

2018 APPENDIX B BUILDING CODE SUMMARY

Name of Project: Antioch Church
 Address: 494 Antioch Church Rd. Dunn, NC Zip Code: 28334
 Proposed Use: Church addition
 Owner or Authorized Agent: Clay Hamilton Phone # (910)890-4774 E-Mail:
 Owned By: City / County Private State
 Code Enforcement Jurisdiction: City - Dunn County - Harnett State

LEAD DESIGN PROFESSIONAL: Joe T. Smith, Jr.

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Building	Smith Engineering & Design	Joe T. Smith, Jr.	24916	(919)-736-2141	smithengineeringnc@hotmail.com
Civil					
Electrical	Smith Engineering & Design	Joe T. Smith, Jr.	24916	(919)-736-2141	smithengineeringnc@hotmail.com
Fire Alarm	Smith Engineering & Design	Joe T. Smith, Jr.	24916	(919)-736-2141	smithengineeringnc@hotmail.com
Plumbing	Smith Engineering & Design	Joe T. Smith, Jr.	24916	(919)-736-2141	smithengineeringnc@hotmail.com
Mechanical	Smith Engineering & Design	Joe T. Smith, Jr.	24916	(919)-736-2141	smithengineeringnc@hotmail.com
Sprinkler-Standard	T.B.D.	T.B.D.	T.B.D.	T.B.D.	T.B.D.
Structural	Smith Engineering & Design	Joe T. Smith, Jr.	24916	(919)-736-2141	smithengineeringnc@hotmail.com
Retaining Walls >5' High					
Other					

2018 NC BUILDING CODE: New Construction Shell/Complete 1st Time Interior Completion
 Addition Phased Construction-Shell Core
2018 NC EXISTING CODE: (check all that apply) Prescriptive Alteration Level I Historic Property
 Repair Alteration Level II Change of Use
 Chapter 14 Alteration Level III
 CONSTRUCTED: (date) 2013 CURRENT USE(s) (Ch. 3) A-3 Church
 RENOVATED: (date) PROPOSED USE(s) (Ch. 3) A-3 Church

BUILDING DATA (check all that apply)
 Construction Type: I-A II-A III-A IV V-A
 I-B II-B III-B V-B
 Sprinklers: NO Partial NFPA 13 NFPA 13R NFPA 13RD
 Standpipes: NO Class: I II III Wet Dry
 Primary Fire District: NO YES (Primary) Flood Hazard Area: NO YES
 Special Inspections Required: NO YES

GROSS BUILDING AREA TABLE

FLOOR	EXISTING (SQ. FT.)	NEW (SQ. FT.)	SUB-TOTAL
3rd Floor			
2nd Floor			
Mezzanine	1,714	1,130	2,844
1st Floor (Upper Level)	9,078	10,625	19,703
Basement (Lower Level)			
TOTAL:	10,792	11,755	22,547

ALLOWABLE AREA

Primary Occupancy:
 Assembly: A-1 A-2 A-3 A-4 A-5
 Business:
 Educational:
 Factory: F-1 Moderate F-2 Low
 Hazardous: H-1 Detonate H-2 Dehagrate H-3 Combust H-4 Health H-5 HMP
 Institutional: I-1 I-2 I-3 I-4
 I-3 Condition: 1 2
 I-2 Condition: 1 2
 I-1 Condition: 1 2 3 4 5
 Mercantile:
 Residential: R-1 R-2 R-3 R-4
 Storage: S-1 Moderate S-2 Low High-Piled
 Parking Garage Open Enclosed Repair Garage
 Utility and Misc.:

Accessory Occupancy Classification(s):
Incidental Use: (Table 509)
 This separation is not exempt as a Nonseparated Use (see exceptions).
Special Uses: (Chapter 4 - List Code Sections)
Special Provisions: (Chapter 5 - List Code Sections)

Mixed Occupancy: NO YES Secondary occupancy type(s): Separation: Hour Exception:
 Non-Separated Use (508.3)
 The required type of construction for the building shall be determined by applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of construction, so determined, shall apply to the entire building.
 Separated Use (508.4) See below for area calculations for each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} \leq 1.0$$

$$\frac{N/A}{N/A} + \frac{N/A}{N/A} = N/A \leq 1.0$$

ACCESSIBLE PARKING (SECTION 1106)

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2.4 AREA	(C) AREA FOR INCREASE ^{1,2}	(D) ALLOWABLE AREA PER STORY OR UNLIMITED ^{2,3}
1	A-3 Assembly	22,547	24,000	Not Used	24,000

¹ Frontage area increases from Section 506.2 are computed thus:
 a. Perimeter which fronts a public way or open space having 20 feet minimum width = (F)
 b. Total Building Perimeter = (P)
 c. Ratio (F/P) = (F/P)
 d. W = Minimum width of public way = (W)
 e. Percent of frontage increase $I_p = 100 [(F/P - 0.25) \times W/30 - \text{---}] (\%)$
² Unlimited area applicable under conditions of Section 507.
³ Maximum Building Area - total number of stories in the building x D (maximum 3 stories) (506.2).
⁴ The maximum area of parking garages must comply with 406.5.4. The maximum area of air traffic control towers must comply with Table 412.3.1.
⁵ Frontage increase is based on the unobstructed area value in Table 506.2.

ALLOWABLE HEIGHT

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE
Building Height in Feet (Table 504.3)	60	25'-0"	
Building Height in Stories (Table 504.4)	2	1	

1. Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4.

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING		DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR RATED PENETRATION	DESIGN # FOR RATED JOINTS
		REQUIRED	PROVIDED (W/ N/A * REDUCTION)				
Structural frame, including columns, girders, trusses		0 HOUR	0 HOUR				
Bearing walls							
Exterior							
North	>30'	0 HOUR	N/A				
East	>30'	0 HOUR	N/A				
West	>30'	0 HOUR	N/A				
South	>30'	0 HOUR	N/A				
Interior		0 HOUR	0 HOUR				
Nonbearing walls and partitions							
Exterior							
North	>30'	0 HOUR	0 HOUR				
East	>30'	0 HOUR	0 HOUR				
West	>30'	0 HOUR	0 HOUR				
South	>30'	0 HOUR	0 HOUR				
Interior walls and partitions		0 HOUR	0 HOUR				
Floor Construction including supporting beams and joists		0 HOUR	0 HOUR				
Roof Construction including supporting beams and joists		0 HOUR	0 HOUR				
Roof/Ceiling Assembly		0 HOUR	0 HOUR				
Columns Supporting Roof	N/A	N/A	N/A				
Shafts Enclosures - Exit	N/A	N/A	N/A				
Shafts Enclosures - Other	N/A	N/A	N/A				
Corridor Separation	N/A	N/A	N/A				
Occupancy/Fire Barrier Separation	N/A	N/A	N/A				
Party/Fire Wall Separation	N/A	N/A	N/A				
Smoke Barrier Separation	N/A	N/A	N/A				
Smoke Partition	N/A	N/A	N/A				
Tenant/Dwelling Unit/Sleeping Unit Separation	N/A	N/A	N/A				
Incidental Use Separation	N/A	N/A	N/A				

*Indicates section number permitting reduction.

PERCENTAGE OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)
>30'	Unprotected, Sprinklered	No Limit	N/A

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting: No Yes
 Exit Signs: No Yes
 Fire Alarm: No Yes Partial
 Smoke Detection Systems: No Yes Partial
 Carbon Monoxide Detection: No Yes

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: LF-1

Fire and/or smoke rated wall locations (Chapter 7)
 Assumed and real property line locations
 Exterior wall opening area with respect to distance to assumed property lines (705.8)
 Occupancy Use for each area as it relates to occupant load calculation (Table 1004.1.2)
 Occupant loads for each area
 Exit access travel distances (1017)
 Common path of travel distances (Tables 1006.2.1 & 1006.3.2(1))
 Dead end lengths (1020.4)
 Clear exit widths for each exit door
 Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3)
 Actual occupant load for each exit door
 A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation
 Location of doors with panic hardware (1010.1.10)
 Location of doors with delayed egress locks and the amount of delay (1010.1.9.7)
 Location of doors with electromagnetic egress locks (1010.1.9.9)
 Location of doors equipped with hold-open devices
 Location of emergency escape windows (1030)
 The square footage of each fire area (202)
 The square footage of each smoke compartment for Occupancy Classification I-2 (407.5)
 Note any code exceptions or table notes that may have been utilized regarding the items above

ACCESSIBLE DWELLING UNITS (SECTION 1107)

TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED

ACCESSIBLE PARKING (SECTION 1106)

LOT OR PARKING AREA	TOTAL # PARKING SPACES		# ACCESSIBLE SPACES PROVIDED			TOTAL # ACCESSIBLE SPACES PROVIDED
	REQUIRED	PROVIDED	REGULAR WITH 5' ACCESS AISLE	VANS SPACES WITH 132" ACCESS AISLE	8' ACCESS AISLE	
See Site Plan						
TOTAL						

PLUMBING FIXTURE REQUIREMENTS (TABLE 2902.1)

USE	WATER CLOSETS			URINALS	LAVATORIES			SHOWERS & TUBS	DRINKING FOUNTAINS
	MALE	FEMALE	UNISEX		MALE	FEMALE	UNISEX		
EXISTING	2	4	0	1	2	2	0	0	1
NEW	0	0	1	2	0	0	1	0	1
REQUIRED	0	0	1	0	0	0	0	0	0

SPECIAL APPROVALS

Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPL/DHS, ICC, etc., describe below)

STRUCTURAL DESIGN

DESIGN LOADS:

Importance	Snow (I _s)	1.10
Factors:	Seismic (I _e)	1.25

Live Loads: Roof 20 PSF
 Mezzanine 40 PSF
 Floor 100 PSF
 Ground Snow Load: 10 PSF
 Wind Loads: Basic Wind Speed 127 MPH (ASCE 7-10)
 Exposure Category B

SEISMIC CATEGORY A B C D

Provide the following Seismic Design Parameters:
 Occupancy Category (Table 1604.5) I II III IV
 Spectral Response Acceleration S_s 18.4 %g S₁ 8.6 %g
 Site Classification (ASCE 7-7) A B C D E F
 Data source: Field Test Presumptive Historical Data

Basic Structural System: (check one)
 Bearing Wall Dual W/ Special Moment Frame
 Building Frame Dual W/ Intermediate R/C or Special Steel
 Moment Frame Inverted Pendulum

Analysis Procedure: Simplified Equivalent Lateral Force Dynamic
 Architectural, Mechanical, Components Anchored? Yes No

LATERAL DESIGN CONTROL: Earthquake Wind

SOIL BEARING CAPACITIES:
 Field Test (provide copy of test report) N/A psf
 Presumptive Bearing Capacity 2000 psf
 Pile Size, Type, and Capacity N/A

SPECIAL INSPECTIONS REQUIRED: Yes No

ENERGY REQUIREMENTS:

The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed design.

Existing building envelope complies with code: (If checked, the remainder of this section is not applicable.)
 Exempt Building: Provide code or statutory reference:
 Climate Zone: 3 4 5
 Method of Compliance:
 Energy Code: Performance Prescriptive Trade-Off
 ASHRAE 90.1: Performance Prescriptive Trade-Off
 Other: Performance (specify source)

THERMAL ENVELOPE:

Roof/Ceiling Assembly (each assembly)

Description of Assembly	Metal Building W/ "Simple-Saver" liner system
U-value of Total Assembly	0.041
R-value of Insulation	30
Skylights in each assembly	N/A
U-value of skylight	N/A
Total square footage of skylights in each assembly	N/A

Exterior Walls (each assembly)

Description of Assembly	Metal Building W/ "Simple-Saver" liner system
U-value of Total Assembly	0.064
R-value of Insulation	25
Openings (windows or doors with glazing)	Alum. Storefront
U-value of assembly	<0.77
Solar heat gain coefficient:	<0.40
Projection factor:	0.91
Door R-Values:	N/A

Walls below grade (each assembly)

Description of Assembly	
U-value of Total Assembly	
R-value of Insulation	

Floors over unconditioned space (each assembly)

Description of Assembly	
U-value of Total Assembly	
R-value of Insulation	

Floors slab on grade

Description of Assembly	Slab on Grade
U-value of Total Assembly	N/A
R-value of Insulation	R-15 24" Long
Horizontal/vertical requirement	N/A
Slab heated	N/A

Reviewed for Fire Code Compliance

Harnett County
 Roger Sullivan
 04/11/2024 2:45:03 PM

INDEX TO DRAWINGS

COVER / CODE SUMMARY

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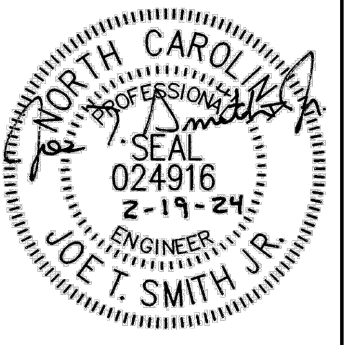


REVISIONS

REV	DATE	DESCRIPTION

New Alteration and Addition for:
Antioch Church of Erwin
 494 Antioch Church Road,
 Dunn, North Carolina 28334

DATE: 19 February 2024
 DRAWN BY: T.B. & L.W.
 SCALE: NO SCALE
T-1



REV	DATE	DESCRIPTION

New Alteration and Addition for:
Antioch Church of Erwin
 494 Antioch Church Road,
 Dunn, North Carolina 28534

DATE: 19 February 2024
 DRAWN BY: T.B. & L.W.
 SCALE: 1/8" = 1'-0"

LF-1

LEGEND	
SYMBOL	DESCRIPTION
	COMMON PATH OF EXIT EGRESS TRAVEL
	ROUTE OF TOTAL EXIT ACCESS TRAVEL DISTANCE
	DOOR PROVIDED WITH PANIC HARDWARE
	DOOR PROVIDED WITH MAGNETIC LOCK AND EXIT SENSOR BAR
	SEMI-RECESSED FIRE EXTINGUISHER CABINET
	REQUIRED OCCUPANT CAPACITY OF DOOR
	ACTUAL OCCUPANT CAPACITY OF DOOR

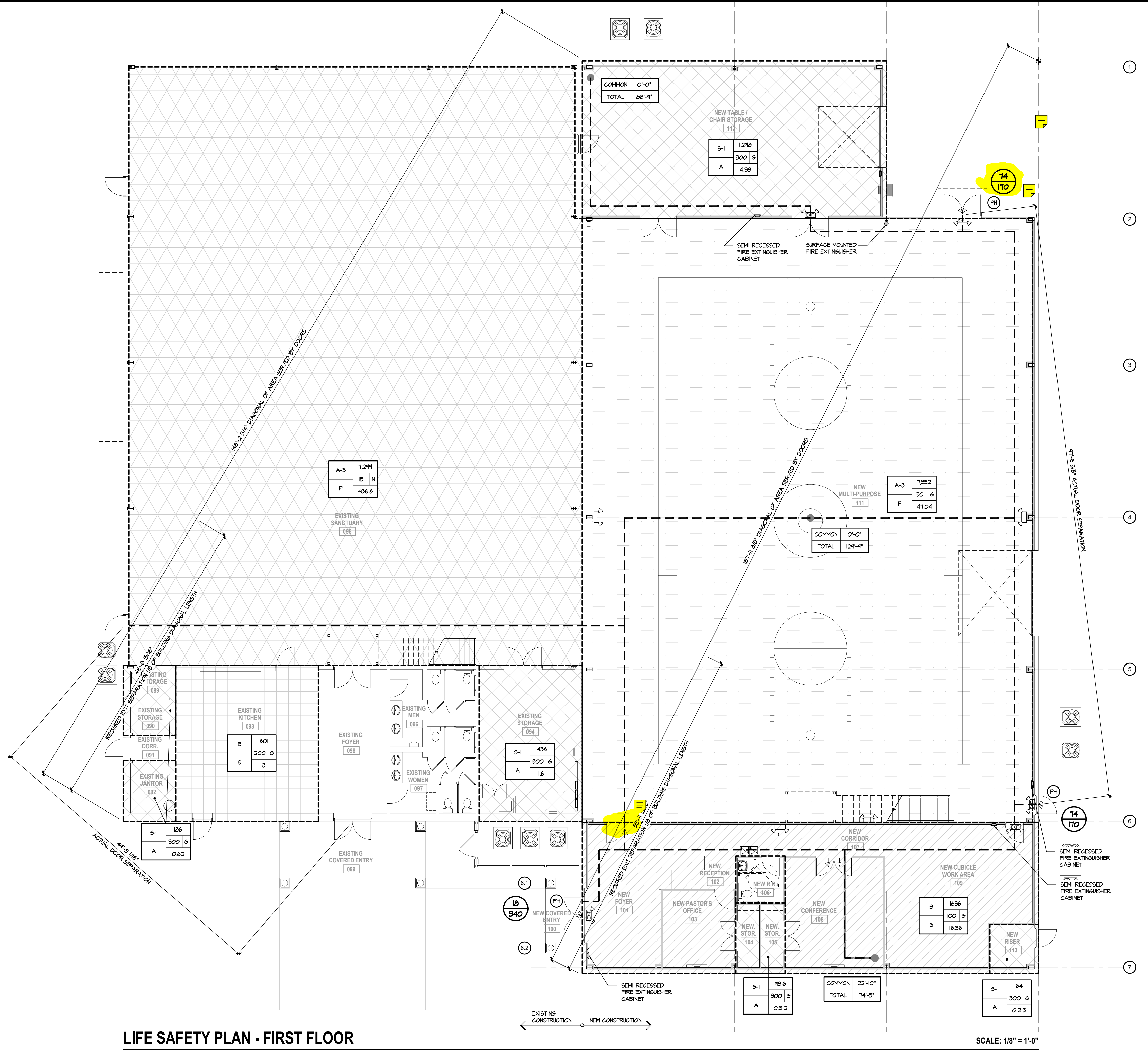
OCCUPANCY CLASSIFICATION OF INDICATED AREA

P	PRIMARY OCCUPANCY
S	SECONDARY OCCUPANCY
A	ACCESSORY OCCUPANCY
I	INCIDENTAL OCCUPANCY

X = SF OF INDICATED AREA
 N = NET SF PER OCCUPANT
 G = GROSS SF PER OCCUPANT
 FLOOR AREA ALLOWANCE PER OCCUPANT OF INDICATED AREA
 CALCULATED OCCUPANT LOAD OF INDICATED AREA

COMMON	x'-x'	COMMON PATH OF TRAVEL DISTANCE
TOTAL	x'-x'	TOTAL TRAVEL DISTANCE

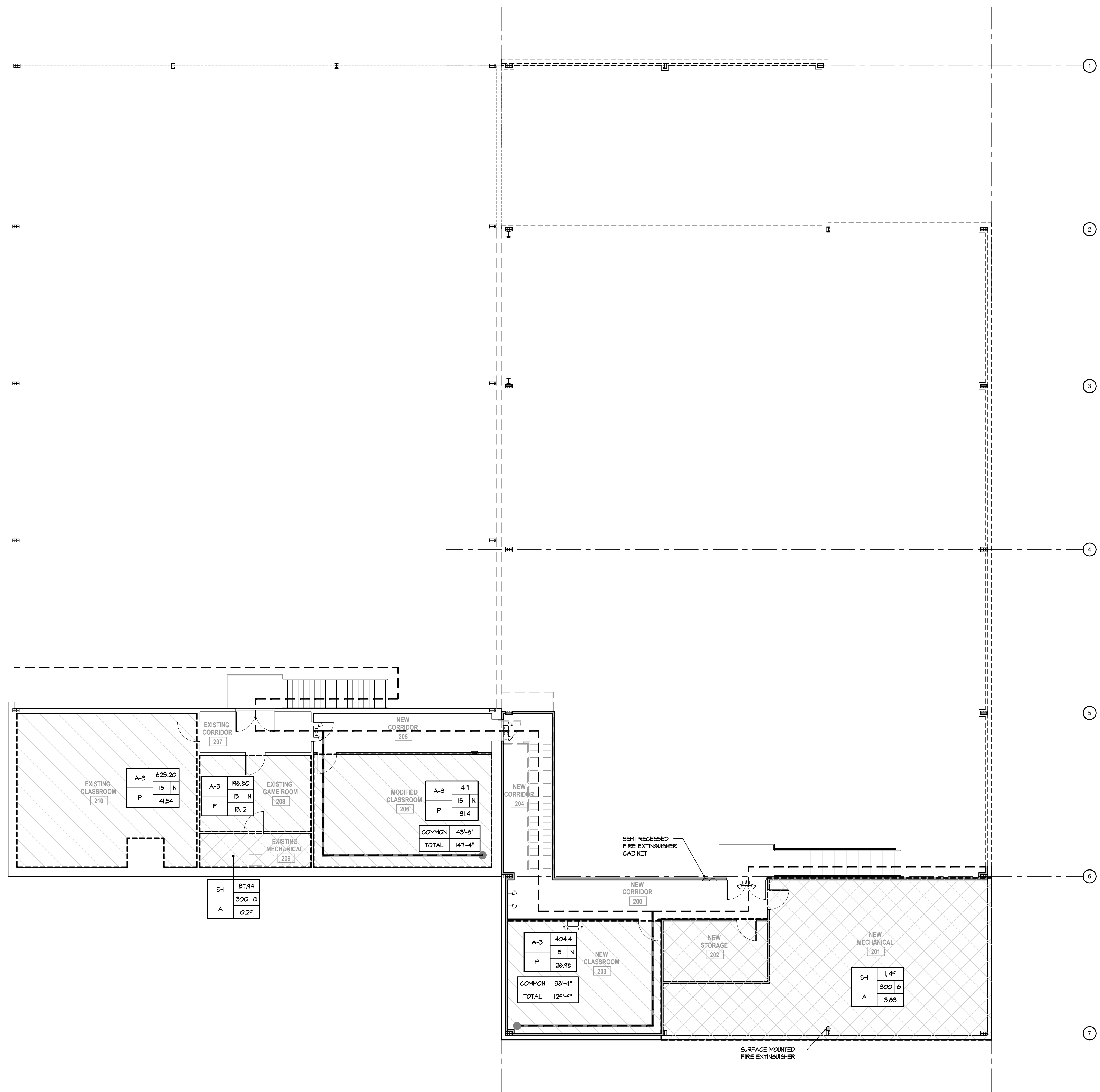
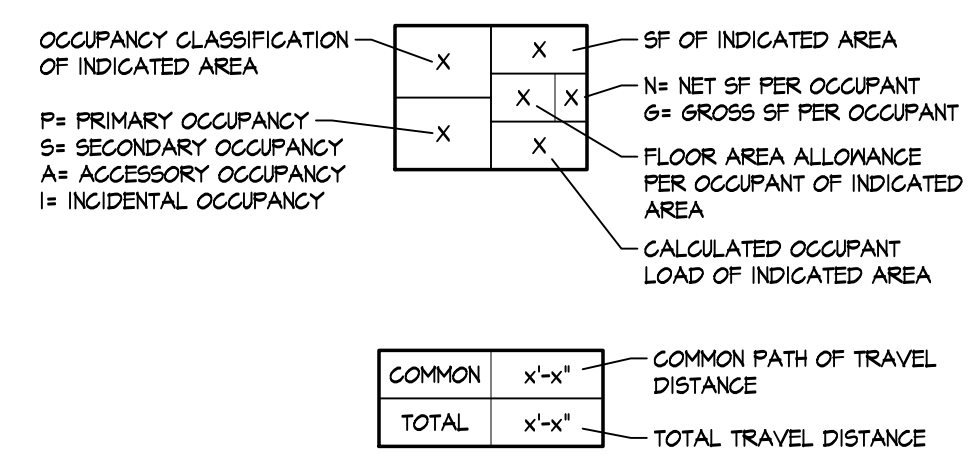
EGRESS OCCUPANT TABULATION		
CLASSIFICATION	OCCUPANTS	
EXISTING A-3 (PRIMARY)	578.2	
NEW A-3 (PRIMARY)	144.2	
TOTAL COMBINED OCCUPANT LOAD:	722.4	
TOTAL FIRE AREA = 22,574 SQ. FT.		



LIFE SAFETY PLAN - FIRST FLOOR

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

LEGEND	
SYMBOL	DESCRIPTION
	COMMON PATH OF EXIT EGRESS TRAVEL
	ROUTE OF TOTAL EXIT ACCESS TRAVEL DISTANCE
	DOOR PROVIDED WITH PANIC HARDWARE
	DOOR PROVIDED WITH MAGNETIC LOCK AND EXIT SENSOR BAR
	SEMI-RECESSED FIRE EXTINGUISHER CABINET
	REQUIRED OCCUPANT CAPACITY OF DOOR
	ACTUAL OCCUPANT CAPACITY OF DOOR

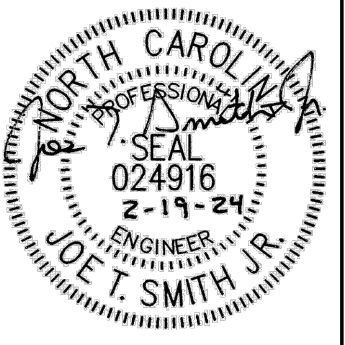


LIFE SAFETY PLAN - SECOND FLOOR

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

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REV	DATE	DESCRIPTION

New Alteration and Addition for:
Antioch Church of Erwin
494 Antioch Church Road,
Dunn, North Carolina 28334

DATE: 19 February 2024
DRAWN BY: T.B. & L.W.
SCALE: 1/8" = 1'-0"

LF-2

STRUCTURAL NOTES

FOUNDATIONS

- SOIL DESIGN BEARING VALUE - 2000 PSF TO BE FIELD VERIFIED BY INDEPENDENT GEOTECHNICAL TESTING LABORATORY.
- SITE PREPARATION AND PLACEMENT OF ENGINEERED COMPACTED FILL SHALL BE MONITORED BY THE GEOTECHNICAL LABORATORY. ALL NECESSARY STRIPPING, CUTTING, PROOF, ROLLING, AND FILLING OPERATIONS SHALL BE SO MONITORED.
- ALL FILL INSIDE THE BUILDING AND TO 10' OUTSIDE THE BUILDING INCLUDING RAMPS, STOPS, AND STEPS SHALL BE CLEAN SELECT MATERIAL FREE OF DELETERIOUS MATERIALS SUCH AS WOOD, ROOTS, TRASH, OR OTHER EXTRANEIOUS MATERIALS. PLACE FILL IN 8" LIFTS, MEASURED LOOSE, AND COMPACT EACH LIFT TO 95% MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT AS MEASURED BY ASTM D698. THE UPPERMOST 16" SHALL BE COMPACTED TO 100% MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT AS MEASURED BY ASTM D698.
- ALL FOOTING EXCAVATIONS SHALL BE APPROVED BY THE GEOTECHNICAL LABORATORY PRIOR TO PLACING FOOTING CONCRETE.
- FOOTING ELEVATIONS SHALL NOT BE RAISED OR LOWERED UNLESS SPECIFICALLY APPROVED BY THE ENGINEER.
- FOOTINGS MAY CARRIED TO LOWER ELEVATION WHERE DIRECTED BY THE ENGINEER.
- CONSTRUCTION JOINTS IN CONTINUOUS WALL FOOTING SHALL BE MADE MIDWAY BETWEEN COLUMNS AND AT LEAST 4' FROM THE INTERSECTION OF ANOTHER WALL FOOTING.
- COLUMN FOOTING IN LINE WITH WALL FOOTINGS SHALL BE PLACED CONTINUOUSLY AND FLUSH TOP WITH CONTIGUOUS WALL FOOTINGS.
- FOUNDATIONS SHALL BE PLACED ONLY ON APPROVED NATURAL UNDISTURBED SOIL STRATA OR ON PROPERLY PLACED ENGINEERED CONTROLLED COMPACTED FILL UNDER THE SUPERVISION OF GEOTECHNICAL LABORATORY.
- PROVIDE ADEQUATE TEMPORARY BRACING FOR THE FOUNDATION WALLS DURING BACKFILLING AND COMPACTION OPERATIONS.

CONCRETE

- CONCRETE SHALL DEVELOP THE FOLLOWING MINIMUM COMPRESSIVE STRENGTHS AT 28 DAY:
 - A. FOOTINGS AND FOUNDATIONS - 3000 PSI
 - B. INTERIOR SLABS ON GRADE - 3000 PSI
 - C. EXTERIOR SLABS ON GRADE - 3000 PSI
- CONCRETE SHALL BE REGULAR STONE CONCRETE.
- CONCRETE TO BE PERMANENTLY EXPOSED TO WEATHER SHALL HAVE 5% AIR ENTRAINMENT.
- CONCRETE FOR NOT PERMANENTLY EXPOSED TO THE WEATHER SUCH AS FOUNDATIONS AND INTERIOR FLOOR SLABS SHALL NOT HAVE AIR ADDED BY ENTRAINMENT.
- ALL CONCRETE WORK SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" ACI 318.
- OBSERVE ALL AND STRICTLY FOLLOW ALL ACI 305 AND 306 REQUIREMENTS RESPECTIVELY FOR PROTECTION OF CONCRETE IN HOT AND COLD WEATHER.
- ALL CONCRETE WORK SHALL BE PROPERLY CURED IN CONFORMANCE WITH ACI 308. EITHER WATER CURING METHOD OR SEALING MATERIALS METHOD MAY BE USED TO PROVIDE THAT THE METHOD CHOSEN HAS NO DETRIMENTAL EFFECT ON THE FINAL FINISH SPECIFIED FOR THE RESPECTIVE AREAS.
- PLACE 1/2" PRE-FORMED, IMPREGNATED EXPANSION JOINT FILLER FULL DEPTH OF SLAB ON GRADE AT ABUTTING FOUNDATION WALL SURFACES UNLESS OTHERWISE NOTED.
- PROVIDE CONSTRUCTION OR CONTROL JOINTS IN SLABS ON GRADE IN LOCATIONS AS SHOWN ON FOUNDATION PLAN OR AT OTHER LOCATIONS APPROVED BY THE ENGINEER, BUT SPACING OF JOINTS SHALL NOT EXCEED 20' IN ANY DIRECTION.
- THE TYPE OF JOINT USED WEATHER CONTROL JOINT OR CONSTRUCTION JOINT IS THE OPTION OF THE CONTRACTOR UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- SAW JOINTS FOR CONTROL JOINTS IN THE CONCRETE SLABS SHALL BE MADE AS SOON AS THE CONCRETE HAS SUFFICIENT STRENGTH TO PREVENT SPALLING OF THE JOINT DUE TO THE ACTION OF THE SAW, BUT IN NO CASE GREATER THAN 4 HOURS AFTER INITIAL PLACEMENT OF THE CONCRETE. UTILIZE SOFT CUT TECHNOLOGY IF NECESSARY TO EXPEDITE SAWING OF SLAB CONTROL JOINTS. INSTALL THE SEMI-RIGID JOINT FILLER ONLY AFTER THE SLABS HAVE FULLY CURED.

- SAW JOINTS IN CONSTRUCTION JOINTS SHALL BE SAWS ONLY AFTER SLABS HAVE FULLY CURED AND JUST PRIOR TO INSTALLING THE JOINT FILLER.
- CHAMFER EXPOSED EDGES AND CORNERS OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.
- SEE GENERAL DRAWINGS FOR REQUIRED FLOOR FINISHES AND PROVIDE NECESSARY RECESIONS, DEPRESSIONS, AND SLAB FINISH AS REQUIRED TO ACCEPT FINISHES.
- ALL CONCRETE FIELD TESTING SHALL BE ACCORDANCE WITH ACI AND ASTM STANDARDS.
- ALL CONCRETE SAMPLES FOR FIELD TESTS SHALL BE TAKEN AT FINAL POINT OF DISCHARGE WHETHER IT BE THE TRUCK CHUTE OR THE END OF THE HOSE FOR PUMPER TRUCK.

REINFORCING STEEL

- BARS SHALL BE ROLLED FROM NEW BILLET-STEEL CONFORMING TO "SPECIFICATION FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", ASTM A615, GRADE 60.
- WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 AND SHALL BE FURNISHED IN FLAT SHEETS.
- DETAIL AND FABRICATE REINFORCING STEEL IN ACCORDANCE WITH "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES," ACI 315.
- REINFORCING STEEL SHALL BE IN PLACE AND REVIEWED BY THE LOCAL BUILDING INSPECTOR PRIOR TO PLACING CONCRETE.
- PLACE ONE LAYER OF 6 X 6 X W1.4 X W1.4 OC EACH WAY AT MIDDDEPTH OF 4" SLABS ON GRADE AND ONE LAYER OF 6 X 6 X W2.9 X W2.9 OC EACH WAY AT MIDDDEPTH OF 8" SLABS ON GRADE.
- PROVIDE ADEQUATE SUPPORTS TO HOLD REBARS IN PLACE WHILE PLACING THE CONCRETE. TIE REBARS TO SUPPORTS TO PREVENT MOVEMENT WHILE PLACING THE FRESH CONCRETE.
- FABRICATE BARS IN CONTINUOUS FOOTINGS, WALLS, BOND BEAMS AND TURNED DOWN SLABS TO LONGEST PRACTICAL LENGTHS.
- LAP REBAR SPLICES A MINIMUM OF 48 BAR DIAMETERS BUT A MINIMUM OF 24" UNLESS OTHERWISE NOTED. PLAN REBAR SPLICES TO OCCUR AT POINTS OF MINIMUM STRESS UNLESS OTHERWISE SHOWN.
- TERMINATE CONTINUOUS BARS IN TURNED DOWN SLABS, WITH A STANDARD 90 DEGREE HOOK AT DISCONTINUOUS ENDS, CORNERS, AND INTERSECTIONS.
- AT LOCATIONS REQUIRING VERTICAL DOWELS INTO FOOTINGS, THE PLACEMENT OF THE DOWELS SHALL MATCH THE SIZE AND THE LOCATION OF THE VERTICAL WALL REBARS REQUIRING THE DOWELS.
- ALL DOWELS SHALL TERMINATE IN THE FOOTING WITH A STANDARD ACI 90 DEGREE HOOK UNLESS SPECIFICALLY SHOWN OTHERWISE. DOWELS SHALL LAP THEIR MATCHING VERTICAL REBAR 48 BAR DIAMETERS OR A MINIMUM OF 24".
- PROVIDE THE FOLLOWING CLEARANCES FROM REBARS TO CONCRETE FACE UNLESS OTHERWISE NOTED ON DRAWINGS:
 - A. EARTH FORMS - 3"
 - B. WALL FORMS - 2"
 - C. TOP OF SLAB - 1"

EXTERIOR WOOD WALL FRAMING

- ALL EXTERIOR WALL STUDS SHALL BE STUD GRADE OR BETTER 2x6 SPF LUMBER SPACED AT 16" O.C.
- GRADED STRESS RATED FINGER JOINTED LUMBER OF EQUAL STRENGTH MAY BE UTILIZED FOR WALL FRAMING AT THE OPTION OF THE CONTRACTOR.
- ALL WALL BOTTOM PLATES IN CONTACT WITH CONCRETE SHALL BE PRESSURE TREATED NO. 2 OR BETTER SYP.
- ALL WALL TOP PLATES AND OTHER BOTTOM PLATES SHALL BE NO. 2 OR BETTER SYP.
- ALL EXTERIOR WALL SURFACES SHALL BE SHEATHED WITH 1/2" CDX SHEATHING GRADE PLYWOOD OR 1/2" OSB SHEATHING. ALL PANEL SEAMS SHALL BE BLOCKED AS NOTED ON THE DRAWINGS. LEAVE A 1/8" SEAM GAP ALL AROUND WALL SHEATHING PANELS FOR PANEL SWELL DUE TO AMBIENT MOISTURE.

- NAIL WALL SHEATHING TO STUD WORK WITH 8D NAILS SPACED AT 4" AT PANEL EDGES AND 8" O.C. IN PANEL FIELD.
- NAIL WALL SHEATHING TO ALL BOTTOM AND TOP PLATES WITH 8D SPACED AT 4", AT DOUBLE PLATES STAGGER NAILING WITH 8" SPACING ON EACH PLATE MEMBER.
- ANCHOR EXTERIOR BUILDING WALLS TO FOUNDATION WITH ANCHOR BOLTS AS SPECIFIED ON FOUNDATION PLAN.

INTERIOR LOAD BEARING WOOD WALL FRAMING

- ALL INTERIOR WALL STUDS SHALL BE STUD GRADE OR BETTER SPF LUMBER SPACED AT 16" O.C. SIZE OF STUDS TO BE AS INDICATED ON FLOOR PLAN.
- ALL INTERIOR LOAD BEARING WALL GYPSUM BOARD SHALL BE 1/2" OR 5/8" AS SPECIFIED.
- SCREW PATTERN FOR GYPSUM WALL BOARD PANELS AT INTERIOR LOAD BEARING WALLS SHALL BE #10 DRY WALL SCREWS SPACED AT 6" AT PANEL EDGES AND 12" IN PANEL FIELD.

INTERIOR PARTITION WOOD WALL FRAMING

- ALL INTERIOR WALL STUDS SHALL BE STUD GRADE OR BETTER SPF LUMBER SPACED AT 16" O.C. SIZE STUDS TO BE AS INDICATED ON FLOOR PLAN.
- ALL INTERIOR LOAD BEARING WALL GYPSUM BOARD SHALL BE 1/2" OR 5/8" AS SPECIFIED.
- SCREW PATTERN FOR GYPSUM WALL BOARD PANELS AT INTERIOR LOAD BEARING WALLS SHALL BE #10 DRY WALL SCREWS SPACED AT 6" AT PANEL EDGES AND 12" IN PANEL FIELD.

