

2012 APPENDIX B  
BUILDING CODE SUMMARY  
FOR ALL COMMERCIAL PROJECTS

Name of Project: DOLLAR GENERAL STORE # 20312  
Address: SPRING HILL CHURCH ROAD, LILLINGTON, NORTH CAROLINA Zip: \_\_\_\_\_  
Proposed Use: MERCANTILE (DOLLAR GENERAL RETAIL STORE)  
Owner/Authorized Agent: JOHN C. HOOD 252-344-2100 ajajay@aol.com  
E-mail: \_\_\_\_\_  
Owned By:  City/County  Private  State  
Code Enforcement Jurisdiction:  City LILLINGTON  County HARNETT

LEAD DESIGN PROFESSIONAL: JOHN C. HOOD  
DESIGNER FIRM NAME LICENSE# TELEPHONE# E-MAIL  
Architectural Hood Herring Archit. John C. Hood 31684 252-344-2100 ajajay@aol.com  
Civil Norris & Tunstall Phil Norris 910-343-4659  
Electrical Killian Engineering, Inc. Michael Killian 17304 252-436-8718 mkillan@killianengineering.com  
Fire Alarm Killian Engineering, Inc. Michael Killian 17304 252-436-8718 mkillan@killianengineering.com  
Plumbing Killian Engineering, Inc. Michael Killian 17304 252-436-8718 mkillan@killianengineering.com  
Mechanical Killian Engineering, Inc. Michael Killian 17304 252-436-8718 mkillan@killianengineering.com  
Sprinkler-Standpipe Killian Engineering, Inc. Michael Killian 17304 252-436-8718 mkillan@killianengineering.com  
Structural William A. Person, PE William Person 13253 919-446-5228 personaw@personandbarbanoil.com  
Retaining Walls >6' High \_\_\_\_\_  
Other \_\_\_\_\_

2012 EDITION OF NC CODE FOR:  New Construction  Addition  Upfit  
EXISTING:  Reconstruction  Alteration  Repair  Renovation  
CONSTRUCTED: \_\_\_\_\_ ORIGINAL USE(S): \_\_\_\_\_  
RENOVATED: \_\_\_\_\_ CURRENT USE(S): \_\_\_\_\_  
PROPOSED USE(S): \_\_\_\_\_

**BUILDING DATA**  
Construction Type:  I-A  I-B  II-A  II-B  III-A  III-B  IV  V-A  V-B  
Mixed construction  No  Yes  Yes Types \_\_\_\_\_  
Sprinklers:  No  Partial  Yes  NFPA 13  NFPA 13R  NFPA 13D  
Standpipes:  No  Yes Class  I  II  III  Wet  Dry  
Fire District:  No  Yes Flood Hazard Area:  No  Yes  
Building Height: 16 Feet  
GROSS BUILDING AREA:  
FLOOR EXISTING (SQ FT) NEW (SQ FT) SUB-TOTAL  
6th Floor \_\_\_\_\_  
5th Floor \_\_\_\_\_  
4th Floor \_\_\_\_\_  
3rd Floor \_\_\_\_\_  
2nd Floor \_\_\_\_\_  
Mezzanine \_\_\_\_\_  
1st Floor 9208  
Basement \_\_\_\_\_  
TOTAL 9208

**ALLOWABLE AREA**  
Occupancy:  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 Deflagrate  H-3 Combust  H-4 Health  H-5 HPM  
Institutional  I-1  I-2  I-3  I-4  I-3 Condition  I-2  I-3  I-4  I-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  
Utility and Miscellaneous

Incidental Uses:  Furnace Rm  Boiler Rm  Refrigerant Machine Rm  Hydrogen Cutoff  Incinerator  
 Paint Shop  Laboratory & Vocational  Laundry Rm  Group 1-3 Cells  Group 1-2 Waste/Linen Collection  
 Waste/Linen Collection >100 s.f.  Stationary Storage Battery Systems  Fire Pump  
 Group 1-2 Storage  Group 1-2 Comm. Kitchen  Group 1-2 Laundry  Group 1-2 Fuel-fired Heat

Special Uses:  402  403  404  405  406  407  408  409  410  411  412  413  
 414  415  416  417  418  419  420  421  422  423  424  425  426  427  
Special Provisions:  509.2  509.3  509.4  509.5  509.6  509.7  509.8  509.9  
Mixed Occupancy:  No  Yes Separation: 0 Hr. Exception: 508.3.3

Incidental Use Separation (508.2.5)  
This separation is not exempt as a Non-Separated Use (see exceptions)  
 Non-Separated Use (508.3)  
The required type of construction for the building shall be determined by applying the building 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.  
Actual Area of Occupancy A + Actual Area of Occupancy B  
Allowable Area of Occupancy A + Allowable Area of Occupancy B ≤ 1.00  
64 + 106 + ..... = .70 ≤ 1.00

STORY NO.	DESCRIPTION AND USE	(A) BLDG. AREA PER STORY (ACTUAL)	(B) TABLE 503 AREA	(C) AREA FOR OPEN SPACE INCREASE	(D) AREA FOR SPRINKLER INCREASE	(E) ALLOWABLE AREA OR UNLIMITED	(F) MAXIMUM BUILDING AREA
1	M	8228	12500	NA	NA	12500	
1	S-1	920	17500	NA	NA	17500	

1 Open space 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  $I_s = 100 [(F/P) - 0.25] W / 30 = \_\_\_\_\_\_ (\%)$   
2 The sprinkler increase per Section 506.3 is as follows:  
a. Multi-story building  $I_s = 200$  percent  
b. Single story building  $I_s = 300$  percent  
3 Unlimited area applicable under conditions of Section 507.  
4 Maximum Building Area = total number of stories in the building x E (506.4).  
5 The maximum area of parking garages must comply with 406.3.5. The Maximum area of air traffic control towers must comply with 412.1.2.

**ALLOWABLE HEIGHT**

ALLOWABLE (TABLE 503)	INCREASE FOR SPRINKLERS	SHOWN ON PLANS	CODE REFERENCE
Type of Construction Type II B		Type II B	
Building Height in Feet 55	Feet = H + 20' =	18	
Building Height in Stories 2	Stories + 1 =	1	

**FIRE PROTECTION REQUIREMENTS**

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	REQ'D	PROVIDED (% REDUCTION)	DETAIL # AND SHIRT #	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR PENETRATION	DESIGN # FOR RATED JOINTS
Structural frame, including columns, girders, trusses							
Bearing Walls							
Exterior							
North	>30'	0					
East	>30'	0					
West	10' x 30'	0					
South	>30'	0					
Interior							
Nonbearing walls and partitions							
Exterior	NA						
North							
East							
West							
South							
Interior							
Floor construction including supporting beams and joists	NA						
Roof construction including supporting beams and joists	NA						
Shafts-Exit	NA						
Shafts-Other	NA						
Corridor Separation	NA						
Occupancy Separation	NA						
Party/Fire Wall Separation	NA						
Smoke Barrier Separation	NA						
Tenant Separation	NA						
Incidental Use Separation	NA						

**LIFE SAFETY SYSTEM REQUIREMENTS**

Emergency Lighting:	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
Exit Signs:	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
Fire Alarm:	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
Smoke Detection Systems:	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Partial
Panic Hardware:	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes

**LIFE SAFETY PLAN REQUIREMENTS**

Life Safety Plan Sheet # COVER

<input type="checkbox"/> Fire and/or smoke rated wall locations (Chapter 7)
<input checked="" type="checkbox"/> Assumed and real property line locations SEE SITE PLAN
<input checked="" type="checkbox"/> Exterior wall opening area with respect to distance to assumed property lines (705.8) < 30'
<input type="checkbox"/> Existing structures within 30' of the proposed building
<input checked="" type="checkbox"/> Occupancy types for each area as it relates to occupancy load calculations (Table 1004.1.1)
<input checked="" type="checkbox"/> Occupancy loads for each area
<input checked="" type="checkbox"/> Exit access travel distances (1018) < 200'
<input checked="" type="checkbox"/> Common path of travel distances (1014.3 & 1028.8) < 75'
<input checked="" type="checkbox"/> Dead end lengths (1018.4) < 20'
<input checked="" type="checkbox"/> Clear exit widths for each door
<input checked="" type="checkbox"/> Max calculated occupant load capacity each exit door can accommodate based on exit width (1005.1)
<input checked="" type="checkbox"/> Actual occupant load for each door
<input type="checkbox"/> A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation
<input checked="" type="checkbox"/> Location of doors with panic hardware (1008.1.10)
<input type="checkbox"/> Location of doors with delayed egress locks and the amount of delay (1008.1.9.7)
<input type="checkbox"/> Location of doors with electromagnetic egress locks (1008.1.9.8)
<input type="checkbox"/> Location of doors equipped with hold open devices
<input type="checkbox"/> Location of emergency escape windows (1029)
<input checked="" type="checkbox"/> The square footage of each fire area (902) <u>9014 SQ. FT.</u>
<input type="checkbox"/> The square footage of each smoke compartment (407.4)
<input type="checkbox"/> 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
NA							

**ACCESSIBLE PARKING** (SEE SITE SHEET) (SECTION 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES		# OF ACCESSIBLE SPACES PROVIDED			TOTAL # ACCESSIBLE PROVIDED
	REQUIRED	PROVIDED	REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH 132" ACCESS AISLE	VAN SPACES WITH 6' ACCESS AISLE	
TOTAL	23	32			2	2

**PLUMBING FIXTURE REQUIREMENTS** (SECTION 2906.1)

OCCUPANCY	WATERCLOSETS		URINALS		LAVATORIES		SHOWERS/TUBS		DRINKING FOUNTAINS	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	REGULAR	ACCESSIBLE
MERCANTILE										

**SPECIAL APPROVALS**  
Special approval: (Local Jurisdiction, Department of Insurance, SECCI, ICC, etc., describe below)

**DESIGN LOADS**  
Importance Factors: Wind (I<sub>w</sub>) \_\_\_\_\_  
Snow (I<sub>s</sub>) \_\_\_\_\_  
Seismic (I<sub>e</sub>) \_\_\_\_\_  
Live Loads: Roof \_\_\_\_\_ psf  
                  Mezzanine \_\_\_\_\_ psf  
                  Floor \_\_\_\_\_ psf  
Ground Snow Loads: \_\_\_\_\_ psf  
Wind Loads: Basic Wind Speed \_\_\_\_\_ mph (ASCE-7)  
                  Exposure Category \_\_\_\_\_  
                  Wind Base Shears (for MWFRS) V<sub>x</sub> = \_\_\_\_\_ V<sub>y</sub> = \_\_\_\_\_

**SEISMIC DESIGN CATEGORY**  
Provide the following Seismic Design Parameters:  
Occupancy Category (Table 1604.5)  I  II  III  IV  
Spectral Response Acceleration S<sub>w</sub> = \_\_\_\_\_ S<sub>u</sub> = \_\_\_\_\_  
Site Classification (Table 1613.5.2)  A  B  C  D  E  F  
Data Sources:  Field Test  Presumptive  Historical Data  
Basic structural system (check one)  
 Bearing Wall  Dual w/Special Moment Steel  
 Building Frame  Dual w/Intermediate R/C or Special Steel  
 Moment Frame  Inverted Pendulum  
Seismic base shear V<sub>x</sub> = \_\_\_\_\_ V<sub>y</sub> = \_\_\_\_\_  
Analysis Procedure  Simplified  Equivalent Lateral Force  Dynamic  
Architectural, Mechanical, Components anchored?  Yes  No  
 Earthquake  Wind

**LATERAL DESIGN CONTROL:**  
**SOIL BEARING CAPACITIES:**  
Field Test (provide copy of test report) \_\_\_\_\_ psf  
Presumptive Bearing capacity \_\_\_\_\_ psf  
Pile size, type, and capacity \_\_\_\_\_

**ENERGY REQUIREMENTS:** **ENERGY SUMMARY**  
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.  
Climate Zone:  3  4  5  
Method of Compliance: Energy Code  Prescriptive  Performance  
ASHRAE 90.1  Prescriptive  Performance

**THERMAL ENVELOPE**  
Roof/Ceiling Assembly (each assembly)  
Description of assembly SS MTL DECK, R5 THERMAL SPACERS, INSUL R19 + R11 LS  
U-Value of total assembly 0.35  
R-Value of insulation 32  
Skylights in each assembly NA  
U-Value of skylight \_\_\_\_\_  
total sq. ft. of skylights in each assembly NA  
Exterior Walls (each assembly)  
Description of assembly METAL PANELS, R19 INSUL., MTL STUDS, GYP BD  
U-Value of total assembly 0.70  
R-Value of insulation 19  
Openings (windows or doors with glazing)  
U-Value of assembly 1.030  
Solar heat gain coefficient 0.2  
projection factor \_\_\_\_\_  
Door R-Values 1.72  
Walls below grade (each assembly)  
Description of assembly NA  
U-Value of total assembly \_\_\_\_\_  
R-Value of insulation \_\_\_\_\_  
Floors over unconditioned space (each assembly)  
Description of assembly NA  
U-Value of total assembly \_\_\_\_\_  
R-Value of insulation \_\_\_\_\_  
Floors slab on grade (each assembly)  
Description of assembly 4" CONC. VAPOR BARRIER, COMPACTED EARTH  
U-Value of total assembly 0.15  
R-Value of insulation R-10  
Horizontal/vertical requirement 2/VERTICAL  
slab heated NO

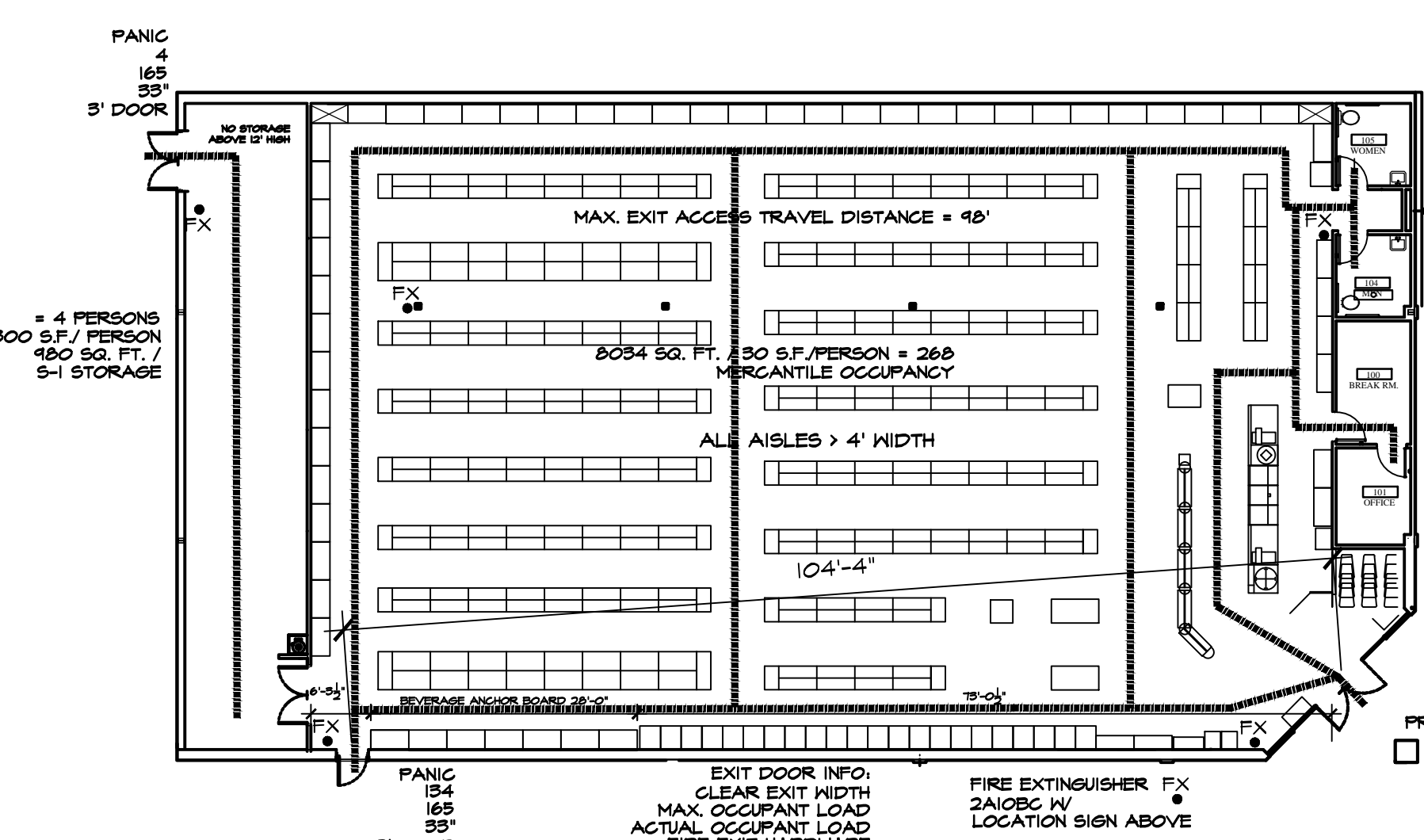
**MECHANICAL SUMMARY** (SEE MECHANICAL SHEET)  
**MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT:**  
Thermal Zone winter dry bulb \_\_\_\_\_ summer dry bulb \_\_\_\_\_  
Interior design conditions winter dry bulb \_\_\_\_\_ summer dry bulb \_\_\_\_\_ relative humidity \_\_\_\_\_  
Building heating load \_\_\_\_\_  
Building cooling load \_\_\_\_\_  
Mechanical Spacing Conditioning System  
Unitary description of unit \_\_\_\_\_ heating efficiency \_\_\_\_\_ cooling efficiency \_\_\_\_\_ size category of unit \_\_\_\_\_  
Boiler size category \_\_\_\_\_ If oversized, state reason.  
Chiller size category \_\_\_\_\_ If oversized, state reason.  
List equipment efficiencies \_\_\_\_\_

**ELECTRICAL SYSTEM AND EQUIPMENT:**  
Method of Compliance: ENERGY CODE:  Prescriptive  Performance  
ASHRAE 90.1:  Prescriptive  Performance  
Lighting schedule  
lamp type required in fixture \_\_\_\_\_  
number of lamps in fixture \_\_\_\_\_  
ballast type used in the fixture \_\_\_\_\_  
number of ballasts in fixture \_\_\_\_\_  
total wattage per fixture \_\_\_\_\_  
total interior wattage specified vs allowed \_\_\_\_\_  
total exterior wattage specified vs allowed \_\_\_\_\_  
Additional Prescriptive Compliance  
 506.2.1 More Efficient Mechanical Equipment  
 506.2.2 Reduced Lighting Power Density  
 506.2.3 Energy Recovery Ventilation Systems  
 506.2.4 Higher Efficiency Service Water Heating  
 506.2.5 On-Site Supply of Renewable Energy  
 506.2.6 Automatic Daylighting Control Systems

DOLLAR GENERAL  
STORE # 20312  
SPRING HILL CHURCH ROAD  
LILLINGTON, NORTH CAROLINA  
SCHEDULE OF DRAWINGS

- COVER  
C1 SITE COVER SHEET  
C2 EXISTING CONDITIONS PLAN  
C3 SITE PLAN  
C4 GRADING & DRAINAGE PLAN  
C5 EROSION CONTROL PLAN  
C6 UTILITY PLAN  
C7 CONSTRUCTION DETAILS  
C8 CONSTRUCTION DETAILS  
C9 CONSTRUCTION DETAILS  
C10 STORMWATER MANAGEMENT DETAILS  
C11 LANDSCAPE PLAN  
A-1 FLOOR PLAN & SCHEDULES  
A-2 ELEVATIONS & FIXTURE PLAN  
A-3 BUILDING SECTIONS  
A-4 WALL SECTIONS  
A-5 ROOF PLAN, PAINTING DIAGRAM & SCHEDULES  
A-6 CONCRETE & FINISH SPECIFICATIONS & NOTES  
S-1 FOUNDATION PLAN & DETAILS

- P-1 PLUMBING SCHEDULES & DETAILS  
P-2 PLUMBING PLANS & RISERS  
M-1 MECHANICAL SCHEDULES & DETAILS  
M-2 MECHANICAL PLAN  
E-1 ELECTRICAL POWER PLAN  
E-2 ELECTRICAL LIGHTING PLAN  
E-3 ELECTRICAL POWER POLES  
E-4 DATA ROUTING PLAN  
EMS-1 EMS PLAN & SCHEDULE  
EMS-2 EMS PANEL & CONTROLS



LIFE SAFETY PLAN  
SCALE: 1/16" = 1'-0"



ISSUED FROM:  
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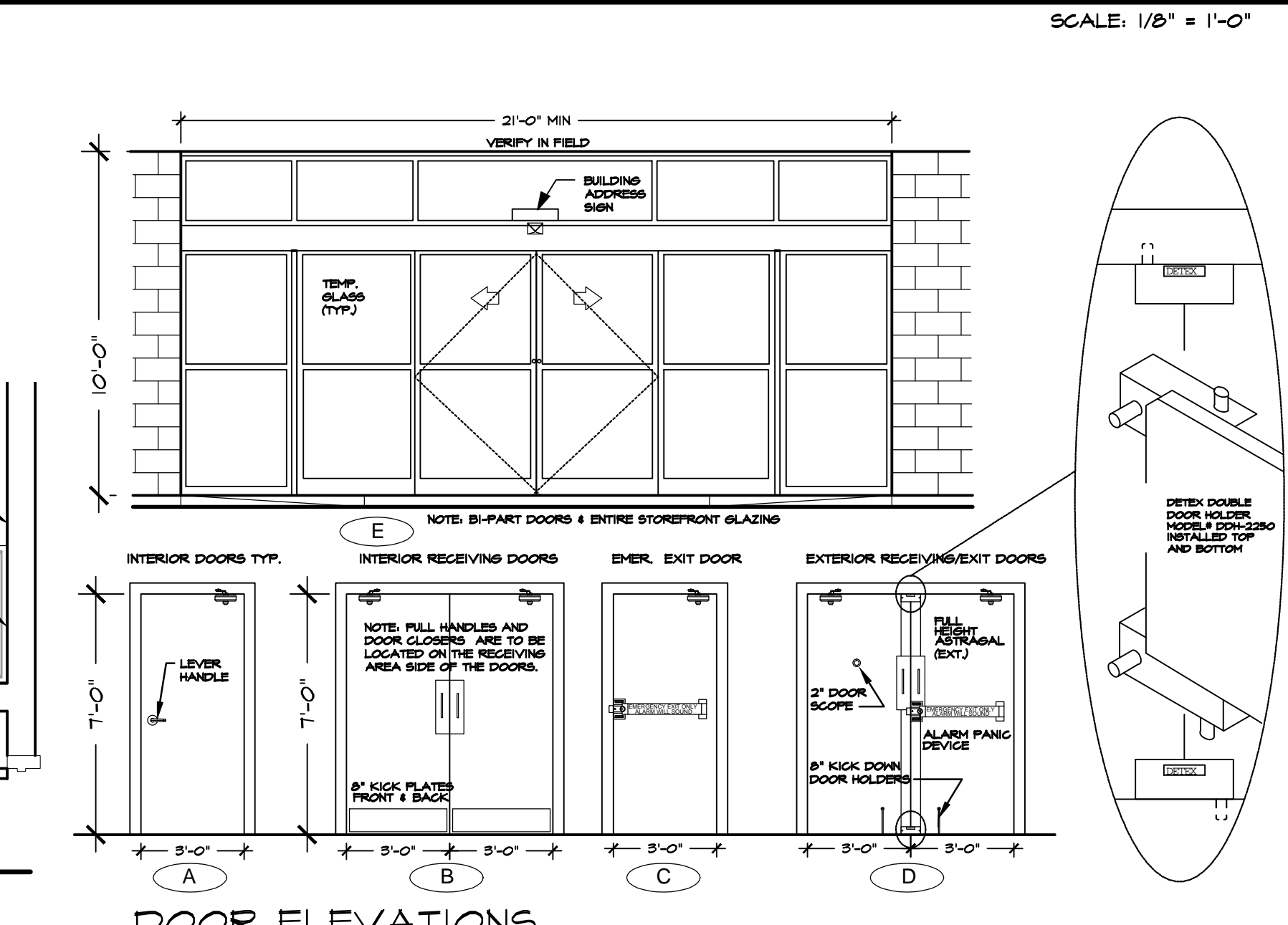
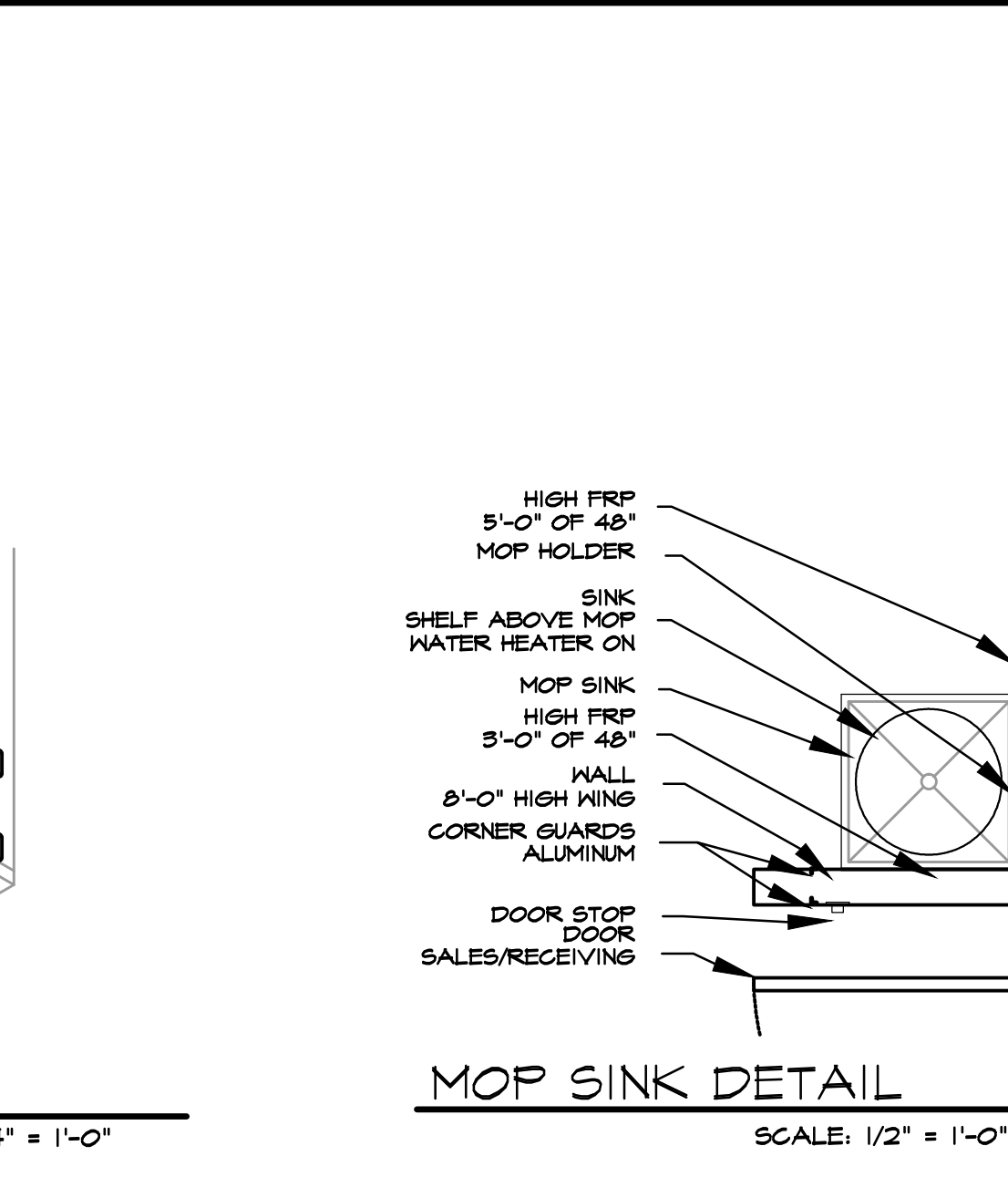
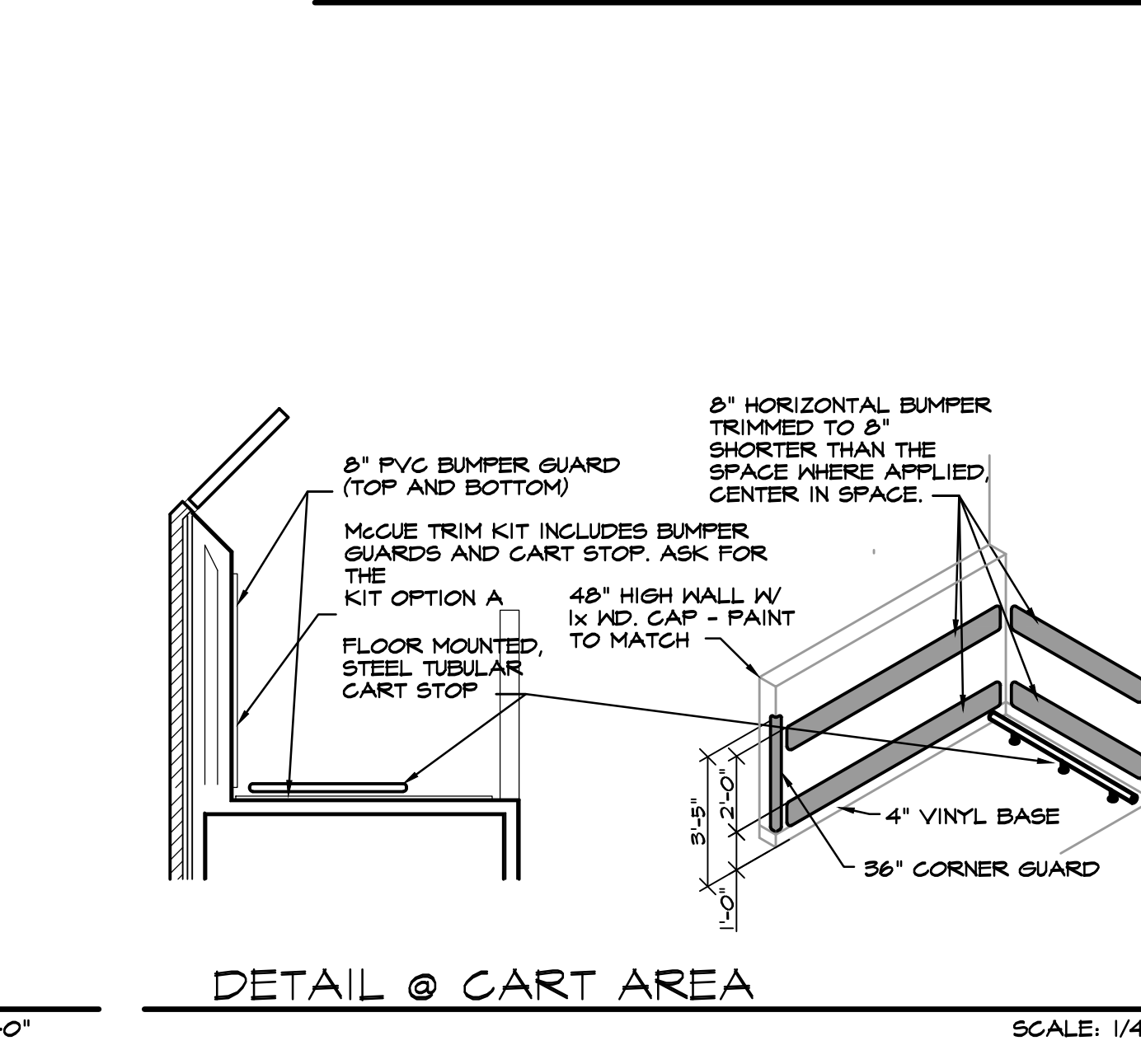
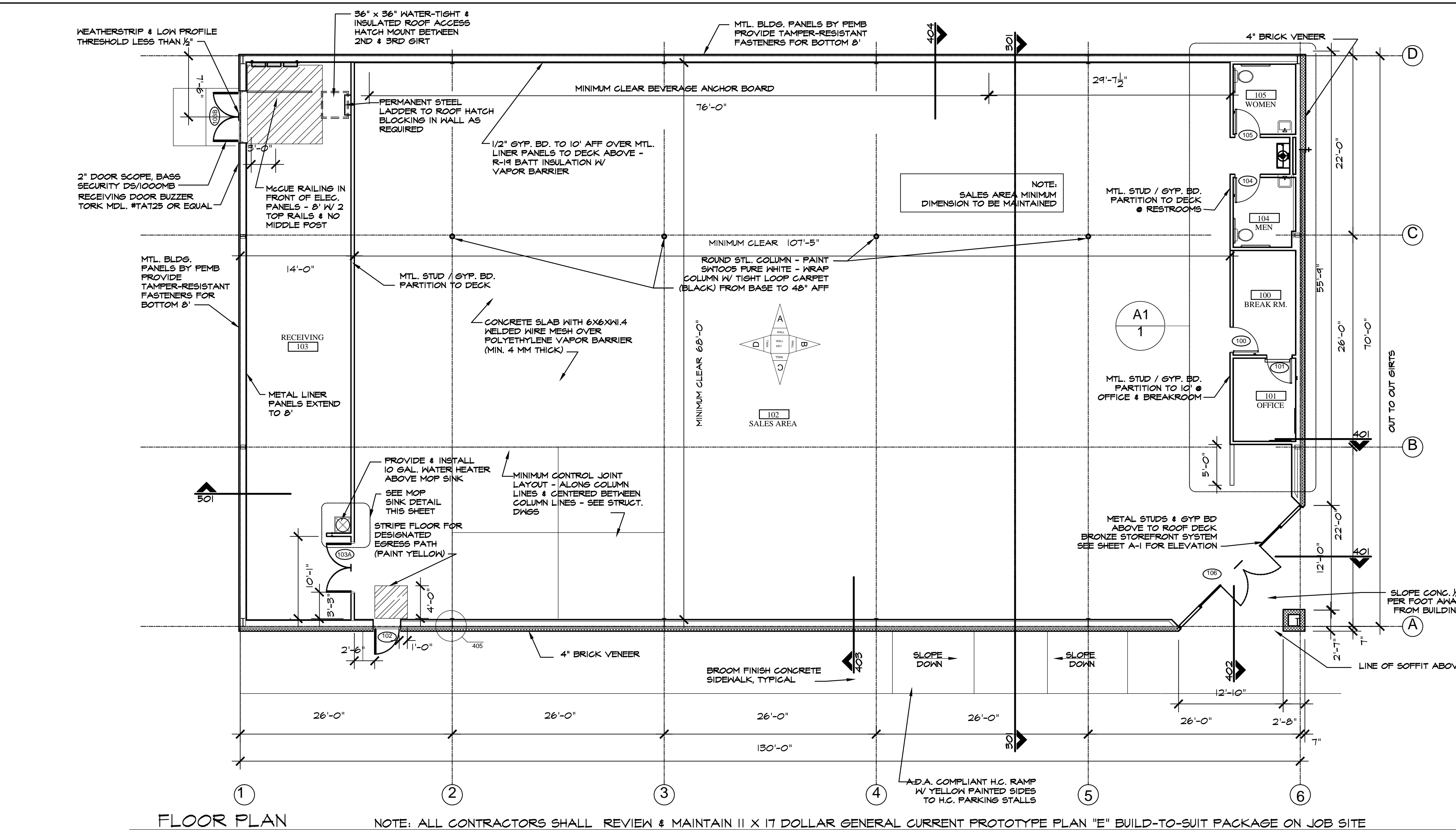
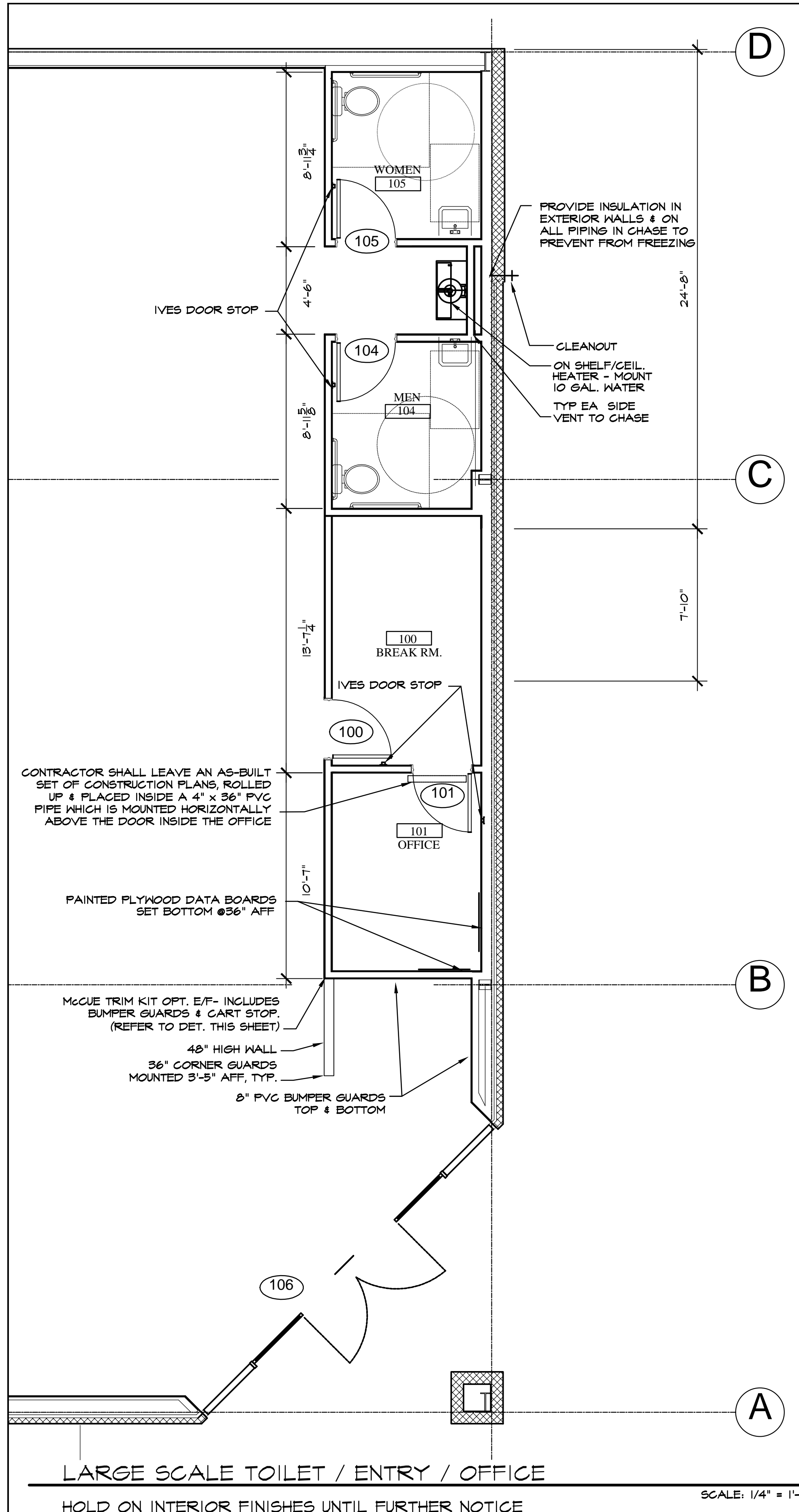
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ARCHITECTURE  
P.L.L.P.  
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DOLLAR GENERAL  
STORE # 20312  
SPRING HILL CHURCH ROAD  
LILLINGTON, NORTH CAROLINA

JOB NUMBER  
DRAWN BY  
MAH  
DATE  
11/30/18  
REVISIONS

SHEET NUMBER  
Cover  
OF

NOTE: ALL CONTRACTORS SHALL REVIEW & MAINTAIN 11 X 17 DOLLAR GENERAL PROTOTYPE PLAN "E" BUILD-TO-SUIT PACKAGE ON JOB SITE



ROOM FINISH SCHEDULE												
NO	ROOM NAME	FLOOR	MATERIAL	FINISH	A WALL	B WALL	C WALL	D WALL	CEILING MATERIAL	CEILING FINISH	REMARKS	
100	BREAK RM.	CONCRETE FLOOR SEALED	CONCRETE SEALER	4" RUBBER / VINYL BASE	BLACK	GYPSUM BOARD TO 10'-0" AFF.	SHERWIN WILLIAMS SHT005-WHITE PRO-MAR LATEX SEMI-GLOSS	GYPSUM BOARD TO 10'-0" AFF.	SHERWIN WILLIAMS SHT005-WHITE PRO-MAR LATEX SEMI-GLOSS	EXPOSED TO STRUCTURE ABOVE	N/A	
101	OFFICE	CONCRETE FLOOR SEALED	CONCRETE SEALER	4" RUBBER / VINYL BASE	BLACK	GYPSUM BOARD TO ROOF DECK & EXT. WALLS & TO 10'-0" AFF OTHERS	SHERWIN WILLIAMS SHT005-WHITE PRO-MAR LATEX SEMI-GLOSS	GYPSUM BOARD TO 10'-0" AFF.	SHERWIN WILLIAMS SHT005-WHITE PRO-MAR LATEX SEMI-GLOSS	EXPOSED TO STRUCTURE ABOVE	N/A	
102	SALES AREA	CONCRETE FLOOR SEALED	8 STEP RETROPLATE POLISHED	4" RUBBER / VINYL BASE	BLACK	GYPSUM BD. ON WHITE METAL LINER PANELS. SEE ELEV. - SHT A-5	SHERWIN WILLIAMS PRO-MAR LATEX SATIN - SEE ELEV. SHEET A-5	GYPSUM BD. TO ROOF DECK	SHERWIN WILLIAMS PRO-MAR LATEX SATIN - SEE ELEV. SHEET A-5	EXPOSED TO STRUCTURE ABOVE	N/A	
103	RECEIVING AREA	CONCRETE FLOOR SEALED	CONCRETE SEALER	N/A	N/A	METAL LINER PANELS TO 8" AFF.	WHITE	TAPE, PAINTED AS REQD. BY CODE OR MTL. LINER PANEL TO DECK AS ALT.	METAL LINER PANEL TO 8"	EXPOSED TO STRUCTURE ABOVE	N/A	
104	MEN	CONCRETE FLOOR SEALED	SHERWIN WILLIAMS JORTOL SILICONE BLK CHOCOLATE HC-11	4" RUBBER / VINYL BASE	BLACK	GYPSUM BOARD TO 8'-0" AFF.	8" HIGH FIBERGLASS-REINFORCED PANEL - WHITE	GYPSUM BOARD TO 8'-0" AFF.	8" HIGH FIBERGLASS-REINFORCED PANEL - WHITE	8'-0" AFF.	8'-0" AFF.	
105	WOMEN	CONCRETE FLOOR SEALED	SHERWIN WILLIAMS JORTOL SILICONE BLK CHOCOLATE HC-11	4" RUBBER / VINYL BASE	BLACK	GYPSUM BOARD TO 8'-0" AFF.	8" HIGH FIBERGLASS-REINFORCED PANEL - WHITE	GYPSUM BOARD TO 8'-0" AFF.	8" HIGH FIBERGLASS-REINFORCED PANEL - WHITE	8'-0" AFF.	8'-0" AFF.	
106	HALL	CONCRETE FLOOR SEALED	8 STEP RETROPLATE POLISHED	4" RUBBER / VINYL BASE	BLACK	GYPSUM BOARD TO 8'-0" AFF.	SHERWIN WILLIAMS PRO-MAR LATEX SATIN - SEE ELEV. SHEET A-5	GYPSUM BOARD TO 8'-0" AFF.	SHERWIN WILLIAMS PRO-MAR LATEX SATIN - SEE ELEV. SHEET A-5	8'-0" AFF.	8'-0" AFF.	

