK FAUCET.

FLO	OR / ROOF	DRAIN	SCHEL	JULE		
PLAN MARK	MANUFACTURER	MODEL NUMBER	SERVICE	TOP/GRATE SIZE	WASTE SIZE	REMARKS
FD-1	WATTS	FD-100L-6-2	FLOOR DRAIN	6 <b>"</b> Ø	2"	1
FD-2	WATTS	FD-100L-8-4	FLOOR DRAIN	8 <b>"</b> Ø	4"	1
FS-1	WATTS	FS-714	FLOOR SINK	8"x8"	2"	1

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INSULATION

THICKNESS

ALLOWABLE II



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> S UBHOU! 0 P0 2025 EE'S S **OSAGI**

NUMBER DAVID LAWRENCE DEATHERAGE William E. Kent - Enginee MO# PE-2004015662

		55.4	31 00, 2020	
NO.		REVI		DAT
1	PLAN	REVIEW	COMMENTS	8/13/

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PLUMBING SCHEDULES AND

DETAILS

FLOOR PLAN - LIGHTING

1/4" = 1'-0"

#### **GENERAL LIGHTING NOTES**

1. REFER TO GENERAL NOTES ON MEP COVER SHEET FOR ADDITIONAL REQUIREMENTS OF WORK.

2. LIGHT FIXTURES INDICATED AS EMERGENCY FIXTURES ARE TO FUNCTION AS NIGHT LIGHTS UNLESS SPECIFICALLY SHOWN SWITCHED.

3. ALL CIRCUITING SHOWN ON THIS PLAN IS DIAGRAMMATIC. 3.1. ALL FIXTURES SHALL BE FED FROM JUNCTION BOXES WITH LIGHT

- FIXTURE WHIPS (<6'). DAISY-CHAINING OF FIXTURES IS NOT ALLOWED. 3.2. SWITCH BOX LOCATIONS SHALL BE WIRED SO THAT A NEUTRAL WIRE IS AVAILABLE AT THE SWITCH BOX LOCATION, EITHER IN THE BOX OR
- AVAILABLE TO BE ADDED VIA RACEWAY OR AN ACCESSIBLE WALL CAVITY. 3.3. WALL SWITCHES FOR SEPARATE LOAD TYPES (EM/NORMAL, 120/277V, ETC.) SHALL NOT BE IN A SINGLE BOX.
- 3.4. REFÉR TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

#### LIGHTING PLAN KEYED NOTES

(1) ROUTE HOMERUN TO PANEL VIA PHOTOCELL.

(2) TO EXHAUST FAN.

3 3-BLADE CEILING FAN, WITH VARIABLE SPEED CONTROLLER. MOUNT BELOW DUCTWORK. MAINTAIN MINIMUM 6" CLEARANCE.

(4) PROVIDE SPEED CONTROLLER FOR FANS.

(5) PHOTOCELL(TORK 2001 SERIES) ORIENT TO NORTH.

(6) LOCATE TRANSFORMERS FOR LOW VOLTAGE POOL LIGHTING IN STORAGE

### LIGHTING CONTROLS

- WALL SWITCH VACANCY SENSOR: PASSIVE INFRARED, 120/277V, WALL MALL SWITCH VACANCY SENSUK: PASSIVE INFRARED, 12U/2//V, WALL SWITCH DECORA STYLE SENSOR. (WATTSTOPPER PW-101, OR EQUAL)
- MALL SWITCH MOTION SENSOR (DUAL TECHNOLOGY): PASSIVE INFRARED AND ULTRASONIC, 120/277V, DECORA STYLE SENSOR. (WATTSTOPPER DSW-100, OR EQUAL)
- \$\frac{\wall switch motion sensor (multi-\way dual technology):}{\text{passive}} Passive infrared and ultrasonic, 120/277V, multi-\way decora style sensor.} (WATTSTOPPER DW-103, OR EQUAL)
- \$\frac{\wall switch motion sensor (dual relay):}{\text{pual} Relay, 120V, Decora style sensor. (wattstopper pw-201, or equal)}
- ROOM CONTROLLER LOW VOLTAGE SWITCHES: PUSHBUTTON SWITCHES WITH LED PILOT LIGHT. SINGLE GANG IN DECORA STYLE FACEPLATE WITH UP TO EIGHT (8) CONTROLS. # REFERS TO QUANTITY OF SWITCHES ON FACE. (WATTSTOPPER LMSW SERIES, OR EQUAL)
- \$LD ROOM CONTROLLER LOW VOLTAGE DIMMING SWITCHES: PUSHBUTTON SWITCHES WITH LED INDICATING LIGHTS. SINGLE GANG IN DECORA STYLE FACEPLATE. (WATTSTOPPER LMDM-101)
- RC# ROOM CONTROLLER: DIGITAL ON/OFF ROOM CONTROLLER. 120/277V INPUT. # INDICATES NUMBER OF RELAYS (STD 1-2, UNITS SHALL BE GANGED FOR MORE THAN 2 RELAYS/ZONES) (WATTSTOPPER LMRC-100 SERIES, OR EQUAL)
- RCD# ROOM CONTROLLER: DIGITAL ON/OFF 0-10V DIMMING ROOM CONTROLLER. 120/277V INPUT. # INDICATES NUMBER OF RELAYS (STD 1-3, UNITS SHALL BE GANGED FOR MORE THAN 3 RELAYS/ZONES) (WATTSTOPPER
- LMRC-200 SERIES OR EQUAL) DIGITAL CEILING-MOUNTED MOTION SENSOR: DUAL TECHNOLOGY (PASSIVE INFRARED AND ULTRASONIC), DIGITAL, CEILING SENSOR. (WATTSTOPPER LMDC-100, OR EQUAL)
- DIGITAL MOTION SENSOR FOR CORNER MOUNT: DUAL TECHNOLOGY (PASSIVE INFRARED AND ULTRASONIC), DIGITAL CORNER MOUNT SENSOR WITH WALL BRACKET. (WATTSTOPPER LMDX-100)
- ASTRONOMICAL TIME CLOCK: DIGITAL ON/OFF CONTROLLER.
  PROGRAMMABLE FOR ASTRONOMICAL AND SCHEDULED CONTROL. 120V
- INPUT. (WATTSTOPPER RT-200 OR EQUAL) \$\frac{\lighting \text{ control panel low voltage switches:}}{\text{with led pilot light. Single gang in decora style faceplate with up}} TO EIGHT (8) CONTROLS. REFER TO LIGHTING CONTROL SWITCH SCHEDULE FOR ADDITIONAL INFORMATION. # REFERS TO SWITCH IDENTITY ON SCHEDULE.
- (WATTSTOPPER LVSW-100 SERIËS, OR EQUAL) LCP-X LIGHTING CONTROL PANEL: PROVIDE LIGHTING CONTROL PANEL FOR MAIN

  AREA LOADS. PANEL SHALL CONSIST OF RELAY/CONTACTOR PANELS

  CONTROL SWITCHES PROTOCELLS AND OTHER CONTROL CONTROL SWITCHES, PHOTOCELLS AND OTHER CONTROLLING DEVICES. WATTSTOPPER "LP24-PEANUT PLUS" OR APPROVED EQUAL. PANEL SHALL BE CAPABLE OF SCHEDULED ON/OFF CONTROL WITH AFTER HOUR OVERRIDE CAPABILITY AND SHUTOFF. REFÉR TO CONTROL PANEL SCHEDULE FOR ADDITIONAL INFORMATION. COORDINATE SCHEDULING OF EACH CONTROL ZONE

<u>OWNER TRAINING:</u> PROVIDE FACTORY REPRESENTATIVE TRAINING TO OWNER FOR EACH LIGHTING CONTROL SYSTEM UTILIZED, INCLUDING PROGRAMMING FOR SCHEDULING AND OPERATION OF EACH ROOM PER OWNER DIRECTION. PROVIDE RECORD OF TIME DELAY SETTINGS ON ALL SENSOR DEVICES FOR OWNER USE.

SENSOR ADJUSTMENTS AND SETTINGS: SYSTEMS SHALL BE SET/PROGRAMMED TO OPERATE TYPICALLY IN MANUAL ON/AUTO OFF MODE. SET WALL MOUNTED MOTION SENSOR TO MANUAL ON MODE. SET POWER PACKS CONTROLLED BY CEILING MOTION SENSORS TO MANUAL ON AND CONTROL WITH MOMENTARY WALL SWITCH. PROVIDE AND INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND INSTALLATION INSTRUCTIONS. LOW VOLTAGE WIRING NOT SHOWN ON PLANS FOR CLARITY. PROVIDE FINAL SETTINGS/ADJUSTMENTS PER OWNER'S DIRECTION.



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DEVELOPER SUMMIT HOMES 120 SE 30TH STREET LEE'S SUMMIT, MO 64082 PH: 816-326-2909

**UBHOUS** OL (SW M 1 P0 2025 EE'S SI

**OSAGE** 

NUMBER DAVID LAWRENCE DEATHERAGE -William E. Kent - Engineer MO# PE-2004015662

DATE ISSUED: August 05, 2020 REVISION 1 PLAN REVIEW COMMENTS 8/13/2020

Author Checker

PEARSON KENT MCKINLEY RAAF ENGINEERS LLC

MO State Certificate of Authority #E-2002020886

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LIGHTING PLAN

#### **GENERAL POWER NOTES**

- 1. REFER TO GENERAL NOTES ON MEP COVER SHEET FOR ADDITIONAL REQUIREMENTS OF WORK.
- 2. COORDINATE EXACT NEMA CONFIGURATIONS OF RECEPTACLES SERVING EQUIPMENT WITH EXACT EQUIPMENT BEING FURNISHED.
- 3. REFER TO THE SPECIFICATIONS FOR ADDITIONAL LOCATIONS/REQUIREMENTS FOR RECEPTACLES, INCLUDING GFCI, WEATHER-RESISTANT, HOSPITAL-GRADE, AND TAMPER-RESISTANT RECEPTACLES.
- 4. EXACT MECHANICAL EQUIPMENT LOCATIONS MAY NOT BE SHOWN FOR CLARITY. COORDINATE EXACT LOCATIONS OF ALL MECHANICAL EQUIPMENT, DUCT DETECTORS, ETC. WITH MECHANICAL DRAWINGS AND CONTRACTOR.
- 5. COORDINATE EXACT LOCATIONS OF SMOKE DETECTORS WITH CEILING FANS, HVAC DIFFUSERS, SPRINKLER HEADS, ETC. PER NFPA REQUIREMENTS.

#### **POWER PLAN KEYED NOTES**

- 1 REFER TO SITE PLAN FOR CONTINUATION.
- 2 2" CONDUIT FOR COMMUNICATIONS SERVICE(S).
- 3 CONNECT TO SWITCHED LIGHTING CIRCUIT IN ROOM.
- 4 PROVIDE JUNCTION BOX CONCEALED ABOVE ACCESSIBLE CEILING (OR FLUSH MOUNTED IN HARD CEILING) WITH 3/4" CONDUIT TO A 4X4 RECESSED WALL MOUNTED JUNCTION BOX WITH SINGLE GANG TRIM RING FOR CARD READER AND 3/4" CONDUIT STUBBED INTO DOOR FRAME FOR ACCESS CONTROL WIRING. COORDINATE EXACT ROUGH-IN AND POWER REQUIREMENTS WITH SECURITY CONTRACTOR.
- PROVIDE RED MUSHROOM STYLE PUSH BUTTON IN WATERPROOF ENCLOSURE WITH THE FOLLOWING INSCRIPTION, "POOL EQUIPMENT SHUT DOWN." PROVIDE CONTROL WIRING TO MAIN BREAKER IN PANEL 'L2'.
- 6 EXTEND POOL BONDING GRID TO CIRCULATION PUMP ENCLOSURE, PER NEC. REFER TO POOL BONDING DRAWING FOR ADDITIONAL INFORMATION.
- 7 PROVIDE RECEPTACLE FOR CHEMICAL CONTROLLER. VERIFY EXACT LOCATION WITH POOL EQUIPMENT PROVIDER.
- 8 PROVIDE 120V CIRCUIT TO POOL DECK LIGHTING. ROUTE TO HOMERUN PANEL VIA TIMECLOCK CONTROL. TIMER SHALL BE TWO CHANNEL, 7—DAY DIGITAL HOLIDAY TYPE, WITH 20A RATED CONTACTS, 120V CONTROL POWER.
- 9 PROVIDE ELECTRICAL CONNECTION TO POOL PUMPS. STARTERS BY POOL EQUIPMENT PROVIDER.
- PROVIDE ELECTRICAL CONNECTION TO FAN AND INTERLOCK WITH MOTORIZED DAMPER.
- [11] CARD READER. COORDINATE EXACT LOCATION AND ALL CONNECTION REQUIREMENTS WITH OWNER SPECIFIED SYSTEM. PROVIDE ROUGH—IN AND 1" CONDUIT BACK TO STORAGE ROOM.
- CAMERA. COORDINATE EXACT LOCATION AND ALL CONNECTION REQUIREMENTS WITH OWNER SPECIFIED SYSTEM. PROVIDE ROUGH—IN AND 1" CONDUIT BACK
- 13 LOCATE TRANSFORMERS FOR LOW VOLTAGE POOL LIGHTING IN STORAGE ROOM.
- 14 TWH-1. PROVIDE A 60A 2P DISC. SWITCH, FUSE PER MANUFACTURER REQUIREMENTS. 1 SET OF 3 #4, & #10 GRD. IN 1" C. PROVIDE A 30A 2P DISC. SWITCH, FUSE PER MANUFACTURER REQUIREMENTS. 1 SET OF 3 #10, & #10 GRD. IN 3/4" C.



