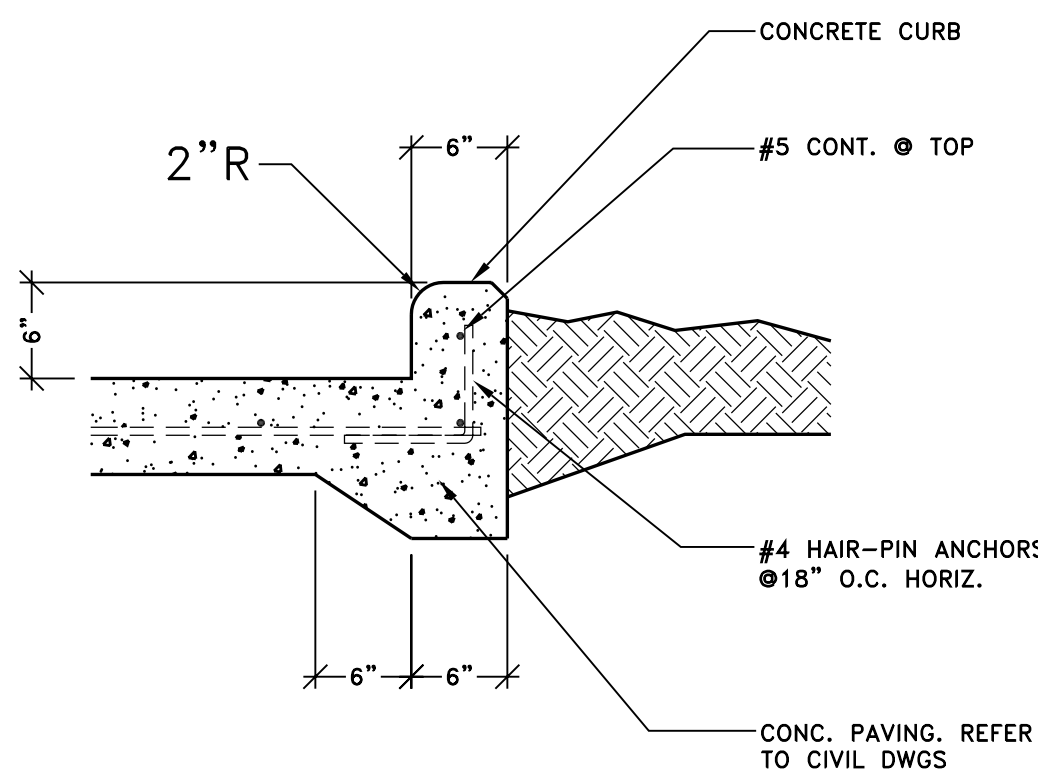
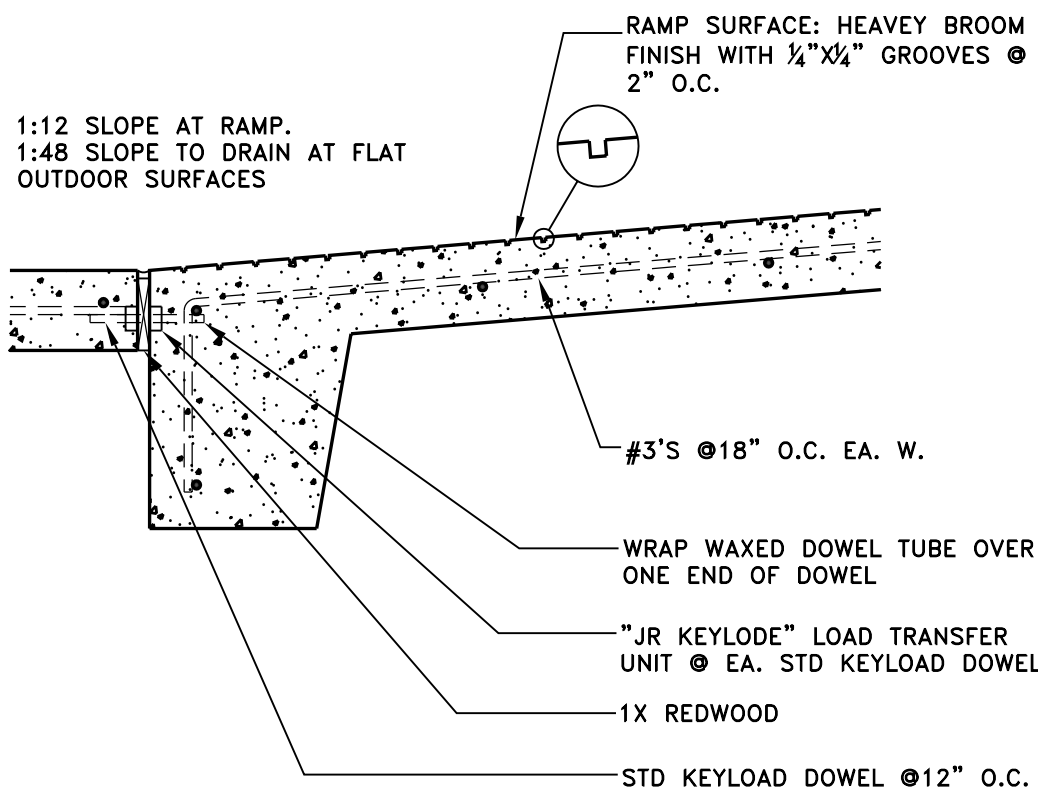


2. HANDICAP SIGN
1/2" = 1'-0"



3. CURB DETAIL
1" = 1'-0"

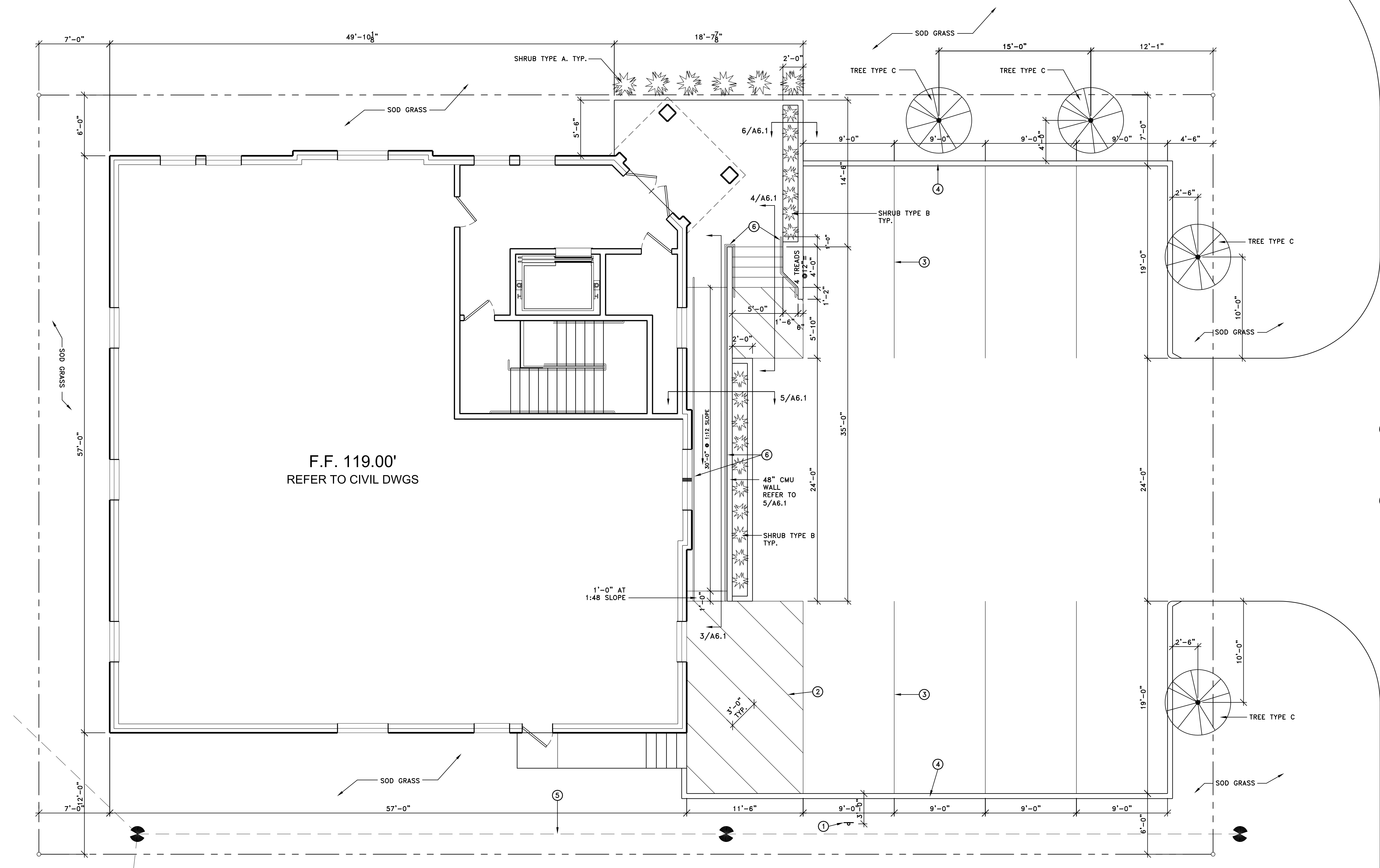


4. RAMP DETAIL
1" = 1'-0"

First St

SITE PLAN KEYED NOTES:

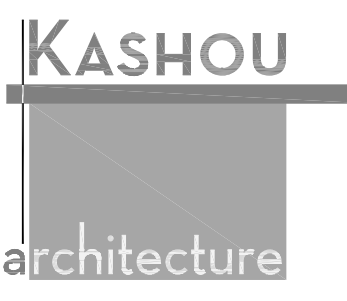
- HANDICAP SIGN. REFER TO 2/A1.1.
 - 6" WIDE WHITE PAINTED STRIPES IDENTIFYING PEDESTRIAN LOADING ZONE.
 - 6" WIDE WHITE PAINTED STRIPES IDENTIFYING PARKING SPACES.
 - CONCRETE CURB. REFER TO 3/A1.1.
 - EXISTING OVERHEAD POWER LINE. DO NOT DISTURB. OBSERVE REQUIRED SAFETY PRECAUTIONS WHEN WORKING NEAR POWER LINES.
 - GALV. METAL HANDRAILS. REFER TO 3, 4, 5/A6.1.
- LANDSCAPING NOTES:**
- GC TO HIRE A LANDSCAPING CONTRACTOR TO PROVIDE AND INSTALL PROPOSED LANDSCAPING AND TO DESIGN AND INSTALL AN IRRIGATION SYSTEM WITH WATER GAUGE AND TIMER TO COVER ALL LANDSCAPING ON THE PROPERTY. ALL IRRIGATION SHALL BE DIRECTED AWAY FROM THE BUILDING WITH NO WATER SPRAYED ON THE BUILDING.
 - LANDSCAPING CONTRACTOR TO PERFORM ALL NECESSARY SOIL PREPARATION AND MULCHING NEEDED TO PLANT SHRUBS, TREES AND SOD, AND TO PERFORM NECESSARY MAINTENANCE TO EXISTING TREES THAT ARE TO REMAIN.
 - INSTALL SOD GRASS IN ALL NON-PAVED AREAS UP TO THE CENTER OF THE STORM DRAINAGE SWALES.
 - TREE AND SHRUB LEGEND:
TYPE A: SHRUB: DWARF OLEANDER. SPACE 36" O.C.
TYPE B: SHRUB: CALADIUM. SPACE 12" O.C.
TYPE C: TREE: HOLLY SAVANNAH 1 1/2". LOCATE PER PLANS. PROVIDE DEFINED MULCHING RING. NOTIFY ARCHITECT IF LOCATION INTERFERES WITH EXISTING TREES.



1. SITE PLAN
3/16" = 1'-0"



Fulshear Clinic Shell Building
8502 Syms Street, Fulshear TX 77441



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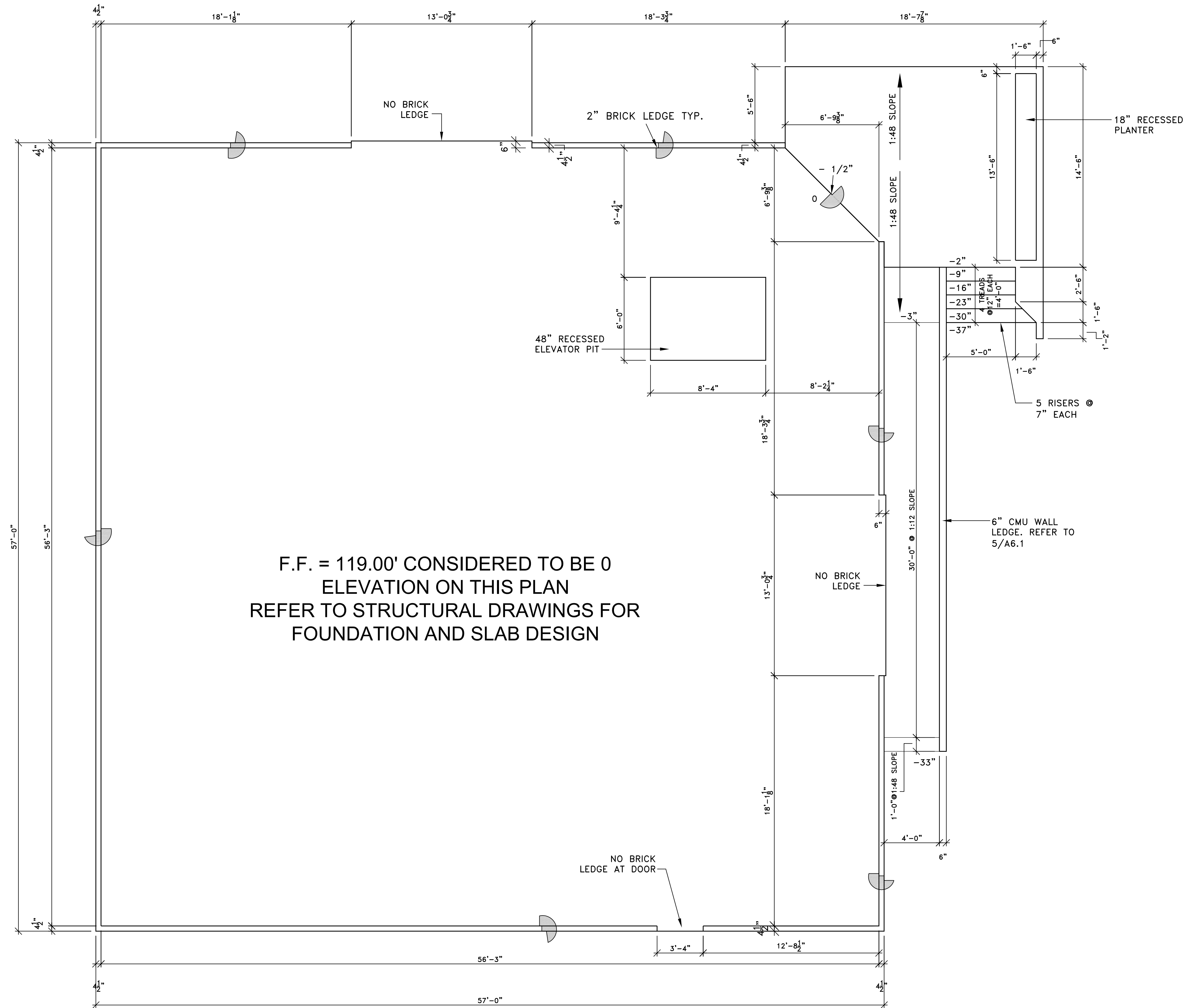
Project No.

Dwg. Name
Site Plan

Dwg. No.

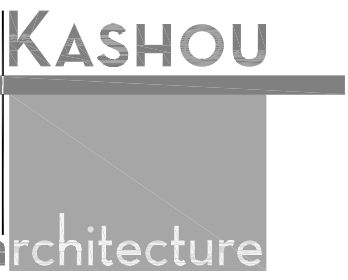
A1.1

Syms St



F.F. = 119.00' CONSIDERED TO BE 0
 ELEVATION ON THIS PLAN
 REFER TO STRUCTURAL DRAWINGS FOR
 FOUNDATION AND SLAB DESIGN

1. SLAB PLAN
 1/4" = 1'-0"



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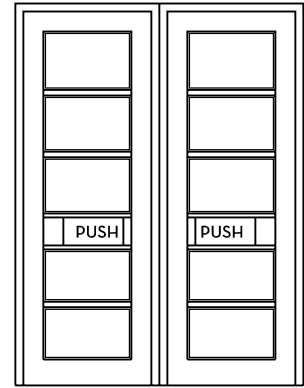
Project No. _____

Dwg. Name
Slab Plan

Dwg. No. _____

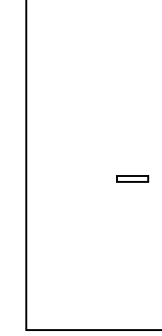
DOOR SPECIFICATIONS:

01 ENTRY DOOR
 PAIR OF SINGLE ACTING DOORS: 6'-0" X 8'-0".
 KWANEER STANDARD 500 STILE
 PANELINE CONCEALED ROD PANIC HARDWARE WITH COMPATIBLE
 LOCKS.
 STYLE CPN PULL.
 3 HORIZONTAL INTERMEDIATE RAILS 1 3/8".
 NORTON 1601 CLOSER.
 BALL BEARING BUTT HINGE WITH NRP.
 1/2" X 4" THRESHOLD
 COMPLETE SEALAIR WEATHERING SYSTEM WITH BOTTOM DOOR SWEEP.
 FRAME: TRIFAB VG 450.
 ALL METAL TO BE ANODIZED ALUMINUM PERMANODIC COLOR. COLOR
 TO BE SELECTED BY ARCHITECT.
 GLAZING: INSULATED GLASS UNITS WITH LOW E COATING ON #2
 SURFACE. MIN. VT: 55%. TOTAL ASSEMBLY NFRC RATING: MAX. U:
 0.65, MAX. SHGC: 0.30.

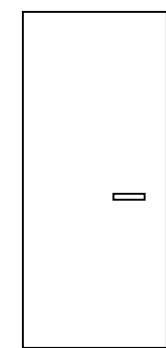


INTERIOR ELEVATION

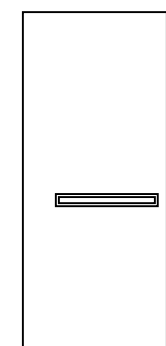
02 EQUIPMENT ROOM
 SINGLE DOOR: 3'-0" X 7'-0".
 FIRE RATING: 60 MIN.
 TYPE: SOLID CORE
 FINISH: PLASTIC LAMINATE TO BE
 SELECTED BY ARCHITECT.
 FRAME: BRONZE ANODIZED ALUMINUM.
 HARDWARE: SCHLAGE AL70PD SATURN 619.
 CLOSER, DOOR STOP.



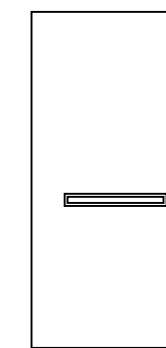
03 TENANT ENTRY
 SINGLE DOOR: 3'-0" X 7'-0".
 FIRE RATING: 60 MIN.
 TYPE: SOLID CORE
 FINISH: PLASTIC LAMINATE TO BE
 SELECTED BY ARCHITECT.
 FRAME: BRONZE ANODIZED ALUMINUM.
 HARDWARE: SCHLAGE AL53PD SATURN 619.
 CLOSER, DOOR STOP.



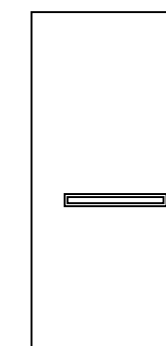
05 STAIRS / TENANT (SECOND FLOOR)
 SINGLE DOOR: 3'-0" X 7'-0".
 FIRE RATING: 60 MIN.
 TYPE: SOLID CORE
 FINISH: PLASTIC LAMINATE TO BE
 SELECTED BY ARCHITECT.
 FRAME: BRONZE ANODIZED ALUMINUM.
 HARDWARE: PANIC HARDWARE ON TENANT SIDE.
 LEVER HANDLE WITH KEY LOCK ON STAIR SIDE.
 CLOSER, DOOR STOP.



04 STAIRS
 SINGLE DOOR: 3'-0" X 7'-0".
 FIRE RATING: 60 MIN.
 TYPE: SOLID CORE
 FINISH: PLASTIC LAMINATE TO BE
 SELECTED BY ARCHITECT.
 FRAME: BRONZE ANODIZED ALUMINUM.
 HARDWARE: PANIC HARDWARE STAIR SIDE.
 LEVER HANDLE HALL SIDE.
 CLOSER, DOOR STOP.

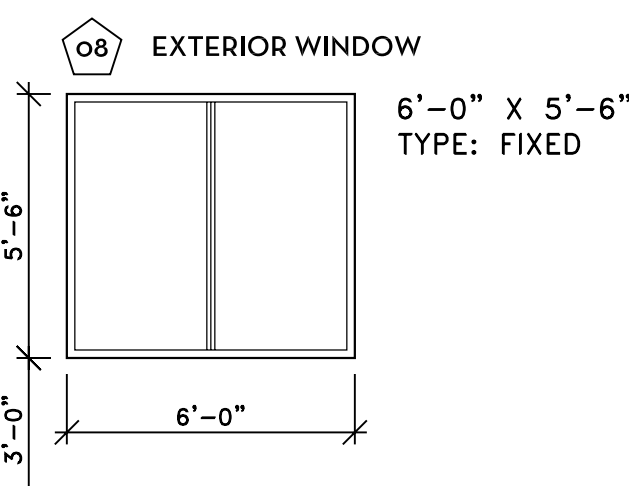
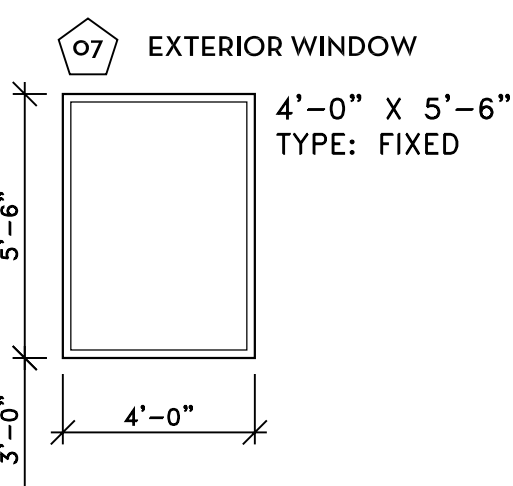
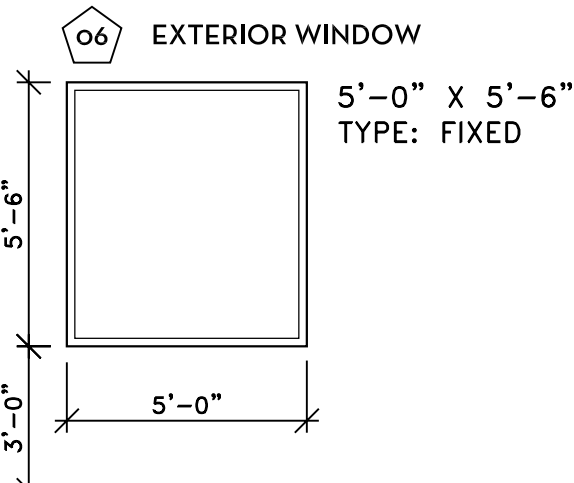
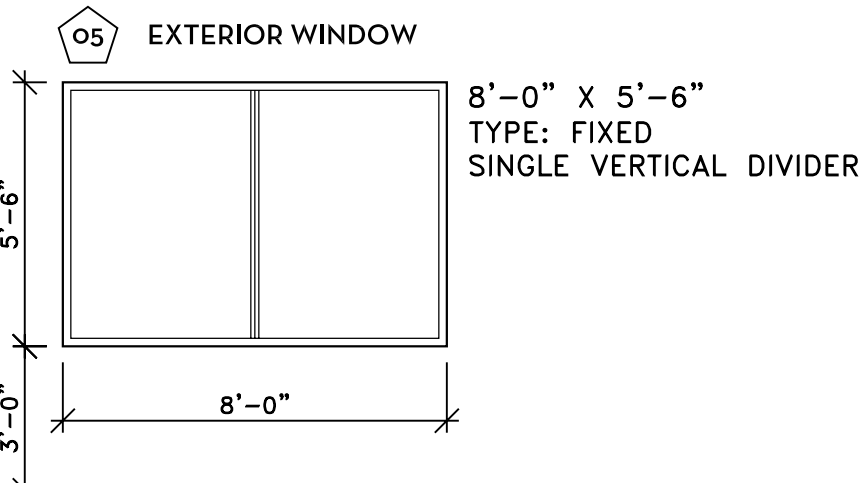
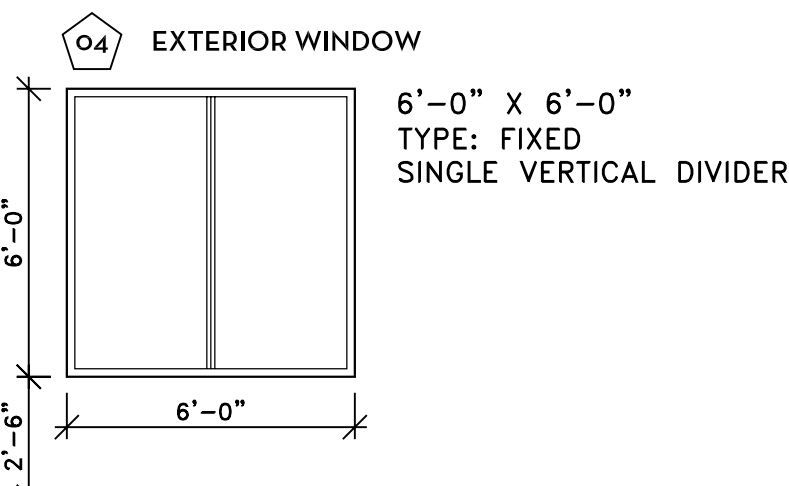
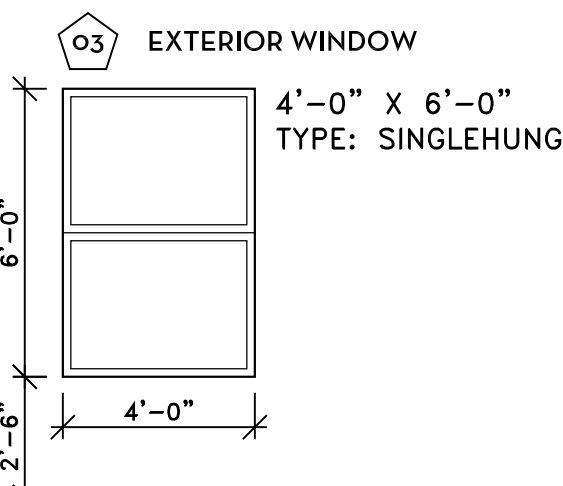
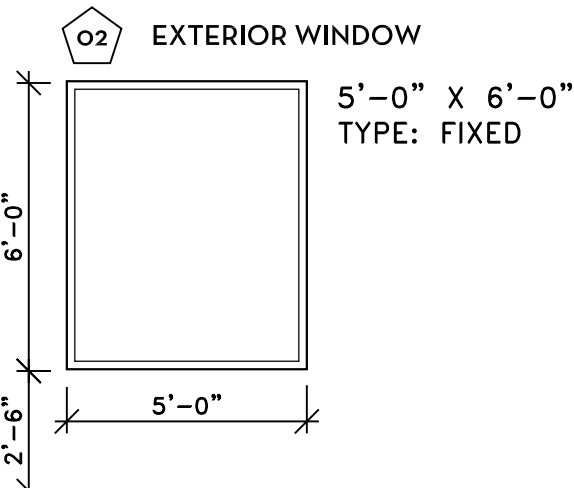
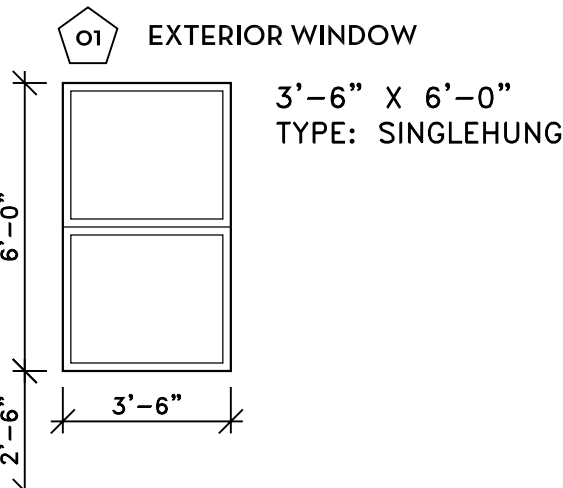


06 TENANT REAR DOOR
 SINGLE DOOR: 3'-0" X 7'-0".
 FIRE RATING: 60 MIN.
 TYPE: INSULATED METAL
 FINISH: PAINTED METAL.
 FRAME: BRONZE ANODIZED ALUMINUM.
 HARDWARE: PANIC HARDWARE ON INSIDE. LEVER
 HANDLE WITH KEY LOCK ON OUTSIDE.
 CLOSER, DOOR STOP, WEATHERSTRIPPING.



WINDOW SCHEDULE:

ALL WINDOWS:
 FRAME: ALUMINUM WITH THERMAL BREAK, CENTERED GLASS.
 COLOR: BRONZE ANODIZED.
 GLAZING: INSULATED GLASS UNITS WITH LOW E COATING ON #2 SURFACE.
 MIN. VT: 55%
 TOTAL ASSEMBLY NFRC RATING: MAX. U: 0.65, MAX. SHGC: 0.30.

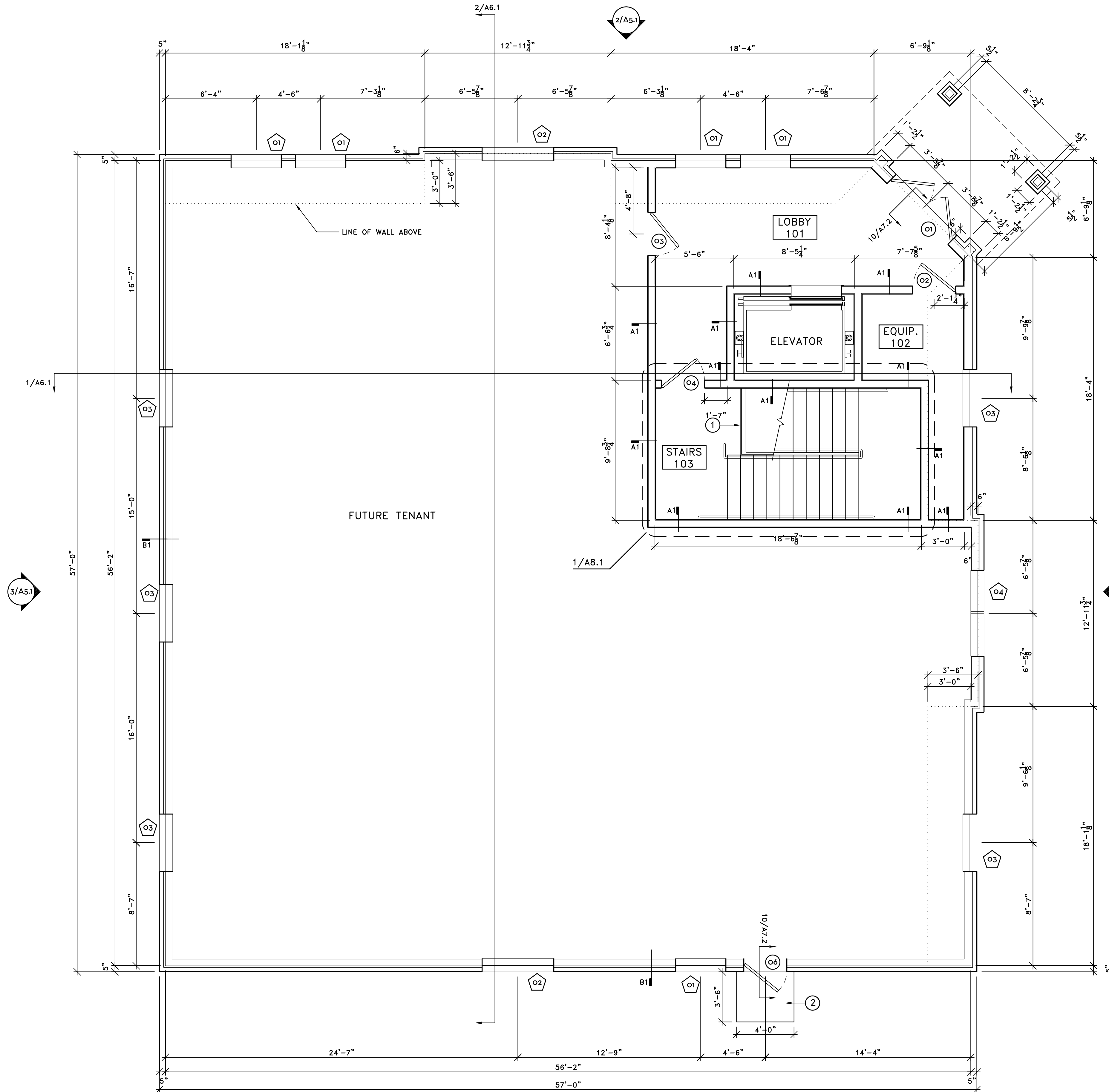


PLAN GENERAL NOTES:

1. TERMITE TREATMENT: PROVIDE CHEMICAL SOIL TREATMENT (TERMIDOR) PRIOR TO INSTALLATION OF THE FOUNDATION. APPLY BUILDING MATERIAL TREATMENT (BORA-CARE) TO ALL WOOD MATERIALS UP TO 4 FEET ABOVE GRADE.
2. REFER TO 8/A8.1 FOR WALL ASSEMBLY TYPES.
3. EXTERIOR WALLS MARKED TYPE B1 TO BE FINISHED WITH TYPE X GYP. BD. TO DECK TO COMPLY WITH RATED WALL TYPE B1. OTHER NON RATED EXTERIOR WALLS TO BE INSULATED BUT NOT COVERED WITH GYP. BD.

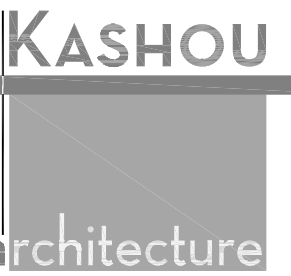
PLAN KEYED NOTES:

1. BUILD STAIR FIRE ENCLOSURE FIRST THEN ENCLOSE UNDER STAIRS WITH STUDS AND 1 SIDE GYP. BD.
2. CONCRETE LANDING OUTSIDE DOOR. MAX. SLOPE 1/4" PER FOOT. REFER TO 10/A7.2.



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

DIMENSIONS ARE TO FRAMING. U.N.O.



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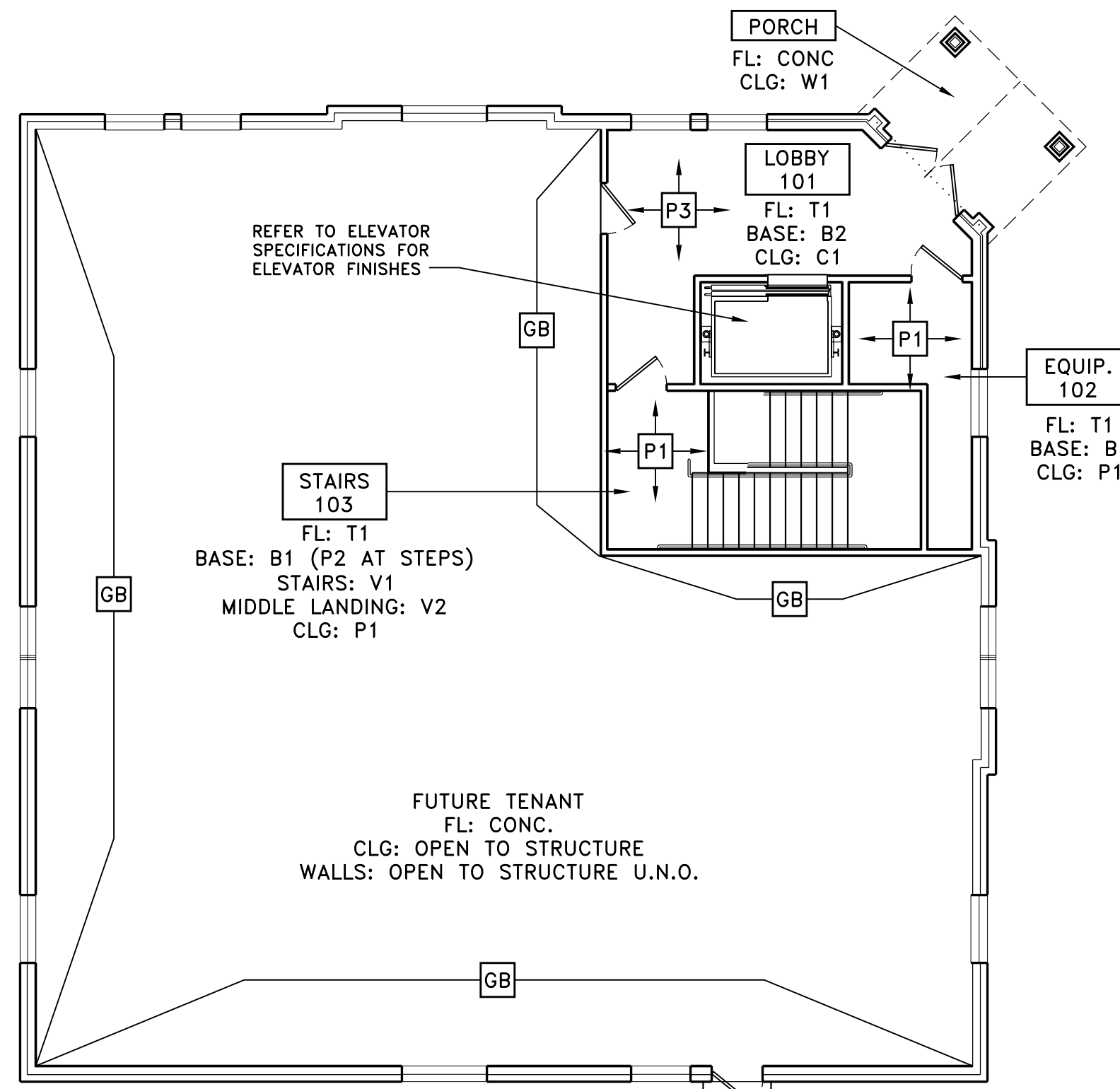


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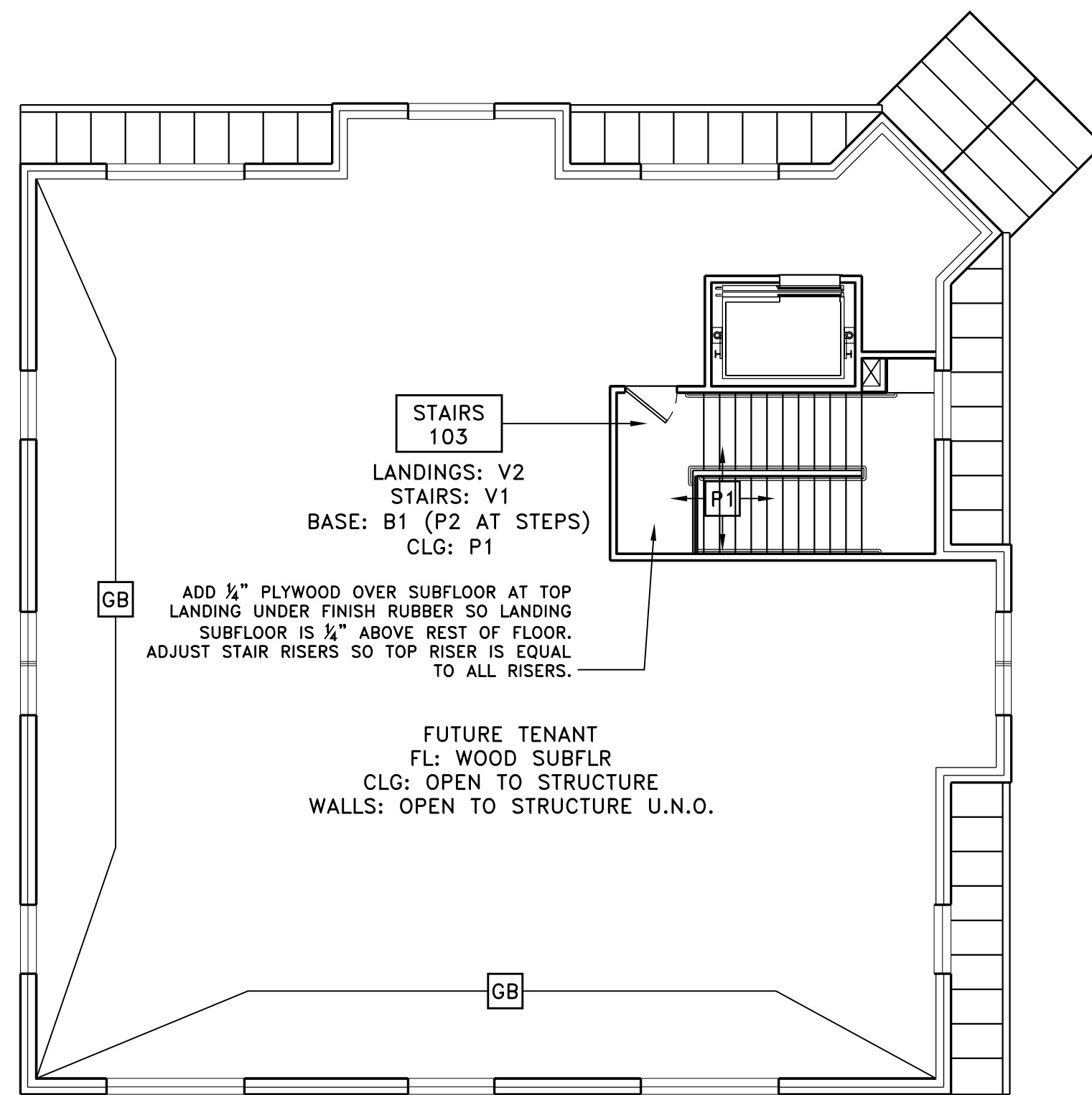
Project No.

Dwg. Name
First Floor Plan

Dwg. No.



2. FIRST FLOOR FINISH PLAN
1/8" = 1'-0"



3. SECOND FLOOR FINISH PLAN
1/8" = 1'-0"

FINISH LEGEND

DO NOT INSTALL FINISHES UNTIL COLORS ARE SELECTED AND SAMPLES ARE APPROVED BY ARCHITECT PER SPECIFICATIONS.