INTERIOR PARTITION WALL FRAMING

- INTERIOR LOAD NON-LOAD BEARING PARTITION WALL STUDS SHALL BE 6005137-33 LIGHT GAUGE METAL STUDS. REFER TO GENERAL DRAWINGS FOR STUD SIZE AND WALL FRAMING DIMENSIONS.
- SPACING OF INTERIOR LOAD BEARING WALL STUDS SHALL BE 16".
- SCREW PATTERN FOR GYPSUM WALL BOARD PANELS AT INTERIOR PARTITION WALLS SHALL BE #10 DRY WALL SCREWS SPACED AT 6" AT PANEL EDGES AND 12" IN PANEL FIELD.
- PROVIDE ONE ROW OF METAL STUD BRIDGING PLACED AT 1/2 POINT OF STUD HEIGHT.
- INSTALLATION OF LIGHT GAUGE STEEL FRAMING SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

DIMENSIONS

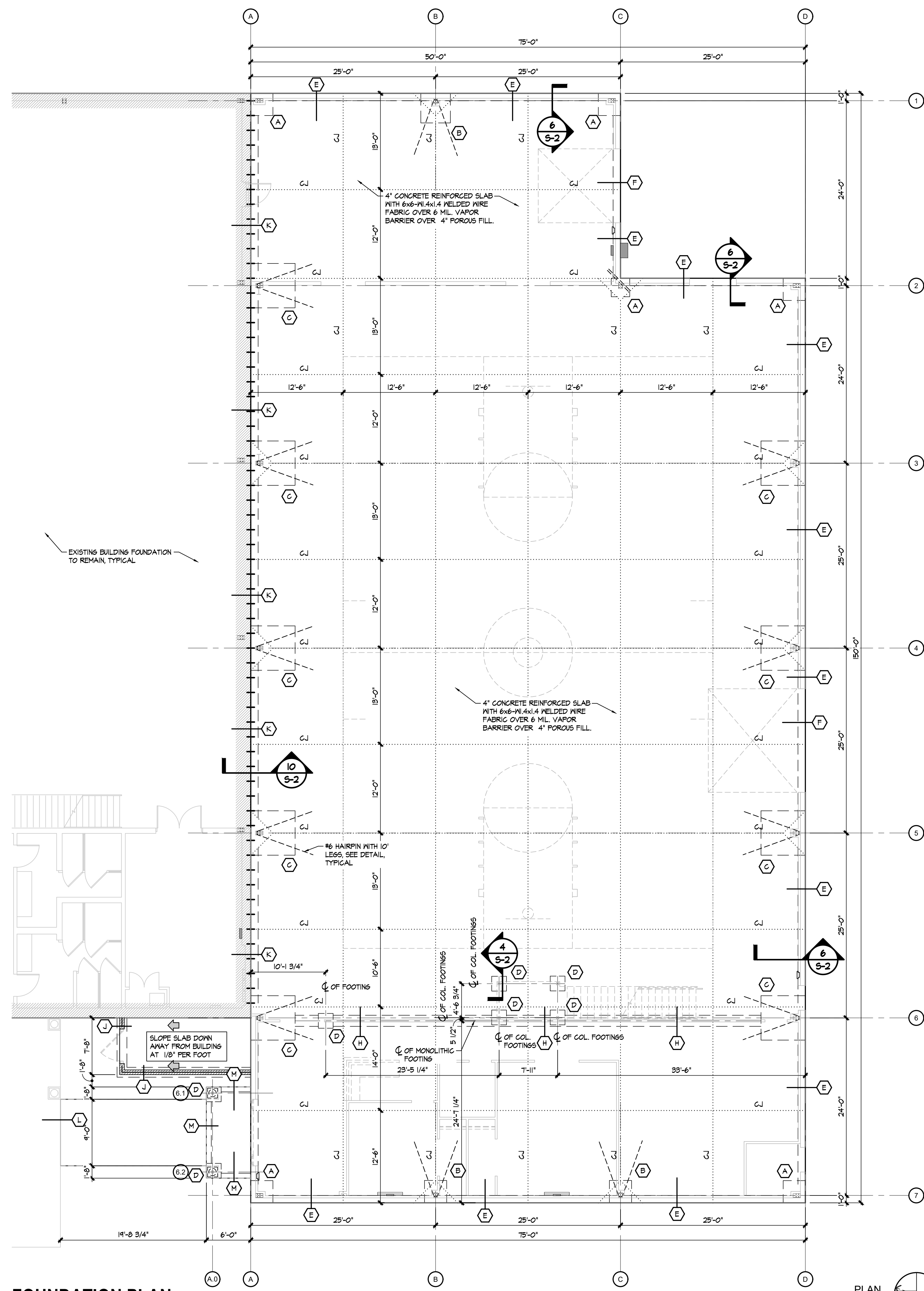
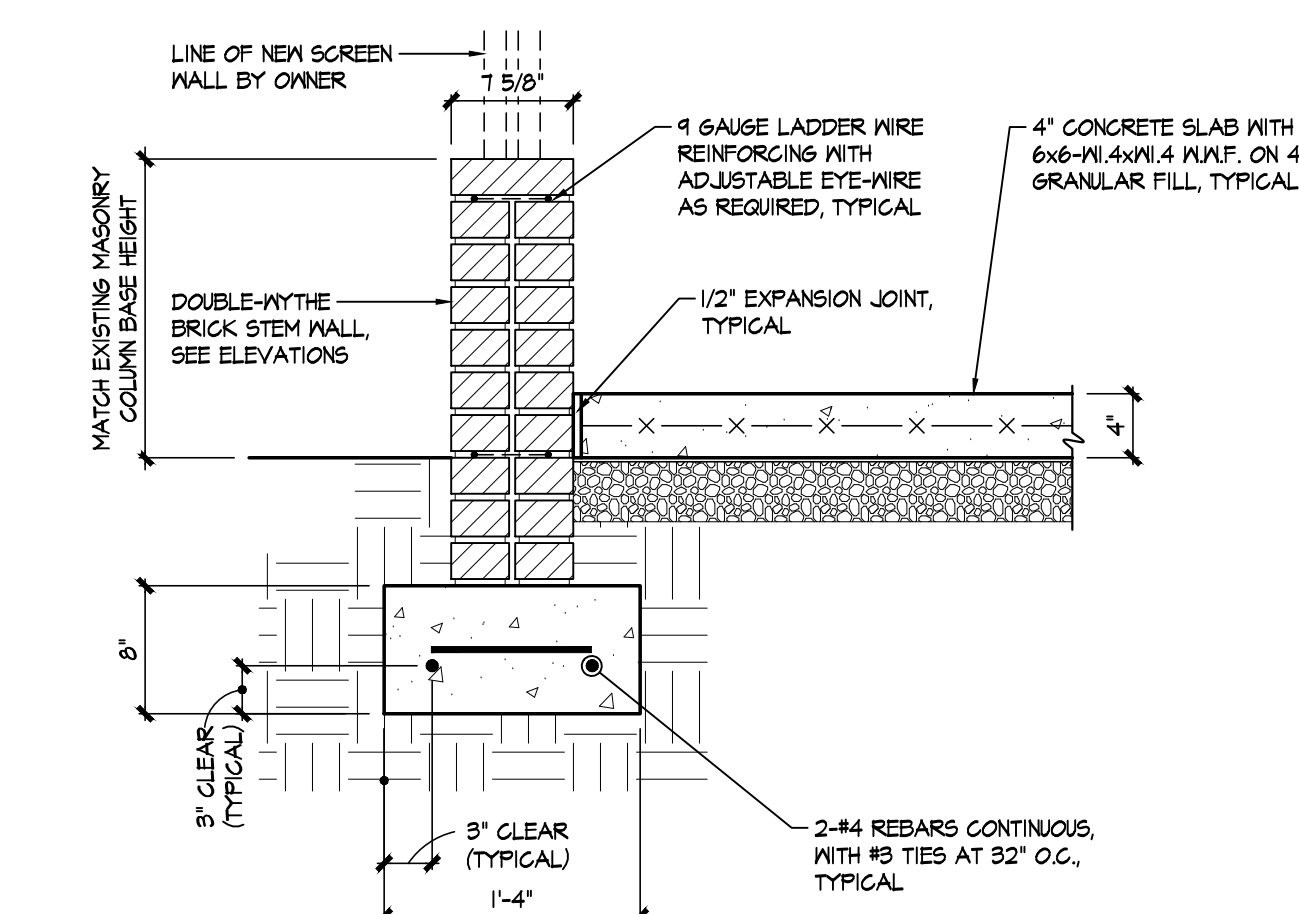
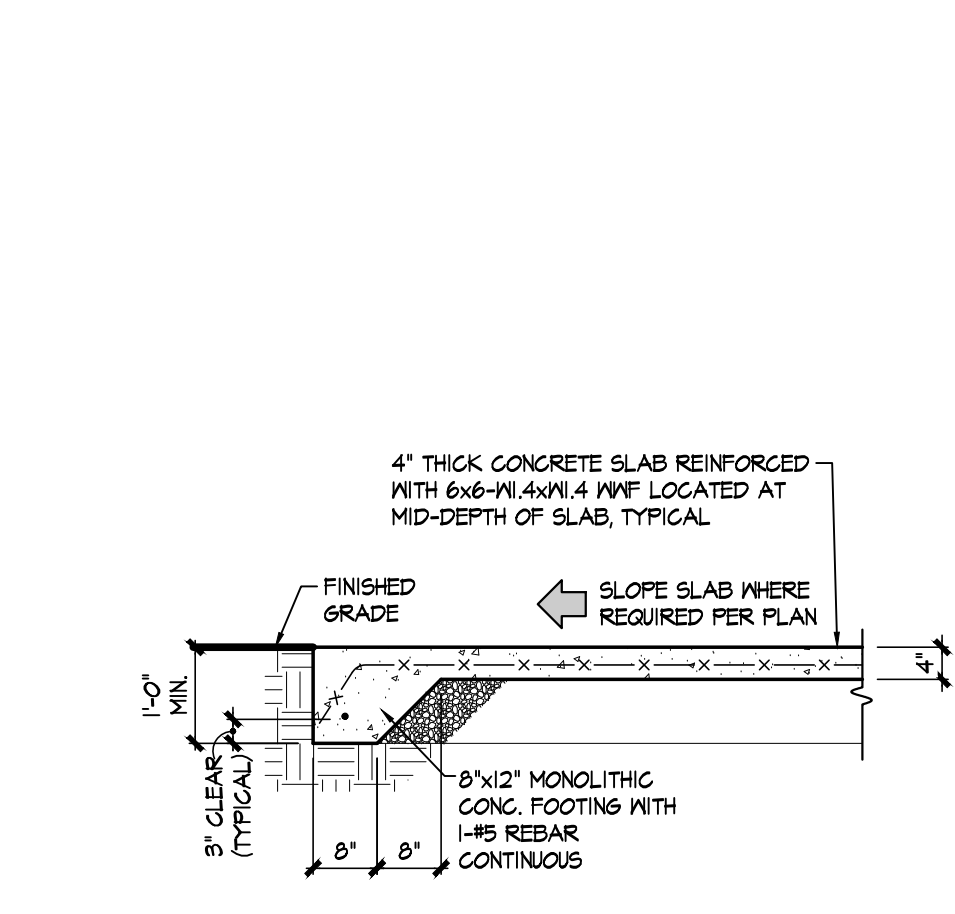
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING ALL DIMENSIONS IN THE DRAWINGS AND ADVISING THE ENGINEER OF ANY DIFFERENCES IN THE DIMENSIONS ON THE DRAWINGS PRIOR TO COMMENCING CONSTRUCTION.

EXISTING CONDITIONS

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING ALL EXISTING JOB CONDITIONS. ANY ADVERSE EXISTING CONDITIONS AFFECTING WORK SHOWN ON THESE DRAWINGS SHALL BE BROUGHT TO ATTENTION OF THE ENGINEER FOR POSSIBLE CLARIFICATION OR RECONCILIATION.

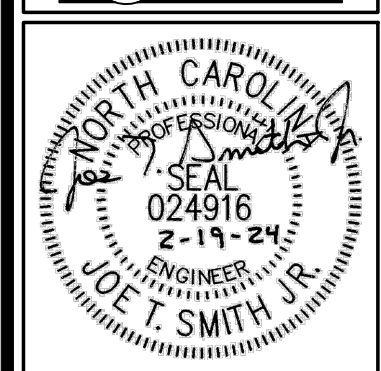
CONSTRUCTION SAFETY

- THESE DRAWINGS DO NOT CONTAIN THE REQUIREMENTS FOR JOB SAFETY. ALL PROVISIONS FOR SAFETY SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.



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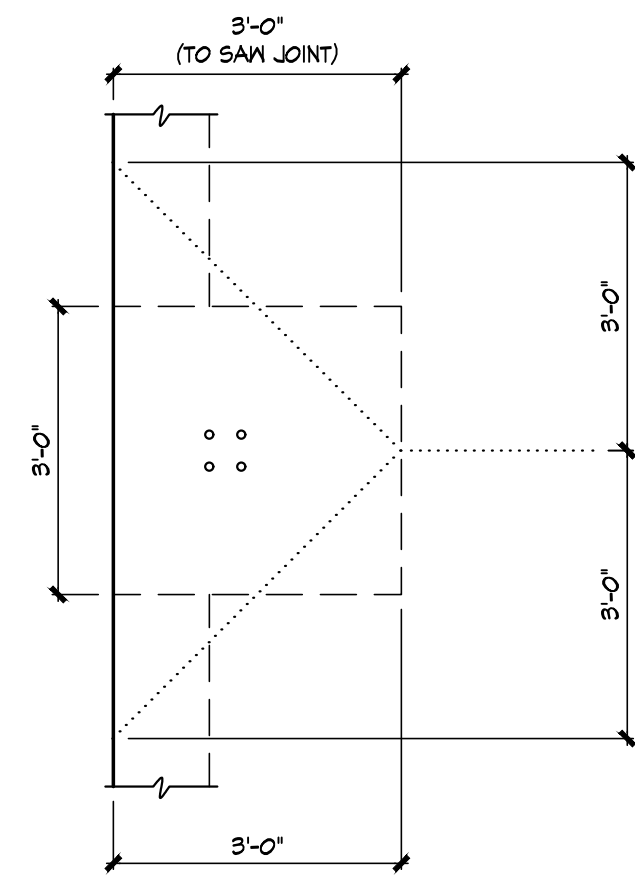
SMITH ENGINEERING AND DESIGN, P.A.
1103 Granite Pl., Suite A
Goldsboro, N.C. 27534
Corporation License No. C-2241
Phone: 919.736.2141
Fax: 919.736.2142



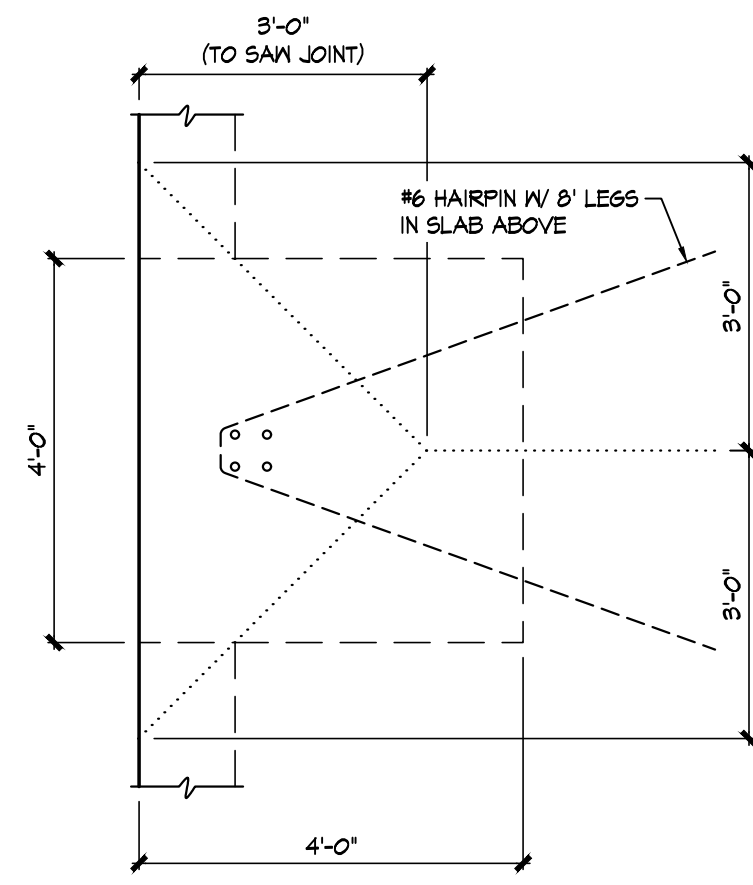
REV	DATE	DESCRIPTION

New Alteration and Addition for:
Antioch Church of Erwin
494 Antioch Church Road,
Dunn, North Carolina 28534

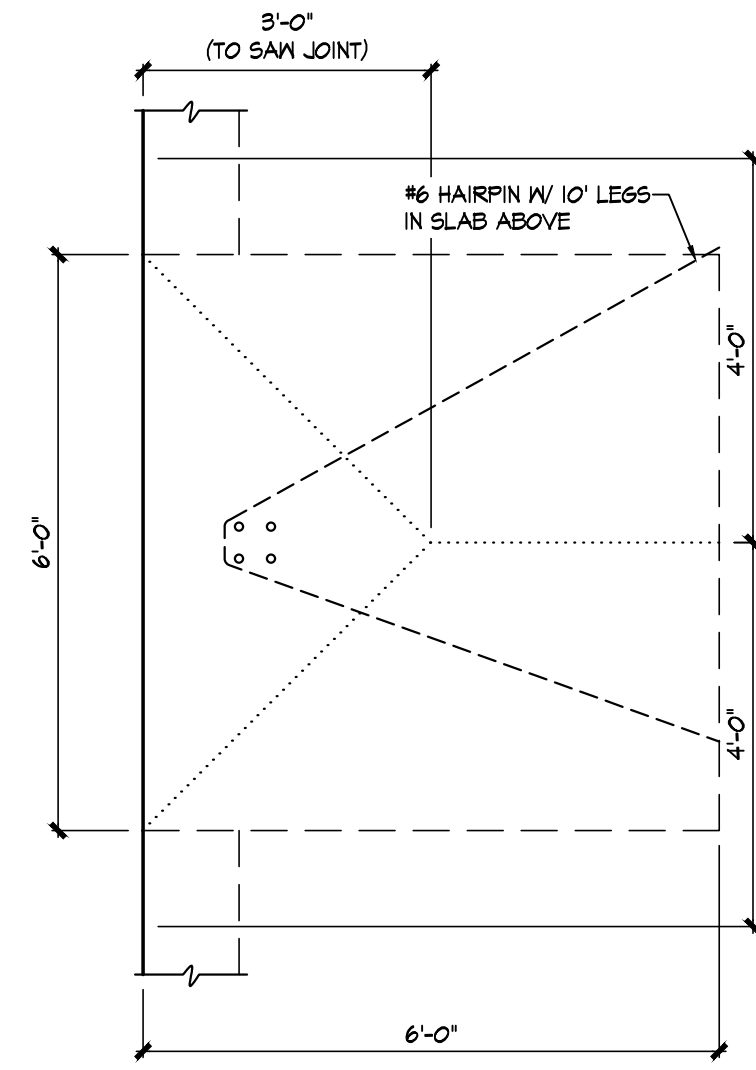
DATE:	19 February 2024
DRAWN BY:	T.B. & L.W.
SCALE:	1/8" = 1'-0"



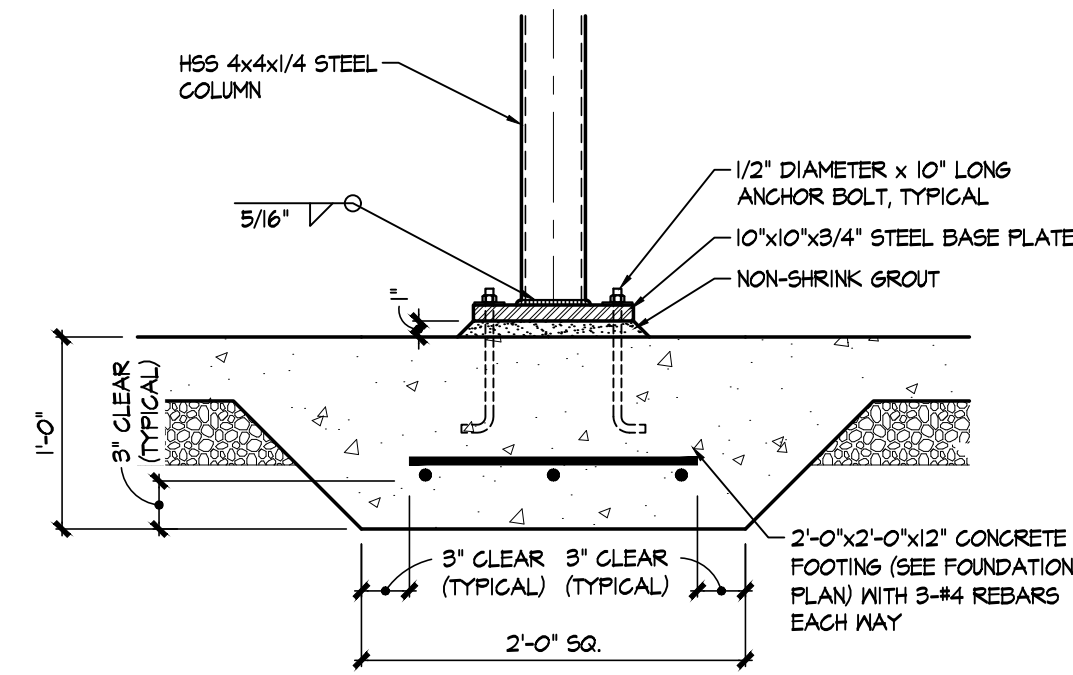
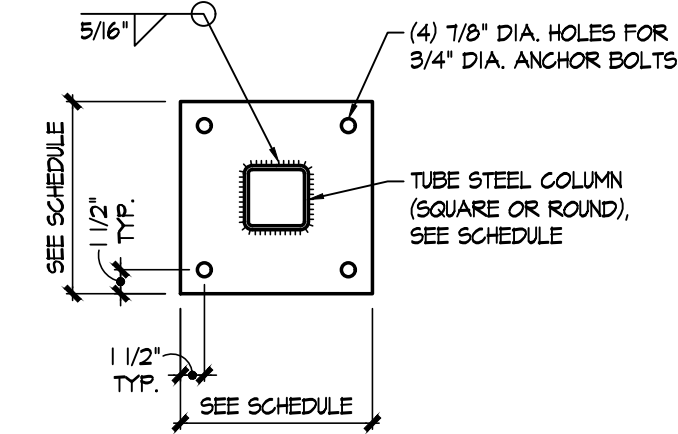
PLAN VIEW



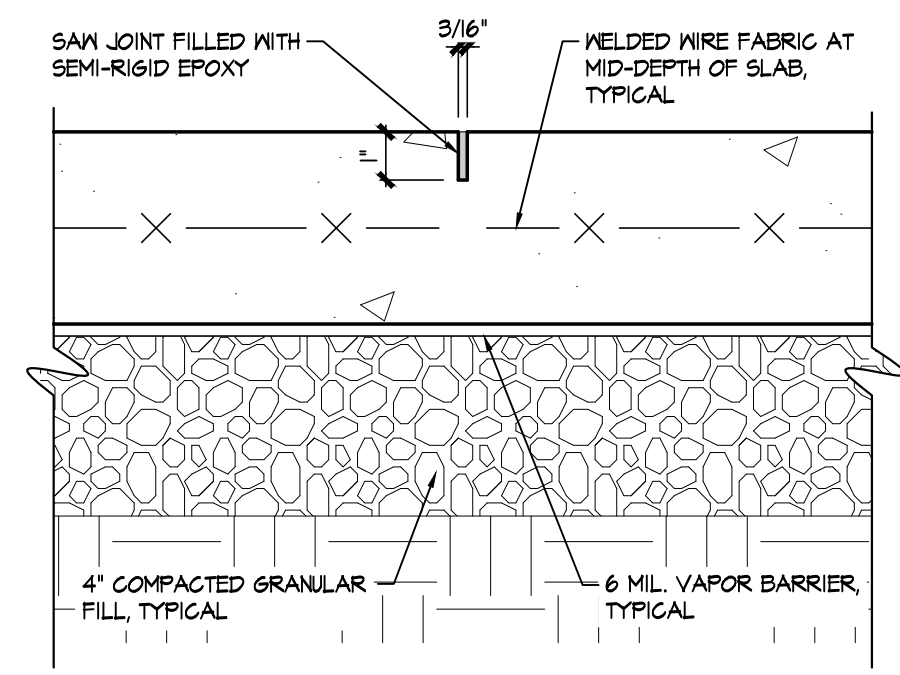
PLAN VIEW



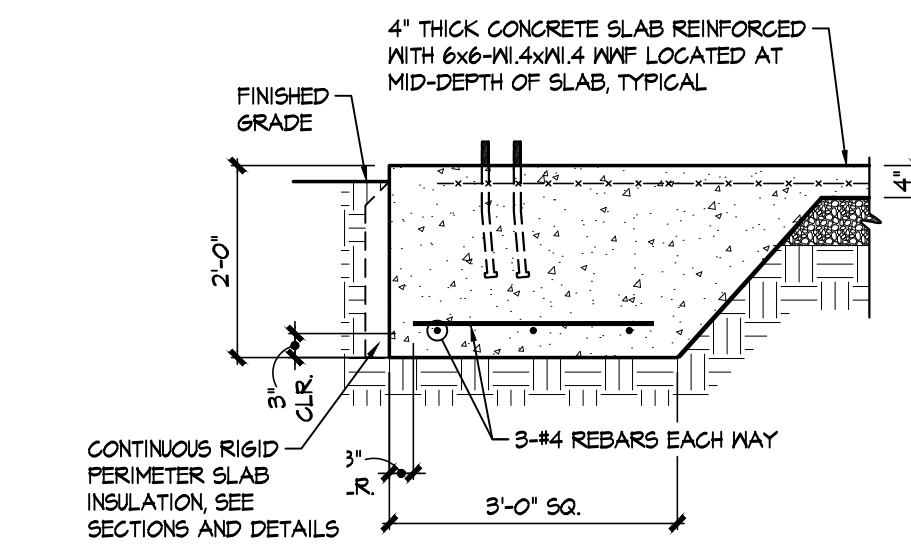
PLAN VIEW



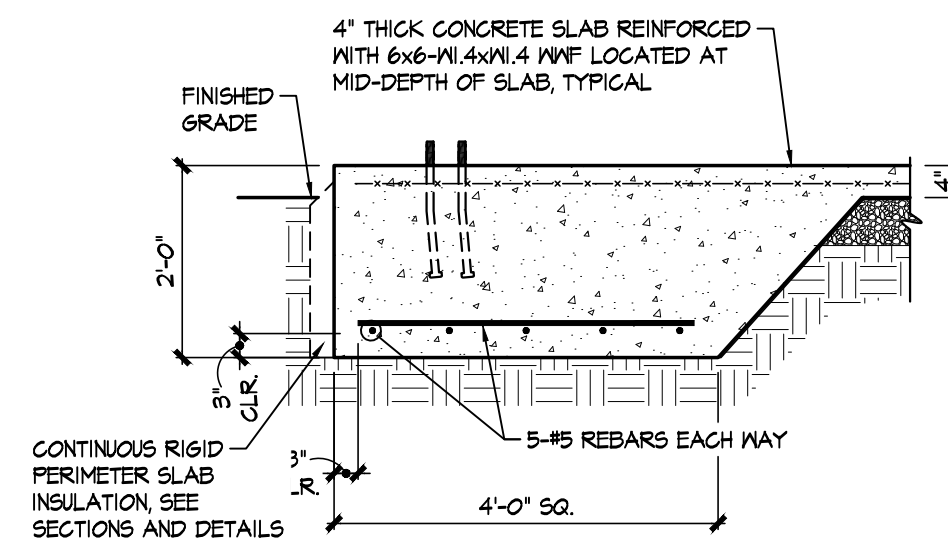
4 C-2 COLUMN FOOTING "D" SCALE: 1" = 1'-0"



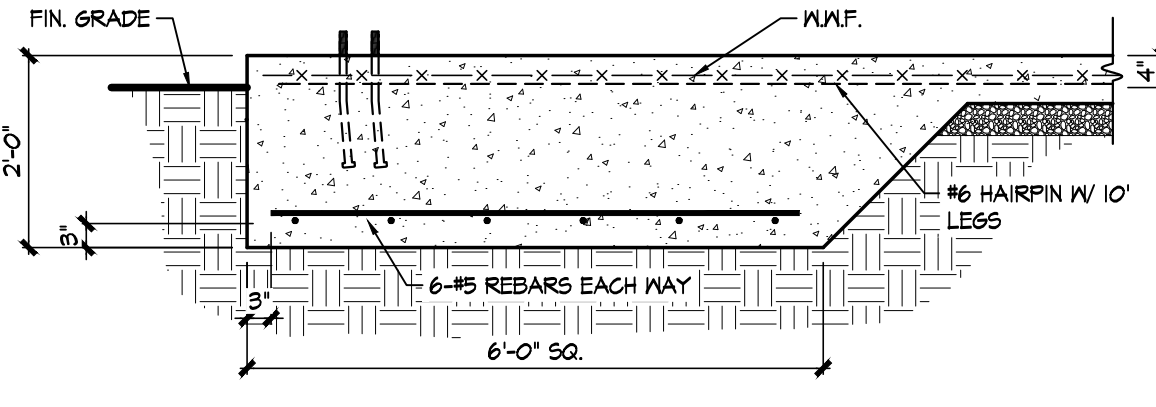
5 S-2 DETAIL SCALE: 3" = 1'-0"
TYPICAL SLAB CRACK CONTROL JOINT WITH W.W.F. REINFORCING



SECTION VIEW



SECTION VIEW

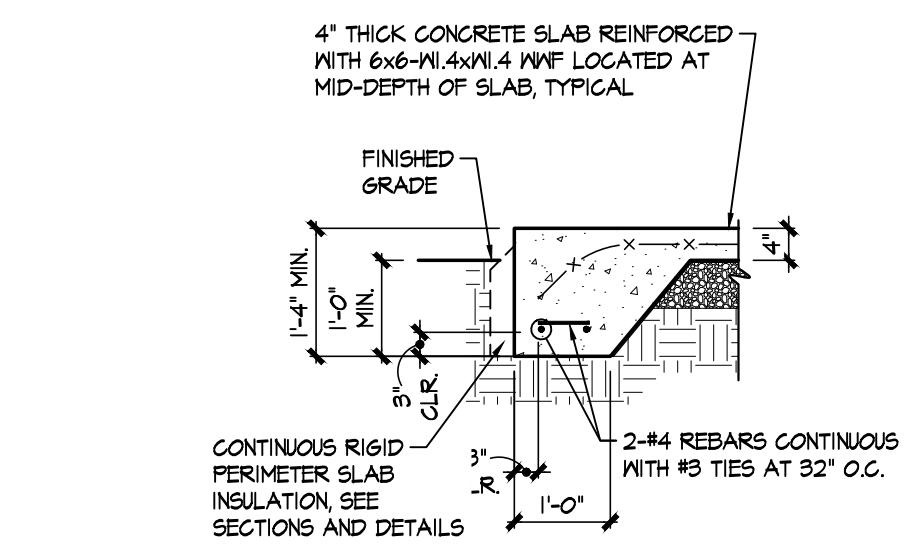


SECTION VIEW

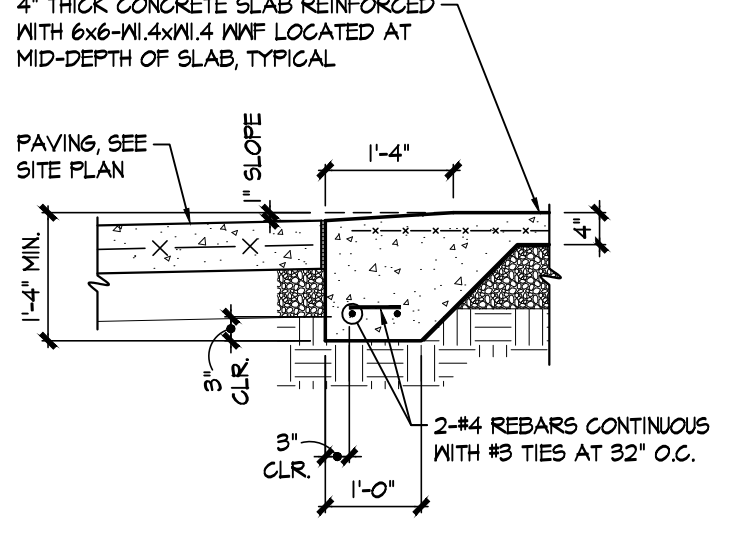
1 S-2 COLUMN FOOTING "A" SCALE: 1/2" = 1'-0"

2 S-2 COLUMN FOOTING "B" SCALE: 1/2" = 1'-0"

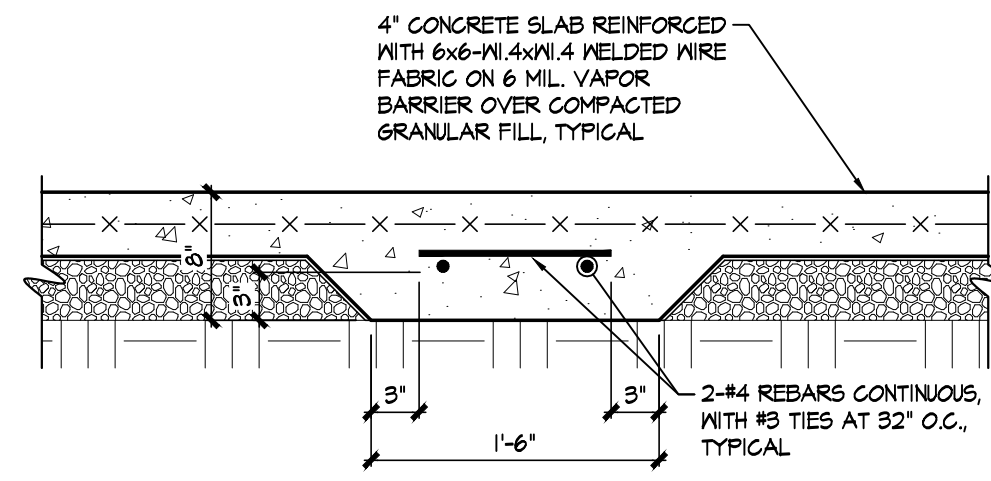
3 S-2 COLUMN FOOTING "C" SCALE: 1/2" = 1'-0"



SECTION VIEW



SECTION VIEW

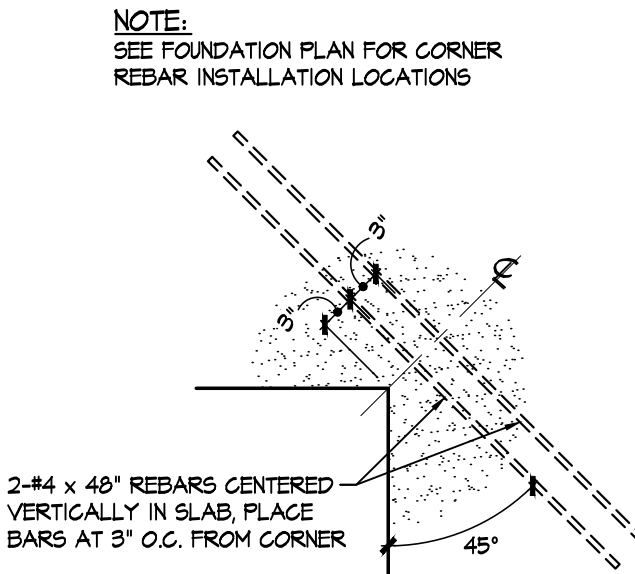


SECTION VIEW

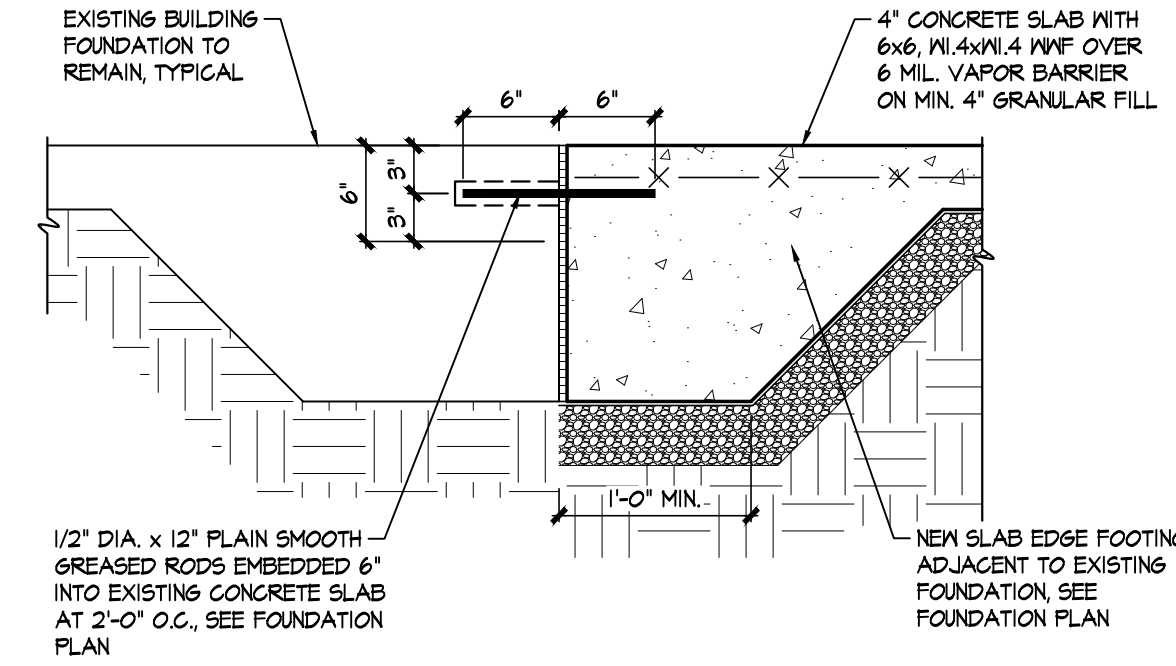
6 S-2 PERIMETER FOOTING "E" SCALE: 1/2" = 1'-0"
TYPICAL SLAB EDGE FOOTING AT METAL BUILDING

7 S-2 PERIMETER FOOTING "F" SCALE: 1/2" = 1'-0"
TYPICAL SLAB EDGE FOOTING AT OVERHEAD DOOR

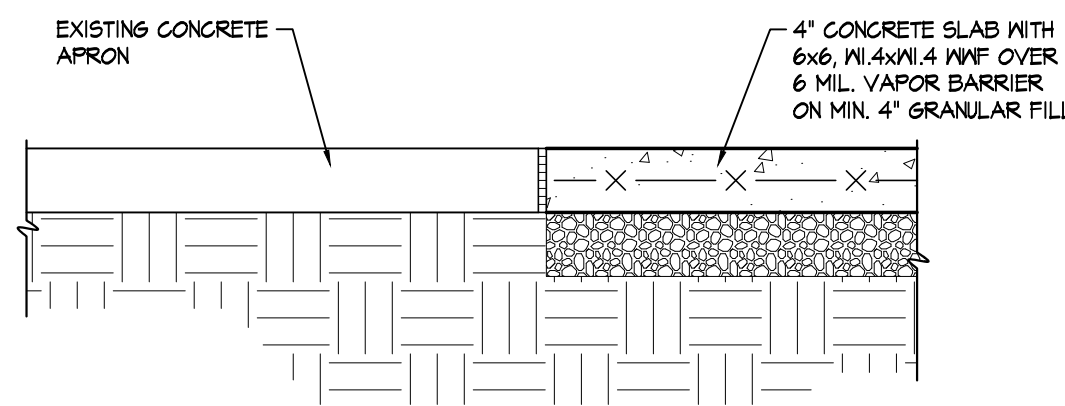
8 S-2 DETAIL SCALE: 1" = 1'-0"
THICKENED SLAB FOOTING (H)



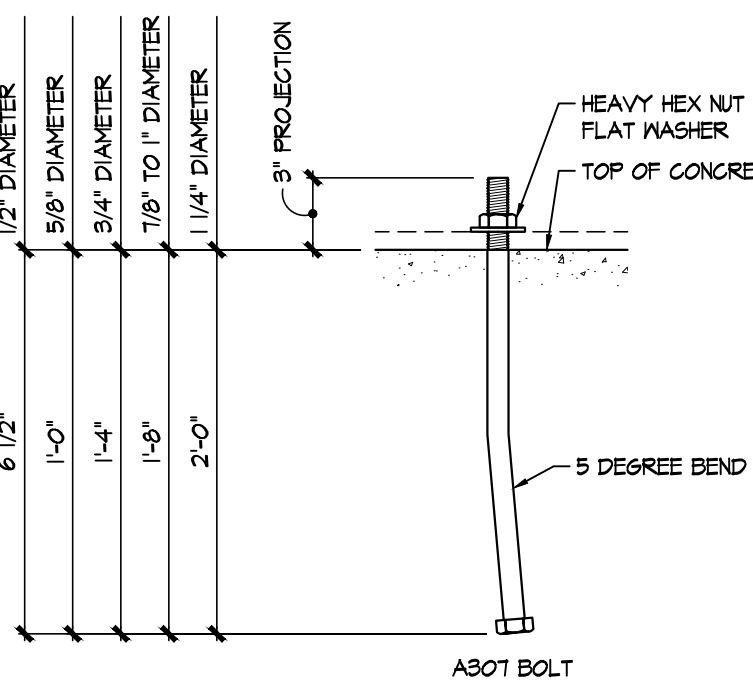
9 S-2 DETAIL SCALE: 3/4" = 1'-0"
CORNER REBAR INSTALLATION



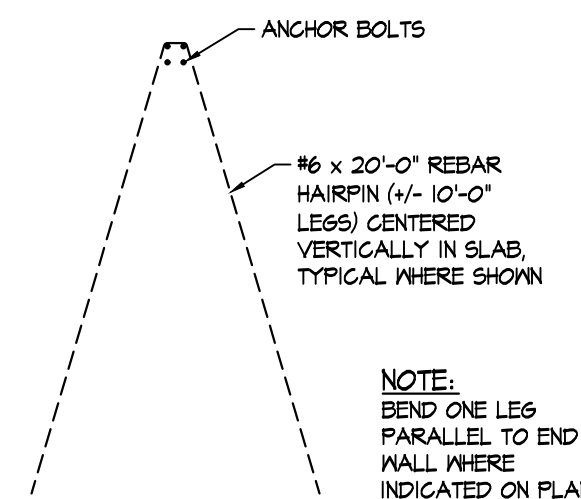
10 S-2 DETAIL SCALE: 1" = 1'-0"
NEW SLAB TO EXISTING CONSTRUCTION CONNECTION (K)



11 S-2 DETAIL SCALE: 1" = 1'-0"
NEW SLAB TO EXISTING CONSTRUCTION CONNECTION (L)



12 S-2 DETAIL SCALE: 1 1/2" = 1'-0"
ANCHOR BOLT INSTALLATION



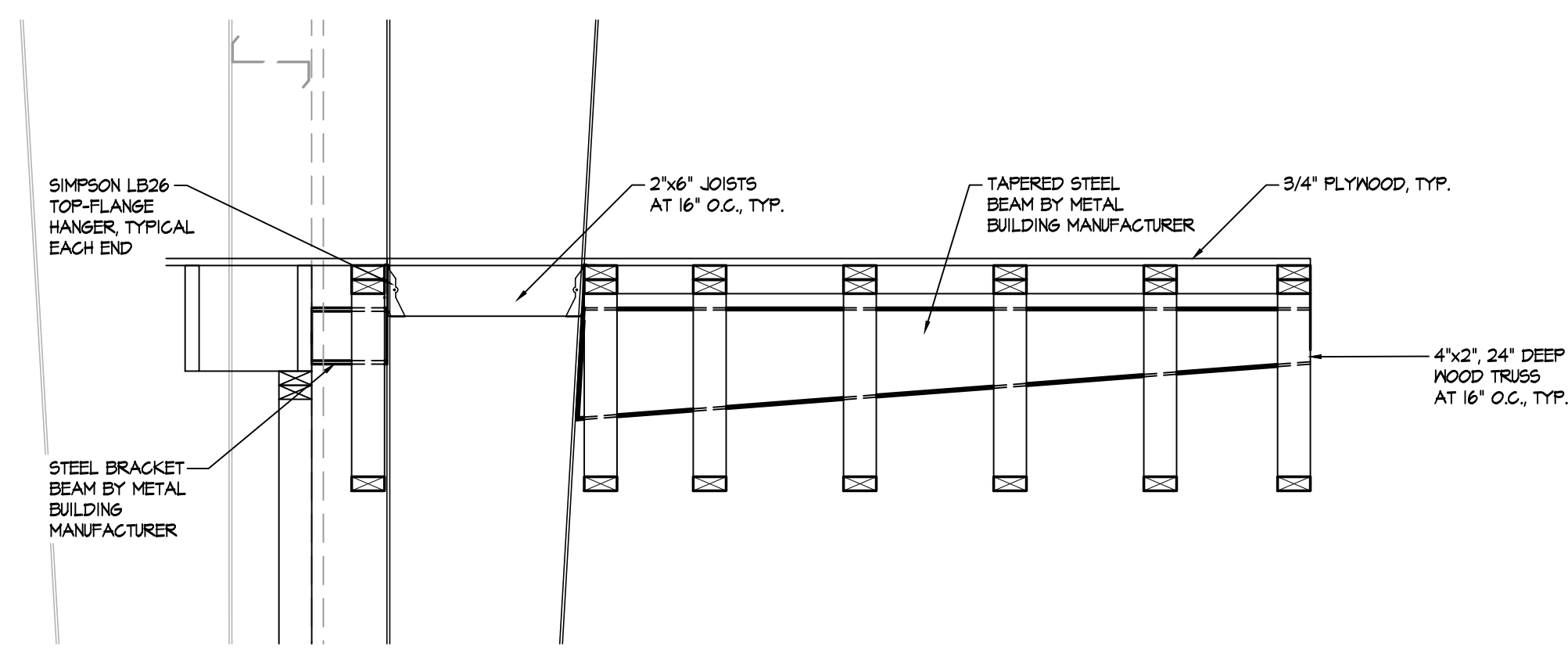
13 S-2 DETAIL SCALE: 1/4" = 1'-0"
REBAR HAIRPIN CONSTRUCTION