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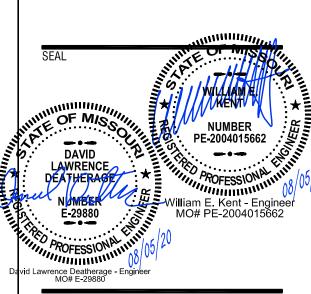
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**REVISION** 1 PLAN REVIEW COMMENTS 8/13/2020

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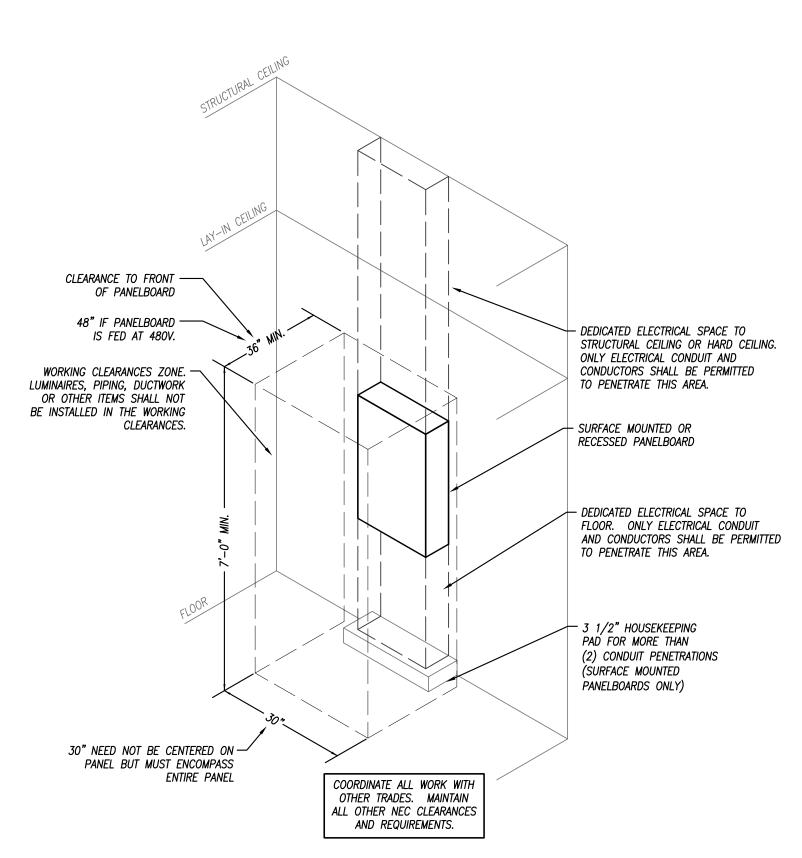
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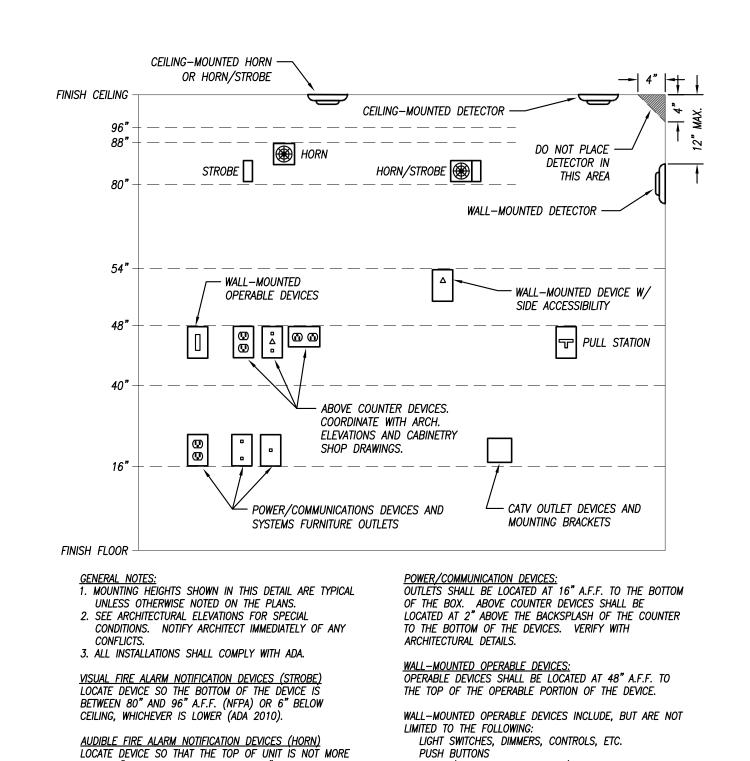
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POWER PLAN



#### TYPICAL PANELBOARD INSTALLATION DETAIL NOT TO SCALE



#### MOUNTING HEIGHTS FOR WALL-MOUNTED DEVICES NOT TO SCALE

THAN 90" A.F.F. AND NOT LESS THAN 6" BELOW CEILING

FIRE ALARM ACTIVATION DEVICES (PULL STATION)
LOCATE FRONT—APPROACH DEVICES SO THAT THE HIGHEST

OPERABLE PORTION OF THE DEVICE IS NOT MORE THAN

48" A.F.F (ADA 2010) AND NOT LESS THAN 42" A.F.F.

NURSE/PATIENT CALL DEVICES (INLUDING THOSE FOR

OTHER CONTROL OR "CALL" DEVICES

SINGLE-SECT	ION I	PAN	ELB	OA	RI	D	SCH	ΙED	ULE		
PANEL DESIGNATION:	I 1							MAIN L	JG AMPS:	400	
TAILE BESIGNATION.					‡	#			BREAKER:		
MOUNTING:	SURFACE					2			/OLTAGE:	•	
LOCATION:					TII	<u> </u>			SE/WIRE:		
DESCRIPTION	PHA	ASE	С	/B	١ ،	ر	C,	/B	PH/	ASE	DESCRIPTION
BEGORIII FIGIR	Α	В	TRIP	POLE			POLE	TRIP	A	В	BESSIAL FISH
PANELBOARD L2	7047		100	2	1	2	2	50	3149		CONDENSING UNIT
TANLEDOAND LZ		7047	700		3	4		50		3149	CONDENSING CHI
DISPOSAL	1200		20	1	5	6	1	20	864		FURNACE F-1
REC — KITCHEN		360	20	1	7	8	1	20		360	REC — STORAGE ROOM
REC — KITCHEN	360		20	1	9	10	2	20	1000		EH-1
REC — GREAT ROOM		540	20	1	11	12		20		1000	LII-1
REC — GREAT ROOM TV	1080		20	1	13	14	1	20	900		REC – RR/EXTERIOR
REC — COVERED PATIO		540	20	1	15	16	1	20		400	BUILDING LIGHTING
REC — GREAT ROOM	540		20	1	17	18	2	20	1000		EH-1
SPARE		_	20	1	19	20		20		1000	LII-I
LTG – INTERIOR	1080		20	1	21	22	2	20	226		POLE LIGHTING
LTG — GREAT ROOM		720	20	1	23	24	2	20		226	TOLL EIGHTING
REC — FLEXIBLE ROOM	720		20	1	25	26	1	20	950		REC: DRINKING FOUNTAIN
TWH-1		4750	50	2	27	28	1	20		_	SPARE
11111-1	4750		30	2	29	30	1	20	_		SPARE
WH-1		2250	30	2	31	32	1	20		-	SPARE
wn-1	2250		] 30	2	33	34	1	20	-		SPARE
CAMERA SYSTEM		360	20	1	35	36	1	ı		-	SPACE
CARD READERS	360		20	1	37	38	1	-	_		SPACE
SPACE		_	-	1	39	40	1	-		_	SPACE
SPACE	-		_	1	41	42	1	ı	_		SPACE
TOTALS	19387	16567							8089	61 <i>3</i> 5	TOTALS

PAI	PANELBOARD SIZING LOAD										
LOAD DESCRIPTION	CONNECTED	DEMAND	CODE MIN. (VA)								
LIGHTS	3,321	1.25	4,151								
RECEPTACLES	9,470 10	KVA + 50% RES	T 9,470								
MOTORS	11,088 1.25	x LARGEST + SUM OF	rest 12,108								
AIR CONDITIONING	6,298	1.00	6,298								
SPACE HEATING	6,000	0.00	0								
CONTINUOUS	0	1.25	0								
NON-CONTINUOUS	0	1.00	0								
MISC. LOADS 1	14,000	1.00	14,000								
MISC. LOADS 2	0	1.00	0								
		SIZING LOAD:	46,027								
	SIZING LOAD (AMPS);										

CON	CONNECTED PHASE LOADS									
PHASE	VA	AMPS								
Α	27,476	229.0								
В	22,702	189.2								
TOTALS	50,177	209.1								

LIGHT FIXTURE SCHEDULE

CATALOG NUMBER

22ALT

DRD3

CHARLIE FM6012

SERIES 75R

DLM SERIES

WA-LED SERIES

GALLEON LED

DCC2 SERIES

SLCD SERIES

DLM SERIES

1. FURNISH WITH AND INSTALL ALL NECESSARY HARDWARE AND MOUNTING BRACKETS.

DL-II MICRO DECK

DCD1

DESCRIPTION

52" DIAMETER 4-BLADE CEILING FAN. VARIABLE SPEED MOTORE. NICKEL FINISH HOUSING. FOUR

(4) MAPLE REVERSIBLE BLADES. FURNISH WITH OPTIONAL 36" DOWNROD SUSPENSION. FURNISH

52" DIAMETER 3-BLADE CEILING FAN. VARIABLE SPEED MOTORE. BRUSHED ALUMINUM HOUSING.

THREE (3) ALUMINUM ERVERISBLE BLADES. 12" DOWNROD SUSPENSION. FURNISH WITH SOLID

BUTTERFLY MOUNTING BRACKETS AND INTEGRAL GALVANIZED STEEL JUNCTION BOX. COORDINATE

REFLECTOR WITH MEDIUM BEAM ANGLE/DISTRIBUTION. UL LISTED FOR WET LOCATIONS. INTEGRAL

SIMILAR TO TYPE 'CL1'. EXCEPT PROVIDE WITH SLOPED CEILING ADAPTOR AND IC-RATED FOR

SAME AS FIXTURE TYPE 'CL1' EXCEPT FURNISH WITH 4" TRIM RING DIFFERENT LED MODULE.

SIMILAR TO TYPE 'CL2', EXCEPT PROVIDE WITH SLOPED CEILING ADAPTOR AND IC-RATED FOR

PAINTED WHITE AFTER FABRICATION. ELECTRONIC DRIVER PRE-WIRED FOR NON-DIMMING

LOW-PROFILE EMERGENCY LIGHTING UNIT. FLAME-RATED, UV-STABLE THERMOPLASTIC HOUSING.

MAINTENANCE-FREE BATTERY FOR 90 MINUTE OPERATION OF LAMPS. INTEGRAL TEST SWITCH AND

2-3/4" X 1" X 24" UNDERCABINET LIGHT FIXTURE. EXTRUDED ALUMINUM HOUSING WITH ACRYLIC

LENGS. WHITE POWER COAT FINISH. FURNISH WITH INTERCONNECTING CABLING AND CONNECTORS.

2.4" W, 1.3" T, 1.3" D DECK LIGHT. ALUMINUM/BRASS BODY AND FINISH SELECTION BY

COMBINATION EMERGENCY LIGHTING UNIT / EXIT LIGHT. UV-STABLE THERMOPLASTIC HOUSING, FINISH WHITE. ADJUSTABLE EYEBALL STYLE LIGHTING HEADS WITH GLASS LENS FOR EMERGENCY

LIGHT. EXIT SIGN TO HAVE RED LETTERS WITH DIRECTIONAL ARROWS AS INDICATED ON THE

FURNISH WITH REMOTE CAPACITY WHERE INDICATED. BLACK REMOTE WEATHERPROOF HEAD.

PLANS. MAINTENANCE—FREE NICKEL—CADMIUM BATTERY FOR 90 MINUTE OPERATION OF LAMPS AND EXIT SIGN. FULLY AUTOMATIC, SOLID-STATE CHARGER WITH TEST SWITCH AND AC-ON LIGHT.