DOOR SCHEDULE				HARDWARE		REMARKS
NO.	TYPE	HEIGHT	THICK.			
100 (BREAK ROOM)	A	5'-0"	1-3/4"	(1) STANLEY PASSAGE LOCKSET QCL270-E-626-54 - NO KEY REQD., (1) STANLEY DOOR CLOSER GDC031-684		SOLID CORE HOOD DOOR OR HOLLOW CORE METAL DOOR & FRAME PAINTED SH-BLACK HANSOL, 6841 SEMI-GLOSS
101 (OFFICE)	C	5'-0"	1-3/4"	(1) STANLEY STOREROOM LOCKSET QCL270-E-626-54-SC-KD - KEY #2, (1) STANLEY DOOR CLOSER GDC031-684, (1) IVES HALL STOP #402-12B-280, (1) TAGO DOOR VENER #75503P, (1/2) PAIR HINGES		SOLID CORE HOOD DOOR OR HOLLOW CORE METAL DOOR & FRAME PAINTED SH-BLACK HANSOL, 6841 SEMI-GLOSS
102 (RECEIVING/EXIT)	C	5'-0"	1-3/4"	(1) VON DUPRIN GUARD-X EXIT ALARM LOCK #2010-28, (1) STANLEY DOOR CLOSER GDC031-684, (1) DOOR PULL ON USDB, (1) DOOR SWEEP, WEATHERSTRIPPING, (1) TORBSCA-260-RM CYLINDER, (1/2) PAIR HINGES		HOLLOW CORE METAL DOOR & FRAME PAINT EXTERIOR SHT04, 'VAN DYKE BROWN' SEMI-GLOSS, INTERIOR SH-BLACK HANSOL, 6841 SEMI-GLOSS
103A (RECEIVING INTERIOR)	B	6'-0"	1-3/4"	(1) STANLEY STOREROOM LOCKSET QCL270-E-626-54-SC-KD - KEY #2, (1) STANLEY DOOR CLOSER GDC031-684, (1) IVES HALL STOP #402-12B-280, (1) RESTROOM DOOR SIGNAGE (PER DETAIL ON SHEET AS) (1/2) PAIR HINGES		FIRE RATED DOORS, SOLID CORE HOOD DOORS OR HOLLOW CORE METAL DOORS PAINTED SH-BLACK HANSOL, 6841 SEMI-GLOSS
103B (RECEIVING EXTERIOR)	D	6'-0"	1-3/4"	(1) VON DUPRIN GUARD-X EXIT ALARM LOCK #2010-28, (1) VON DUPRIN GUARD-X DOUBLE DOOR STRIKE #2604, (1) DETEX DOUBLE DOOR HOLDER #DDH-2800 TOP & BOTTOM, (2) STANLEY DOOR CLOSERS GDC031-684, (1) STANLEY FULL PLATE #410-32D-260-GRIP, (1) DOOR SWEEP, WEATHERSTRIPPING, (1) TORBSCA-260-RM CYLINDER, (1/2) PAIR HINGES		HOLLOW CORE METAL DOORS & FRAME INTERIOR PAINTED SH-BLACK HANSOL, 6841 SEMI-GLOSS EXTERIOR PAINTED SHT04-'VAN DYKE BROWN' SEMI-GLOSS
104 (MENS RUL)	A	5'-0"	1-3/4"	(1) STANLEY STOREROOM LOCKSET QCL270-E-626-54-SC-KD - KEY #2, (1) STANLEY DOOR CLOSER GDC031-684, (1) IVES HALL STOP #402-12B-280, (1) NATIONAL GUARD HP THRESHOLD #425 10-4-FT., (1) DOOR SWEEP, WEATHERSTRIPPING, (1) TORBSCA-260-RM CYLINDER, (1/2) PAIR HINGES		SOLID CORE HOOD DOORS OR HOLLOW CORE METAL DOORS & FRAME PAINTED SH-BLACK HANSOL, 6841 SEMI-GLOSS
105 (WOMENS RUL)	A	5'-0"	1-3/4"	(1) STANLEY STOREROOM LOCKSET QCL270-E-626-54-SC-KD - KEY #2, (1) STANLEY DOOR CLOSER GDC031-684, (1) IVES HALL STOP #402-12B-280, (1) RESTROOM DOOR SIGNAGE (PER DETAIL ON SHEET AS) (1/2) PAIR HINGES		SOLID CORE HOOD DOORS OR HOLLOW CORE METAL DOORS & FRAME PAINTED SH-BLACK HANSOL, 6841 SEMI-GLOSS
106 (STOREFRONT)	E	6'-0"	1-3/4"	BY DOOR MANUFACTURER TO BE RE-KEYED BY DOLLAR GENERAL AREA MANAGER WITH (1) ILCO RM CYLINDER #10986A-280.		2'-0" BI-PART WITH TRANSOM AND HINDOCS, BRONZE FINISH

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 Facsimile:
   
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 1100 South Street
   
 Wilson, NC 27893
   
 Phone: 252.399.2700
   
 Facsimile: 252.399.2701

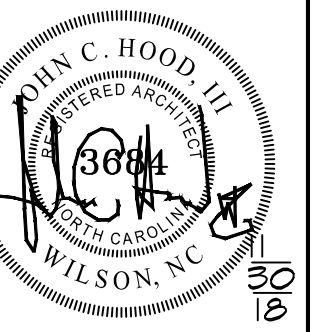
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**DOLLAR GENERAL**
  
 STORE # 20312
   
 SPRING HILL CHURCH ROAD
   
 LILLINGTON, NORTH CAROLINA

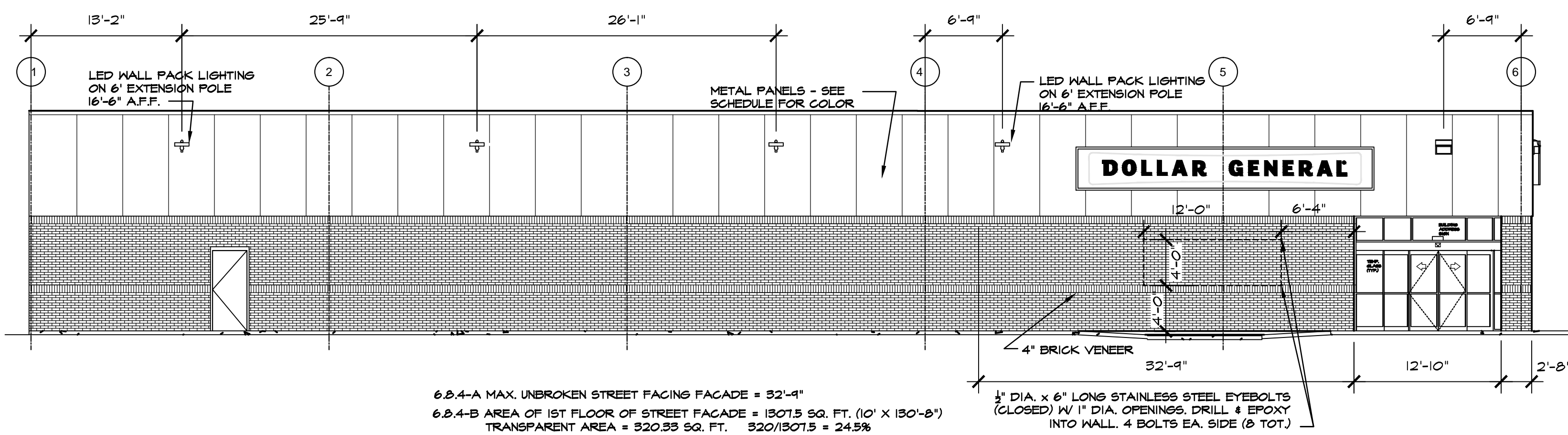
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**A-1**
  
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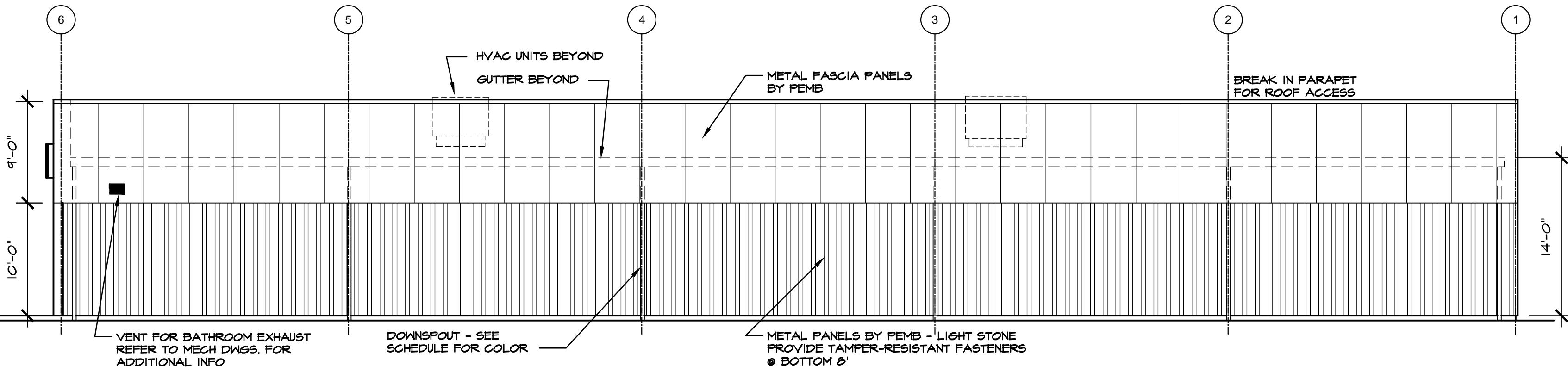


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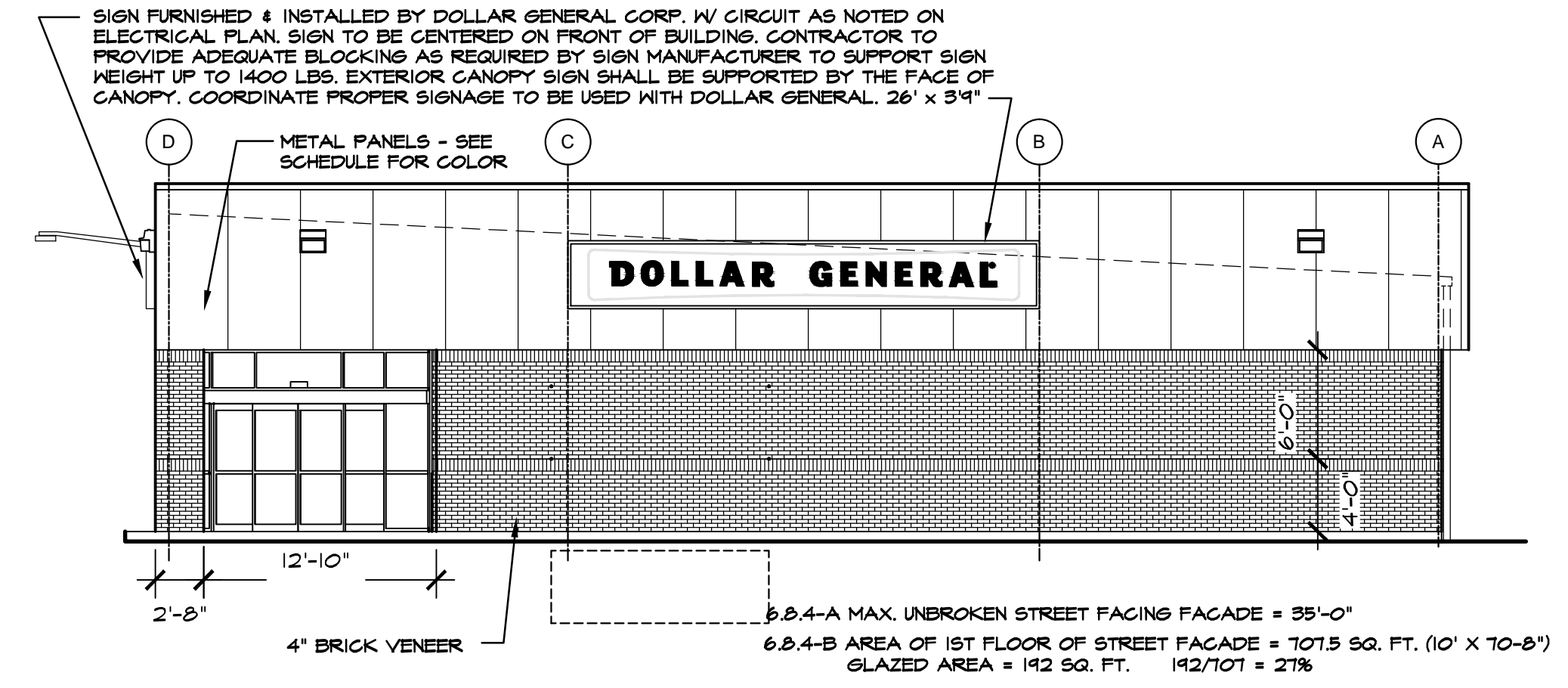
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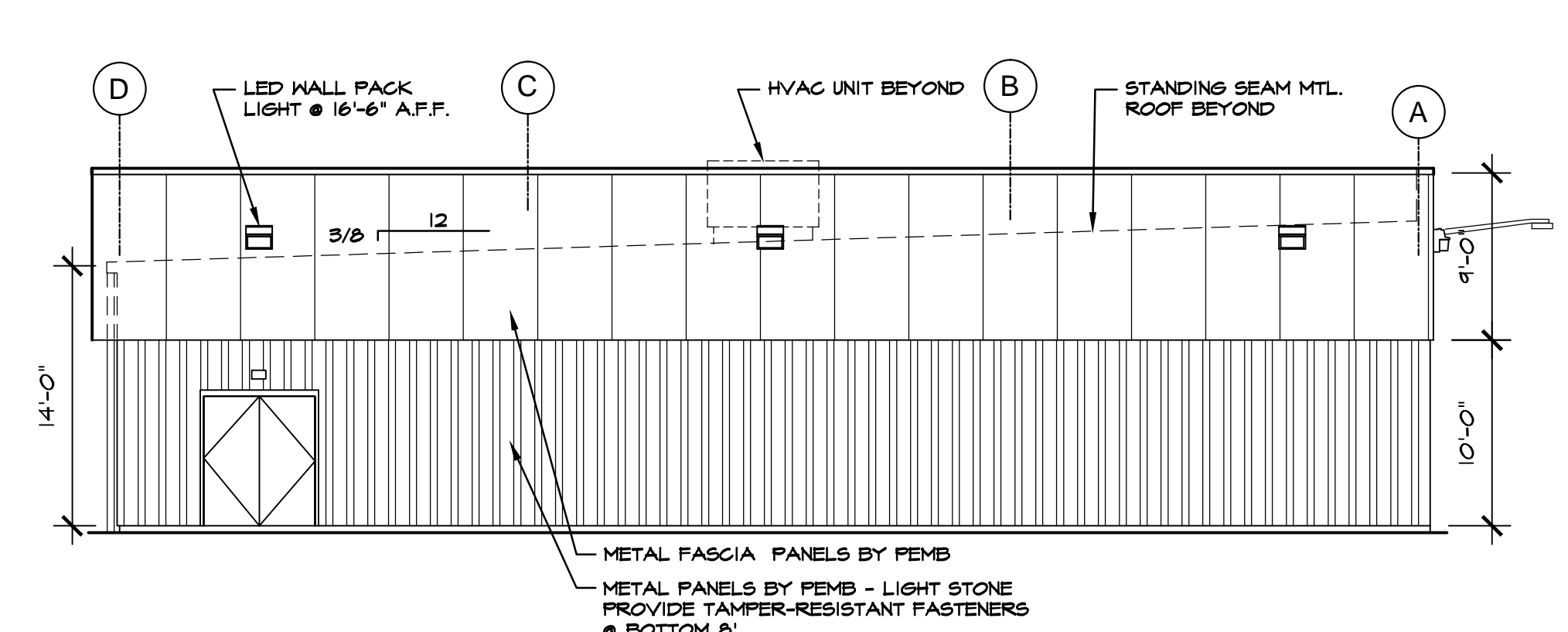
LEFT SIDE ELEVATION



RIGHT SIDE ELEVATION

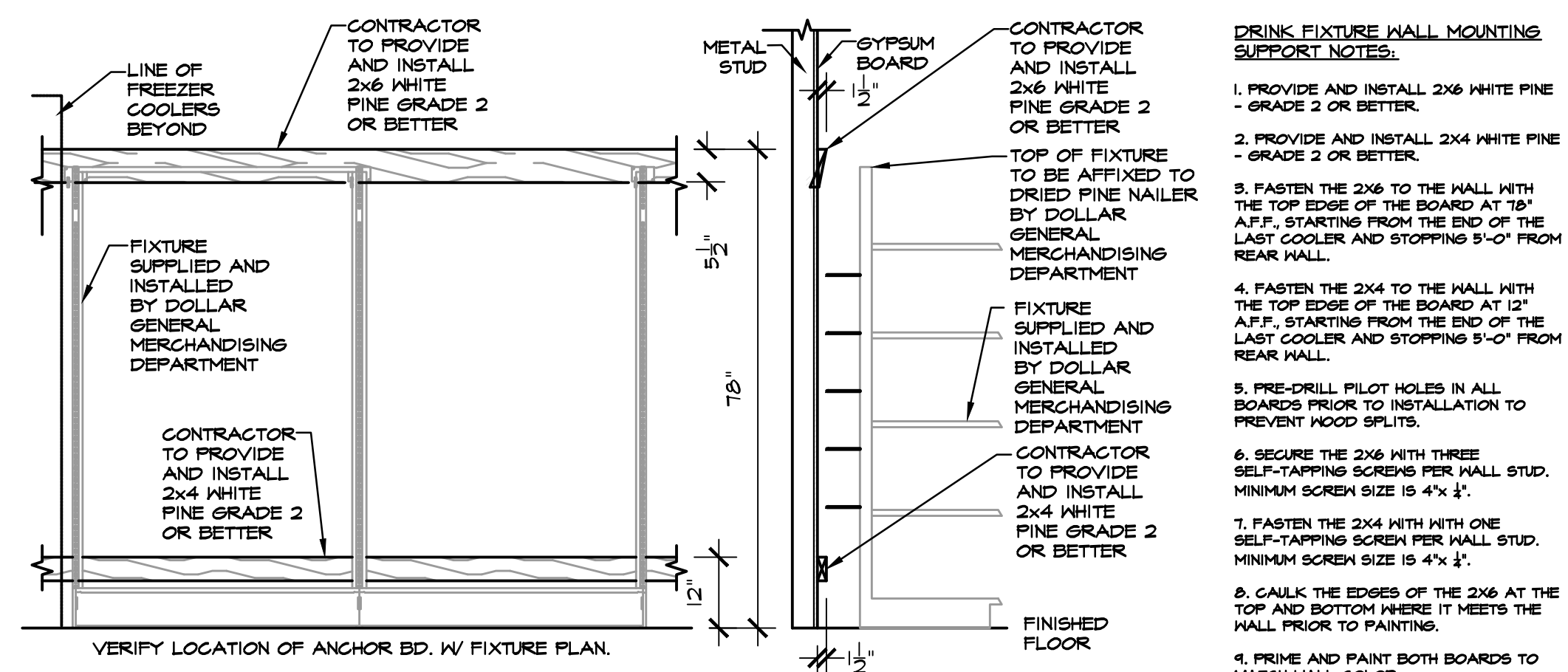


FRONT ELEVATION (STREET FACE)



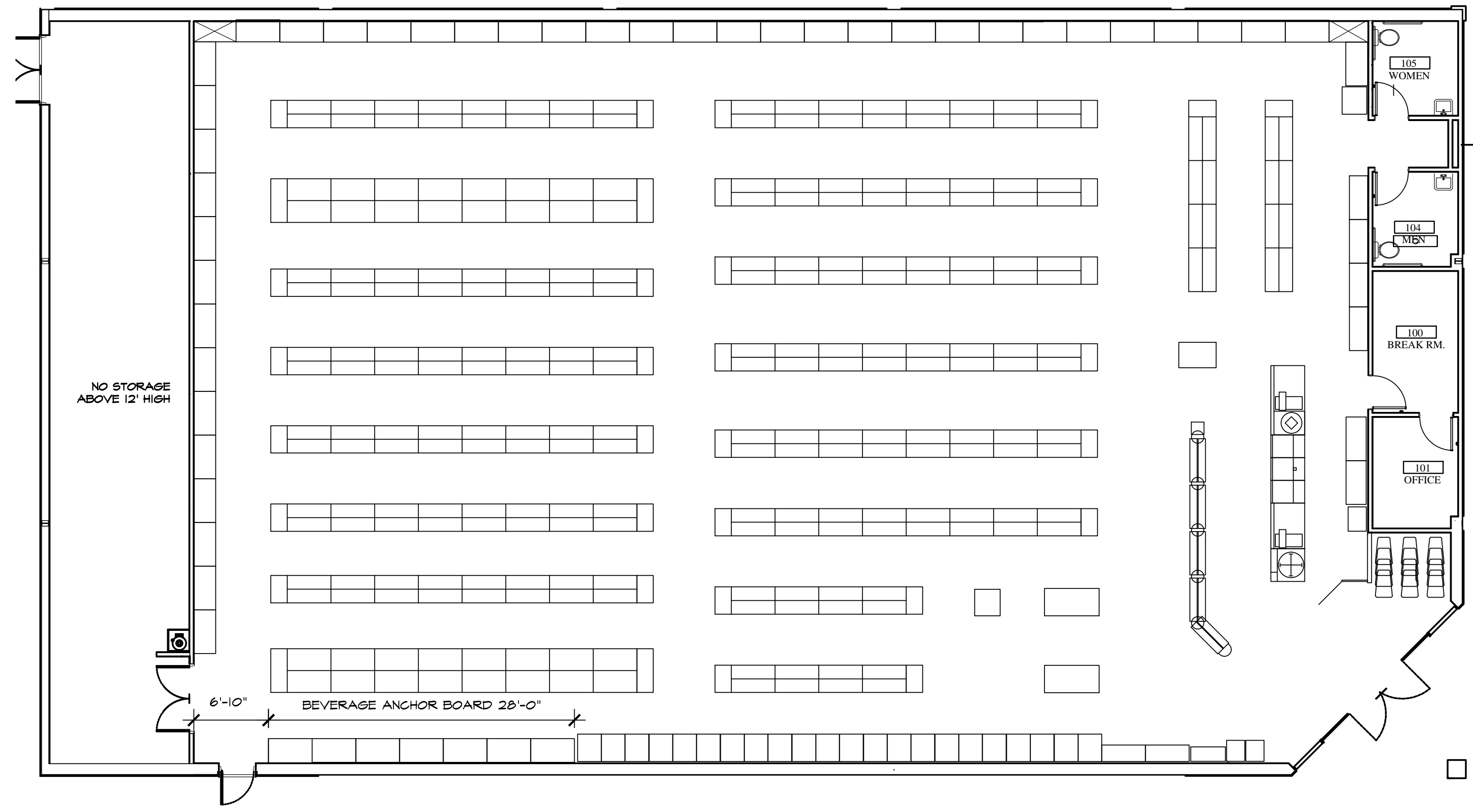
REAR ELEVATION

PRE-ENGINEERED METAL BUILDING VENDOR	VP BUILDINGS ATTN: DAVID ENGLISH (801) 748-6103	STAR BUILDING SYSTEMS ATTN: JEFF HORN (866) 664-8899	NUCOR BUILDING SYSTEMS ATTN: BOB BARRY (313) 622-4440 (262) 837-7891	BIG BEE STEEL BUILDINGS, INC. ATTN: KEVIN BUSLER (800) 653-3378	CHIEF BUILDINGS ATTN: ERIN SULLIVAN (303) 355-4623 (303) 390-8199
<b>EXTERIOR FINISHES</b> EXTERIOR FINISHES ARE TO MATCH OR BE EQUAL TO VP METAL BUILDING SYSTEMS FINISH SELECTION.	COOL EGYPTIAN WHITE PATRIAN BRONZE KYNARK 500	BRONZE COOL COTTON WHITE GALVALUME	LIGHTSTONE MEDIUM BRONZE KYNARK 500 BRONZE POLAR WHITE GALVALUME	LIGHTSTONE MEDIUM BRONZE KYNARK 500 BRONZE POLAR WHITE GALVALUME	SANDSTONE BURNISHED SLATE BRONZE POLAR WHITE GALVALUME
GUTTERS	•	•	•	•	•
DOWN SPOUTS	•	•	•	•	•
SIDE AND REAR METAL WALL PANELS & TRIM, RECEIVING & EMERGENCY EXIT DOORS	•	•	•	•	•
BRICK VENEER					
FLAT METAL SOFFIT AT STOREFRONT VESTIBULE AREA		•	•	•	•
BUILDING PARAPET WALL AND CANOPY	•	•	•	•	•
STOREFRONT SYSTEM	•	•	•	•	•
STANDING SEAM METAL ROOF PANELS		•	•	•	•
LINER PANELS (INTERIOR SALES FLOOR)		•	•	•	•



DRINK FIXTURE SUPPORT DETAIL

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



FIXTURE LAYOUT (CONFIRM W/ DOLLAR GENERAL PLANS)

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

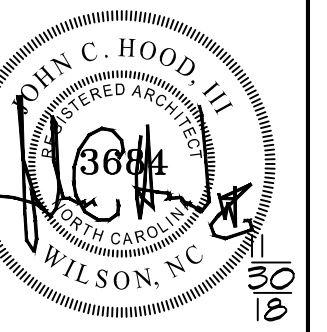
**DOLLAR GENERAL**  
 STORE # 20312  
 SPRING HILL CHURCH ROAD  
 LILLINGTON, NORTH CAROLINA

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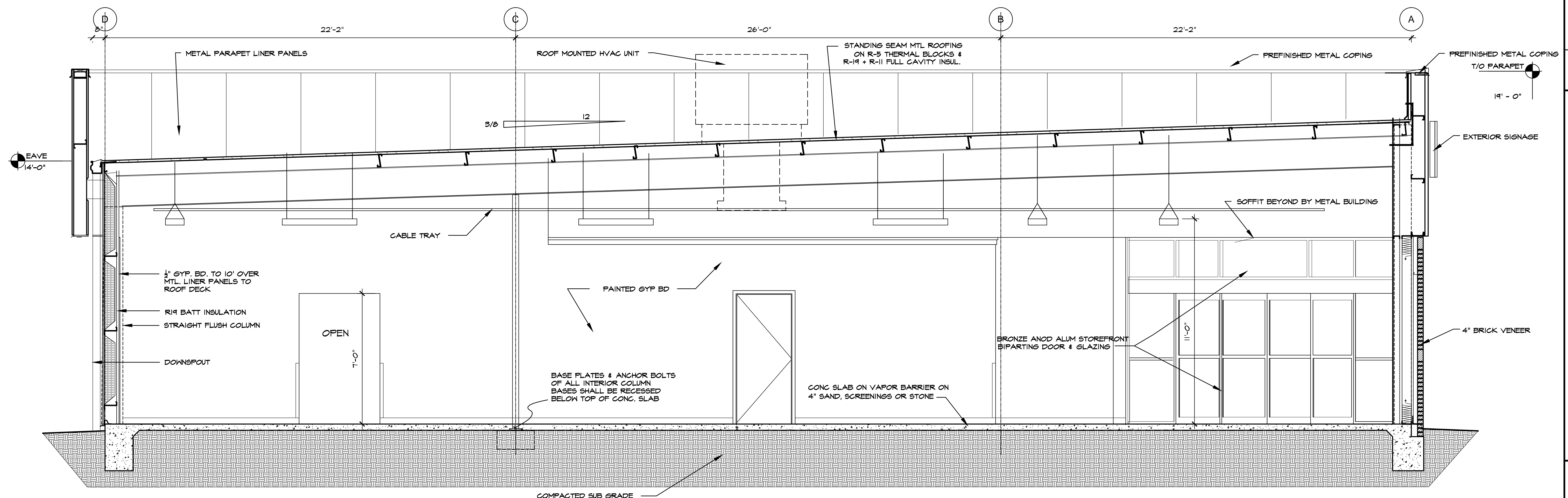
**A-2**

OF



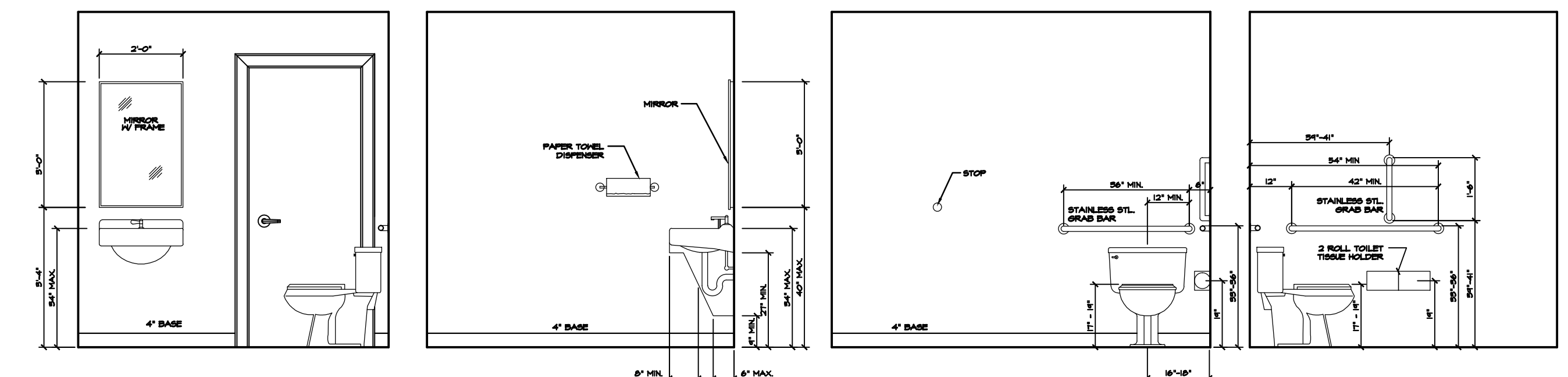
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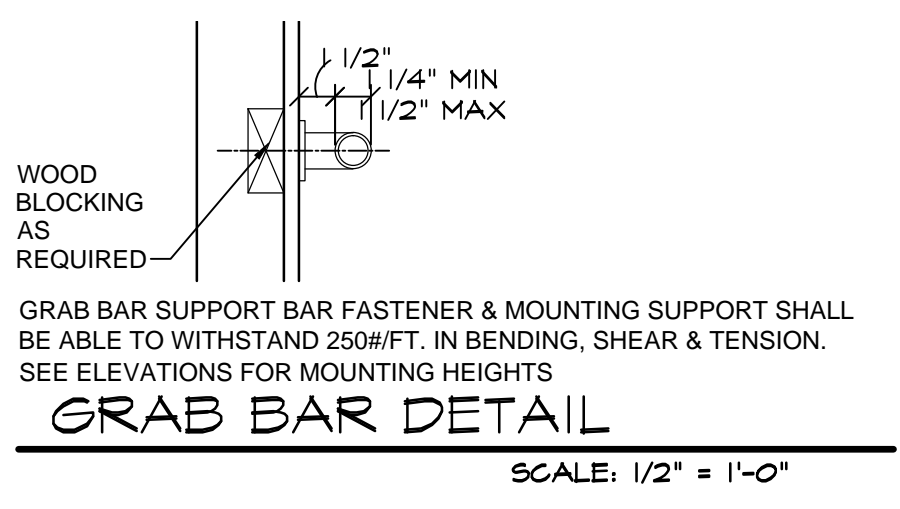
301 BUILDING SECTION

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



RESTROOM ELEVATIONS

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



GRAB BAR DETAIL

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

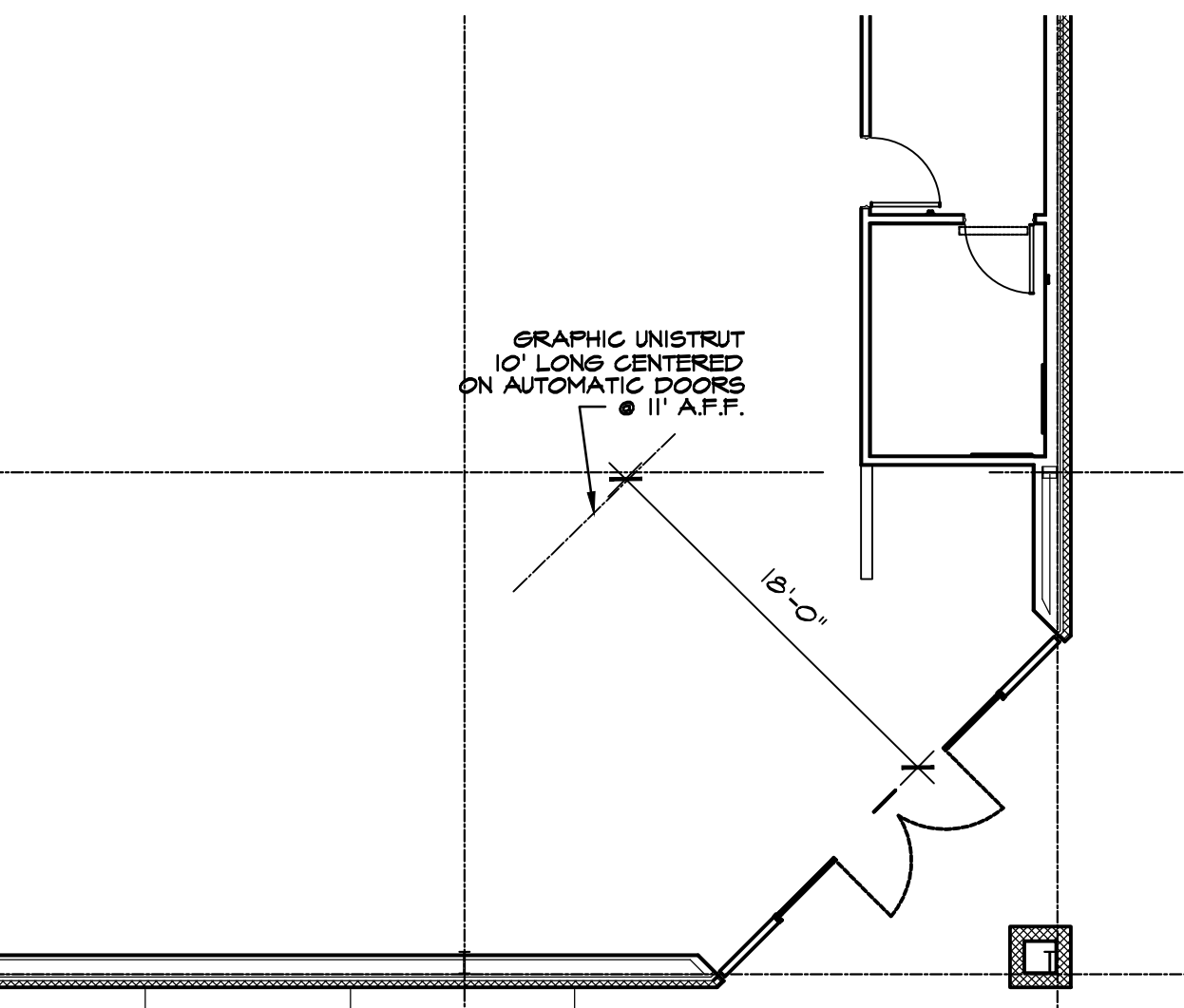
TOILET ROOM ACCESSORIES		DOOR HARDWARE	
B2740	BOBRICK DOUBLE TOILET TISSUE DISPENSER	54-US32D	BURNS PUSH PLATE
B253	BOBRICK PAPER TOWEL DISPENSER	5410-32D-26D-GRIP	BURNS PULL PLATE
A-24x36	GAMCO 24" x 36" ANGLE FRAME MIRROR	B2DDH-2250 **	DETEX DOUBLE DOOR
150Sx36	GAMCO 1 1/2" X 36" GRAB BAR	DS1000/MB	DOOR SCOPE (FORE RECEIVING EXIT DOOR)
150Sx42	GAMCO 1 1/2" X 42" GRAB BAR	608Z	8" DOOR HOLDER
150Sx18	GAMCO 1 1/2" X 18" GRAB BAR	770SAV-3FT	3 FT DOOR SWEEP
MS-1	GAMCO MOP HOLDER	770SAV-4FT	4 FT DOOR SWEEP
		W101S-DANE-626	FALCON PASSAGE LOCK SET
		W581PD-DANE-626	FALCON STOREROOM LOCKSET
		5400	HAGER DOOR CLOSER
		701SSC8-26D*	ILCO RIM CYLINDER
		402-1/2B-26D	3IVES WALL STOP
		425B26D-4	IVES 4" DOOR HOLDER
		8400-S32D-8X34	FALCON PASSAGE LOCK SET
		425 HD - 6FT	NATIONAL GUARD HD THRESHOLD (FOR RECEIVING EXIT DOOR)
		TA3310PC	TACO DOOR VIEWER
		2670-28	VON DUPRIN GUARD-X EXIT ALARM LOCK
		2609 **	VON DUPRIN GUARD-XDOUBLE DOOR STRIKE
		892SAV-84INCH	WEATHERSTRIPPING

**TOILET ROOM NOTES:**

- ALL TOILET ROOM ACCESSORIES PROVIDED BY BASS SECURITY. REFER TO T01 FOR VENDOR CONTACT.
- ALL STORES MUST INCLUDE 2 REST ROOMS, EVEN WHEN NOT REQUIRED BY CODE. ANY VARIATION MUST BE APPROVED, IN WRITING, BY THE DOLLAR GENERAL CONSTRUCTION DEPARTMENT.
- RESTROOMS MUST COMPLY WITH ALL BUILDING (FEDERAL, STATE, AND LOCAL) FIRE, AND HEALTH DEPARTMENT CODES. ADA REQUIREMENTS MUST ALSO BE MET IN BOTH RESTROOMS. SOME CODES MAY REQUIRE ADDITIONAL TOILETS OR LAVATORIES. PLEASE CONTACT DOLLAR GENERAL CONSTRUCTION DEPARTMENT FOR ALTERNATE PLANS FOR THESE SITUATIONS.
- PROVIDE AND INSTALL 2'x3' MIRROR (OR LARGER IF REQUIRED BY CODE).
- CONTRACTOR TO INSTALL SOAP DISPENSERS, TOILET PAPER HOLDERS, DOOR CLOSER, EXHAUST FANS, AND ALL BASS SECURITY PARTS IN BOTH RESTROOMS. PROVIDE SOLID BLOCKING IN WALL FOR SUPPORT.