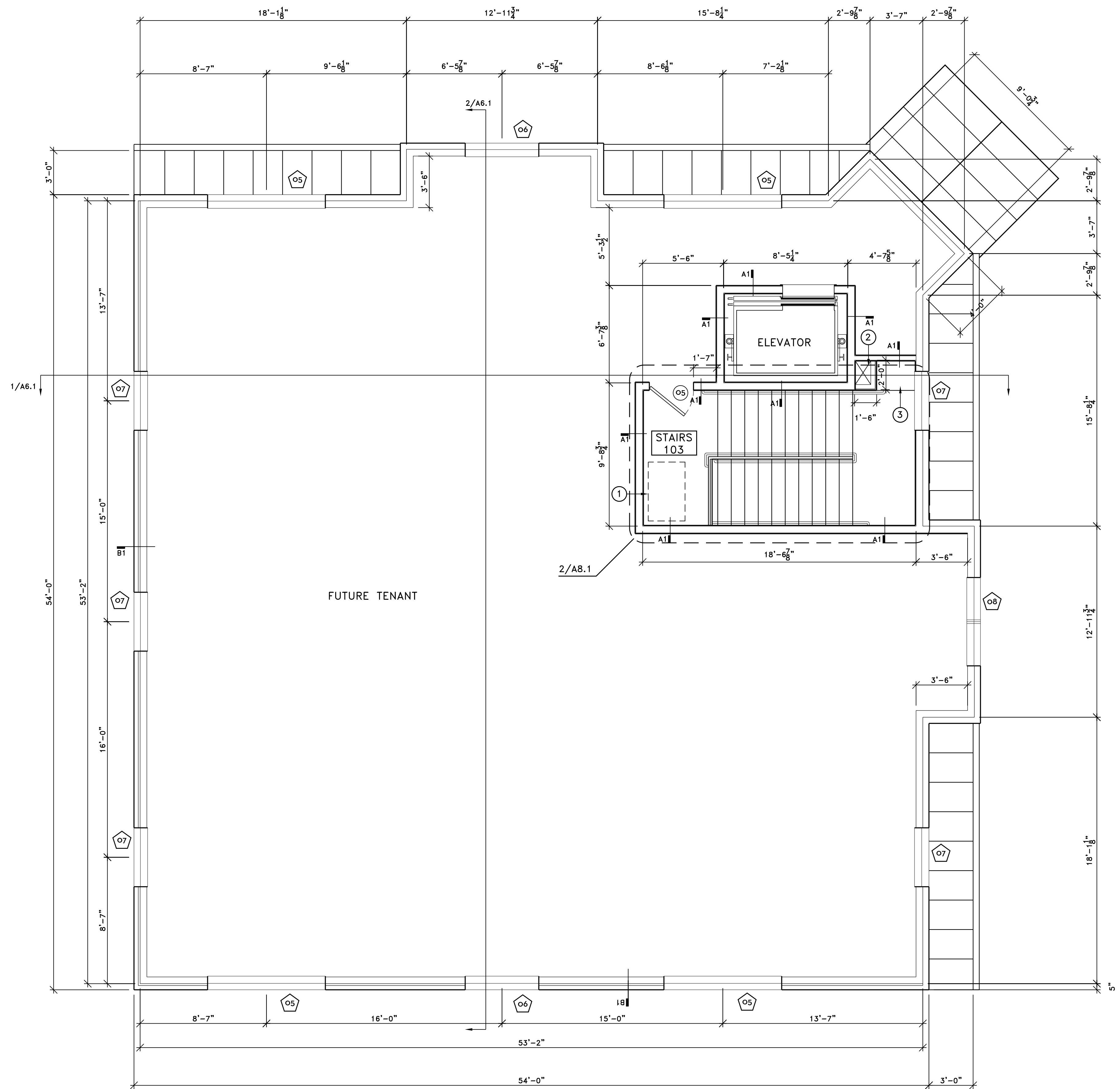
FINISH	DESCRIPTION	COLOR	NOTES
T1	PORCELAIN TILE	SAND	ELEGANZA DIGISLATE RUSTIC PORCELAIN. SAND COLOR. 18"X18". CHOCOLATE BROWN GROUT.
B1	VINYL BASE	TBD	ROPPE PINNACLE 6" NO TOE VINYL BASE. COLOR TO BE SELECTED BY ARCHITECT.
B2	WOOD BASE	STAIN	6" STAINED WOOD BASE. PROFILE AND COLOR TO BE SELECTED BY ARCHITECT.
P1	PAINTED GYP. BD.	TBD	PRIMER & PAINT.
P2	PAINTED WOOD	TBD	GLOSS ENAMEL PAINTED WOOD BASE TRIM AT STEPS. COLOR TBD.
P3	PAINTED GYP. BD.	TBD	PRIMER & PAINT WITH SPECIFIED TEXTURE.
C1	CEILING TILE	WHITE	24"X 24" CEILING TILE. ARMSTRONG DUNE BEVELED TEGULAR #1775, FINE TEXTURE, WHITE. PRELUDE EXPOSED T 9/16" GRID, WHITE.
CONC	CONCRETE	GRAY	FINE TEXTURE FINISH.
W1	CEDAR WOOD	STAIN	SMOOTH FINISHED CEDAR WOOD PLANKS. STAIN COLOR TO BE SELECTED BY ARCHITECT.
GB	GYP. BD.	-	GYPSUM BD. TAPE FLOAT AND SEAL PER WALL RATING REQUIREMENT. DO NOT PAINT.
V1	RESILIENT RUBBER	TBD	ROPPE RESILIENT RUBBER TREADS AND RUBBER TOE BASE RISERS.
V2	RESILIENT RUBBER	TBD	ROPPE RESILIENT RUBBER LANDINGS TO MATCH STAIR TREADS.

PLAN GENERAL NOTES:

- REFER TO 8/A8.1 FOR WALL ASSEMBLY TYPES.
- EXTERIOR WALLS MARKED TYPE B1 TO BE FINISHED WITH TYPE X GYP. BD. TO DECK TO COMPLY WITH RATED WALL TYPE B1. OTHER NON RATED EXTERIOR WALLS TO BE INSULATED BUT NOT COVERED WITH GYP. BD.

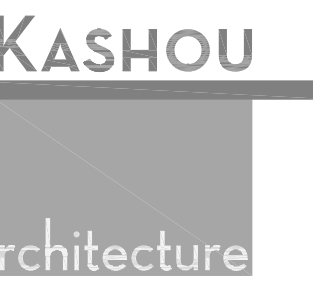
PLAN KEYED NOTES:

- 30X48 REFUGE AREA.
- VENT SHAFT FROM EQUIPMENT ROOM TO ATTIC. INSTALL ELEVATOR FIRE ENCLOSURE FIRST, THEN INSTALL SHAFT WITH 2 LAYERS TYPE X GYP. BD. ON OUTSIDE OF VENT SHAFT AND FIRE SEAL.
- GYP. BD. SILL.



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

DIMENSIONS ARE TO FRAMING. U.N.O.



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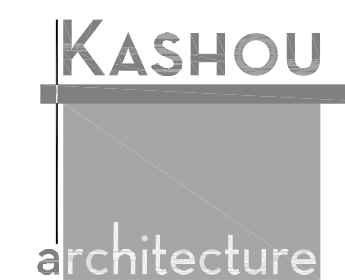
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Project No.

Dwg. Name
**Second Floor
Plan.
Finish Plans**

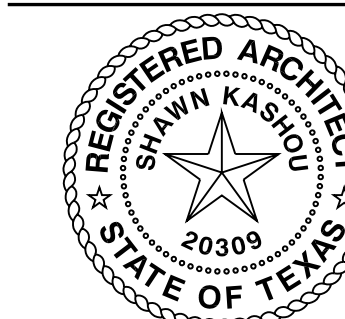
Dwg. No.

A2.2



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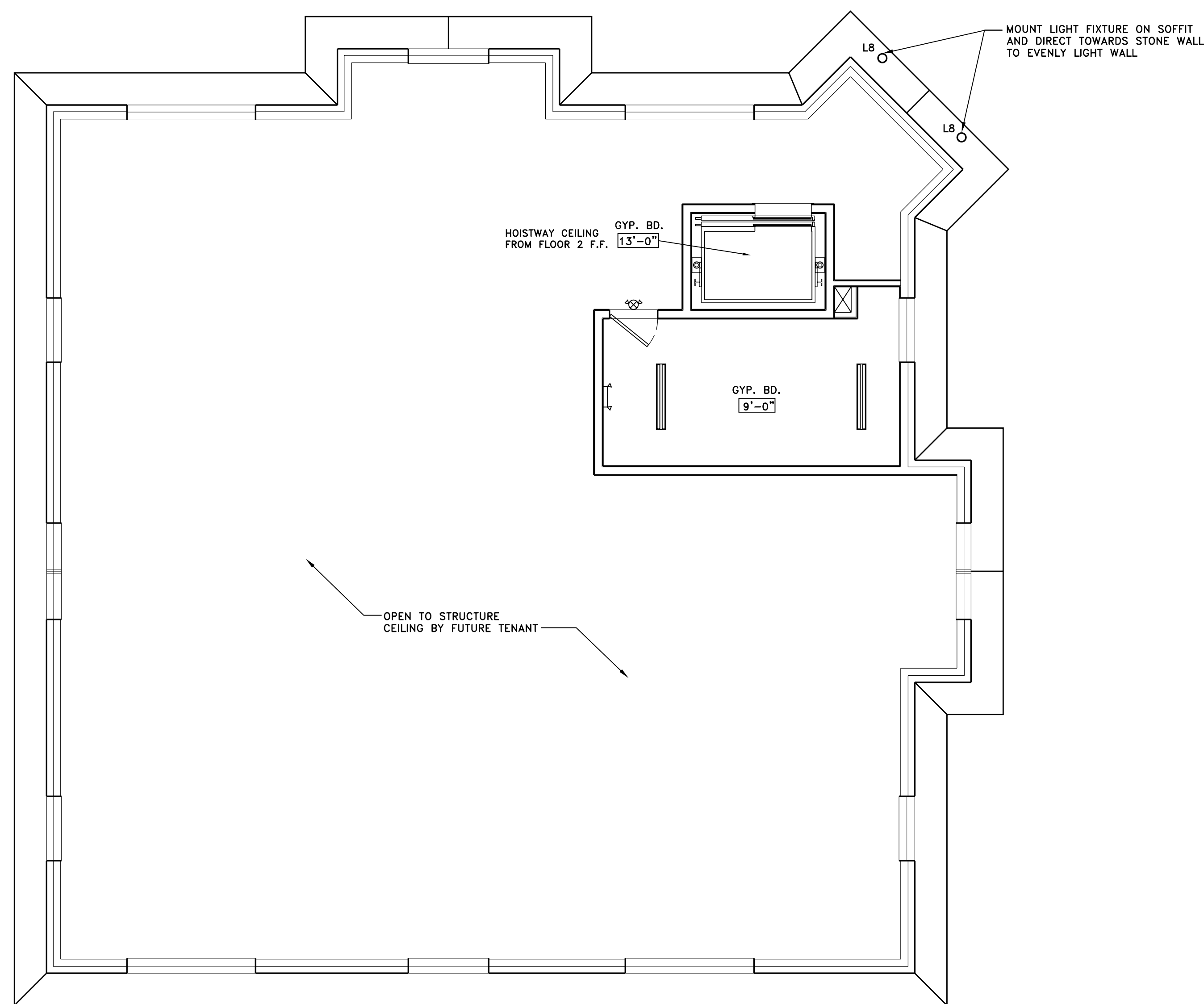
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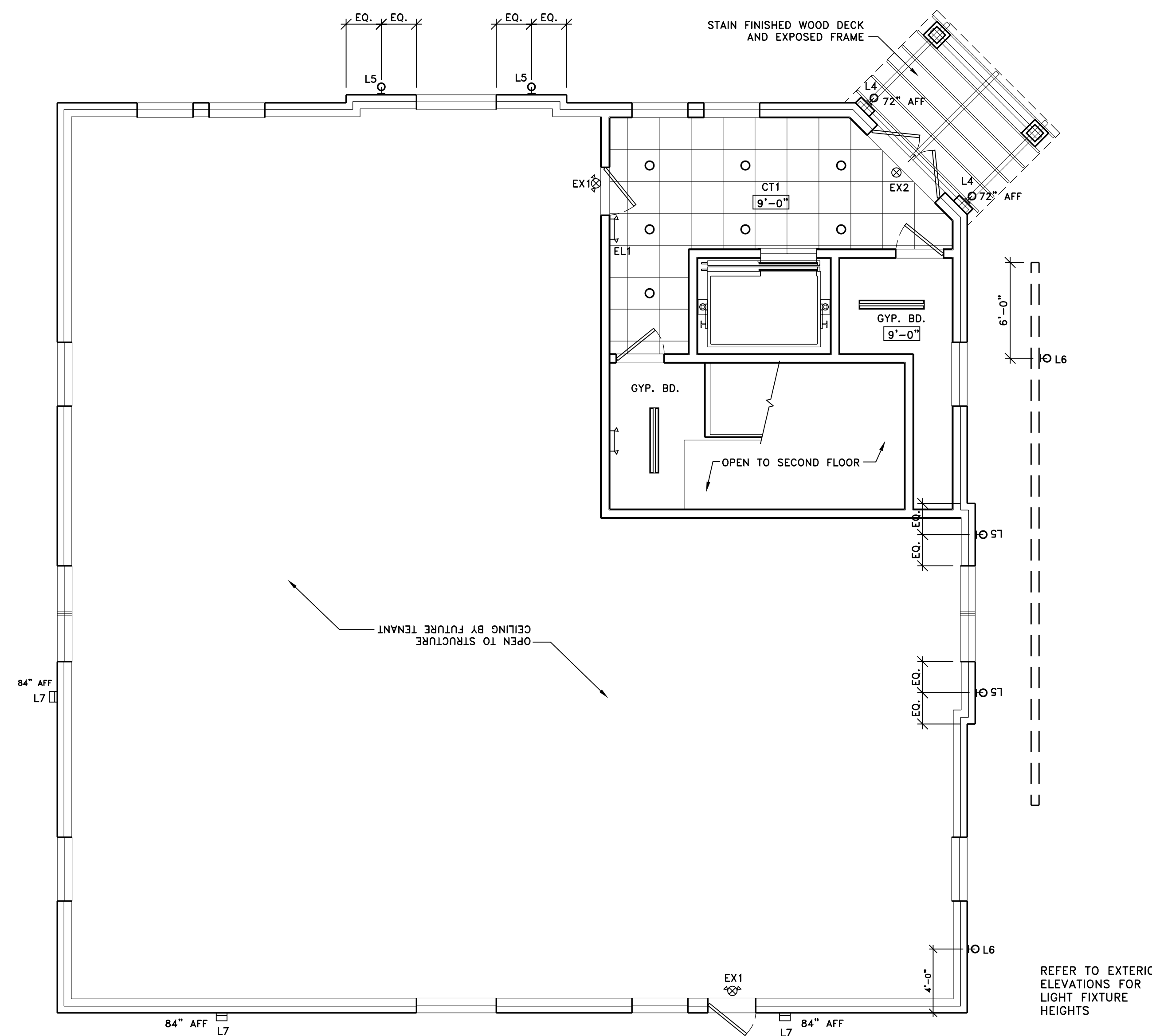
Dwg. Name
Reflected Ceiling Plans

Dwg. No.

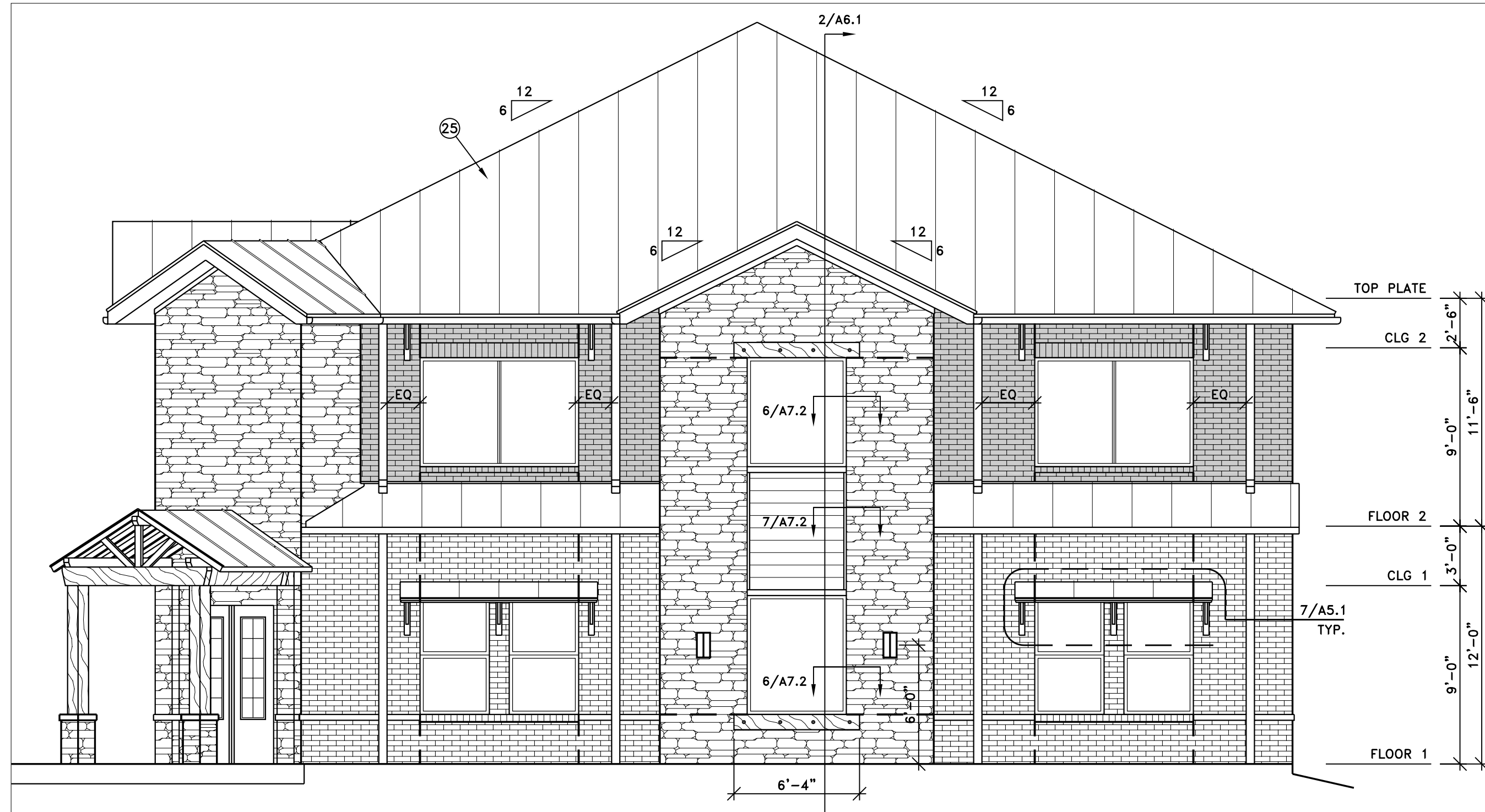
A3.1



2. SECOND FLOOR REFLECTED CEILING PLAN
 $\frac{3}{16}'' = 1'-0''$



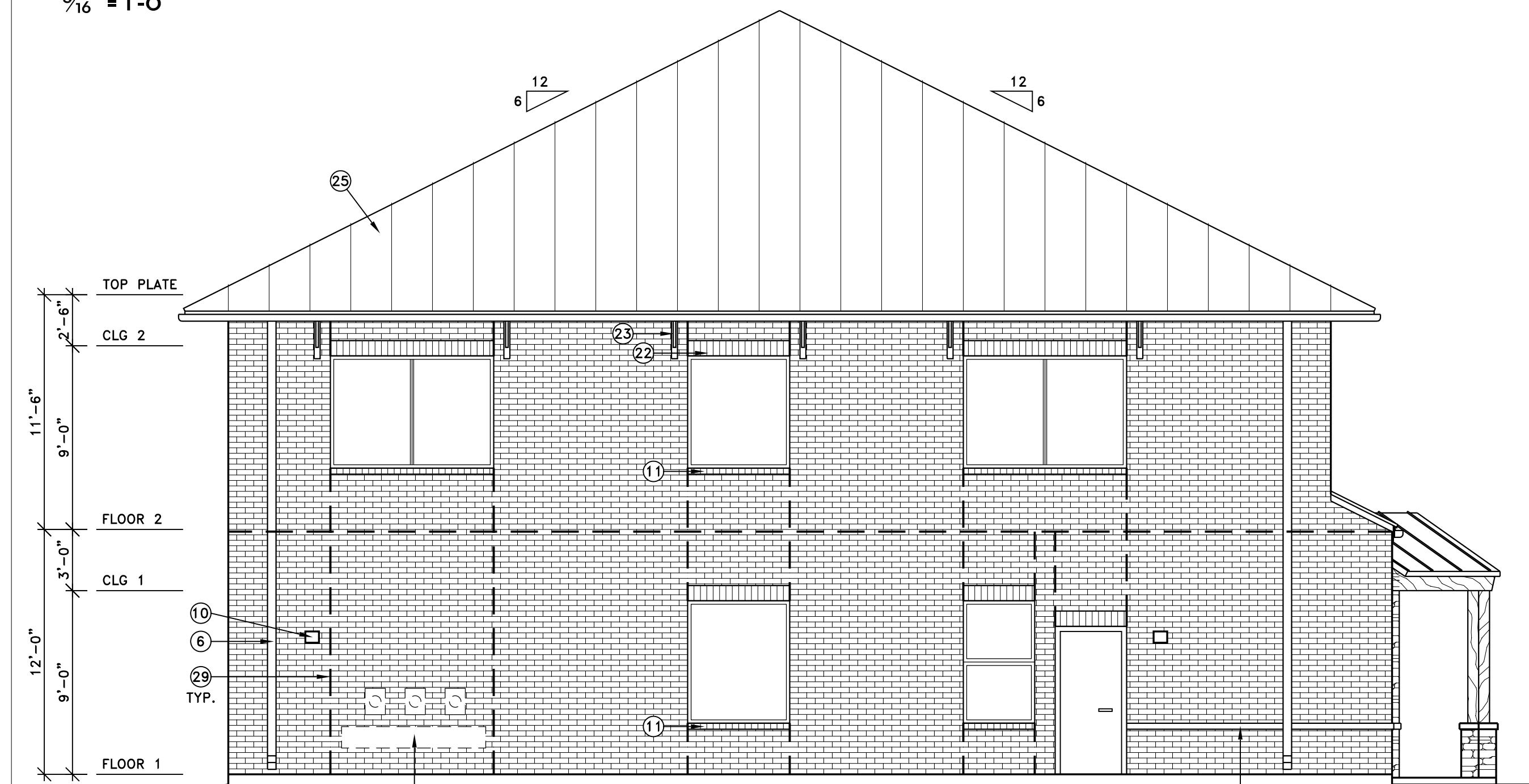
1. FIRST FLOOR REFLECTED CEILING PLAN
 $\frac{3}{16}'' = 1'-0''$



2. NORTH ELEVATION

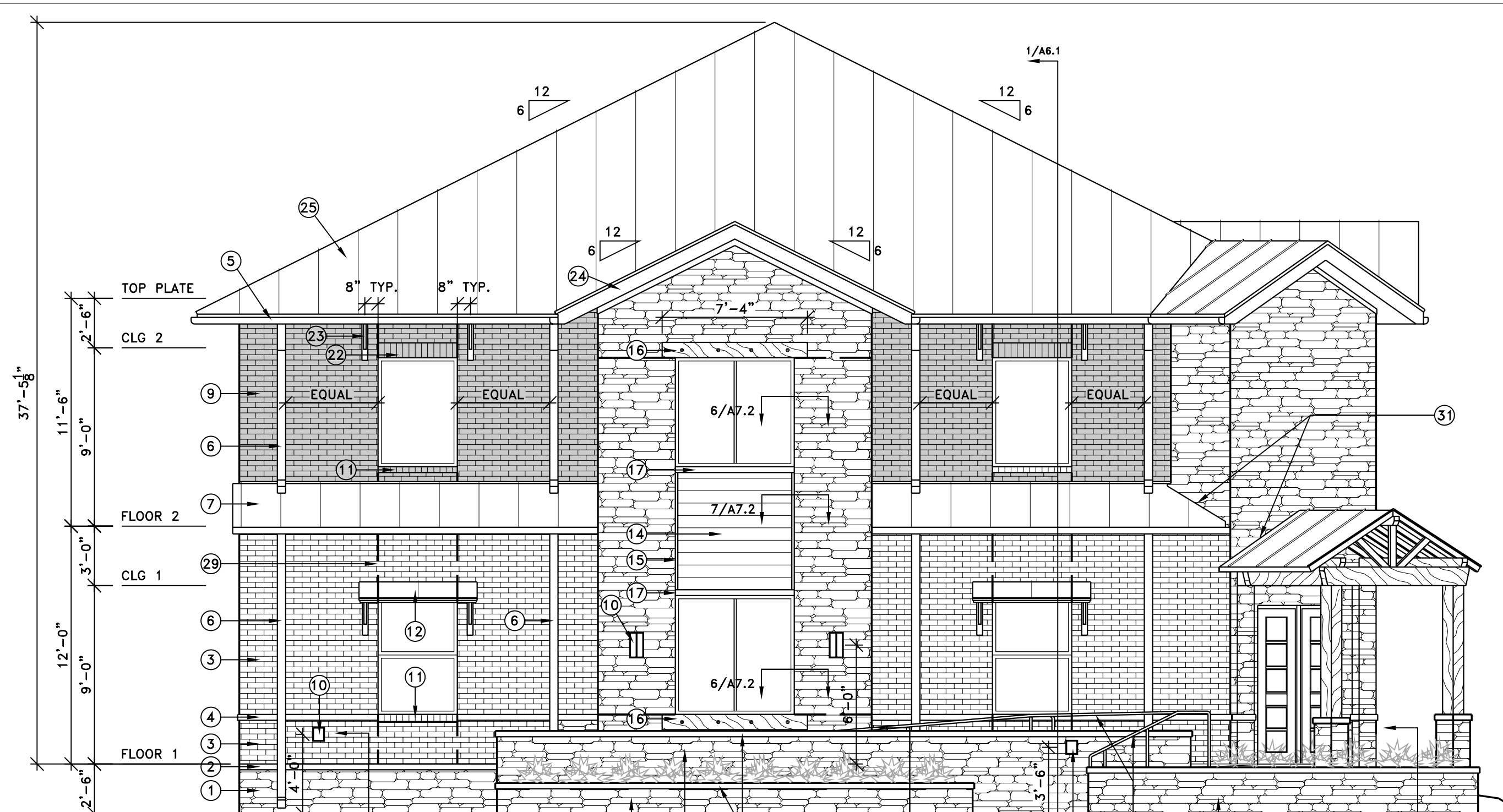
3/16" = 1'-0"

NOTE: REFER TO EAST ELEVATION FOR FINISH NOTES



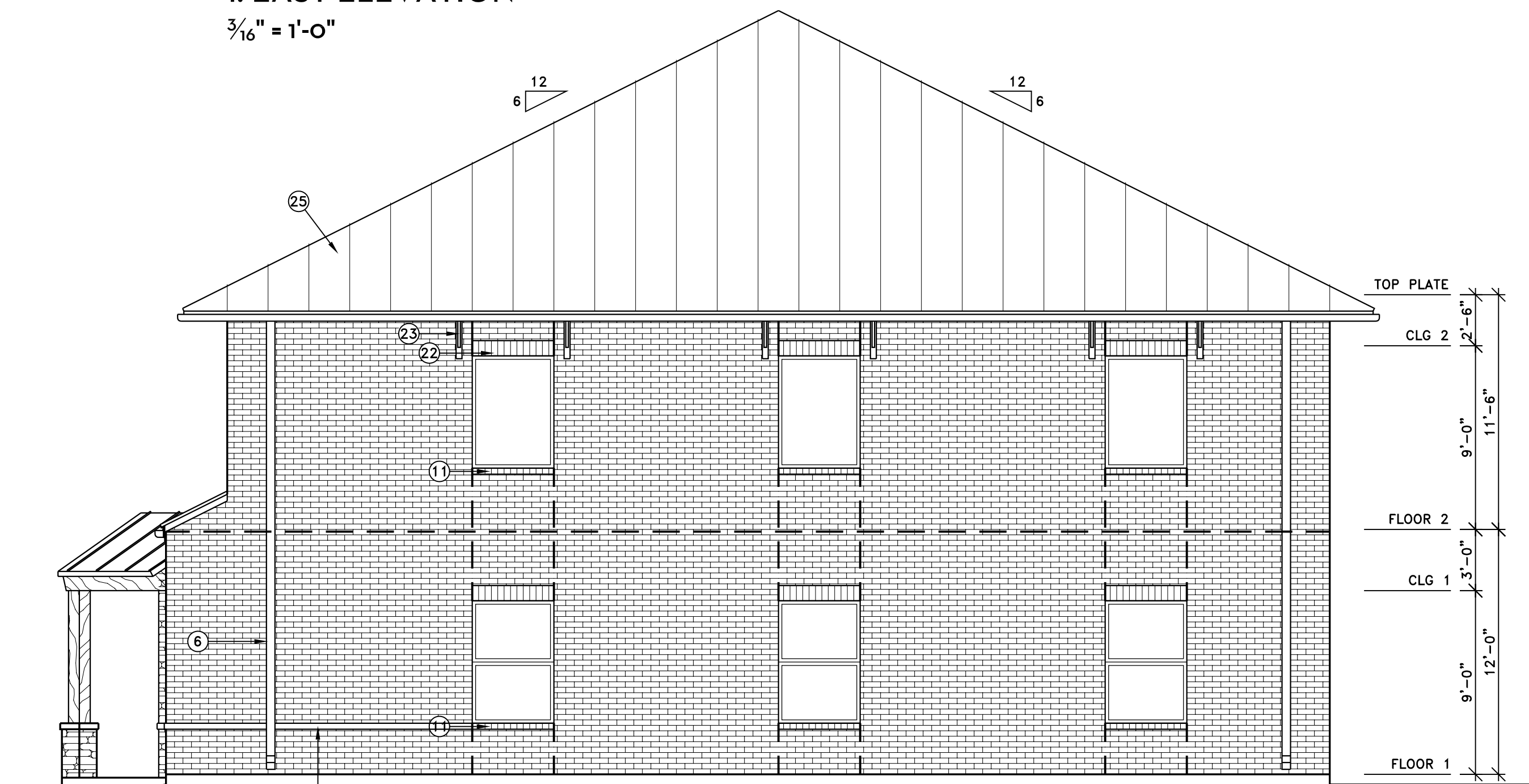
4. SOUTH ELEVATION

3/16" = 1'-0"



1. EAST ELEVATION

3/16" = 1'-0"

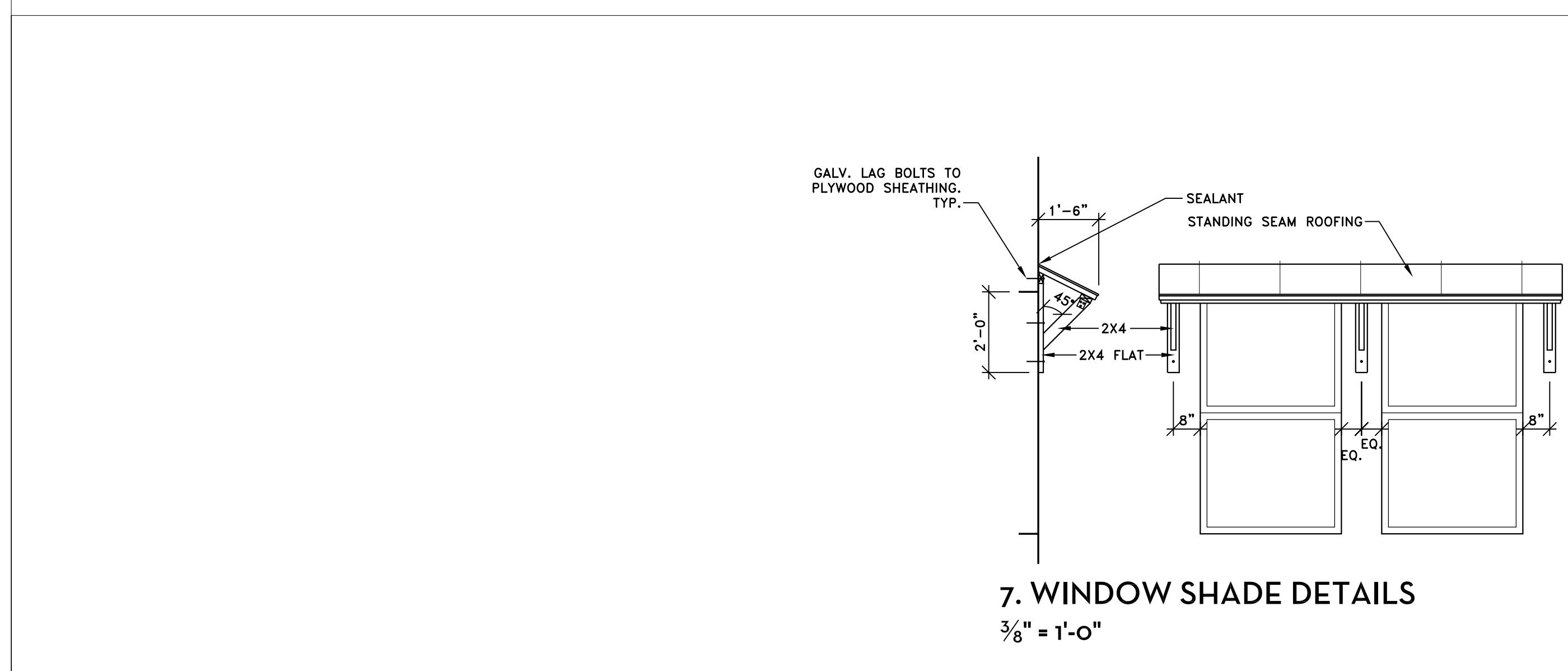


3. WEST ELEVATION

3/16" = 1'-0"

ELEVATION KEYED NOTES:

1. STONE VENEER OVER SCRATCH COAT AND METAL LATH OVER CONCRETE.
2. STONE CAP. REFER TO 9/A7.2.
3. BRICK MASONRY COMMON BOND.
4. BRICK FLUSH HEADER COURSE.
5. METAL GUTTER PART OF ROOFING SYSTEM. COLOR TO BE SELECTED BY ARCHITECT.
6. 3"x4" SHEET METAL DOWNSPOUT. COLOR TO BE SELECTED BY ARCHITECT.
7. METAL SEAM ROOF OVER MOISTURE BARRIER OVER SHEATHING. FLASH AND CAULK PER MANUFACTURER SPECIFICATIONS.
8. NOT USED.
9. THIN BRICK VENEER OVER LATH AND SKIM COAT OVER DRAIN MAT OVER MAISTURE BARRIER AND SHEATHING. USE CORNER "L" PIECES SO FULL SIZE BRICK APPEARS AT CORNER EDGE TO BLEND WITH BRICK MASONRY.
10. WALL MOUNT LIGHT FIXTURE. REFER TO ELECT. DRAWINGS.
11. SLOPED ROWLOCK BRICK SILL.
12. CEDAR WOOD AND METAL SEAM ROOFING WINDOW CANOPY. REFER TO 7/5.1.
13. NOT USED.
14. CEDAR TONGUE AND GROOVE SIDING OVER FURRING STRIPS. FINISH AS SPECIFIED.
15. 2X4 CEDAR VERTICLE END TRIM. CAULK BETWEEN SIDING AND TRIM.
16. 4X10 CEDAR SILL OR HEADER.
17. 2X4 CEDAR TRIM.
18. STONE VENEER OVER SCRATCH COAT AND METAL LATH OVER CONCRETE. CONTINUE STONE AROUND EDGE AND BACK ON STAIR SIDE.
19. STONE VENEER OVER SCRATCH COAT ON FRONT SIDE OF 6" CMU BLOCK. SKIM AND SMOOTH FINISH COAT ON BACK SIDE. PAINT.
20. NOT USED.
21. GALVANIZED METAL HANDRAILS.
22. BRICK FLUSH SOLDIER COURSE.
23. CEDAR WOOD BRACKETS. SIMILAR TO 7/A5.1.
24. CEDAR FISCIA TRIM.
25. SPECIFIED METAL SEAM ROOFING OVER 1" R6.5 RIGID INSULATION BOARD OVER MOISTURE BARRIER OVER SHEATHING.
26. STONE CAPS.
27. ELECTRIC SERVICE WIREWAY. REFER TO ELECT. DWGS.
28. SIGN BY SIGN CONTRACTOR. COORDINATE ACTUAL WORDING WITH OWNER.
29. EXPANSION JOINT. REFER TO THE FOLLOWING DETAILS:
5/A7.1: HORIZONTAL BRICK JOINT.
4/A7.2: VERTICAL BRICK JOINT
5/A7.2: HORIZ. OR VERT. THIN BRICK OR STONE.
30. STONE VENEER OVER SCRATCH COAT AND METAL LATH OVER CONCRETE. CONTINUE STONE AROUND EDGE AND BACK ON STAIR SIDE.
31. SIDE WALL FLASHING, COUNTERFLASHING AND CAULKING PER METAL ROOF MANUFACTURER SPECIFICATIONS.

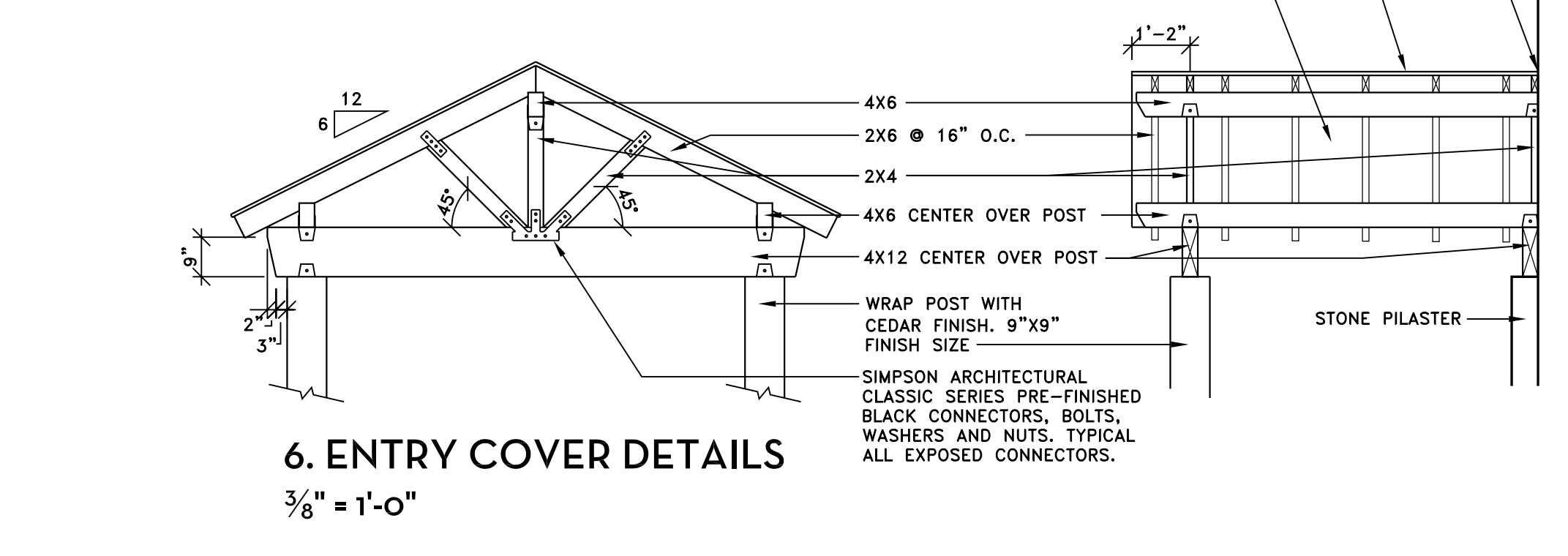


7. WINDOW SHADE DETAILS

3/8" = 1'-0"

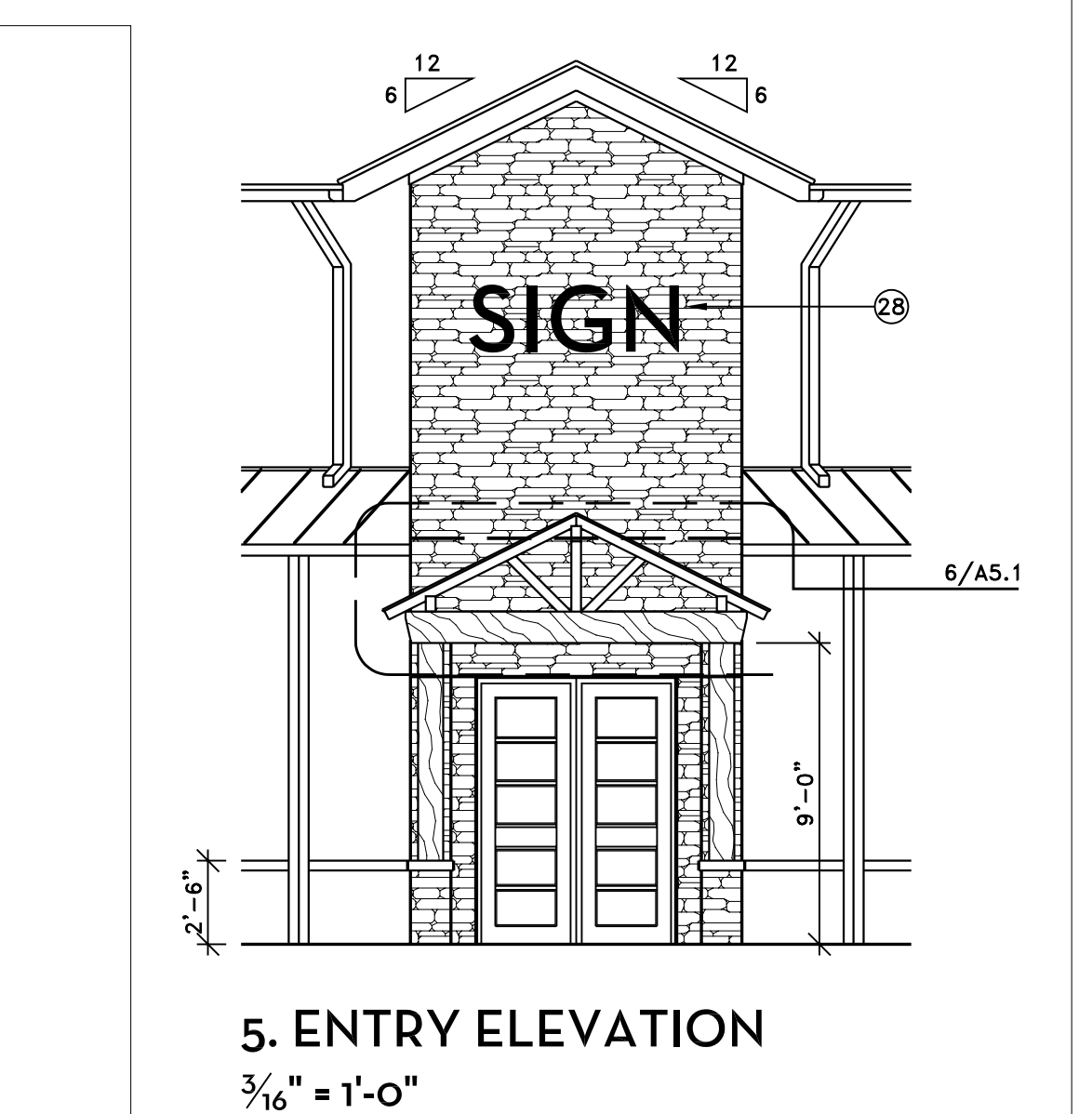
NOTES:

1. ALL EXPOSED WOOD MEMBERS AND SOFFIT TO BE CEDAR WOOD FINISHED AS SPECIFIED.
2. METAL SEAM FASTENERS TO BE ALIGNED WITH WOOD RAFTERS SO FASTENERS ARE NOT VISIBLE FROM UNDERSIDE OF DECK.
3. USE HURRICANE CONNECTOR HARDWARE ALL CONNECTIONS. USE SIMPSON ARCHITECTURAL CLASSIC SERIES PRE-FINISHED BLACK CONNECTORS AT ALL EXPOSED CONNECTORS.