TWO (2) SEMI-RECESSED. ADJUSTABLE "EYEBALL" HEADS WITH GLASS LENS. WHITE FINISH.

DIRECT CONTACT WITH INSULATION. 360 DEGREE DIRECTIONAL AIM, 40 DEGREE ADJUSTABLE TILT.

FLUSH ARCHITECTURAL FIXTURE. 11.5" DIAMETER X 3.5" TALL. WHITE OPAL ACRYLIC DIFFUSER WITH | ONE (1) 19 WATT, 1300 LUMEN,

4'-0" LONG STRIP FIXTURE. SURFACE MOUNT. FURNISH WITH ROUNDED ACRYLIC LENS. ALL PARTS ONE (1) 23 WATT, 3200 LUMEN,

DIRECT CONTACT WITH INSULATION. 360 DEGREE DIRECTIONAL AIM, 40 DEGREE ADJUSTABLE TILT.

MOUNTING TYPE WITH CEILING. SELF-FLANGED, SEMI-SPECULAR LOW IRIDESCENT FINISH ALUMINUM

6" ROUND RECESSED DOWNLIGHT. DIE-CAST ALUMINUM FRAME WITH ADJUSTABLE-HEIGHT

WITH SOLID STATE WALL SPEED CONTROLLER.

LED DRIVER PRE-WIRED FOR 0-10V DIMMING APPLICATIONS.

BRUSHED NICKEL TRIM RING. ELECTRONIC DRIVER DIMMABLE VIA ELV.

SAME AS FIXTURE TYPE 'CL2' EXCEPT FURNISH WITH BLACK TRIM RING.

AC-ON INDICATOR. FURNISH WITH REMOTE CAPACITY WHERE INDICATED.

GLEON-AF-02-LED-E1-SL2- GALLEON LED FIXTURE. DARK BRONZE FINISH.

ARCHITECT. INTERNAL DRIVER, 130 DEGREE BEAM SPREAD. UL 1838 LISTED.

EXTERIOR WALL-MOUNTED LED CYLINDER., WET LOCATION, DARK BRONZE FINISH.

POLE FIXTURE AT 15'-0" AFF MOUNTING HEIGHT

JADE 2 C - 38279 GLASS AND CHROME WALL MOUNT INTERIOR VANITY LIGHT

STATE WALL SPEED CONTROLLER.

MANUFACTURER

ELECTRIC

ELECTRIC

CF2 BARN LIGHT

CL1 DMF LIGHTING

CL1A DMF LIGHTING

CL2 DMF LIGHTING

CL2A DMF LIGHTING

CL3 KUZCO LIGHTING

WILLIAMS

CL5 DMF LIGHTING

UC1 WAC LIGHTING

WL1

McGraw-Edison

GARDEN LIGHT

TYPE

<u>REMARKS:</u> SQUARE D NQ TYPE PANELBOARD OR EQUAL. 2. G' = GFCI TYPE BREAKER.

SINGLE-SECT	ION	PAN	ELB	OA	RI	D	SCI	ΗED	ULE		
PANEL DESIGNATION:	L2					#			JG AMPS: BREAKER:		
MOUNTING: — LOCATION: <i>POOL EQUIP RM</i>						וויי			/OLTAGE: \SE/WIRE:	•	
DESCRIPTION	PHASE		С	/B	] [	5	С	/B	PH	ASE	DESCRIPTION
BESSIAII TISIA	Α	В	TRIP	POLE			POLE	TRIP	Α	В	DESCRIPTION
POOL PUMP (3 HP)	2040		40	2	1	2	1	20	1200		CHEMICAL CONTROLLER
FOOL FOMF (5 HF)		2040	] #0	2	3	4	1	20		864	EF-2
POOL PUMP (3 HP)	2040		40	2	5	6	1	20	500		IN-POOL LIGHTING
FOOL FOMF (3 HF)		2040	] #0	70 2	7	8	1	20		100	POOL DECK LIGHTING
POOL FILTER	1200		20	1	9	10	1	20	69		POOL ROOM LIGHTING
EH-1		1000	20	2	11	12	1	20		_	SPARE
En-1	1000		] 20		13	14	1	20	-		SPARE
SPARE		_	20	1	15	16	1	20		_	SPARE
SPARE	_		20	1	17	18	1	_	_		SPACE
SPACE		_	_	1	19	20	1	_		_	SPACE
SPACE	-		-	1	21	22	1	-	-		SPACE
SPACE		_	_	1	23	24	1	_		_	SPACE
TOTALS	6280	5080							1769	964	TOTALS

PANELBOARD SIZING LOAD										
LOAD DESCRIPTION	CONNECTED	DEMAND	CODE MIN. (VA)							
LIGHTS	669	1.25	836							
RECEPTACLES	1,200 10	KVA + 50% RES	Т 1,200							
MOTORS	10,224 1.25	x LARGEST + SUM OF	rest 11,244							
AIR CONDITIONING	0	0.00	0							
SPACE HEATING	2,000	1.00	2,000							
CONTINUOUS	0	1.25	0							
NON-CONTINUOUS	0	1.00	0							
MISC. LOADS 1	0	1.00	0							
MISC. LOADS 2	0	1.00	0							
		SIZING LOAD:	15,280							
	SIZING	B LOAD (AMPS):	64							

EQUIPMENT FAULT CURRENT RATING SCHEDULE

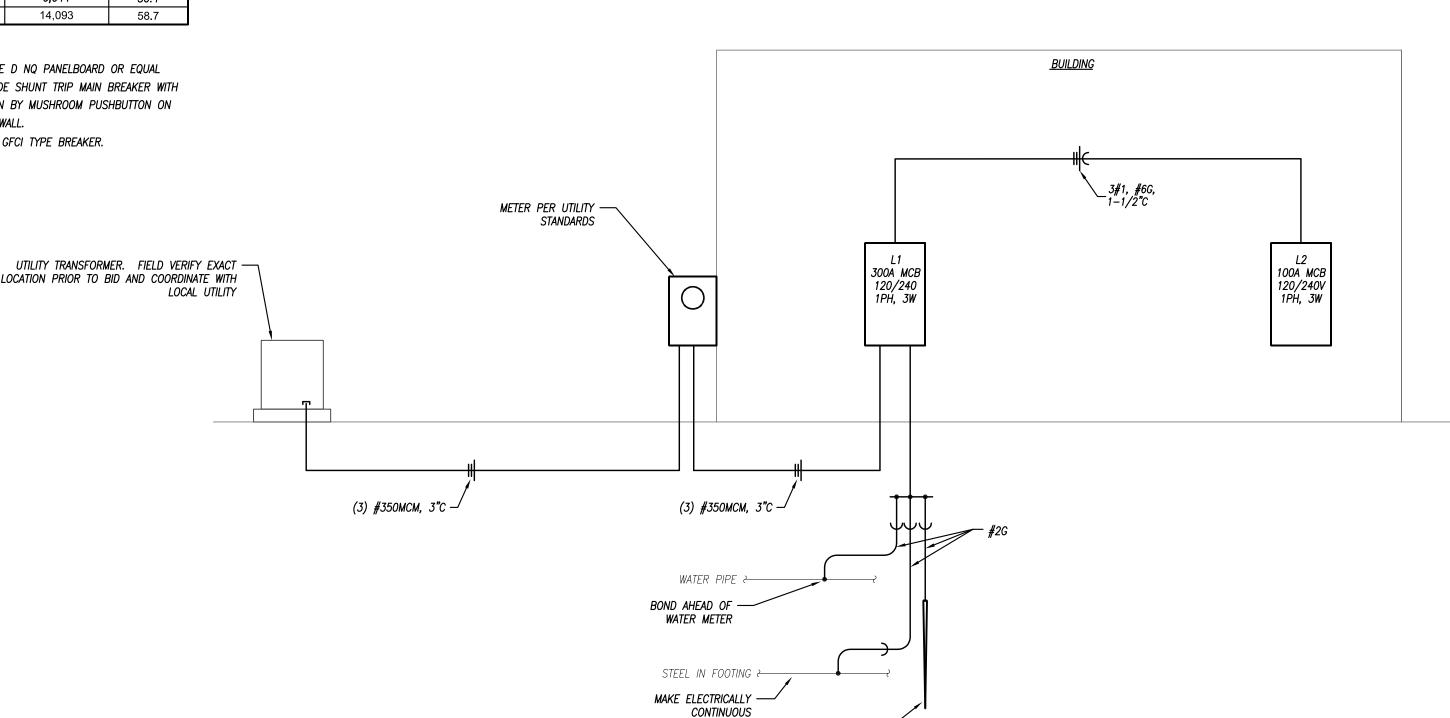
2. CALCULATIONS PERFORMED USING BUSSMANN POINT—TO—POINT METHOD.

Α	8,049	67.1
В	6,044	50.4
TOTALS	14,093	58.7
REMARKS:		
1. SQUARE	D NQ PANELBOARI	OR EQUAL

CONNECTED PHASE LOADS

<u>REMARKS:</u>
1. SQUARE D NQ PANELBOARD OR EQUAL
2. PROVIDE SHUNT TRIP MAIN BREAKER W
ACTUATION BY MUSHROOM PUSHBUTTON O
OUTSIDE WALL.
3. 'G' = GFCI TYPE BREAKER.

•			
EQUIPMENT	SCA	AIC	NOTES
PANELBOARD L1	18,980	22,000	1
PANELBOARD L2	11,498	22,000	2
<u>NOTES:</u> 1. RATING BASED ON A FAULT AT UTILITY CO. TRAN	SFORMER OF 25,	000 AIC, PER KO	CPL.



8'-0" LONG 5/8" COPPER -CLAD DRIVEN GROUND ROD

> **ELECTRICAL RISER DIAGRAM** NOT TO SCALE



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VOLTAGE REMARKS

LAMP NUMBER / DESCRIPTION

ONE (1) 29 WATT, 2000 LUMEN,

LED MÓDULE. 3000K CCT.

ONE (1) 19.5 WATT, 1500

LED MODULE. 3000K CCT.

LED MODULE. 3000K CCT.

ONE (1) 19.5 WATT, 1500

TWO (2) 1 WATT LED

LUMEN, LED MODULE. 3000K

LUMEN, LED MODULE. 3000K

129W, 13088 LUMEN LED

1W/2VA, 115 LUMEN LED

19.5 WATT, 1500 LUMEN, 3000K

9 WATT, 1500 LUMEN, 3000K

TOTAL POWER CONSUMPTION:

EXIT: FOUR (4) HIGH-OUTPUT

EMERGENCY: HIGH OUTPUT LEDS

MODULE 4000K

MÓDULE, 3000K

5.25 WATTS.

LUMEN, LED MODULE. 3000K

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UBHOU! P0 2025 EE'S S OSAGI

DATE ISSUED: August 05, 2020 REVISION 1 PLAN REVIEW COMMENTS 8/13/2020

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ELECTRICAL RISER DIAGRAM

RCHITECT ANY ERROR INCONSISTENCY OR OMISSION DISCOVE

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#### STRUCTURE

- 1. PROVIDE A NON-SLIP FINISH TO THE POOL BOTTOM.
- 2. THE SLOPE OF THE POOL BOTTOM (LESS THAN 5 FEET DEEP) SHALL BE NO GREATER THAN 1" PER FOOT AND NOT LESS THAN .2" PER FOOT.
- EXCEPTION: IN POOLS SMALLER THAN 800 SQUARE FEET, THE SLOPE OF THE FLOOR IN THE SHALLOW PORTION SHALL NOT EXCEED 1 FOOT IN 12 FEET.
- 3. THE FRONT SLOPE OF THE DEEP END OF THE POOL BOTTOM (GREATER THAN 5 FEET DEEP) SHALL BE NO GREATER THAN 4" PER FOOT. OTHER SLOPES OF THE DEEP END OF THE POOL
- 4. THE MAXIMUM DEPTH AT THE SHALLOW END SHALL NOT EXCEED 42".
- 5. PROVIDE RECESSED DEVICE FOR FASTENING SAFETY ROPES AT TRANSITION POINTS IN THE POOL OR WHERE THE WATER DEPTH REACHES 5 FEET. LOCATE FASTENING DEVICES 1 FEET TOWARD THE SHALLOW SIDE.
- PROVIDE COVE RADIUM OF 1" MINIMUM TO 8" MAXIMUM WHERE THE WATER DEPTH IS 6 FEET

- 1. PROVIDE SOUTHERN GROUTS AND MORTARS, INC / SGM DIAMOND BRITE (TM) EXPOSED AGGREGATE FINISH, MADE WITH 100% QUARTZ AGGREGATE AND POLYMER MODIFIED
- 2. COLOR TO BE SELECTED BY OWNER, COLOR SHALL BE LIGHT REFLECTIVE MEETING CITY OF LEE'S SUMMIT, MISSOURI STANDARDS. COLOR SELECTED BY OWNER IS SUPER BLUE.
- 3. INSTALL PLASTER SYSTEM PER MANUFACTURERS REQUIREMENTS BY AN EXPERIENCED

#### WALKWAYS & DECKS

- 1. PROVIDE A CLEAR, UNOBSTRUCTED WALK OR DECK AROUND THE ENTIRE PERIMETER OF THE
- 2. SLOPE THE DECK AWAY FROM THE POOL A MINIMUM OF  $\frac{1}{4}$ " PER FOOT.
- 3. WHERE DECK DRAINS ARE USED, THE TRIBUTARY AREA SHALL NOT EXCEED 400 SQUARE FEET OF DECK SURFACE.
- 4. USE CLASS A CONCRETE (AE) THROUGHOUT. F'C = 4,000 PSI, BROOM FINISH SURFACE,
- 5. EXPANSION AND CONTRACTION JOINTS TO BE SPACED AT A MAXIMUM 10' ON CENTER, UNLESS SHOWN OTHERWISE.