REV.	DATE	DESCRIPTION

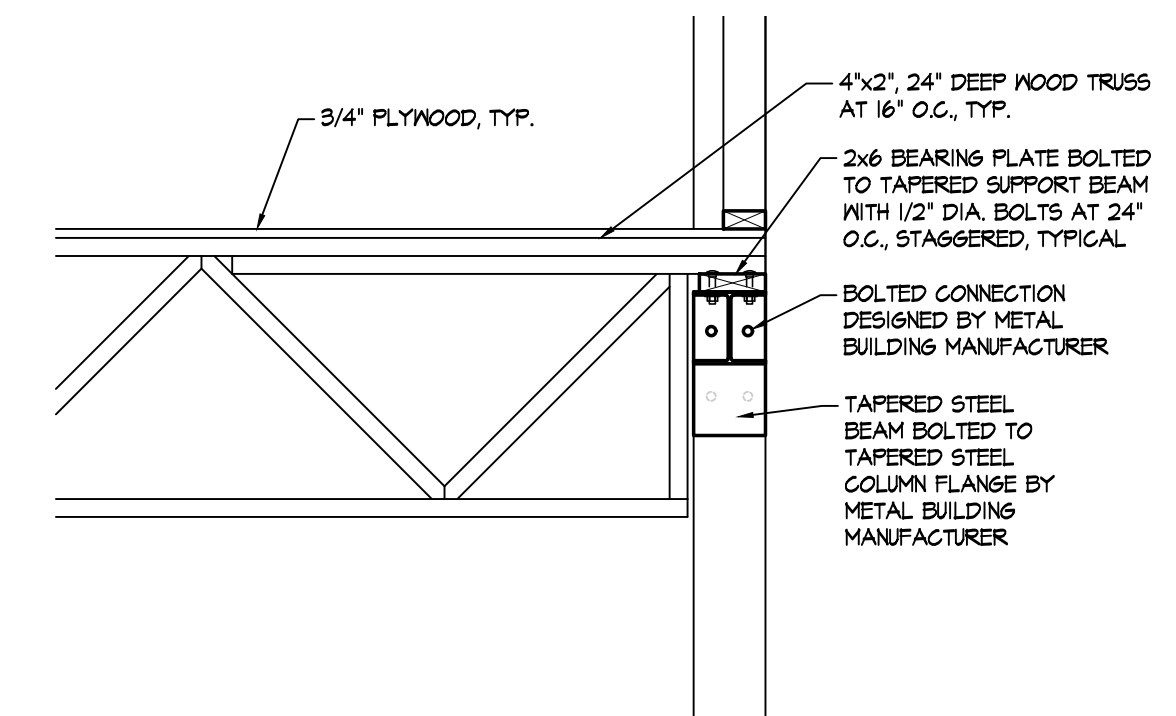
HEADER AND BEAM SCHEDULE

MARK	DESCRIPTION	REMARKS
B-1	2- 1 3/4"x11 7/8" LVL	PROVIDE 3 JACK STUDS AND 2 KING STUDS AT STUD WALL BEARING LOCATIONS
B-2	2-2x10s (SPF #2 MINIMUM)	
B-3	2-2x10s (SPF #2 MINIMUM)	PROVIDE 2 JACK STUDS AND 1 KING STUDS AT STUD WALL BEARING LOCATIONS
H-1	DOUBLE 800S162-54 HEADER WITH 600T125-48 TOP AND BOTTOM TRACKS	PROVIDE 2 JACK STUDS AND 2 KING STUDS AT BEARING LOCATIONS

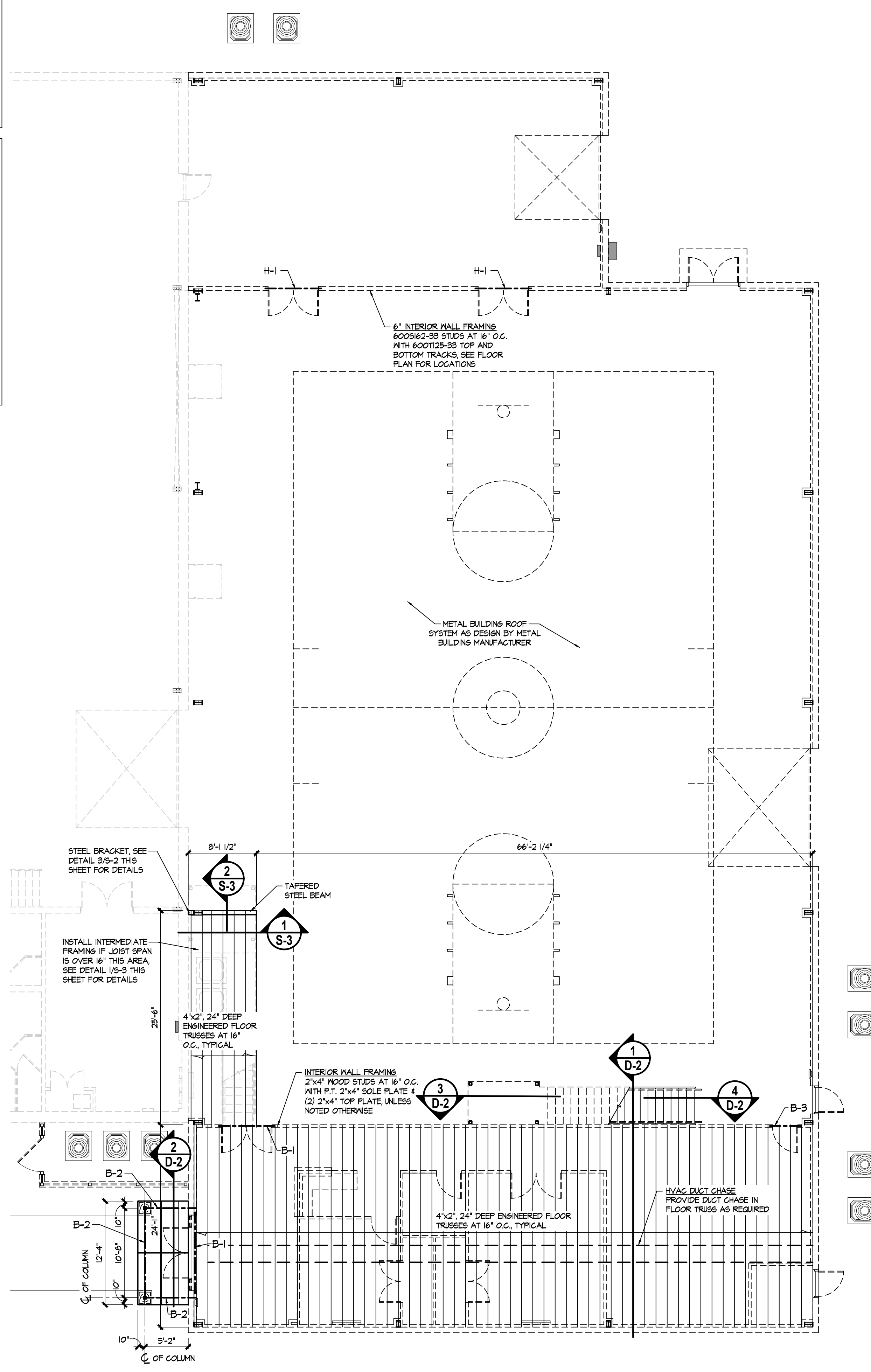
DESIGN CRITERIA	
1. OCCUPANCY:	OCCUPANCY RISK CATEGORY PER ASCE T-10 = III
2. IMPORTANCE FACTORS:	SNOW = 1.10 SEISMIC = 1.25
3. DESIGN LOADS:	FIRST FLOOR LIVE LOAD = 100 PSF MEZZANINE FLOOR LIVE LOAD = 100 PSF GROUND SNOW LOAD = 10 PSF
4. WIND:	WIND DESIGN VELOCITY = 121 MPH EXPOSURE CATEGORY = B
5. SEISMIC:	SITE CLASS = D SEISMIC DESIGN CATEGORY = C S _p = 0.66 SI = 0.66 STRUCTURAL SYSTEM = BUILDING FRAME ANALYSIS PROCEDURE = EQ. LAT. FORCE



1
S-3
DETAIL
TAPERED STEEL BEAM
SCALE: 3/4" = 1'-0"

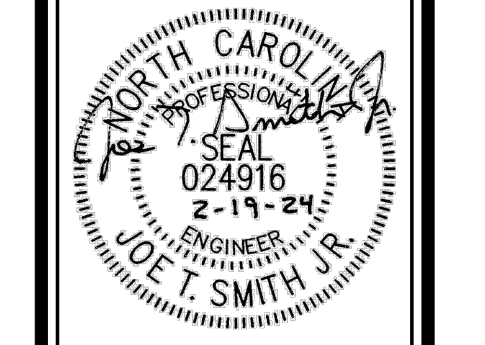


2
S-3
DETAIL
TAPERED STEEL BEAM
SCALE: 3/4" = 1'-0"



SECOND FLOOR FRAMING PLAN
SCALE: 1/8" = 1'-0"

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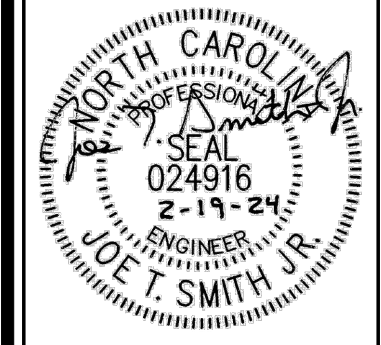


REV	DATE	DESCRIPTION

New Alteration and Addition for:
Antioch Church of Erwin
 494 Antioch Church Road,
 Dunn, North Carolina 28534

DATE: 19 February 2024
 DRAWN BY: T.B. & L.W.
 SCALE: AS NOTED

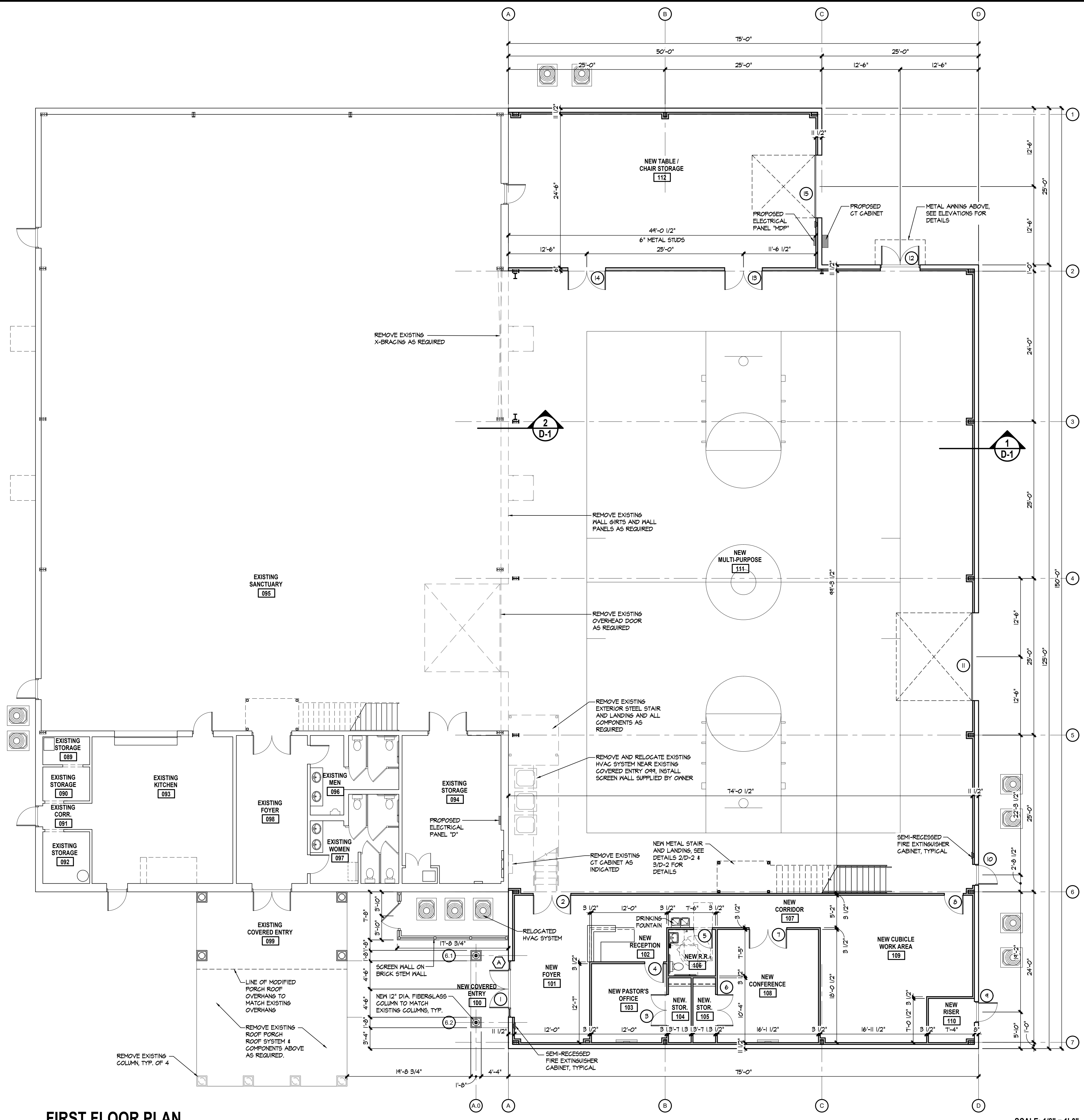
S-3



REV	DATE	DESCRIPTION

New Alteration and Addition for:
Antioch Church of Erwin
 494 Antioch Church Road,
 Dunn, North Carolina 28334

DATE: 19 February 2024
 DRAWN BY: T.B. & L.W.
 SCALE: 1/8" = 1'-0"



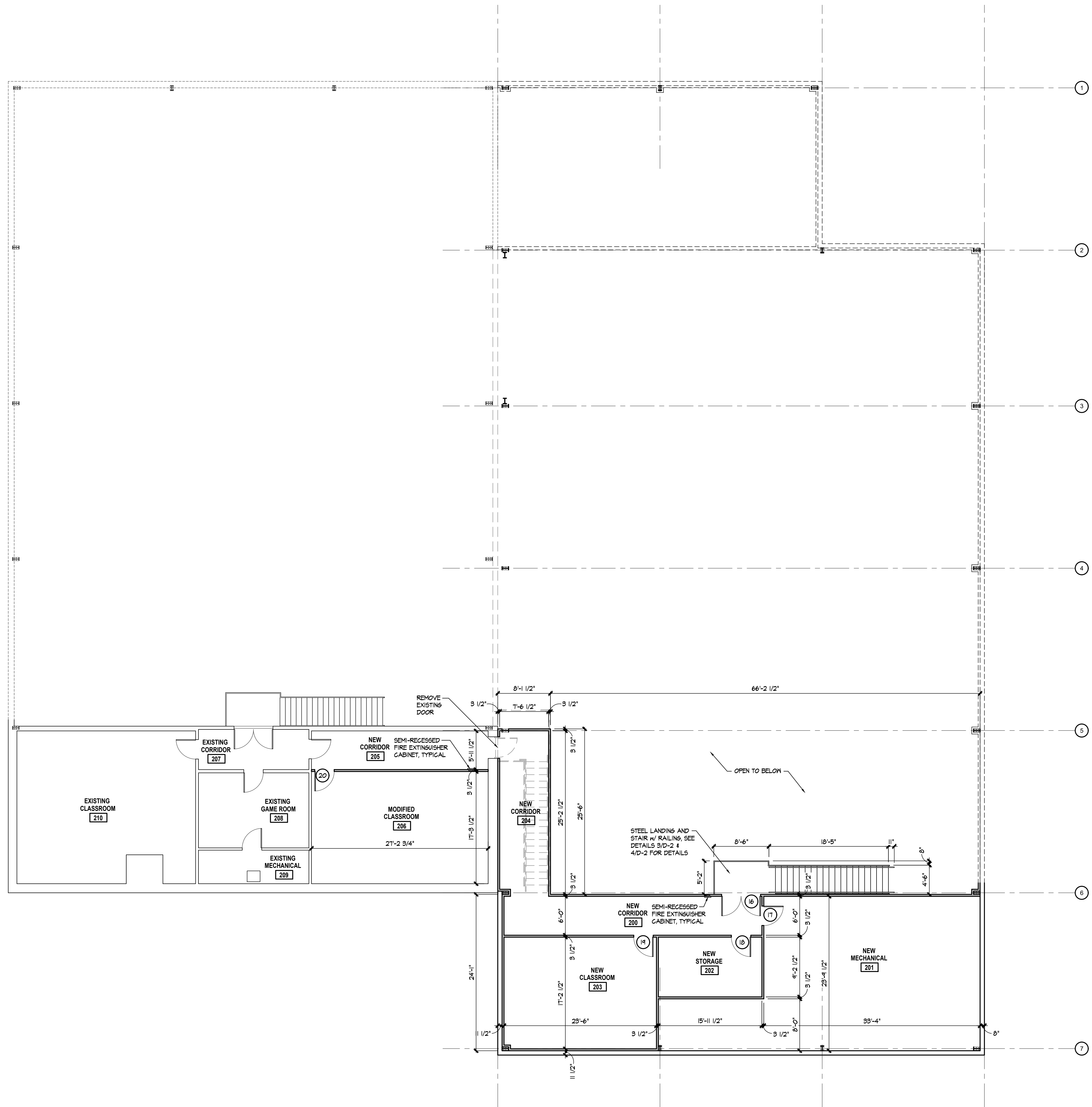
SPRINKLER SYSTEM NOTE:
 THIS BUILDING IS INTENDED TO BE EQUIPPED WITH AN AUTOMATIC SPRINKLER SYSTEM DESIGNED IN ACCORDANCE WITH NFPA 13. SPRINKLER SYSTEM DESIGNED BY OTHERS.

WALL LEGEND
 FRAMED INTERIOR STUD WALLS. SEE FLOOR PLAN FOR WIDTH AND LOCATIONS.

NOTES:
 1. ALL INTERIOR WALL DIMENSIONS THIS PLAN ARE TO FACE OF STUD OR FACE OF MASONRY.
 2. CABINERY DIMENSIONS ARE GIVEN FOR REFERENCE AND SHOULD BE VERIFIED PRIOR TO CONSTRUCTION.
 3. ALL INTERIOR FRAMED WALLS ARE TO BE BRACED TO RIGID METAL FRAME AS REQUIRED.
 4. SEE FRAMING PLAN FOR STUD SIZE AND SPACING.
 5. INSTALL SOUND ATTENUATION INSULATION IN ALL TOILET ROOM STUD FRAMED WALLS.
 6. ALL GYPSUM WALL BOARD TO BE 5/8" THICK, TYPICAL.

FIRST FLOOR PLAN

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

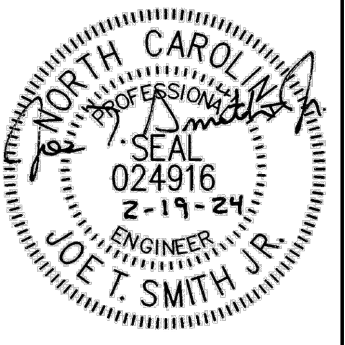


SECOND FLOOR PLAN

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

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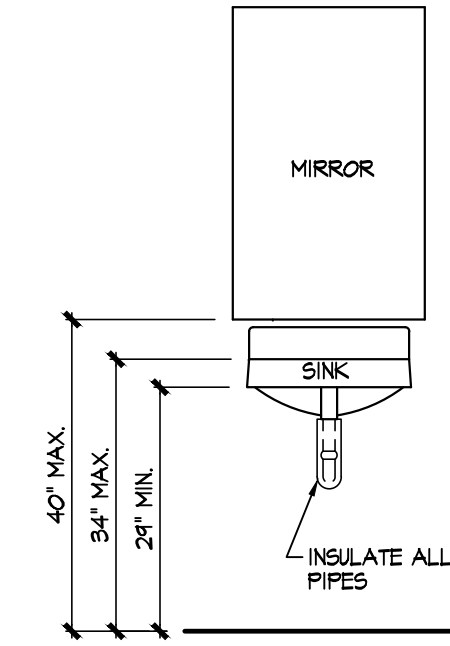


REV.	DATE	DESCRIPTION

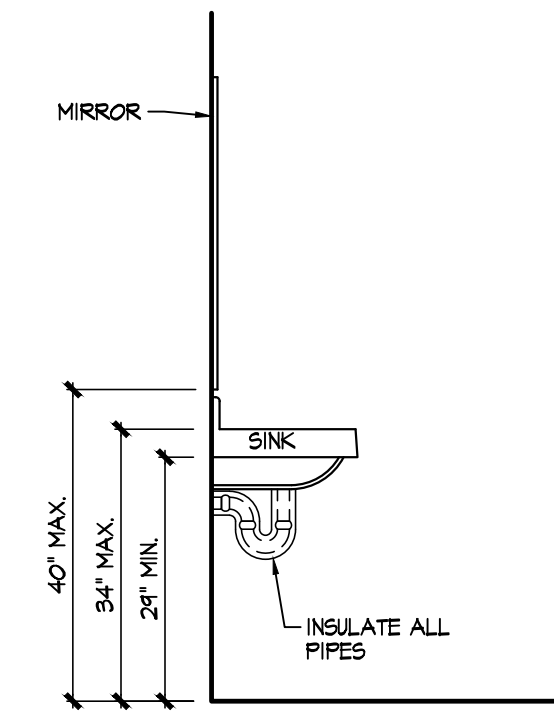
New Alteration and Addition for:
Antioch Church of Erwin
 494 Antioch Church Road,
 Dunn, North Carolina 28334

DATE: 19 February 2024
 DRAWN BY: T.B. & L.W.
 SCALE: 1/8" = 1'-0"

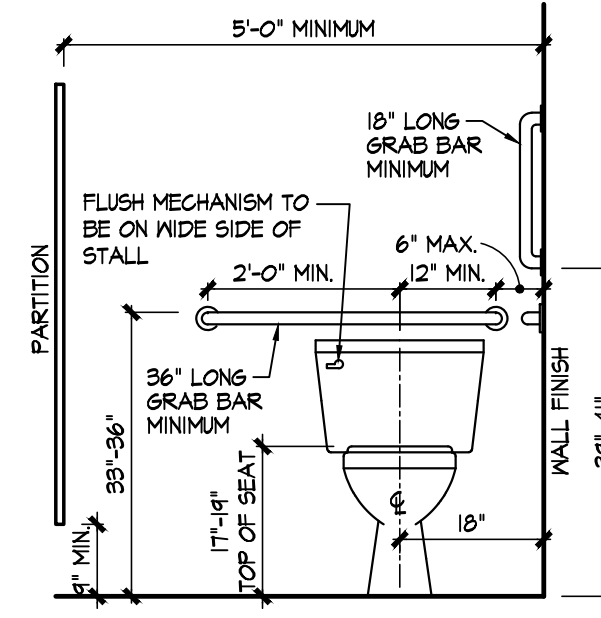
G-2



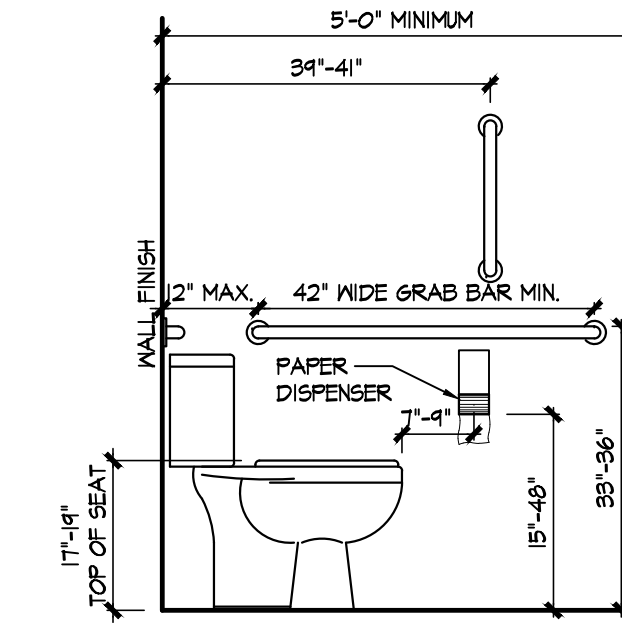
LAVATORY AND MIRROR



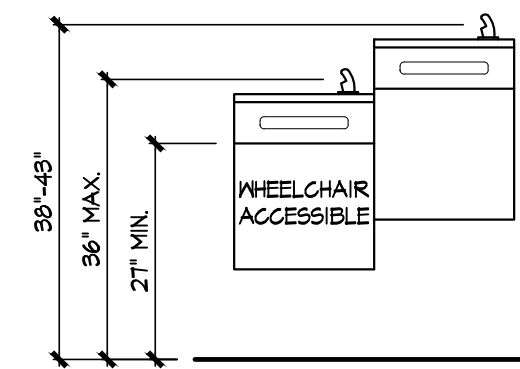
LAVATORY AND MIRROR



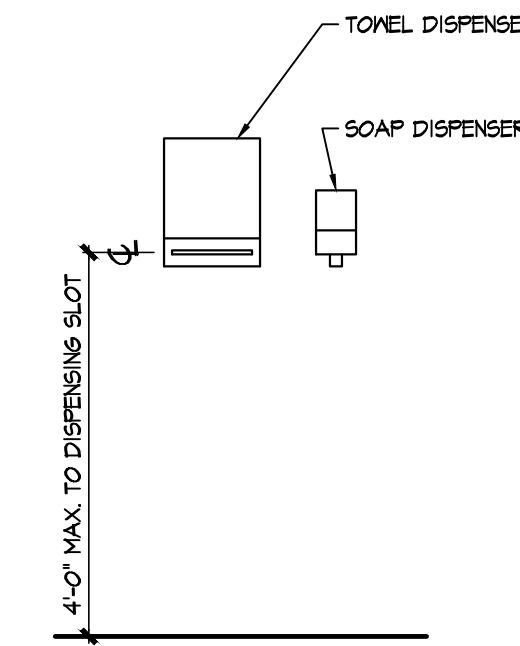
HC WATER CLOSET



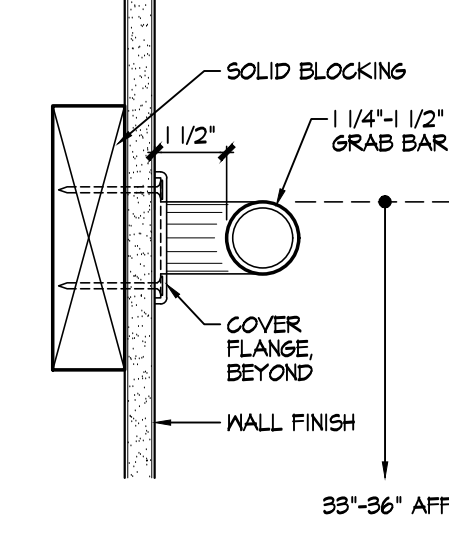
HC WATER CLOSET



HC DRINKING FOUNTAINS



SOAP & TOWEL DISPENSER



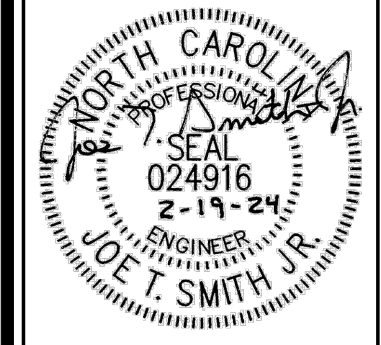
GRAB BAR DETAIL

TYPICAL HC FIXTURE DETAILS

NOT TO SCALE

TOILET ACCESSORY SCHEDULE				
MARK	DESCRIPTION	MANUFACTURER	MODEL #	REMARKS
TA-1	PAPER HOLDER	AMERICAN SPECIALTIES	O269-1	
TA-2	TOWEL DISPENSER	AMERICAN SPECIALTIES	O210	
TA-3	SOAP DISPENSER	AMERICAN SPECIALTIES	OS45	
TA-4	MIRROR	AMERICAN SPECIALTIES	8281	72"X42" H
TA-5	GRAB BARS (ACCESSIBLE TOILET LOCATIONS)	AMERICAN SPECIALTIES	3800P	TYPE-01 18", 36", 42"

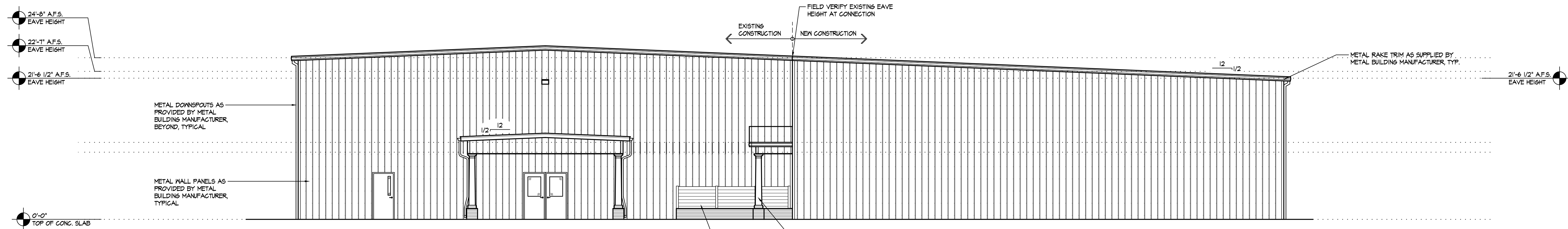
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REV	DATE	DESCRIPTION

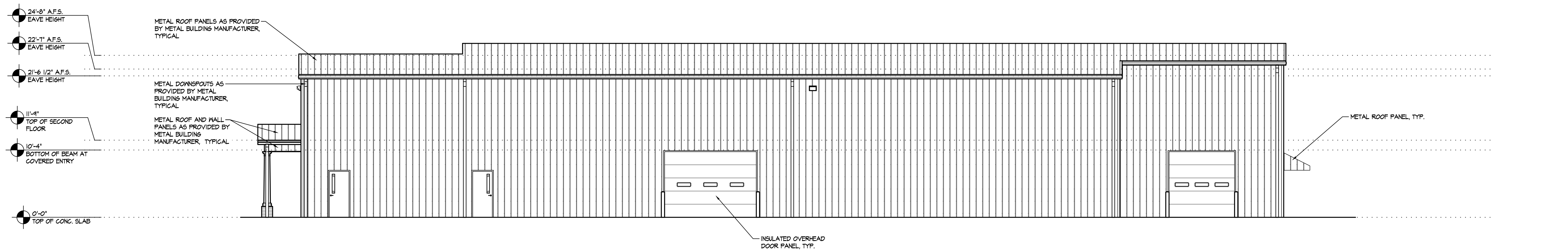
New Alteration and Addition for:
Antioch Church of Erwin
 494 Antioch Church Road,
 Dunn, North Carolina 28334

DATE: 19 February 2024
 DRAWN BY: T.B. & L.W.
 SCALE: AS NOTED



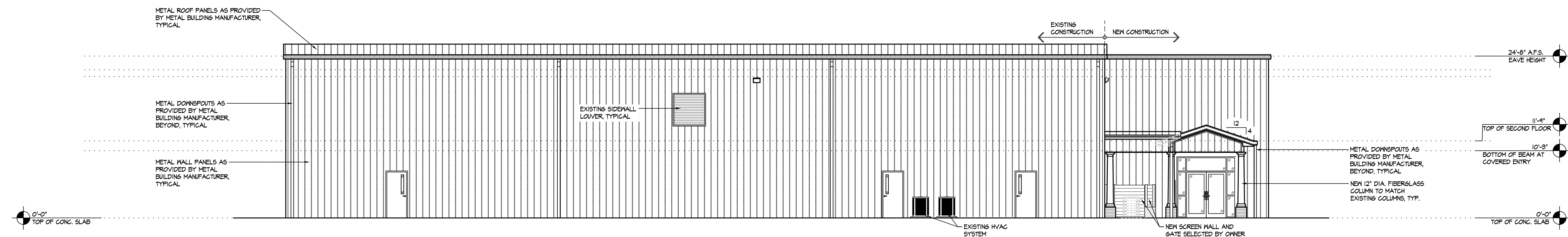
FRONT ELEVATION

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



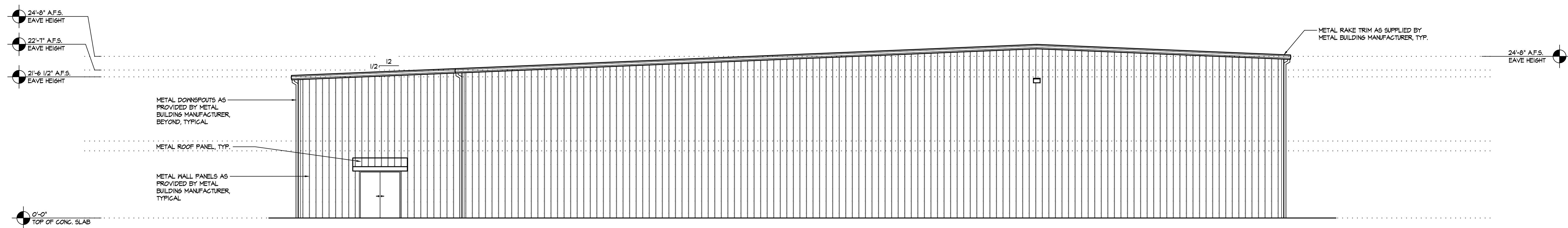
RIGHT ELEVATION

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



LEFT ELEVATION

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

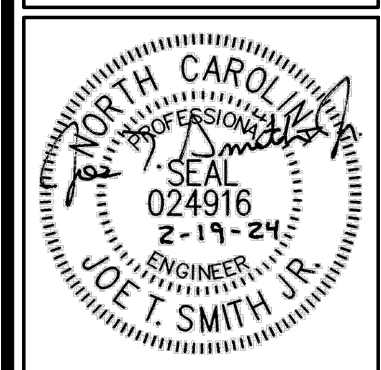


REAR ELEVATION

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

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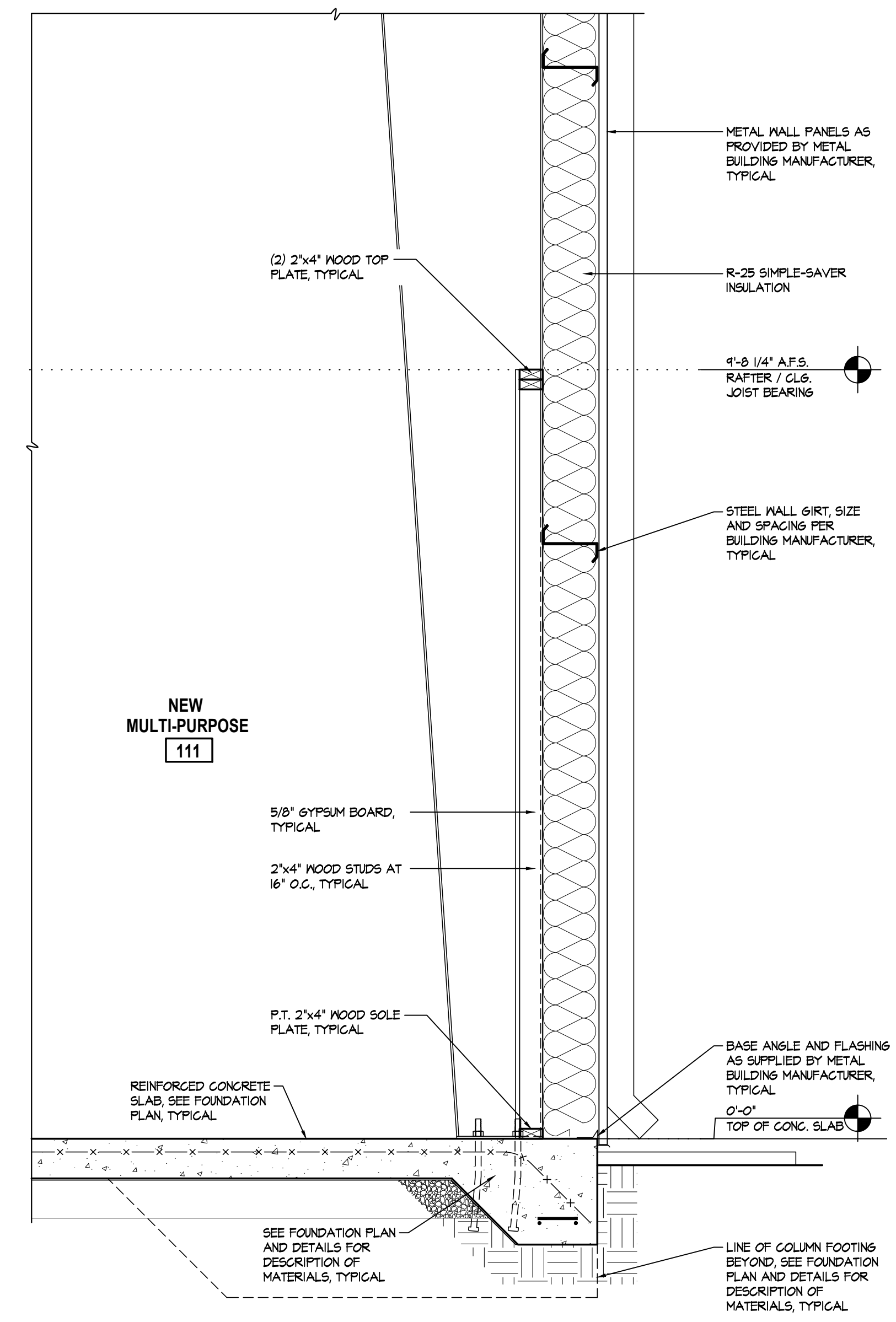
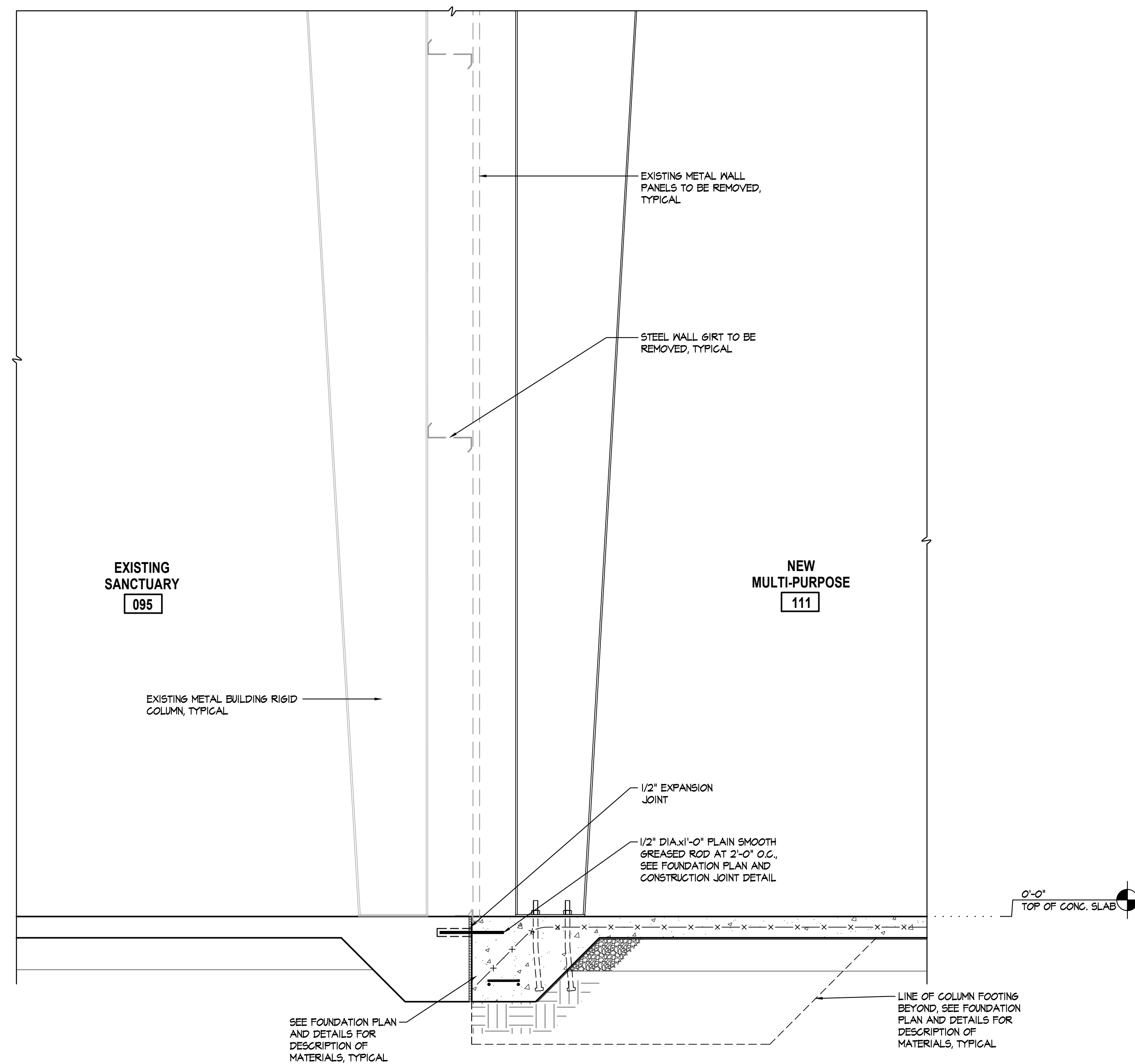
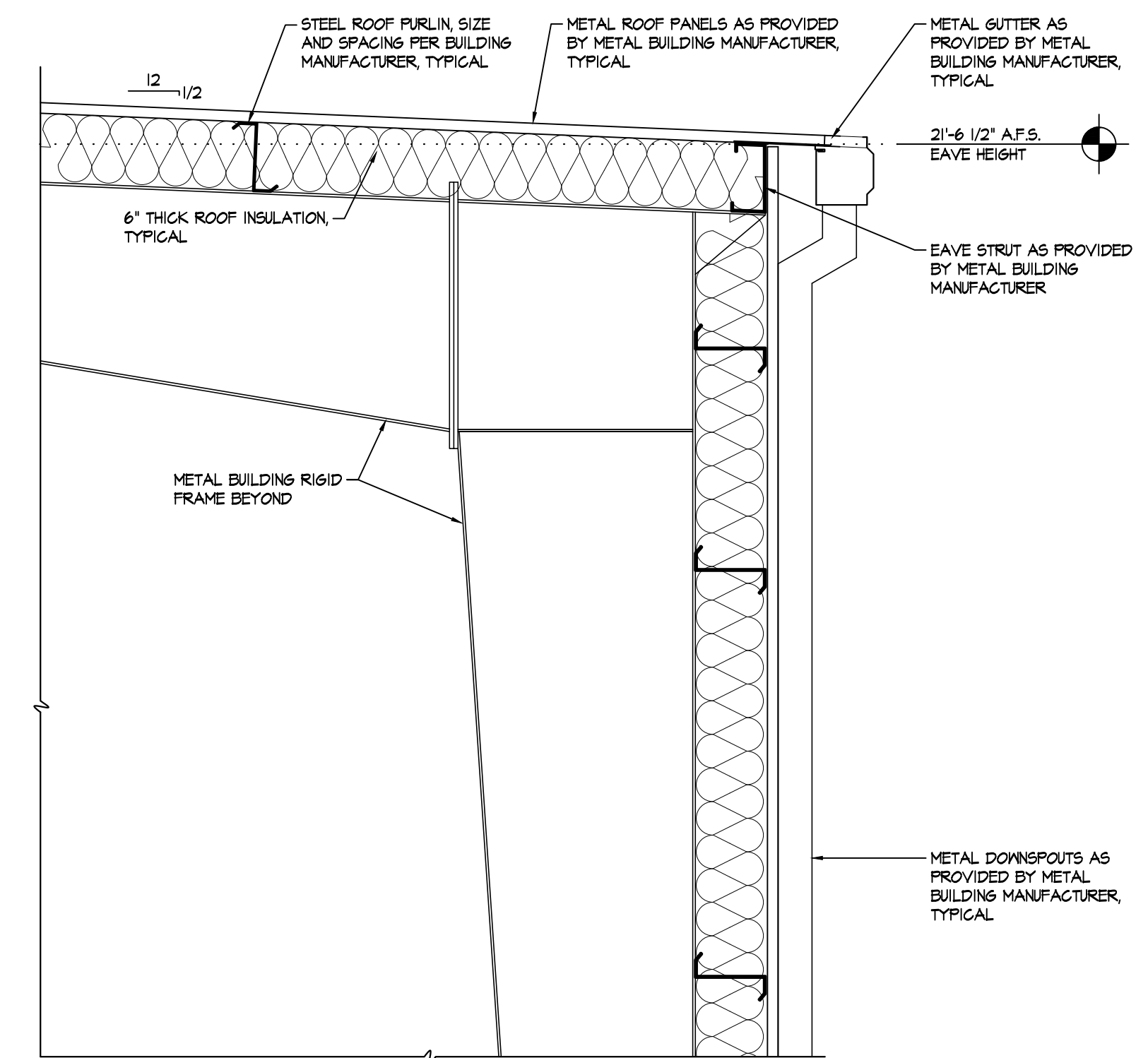
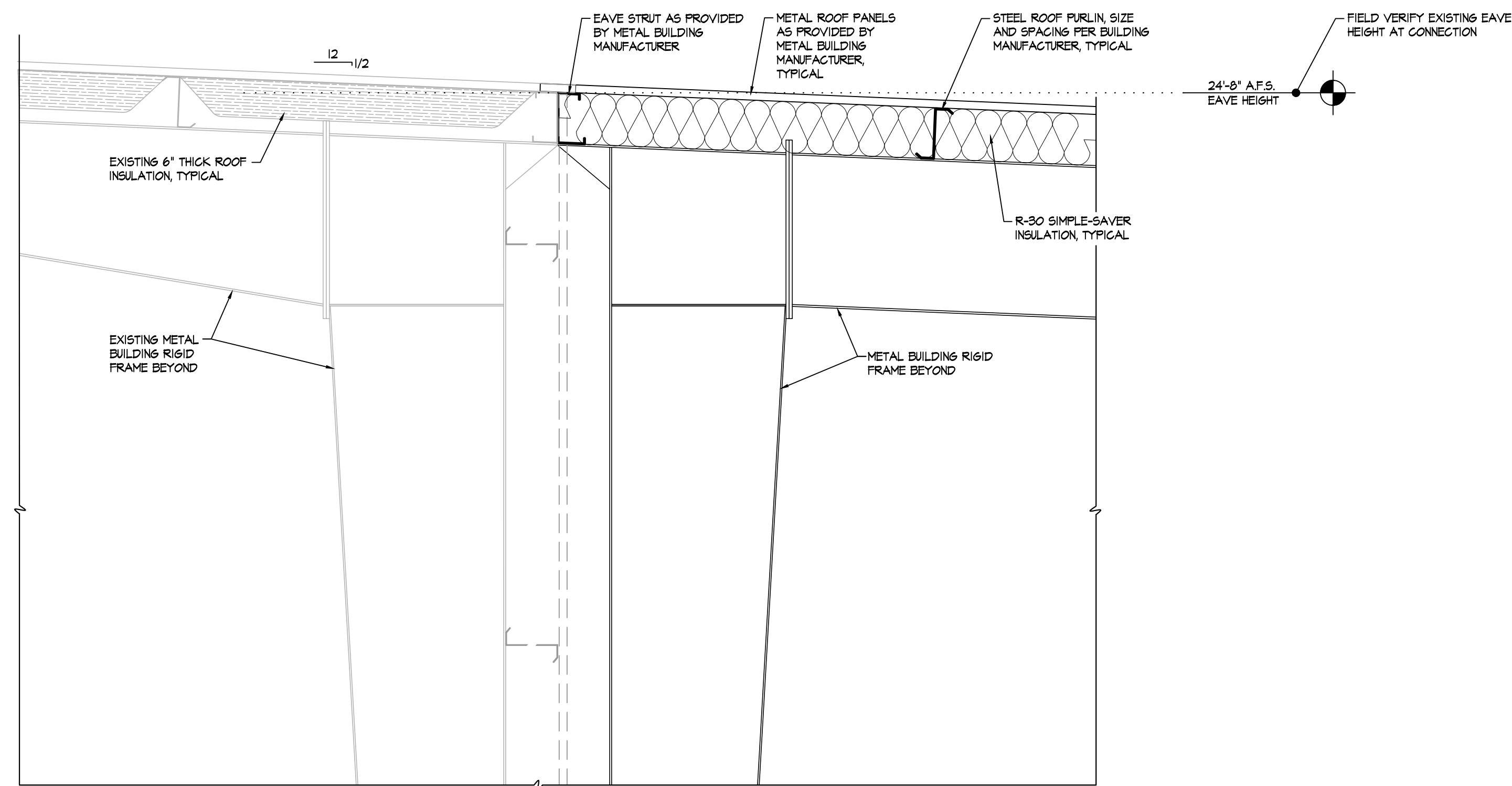