6. ENTRY COVER DETAILS

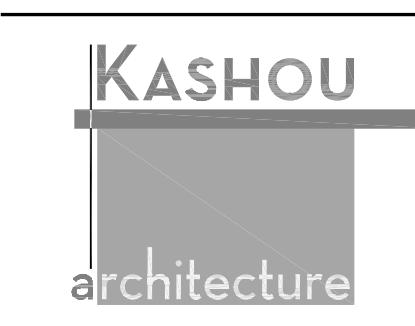
3/8" = 1'-0"



5. ENTRY ELEVATION

3/16" = 1'-0"

Fulshear Clinic Shell Building
8502 Syms Street, Fulshear TX 77441



Shawn Kashou, Architect
20710 Shadow Mill Ct
Katy, Texas 77450
Tel: 713 . 965 4470

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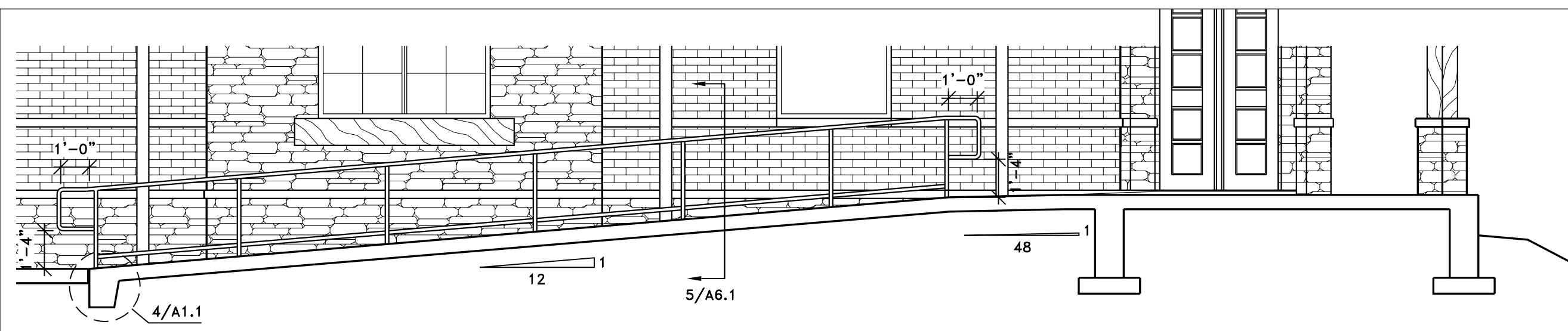
Project No.

Dwg. Name

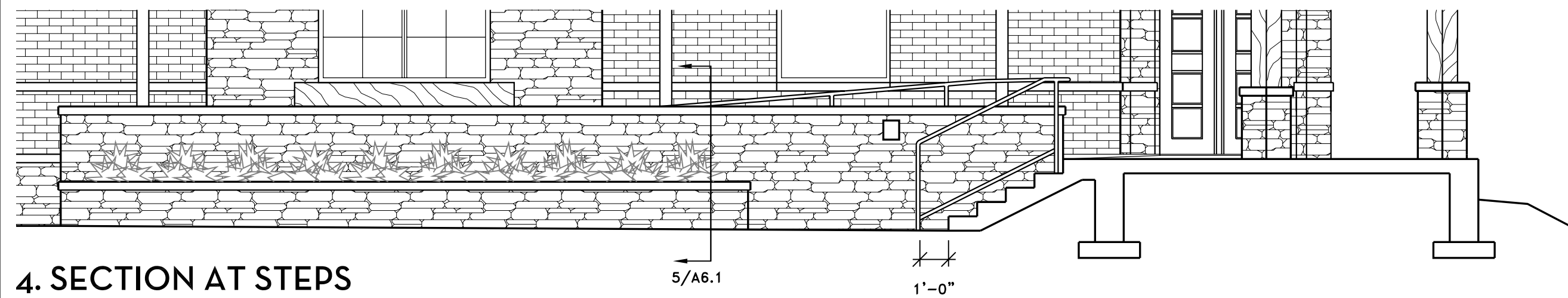
Exterior Elevations

Dwg. No.

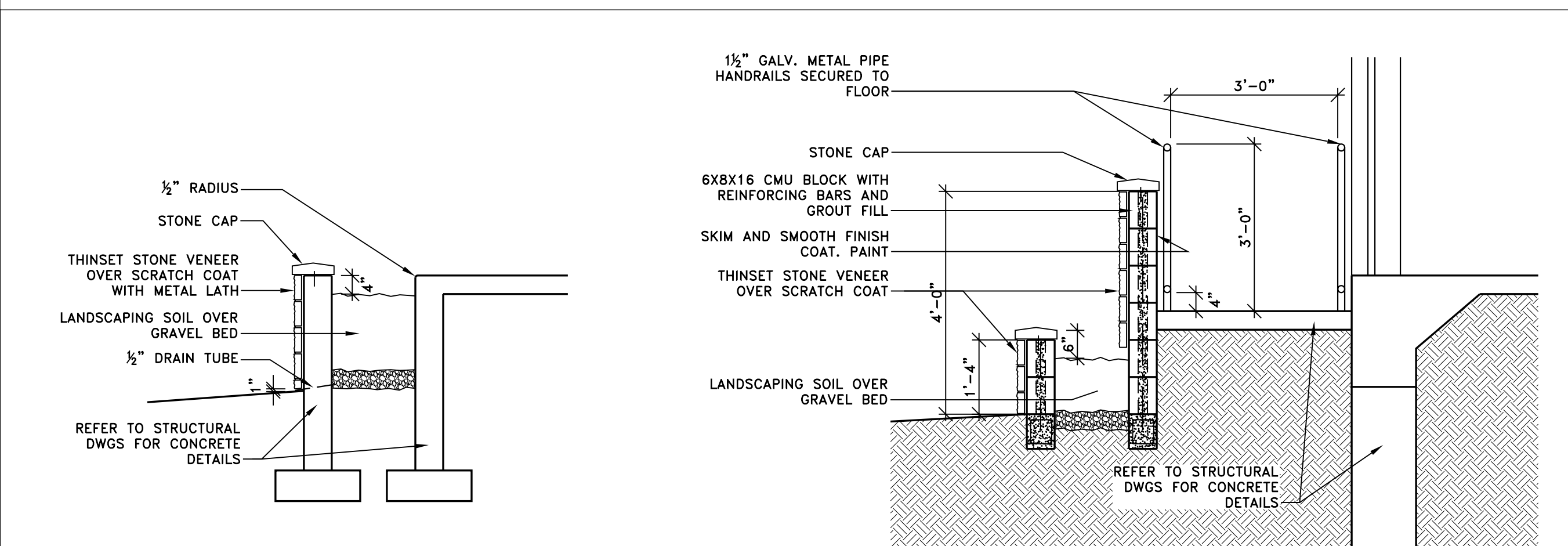
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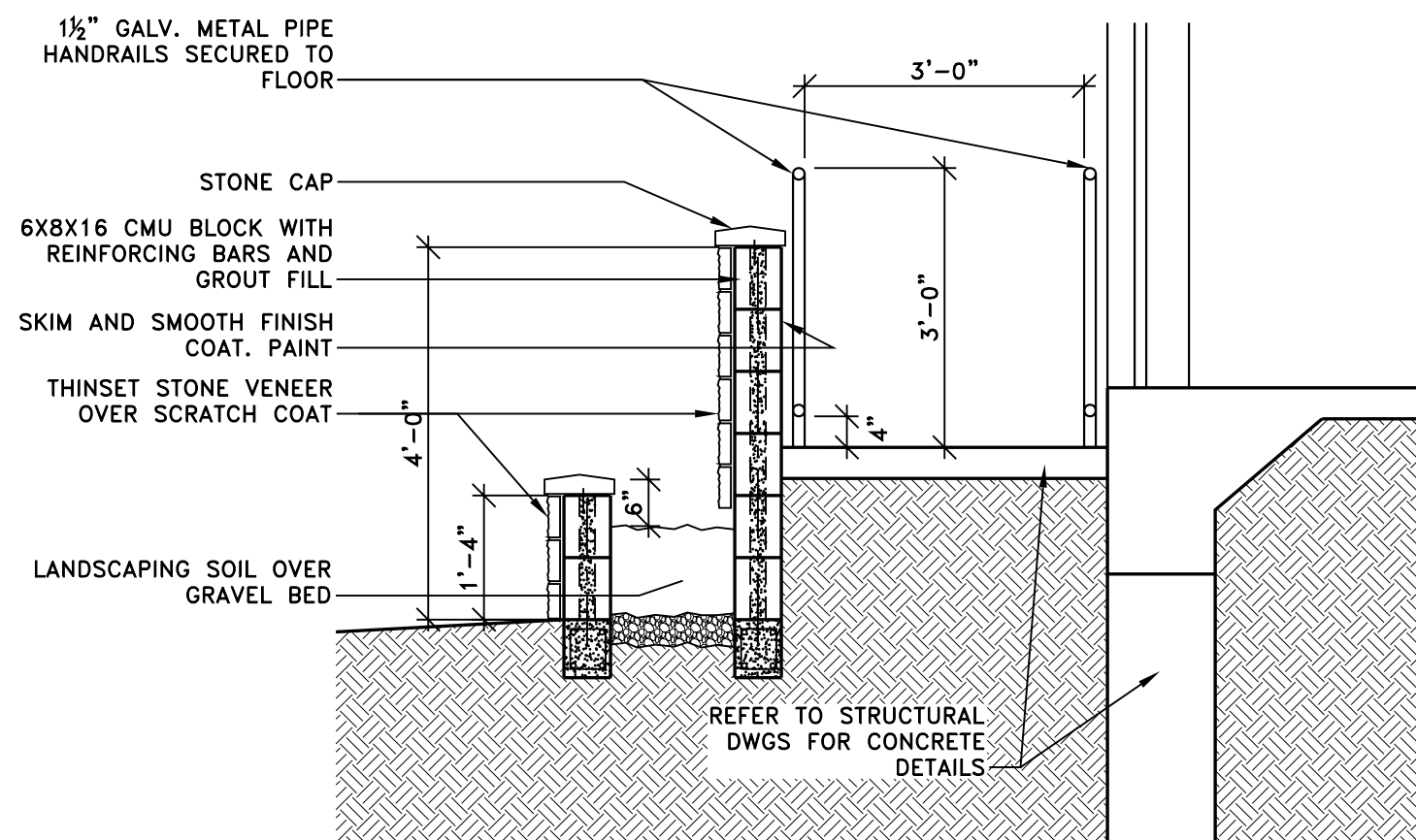
3. SECTION AT RAMP
 $\frac{1}{4}'' = 1'-0''$



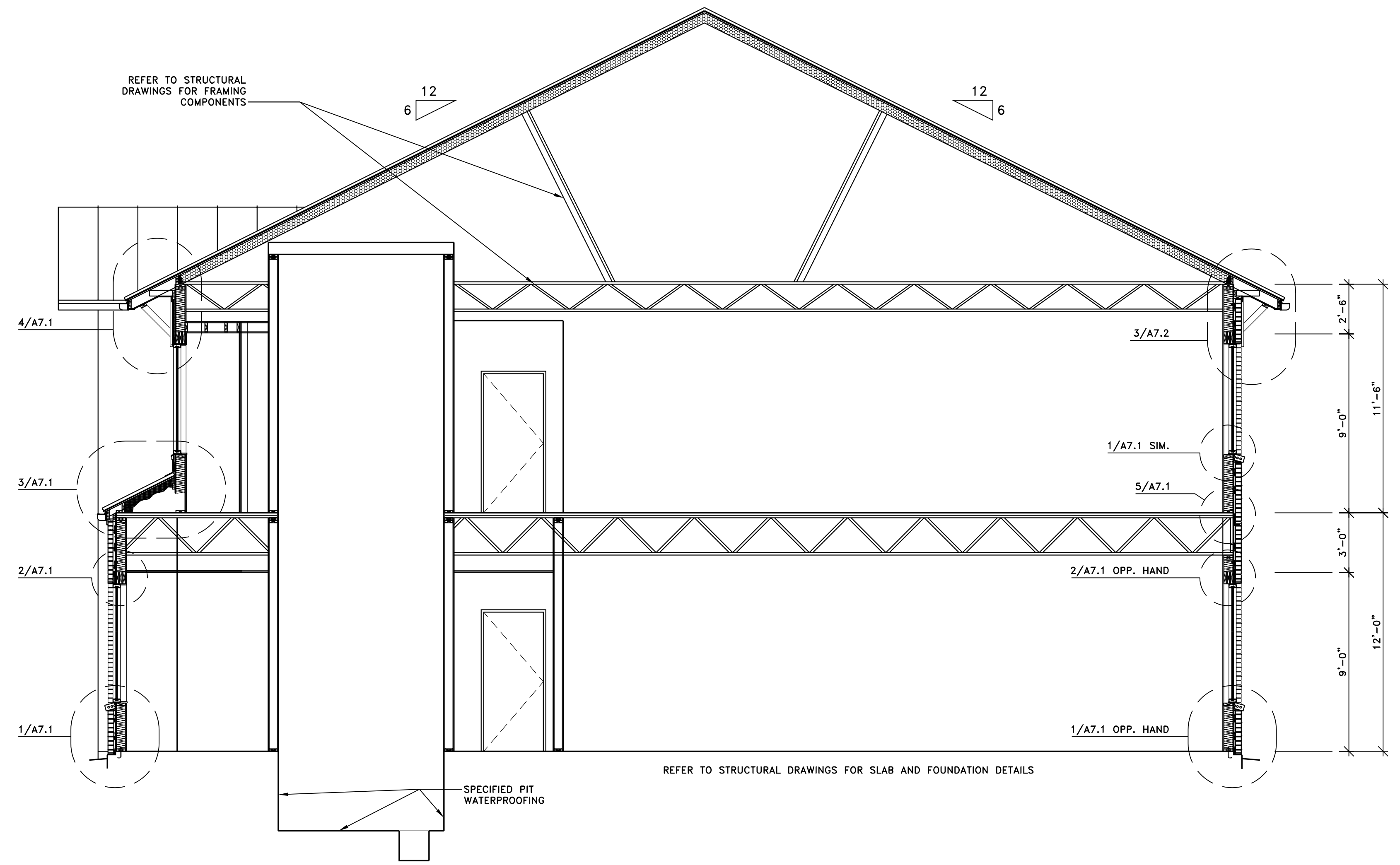
4. SECTION AT STEPS
 $\frac{1}{4}'' = 1'-0''$



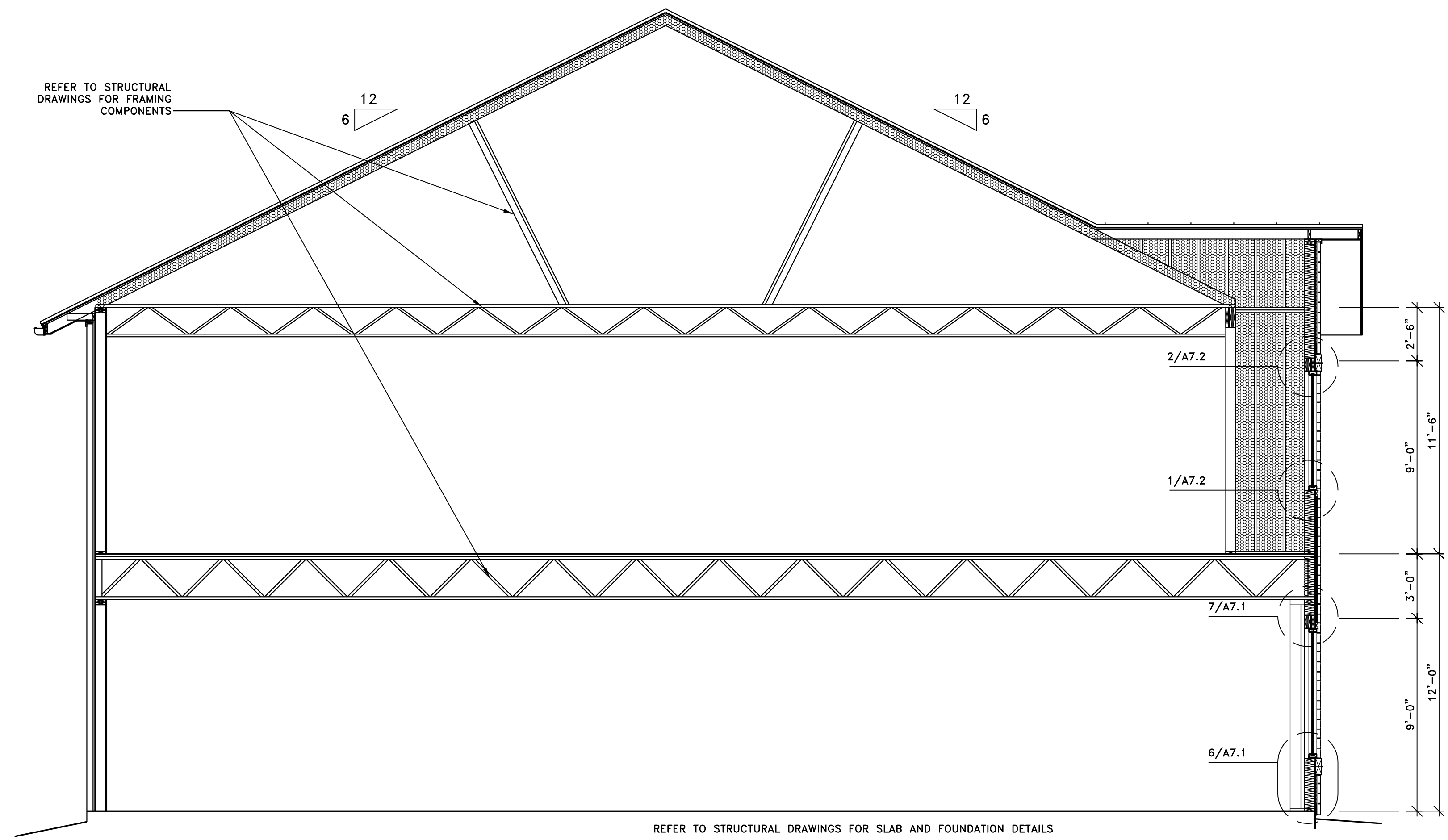
6. SECTION AT PLANTER
 $\frac{1}{2}'' = 1'-0''$



5. SECTION AT RAMP
 $\frac{1}{2}'' = 1'-0''$



1. BUILDING SECTION
 $\frac{1}{4}'' = 1'-0''$



2. BUILDING SECTION
 $\frac{1}{4}'' = 1'-0''$

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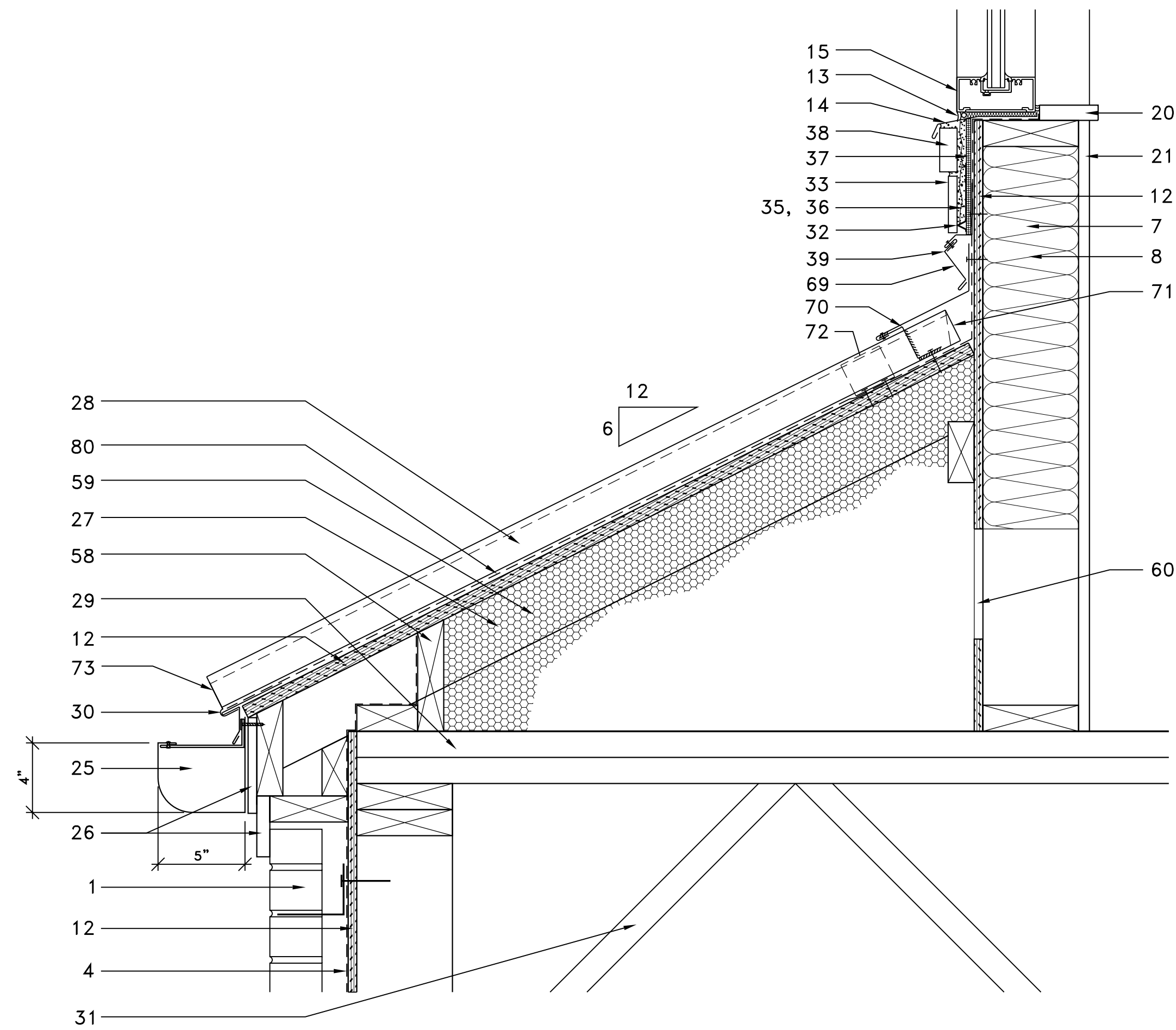
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Dwg. Name

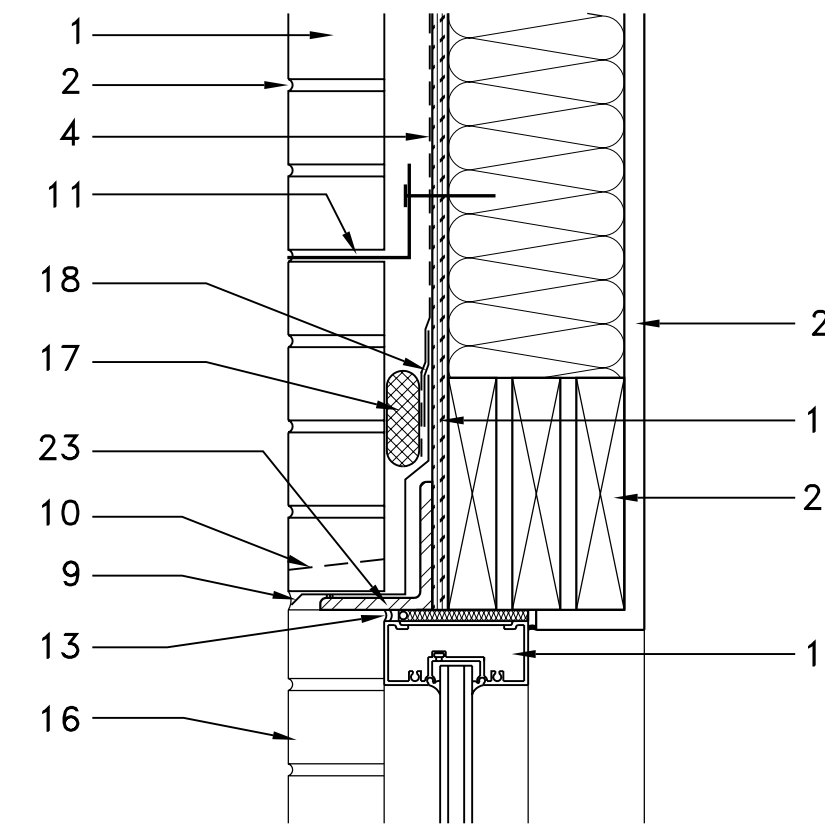
Building Sections

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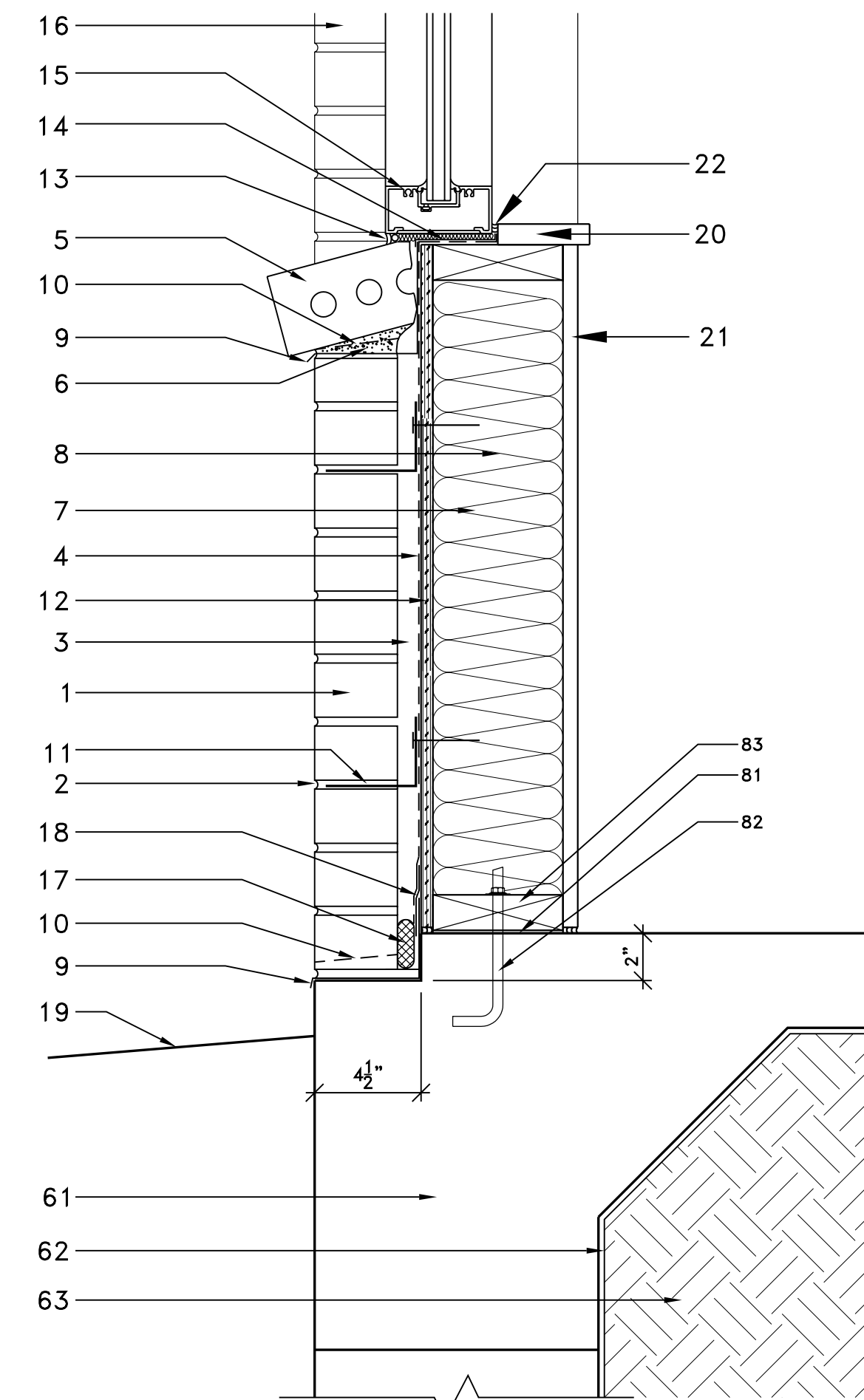
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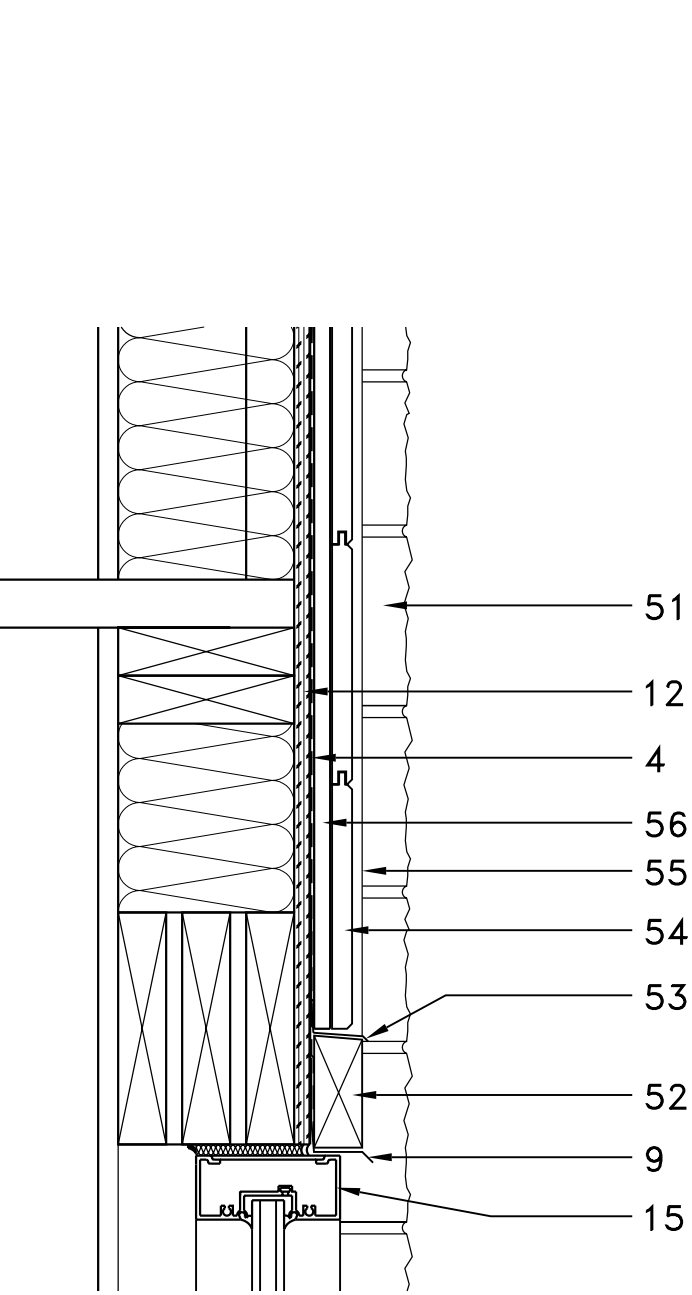
3. SECOND FLOOR SETBACK
2" = 1'-0"



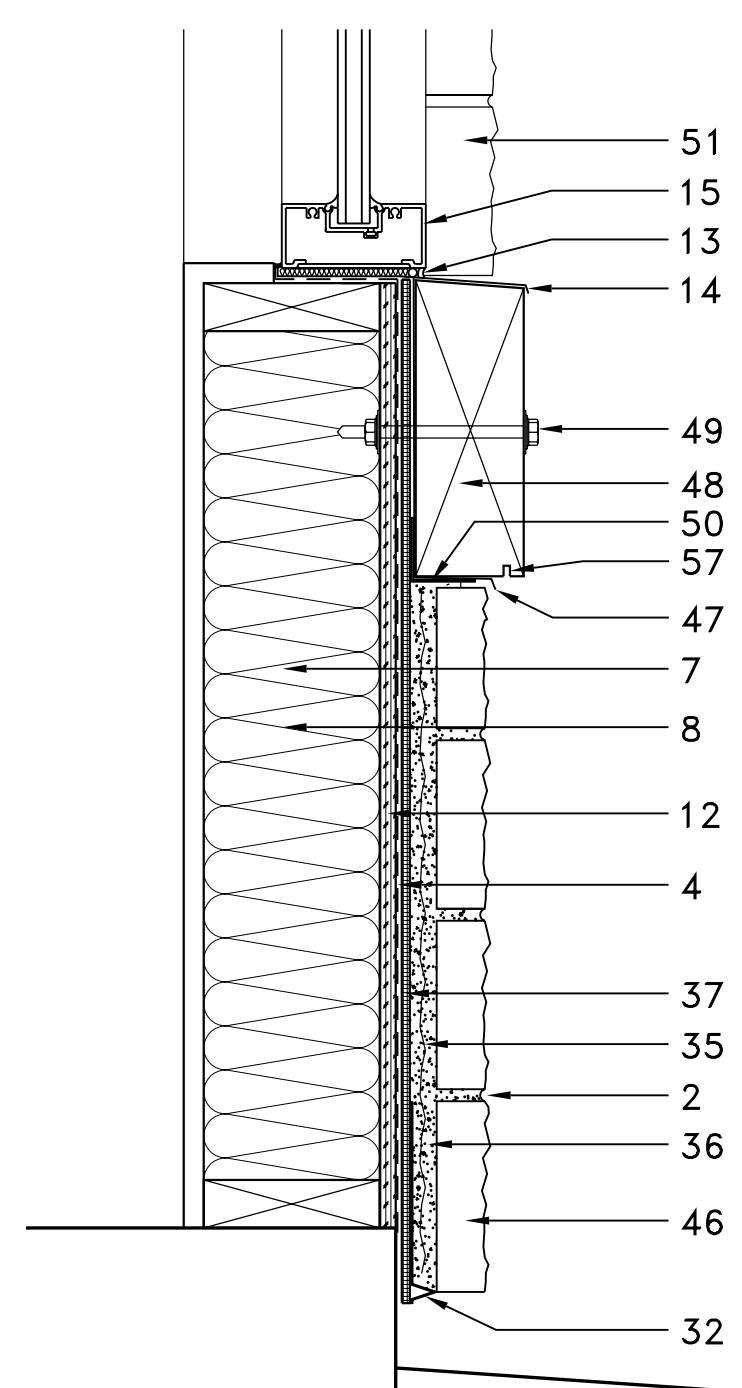
2. WINDOW HEADER
2" = 1'-0"



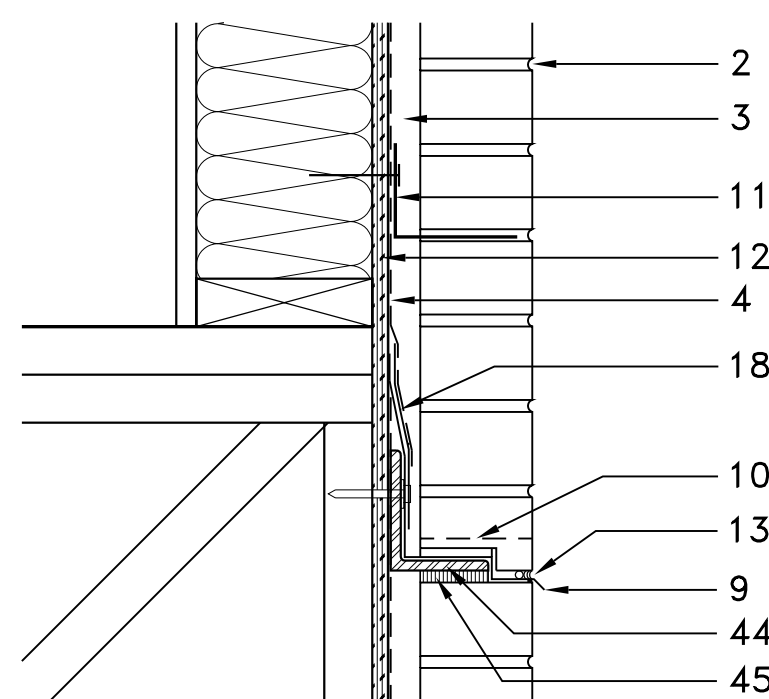
1. FOUNDATION & WINDOW SILL
2" = 1'-0"



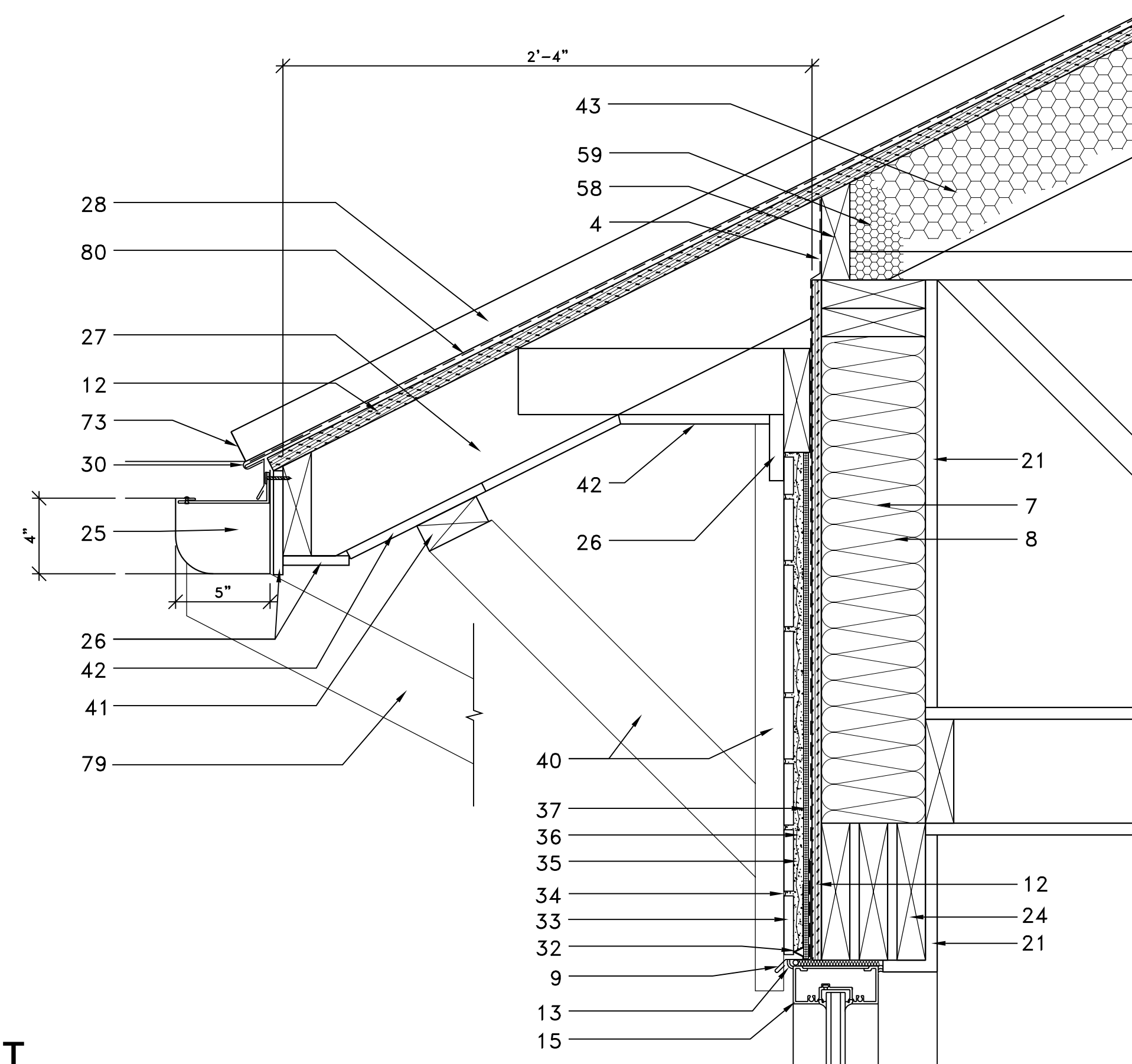
7. WINDOW HEADER AT STONE VENEER WALL
2" = 1'-0"



6. FOUNDATION & WINDOW SILL AT STONE VENEER WALL
2" = 1'-0"



5. BRICK EXPANSION JOINT AT FLOOR TRANSITION
2" = 1'-0"



4. THIN BRICK @ WINDOW HEAD & ROOF
2" = 1'-0"

DETAILS KEYED NOTES:

1. SPECIFIED BRICK MASONRY.
2. TOOLED MORTAR JOINT.
3. 1" AIR SPACE.
4. SPECIFIED MOISTURE BARRIER.
5. SLOPED BRICK SILL 15'.
6. MORTAR BED.
7. 2X6 STUD. REFER TO STRUCTURAL DWGS.
8. R-19 BATT INSULATION.
9. THRU WALL FLASHING.
10. WEEP HOLES AT 24" O.C.
11. SPECIFIED BRICK ANCHORING SYSTEM.
12. 1/2" PLYWOOD SHEATHING PER STRUCTURAL DWGS. USE TREATED PLYWOOD AT FIRST ROW ABOVE FOUNDATION.
13. SEALANT & BACKER ROD. SEALANT TBD.
14. SILL FLASHING.
15. WINDOW ASSEMBLY.
16. BRICK BEYOND.
17. DRAINAGE PROTECTION SYSTEM.
18. FLEXIBLE MEMBRANE FLASHING.
19. FINISH GRADE.
20. PAINTED WOOD SILL.
21. 5/8" GYP. BD. USE TYPE X GYP. BD. AT RATED WALLS.
22. SEALANT. COORDINATE COLORS WITH ARCHITECT.
23. LINTEL ANGLE ATTACHED TO FRAMING.
24. HEADER BEAM PER STRUCTURAL DWGS.
25. CONT. GUTTER PART OF METAL ROOFING SYSTEM.
26. CEDAR CONT. FINISH TRIM. FINISH AS SPECIFIED.
27. RAFTERS. REFER TO STRUCTURAL DWGS.
28. SPECIFIED METAL SEAM ROOFING. PROVIDE ALL FLASHING AND CAULKING PER MANUFACTURER RECOMMENDATIONS.
29. FLOOR DECK PER STRUCT. DWGS.
30. METAL SEAM ROOF FLASHING SYSTEM PER MANUFACTURER SPECIFICATIONS. FLASHING COLOR TO MATCH ROOF COLOR.
31. STRUCTURAL TRUSS. REFER TO STRUCTURAL DWGS.
32. WEEP SCREED.
33. THIN BRICK VENEER TO MATCH MASONRY BRICK.
34. TOOLED MORTAR TO MATCH BRICK MASONRY.
35. GALVANIZED METAL LATH SCREWED TO SHEATHING OR TO CONCRETE SUBSTRATE.
36. MORTAR SETTING BED OVER 1/2" MORTAR SCRATCH COAT.
37. SPECIFIED DRAINAGE MAT OVER MOISTURE BARRIER.
38. BRICK SILL 3/4" OFF VENEER FACE.
39. 2 PIECE COUNTERFLASHING PER METAL SEAM ROOF SYSTEM DETAILS. FLASHING TO MATCH ROOF COLOR.
40. WOOD BRACKETS BEYOND. REFER TO EXT. ELEVATIONS & 7/AS.1.
41. CONT. FINISH 2X4 TRIM.
42. CEDAR TONGUE & GROOVE SOFFIT. FINISH AS SPECIFIED.
43. R-28 MIN. BATT INSULATION AGAINST DECK BETWEEN TRUSS RAFTERS WITH WIRE SUPPORT. ALTERNATE: PNEUMATICALLY BLOWN INSULATION AGAINST DECK WITH PERMANENT SUPPORT SYSTEM. MIN. R-28.
44. LEDGER ANGLE.
45. COMPRESSIBLE FILLER.
46. SPECIFIED STONE VENEER.
47. METAL FLASHING FULL WIDTH BEHIND AND UNDER WOOD TRIM.
48. 4X10 CEDAR WOOD SILL. REFER TO ELEVATIONS FOR LENGTH. FINISH AS SPECIFIED.
49. GALVANIZED 1/2" BOLTS, WASHERS AND NUTS. APPLY SEALANT BETWEEN WASHERS AND WOOD. REFER TO EXTERIOR ELEVATIONS FOR BOLT LOCATIONS.
50. 14 GA GALVANIZED METAL ANGLE.
51. STONE VENEER BEYOND.
52. 2X4 CEDAR WOOD HEAD TRIM. FINISH AS SPECIFIED.
53. METAL FLASHING. ALL FLASHING TO MATCH ADJACENT SURFACE COLOR.
54. SPECIFIED TONGUE AND GROOVE CEDAR SIDING.
55. 2X2 VERTICAL CEDAR TRIM.
56. VERTICAL 1/2" TREATED FURRING STRIPS AT 16" O.C. ALIGN WITH STUDS. AIR SPACE BETWEEN STRIPS.
57. DRIP EDGE.
58. CONT. WOOD BLOCKING TO SEAL ATTIC FROM OUTSIDE.
59. CLOSED CELL SPRAY FOAM INSULATION. INSTALL AT ALL WALL/ROOF CONNECTIONS TO SEAL ALL INFILTRATION POINTS. INSTALL AT SECOND FLOOR SETBACK DIRECTLY AGAINST ROOF SHEATHING TO SEAL ALL CONNECTIONS AND INSULATE ROOF TO A MIN. OF R28.
60. OPENING IN SHEATHING BETWEEN STUDS TO INSTALL INSULATION IN ROOF CAVITY. KEEP OPEN AND INSTALL INSULATION STOP SO INSULATION DOES NOT CLOSE OPENINGS.
61. SLAB AND FOUNDATION PER STRUCTURAL DWGS.
62. MOISTURE BARRIER.
63. SOIL PREPARED PER GEOTECH ENGINEER SPECIFICATIONS.
64. ELASTIC JOINT SEALANT.
65. ROUNDED BACK-UP NOT BONDED TO SEALANT.
66. ZINC X-66 CASING BEAD.
67. 1/2" AIR SPACE.
68. BLOCKING.
69. WALL TO ROOF FLASHING. ALL FLASHING TO HAVE 4" MIN. END LAP WITH CONT. CAULK AT LAPS.
70. Z CLOSURE. CUT TO FIT BETWEEN PANEL SEAMS. SET ON TAPE SEALANT. SEALANT BEAD ALONG EDGE OF CLOSURE AND OVER TOP OF PANEL SEAMS.
71. BOX PANEL ENDS.
72. PANEL CLIP AND FASTENERS.
73. SEALANT TO CLOSE END OF PANELS.
74. ROOF PIPE PENETRATION. 4" DIA MAX.
75. RUBBER BOOT FLASHING.
76. SET BOOT INTO CONT. CAULK BEAD. USE FASTENERS PER BOOT MANUFACTURER SPECIFICATIONS. CAULK FASTENER HEADS.
77. STONE CAP.
78. REFER TO STRUCTURAL DWGS FOR SLAB AND FOUNDATION REINFORCING.
79. 3X4 DOWNSPOUT BEYOND.
80. ROOF UNDERLAYMENT MOISTURE BARRIER. MAX. RATING: 1 PERM.
81. CONT. CLOSED CELL FOAM SILL SEALER WITH SELF ADHESIVE WATERPROOFING MEMBRANE BETWEEN CONCRETE AND PLATE.
82. PLATE ANCHOR AT 48" O.C.. REFER TO STRUCTURAL DWGS.
83. TREATED SILL PLATE. TYP. ALL FIRST FLOOR PLATES.