#### POOL LADDERS AND STAIRS

- 1. PROVIDE 2 MEANS OF EGRESS LOCATED AT OPPOSITE ENDS OF THE POOL.
- 2. PROVIDE 4 MEANS OF EGRESS WHERE POOL WIDTHS ARE 30 OR GREATER.
- 3. THE DISTANCE FROM ANY POINT IN THE SWIMMING POOL TO A MEANS OF EGRESS SHALL NOT EXCEED 50 FEET.
- 4. STEPS OR LADDER TREADS SHALL BE NON-SLIP.
- 5. STEPS SHALL HAVE 12" MINIMUM TREADS AND HAVE10" MAXIMUM RISERS IN ACCORDANCE WITH ANSI/APSP-1 2003 STANDARD FOR PUBLIC SWIMMING POOLS.
- 6. STEPS SHALL BE PROVIDED WHERE THE WATER DEPTH IS 42 INCHES OR LESS.
- 7. PROVIDE ONE HANDRAIL PER 12 FEET OF STEP WIDTH OR FRACTION THEREOF.

#### ELECTRICAL

- 1. ALL ELECTRICAL WIRING SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE,
- 2. UNDERWATER LIGHTING SHALL PROVIDE 0.5 WATTS PER SQUARE FOOT OF POOL SURFACE AREA, LIGHTING ALL PORTIONS OF THE POOL. LIGHTING CIRCUIT TO BE GFIC.
- 3. PROVIDE DECK LIGHTING OF 0.6 WATTS PER SQUARE FOOT OF DECK AREA IF POOL LIGHTING IS USED AND 2.0 WATTS PER SQUARE FOOT OF DECK ARE IF POOL LIGHTING IS NOT USED.
- 4. ALL ELECTRICAL LIGHTING FIXTURES, RECEPTACLES, SWITCHES, ETC. SHALL COMPLY WITH SECTION 680-6 OF NEC, 2011.
- 5. UNDERWATER LIGHTING FIXTURES SHALL COMPLY WITH SECTION 680-6 OF NEC, 2011.
- 6. GROUND SHALL COMPLY WITH SECTION 680-24 AND 680-25 OF NEC, 2011.
- 7. A RECEPTACLE THAT PROVIDES POWER FOR POOL OR ASSOCIATED EQUIPMENT SHALL BE PERMITTED BETWEEN 5 FEET AND 10 FEET FROM THE INSIDE WALL OF THE POOL OR HOT TUB, AND WHERE SO LOCATED, SHALL BE OF THE LOCKING (TWIST-LOCK) AND GROUNDING TYPES AND SHALL BE PROTECTED BY A GROUND FAULT CIRCUIT INTERRUPTER (GFCI). ALL OTHER RECEPTACLES SHALL BE AT LEAST 10 FEET FROM THE INSIDE WALL OF THE POOL OR HOT
- AN ADDITIONAL 125-VOLT GFCI CONVENIENCE RECEPTACLE IS REQUIRED TO BE INSTALLED WITHIN 20 FEET BUT NOT CLOSER THAN 10 FEET TO THE INSIDE WALL OF A POOL OR HOT TUB. CORD LENGTHS FOR PERMANENT POOLS SHALL NOT BE LONGER THAN 3 FEET IN LENGTH.
- 9. A DISCONNECTING MEANS SHALL BE PROVIDED AND BE ACCESSIBLE (LOCATED WITHIN SIGHT FROM ALL POOLS AND HOT TUB EQUIPMENT) AND SHALL NOT BE LOCATED WITHIN 5 FEET FROM THE INSIDE WALL OF THE POOL OR HOT TUB.
- 10. ELECTRICAL INSTALLATIONS OVER THE TOP OF A POOL OR HOT TUB OR OVER THE AREA EXTENDING 5 FEET FROM THE EDGE OF THE POOL OR HOT TUB INCLUDING UTILITIES SHALL BE REVIEWED WITH AN ELECTRICAL INSPECTOR PRIOR TO ISSUANCE OF THE PERMIT. ELECTRICAL INSTALLATIONS (INCLUDING UNDERGROUND) ARE NOT ALLOWED WITHIN 5 FEET OF A POOL.

#### BONDING

- 1. BONDING OF THE POOL SHALL COMPLY WITH SECTION 680-022 OF NEC, 2011.
- 2. ALL METAL PARTS OF A POOL AND ITS ASSOCIATED METALLIC EQUIPMENT, METAL PIPING, RACEWAYS, FIXED METAL LADDERS, TOWERS, PLATFORMS, DIVING STRUCTURES, DOOR FRAMES, ETC. THAT ARE NOT SEPARATED FROM THE POOL BY A PERMANENT BARRIER AND LOCATED WITHIN 5 FEET OF THE POOL, MUST BE BONDED WITH A #8 SOLID COPPER CONDUCTOR. THIS CONDUCTOR IS NOT REQUIRED TO BE EXTENDED OR ATTACHED TO ANY REMOTE PANEL BOARD, SERVICE EQUIPMENT OR ELECTRODE (GROUND ROD) IT IS ONLY INTENDED TO BOND THESE METALLIC PIECES TOGETHER.

#### POOL OUTLETS

- 1. POOL OUTLETS OPENINGS MUST BE COVERED BY GRATING THAT CAN ONLY BE REMOVED WITH THE USE OF A TOOL. COMPLYING WITH ANSI/APSP-7 2006, STANDARD FOR SUCTION ENTRAPMENT AVOIDANCE AND THE VIRGINIA GRAEME BAKER POOL AND SPA SAFETY ACT (VGB ACT) AND CURRENT CONSUMER PRODUCT SAFETY COMMISSION (CPSC) INTERPRETATIONS.
- MAIN DRAIN DISCHARGE PIPING SHALL BE SUFFICIENT FOR REMOVAL OF THE WATER THROUGH IT AT A RATE OF AT LEAST 50% OF THE SWIMMING POOL DESIGN RECIRCULATION FLOW RATE.

- 3. PROVIDE VALVES IN THE PIPING SYSTEM TO PERMIT FLOW ADJUSTMENT.
- 4. PROVIDE ADJUSTABLE DIRECTION SKIMMERS.
- 5. PROVIDE A MINIMUM OF 1 SKIMMER FOR EVERY 400 SQUARE FEET OF POOL SURFACE AREA.
- 6. THE VELOCITY OF FLOW THROUGH SKIMMERS SHALL BE IN THE RANGE OF 10-15 FEET/SECOND.

#### POOL INLETS

- PROVIDE ADJUSTABLE FLOW INLETS.
- 2. THE VELOCITY OF FLOW THROUGH ANY INLET ORIFICE SHALL BE IN THE RANGE OF 5-15
- 3. LOCATE INLETS A MINIMUM OF 12 INCHES BELOW THE DESIGNED WATER LEVEL IF LOCATED ON THE POOL WALL.
- 4. PROVIDE A MINIMUM OF 1 INLET FOR EVERY 300 SQUARE FEET OF POOL SURFACE AREA.

#### PUMPING EQUIPMENT

- 1. PUMPS SHALL BE CAPABLE OF SUPPLYING A MINIMUM BACKWASH RATE OF 15 GALLONS PER SQUARE FOOT OF FILTER AREA PER MINUTE.
- 2. THE RECIRCULATING PUMP AND MOTOR SHALL HAVE SUFFICIENT CAPACITY TO PROVIDE THE TURNOVER REQUIRED AGAINST THE MAXIMUM HEAD LOSS WHICH MAY DEVELOP UNDER NORMAL OPERATING CONDITIONS.
- 3. PROVIDE A SELF-PRIMING PUMP WHERE THE PUMP IS LOCATED AT AN ELEVATION HIGHER
- 4. PROVIDE A STRAINER BASKET AT THE PUMP TO FILTER HAIR AND LARGE PARTICLES.

#### **FILTERS**

- 1. PROVIDE REMOVABLE FILTER HEADS FOR INSPECTION AND REPLACEMENT OF FILTER MEDIA.
- 2. THE MAXIMUM SHUT-OFF HEAD OF THE PUMP SHALL NOT BE LESS THAT 50 POUNDS PER SQUARE INCH.
- MARK VALVES FOR EASY IDENTIFICATION.
- 4. VALVE FILTER PIPING TO ALLOW FOR REPAIRS WHILE OTHER UNITS ARE IN SERVICE.
- 5. PROVIDE CARTRIDGE FILTER SYSTEM.

#### PIPING SYSTEM

- 1. ALL POOL PIPING SHALL BE OF MATERIAL APPROVED FOR POTABLE WATER USE BY THE AMERICAN WATER WORKS ASSOCIATION.
- 2. BRANCH WATER UTILITY SERVICE LINES 2" AND SMALLER SHALL CONFORM TO THE LATEST FEDERAL SPECIFICATIONS FOR TYPE "K" FLEXIBLE COPPER TUBING.
- 3. POOL SERVICE LINES LARGER THAN 2" SHALL BE SCHEDULE 80 PVC
- 4. ALL WATER INSTALLATIONS INCLUDING BACKFLOW DEVISES ARE SUBJECT TO FIELD VERIFICATION AND APPROVAL BY THE WATER DEPARTMENT OR BUILDING INSPECTOR.
- 5. PIPING SHALL HAVE THE ABILITY TO WITHSTAND FOUR TIMES THE OPERATING PRESSURE.
- 6. PIPING SHALL BE PROPERLY SLOPED FOR ADEQUATE DRAINAGE AND SUPPORTED AN INTERVALS TO PREVENT SAGGING BETWEEN SUPPORTS.
- 7. PROVIDE FOR EXPANSION OF PIPES.
- 8. PROVIDE FOR CLEANOUTS IN THE CIRCULATION SYSTEM.
- 9. ALL PLASTIC (PVC) PIPING MUST HAVE THE NATIONAL SANITATION FOUNDATION (HSF) SEAL IMPRINTED ON IT.
- 10. USE FLANGE JOINTS OR UNION FOR EXPOSED PIPING IN THE FILTER ROOM.
- 11. COLOR CODE PIPING AS FOLLOWS: POTABLE WATER LINES: DARK BLUE RECIRCULATION •• FILTERED AQUA SKIMMER OLIVE GREEN MAIN DRAIN WASTE LINES
- BACKWASH WASTE DARK BROWN DARK GRAY SEWER 9. MAKEUP WATER SHALL BE ADDED TO THE POOL BY FREE-FALL DISCHARGE DIRECT TO THE POOL WITH AN AIR GAP OF TWO TIMES THE PIPE DIAMETER OR 6 INCHES MINIMUM ABOVE

#### THE COPING. THE DISCHARGE SHALL BE THROUGH PIPING WITH AN APPROVED VACUUM BREAKER PROTECTION.

#### DISINFECTANT SYSTEMS

- 1. PROVIDE A MECHANICAL UNIT FOR FEED OF A CHEMICAL FOR PH CONTROL.
- 2. PROVIDE A POSITIVE DISPLACEMENT TYPE CHEMICAL FEEDER TO MAINTAIN PH OF POOL WATER WITHIN THE RANGE OF 7.2 TO 7.6.

