APPENDIX B

Address: RAY	ct: DOLLAR GI					z _{ip} 28390
	MERCANTILE					
						ark@archhh.com
Owned By:	6	☐ City/Count		⊠ Private		
Code Enforcem	ent Jurisdiction:	City_SPRI	NG LAKE	⊠ County	HARNE	TT
LEAD DESIGN P DESIGNER	ROFESSIONAL:	MARK W. HA		LICENSE#	 TELEPHONI	E# E-MAIL
Architectural	tood Herring A	rchit. Mark	. Hargett	4872		2700 mark@archhh.com
Civil 4	D <u>Site Solution</u>	s Scott	t Brown		910-426-6 sbr 252-438	rown@4dsitesolutions.c
Electrical Fire Alarm	(ilian Engineerir	ng, Inc. Micho	ael Kilian	17304		illian@kilianengineering.
	 Ilian Engineerir	 ng, Inc. Micho	ael Kilian	17304	252-438 mk	 3-8778 illian@kilianengineering.
Mechanical K	(ilian Engineerir	ng, Inc. Micha	ael Kilian	17304	252-438 mk	8-8778 :ilian@kilianengineering.
Sprinkler-Standpip		loc			 864-235-	 3580 young@fullergrp
	lle <u>r Structural,</u>		Toung C	<u> </u>		<u> </u>
_	'High					
Other	New Construction					ior Completions
	Addition G: □Prescriptive □Repair □Chapter 14	☐Phased Co	onstruction on level I on level II on level III	- Shell (□Hist □Cha	Core oric Prop nge of U	oerty se
RENOVATED:	PROPOS	SED USE(S): _				
	TEGORY (TABLE 1	1604.5): Curre	nt:	_ Propos	ed:	
BUILDING Construction T	DATA ype: 🔲 1-A	□ II-A □] III−A □	l IV	V-A	
	☐ I-B	⊠ II−B			v-в	
Sprinklers:	$oxed{oxed}$ No $oxed{oxed}$ Partial		☐ NFPA 13	☐ NFPA 1	3R 🗌 N	
Standpipes: Fire District:			□ II □ III Iazard Area:			
	ions Required: [iuzui u micu.] 105	
GROSS BUILDIN						
FLOOR	EXISTING (SQ	FT) NE	W (SQ FT)		SUB-TO	ral
6th Floor						
5th Floor						
5th Floor 4th Floor						
5th Floor 4th Floor 3rd Floor						
5th Floor 4th Floor						
5th Floor 4th Floor 3rd Floor 2nd Floor Mezzanine 1st Floor		90	012			
5th Floor 4th Floor 3rd Floor 2nd Floor Mezzanine			0 2			
5th Floor 4th Floor 3rd Floor 2nd Floor Mezzanine 1st Floor Basement TOTAL		90				
5th Floor 4th Floor 3rd Floor 2nd Floor Mezzanine 1st Floor Basement	.−1	90	OI2 BLE AREA			
5th Floor 4th Floor 3rd Floor 2nd Floor Mezzanine 1st Floor Basement TOTAL	1	ALLOWAE	OI2 BLE AREA			
5th Floor 4th Floor 3rd Floor 2nd Floor Mezzanine 1st Floor Basement TOTAL Occupancy: Assembly Assemb		ALLOWAE	OI2 BLE AREA			
5th Floor 4th Floor 3rd Floor 2nd Floor Mezzanine 1st Floor Basement TOTAL Occupancy: Assembly A Business Business Business Factory Factory H	'-1 Moderate	ALLOWAF -3	BLE AREA A-5 H-3 Combust	t ∐ H−4 F		
5th Floor 4th Floor 3rd Floor 2nd Floor Mezzanine 1st Floor Basement TOTAL Occupancy: Assembly A Business Business Factory F	'-1 Moderate	ALLOWAF -3	012 BLE AREA] A-5	t ∐ H−4 F		H−5 HPM 4 □ 5
5th Floor 4th Floor 4th Floor 3rd Floor 2nd Floor Mezzanine 1st Floor Basement TOTAL Occupancy: Assembly A Business Bus	-1 Moderate	ALLOWAE -3	BLE AREA A-5 H-3 Combust Condition	t	3	4 □ 5
5th Floor 4th Floor 3rd Floor 2nd Floor Mezzanine 1st Floor Basement TOTAL Occupancy: Assembly	-1 Moderate	ALLOWAE -3	BLE AREA A-5 H-3 Combust Condition	t	3	
5th Floor 4th Floor 3rd Floor 2nd Floor Mezzanine 1st Floor Basement TOTAL Occupancy: Assembly	'-1 Moderate	ALLOWAF -3	BLE AREA A-5 H-3 Combust Condition	t	3 4	4
5th Floor 4th Floor 3rd Floor 2nd Floor Mezzanine 1st Floor Basement TOTAL Occupancy: Assembly Assembly Assembly Assembly Assembly Hazardous Haza	'-1 Moderate	ALLOWAF -3	BLE AREA A-5 H-3 Combust Condition Parkin Refrigerant Mach	t	3 4	4
5th Floor 4th Floor 3rd Floor 2nd Floor 2nd Floor Mezzanine 1st Floor Basement TOTAL Occupancy: Assembly ABusiness Business Busi	'-1 Moderate	ALLOWAF -3	BLE AREA A-5 H-3 Combust Condition Cefrigerant Machem Group I Ge Battery Syste	t	3 4 Open Hydrogen C Group I-2	1
5th Floor 4th Floor 3rd Floor 2nd Floor Mezzanine 1st Floor Basement TOTAL Occupancy: Assembly ABusiness Business Beducational Bractory Flazardous Hinstitutional Fractory Flazardous Hinstitutional Fractory Storage Sutility and Incidental Uses Paint Shop Fractory Subject Special Uses: Estable Storage Sutility Special Uses: Estable Special Uses: Estab	P-1 Moderate	ALLOWAF -3	BLE AREA A-5 H-3 Combust Condition Cefrigerant Mache Group I Ge Battery Syste Group I-2 Laun G 407	t	3	Enclosed Repair utoff Incinerator waste/Linen Collection fired Heat 411 412 413
5th Floor 4th Floor 3rd Floor 2nd Floor 2nd Floor Mezzanine 1st Floor Basement TOTAL Occupancy: Assembly	1 Moderate	ALLOWAF -3	BLE AREA A-5 H-3 Combust Condition Refrigerant Mach Comparity Comparity	dt	3	Enclosed Repair utoff Incinerator Waste/Linen Collection fired Heat
5th Floor 4th Floor 3rd Floor 2nd Floor Mezzanine 1st Floor Basement TOTAL Occupancy: Assembly	C-1 Moderate	ALLOWAF -3	BLE AREA A-5 H-3 Combust Condition Refrigerant Mach Comparity Comparity	t	3	Enclosed Repair utoff Incinerator Waste/Linen Collection fired Heat 411 412 413 425 426 427
5th Floor 4th Floor 3rd Floor 2nd Floor Mezzanine 1st Floor Basement TOTAL Occupancy: Assembly ABUSINESS BEDUCATIONAL Factory FHAZARDOUS HISTITUTIONAL BUSINESS SECURATIONAL BUSINESS BEDUCATIONAL BUSINESS BUSINESS BUTILITY AND FAINT Shop Group I-2 Stored Group I-2 Stored Business Business Beducational Business Busin	1 Moderate	ALLOWAF -3	BLE AREA A-5 H-3 Combust Condition Cefrigerant Mach Cefrigera	g Garage [nine Rm 1 3 Cells 1 3 Cells 1 409 422 423 3 509.6 2 Hr. H	Hydrogen C Group I-2 re Pump up I-2 Fuel 410 424 509.7 Exception:	Enclosed Repair utoff Incinerator Waste/Linen Collection -fired Heat 411 412 413 425 426 427 509.8 509.9 508.3.3