Fulshear Clinic Shell Building
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KASHOU
architecture

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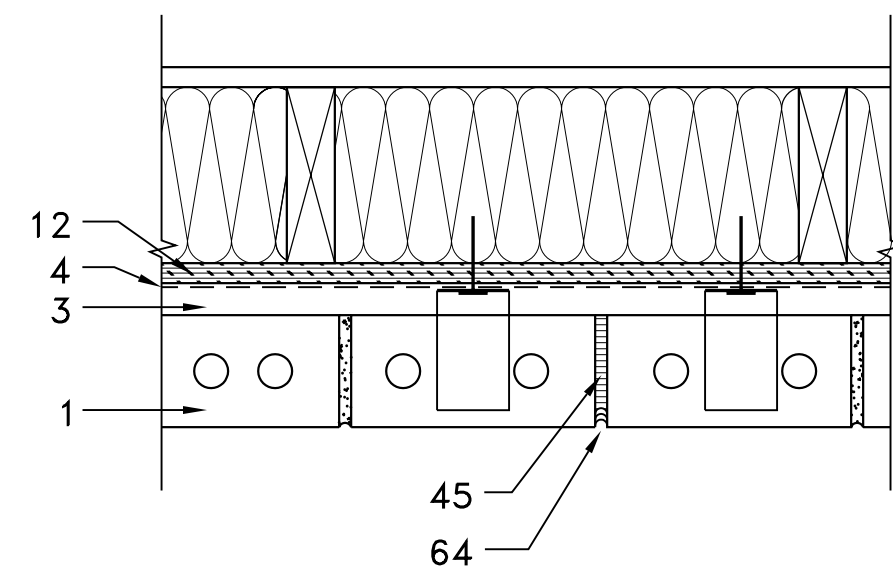
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Dwg. Name

Details

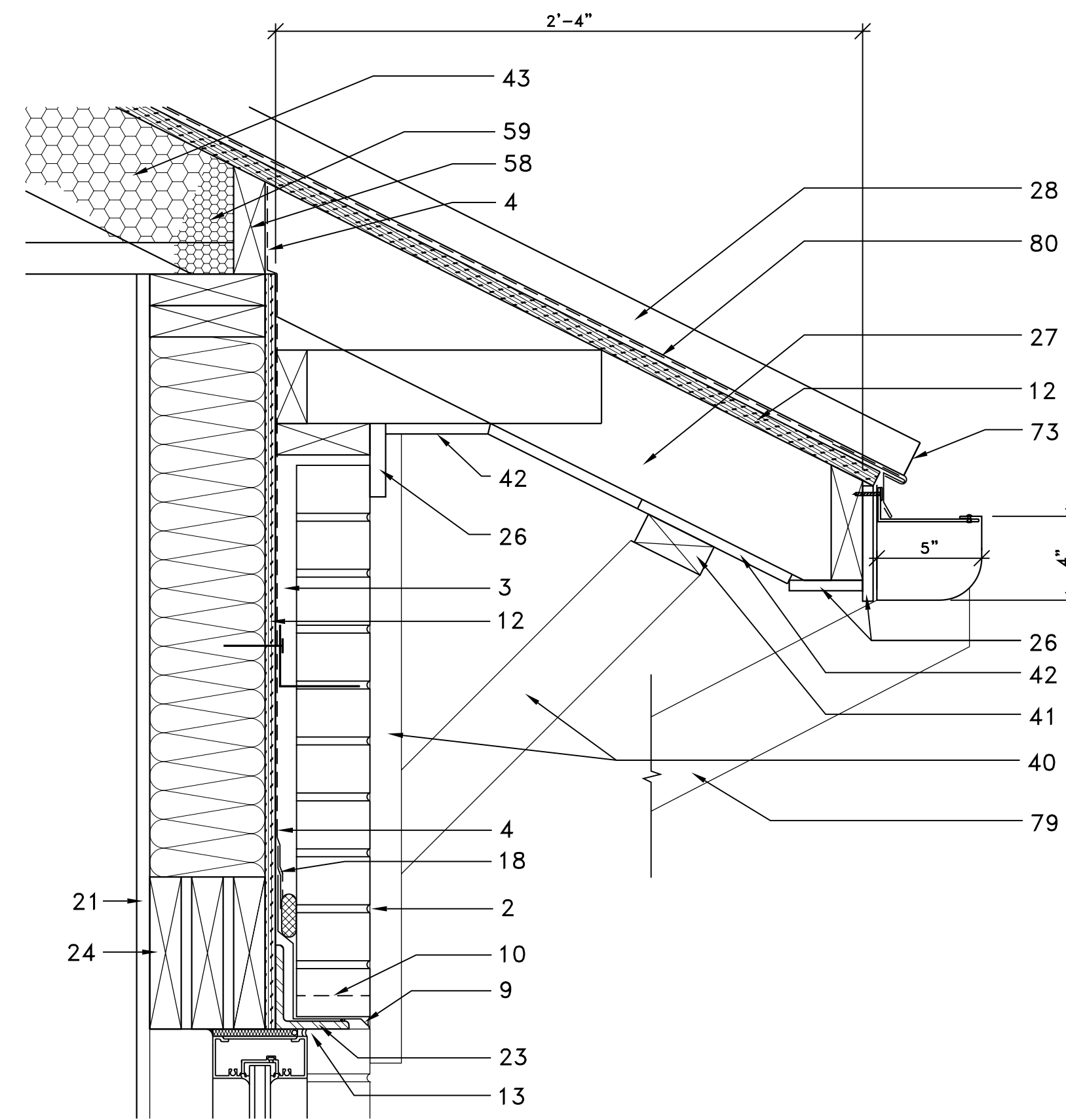
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A7.1



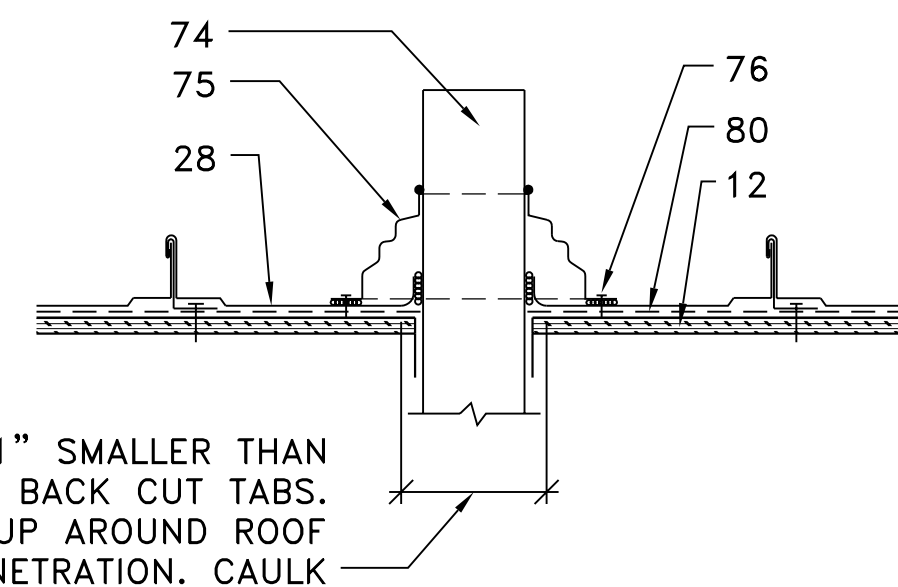
4. VERTICAL BRICK EXPANSION JOINT

2" = 1'-0"



3. BRICK MASONRY @ WINDOW HEAD & ROOF

2" = 1'-0"

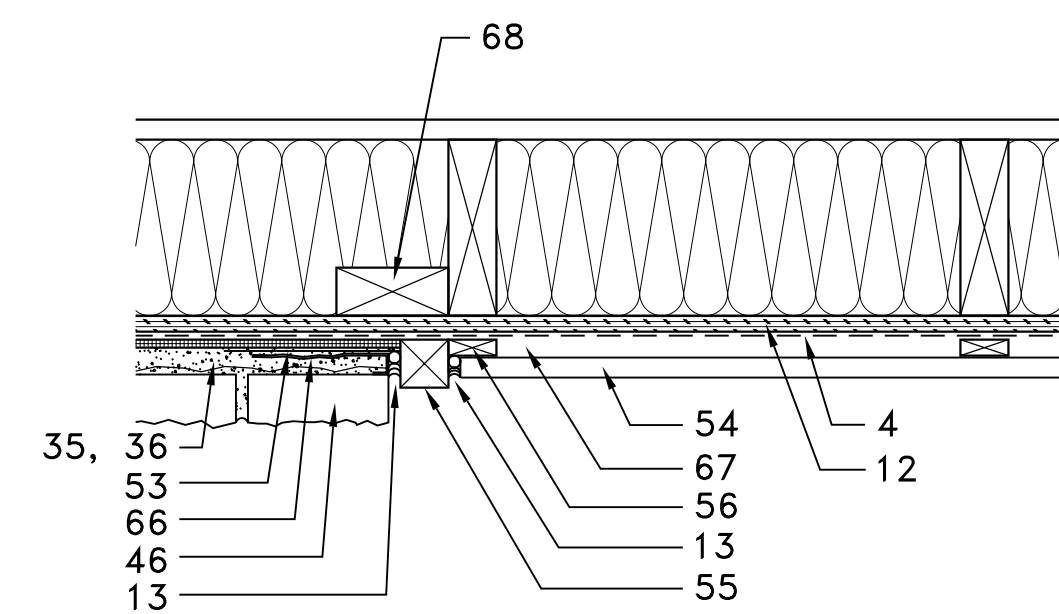


CUT PANEL 1" SMALLER THAN PENETRATION. BACK CUT TABS. FOLD TABS UP AROUND ROOF PENETRATION. CAULK

LOCATE PIPE PENETRATION IN PAN OF PANEL ONLY.

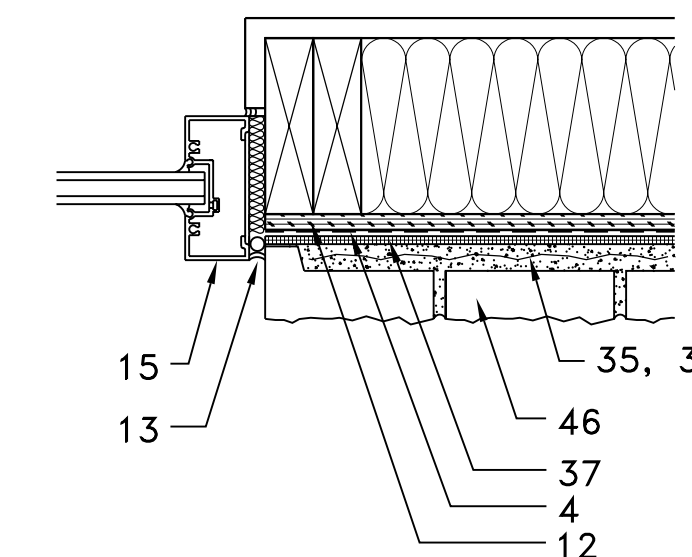
8. ROOF PENETRATIONS

2" = 1'-0"



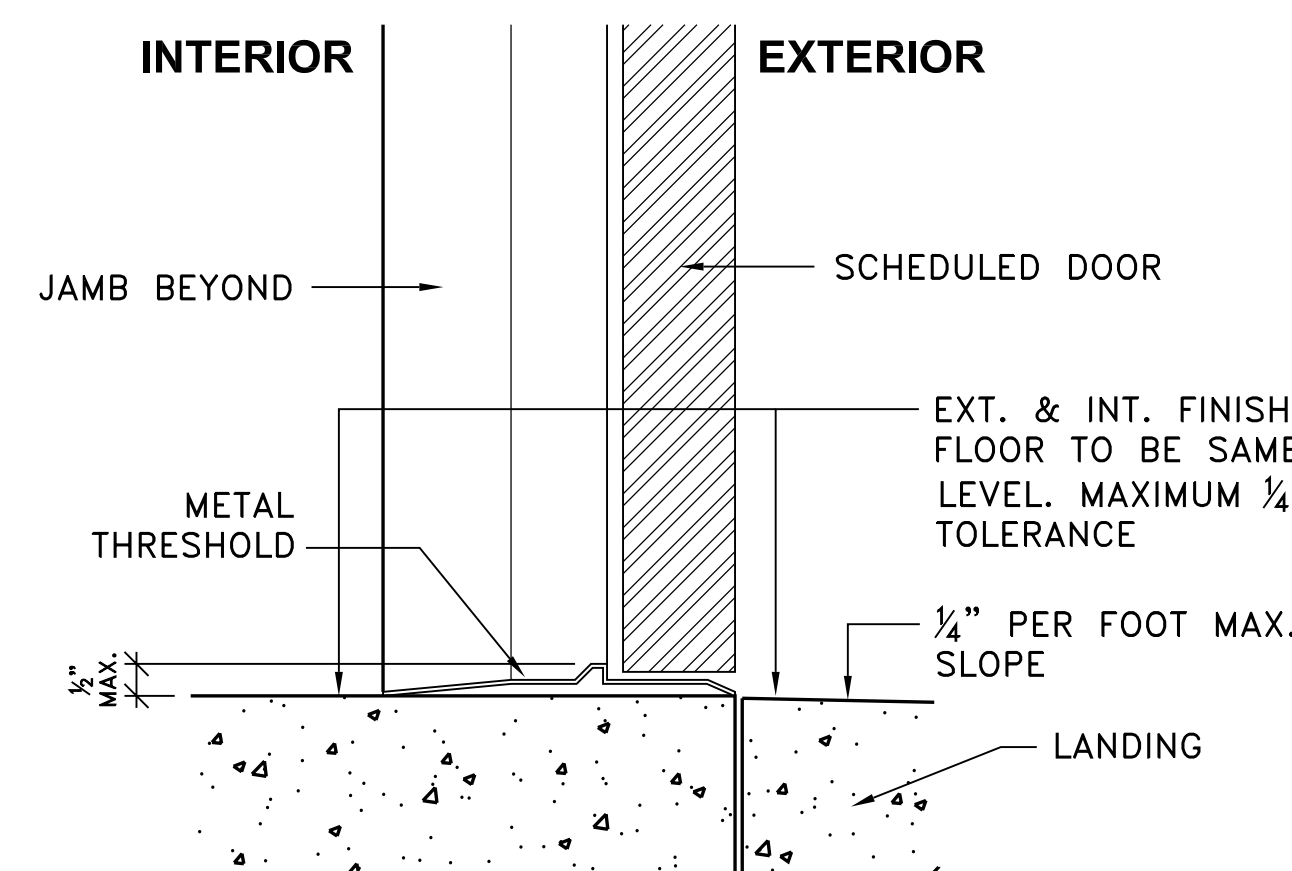
7. STONE / SIDING TRANSITION

2" = 1'-0"



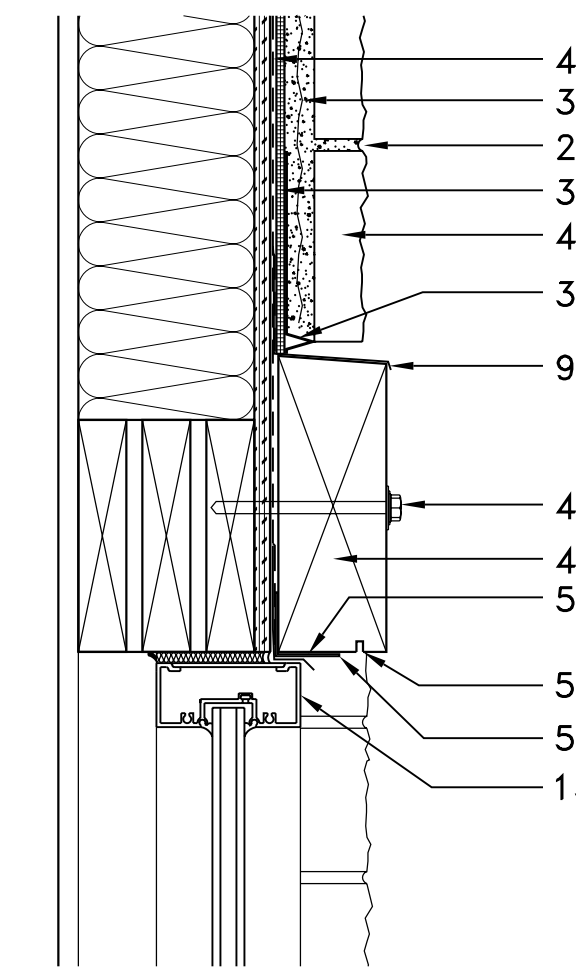
6. WINDOW JAMB

2" = 1'-0"



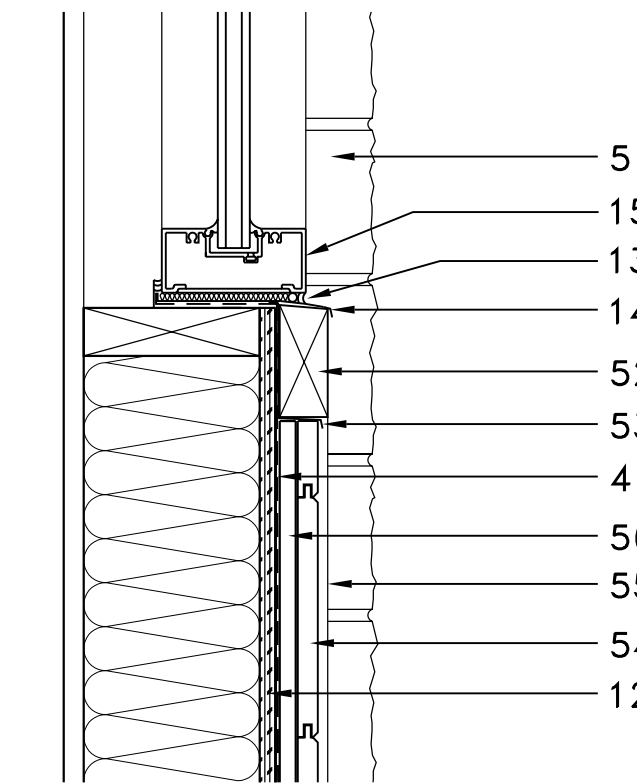
10. DOOR LANDING

NTS



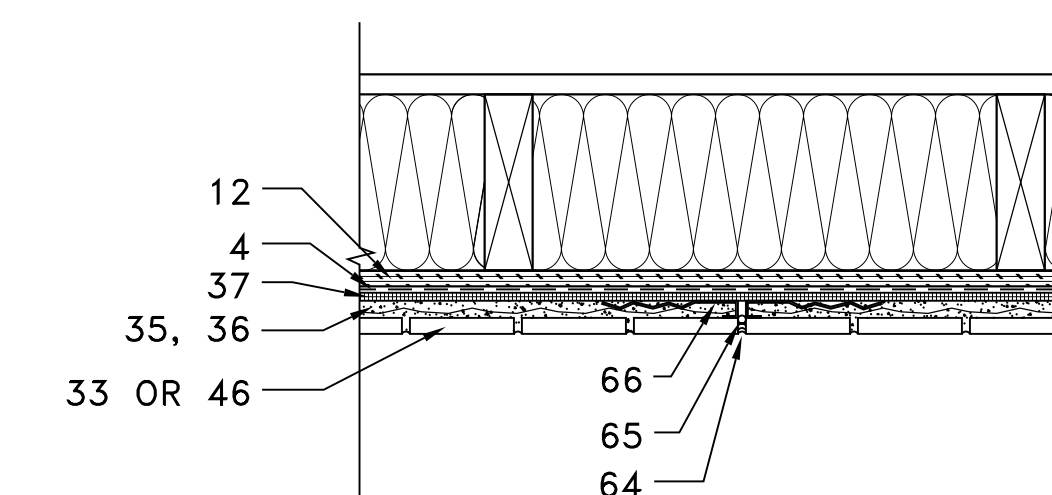
2. WINDOW HEAD AT STONE VENEER WALL

2" = 1'-0"



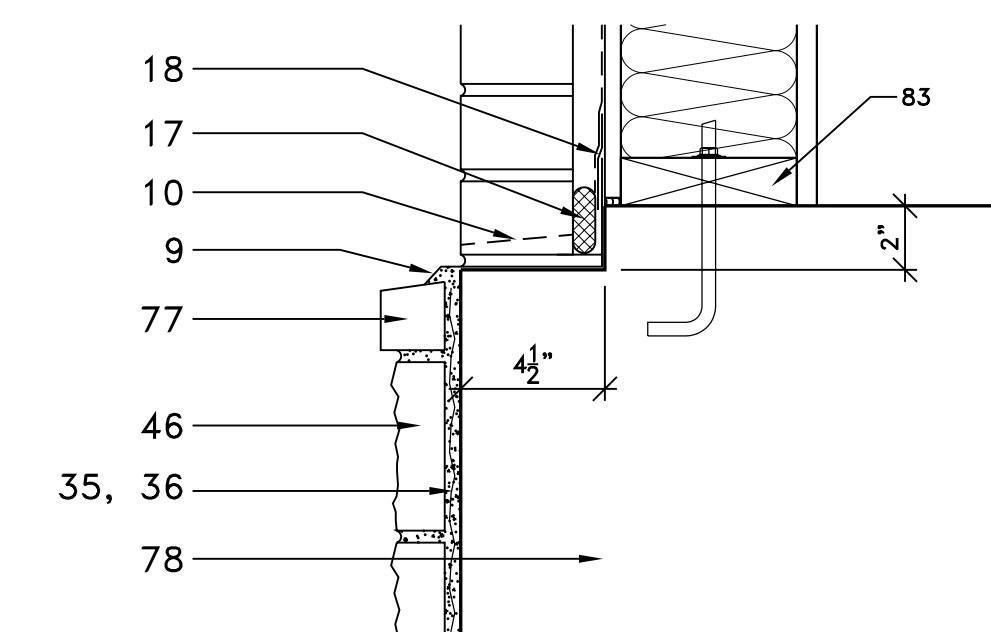
1. WINDOW SILL AT STONE VENEER WALL

2" = 1'-0"



5. THIN BRICK/STONE EXPANSION JOINT

2" = 1'-0"

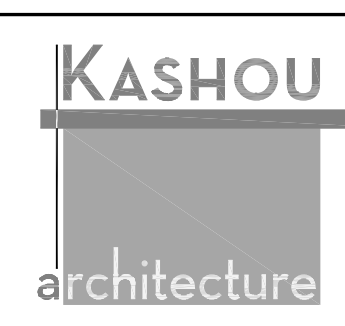


9. BRICK / STONE TRANSITION

2" = 1'-0"

DETAILS KEYED NOTES:

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3. 1" AIR SPACE.
4. SPECIFIED MOISTURE BARRIER.
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55. 2X2 VERTICAL CEDAR TRIM.
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81. PLATE ANCHOR AT 48" O.C.. REFER TO STRUCTURAL DWGS.
82. TREATED SILL PLATE. TYP. ALL FIRST FLOOR PLATES.
- 83.



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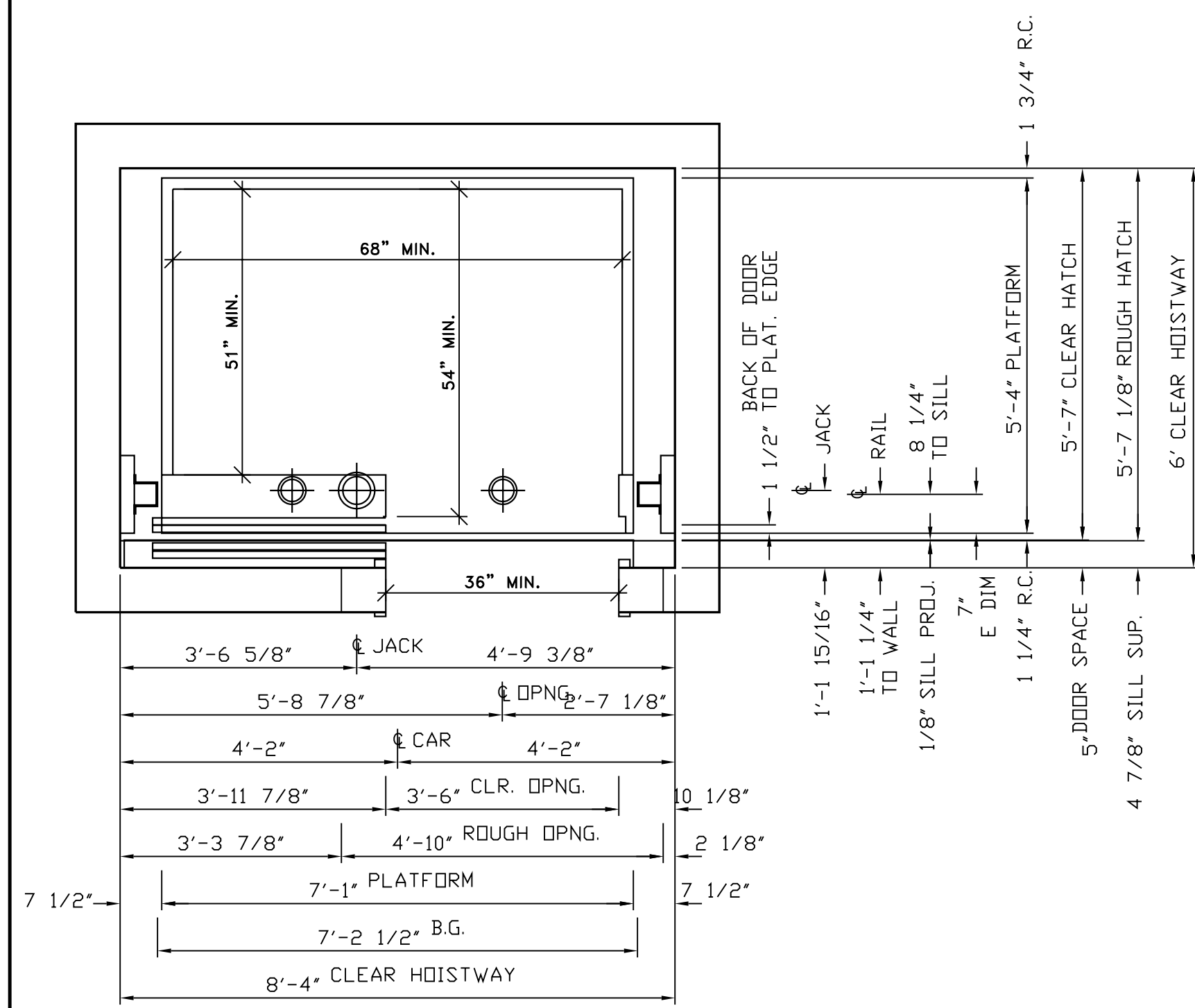
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Dwg. Name

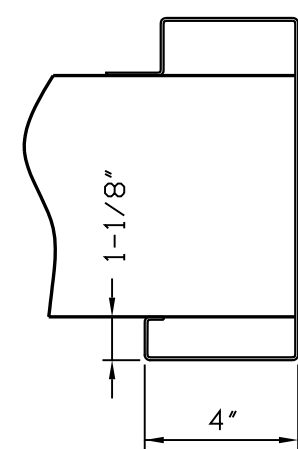
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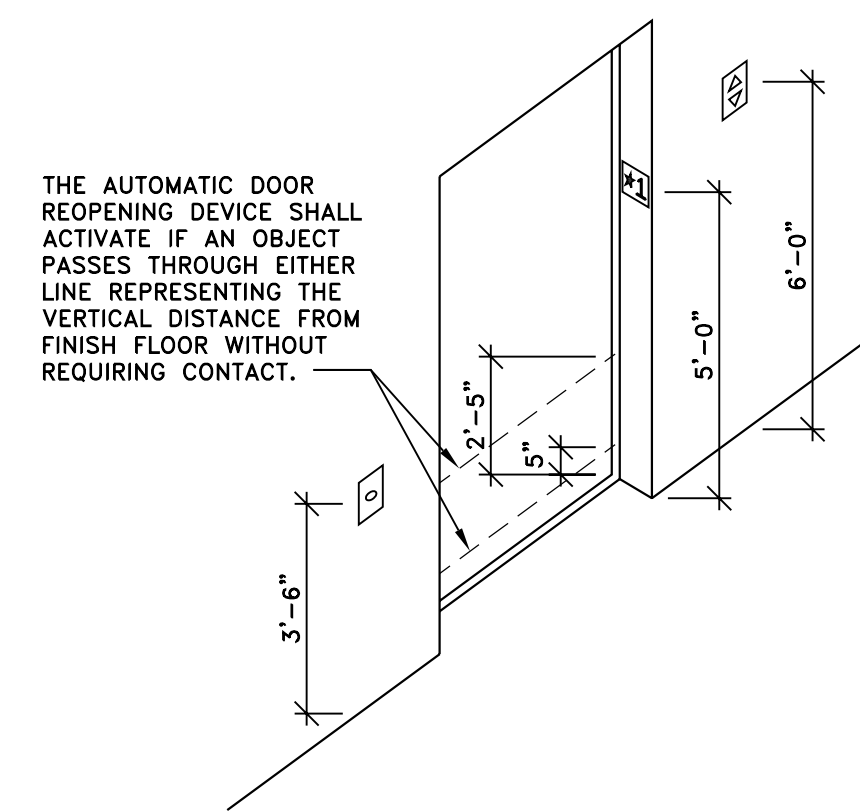
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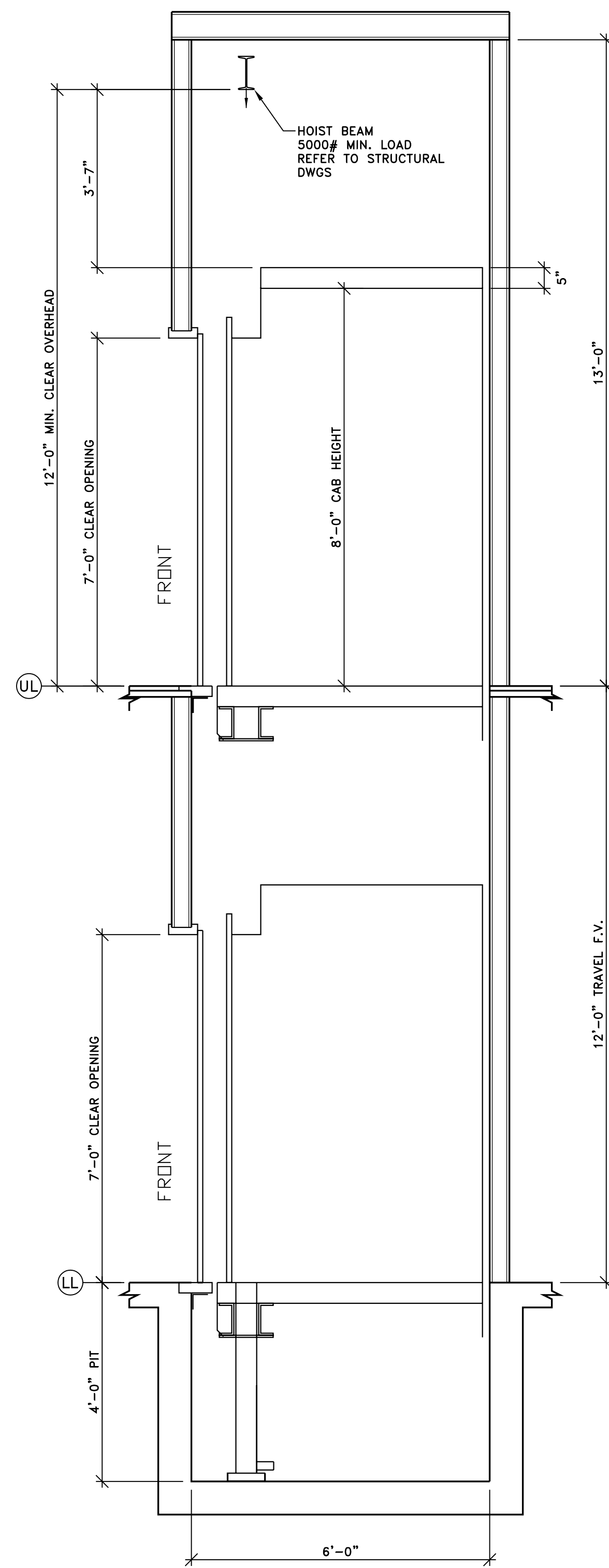
11. ELEVATOR PIT PLAN
1/2" = 1'-0"



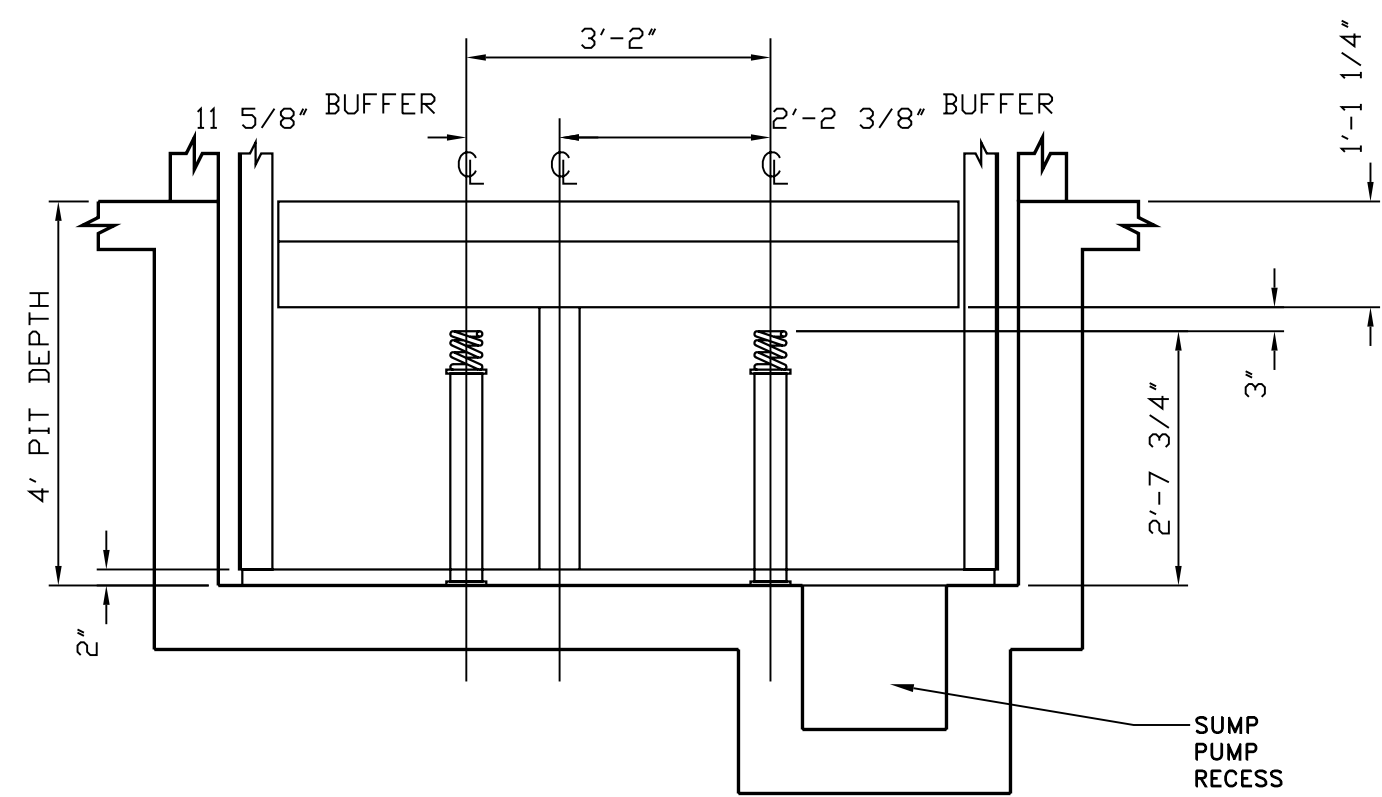
12. ELEVATOR ENTRANCE JAMB
1/2" = 1'-0"



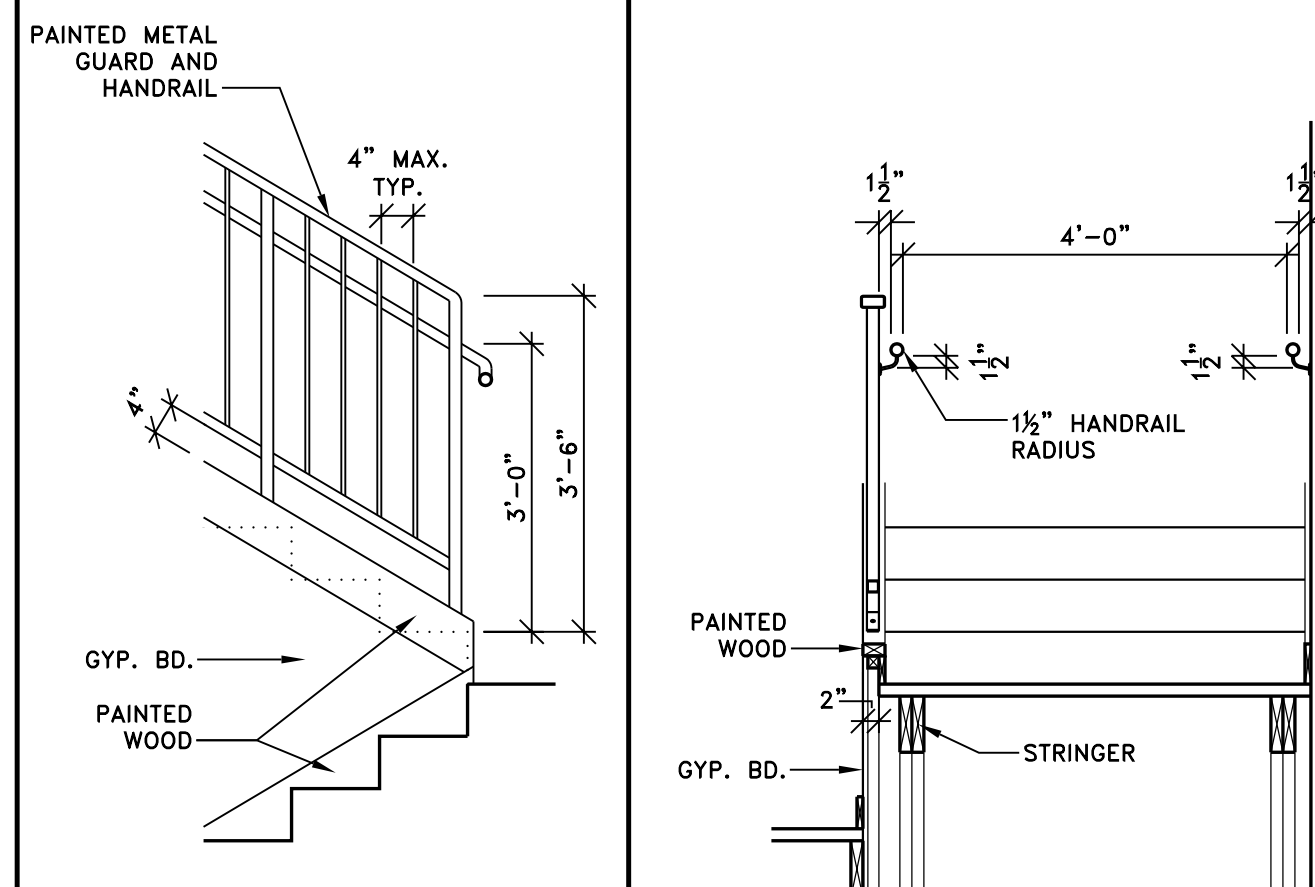
13. ELEVATOR ENTRY REQUIREMENTS
1/2" = 1'-0"



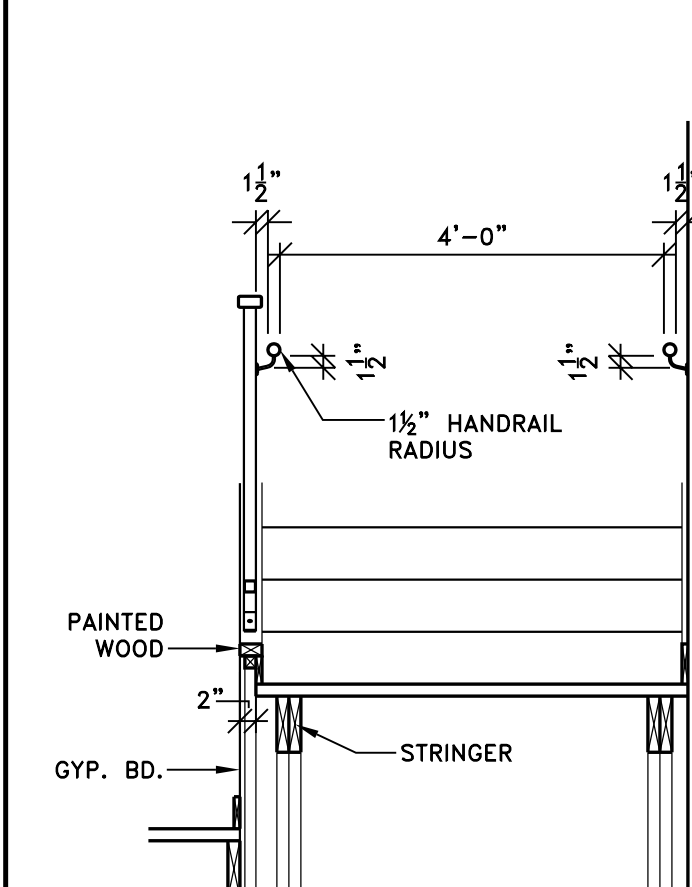
9. ELEVATOR SHAFT SECTION
1/2" = 1'-0"