#### SIGNAGE

- 1. RULES AND REGULATIONS: POST INSTRUCTIONS TO BATHERS AT ENTRANCE TO DRESSING ROOMS PROVIDING THE FOLLOWING:
- ADMISSION TO THE POOL IS REFUSED TO ALL PERSONS HAVING ANY CONTAGIOUS DISEASE, INFECTIOUS CONDITION SUCH AS COLDS, FEVER, RINGWORM, FOOT INFECTIONS, SKIN LESIONS, CARBUNCLES, BOILS, INFLAMED EYES, EAR DISCHARGES OR ANY OTHER CONDITION WHICH HAS THE APPEARANCE OF BEING INFECTIOUS, PERSONS WITH EXCESSIVE SUNBURN, ABRASIONS THAT HAVE NOT HEALED, CORN PLASTERS BUNION PADS, ADHESIVE TAPE, RUBBER BANDAGES OR BANDAGES OF ANY KIND MAY NOT BE PERMITTED, A PERSON UNDER THE INFLUENCE OF ALCOHOL OR EXHIBITING ERRATIC BEHAVIOR SHALL NOT BE PERMITTED IN THE POOL AREA.
- NO FOOD, DRINK, GUM OR TOBACCO WILL BE ALLOWED IN OTHER THAN SPECIFICALLY DESIGNATED AND CONTROLLED SECTIONS OF THE POOL AREA.
- PERSONAL CONDUCT WITHIN THE POOL FACILITY MUST BE SUCH THAT THE SAFETY OF SELF AND OTHERS IS NOT JEOPARDIZED, NO RUNNING, BOISTEROUS OR ROUGH PLAY, EXCEPT SUPERVISED WATER SPORTS, IS PERMITTED.
- SPITTING, SPOUTING OF WATER, BLOWING THE NOSE OR OTHERWISE INTRODUCING CONTAMINANTS INTO THE POOL IS NOT PERMITTED.
- GLASS, SOAP, LOTION OR OTHER MATERIAL, WHICH MIGHT CREATE HAZARDOUS CONDITIONS OR INTERFERE WITH EFFICIENT OPERATION OF THE SWIMMING POOL SHALL NOT BE PERMITTED IN THE SWIMMING POOL OR ON THE POOL DECK.
- ALL APPAREL WORN IN THE POOL SHALL BE CLEAN AND SANITARY. STREET ATTIRE OR CUTOFFS ARE NOT ALLOWED IN THE POOL.
- CHILDREN WHO ARE NOT TOILET TRAINED SHALL WEAR TIGHT FITTING PLASTIC UNDERWEAR OR SWIM DIAPERS.
- DIVING IS NOT PERMITTED IN SHALLOW WATER.

- ALL ANIMALS, BIRDS AND DOMESTIC FOUL ARE PROHIBITED FROM ENTERING THE POOL
- THE POOL SHALL CLOSE AT 10:00 PM. CHILDREN UNDER THE AGE OF 12 WITHOUT ADULT SUPERVISION WILL NOT BE ALLOWED.
  - THE POOL LIFELINE SHALL NOT BE REMOVED WITHOUT PERMISSION FROM THE POOL
- 2. BATHER LOAD POST A SIGN IN A CONSPICUOUS LOCATION WITHIN THE POOL ENCLOSURE STATING: "BATHER LOAD: 216

#### **ADDITIONAL SIGNS**

- WARNING NO LIFE GUARD ON DUTY
- NO DIVING (SIGN TO BE POSTED ON WALL AND DECK)
- EMERGENCY USE ONLY (SIGN TO BE POSTED ABOVE SAFETY EQUIPMENT)
- 911 (SIGN POSTED ABOVE EMERGENCY TELEPHONE)
- HOURS OF OPERATION:
- POOL PERMIT
- ADDITIONAL SIGNAGE MAY BE REQUIRED BY THE OWNER, COORDINATE ALL SIGNAGE WITH THE OWNER PRIOR TO FABRICATION
- DEPTH MARKERS
- a. DEPTH MARKERS SHALL BE IN NUMERALS FOLLOWED BY THE LETTERS "FT" TO INDICATED FEET, MARKERS SHALL BE 4" MINIMUM IN HEIGHT AND BE A COLOR CONTRACTING WITH THE BACKGROUND.
- b. DEPTH MARKERS SHALL BE SET IN INLAID TILE.
- c. Markers shall be located on both sides and both ends of the pool.
- d. MARKERS SHALL BE LOCATED AT OR ABOVE THE WATER LINE ON THE POOL WALL AND ON THE COPING.
- MARKERS SHALL BE LOCATED AT MAXIMUM AND MINIMUM DEPTH POINTS OF THE POOL AND AT THE POINTS OF BREAK BETWEEN THE DEEP AND SHALLOW PORTIONS AT INTERMEDIATE INCREMENTS OF DEPTH, SPACE AT NOT MORE THAN 25 FOOT INTERVALS, OR AS NOTED ON PLANS.

#### CONDUIT

FOR FLEXIBLE CONNECTIONS TO SWIMMING POOL, SPA, AND HOT TUB MOTORS PER NEC680.21(A)(3) & 680.42(A)(1)

TITAN TYPE CB IS MANUFACTURED WITH A SPIRAL-WOUND STRIP OF HEAVY GAUGE, CORROSION RESISTANT, HOT-DIPPED GALVANIZED STEEL. FOR 3/8" THROUGH 1-1/4" TRADE SIZES, THE CORE IS CONSTRUCTED WITH A SQUARE-LOCKED STEEL STRIP WITH AN INTEGRAL COPPER-BONDING STRIP ENCLOSED WITHIN THE STEEL CONVOLUTIONS. FOR 1-1/2" THROUGH 4" TRADE SIZES, THE CORE IS CONSTRUCTED WITH A FULLY-INTERLOCKED STEEL STRIP. A RUGGED, FLAME-RETARDANT, FLEXIBLE PVC JACKET IS EXTRUDED OVER THE STEEL CORE. THE BLUE JACKET RESISTS OILS, MILD ACIDS, AND EXPOSURE TO SUNLIGHT. OTHER JACKET COLORS ARE AVAILABLE.

- BLUE COLOR, A PROTECTIVE THERMOPLASTIC OUTER JACKET WHICH SEALS OUT WATER, LIQUIDS, ABRASIVES, ALCOHOL, COOLANTS, CORROSIVE FUMES AND GASES, DIRT, GREASE, MINERAL ACIDS, NON-CONCENTRATED FIXED ALKALINES, PETROLEUM OILS, SALT AIR AND SPRAY, AND WEATHER.
- SMOOTH METAL INTERIOR FOR EASY WIRE PULLING
- UV SUNLIGHT-RESISTANT JACKET
- RATED FOR TEMPERATURE RANGE OF -30°C TO +80°C, 60°C OIL (-22°F TO +176°F,
- ACCEPTS STANDARD METALLIC LIQUID TIGHT FITTINGS
- RATED FOR DIRECT BURIAL APPLICATIONS

#### STANDARDS

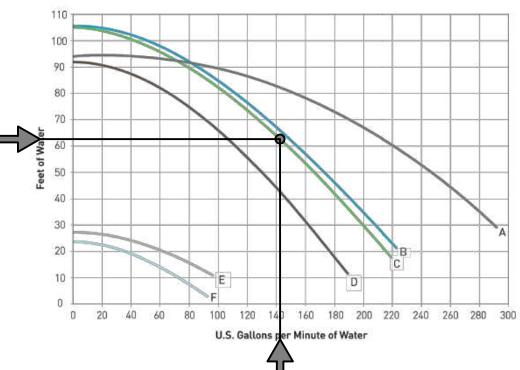
- NEC TYPE DESIGNATION TYPE LFMC (LIQUID TIGHT FLEXIBLE METAL CONDUIT)
- ANSI/NFPA-70, NEC ARTICLE 350

SECTION 12-1300

• UL LISTED TO UNDERWRITERS LABORATORIES STANDARD ANSI/UL-360 FOR LIQUID TIGHT FLEXIBLE STEEL CONDUIT

• CSA LISTED TO CSA 22.2 NO.56 FOR USE PER THE CANADIAN ELECTRICAL CODE C22.1

#### PERFORMANCE CURVES



Performance Curve	Model	Description
Α	XFE-20	5 HP, High Efficiency
A	XFK-20	5 HP, 3-Phase, TEFC Motor
В	XFE-12	3 HP, High Efficiency
С	XF-12	3 HP, Standard Efficiency
B,E	XFDS-12	3 HP, 2-Speed
В	XFK-12	3 HP, 3-Phase, TEFC Motor
D	XFE-8	2 HP, High Efficiency
D	XF-8	2 HP, Standard Efficiency
D,F	XFDS-8	2 HP, 2-Speed
D	XFE-30	2.5 HP, High Efficiency, Uprated
D	XF-30	2.5 HP, Standard Efficiency, Uprated
D,F	XFDS-30	2.5 HP, 2-Speed, Uprated
D	XFK-8	2 HP, 3-Phase, TEFC Motor

FIRE SEPARATION DISTANCE PLUMBING FIXTURES REQUIRED RE: POOL CALCULATIONS <u>IOTE: REFER TO BUILDING PLANS FOR LOCATION AND SIZE OF RESTROOMS</u> POOL CALCULATIONS - OSAGE

CODE ANALYSIS

OCCUPANCY GROUP/POOL HOUSE

ALLOWABLE NUMBER OF STORIES

RE: BUILDING PLANS

RE: POOL CALCULATIONS

E: BUILDING PLANS

OCCUPANCY GROUP/POO

OCCUPANT LOAD FOR POOL:

ACTUAL NUMBER OF STORIES

ALLOWABLE BUILDING HEIGH

ACTUAL TRAVEL DISTANCE:

ALLOWABLE EXIT TRAVEL DISTANCE

SEPARATED OR NON-SEPARATED DESIGN

Min. Flow Rate (GPM)

flow rate per pump

RETURN INLETS

REQUIRED NUMBER OF EXITS

ACTUAL NUMBER OF EXITS

ACTUAL BUILDING HEIGHT

REQUIRED EXIT WIDTH:

ACTUAL EXIT WIDTH:

SPRINKLERED:

BUILDING DATA

AND ORDINANCES

POOL FINISHES

PROJECT DESCRIPTION: SWIMMING POOL

INTERNATIONAL BUILDING CODE, 2018 EDITION

INTERNATIONAL MECHANICAL CODE, 2018 EDITION

• INTERNATIONAL PLUMBING CODE, 2018 EDITION

INTERNATIONAL FIRE CODE, 2018 EDITION

NATIONAL ELECTRICAL CODE, 2017 EDITION

INTERNATIONAL FUEL GAS CODE, 2018 EDITION

INTERNATIONAL ENERGY CONSERVATION CODE, 2018 EDITION

ANSI/APSP-1 2003 STANDARD FOR PUBLIC SWIMMING POOLS

PHYSICALLY HANDICAPPED PEOPLE, 2017 EDITION.

TOTAL STEP TILE: 2" X 2" COLOR SELECTED BY OWNER

TOTAL COPING PERIMETER: 248 L.F. PRECAST CONCRETE

ICC/ANSI-A117.1: PROVIDING ACCESSIBILITY AND USABILITY FOR

WATER LINE TILE SELECTION: 6" X 6" FROST PROOF, COLOR SELECTED BY OWNER

PLUMBING / POOL EQUIPMENT (NSF APPROVED)

POOL FILTER: PENTAIR CLEAN AND CLEAR PLUS CARTRIDGE FILTER SYSTEM - CCP420

CARTRIDGE (PROVIDE SECONDARY CARTRIDGE TO ENSURE PROMPT

LIGHTS: 500 WATT, 12 VOLT, 50FT CORD (PENTAIR INTELLIBRITE - 601306) WHITE POOL LIGHTS

FRESHWATER SOURCE: IN-LINE FILL WITH USC APPROVED RPZ BACKFLOW PREVENTER

300 WATT, 12 VOLT, 100FT CORD (PENTAIR GLOBRITE - 602106) WHITE LED LIGHTS

NOTE: ALL EQUIPMENT WILL BE INSTALLED IN ACCORDANCE

VACUUM CLEANING SYSTEM: MANUAL VACCUM CLEANING SYSTEM

CONNECTED TO THE SKIMMERS

REPLACEMENT WHEN NECESSARY

HANDRAIL ANCHOR: (S.R.SMITH - AS-100C 3" BRONZE ANCHOR)

BACKWASH TO: NOT REQUIRED, CARTRIDGE FILTERS ARE USED

DELUXE CLEANING KIT: (1) - (TAILOR - COMPLETE (K-2005)

RING BOUY: (1) - WITH 50 FT LINE (CAL-JUNE - #GW 20)

LADDER: S.R.SMITH - LF-24-3B SEALED STEEL SALTWATER FRIENDLY

FLOW METER: 4" FLOW METER #3040P, 125-500 GMP MAX, NSF-50 LISTED

VALVES: (TELEDYNE LAARS -JANDY VALVE - 2 1/2 X 2")

POOL PUMP: PENTAIR WHISPERFLO XFE-12, 3 HP

HYDROSTATIC RELIEF VALVE: PENTAIR - 542020

HANDRAILS: (S.R.SMITH - 3HR-6-065)

MAIN DRAIN POOL: AQUASTAR Model # WAV9WRxxxB

ESCUTCHEON PLATES: (6) (S.R.SMITH,INC. - EP-100F)

LIFE HOOK: (1) - (RAINBOW - R221026)

NOTE: THE POOL DECK WILL BE NON-SLIP

DRAIN PIPE: SDR 80 PVC (4")

IRRIGATION SLEEVES (4"): N/A

AND SLOPE 1/4" PER FOOT AWAY FROM THE POOL

DECK TYPE: CONCRETE WITH LIGHT BROOM FINISH

STRIP DRAIN: NIC - RE: CIVIL DRAWINGS FOR LOCATION AND TYPE

PERMANENTLY ATTACHED TO 16' POLE

FIRST AID KIT: (1) (E.R.B ADVANCED SAFETY - #25EP)

POOL HEATER: NOT PROVIDED

LIFE SAVING EQUIPMENT:

DECKING

POOL PUMP

SCALE: NTS

WITH MANUFACTURERS' RECOMMENDATIONS.