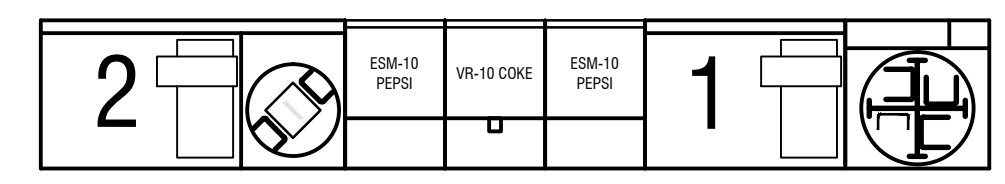
**DOOR HARDWARE NOTES:**

- ALL DOOR HARDWARE PROVIDED BY BASS SECURITY. REFER TO T01 FOR VENDOR CONTACT.

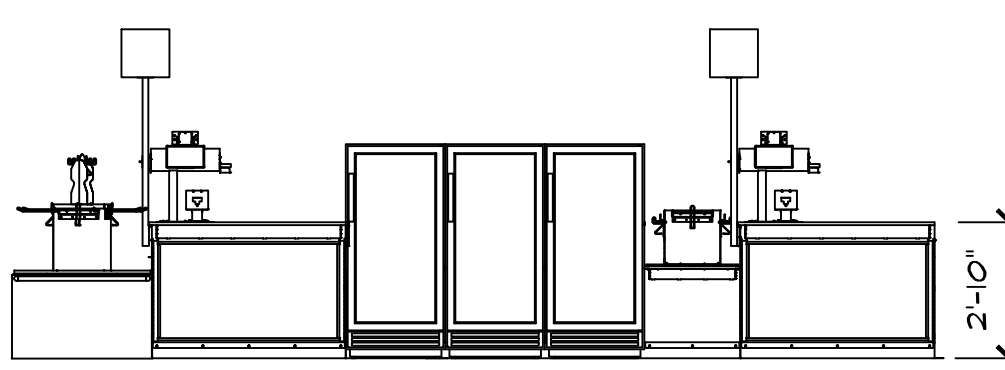


UNI-STRUT LAYOUT FOR SIGNAGE

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



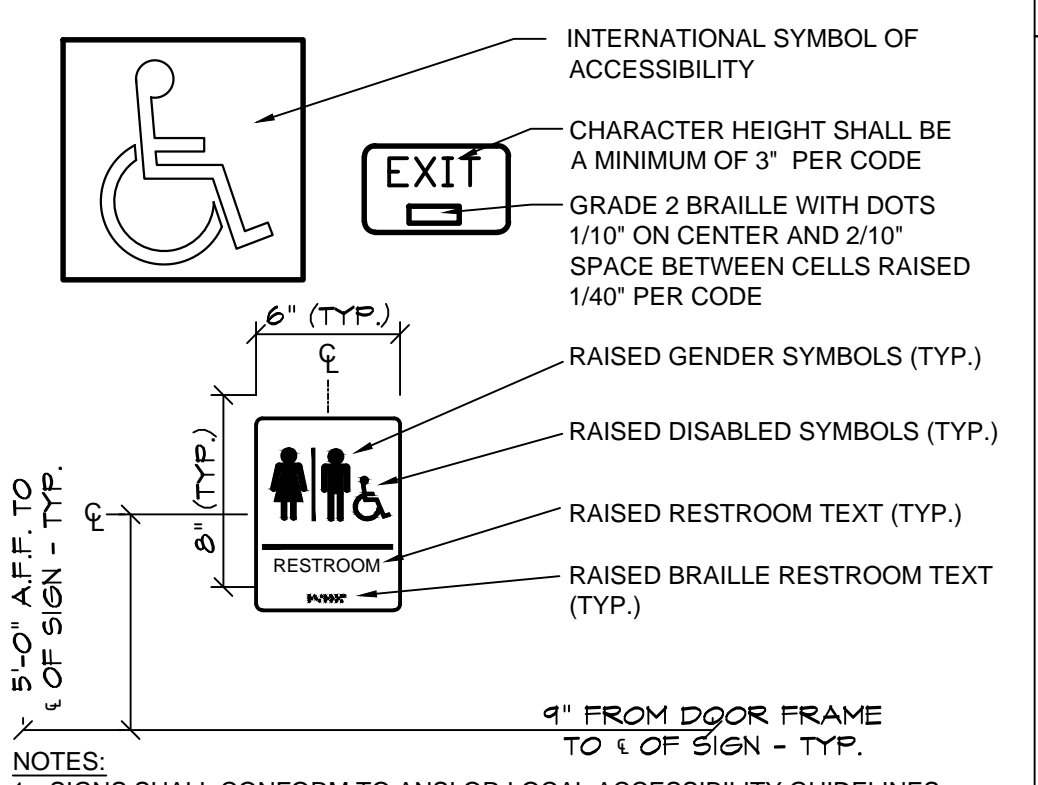
A - SERVICE COUNTER PLAN



B - ELEVATION

SERVICE COUNTER DETAILS

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



ACCESSIBLE SIGNAGE

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

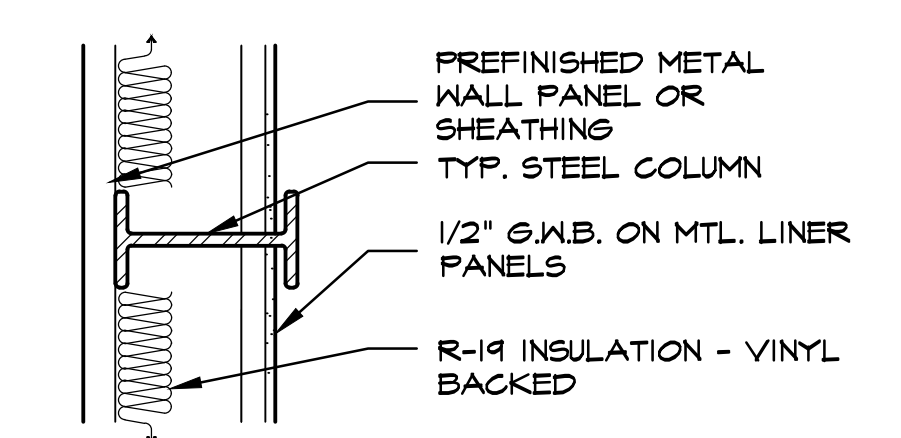
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**A-3**

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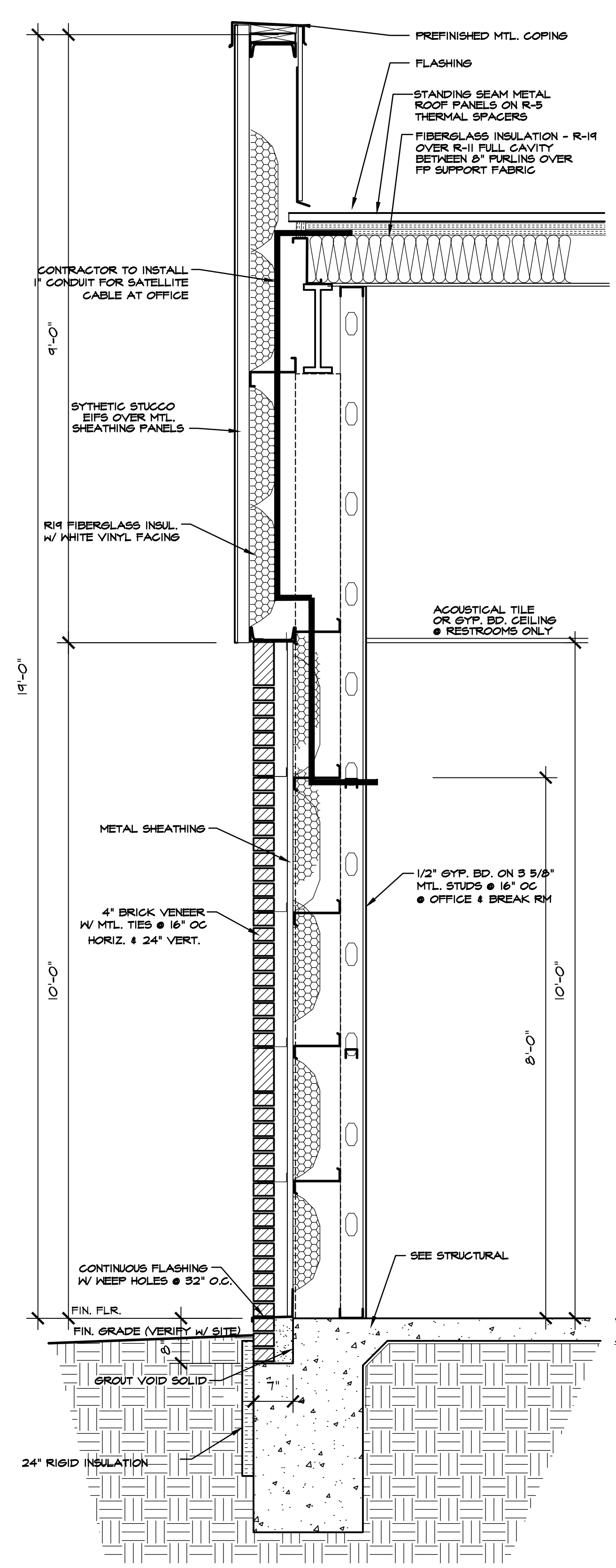


405 DETAIL @ COLUMN  
SCALE: 1" = 1'-0"

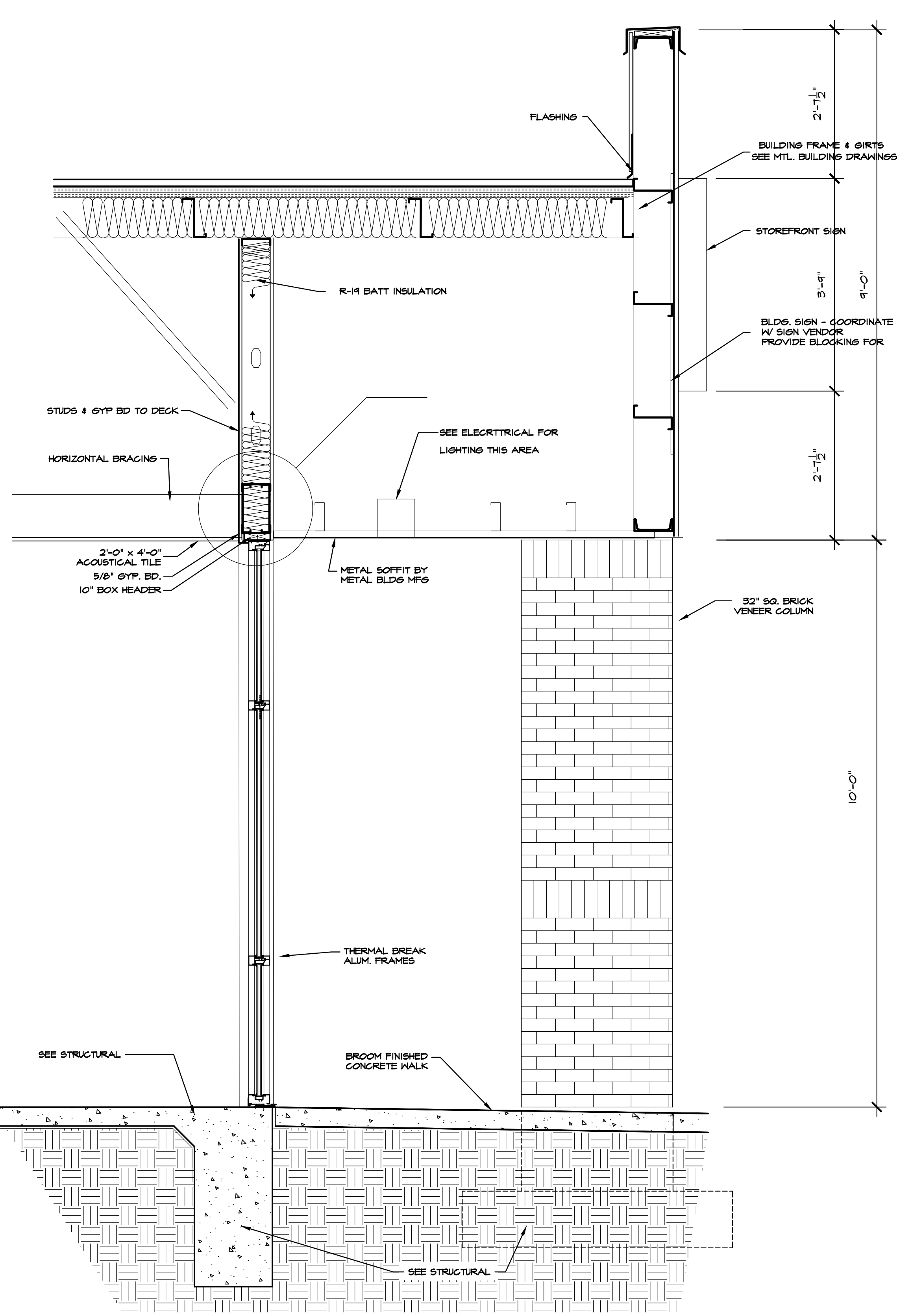


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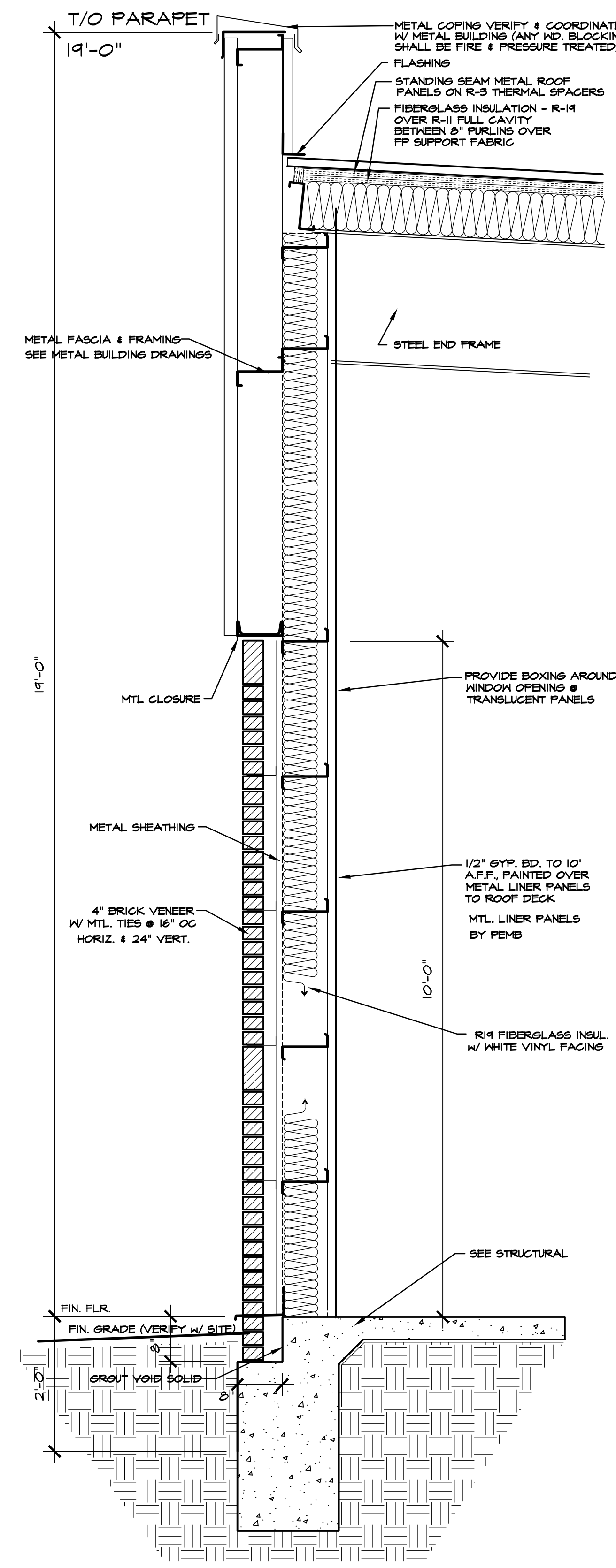
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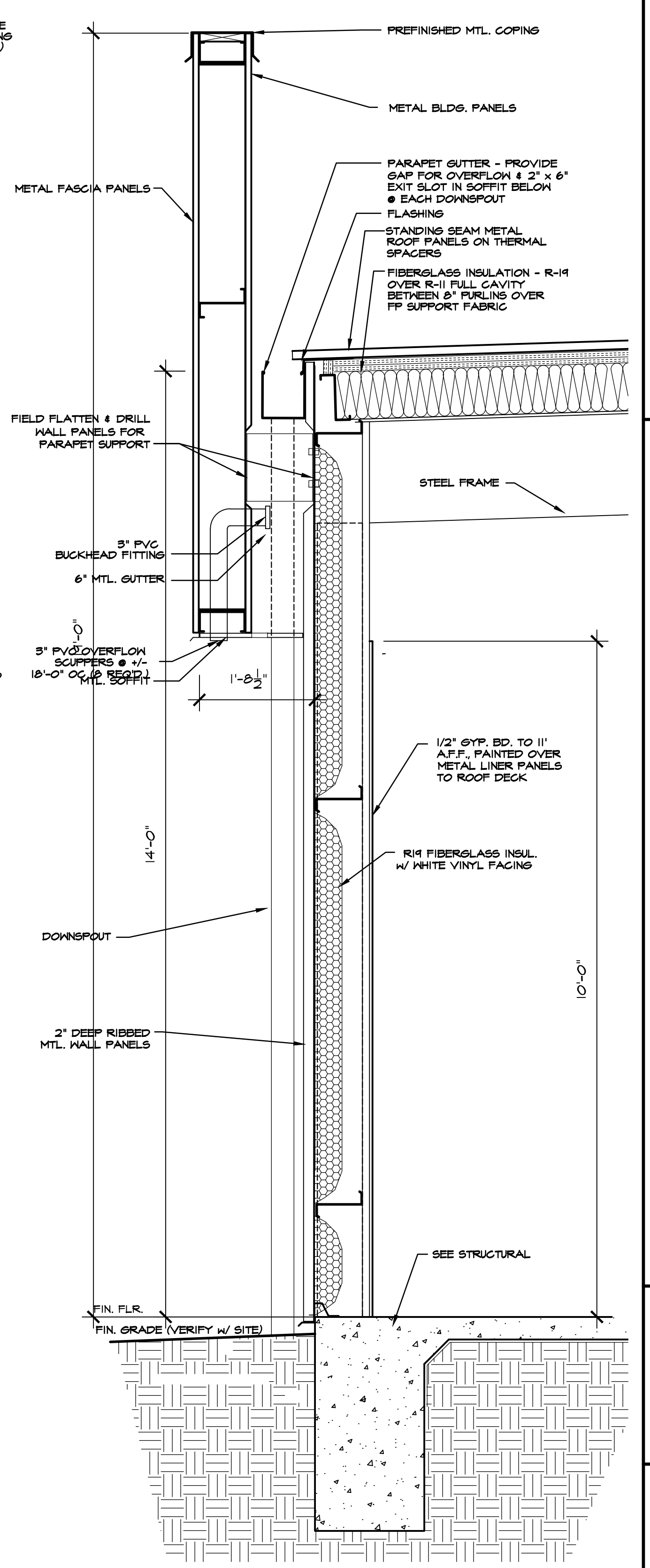
401 WALL SECTION @ FRONT WALL  
SCALE: 3/4" = 1'-0"



402 WALL SECTION @ ENTRY  
SCALE: 3/4" = 1'-0"



403 WALL SECTION LEFT SIDE WALL  
SCALE: 3/4" = 1'-0"



404 WALL SECTION RIGHT SIDE WALL  
SCALE: 3/4" = 1'-0"

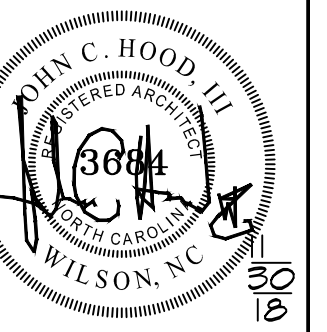
**DOLLAR GENERAL**  
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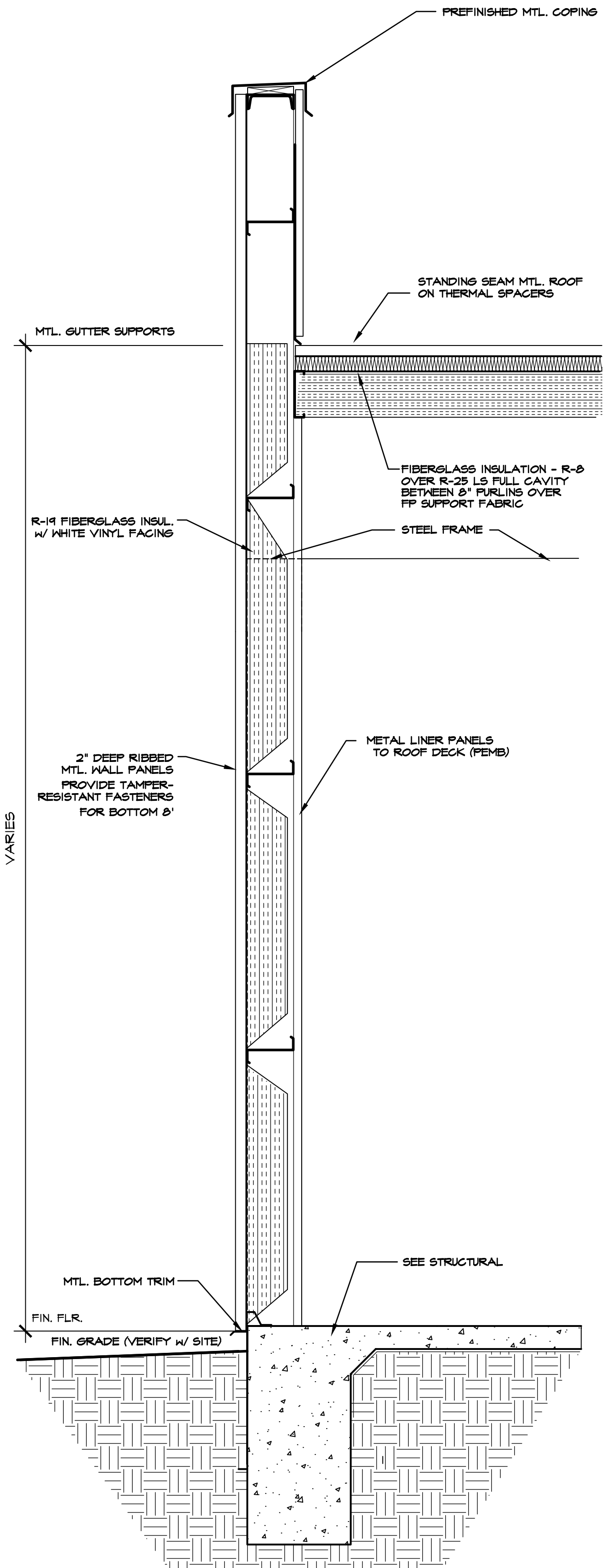
**REQUIRED NATIONAL ACCOUNT VENDORS:**

COMPANY	CONTACTS	PHONE #	REQUIRED ITEMS
RAINBIRD IRRIGATION	LOCAL RAINBIRD DISTRIBUTOR	www.rainbird.com	IRRIGATION SYSTEMS
EUCRID CHEMICAL COMPANY	PHIL BRANDT	877-458-3826 PBrandt@eucridchemical.com	CONCRETE POLISHING SYSTEMS
RETROPLATE SYSTEMS	SCOTT MAXFIELD	888-641-6746 scott.maxfield@retroplatesystem.com	CONCRETE POLISHING SYSTEMS
ASSA ABLAY ENTRANCE SYSTEMS	ROSS MERKLE	604-528-2580 dollargeneralbesam.us@assaablay.com	AUTOMATIC DOORS AND STORE FRONT GLAZING SYSTEM
COOK & BOARDMAN GROUP	JOE HARRELL	336-857-0675 nationalsales@cookandboardman.com	INTERIOR DOORS & FRAMES & RESTROOM ACCESSORIES
SHERWIN WILLIAMS	LOCAL SHERWIN WILLIAMS STORE		PAINT, PRIMER, CONCRETE SEALER AND BLOCK FILLER
MC CUE CORPORATION	KEVIN ONEAL	678-492-4026 konell@mccuecorp.com	TRIM KIT, BUMPER GUARDS, CART STOP
LENOX	SCOTT MACDONALD	412-447-6781 dollargeneral@lenoxind.com	HVAC UNITS
ROOF CURB SYSTEMS	CLIFTON REASOR	800-683-5848 gmyth@roofcurb.com	RTU CURB
CURBS PLUS INC.	ALLAN THRAILKILL	888-694-2872 alan.thrailkill@curbs-plus.com	RTU CURB
KCC INTERNATIONAL INC.	GREG CONRAD	800-382-2872 gconrad@kccurbs.com	RTU CURB
NESCO	CHRIS TRACY	800-244-6980 dollargeneral@needhomelectric.com	ELECTRICAL SWITCH GEAR
LEDS	MICHAEL STRINGER KYLE KNAPP	420-415-4010 d.gorders@leds-llc.com	ELECTRICAL LIGHTING SUPPLIES
D&P CUSTOM LIGHTING	NATIONAL ACCOUNT SALES	800-251-2200	CUSTOM POWER POLES
ASD	CHRIS RUDNITSKI	828-624-1046 crudnitski@asd-usa.com	LOW VOLTAGE & VOICE/DATA
GRAYBAR	JEROME BANNISTER	615-748-9202 ext. 615-424-2135 call dollargeneral@graybar.com	CABLE TRAY
EMERSON CLIMATE TECHNOLOGIES	http://dollargeneralbid.ecsolutions.net	USER NAME: dollargeneralbid PASSWORD: dollargeneralbid	EMS SUPPLIER NOTE: CUSTOMIZED DOLLAR GENERAL EMS PANEL REQUIRES STORE #, CITY, STATE, ZIP CODE & QTY. OF HVAC UNITS OF THE INSTALL SITE WHEN ORDERING.
STANLEY CONVERGENT SECURITY SOLUTIONS	DAN GOLDSMITH	740-862-2051	INTERIOR FIRE ALARM PANELS

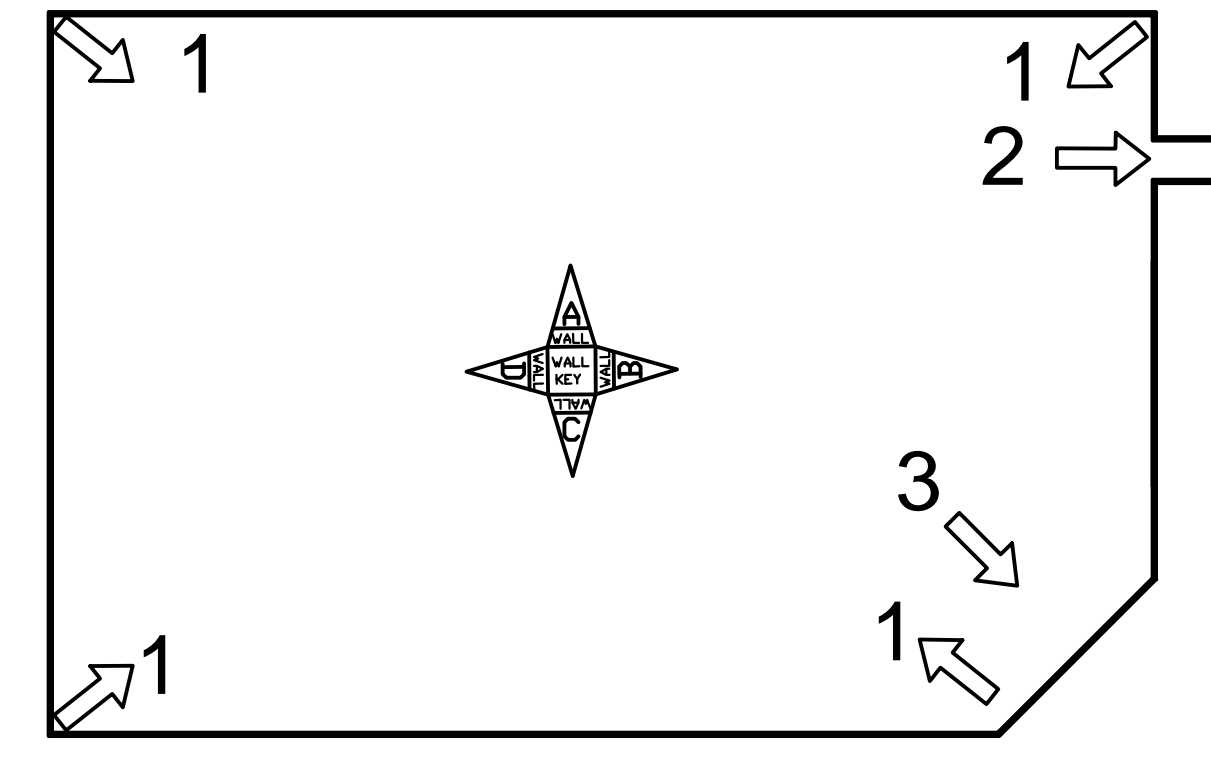
**REQUIRED NATIONAL ACCOUNTS FOR ENGINEERING & CONSTRUCTION MATERIAL TESTING**

COMPANY	CONTACTS	PHONE #	REQUIRED ITEMS
ATC ASSOCIATES, INC.	LESLIE GREENWOOD	205-733-8775 dollargeneral@atcassociates.com	www.atcassociates.com
BUILDINGS AND EARTH SCIENCES, INC.	MATT ADAMS	205-836-6500 dollargeneral@buildingandearth.com	www.buildingandearth.com
EAS PROFESSIONALS, INC.	JERRY MARRONE	864-234-7368 dollargeneral@eas-pro.com	www.eas-pro.com
PROFESSIONAL SERVICE INDUSTRIES, INC. (PSI)	TERESA HEBNER	770-424-6200 #8080 teresa.hebner@psia.com	www.psiusa.com
TERRACON	JOHN MEADOW	770-623-0755 #553 dollargeneral@terracon.com	www.terracon.com

NATIONAL ACCOUNT & CONTACT INFORMATION SUBJECT TO CHANGE



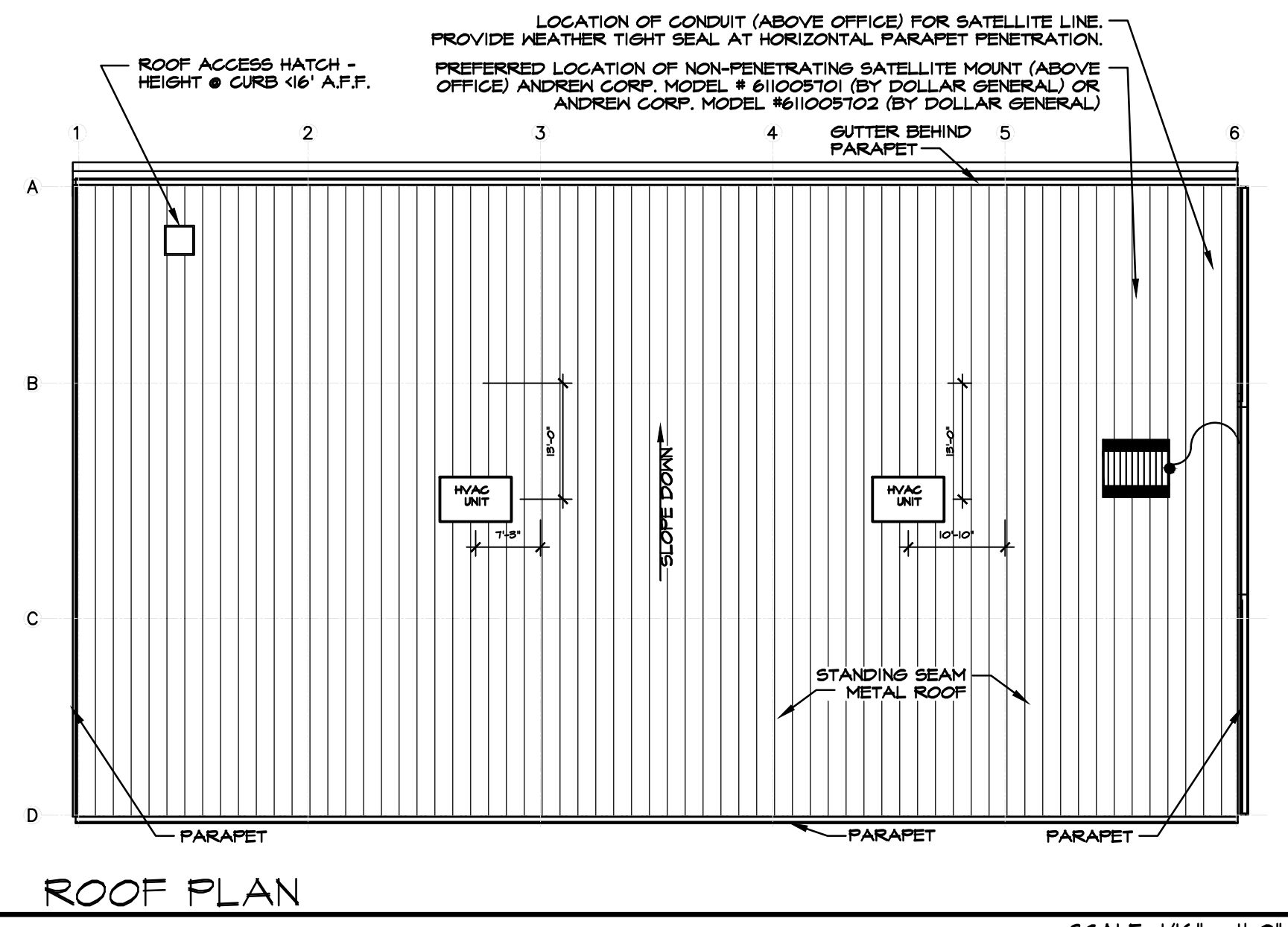
501 WALL SECTION REAR WALL  
 SCALE: 3/4" = 1'-0"



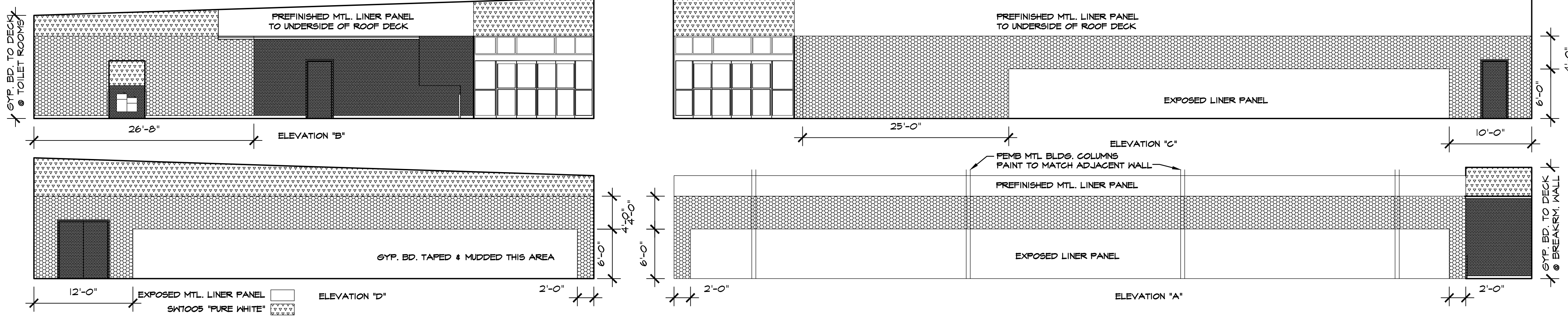
**REQUIRED PHOTOS**  
 The following layout shows the required photos to be taken at completion. (make sure the overhead lights are on for your photos.)

- From each corner of the stockroom, facing the opposite corner.
- Hall (in side entrance stores, one picture from each end of the hall)
- Standing 10' from the entrance facing the entrance.

ELEVATION/PHOTO KEY PLAN



ROOF PLAN  
 SCALE: 1/16" = 1'-0"



PAINTING DIAGRAM HOLD ON INTERIOR FINISHES UNTIL FURTHER NOTICE

**DOLLAR GENERAL**  
 STORE # 20312  
 SPRING HILL CHURCH ROAD  
 LILLINGTON, NORTH CAROLINA

JOB NUMBER  
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 DATE: 11/30/18  
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SHEET NUMBER

**A-5**  
 OF

1) GENERAL

A. The building shall be designed such that there is maintained an absolute minimum of 68"-1" from face-of-column to face-of-column on the sales floor.

2) FOUNDATIONS

A. The concrete foundations shall be designed, detailed and constructed to provide for the safe, serviceable support of the pre-manufactured metal building structure and all prescribed loads applied thereto.

B. The soils supporting the foundation shall be prepared and compacted in accordance with a geotechnical testing based investigation and site specific recommendations provided by a Professional Engineer registered to practice in the State where the project is located.

C. The slab on grade shall not be utilized to resist horizontal thrust forces at the base of the pre-engineered building frames. Tie beams below and separate from the building slab may be utilized.

D. The bearing materials shall be free of organic, expansive or corrosive material, and shall support the foundation in accordance with the following twenty five year criteria:

- 1. Maximum differential movement due to either settlement or heave shall not exceed 1/2" over a distance of 50 feet.
2. Maximum total movement due to either settlement or heave shall not exceed 1".

E. The foundations shall be of sufficient depth to bear below local frost depth where exposed, attain minimum design bearing pressure, achieve sufficient protection from settlement or heave, and where adjacent to existing construction, avoid application of lateral earth pressure to adjacent construction.

3) SLAB ON GRADE

A. The subgrade for the slab on grade shall be compacted and prepared in accordance with a geotechnical testing based investigation and site specific recommendations provided by a Professional Engineer registered to practice in the State where the project is located.

B. The slab on grade shall conform to the latest editions of all applicable standards of the American Concrete Institute (ACI), the Building Code(s) enforced by the Authority Having Jurisdiction and these requirements.

C. Except at doors at the perimeter of the facility, the slab on grade shall be isolated from the building columns and any perimeter grade beams or walls. The slab on grade shall receive a hard steel trowel finish.

4) CONCRETE SALES FLOOR PRE-INSTALLATION CONFERENCE

A. At least 30 days prior to the start of the concrete slab construction, the general contractor shall conduct a meeting to review the proposed concrete mix designs and to discuss the required methods and procedures to achieve the requirements of this specification.

B. The general contractor shall require responsible representatives of every party concerned with the concrete work to attend the conference, including, but not limited to, the following: General contractor's superintendent

- 1. Laboratory responsible for concrete mixes, field quality control and floor tolerance testing
2. Ready-mix concrete producer
3. Concrete contractor
4. Chemical admixture manufacturer
5. Liquid densifier and sealer manufacturer
6. Liquid densifier and sealer applicator
7. Joint filling manufacturer
8. Joint filling applicator

C. Minutes of the meeting shall be recorded, typed and printed by the general contractor and distributed to all concerned parties, including the owner's representative, the architect and the structural engineer, within five days of the meeting.

D. The minutes shall include a statement by the concrete supplier stating that the proposed concrete mix design will produce the concrete quality required by these specifications.

E. The minutes shall include a statement by the concrete contractor that the proposed concrete mix design will provide appropriate workability and setting times, to ensure that the concrete contractor can achieve the requirements of this specification.

5) CONCRETE CONTRACTOR QUALIFICATION

A. The concrete contractor shall include in their bid package to the general contractor, sufficient data, including a minimum of three similar and successful projects that clearly indicates the concrete contractor's ability to successfully perform the work and to achieve the interior sales floor slab tolerances required in this specification.

6) CONCRETE MATERIALS

A. Portland Cement: ASTM C 150, Type 1. Use one brand of cement throughout the project.

B. Coarse and fine aggregates: ASTM C 33. Combined aggregate gradation for slabs on grade and other designated concrete shall be 8% - 18% for large top size aggregates (1 1/2") or 8% - 22% for smaller top size aggregates (1" or 3/4") retained on each sieve below the top size and above the no. 100 sieve.

C. Water: complying with ASTM C 94.

D. Air-entraining admixtures: Shall conform to ASTM C-260. Admixture manufacturer shall provide written certification that the air-entraining admixture is compatible with other required admixtures.

E. Water-reducing admixture: Shall conform to ASTM C494, Type A and contain no more than 0.05% chloride ions. Acceptable products: Euclid Chemical Eucon series; BASF Pozzolith series; W.R. Grace WRDA or Daracem series.

F. Water-reducing, retarding admixture: Shall conform to ASTM C494, Type D, and contain no more than 0.05% chloride ions. Acceptable products: Euclid Chemical Retarder 75; BASF Pozzolith series; W.R. Grace Daratard 17.

G. High range water-reducing admixture (superplasticizer): Shall conform to ASTM C494, Type F or Type G and contain no more than 0.05% chloride ions. Acceptable products: Euclid Chemical Eucon 37; BASF Rheobuild 1000; W.R. Grace daracem-100.

H. Water-reducing, non-corrosive accelerating admixture: Shall conform to ASTM C494, Type C or E, and contain no more chloride ions than are present in municipal drinking water.

- 1. Calcium chloride or admixtures containing more than 0.05% chloride ions are not permitted.
2. Flyash is not permitted.

7) EVAPORATION RETARDER:

A. Waterborne, monomolecular film forming, manufactured for application to fresh concrete.
1. Acceptable products:
a. "Eucobar" by Euclid Chemical - Phil Brandt 877-438-3826

8) CURING MATERIALS:

A. Exterior curing: All exterior concrete slabs shall be cured using a liquid membrane-forming curing compound. The liquid membrane-forming curing compound shall meet the requirements of ASTM C1315 with a maximum V.O.C. Content of 700 g/l.