5th Floor 4th Floor 3rd Floor 2nd Floor Mezzanine 1st Floor Basement TOTAL Occupancy: Assembly ABUSINESS BEDUCATIONAL Factory FHAZARDOUS HISTITUTIONAL BUSINESS CONTROL STORE STOR	C-1 Moderate	ALLOWAF -3	BLE AREA A-5 H-3 Combust Condition Cefrigerant Mach Cefrigera	d	Hydrogen C Group I-2 re Pump up I-2 Fuel 410 424 509.7 Exception:	Enclosed Repair Repair
5th Floor 4th Floor 3rd Floor 2nd Floor Mezzanine 1st Floor Basement TOTAL Occupancy: Assembly A	2-1 Moderate	ALLOWAF -3	BLE AREA A-5 H-3 Combust Condition Condi	g Garage inine Rm -3 Cells -3 Cells -3 Mary Grown Grown	Hydrogen C Group I-2 ire Pump up I-2 Fuel 410 424 509.7 Exception: ned by app re building. intire build	Enclosed Repair utoff Incinerator Waste/Linen Collection fired Heat 411 412 413 425 426 427 509.8 509.9 508.3.3 lying the height and The most ing.
5th Floor 4th Floor 3rd Floor 2nd Floor Mezzanine 1st Floor Basement TOTAL Occupancy: Assembly A	2-1 Moderate	ALLOWAF -3	BLE AREA A-5 H-3 Combust Condition Condi	g Garage inine Rm -3 Cells -3 Cells -3 Mary Grown Grown	Hydrogen C Group I-2 re Pump up I-2 Fuel 410 424 509.7 Exception: ened by app re building. entire build	Enclosed Repair utoff Incinerator Waste/Linen Collection fired Heat 411 412 413 425 426 427 509.8 509.9 508.3.3 lying the height and The most ing.
5th Floor 4th Floor 3rd Floor 2nd Floor Mezzanine 1st Floor Basement TOTAL Occupancy: Assembly Assemb	2-1 Moderate	ALLOWAF -3	BLE AREA A-5 H-3 Combust Condition Condi	g Garage [nine Rm 1 2 g Garage [nine Rm 1-3 Cells 2 3 Cells 4 dry Grown 4 08 4 09 4 22 4 23 3 509.6 2 4 5 5 5	Hydrogen C Group I-2 ire Pump up I-2 Fuel 410 424 509.7 Exception: ned by app re building. intire build	Enclosed Repair utoff Incinerator Waste/Linen Collection fired Heat 411 412 413 425 426 427 509.8 509.9 508.3.3 lying the height and The most ing. ratios of the actual not exceed 1.
5th Floor 4th Floor 3rd Floor 2nd Floor Mezzanine 1st Floor Basement TOTAL Occupancy: Assembly Assemb	2-1 Moderate	ALLOWAF -3	BLE AREA A-5 H-3 Combust 3 Condition 1	g Garage inine Rm i-3 Cells ims Findry Grow 408 409 422 423 509.6 Hr. be determined to the entire ply to the	Hydrogen C Group I-2 fre Pump up I-2 Fuel 410 424 509.7 Exception: ned by app e building. entire build sum of the use shall 41 = (C)	Enclosed
5th Floor 4th Floor 3rd Floor 2nd Floor Mezzanine 1st Floor Basement TOTAL Occupancy: Assembly Assemb	C-1 Moderate	ALLOWAF -3	BLE AREA A-5 H-3 Combust 3 Condition 1	g Garage inine Rm	Hydrogen C Group I-2 re Pump up I-2 Fuel 410 424 509.7 Exception: med by app e building. intire build sum of the use shall (C) EA FOR ONTAGE CCREASE 1.5	Enclosed Repair utoff Incinerator Waste/Linen Collection fired Heat 411 412 413 425 426 427 509.8 509.9 508.3.3 lying the height and The most ing. ratios of the actual not exceed 1.
5th Floor 4th Floor 3rd Floor 2nd Floor Mezzanine 1st Floor Basement TOTAL Occupancy: Assembly ABusiness Beducational Bractory Flactory F	C-1 Moderate	ALLOWAF -3	BLE AREA A-5 H-3 Combust 3 Condition 1	g Garage inine Rm	Hydrogen C Group I-2 Gre Pump up I-2 Fuel 410 424 509.7 Exception: ned by app e building. intire build sum of the use shall (C) EEA FOR ONTAGE	Enclosed Repair utoff Incinerator Waste/Linen Collection fired Heat 411 412 413 425 426 427 509.8 509.9 508.3.3 lying the height and The most ing. ratios of the actual not exceed 1.
5th Floor 4th Floor 3rd Floor 2nd Floor Mezzanine 1st Floor Basement TOTAL Occupancy: Assembly ABusiness Beducational Bractory Flactory F	C-1 Moderate	ALLOWAF -3	BLE AREA A-5	g Garage inine Rm	Hydrogen C Group I-2 ire Pump up I-2 Fuel 410 424 509.7 Exception: ined by app e building. intire build sum of the use shall: (C) EEA FOR ONTAGE CCREASE 1.5	Enclosed Repair utoff Incinerator Waste/Linen Collection -fired Heat 411 412 413 425 426 427 509.8 509.9 508.3.3 llying the height and The most ing. ratios of the actual not exceed 1.
5th Floor 4th Floor 3rd Floor 2nd Floor Mezzanine 1st Floor Basement TOTAL Occupancy: Assembly A	C-1 Moderate	ALLOWAF -3	BLE AREA A-5	g Garage inine Rm	Hydrogen C Group I-2 Gree Pump up I-2 Fuel 410 424 509.7 Exception: med by app ee building. intire build sum of the use shall (C) EEA FOR ONTAGE CCREASE NA	Enclosed Repair utoff Incinerator Waste/Linen Collection fired Heat 411 412 413 425 426 427 509.8 509.9 502.3.3 Using the height and The most ing. ratios of the actual not exceed 1. (D) ALLOWABLE APER STORY OR UNLIMITED 23 12,500 17,500
5th Floor 4th Floor 3rd Floor 2nd Floor Mezzanine 1st Floor Basement TOTAL Occupancy: Assembly A	C-1 Moderate	ALLOWAF -3	BLE AREA A-5	g Garage inine Rm	Hydrogen C Group I-2 Gree Pump up I-2 Fuel 410 424 509.7 Exception: med by app ee building. intire build sum of the use shall (C) EEA FOR ONTAGE CCREASE NA	Enclosed Repair utoff Incinerator Waste/Linen Collection fired Heat 411 412 413 425 426 427 509.8 509.9 502.3.3 Using the height and The most ing. ratios of the actual not exceed 1. (D) ALLOWABLE APER STORY OR UNLIMITED 23 12,500 17,500