INLETS: STA-RIGHT- 08417-0000

SKIMMERS: STA-RIGHT - 08650-1403

ACID FEEDER: PENTAIR INTELLICHEM

TEST KIT: LAMOTTE 2056 COLORQ PRO 7

CHLORINATOR: PENTAIR INTELLICHLOR IC40

• CITY OF LEE'S SUMMIT, MISSOURI APPLICABLE CODES, STANDARDS

POOL MEASUREMENTS				
Description	Area (SF)	Avg Depth (FT)	Volume (GAL	
Deep Pool	2100	4	63,000.00	
Kid Pool	276	1.5	3,105.00	
Sun Shelf	322	1	2,415.00	
Total Area (SF)			2,698	
Total Volume (GAL)			68,520	
Total Volume (cubic FT)			9,136	
Perimeter (LF)			252	
	POOL PLUMBIN	G		
Pool Capacity (GAL)			68,520	
Average Turnover Rate (min)			240	
Olean Data			260	

Inlet Rate (gpm)

inc. rate (gpin)		· (gpiii)	III. IIIICIS	
	30	)	10	
SKIMMERS	Skimmer Rate (gpm)		No. Skimmer	
based on gpm	45	i	7	
based on sf of surface area	400	0	6.745	
EST	IMATED HEAD CALC	ULATIONS		
FLOW RATE (GPM)	286	Friction Loss		
PIPE LENGTH AND RISE	/100 FT			
Feet of Head			5	
3" Pipe - LF*	7.96	1.9	15.12	
VALVES AND TURNS	QTY			
90deg Elbow*	28	1.3	36.40	
45deg Elbow*	49	0.35	17.15	
Gate Valve*	7	4.5	31.50	
Tee*	10	0.4	4.00	
CARTRIDGE FILTER	2	7.5	15.00	
HEATER	0	7.5	0.00	
* estimated count		TOTAL	124.17	
PUMPS	2	PER PUMP	62.09	

	POOL EQUIPMEN	T		
POOL PUMP	Pump Rate	(GPM)	No. Pumps	
PENTAIR XFE-12, 3 HP	145		2	
FILTER TYPE	Filtration	Rate	Filter Area-Mi	
Cartridge Filter	0.37	5	762.67	
PENTAIR CCP - 420	420	sf of area	2	
CHLORINATOR	Capacity	(Gal.)	Cells	
PENTAIR INTELLICHLOR IC40	40,000		2	
	POOL LIGHTING			
FIXTURE	WATTS	QTY		
PENTAIR INTELLIBRITE	500	3	1500	
PENTAIR GLOBRITE	300	4	1200	
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	WATTS/SF	1.00	
000	CUPANT LOAD AND	EXITING		
BATHER LOAD	Area (SF)	Ratio	Bather Load	

BATHER LUAD	Area (SF)	Hatto	Bather Loa
Deep area (>5')	0	1/30	0
Shallow Area (<=5')	2,698	1/15	180
Total Bather Load			180
OCCUPANT LOAD	Area (SF)	SF/person	Occ. Load
In Pool	2,698	50	54
In Deck	4,312	50	87
Total Occupant Load			141
Occupant Load per Sex			71

POOL DESIGNER: **B&A ARCHITECTURE** 100 W 31ST STREET, SUITE 100 KANSAS CITY, MO 64108 PH: 816-753-6100

CLIENT: SUMMIT HOMES

SOM

286

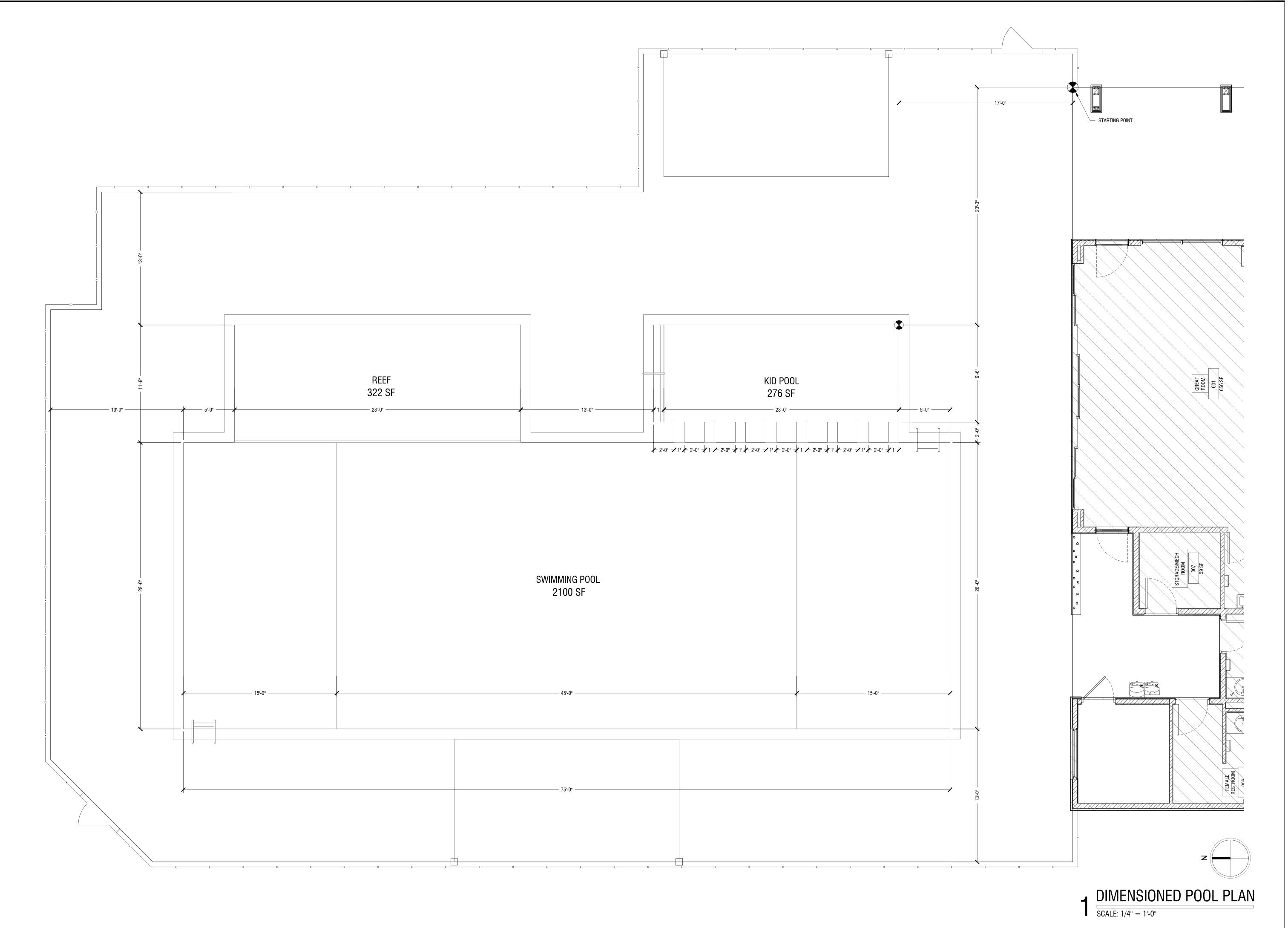
143.00

No. Inlets

ISSUED: JULY 31, 2020				
NO.	REVISION	DATE		

DESIGNED BY DMB DRAWN BY DMB CHECKED BY DMB

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POOL DESIGNER:

B&A ARCHITECTURE

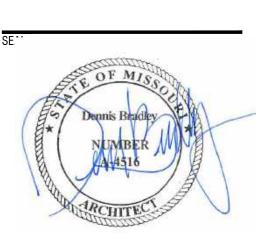
100 W 31ST STREET, SUITE 100

KANSAS CITY, MO 64108

PH: 816-753-6100

CLIENT: SUMMIT HOMES

> SWIMMING POOL 2025 SW M 150 HWY



NO.	REVISION	DA
DESIGNE	D BY DMB	

DESIGNED BY DMB
DRAWN BY DMB
CHECKED BY DMB

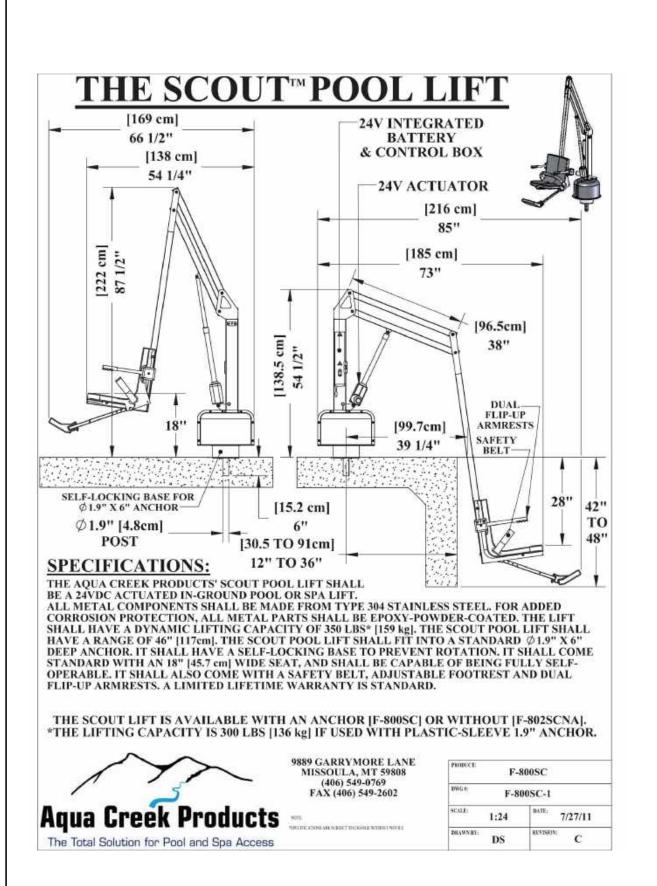
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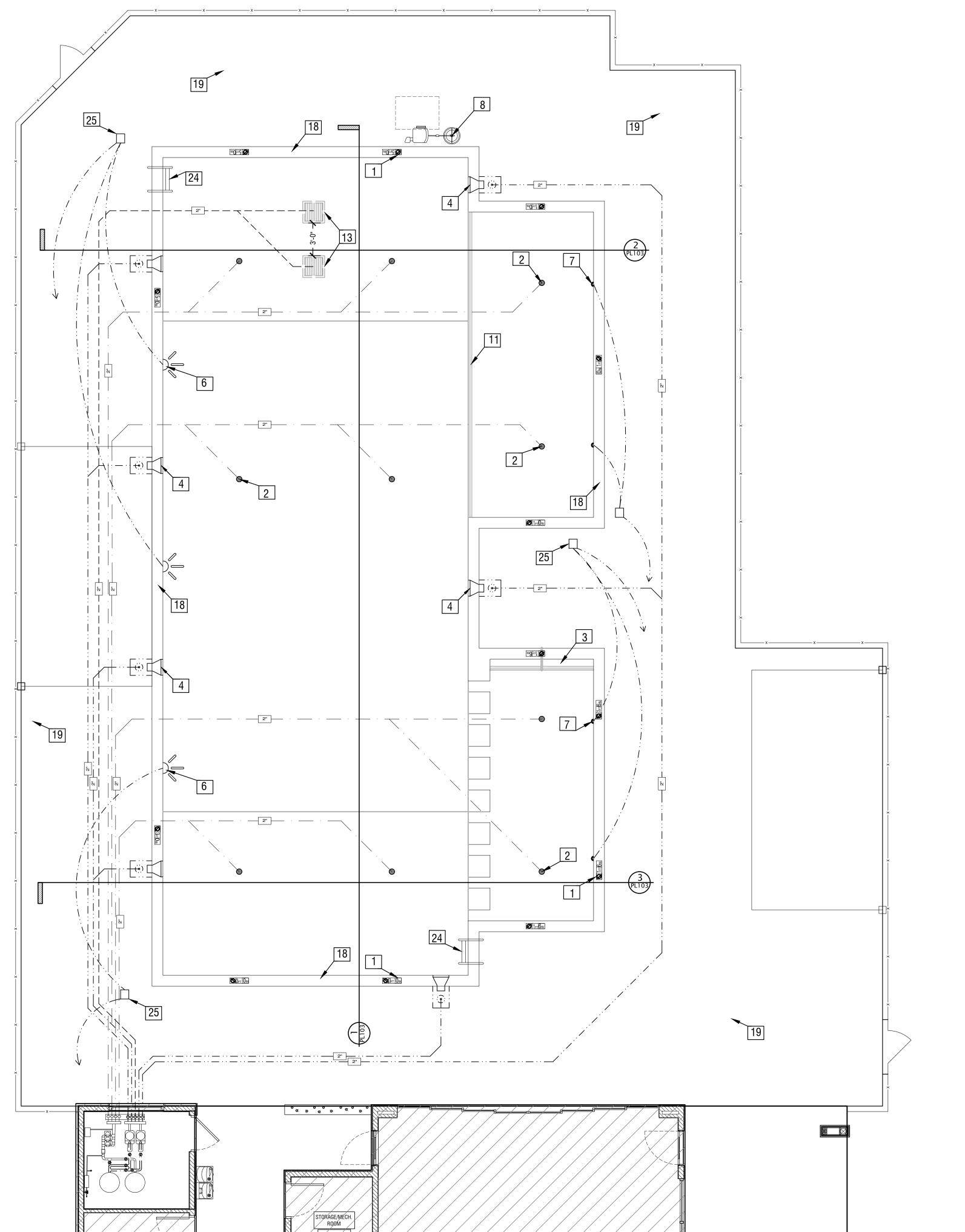
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PL101