B. Interior curing (building not enclosed/sales floor slab is placed first): The interior sales floor slab shall be cured using a reduced odor, dissipating liquid membrane forming curing compound that is formulated from hydrocarbon resins.

C. Interior curing (building enclosed/sales floor slab is placed last): The interior sales floor slab shall be cured using a removable, low odor, fast drying liquid membrane forming curing compound.

D. Approval: All general contractors bidding or negotiating a Dollar General project shall contact Euclid Chemical or RetroPlate to obtain a list of approved applicators located within the geographic region of the project.

9) LIQUID DENSIFIER / SEALER FOR INTERIOR SALES FLOOR:

A. Liquid densifier / sealer shall be a sodium silicate / silicate blend. Manufacturer of liquid densifier and sealer must be contacted prior to bidding for pricing and application requirements.

- 1. Acceptable liquid densifier and sealer manufacturer:
a. "Euco Diamond Hard" by Euclid Chemical - Phil Brandt 877-438-3826
b. "RetroPlate 99" by RetroPlate Systems - Curtis Turnbull 888-942-3144

B. Approval: All general contractors bidding or negotiating a Dollar General project shall contact Euclid Chemical or RetroPlate to obtain a list of approved applicators located within the geographic region of the project.

C. Project service: at least 10 days prior to application of liquid densifier and sealer, the general contractor shall notify the Euclid Chemical or RetroPlate representative for jobsite service.

10) SEMI-RIGID POLYUREA JOINT FILLER:

A. UV Resistant, semi-rigid polyurea joint filler shall be a two (2) component, 100% solids compound, with minimum Shore "A" hardness of 80. Joint filler color shall match the adjacent concrete surface.

- 1. Acceptable semi-rigid polyurea joint filler manufacturer:
a. "Euco QWIKJoint UVr" by Euclid Chemical - Phil Brandt 877-438-3826

B. Non-UV Resistant, semi-rigid polyurea joint filler shall be a two (2) component, 100% solids compound, with a minimum Shore "A" hardness of 75. Joint filler color shall match the adjacent concrete surface.

C. Approval: All general contractors bidding or negotiating a Dollar General project shall contact the Euclid Chemical company or Retroplate to obtain a list of approved applicators located within the geographic region of the project.

11) CONCRETE MIXES:

A. Comply with ACI 301 requirements for concrete mixtures.

B. Concrete mix design(s) shall be proportioned according to ACI 301, for normal-weight concrete determined by either laboratory trial mix or field test data as follows:

1. Compressive strength (28 days): 4000psi (27.6mpa), with a maximum water/cement ratio of .53, unless otherwise indicated on the drawings.

2. Slump: Concrete containing mid or high range water reducer shall have a maximum slump of 5 1/2" for the interior sales floor slab and 8" (200 mm) for other areas.

3. Adjustment to concrete mixes: Mix design adjustments may be requested by General Contractor when characteristics of materials, job conditions, weather, test results or other circumstances warrant.

4. Interior concrete sales floor: Concrete shall be designed to meet 4000 psi compressive strength @ 28 days and exhibit <=0.04% shrinkage @ 28 days.

Prototype mix:
Materials: Prototype mix 517-564lbs.
Cement: Prohibited
Fly ash/slag: 12 cubic feet +/- .50 (#467 stone)
Coarse aggregate: 7 cubic feet +/- (adjust as necessary)
Fine aggregate: 250 - 300lbs.
Water content: 250 - 300lbs.
Air content (Entrapped Air Only): 3.0% (max.)
Water Reducer (type a/f): 3oz.-1.0oz./100wt +/- (mid range preferred)
W/cm: 0.53 (max.)
Initial slump (water) 3"
Final Slump (with water reducer): 5.5" (max)
Shrinkage <=0.04% @ 28 days

12) FLOOR SLAB FINISH AND TOLERANCES:

A. General: Unless otherwise noted by owner, concrete sales floor slab shall be cast in one continuous pour. Concrete shall be placed, screeded, re-straightened, and finished as necessary to meet the FF and FL tolerance requirements.

B. Trowel finish (sales floor): Apply a hard trowel finish to surfaces as follows:

1. Laser screeds, vibratory screeds, highway straightedges and wood bull floats shall be used to initiate screeding and floating process to form a uniform and open-textured surface plane before excess moisture or bleed water appears on the surface.

2. High way straightedge operations shall continue before, during and after troweling operation, until specified floor tolerances are achieved.

3. Trowel finish with gas operated troweling machine with adjustable blades on all finishing equipment. Use steel-reinforced blades on ride-on power trowels.

4. Protection: Care shall be taken to protect the interior sales floor. Entrances shall include clean floor mats to prevent mud stains and all equipment on the floor shall be diapered to prevent spills.

C. Comply with ACI 117, "Specifications For Tolerances For Concrete Construction and Materials." Interior sales floor slab shall meet the requirements of a type 5, single course, hard steel-troweled finish as described in ACI 302.

1. All perimeter areas and edges of the concrete floor shall exhibit the same finish as the sales floor, including but not limited to, hallways, offices, restrooms, etc.

2. The general contractor is responsible for contracting with the testing laboratory for all costs associated with floor tolerance testing.

D. Failure to achieve the above criteria shall be cause for replacement of the offending segments or grinding/polishing at no cost to the Owner or Tenant.

E. Trowel finish (other than sales floor): Apply a hard trowel finish to surfaces indicated and to floor and slab surfaces exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin film-finish coating system.

F. Heavy broom finish: As noted on drawings.

13) CONCRETE PROTECTION AND CURING:

A. General: Normalize concrete set time and protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

1. Curing - Exterior Slabs: All exterior concrete slabs shall be cured using the specified liquid membrane-forming curing compound.

2. Curing - Interior slabs: The interior sales floor slab shall be cured using the specified dissipating or removable liquid membrane-forming curing compound.

3. Provide non-marking tires on rubber tired vehicles or equip rubber tires with tire boots made of nylon fabric

4. Form weakened-plane contraction joints, sectioning concrete into areas as indicated on drawings.

5. Sawed joints: All saw cutting shall be accomplished with a "Soft-Cut" saw and vacuum system equipped with a new blade and plate, as soon as the slab will support the weight of the saw and operator.

6. Interior Sales Floor Slab Protection: A. Take the following measures to protect the interior sales floor slab:

7. Provide mats at all entrances to prevent mud stains

8. Joint filler installation: Comply with recommendations in ACI 302 for use of joint filler as applicable to materials, applications, and conditions indicated.

9. Surface cleaning of joints: Clean out joints immediately before installing joint filler.

10. Contractor shall verify all dimensions and coordinate all trades.

11. Contractor shall verify all equipment locations and dimensions of equipment.

12. Maintain clean work site on a daily basis.

F. Placement: Joint filler shall be filled full depth. No backer rod is allowed. Joints should be overfilled and shaved even with the surrounding joint edge giving the floor joints a flat, smooth appearance.

G. Joint filler separation: The approved joint filling applicator shall include in their bid a cost per linear foot to make one return trip to refill joints if joint filler sidewall separation or splitting exceeds 1/16," or if surface profile is concave, chattered or if voids occur.

18) INITIAL CLEANING FOR LIQUID DENSIFIER AND SEALER APPLICATION:

A. Interior sales floor slab: Thoroughly clean the interior sales floor slab prior to initial application of liquid densifier and sealer by completely removing the specified dissipating or removable curing compound from the floor surface.

1. If Kurez DR VOX (slab first) was used to cure the slab, use "Euco Clean & Strip" by Euclid Chemical, applied at the proper water to floor stripper ratio and coverage rate that will completely remove the Kurez DR VOX. Contact: Phil Brandt (877) 438-3826

2. If Kurez RC (slab last) was used to cure the slab, use "Kurez OFF" by Euclid Chemical, applied at the proper water to floor cleaner ratio and coverage rate that will completely remove the Kurez RC. Contact: Phil Brandt (877) 438-3826

19) POLISHING PROCESS AND APPLICATION OF LIQUID DENSIFIER / SEALER:

A. All Applicators must be certified by Euclid Chemical or Retro-Plate.

B. The revised process can be used in both "Wet" and "Dry" applications.

C. This process assumes a quality concrete finish (meets and/or exceeds the specified floor tolerances) by the floor finisher.

D. Only the Sales Floor will receive the full 8 step process outlined below under item K.

E. All other areas will only receive steps 1 through 3, no additional work is necessary.

F. The Black painted border will not be required in areas behind fixtures, etc...it will only be installed at the main entry door, office doors, egress doors and doorways into the receiving area and transitions that can be seen by the customers.

G. Steps 2 & 4 are combo steps using different grits of resin bond diamonds on each pass.

H. This is a "Resin" only grind that does not tear away as much of the surface area.

I. If a Cure-n-Seal product is required at the time of slab placement only Water Based Dissipating Sealers are allowed.

J. Prior to application, inspect interior sales floor slab to ensure that slab is clean and free of dust, grease, oils, or other contaminants that might prohibit the proper application and penetration of the liquid densifier and sealer.

K. Process Steps
1. Cut, clean out, prep and fill the concrete floor joints with the Euclid QWIKjoint UVr polyurea joint filler or "CreteFill Pro 75 by CureCrete.

2. Grind concrete floor with a combo set of 40/50 grit resin bond diamonds.

3. Depending on the final finish of the floor, this step may or may not be required.

4. Thoroughly clean the concrete floor and apply Euclid Diamond Hard liquid densifier and sealer at 225 square feet per gallon or ("RetroPlate 99 liquid densifier at 200 square feet per gallon").

5. Polish concrete floor with a combo set of SASE Triton 100 grit black resin diamonds, SASE Triton 200 grit blue resin diamonds or HTC EZ MR black series (100 Grit Diamonds) and HTC EZ MR blue series (200 Grit Diamonds).

6. Polish concrete floor with SASE Triton 400 grit red resin diamonds or HTC EZ SR red series (400 grit diamonds).

7. Thoroughly clean concrete floor and then apply Euclid Diamond Hard liquid densifier and sealer at 700 square feet per gallon (spiff coat). Or ("RetroPlate 99 liquid densifier at 700 square feet per gallon as a spiff coat").

8. Burnish / Polish concrete floor with SASE Sure Shine white 800 grit diamond impregnated pads or HTC White Twister pads (800 grit diamond impregnated pads).

9. Burnish / Polish concrete floor with 1500 Grit Diamond Impregnated twister pads (H.T.C. Yellow TWISTERS or equivalent)

L. All edges must be polished to match concrete floor with coinciding SASE 5" resin Polishing pads or HTC EZ Grind polishing 5" diamond tools.

M. Polish results: Perform polishing process to attain an overall gloss reading of >=35 specified overall gloss value (SOGV) as measured using a Horiba (G-320, and a specified minimum gloss reading of >=30 minimum local gloss value (MGLV).

1. BUILDING MUST COMPLY WITH ALL BUILDING (FEDERAL, STATE, AND LOCAL), FIRE, ADA, AND HEALTH DEPARTMENT CODES.

2. HALLS: FINISHED GYPSUM BOARD WITH ALL JOINTS TAPED, MUDDED, SANDED, AND PAINTED.

3. PROVIDE DOUBLE STUDS AND BLOCKING TO SUPPORT EQUIPMENT AND/OR MISCELLANEOUS ITEMS WHERE INSTALLED.

4. CALK AND SEAL EXTERIOR JOINT BETWEEN METAL PANELS AND CONCRETE SLAB, AND ALL UNLIKE MATERIALS.

5. TRIM - DOORS, DOOR FRAMES, WINDOW FRAMES, COLUMNS: PAINTED TO MATCH ADJACENT WALLS.

6. ALL PENETRATIONS THROUGH ROOF MUST COMPLY WITH ROOF HARRANTY REQUIREMENTS.

7. DOORS: ALL EXTERIOR DOORS HAVE HEATHER STRIPPING AND A SNUG SEAL AROUND DOOR. ALL EXTERIOR DOORS WILL HAVE CYLINDER REPLACED BY DOLLAR GENERAL AREA MANAGER WITH INSTAKEY SYSTEM.

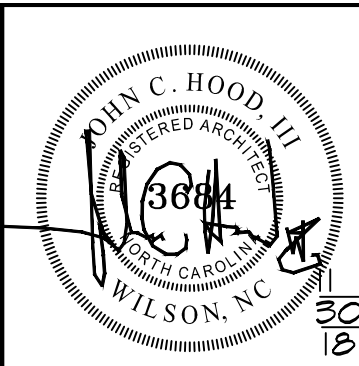
8. THE SALES FLOOR SHALL CONTAIN NO INTERIOR COLUMNS. 12" MAXIMUM THICKNESS ON ALL EXTERIOR COLUMNS. THE USE OF INTERIOR COLUMNS, LARGER EXTERIOR COLUMNS, OR TAPERED COLUMNS REQUIRE WRITTEN APPROVAL FROM DOLLAR GENERAL CONSTRUCTION DEPARTMENT.

9. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND COORDINATE ALL TRADES.

10. CONTRACTOR SHALL VERIFY ALL EQUIPMENT LOCATIONS AND DIMENSIONS OF EQUIPMENT. ANY EQUIPMENT FURNISHED BY THE OWNER OR TENANT SHALL BE RECEIVED, STORED, AND INSTALLED BY THE CONTRACTOR. CONTRACTOR SHALL COORDINATE WITH OWNER FOR INSTALLATION.

11. IF DIMENSIONS ARE IN QUESTION - THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM THE DOLLAR GENERAL CONSTRUCTION DEPARTMENT BEFORE CONTINUING WITH CONSTRUCTION.

12. MAINTAIN CLEAN WORK SITE ON A DAILY BASIS.



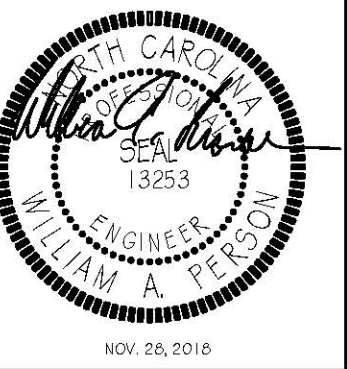
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805 North Fourth Street
Wilmington, NC 910.251.8899
Phone: 910.251.9989
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DOLLAR GENERAL
STORE # 20312
SPRING HILL CHURCH ROAD
LILLINGTON, NORTH CAROLINA

JOB NUMBER
DRAWN BY: MAH
DATE: 11/30/18
REVISIONS
SHEET NUMBER

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**DOLLAR GENERAL**  
 STORE # 20312  
 SPRING HILL CHURCH ROAD  
 LILLINGTON, NORTH CAROLINA

JOB NUMBER  
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 NOV. 28, 2018  
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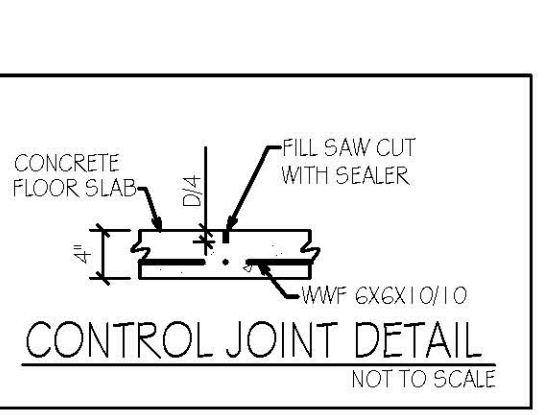
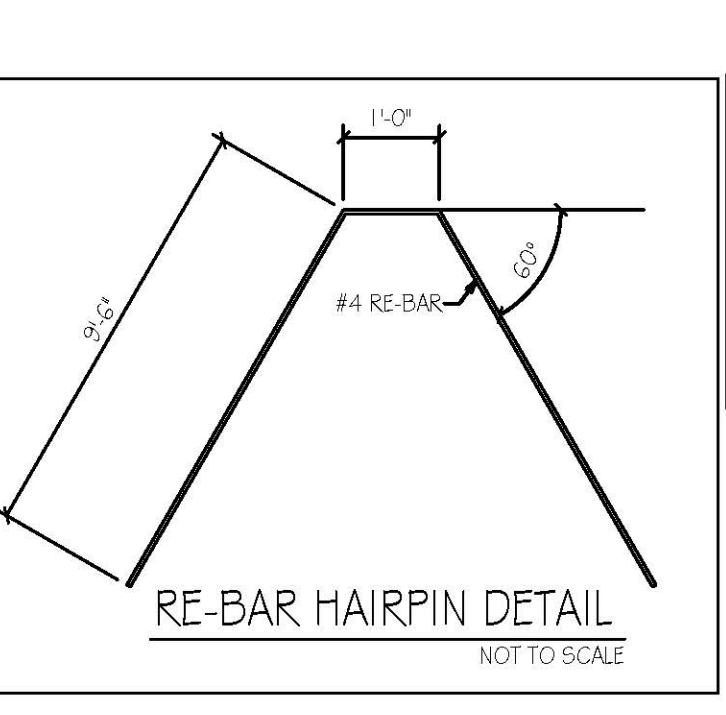
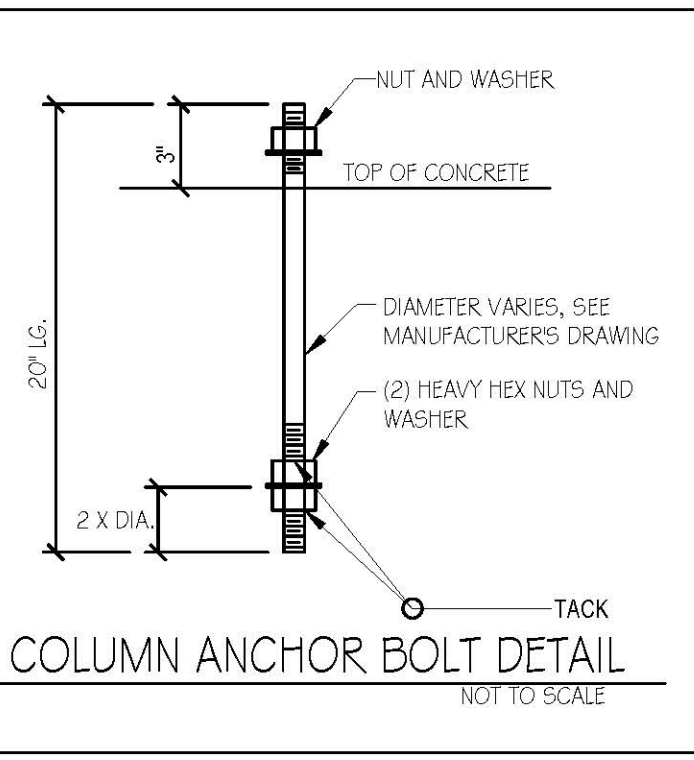
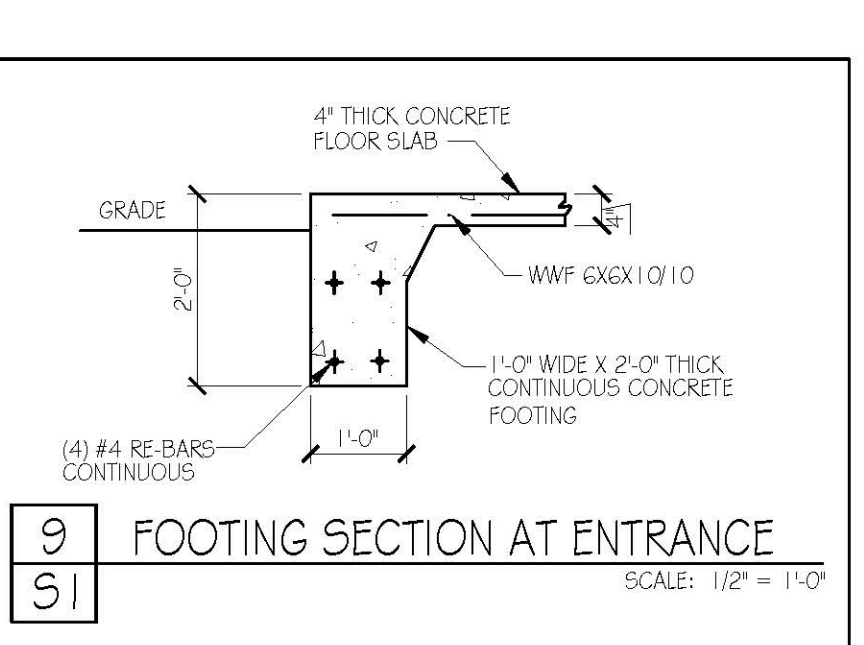
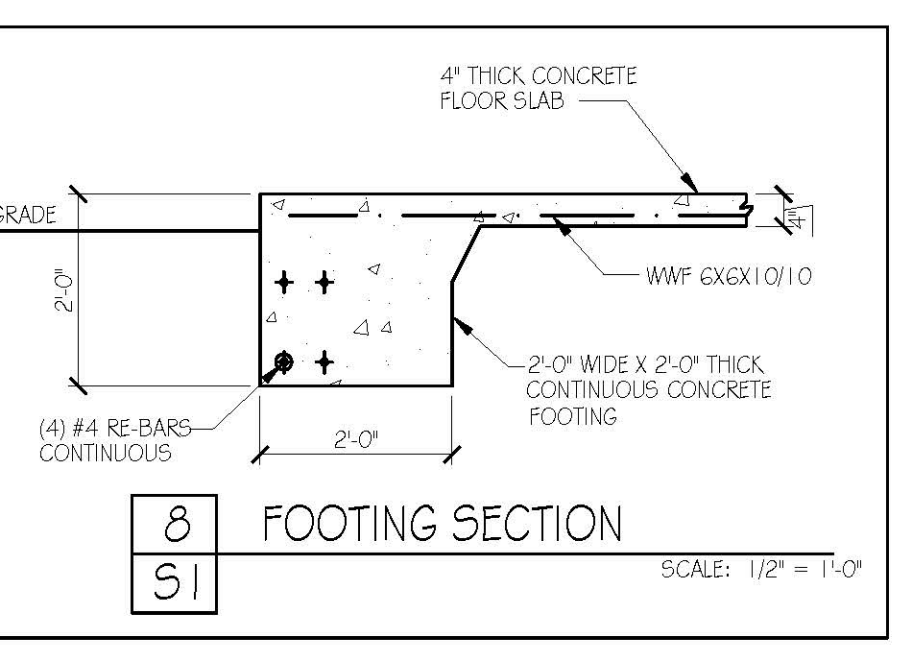
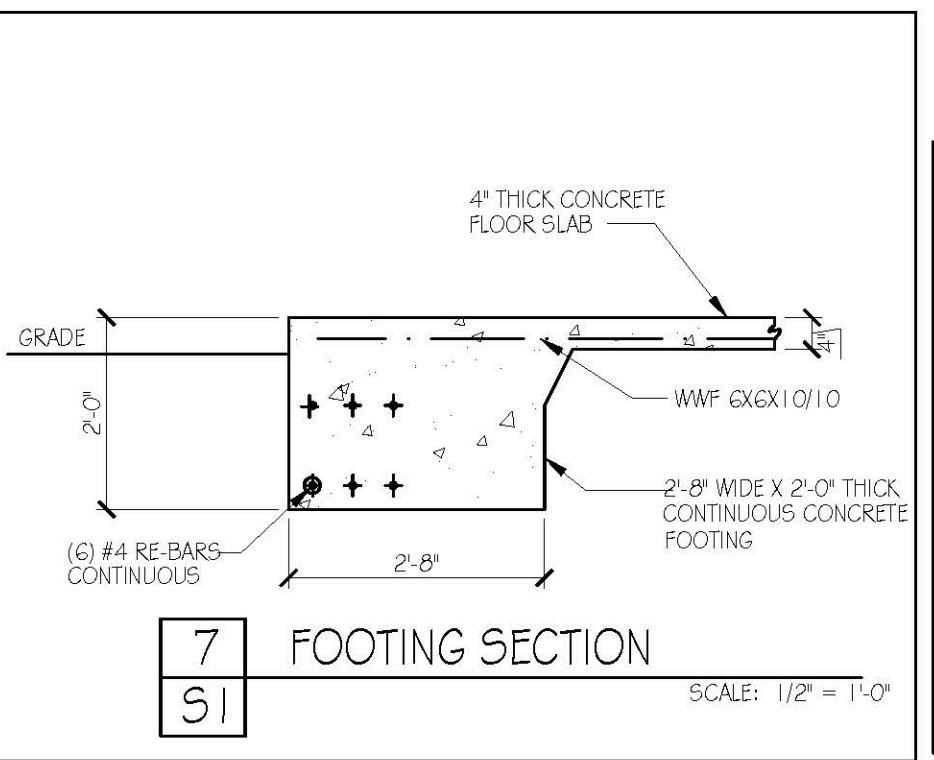
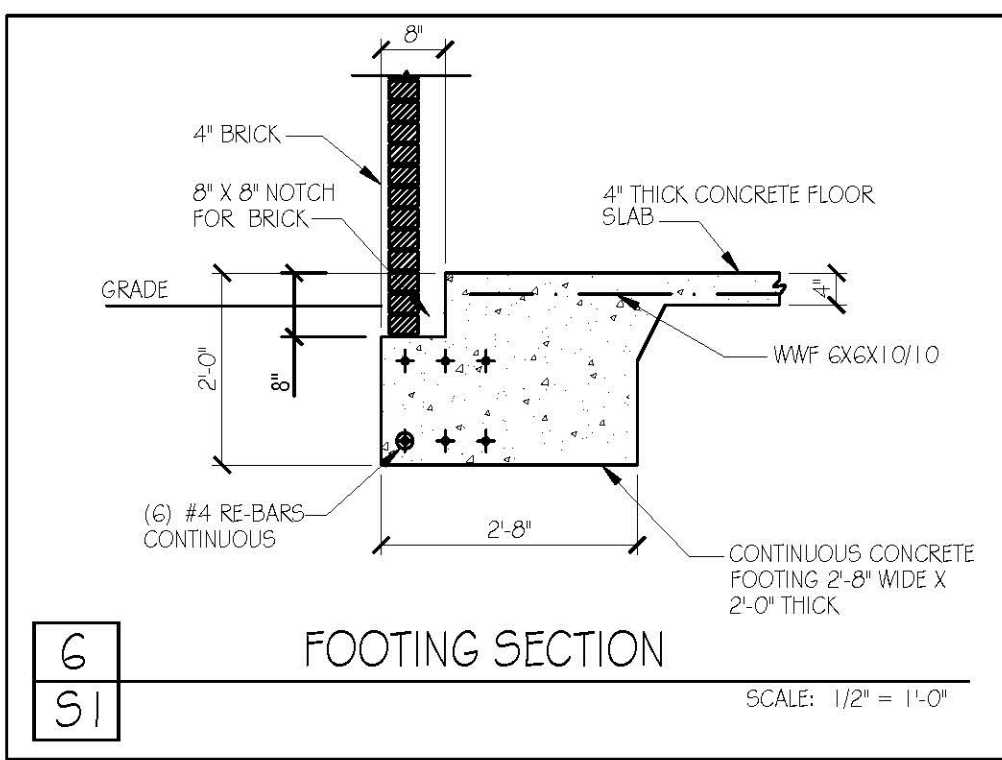
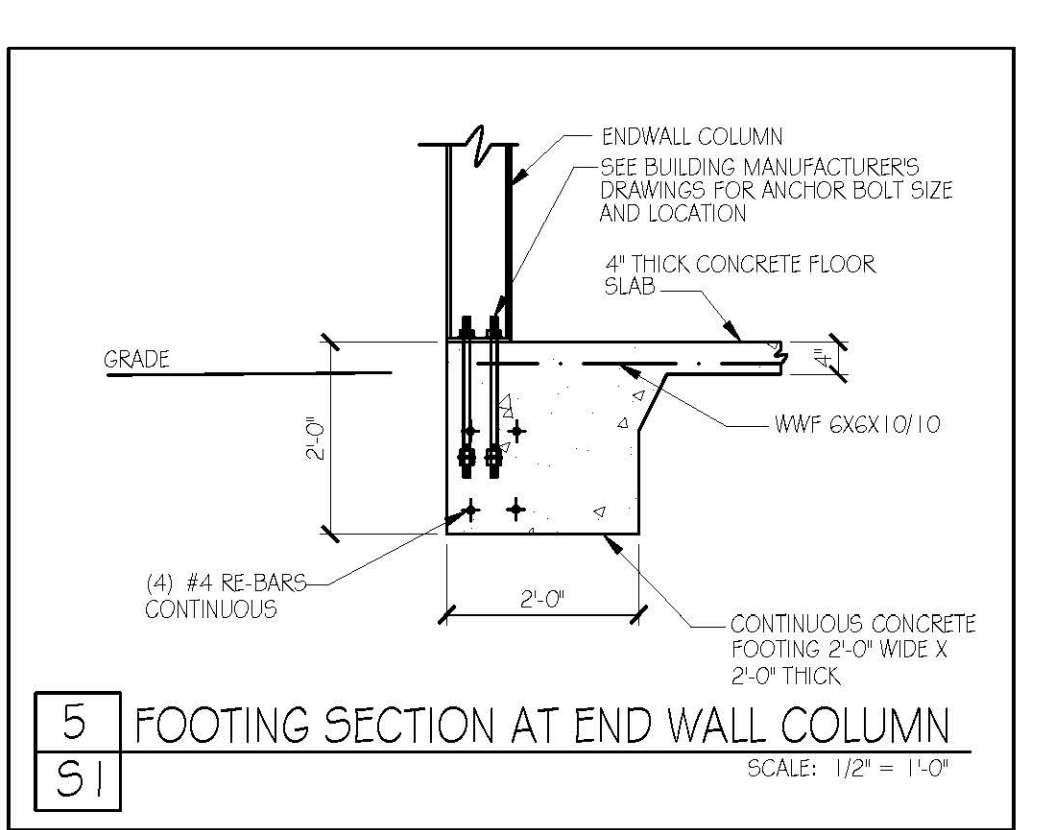
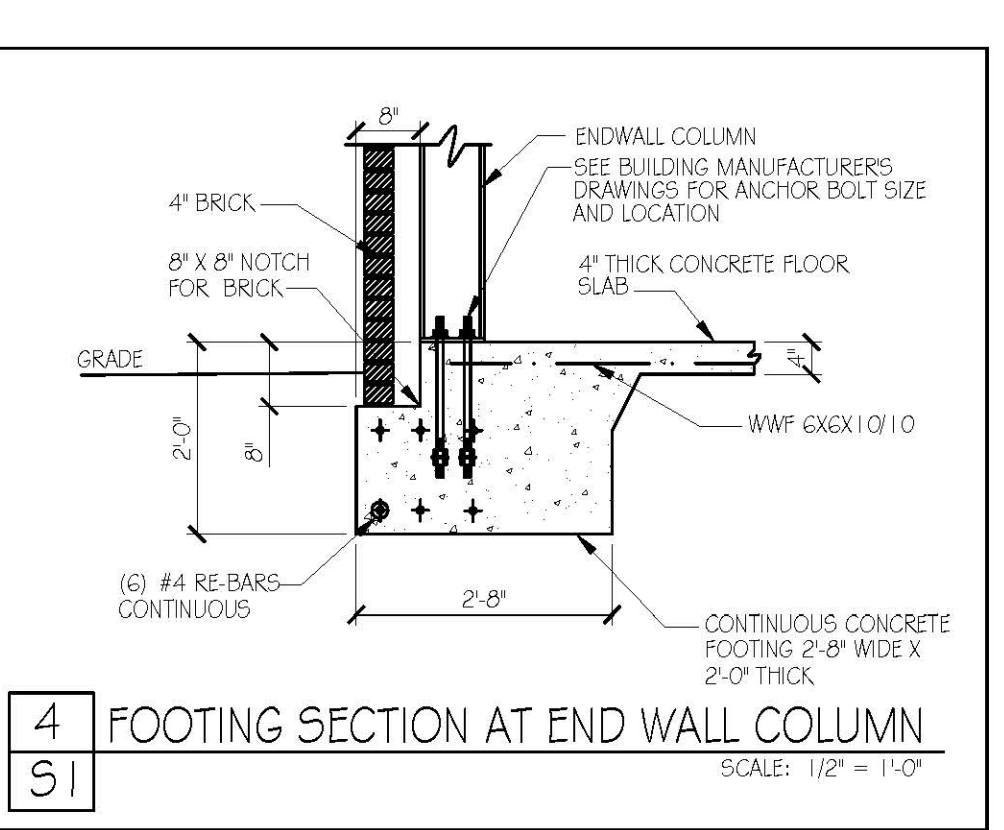
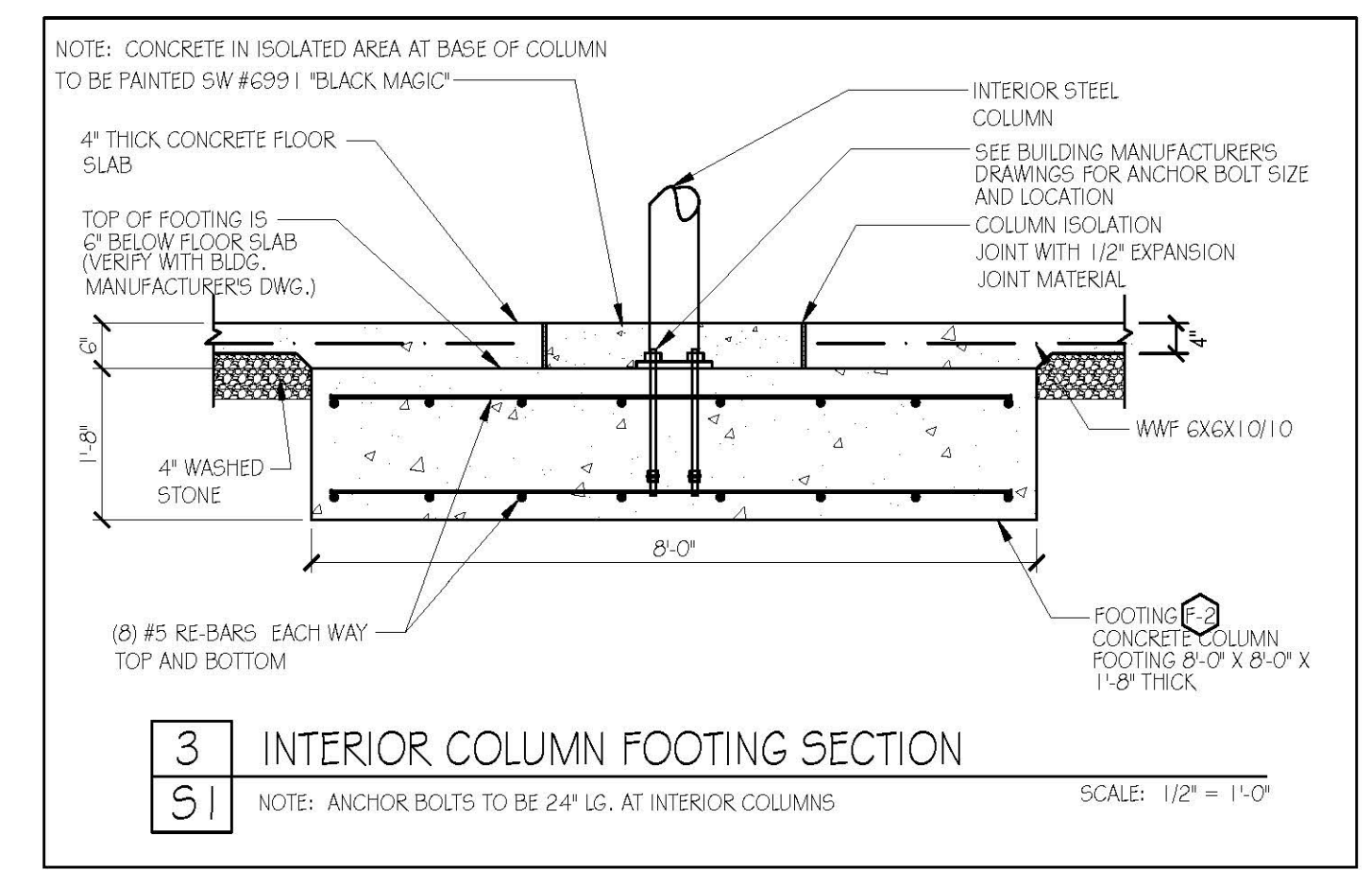
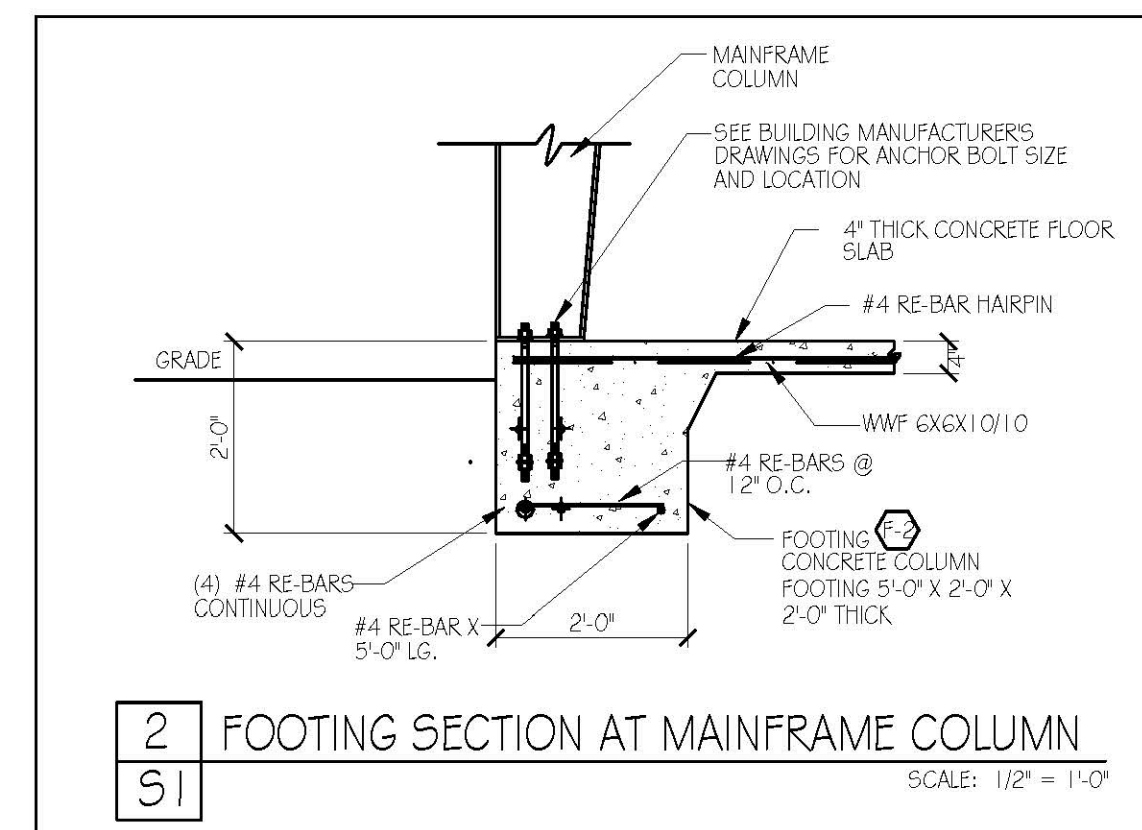
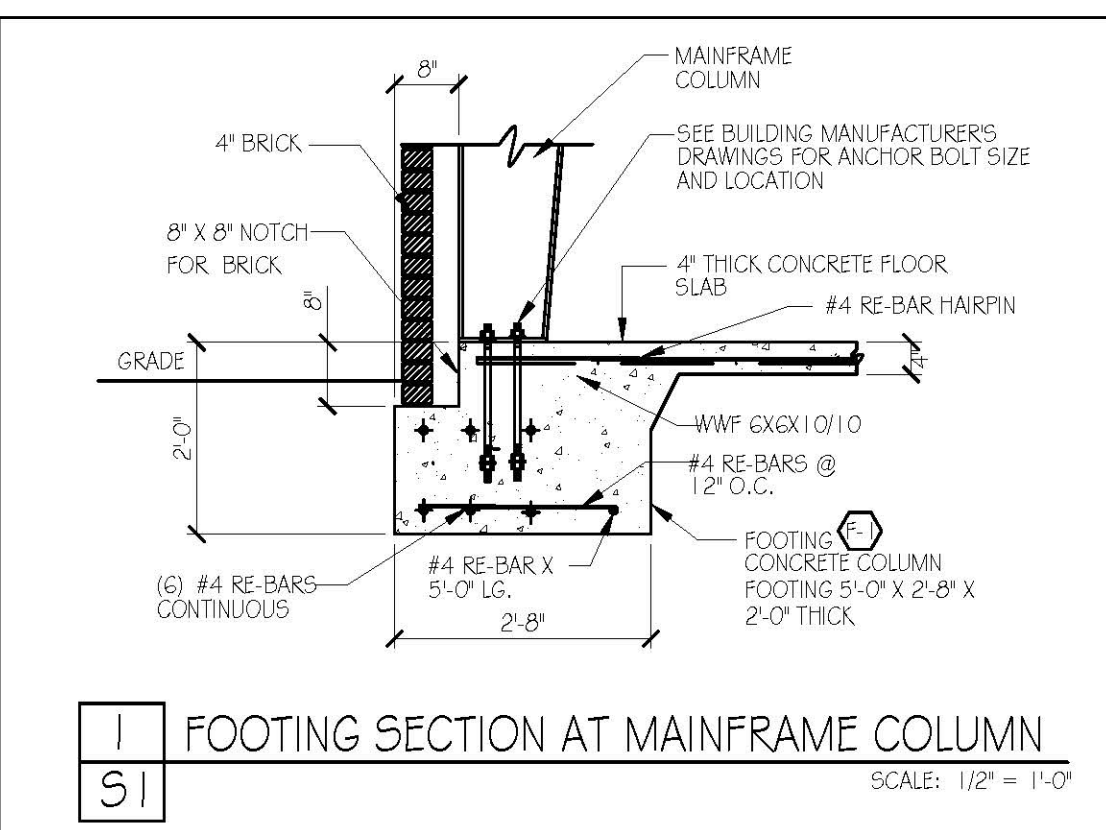
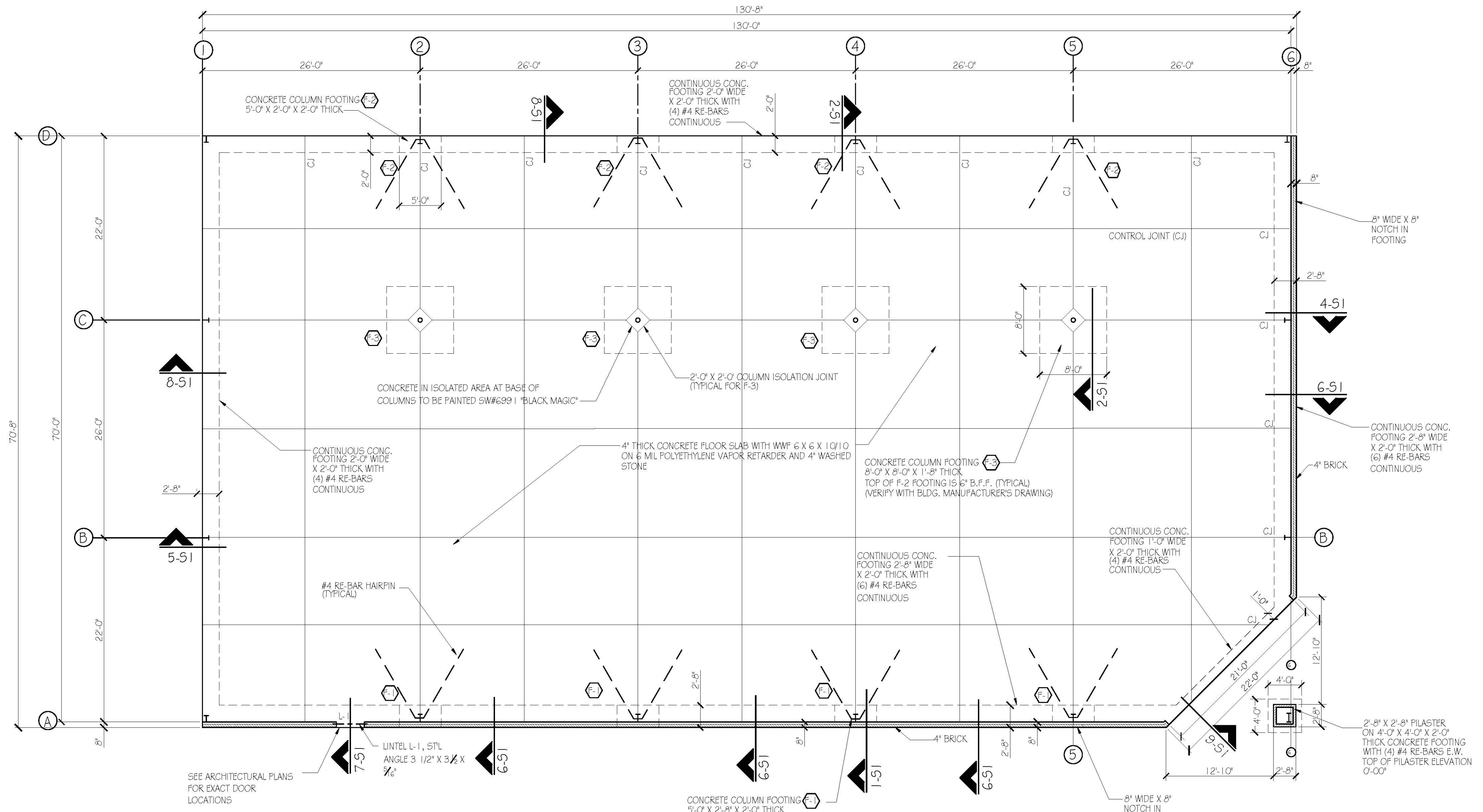
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**S1**

OF ONE

**FOUNDATION NOTES**

- FOUNDATION DESIGN BASED ON ASSUMED SOIL BEARING PRESSURE OF 1000 PSF.
- MINIMUM COMPRESSIVE STRENGTH  $F'_c$  OF CONCRETE TO BE 4000 PSI.
- STEEL REINFORCEMENT BARS TO BE A615, GRADE 60.
- ANCHOR BOLTS SHALL BE HEAVY HEX NUTS AND WASHERS, 20" LONG. SEE MANUFACTURER'S DRAWING FOR ANCHOR BOLT SIZE AND LOCATION.
- PERIMETER INSULATION, WHEN REQUIRED SHALL BE INSTALLED IN ACCORDANCE WITH STATE AND LOCAL CODES.
- A 6 MIL POLYETHYLENE VAPOR RETARDER SHALL BE INSTALLED BELOW SLAB.
- BOTTOM OF FOOTING SHALL BE 12" BELOW FINISHED GRADE MINIMUM.
- ALL WORK SHALL CONFORM TO THE APPLICABLE SECTIONS OF THE NORTH CAROLINA BUILDING CODE, 2012 EDITION.
- CONTRACTOR SHALL PROVIDE ANCHOR BOLT REACTIONS FOR REVIEW PRIOR TO CONSTRUCTION OF BUILDING FOUNDATION.
- SOIL BEARING CAPACITIES USED FOR DESIGN DO NOT EXCEED ALLOWABLE GEOTECHNICAL REPORT BY TERRACON, PROJECT NO. 7215078.