5 frontage increast is based on the unsprikled area calue in table 506.2

		ALL	OWABLE HI	EIGH'	Г			
			ALLOWABL	SHOW	N ON PLAN		DE RENCE	
Building Height in Feet (Tal	ole 504.3)		55		16			
Building Height in Stories (uilding Height in Stories (Table 504.4)							
				•			•	
	FIRE P	ROTE	CTION REG	UIRI	EMEI	NTS		
BUILDING ELEMENT	FIRE		RATING	DETAIL		DESIGN #	DESIGN # FOR	
	SEPARATION DISTANCE (FEET)	REQ'D	PROVIDED (W/* REDUCTION)	AND SHEET		FOR RATED ASSEMBLY	RATED PENETRATION	FOR RATED JOINTS
Structural frame, including								

BUILDING ELEMENT	FIRE		RATING	DETAIL #	DESIGN #	DESIGN # FOR	
	SEPARATION DISTANCE (FEET)	REQ'D	PROVIDED (W/* REDUCTION)	AND SHEET #	FOR RATED ASSEMBLY	RATED PENETRATION	FOR RATED JOINTS
Structural frame, including colums, girders, trusses							
Bearing Walls							
Exterior							
North	>30'	0					
East	>30'	0					
West	>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						

FIRE SEPARATION DISTANCE (feet) FROM PROPERTY LINES			ACTUAL SHOWN ON PLAN (%)	

LIFE SAFETY SYSTEM REQUIREMENTS

1 :	⊠ No	Yes
		M

								PLAN	REG
Life	Safety	Plan	Sheet	#	<u> </u>	/ER	<u>'</u>		·

Fire and/or smoke rated wall locations (Chapter 7) \boxtimes Exterior wall opening area with respect to distance to assumed property lines (705.8) $< 30^{\circ}$ Occupancy types for each area as it relates to occupancy load calculations (Table 1004.1.2)

Occupancy loads for each area \boxtimes Exit access travel distances (1017) < 200

Common path of travel distances [Tables 1006.2.1 & 1006.3.2(1)] < 75 \boxtimes Dead end lengths (1020.4) $< 20^{\circ}$

Clear exit widths for each door

Max calculated occupant load capacity each exit door can accommodate based on exit width (1005.3) X Actual occupant load for each door

A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation

☑ Location of doors with panic hardware (1010.1.10)

Location of doors with delayed egress locks and the amount of delay (1010.1.9.7) Location of doors with electromagnetic egress locks (1010.1.9.9)

Location of doors equipped with hold open devices

Location of emergency escape windows (1030)

The square footage of each fire area (202) 9014 SQ. FT.

☐ The square footage of each smoke compartment for Occupancy Classification I-2 (407.5)

Note any code exceptions or table notes that may have been utilized regarding the items above

ACCESSIBLE DWELLING UNITS

	(SECTION 1107)										
TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED				
NA											

ACCESSIBLE PARKING

LOT OR	TOTAL # OF P	ARKING SPACES	# OF ACC	TOTAL #		
PARKING AREA	REQUIRED	PROVIDED	REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH 132" ACCESS AISLE	VAN SPACES WITH 8' ACCESS AISLE	ACESSIBLE PROVIDED
TOTAL						

PLUMBING FIXTURE REQUIREMENTS

USE		WA	TERCLOS	SETS	URINALS	LAVATORIES			SHOWERS/	DRINKING FOUNTAINS	
		MALE	FEMALE	UNISEX		MALE	FEMALE	UNISEX		REGULAR	ACCESSIBLE
	EXIST'G										
М	NEW			2	-			2	NA	1	
	REQ'D										