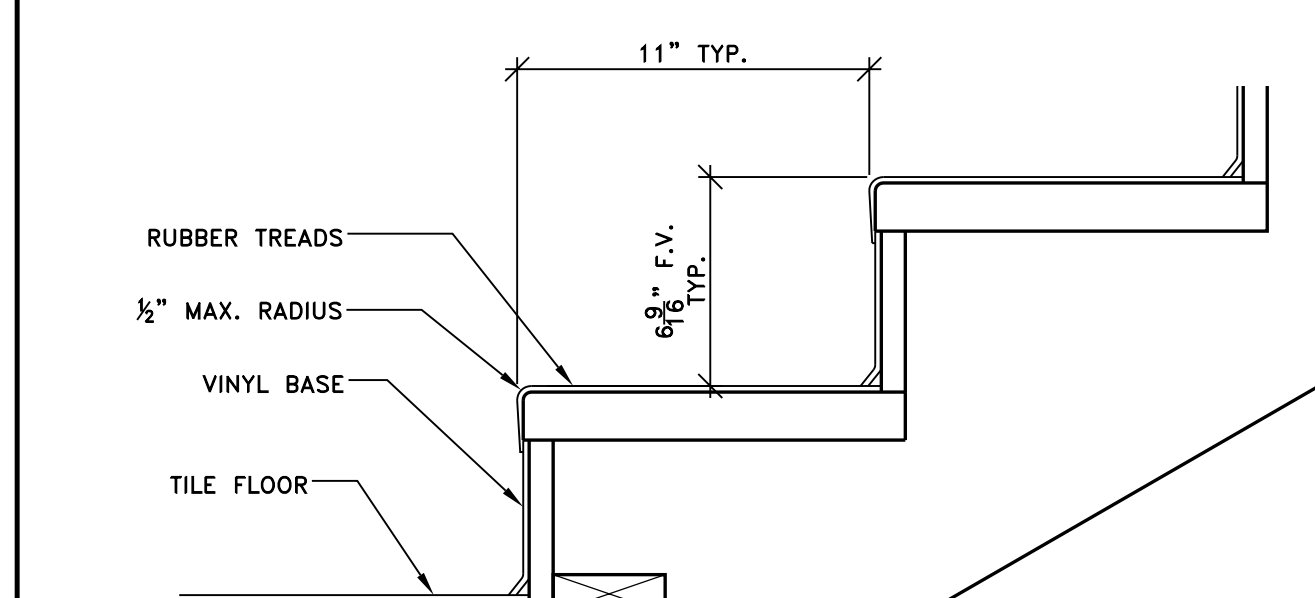
10. ELEVATOR PIT SECTION
1/2" = 1'-0"



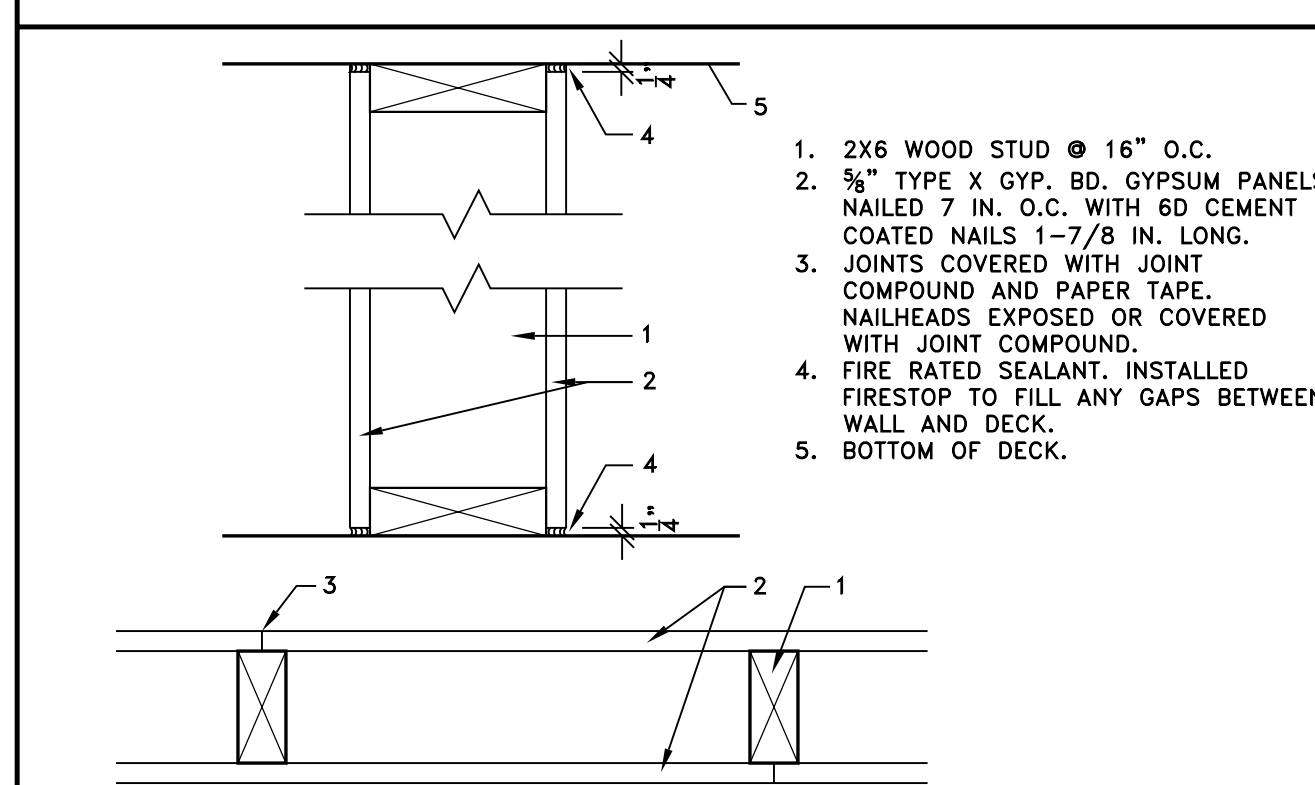
6. STAIR DETAILS
1/2" = 1'-0"



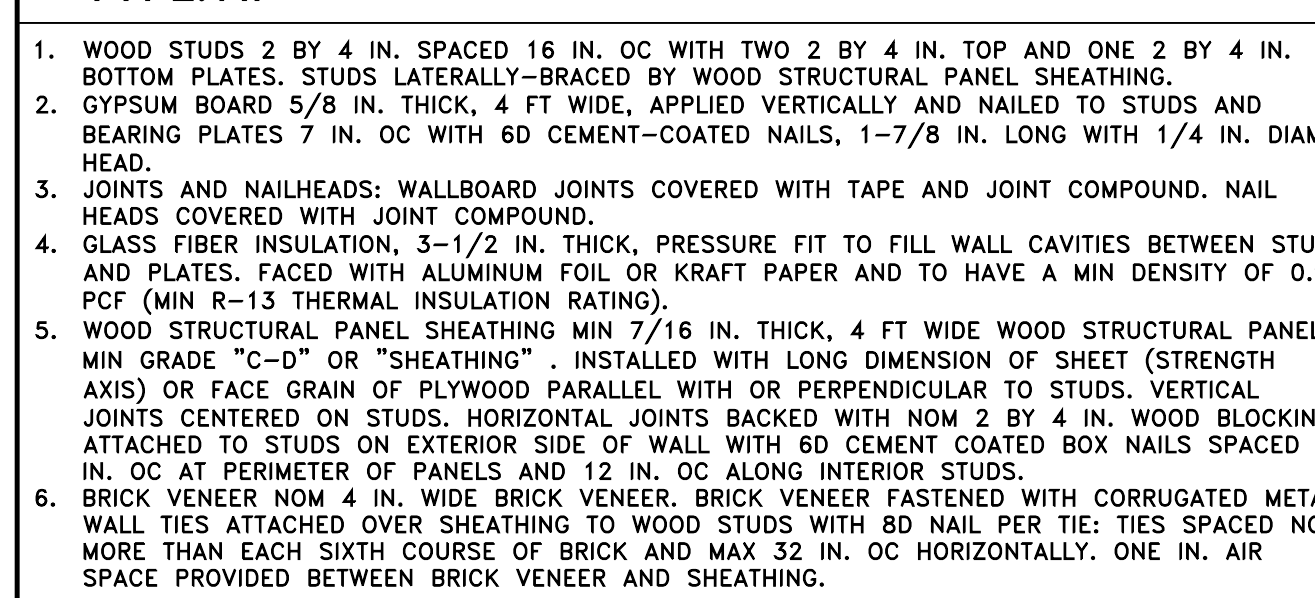
5. STAIR DETAILS
1/2" = 1'-0"



7. STAIR DETAILS
2" = 1'-0"

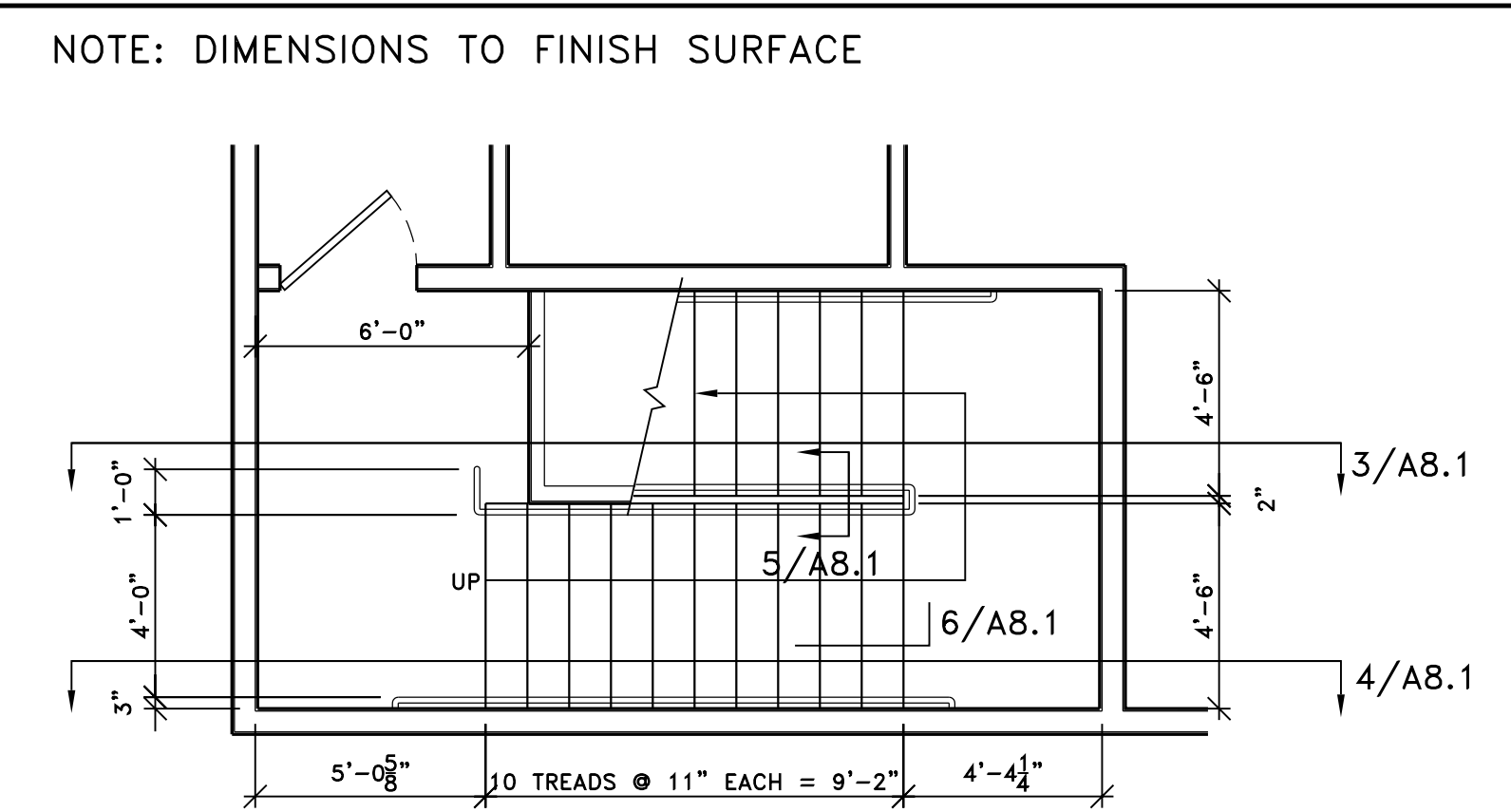


WALL RATING: 1 HOUR
UL DESIGN: U305
TYPE: A1

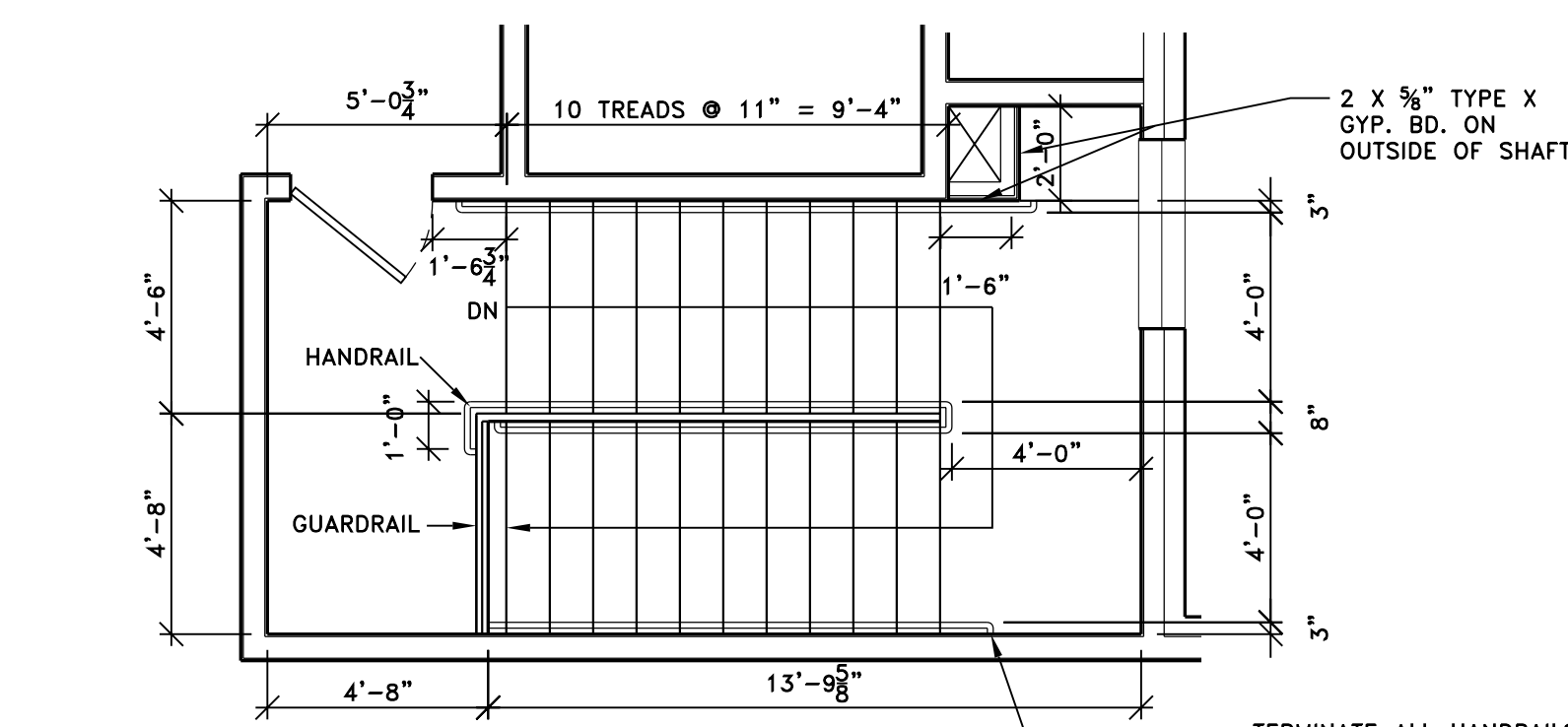


WALL RATING: 1 HOUR
UL DESIGN: U356
TYPE: B1

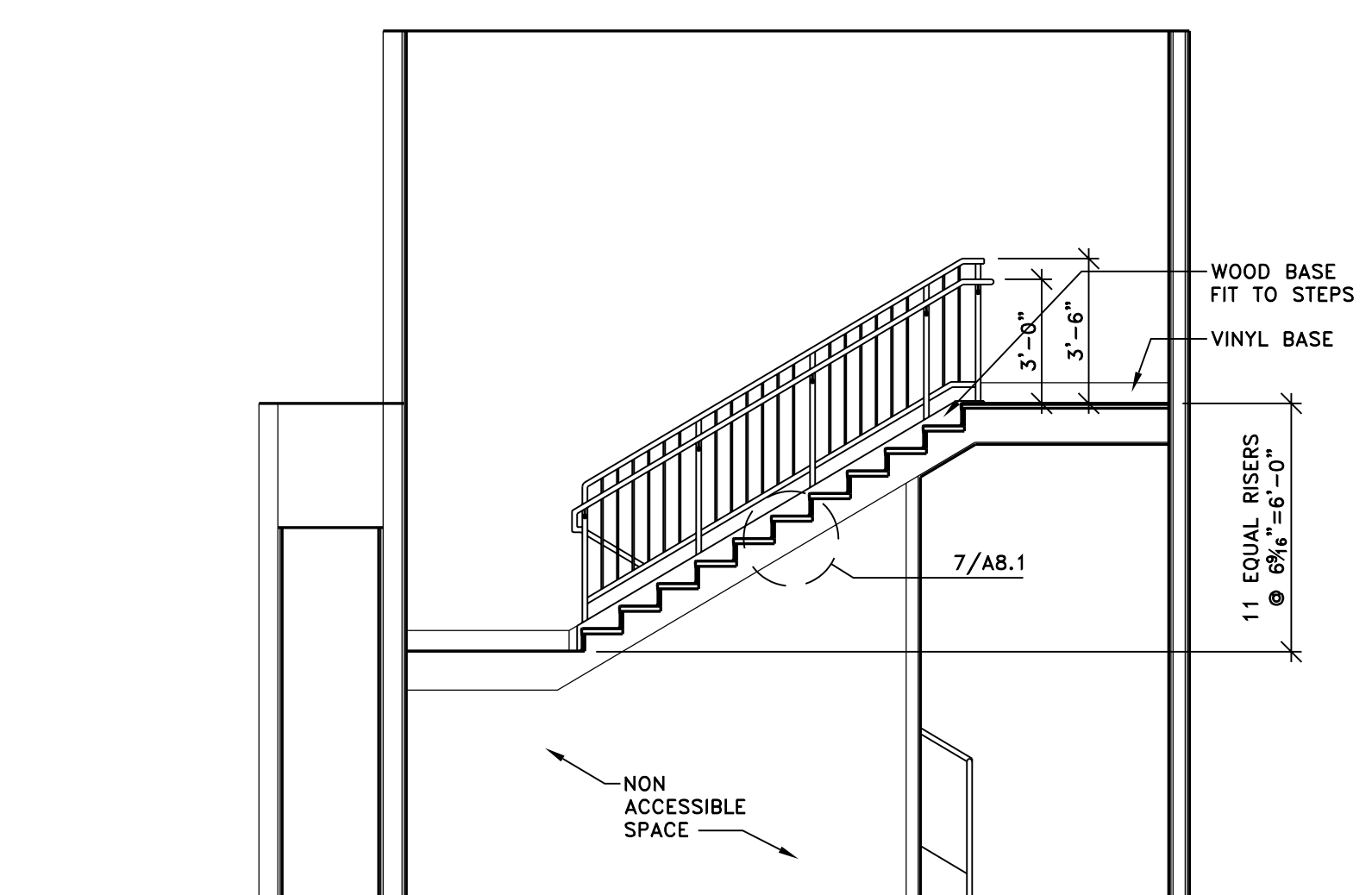
8. PARTITION TYPES
2" = 1'-0"



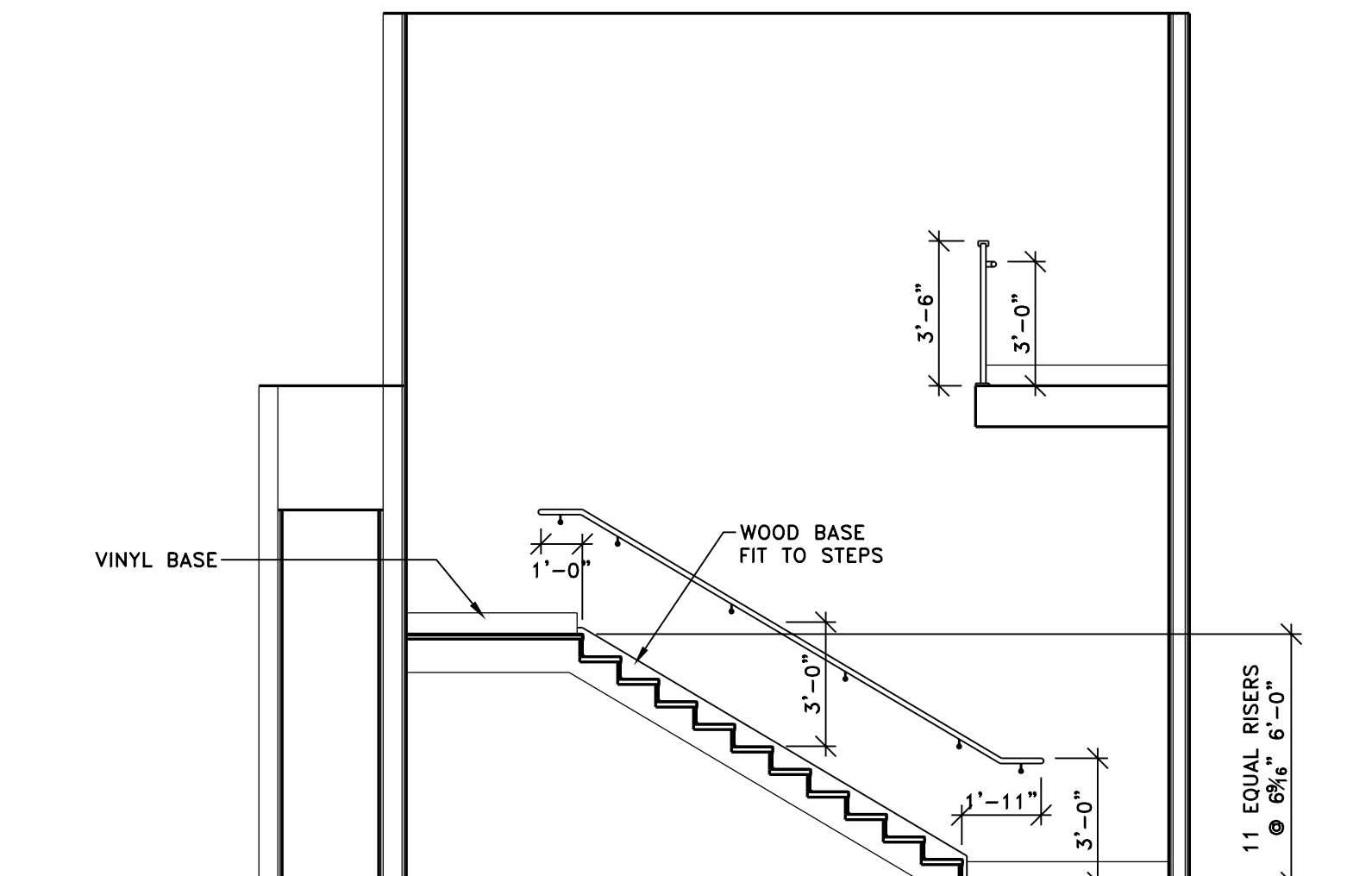
1. FIRST FLOOR STAIRS PLAN
1/2" = 1'-0"



2. SECOND FLOOR STAIRS PLAN
1/2" = 1'-0"



3. STAIRS SECTION
1/2" = 1'-0"



4. STAIRS SECTION
1/4" = 1'-0"

NOTE: DIMENSIONS TO FINISH SURFACE

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Project No.

Dwg. Name
Enlarged Plans

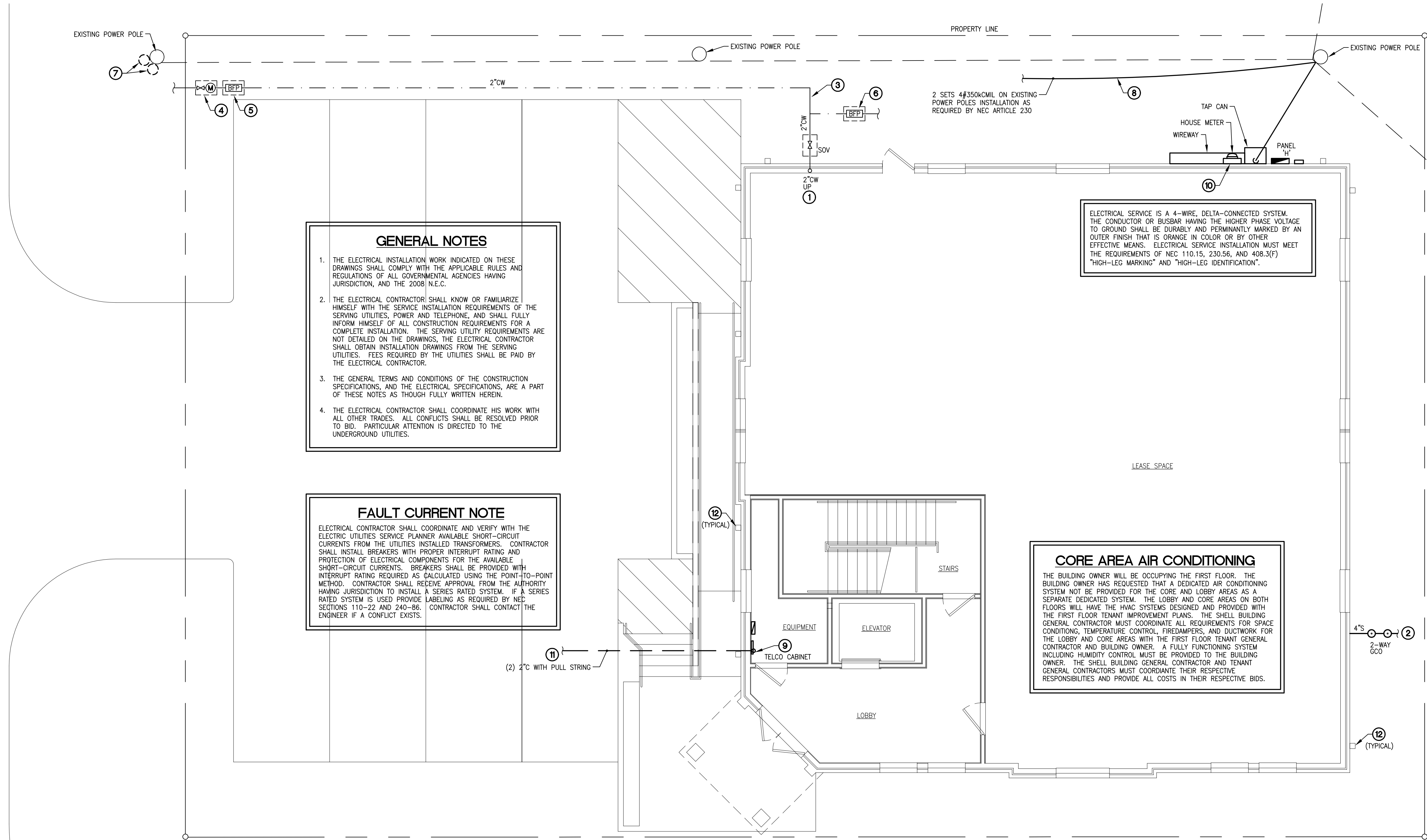
Dwg. No.

A8.1



SYMS STREET

FIRST STREET



GENERAL NOTES

1. THE ELECTRICAL INSTALLATION WORK INDICATED ON THESE DRAWINGS SHALL COMPLY WITH THE APPLICABLE RULES AND REGULATIONS OF ALL GOVERNMENTAL AGENCIES HAVING JURISDICTION, AND THE 2008 N.E.C.
2. THE ELECTRICAL CONTRACTOR SHALL KNOW OR FAMILIARIZE HIMSELF WITH THE SERVICE INSTALLATION REQUIREMENTS OF THE SERVING UTILITIES, POWER AND TELEPHONE, AND SHALL FULLY INFORM HIMSELF OF ALL CONSTRUCTION REQUIREMENTS FOR A COMPLETE INSTALLATION. THE SERVING UTILITY REQUIREMENTS ARE NOT DETAILED ON THE DRAWINGS, THE ELECTRICAL CONTRACTOR SHALL OBTAIN INSTALLATION DRAWINGS FROM THE SERVING UTILITIES. FEES REQUIRED BY THE UTILITIES SHALL BE PAID BY THE ELECTRICAL CONTRACTOR.
3. THE GENERAL TERMS AND CONDITIONS OF THE CONSTRUCTION SPECIFICATIONS, AND THE ELECTRICAL SPECIFICATIONS, ARE A PART OF THESE NOTES AS THOUGH FULLY WRITTEN HEREIN.
4. THE ELECTRICAL CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES. ALL CONFLICTS SHALL BE RESOLVED PRIOR TO BID. PARTICULAR ATTENTION IS DIRECTED TO THE UNDERGROUND UTILITIES.

FAULT CURRENT NOTE

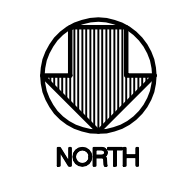
ELECTRICAL CONTRACTOR SHALL COORDINATE AND VERIFY WITH THE ELECTRIC UTILITIES SERVICE PLANNER AVAILABLE SHORT-CIRCUIT CURRENTS FROM THE UTILITIES INSTALLED TRANSFORMERS. CONTRACTOR SHALL INSTALL BREAKERS WITH PROPER INTERRUPT RATING AND PROTECTION OF ELECTRICAL COMPONENTS FOR THE AVAILABLE SHORT-CIRCUIT CURRENTS. BREAKERS SHALL BE PROVIDED WITH INTERRUPT RATING REQUIRED AS CALCULATED USING THE POINT-TO-POINT METHOD. CONTRACTOR SHALL RECEIVE APPROVAL FROM THE AUTHORITY HAVING JURISDICTION TO INSTALL A SERIES RATED SYSTEM. IF A SERIES RATED SYSTEM IS USED PROVIDE LABELING AS REQUIRED BY NEC SECTIONS 110-22 AND 240-86. CONTRACTOR SHALL CONTACT THE ENGINEER IF A CONFLICT EXISTS.

ELECTRICAL SERVICE IS A 4-WIRE, DELTA-CONNECTED SYSTEM. THE CONDUCTOR OR BUSBAR HAVING THE HIGHER PHASE VOLTAGE TO GROUND SHALL BE DURABLY AND PERMANENTLY MARKED BY AN OUTER FINISH THAT IS ORANGE IN COLOR OR BY OTHER EFFECTIVE MEANS. ELECTRICAL SERVICE INSTALLATION MUST MEET THE REQUIREMENTS OF NEC 110.15, 230.56, AND 408.3(F) "HIGH-LEG MARKING" AND "HIGH-LEG IDENTIFICATION".

CORE AREA AIR CONDITIONING

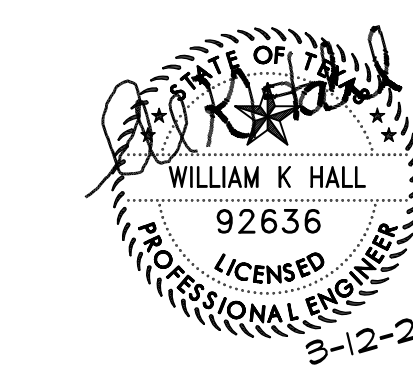
THE BUILDING OWNER WILL BE OCCUPYING THE FIRST FLOOR. THE BUILDING OWNER HAS REQUESTED THAT A DEDICATED AIR CONDITIONING SYSTEM NOT BE PROVIDED FOR THE CORE AND LOBBY AREAS AS A SEPARATE DEDICATED SYSTEM. THE LOBBY AND CORE AREAS ON BOTH FLOORS WILL HAVE THE HVAC SYSTEMS DESIGNED AND PROVIDED WITH THE FIRST FLOOR TENANT IMPROVEMENT PLANS. THE SHELL BUILDING GENERAL CONTRACTOR MUST COORDINATE ALL REQUIREMENTS FOR SPACE CONDITIONING, TEMPERATURE CONTROL, FIRDAMPERS, AND DUCTWORK FOR THE LOBBY AND CORE AREAS WITH THE FIRST FLOOR TENANT GENERAL CONTRACTOR AND BUILDING OWNER. A FULLY FUNCTIONING SYSTEM INCLUDING HUMIDITY CONTROL MUST BE PROVIDED TO THE BUILDING OWNER. THE SHELL BUILDING GENERAL CONTRACTOR AND TENANT GENERAL CONTRACTORS MUST COORDINATE THEIR RESPECTIVE RESPONSIBILITIES AND PROVIDE ALL COSTS IN THEIR RESPECTIVE BIDS.

1 ELECTRICAL + PLUMBING - SITE PLAN
 3/16" = 1'-0"



SITE PLAN KEYED NOTES:

- 1 2" DOMESTIC WATER SERVICE. COORDINATE PIPE ROUTING, WATER METER LOCATION, SHUTOFF VALVE, AND BACKFLOW LOCATION WITH CIVIL. PROVIDE AS REQUIRED BY UTILITY AND LOCAL AUTHORITY HAVING JURISDICTION.
- 2 4" BUILDING SANITARY SEWER. REFER TO CIVIL FOR CONTINUATION. SANITARY SEWER LINE 4" AND GREATER SHALL BE SLOPED AT 1/4" PER FOOT, 1/8" PER FOOT MINIMUM ONLY IF APPROVED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
- 3 WATER SERVICE PIPING BELOW GRADE SHALL HAVE SEPARATION FROM BUILDING SEWER LINES AS REQUIRED BY SECTION #603 OF THE INTERNATIONAL PLUMBING CODE.
- 4 WATER METER FOR DOMESTIC WATER SERVICE IN YARD BOX OR AS REQUIRED BY UTILITY. COORDINATE METER AND TAP LOCATION WITH UTILITY AND CIVIL. INSTALLATION SHALL BE AS REQUIRED BY LOCAL UTILITY COMPANY. CONTRACTOR SHALL PROVIDE AND INSTALL METERS REQUIRED BY AUTHORITY HAVING JURISDICTION. REFER TO CIVIL.
- 5 BUILDING DOMESTIC WATER SUPPLY BACKFLOW PREVENTER IN YARD BOX OR AS REQUIRED BY UTILITY. COORDINATE BACKFLOW PREVENTION LOCATION WITH CIVIL.
- 6 BACKFLOW PREVENTER FOR SPRINKLER SYSTEM AND LANDSCAPE WATERING. PROVIDE METERING WHERE REQUIRED BY OWNER OR AHJ. COORDINATE LOCATION WITH LANDSCAPE CONTRACTOR AND CIVIL. INSTALL BACKFLOW AS REQUIRED BY LOCAL UTILITY AND AHJ. REFER TO LANDSCAPE PLANS FOR SPRINKLER SYSTEM REQUIREMENTS.
- 7 POWER COMPANY POLE MOUNTED TRANSFORMERS. COORDINATE TRANSFORMER LOCATION, ARRANGEMENT, VOLTAGE AND REQUIREMENTS WITH POWER COMPANY PRIOR TO COMMENCEMENT OF WORK.
- 8 ROUTE SERVICE ENTRANCE CONDUCTORS FROM UTILITY COMPANIES POLE MOUNTED TRANSFORMERS TO TAP CAN. ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL ALL SERVICE ENTRANCE EQUIPMENT AND POLE MOUNTED CONDUCTORS AS REQUIRED BY LOCAL ELECTRICAL UTILITY. LOCAL AUTHORITY HAVING JURISDICTION AND NATIONAL ELECTRICAL CODE ARTICLE 230. REFER TO ELECTRICAL RISER DIAGRAM FOR ADDITIONAL INFORMATION AND REQUIREMENTS. CONTACT CENTERPOINT SERVICE PLANNER: CURTIS NEWBERRY - (281) 391-5150
- 9 TELEPHONE BOARD OR DEMARK CABINET. PROVIDE TWO (2) 2" CONDUITS WITH PULL STRINGS TO TELEPHONE PEDISTAL OR PROPERTY LINE LOCATION AS DIRECTED BY COMMUNICATIONS UTILITY COMPANIES. CONTRACTOR SHALL INSTALL PHONE SYSTEM AS DIRECTED BY OWNER. INSTALLATION SHALL PROVIDE FOR SERVICE FOR ALL LOW VOLTAGE TELE/DATA SERVICES INCLUDING TELEPHONE, CABLE, DATA, SECURITY, FIRE ALARM AND ANY OTHER SYSTEMS AS REQUIRED BY OWNER. INSTALLATION SHALL BE AS REQUIRED BY THE UTILITY COMPANY. PROVIDE ADDITIONAL CONDUITS WITH PULL STRINGS AND POINTS OF CONNECTION WHERE REQUIRED.
- 10 METER AND DISCONNECT. VERIFY LOCATION WITH LANDLORD AND UTILITY. INSTALL AS REQUIRED BY LOCAL UTILITY AND AHJ. IF A CONFLICT EXISTS NOTIFY ARCHITECT IMMEDIATELY.
- 11 EXTEND (2) 2" SCH. 40 PVC CONDUITS WITH PULL STRINGS, 36" BELOW GRADE FROM NEW COMMUNICATIONS/TELEPHONE BOARD OR DEMARK CABINET TO LOCATION ON SITE DESIGNATED BY TELEPHONE COMPANY. COORDINATE CONDUIT TERMINATION POINTS WITH UTILITY PRIOR TO CONSTRUCTION OR COMMENCEMENT OF WORK.
- 12 REFER TO CIVIL PLANS FOR STORM DRAINAGE CONDUCTOR AND DRAINAGE PIPING REQUIREMENTS.
- 13 REFER TO CIVIL PLANS FOR STORM DRAINAGE CONDUCTOR AND DRAINAGE PIPING REQUIREMENTS.

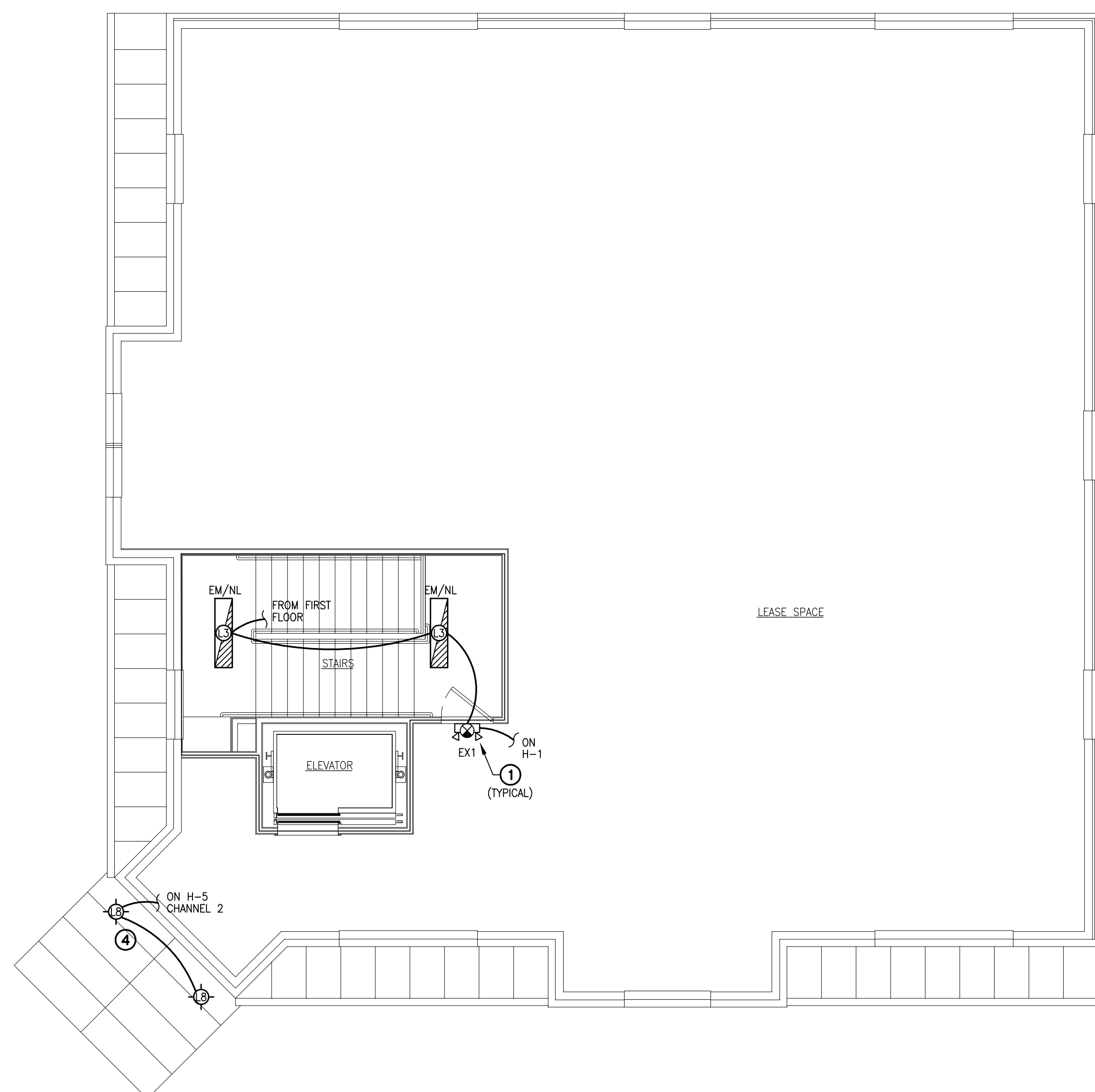


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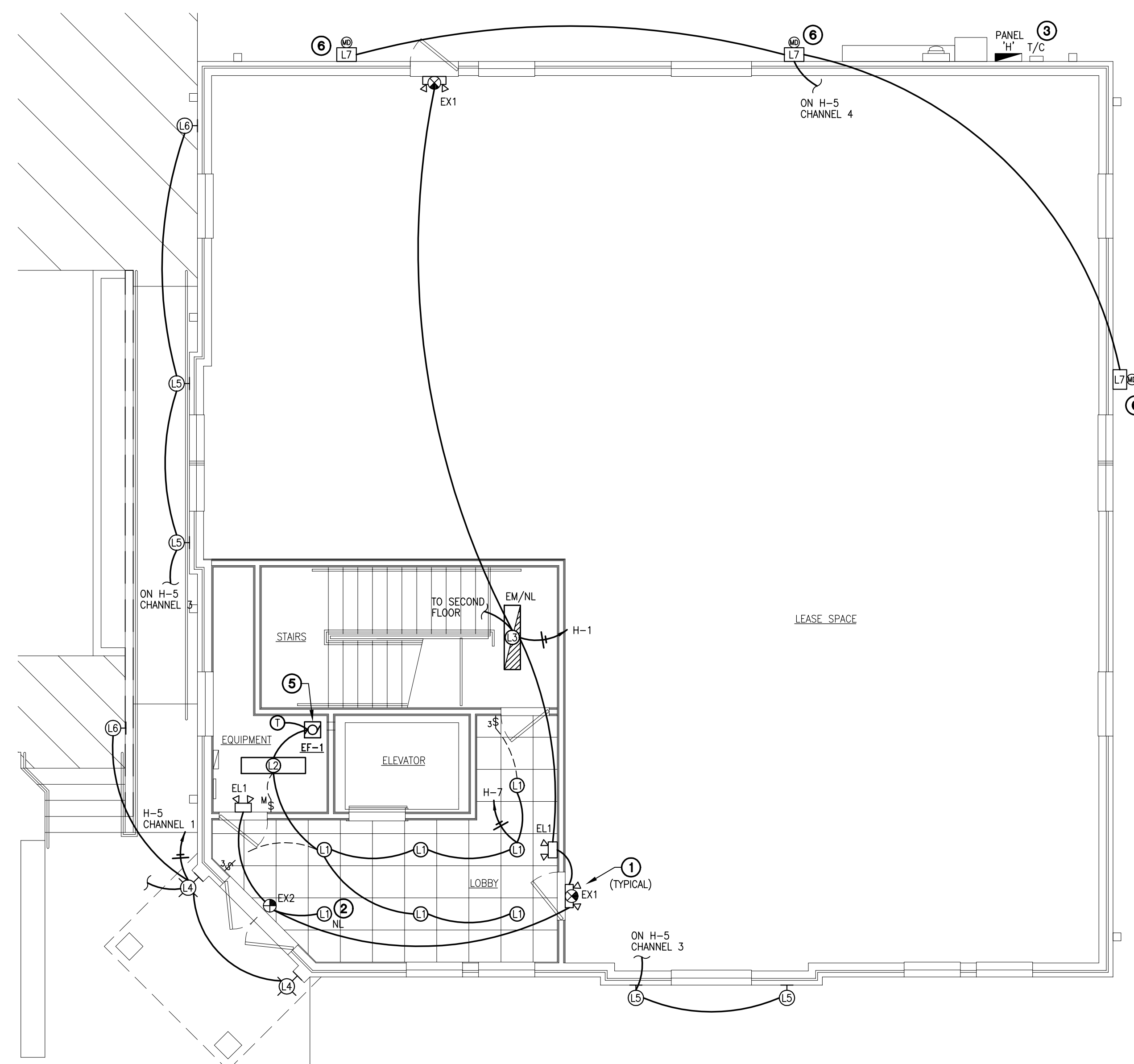
Project No. _____
 Dwg. Name _____

ELECTRICAL
 LIGHTING PLANS

Dwg. No.