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New Alteration and Addition for:
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 494 Antioch Church Road,
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DATE: 19 February 2024
 DRAWN BY: T.B. & L.W.
 SCALE: 1/4" = 1'-0"



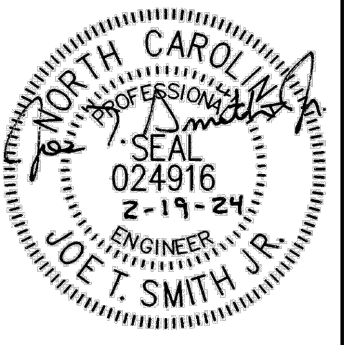


2
D-1 **WALL SECTION** SCALE: 3/4" = 1'-0"

1
D-1 **WALL SECTION** SCALE: 3/4" = 1'-0"

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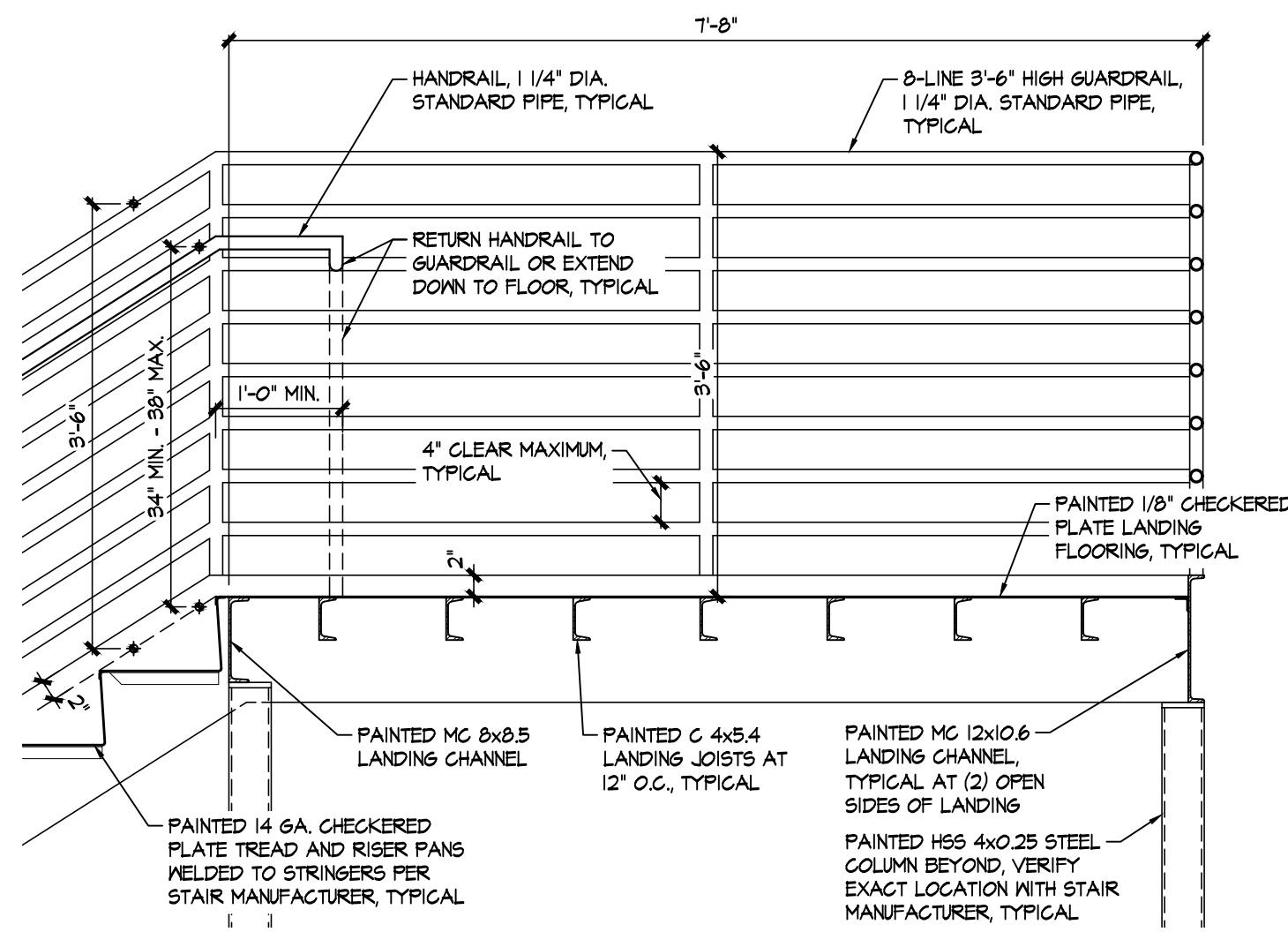


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DATE: 19 February 2024
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 SCALE: 3/4" = 1'-0"

D-1

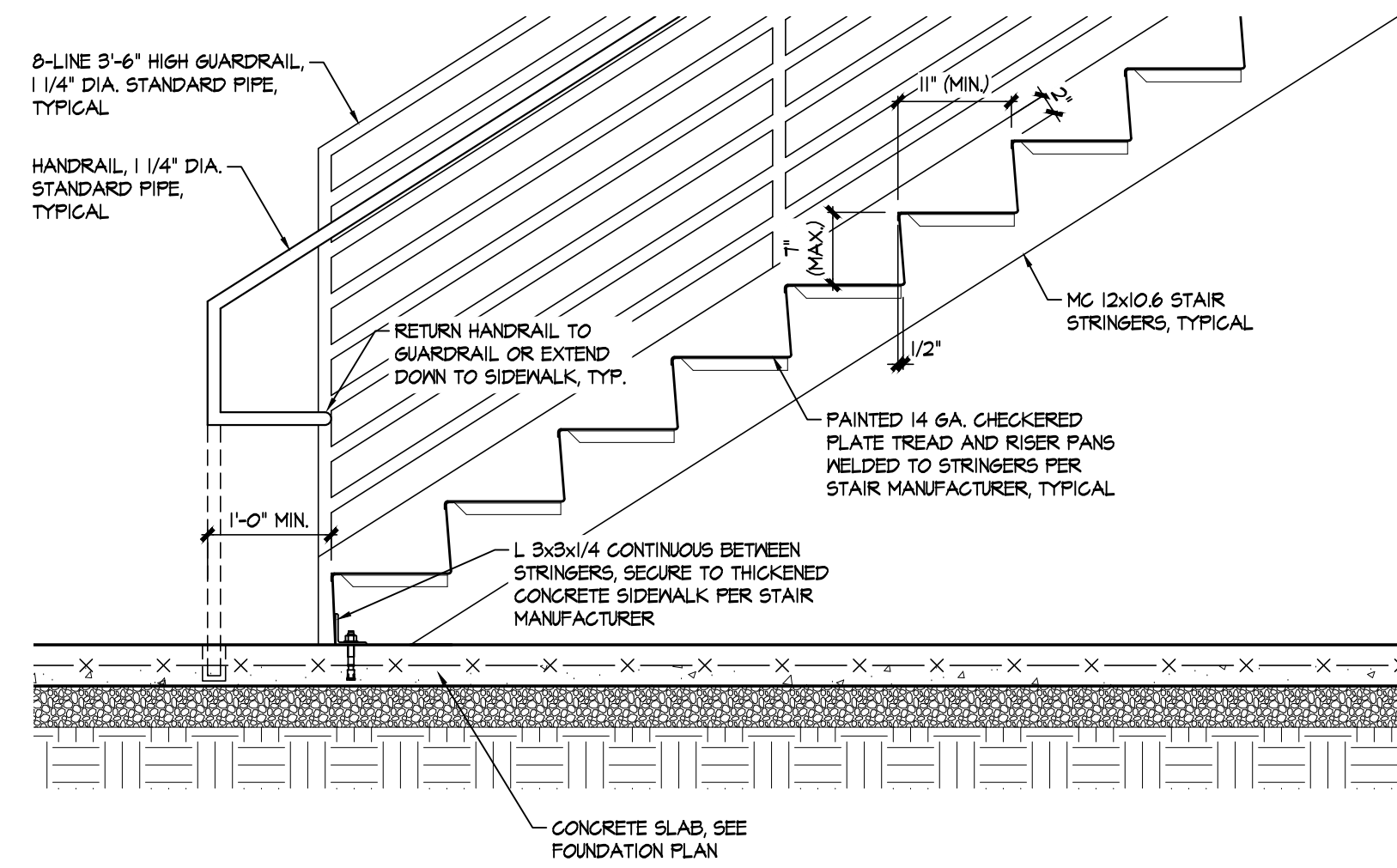


3
D-2

DETAIL

STEEL INTERIOR STAIR UPPER LANDING

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

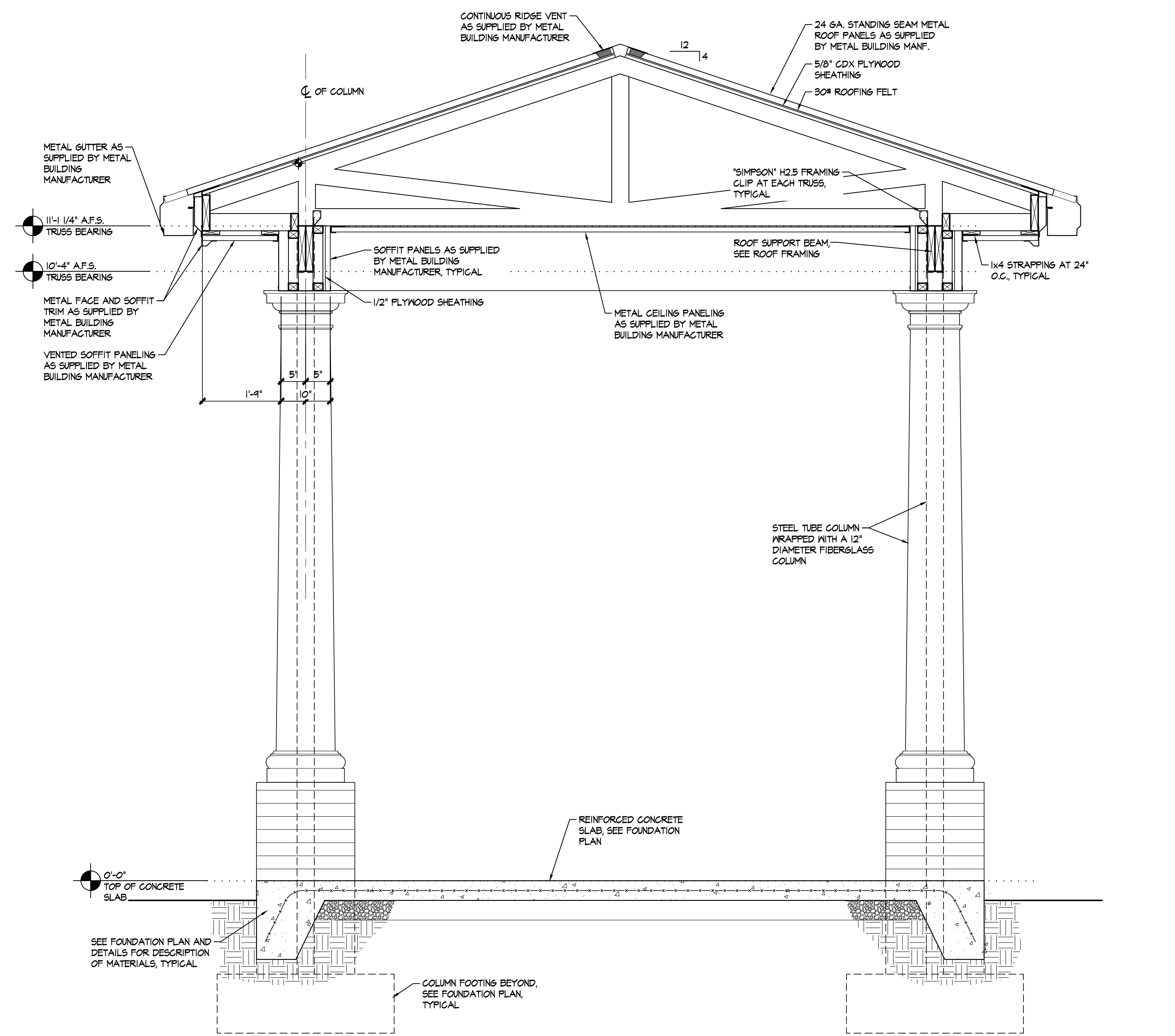


4
D-2

DETAIL

STEEL INTERIOR STAIR LOWER LANDING

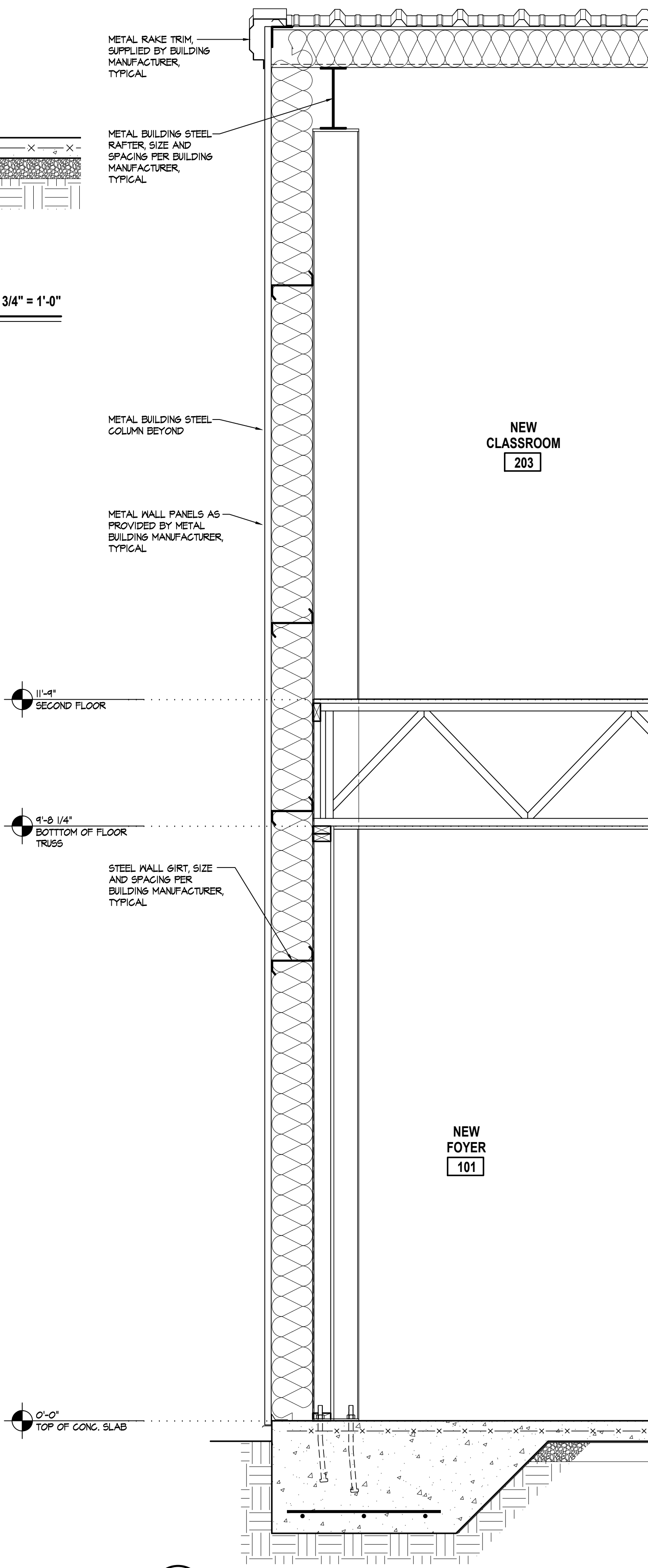
SCALE: 3/4" = 1'-0"



2
D-2

COVERED ENTRY SECTION

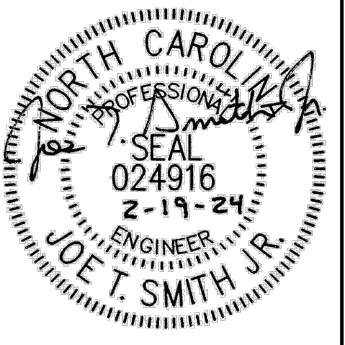
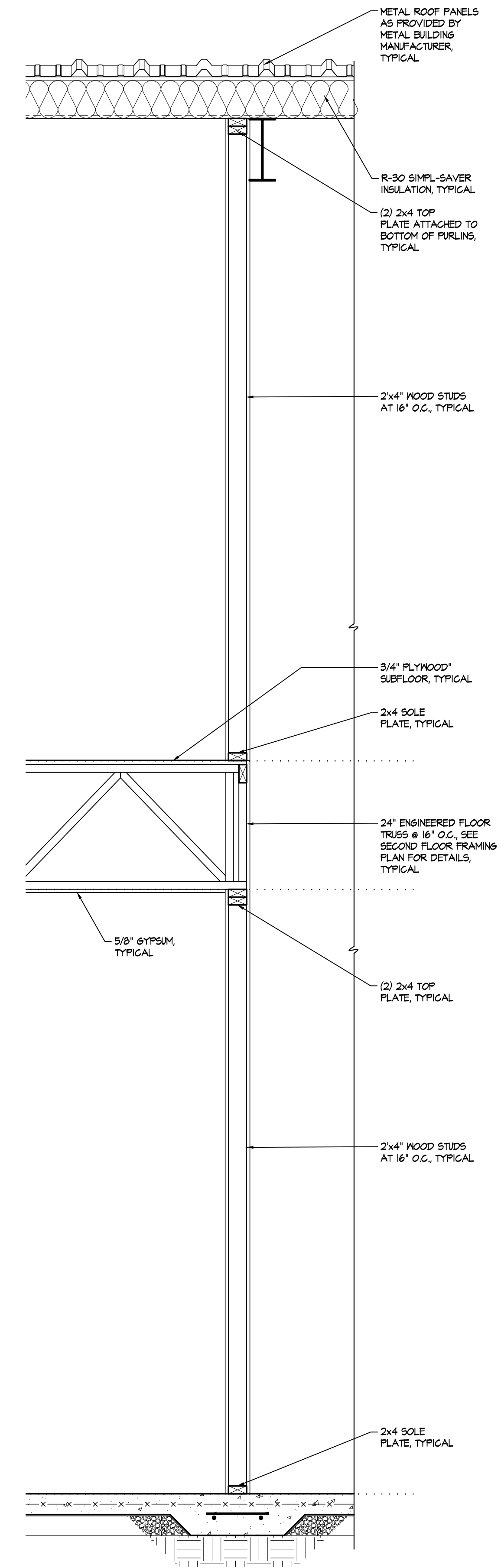
SCALE: 3/4" = 1'-0"



1
D-2

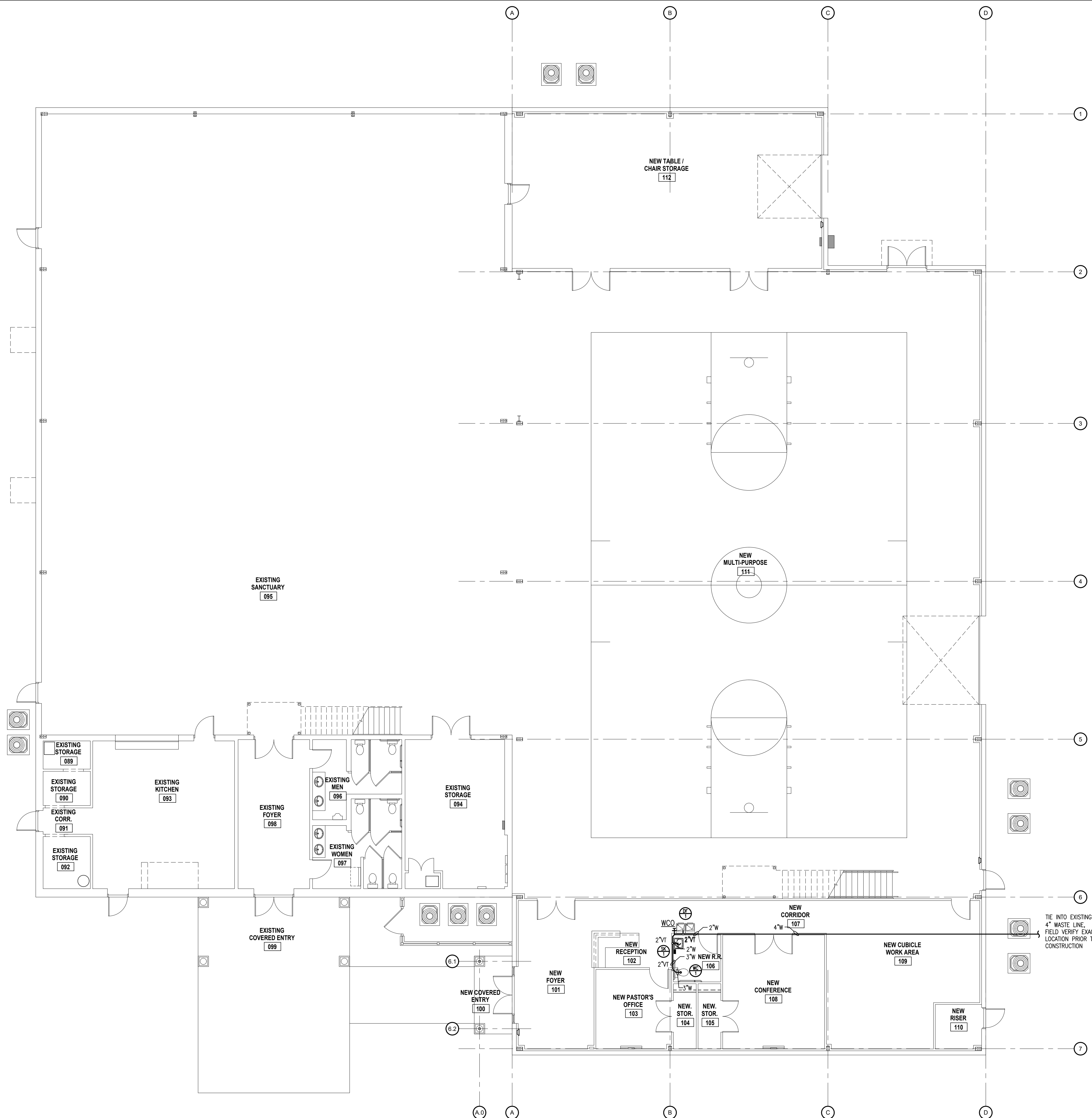
WALL SECTION

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



REV	DATE	DESCRIPTION

New Alteration and Addition for:
Antioch Church of Erwin
494 Antioch Church Road,
Dunn, North Carolina 28334

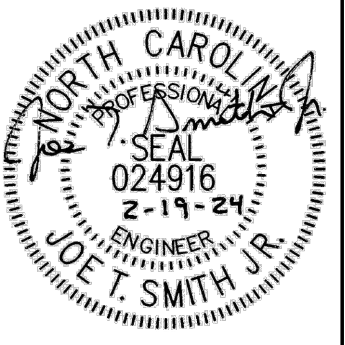


FIRST FLOOR WASTE PIPING PLAN

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

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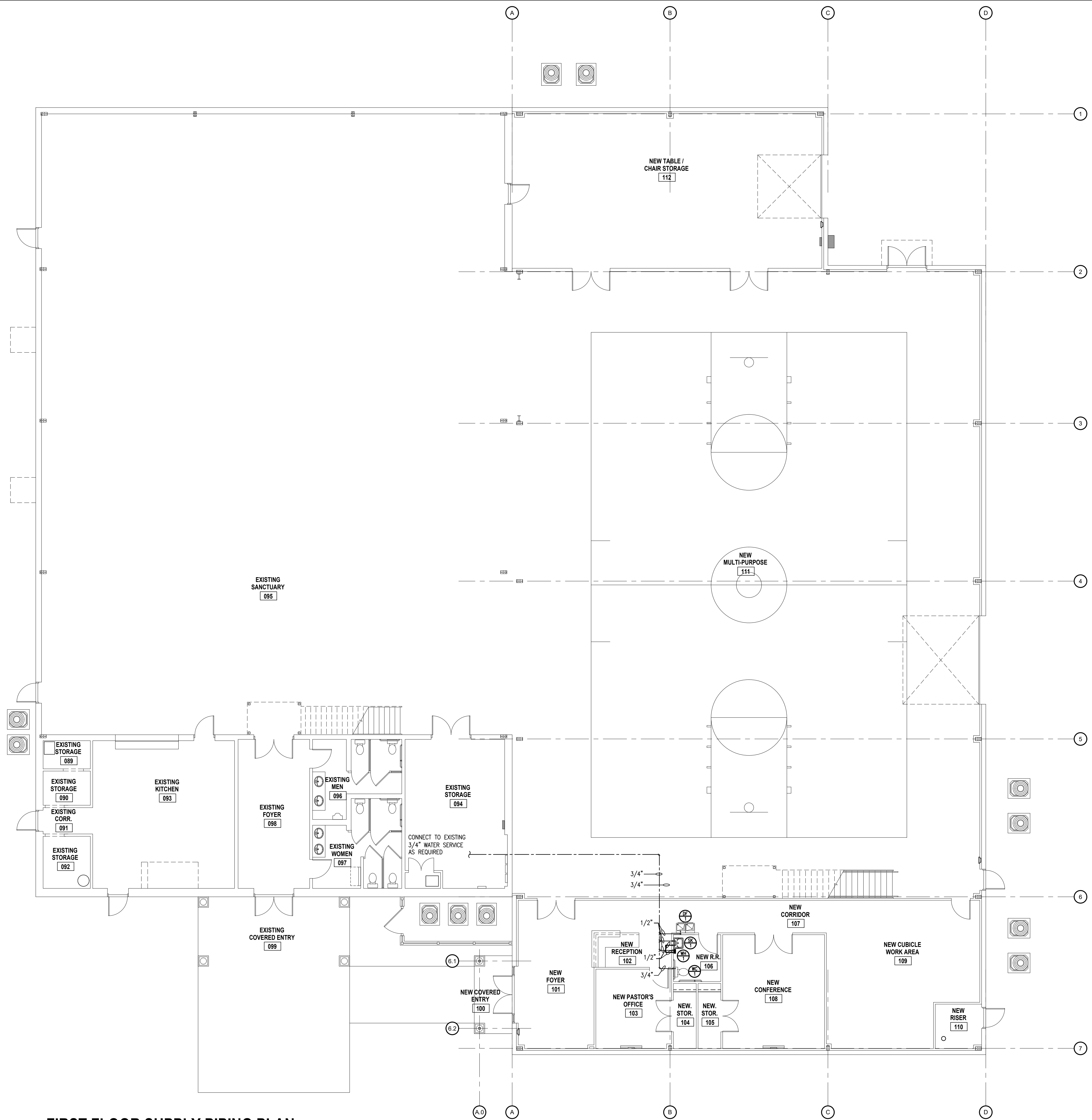


REV#	DATE	DESCRIPTION

New Alteration and Addition for:
Antioch Church of Erwin
 494 Antioch Church Road,
 Dunn, North Carolina 28334

DATE: 19 February 2024
 DRAWN BY: T.B. & L.W.
 SCALE: 1/8" = 1'-0"

P-1

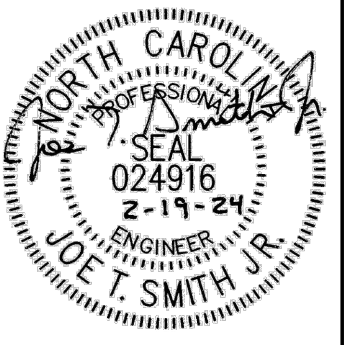


FIRST FLOOR SUPPLY PIPING PLAN

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

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New Alteration and Addition for:
Antioch Church of Erwin
 494 Antioch Church Road,
 Dunn, North Carolina 28334

DATE: 19 February 2024
 DRAWN BY: T.B. & L.W.
 SCALE: 1/8" = 1'-0"

P-2

PLUMBING NOTES:

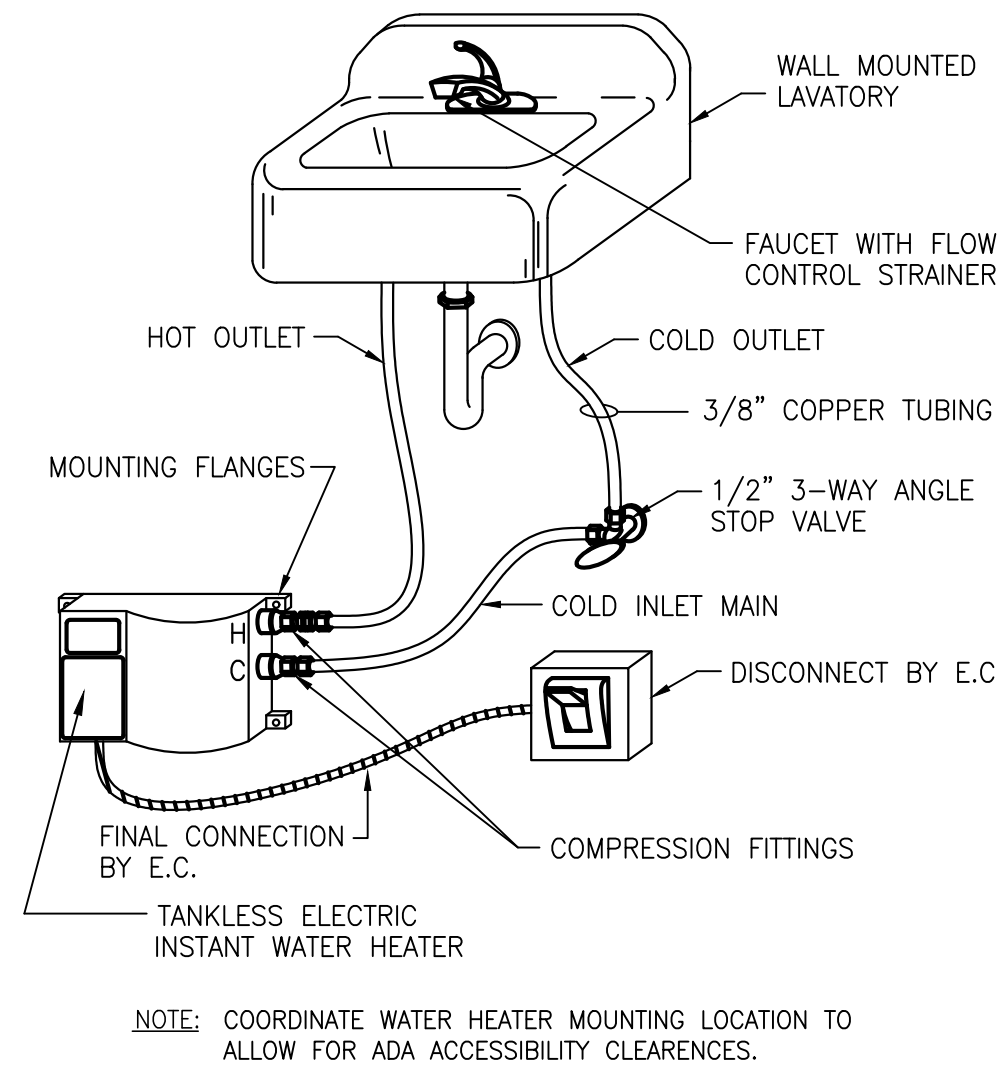
- PLUMBING PLANS ARE INTENDED TO PROVIDE INFORMATION FOR INSTALLATION OF A COMPLETE PLUMBING SYSTEM. PROVIDE ALL ESSENTIAL LABOR, MATERIALS & DEVICES REQUIRED TO PRODUCE A QUALITY END PRODUCT.
- CONTRACTOR SHALL REVIEW & BECOME FAMILIAR WITH THE WORK OF ALL TRADES FOR PURPOSES OF COORDINATION AND ROUTING. CONTRACTOR SHALL PROVIDE REQUIRED PLANNING, COORDINATION AND SEQUENCING OF PLUMBING INSTALLATION WITH BUILDING COMPONENTS AND OTHER TRADES.
- COORDINATE CONNECTION OF PLUMBING SYSTEMS WITH SITE UTILITIES AND SERVICES. P.C. SHALL EXTEND WATER SUPPLY LINE 5- FEET OUTSIDE OF BUILDING AND EXTEND BUILDING DRAIN 10- FEET OUTSIDE OF BUILDING & PROVIDE 2-WAY CLEANOUT.
- COORDINATE ROOF VENT LOCATIONS WITH OUTSIDE AIR INTAKES OF HVAC UNITS TO MAINTAIN A MINIMUM CLEARANCE OF 10 FEET.
- ALL WORK SHALL COMPLY WITH LOCAL, STATE & ADA CODES. WORKMANSHIP SHALL MEET OR EXCEED INDUSTRY STANDARDS.
- DRAIN, WASTE & VENT (DWV) PIPING SHALL BE ASTM D 1784, SOLID-WALL, SCHEDULE 40 PVC WITH SOCKET TYPE FITTINGS AND SOLVENT-WELDED JOINTS. FOAM CORE PIPING IS NOT ACCEPTABLE.
- ABOVE GRADE WATER PIPING SHALL BE ASTM F 877, CROSS-LINKED POLYETHYLENE (PEX) PLASTIC TUBING.
- WATER SERVICE PIPING SHALL BE ASTM D 1784, PRESSURE-RATED SCHEDULE 40 PVC WITH PVC FITTINGS AND SOLVENT-WELDED JOINTS.
- INDIVIDUAL SUPPLY AND DRAIN CONNECTIONS SIZES ARE NOT INDICATED ON PLANS FOR CLARITY. SIZE EACH TO SUIT RESPECTIVE FIXTURE.
- WATER PIPING INSTALLED IN UNCONDITIONED SPACE SHALL BE INSULATED WITH FOAM INSULATION WITH A MINIMUM R VALUE OF 6.5.
- DOMESTIC HOT WATER, HOT WATER RETURN & COLD WATER PIPING SHALL BE INSULATED WITH FIBERGLASS AND FOIL & PAPER JACKET AS FOLLOWS:
 RUNOUTS 3/4" OR LESS: 1/2" THICK
 PIPING 3/4" TO 2" 1" THICK
 PIPING 2 1/2" & LARGER: 1 1/2" THICK
 ALL HWR PIPING: 1" THICK
- WATER PIPING ON OUTSIDE WALLS AND IN CEILING SHALL BE LOCATED BETWEEN BUILDING INSULATION AND CONDITIONED SPACE.
- PROVIDE SHUTOFF VALVES AT EACH MAIN BRANCH LINE. VALVES SHALL BE INSTALLED IN A READILY ACCESSIBLE LOCATION. PROVIDE CEILING ACCESS DOORS WHERE REQUIRED TO ACCESS SERVICABLE VALVES LOCATED ABOVE GYPBOARD CEILINGS.
- UNLESS NOTED OTHERWISE ALL VALVES SHALL BE FULL PORT BRONZE OR BRASS BALL VALVES WITH THREADED OR SWEAT CONNECTIONS AS APPLICABLE TO THE CONNECTING PIPING.
- PIPING PASSING THROUGH CONCRETE/MASONRY WALLS OR FLOORS SHALL BE PROTECTED AGAINST EXTERNAL CORROSION BY PROTECTIVE SHEATHING OR WRAPPING.
- INSTALL SCHEDULE 40 PIPE SLEEVE TWO SIZES LARGER AT PENETRATIONS THROUGH FOUNDATION WALLS. SEAL SLEEVE TIGHT TO FOUNDATION WALL.
- PROVIDE INSULATION EQUAL TO MCGUIRE PROWRAP ON P-TRAP ASSEMBLIES AND HOT & COLD WATER PIPING FOR LAVATORIES WITH EXPOSED PIPING.
- VERIFY FINAL LOCATIONS FOR ROUGH-INS WITH FIELD MEASUREMENTS AND WITH THE REQUIREMENTS OF THE ACTUAL EQUIPMENT TO BE CONNECTED.
- INSTALL PLUMBING FIXTURES AND EQUIPMENT LEVEL & PLUMB. ROUTE PIPING PARALLEL & PERPENDICULAR TO OTHER BUILDING SYSTEMS AND COMPONENTS.
- INSTALL EQUIPMENT TO FACILITATE SERVICING, MAINTENANCE & REPAIR IN ACCORDANCE WITH MFG'S WRITTEN INSTALLATION INSTRUCTIONS AS WELL AS SPECIFIC INSTRUCTIONS ON PLANS.
- DWV AND WATER DISTRIBUTION PIPING SHALL BE TESTED IN ACCORDANCE WITH NC PLUMBING CODE SECTION 312.