GENERAL PLUMBING NOTES:

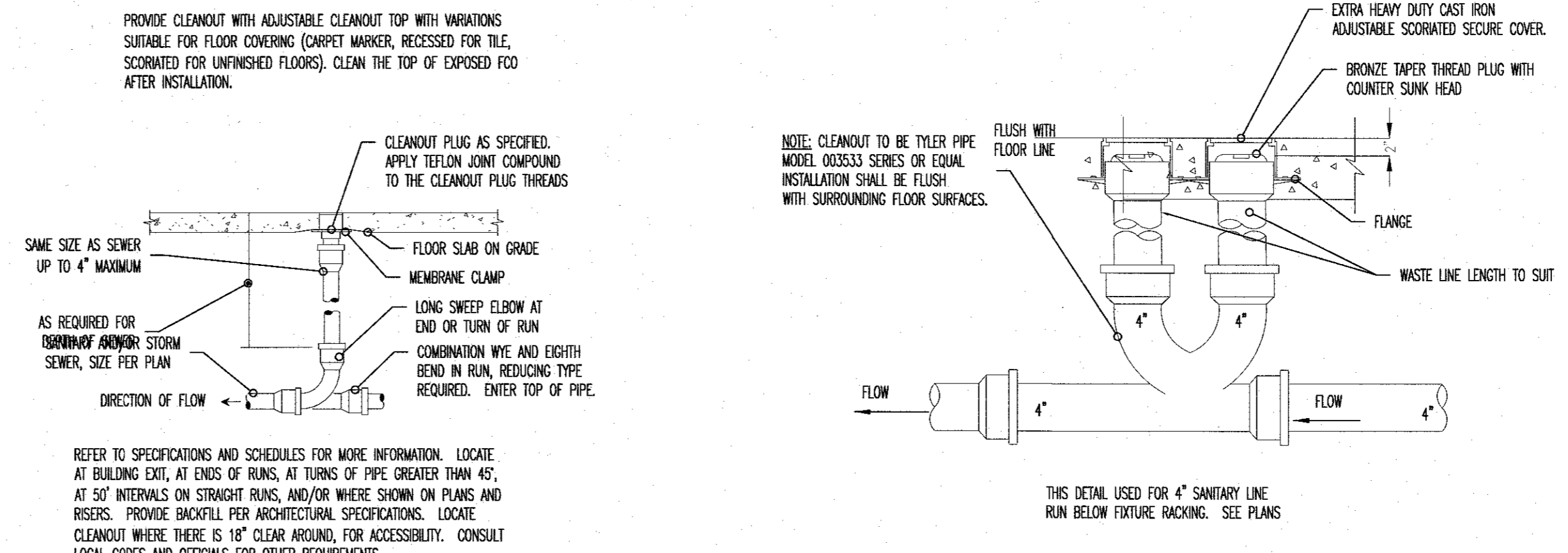
- 1. 'PROVIDE' MEANS TO FURNISH AND INSTALL THE PLUMBING CONTRACTOR (PC) SHALL ALSO INSTALL MATERIALS FURNISHED BY OTHERS AND/OR THE GENERAL CONTRACTOR.
2. THE PC SHALL BE RESPONSIBLE FOR A COMPLETE AND OPERATIONAL SYSTEM AS DESCRIBED IN THESE PLANS AND SPECIFICATIONS FOR...
3. ALL MATERIALS AND EQUIPMENT SHALL BE DELIVERED TO THE SITE AND UNLOADED AT AN APPROVED LOCATION. PC SHALL PROTECT ALL MATERIALS AND EQUIPMENT FROM BREAKAGE, THEFT, AND THE ELEMENTS. ALL MATERIALS AND EQUIPMENT SHALL REMAIN THE PROPERTY OF THE PC UNTIL THE PROJECT HAS BEEN COMPLETED AND TURNED OVER TO THE OWNER.
4. ALL MATERIALS USED SHALL BE NEW AND FREE OF DEFECTS. ANY MATERIALS FOUND TO BE DEFECTIVE SHALL BE REPLACED AT NO EXPENSE TO THE OWNER. ALL MATERIALS AND EQUIPMENT SHALL BE APPROVED FROM UL OR AN APPROVED THIRD PARTY AGENCY...
5. THE PLUMBING SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST VIRGINIA (VA) PLUMBING CODE, VA BUILDING CODE, AND ANY APPLICABLE LOCAL CODES...
6. THE PC SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS NECESSARY FOR THE COMPLETION OF THE WORK UNDER THIS CONTRACT.
7. DO NOT SCALE THESE DRAWINGS-REFER TO ARCHITECTURAL SHEETS FOR DIMENSIONS.
8. THESE PLANS ARE INFORMATIVE; THE PC SHALL ADJUST THE LOCATIONS OF EQUIPMENT, FIXTURES, PIPING, ETC. TO ACCOMMODATE PLANNED AND UNEXPECTED INTERFERENCES...
9. THE BUILDING DOMESTIC WATER PIPING FROM FIVE (5) FEET OUTSIDE THE EXTERIOR INTO THE BUILDING AS INDICATED ON THE PLANS AND INSTALL DOMESTIC WATER DISTRIBUTION PIPING TO ALL FIXTURES AND EQUIPMENT REQUIRING THE SAME WATER SERVICE PIPE AND THE PROVIDING SINK SHALL BE SEPARATED BY 5 FEET OF UNDISTURBED OR COMPACTED EARTH IN ACCORDANCE WITH VA PLUMBING CODE...
10. ABOVE GRADE DOMESTIC WATER PIPING SHALL BE SLOPED AT A MINIMUM OF 1/32 INCH PER FOOT AND ARRANGED TO DRAIN AT LOW POINTS...
11. BALL VALVES SHALL HAVE BRASS BODY, FULL PORT, CHROME PLATED BALL WITH TEFLON SEALS, 150 PSI RATED, AND COMPLY WITH MSS SP-110...
12. IT SHALL BE THE RESPONSIBILITY OF THE PC TO ADEQUATELY SUSPEND AND SUPPORT ALL PIPING SYSTEMS FOLLOWING RECOGNIZED ENGINEERING PRACTICES AND USING STANDARD, COMMERCIALLY ACCEPTED PIPE HANGERS AND SUSPENSION EQUIPMENT...
13. SLEEVE ALL PIPES PASSING THROUGH PARTITIONS, WALLS, AND FLOORS. SLEEVES IN FLOORS AND INTERIOR WALLS OF POURED IN PLACE CONCRETE, BRICK, TILE, OR MASONRY SHALL BE SCHEDULE 40 STEEL PIPE, MACHINE CUT, SLEEVES IN GYPSUM BOARD WALLS SHALL BE 22 GAUGE, ROLLED GALVANIZED SHEET METAL...
14. THE TOP OF WATER PIPES INSTALLED BELOW GRADE OUTSIDE THE BUILDING SHALL BE BELOW THE FROST LINE OR A MINIMUM OF 12 INCHES BELOW FINISHED GRADE...
15. COLD WATER LINES SHALL BE INSULATED WITH 1/2 INCH THICK CLOSED CELL RUBBER INSULATION WITH A FLAME DENSITY RATING LESS THAN 25 AND A SMOKE DENSITY RATING LESS THAN 50...
16. ALL INSULATION PRODUCTS SHALL CONTAIN RECOVERED MATERIALS AS REQUIRED BY EPA'S CFC AND RELATED RECYCLED CONTENT RECOMMENDATIONS...
17. FAUCETS AND FIXTURE FITTINGS SHALL CONFORM TO ASME A112.18.1...
18. INSULATE ALL EXPOSED WASTE AND SUPPLY PIPING UNDER LAVATOIRES, SINKS, AND ELECTRIC WATER COOLERS...
19. BACKFLOW PREVENTION SHALL BE IN ACCORDANCE WITH THE VA PLUMBING CODE AND THE LOCAL AUTHORITY HAVING JURISDICTION...
20. PORTABLE WATER OUTLETS SHALL BE PROTECTED FROM BACKFLOW IN ACCORDANCE WITH CODE PRESSURE TYPE VACUUM BREAKERS SHALL CONFORM TO ASSE 1020 AND SPILLPROOF VACUUM BREAKERS SHALL COMPLY WITH ASSE 1056...
21. THE PC SHALL INSTALL WATER HAMMER ARRESTORS ON BRANCH LINES WITH QUICK CLOSING VALVES PER MANUFACTURER'S INSTALLATION INSTRUCTIONS...
22. BEFORE COMMENCING WORK, CHECK INVERT ELEVATIONS REQUIRED FOR SEWER CONNECTIONS, CONCRETE INVERTS, AND ENSURE THESE CAN BE PROPERLY CONNECTED TO INVERT SLOPE FOR DRAINAGE...
23. TRENCHING, CONNECTION, AND BACKFILL SHALL BE BY PC AND SHALL BE IN ACCORDANCE WITH THE VA PLUMBING CODE...
24. ALL SANITARY SEWER PIPING IS BELOW GRADE OR WITHIN WALLS UNLESS OTHERWISE NOTED...
25. FOR BELOW GRADE SANITARY WASTE PIPING, PC SHALL USE SERVICE WEIGHT CAST IRON PIPE WITH COMPRESSION JOINTS (ASTM A 74)...
26. FOR ABOVE GRADE SANITARY WASTE AND VENT PIPING, USE SERVICE WEIGHT CAST IRON PIPE WITH COUPLINGS (CSP 301), SOLID SCHEDULE 40 PVC (ASTM D 2665) WITH SCHEDULE 40 SOCKET TYPE FITTINGS (ASTM D 3311) MAY BE USED IF PERMITTED BY LOCAL CODE...

- 27. SOIL AND WASTE LINES 2-1/2 INCHES AND SMALLER SHALL BE SLOPED AT 1/4 INCH PER FOOT MINIMUM; SOIL AND WASTE LINES 3 INCHES TO 6 INCHES IN DIAMETER SHALL BE SLOPED AT 1/8 INCH PER FOOT MINIMUM.
28. FOR WATER CLOSET WASTE CONNECTIONS, A 4 INCH BY 3 INCH CLOSET BEND SHALL BE ACCEPTABLE...
29. FOR PLASTIC PIPE SIZES GREATER THAN 6 INCHES, AND OTHER PIPE SIZES GREATER THAN 4 INCHES, RESTRAINTS SHALL BE PROVIDED FOR DRAIN PIPES AT ALL CHANGES IN DIRECTION AND AT ALL CHANGES IN DIAMETER GREATER THAN TWO PIPE SIZES...
30. BASES OF STACKS SHALL BE SUPPORTED BY THE BUILDING STRUCTURE, VIBRATOR OR COMPACTED EARTH, OR OTHER SUITABLE MATERIAL TO ADEQUATELY SUPPORT THE WEIGHT OF THE PIPING.
31. HORIZONTAL DRAIN PIPES SHALL HAVE CLEANOUTS IN ACCORDANCE WITH CODE. EXTEND CLEANOUTS TO FINISHED FLOOR OR WALL SURFACE...
32. DRAINAGE PIPING FOR FUTURE FIXTURES SHALL TERMINATE WITH AN APPROVED CAP OR PLUG.
33. AIR ADMITTANCE VALVES SHALL BE INSTALLED AFTER THE DOW TESTING REQUIRED BY SECTIONS OF THE VA PLUMBING CODE...
34. INDIRECT WASTE PIPING THAT EXCEEDS 2 FEET IN DEVELOPED LENGTH MEASURED HORIZONTALLY, OR 4 FEET IN TOTAL DEVELOPED LENGTH, SHALL BE TRAPPED...
35. THE PC SHALL PROVIDE UNIONS FOR DISASSEMBLY AND SERVICE OF ALL FIXTURES AND OTHER RELEVANT PLUMBING EQUIPMENT...
36. THE PC SHALL PROVIDE CHECK VALVES AT ALL FIXTURES WITH UNIONS AT EACH JUNCTION OF DISSEMBLY MATERIALS...
37. THE PC SHALL ACCURATELY ROUGH-IN ALL FIXTURES ACCORDING TO MANUFACTURER'S INSTALLATION DIMENSIONS AND INSTRUCTIONS...
38. THE PC SHALL PROVIDE CHECK VALVES AT ALL FIXTURES WITH UNIONS AT EACH JUNCTION OF DISSEMBLY MATERIALS...
39. PC SHALL PROVIDE ALL WATER HEATERS (WATAGE/INPUT AND CAPACITY AS NOTED IN SCHEDULE). ALL WATER HEATERS SHALL BE THIRD PARTY CERTIFIED...
40. PC SHALL DISINFECT THE ENTIRE DOMESTIC WATER PIPING SYSTEM IN ACCORDANCE WITH THE AMERICAN WATER WORKS ASSOCIATION'S SPECIFICATIONS AND LOCAL HEALTH DEPARTMENT REGULATIONS...
41. SYSTEM TESTING SHALL BE PERFORMED BY PLUMBING CONTRACTOR IN ACCORDANCE WITH APPLICABLE SECTIONS OF THE VA PLUMBING CODE...
42. ALL VENT THRU THE ROOF (VTR) PENETRATIONS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR...
43. PC SHALL DISINFECT THE ENTIRE DOMESTIC WATER PIPING SYSTEM IN ACCORDANCE WITH THE AMERICAN WATER WORKS ASSOCIATION'S SPECIFICATIONS AND LOCAL HEALTH DEPARTMENT REGULATIONS...
44. AT THE COMPLETION OF WORK AND PRIOR TO ACCEPTANCE BY OWNER, THE PC SHALL CLEAN ALL EXPOSED FIXTURES, MATERIALS, AND EQUIPMENT UNDER THIS CONTRACT.
45. PC SHALL COORDINATE WITH THE GENERAL CONTRACTOR TO ENSURE ALL APPLICABLE CONSTRUCTION WASTE IS RECYCLED DURING THE CONSTRUCTION PHASE OF THE PROJECT.

DO NOT TAP WATER LINE AHEAD OF RPZ.

PLUMBING FIXTURE SCHEDULE table with columns: SYMBOL, FIXTURE, MANUFACTURER, FITTING, HW, CW, WASTE. Rows include P-1H Tank Type Water Closet, P-2 Wall Mount Lavatory, P-3 Drinking Fountain, P-4 Floor Cleanout, P-5 2-Way Yard Clean Out, P-6 Water Hammer Arrestor, P-7 FreezeProof Wall Hydrant, P-8 Electric Water Heater, P-9 Expansion Tank, P-10 MOP SINK.

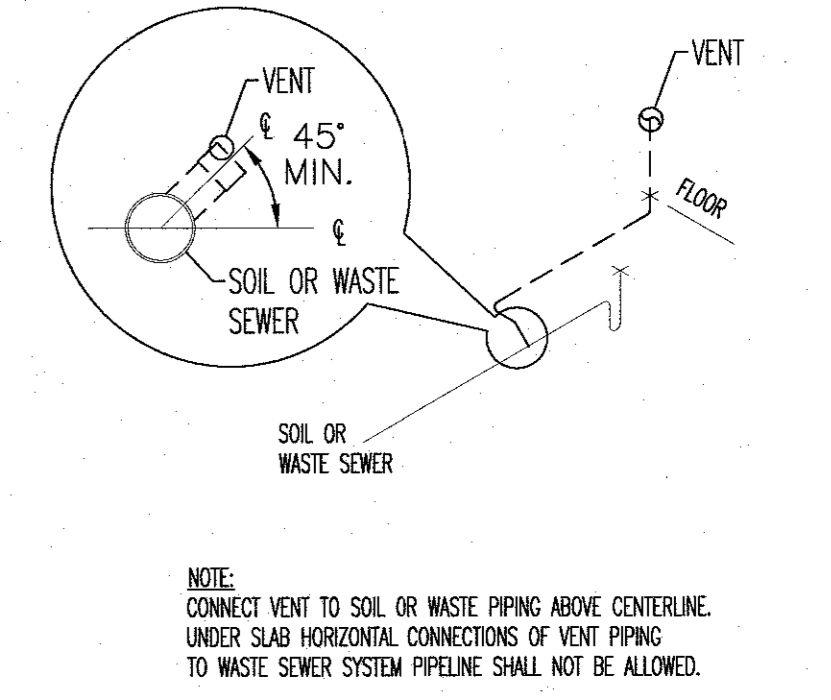
PLUMBING FIXTURE SCHEDULE 2



REFER TO SPECIFICATIONS AND SCHEDULES FOR MORE INFORMATION. LOCATE AT BUILDING EXIT, AT ENDS OF RUNS, AT TURNS OF PIPE GREATER THAN 45°, AT 50' INTERVALS ON STRAIGHT RUNS, AND/OR WHERE SHOWN ON PLANS AND RISERS. PROVIDE BACKFILL PER ARCHITECTURAL SPECIFICATIONS. LOCATE CLEANOUT WHERE THERE IS 18" CLEAR AROUND, FOR ACCESSIBILITY. CONSULT LOCAL CODES AND OFFICIALS FOR OTHER REQUIREMENTS.

PLUMBING LINES SIZING TABLE with columns: Fixture Type, Occupancy, Qty, Drainage Fixture Units, Water Supply Fixture Units, Demand Fixture, Hose Bibbs, Minimum Building Drain Size, Minimum Water Line Size.

PLUMBING LINES SIZING TABLE 3

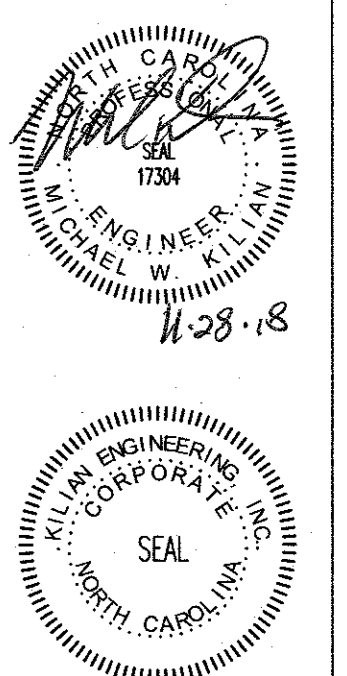


NOTE: CONNECT VENT TO SOIL OR WASTE PIPING ABOVE CENTERLINE. UNDER SLAB HORIZONTAL CONNECTIONS OF VENT PIPING TO WASTE SEWER SYSTEM PIPELINE SHALL NOT BE ALLOWED.

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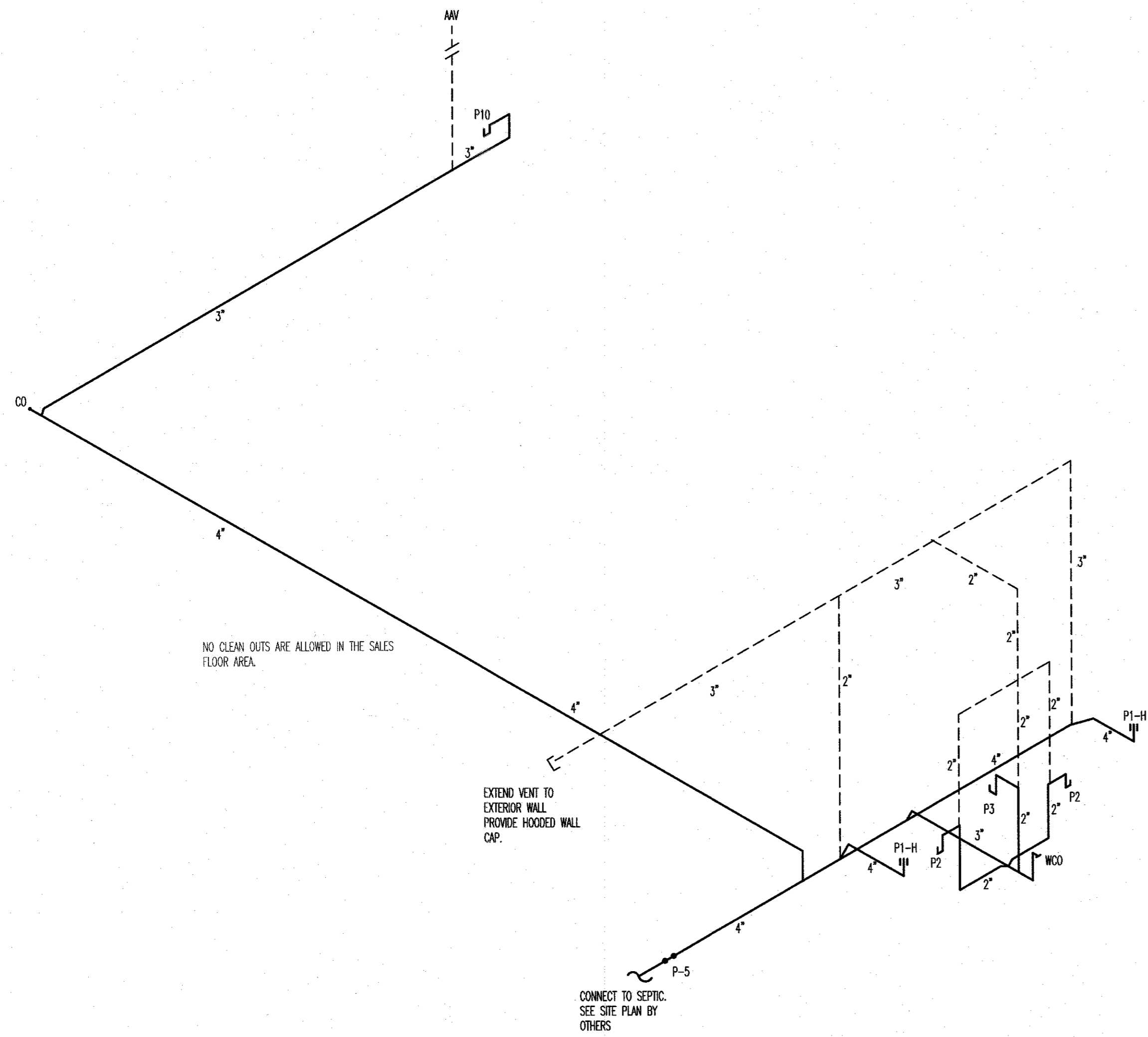
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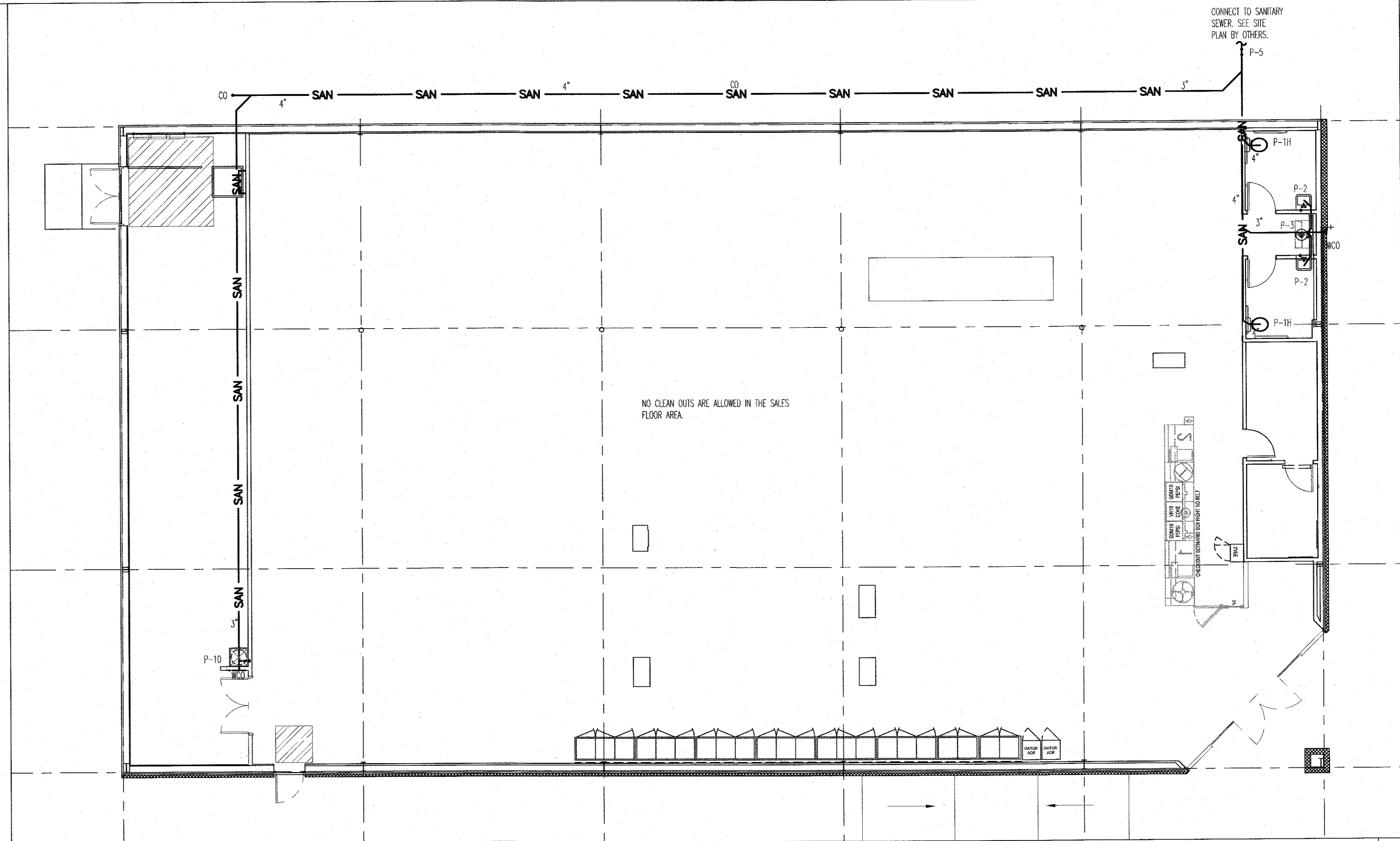
DOLLAR GENERAL STORE # 20312 SPRING HILL CHURCH ROAD LILLINGTON, NORTH CAROLINA

JOB NUMBER 18426 DRAWN BY REW DATE 11/28/18 REVISIONS

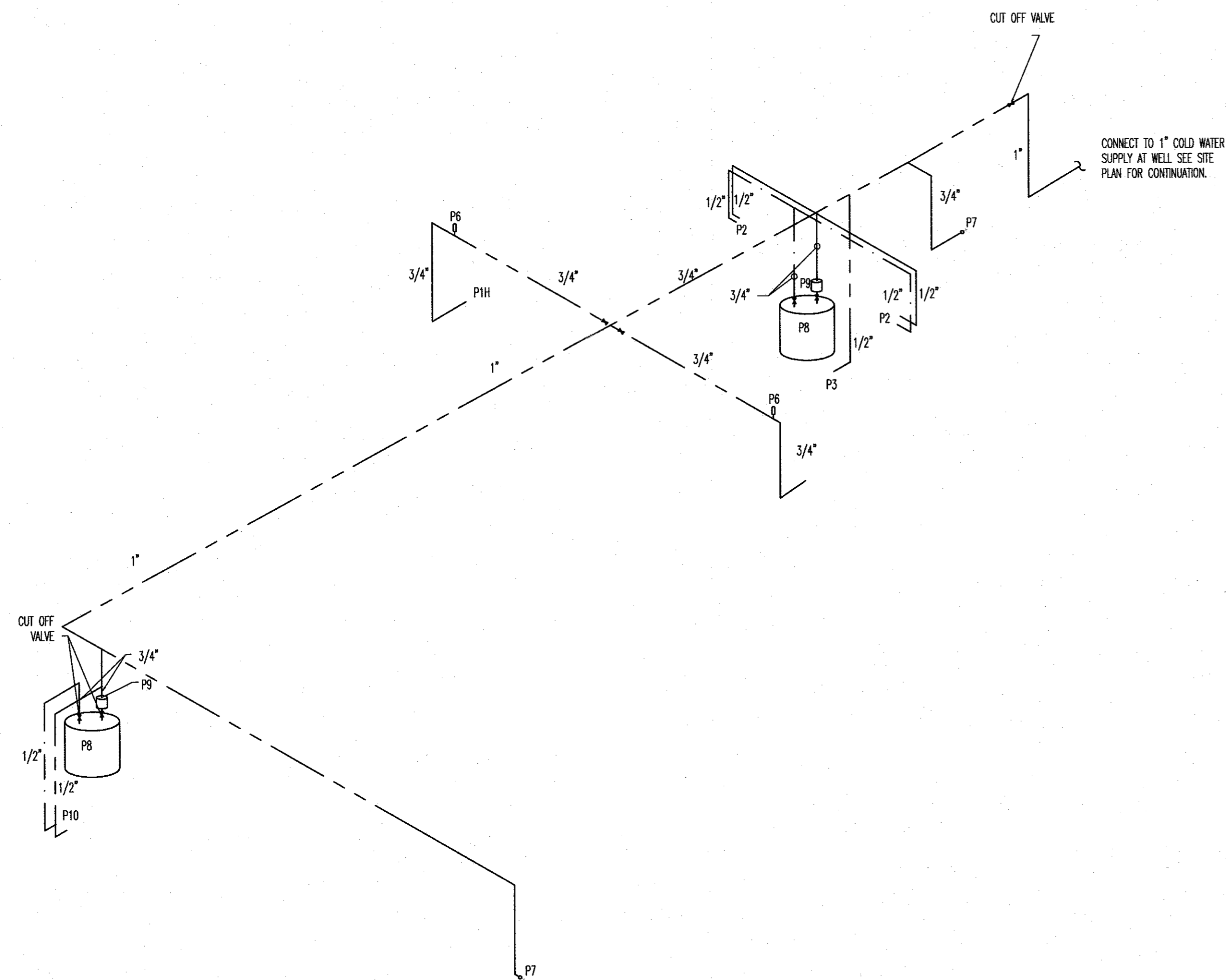
SHEET NUMBER



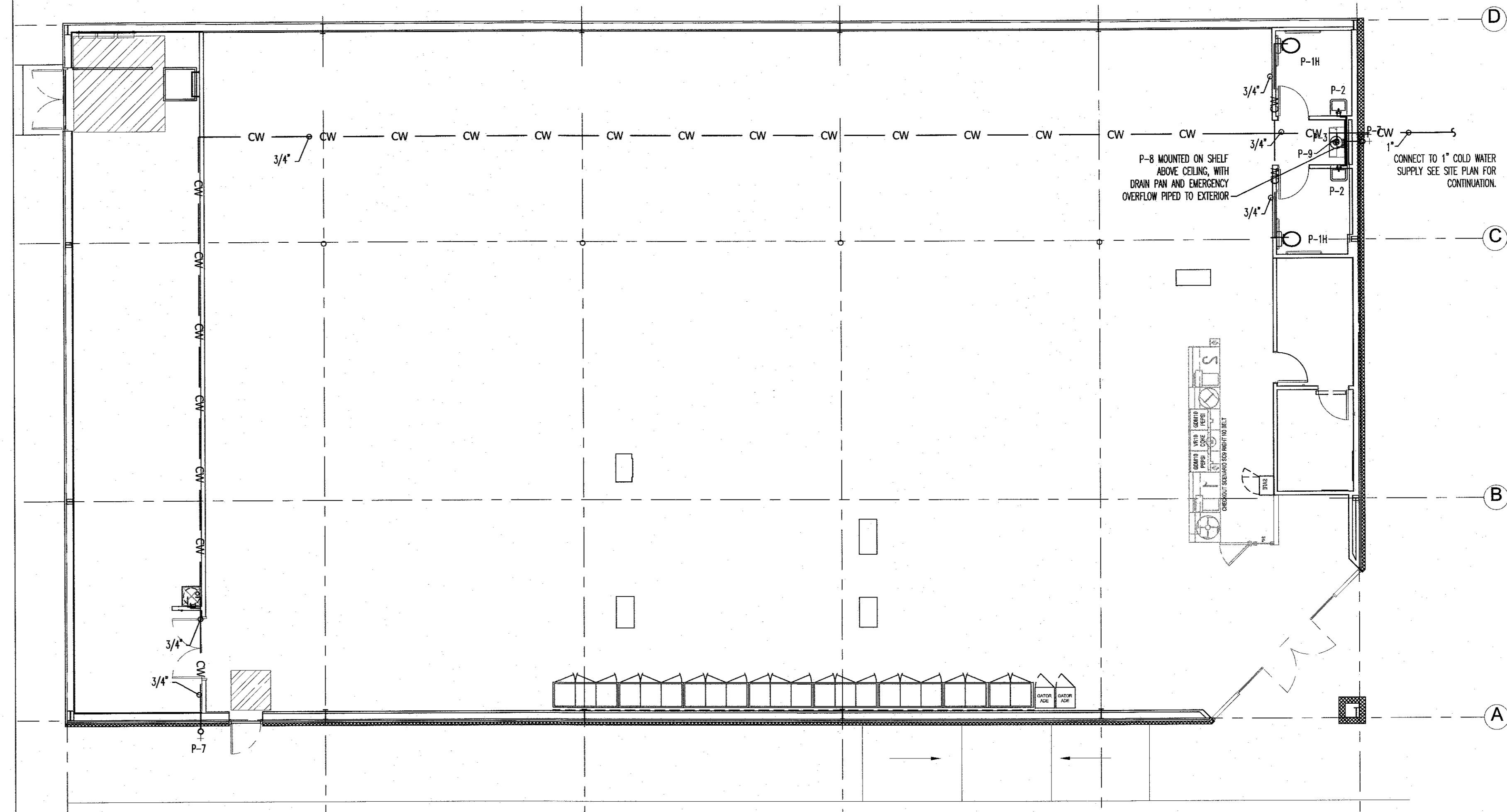
PLUMBING WASTE RISER-NO SCALE | 1



PLUMBING WASTE PLAN-SCALE 1/8"=1' | 3



PLUMBING SUPPLY RISER-NO SCALE | 2



PLUMBING SUPPLY PLAN-SCALE 1/8"=1' | 4

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 805 North Fourth Street  
 Wilmington, NC 28401  
 Telephone: 910.251.9899  
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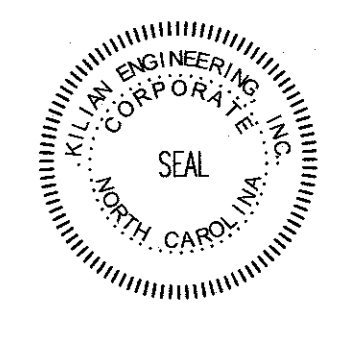
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**DOLLAR GENERAL**  
 STORE # 20312  
 SPRING HILL CHURCH ROAD  
 LILLINGTON, NORTH CAROLINA

JOB NUMBER  
 18426  
 DRAWN BY  
 REW  
 DATE  
 11/28/18  
 REVISIONS

SHEET NUMBER  
**P-2**

EXHAUST FAN SCHEDULE							
MARK	MFG / MODEL #	TYPE	ESP (in WD)	CFM	VOLT/PH	FLA	NOTES
EF-1-2	GREENHECK SP-A125	CEILING	0.25	105	120/1	1	1-3

1. PROVIDE WITH PITCHED ROOF CAP OR HODDED WALL CAP AS APPLICABLE.
2. PROVIDE WITH SQUARE TO ROUND DUCT ADAPTER AS NECESSARY.
3. OR EQUAL BY LOREN COOK OR PENNBARBY.