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

			lezzanine 'loor	psf	
	Ground Sn Wind Loads		ind Speed	<u>O</u> psf <u> 2O</u> mph	(ASCE-7)
		Exposur	ind Speed e Category	_ <u>B</u>	
	DESIGN CATEGOR e following Seismic Desi		A	⊠ c □	D
00	cupancy Category (Table	1604.5)	I 🗵 II		IV
	ectral Response Accelert te Classification (ASCE 7	_	×%g A	$S_{mi} \times g$ $\square C$	D
	Data	Source:	Field Test	Presumptiv	= -
В	sic structural system (Bearing Wall		w/Special Moment	
			_	ted Pendulum	/C or Special Steel
	alysis Procedure chitectural, Mechanical,	Simplified Components and	_	$igcup ext{Valent Lateral Forc} \ igcup ext{Yes} \ igcup ext{}$	e 🗌 Dynamic No
	DESIGN CONTRO		Eart	hquake 🖂	Wind
	ARING CAPACITIES and Test (provide copy of	f test report)	ps	f	
	esumptive Bearing capa		000 ps	ıf	
	le size, type, and capac	ity			
ENERGY	REQUIREMENTS:	ENERG	Y SUMMA	RY	
code shall		n Designer shall	furnish the re	quired portions of	the project information
design vs	annual energy cost for	the proposed des	sign.	_	the standard reference
	ing building envelop	-		of this section in	
/	pt Building: 🔲 Provi ate Zone: 🔲 3A 🖂		tory reference	:	
Meth	od of Compliance:	Energy Code [Performance	
		ASHRAE 90.1 [Other:	_ •	☐ Performance e (specify source)	
	L ENVELOPE (Presc ling Assembly (each	•	d only)		
Root/ Cet	Description of assembly	,STANDING S			BLOCK, INSUL RII +
	U-Value of total assem R-Value of insulation	bly			
	Skylights in each asser U-Value of sk	ylight	NA		
Exterior	total sq. ft. of skyligh Walls (each assembl		ibly <u>NA</u>		
>	Description of assembly	METAL PA	-	INSUL., MTL S	TUDS, GYP BD
	U-Value of total assem R-Value of insulation	bly	<u>.070</u> 		
	Openings (windows or dual U-Value of as		g) 1.030	o	
	Solar heat ga projection fac	in coefficient	<u>.82</u> 2		
>	Door R-Values	ı	1.72		
walls bei	ow grade (each asse Description of assembly	\$ 1 A			
	U-Value of total assem				
Floors ov	ver uncoonditioned s	space (each as	ssembly)		
	Description of assembly U-Value of total assem				
	R-Value of insulation	biy			
Floors sl	ab on grade (each a Description of assembly	411 11-	VAPOR BA	ARRIER, COMF	PACTED EARTH
	U-Value of total assem		. 7	। 3 राड	_
	R-Value of insulation Horizontal/vertical requ	uirement		O VERTICAL	
	slab heated				
MECHAI	IICAI CVOTEMO	_		/ \	CHANICAL SHEET)
Thermal	NICAL SYSTEMS, S	winter dry b		 D EACILMENT	•
		•	bulb		
Interior	design conditions	winter dry b	ulb		
		summer dry			
D 1111		relative humi	idity		
_	heating load				
_	cooling load				
Mechanic	al Spacing Condition Unitary		nit		
	Officary	description of u	nit ency		
		cooling efficie	•		
		size category of	unit		
	Boiler	size cate	gory		
		ersized, state rea			
	Chiller		gory		
List eaui	If ov pment efficiencies	ersized, state rea	ason.		
_				IARY (SEE EL	ECTRICAL SHEET)
	ICAL SYSTEM AN	_	_	_	
Method o	•		Prescriptive	Performan	
Lighting		IRAE 90.1:	Prescriptive	∐ Performan	ce
_ 6	lamp type required in number of lamps in fi				
	ballast type used in th	e fixture			
	number of ballasts in total wattage per fixtur	re			
	total interior wattage stotal exterior wattage s	=			
Addition	al Prescriptive Comp		uinmen*		
	☐ 506.2.1 More Efficien ☐ 506.2.2 Reduced Light	-	-		
	506.2.3 Energy Reco	-	-		