PLUMBING FIXTURE SCHEDULE					
FIX NO	DESCRIPTION	CW	HW	WASTE	REFERENCE MODEL NO.
WC-1	WATER CLOSET FLUSH TANK (SEE NOTE) ADA	1/2"	-	3"	AMERICAN STANDARD CADET III 17"H EL 1.6 SEAT: CHURCH MODEL 9500CT (OPEN FRONT) COLOR: WHITE
SK-1	LAVATORY WALL HUNG ADA & NON-ADA	1/2"	1/2"	1 1/4"	AMERICAN STANDARD 0355.012 LUCERNE FAUCET: DELTA MODEL 5D1WFGMHDF STRAINER: MCGUIRE MODEL 155A COLOR: WHITE
DF-1	DRINKING FOUNTAIN SPLIT LEVEL ADA & NON-ADA	1/2"	-	1 1/4"	OASIS PBAMSL 400W 120V/1Ø 5.0 FLA

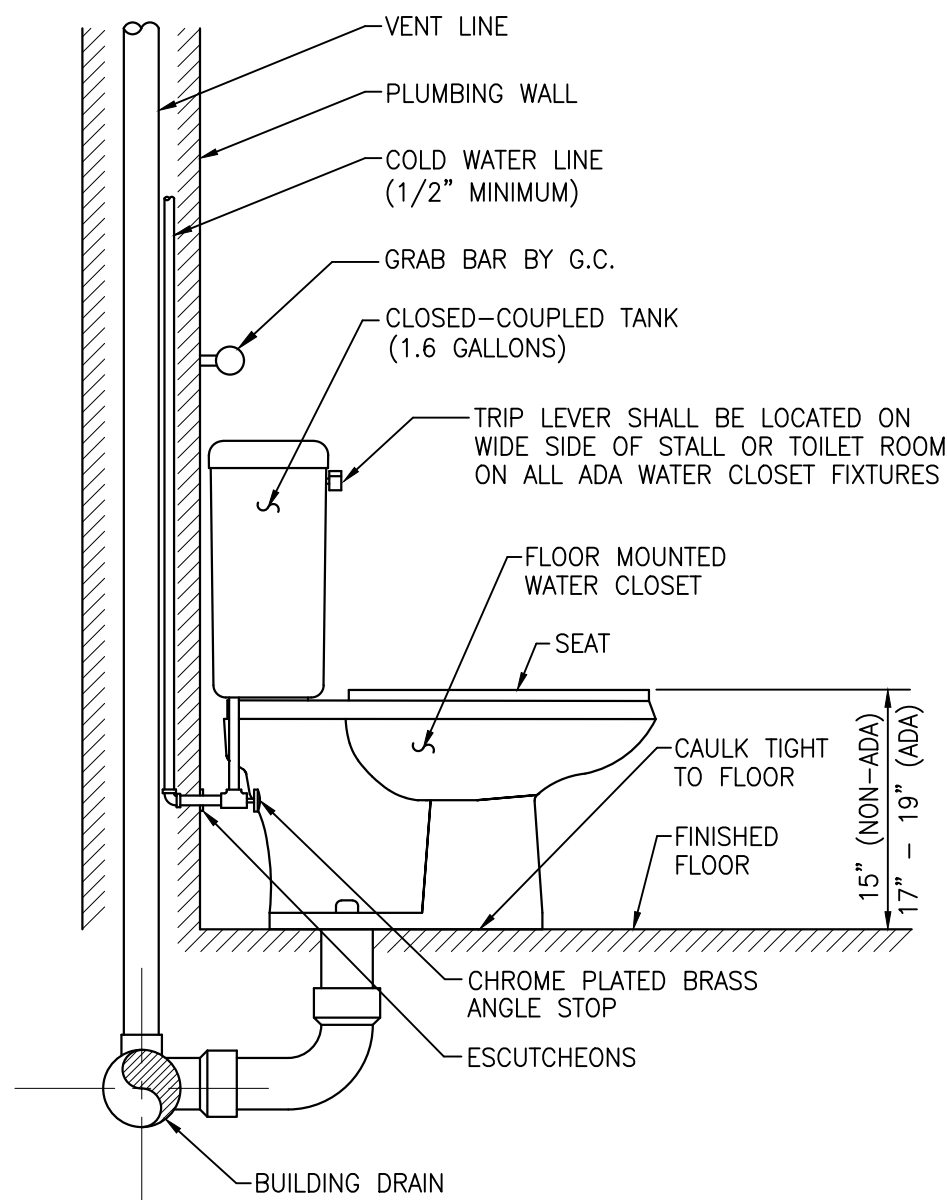
NOTE:
P.C. SHALL COORDINATE ADA WATER CLOSET TRIP LEVER TO BE LOCATED ON WIDE SIDE OF STALL OR TOILET ROOM.

ELECTRIC WATER HEATER SCHEDULE											
MARK	SIZE	GPM	TEMP. RISE	KW	VOLT/PH	FLA	CW CONN.	HW CONN.	MANF.	MODEL	WEIGHT
WH-1	-	0.25	82 DEG. F	2.4	120/1Ø	-	3/8"	3/8"	EEMAX	SPEX2412	2.75

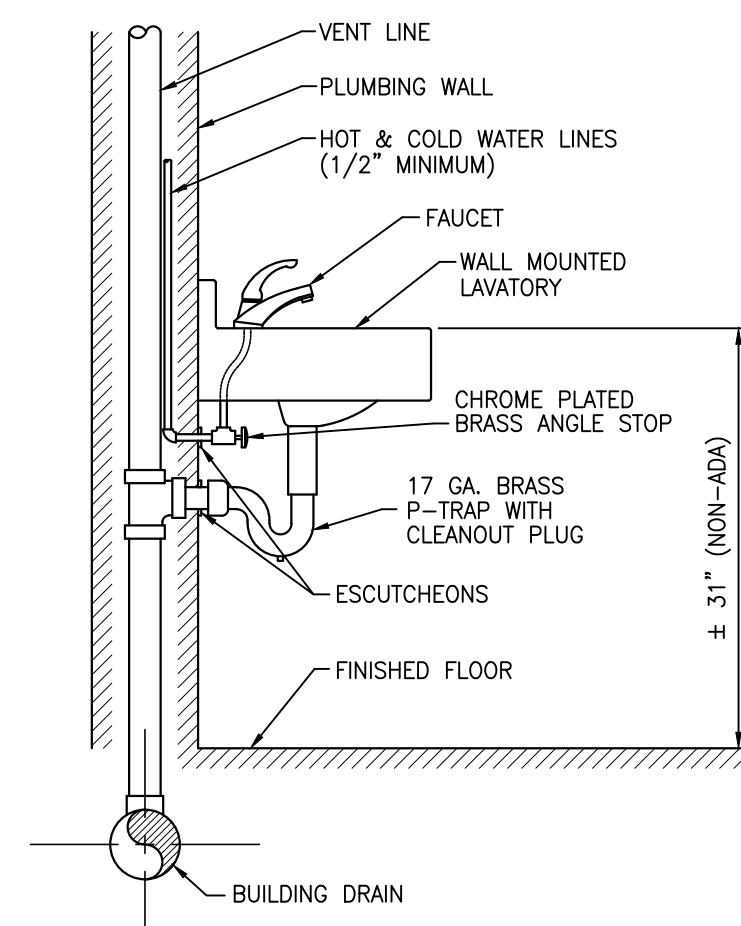
PLUMBING LEGEND		
SYMBOL	ABBR	DESCRIPTION
----	CW	COLD WATER LINE
----	HW	HOT WATER LINE
----	HWR	HOT WATER RETURN LINE
----	W	SOIL OR WASTE LINE
----	VT	VENT LINE
⊕	AAV	AIR ADMITTANCE VALVE
⊕	VTR	VENT THRU ROOF
⊕	WCO	WALL CLEANOUT
⊕	FCO	FLOOR CLEANOUT
⊕	COG	CLEANOUT ON GRADE
⊕	FD	ROUND FLOOR DRAIN
⊕	HD	HUB DRAIN
⊕	FS	FLOOR SINK
⊕	HB	HOSE BIBB/HYDRANT
⊕	FHB	FROSTPROOF HOSE BIBB/HYDRANT
⊕	G	GAS PIPING
⊕	C	CONDENSATE PIPING
⊕	-	CHECK VALVE
⊕	-	SHUTOFF VALVE
⊕	-	GAS COCK
⊕	BFP	BACKFLOW PREVENTER
⊕	-	UNION
⊕	SP	SUMP PUMP
⊕	-	CONCENTRIC REDUCER
⊕	-	FLOW DIRECTION ARROW
⊕	-	FIXTURE MARK (SEE SCHEDULE)
⊕	-	NEW/EXISTING CONNECTION
	G.C.	GENERAL CONTRACTOR
	P.C.	PLUMBING CONTRACTOR
	M.C.	MECHANICAL CONTRACTOR
	E.C.	ELECTRICAL CONTRACTOR
	AF	ABOVE FINISHED FLOOR
	AFG	ABOVE FINISHED GRADE
	BFG	BELOW FINISHED GRADE



DETAIL NO. 1
TANKLESS ELECTRIC WATER HEATER CONNECTION
SCALE: NTS

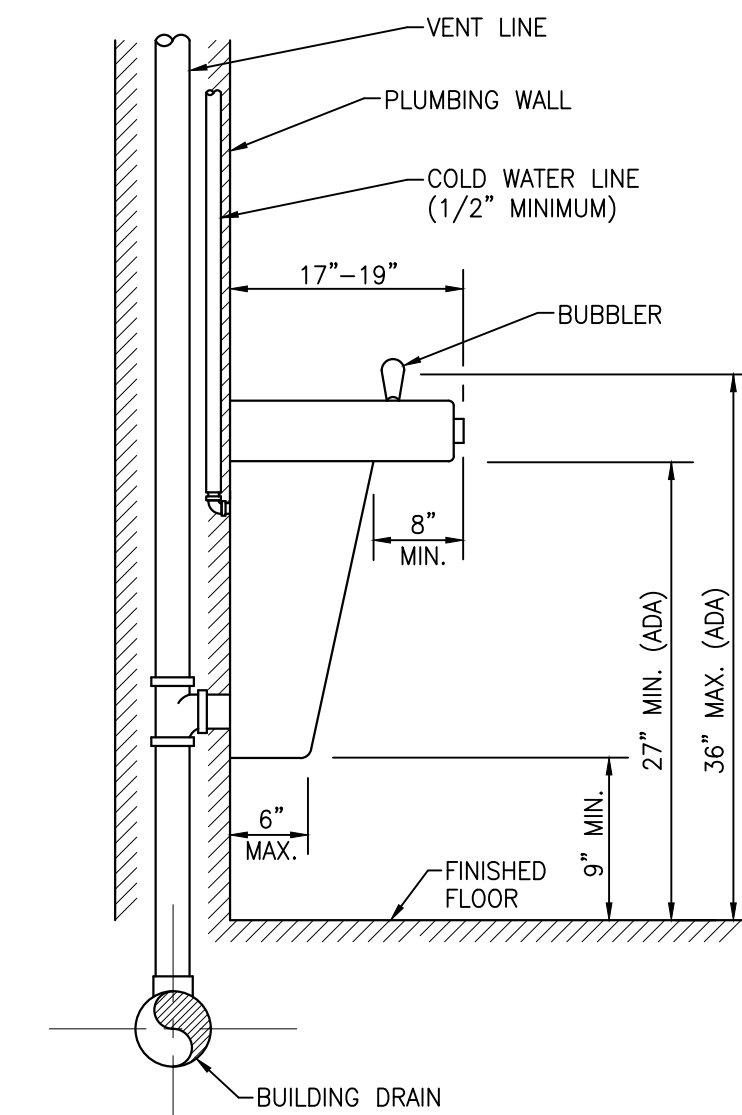


DETAIL NO. 2
FLOOR MOUNTED WATER CLOSET WITH FLUSH TANK
SCALE: NTS



NOTES:
1. PROVIDE ADA LAVATORIES WITH PRE-WRAPPED ANTI-MICROBIAL MOLDED CLOSED CELL VINYL ON EXPOSED HOT & COLD WATER AND DRAIN LINES.
2. WATER SUPPLY INLETS AND RISERS SHALL BE BRASS OR COPPER (CHROME PLATED WHERE EXPOSED TO VIEW).

DETAIL NO. 3
WALL MOUNTED LAVATORY
SCALE: NTS

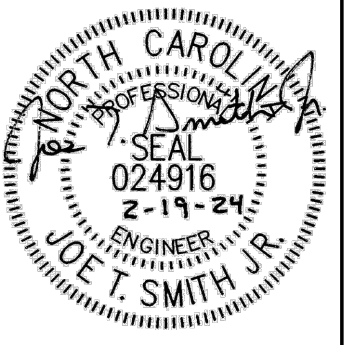


NOTE: PROVIDE APRON ACCESSORY ON UPPER SPLIT LEVEL UNITS WHEN INSTALLED IN NON-RECESSED APPLICATIONS.

DETAIL NO. 4
WALL MOUNTED DRINKING FOUNTAIN
SCALE: NTS

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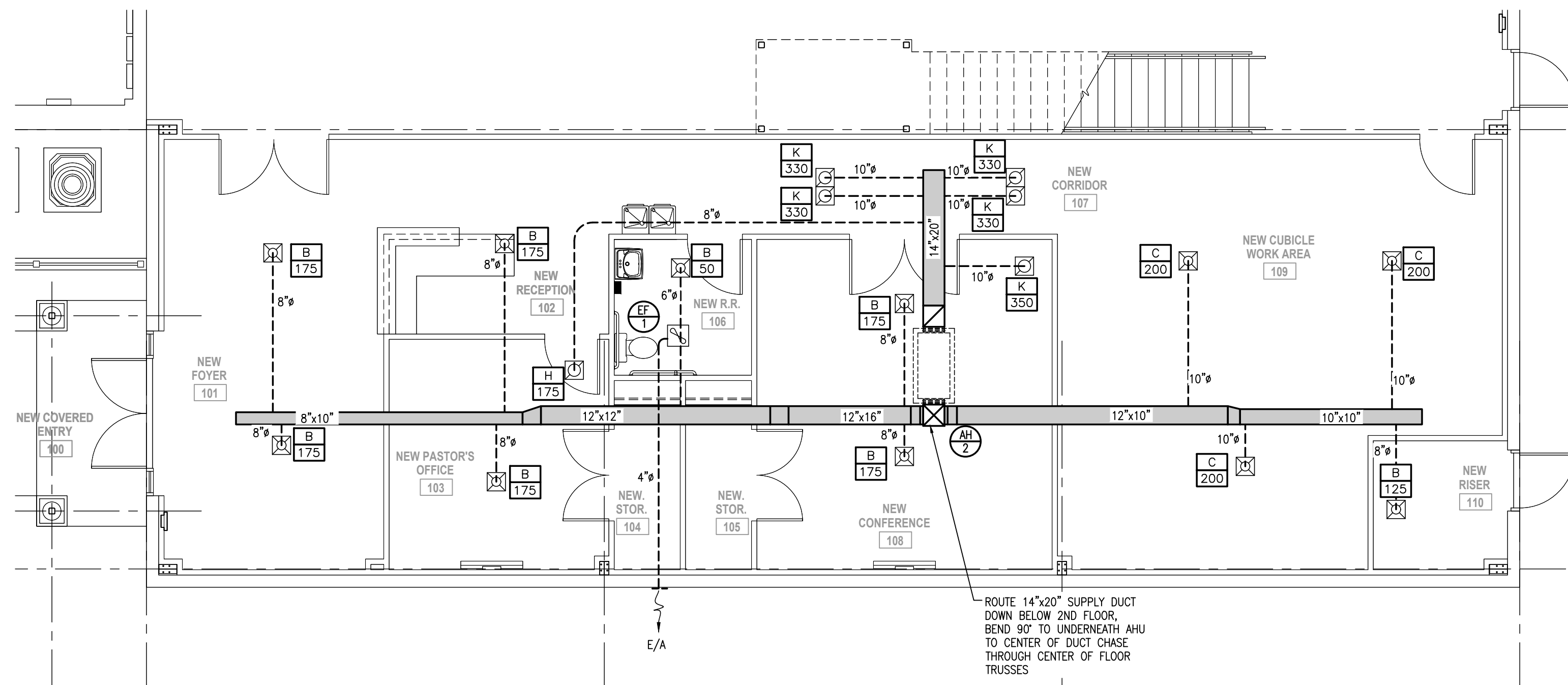
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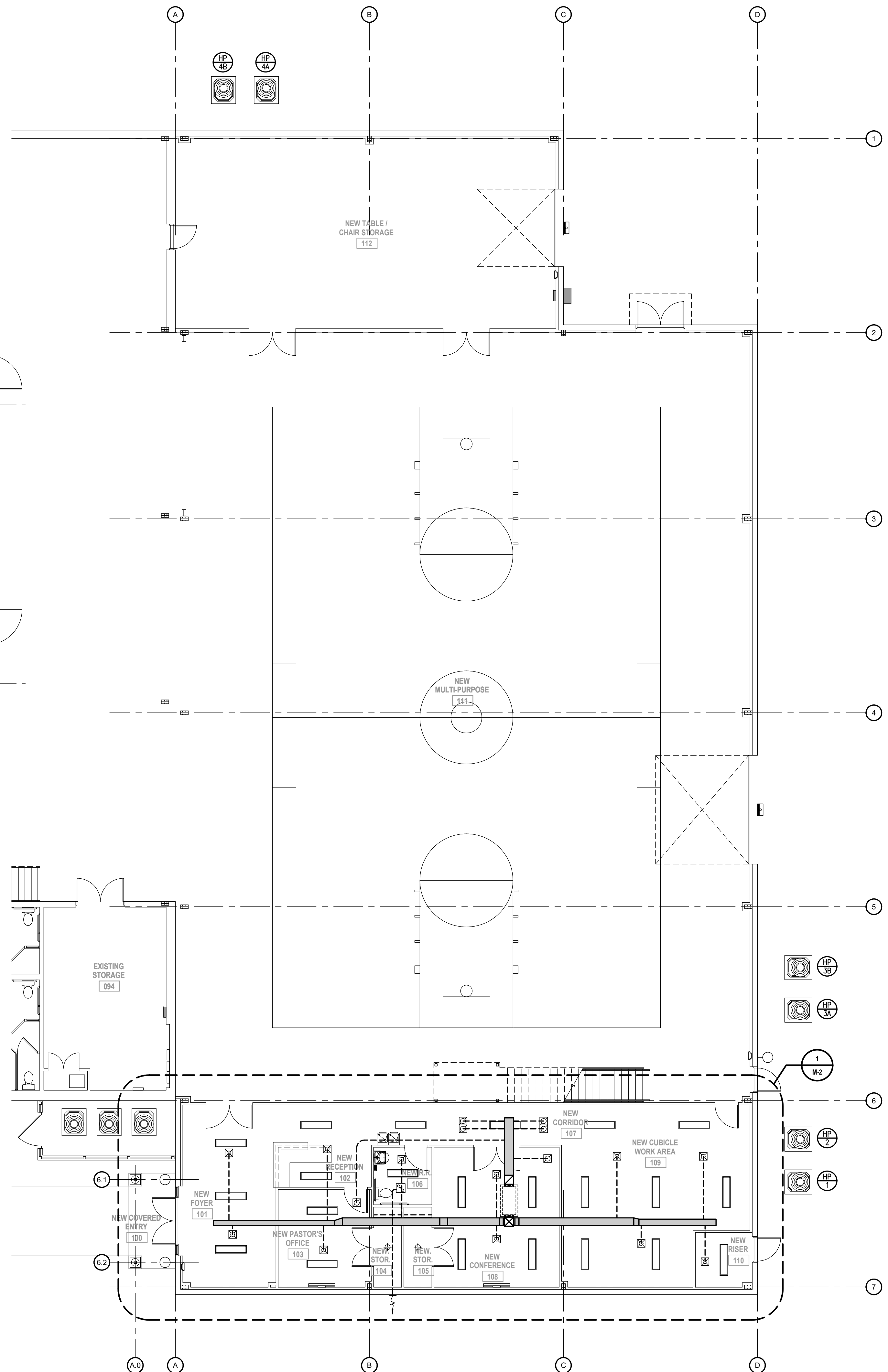
New Alteration and Addition for:
Antioch Church of Erwin
494 Antioch Church Road,
Dunn, North Carolina 28334

DATE: 19 February 2024
DRAWN BY: T.B. & L.W.
SCALE: AS NOTED



1
M-2 PARTIAL ENLARGED FIRST FLOOR MECHANICAL PLAN

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

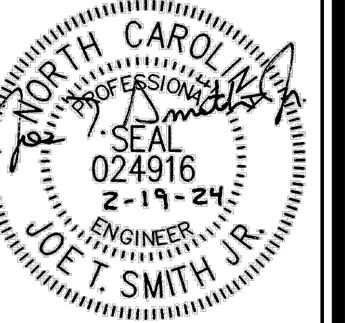


FIRST FLOOR MECHANICAL PLAN

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

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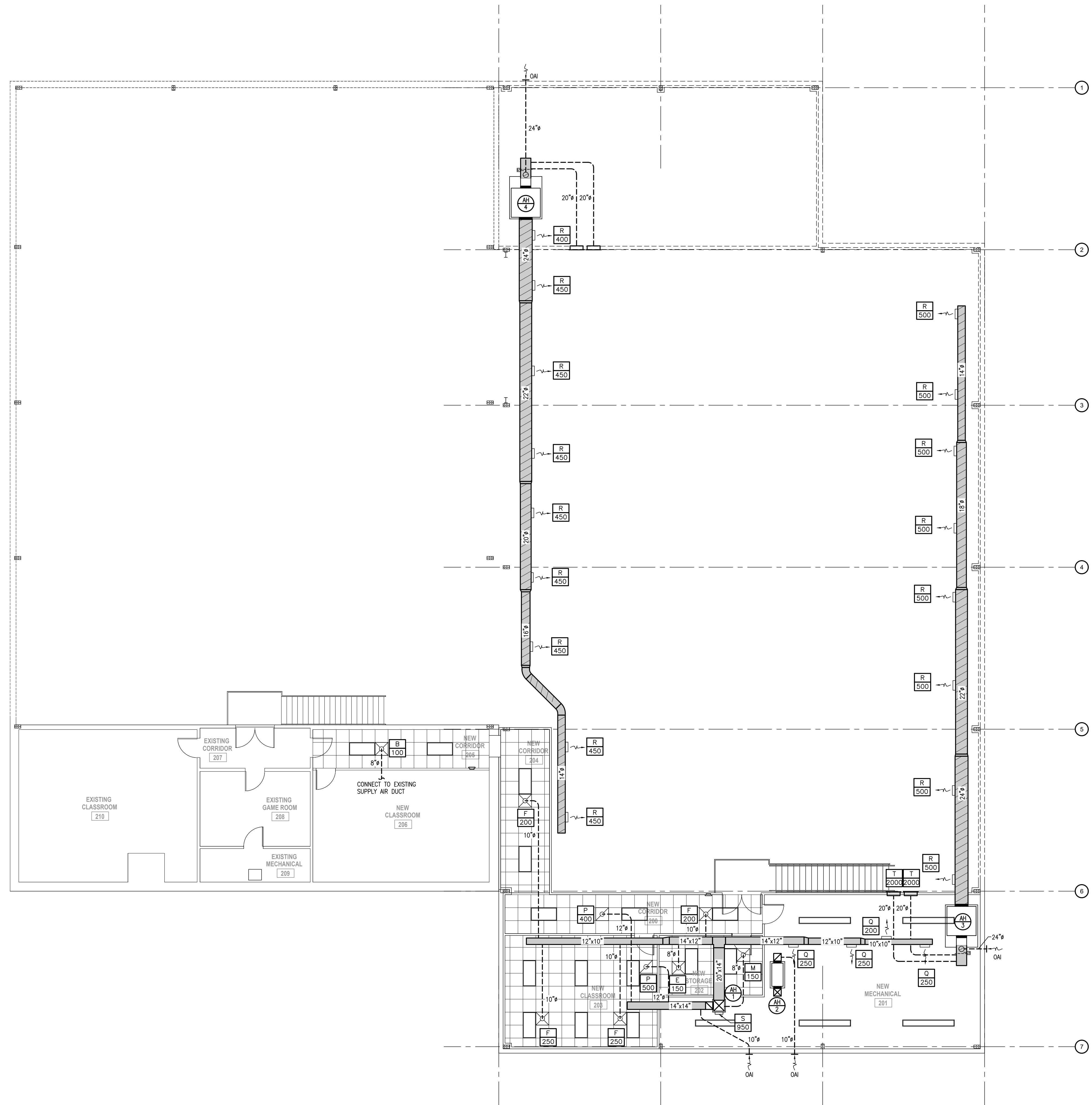


REV.	DATE	DESCRIPTION

New Alteration and Addition for:
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494 Antioch Church Road,
Dunn, North Carolina 28334

DATE: 19 February 2024
DRAWN BY: T.B. & L.W.
SCALE: 1/8" = 1'-0"

M-1

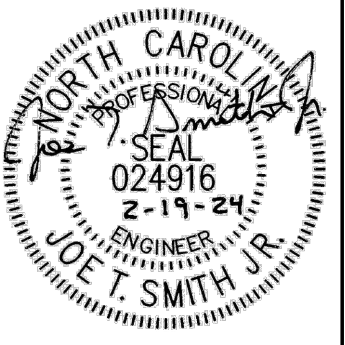


SECOND FLOOR MECHANICAL PLAN

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

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REV#	DATE	REVISIONS	DESCRIPTION

New Alteration and Addition for:
Antioch Church of Erwin
 494 Antioch Church Road,
 Dunn, North Carolina 28334

DATE: 19 February 2024
 DRAWN BY: T.B. & L.W.
 SCALE: 1/8" = 1'-0"

M-2

MECHANICAL NOTES:

- MECHANICAL PLANS ARE INTENDED TO PROVIDE INFORMATION FOR INSTALLATION OF A COMPLETE OPERATING MECHANICAL SYSTEM. PROVIDE ALL ESSENTIAL LABOR, MATERIALS & DEVICES REQUIRED TO PRODUCE A QUALITY END PRODUCT.
- CONTRACTOR SHALL REVIEW & BECOME FAMILIAR WITH THE WORK OF ALL TRADES FOR PURPOSES OF COORDINATION AND ROUTING. CONTRACTOR SHALL PROVIDE REQUIRED PLANNING, COORDINATION AND SEQUENCING OF HVAC INSTALLATION WITH BUILDING COMPONENTS AND OTHER TRADES.
- ALL WORK SHALL COMPLY WITH LOCAL, STATE & NATIONAL CODES. WORKMANSHIP SHALL MEET OR EXCEED INDUSTRY STANDARDS.
- PROTECT ALL NEW MATERIALS FROM THE WEATHER IN STORAGE TRAILERS OR PROVIDE SUITABLE COVERING.
- FABRICATE AND INSTALL DUCT PER SMACNA STANDARDS FOR 2-INCH WC WITH GALVANIZED METAL (26 GAUGE MINIMUM). ALL RADIUS ELBOWS & TEES SHALL HAVE CENTERLINE RADIUS OF 1.5 X DUCT WIDTH. ALL SQUARE ELBOWS & TEES SHALL HAVE TURNING VANES. PRIOR TO FABRICATION, MECHANICAL CONTRACTOR SHALL FIELD VERIFY STRUCTURAL OBSTRUCTIONS & CEILING SPACE LIMITATIONS AND MAKE NECESSARY DUCT MODIFICATIONS INCLUDING CHANGING OF ASPECT RATIOS, ADDING OFFSETS, AND SHIFTING LOCATIONS. PROTECT DUCT BY STORING IN A CLEAN AND DRY ENVIRONMENT PRIOR TO INSTALLATION. COVER ENDS OF EXPOSED WORK AT THE END OF EVERY SHIFT.
- SPIRAL DUCT SHALL BE SINGLE WALL WITH PAINT GRIP.
- ALL DUCT JOINTS, SEAMS & BRANCH TAKEOFFS SHALL BE SEALED AIR-TIGHT WITH DUCT SEALANT EQUAL TO HARDCAST IRON-GRIP OR FOIL-GRIP TAPE EQUAL TO HARDCAST AFG-1402.
- ROUND RUNOUTS SHALL HAVE SPIN-INS WITH DAMPERS, RECTANGULAR BRANCH DUCTS SHALL HAVE 45 DEGREE TAPS WITH AIR EXTRACTORS AND ALL TEES SHALL HAVE SPLITTER DAMPERS. PROVIDE ANY OTHER DEVICES REQUIRED TO BALANCE AIR SYSTEM.
- FLEX DUCT SHALL HAVE METALIZED VAPOR BARRIER WITH MIN. R-VALUE OF 5.0. BOTH ENDS SHALL BE SECURED WITH NYLON BANDS AND METALIZED DUCT TAPE PER MFG'S RECOMMENDATIONS AND IN ACCORDANCE WITH U.L. 181B.
- RIGID ROUND AND RECTANGULAR DUCT SHALL BE EXTERNALLY INSULATED WITH 2-INCH THICK 3/4 LB. DENSITY FIBERGLASS BLANKET WITH FSK VAPOR BARRIER AND A MIN. R-VALUE OF 6.5. STAPLE AND SEAL ALL JOINTS WITH 4-INCH WIDE METALIZED DUCT TAPE EQUAL TO SHURFLEX SF-683.
- INSULATE & SEAL ALL GRILLE & DIFFUSER NECKS TO MAINTAIN VAPOR BARRIER AND ELIMINATE CONDENSATION.
- CONDENSATE TRAPS FOR ALL AC UNITS SHALL BE SIZED AS RECOMMENDED BY UNIT MFG. CONDENSATE PIPING AND TRAPS SHALL BE SCHEDULE 40 PVC ROUTED TO DRYWELL OR STORM DRAIN. INSULATE INTERIOR PIPING WITH 1/2 INCH THICK UNICELLULAR INSULATION.
- REFRIGERANT PIPING SHALL BE TYPE ACR COPPER WITH SILVER SOLDERED JOINTS. INSTALL PER EQUIPMENT INSTALLATION INSTRUCTIONS. INSULATION SHALL BE 1-INCH THICK MINIMUM.
- ALL PIPING SHALL BE SUPPORTED & SECURED WITH SUITABLE HANGERS, STRAPS OR PIPE STANDS. SUPPORT WITH NO DROOPS OR SAGS. ALL HANGERS AND ATTACHMENTS SHALL BE PLATED, GALVANIZED OR PAINTED. PROVIDE ISOLATION ON PIPING OF DISSIMILAR MATERIALS.
- PIPE INSULATION SHALL BE FIBERGLASS WITH FOIL AND PAPER JACKET. INSULATION ON PIPING 1" & SMALLER SHALL BE 1-INCH THICK; 1 1/4" TO 2" SHALL BE 1 1/2-INCH THICK AND 2 1/2" & LARGER SHALL BE 2-INCH THICK. MAINTAIN VAPOR BARRIER ON ALL COLD PIPING.
- POWER WIRING, DISCONNECTS & STARTERS NOT FURNISHED WITH HVAC EQUIPMENT AND FINAL CONNECTIONS SHALL BE BY THE E.C.
- CONTROL WIRING, RELAYS AND INTERLOCKING DEVICES SHALL BE PROVIDED BY THE M.C.
- UL LISTED DUCT SMOKE DETECTORS & RAIL SWITCHES SHALL BE FURNISHED & WIRED BY THE FIRE ALARM CONTRACTOR AND DUCT SMOKE DETECTORS INSTALLED BY THE M.C.. RAIL SWITCHES SHALL BE REQUIRED WHERE DETECTORS ARE NOT READILY ACCESSIBLE. FIRE ALARM AHU SHUT DOWN CIRCUITS SHALL BE WIRED FROM THE FACP TO A TERMINATION POINT, ADJACENT TO THE FACP BY THE FIRE ALARM CONTRACTOR. AHU CONTROL WIRING FROM THE TERMINATION POINT TO THE EQUIPMENT SHALL BE BY THE M.C.. THE FIRE ALARM CONTRACTOR SHALL TEST ALL SMOKE DETECTORS.
- TEMPERATURE CONTROLS FOR EACH HEATING-COOLING SYSTEM SHALL CONSIST OF AN ELECTRONIC PROGRAMMABLE HEATING-COOLING THERMOSTAT WITH HEAT-OFF-COOL-AUTO SYSTEM SWITCH & AUTO-ON FAN SWITCH. MOUNT THERMOSTATS 48-INCHES A.F.F.
- INSTALL EQUIPMENT TO FACILITATE SERVICING, MAINTENANCE & REPAIR IN ACCORDANCE WITH MANUFACTURE'S INSTALLATION INSTRUCTIONS AS WELL AS SPECIFIC INSTRUCTIONS ON PLANS.
- PROVIDE FLEX CONNECTORS AT ALL DUCT TO EQUIPMENT CONNECTIONS NOT HAVING INTERNALLY ISOLATED FANS.
- CONTRACTOR SHALL BALANCE AIR SYSTEM TO QUANTITIES INDICATED ON PLANS AND PROVIDE TYPE WRITTEN REPORT WITH O&M MANUALS.
- CONTRACTOR SHALL PROVIDE BUILDING OWNER WITH A COMPLETE OPERATING & MAINTENANCE MANUAL INCLUDING EQUIPMENT BASIC DATA, CONTROL INFORMATION, ROUTINE MAINTENANCE ACTIONS AND SERVICE AGENCIES NAME, PHONE NUMBER & ADDRESS.
- PROVIDE MOTORIZED DAMPERS AT OUTSIDE AIR INTAKES.

**MECHANICAL SYSTEM,
SERVICE SYSTEMS AND EQUIPMENT**

METHOD OF COMPLIANCE:

PRESCRIPTIVE ENERGY COST BUDGET

THERMAL ZONE 4A

EXTERIOR DESIGN CONDITIONS

WINTER DRY BULB 16°

SUMMER DRY BULB 94°

INTERIOR DESIGN CONDITIONS

WINTER DRY BULB 72°

SUMMER DRY BULB 75°

RELATIVE HUMIDITY 50%

MECHANICAL CONDITIONING SYSTEM

UNITARY

DESCRIPTION OF UNIT SEE MECHANICAL SCHEDULES
 HEATING EFFICIENCY SEE MECHANICAL SCHEDULES
 COOLING EFFICIENCY SEE MECHANICAL SCHEDULES
 HEAT OUTPUT OF UNIT SEE MECHANICAL SCHEDULES
 COOLING OUTPUT OF UNIT SEE MECHANICAL SCHEDULES

BOILER

TOTAL BOILER OUTPUT, IF OVERSIZED STATE REASON N/A

CHILLER

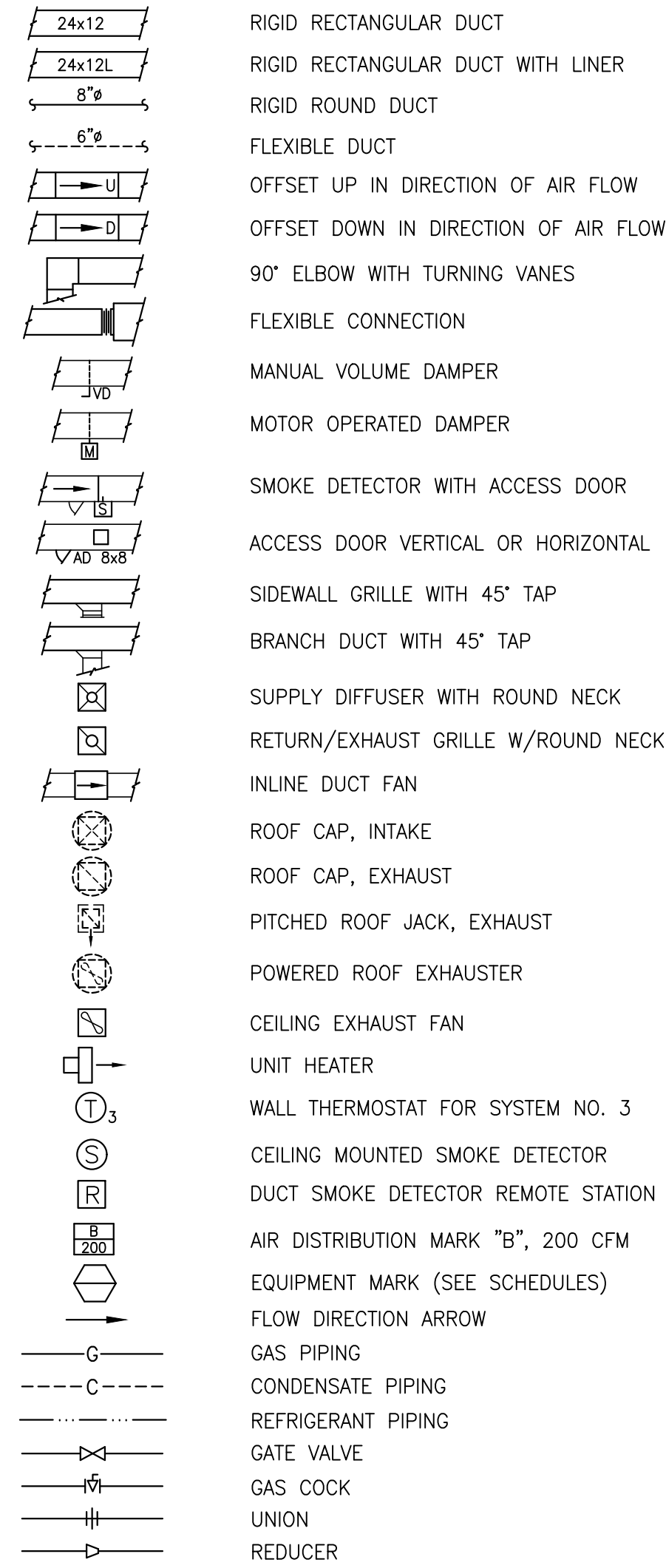
TOTAL CHILLER OUTPUT, IF OVERSIZED STATE REASON N/A

LIST EQUIPMENT EFFICIENCIES SEE MECHANICAL SCHEDULES

EQUIPMENT SCHEDULES WITH MOTORS (MECHANICAL SYSTEMS)

MOTOR HORSEPOWER: SEE MECHANICAL SCHEDULES
 NUMBER OF PHASES: SEE MECHANICAL SCHEDULES
 MINIMUM EFFICIENCY: SEE MECHANICAL SCHEDULES
 MOTOR TYPE: SEE MECHANICAL SCHEDULES
 NUMBER OF POLES: SEE MECHANICAL SCHEDULES

HVAC LEGEND



ABBREVIATIONS:
 G.C. GENERAL CONTRACTOR
 P.C. PLUMBING CONTRACTOR
 M.C. MECHANICAL CONTRACTOR
 E.C. ELECTRICAL CONTRACTOR
 AFF ABOVE FINISHED FLOOR
 AFG ABOVE FINISHED GRADE
 UNO UNLESS NOTED OTHERWISE
 BOD BOTTOM OF DUCT
 TOD TOP OF DUCT

HEAT PUMP (INDOOR UNIT) SCHEDULE

MARK	SUPPLY FAN				COOLING CAPACITY		AUX. HEAT	VOLT/PH	MCA	MOCP	MANF.	MODEL	WEIGHT				
	SA	CFM	OA	EXT	SP	MTR	HP							TOT CAP	SEN CAP	@ 240V	
AH-1	2000	300	0.5"	1	60.0	MBH	45.5	MBH	9.6	KW	240/1Ø	58	60A	TRANE	TEM3A00C60S51	170	LBS.
AH-2	2000	300	0.5"	1	60.0	MBH	45.5	MBH	9.6	KW	240/1Ø	58	60A	TRANE	TEM3A00C60S51	170	LBS.
AH-3	4000	500	0.5"	2	120.2	MBH	98.5	MBH	17.3	KW	240/1Ø	101	110A	TRANE	TWE12041B	475	LBS.
AH-4	4000	500	0.5"	2	120.2	MBH	98.5	MBH	17.3	KW	240/1Ø	101	110A	TRANE	TWE12041B	475	LBS.

- NOTES:**
 1. PROVIDE THE FOLLOWING OPTIONS AND ACCESSORIES:
 - SINGLE POINT WIRING CONNECTION
 - 7-DAY PROGRAMMABLE THERMOSTAT WITH LOCKOUT FUNCTION
 - CONTROL TRANSFORMER BAYTFMRO18 (AH-3 & AH-4)
 - ECONOMIZER (AH-3 & AH-4)

HEAT PUMP (OUTDOOR UNIT) SCHEDULE

MARK	EAT(DB)	NOM CAP	VOLT/PH	MCA	MOCP	MIN. RATING	COP	MANF.	MODEL	SONES	WEIGHT	NOTES
HP-1	95°	5.0 TONS	240/1Ø	35	60A	14 SEER	3.1	TRANE	4TWB4060E1	295	LBS.	
HP-2	95°	5.0 TONS	240/1Ø	35	60A	14 SEER	3.1	TRANE	4TWB4060E1	295	LBS.	
HP-3A	95°	5.0 TONS	240/1Ø	35	60A	14 SEER	3.1	TRANE	4TWB4060E1	295	LBS.	
HP-3B	95°	5.0 TONS	240/1Ø	35	60A	14 SEER	3.1	TRANE	4TWB4060E1	295	LBS.	
HP-4A	95°	5.0 TONS	240/1Ø	35	60A	14 SEER	3.1	TRANE	4TWB4060E1	295	LBS.	
HP-4B	95°	5.0 TONS	240/1Ø	35	60A	14 SEER	3.1	TRANE	4TWB4060E1	295	LBS.	

- NOTES:**
 1. PROVIDE THE FOLLOWING OPTIONS AND ACCESSORIES:
 - COMPRESSOR ANTI SHORT CYCLE DELAY
 - LOW AMBIENT CONTROL TO 55°

EXHAUST FAN SCHEDULE

MARK	TYPE	CFM	SP	MTR	HP	VOLT/PH	FLA	MANF.	MODEL	SONES	WEIGHT	NOTES
EF-1	CEILING	109	0.125"	87W	120/1Ø	1.1	BROAN	L100		0.9	22	LBS. 1,2,3

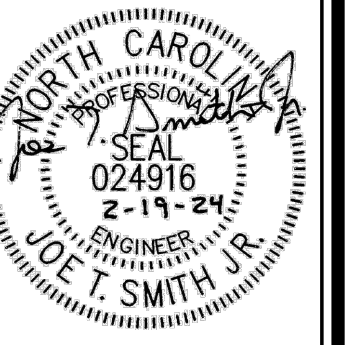
- NOTES:**
 1. INTERLOCK EXHAUST FANS WITH LIGHT SWITCHES BY E.C.
 2. PROVIDE WITH DISC, BDD, BIRD SCREEN & ROOF CAP.
 3. DUCT FAN TO BUILDING EXTERIOR.