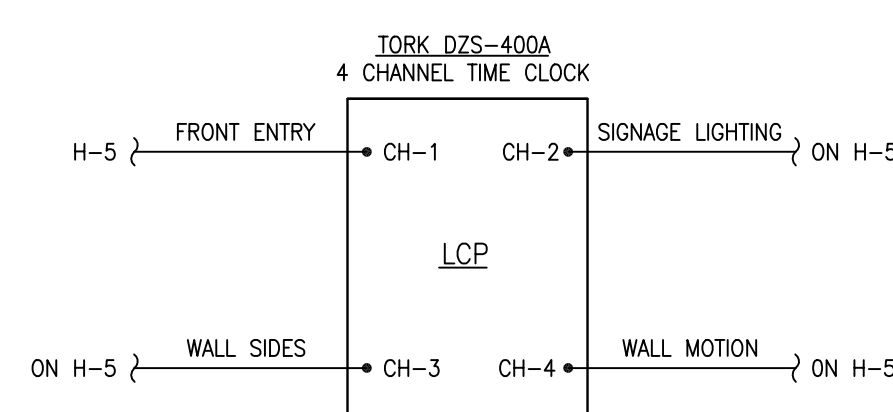


2 LIGHTING PLAN - SECOND FLOOR
 3/16" = 1'-0"



1 LIGHTING PLAN - FIRST FLOOR
 3/16" = 1'-0"

NOTE:
 POWER TO LIGHTING CIRCUITS SHALL BE CONTROLLED BY THE LIGHTING TIME CLOCK.
 REFER TO ELECTRICAL RISER DIAGRAM ON SHEET E3.0. COORDINATE CIRCUITS
 CONTROLLED WITH OWNER PRIOR TO CONSTRUCTION.



CONTACTORS WHEN REQUIRED SHALL BE SQUARE D TYPE 'L' (OR EQUAL)
 NORMALLY OPEN, ELECTRICALLY HELD, 120-VOLT. REFER TO DIAGRAM FOR
 NUMBER OF POLES REQUIRED.
 LCP (LIGHTING CONTROL PANEL) TO ACTIVATE CONTACTORS AT TIMES
 DESIGNATED BY OWNER OR LANDLORD.

3 HOUSE LIGHTING CONTROL DIAGRAM
 NOT TO SCALE

LIGHTING FIXTURE SCHEDULE						
TYPE	SYMBOL	DESCRIPTION/MANUFACTURER	MOUNTING	LAMPS	WATTS/FIX	VOLTS
L1	○	HALO #H272CAT, 6" COMPACT FLUORESCENT DOWNLIGHT, ELECTRONIC BALLAST, WHITE TRIM AND METALLIC REFLECTOR.	RECESSED	26W TTT	28W	120V
L2	□	METALUX #WSA2-28T5-A120, 48" LINEAR FLUORESCENT, ELECTRONIC BALLAST, 2-TUBE T5, WRAPAROUND ACRYLIC LENS.	SURFACE	(2) 28W T5	68W	120V
L3	▨	METALUX #WSA2-28T5-A120-EL, 48" LINEAR FLUORESCENT, ELECTRONIC BALLAST, 2-TUBE T5, WRAPAROUND ACRYLIC LENS, (-EL) EMERGENCY LIGHT KIT INCLUDING 90 MINUTE EMERGENCY BALLAST.	SURFACE	(2) 28W T5	68W	120V
L4	⊙	SHAPER #666-WP-16-CFL127-120-NBZ-DL-VRD, 16" LANTERN FIXTURE, 27W-2G11 CFL, 120 VOLT, DAMP LOCATIONS, VANDAL RESISTANT ACRYLIC DIFFUSER.	SURFACE	27W TT	29W	120V
L5	⊙	SHAPER #660-WP-CFL132-120-NBZ, WEATHER PROOF, FLOATING SHIELD SCONCE, 32W, TRIPPLE CFL, 120 VOLT, NATURAL BRONZE.	SURFACE	32W TTT	35W	120V
L6	⊙	LUMARK #XTOR3A-N-PC1, CROSSTOUR LED WALLPACK, 30W, 3500K KELVIN, WET LOCATION, CARBON BRONZE, 120V.	SURFACE	30W LED	30W	120V
L7	□	ACCESS FIXTURES #WPC15F32EL, CONSTELLATION MEDIUM FULL CUTOFF WALL PACK, COMPACT FLUORESCENT, ELECTRONIC BALLAST. PROVIDE WITH MOTION DETECTOR.	SURFACE	32W TTT	34W	120V
L8	⊙	LUMIERE CARMEL #403-50T4-12V-BZ, VERIFY FINISH, ARM LENGTH AND ARM OPTIONS WITH OWNER. PROVIDE AND INSTALL TRANSFORMER AS RECOMMENDED BY MANUFACTURER.	SURFACE	Q50T4/CL	50W	12V
EL1	⊙	SURE LITES #CU2, EMERGENCY LIGHT, EMERGENCY BATTERY PACK, MINIMUM 90 MINUTES OF BATTERY POWER AND TEST SWITCH.	SURFACE	WITH FIXTURE	---	120
EX1	⊙	SURE LITES #AP, COMBINATION EXIT/EMERGENCY LIGHT, EMERGENCY BATTERY PACK, SQUARE HEADS, MINIMUM 90 MINUTES OF BATTERY POWER AND TEST SWITCH.	SURFACE	WITH FIXTURE	---	120
EX2	⊙	SURE LITES #ES7-1-70-S-BZ-R-W, EXIT LIGHT, EMERGENCY BATTERY PACK, MINIMUM 90 MINUTES OF BATTERY POWER AND TEST SWITCH.	SURFACE	WITH FIXTURE	---	120

NOTES:
 1. EXIT LIGHTS TO BE PROVIDED WITH UNIVERSAL MOUNTING HARDWARE FOR CEILING OR WALL MOUNTING.
 2. CONTRACTOR SHALL SUBMIT CUT SHEETS FOR ALL LIGHTING FIXTURES TO ARCHITECT AND OWNER FOR APPROVAL PRIOR TO ORDERING OF FIXTURES. OWNER WILL MAKE FINAL DECISION ON ALL FIXTURES.

LIGHTING PLAN KEYED NOTES:

- NIGHT LIGHTS, EXIT SIGNS AND EMERGENCY LIGHTING SHALL BE CONNECTED TO LOCAL CIRCUIT AHEAD OF SWITCH WHERE REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
- NIGHT LIGHT FIXTURE TO BE POWER BY NIGHT LIGHT CIRCUIT FOR 24 HOUR OPERATION. CONTRACTOR TO COORDINATE LOCATION AND QUANTITY OF NIGHT LIGHT FIXTURES REQUIRED BY TENANT AND AUTHORITY HAVING JURISDICTION.
- TIME CLOCK FOR CONTROL OF EXTERIOR LIGHTING AND SIGNAGE. COORDINATE REQUIREMENTS AND CIRCUITING WITH BUILDING OWNER. SET ON/OFF TIMES AS REQUIRED BY BUILDING OWNER.
- VERIFY CIRCUITING AND ON/OFF TIMES FOR SIGNAGE FIXTURES WITH OWNER.
- ELEVATOR EQUIPMENT ROOM EXHAUST FAN GREENHECK SP-B110-OD, 95CFM, CONTROLLED VIA THERMOSTAT SHOWN. SET THERMOSTAT FOR FAN OPERATION ABOVE 80°F. PROVIDE RELIEF AIR WITH FIRE DAMPER COORDINATED WITH FIRST FLOOR AIR CONDITIONING WHEN INSTALLED. SEE 2/P-2 FOR EXHAUST DUCT ROUTING.
- L7 FIXTURES TO BE SET FOR DUSK TO DAWN OPERATION VIA TIME CLOCK. FIXTURES SHALL ONLY ILLUMINATE BETWEEN DUSK AND DAWN WHEN ACTIVATED BY MOTION DETECTOR.



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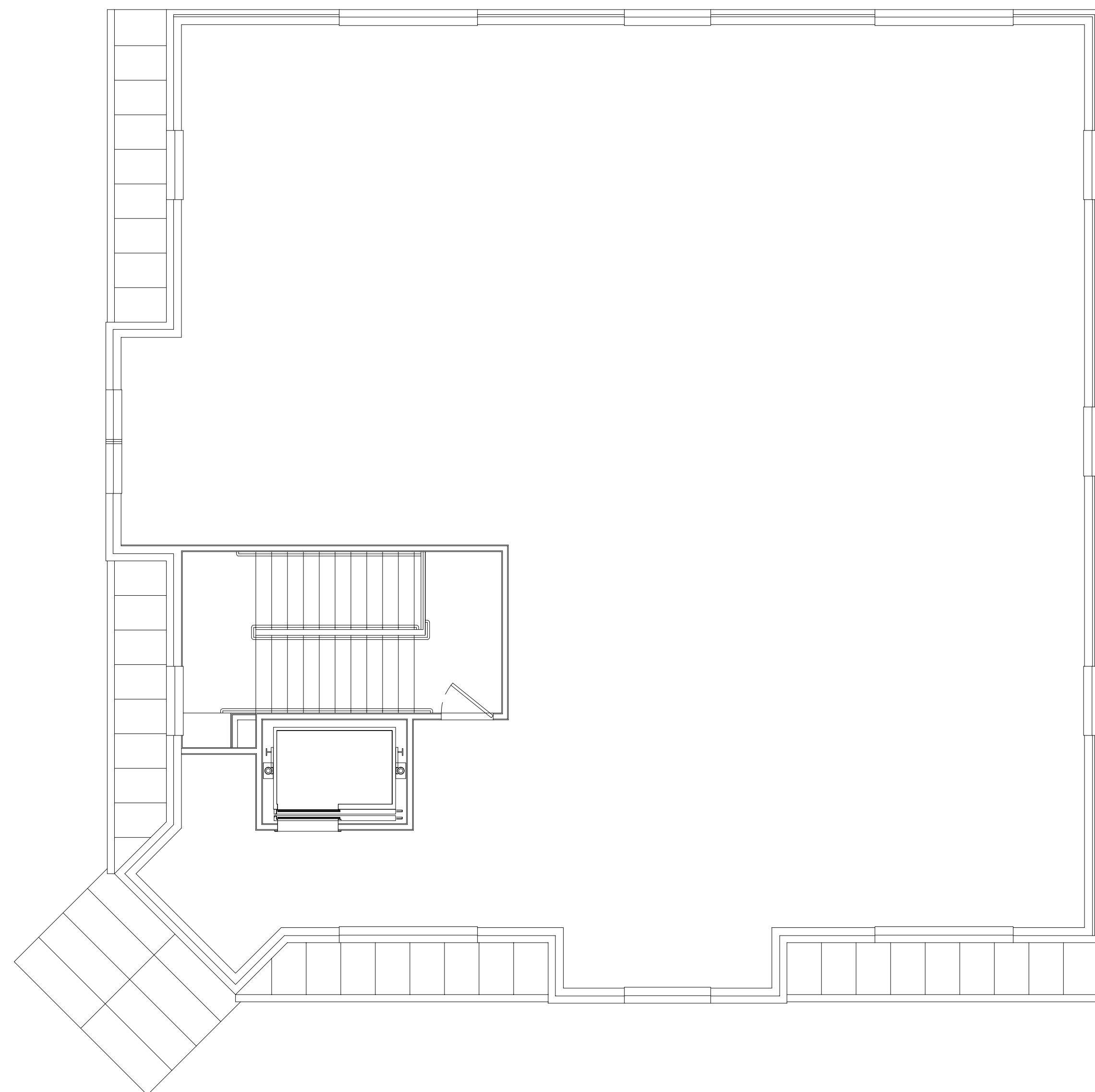
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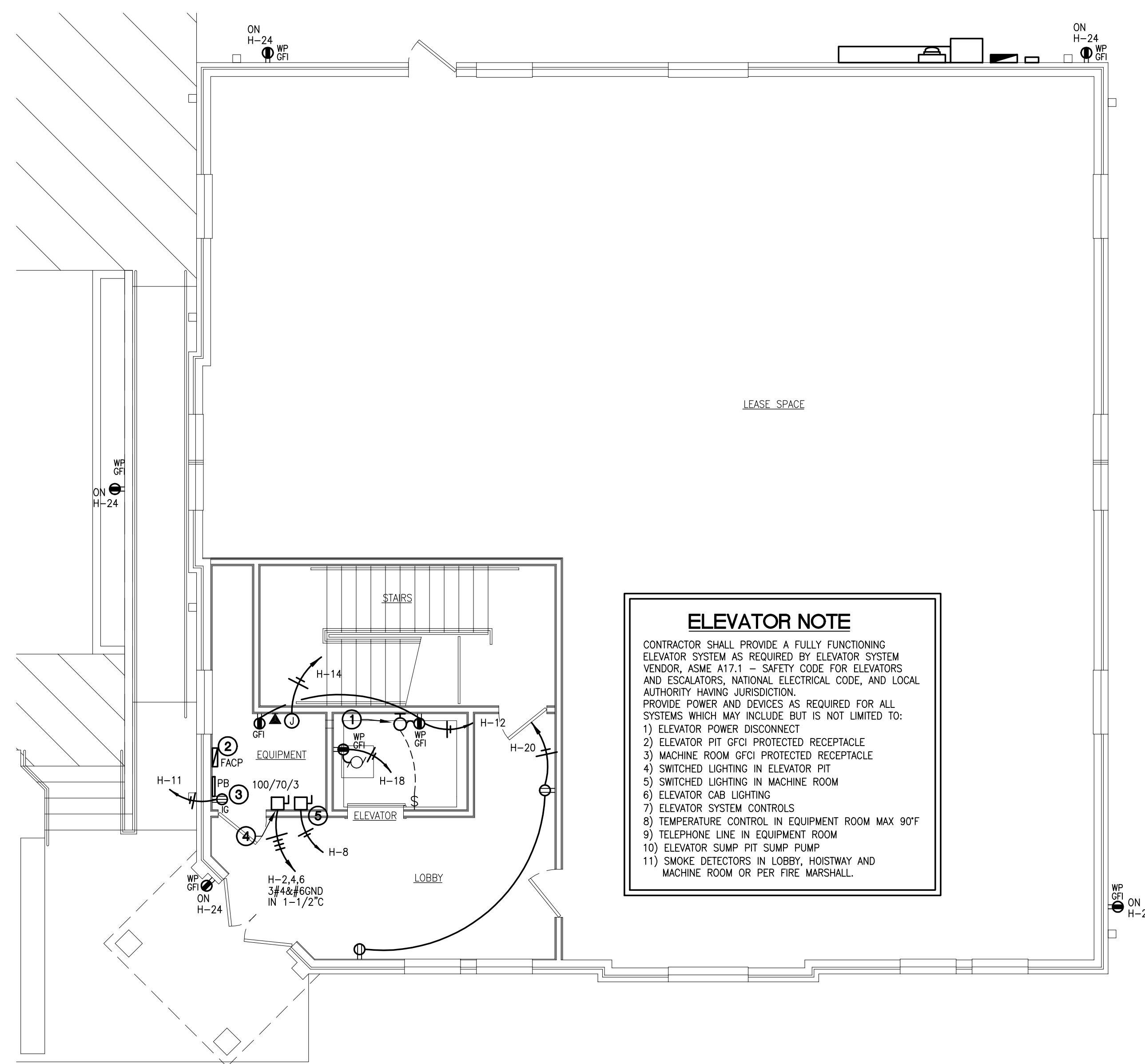
**ELECTRICAL
 POWER PLANS**

Dwg. No.

E-3



2 POWER PLAN - SECOND FLOOR
 3/16" = 1'-0"



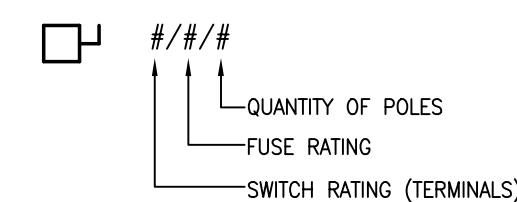
ELEVATOR NOTE
 CONTRACTOR SHALL PROVIDE A FULLY FUNCTIONING ELEVATOR SYSTEM AS REQUIRED BY ELEVATOR SYSTEM VENDOR, ASME A17.1 - SAFETY CODE FOR ELEVATORS AND ESCALATORS, NATIONAL ELECTRICAL CODE, AND LOCAL AUTHORITY HAVING JURISDICTION.
 PROVIDE POWER AND DEVICES AS REQUIRED FOR ALL SYSTEMS WHICH MAY INCLUDE BUT IS NOT LIMITED TO:
 1) ELEVATOR POWER DISCONNECT
 2) ELEVATOR PIT GFCI PROTECTED RECEPTACLE
 3) MACHINE ROOM GFCI PROTECTED RECEPTACLE
 4) SWITCHED LIGHTING IN ELEVATOR PIT
 5) SWITCHED LIGHTING IN MACHINE ROOM
 6) ELEVATOR CAB LIGHTING
 7) ELEVATOR SYSTEM CONTROLS
 8) TEMPERATURE CONTROL IN EQUIPMENT ROOM MAX 90°F
 9) TELEPHONE LINE IN EQUIPMENT ROOM
 10) ELEVATOR SUMP PIT SUMP PUMP
 11) SMOKE DETECTORS IN LOBBY, HOISTWAY AND MACHINE ROOM OR PER FIRE MARSHALL.

1 POWER PLAN - FIRST FLOOR
 3/16" = 1'-0"

ELECTRICAL GENERAL NOTES:

- CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL CONDITIONS AND IS RESPONSIBLE FOR REPORTING ANY CONFLICTS TO THE ARCHITECT PRIOR TO THE START OF WORK.
- "EXISTING" OR "VERIFY IN FIELD" MEANS THE CONTRACTOR IS TO CONFIRM THE ITEM SHOWN ON THE DRAWING EXISTS AND IS IN GOOD WORKING CONDITION. SHOULD THE CONTRACTOR FIND THE EQUIPMENT IS NOT AS SHOWN ON THESE DRAWINGS, IT IS TO BE INSTALLED AS REQUIRED TO PROVIDE THE OWNER WITH A FULLY FUNCTIONING SYSTEM AND AS REQUIRED BY ALL LOCAL CODES AND THE LOCAL AUTHORITY HAVING JURISDICTION.
- THE CONTRACTOR SHALL PROVIDE A COMPLETE, USEABLE, AND OPERABLE FACILITY IN ACCORDANCE WITH ALL PERTINENT CODES AND REGULATIONS.
- ELECTRICAL CONTRACTOR SHALL MAKE FINAL CONNECTIONS TO ALL ELECTRICALLY ENERGIZED EQUIPMENT WHETHER FURNISHED BY CONTRACTOR OR OWNER AND SHALL MEET THE LATEST APPROVED NATIONAL ELECTRICAL CODE (N.E.C.) FOR THE AREA.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE BUILDINGS STRUCTURE OR UTILITIES CAUSED BY SLAB PENETRATIONS. IT IS RECOMMENDED THAT THE CONTRACTOR X-RAY THE FLOOR PRIOR TO ANY SLAB PENETRATIONS.
- CONTRACTOR SHALL COMPLY WITH THE LATEST APPROVED NATIONAL ELECTRICAL CODE AND OSHA'S FAULT PROTECTION STANDARD ON THE CONSTRUCTION SITE.
- CONTRACTOR SHALL PROVIDE EMPTY CONDUIT WITH PULL STRING FOR SECURITY SYSTEM WIRING BY OWNERS SECURITY SYSTEM VENDOR 1/2" MINIMUM. ALL SECURITY SYSTEM CONDUIT SHALL BE CONCEALED. EXPOSED SECURITY SYSTEM CONDUIT SHALL NOT BE ALLOWED. VERIFY REQUIREMENTS WITH OWNER PRIOR TO FINAL BID.
- CONTRACTOR SHALL REFER TO ELECTRICAL SPECIFICATIONS WITHIN THIS SUBMITTAL FOR ADDITIONAL REQUIREMENTS.
- VOLTAGE DROP THRU ALL CONDUCTORS SHALL NOT EXCEED THAT ALLOWED BY THE NEC. CONTRACTOR SHALL UPSIZE FEEDERS AND BRANCH CIRCUITS AS REQUIRED WHERE REQUIRED.

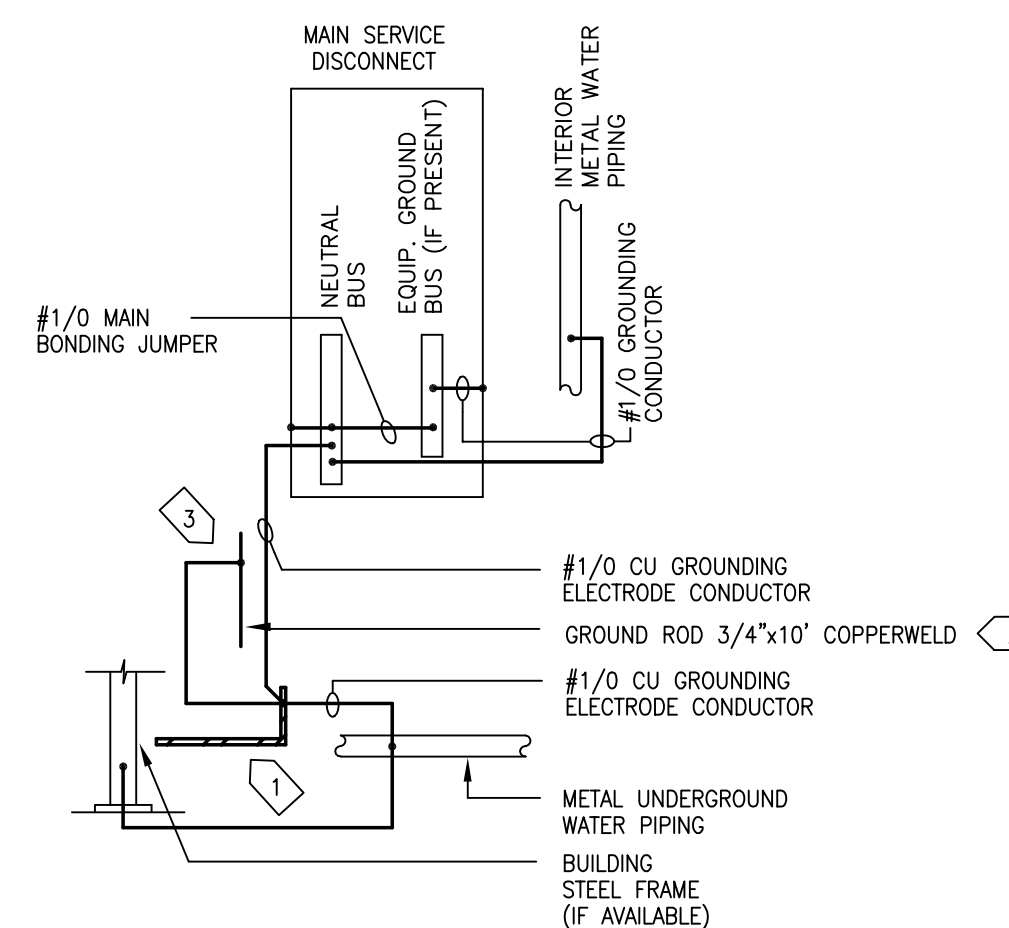
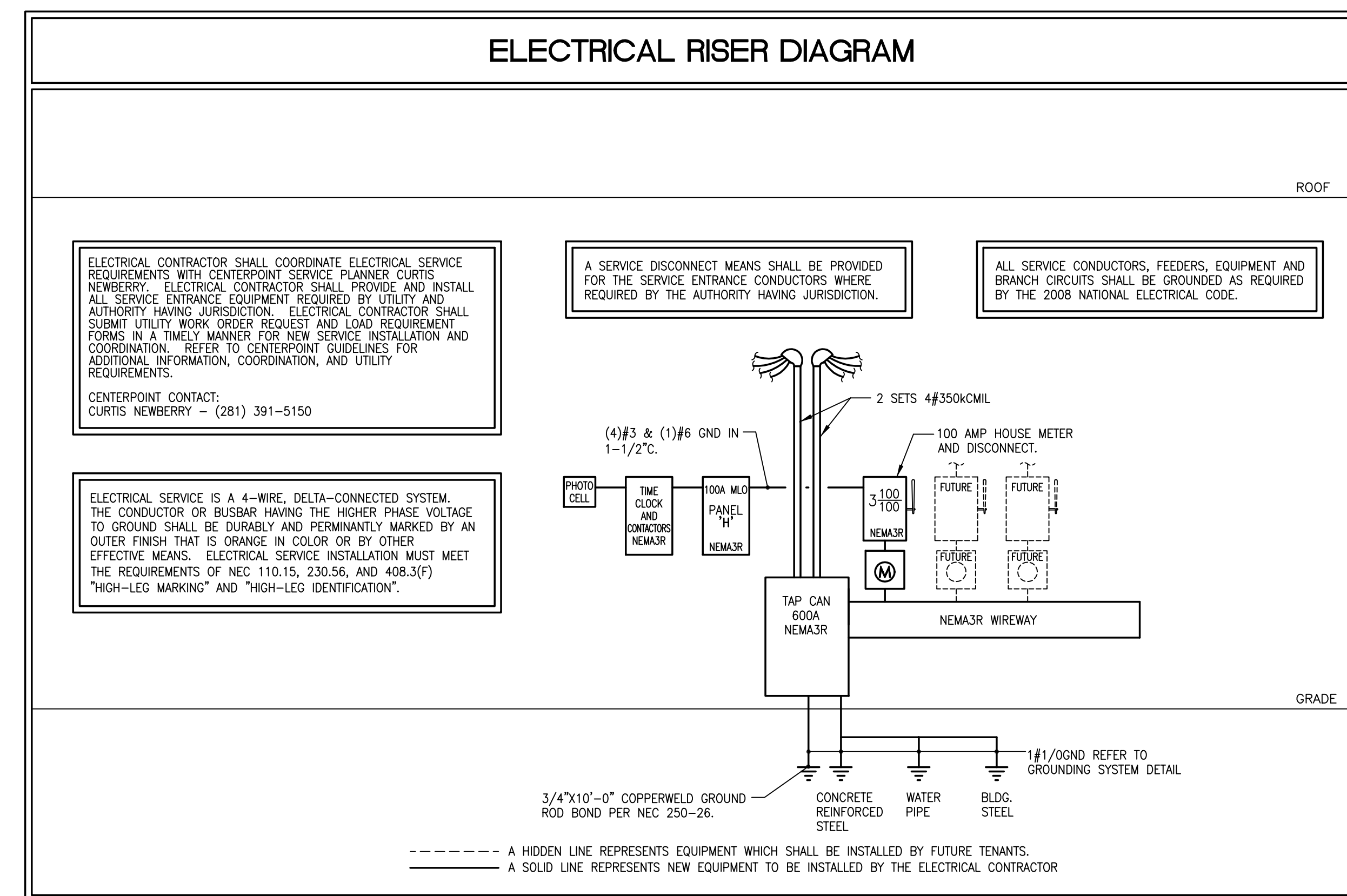
DISCONNECT SWITCH LEGEND



POWER PLAN KEYED NOTES:

- KEYLESS PORCELAIN SOCKET WITH 100W A19 LAMP AND WIRE GUARD. INSTALL IN ELEVATOR PIT AT EACH LEVEL.
- PROVIDE FIRE ALARM CONTROL PANEL (FACP) AS REQUIRED BY LOCAL FIRE MARSHALL. REFER TO "FIRE ALARM NOTE" THIS SHEET FOR ADDITIONAL INFORMATION.
- TELEPHONE BOARD OR DEMARK CABINET. REFER TO SITE PLAN FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- ELEVATOR CONTROLLER FUSED DISCONNECT SWITCH WITH TIME DELAY FUSES. PROVIDE SEPARATE INSULATED GROUNDING CONDUCTOR WITH FEEDER CONDUCTORS TO ELEVATOR CONTROLLER. CONTRACTOR MUST VERIFY ELEVATOR MANUFACTURER, MODEL, AND SPECIFICATIONS WITH ELEVATOR SUPPLIER. INSTALL DISCONNECT SWITCH WITH FUSES AND FEEDERS AS REQUIRED BY ELEVATOR SYSTEM SUPPLIER AND ELEVATOR MANUFACTURER. INSTALLATION AS REQUIRED BY NEC ARTICLE 430.
- FUSED DISCONNECT SWITCH FOR ELEVATOR CAB LIGHTS, 30/20/1.

FIRE ALARM NOTE:
 A FIRE ALARM SYSTEM THAT MEETS CURRENT NFPA FIRE CODE WILL BE INSTALLED BY A LICENSED QUALIFIED FIRE SAFETY CONTRACTOR. THIS COMPANY WILL SUBMIT A PLAN TO THE TOWN FIRE MARSHAL'S OFFICE FOR APPROVAL PRIOR TO INSTALLATION.
 THE GENERAL CONTRACTOR AND ELECTRICAL SUB-CONTRACTOR SHALL VERIFY AND INCLUDE IN THEIR FINAL BID ALL LIFE SAFETY, SMOKE/FIRE ALARM SYSTEMS REQUIRED TO PROVIDE A FACILITY CURRENT WITH THE LOCAL FIRE MARSHAL'S REQUIREMENTS, ALL LOCAL CODES, ALL STATE CODES AND THE AUTHORITY HAVING JURISDICTION.



- ① CONCRETE ENCASED (UFER) GROUNDING ELECTRODES SHALL CONSIST OF AT LEAST 20 FEET OF ONE OR MORE STEEL REINFORCING BARS OR RODS. BARS SHALL BE NOT LESS THAN 1/2 INCH DIAMETER. IN LIEU OF RODS OR BARS, AT LEAST 20 FEET OF BARE COPPER CONDUCTORS NOT SMALLER THAN No. 4 AWG MAY BE USED. UFER GROUND SHALL BE ENCASED BY AT LEAST 2 INCHES OF CONCRETE AND LOCATED WITHIN AND NEAR THE BOTTOM OF A CONCRETE FOUNDATION OR FOOTING THAT IS IN DIRECT CONTACT WITH THE EARTH.
- ② GROUND RODS SHALL BE 3/4" DIA. X 10' LONG COPPERWELD. RESISTANCE TO GROUND MUST BE 25 OHMS OR LESS.
- ③ GROUNDING ELECTRODE CONNECTIONS SHALL BE MADE WITH A U.L. LISTED AND APPROVED BOLTED PRESSURE OR COMPRESSION TYPE CONNECTOR.

1 GROUNDING SYSTEM DETAIL
 NOT TO SCALE

REFER TO NEC 408.3(F) FOR HIGH-LEG IDENTIFICATION REQUIREMENT.

NO CIR REF		LOAD DESIGNATION DESCRIPTION (NOTE)	CONNECTED VA												LOAD DESIGNATION (NOTE) DESCRIPTION	REF	CIR NO				
			C	N	K	ØA	ØB	ØC	A	B	C	K	N	C							
1	20	EMERG, EXIT AND 24HR LTG	5	X		430												3	ELEVATOR POWER	150	2
3		SPACE	7																		4
5	20	LTG - EXTERIOR	2	X			430														3
7	20	LTG - LOBBY	2	X		236															3
9		SPACE	7																		8
11	20	TELEPHONE BOARD		X			200														10
13	20	SPARE																			12
15		SPACE	7																		14
17	20	SPARE																			16
19	20	SPARE																			18
21		SPACE	7																		20
23	20	SPARE																			22
25	20	SPARE																			24
27		SPACE	7																		26
29	20	SPARE																			28
PHASE TOTALS						ØA = 6,126	ØB = 4,300	ØC = 6,590	TOTAL CONNECTED VA			17,016									

PANEL NOTES:

- ① PROVIDE SWITCH TYPE CIRCUIT BREAKER WITH "SWD" LABEL PER NEC.
- ② CIRCUIT CONTROLLED VIA TIME CLOCK OR PHOTOCELL. PROVIDE ENCLOSURE NEAR PANEL.
- ③ PROVIDE INVERSE TIME CIRCUIT BREAKER.
- ④ PROVIDE "GFI" TYPE CIRCUIT BREAKER.
- ⑤ PROVIDE BREAKER WITH LOCK-ON DEVICE.
- ⑥ PROVIDE CIRCUIT WITH ISOLATED GROUND.
- ⑦ PROVIDE SPACE FOR 208V HIGH LEG PHASE "B".

CONNECTED VA (CODE C)	1,396
CONNECTED VA (CODE N)	15,620
CONNECTED VA (CODE K)	0
PANEL CONNECTED KVA	17.0
PANEL DEMAND KVA	17.4
PANEL DEMAND AMPS	41.9
HIGH Ø AMPS W/LCL	54.9

* = COORDINATE AND VERIFY OVERCURRENT DEVICE WITH ELEVATOR MANUFACTURER AND FINAL ELEVATOR SELECTION BY OWNER.

ELECTRICAL SYMBOLS LEGEND

LIGHTING FIXTURE SYMBOLS:

STANDARD DESIGNATIONS FOR ALL LIGHTING FIXTURES.

A = FIXTURE TYPE, REFER TO FIXTURE SCHEDULE
 NL = UNSWITCHED NIGHT LIGHT
 N = CIRCUIT NUMBER
 S = SWITCH CONTROL

□ ○ A NL
 a 2 a 2
 ○ ○ A NL
 ○ ○
 ○ ○
 ○ ○

FIXTURE - SURFACE, RECESSED OR PENDANT MOUNTED.

○ ○
 ○ ○
 ○ ○

FIXTURE - WALL MOUNTED.

○ ○
 ○ ○

LIGHTING FIXTURE ON NORMAL/EMERGENCY CIRCUIT, OR WITH EMERGENCY BATTERY BACKUP BALLAST.

○ ○
 ○ ○

EXIT LIGHTING FIXTURE, ARROWS AND EXIT FACE AS INDICATED ON DRAWINGS. MOUNTED INCHES ABOVE DOOR FRAME, OR TWO INCHES BELOW CEILING TO TOP OF SIGN, OR AS DIRECTED.

○ ○
 ○ ○

LIGHT TRACK, LENGTH AS INDICATED ON THE DRAWINGS, WITH NUMBER OF LIGHTING FIXTURES AS INDICATED ON DRAWINGS, AND AS INDICATED IN THE LIGHTING FIXTURE SCHEDULE.

○ ○
 ○ ○

EMERGENCY BATTERY UNIT WITH LIGHTING HEADS.

POWER SYMBOLS:

□ STANDARD 20A, 120V-1ϕ GROUNDING TYPE DUPLEX RECEPTACLE

□ STANDARD 20A, 120V-1ϕ GROUNDING TYPE FOUR-PLEX RECEPTACLE

□ STANDARD 20A, 120V-1ϕ GROUNDING TYPE GFCI DUPLEX RECEPTACLE

□ STANDARD 20A, 120V-1ϕ GROUNDING TYPE GFCI FOUR-PLEX RECEPTACLE

□ STANDARD 20A, 120V-1ϕ GROUNDING TYPE DEDICATED DUPLEX RECEPTACLE

□ STANDARD 20A, 120V-1ϕ GROUNDING TYPE SIMPLEX RECEPTACLE

□ STANDARD 20A, 120V-1ϕ GROUNDING TYPE ONE HALF SWITCHED DUPLEX RECEPTACLE

□ 20A, 120V-1ϕ ISOLATED GROUND DUPLEX RECEPTACLE

□ SPECIAL RECEPTACLE MOUNTED AT +18" A.F.F., -U.O.N., AMPS -VOLTS & PHASE AS INDICATED ON PLANS. VERIFY NEMA CONFIGURATION WITH INSTALLED EQUIPMENT SUPPLIER PRIOR TO PLACING ORDER.

□ STANDARD 20A, 120V-1ϕ GROUNDING TYPE DUPLEX RECEPTACLE MOUNTED WITHIN FLUSH OR SURFACE FLOOR OUTLET BOX.
 "F" DENOTES FLUSH AND "S" DENOTES SURFACE

□ STANDARD 20A, 120V-1ϕ GROUNDING TYPE FOUR-PLEX RECEPTACLE MOUNTED WITHIN FLUSH OR SURFACE FLOOR OUTLET BOX.
 "F" DENOTES FLUSH AND "S" DENOTES SURFACE

○ JUNCTION BOX, SIZED BY THIS CONTRACTOR PER ACTUAL NUMBER OF CONDUITS AND/OR CONDUCTORS PASSING THRU ACCORDING TO NEC TABLE 370-16(j)(6).

SWITCHING SYMBOLS:

□ STANDARD 20A, 120/277-1ϕ SPST TOGGLE SWITCH MOUNTED AT +48" A.F.F., U.O.N. SINGLE POLE SWITCH.

□ "3" = THREE WAY SWITCH.

□ "S" = SWITCH CONTROL (lower case text).

□ "P" = SWITCH WITH PILOT LIGHT, ON WHEN SWITCH IS ON.

□ "WP" = WEATHERPROOF SINGLE POLE SWITCH.

□ DIMMER SWITCH, RATED 1500W, UNLESS OTHERWISE INDICATED.

□ DIMMER SWITCH 3-WAY, RATED 1500W, UNLESS OTHERWISE INDICATED.

□ "M" = WALL SWITCH OCCUPANCY SENSOR.

□ "T" = WALL SWITCH WITH TIMER, 1000W, 1 MINUTE TO 3 HOURS

TELEPHONE/DATA/TV/CCTV:

□ COMBINATION TELEPHONE/DATA OUTLET AT +18" A.F.F., U.O.N. PROVIDE 1" CONDUIT STUB-UP 6" MINIMUM INTO ACCESSIBLE CEILING SPACE.

□ TELEPHONE OUTLET AT +18" A.F.F., U.O.N. - PROVIDE 1" CONDUIT STUB-UP 6" MINIMUM INTO ACCESSIBLE CEILING SPACE.

□ DATA OUTLET AT +18" A.F.F., U.O.N. - PROVIDE 1" CONDUIT STUB-UP 6" MINIMUM INTO ACCESSIBLE CEILING SPACE.

□ COMBINATION TELEPHONE/DATA OUTLET MOUNTED WITHIN FLUSH OR SURFACE OUTLET BOX. "F" DENOTES FLUSH AND "S" DENOTES SURFACE.

□ TELEVISION AND/OR CCTV OUTLET AS DIRECTED BY OWNER AT +18" A.F.F., U.O.N.

PANELBOARD, TERMINAL CABINETS & OTHER:

□ LIGHTING OR POWER PANEL, RECESSED.

□ LIGHTING OR POWER PANEL, SURFACE.

□ DISCONNECT SWITCH, UNFUSED TYPE, SIZE AS INDICATED ON DRAWINGS. (30AMP, 3POLE)

□ DISCONNECT SWITCH, FUSED TYPE, SIZE AS INDICATED ON DRAWINGS. (30AMP, 20AMP FUSE, 3POLE)

□ THERMOSTAT

□ PHOTO-ELECTRIC CELL

□ TIME CLOCK WITH MANUAL BY PASS, WITH HAND-OFF-AUTO SELECTOR SWITCH.

□ PULLBOX - SIZE AS INDICATED OR REQUIRED.

□ 2" 4ϕ1 & 1#66ND INDICATES 2" CONDUIT WITH 4#1AWG AND 1#6AWG GROUND.

□ (2)"2" 4ϕ1 & 1#66ND INDICATES (2)"2" CONDUITS WITH 4#1AWG AND 1#6AWG GROUND. CONDUCTORS IN EACH CONDUIT.

ELECTRICAL ABBREVIATIONS

A	AMPERE	KMIL	THOUSAND CIRCULAR MILS
AFF	ABOVE FINISHED FLOOR OR GRADE	kVA	KILO-VOLT AMPERE
CK	CONDUIT OR RACEWAY	KW	KILO-WATT
CTV	CABLE TELEVISION	LTS	LIGHTING
CKT	CIRCUIT	MCB	MAIN CIRCUIT BREAKER
CB	CIRCUIT BREAKER	MDP	MAIN DISTRIBUTION PANEL
CU	COPPER	MLO	MAIN LUGS ONLY
MTD	MOUNTED	MTC	MOUNTING
CL	CENTERLINE	NTC	NOT IN CONTRACT
DWG	DRAWING	NO #	NUMBER
EWC	ELECTRIC WATER COOLER	NTS	NOT TO SCALE
EMT	ELECTRICAL METALLIC TUBING	PB	PULLBOX
EX	EXISTING	PH	PHASE
FA	FIRE ALARM	PC	PLUMBING SYSTEM INSTALLER
G,ND	GROUND	PVC	POLY-VINYL CHLORIDE CONDUIT
GC	GENERAL CONTRACTOR	PWR	POWER
GF	GROUND FAULT INTERRUPTER	RGS	RIGID GALVANIZED STEEL
GRF	GROUND FAULT INTERRUPTER PROTECTED EQUIPMENT	TD	TELEPHONE/DATA
HVAC	HEATING, VENTILATING AND AIR CONDITIONING INSTALLER	TP	TYPICAL
HP	HORSEPOWER	U.O.N.	UNLESS OTHERWISE INDICATED
IG	ISOLATED GROUND	WP	WEATHERPROOF
JB	JUNCTION BOX	XFMR	TRANSFORMER

BASIC ELECTRICAL REQUIREMENTS

E1- SCOPE:

A. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR, TOOLS, PLANT, INCIDENTALS AND NECESSARY TO INSTALL AND MAKE READY FOR OWNER'S USE A COMPLETE ELECTRICAL SYSTEM AS CALLED FOR IN THE CONTRACT DOCUMENTS AND AS NOTED OR SPECIFIED HEREIN, TO THE SATISFACTION OF THE OWNER, ARCHITECT AND ELECTRICAL ENGINEER.

B. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL WORK NECESSARY TO MAKE A COMPLETE SYSTEM WHETHER OR NOT SUCH DETAILS ARE MENTIONED IN THESE SPECIFICATIONS AS SHOWN ON THE PLANS, BUT WHICH ARE OBVIOUSLY NECESSARY TO MAKE A COMPLETE SYSTEM, EXCEPTING ONLY THOSE PORTIONS THAT ARE SPECIFICALLY MENTIONED HEREIN OR PLANNED MARKED ON THE ACCOMPANYING DRAWINGS AS BEING INSTALLED UNDER ANOTHER SECTION OF THE SPECIFICATIONS.