## **GENERAL NOTES**

- 1. THE WORK SHALL CONFORM TO THE APPLICABLE BUILDING CODE, AND OTHER ORDINANCES, CODES AND REGULATIONS LISTED IN THE SPECIFICATIONS OR ON THE DRAWINGS, AND REQUIRED BY LOCAL BUILDING AUTHORITIES. THE GOVERNING CODES, RULES AND REGULATIONS ARE COLLECTIVELY REFERRED TO AS 'THE CODE'. THE CONTRACTOR SHALL REPORT ANY INCONSISTENCIES, CONFLICTS OR OMISSIONS THEY MAY DISCOVER TO THE ARCHITECT FOR INTERPRETATION PRIOR TO PERFORMING THE WORK.
- 2. THE CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL PROVIDE PUBLIC PROTECTION AS NECESSARY AND REQUIRED BY GOVERNING CITY AGENCIES.
- 3. THE GENERAL CONTRACTOR IS RESPONSIBLE TO COORDINATE WORK OF ALL SUB-CONTRACTORS AND SHALL PERFORM SUCH MISCELLANEOUS WORK AS MAY BE NECESSARY FOR THEM TO COMPLETE THEIR WORK.
- 4. THE GENERAL CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS ON THE JOB SITE AND REPORT ANY AND ALL DISCREPANCIES AND/OR UNUSUAL CONDITIONS TO THE ARCHITECT PRIOR TO FINALIZING BIDS OR COMMENCEMENT OF ANY CONSTRUCTION.
- 5. ALL REQUIRED PERMITS MUST BE OBTAINED FROM THE PUBLIC WORKS, BUILDING, AND HEALTH DEPARTMENTS PRIOR TO START OF CONSTRUCTION.
- 6. THE GENERAL CONTRACTOR SHALL OBTAIN ALL PERMITS FOR ALL SITE DEVELOPMENT WORK, PAY ALL FEES FOR PERMITS, AND CHECK ALL OVERNING AUTHORITIES' SPECIFICATIONS FOR GUTTERS, SIDEWALKS, POLES, AND OTHER STRUCTURES, INCLUDING REMOVAL OR RELOCATION OF EXISTING UTILITIES OR OTHER PHYSICAL OBJECTS SHOWN ON PLANS OR OTHERWISE NOTED OR REQUIRED.
- 7. DO NOT SCALE THESE DRAWINGS, SHOULD ANY DIMENSIONAL DISCREPANCIES BE ENCOUNTERED, CLARIFICATIONS SHALL BE OBTAINED FROM THE ARCHITECT.
- 8. UNLESS OTHERWISE NOTED ON THESE DRAWINGS OR IN THE SPECIFICATIONS AS BEING N.I.C. OR EXISTING, ALL ITEMS, MATERIALS, ETC., AND THE INSTALLATION OF SAME ARE A PART OF THE CONTRACT DEFINED BY THESE DRAWINGS AND SPECIFICATIONS.
- 9. THE SITE AND BUILDINGS SHALL BE ACCESSIBLE TO AND FUNCTIONAL FOR THE PHYSICALLY HANDICAPPED.
- 10. ALL RAMPS SHALL HAVE A NON-SLIP FINISH.
- 11. DETAILS ARE INTENDED TO SHOW THE INTENT OF THE DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT THE FIELD DIMENSIONS OF CONDITIONS AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK OF THE CONTRACT.
- 12. THE CLIENT, ARCHITECT, CONSULTANTS AND ALL INSPECTIONS FROM PERTINENT AGENCIES SHALL BE PERMITTED ACCESS TO THE JOB SITE AT ALL TIMES DURING NORMAL WORKING HOURS.
- 13. THE CONTRACTOR SHALL VERIFY INSERTS AND EMBEDDED ITEMS WITH ALL APPLICABLE DRAWINGS BEFORE POURING CONCRETE.
- 14. REFER MECHANICAL, ELECTRICAL, PLUMBING AND CIVIL DRAWINGS FOR UTILITY SERVICES AND SITE DEVELOPMENT WORK.





### GENERAL NOTES

- 1. DEPTH MARKERS W/ NO DIVING TILE ON COPING (HORIZ SURFACE) AND POOL WALL FACE (VERT. SURFACE)
- 2. FLOOR RETURNS
- 3. POOL STEPS
- 4. SKIMMERS
- 5. FIBERGLASS POOL SLIDE w/ LADDER, BY OTHERS
- 6. 12" LED 120V
- 7. PENTAIR LED GLO-BRITES
- 8. HANDI-CAP LIFT
- 9. LANE LINE W/ CUP ANCHORS AT EACH END
- 10 LANE MARKING PORCELAIN TILE, 6 X 6, COLOR SELECTED BY OWNER
- 2" CONTRASTING TILE ON FACE AND TOP EDGE AT STEPS AND WHERE ELEVATION CHANGE OCCURS IN POOL TILE COLOR SELECTED BY OWNER FROM STANDARD NON-SLIP COLORS
- 12 STAINLESS STEEL HANDRAIL WITH PVC SLEEVES
- 13 ANTI-VORTEX DUAL FLOOR DRAINS
- 14 #4 REBAR AT 12" O.C.E.W.
- 15 12" OF  $\frac{1}{2}$ " CLEAN GRAVEL
- 16 6X6 WATER LINE TILE
- BOND BEAM 12" X 20", MIN. UNLESS NOTED OTHERWISE
- 18 BULLNOSE CANTILEVERED PRECAST CONCRETE COPING
- 19 DECK BY OTHERS, SLOPE AWAY FROM POOL
- 20. 6" CONCRETE BLOCK
- 21. POOL PLASTER
- 22. WATER TARGET AT EACH END OF SWIMMING LANES
- 23. HYDROSTATIC RELIEF VALVE
- 24. STAINLESS STEEL POOL LADDER
- 25. J-BOX FOR POOL LIGHTING

#### NOTES

IBC 2012 SECTION 3109: SWIMMING POOL ENCLOSURES AND SAFETY DEVICES

3109.5 ENTRAPMENT AVOIDANCE SUCTION OUTLETS SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH ANSI/APSP-7.

## NOTES

THE POOL CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING, VERIFYING, SUPPLYING AND INSTALLING THE EQUIPMENT, INCLUDING PUMPS, FILTERS, PIPING, INLETS, SKIMMERS, DRAINS, APPROPRIATELY SIZED FOR THE SIZE OF POOL DESIGNED. THE EQUIPMENT SHALL BE SIZED TO OPTIMIZE THE LIFE OF THE EQUIPMENT AND EFFICIENCY OF THE SYSTEM AND STILL MEET THE REQUIREMENTS OF A SAFE AND CLEAN POOL.

THE POOL CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING THE REQUIREMENTS OF THE CITY OF LEE'S SUMMIT, MISSOURI; JACKSON COUNTY HEALTH DEPARTMENT, AND THE STATE OF MISSOURI ORDINANCES AND CODES REGARDING THE CONSTRUCTION OF PUBLIC SWIMMING POOLS

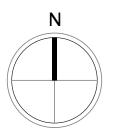
## NOTES

WINTERIZATION OF POOL OR DRAINING OF POOL FOR MAINTENANCE: POOL SHALL BE DE-CHLORINATED PRIOR TO DRAINING FOR WINTER MONTHS. STOP ADDING CHLORINE TO THE POOL FOR A PERIOD OF 4-5 DAYS, MONITOR THE CHLORINE LEVEL WITH A SWIMMING POOL CHLORINE TEST KIT. WHEN THERE IS NO LONGER ANY DETECTABLE CHLORINE IN THE SWIMMING POOL IT IS SAFE TO DISCHARGE THE WATER. USING A SUBMERSIBLE PUMP, DRAIN POOL TO LANDSCAPED AREAS. THE DISCHARGE AREA SHALL BE IDENTIFIED ON THE CIVIL SITE DRAWINGS.

NOTE: THE POOL LIFT WILL BE REQUIRED TO BE INSTALLED BY TEMPORARY CERTIFICATE OF OCCUPANCY (TCO) RELEASE.

1 DETAILED POOL PLAN

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





POOL DESIGNER:

B&A ARCHITECTURE

100 W 31ST STREET, SUITE 100

KANSAS CITY, MO 64108

PH: 816-753-6100

CLIENT: SUMMIT HOMES

> SWIMMING POOI 2025 SW M 150 HWY LEE'S SUMMIT, MISSOU

Dennis Bradley

NUMBER

A44516

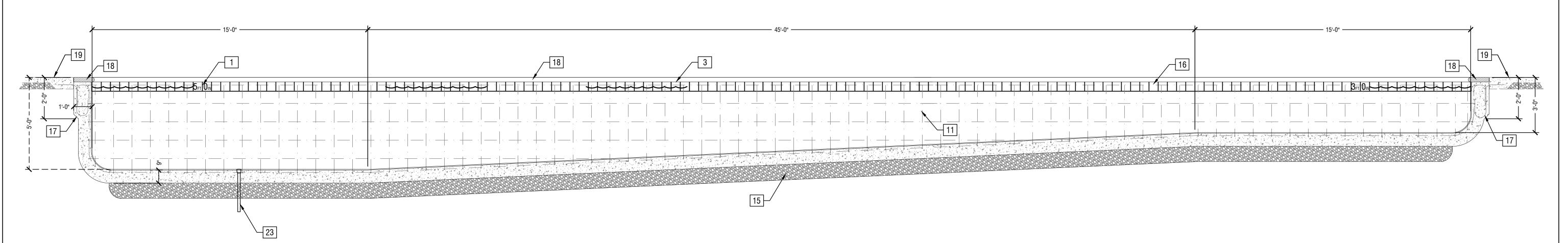
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).	REVISION	DATE

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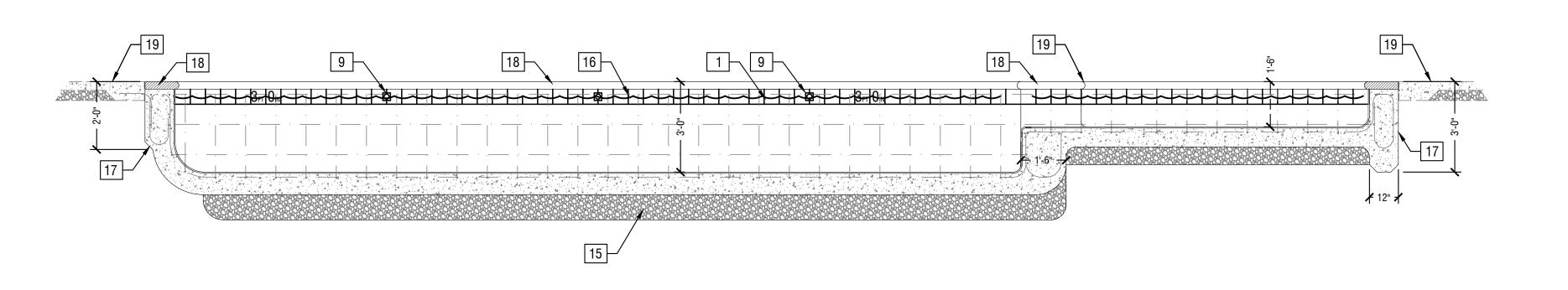
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PL102