REGISTER & GRILLE SCHEDULE						
MARK	MFG	MODEL #	SIZE	MOUNTING	DESCRIPTION	NOTES
A	HART & COOLEY	HVS	24X24	LAY-IN	4-WAY DIFFUSER, BRIGHT WHITE	1
B	HART & COOLEY	SEVQH	10X6	SIDEWALL	STEEL, 4 WAY DIFFUSER, BRIGHT WHITE	1
R	HART & COOLEY	RHS	24"X8"	SIDEWALL	STEEL RETURN TRANSFER GRILLE	2

1. OR EQUAL BY PRICE, METAL-AIRE, CARNES, TITUS OR NAULOR.
2. PROVIDE ONE ON EACH SIDE OF WALL.

ROOFTOP PACKAGE AC WITH ELECTRIC STRIP SCHEDULE																					
MARK	MFG / MODEL #	NOMINAL CAPACITY	AIR FLOW		COMPRESSORS	FAN MOTORS			COOLING CAPACITY			FILTER		ELECTRICAL	WEIGHT	REMARKS					
			SUPPLY	MIN. OA		SUPPLY	ESP	CONDENSER	AUX ELEC HEAT	EAT WB/DB	TOTAL	SENSIBLE	INCHES				MERV	EER	V/PH	MCA	MOP
RTU-1-2	LENNOX # ZDA120S4R3JP	10.0	4000	484	2	2-2	.25	2-1/3	30	2	67/80	130.6	94.03	2"	8	11.2	208/3	92	100	1251	1-12

1. PROVIDE WITH ROOF CURB.
2. THRU THE BASE CONNECTIONS.
3. BELT DRIVE WITH STANDARD STATIC OPTION.
4. ELECTRIC HEAT WITH SINGLE POINT CONNECTION KIT, AS SPECIFIED IN SCHEDULE.
5. PROVIDE WITH SINGLE INPUT ELECTRONIC ENTHALPY ECONOMIZERS WITH BAROMETRIC RELIEF DAMPERS.
6. ENTHALPY ACCESSORY CONTROL KIT TO CONVERT SINGLE ENTHALPY ECONOMIZER TO DUAL ENTHALPY FOR ECONOMIZERS.
7. TWO (2) ADDITIONAL SETS OF FILTERS (FIRST CONSTRUCTION) PRE-TEST AND BALANCE, AND ONE SET TO OWNER FOR FUTURE USE.
8. ANY EQUIPMENT SUBSTITUTIONS MUST EQUAL OR EXCEED EFFICIENCIES LISTED (RATINGS PER ARI).
9. MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES.
10. PROVIDE DUCT DETECTOR IN RETURN DUCT. PROVIDE RELAY FOR KILLING POWER TO UNIT'S FAN.
11. PROVIDE HALL GUARDS.
12. 4 WAY DIFFUSER SEE NOTES #2.

MECHANICAL, SERVICE SYSTEMS, AND EQUIPMENT

METHOD OF COMPLIANCE	PRESCRIPTIVE ZONE
THERMAL ZONE	4A

EXTERIOR DESIGN CONDITIONS

WINTER DRY BULB	27.7°F
SUMMER DRY BULB	90.2°F
SUMMER WET BULB	76.3°F

INTERIOR DESIGN CONDITIONS

WINTER DRY BULB	70°F
SUMMER DRY BULB	75°F
RELATIVE HUMIDITY	60%

HEATING LOAD

147,210 BTU/H
---------------

SENSIBLE COOLING LOAD

133,360 BTU/H
---------------

LATENT COOLING LOAD

60,610 BTU/H
--------------

MECHANICAL SPACING/CONDITIONING SYSTEM

AIR COOLED BY	2-10 TON PACKAGED AC/ELECTRIC HEAT
DESCRIPTION OF UNIT(S)	N/A
BOILER	N/A
TOTAL BOILER OUTPUT	N/A
CHILLER	N/A
TOTAL CHILLER CAPACITY	N/A

EQUIPMENT EFFICIENCIES

SEE EQUIPMENT SCHEDULES
-------------------------

EQUIPMENT SCHEDULES WITH MOTORS (MECHANICAL SYSTEMS)

SEE ADJACENT
--------------

ZONE	AREA (SQ FT)	APPLIED COOLING (TONS)	APPLIED HEAT @ 17°F
RETAIL 9100		20 TONS	60 KW

DESIGNER STATEMENT

TO THE BEST OF MY KNOWLEDGE, THE MECHANICAL DESIGN FOR THIS BUILDING COMPLIES WITH MECHANICAL AND EQUIPMENT REQUIREMENTS OF THE LATEST EDITION OF THE NORTH CAROLINA STATE BUILDING CODE.

ISSUED FROM:  
WILMINGTON OFFICE  
305 North Fourth Street  
Wilmington, NC 28401  
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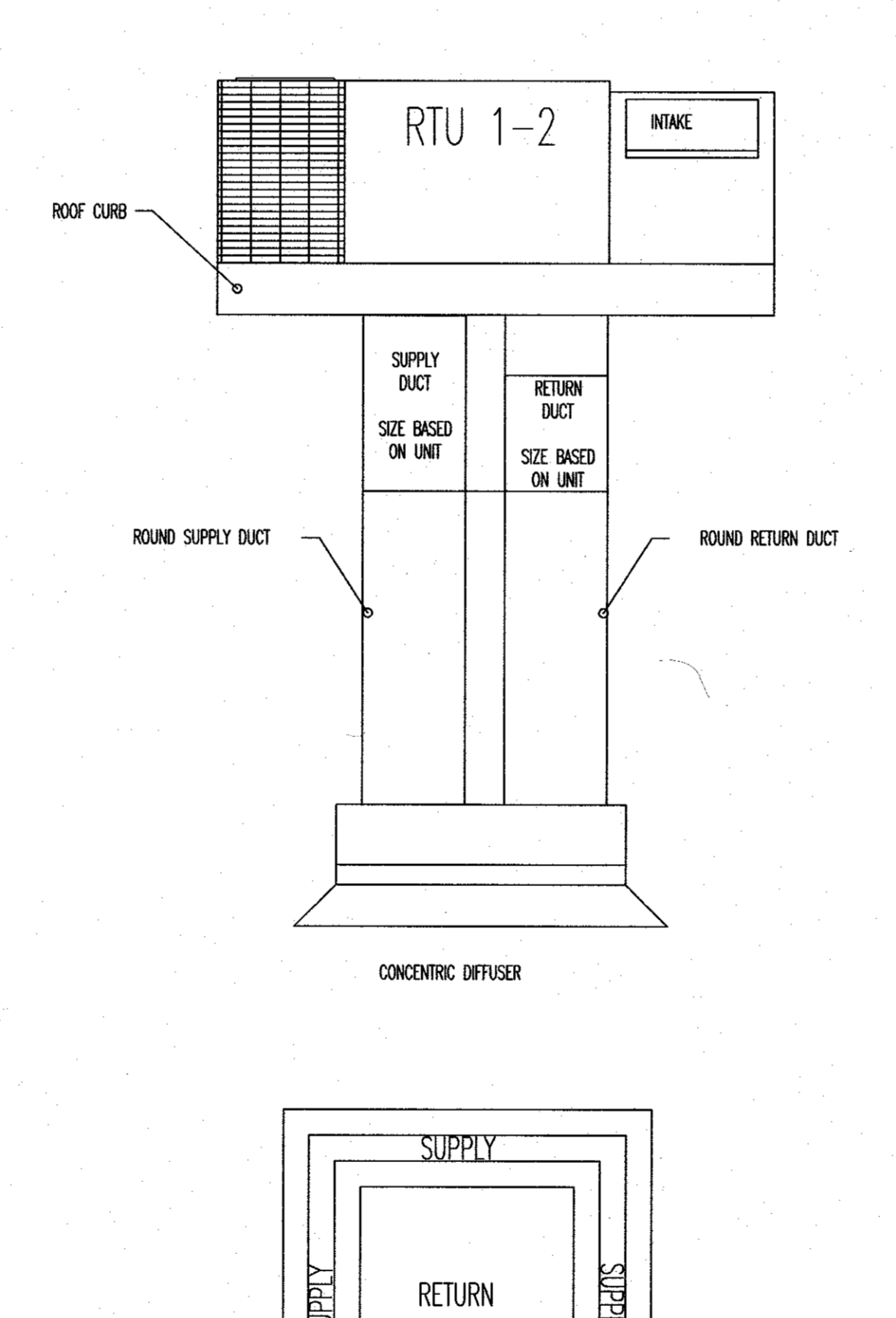
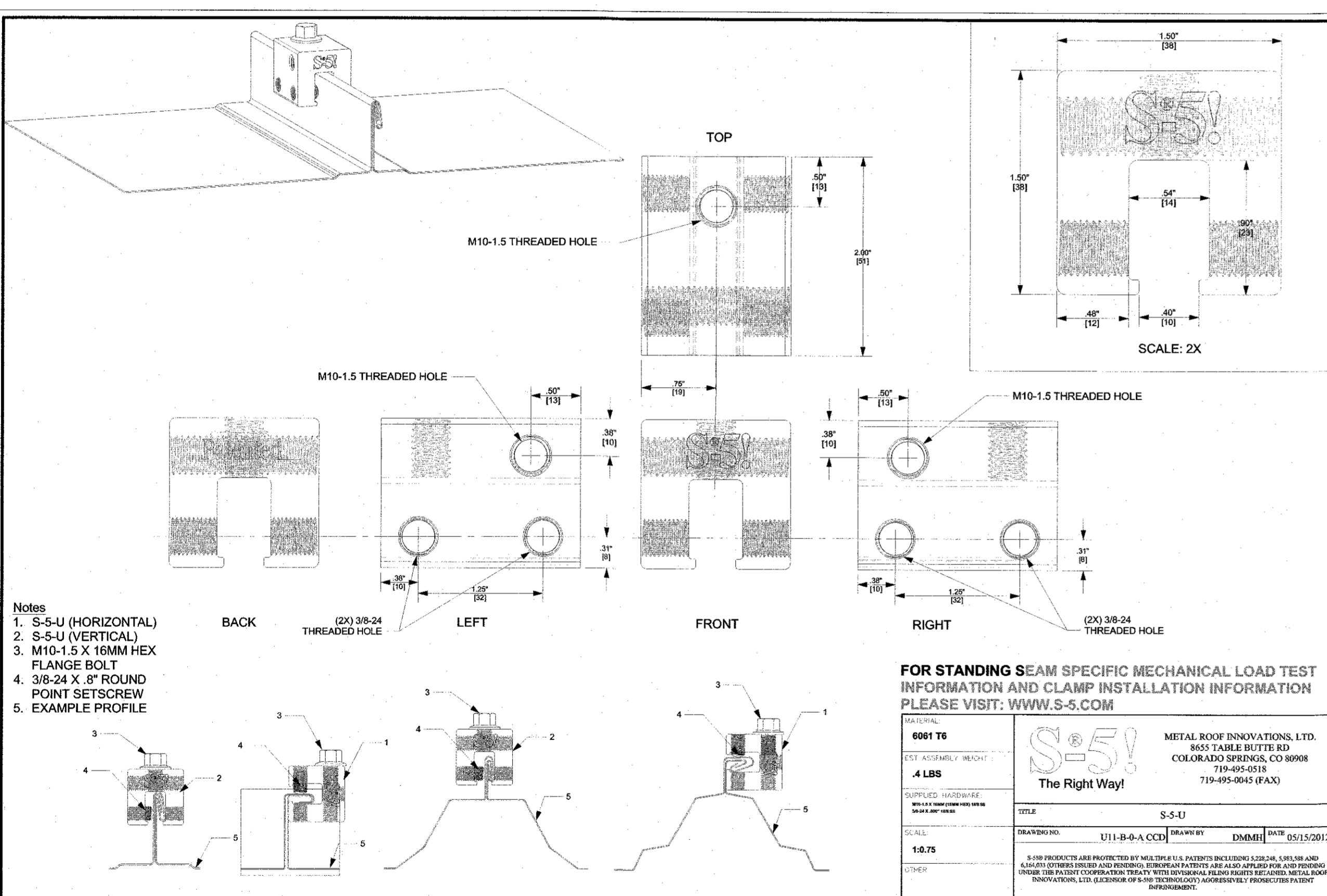
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ARCHITECTURE  
P.L.L.P.

**Kilian Engineering Inc.**

Michael W. Kilian, PE  
Wilmington, NC  
Professional Engineer  
Mechanical • Electrical • Fire Alarm

MECHANICAL SCHEDULES | 1

MECHANICAL DESIGNER'S STATEMENT | 3



PIPE SUPPORT DETAIL NO SCALE | 3

RTU CONCENTRIC DIFFUSER DETAIL NO SCALE | 4

GENERAL MECHANICAL NOTES | 5

GENERAL MECHANICAL NOTES:

1. "PROVIDE" MEANS TO FURNISH AND INSTALL. MECHANICAL CONTRACTOR (MC) SHALL ALSO INSTALL MATERIALS FURNISHED BY OTHERS AND THE GENERAL CONTRACTOR AS SHOWN ON THE PLANS OR NECESSARY FOR A COMPLETE INSTALLATION.
2. THE MC SHALL BE RESPONSIBLE FOR A COMPLETE AND OPERATING SYSTEM AS DESCRIBED BY THESE PLANS AND SPECIFICATIONS.
3. ALL MATERIALS AND EQUIPMENT SHALL BE DELIVERED TO THE SITE AND UNLOADED BY THE CONTRACTOR AT AN APPROVED LOCATION. THE MC SHALL PROTECT ALL MATERIALS AND EQUIPMENT FROM BREAKAGE, THEFT, AND THE ELEMENTS. ALL MATERIALS AND EQUIPMENT SHALL REMAIN THE PROPERTY OF THE MC UNTIL THE PROJECT HAS BEEN COMPLETED AND TURNED OVER TO THE OWNER.
4. THE MC SHALL INSTALL ALL MATERIALS AND EQUIPMENT IN ACCORDANCE WITH THE LATEST NORTH CAROLINA MECHANICAL AND BUILDING CODES AND ANY APPLICABLE LOCAL CODES. WHERE A CONFLICT EXISTS BETWEEN THE ABOVE REQUIREMENTS, THE MORE STRINGENT SHALL BE USED. THE CONTRACTOR SHALL OBTAIN CLARIFICATION FROM THE ENGINEER IN THE EVENT ANY PART OF THESE PLANS CONFLICTS WITH THE ABOVE REQUIREMENTS.
5. THE MC SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS NECESSARY FOR THE COMPLETION OF THE WORK UNDER THIS CONTRACT. DO NOT SCALE THESE DRAWINGS—REFER TO ARCHITECTURAL SHEETS FOR DIMENSIONS.
6. THE MC SHALL VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS. CONTRACTOR SHALL RESOLVE ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THESE PLANS WITH THE ENGINEER. THE MC SHALL COORDINATE WITH OTHER TRADES PRIOR TO THE START OF CONSTRUCTION.
7. ALL MECHANICAL MATERIALS SHALL BE NEW AND FREE OF DEFECT AND LISTED AND LABELED BY UL OR AN APPROVED THIRD PARTY AGENCY. ANY MATERIALS FOUND TO BE DEFECTIVE SHALL BE REPLACED BY THE MC WITHOUT ADDITIONAL COST TO THE OWNER.
8. THE MC SHALL PROVIDE ALL DX UNITARY HEATING AND COOLING EQUIPMENT AS SCHEDULED ON THE DRAWINGS. AIR-COOLED ROOFTOP PACKAGE HEAT PUMPS, GAS-ELECTRIC UNITS, AND AIR-CONDITIONERS SHALL BE BY YORK. THE MC SHALL PROVIDE FACTORY AND FIELD INSTALLED OPTIONS AS SCHEDULED OR AS NECESSARY FOR A COMPLETE AND OPERATIONAL HVAC SYSTEM.
9. THE MC SHALL PROVIDE ALL EXHAUST AND SUPPLY FANS AS SCHEDULED. FANS SHALL BE BY GREENHECK, LOREN COOK, OR PENNBARBY.
10. THESE PLANS ARE DIAGRAMMATIC. THE MC SHALL ADJUST THE LOCATIONS OF EQUIPMENT, DUCTS, REGISTER, GRILLES, ETC. TO ACCOMMODATE PLANNED AND ENCOUNTERED INTERFERENCES. THE DRAWINGS DO NOT SHOW ALL BENDS, OFFSETS, AND FITTINGS THAT MAY BE REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM. THE MC SHALL MAKE ALLOWANCES FOR SUCH DEVIATIONS AND CONTINGENCIES IN BID TO IMPLEMENT THEM WITHOUT ADDITIONAL COST TO THE OWNER.
11. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POWER CONNECTIONS TO THE MECHANICAL EQUIPMENT. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONTROL WIRING.
12. DUCTWORK IS SHOWN WITH FREE AREA DIMENSIONS. ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA LOW PRESSURE DUCT STANDARD, 2 INCH STATIC PRESSURE CLASS.
13. IT IS THE MC'S RESPONSIBILITY TO VERIFY THAT ITEMS FURNISHED FOR THIS CONTRACT WILL FIT IN THE SPACE AVAILABLE. THE MC SHALL MAKE FIELD MEASUREMENTS AS NECESSARY TO DETERMINE SPACE REQUIREMENTS. IF THE MC MUST ALTER EQUIPMENT DUE TO SPACE CONSIDERATIONS, THE MC SHALL PROVIDE SIZES AND SHAPES THAT FIT THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS.
14. EXTERNAL DUCT INSULATION AND FACTORY-INSULATED FLEXIBLE DUCT SHALL BE LEGIBLY PRINTED OR IDENTIFIED AT INTERVALS NOT GREATER THAN 36 INCHES WITH THE NAME OF THE MANUFACTURER, THE THERMAL RESISTANCE R-VALUE AT THE SPECIFIED INSTALLED THICKNESS, AND THE FLAME SPREAD AND SMOKE-DEVELOPED INDEXES OF THE COMPOSITE MATERIALS. ALL DUCT INSULATION PRODUCT R-VALUES SHALL BE BASED ON INSULATION ONLY, EXCLUDING AIR FILMS, VAPOR RETARDERS OR OTHER DUCT COMPONENTS, AND SHALL BE BASED ON TESTED C-VALUES AT 75°F MEAN TEMPERATURE AT THE INSTALLED THICKNESS. IN ACCORDANCE WITH RECOGNIZED INDUSTRY PROCEDURES, THE INSTALLED THICKNESS OF DUCT INSULATION USED TO DETERMINE ITS R-VALUES SHALL BE DETERMINED AS FOLLOWS:
  - 15.1. FOR DUCT WRAP, THE INSTALLED THICKNESS SHALL BE ASSUMED TO BE 75 PERCENT (25-PERCENT COMPRESSION) OF NOMINAL THICKNESS.
  - 15.2. FOR FACTORY-MADE FLEXIBLE AIR DUCTS, THE INSTALLED THICKNESS SHALL BE DETERMINED BY DIVIDING THE DIFFERENCE BETWEEN THE ACTUAL OUTSIDE DIAMETER AND NOMINAL INSIDE DIAMETER BY TWO.
16. INSULATE DUCTWORK WITH FIBERGLASS DUCT WRAP. INSTALLED R-VALUE SHALL BE A MINIMUM NECESSARY TO COMPLY WITH NC ENERGY CONSERVATION CODE. JOINTS AND LINES, INCLUDING ADHESIVES WHEN USED, SHALL HAVE A FLAME SPREAD INDEX NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84-04. ALL NEW DUCTWORK SHALL RECEIVE INSULATION ON THE OUTSIDE. INSTALLED DUCT WRAP INSULATION WITH FACING OUTSIDE SO THAT TAPE FLAP OVERLAPS UNLINED AND FACING OF ADJACENT PIECE OF DUCT WRAP. INSULATION SHALL BE THOROUGHLY BUTTED. FOR RECTANGULAR DUCTS, INSTALL 50 INSULATION IS NOT EXCESSIVELY COMPRESSED AT DUCT CORNERS. STAPLE SEAMS APPROXIMATELY 6 INCHES ON CENTER WITH OUTWARD CLINCHING STAPLES. SEAL SEAMS WITH PRESSURE SENSITIVE TAPE MATCHING THE FACING. FOR RECTANGULAR DUCTS 24 INCHES IN WIDTH OR GREATER, SECURE DUCT WRAP TO THE BOTTOM OF THE DUCT WITH MECHANICAL FASTENERS SPACED 18 INCHES ON CENTER TO PREVENT SAGGING OF INSULATION. ADJACENT SECTIONS OF DUCT WRAP SHALL BE THOROUGHLY BUTTED WITH THE 2 INCH TAPE FLAP OVERLAPPING. ALL TEARS, PUNCTURES, ETC. OF THE DUCT WRAP INSULATION SHALL BE SEALED WITH TAPE OR MASTIC TO PROVIDE A VAPOR TIGHT SYSTEM. INSULATION SHALL BE BY KNAUF INSULATION, OWENS CORNING CORP., OR CERTAINTED CORPORATION. VERIFY THAT DUCTS HAVE BEEN TESTED BEFORE APPLYING INSULATION MATERIALS. VERIFY THAT DUCT SURFACES ARE CLEAN, DRY AND FREE OF FOREIGN MATERIAL PRIOR TO INSULATING. DUCT COVERINGS SHALL NOT PENETRATE A WALL OR FLOOR REQUIRED TO HAVE A FIRE-RESISTANCE RATING OR REQUIRED TO BE FIRE BLOCKED.
17. WHERE DUCTS ARE CONNECTED TO EXTERIOR WALL LOWERS AND DUCT OUTLET IS SMALLER THAN LOWER FRAME, PROVIDE SLAM-OUT PANELS SEALING LOWER AREA AROUND DUCT. USE SAME MATERIAL AS DUCT, PAINTED BLACK ON EXTERIOR SIDE; SEAL TO LOWER FRAME AND DUCT.
18. PROVIDE DUCT ACCESS DOORS FOR INSPECTION AND CLEANING BEFORE AND AFTER FILTERS, COILS, FANS, AUTOMATIC DAMPERS, AT FIRE DAMPERS, COMBINATION FIRE AND SMOKE DAMPERS, AND ELSEWHERE AS INDICATED.
19. CONTRACTOR'S BENDS AND ELBOWS WITH RADIUS OF NOT LESS THAN 1-1/2 TIMES THE WIDTH OF THE DUCT ON CENTERLINE. WHERE NOT POSSIBLE, AND WHERE RECTANGULAR ELBOWS MUST BE USED, PROVIDE TURNING VANES.
20. INCREASE DUCT SIZES GRADUALLY, NOT EXCEEDING 15 DEGREES OVERSIZING WHEREVER POSSIBLE; MAXIMUM OF 30 DEGREES CONVERGENCE UPSTREAM OF EQUIPMENT AND 45 DEGREES CONVERGENCE DOWNSTREAM.
21. MASTIC USED TO SEAL DUCTWORK SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 181A-95 OR UL 181B-98. MAINTAIN AMBIENT TEMPERATURES AND CONDITIONS REQUIRED BY MANUFACTURER OF ADHESIVES, MASTICS, AND INSULATION CEMENTS. DO NOT INSTALL DUCT SEALANT WHEN TEMPERATURES ARE LESS THAN THOSE RECOMMENDED BY THE SEALANT MANUFACTURER.
22. ADHESIVES AND SEALANTS SHALL BE THOSE WITH THE LOWEST POSSIBLE VOC CONTENT BELOW 20 GRAMS PER LITER AND WHICH MEET THE REQUIREMENTS OF THE MANUFACTURER OF THE PRODUCTS BEING ADHERED OR INVOLVED. ADHESIVES AND SEALANTS SHALL CONTAIN NO HEAVY METALS OR FORMALDEHYDE.
23. FACTORY-MADE AIR DUCTS AND CONNECTORS SHALL COMPLY WITH UL 181-96.
24. FLEXIBLE DUCT SHALL BE UL LISTED CLASS 0 OR CLASS 1, INSULATED, AND COMPLY WITH UL 181. FLEXIBLE DUCT SHALL BE FACTORY FORMED, COMPOSED OF SPIRAL WOUND CORROSION RESISTANT WIRE BONDED TO AN INNER FABRIC LINER. DUCT SHALL BE FACTORY INSULATED WITH A FOIL VAPOR BARRIER JACKET. CONNECT TO RIGID DUCT WITH SPIN-IN FITTING AND DAMPER. FLEXIBLE DUCTS AND AIR BENDS, ELBOWS WITH RADIUS OF NOT LESS THAN 1-1/2 TIMES THE WIDTH OF THE DUCT ON CENTERLINE. WHERE NOT POSSIBLE, AND WHERE RECTANGULAR ELBOWS MUST BE USED, PROVIDE TURNING VANES.
25. DUCT INSULATION R-VALUES SHALL COMPLY WITH THE LATEST EDITION OF THE NC ENERGY CODE.
26. IT SHALL BE THE RESPONSIBILITY OF THE MC TO ADEQUATELY SUSPEND AND SUPPORT ALL EQUIPMENT, DUCTWORK, DIFFUSERS, AND OTHER MATERIALS FOLLOWING RECOGNIZED ENGINEERING PRACTICES AND USMC STANDARD. COMMERCIALY ACCEPTED HANGERS AND SUSPENSION EQUIPMENT. ALL HVAC EQUIPMENT SHALL BE SECURELY MOUNTED TO THE BUILDING STRUCTURE AND SHALL NOT RELY ON CEILING OR WALL SURFACES FOR SUPPORT. THE SUPPORT ATTACHMENT SHALL ADEQUATELY SUPPORT THE WEIGHT OF THE EQUIPMENT PLUS THE WEIGHT OF THE SUPPORT ATTACHMENT ITSELF. SUPPORT FROM THE TOP CORN OF THE ROOF JOISTS, GIRDERS, AND BEAMS. THE BOTTOM CORN IS NOT TO BE USED FOR EQUIPMENT AND PIPING SUPPORT. HANGERS SHALL NOT BE ATTACHED TO CORRUGATED STEEL DECKING.
27. DUCTS SHALL BE SUPPORTED IN ACCORDANCE WITH SMACNA AT INTERVALS NOT EXCEEDING 10 FEET. DUCTS 36 INCHES OR LARGER SHALL HAVE TRAPEZOID TYPE HANGERS SUSPENDED WITH THREADED ROD. SUPPORT DUCTS FROM BAR JOISTS, GIRDERS, OR BEAMS.
28. CHECK LOCATIONS OF AIR OUTLETS AND INLETS AND MAKE NECESSARY ADJUSTMENTS IN POSITION TO CONFORM WITH ARCHITECTURAL FEATURES, SYMMETRY, AND LIGHTING ARRANGEMENT. COORDINATE WITH SPRINKLER CONTRACTOR IF APPLICABLE.
29. THE MC SHALL PROVIDE ALL DIFFUSERS, GRILLES, AND OTHER AIR DISTRIBUTION OUTLETS AND INLETS. LOWERS, GRILLES, AND DIFFUSERS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. FOR LAY-IN CEILING, INSTALL SUPPORT FROM THE STRUCTURE FOR EACH DIFFUSER OR DAMPER. AIR DISTRIBUTION OUTLETS AND INLETS SHALL BE BY HART & COOLEY, PRICE, METAL-AIRE, OR CARNES.
30. AIR FILTERS SHALL BE INSTALLED IN ACCORDANCE WITH THE NC MECHANICAL CODE.
31. PROVIDE BALANCING DAMPERS AT POINTS ON SUPPLY, RETURN, AND EXHAUST SYSTEMS WHERE BRANCHES ARE TAKEN FROM LARGER DUCTS AS REQUIRED FOR AIR BALANCING. INSTALL MINIMUM 2 DUCT MOTHS FROM DUCT TAKE-OFF. PROVIDE BALANCING DAMPERS ON DUCT TAKE-OFFS TO DIFFUSERS, GRILLES, AND REGISTERS, REGARDLESS OF WHETHER DAMPERS ARE SPECIFIED AS PART OF THE DIFFUSER, GRILLE, OR REGISTER ASSEMBLY. ADJUST AIR HANDLING AND DISTRIBUTION SYSTEMS TO PROVIDE REQUIRED OR DESIGN SUPPLY, RETURN, AND EXHAUST AIR QUANTITIES AT SITE ALTITUDE.
32. MC SHALL INSTALL ONE (1) PROGRAMMABLE THERMOSTAT PER HVAC UNIT AS SHOWN ON THE PLANS. THERMOSTATS SHALL BE MOUNTED AT 48" AFF. THERMOSTATS SHALL MEET THE REQUIREMENTS OF THE NORTH CAROLINA ENERGY CODE.
33. MC SHALL INSTALL A SMOKE DETECTOR-UL LISTED FOR DUCT INSTALLATION (UL 288A-98) IN EACH UNIT'S RETURN UPSTREAM OF ANY FILTERS, OUTSIDE AIR CONNECTIONS, OR DECONTAMINATION EQUIPMENT. DUCT SMOKE DETECTORS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 72. DUCT SMOKE DETECTOR SUPERSEDES ALL COMPATIBLE WITH 608.4.1 OF THE NC MECHANICAL CODE. IF THE BUILDING IS (TO BE) EQUIPPED WITH A FIRE ALARM SYSTEM, THE FIRE ALARM SYSTEM CONTRACTOR SHALL FURNISH AND WIRE ALL DUCT SMOKE DETECTORS. IF THE BUILDING IS NOT PROVIDED WITH A FIRE ALARM SYSTEM, THE MC SHALL FURNISH AND WIRE THE DUCT SMOKE DETECTORS AND A/V DEVICE. IT SHALL BE THE RESPONSIBILITY OF THE MC TO INSTALL ALL SMOKE DETECTOR DETECTORS PER NFPA AND MFG'S INSTALLATION INSTRUCTIONS REGARDLESS OF WHO FURNISHES THE DEVICES.
34. MC SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR REGARDING THE ELECTRICAL REQUIREMENTS OF ALL EQUIPMENT BE PROVIDED.
35. MAINTAIN 10 FEET OF DISTANCE BETWEEN FRESH AIR INTAKES AND ALL VENT THRU ROOFS.
36. MAINTAIN CLEARANCES FOR ALL UNITS ACCORDING TO MANUFACTURER'S RECOMMENDATIONS FOR SERVICEABILITY. ALL ROOFTOP EQUIPMENT MUST BE A MINIMUM OF 6 FEET FROM ROOF EDGE.
37. MC SHALL INSTALL ONE (1) CEILING MOUNTED EXHAUST FAN FOR EACH RESTROOM AND VENT TO THE BUILDING'S EXTERIOR. EC SHALL SWITCH FANS WITH LIGHTS OR ON SEPARATE SWITCH AS SHOWN.
38. P-TRAPS MUST BE INSTALLED ON ALL UNITS. P-TRAPS AND CONDENSATE LINES SHALL BE 1 INCH. P-TRAPS AND CONDENSATE LINES MAY BE PVC WHERE NOT LOCATED IN PLENUMS; OTHERWISE, THEY SHALL BE TYPE M COPPER.
39. MC SHALL FURNISH A ROUNO SET OF OPERATING AND MAINTENANCE INSTRUCTIONS FOR ALL EQUIPMENT TO THE OWNER UPON COMPLETION OF THE PROJECT. MC SHALL PROVIDE FULL DOCUMENTATION TO THE OWNER AS NECESSARY TO SUBMIT FOR FACTORY WARRANTIES.
40. CONTRACTOR SHALL PROTECT ALL HVAC EQUIPMENT FROM CONSTRUCTION AND SHEET ROCK DUST DURING CONSTRUCTION. ALL FILTERS SHALL BE REPLACED WITH NEW AT THE COMPLETION OF THE PROJECT.
41. ALL EQUIPMENT INSTALLED ON ROOF MUST BE WITHIN THE ROOF SCREEN.
42. IF A ROOF PENETRATION IS REQUIRED AND THE ROOF IS UNDER WARRANTY, USE THE AUTHORIZED ROOFER. PROVIDE DOCUMENTATION.
43. ALL PIPING, WIRING, CONDUIT, INSULATION, EQUIPMENT, SUPPORTS, ETC. SHALL BE SUITABLE FOR INSTALLATION IN A RETURN PLENUM AS NECESSARY. COORDINATE WITH OTHER TRADES ON LOCATIONS OF ALL PLenums.
44. MC SHALL COORDINATE WITH THE GENERAL CONTRACTOR TO DISURE ALL APPLICABLE CONSTRUCTION WASTE IS RECYCLED DURING THE CONSTRUCTION PHASE OF THE PROJECT.

Michael W. Kilian, PE  
Professional Engineer  
Mechanical • Electrical • Fire Alarm

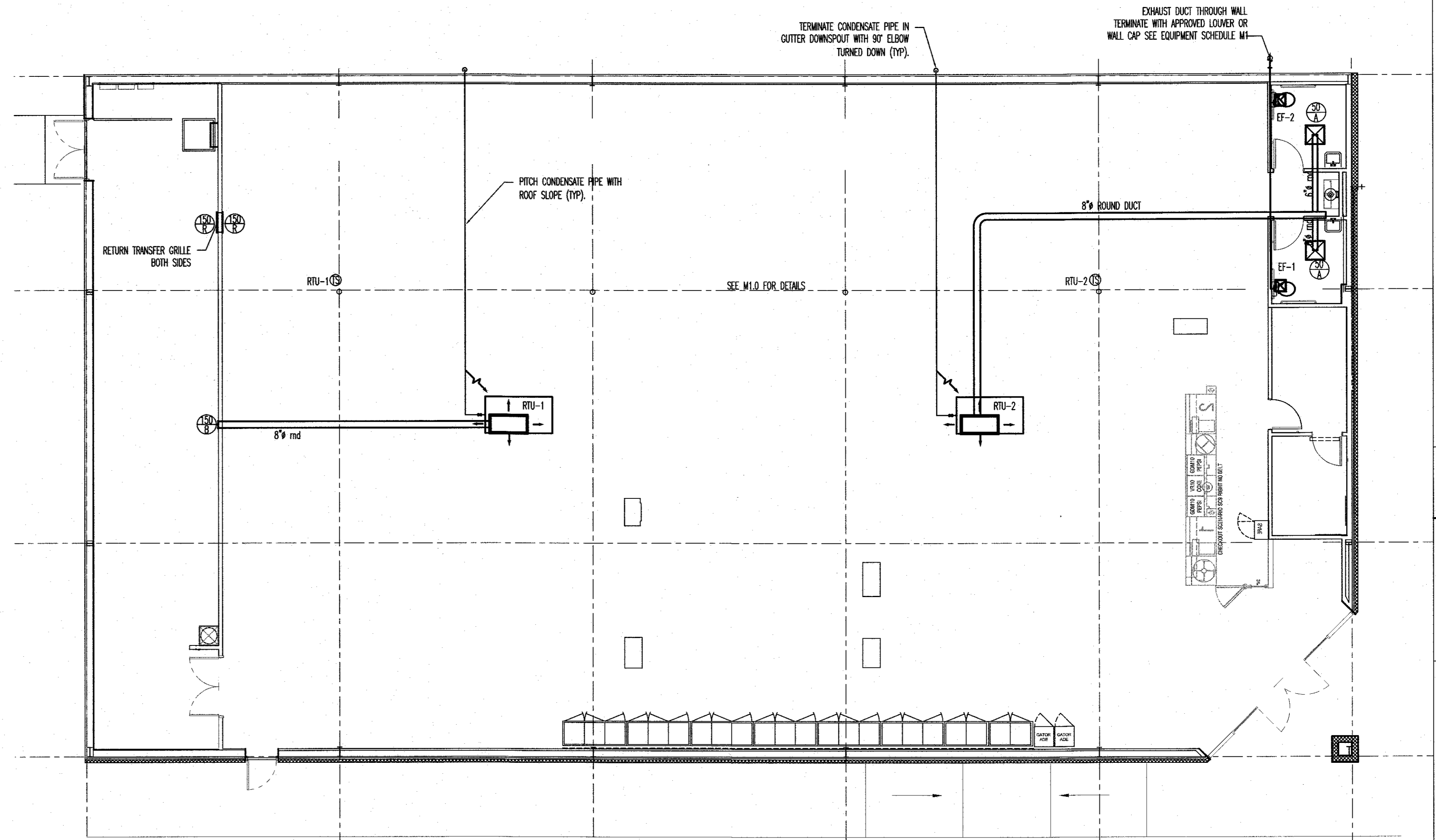
**DOLLAR GENERAL STORE # 20312**  
SPRING HILL CHURCH ROAD  
LILLINGTON, NORTH CAROLINA

JOB NUMBER  
18426  
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DATE  
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SHEET NUMBER  
**M-1**

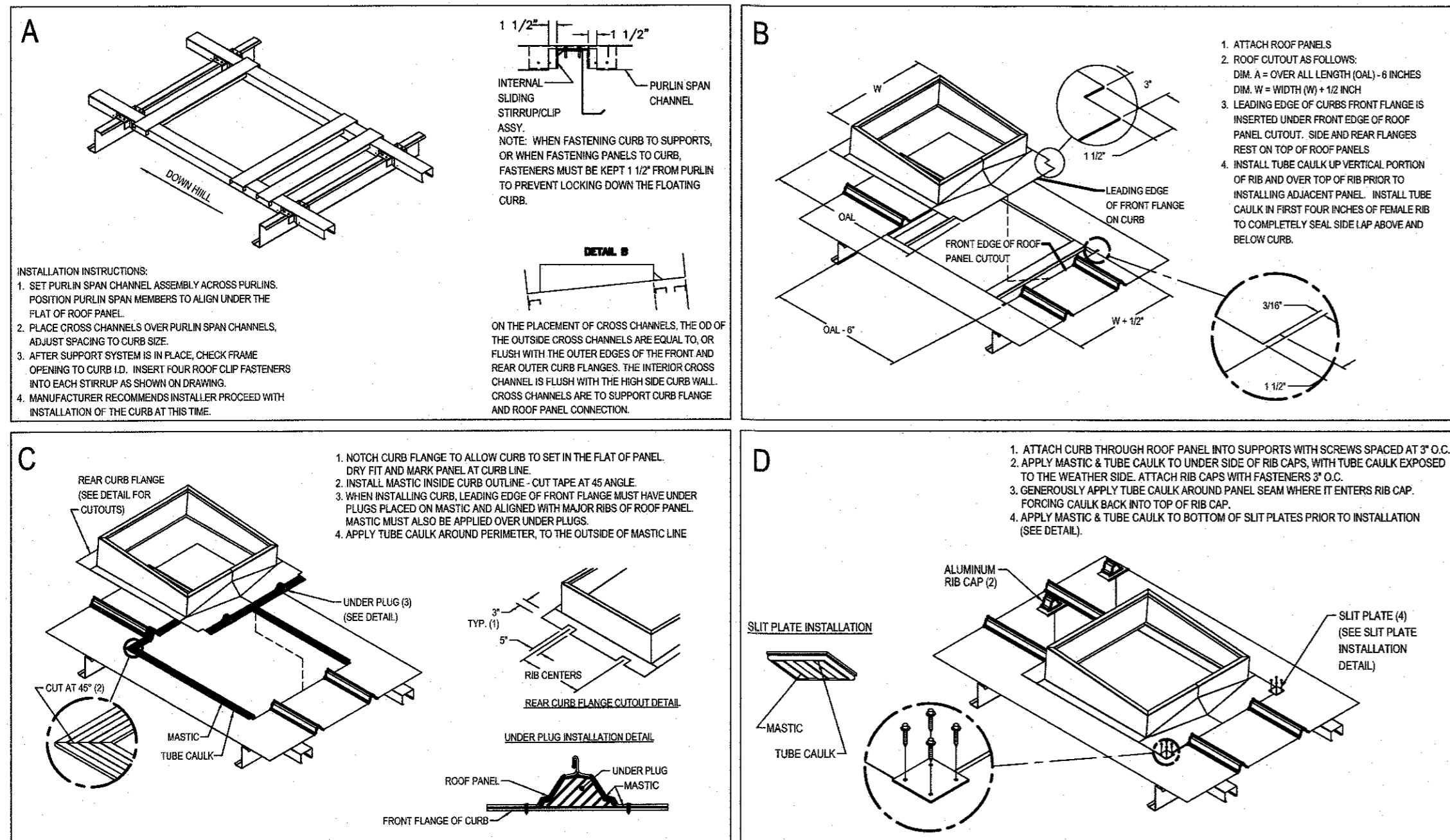
Ventilation Calculation (For Unit MS)									
Room Name(s)	Zone Type	Area (sq.ft.)	Rp	Ra	Default Occupancy	Pz	Ez	Airflow to Zone (cfm)	
Retail Receiving	Retail Sales	6867	7.5	0.12	15	103.01	0.8	6000	
	Shipping/Receiving	1085	0	0.12	0	0.00	0.8	2000	
	N/A		0	0	0	0.00	0.8		
	N/A		0	0	0	0.00	0.8		
	N/A		0	0	0	0.00	0.8		
K-12 School?	No		Maximum Zp:		0.33262				
			Ev:		0.8				
			Actual System Population:		60				
Uncorrected Intake	1404 cfm								
Outdoor Air Intake	1755 cfm								
Percent of Unit Air	22%								