AIR DISTRIBUTION SCHEDULE

MARK	CFM RANGE	TYPE	FACE	NECK	PATTERN	MAT'L	FINISH	MANF.	MODEL	NOTES
A	0-90	SURFACE - LOUVER SUPPLY	6X6	6Ø	4-WAY	STEEL	WHITE ENAMEL	H&C	SRE	-
B	100-195	SURFACE - LOUVER SUPPLY	9X9	8Ø	4-WAY	STEEL	WHITE ENAMEL	H&C	SRE	-
C	200-305	SURFACE - LOUVER SUPPLY	12X12	10Ø	4-WAY	STEEL	WHITE ENAMEL	H&C	SRE	-
D	0-95	T-BAR - LOUVERED SUPPLY	24X24	6Ø	4-WAY	STEEL	WHITE ENAMEL	H&C	HVS	1
E	100-195	T-BAR - LOUVERED SUPPLY	24X24	8Ø	4-WAY	STEEL	WHITE ENAMEL	H&C	HVS	1
F	200-340	T-BAR - LOUVERED SUPPLY	24X24	10Ø	4-WAY	STEEL	WHITE ENAMEL	H&C	HVS	1
H	80-175	SURFACE - RET AIR	12X12	8Ø	-	STEEL	WHITE ENAMEL	H&C	672	-
J	180-300	SURFACE - RET AIR	14X14	10Ø	-	STEEL	WHITE ENAMEL	H&C	672	-
K	305-510	SURFACE - RET AIR	16X16	12Ø	-	STEEL	WHITE ENAMEL	H&C	672	-
L	0-75	T-BAR - PERF RETURN	24X24	6Ø	-	STEEL	WHITE ENAMEL	H&C	RENPS	1
M	80-175	T-BAR - PERF RETURN	24X24	8Ø	-	STEEL	WHITE ENAMEL	H&C	RENPS	1
N	180-300	T-BAR - PERF RETURN	24X24	10Ø	-	STEEL	WHITE ENAMEL	H&C	RENPS	1
P	305-510	T-BAR - PERF RETURN	24X24	12Ø	-	STEEL	WHITE ENAMEL	H&C	RENPS	1
Q	200-250	SURFACE SUPPLY	12x6	-	2-WAY	STEEL	WHITE ENAMEL	H&C	821	
R	400-500	SURFACE SUPPLY	20x8	-	2-WAY	STEEL	WHITE ENAMEL	H&C	SVH	
S	705-1000	SURFACE - RET AIR	24x24	-	SEE PLANS	STEEL	WHITE ENAMEL	H&C	672	
T	2000-2350	SURFACE - RET AIR	30X36	-	SEE PLANS	STEEL	WHITE ENAMEL	H&C	RH45	

- NOTES:**
 1. PROVIDE WITH MOLDED FIBERGLASS BACK. NECK SIZES TO MATCH ROUND RUNOUT SIZES ON PLANS.

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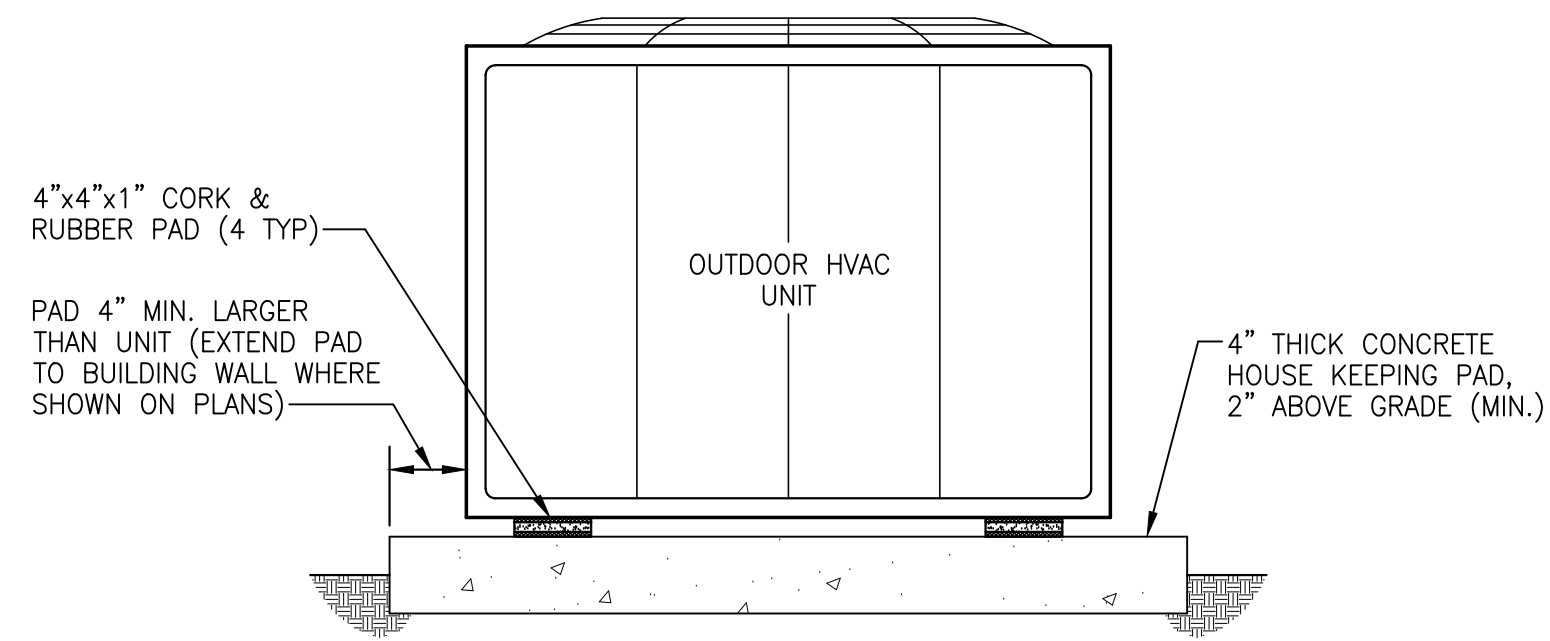


REV#	DATE	DESCRIPTION

New Alteration and Addition for:
Antioch Church of Erwin
 494 Antioch Church Road,
 Dunn, North Carolina 28334

DATE: 19 February 2024
 DRAWN BY: T.B. & L.W.
 SCALE: AS NOTED

M-3

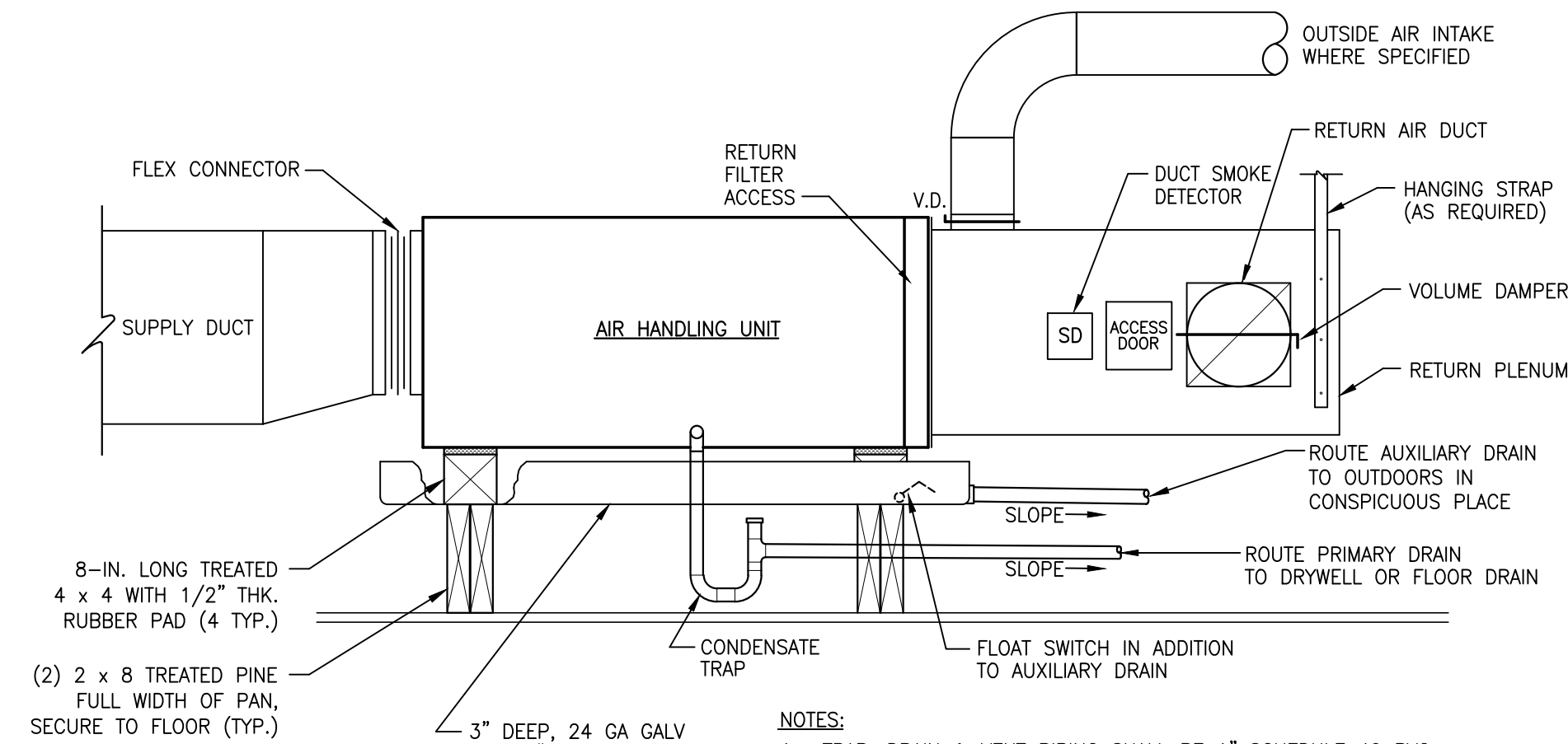


NOTE: MAINTAIN EQUIPMENT MFG'S. RECOMMENDED CLEARANCES AND A MINIMUM OF 6" BEYOND SPLASH LINE OF ROOF OVERHANG.

DETAIL NO. 1

OUTDOOR HVAC UNIT INSTALLATION

SCALE: NTS

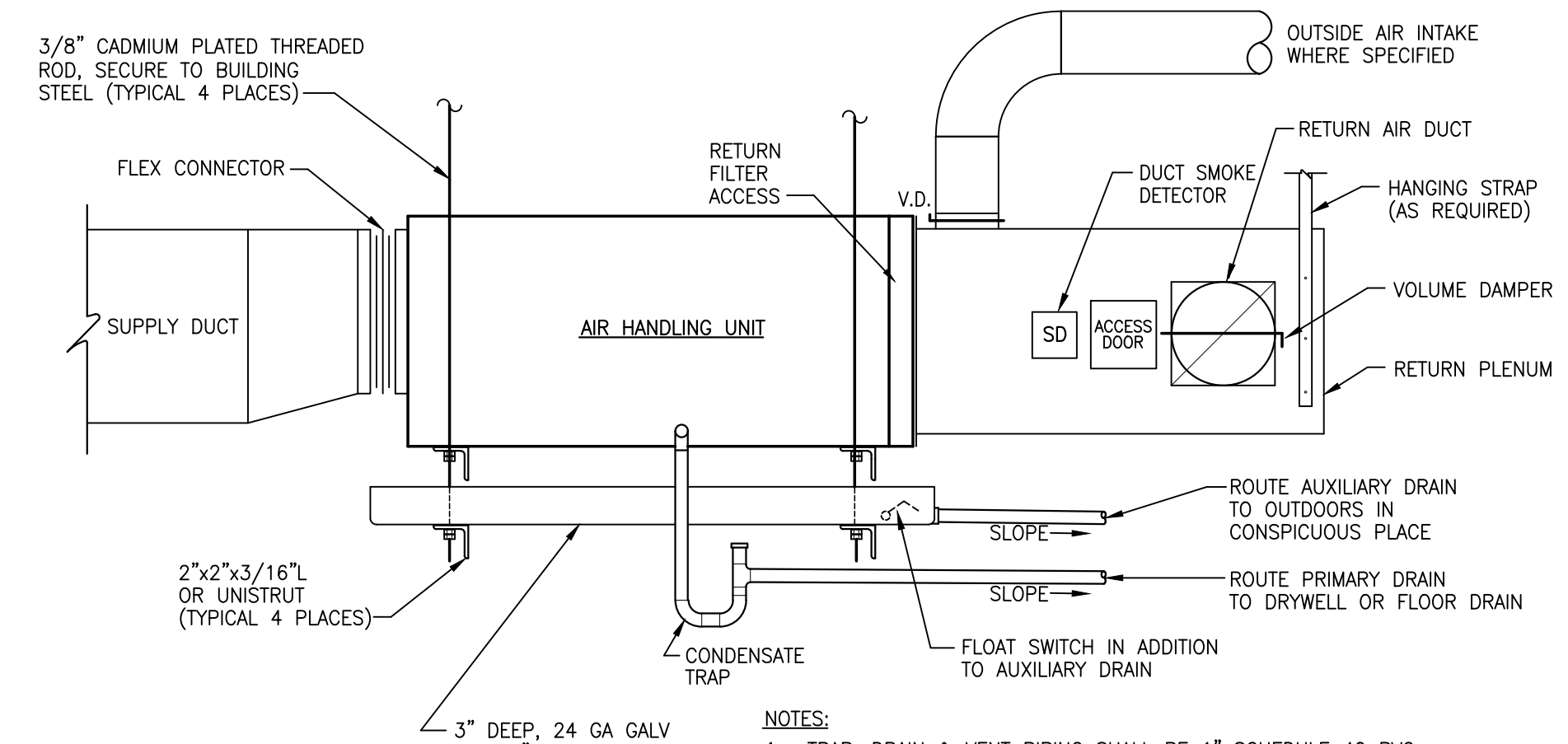


NOTES:
 1. TRAP, DRAIN & VENT PIPING SHALL BE 1" SCHEDULE 40 PVC UNLESS NOTED OTHERWISE ON PLANS.
 2. TRAP & PRIMARY DRAIN PIPING SHALL BE INSULATED WITH 1/2" UNICELLULAR INSULATION.

DETAIL NO. 2

ATTIC MOUNTED AIR HANDLING UNIT

SCALE: NTS

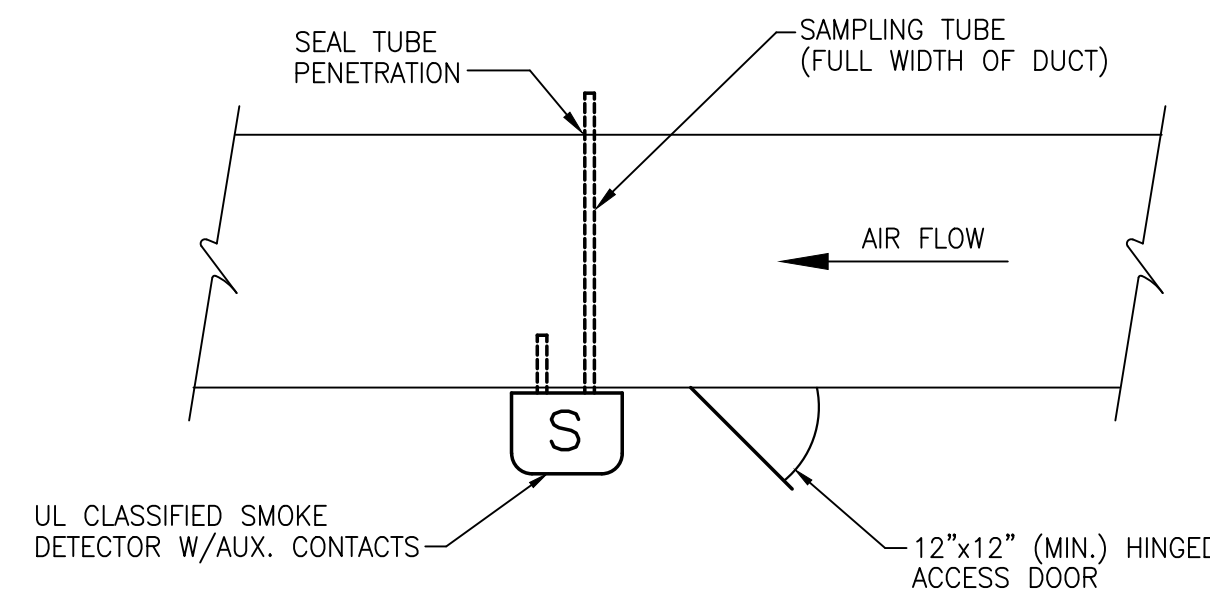


NOTES:
 1. TRAP, DRAIN & VENT PIPING SHALL BE 1" SCHEDULE 40 PVC UNLESS NOTED OTHERWISE ON PLANS.
 2. TRAP & PRIMARY DRAIN PIPING SHALL BE INSULATED WITH 1/2" UNICELLULAR INSULATION.

DETAIL NO. 3

ABOVE CEILING AIR HANDLING UNIT

SCALE: NTS

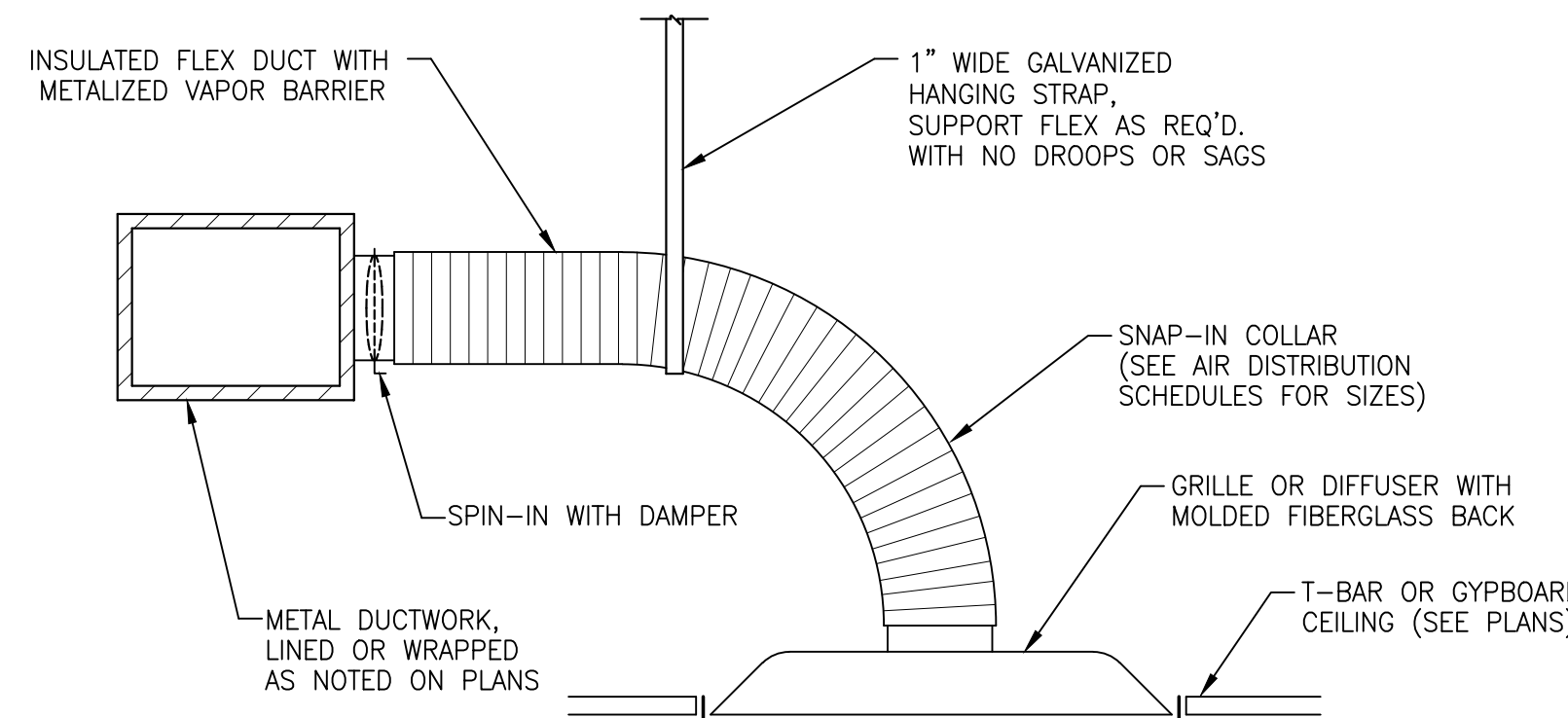


NOTES:
 1. EXTEND SAMPLING TUBE SUCH THAT IT PENETRATES FAR SIDE OF THE DUCT. USE INTERMEDIATE SUPPORT IF DUCT EXCEEDS 36". PENETRATION SHALL BE SEALED AIRTIGHT.
 2. LOCATE SMOKE DETECTOR IN RETURN DUCT UPSTREAM OF OUTSIDE AIR INTAKE IN NON-TURBULANT AIRSTREAM. INSTALL PER MFG'S. DETAILED INSTALLATION INSTRUCTIONS.
 3. SAMPLING TUBE SHALL BE LEVEL OR SLOPING DOWN AWAY FROM DETECTOR.
 4. PROVIDE WITH REMOTE ALARM HORN, ALARM LED, TROUBLE LED, AND TEST/RESET SWITCH. LOCATE 84" AFF OVER SYSTEM THERMOSTAT OR WHERE SHOWN ON PLANS. LABEL "AIR DUCT DETECTOR REMOTE STATION". INSTALLATION SHALL BE IN ACCORDANCE WITH N.C. MECHANICAL CODE SECTION 606.4.1 AND NFPA 90A.

DETAIL NO. 4

DUCT SMOKE DETECTOR NOT CONNECTED TO FIRE ALARM PANEL

SCALE: NTS

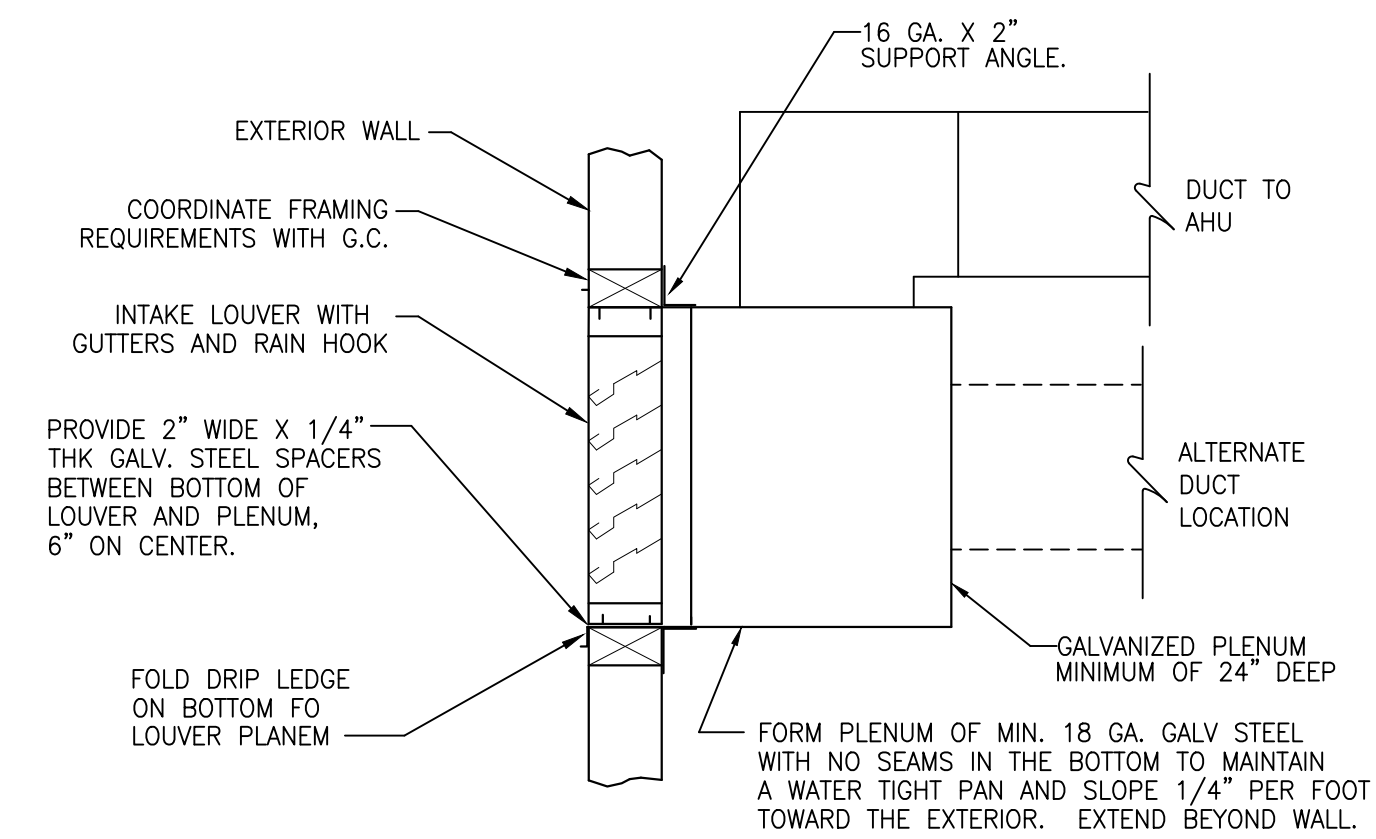


NOTES:
 1. SECURE ENDS OF FLEX WITH NYLON BANDS AND 3" WIDE METALIZED DUCT TAPE.
 2. INSULATE & SEAL ALL GRILLE & DIFFUSER NECKS TO MAINTAIN VAPOR BARRIER AND ELIMINATE CONDENSATE.

DETAIL NO. 5

AIR DISTRIBUTION INSTALLATION

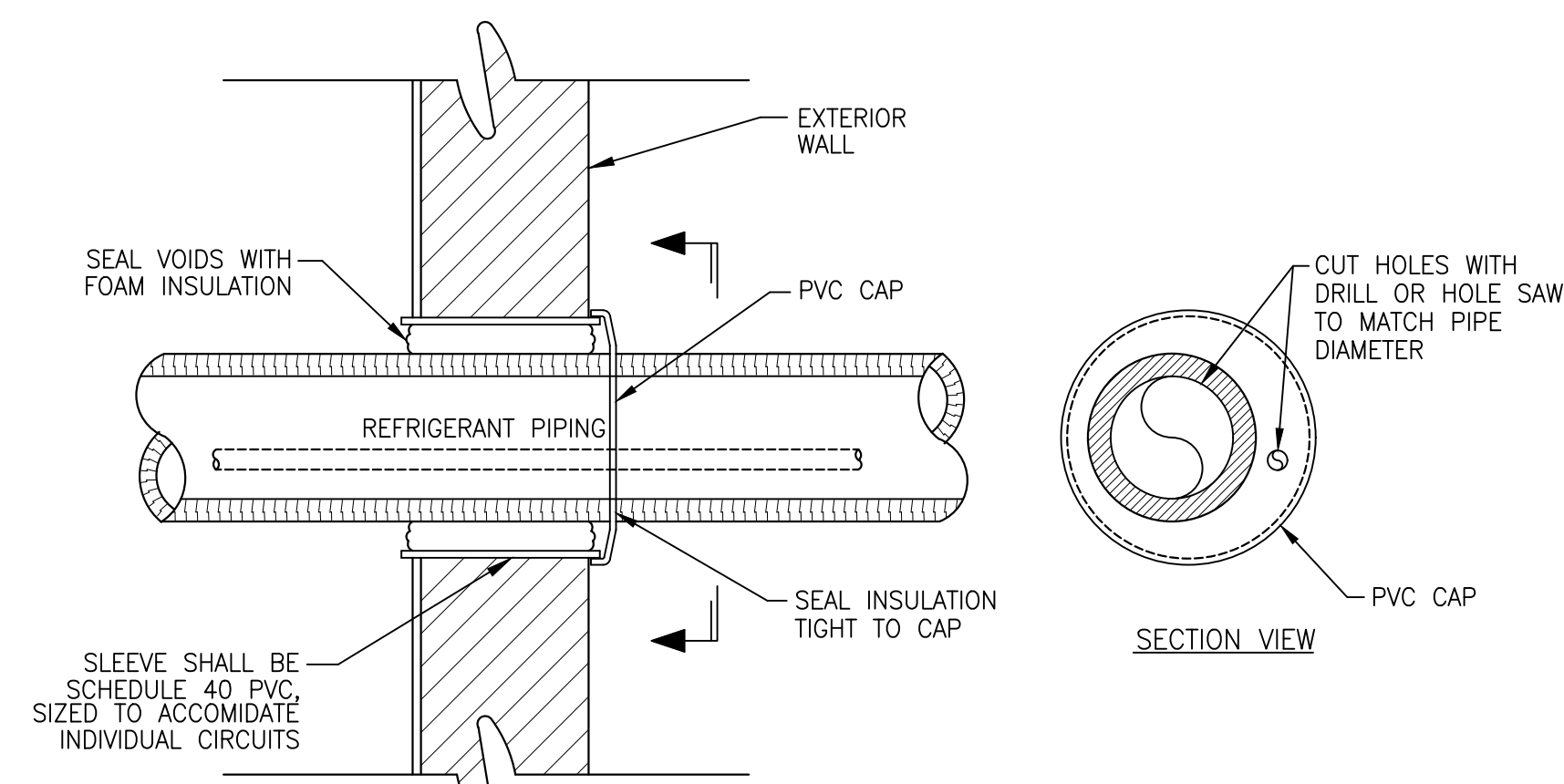
SCALE: NTS



DETAIL NO. 6

MAKE-UP AIR LOUVER INSTALLATION

SCALE: NTS

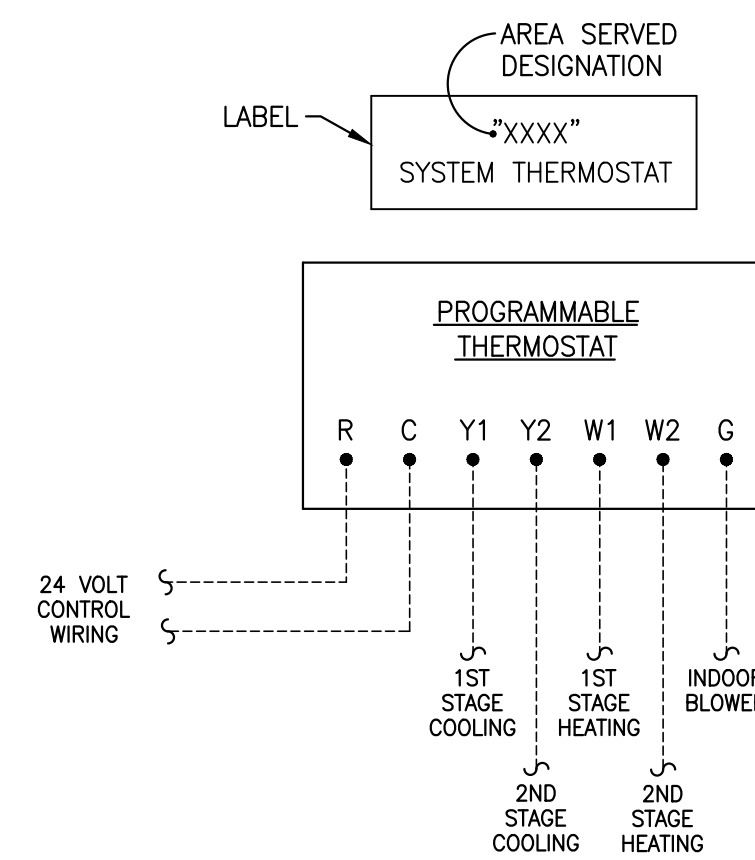


NOTE: SEAL ALL OPENINGS WITH CLEAR SILICON CAULKING WITH UV PROTECTION.

DETAIL NO. 7

REFRIGERANT PIPE PENETRATION - EXTERIOR WALL

SCALE: NTS

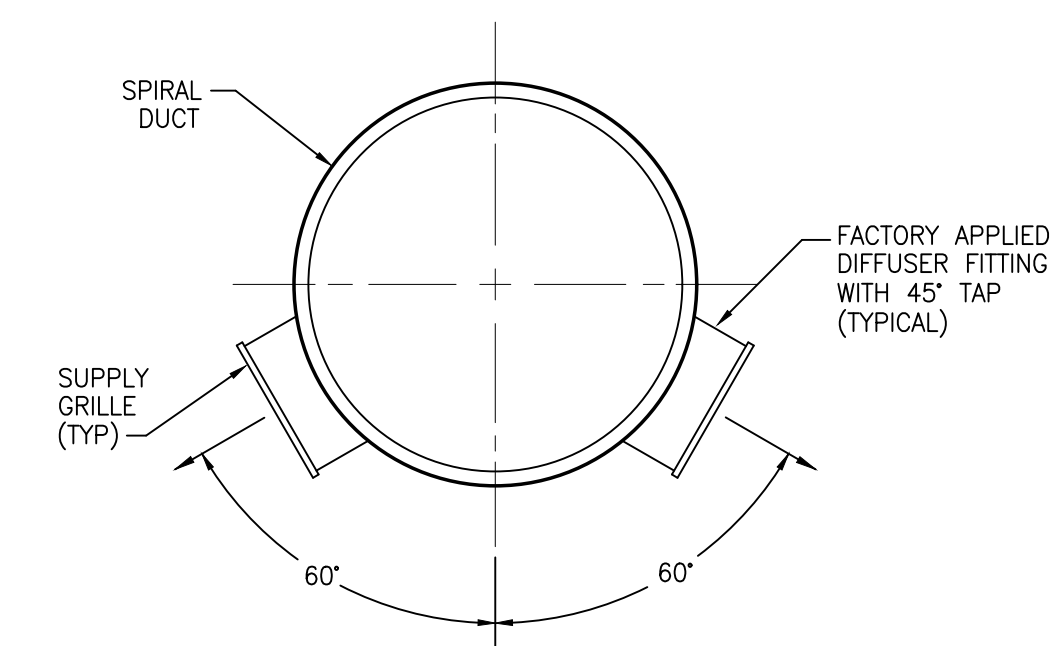


NOTE: LABEL T-STAT WITH PHENOLIC ENGRAVING STOCK WITH WHITE SURFACE AND RED 1/4" HIGH LETTERING.

DETAIL NO. 8

THERMOSTAT INSTALLATION

SCALE: NTS



DETAIL NO. 9

GRILLE ARRANGEMENT IN SPIRAL DUCT

SCALE: NTS

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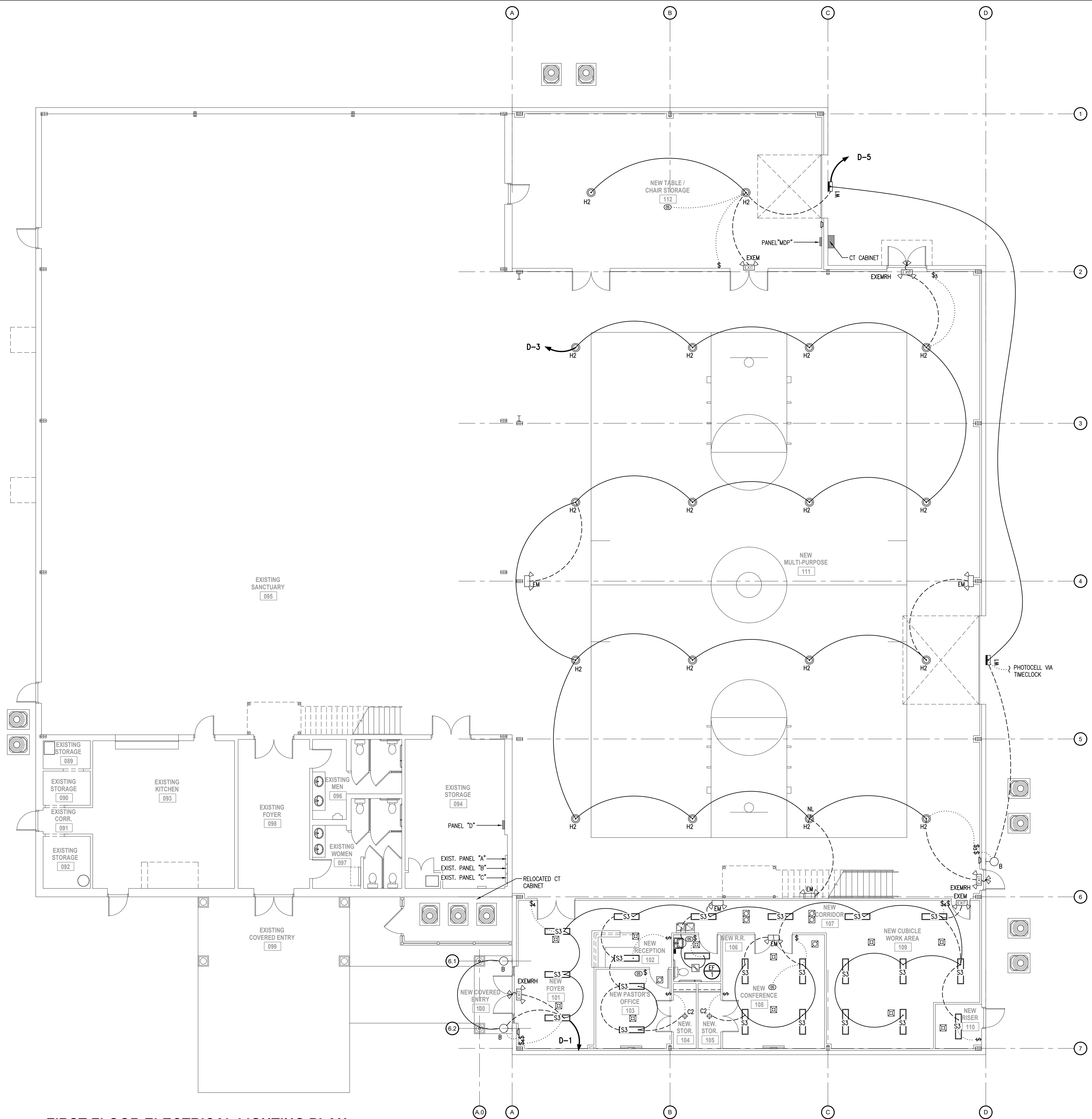
STATE OF NORTH CAROLINA
 PROFESSIONAL SEAL
 024916
 2-19-24
 ENGINEER
 JOEL T. SMITH JR.