506.2.4 Higher Efficiency Service Water heating

506.2.6 Automatic Daylighting Control Systems

506.2.5 On-Site Supply of Renewable Energy

DOLLAR GENERAL

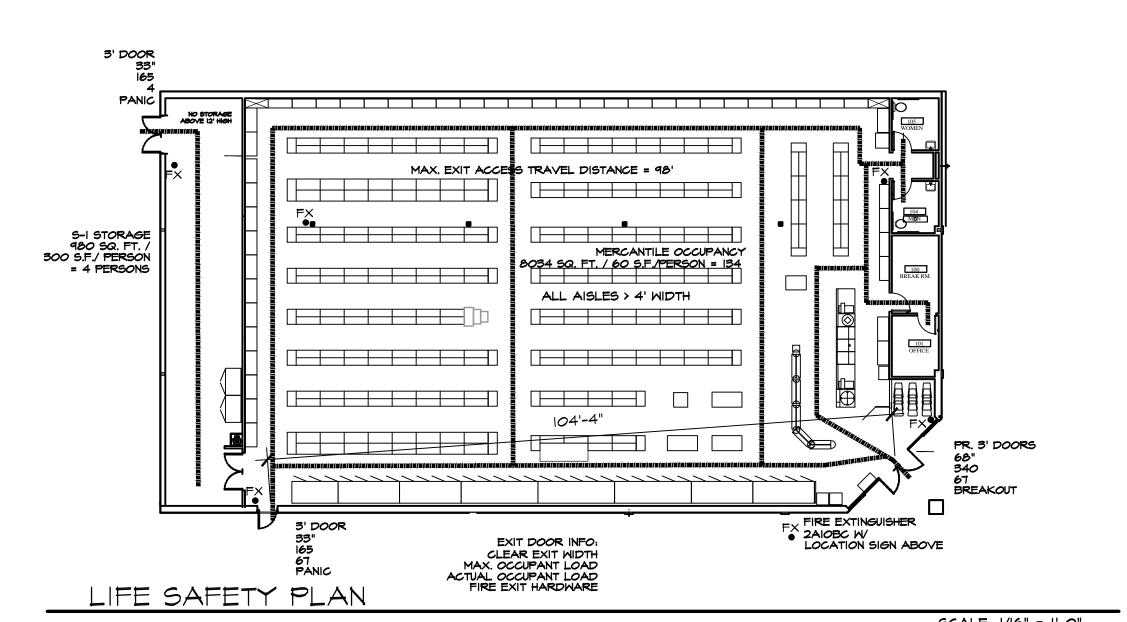
STORE # 22524

RAY ROAD

SPRING LAKE, NORTH CAROLINA SCHEDULE OF DRAWINGS

COVER 世 C1 SITE COVER SHEET **™** C2 EXISTING CONDITIONS PLAN o C3 SITE PLAN O C4 GRADING & DRAINAGE PLAN C5 EROSION CONTROL PLAN ♂ C6 UTILITY PLAN **C7 CONSTRUCTION DETAILS** = C8 CONSTRUCTION DETAILS ញ្ញី C9 CONSTRUCTION DETAILS
 C10 STORMWATER MANAGEMENT DETAILS C11 LANDSCAPE PLAN A-1 FLOOR PLAN & SCHEDULES où A-2 ELEVATIONS & FIXTURE PLAN A-3 BUILDING SECTIONS щ́ A-4 WALL SECTIONS ⁽ⁱ⁾ A-5 ROOF PLAN, PAINTING DIAGRAM & SCHEDULES 出 A-6 CONCRETE & FINISH SPECIFICATIONS & NOTES ⁽¹⁾ S-1 FOUNDATION PLAN S-1 STRUCTURAL DETAILS S-3 CONCRETE & FINISH SPECIFICATIONS & NOTES 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

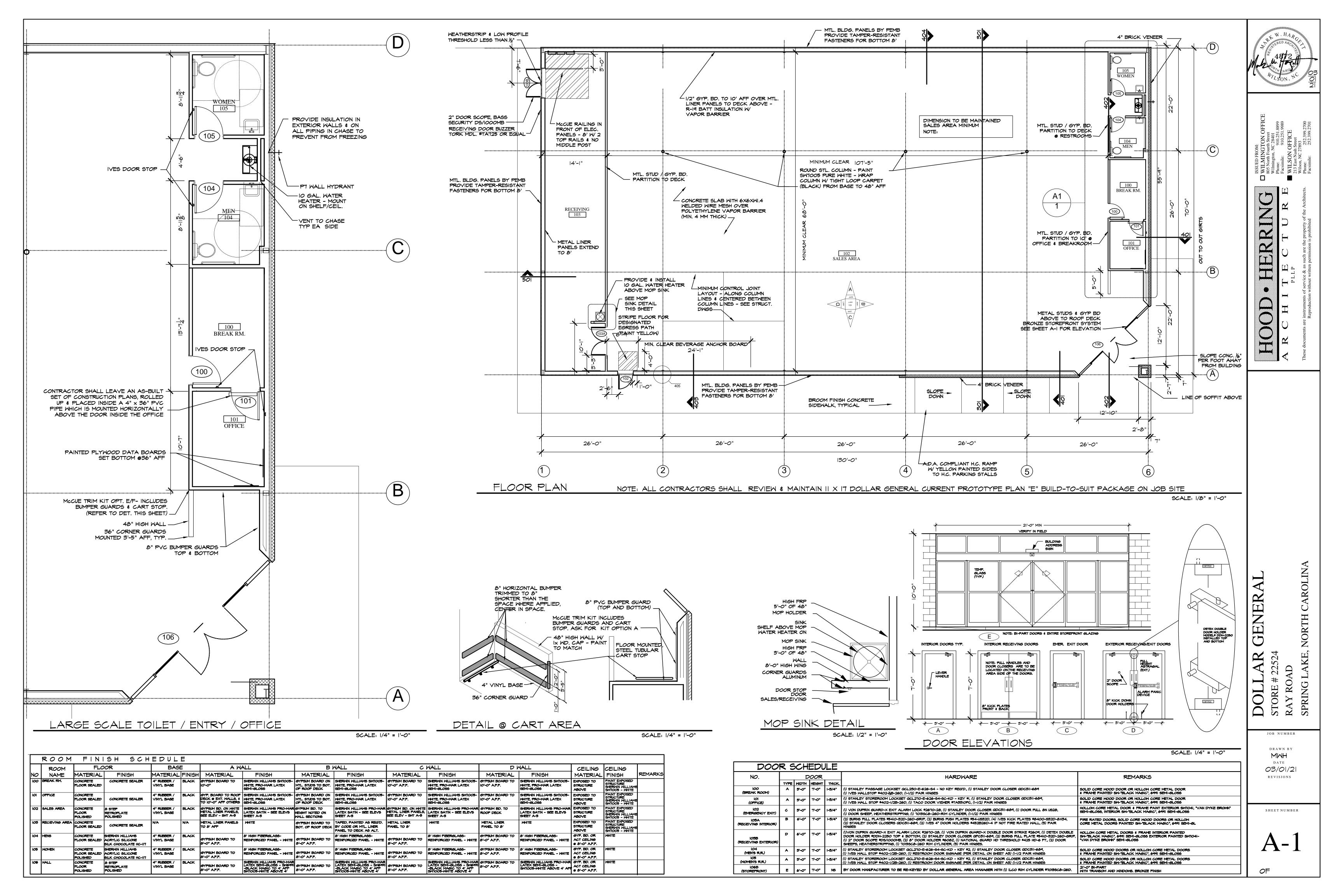
> SQUARE FOOTAGE BREAKDOWN TOTAL SQUARE FOOTAGE 9,012 S.F. SALES AREA 7,323 S.F. RECEIVING AREA 872 S.F. BREAKROOM & OFFICE AREA 175 S.F. RESTROOMS & HALLWAY AREA