C. BEFORE STARTING ANY WORK, THE CONTRACTOR FOR THIS SECTION OF THE WORK SHALL EXAMINE A COMPLETE SET OF DRAWINGS AND SPECIFICATIONS FOR ALL TRADES, INCLUDING ARCHITECTURAL, STRUCTURAL, HVAC, ELECTRICAL, FIRE PROTECTION, AND PLUMBING, DIMENSIONS, SPACE REQUIREMENTS, AND POINTS OF CONNECTION TO ALL EQUIPMENT SHALL BE VERIFIED, AND ANY MINOR ADJUSTMENTS NECESSARY TO AVOID CONFLICT WITH THE BUILDING STRUCTURE AND THE WORK OF THE OTHER TRADES SHALL BE MADE. CONTRACTOR SHALL NOTIFY ARCHITECT IMMEDIATELY IF ANY MAJOR CONFLICTS OCCUR.

E2- WORKMANSHIP:

ALL WORK SHALL BE PERFORMED BY COMPETENT ELECTRICIANS USING PROPER TOOLS AND EQUIPMENT TO PRODUCE FIRST-QUALITY WORK. ALL WORK SHALL BE NEATLY INSTALLED, ACCESSIBLE FOR MAINTENANCE, COMPLETE WORK ALL ACCESSORIES REQUIRED, AND MEETING THE APPROVAL OF THE OWNER AND THE ARCHITECT.

E3- MATERIALS:

ALL PRODUCTS, EQUIPMENT, MATERIALS, AND ACCESSORIES SHALL BE OF FIRST-LINE QUALITY, GRADE AND TYPE SHOWN ON THE DRAWINGS AND SPECIFIED, OR EQUIVALENTS ACCEPTED BY THE ARCHITECT OR ENGINEER IN WRITING.

E4- SITE INSPECTION:

CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO SUBMITTING HIS BID AND THOROUGHLY FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS AND EXACT NATURE OF THE WORK. THE DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC. SUBMISSION OF A BID ACKNOWLEDGES FULL RESPONSIBILITY FOR FURNISHING A COMPLETE AND FUNCTIONAL SYSTEM. NO CHANGES IN CONTRACT WILL BE MADE TO ACCOMMODATE OR ALLOW EXCESS FUNDS FOR ANY OMISSION WHICH RESULTS FROM A FAILURE TO THOROUGHLY MAKE THE EXAMINATION.

E5- CODES:

THE ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST APPLICABLE EDITION OF THE CODES, ORDINANCES AND REGULATIONS INTERPRETED BY THE LOCAL AUTHORITY HAVING JURISDICTION. IN ADDITION THE INSTALLATION SHALL CONFORM TO THE FOLLOWING REQUIREMENTS OF THE FOLLOWING CODES AND STANDARDS:

A. REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, LATEST ADDED EDITION.

B. REQUIREMENTS OF STATE FIRE MARSHAL, STATE AND MUNICIPAL BUILDING AND ELECTRICAL SAFETY ORDINANCES.

C. ALL PRODUCTS IN THIS WORK SHALL BE UL LABELED AND SHALL CONFORM TO ALL REQUIREMENTS OF THE NATIONAL BOARD OF FIRE UNDERWRITERS FOR ELECTRICAL WIRING APPARATUS.

D. REQUIREMENTS OF ALL OTHER AUTHORITIES HAVING JURISDICTION.

E6- PERMITS:

THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, INSPECTIONS AND FEES. COPIES OF ALL PERMITS AND INSPECTION REPORTS SHALL BE SUBMITTED TO THE ARCHITECT.

E7- AS-BUILTS:

CONTRACTOR SHALL PROVIDE A COMPLETE SET OF AS-BUILTS TRANSPARENTS WITH ALL CHANGES NOTED THEREON AT THE COMPLETION OF THE PROJECT AND PRIOR TO FINAL ACCEPTANCE AND PAYMENT. THESE DRAWINGS SHALL HAVE ALL INSTALLATIONS REFERENCED BY DIMENSIONS TO A SET REFERENCE POINT OR POINTS.

E8- GUARANTEE:

CONTRACTOR SHALL UNCONDITIONALLY GUARANTEE ALL LABOR AND MATERIALS ON ALL WORK AGAINST DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE YEAR AFTER COMPLETION. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE TO ANY PART OF THE PREMISES CAUSED BY EQUIPMENT FURNISHED AND INSTALLED UNDER THIS SECTION OF THE SPECIFICATIONS FOR A PERIOD OF ONE (1) YEAR AFTER DATE OF ACCEPTANCE OF HIS WORK.

E9- OPERATING MANUALS:

CONTRACTOR SHALL FURNISH THE OWNER WITH ALL OPERATING MANUALS AND MAINTENANCE INSTRUCTIONS FOR THE EQUIPMENT INSTALLED. MANUALS SHALL BE BOUND IN THREE RING LOOSE-LEAF BINDERS AND INDEXED BY PRODUCT TYPE. A SECTION WITHIN THE MANUAL SHALL INCLUDE THE NAME, TELEPHONE NUMBER AND ADDRESS OF ALL LOCAL SUPPLIERS OF ALL MATERIAL AND EQUIPMENT INSTALLED TOGETHER WITH NAME, TELEPHONE NUMBER AND ADDRESS OF ALL CONTRACTORS OF THE PROJECT. PROVIDE 3 SETS OF MANUALS TO THE OWNER. CONTRACTOR SHALL AFFIX A MAINTENANCE LABELS TO ALL EQUIPMENT REQUIRING ROUTINE MAINTENANCE.

E10- COORDINATION AND VERIFICATION:

THE DRAWINGS ARE DIAGRAMMATIC AND INTENDED TO SHOW SCOPE. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES TO PROVIDE THE BEST ARRANGEMENT OF ALL DUCTS, PIPES, CONDUIT, ETC., THE LOCATION OF EXISTING PIPING AND DUCTWORK SHOWN IS APPROXIMATE. CONTRACTOR SHALL VERIFY THEIR LOCATION PRIOR TO BEGINNING WORK OF THIS SECTION AND SHALL MAKE ADJUSTMENTS AS REQUIRED TO INSTALL THE WORK OF THIS SECTION.

A. VERIFY AND COORDINATE ALL SIZES OF EQUIPMENT TO BE INSTALLED WITHIN ROOMS WITH THE MANUFACTURER OF EQUIPMENT, INSURING ADEQUATE CLEARANCES, VENTILATION AND ACCESS.

B. COORDINATE WORK OF MECHANICAL TRADES FOR WORK REQUIRED AS PART OF THIS SECTION, AND VERIFY QUANTITY, SIZES AND LOCATION OF ALL WORK.

C. COORDINATE THE WORK OF ALL OTHER TRADES, VERIFYING ALL REQUIRED CLEARANCES, PROPER SLEEVES, SUPPORTS, DUCT SWINGS AND OTHER ITEMS AFFECTING THIS WORK. DETERMINE IN ADVANCE THE METHOD OF INSTALLING AND CONNECTION OF ALL EQUIPMENT, OUTLETS AND OTHER ITEMS.

D. INCLUDE ALLOWANCES FOR SITE CONDITIONS AND CIVIL, ARCHITECTURAL AND OTHER DRAWINGS.

E11- EXTERIOR OPENINGS:

COORDINATE LOCATIONS OF ALL EXTERIOR WALL AND ROOF OPENINGS WITH ALL RELEVANT TRADES AND PROVIDE WATER-TIGHT FLASHINGS WHEREVER PENETRATIONS OCCUR. EXACT LOCATIONS AND SIZES MAY BE DEPENDENT UPON EQUIPMENT SELECTIONS. COORDINATE SIZES AND LOCATIONS OF ALL OPENINGS WITH APPROPRIATE REQUIREMENTS.

E12- CUTTING AND PATCHING:

ALL CUTTING CHASING AND CHANNELING REQUIRED FOR ANY WORK UNDER THIS DIVISION SHALL BE BY THE CONTRACTOR. CUTTING SHALL HAVE PRIOR APPROVAL OF THE LANDLORD. ALL PATCHING SHALL BY G.C. AND SHALL MATCH THE SURROUNDING SURFACES.

E13- EQUIPMENT ACCESS:

ALL WORK IN THIS SECTION SHALL BE INSTALLED SO AS TO BE READILY ACCESSIBLE FOR OPERATING, SERVICING, MAINTAINING, AND REPAIRING. THIS CONTRACTOR IS RESPONSIBLE FOR PROVIDING SUFFICIENT SERVICE ACCESS TO ALL EQUIPMENT.

E14- TEMPORARY LIGHT AND POWER:

THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL TEMPORARY WIRING AND RELATED GROUND FAULT INTERRUPTION PROTECTION FOR LIGHTING AND POWER FOR ALL CONTRACTORS AND IS RESPONSIBLE FOR ITS REMOVAL.

E15- SLEEVES:

PROVIDE SLEEVES OF SUFFICIENT SIZE TO PERMIT READY INSTALLATION OF EACH CONDUIT WHICH PASSES THROUGH WALLS OR SUSPENDED SLABS. SLEEVES IN CONCRETE BEAMS, JOISTS, COLUMNS OR FOOTING WALLS MAY BE INSTALLED ONLY WHERE PERMITTED BY THE STRUCTURAL ENGINEER. EACH SLEEVE SHALL EXTEND THROUGH ITS RESPECTIVE FLOOR, WALL OR PARTITION AND SHALL CUT FLUSH WITH EACH SURFACE EXCEPT SLEEVES THAT PENETRATE THE FLOOR, WHICH SHALL EXTEND 1" ABOVE THE FLOOR. CONTRACTOR MUST COORDINATE THROUGH THE LANDLORD ANY CORE DRILLING OR CUTTING OF OPENINGS IN MASONRY WALLS OR FLOORS. ALL SLEEVES AND OPENINGS THROUGH FIRE RATED WALLS AND FLOORS SHALL BE FIRE SEALED WITH CALCIUM SILICATE, SILICONE "RIV" FOAM, "SM" FIRE RATED SEALANT OR EQUAL, SO AS TO RETAIN THEIR FIRE RATING. WHERE A CONDUIT PASSES THROUGH AN EXTERIOR SURFACE, SEAL THE SPACE BETWEEN THE CONDUIT AND ITS SLEEVE WITH AN APPROVED WATER TIGHT COMPOUND.

E16- PANELBOARDS:

PANELBOARDS SHALL BE FACTORY ASSEMBLED OF THE BOLTED CIRCUIT BREAKER TYPE WITH SOLID COPPER BUSING, FULL SIZE COPPER NEUTRAL, 100% GROUND BUSING AND OVERALL LOCKABLE HINGED DOOR. ALL PANELS SHALL BE DEAD FRONT AND FLUSH OR SURFACE MOUNTED AS SHOWN.

A. CONTRACTOR SHALL FURNISH AND INSTALL A TYPED/WRITTEN DIRECTORY CARD OF THE CIRCUITS AND PLACE IN PANEL DOOR. CIRCUIT NUMBERS SHALL BE ON BLACK-ON-WHITE LAMINATED TABS OR OTHER PERMANENT TYPE NOT READILY CHANGED FROM THE FRONT.

B. ALL PANELBOARDS PHASE AMPERAGE SHALL BE BALANCED TO WITHIN 10% MAXIMUM TO MINIMUM.

C. VERIFY ACTUAL A.L.C. SHORT CIRCUIT CURRENT REQUIREMENTS WITH THE LANDLORD OR UTILITY COMPANY AND VERIFY SWITCHGEAR COMPLIANCE PRIOR TO PURCHASE OR INSTALLATION OF EQUIPMENT.

D. LUGS SHALL BE SUITABLE FOR COPPER CONDUCTORS.

ELECTRICAL SPECIFICATIONS

E17- CIRCUIT BREAKERS:

ALL CIRCUIT BREAKERS SHALL BE OF THE BOLTED TYPE, QUICK-MAKE AND QUICK BREAK DESIGN, THERMAL MAGNETIC TYPE, TRIP FREE AND TRIP-NEED TO BE INSTALLED AND MAKE READY FOR OWNER'S USE A COMPLETE ELECTRICAL SYSTEM AS CALLED FOR IN THE CONTRACT DOCUMENTS AND AS NOTED OR SPECIFIED HEREIN, TO THE SATISFACTION OF THE OWNER, ARCHITECT AND ELECTRICAL ENGINEER.

A. VOLTAGE RATING SHALL BE AS REQUIRED FOR THE APPLICATION.

B. ALL CIRCUIT BREAKERS WHICH ARE LOCATED OUTSIDE OF AIR CONDITIONED SPACES SHALL BE AMBIENT COMPENSATED. USE "HACR" CIRCUIT BREAKERS FOR AIR CONDITIONING LOADS. USE "C" CIRCUIT BREAKERS FOR LIGHTING CIRCUITS CONTROLLED FROM THE PANEL.

C. ALL BRANCH BREAKERS SHALL BE ABLE TO ACCOMMODATE LOCKOUT CLIPS. PROVIDE CLIPS TO LOCK BREAKERS SERVICING EMERGENCY LIGHTING, MOTORS, REFRIGERATORS AND CONTROLS FOR MECHANICAL SYSTEMS.

D. ARRANGE ALL BREAKERS TO CORRESPOND EXACTLY WITH PANEL SCHEDULES.

E18- TRANSFORMERS:

TRANSFORMERS SHALL BE DRY TYPE, INDOOR OR OUTDOOR, SELF-COOLED TYPE WITH 150°C TEMPERATURE RISE UNDER FULL LOAD CONDITIONS. TRANSFORMER SHALL BE PAD MOUNTED OR BE SECURELY MOUNTED FROM THE BUILDING STRUCTURE, REINFORCED WALLS OR AS NOTED ON THE DRAWINGS. USE VIBRATION ISOLATORS AT POINTS OF MOUNTING TO REDUCE VIBRATION NOISES. USE FLEXIBLE METALLIC CONDUIT WITH GROUNDING BUSHING FOR PRIMARY AND SECONDARY CONNECTIONS TO TRANSFORMER. TRANSFORMER SHALL BE INSTALLED TO MAINTAIN ALL CODE REQUIRED CLEARANCES. TRANSFORMER SHALL BE CONDUIT CONSTRUCTION AND HAVE FOUR 2-1/2" FULL CAPACITY TAPS.

E19- CONDUIT:

UNLESS OTHERWISE INDICATED, PROVIDE CONDUITS OF TYPE PERMITTED OR REQUIRED, FOR ALL CONDUCTORS OR CABLES OF ALL SYSTEMS AND VOLTAGES. ALL CONDUIT SHALL BE NEW WITH UL LISTING OR LABEL AND DELIVERED TO THE SITE IN STANDARD LENGTHS. CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUIT SERVING ALL EQUIPMENT, INCLUDING BUT NOT LIMITED TO, LIGHTING, RECEPTACLES, HVAC EQUIPMENT, PLUMBING EQUIPMENT, TELEPHONE, DATA, ALARM, SPEAKERS AND ELECTRICAL EQUIPMENT. ALL CONDUIT SHALL BE CONCEALED UNLESS OTHERWISE INDICATED OR REQUIRED. RUN ALL CONDUIT PARALLEL WITH OR AT RIGHT ANGLES TO STRUCTURAL MEMBERS, WALLS OR LINES OF THE BUILDING.

A. ELECTRICAL METALLIC TUBING (EMT) - EMT SHALL BE GALVANIZED. EMT CONNECTORS SHALL BE STEEL COMPRESSION OR SET SCREW TYPE. EMT SHALL BE USED ABOVE GRADE, IN DRY LOCATIONS AND IN ACCESSIBLE CEILINGS. CONCRETE OR MASONRY IN CONTACT WITH EARTH ARE NOT CONSIDERED DRY LOCATIONS.

B. FLEXIBLE METAL CONDUIT OR MC CABLE - CABLE MUST BE THE SAME SIZE AS THE IMC OR EMT CONDUIT TO WHICH IT IS CONNECTED. BOTH THE FLEXIBLE METAL CONDUIT AND ITS FITTINGS ARE TO BE LISTED FOR GROUNDING. A GREEN GROUNDING CONDUCTOR SHALL BE INSTALLED. ALL CONDUCTORS ARE TO BE NEHA APPROVED. FLEXIBLE METAL CONDUIT SHALL BE USED FOR FINAL CONNECTIONS TO MOTORS, WIRING EQUIPMENT, WHERE REQUIRED FOR EQUIPMENT SERVICING, IN AND OUT OF TRANSFORMERS, INTERCONNECTION BETWEEN LIGHT FIXTURES AND HOMERUN TO PANELS WHERE CODE ALLOWS.

C. RIGID PLASTIC CONDUIT - RIGID PLASTIC CONDUIT SHALL BE EXTRUDED FROM VIRGIN POLYVINYL CHLORIDE COMPOUND, SCHEDULE 40 HEAVY WALL, IN 10 FOOT LENGTHS WITH COUPLINGS.

D. WHERE CONDUIT IS UNDERGROUND, UNDER SLAB OR GRADE, EXPOSED TO THE WEATHER OR IN WET LOCATIONS, MAKE JOINTS LIQUIDTIGHT AND GASTIGHT. END OF UNDERGROUND FEEDER CONDUITS SHALL BE SEALED AFTER THE CABLE IS INSTALLED TO PREVENT BREATHING AND CONDENSATION.

E. SUPPORT CONDUIT AT LEGAL INTERVALS. PROVIDE ADDITIONAL SUPPORTS AS REQUIRED TO PREVENT SAGGING OR AS DIRECTED. HANG SUPPORTS FROM STRUCTURAL MEMBERS OR APPROVED CONCEALED HANGERS.

F. DO NOT RUN CONDUIT IN CONCRETE MEMBERS OR SUSPENDED SLABS UNLESS APPROVED IN WRITING BY THE STRUCTURAL ENGINEER. CONDUITS SHALL NOT BE RUN THROUGH STRUCTURAL MEMBERS EXCEPT AS SPECIFICALLY DIRECTED IN WRITING BY THE STRUCTURAL ENGINEER.

G. ALL CONDUITS MUST BE SIZED PER NEC AND LOCAL CODES.

H. THE USE OF ROMEX BX, ETC. IS NOT PERMITTED UNLESS APPROVED BY THE LOCAL AUTHORITY HAVING JURISDICTION AND THE BUILDING OWNER.

I. CONNECTIONS TO ANY OUTDOOR EQUIPMENT MUST BE WEATHER PROOF.

J. PROVIDE PULL ROPE(S) IN ALL EMPTY CONDUITS EXCEPT AS OTHERWISE INDICATED.

K. CONDUITS ABOVE FUTURE SUSPENDED CEILINGS SHALL BE INSTALLED AS HIGH AS POSSIBLE ABOVE THE STRUCTURE ABOVE.

E20- CONDUCTORS:

USE NEW CONDUCTORS AND CABLES PLAINLY MARKED AND TAGGED WITH UL LABEL, SIZE, VOLTAGE RATING, INSULATION TYPE, TYPE OF STRANDING, MANUFACTURERS NAME, TRADE NAME AND MONTH AND YEAR WHEN MANUFACTURED. CONDUCTORS SHALL BE MINIMUM #12, SOFT DRAWN, ANNEALED COPPER, MINIMUM 85% CONDUCTIVITY, 600 VOLTS, TYPE TUBE 1/4" MINIMUM THIN.

A. POWER CONDUCTORS #10 AND SMALLER SHALL BE SOLID, #8 AND LARGER SHALL BE STRANDED.

B. MINIMUM WIRE SIZE FOR 20 AMP BRANCH CIRCUITS SHALL BE AWG LISTED, SIZE PER DISTANCE SHOWN BELOW. DISTANCE SHALL BE MEASURED FROM THE PANELBOARD CIRCUIT BREAKER TO THE FURTHEST OUTLET.

C. #12 LESS THAN 100 FEET

D. #10 BETWEEN 100-150 FEET

E. #8 BETWEEN 150-250 FEET

F. #6 OVER 250 FEET

D. ALL WIRING SHALL BE COLOR CODED AS FOLLOWS:

120/277 VOLT SYSTEM

480/277 VOLT SYSTEM

NEUTRAL - WHITE

NEUTRAL - GRAY

PHASE A OR L1 - BLACK

PHASE B OR L2 - RED

PHASE C OR L3 - BLUE

GROUND - GREEN

GROUND - GREEN WITH YELLOW TRACER

E. USE ONLY PLATED COPPER ALLOY CONNECTORS OR LUGS. ALUMINUM CONNECTORS OR LUGS ARE NOT ACCEPTABLE.

F. ALL WIRING AND CABLE INCLUDING LOW VOLTAGE AND CONTROL CIRCUITS SHALL BE INSTALLED IN CONDUIT UNLESS OTHERWISE NOTED.

G. THE USE OF ROMEX BX, ETC. IS NOT PERMITTED.

H. ALUMINUM CONDUCTORS ARE NOT ACCEPTABLE.

E21- DISCONNECT SWITCHES:

SAFETY AND DISCONNECT SWITCHES SHALL BE HEAVY DUTY TYPE, QUICK-MAKE, QUICK-BREAK, TRIP FREE AND TRIP-NEED TO BE INSTALLED AND MAKE READY FOR OWNER'S USE A COMPLETE ELECTRICAL SYSTEM AS CALLED FOR IN THE CONTRACT DOCUMENTS AND AS NOTED OR SPECIFIED HEREIN, TO THE SATISFACTION OF THE OWNER, ARCHITECT AND ELECTRICAL ENGINEER.

A. DISCONNECT SWITCHES WITH THE NUMBER OF POLES AND THE VOLTAGE, CURRENT AND HORSEPOWER RATINGS AS REQUIRED. PROVIDE EACH SWITCH WITH A NAMEPLATE INDICATING EQUIPMENT CONTROLLED.

B. FUSIBLE DISCONNECT SWITCHES SHALL HAVE QUICK-MAKE, QUICK-BREAK MECHANISM AND AN INTERLOCKING COVER WHICH CANNOT BE OPENED WHEN SWITCH IS IN THE "ON" POSITION AND BE PROVIDED WITH VISIBLE INTERLOCKS. SWITCHES SHALL BE HORSEPOWER RATED AND TYPE THAT CAN BE USED ON INDUCTIVE LOADS.

C. NON-FUSIBLE DISCONNECT SWITCHES SHALL BE SAME TYPE AS SPECIFIED FOR FUSIBLE DISCONNECT SWITCHES, EXCEPT FOR SINGLE PHASE MOTORS 2 H.P. OR LESS, MANUAL MOTOR STARTERS MAY BE USED.

D. DISCONNECT SWITCHES SHALL BE NEMA 3R WEATHERPROOF IN OUTDOOR LOCATIONS OR AS REQUIRED BY LOCAL CODES.

E. PROVIDE A FUSIBLE DISCONNECT SWITCH WITHIN SIGHT OF AND READILY ACCESSIBLE FROM AIR CONDITIONING EQUIPMENT PER NEC 440-14. SIZE FUSES PER EQUIPMENT NAMEPLATES.

F. DISCONNECT SWITCHES FOR ALL MOTORS OR EQUIPMENT OUT OF SIGHT OF THE CONTROLLER OR MORE THAN 50 FEET FROM THE CONTROLLER, PROVIDE A DISCONNECT SWITCH AT THE MOTOR OR EQUIPMENT LOCATION.

E22- OUTLET BOXES:

OUTLET BOXES SHALL BE ONE-PIECE GALVANIZED, SQUARE, PRESSED STEEL, KNOCKOUT TYPE, 4-1/2" DEEP MINIMUM IN WALLS, AND 4x1-1/2" DEEP MINIMUM IN CEILINGS, WITH PLASTER FINISH. CAST BOXES SHALL BE THREADED HUB CAST FERROUS, OR ALUMINUM BOXES WHERE LEGALLY PERMITTED.

A. EXTERIOR BOXES SHALL BE CAST RUST RESISTING METAL WITH GASKETED COVERS.

B. USE SOLID TYPE GANG BOXES WHERE REQUIRED FOR MORE THAN TWO DEVICES OR FOR BARRIRED OUTLETS. USE CONCRETE BOXES FOR OUTLETS IN CONCRETE CONSTRUCTION.

C. INSTALL BOXES RIGIDLY FROM BUILDING STRUCTURE AND SUPPORT INDEPENDENTLY OF THE CONDUIT SYSTEM. SUPPORT RECESSED BOXES IN STUB PARTITIONS WITH GALVANIZED STEEL BOX HANGERS OF TYPES MADE SPECIFICALLY FOR THE PURPOSE.

D. ALL BOXES SHALL BE OF PROPER CODE SIZE FOR NUMBER AND SIZES OF CONDUCTORS PASSING THROUGH OR TERMINATING THEREIN.

E. BEFORE ROUGHING IN BOXES FOR SWITCHES AT DOOR, CONTRACTOR SHALL VERIFY DOOR SWING TO MAKE SURE THAT SWITCH IS ON THE STRIKE SIDE OF DOOR.

E23- JUNCTION AND PULL BOXES:

THE PLANS INDICATE ONLY SCHEMATIC ROUTINGS FOR CONDUIT RUNS. THIS CONTRACTOR SHALL FURNISH AND INSTALL ADDITIONAL BOXES WHERE REQUIRED BY FIELD CONDITIONS OR BY CODE.

A. BOXES AND COVERS SHALL BE GALVANIZED STEEL OR GRAY COLOR-RUST RESISTING PAINT. INSTALL COVERS WITH STAINLESS STEEL SCREWS AND NEOPRENE GASKETS. SEAL AROUND CONDUIT ENTRIES WITH SILICONE SEALANT.

B. INSTALL BOXES RIGIDLY FROM BUILDING STRUCTURE AND SUPPORT INDEPENDENTLY OF THE CONDUIT SYSTEM.

C. WHERE INDICATED OR REQUIRED TO SERVE AS PULL BOXES OR JUNCTION BOXES, PROVIDE SHEET STEEL BOXES WITH SCREW ON COVERS FOR SURFACE OR FLUSH MOUNTING.

D. ARRANGE CIRCUITS TO AVOID THE USE OF JUNCTION BOXES IN ACCESSIBLE LOCATIONS. THE USE OF JUNCTION BOXES ABOVE DRYWALL CEILINGS SHOULD BE LIMITED TO LOCATIONS NEAR ACCESSIBLE CEILING LIGHT FIXTURES, DIFFUSERS AND RETURN AIR GRILLES OR ACCESS PANELS AS LOCATED ON PLANS.

F. JUNCTION AND PULL BOXES MUST BE LABELED WITH CIRCUIT NUMBERS IDENTIFIED AND SYSTEM TYPE ON BOXES COVER.

E24- HANGERS:

HANGERS SHALL INCLUDE ALL MISCELLANEOUS STEEL SUCH AS ANGLE IRON, BANDS, C-CRAMPS, CHANNELS, HANGER RODS, ETC. NECESSARY FOR THE INSTALLATION. HANGERS SHALL BE FASTENED TO BUILDING STEEL, CONCRETE OR MASONRY, BUT NOT PIPING OR DUCTWORK. HANGING FROM METAL DECK IS NOT PERMITTED. WHERE INTERFERENCES OCCUR, AND IN ORDER TO SUPPORT DUCTWORK OR PIPING, THE CONTRACTOR MUST INSTALL TRAPEZE TYPE HANGERS OR SUPPORTS WHICH SHALL BE LOCATED WHERE THEY DO NOT INTERFERE WITH ACCESS TO FIRE DAMPERS, VALVES, AND OTHER EQUIPMENT. HANGER TYPES AND INSTALLATION METHODS ARE ALSO SUBJECT TO LOCAL CODES AND LANDLORD REQUIREMENTS. HANGERS AND PIPING OF DISSIMILAR METALS SHALL BE ELECTRICALLY SEPARATED.

E25- SUPPORTS:

PROVIDE ALL NECESSARY FOUNDATIONS, SUPPORTS AND BACKING FOR ALL ENCLOSURES, CONDUITS EQUIPMENT, OUTLETS, DEVICES AND LIGHTING FIXTURES. ATTACH ALL BOXES, OUTLET BOXES, STRAPS, CABINETS AND EQUIPMENT TO WOOD WITH WOOD OR LAG SCREWS, TO METAL WITH MACHINE SCREWS OR BOLTS, AND TO CONCRETE WITH EXPANSION ANCHORS OR SELF DRILLING METAL ANCHORS, AND WITH MACHINE SCREWS OR BOLTS. USE SIZE AND NUMBER OF ATTACHMENTS AS REQUIRED TO SUPPORT EQUIPMENT WEIGHT WITH A MINIMUM SAFETY FACTOR OF 4 TO 1. SECURE FLOOR MOUNTED EQUIPMENT TO FLOOR WITH MACHINE BOLTS AND ANCHORS.

E26- HVAC, PLUMBING & FIRE PROTECTION:

ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POWER WIRING, LINE VOLTAGE WIRING, AND LINE VOLTAGE CONTROL WIRING WHERE INDICATED UNDER THE HEATING, VENTILATION, AIR CONDITIONING, PLUMBING, AND FIRE PROTECTION SPECIFICATIONS AND DRAWINGS. THIS CONTRACTOR SHALL ALSO INTERCONNECT LINE VOLTAGE WIRING BETWEEN RELAYS AND SWITCHES AS REQUIRED.

E27- WIRING DEVICES:

THIS CONTRACTOR SHALL FURNISH AND INSTALL SWITCHES AND RECEPTACLES, UNLESS NOTED OTHERWISE, AS NECESSARY FOR A COMPLETE INSTALLATION. COLOR OF DEVICES AND PLATES SHALL MATCH WALL COLOR OR AS REQUIRED BY ARCHITECT. THE DEVICES SHALL BE OF THE TYPES AND RATINGS LISTED, OR APPROVED EQUIVALS.

	HUBBELL	LEVITON	PASS & SEYMOUR
SINGLE POLE SWITCH	HBL-1221	5521-T	5021
TWO POLE SWITCH	HBL-1222	5522-1	5022
THREE WAY SWITCH	HBL-1223	5523-1	5023
DUPLEX RECEPTACLE	5362	5262-1	1404
GFI RECEPTACLE	GF5352	6198-1	1591-F

E28- TOGGLE SWITCHES:

ALL SWITCHES SHALL BE SPECIFICATION GRADE RATED 15, 20 OR 30 AMPERES AT 277 VOLT AC, TOTALLY ENCLOSED QUIET ACTION TYPE, 1 OR 2 POLE, 3 OR 4 WAY, MOMENTARY CONTACT OR LOCK TYPE AS REQUIRED. THE 15 AMPERE RATED SWITCH MAY BE USED ONLY FOR LIGHTING LOADS OF LESS THAN 10 AMPERES. SWITCHES AHEAD OF MOTORS SHALL BE HORSEPOWER RATED AND SHALL HAVE NUMBER OF POLES AS REQUIRED. TOGGLE COLORS SHALL BE AS SELECTED BY THE ARCHITECT. FOR FLUSH MOUNTED WEATHERPROOF SWITCHES, PROVIDE GASKETED STAINLESS STEEL LIFT COVER PLATE, PASS & SEYMOUR WP SERIES. WHERE SURFACE MOUNTED, USE CAST BOX WITH GASKETED CAST ALUMINUM LIFT COVER PLATE, HUBBELL #7420, WHERE APPLICABLE.

E29- MOTOR STARTERS:

MAGNETIC MOTOR STARTERS SHALL BE PROVIDED WITH RESET TYPE OVERLOADS THAT CLOSELY MATCH MOTOR NAMEPLATE RATING AND SHALL BE ELECTRICALLY HELD (MINIMUM SIZE #1 IN A NEMA 1 ENCLOSURE) AND BE USED FOR ALL SINGLE PHASE AND THREE PHASE MOTORS RATED ABOVE 1/2 H.P. THAT REQUIRE AUXILIARY CONTROL. PROVIDE CONTROL DEVICES (AUXILIARY CONTACTS, TRANSFORMERS, H-O-A, ETC.) IN STARTERS AS REQUIRED FOR INTERLOCKS. COORDINATE ALL CONTROL DEVICES WITH MECHANICAL CONTRACTOR. COMBINATION STARTER/DISCONNECT SWITCHES SHALL CONTAIN FUSIBLE SWITCHES AND ONLY USED WHERE INDICATED ON DRAWINGS.

E30- LIGHTING FIXTURES AND LAMPS:

THIS CONTRACTOR SHALL PROVIDE, INSTALL AND CONNECT ALL LIGHTING FIXTURES AND LAMPS INDICATED ON THE DRAWINGS ACCORDING TO THE FIXTURE SCHEDULE. ALL FIXTURES SHALL BE UL LABELED. CONTRACTOR IS TO REPLACE ALL NON-WORKING LAMPS PRIOR TO CERTIFICATE OF OCCUPANCY DATE AND SHALL INCLUDE COST IN HIS BID.

A. FLOURESCENT BALLASTS SHALL BE ELECTRONIC. PROVIDE TYPE C.B.M. CERTIFIED, E.T.L. APPROVED, UL LISTED, HIGH POWER FACTOR, RATED START AND OF THE VOLTAGE REQUIRED.

B. HID BALLASTS SHALL BE UL LISTED FOR THE SOURCE, WATTAGE AND POSITION OF THE LAMP PROVIDED.

C. DIMMABLE BALLASTS SHALL BE SUPPLIED FOR DIMMABLE FLOURESCENT LAMP FIXTURES AND SHALL BE ADVANCE OR EQUAL.

D. ALL RECESSED INCANDESCENT FIXTURES SHALL BE PROVIDED WITH APPLICABLE THERMAL PROTECTION.

E. LIGHT FIXTURES INSTALLED OUTDOORS IN LOCATIONS PROTECTED FROM THE WEATHER (AS UNDER CANOPIES) SHALL BE RATED FOR OUTDOOR USE, GASKETED AND FINISHED WITH AN APPROVED CORROSION RESISTANT FINISH.

F. CONTRACTOR SHALL FURNISH ADDITIONAL SUPPORT STEEL HANGER WIRES ADEQUATELY SIZED TO SUPPORT THE WEIGHT OF THE FIXTURE FASTENED TO THE BUILDING STRUCTURE FOR ALL FIXTURES IN LAY-IN CEILINGS AND OTHER FIXTURES AS REQUIRED BY THE LOCAL CODE OFFICIAL.

G. FURNISH AND INSTALL APPLICABLE FIRE RATED DRYWALL BOXES OVER RECESSED FIXTURES IN FIRE RATED CEILINGS AS REQUIRED BY CODE.

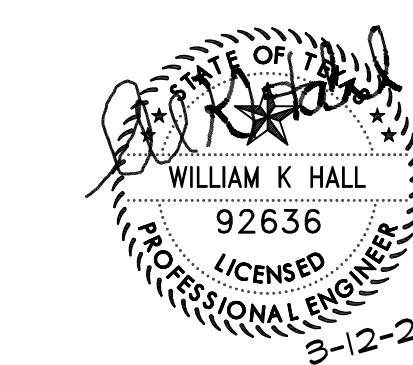
E31- GROUNDING:



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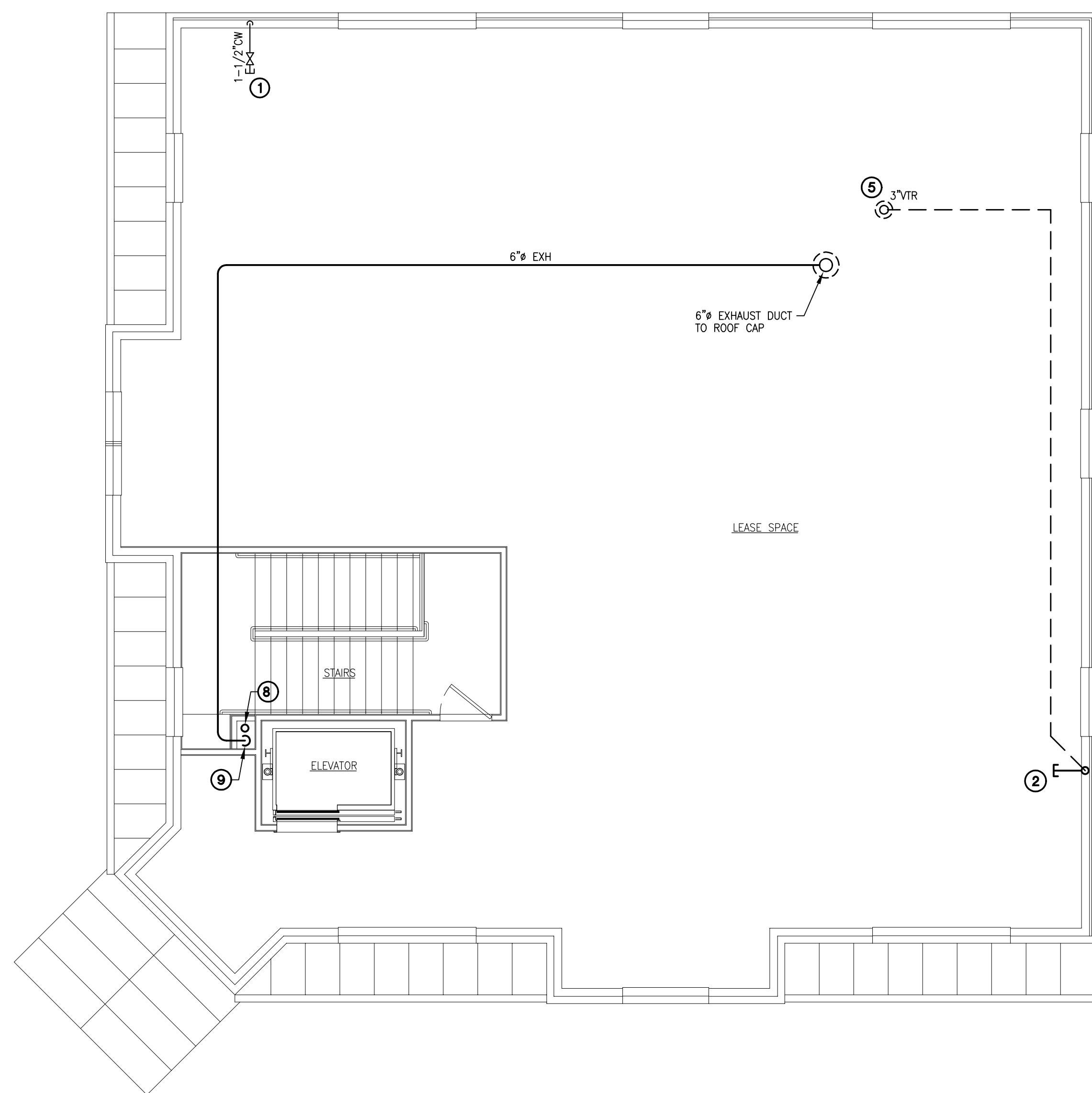
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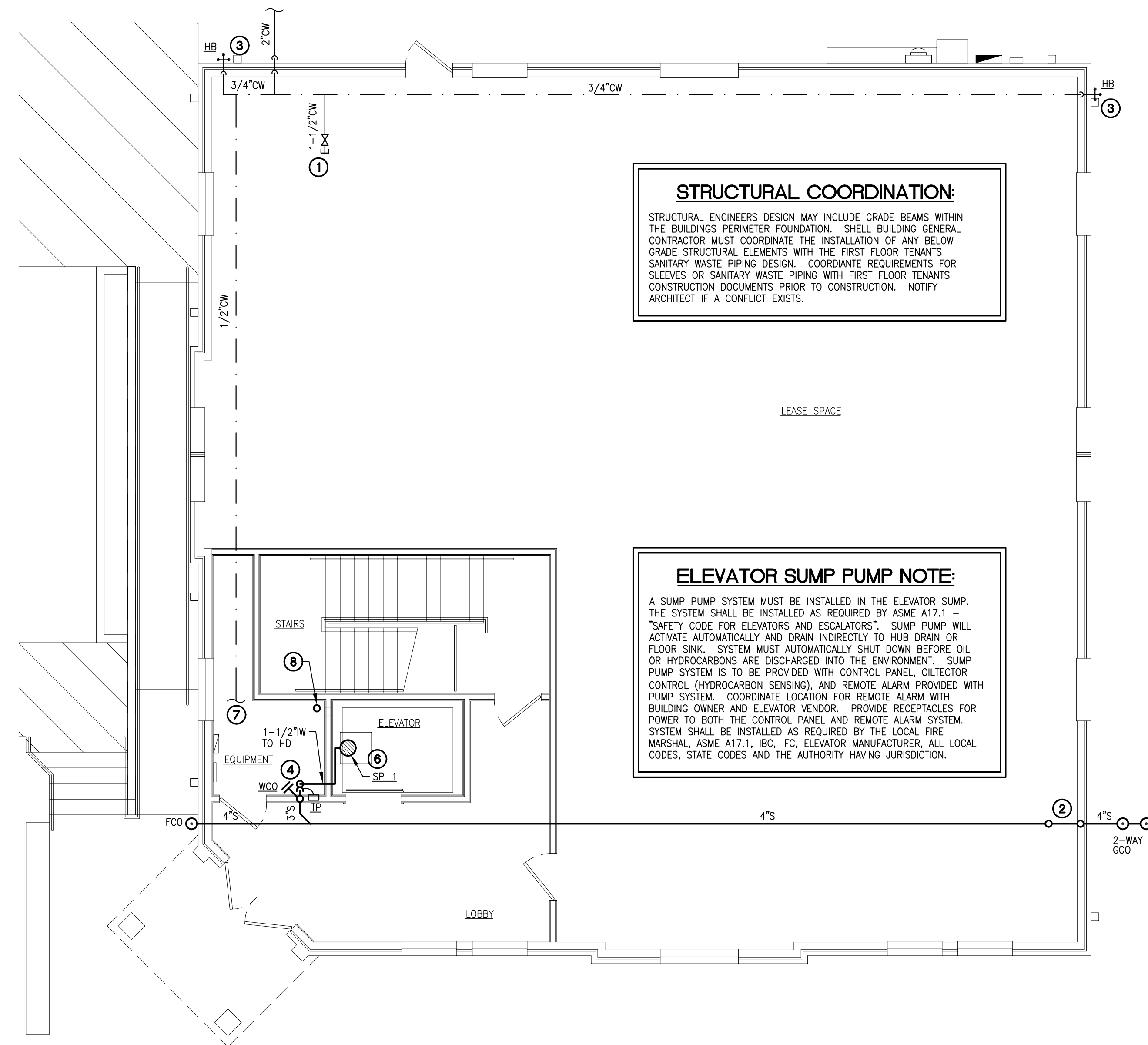
PLUMBING PLANS

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P-2



2 PLUMBING PLAN - SECOND FLOOR
 3/16" = 1'-0"



1 PLUMBING PLAN - FIRST FLOOR
 3/16" = 1'-0"

PLUMBING FIXTURE SCHEDULE									
MARK	DESCRIPTION	MANUFACTURER	MODEL	COLD WATER	HOT WATER	WASTE	VENT	NAT GAS	NOTES
FD	FLOOR DRAIN - WITH TRAP PRIMER	ZURN	ZN-415-B-P-Y	---	---	3"	2"	---	4
HB	HOSE BIBB - NON FREEZE WALL HYDRANT WITH VACUUM BREAKER, DOOR AND KEY	WOODFORD	B-65	3/4"	---	---	---	---	2
TP	TRAP PRIMER	PRECISION PLUMBING PRODUCTS	P-2	1/2"	---	---	---	---	3
WHA	WATER HAMMER ARRESTOR	PRECISION PLUMBING PRODUCTS	SIZE 'A'	3/4"	---	---	---	---	1
SP-1	SUMP PUMP	LIBERTY	ELV280	---	---	1-1/2"	---	---	

NOTES:
 1. TO BE SIZED PER IPC.
 2. PROVIDE HOSE BIBB WITH VACUUM BREAKER.
 3. STANDARD INSTALLATION WITH ACCESS PANEL.
 4. PROVIDE WITH VACUUM BREAKER.