REV	DATE	DESCRIPTION

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 Dunn, North Carolina 28334

DATE: 19 February 2024
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 SCALE: AS NOTED

M-4

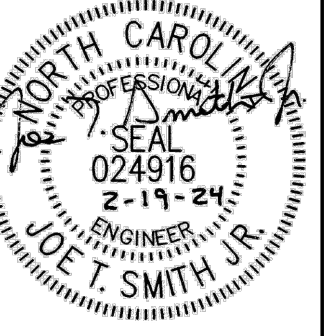


FIRST FLOOR ELECTRICAL LIGHTING PLAN

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

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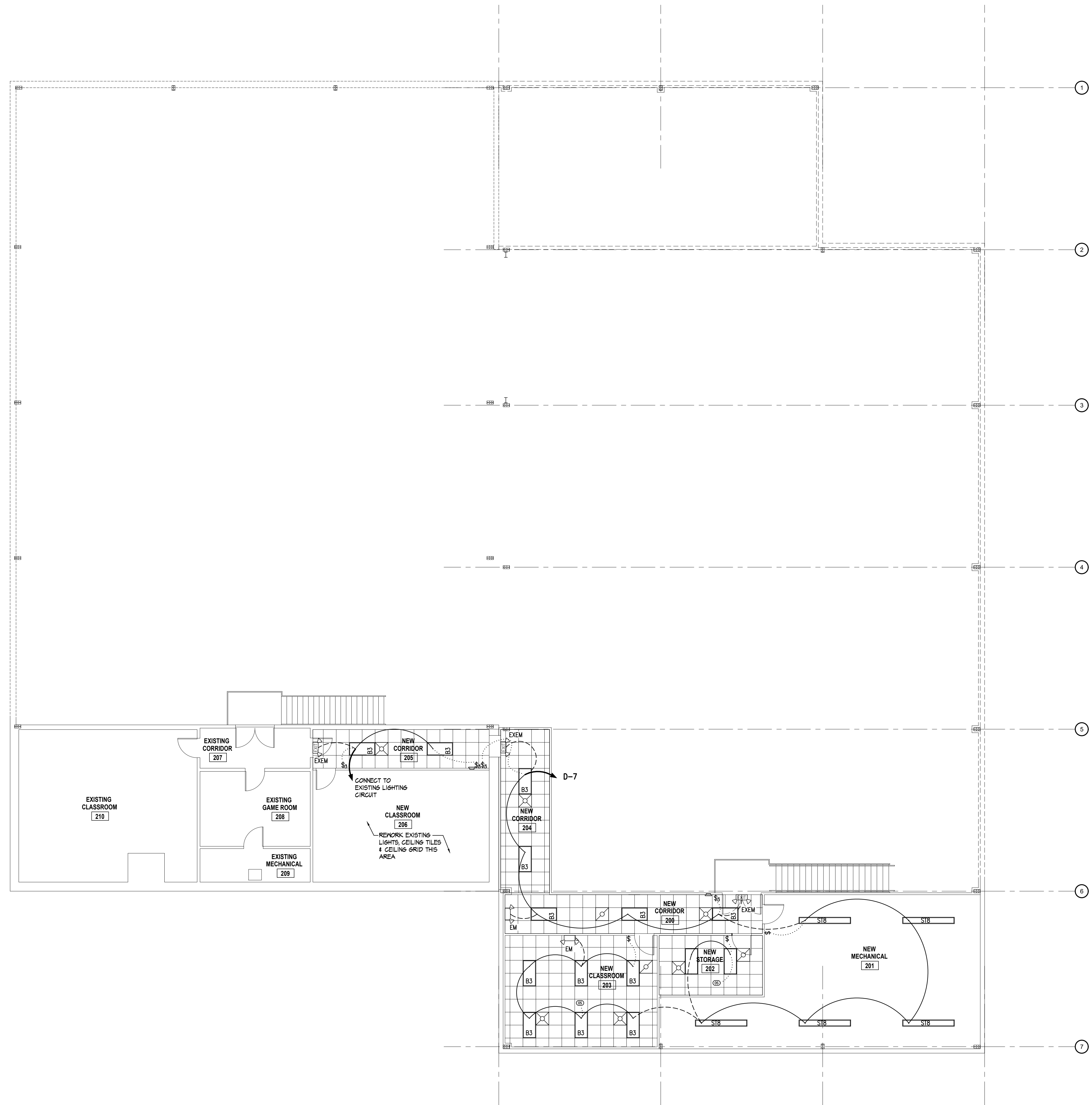
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 Fax: 919.736.2142



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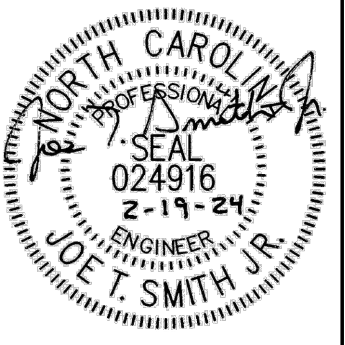


SECOND FLOOR ELECTRICAL LIGHTING PLAN

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

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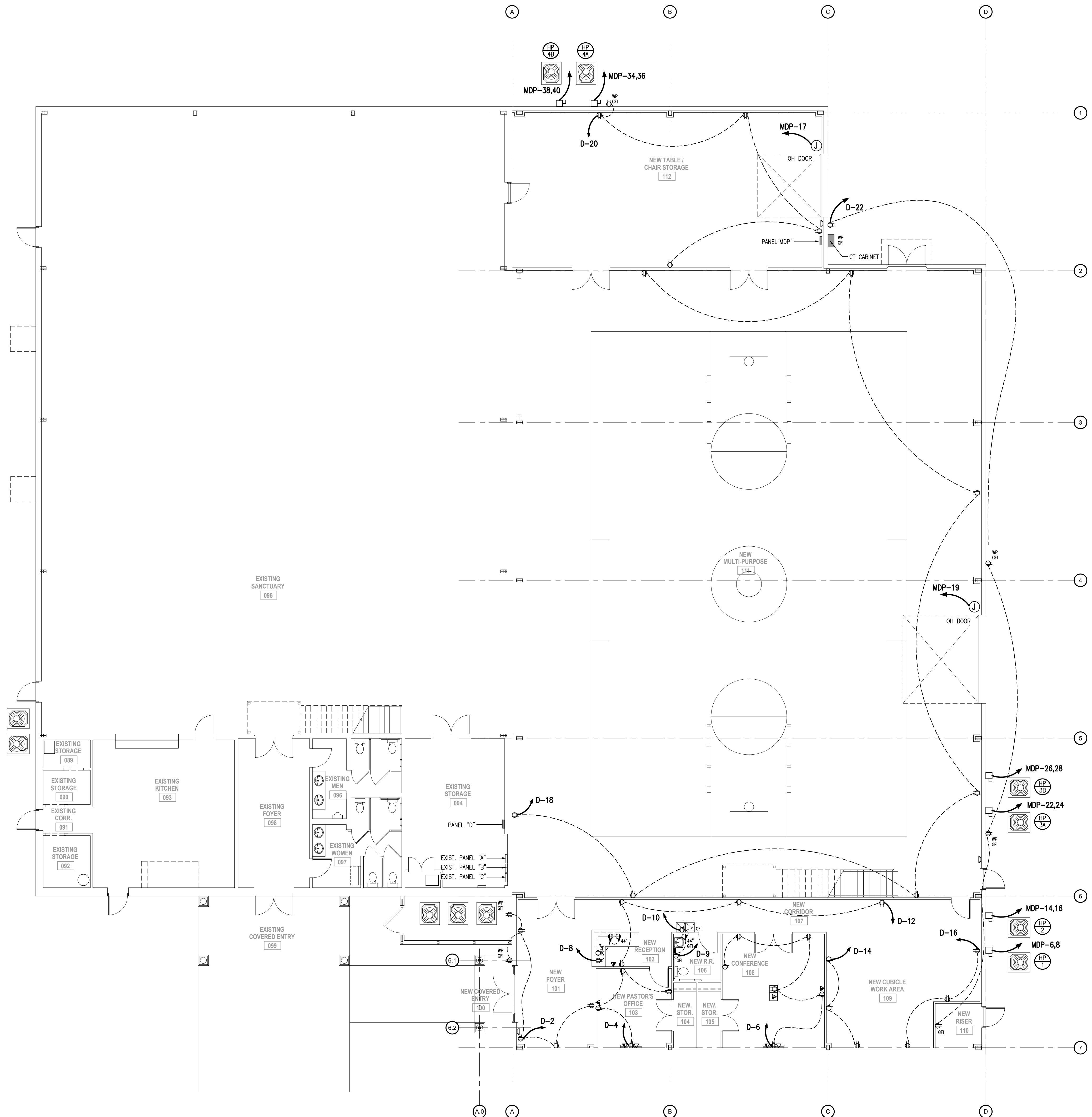
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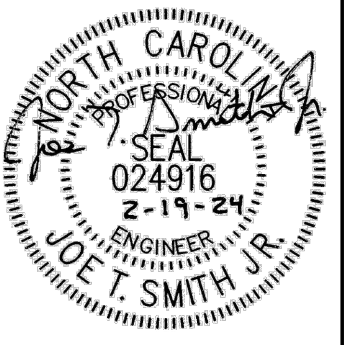


FIRST FLOOR ELECTRICAL POWER PLAN

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

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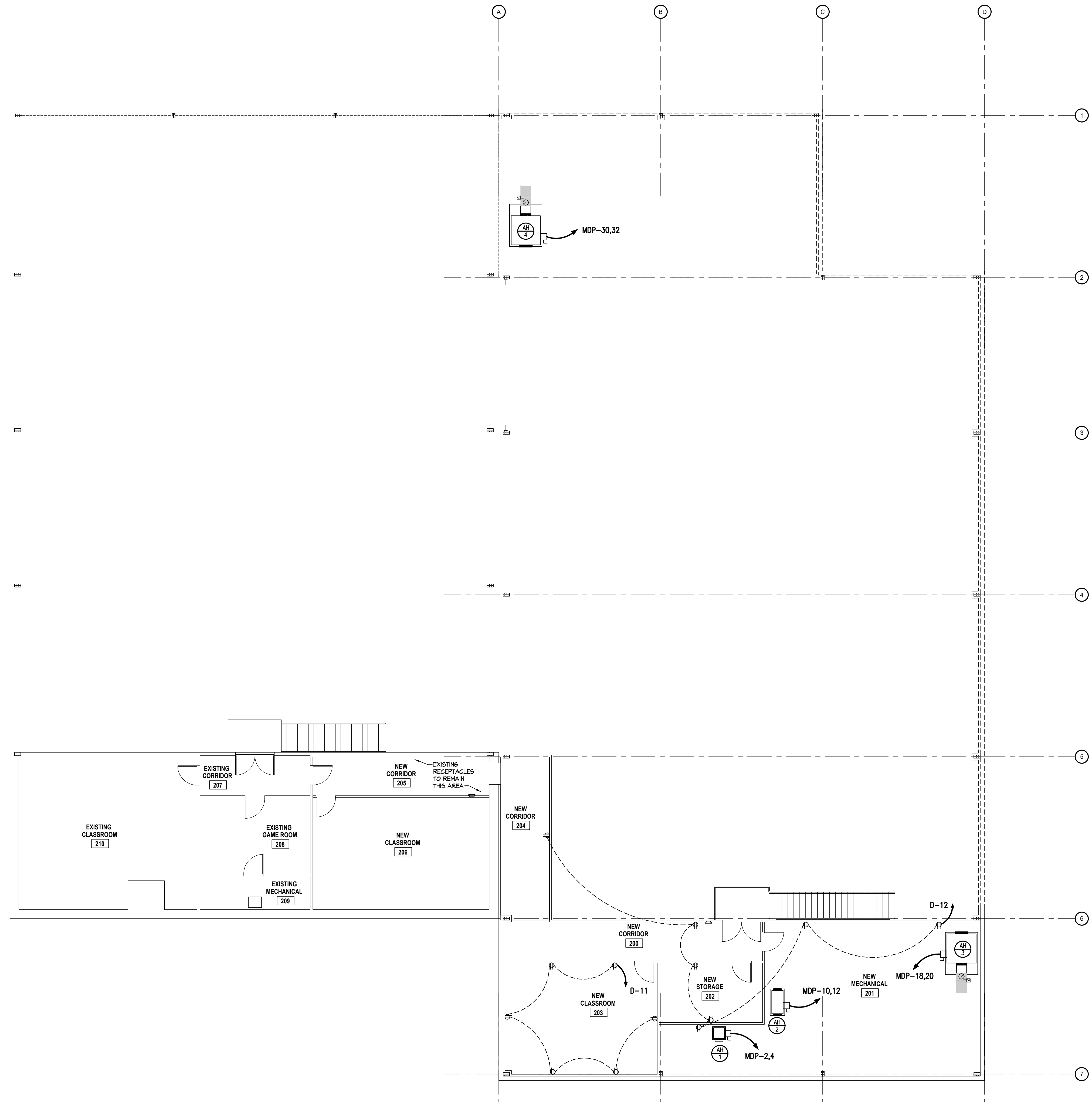
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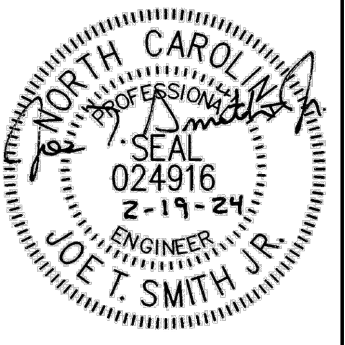


SECOND FLOOR ELECTRICAL POWER PLAN

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

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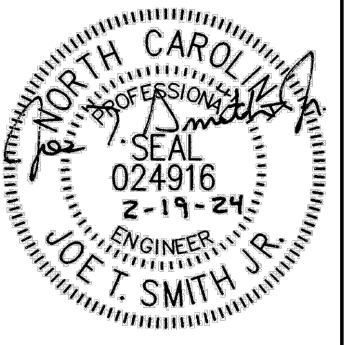


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 494 Antioch Church Road,
 Dunn, North Carolina 28334

DATE: 19 February 2024
 DRAWN BY: T.B. & L.W.
 SCALE: 1/8" = 1'-0"

E-4



REV	DATE	DESCRIPTION

New Alteration and Addition for:
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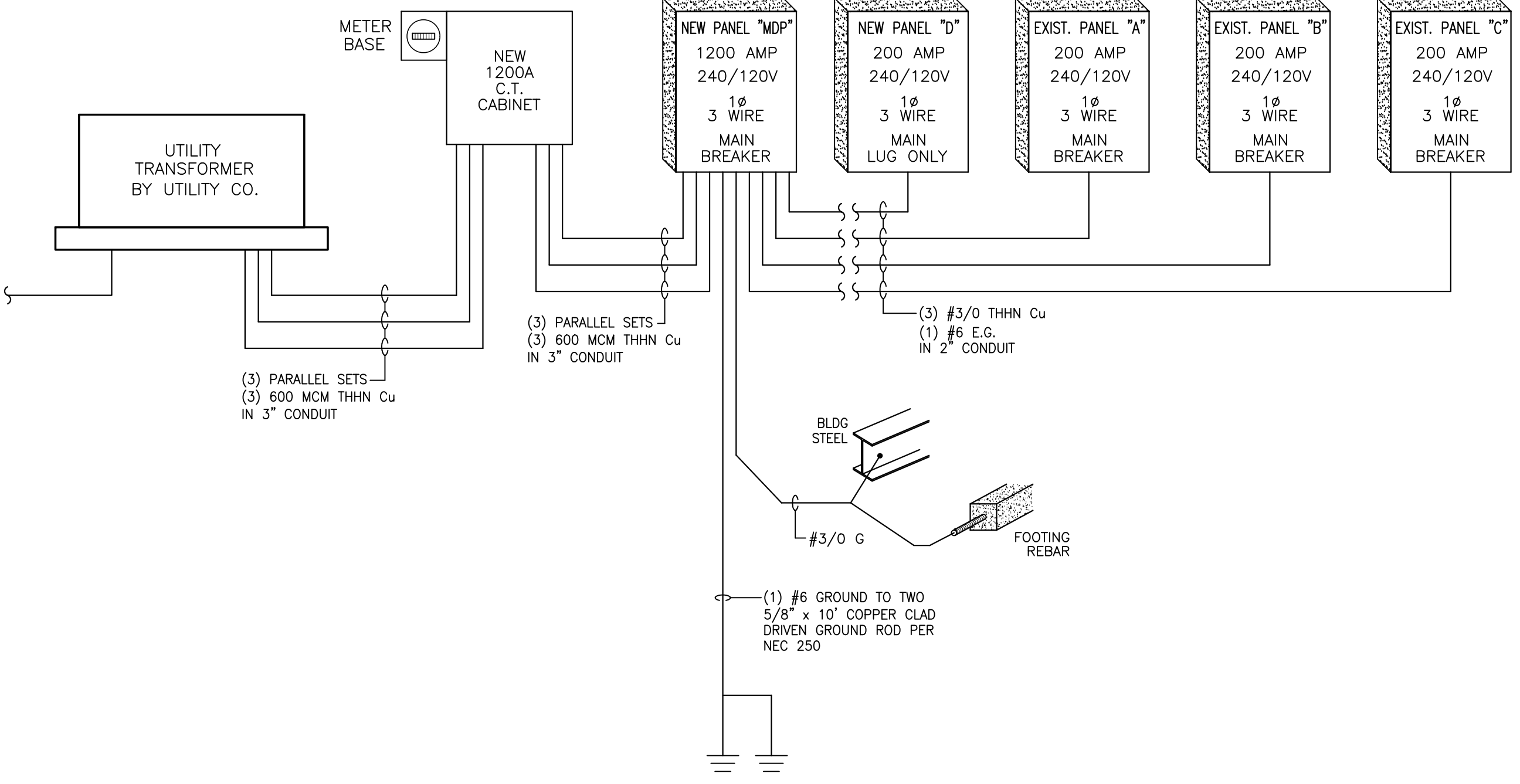
DATE: 19 February 2024
 DRAWN BY: T.B. & L.W.
 SCALE: AS NOTED

PANELBOARD SCHEDULE						
PANEL "MDP"	SURFACE MOUNTED	SERVICE ENTRANCE RATED		1200 AMP	1Ø, 3 WIRE	
MAIN BREAKER	BOTTOM FEED	22kw AIC		240/120 VOLT		
NEMA 1	COPPER BUS					
LOAD SERVED	WIRE SIZE	CKT NO.	PHASE	CKT NO.	WIRE SIZE	LOAD SERVED
EXISTING PANEL "A"	3/0	1	200	2	#6	AH-1
		3	60	4		
EXISTING PANEL "B"	3/0	5	200	6	#6	HP-1
		7	60	8		
EXISTING PANEL "C"	3/0	9	200	10	#6	AH-2
		11	60	12		
PANEL "D"	3/0	13	200	14	#6	HP-2
		15	60	16		
OVERHEAD DOOR	12	17	20	18	#2	AH-3
OVERHEAD DOOR	12	19	20	20		
---	---	21	60	22	#6	HP-3A
---	---	23		24		
---	---	25	60	26	#6	HP-3B
---	---	27		28		
---	---	29	110	30	#2	AH-4
---	---	31		32		
---	---	33	60	34	#6	HP-4A
---	---	35		36		
---	---	37	60	38	#6	HP-4B
---	---	39		40		
---	---	41		42		

NOTE: VERIFY BREAKER AND CONDUCTOR SIZES WITH EQUIPMENT MANUFACTURER PRIOR TO INSTALLATION

PANELBOARD SCHEDULE						
PANEL "D"	SURFACE MOUNTED	SERVICE ENTRANCE RATED		200 AMP	1Ø, 3 WIRE	
MAIN LUG ONLY	BOTTOM FEED	22kw AIC		120/240 VOLT		
NEMA 1	COPPER BUS					
LOAD SERVED	WIRE SIZE	CKT NO.	PHASE	CKT NO.	WIRE SIZE	LOAD SERVED
LIGHTS	#12	1	20	2	#12	RECEPTACLES
LIGHTS	#12	3	20	4	#12	RECEPTACLES
LIGHTS	#12	5	20	6	#12	RECEPTACLES
LIGHTS	#12	7	20	8	#12	RECEPTACLES
WATER HEATER	#12	9	20	10	#12	RECEPTACLES
RECEPTACLES	#12	11	20	12	#12	RECEPTACLES
RECEPTACLES	#12	13	20	14	#12	RECEPTACLES
FACP PANEL	#12	15	20	16	#12	RECEPTACLES
		17	20	18	#12	RECEPTACLES
		19	20	20	#12	RECEPTACLES
		21	20	22	#12	RECEPTACLES
		23		24		
		25		26		
		27		28		
		29		30		
		31		32		
		33		34		
		35		36		
		37		38		
		39		40		
		41		42		

NOTE: VERIFY BREAKER AND CONDUCTOR SIZES WITH EQUIPMENT MANUFACTURER PRIOR TO INSTALLATION



ELECTRICAL RISER
POWER DIAGRAM LAYOUT
SCALE: N.T.S.

ELECTRICAL NOTES:

- ELECTRICAL PLANS ARE INTENDED TO PROVIDE INFORMATION FOR INSTALLATION OF A COMPLETE ELECTRICAL SYSTEM. PROVIDE ALL ESSENTIAL LABOR, MATERIALS & DEVICES REQUIRED TO PRODUCE A QUALITY END PRODUCT.
- CONTRACTOR SHALL REVIEW & BECOME FAMILIAR WITH THE WORK OF ALL TRADES FOR PURPOSES OF COORDINATION AND ROUTING. CONTRACTOR SHALL PROVIDE REQUIRED PLANNING, COORDINATION AND SEQUENCING OF ELECTRICAL INSTALLATION WITH BUILDING COMPONENTS AND OTHER TRADES.
- ALL WORK SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE (NEC). WORKMANSHIP SHALL MEET OR EXCEED INDUSTRY STANDARDS.
- PROTECT ALL NEW MATERIALS FROM THE WEATHER IN STORAGE TRAILERS OR PROVIDE SUITABLE COVERING.
- ELECTRICAL CONTRACTOR SHALL PROVIDE ALL DISCONNECTS, STARTERS, DEVICES AND ELECTRICAL COMPONENTS UNLESS SPECIFICALLY NOTED AS PROVIDED BY OTHERS.
- ELECTRICAL CONTRACTOR SHALL PROVIDE ALL LINE AND LOAD SIDE WIRING INCLUDING ALL TERMINATIONS TO EQUIPMENT PROVIDED UNDER OTHER TRADES. POWER WIRING TO CONTROL DEVICES SHALL BE PROVIDED BY E.C.. INTERLOCK WIRING SHALL BE PROVIDED BY THE CONTRACTOR INSTALLING THE CONTROL DEVICE.
- ALL WIRING, PANELBOARDS, DEVICES AND OTHER LIKE MATERIALS SHALL BE UL LISTED & LABELED. ALL MATERIALS SHALL MEET THE NEC FOR THE INTENDED USE AND INSTALLED IN ACCORDANCE WITH THE NEC.
- PROVIDE THHN/THWN COPPER WIRE. PROVIDE A MINIMUM WIRE SIZE OF #12. ALL WIRE #8 AND LARGER SHALL BE STRANDED. CONDUCTORS AND CONDUIT ON PLANS AND SCHEDULES REFLECT AMPACITIES PER NEC 310-16 75C RATING. CONTRACTOR SHALL VERIFY ALL TERMINATIONS, LUGS, ETC. ARE RATED FOR USE PER NEC 110-4C. OTHERWISE PROVIDE CONDUCTOR AND CONDUIT SIZED PER LOWEST TEMPERATURE RATING OF ANY TERMINATION WITHIN A CIRCUIT. A SEPARATE INSULATED EQUIPMENT GROUNDING CONDUCTOR SHALL BE PROVIDED FOR ALL CIRCUITS.
- PROVIDE MC CABLE FOR ALL SINGLE PHASE BRANCH CIRCUITS 30 AMPS AND SMALLER. PROVIDE CONDUIT FOR ALL OTHER WIRING. EMT OR RIGID SHALL BE USED WHERE EXPOSED TO PHYSICAL DAMAGE. CONDUIT ABOVE GRADE SHALL BE STEEL. CONDUIT BELOW GRADE MAY BE PVC CHANGING TO STEEL IN THE ELBOW TURNING UP. EMT SHALL NOT BE USED IN DIRECT CONTACT WITH THE EARTH OR WHERE EXPOSED TO SEVERE PHYSICAL DAMAGE. FITTINGS ON STEEL CONDUIT SHALL BE COMPRESSION TYPE.
- PROVIDE ONE-INCH EMPTY CONDUITS EXTENDING ABOVE CEILING FOR ALL TELEPHONE AND DATA OUTLETS SHOWN ON PLANS. PROVIDE PROTECTIVE BUSHINGS ON ENDS OF CONDUIT. ALL CABLING IS PROVIDED BY OTHERS.
- PROVIDE 3/4-INCH EMPTY CONDUITS TERMINATING ABOVE THE CEILING FOR ALL HVAC THERMOSTATS. JUNCTION BOXES SHALL MATCH ORIENTATION OF THERMOSTATS PROVIDED BY M.C.. MOUNT JUNCTION BOXES 48-INCHES A.F.F. UNLESS NOTED OTHERWISE. PROVIDE PROTECTIVE BUSHINGS ON ENDS OF CONDUIT.
- PANELBOARDS FOR SERVICE ENTRANCE SHALL BE SERVICE ENTRANCE RATED. PROVIDE NEMA 3R PANELBOARDS WHERE LOCATED OUTSIDE. PROVIDE NEUTRAL AND GROUNDING BARS IN ALL PANELBOARDS UNLESS NOTED OTHERWISE. GROUND ALL SERVICE ENTRANCE PANELS IN ACCORDANCE WITH THE NEC.
- PROVIDE TYPE WRITTEN PANEL SCHEDULES IN EACH PANEL INDICATING THE LOAD DESCRIPTION FOR EACH BREAKER. LABEL PANELS ON PANEL FACE WITH PHENOLIC LABELS INDICATING PANEL NUMBER OR LETTER DESIGNATION, VOLTAGE AND PHASE.
- PROVIDE FUSED AND NON-FUSED DISCONNECT SWITCHES AS INDICATED ON PLANS. DISCONNECTS LOCATED OUTSIDE SHALL BE NEMA-3R. PROVIDE REJECTION CLIPS IN FUSED DISCONNECTS.
- PROVIDE HORSEPOWER RATED STARTERS AND DISCONNECTS WHEN CONNECTED TO MOTORS. STARTERS SHALL BE PROVIDED WITH OVERLOAD SIZED TO MATCH MOTOR RATINGS.
- PROVIDE LIGHTING AS SCHEDULED IN THE FIXTURE SCHEDULE OR OTHERWISE NOTED ON PLANS. LIGHTING INSTALLED IN SUSPENDED CEILING SHALL BE SUPPORTED INDEPENDENTLY OF THE CEILING GRID SYSTEM.
- PROVIDE EMERGENCY AND EXIT LIGHTS AS SHOWN ON PLANS. POWER SHALL BE PROVIDED FROM LIGHTING CIRCUITS ON THE UNSWITCHED LEG OF THE CIRCUIT SUCH THAT POWER TO THE EMERGENCY AND EXIT LIGHTS IS NOT DISCONNECTED WHEN NORMAL LIGHTING IS OFF. EXTERIOR EMERGENCY LIGHTS SHALL BE WIRED SUCH THAT PHOTOCELL AND/OR TIME CLOCK OPERATION DOES NOT DISCONNECT POWER TO BATTERIES.
- RECEPTACLES SHALL BE 20 AMP, 120V UNLESS NOTED OTHERWISE.
- RECEPTACLES ABOVE COUNTERTOPS AND ADJACENT TO SINKS & LAVATORIES SHALL BE GROUND FAULT.
- RECEPTACLES INSTALLED OUTSIDE SHALL BE GROUND FAULT WITH "IN USE" WEATHERPROOF COVERS.
- WALL SWITCHES SHALL BE SINGLE POLE, 20 AMP, 120/277V.
- PROVIDE STANDARD SIZE WALL PLATES FOR ALL DEVICES AND BLANK WALL PLATES FOR JUNCTION BOXES. WALL PLATES SHALL BE HIGH IMPACT, SMOOTH NYLON, COLOR TO MATCH DEVICE.
- GUARANTEE ALL EQUIPMENT, MATERIALS AND INSTALLATION FREE OF DEFECTS FOR A PERIOD OF 1-YEAR AFTER DATE OF ACCEPTANCE.

LIGHT FIXTURE SCHEDULE										
MARK	DESCRIPTION	LAMP			BALLAST		FIXTURE INPUT WATTS	VOLTS	LUMENS	NOTES
		TYPE	NO.	WATTS	TYPE	NO.				
B	WALL MOUNTED FIXTURE	LED	-	-	-	-	50 MAX.	120	2500 MAX.	FIXTURE SELECTED BY OWNER U.L. LISTED FOR WET/DAMP LOCATIONS
B2	2x4 LAY-IN TROFFER	LED	-	32	-	-	32	120	3900	
B3	2x4 LAY-IN TROFFER	LED	-	47	-	-	47	120	5500	
C2	6" RECESSED DOWNLIGHT	LED	-	30	-	-	30	120	2550	
S3	4" SURF. MOUNTED LED	LED	-	50	-	-	50	120	6500	
ST8	8' SUSPENDED LED STRIP	LED	-	68	-	-	68	120	8800	
W1	WALL PAK	LED	-	48	-	-	48	120	4768	
EX	EXIT LIGHT	LED	1	1	-	-	1	120	-	
EXEM	EXIT/EMER. LIGHT	(LED) PAR	2	6	-	-	12	120	-	
EXEMRH	EXIT/EMER. LIGHT WITH REMOTE HEADS	(LED) PAR	4	6	-	-	24	120	-	
EM	EMERGENCY LIGHT	(LED) PAR	2	6	-	-	12	120	-	

- NOTES:**
- PROVIDE EXIT LIGHTS WITH SINGLE OR DOUBLE-FACE AS REQUIRED, CHEVRON DIRECTIONAL INDICATORS, MOUNTING BRACKETS & NICKEL CADMIUM BATTERY BACKUP.
 - PROVIDE ALL FIXTURES WITH LAMPS OF MODERATE TONE (3500K) AND GOOD CRI (COLOR RENDERING INDEX).
 - FIXTURES SHOWN WITH DIAGONAL LINES SHALL OPERATE ALL TIMES AS NIGHT LIGHTS.
 - PROVIDE FIXTURES BY LITHONIA, COLUMBIA, HUBBLE, OR EQUAL PRODUCT.

ELECTRICAL SYSTEM AND EQUIPMENT

METHOD OF COMPLIANCE:
 PRESCRIPTIVE PERFORMANCE TRADE-OFF

LIGHTING SCHEDULE
 LAMP TYPE REQUIRED IN FIXTURE _____
 NUMBER OF LAMPS IN FIXTURE _____
 BALLAST TYPE USED IN THE FIXTURE _____
 NUMBER OF BALLASTS IN THE FIXTURE _____
 TOTAL WATTAGE PER FIXTURE _____

SEE LIGHTING SCHEDULE ON PLANS

EQUIPMENT SCHEDULES WITH MOTORS (NOT USED FOR MECHANICAL SYSTEMS)
 MOTOR HORSEPOWER _____ N/A - NO MOTORS LARGER THAN 1 HP SPECIFIED ON THESE PLANS
 NUMBER OF PHASES _____ OTHER THAN AS LISTED IN MECHANICAL SCHEDULES
 MINIMUM EFFICIENCY _____
 MOTOR TYPE _____
 # OF POLES _____

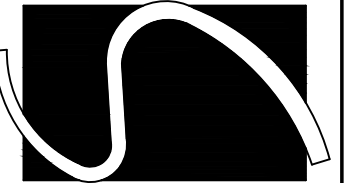
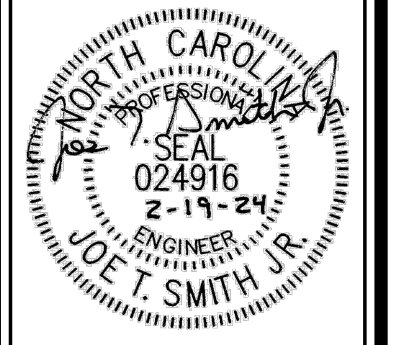
ELECTRICAL LEGEND		
SYM.	DESCRIPTION	REMARKS
Ⓧ	JUNCTION BOX	DOUBLE GANG UNO
Ⓧ	THERMOSTAT JUNCTION BOX	MOUNT 48" TOD AFF UNO
Ⓧ	NON-FUSED DISCONNECT	-
Ⓧ	FUSED DISCONNECT	-
Ⓧ	COMBINATION STARTER	-
Ⓧ	OCCUPANCY SENSOR	-
\$	SWITCH	MOUNT 48" TOD AFF
\$ _D PST	DOUBLE POLE SINGLE THROW SWITCH	MOUNT 48" TOD AFF
\$ _S PDT	SINGLE POLE DOUBLE THROW SWITCH	MOUNT 48" TOD AFF
\$ _D	FLUORESCENT DIMMER SWITCH	MOUNT 48" TOD AFF COORDINATE WITH BALLAST
\$ _{D3}	FLUORESCENT 3-WAY DIMMER SWITCH	MOUNT 48" TOD AFF COORDINATE WITH BALLAST
\$ _D	1000W INCANDESCENT DIMMER SWITCH	MOUNT 48" TOD AFF
\$ _{D3}	1000W INCANDESCENT 3-WAY DIMMER SWITCH	MOUNT 48" TOD AFF
\$ _D	2000W INCANDESCENT DIMMER SWITCH	MOUNT 48" TOD AFF
\$ _{D3}	2000W INCANDESCENT 3-WAY DIMMER SWITCH	MOUNT 48" TOD AFF
\$ _P	PILOT LIGHT SWITCH	MOUNT 48" TOD AFF
\$ _T	15-MINUTE TIMER SWITCH W/HOLD	-
\$ ₃	3 WAY SWITCH	MOUNT 48" TOD AFF
\$ ₄	4 WAY SWITCH	MOUNT 48" TOD AFF
\$ _K	KEYED SWITCH	MOUNT 48" TOD AFF
\$ _{K3}	KEYED 3-WAY SWITCH	MOUNT 48" TOD AFF
\$ _M	MANUAL MOTOR STARTER SWITCH	MOUNT AS REQUIERD
Ⓧ	RECEPTACLE	MOUNT 16" BOD AFF
Ⓧ	UPS RECEPTACLE	MOUNT 16" BOD AFF
Ⓧ _{IG}	ISOLATED GROUND RECEPTACLE	MOUNT 16" BOD AFF
Ⓧ _{GFI}	GROUND FAULT RECEPTACLE	MOUNT 6" ABV. COUNTER
Ⓧ _{WP} Ⓧ _{GFI}	GROUND FAULT, WEATHERPROOF RECEPT.	MOUNT 24" BOD AFG
Ⓧ _{CLG}	CEILING RECEPTACLE	-
Ⓧ _{TR}	TAMPER RESISTANT RECEPTACLE	-
Ⓧ _{AFI}	ARC FAULT RECEPTACLE	MOUNT 16" BOD AFF
Ⓧ _{FLR}	FLOOR RECEPTACLE	-
Ⓧ	DOUBLE DUPLEX RECEPTACLE	-
Ⓧ	HOSPITAL GRADE RECEPTACLE	VERIFY RECEPTACLE HEIGHTS WITH OWNER
Ⓧ _{GFI}	HOSPITAL GRADE GROUND FAULT RECEPTACLE	VERIFY RECEPTACLE HEIGHTS WITH OWNER
Ⓧ	DRY TYPE TRANSFORMER	-
Ⓧ _{VSS}	TRANSIENT VOLTAGE SURGE PROTECTOR	-
Ⓧ _{CKT #}	CIRCUIT IDENTIFIER	-
Ⓧ _{ALS}	ASSISTIVE LISTENING SYSTEM	SYSTEM SHALL BE PERMANENTLY INSTALLED
Ⓧ _{ARA} MASTER	AREA OF RESCUE ASSISTANCE MASTER STATION	LOCATE AT MAIN ENTRANCE
Ⓧ _{ARA}	AREA OF RESCUE ASSISTANCE DEVICE	MOUNT 48" TOD AFF
Ⓧ	PHONE OUTLET	DOUBLE GANG UNO
Ⓧ	DATA/PHONE OUTLET	DOUBLE GANG UNO
Ⓧ _{CATV}	CABLE TELEVISION OUTLET	SINGLE GANG UNO

- NOTES:**
- STANDARD MOUNTING HEIGHTS OF DEVICES SHALL BE AS LISTED IN LEGEND. SPECIFIC MOUNTING HEIGHT OF A DEVICE MAY VARY AS NOTED ON PLANS.
 - E.C. SHALL COORDINATE COLOR SELECTION OF DEVICES AND COVERPLATES WITH ARCHITECT, OWNER AND/OR G.C.
 - PROVIDE EQUIPMENT SHOWN BY HUBBELL, PASS & SEYMOUR, COOPER WIRING DEVICES, OR EQUAL PRODUCT.
 - OPERATING DEVICES AND OPERABLE PARTS OF OPERATING DEVICES SUCH AS LIGHT SWITCHES, RECEPTACLES, THERMOSTATS, ALARMS, ETC., SHALL BE LOCATED WITHIN REACH RANGES AS SPECIFIED PER ANSI A117.1-2009.

ABBREVIATIONS:

G.C.	GENERAL CONTRACTOR
P.C.	PLUMBING CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
E.C.	ELECTRICAL CONTRACTOR
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
UNO	UNLESS NOTED OTHERWISE
Ⓧ	CENTERLINE OF DEVICE
BOD	BOTTOM OF DEVICE
TOD	TOP OF DEVICE

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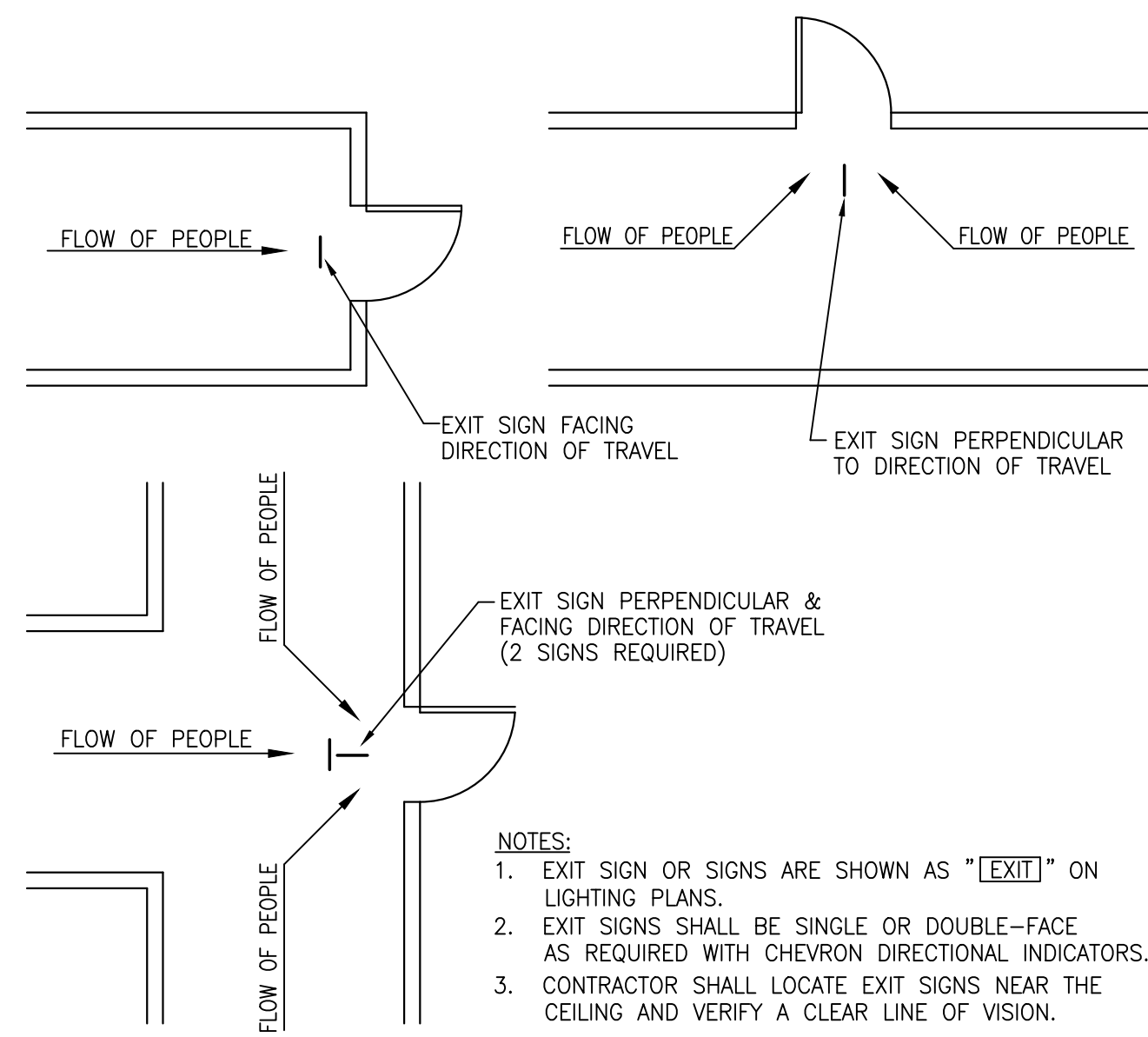
REV.	DATE	DESCRIPTION

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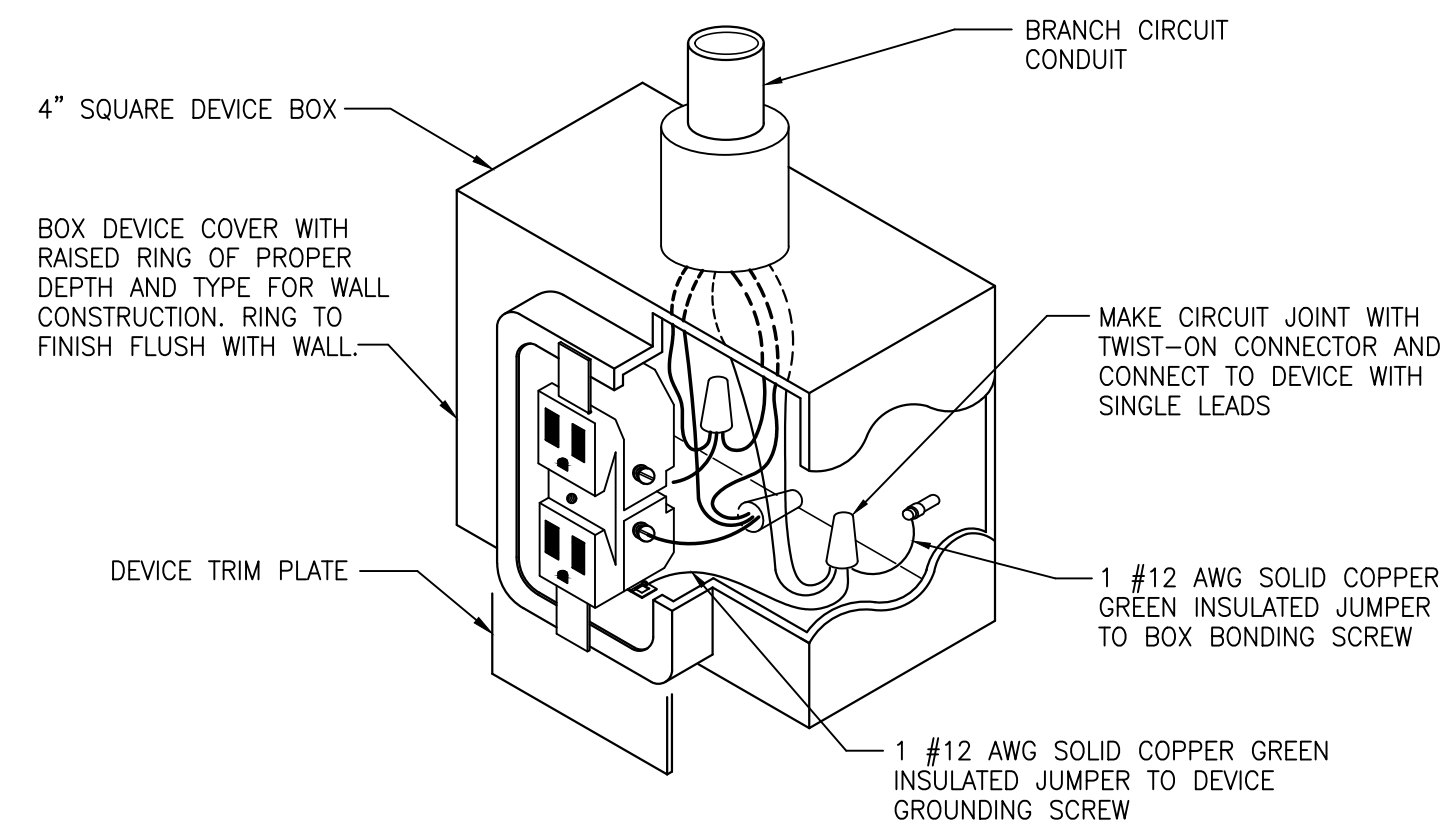
New Alteration and Addition for:
Antioch Church of Erwin
 494 Antioch Church Road,
 Dunn, North Carolina 28334