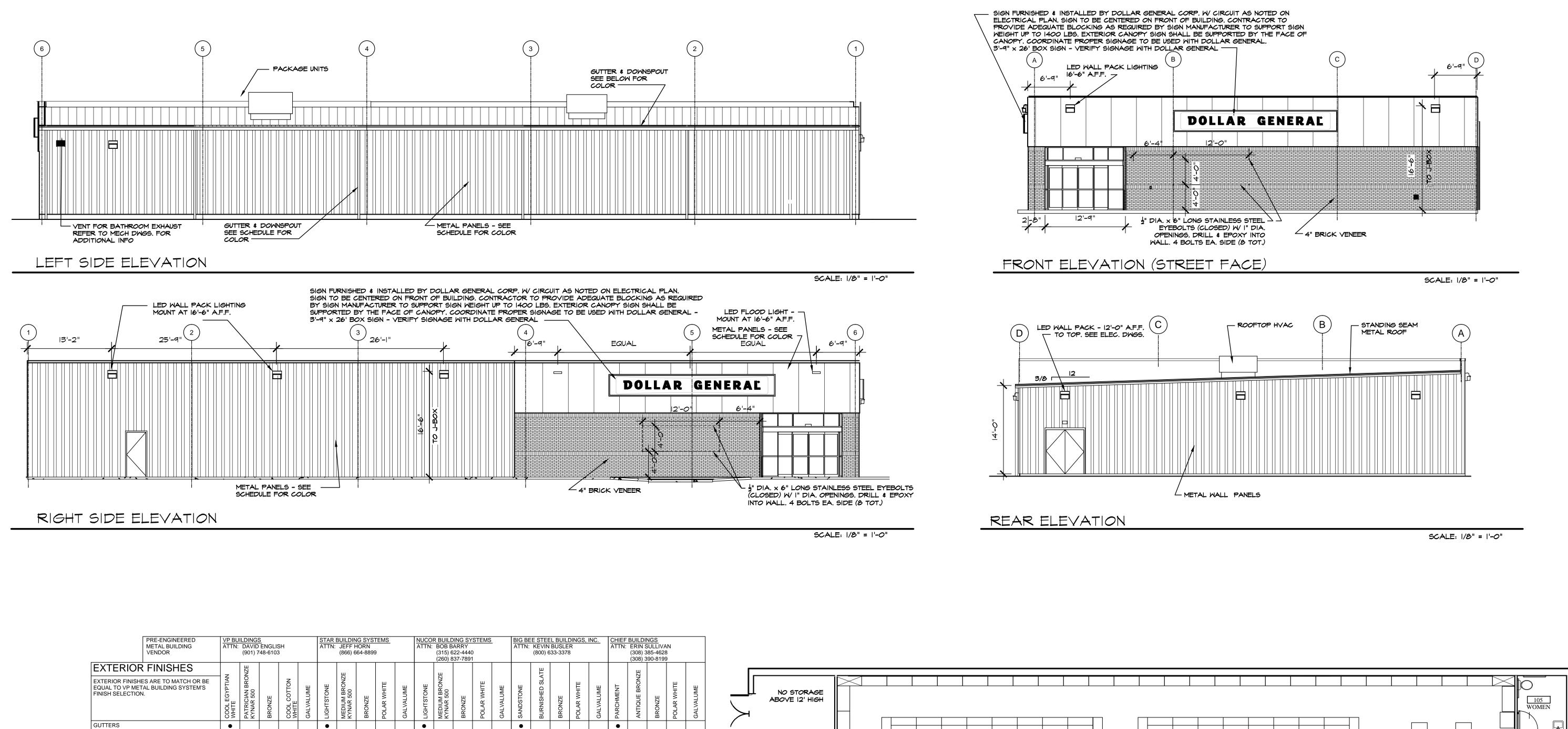


GENER AR

> JOB NUMBER DRAWN BY

03/01/21 6/10/21 - CLIMATE ZONE





ISSUED FF
WILMIN
805 North I
805 North I
Wilmingtor
Phone:
Facsimile:
VII Sast N
Wilson, NC
Phone:
Facsimile:
Facsimile:

 $r \vdash$

AR

JOB NUMBER

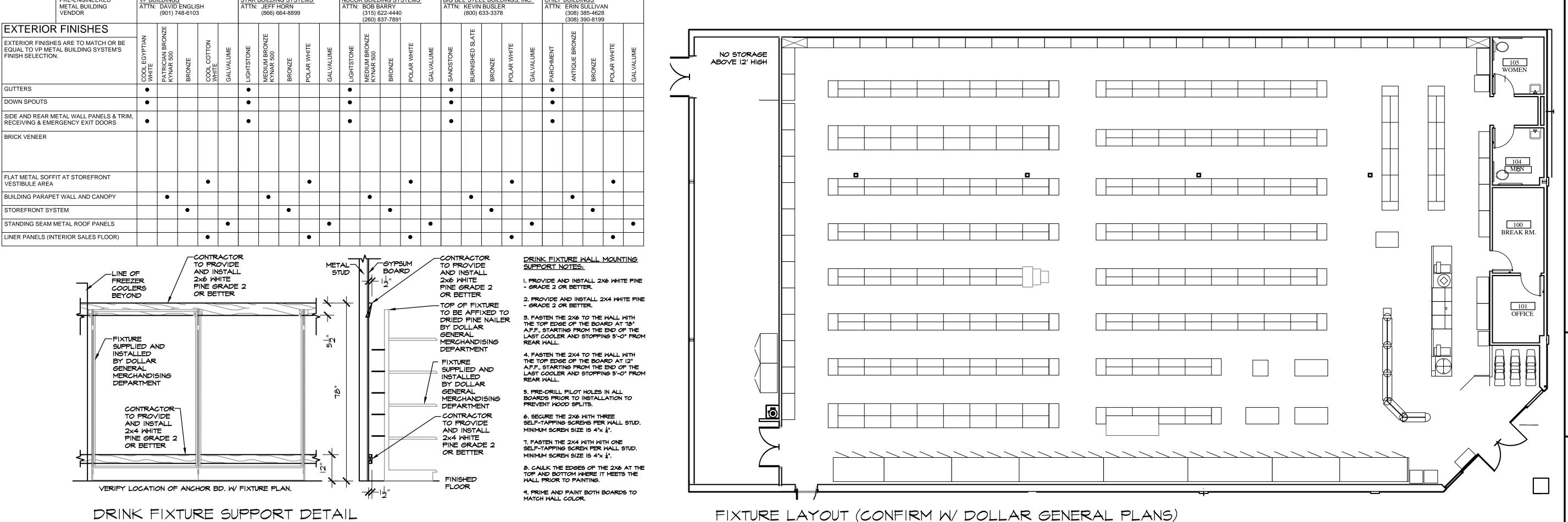
DRAWN BY

03/01/21

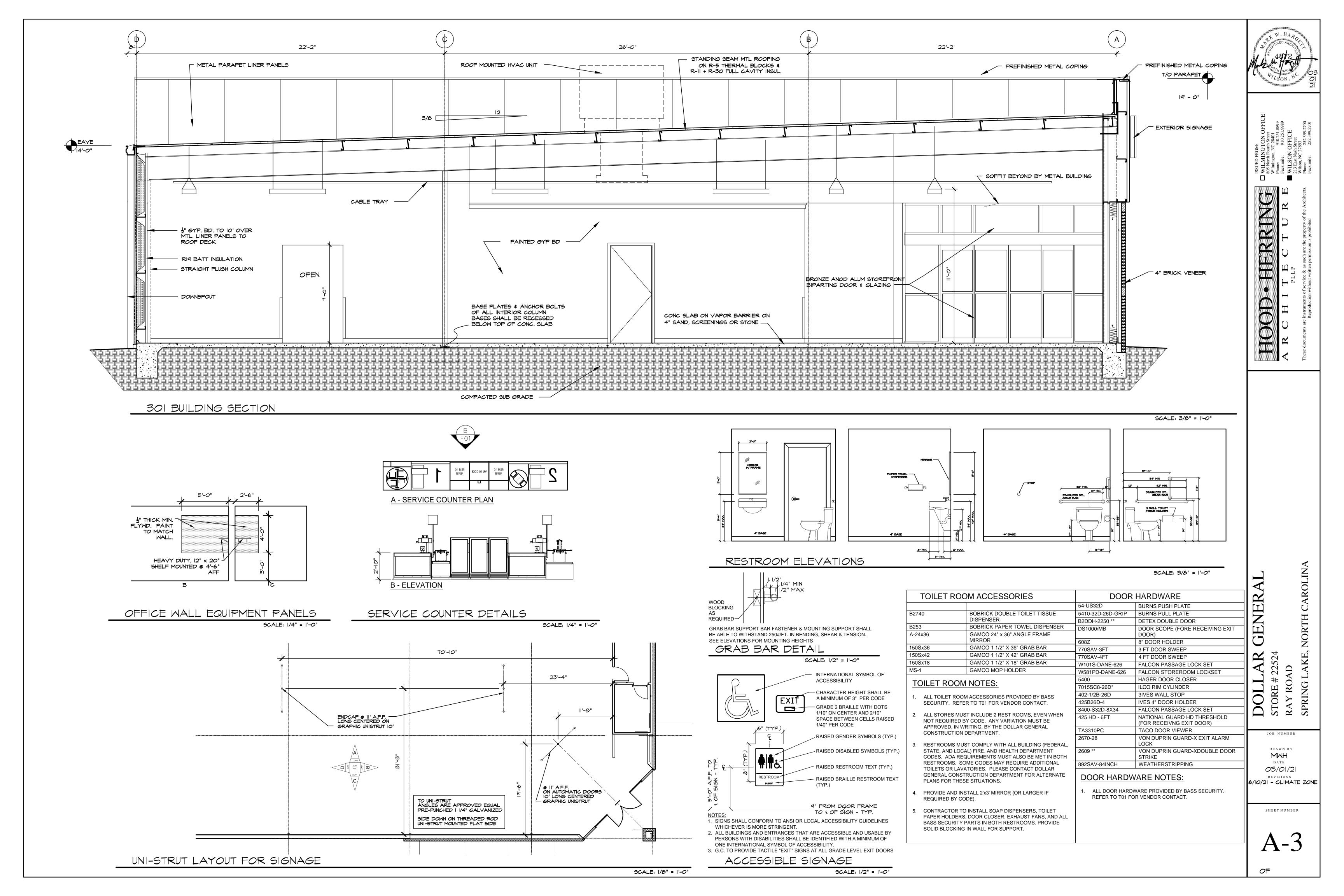