PLUMBING GENERAL NOTES:

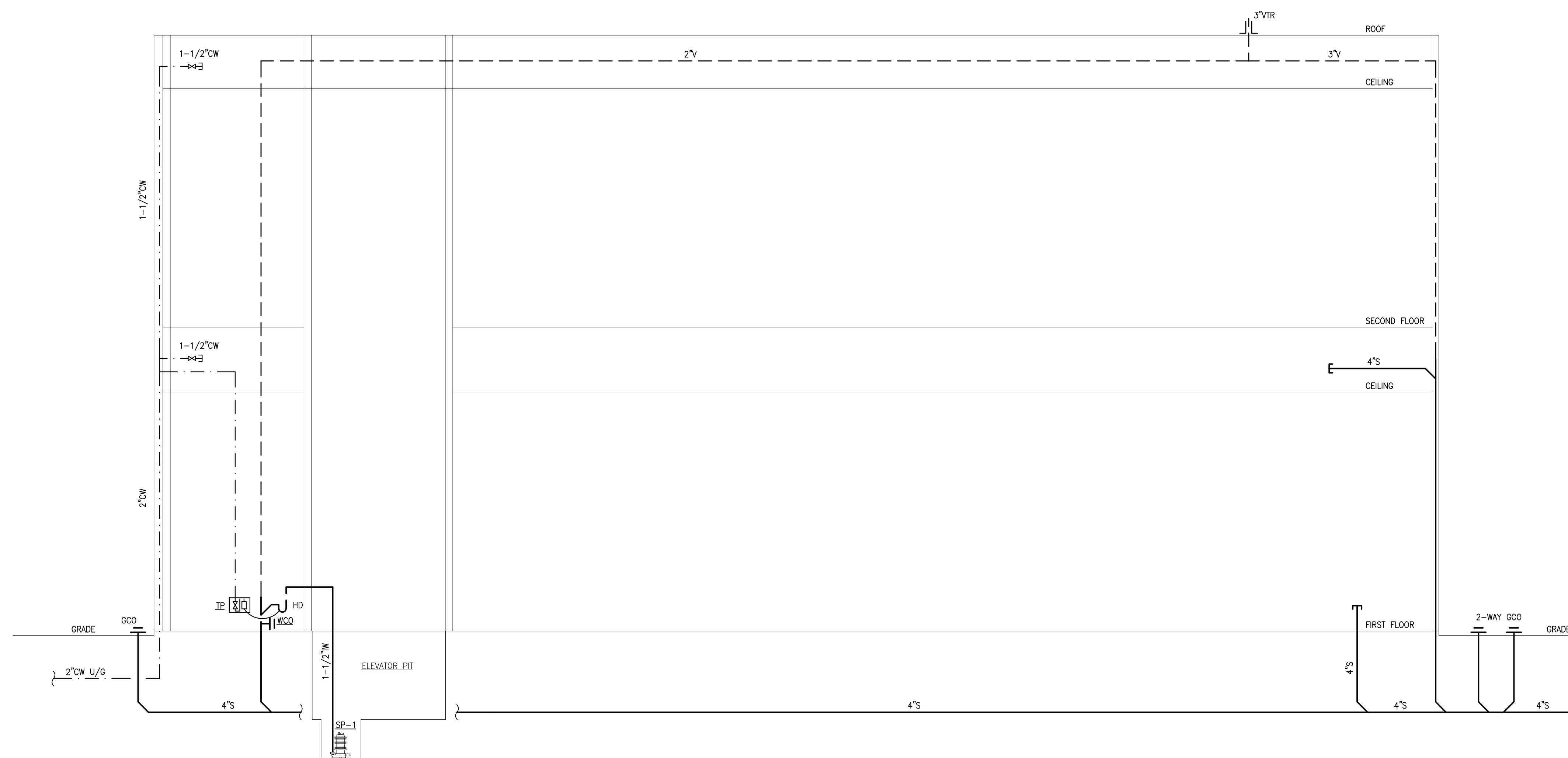
- CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL CONDITIONS AND IS RESPONSIBLE FOR REPORTING ANY CONFLICTS TO THE ARCHITECT PRIOR TO THE START OF WORK.
- "EXISTING" OR "VERIFY IN FIELD" MEANS THE CONTRACTOR IS TO CONFIRM THE ITEM SHOWN ON THE DRAWING EXISTS AND IS IN GOOD WORKING CONDITION. SHOULD THE CONTRACTOR FIND THE EQUIPMENT IS NOT AS SHOWN ON THESE DRAWINGS, IT IS TO BE INSTALLED AS REQUIRED TO PROVIDE THE TENANT WITH A FULLY FUNCTIONING SYSTEM AND AS REQUIRED BY ALL LOCAL CODES AND THE LOCAL AUTHORITY HAVING JURISDICTION.
- CONFIRM THE EXACT LOCATION OF SEWER LINE AND CONFIRM ADEQUATE INVERT ELEVATION IS AVAILABLE FOR 1/4" PER FOOT SLOPE OF PLUMBING LINES SHOWN. SANITARY PIPING TO BE SLOPED AT A MINIMUM OF 1/4" PER FOOT UNLESS NOTED OTHERWISE.
- ANY PENETRATION THRU OR TRENCHED IN CONCRETE FLOORS OR PARTITIONS SHALL BE SAW CUT OR CORE DRILLED.
- ANY PENETRATIONS THRU FIRE RATED PARTITIONS SHALL BE SEALED AS REQUIRED TO UPHOLD THE RATING OF THE PARTITION.
- THE PLUMBING CONTRACTOR SHALL NOT INSTALL EXPOSED PIPING ABOVE OR WITHIN THE CODE REQUIRED WORKING CLEARANCES OF ANY ELECTRICAL PANELBOARD OR SWITCHGEAR. COORDINATE WITH ELECTRICAL CONTRACTOR.
- PLUMBING CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS TO OWNER SUPPLIED EQUIPMENT REQUIRING PLUMBING CONNECTIONS.
- ALL TAP FEES, IMPACT FEES AND PUBLIC ASSESSMENT FEES ARE TO BE INCLUDED IN THIS CONTRACTORS PRICE.
- CONTRACTOR IS REQUIRED TO CONTACT THE BUILDING LANDLORD FOR ANY ROOF WORK. IF LANDLORD REQUIRES A SPECIFIC ROOFING CONTRACTOR, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT, COORDINATE AND PAY FOR ANY AND ALL ROOFING WORK WITH THE LANDLORDS ROOFING CONTRACTOR.
- PROVIDE CLEAN-OUTS AT THE ENDS OF RUNS.
- MAINTAIN MINIMUM OF 10'-0" HORIZONTAL DISTANCE BETWEEN PLUMBING ROOF JACKS (VENTS) AND FRESH AIR INTAKES OR OUTSIDE AIR INTAKES.
- PROVIDE ISOLATION VALVES AT ALL FIXTURES.

PLUMBING KEYED NOTES:

- 1-1/2" DOMESTIC WATER WITH VALVE AND CAPPED FOR FUTURE CONNECTION BY TENANT.
- PROVIDE 4" SANITARY STUB FOR FUTURE TENANT CONNECTION. TEMPORARILY CAP PIPING 36" AFT. COORDINATE LOCATIONS WITH OWNERS FUTURE DEMISING PLANS PRIOR TO CONSTRUCTION.
- HOSE BIBB WITH VACUUM BREAKER. VERIFY LOCATION AND TYPE WITH BUILDING OWNER.
- 3" HUB DRAIN TO RECEIVE INDIRECT WASTE FROM ELEVATOR PIT SUMP PUMP AS REQUIRED BY ASME A17.1. COORDINATE HUB DRAIN LOCATION WITH ELEVATOR EQUIPMENT PLAN AND ELEVATOR EQUIPMENT VENDOR PRIOR TO CONSTRUCTION. SUBSTITUTE FLOOR SINK FOR HUB DRAIN WHERE REQUIRED. INSTALL TRAP PRIMER AND ROUTE FILL LINE TO TRAP.
- COORDINATE VENT THRU ROOF LOCATION WITH ROOFER AND ARCHITECT. VENT SHALL BE LOCATED ON BACK SIDE OF ROOF AND NOT IN LINE OF SIGHT FROM FIRST STREET OR SYMS STREET.
- ELEVATOR PIT SUMP PUMP INSTALLED AS REQUIRED BY ELEVATOR MANUFACTURER, ASME A17.1, AND LOCAL AHS. SUMP PUMP TO BE SUPPLIED WITH OIL AND HYDROCARBON SENSING SYSTEM "LIBERTY ELY" SUMP PUMP SYSTEM WITH "OILTECTOR" CONTROL. HYDROCARBONS MUST NOT BE DISCHARGED INTO THE ENVIRONMENT. REFER TO DETAIL 4/P-4 FOR SUMP PUMP SYSTEM SPECIFICATION AND ADDITIONAL INFORMATION.
- 1/2" CW TO TRAP PRIMER FOR HUB DRAIN.
- ROUTE VENT LINE UP THRU CHASE. REFER TO NOTE #5 FOR VENT TERMINATION LOCATION AND REQUIREMENTS.
- ROUTE 6" EXHAUST DUCT UP THRU CHASE. DUCT ROOF PENETRATION TO BE AT REAR OF BUILDING SIMILAR TO PLUMBING VENT.

PLUMBING ABBREVIATIONS			
AFF	ABOVE FINISHED FLOOR	HW	HOT WATER
AHJ	AUTHORITY HAVING JURISDICTION	HWR	HOT WATER RETURN
B/F	BELOW FLOOR	LAV	LAVATORY
BFP	BACKFLOW PREVENTER	MBH	1000 BTU/HR
CL	CENTER LINE	PRV	PRESSURE REDUCING VALVE
CD	CONDENSATE DRAIN	RZBP	REDUCED PRESSURE ZONE BACKFLOW PREVENTER
CLEANOUT		S	SANITARY
CW	COLD WATER	TP	TRAP PRIMER
D	DRAIN	T & P	TEMPERATURE & PRESSURE
DN	DOWN	TYP	TYPICAL
EL	ELEVATION	UG	UNDER GROUND
EWC	ELECTRIC WATER COOLER	UR	URINAL
FCO	FLOOR CLEANOUT	V	VENT
FD	FLOOR DRAIN	VTR	VENT THROUGH ROOF
FS	FLOOR SINK	W	WASTE
G	GAS - LOW PRESSURE	WC	WATER CLOSET
GCO	GRADE CLEANOUT	WCO	WALL CLEANOUT
HB	HOSE BIBB/WALL HYDRANT	UNO	UNLESS NOTED OTHERWISE

PLUMBING SYMBOLS LEGEND	
	DOMESTIC COLD WATER PIPING
	DOMESTIC HOT WATER PIPING
	SANITARY SEWER
	GREASE WASTE
	VENT PIPING
	NATURAL GAS PIPING
	POINT OF CONNECTION
	FLOOR CLEANOUT
	CLEANOUT TO GRADE
	WALL CLEANOUT
	UNION
	BACKFLOW PREVENTER
	GAS COCK
	CHECK VALVE
	RISE IN PIPING
	DROP IN PIPING
	HOSE BIBB



1 PLUMBING RISER DIAGRAM
 NOT TO SCALE



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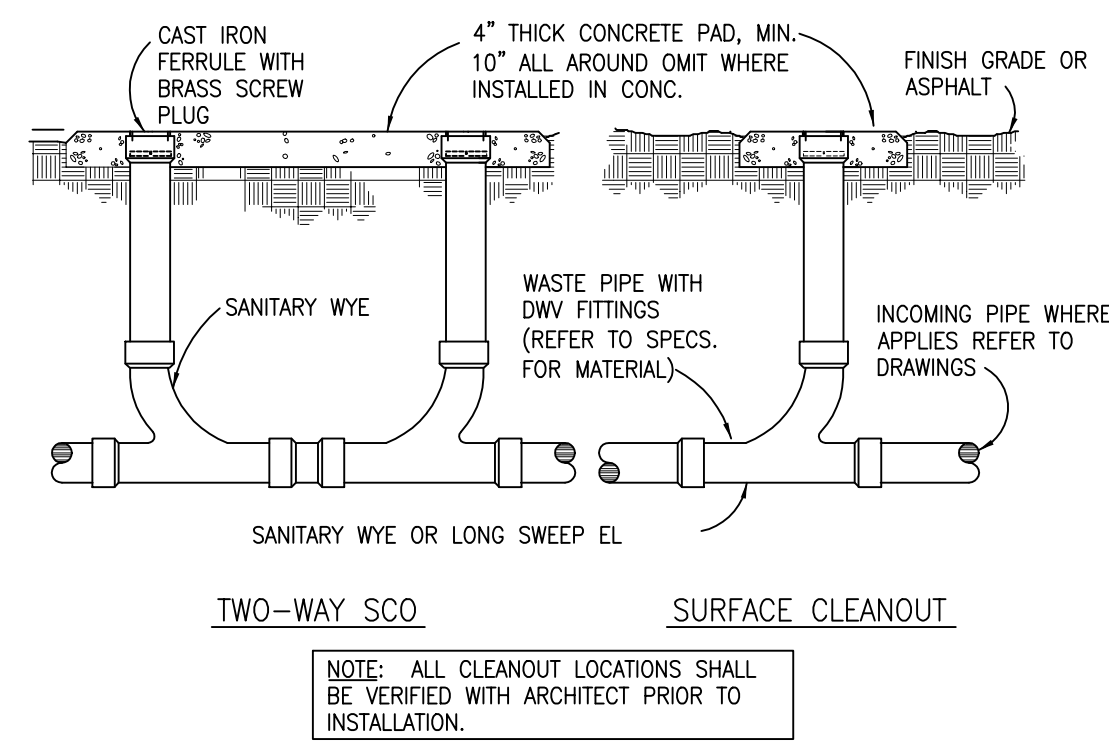


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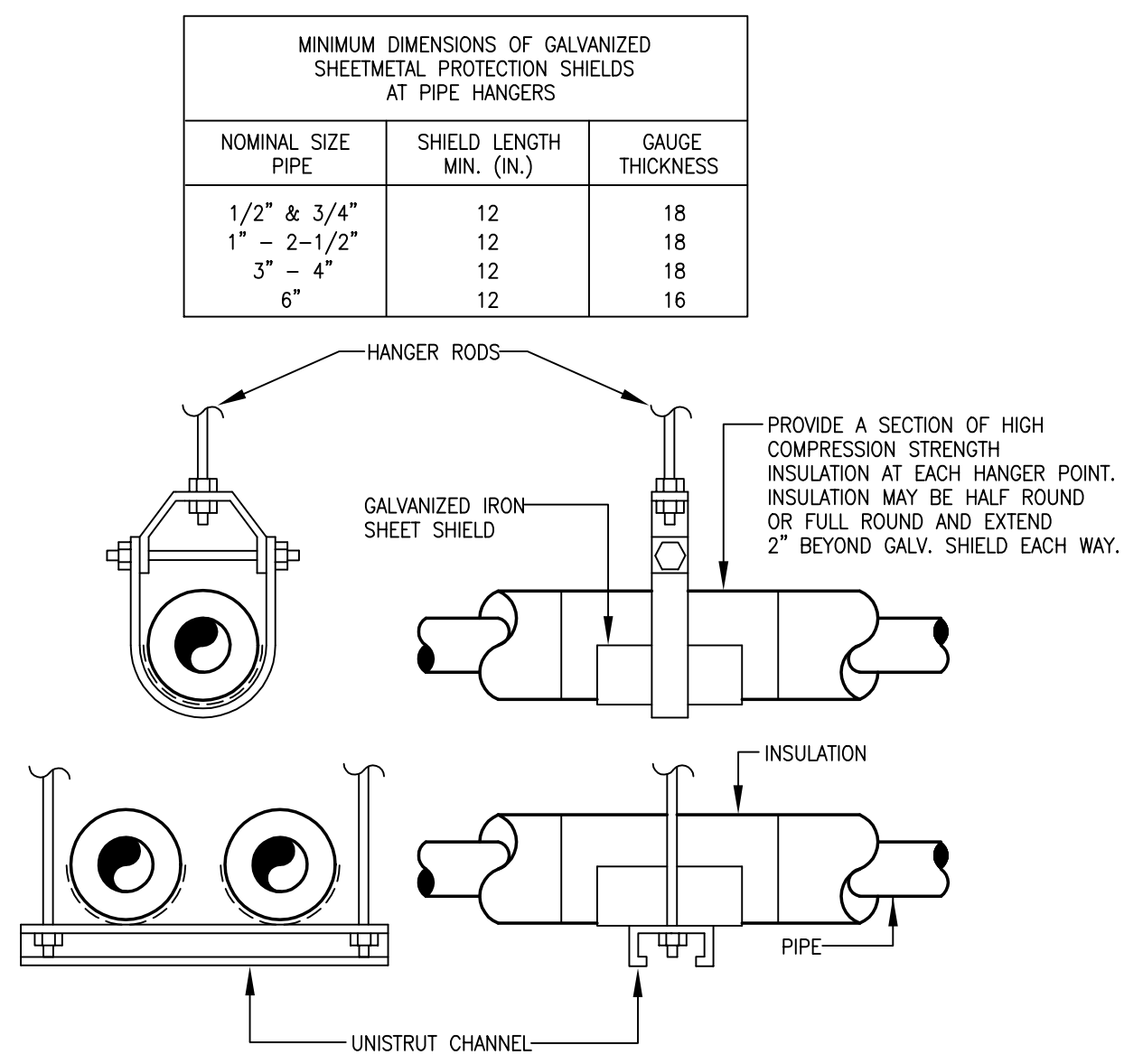
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PLUMBING RISER

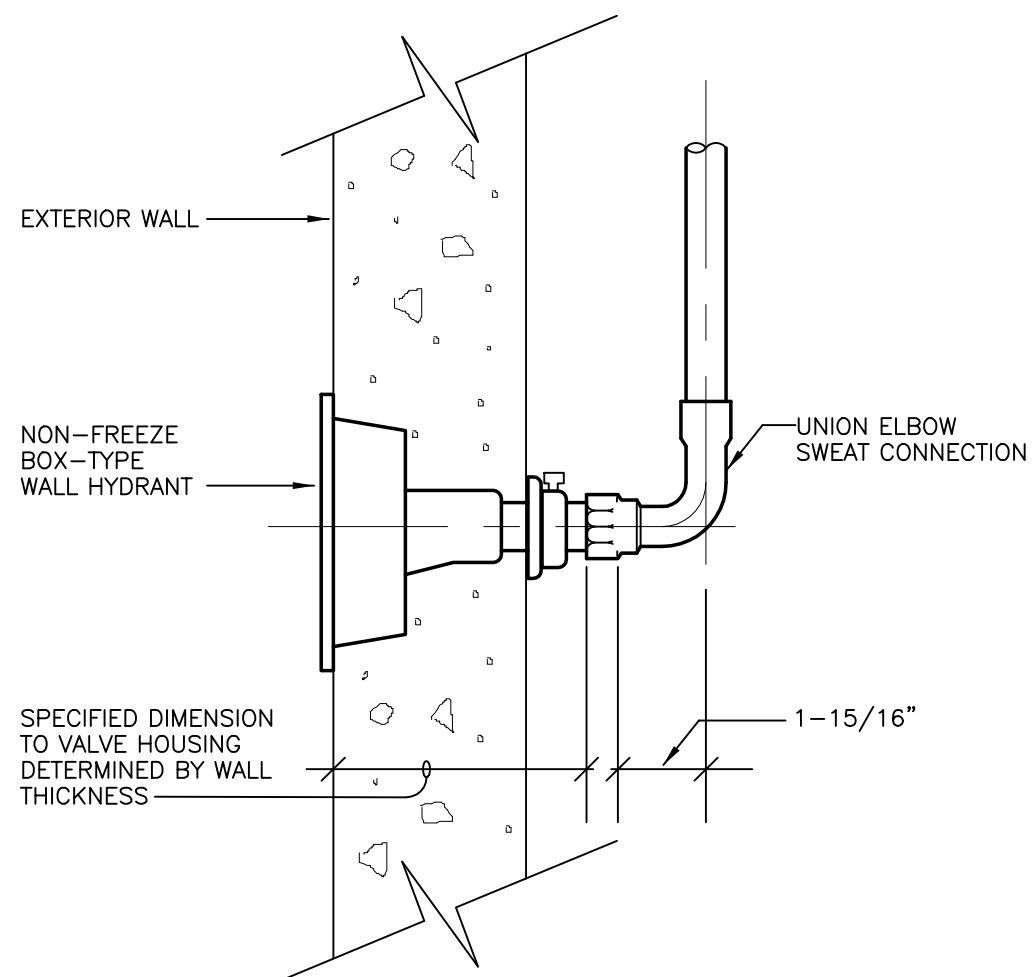
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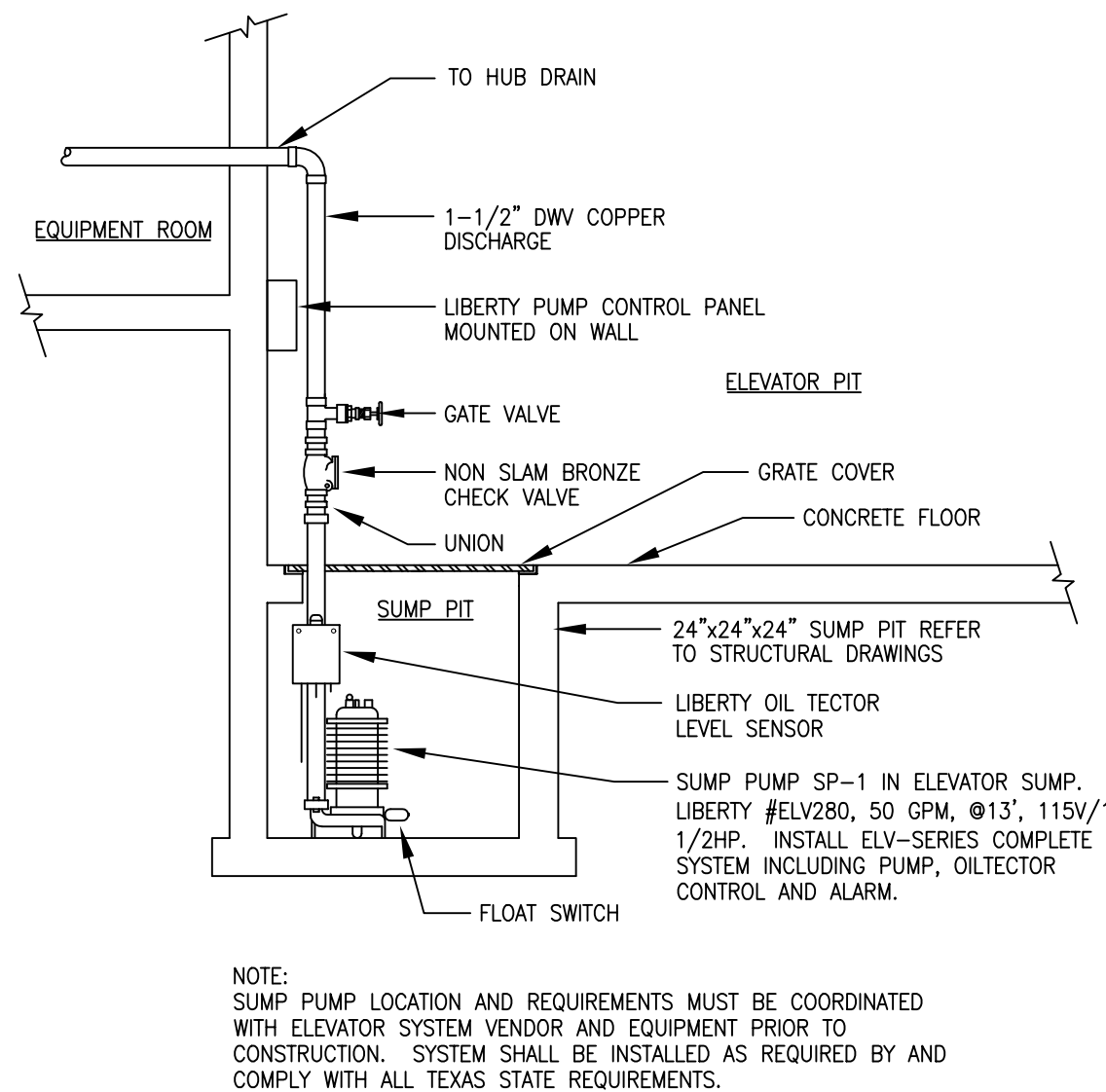
1 GRADE/SURFACE CLEANOUT DETAIL
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3 PIPE HANGER DETAIL
NOT TO SCALE



2 NON FREEZE WALL HYDRANT
NOT TO SCALE



4 ELEVATOR PIT SUMP PUMP DETAIL
NOT TO SCALE

PLUMBING SPECIFICATIONS

SECTION 15400 BASIC PLUMBING REQUIREMENTS

P1 - SCOPE:

- A. THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, EQUIPMENT AND SERVICES REQUIRED TO COMPLETE THE INSTALLATION OF THE WORK OF THIS SECTION AS SHOWN ON THE DRAWINGS AND DESCRIBED HEREIN, INCLUDING ALL INCIDENTAL WORK NECESSARY TO MAKE IT COMPLETE, SATISFACTORY AND READY FOR OPERATION AND USE. MAKE READY FOR OWNER'S USE COMPLETE PLUMBING SYSTEMS TO THE SATISFACTION OF THE OWNER, ARCHITECT AND MECHANICAL ENGINEER.
- B. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL WORK NECESSARY TO MAKE A COMPLETE SYSTEM WHETHER OR NOT SUCH DETAILS ARE MENTIONED IN THESE SPECIFICATIONS AS SHOWN ON THE PLANS, BUT WHICH ARE OBVIOUSLY NECESSARY TO MAKE A COMPLETE SYSTEM, EXCEPTING ONLY THOSE PORTIONS THAT ARE SPECIFICALLY MENTIONED HEREIN OR PLAINLY MARKED ON THE ACCOMPANYING DRAWINGS AS BEING INSTALLED UNDER ANOTHER SECTION OF THE SPECIFICATIONS.
- C. BEFORE STARTING ANY WORK, THE CONTRACTOR FOR THIS SECTION OF THE WORK SHALL EXAMINE A COMPLETE SET OF DRAWINGS AND SPECIFICATIONS FOR ALL TRADES, INCLUDING ARCHITECTURAL, STRUCTURAL, HVAC, ELECTRICAL, FIRE PROTECTION, AND PLUMBING. DIMENSIONS, SPACE REQUIREMENTS, AND POINTS OF CONNECTION TO ALL EQUIPMENT SHALL BE VERIFIED, AND ANY MINOR ADJUSTMENTS NECESSARY TO AVOID CONFLICT WITH THE BUILDING STRUCTURE AND THE WORK OF THE OTHER TRADES SHALL BE MADE. CONTRACTOR SHALL NOTIFY ARCHITECT IMMEDIATELY IF ANY MAJOR CONFLICTS OCCUR.

P2 - WORKMANSHIP:

ALL WORK SHALL BE PERFORMED BY COMPETENT MECHANICS USING PROPER TOOLS AND EQUIPMENT TO PRODUCE FIRST-QUALITY WORK. ALL WORK SHALL BE NEATLY INSTALLED, ACCESSIBLE FOR MAINTENANCE, COMPLETE WITH ALL ACCESSORIES REQUIRED, AND MEETING THE APPROVAL OF THE OWNER AND THE ARCHITECT.

P3 - MATERIALS:

ALL PRODUCTS, EQUIPMENT, MATERIALS, AND ACCESSORIES SHALL BE OF FIRST-LINE QUALITY, GRADE AND TYPE SHOWN ON THE DRAWINGS AND SPECIFIED, OR EQUIVALENTS ACCEPTED BY THE ARCHITECT OR ENGINEER IN WRITING.

P4 - SITE INSPECTION:

CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO SUBMITTING HIS BID AND THOROUGHLY FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS AND EXACT NATURE OF THE WORK. THE DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC. SUBMISSION OF A BID ACKNOWLEDGES FULL RESPONSIBILITY FOR FURNISHING A COMPLETE AND FUNCTIONAL SYSTEM. NO CHANGES IN CONTRACT WILL BE MADE TO ACCOMMODATE OR ALLOW EXTRA FUNDS FOR ANY OMISSION WHICH RESULTS FROM A FAILURE TO THOROUGHLY MAKE THE EXAMINATION.

P5 - CODES:

THE ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST APPLICABLE EDITION OF THE CODES, ORDINANCES AND REGULATIONS INTERPRETED BY THE LOCAL AUTHORITY HAVING JURISDICTION.

P6 - PERMITS:

THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, INSPECTIONS AND FEES. COPIES OF ALL PERMITS AND INSPECTION REPORTS SHALL BE SUBMITTED TO THE ARCHITECT.

P7 - AS-BUILTS:

CONTRACTOR SHALL PROVIDE A COMPLETE SET OF AS-BUILTS TRANSPARENCIES WITH ALL CHANGES NOTED THEREON AT THE COMPLETION OF THE PROJECT AND PRIOR TO FINAL ACCEPTANCE AND PAYMENT. THESE DRAWINGS SHALL HAVE ALL INSTALLATIONS REFERENCED BY DIMENSIONS TO A SET REFERENCE POINT OR POINTS.

P8 - GUARANTEE:

CONTRACTOR SHALL UNCONDITIONALLY GUARANTEE ALL LABOR AND MATERIALS ON ALL WORK AGAINST DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE YEAR AFTER COMPLETION. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE TO ANY PART OF THE PREMISES CAUSED BY EQUIPMENT FURNISHED AND INSTALLED UNDER THIS SECTION OF THE SPECIFICATIONS FOR A PERIOD OF ONE (1) YEAR AFTER DATE OF ACCEPTANCE OF HIS WORK. THE CONTRACTOR SHALL ADJUST ALL VALVES, CONTROLS, VACUUM BREAKERS AND INCIDENTAL ITEMS AND SHALL LEAVE THE SYSTEM IN PERFECT OPERATING CONDITION. THE CONTRACTOR SHALL FURNISH THE OWNER ALL MANUFACTURERS' WRITTEN GUARANTEE OF MATERIALS AND EQUIPMENT, INCLUDING WATER HEATER WARRANTY REQUIREMENTS AND WATER STERILIZATION REPORT.

P9 - OPERATING MANUALS:

CONTRACTOR SHALL FURNISH THE OWNER WITH ALL OPERATING MANUALS AND MAINTENANCE INSTRUCTIONS FOR THE EQUIPMENT INSTALLED. MANUALS SHALL BE BOUNDED IN THREE RING LOOSE-LEAF BINDERS AND INDEXED BY PRODUCT TYPE. A SECTION WITHIN THE MANUAL SHALL INCLUDE THE NAME, TELEPHONE NUMBER AND ADDRESS OF ALL LOCAL SUPPLIERS OF ALL MATERIAL AND EQUIPMENT INSTALLED TOGETHER WITH NAME, TELEPHONE NUMBER AND ADDRESS OF ALL CONTRACTORS OF THE PROJECT. PROVIDE 3 SETS OF MANUALS TO THE OWNER. CONTRACTOR SHALL AFFIX A MAINTENANCE LABELS TO ALL EQUIPMENT REQUIRING ROUTINE MAINTENANCE.

P10 - COORDINATION AND VERIFICATION:

THE DRAWINGS ARE DIAGRAMMATIC AND INTENDED TO SHOW SCOPE. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES TO PROVIDE THE BEST ARRANGEMENT OF ALL DUCTS, PIPES, CONDUIT, ETC.. THE LOCATION OF EXISTING PIPING AND DUCTWORK SHOWN IS APPROXIMATE. CONTRACTOR SHALL VERIFY THEIR LOCATION PRIOR TO BEGINNING WORK OF THIS SECTION AND SHALL MAKE MODIFICATIONS AND ADJUSTMENTS REQUIRED TO INSTALL THE WORK OF THIS SECTION.

- A. THE EXACT LOCATION OF ALL PLUMBING EQUIPMENT SHALL BE VERIFIED WITH THE ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO COMMENCEMENT OF WORK.
- B. COORDINATE WIRING, FUSED DISCONNECT SWITCHES AND CONDUIT REQUIREMENTS WITH THE ELECTRICAL CONTRACTOR. THESE ITEMS SHALL ALSO BE INSTALLED BY THE ELECTRICAL CONTRACTOR.

P11 - EXTERIOR OPENINGS:

COORDINATE LOCATIONS OF ALL EXTERIOR WALL AND ROOF OPENINGS WITH ALL RELEVANT TRADES AND PROVIDE WATERIGHT FLASHINGS WHEREVER PENETRATIONS OCCUR. EXACT LOCATIONS AND SIZES MAY BE DEPENDENT UPON EQUIPMENT SELECTIONS. COORDINATE SIZES AND LOCATIONS OF ALL OPENINGS WITH APPROPRIATE EQUIPMENT REQUIREMENTS.

P12 - UNDER FLOOR PIPING:

ALL UNDER FLOOR PIPING SHALL BE INSTALLED IN CONJUNCTION WITH THE GENERAL CONTRACTORS WORK SCHEDULE. NO UNDERGROUND WORK SHALL BE COVERED OR ENCLOSED UNTIL IT HAS BEEN INSPECTED AND TESTED. THE PLUMBING CONTRACTOR SHALL DO THE NECESSARY TRENCHING, SHORING AND BACKFILLING REQUIRED TO FULFILL HIS CONTRACT. BOTTOMS OF TRENCHES SHALL BE CUT TO GRADE. ALL OPENINGS AND STUB-UP FOR PLUMBING PIPING AND FIXTURES SHALL BE CAREFULLY LOCATED AND COORDINATED. OTHERWISE, PLUMBING CONTRACTOR SHALL CUT NEW OPENINGS AT HIS OWN EXPENSE, AND REIMBURSE OTHER SUBCONTRACTORS FOR ANY DAMAGE DONE TO THEIR WORK.

P13 - UNDER FLOOR PIPING EXCAVATION AND BACKFILLING:

ALL UNDER FLOOR PIPING SHALL BE INSTALLED IN CONJUNCTION WITH THE GENERAL CONTRACTORS WORK SCHEDULE. NO UNDERGROUND WORK SHALL BE COVERED OR ENCLOSED UNTIL IT HAS BEEN INSPECTED AND TESTED. THE PLUMBING CONTRACTOR SHALL DO THE NECESSARY TRENCHING, SHORING AND BACKFILLING REQUIRED TO FULFILL HIS CONTRACT. BOTTOMS OF TRENCHES SHALL BE CUT TO GRADE. ALL OPENINGS AND STUB-UP FOR PLUMBING PIPING AND FIXTURES SHALL BE CAREFULLY LOCATED AND COORDINATED. OTHERWISE, PLUMBING CONTRACTOR SHALL CUT NEW OPENINGS AT HIS OWN EXPENSE, AND REIMBURSE OTHER SUBCONTRACTORS FOR ANY DAMAGE DONE TO THEIR WORK.

P14 - DOMESTIC COLD WATER AND HOT WATER PIPING:

ABOVE GRADE TYPE "L" COPPER, ASTM B-88 COLOR CODED AND BELOW GRADE TYPE "K" COPPER, ASTM B-88, COLD HARD DRAWN SEAMLESS COPPER TUBING. WATER PIPING SHALL BE ABOVE GROUND AS MUCH AS POSSIBLE EXCEPT TO ISLANDS. ALL PIPE CONNECTIONS SHALL RISE ABOVE FLOOR IN INTERIOR WALLS. NO CONNECTIONS UNDER FLOOR. WATER SUPPLY PIPE FITTINGS SHALL BE WROUGHT COPPER. ANSI B16.22 AND CAST FITTINGS WITH NON-LEAD SOLDER JOINTS (100% LEAD FREE). PIPING 4 IN. AND LARGER SHALL BE BELL AND SPIGOT CLASS 50 DUCTILE IRON PIPE CENTRIFUGALLY CAST, CEMENT-LINED INSIDE.

P15 - SANITARY SOIL WASTE AND VENT PIPING:

ABOVE AND BELOW SLAB WASTE AND VENT SHALL BE SCHEDULE 40 PVC SOIL PIPE AND FITTINGS ASSEMBLED WITH SOLVENT CEMENT JOINTS. DEBURR PIPE AFTER CUTTING. CLEAN PIPE AND FITTINGS WITH PURPLE PRIMER. PIPING 3" DIAMETER AND SMALLER SHALL BE SLOPED AT A MINIMUM OF 1/4" PER FOOT. PIPING 4" IN DIAMETER AND LARGER MAY BE SLOPED AT A MINIMUM OF 1/8" PER FOOT. CONTRACTOR SHALL BID THE USE OF CAST IRON PIPING WHEN PVC IS NOT ALLOWED BY THE LOCAL AUTHORITY.

P16 - CLEANOUTS:

PROVIDE CLEANOUTS WHERE INDICATED AND REQUIRED. UNLESS OTHERWISE INDICATED, CLEANOUTS SHALL BE ACCESSIBLE WITH EXTENSIONS TO GRADE, TO OUTSIDE OF BUILDINGS, OR TO FLOORS ABOVE AS INDICATED OR REQUIRED. DO NOT LOCATE CLEANOUTS IN PUBLIC LOBBIES AND PUBLIC CORRIDORS UNLESS APPROVED BY ARCHITECT. FURNISH AND INSTALL CLEANOUTS AT CHANGES IN DIRECTION, AND AS REQUIRED BY LOCAL ORDINANCE AND CODES.

P17 - INDIRECT AND CONDENSATE DRAINS:

HARD DRAWN TYPE "M" OR "L" COPPER TUBE, ASTM B88 AND WROUGHT COPPER FITTINGS, ANSI B16.22, SOLDER JOINT TYPE, OR PVC. COORDINATE CONDENSATE TRAP INSTALLATION WITH AIR CONDITIONING UNIT MANUFACTURER. ALL INTERIOR CONDENSATE DRAIN PIPING SHALL BE INSULATED. DRAIN SHALL BE SLOPED AT A MINIMUM OF 1%. DRAIN SHALL TERMINATE AT THE CLOSEST CODE APPROVED DISPOSAL SITE.

P18 - VALVES:

EVERY PLUMBING FIXTURE SHALL BE INDEPENDENTLY VALVED. VALVES SHALL BE MANUFACTURED BY NIBCO, HAMMOND, POWELL, STOCKHAM, WATTS OR EQUIVALENT APPROVED BY THE ENGINEER. GATE VALVES SHALL CONFORM TO MSS-SP-80 FOR BRONZE AND MSS-SP-70 FOR IRON, VALVES 2" AND SMALLER SHALL BE NIBCO T-113 OR S-113 OR APPROVED EQUIVALENT. BALL VALVES SHALL HAVE CAST BRONZE BODY, BLOWOUT PROOF STEMS, FULL SIZE PORT, 316 STAINLESS STEEL TRIM, TEFLON SEAT AND SEAL AND THRUST WASHERS. VALVES 2" AND SMALLER SHALL BE NIBCO T-585-70-66 OR APPROVED EQUIVALENT.

P19 - NATURAL GAS PIPING:

PIPE SHALL BE NEW SCHEDULE 40 BLACK STEEL CONFORMING TO ASTM STANDARDS, WITH 150 LB. MIN. BLACK MALLEABLE IRON SCREWED FITTINGS AND COUPLINGS. GAS PIPING INSTALLED UNDERGROUND SHALL BE PROTECTED FROM CORROSION (MACHINE WRAPPED). GATE VALVES ONE INCH AND SMALLER SHALL BE LEVER HANDLE TYPE WITH CHECK. ALL BRONZE, SCREWED, 1-1/4" AND LARGER VALVES SHALL BE IRON BODY WITH BRONZE SQUARE HEAR PLUG. PROVIDE OPERATING WRENCH WHERE REQUIRED FOR EACH VALVE. OUTSIDE UNDERGROUND PIPING MAY BE PLASTIC PIPE WHERE ALLOWED BY THE LOCAL AUTHORITY HAVING JURISDICTION. PLASTIC PIPING SHALL CONFORM TO "ASTM D 2513". PLASTIC PIPING SHALL BE INSTALLED BY A CERTIFIED INSTALLER. TRANSITION FROM BELOW GROUND SHALL BE PROVIDED BY THE INSTALLATION OF AN ANODELESS RISER. PLASTIC PIPING SHALL BE INSTALLED WITH A #10 TRACER WIRE.

P20 - SHOCK ABSORBERS:

FACTORY FABRICATED WITH STAINLESS STEEL CONSTRUCTION SIMILAR TO JOSAM NO. 75007 (IF REQUIRED BY LOCAL CODES). AIR CHAMBERS WILL NOT BE PERMITTED AS A SUBSTITUTE FOR SHOCK ABSORBERS.

P21 - PIPE HANGERS AND SUPPORTS:

HOLD HORIZONTAL PIPE RUNS FIRMLY IN PLACE USING APPROVED STEEL AND IRON HANGERS, SUPPORTS, AND/OR PIPE RESTS UNLESS OTHERWISE INDICATED. SUSPEND HANGER RODS FROM CONCRETE INSERTS OR FROM APPROVED BRACKETS, CLAMPS OR CLIPS. HANG PIPES INDIVIDUALLY OR IN GROUPS IF SUPPORTING STRUCTURE IS ADEQUATE TO SUPPORT WEIGHT OF PIPING AND FLUID. EXCEPT FOR BURIED PIPING, HANG OR SUPPORT PIPE RUNS SO THAT THEY MAY EXPAND OR CONTRACT FREELY WITHOUT STRAIN TO PIPE OR EQUIPMENT. HANGERS SHALL BE SUPPLIED WITH FACTORY INSTALLED ISOLATION AND DI-CHROMATE FINISH.

P22 - INSULATION:

ALL HOT AND COLD DOMESTIC WATER LINES, LAVATORY DRAINS, SINK AND CONDENSATE DRAINS TO BE INSULATED WITH 1/2" FIBERGLASS MOLDED PIPE COVERING ABOVE AND BELOW GRADE. HOT WATER PIPING SHALL BE INSULATED AS REQUIRED BY THE ENERGY CODE AND THE AUTHORITY HAVING JURISDICTION.

P23 - TRAP PRIMERS:

WHERE SHOWN ON THE DRAWINGS OR REQUIRED BY THE LOCAL PLUMBING CODE, INSTALL AUTOMATIC TRAP PRIMERS ON COLD WATER SUPPLY AT NEAREST FIXTURE AND RUN DRAIN TO TRAP SEAL BEING PROTECTED. PROVIDE ARCHITECT APPROVED ACCESS PANELS WHEN PRIMERS ARE INSTALLED IN WALLS.

P24 - ROOF FLASHING:

SANITARY VENT FLASHINGS: SEMCO 1100-3 OR 1100-5, WITH ONE-PIECE LEAD FLASHING AND COUNTER FLASHING SLEEVE. OTHER PIPE THROUGH ROOF FLASHING: SEMCO 1100-2 OR 1100-4, ONE-PIECE 4 LB. LEAD FLASHING AND COUNTER FLASHING SLEEVE.

P25 - WATER STERILIZATION:

BEFORE ANY USE OF THE SYSTEM IS MADE FOR DOMESTIC PURPOSES, IT SHALL BE STERILIZED WITH APPROVED AGENTS. THE LINE IS THEN FLUSHED OUT UNTIL ALL TRACES OF CHEMICAL HAVE BEEN REMOVED.

P26 - TESTING AND INSPECTION:

THE ENTIRE PLUMBING SYSTEM INCLUDING ALL SEWER, GAS, WATER, WASTE AND VENT PIPING SHALL BE TESTED BEFORE COVERING, ENCLLOSING OR INSULATING TO THE SATISFACTION OF THE ARCHITECT AND LOCAL BUILDING INSPECTOR. THE WATER USED FOR THESE TESTS SHALL BE OBTAINED FROM A PORTABLE SOURCE OF SUPPLY IF REQUIRED. WORK SHALL BE INSPECTED FOR COMPLIANCE WITH CODES, ORDINANCES, REGULATIONS AND ADHERENCE TO CONTRACT DOCUMENTS. PLUMBING CONTRACTOR SHALL SUPPLY OWNER WITH SIGNED FORMS OR PROOF OF ACCEPTANCE BY THE LOCAL AUTHORITY BEFORE CONTINUING FROM ONE STAGE TO ANOTHER. FINAL APPROVAL SHALL BE OBTAINED BEFORE FINAL PAYMENT IS MADE ON THE CONTRACT.

P27 - CLEANUP:

UPON COMPLETION OF THE WORK UNDER THIS SECTION, THE CONTRACTOR SHALL REMOVE ALL SURPLUS MATERIALS, EQUIPMENT AND DEBRIS INCIDENTAL TO THIS WORK AND LEAVE THE PREMISES CLEAN AND ORDERLY.