DATE: 19 February 2024
 DRAWN BY: T.B. & L.W.
 SCALE: AS NOTED

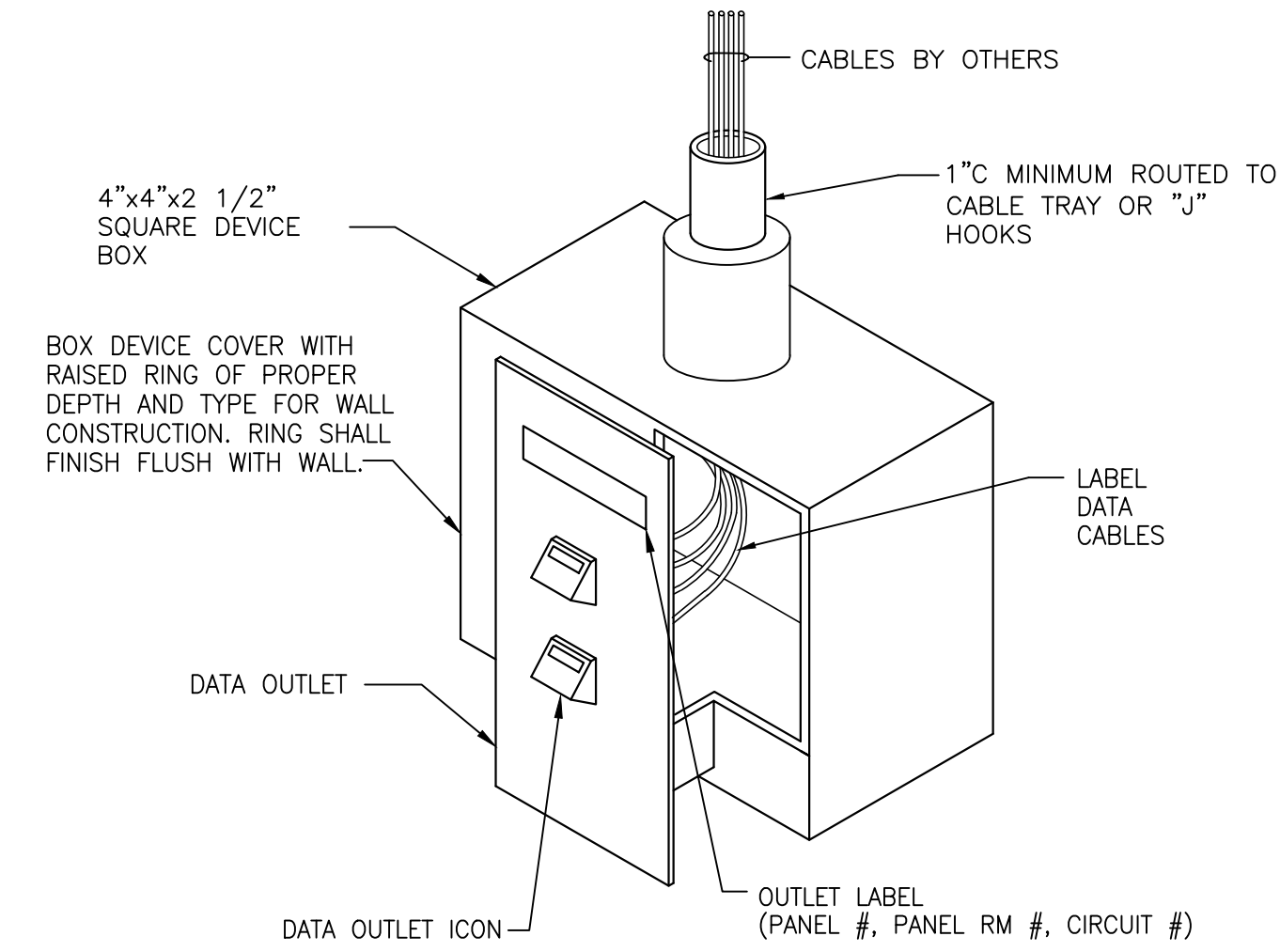
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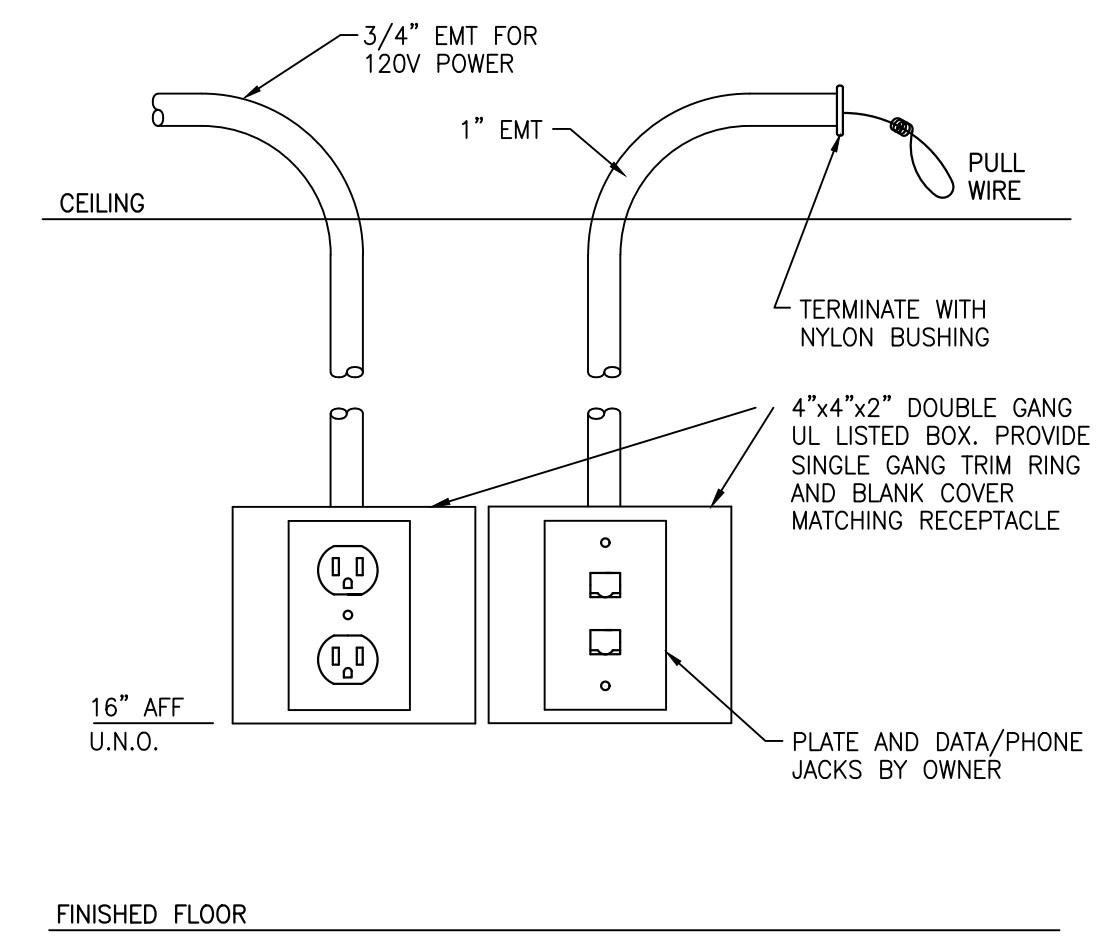
DETAIL NO. 1
LOCATIONS OF EXIT SIGNS
SCALE: NTS



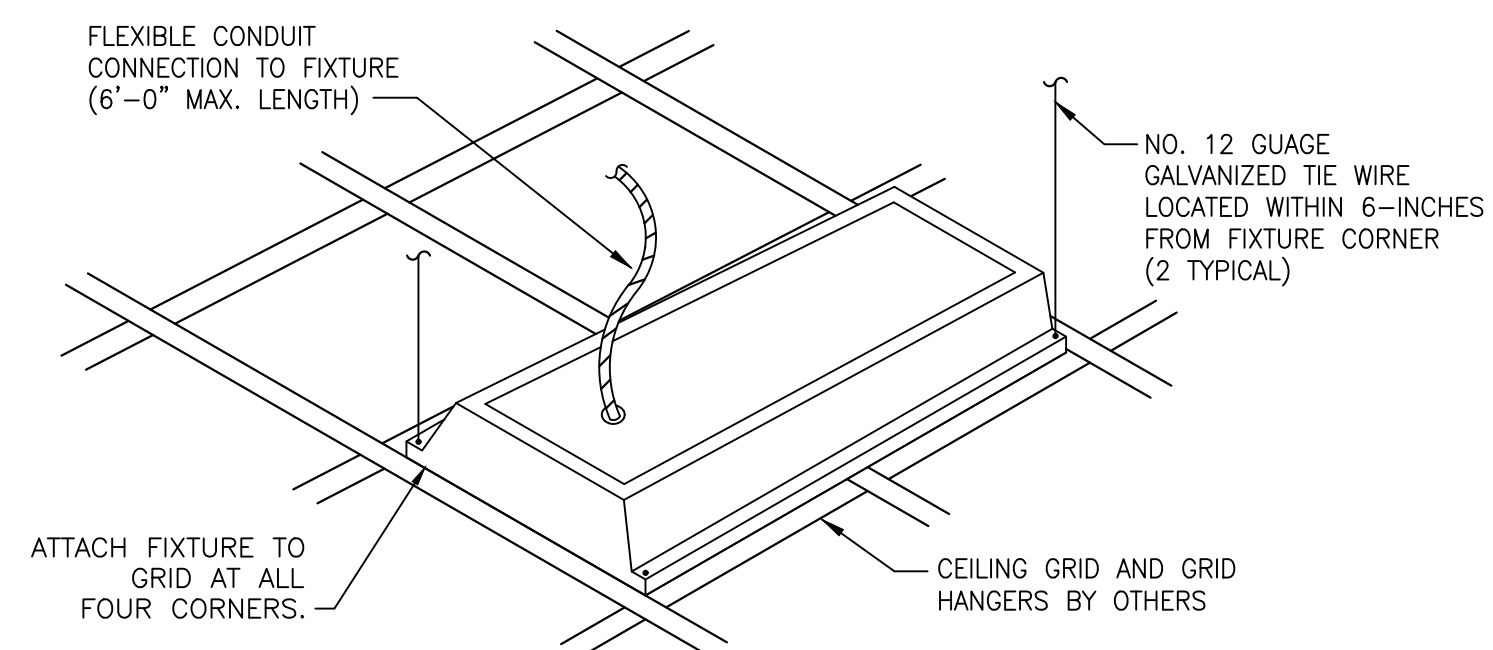
DETAIL NO. 2
RECEPTACLE GROUNDING DIAGRAM
SCALE: NTS



DETAIL NO. 3
DATA OUTLET
SCALE: NTS



DETAIL NO. 4
POWER/DATA/PHONE OUTLET
SCALE: NTS



DETAIL NO. 5
TYPICAL RECESSED FIXTURE SUPPORT
SCALE: NTS

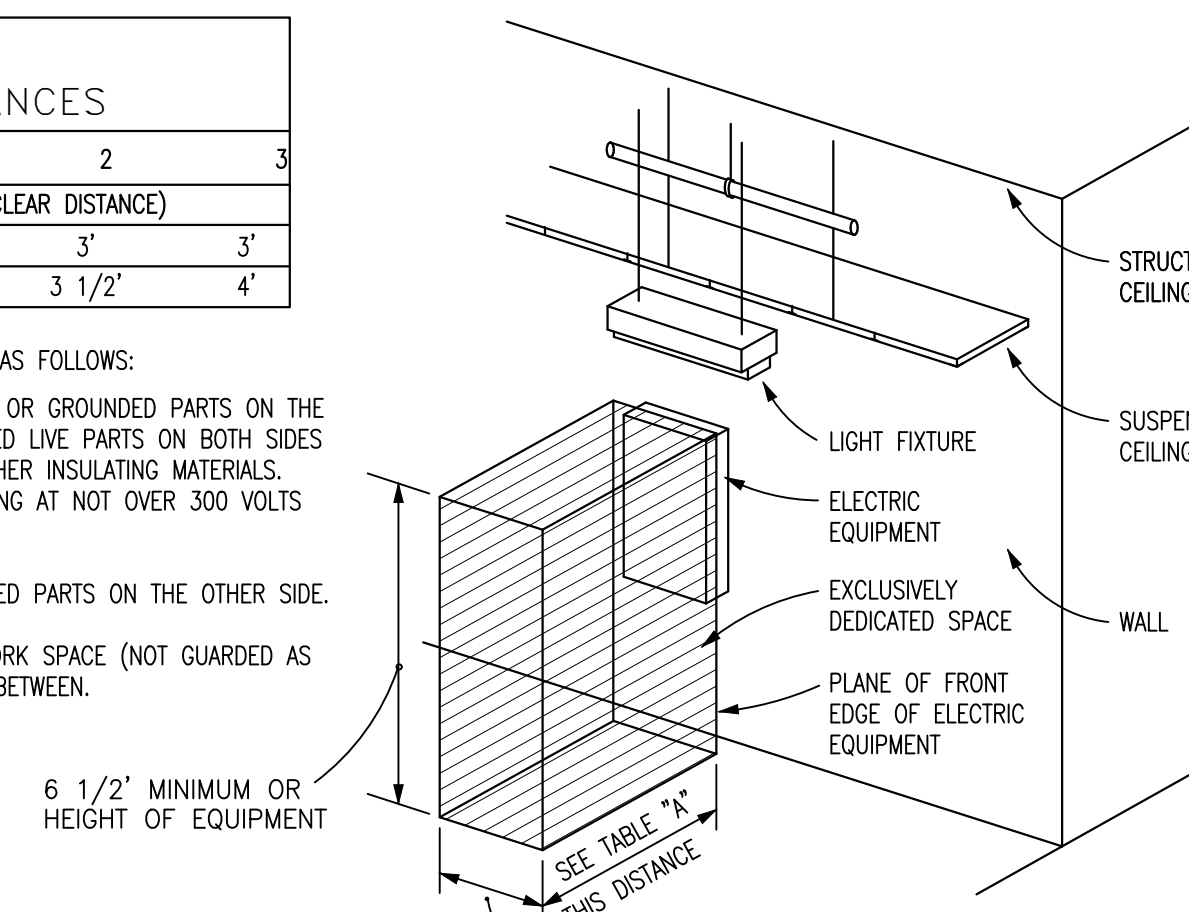
VOLTAGE TO GROUND (NOMINAL)	TABLE "A" WORKING CLEARANCES		
	CONDITION: 1	2	3
0-150	3'	3'	3'
151-600	3'	3 1/2'	4'

WHERE THE "CONDITIONS" ARE AS FOLLOWS:

- EXPOSED LIVE PARTS ON ONE SIDE AND NO LIVE OR GROUNDED PARTS ON THE OTHER SIDE OF THE WORKING SPACE, OR EXPOSED LIVE PARTS ON BOTH SIDES EFFECTIVELY GUARDED BY SUITABLE WOOD OR OTHER INSULATING MATERIALS. INSULATED WIRE OR INSULATED BUSBARS OPERATING AT NOT OVER 300 VOLTS SHALL NOT BE CONSIDERED LIVE PARTS.
- EXPOSED LIVE PARTS ON ONE SIDE AND GROUNDED PARTS ON THE OTHER SIDE.
- EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORK SPACE (NOT GUARDED AS PROVIDED IN CONDITION 1) WITH THE OPERATOR BETWEEN.

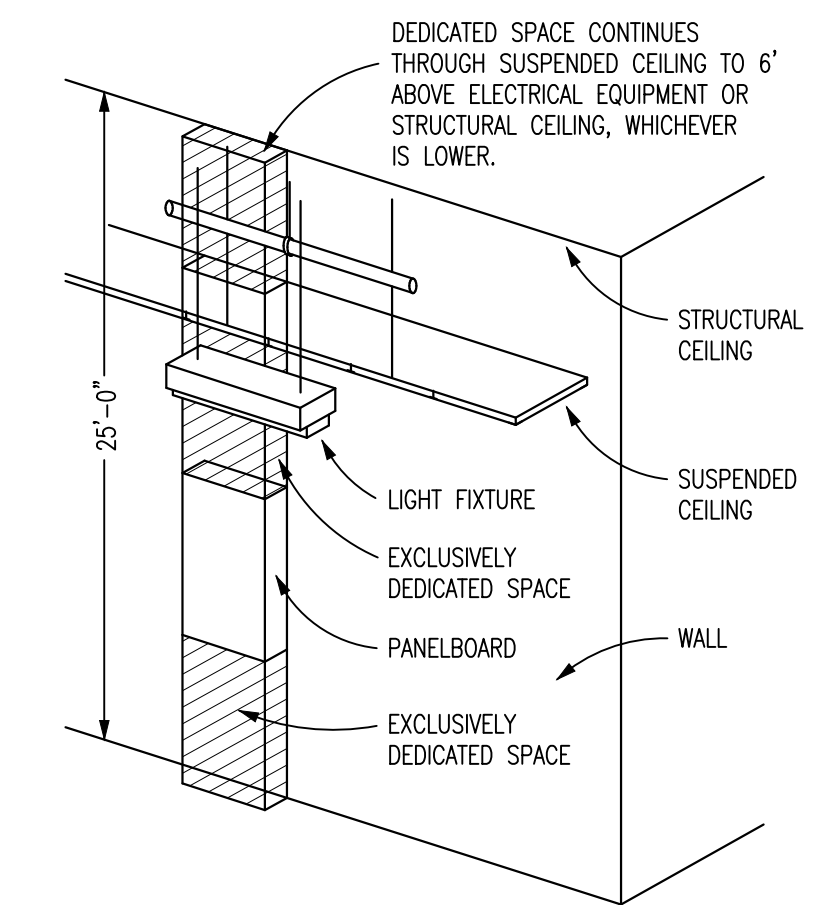
NOTES:

- THIS FIGURE ILLUSTRATES THE WORKING SPACE IN FRONT OF ELECTRICAL EQUIPMENT REQUIRED BY NEC SECTION 110-26.
- THIS INCLUDES BUT IS NOT LIMITED TO PANELBOARDS, SAFETY SWITCHES, MOTOR STARTERS, JUNCTION BOXES AND OTHER ELECTRICAL EQUIPMENT.



ALL ELECTRIC EQUIPMENT

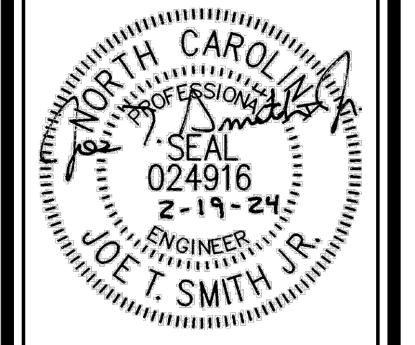
DETAIL NO. 6
DEDICATED WORKING SPACE REQUIREMENTS
SCALE: NTS



NOTES:

- THIS FIGURE ILLUSTRATES THE ADDITIONAL EXCLUSIVELY DEDICATED SPACE REQUIRED OVER AND UNDER PANELBOARDS FOR CABLES, RACEWAYS, ETC. TO AND FROM PANELBOARDS REQUIRED BY NEC SECTION 110-26.
- NO PIPING, DUCTWORK OR EQUIPMENT FOREIGN TO THE ELECTRICAL EQUIPMENT OR ARCHITECTURAL APPURTENANCES SHALL BE PERMITTED TO BE INSTALLED IN, ENTER OR PASS THROUGH THE DEDICATED SPACES SHOWN. FOR EXCEPTIONS SEE NEC SECTION 110-26f.

PANELBOARDS



REV	DATE	DESCRIPTION

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SEQUENCE OF OPERATION

UPON THE ACTIVATION OF A PULL STATION OR FLOW OF WATER IN A FIRE PROTECTION LINE, THE FACP SHALL RESPOND BY ACTIVATING AUDIO/VISUAL ALARMS, STOPPING APPROPRIATE AHU'S, AND SENDING AN EXTERNAL SIGNAL TO THE PROPER DESIGNATED RECIPIENT.

UPON THE CLOSING OF VALVES SERVING THE FIRE PROTECTION SYSTEM, THE FACP SHALL RESPOND BY ACTIVATING A SUPERVISORY SIGNAL AT THE FACP, INDICATING THE ACTUAL DEVICE ACTIVATED AND SENDING AN EXTERNAL SIGNAL TO THE PROPER DESIGNATED RECIPIENT.

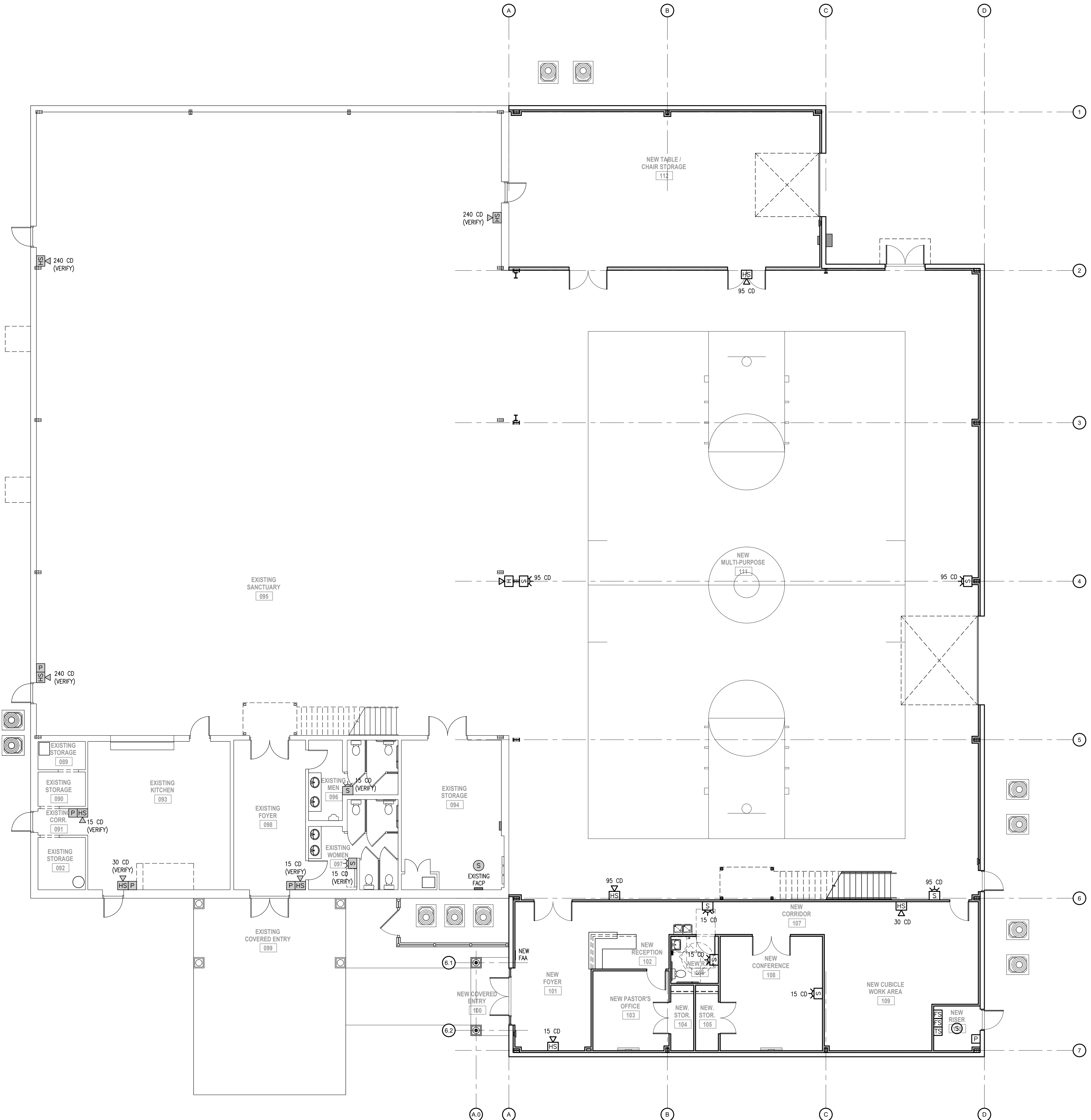
UPON THE GROUNDING, OPENING OR MALFUNCTION OF A CIRCUIT CONDUCTOR, THE FIRE ALARM PANEL SHALL RESPOND BY ACTIVATING A TROUBLE SIGNAL AT THE FACP.

UPON THE DETECTION OF SMOKE BY AN AREA SMOKE DETECTOR, THE FACP SHALL RESPOND BY PERFORMING ALARM VERIFICATION AND THEN EITHER RESETTING OR PROCEEDING TO ACTIVATE AUDIO/VISUAL ALARMS, STOPPING APPROPRIATE AHU'S AND SENDING AN EXTERNAL SIGNAL TO THE PROPER DESIGNATED RECIPIENT SIMULTANEOUSLY.

A SUPERVISED "AHU SHUTDOWN DEFEAT" SWITCH SHALL BE PROVIDED IN OR ADJACENT TO THE FACP. THE SWITCH SHALL REACTIVATE AHU'S AND CAUSE A "TROUBLE" INDICATION WHEN IT'S PLACED IN THE OFF-NORMAL SHUTDOWN DEFEATED POSITION.

- FIRE ALARM NOTES**
- FIRE ALARM PLANS ARE INTENDED TO PROVIDE INFORMATION FOR INSTALLATION OF A COMPLETE SYSTEM. PROVIDE ALL ESSENTIAL LABOR, MATERIALS & DEVICES REQUIRED TO PRODUCE A QUALITY END PRODUCT.
 - FIRE ALARM CONTRACTOR SHALL REVIEW & BECOME FAMILIAR WITH THE WORK OF ALL TRADES FOR PURPOSES OF COORDINATION AND ROUTING. CONTRACTOR SHALL PROVIDE REQUIRED PLANNING, COORDINATION AND SEQUENCING OF FIRE ALARM INSTALLATION WITH BUILDING COMPONENTS AND OTHER TRADES.
 - ALL WORK SHALL COMPLY WITH THE LOCAL FIRE CODE, THE NATIONAL ELECTRICAL CODE (NEC) AND NFPA 72. WORKMANSHIP SHALL MEET OR EXCEED INDUSTRY STANDARDS.
 - FIRE ALARM CONTRACTOR SHALL VERIFY THAT SECONDARY SUPPLY HAS SUFFICIENT CAPACITY TO OPERATE FOR 24 HOURS WHEN SYSTEM IS FUNCTIONING IN A NON-ALARM CONDITION. AT THE END OF THAT PERIOD, THE SECONDARY SUPPLY SHALL BE CAPABLE OF OPERATING IN ALARM MODE FOR 5 MINUTES. FIRE ALARM INSTALLER SHALL CERTIFY CALCULATED CAPACITY TO DRIVE THE SYSTEM PER NFPA 72 ON FORM FOR RECORD OF COMPLETION.
 - ALL WIRING, DEVICES AND OTHER LIKE MATERIALS SHALL BE UL LISTED & LABELED.
 - CONDUIT SHALL BE EMT WITH COMPRESSION TYPE FITTINGS WHERE EXPOSED OR AS REQUIRED BY LOCAL AUTHORITY HAVING JURISDICTION.
 - FIRE ALARM CONTRACTOR SHALL PROVIDE AN ADDRESS MAP AT ANNUNCIATOR AND MAIN FACP LOCATIONS. PROVIDE FRAMED OPERATING INSTRUCTIONS AT MAIN FACP.
 - VISUAL NOTIFICATION APPLIANCES MUST BE SYNCHRONIZED WHERE MORE THAN TWO APPLIANCES CAN BE VIEWED AT THE SAME TIME.
 - AUDIBLE NOTIFICATION APPLIANCE SOUND LEVELS SHALL BE FIELD-TESTED. SOUND LEVEL SHALL BE 15 dBA MINIMUM ABOVE AMBIENT SOUND LEVEL IN ROOM OR SPACE; OR 5 dBA ABOVE ANY MAXIMUM SOUND LEVEL HAVING A 60 SECOND MINIMUM DURATION - WHICHEVER IS LOUDER. SOUND PATTERN SHALL BE OF THREE BEAT TEMPORAL PATTERN.
 - AREA HEAT AND SMOKE DETECTORS SHALL BE LOCATED NO CLOSER THAN 3'-FT. FROM SUPPLY AIR DIFFUSERS. ADJUST LOCATIONS IN FIELD AS REQUIRED AND MAINTAIN MAXIMUM SPACING LIMITATIONS PER NFPA 72.

FIRE ALARM LEGEND		
SYMBOL	DESCRIPTION	REMARKS
	AUDIBLE NOTIFICATION APPLIANCE "HORN" (120 dBA MAX.)	MOUNT BOTTOM OF DEVICE 90" ABOVE FINISH FLOOR
	AUDIBLE / VISUAL NOTIFICATION APPLIANCE "HORN STROBE" (120 dBA MAX. & CANDELA AS NOTED)	MOUNT BOTTOM OF DEVICE 90" ABOVE FINISH FLOOR
	EXISTING AUDIBLE / VISUAL NOTIFICATION APPLIANCE "HORN STROBE" (VERIFY 120 dBA MAX. & CANDELA AS NOTED)	
	AUDIBLE / VISUAL NOTIFICATION APPLIANCE "HORN STROBE" (120 dBA MAX. & CANDELA AS NOTED)	CEILING MOUNTED DEVICE
	VISUAL NOTIFICATION APPLIANCE "STROBE" (CANDELA AS NOTED)	MOUNT BOTTOM OF DEVICE 90" ABOVE FINISH FLOOR
	EXISTING VISUAL NOTIFICATION APPLIANCE "STROBE" (VERIFY CANDELA AS NOTED)	
	VISUAL NOTIFICATION APPLIANCE "STROBE" (CANDELA AS NOTED)	CEILING MOUNTED DEVICE
	MANUAL ALARM PULL STATION	MOUNT TOP OF DEVICE 48" ABOVE FINISH FLOOR
	EXISTING MANUAL ALARM PULL STATION	
	AREA SMOKE DETECTOR	CEILING MOUNTED UNLESS NOTED OTHERWISE
	EXISTING AREA SMOKE DETECTOR	
	AREA CARBON MONOXIDE DETECTOR	CEILING MOUNTED UNLESS NOTED OTHERWISE
	HVAC DUCT SMOKE DETECTOR	MOUNTED IN RETURN DUCT
	EXISTING HVAC DUCT SMOKE DETECTOR	
	BEAM SMOKE DETECTOR SYSTEM (1x/Rx WITH REFLECTOR)	BOD 12" MIN. FROM CLG. / BOD 10' MIN. - 30' MAX. FROM FLOOR
	AREA HEAT DETECTOR	CEILING MOUNTED UNLESS NOTED OTHERWISE
	POWER SUPPLY UNIT	
	FIRE SPRINKLER TAMPER SWITCH	SEE PLANS FOR LOCATION
	FIRE SPRINKLER FLOW SWITCH	SEE PLANS FOR LOCATION
	FIRE ALARM CONTROL PANEL	SEE PLANS FOR LOCATION
	FIRE ALARM ANNUNCIATOR	SEE PLANS FOR LOCATION
	BATTERY POWER SUPPLY	SEE PLANS FOR LOCATION

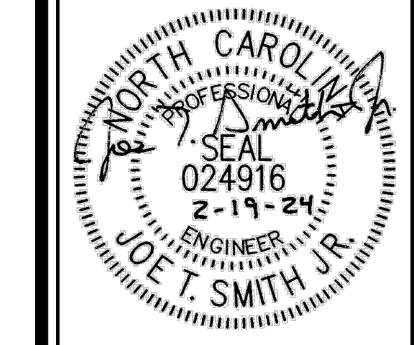


FIRST FLOOR FIRE ALARM PLAN

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

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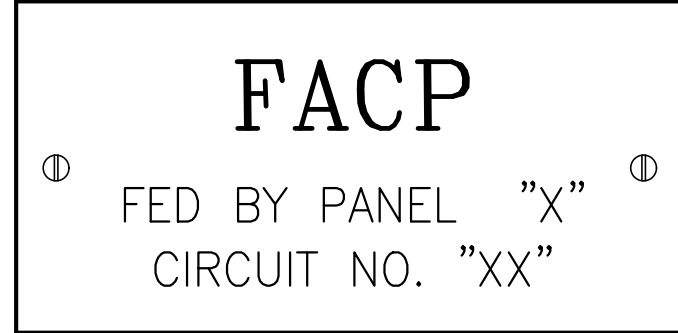


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 494 Antioch Church Road,
 Dunn, North Carolina 28534

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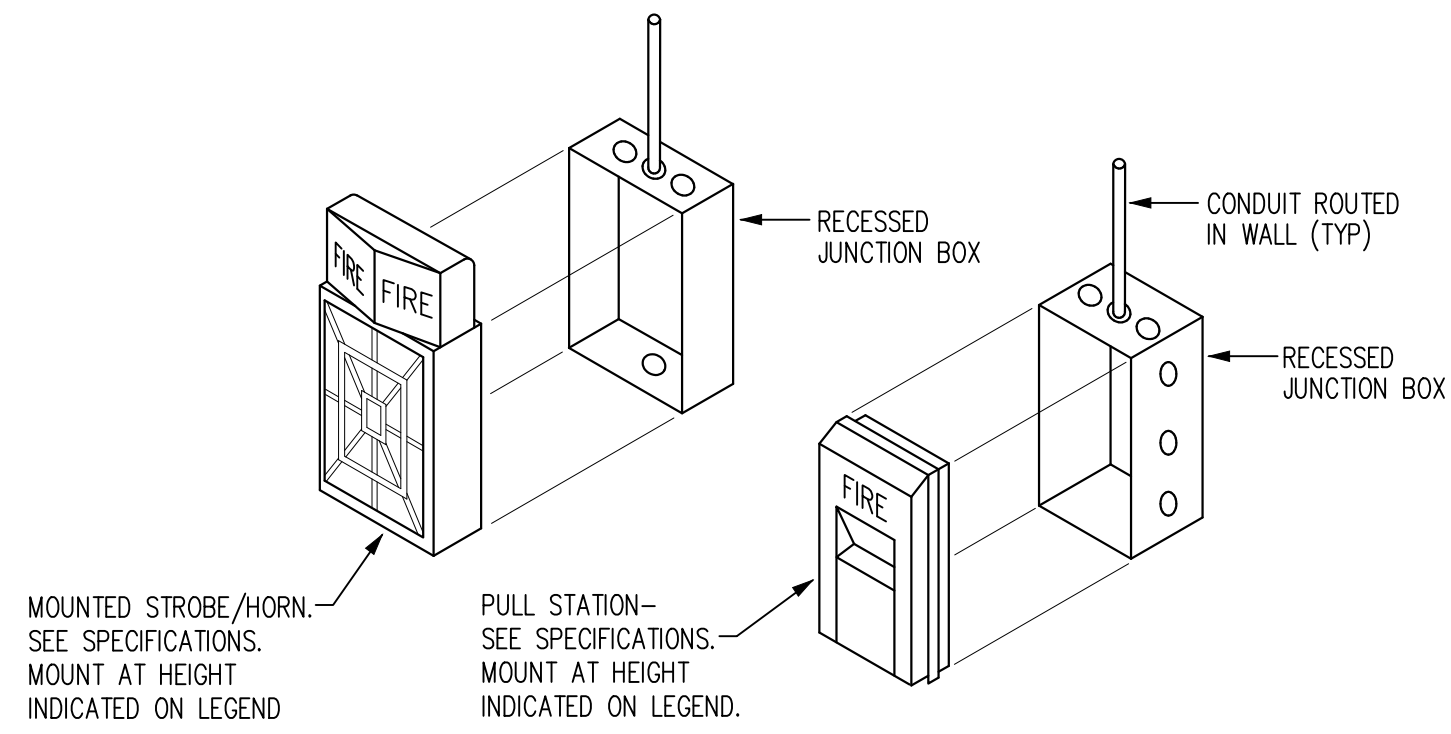
FA-1



- NOTES:**
1. PHENOLIC LABEL, 4" WIDE x 2" IN HEIGHT, SUPPLIED BY THE ELECTRICAL CONTRACTOR, RED IN COLOR WITH WHITE LETTERING (1/2" HIGH).
 2. INSERT PANEL DESIGNATION AT "X" LOCATION, AND BLACK LETTERING (1/4" HIGH).
 3. INSERT CIRCUIT DESIGNATION AT "XX" LOCATION, AND BLACK LETTERING (1/4" HIGH).

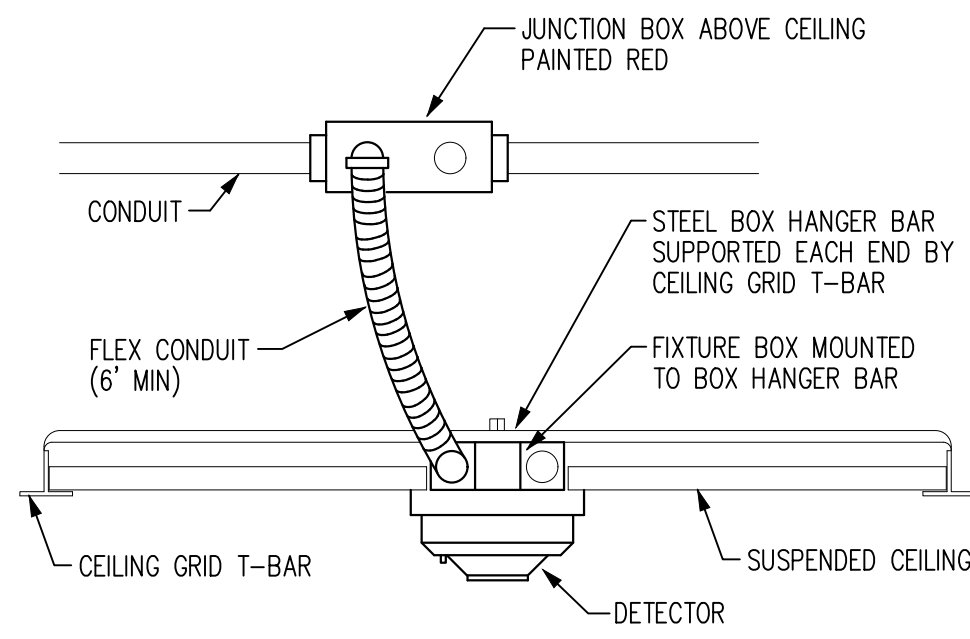
DETAIL NO. 1

FIRE ALARM PANEL LABEL
SCALE: NTS



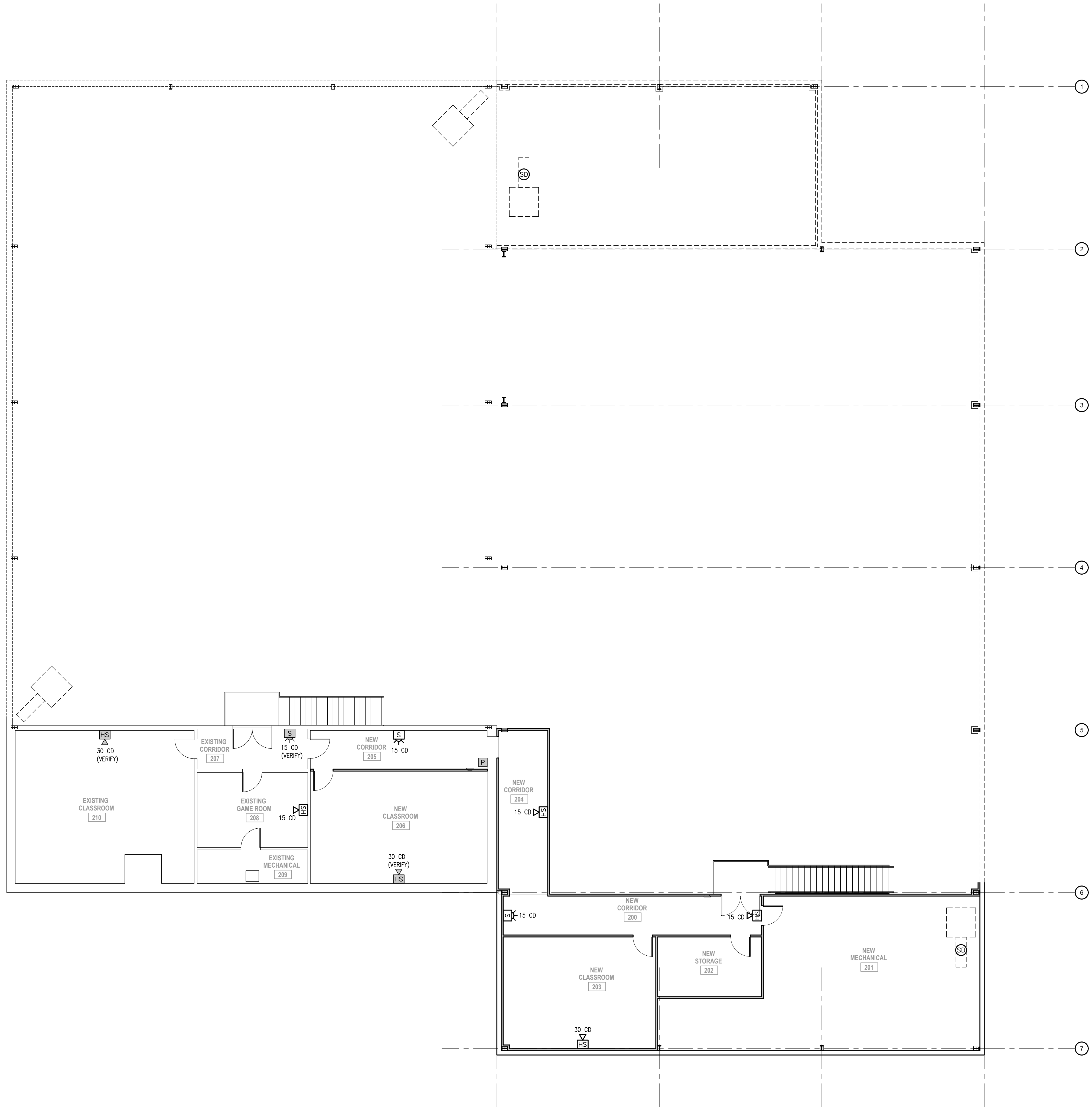
DETAIL NO. 2

FIRE ALARM DEVICE MOUNTING
SCALE: NTS



DETAIL NO. 3

TYPICAL CEILING MOUNTED SMOKE DETECTOR
SCALE: NTS

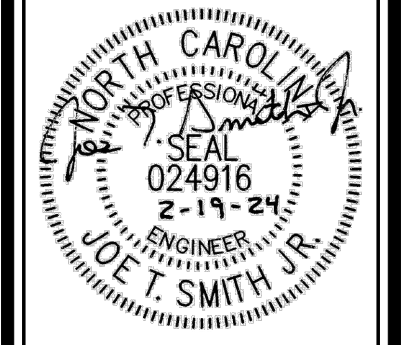


SECOND FLOOR FIRE ALARM PLAN

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

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REV#	DATE	DESCRIPTION

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

FA-2