- DOLLAR GENERAL MECHANICAL NOTES:**
1. PROVIDE CONCENTRIC DIFFUSER KIT AS SPECIFIED BY DOLLAR GENERAL (AVAILABLE THRU YORK, AH) BE USED ON ALL VENDOR'S EQUIPMENT, CONTACT YORK NATIONAL PRICING. LOCATE BOTTOM OF DIFFUSER AT 12" A.F.F. CONCENTRIC DIFFUSER KIT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS INSTALLATION INSTRUCTIONS. CONCENTRIC DIFFUSER SHALL BE HARD DUCTED FROM HVAC UNIT. THE USE OF FLEXIBLE DUCT DROPS ARE NOT ALLOWED, NO EXCEPTIONS.
  2. ALL HVAC UNITS REQUIRE AN ECONOMIZER AND BAROMETRIC RELIEF.
  3. ALL SUPPLY AND EXHAUST AIR DUCTWORK SHALL BE CONSTRUCTED OF ROUND GALVANIZED SHEET METAL AND BE FABRICATED ACCORDING TO THE LATEST EDITION OF THE SMACNA HVAC DUCT CONSTRUCTION STANDARDS FOR METAL AND FLEXIBLE DUCTWORK. SUPPLY, RETURN AND POSITIVE PRESSURE EXHAUST DUCTWORK SHALL BE SEALED IN ACCORDANCE WITH SMACNA SEAL CLASS C.
  4. TESTING OF HVAC UNITS THRU EMS PANEL IS ACCOMPLISHED BY WARMING UP OR COOLING DOWN A SPACE. TEMPERATURE SENSOR AND WATCH THE FAN HEAT AND COOL STAGES CYCLE ON AND OFF. THIS REQUIRES TWO PEOPLE AT ALL TIMES. ONE TO WATCH THE SCREEN AND THE OTHER TO WATCH OPERATION OF THE HVAC UNIT. WHEN COMPLETE, PRESS THE HOME BUTTON TO RETURN TO THE MAIN SCREEN.
  5. PROVIDE CEILING MOUNTED EXHAUST FANS FOR RESTROOMS, INTERLOCK WITH RESTROOM LIGHTS. EXHAUST FAN SHALL BE VENTED THRU SIDE WALL, NOT THRU THE ROOF.
  6. ROOF CURB INFORMATION SEE DETAILS M2-2



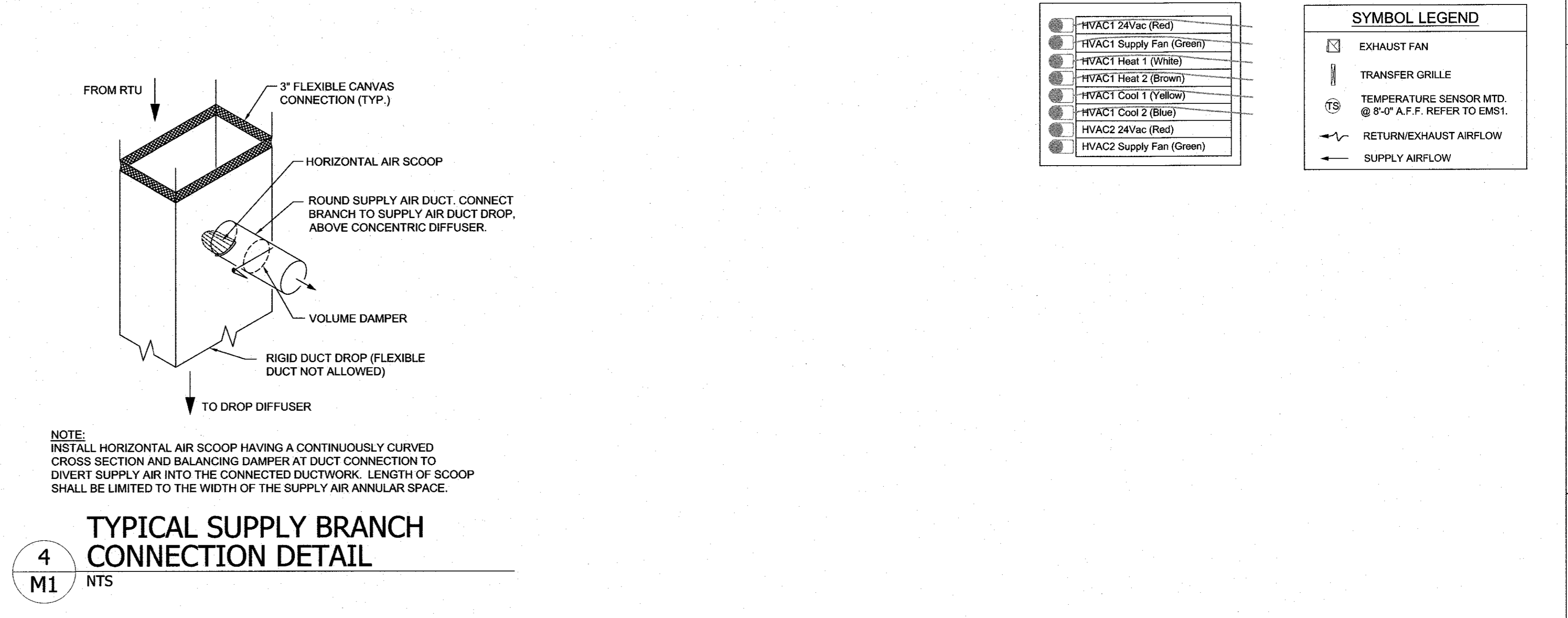
VENTILATION CALCULATION TABLES | 1

MECHANICAL PLAN-SCALE 1/8"=1' | 2



**CURB INSTALLATION INSTRUCTIONS**  
TRAPEZOIDAL STANDING SEAM PANEL - UNDER / OVER  
FOLLOW MANUFACTURER'S SPECIFICATIONS

REQUIRED NATIONAL ACCOUNT ROOF CURB DG VENDORS:			
ROOF CURB SYSTEMS	GREG SMYTH	800-683-5848	GSMYTH@ROOFCURBS.COM
CURBS PLUS INC.	ALAN THRAILKILL	888-639-2872	ALAN.THRAILKILL@CURBS-PLUS.COM
KCC INTERNATIONAL INC.	GREG CONRAD	800-382-2872	GCONRAD@KCCCURBS.COM



**TYPICAL SUPPLY BRANCH CONNECTION DETAIL**  
4 M1 NTS

ROOF CURB DETAIL - NO SCALE | 3

HVAC WIRING DETAIL AND SYMBOL LEGEND | 4

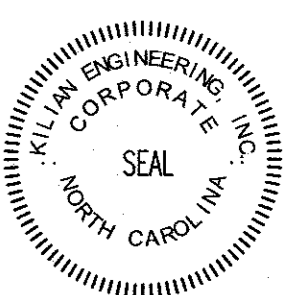
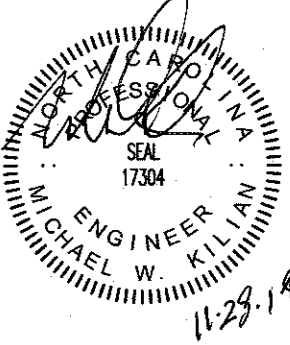
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P.L.L.P.

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Corporate License C0277

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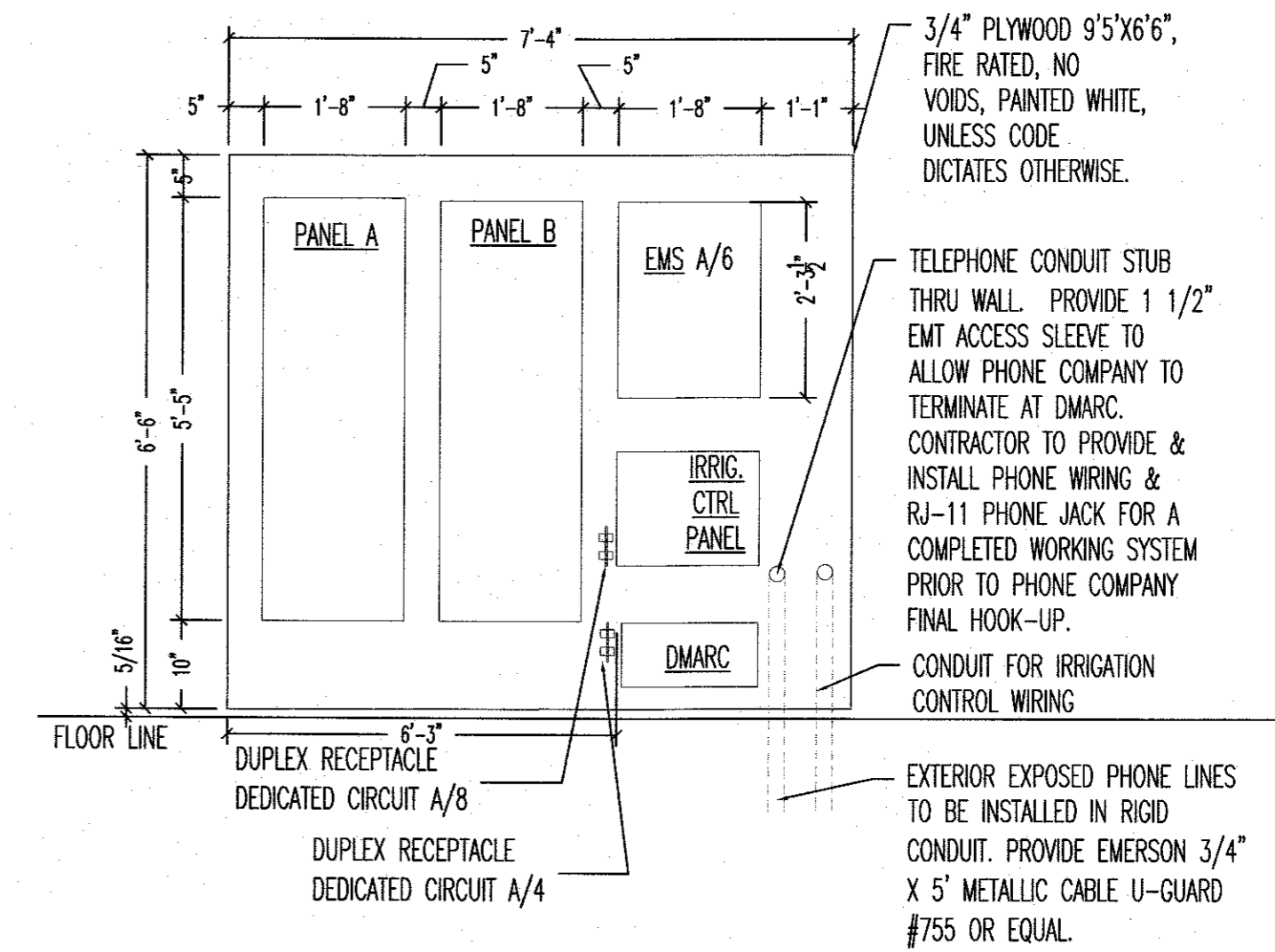
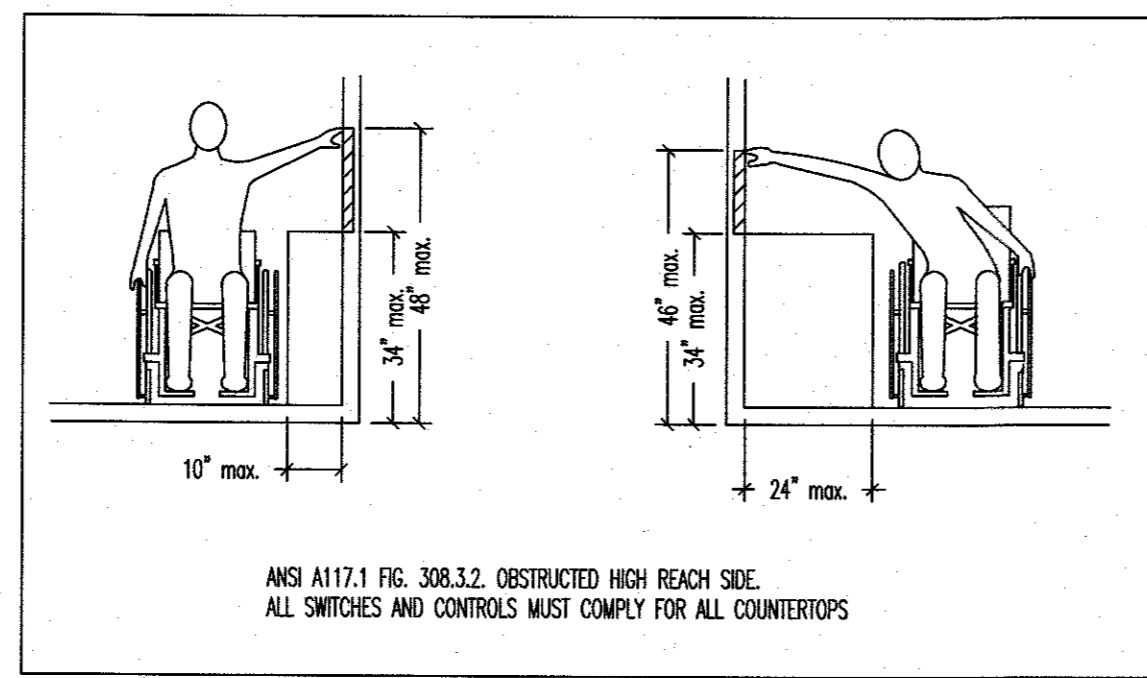
**DOLLAR GENERAL**  
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**M-2**

ELECTRICAL DEVICE LEGEND		
SYMBOL	DESCRIPTION	REMARKS
⊕	WALL MOUNTED OCCUPANCY SENSOR	LEVITON ODS10-10W LINE VOLTAGE CONTROL SWITCH
⊖	JUNCTION BOX	
EF-1	EXHAUST FAN	VENT FAN, 120V, CFM AS NOTED MC TO PROVIDE AND VENT, EC TO WIRE.
▶	DATA AND TELEPHONE JACK	TELEPHONE OUTLET - 1 RJ11, 1 RJ45 OUTLET FOR VOICE AND DATA. EC TO INSTALL 1" C. FROM OUTLET BOX TO ABOVE CEILING FOR FUTURE USE. PROVIDE CAT 5 CABLING AS NOTED ON PLANS.
▶	TELEPHONE JACK	TELEPHONE OUTLET - 1 RJ45 OUTLET FOR VOICE AND DATA. EC TO INSTALL 1" C. FROM OUTLET BOX TO ABOVE CEILING FOR FUTURE USE. COMMUNICATION WIRING BY OTHERS.
⊕GFCI	DUPLEX GFCI RECEPTACLE	COMMERCIAL GRADE, 120V, 20A
⊕	DUPLEX RECEPTACLE	COMMERCIAL GRADE, 120V, 20A
⊕	QUAD RECEPTACLE	COMMERCIAL GRADE, 120V, 20A
⊕CH	DUPLEX RECEPTACLE	COMMERCIAL GRADE, 120V, 20A, MOUNT AT COUNTER HEIGHT
⊕WP-GFCI	DUPLEX GFCI RECEPTACLE	COMMERCIAL GRADE, 120V, 20A, WITH WEATHER PROOF COVER
⊕	4 PRONG TWIST LOCK RECEPT	COMMERCIAL GRADE, 125/250V NEMA L14-20R
⊖	DISCONNECT SWITCH	NEMA1 IN INTERIOR APPLICATIONS, NEMA 3R IN EXTERIOR APPLICATIONS, FUSIBLE AS NOTED
⊕	BUZZER	TORK MDL # TA725 W/ TRANSFORMER MDL # TA592
●	POWER POLE	SEE DETAIL



ELECTRICAL DEVICE LEGEND | 1

ANSI A117.1 ADA REACH DETAIL - NO SCALE | 3

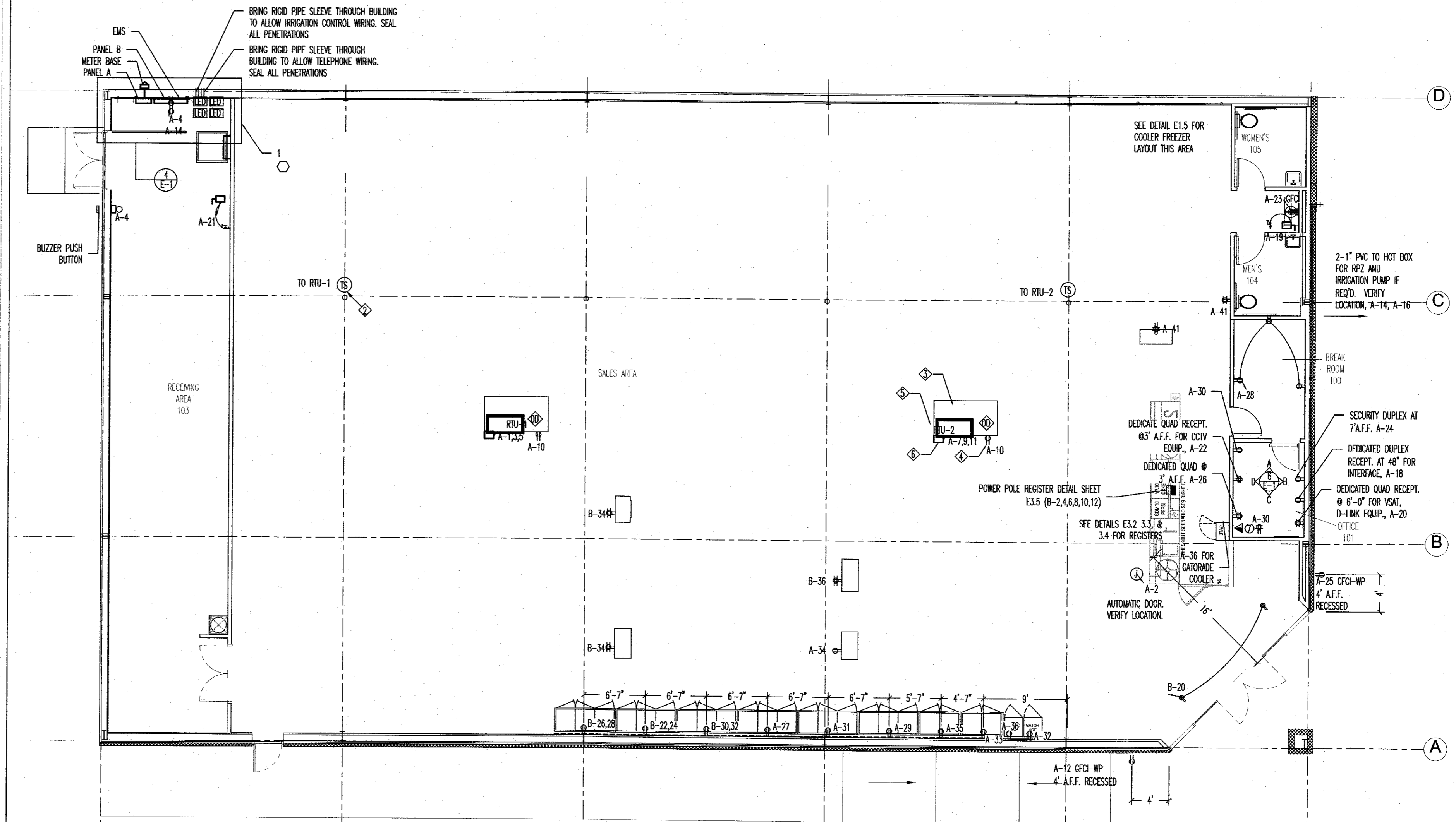
ELECTRICAL PANEL ELEVATION-NO SCALE | 4

### ELECTRICAL KEYED NOTES

- TEST/RESET STATION FOR STAND ALONE DUCT DETECTOR. ONE FOR EACH DEVICE, SEE KEY NOTE 5 ON THIS SHEET. SIMPLEX #4098-9842 IS SPECIFIED. WITH PIEZO AND LED INDICATOR
- MECHANICAL THERMOSTAT AT 8'-0" A.F.F.
- LOCATIONS SHOWN FOR MECHANICAL UNITS ARE ONLY APPROXIMATE, CONTRACTOR MUST CONSULT MECHANICAL OR STRUCTURAL DRAWINGS TO DETERMINE ACTUAL UNIT LOCATIONS. PROVIDE 1/2" C. PENETRATION THRU ROOF WITHIN FOOTPRINT OF UNIT FOR USE WITH CONTROL WIRING TO UNIT BY OTHERS. PROVIDE PROPER WATERSEAL. (TYPICAL)
- FACTORY MOUNTED CONVENIENCE OUTLET (ELECTRICAL CONTRACTOR TO PROVIDE IF NOT FACTORY INSTALLED). PROVIDE CIRCUIT AS SHOWN, WIRE ALL WITH THIS NOTE TO A SPARE BREAKER IN PANEL "A" IF THEY ARE NOT POWERED.
- PHOTOELECTRIC DUCT DETECTOR WITH HOUSING. TIE TO LED READOUT RECESSED IN DUCT. STAND ALONE DEVICE, 120V. SIMPLEX #4098-9687 IS SPECIFIED WITH 4098-9842 CONTROL STATION. PROVIDE ONE DEVICE PER UNIT. MOUNT DEVICE IN SUPPLY AIR DUCTWORK. DEVICE SHALL BE PROVIDED AND WIRED TO THE CONTROL STATION BY THE ELECTRICAL CONTRACTOR. HIRE THE MECHANICAL CONTRACTOR FOR INSTALLATION IN DUCTWORK & CONNECTION TO SHUTDOWN CONTROLS. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED RELAYS AND 120V POWER. DO NOT POWER DUCT DETECTORS FROM HVAC UNIT LOW VOLTAGE. SUBMIT SHOP DRAWINGS FOR APPROVAL. PLACE ANY REQUIRED LABELING ON CEILING TILE DIRECTLY BELOW UNIT. RUN CONDUIT & WIRE UNDERGROUND FROM UNIT TO INSIDE OF SPACE.
- MOUNT DISCONNECT SWITCH AT UNIT. ALL DISCONNECTS TO BE HEAVY DUTY. FUSES TO BE RK-5 TYPE, BUSSMANN FRN-R-(AMP) IS SPECIFIED. SEE EQUIPMENT SCHEDULE ON E3.1.
- SO WHITE ELECTRICAL CORD IS NEEDED. SEE SHEET A1, NOTE 26.
- CONFIRM THE FINAL NUMBER AND LOCATION OF OUTLETS IN SALES AREA WITH THE FINAL DG FIXTURE PLAN.

### ELECTRICAL SPECIFICATIONS

- ALL WIRING SHALL BE CONTAINED IN CONDUIT OF PROPER SIZE.
- ALL WIRING SHALL CONFORM TO LOCAL, STATE AND FEDERAL CODES.
- SERVICE IS TO BE A MINIMUM 400 AMP, 3 PHASE (PREFERRED), 600 AMP, 1 PHASE OR LARGER IF REQUIRED BY CODE OR ELECTRICAL LOAD.
- REQUIRED CUSTOM BUILT POWER POLE ASSEMBLIES AVAILABLE FROM D&P CUSTOM LIGHTS & PRODUCTS INC., PHONE: (800) 251-2200 OR (615) 350-7800, 7111 COCKRILL BEND INDUSTRIAL ROAD, NASHVILLE, TN 37209. SEE E3.1.
- EXTERIOR EXPOSED PHONE LINES TO BE INSTALLED IN RIGID CONDUIT. PROVIDE EMERSON 3/4" X 5-FT. METALLIC CABLE U-GUARD #755, OR EQUAL..
- ELECTRICAL PANEL TO BE LABELED CORRECTLY WITH LEGIBLE PRINT.
- LOW VOLTAGE VENDOR TO PROVIDE AND INSTALL ONE (1) 24 GA., 4 TWISTED-PAIR, CATEGORY-FIVE (CAT5) DATA CABLE WITH MODULAR COMBO RJ-11/RJ-45 JACK AT MANAGER'S OFFICE. CABLE TO BE RUN FROM JACK TO DATA HUB LOCATION WITH 6'-0" LEFT COILED FOR INSTALLATION TO DATA HUB. A RJ-45 MALE FITTING SHOULD BE CRIMPED ON THIS END. DOLLAR GENERAL STORE OPENING TEAM WILL MAKE FINAL CONNECTION INTO THE DATA HUB.
- PROVIDE 1 1/2" EMT CONDUIT TO ACT AS ACCESS SLEEVE TO ALLOW PHONE COMPANY TO TERMINATE AT DMARC. CONTRACTOR TO PROVIDE AND INSTALL PHONE WIRING & RJ-11 PHONE JACK FOR COMPLETED WORKING SYSTEM PRIOR TO PHONE COMPANY FINAL HOOK UP.
- ALL 120 VOLT OUTDOOR RECEPTACLES TO HAVE "WET LOCATION - IN USE" COVERS.
- ALL CONDUCTORS TO BE COPPER, #12 AWG MINIMUM SIZE, OR AS REQUIRED BY LOAD AND OVER CURRENT PROTECTION.
- SEE EMS SHEETS EMS1 AND EMS2 FOR ENERGY MANAGEMENT SYMBOLS AND INFORMATION.
- ELECTRICIAN TO PROVIDE 1 1/2" CONDUIT WITH PULL STRINGS FOR SATELLITE LOCATION.
- ALL POWER AND DATA TO BE ROUTED OVERHEAD. UNDER SLAB NOT ALLOWED.
- WIRE SIZE TO BE #8 OR #10 FOR ALL COOLERS/FREEZERS.
- MOUNT ALL REFRIGERATOR OUTLETS AT 12" AFF.



ELECTRICAL NOTES | 2

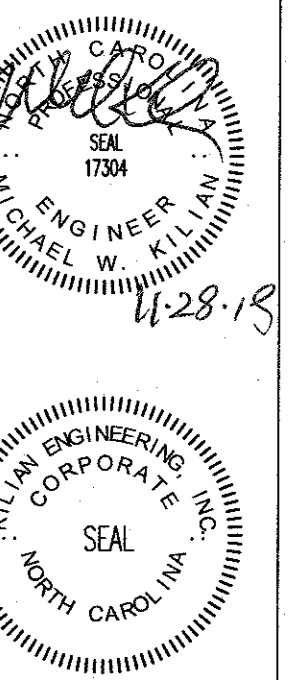
ELECTRICAL POWER PLAN - SCALE: 1/8"=1' | 7

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805 North Fourth Street  
Wilmington, NC 28401  
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Facsimile: 910.251.9899

WILSON OFFICE  
213 East Nash Street  
Wilmington, NC 27902  
Phone: 252.399.2700  
Facsimile: 252.399.2701

**Kilian Engineering Inc.**

Michael W. Kilian, P.E.  
Wilmington, NC  
Professional Engineer  
No. 17304

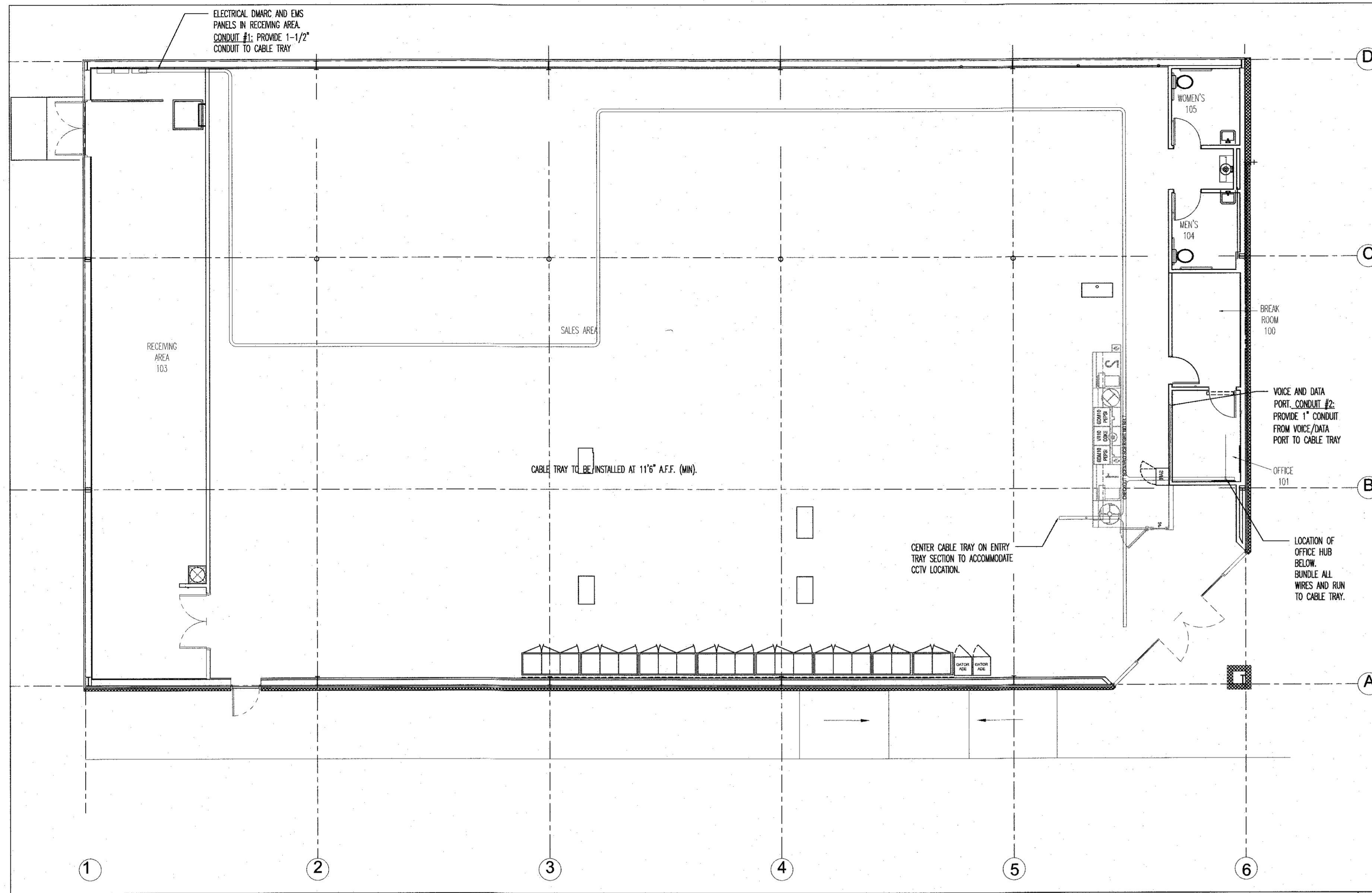


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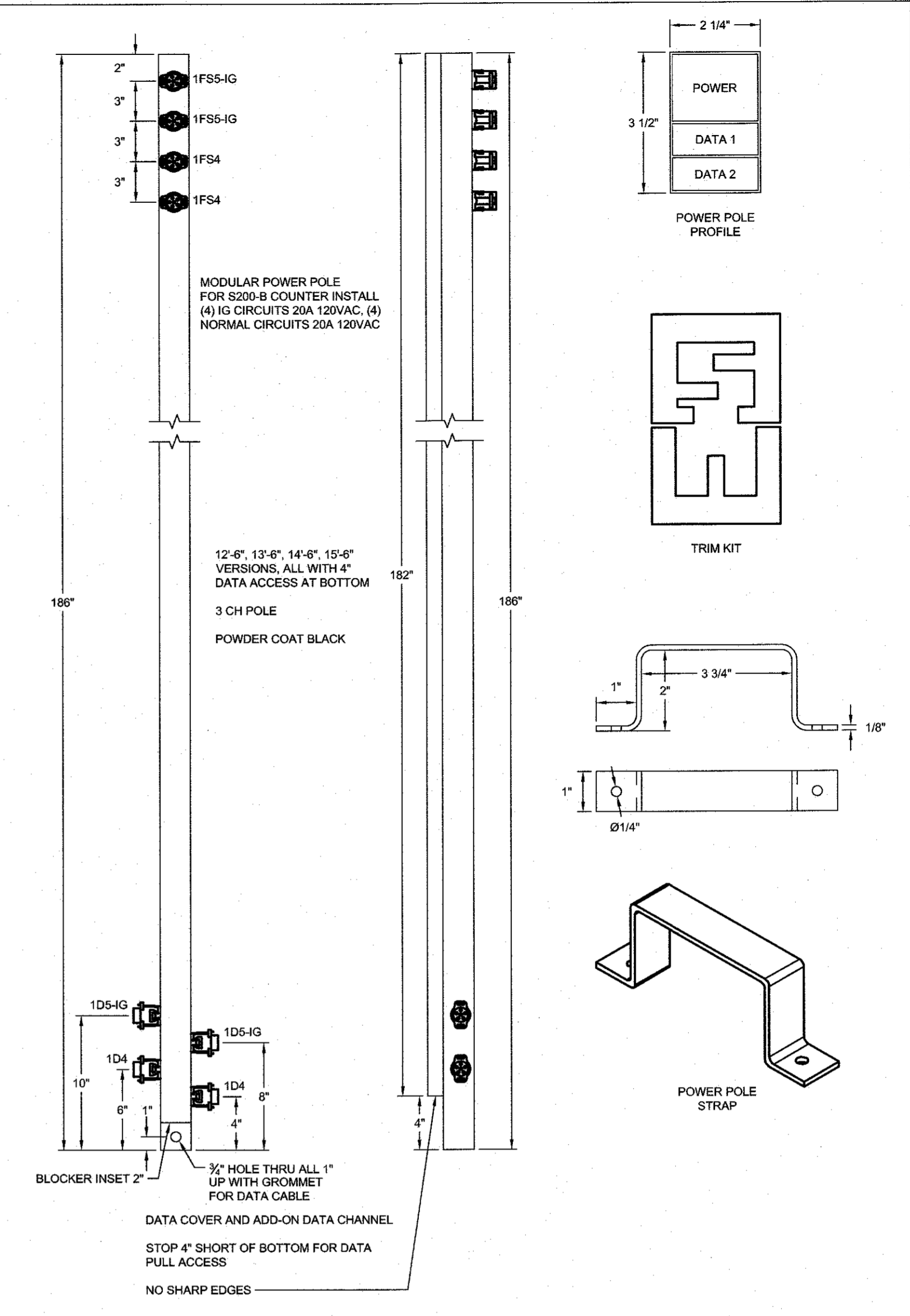
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**E-1**

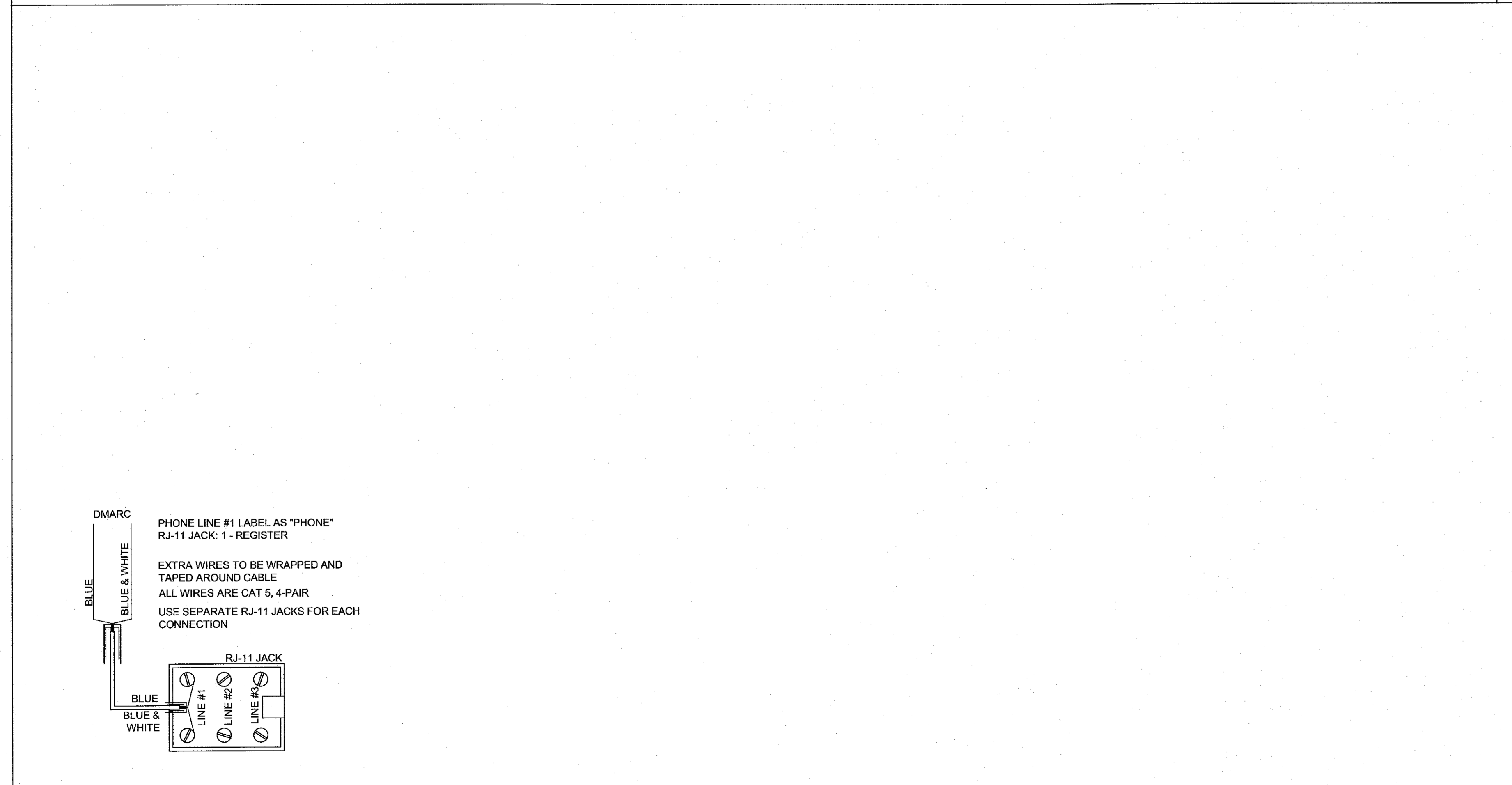




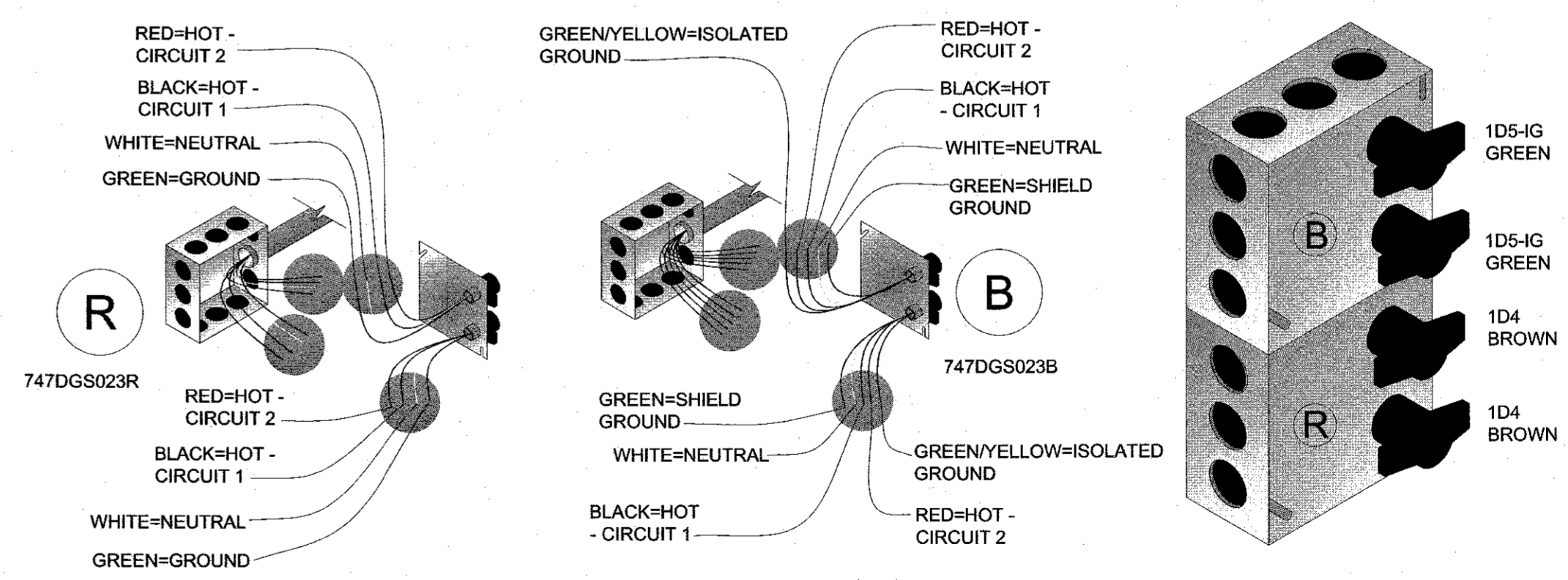
CABLE TRAY - SCALE: 1/8"=1' 1



POWER POLE FOR REGISTER DETAIL - NO SCALE 3



PHONE WIRING FOR REGISTER DETAIL - NO SCALE 2



REGISTER ELECTRICAL COMPONENTS

QTY	PART NUMBER	DESCRIPTION	VENDOR
1	747DGS023B	DUAL CIRCUIT POWER KIT WITH ISOLATED GROUND	D & P
1	747DGS023R	DUAL CIRCUIT POWER KIT	D & P
1	747DGS044-12BK	12' 2CH REGULAR POLE W/2-C & 1-D CONNECTOR DRW #2004-12	
1	747DGS032A	10' CABLE KIT (SET OF 4 WHIPS)	

\*NOTE: BEFORE ORDERING AND INSTALLATION OF ELECTRICAL COMPONENTS FOR REGISTERS, CONSULT FINAL FIXTURE PLAN FOR NUMBER AND LOCATION.