## GENERAL NOTES

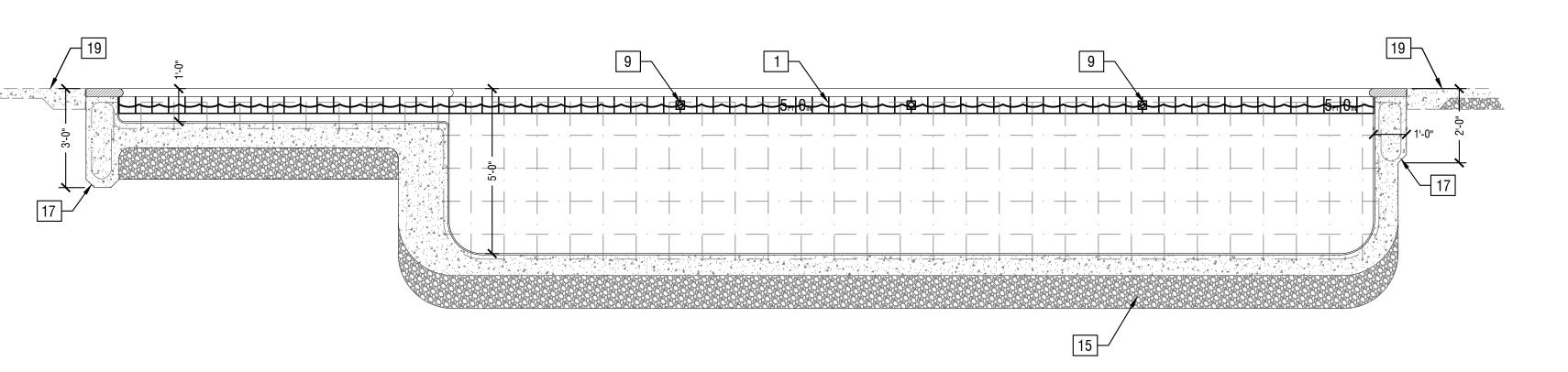
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2 POOL SECTION

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

POOL SECTION



3 POOL SECTION SCALE: 3/8" = 1'-0"



POOL DESIGNER:

B&A ARCHITECTURE

100 W 31ST STREET, SUITE 10

KANSAS CITY, MO 64108

PH: 816-753-6100

CLIENT: SUMMIT HOMES

> SWIMMING POOL 2025 SW M 150 HWY LEE'S SUMMIT, MISSOURI

Dennis Bradley

NUMBER

A44516

ISSUED: JULY 31, 2020

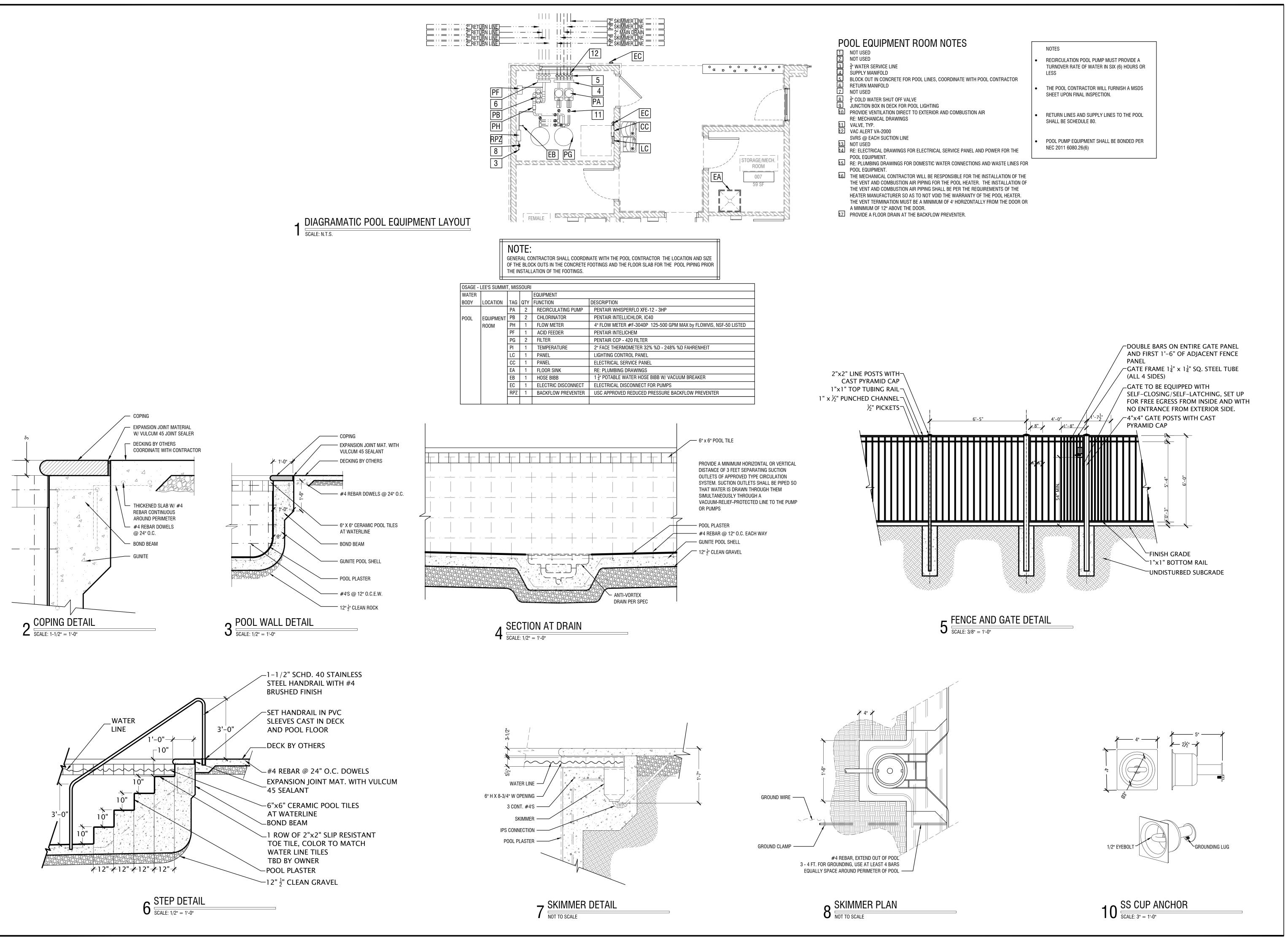
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POOL SECTIONS PL 103





POOL DESIGNER:

B&A ARCHITECTURE

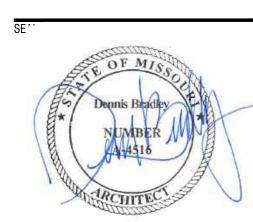
100 W 31ST STREET, SUITE 100

KANSAS CITY, MO 64108

PH: 816-753-6100

CLIENT: SUMMIT HOMES

> SWIMMING POOL 2025 SW M 150 HWY LEE'S SUMMIT, MISSOURI



ISSUED: J	JULY 31, 2020	
NO.	REVISION	DATE

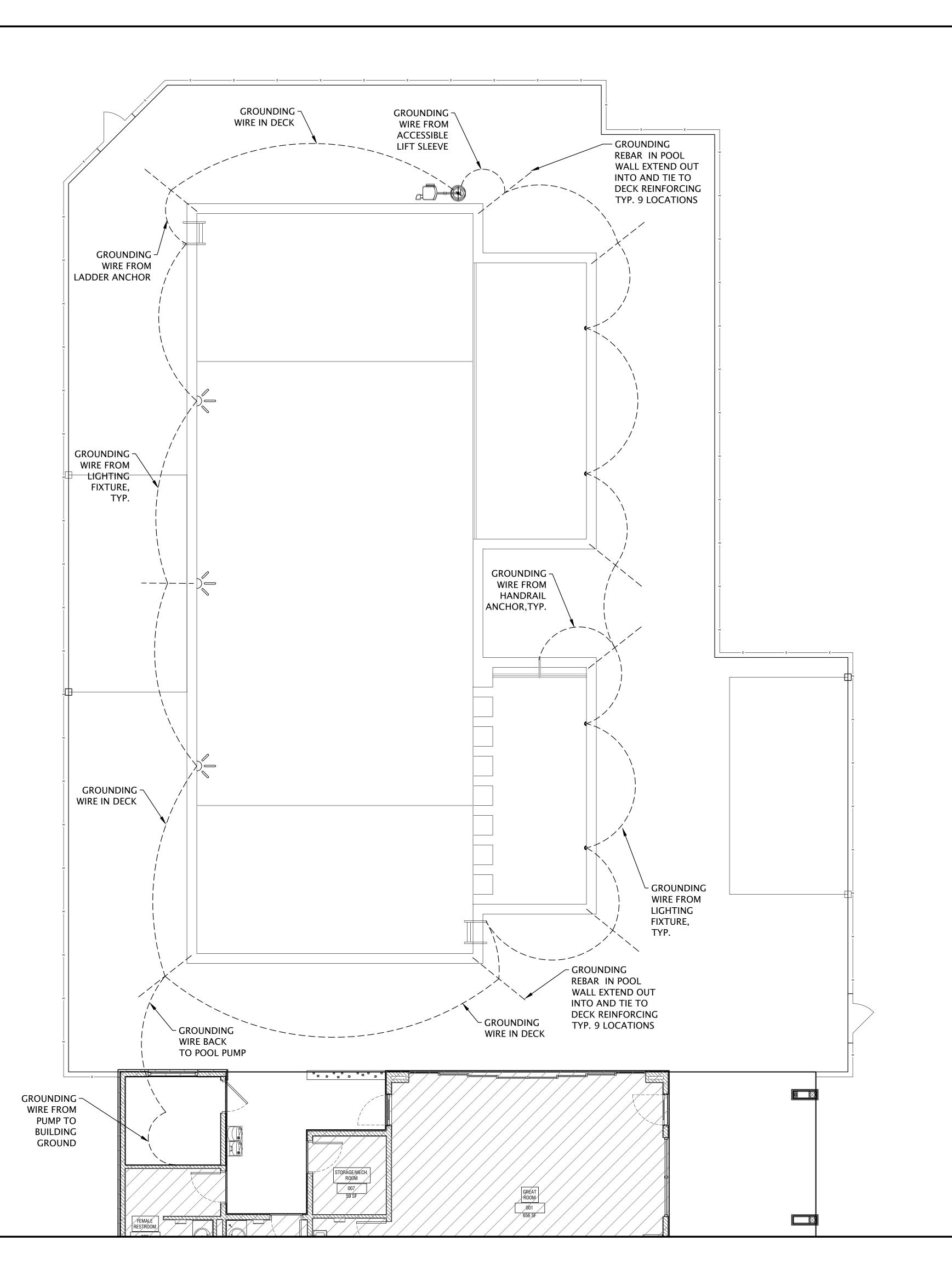
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POOL DETAILS PLANT PLANT



#### **BONDING METHODS**

TWO OPTIONS ARE PROVIDED BELOW FOR EQUIPOTENTIAL BONDING. USE OPTION ONE WHEN STEEL REBAR IS USED THAT IS ON-CONDUCTIVE. USE OPTION TWO WHEN EPOXY-COATED-REBAR IS USED.

1. INSTALL REBAR IN A GRID PATTERN, AS SHOWN, AT EACH POINT WHERE THE REBAR CROSSES, THE REBAR SHALL BE TIED TOGETHER BY STEEL TIE WIRE.THIS STEEL REBAR CAGE PROVIDES AN EQUIPOTENTIAL BONDING GRID TO WHICH ALL METAL PARTS IN THE POOL AND ANY METAL PARTS IN THE AREA SURROUNDING THE POOL SHALL BE ATTACHED USING A SOLID COPPER CONDUCTOR, NOT SMALLER THAN 8 AWB (AMERICAN GAGE WIRE)

2. THIS ALTERNATIVE-BONDING GRID SHALL BE CONSTRUCTED OF MINIMUM 8 AWG BARE, SOLID-COPPER CONDUCTORS ARRANGED IN A 12 X 12 INCH NETWORK OF CONDUCTORS WITH A TOLERANCE OF FOUR INCHES AND SHALL BE INSTALLED IN A UNIFORMLY SPACED PERPENDICULAR GRID PATTERN, AND SHALL COVER THE CONTOUR OF THE INSIDE OF THE POOL AND EXTEND HORIZONTALLY INTO THE POOL DECKING BY A MINIMUM OF THREE FEET. THESE CONDUCTORS MUST BOND TO EACH OTHER AT ALL POINTS OF CROSSING AND CONNECTIONS MUST BE MADE IN ACCORDANCE WITH THE REQUIREMENTS IN SECTION 250.8, SUCH AS EXOTHERMIC WELDING, LISTED PRESSURE CONNECTORS, LISTED CLAMPS OR OTHER LISTED MEANS. THE FINAL REQUIREMENT IS TO SECURE THE BELOW-GRADE BONDING GRID WITHIN OR UNDER THE POOL AND DECK.



POOL DESIGNER:

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100 W 31ST STREET, SUITE 100

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POOL BONDING DIAGRAM
PL105