MAXIMUM CIRCUITS FOR REGISTERS:  
 • CIRCUITS AT MAIN REGISTER - (9) 110V  
 • CIRCUITS AT ISLAND REGISTER - (3) 110V

FREEZER/COOLER POWER POLE - NO SCALE 4

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 803 North Fourth Street  
 Wilmington, NC 28401  
 Phone: 910.251.9899  
 Fax: 910.251.9899

WILSON OFFICE  
 213 East Nash Street  
 Wilson, NC 27893  
 Phone: 252.399.2700  
 Fax: 252.399.2701

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**Kilian**  
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 2100 S. Main Street, Spring Street  
 Raleigh, North Carolina 27605  
 Phone: 919.877.1111  
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Professional Engineer  
 License No. 17394  
 State of North Carolina

Professional Engineer  
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 State of North Carolina

**DOLLAR GENERAL**  
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**E-3**

PANEL A							
CXT	LOAD	BKR	LOAD		BKR	LOAD	CXT
			KVA	PH			
1			11.03	A	0.10	20/1	AUTOMATIC DOOR
3	RTU-1	100/3	11.03	B	0.36	20/1	TELEPHONE BOARD/BUZZER
5			11.03	C	0.18	20/1	ENERGY MANAGEMENT
7			11.03	A	0.18	20/1	RECEPT FOR IRRIGATION PANEL
9	RTU-2	100/3	11.03	B	0.72	20/1	OD HVAC RECEPT (ON ROOF)
11			11.03	C	0.18	20/1	OD DRINK VEND
13	SPARE	20/1	0.00	A	0.72	20/1	HOT RIX
15	SPARE	20/1	0.00	B	1.00	20/1	IRRIGATION PUMP
17	SPARE	20/1	0.00	C	0.50	20/1	INTERFACE EQUIPMENT
19	WATER HEATER	20/1	1.70	A	0.50	20/1	VSAT SATELITE EQUIPMENT
21	WATER HEATER	20/1	1.70	B	0.50	20/1	CCTV EQUIP
23	DRINKING FOUNTAIN	20/1	0.18	C	0.18	20/1	SECURITY RECEPT.
25	OUTDOOR ICE RECEPT.	20/1	0.18	A	0.36	20/1	OFFICE RECEPT.
27	COOLER #1	20/1	1.20	B	0.54	20/1	BREAK ROOM RECEPT.
29	COOLER #2	20/1	1.20	C	0.54	20/1	OFFICE RECEPT.
31	COOLER #3	20/1	1.20	A	0.80	20/1	GATORADE
33	COOLER #4	20/1	1.20	B	0.18	20/1	ICE CREAM FREEZER
35	COOLER #5	20/1	1.60	C	0.80	20/1	GATORADE
37	SPARE	20/1	0.00	A	11.70		
39	SPARE	20/1	0.00	B	12.80	200/3	PANEL B
41	BEAUTY/COSMETICS	20/1	0.72	C	10.80		
			KVA	PH	AMPS		
			39.5	A	329		
			42.3	B	352		
			38.9	C	325		
VOLTAGE/PHASE			208Y/120V, 3P, 4W				
BUS RATING			600A				
NEUTRAL BUS RATING			600A				
MAIN CIRCUIT BREAKER RATING			600A				
AIC RATING			22K				
SERVICE ENTRANCE RATED			YES				
ENCLOSURE			NEMA 1				
MOUNTING			SURFACE				
ISOLATED GROUND BUS			N/A				

NOTE: CIRCLED CIRCUITS REPRESENT BREAKER LOCKS

PANEL B							
CXT	LOAD	BKR	LOAD		BKR	LOAD	CXT
			KVA	PH			
1	NIGHT LTS	20/1	0.30	A	1.20	20/1	POWER TERMINAL BRN
3	RECEIVING LTS	20/1	0.24	B	1.20	20/1	POWER TERMINAL BRN
5	SALES LIGHTS	20/1	0.50	C	1.20	20/1	POWER TERMINAL GRN
7	SALES LIGHTS	20/1	0.78	A	1.20	20/1	POWER TERMINAL GRN
9	SALES LIGHTS	20/1	0.56	B	1.20	20/1	POWER TERMINAL GRN
11	SALES LIGHTS	20/1	0.45	C	1.20	20/1	POWER TERMINAL BRN
13	SALES LIGHTS	20/1	0.90	A	2.88		
15	SALES LIGHTS	20/1	0.90	B	2.88		
17	SPARE	20/1	0.00	C	0.00	20/1	WELL PUMP
19	EMERGENCY/EXIT LIGHTS	20/1	0.40	A	0.00	20/A	SPARE
21	BREAK RM/OFFICE/RR LTS & RR ET'S	20/1	0.50	B	1.50		
23	BUILDING SIGN	20/1	1.20	C	1.50	20/2	FREEZER #1
25	PYLON SIGN	20/1	0.90	A	1.50		
27	SPARE	20/1	0.00	B	1.50		
29	SITE LIGHTING	20/1	1.20	C	1.50		
31	SPARE	20/1	0.00	A	1.50	20/2	FREEZER #3
33	EXTERIOR LTS	20/1	0.56	B	1.60	20/1	SODA COOLERS
35	FRONT EXTERIOR/CANOPY LTS	20/1	0.28	C	1.60	20/1	DRINK COOLERS
37	EXTERIOR LTS	20/1	0.15	A	0.00	20/1	SPARE
39	EXTERIOR LTS	20/1	0.15	B	0.00	20/1	SPARE
41	EXTERIOR BUS/DOWN	20/1	0.13	C	0.00	20/1	SPARE
			KVA	PH	AMPS		
			11.7	A	98		
			12.8	B	107		
			10.8	C	90		
VOLTAGE/PHASE			208Y/120V, 3P, 4W				
BUS RATING			200A				
NEUTRAL BUS RATING			200A				
MAIN CIRCUIT BREAKER RATING			MLO				
AIC RATING			22K				
SERVICE ENTRANCE RATED			YES				
ENCLOSURE			NEMA 1				
MOUNTING			SURFACE				
ISOLATED GROUND BUS			N/A				

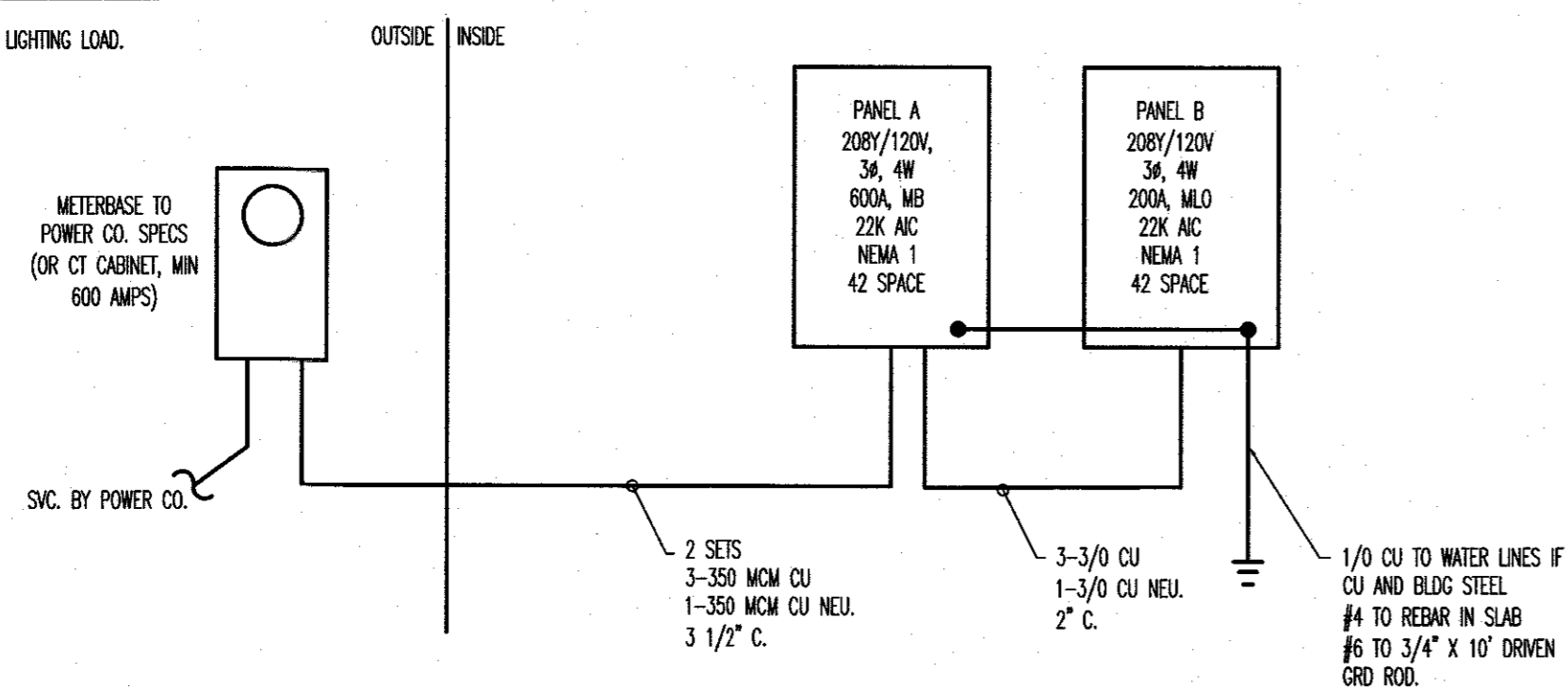
NOTE: CIRCLED CIRCUITS REPRESENT BREAKER LOCKS

NOTE: SHADED CIRCUITS RUN THROUGH EMS PANEL

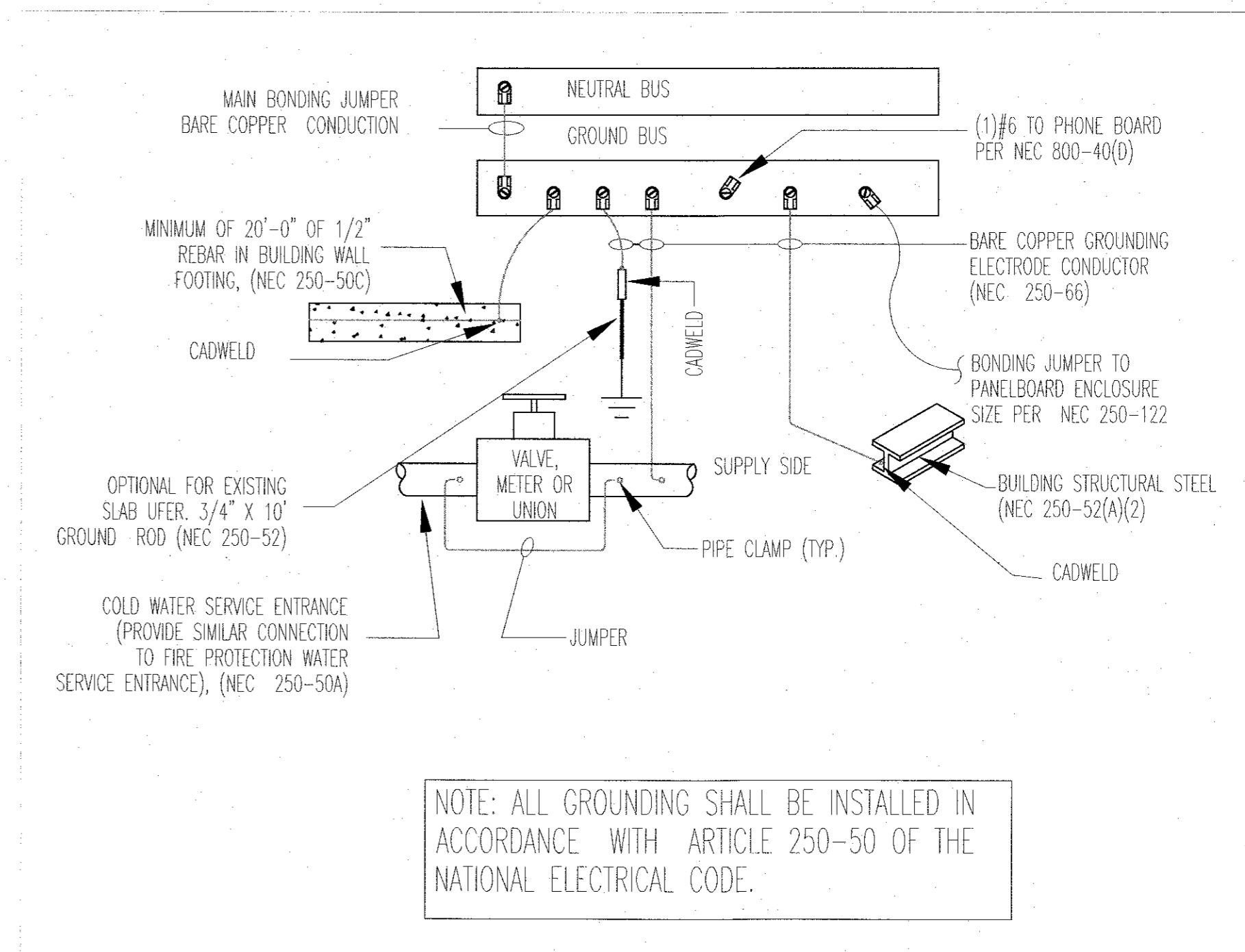
PANEL B HAS BOTH ISOLATED GROUND BUS AND A STANDARD BONDED GROUND BUS.

NEC ELECTRIC DEMAND SUMMARY 208Y/120V, 3P, 4W					
EQUIPMENT	DEMAND FACTOR	KVA			LOAD KVA
		A	B	C	
LIGHTING 1	125%	10.88	10.88	10.88	32.64
RECEPTACLES < 10 KVA s	100%	1.80	1.80	1.80	5.40
RECEPTACLES > 10 KVA s	50%	0.00	0.00	0.00	0.00
HVAC 2	100%	22.06	22.06	22.06	66.18
WATER HEATER	100%	1.70	1.70	0.00	3.40
SHOW WINDOW 3	125%	1.53	1.53	1.53	4.59
SIGN 4	125%	1.20	0.90	0.00	2.10
FREEZERS/COOLERS	100%	4.40	7.38	8.40	20.18
IRRIGATION PUMP AND WELL	100%	2.88	1.00	2.88	6.76
DEMAND KVA PER PHASE		46.45	47.25	47.55	
DEMAND AMPS PER PHASE		387	394	396	

- 8709 SF X 3VA/SF X 1.25 PER NEC 220.12. THIS EXCEEDS THE CONNECTED LIGHTING LOAD.
- ALL HVAC EQUIPMENT IS BASED ON MCA.
- NOT USED
- 23 FT X 150 VA/2FT PER NEC 220.43(B)
- NOT USED
- PER NEC 220.14(F)
- NOT USED



EQUIPMENT CONNECTION SCHEDULE												
SYMBOL	DESCRIPTION	FURN. BY	KVA	HP	VEL./PH	MCA	MDCP	DISC	AWG	EGC	COND	NOTES
RTU-1,2	RTU'S	M.C.	-	-	208/3	92.0	100	100	#3	#8	1 1/2"	
P-11	WATER HEATERS	P.C.	1.65	-	120/1	13	20	30	#12	#12	3/4"	

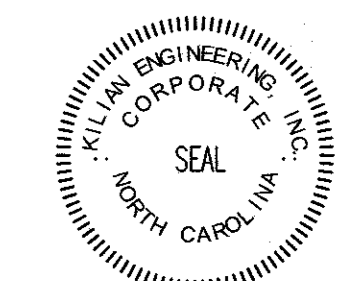
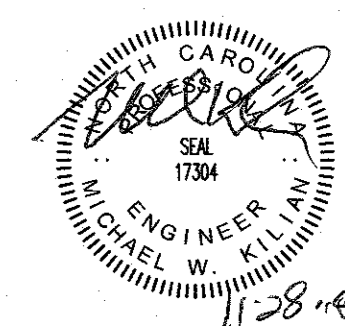


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 Electrical • Fire Alarm



**DOLLAR GENERAL**  
 STORE # 20312  
 SPRING HILL CHURCH ROAD  
 LILLINGTON, NORTH CAROLINA

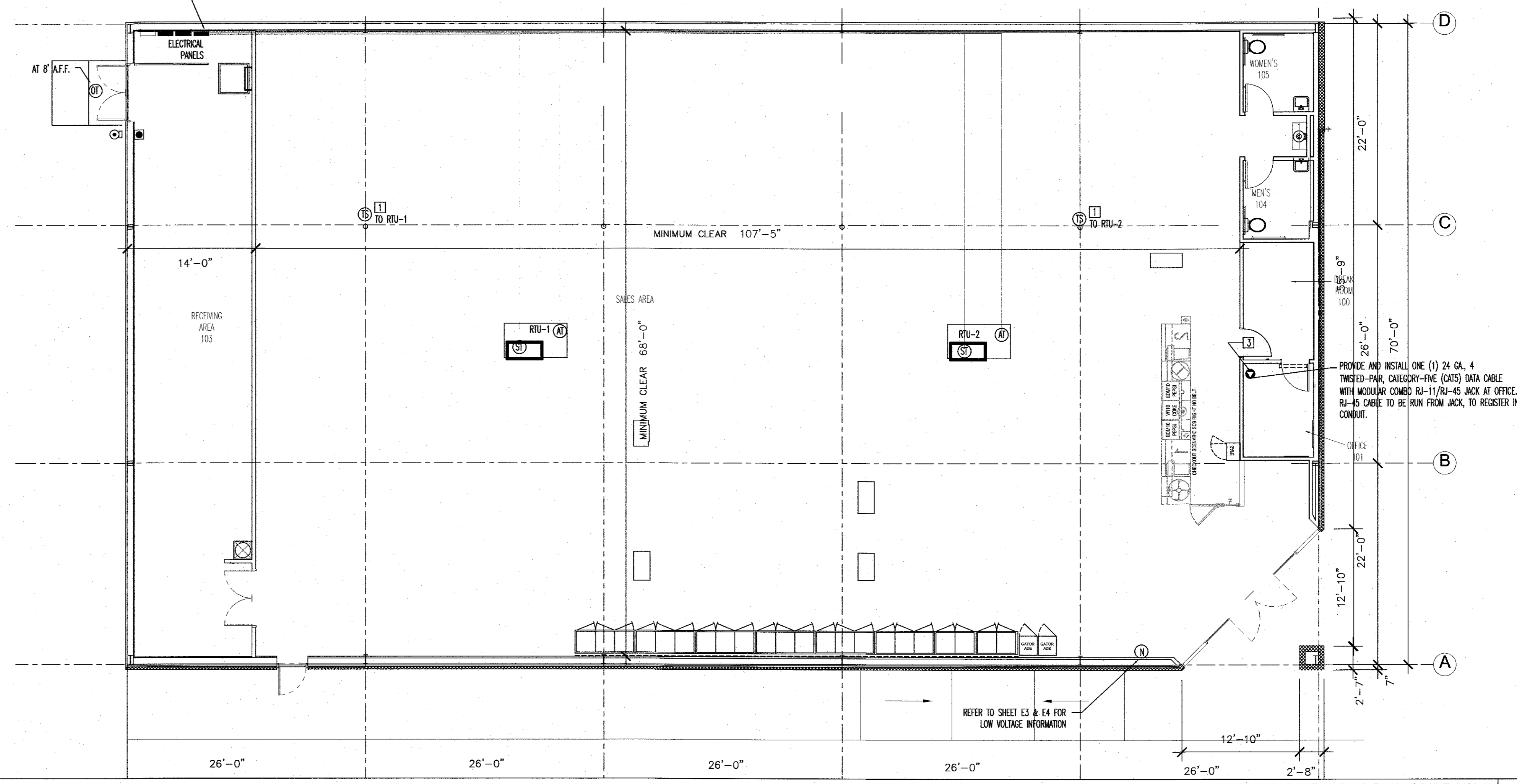
JOB NUMBER  
 18426  
 DRAWN BY  
 REW  
 DATE  
 11/28/18  
 REVISIONS

SHEET NUMBER

**E-4**



EMERSON PRE-PROGRAMMED E2 C2-100 CONTROLLER "EMS PANEL", MTD. NEXT TO ELECTRICAL PANELS, AS CLOSE AS POSSIBLE.



LOW VOLTAGE WIRING PLAN-SCALE 1/8"=1' 1

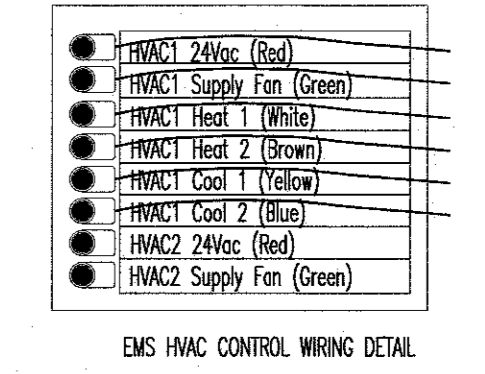
QTY.	SYMBOL	DESCRIPTION	CABLE TYPE	SUPPLIED BY:	INSTALLED BY:	NOTES
VERIFY	(A)	WALL TERMINAL STRIP	8C T-504 CABLE	GEN. SUPPLIER	GENERAL CONTRACTOR	QTY. ONE (1) PER RNC LINE.
1	(B)	NETWORK CABLE W/UT. AT RECEIVING AREA	CAT5/RJ-45 CONNECTION ON BOTH ENDS. LEAVE 50' COILED AT REGISTER. CONNECT AT EMS PANEL.	GENERAL CONTRACTOR	GENERAL CONTRACTOR	QTY. ONE (1) PER REGISTER.
1	(C)	SENSOR IN SUPPLY DUCT	RELATOR E201 OR EQUIVALENT (CONSP. JC, SHOWN, SHIELDED)	GEN. SUPPLIER	GENERAL CONTRACTOR	QTY. ONE (1) PER RECEIVING DUCT. ADD ADDITIONAL RNC UNIT WHEN REQUIRED.
VERIFY	(D)	TEMPERATURE SENSITIVE SENSOR (200-240V) W/UT. 8'-0" A.F.F.	RELATOR E201 OR EQUIVALENT (CONSP. JC, SHOWN, SHIELDED)	GEN. SUPPLIER	GENERAL CONTRACTOR	QTY. ONE (1) PER RNC UNIT ZONE.
4	(E)	NATION SENSOR SWITCH	LEVITON E2-PRO 025-10-010	GENERAL CONTRACTOR	GENERAL CONTRACTOR	QTY. ONE (1) PER BREAK ROOM. QTY. ONE (1) PER OFFICE. QTY. ONE (1) PER MEN'S RESTROOM. QTY. ONE (1) PER WOMEN'S RESTROOM.
1	(F)	RJ-11/RJ-45 DATA JACK, PHONE COMB.	24 GA. 4-PAIR SHIELD. CATEGORY-FIVE (QTY 5) DATA CABLE.	GENERAL CONTRACTOR	GENERAL CONTRACTOR	QTY. ONE (1) AT OFFICE COMPUTER CABINETS.

- SENSOR PLAN KEYED NOTES**
- ALWAYS INSTALL THESE SENSORS AT 8'-0" A.F.F. THE EXACT MOUNTING LOCATION OF THE SENSORS "IS" MAY VARY DEPENDING ON THE SIZE LAUNCH & DUCT CONFIGURATION. REFER TO SITE SPECIFIC MECHANICAL DRAWINGS FOR RNC ZONE SENSOR MOUNTING LOCATIONS. IF SENSORS ARE MOUNTED ON EXTERIOR WALLS DUE TO DUCT CONFIGURATION, THEY ARE TO BE INSULATED TO PREVENT AIR INTRUSION. IF ADDITIONAL RNC UNITS ARE USED, ADD ADDITIONAL TEMPERATURE SENSORS "IS".
  - ADD ADDITIONAL RNC UNIT WHEN REQUIRED.
  - PHONE LINE #1 - TWO RJ-11 PORTS. ONE (1) LOCATED IN OFFICE. RNC-45 DATA JACK COMB. AND ONE (1) AT RECEIVING AREA. ONE (1) 4-PAIR PHONE LINE. ONE (1) 4-PAIR AND ONE (1) 2-PAIR PHONE LINE TO LINE #1 TERMINAL IN RJ-11 JACK. EACH PHONE JACK TO HAVE SEPARATE SEPARATE WIRE RUN TO PHONE JACK. ALL PHONE JACKS AT RNC. PHONE COMPANY PROVIDES PHONE WIRE UP TO DATA ONLY PHONE LINE #2 - RJ-11 PHONE JACK SUPPLIED AND WIRED BY CONTRACTOR.

COMPANY	CONTACTS	PHONE #	REQUIRED ITEMS
EMERSON CLIMATE TECHNOLOGIES	WEBSITE: <a href="http://datacenter.emerson.com">http://datacenter.emerson.com</a>	USER NAME: <a href="mailto:skay@emerson.com">skay@emerson.com</a> PASSWORD: <a href="mailto:skay@emerson.com">skay@emerson.com</a>	GEN. SUPPLIER NOTE: CUSTOMER ORDER GENERAL EMS PANEL REQUIRES SOME #, QTY, SIZE, ZIP CODE & QTY FOR RNC UNITS OF THE SERIAL ONE WEEK DELIVERY. ONE SYSTEM INSTALLATION CODE WITH PHOTOS IS AVAILABLE ON NATIONAL ACCOUNT WEBSITE. ALL QUESTIONS PERTAINING TO THE EMS PANEL, SYSTEM INSTALLATION & SETUP SHOULD BE DIRECTED TO EMERSON'S DOLLAR GENERAL SUPPORT TEAM AT 770-425-0724.

NATIONAL ACCOUNT & CONTACT INFORMATION SUBJECT TO CHANGE

LOW VOLTAGE WIRING SCHEDULES AND NOTES 2

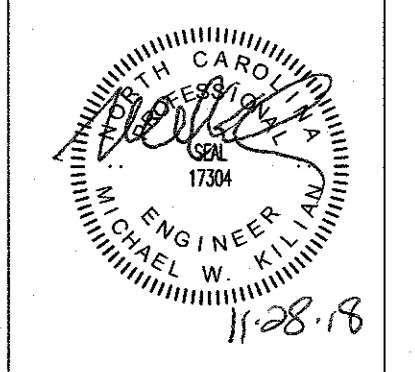


LOW VOLTAGE DETAILS-NO SCALE 3

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 210 East 9th Street  
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 Phone: 919.833.8888  
 Fax: 919.833.8889  
 Email: [info@kilianeng.com](mailto:info@kilianeng.com)

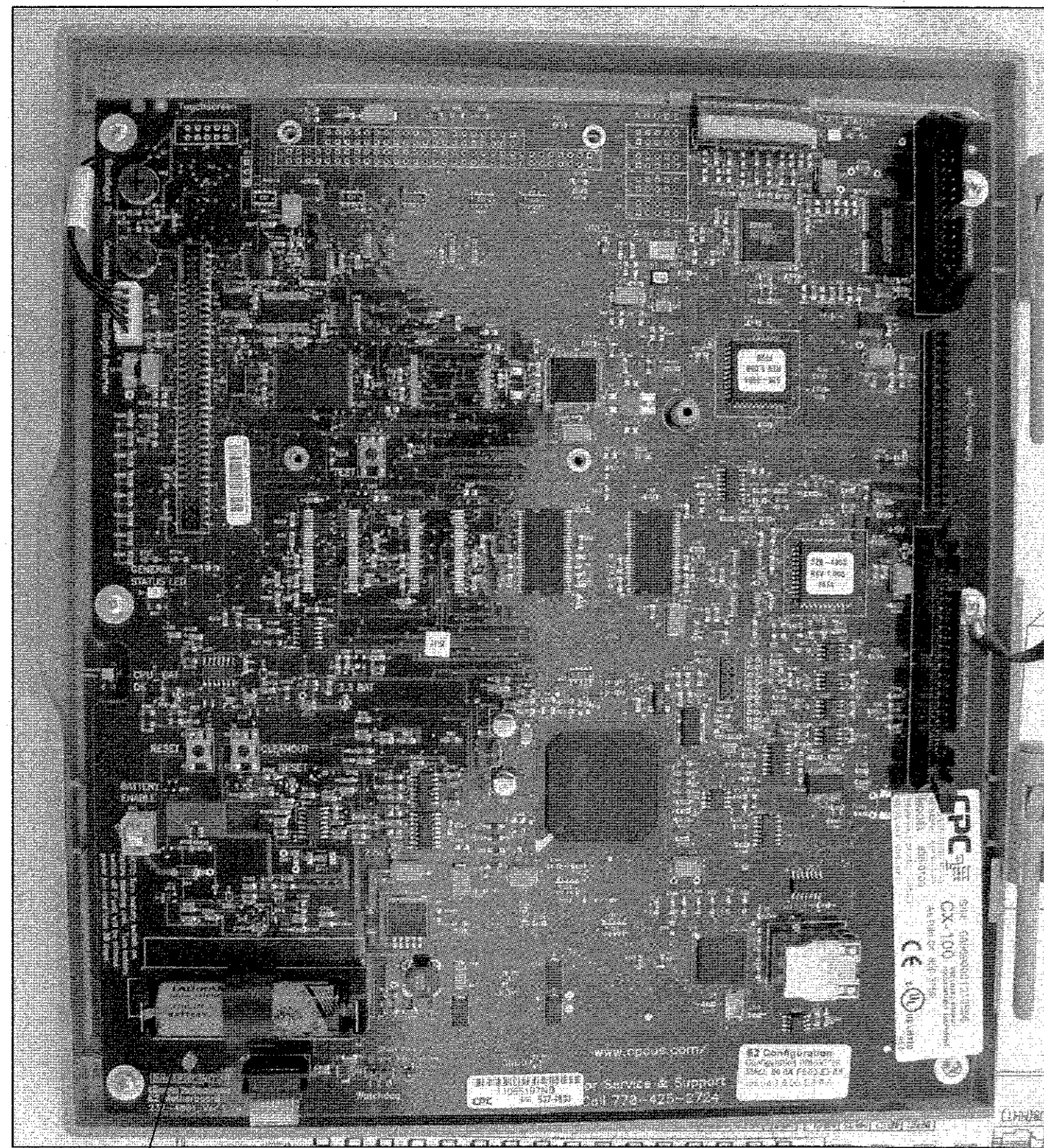


**DOLLAR GENERAL**  
 STORE # 20312  
 SPRING HILL CHURCH ROAD  
 LILLINGTON, NORTH CAROLINA

JOB NUMBER: 18426  
 DRAWN BY: REW  
 DATE: 11/28/18  
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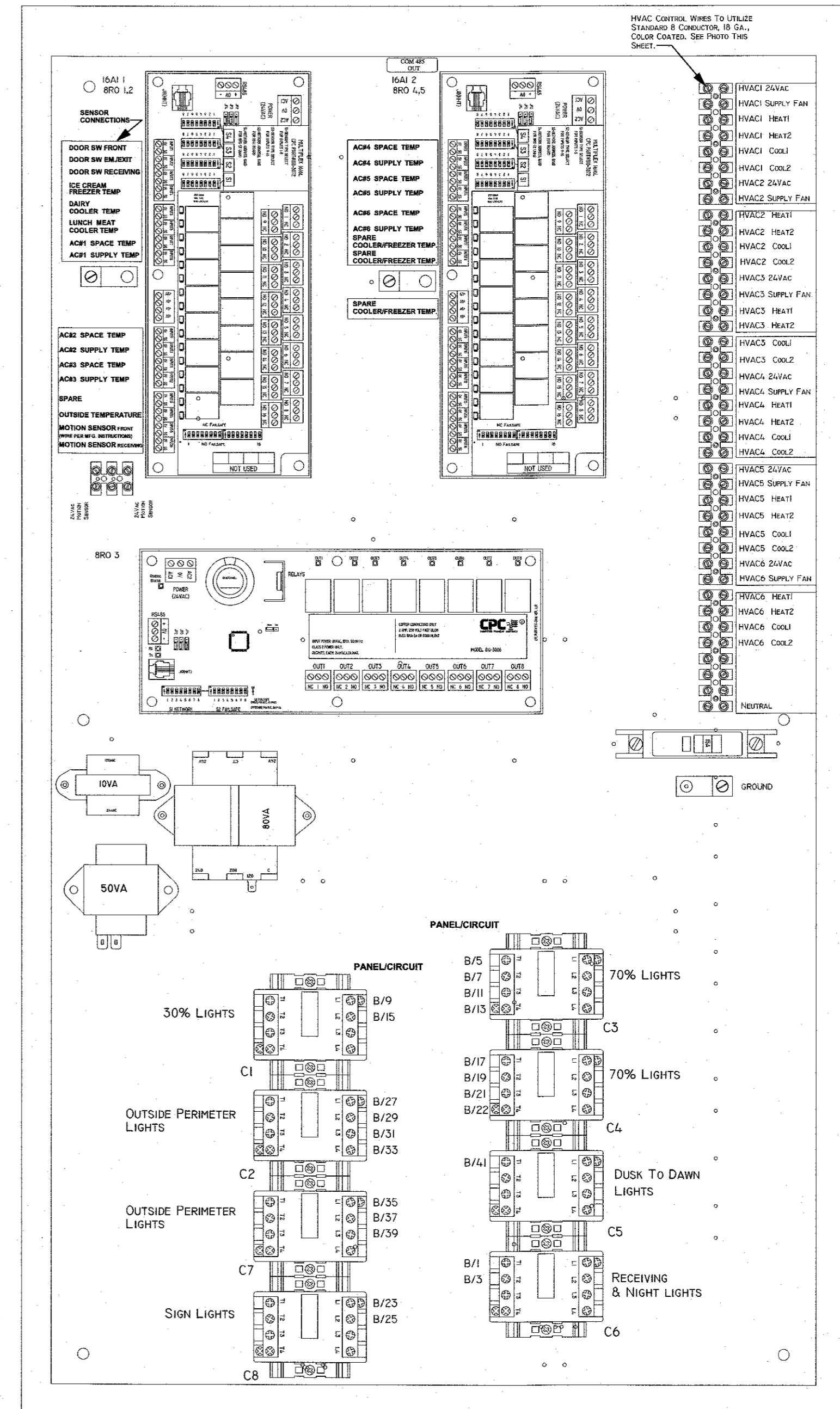
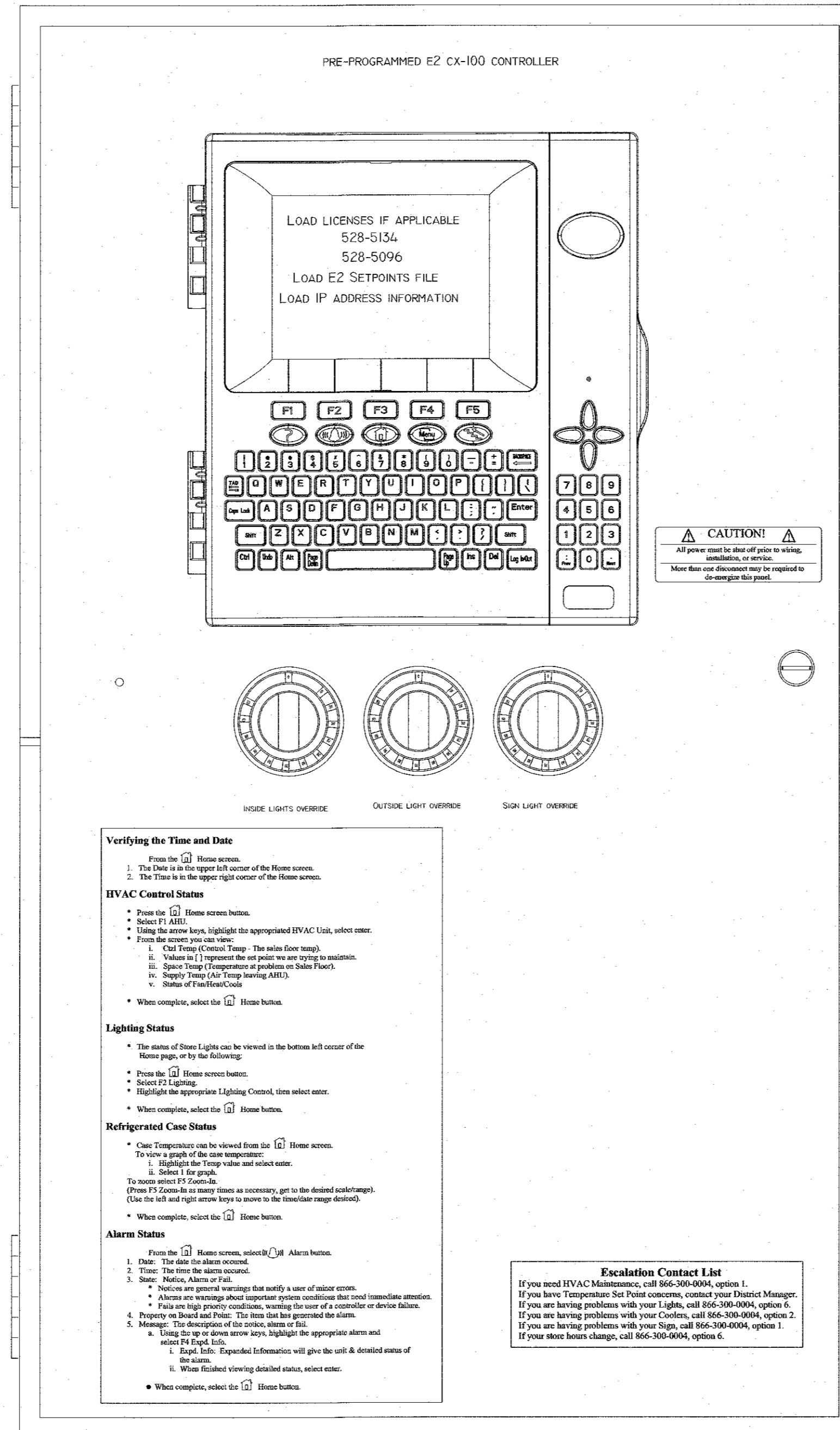
SHEET NUMBER

**EMS-1**



GENERAL CONTRACTOR TO ENSURE THAT THE BATTERY ENABLE IS SWITCHED TO THE "ON" POSITION

NOTE:  
EMS SYSTEM SHOULD BE TESTED FOR HVAC OPERATION, INTERIOR LIGHTING, EXTERIOR LIGHTING AND SIGN LIGHTING PRIOR TO CONTRACTOR'S ELECTRICAL POSSESSION DATE. USE OUTSIDE LIGHT AND SIGN LIGHT OVERRIDE FOR EXTERIOR TESTING.



- NOTES:
- EMS SUPPLIER NOTE: CUSTOMIZED DOLLAR GENERAL EMS PANEL REQUIRES STORE #, CITY, STATE, ZIP CODE & CITY OF HVAC UNITS OF THE INSTALL SITE WHEN ORDERING. EMS SYSTEMS INSTALLATION GUIDE WITH PHOTOS IS AVAILABLE ON NATIONAL ACCOUNT WEBSITE. ALL QUESTIONS PERTAINING TO THE EMS PANEL, SYSTEM INSTALLATION & SETUP SHOULD BE DIRECTED TO EMERSON'S DOLLAR GENERAL SUPPORT TEAM AT 770-425-2724.
  - ALL SIGN & LIGHTING CIRCUITS MUST BE FED THROUGH THE DESIGNATED CONTACTORS AS NOTED ON THIS PAGE.
  - ALL LOW VOLTAGE HVAC & DOOR SENSORS MUST BE CONNECTED TO THE PROPER TERMINAL. 24 GA. SHIELDED (SHIELD MUST BE GROUNDED) CABLE, BELDEN #8641, 2 CONDUCTOR WIRE OR IT'S EQUIVALENT IS REQUIRED.
  - COOLER & FREEZER HOME RUNS WILL BE TERMINATED AT ALL POINTS BY DOLLAR GENERAL REFRIGERATION DEPARTMENT.

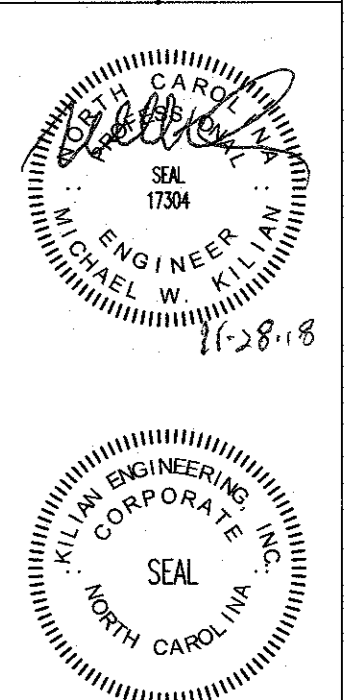
TESTING NOTE:  
TESTING OF HVAC UNITS THRU EMS PANEL IS ACCOMPLISHED BY SIMPLY WARMING UP OR COOLING DOWN A SPACE TEMPERATURE SENSOR (USING A BLOW DRYER OR ELECTRONIC EQUIPMENT BLOWER ACROSS) AND WATCH THE FAN, HEAT AND COOL STAGES CYCLE ON AND OFF. THIS REQUIRES TWO PEOPLE AT ALL TIMES...ONE TO WATCH THE SCREEN AND THE OTHER TO WATCH OPERATION OF THE AHU. WHEN COMPLETE, PRESS THE HOME BUTTON TO RETURN TO THE MAIN SCREEN.

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SHEET NUMBER  
**EMS-2**