REVISIONS

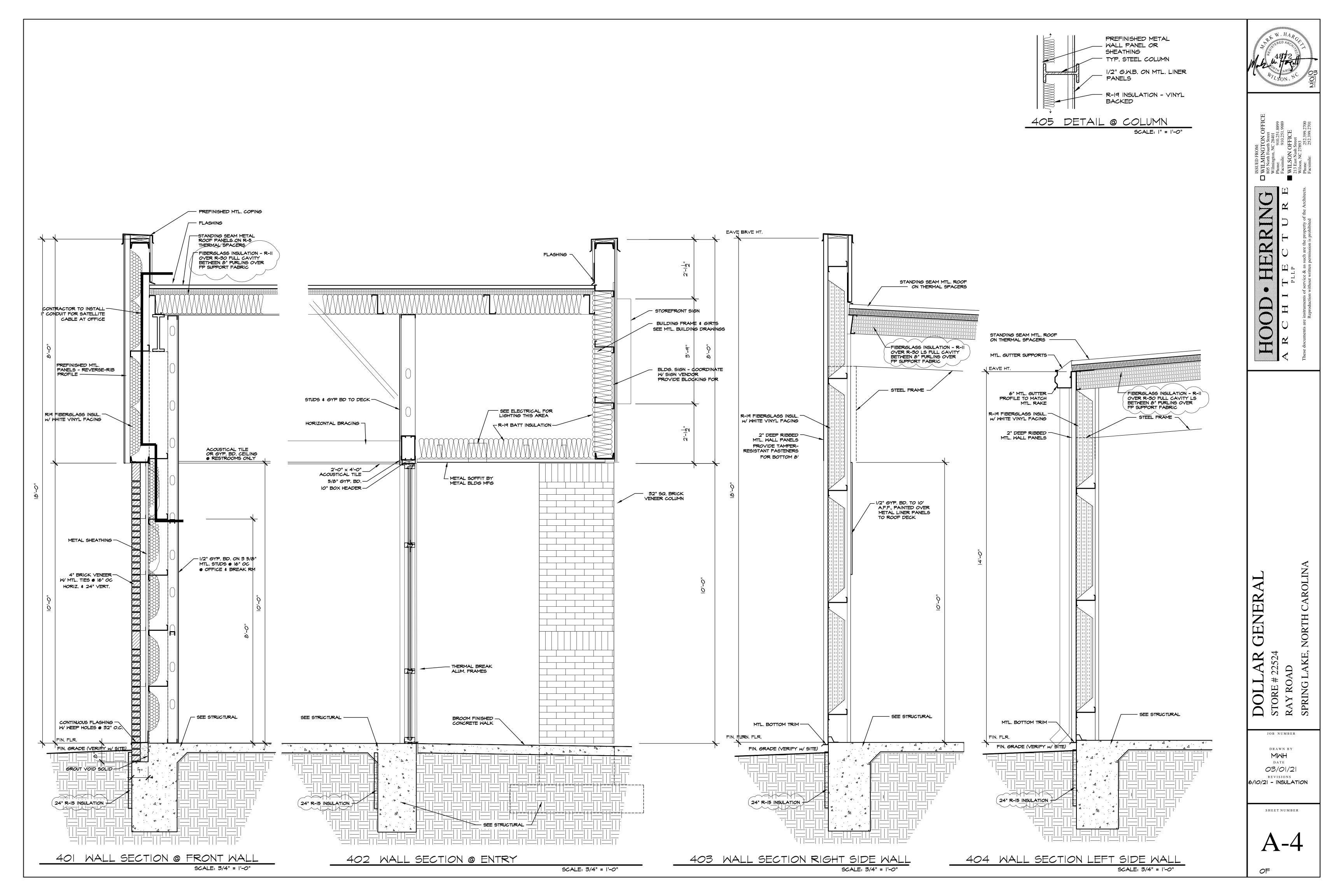
SHEET NUMBER

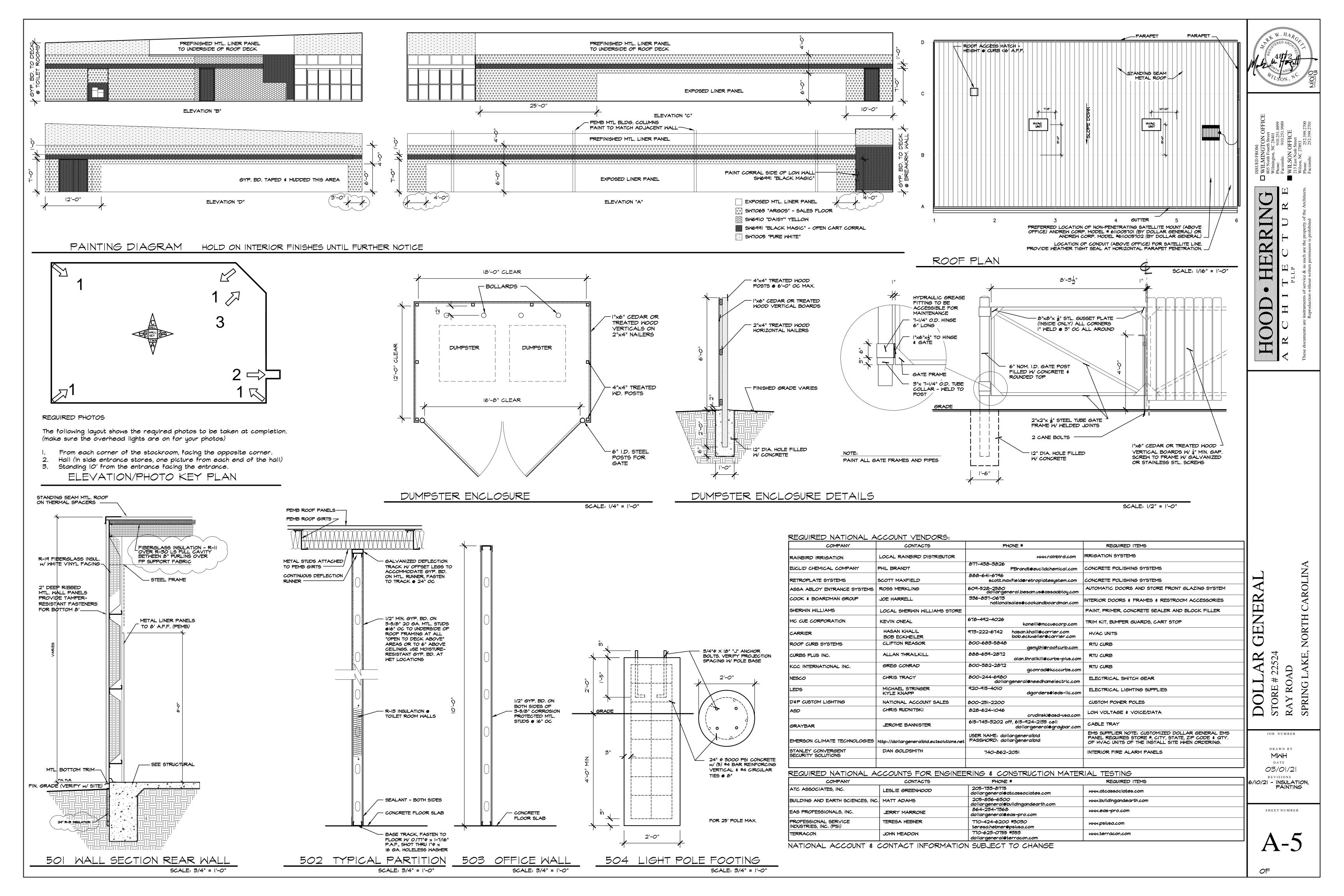
SCALE: 1/8" = 1'-0"

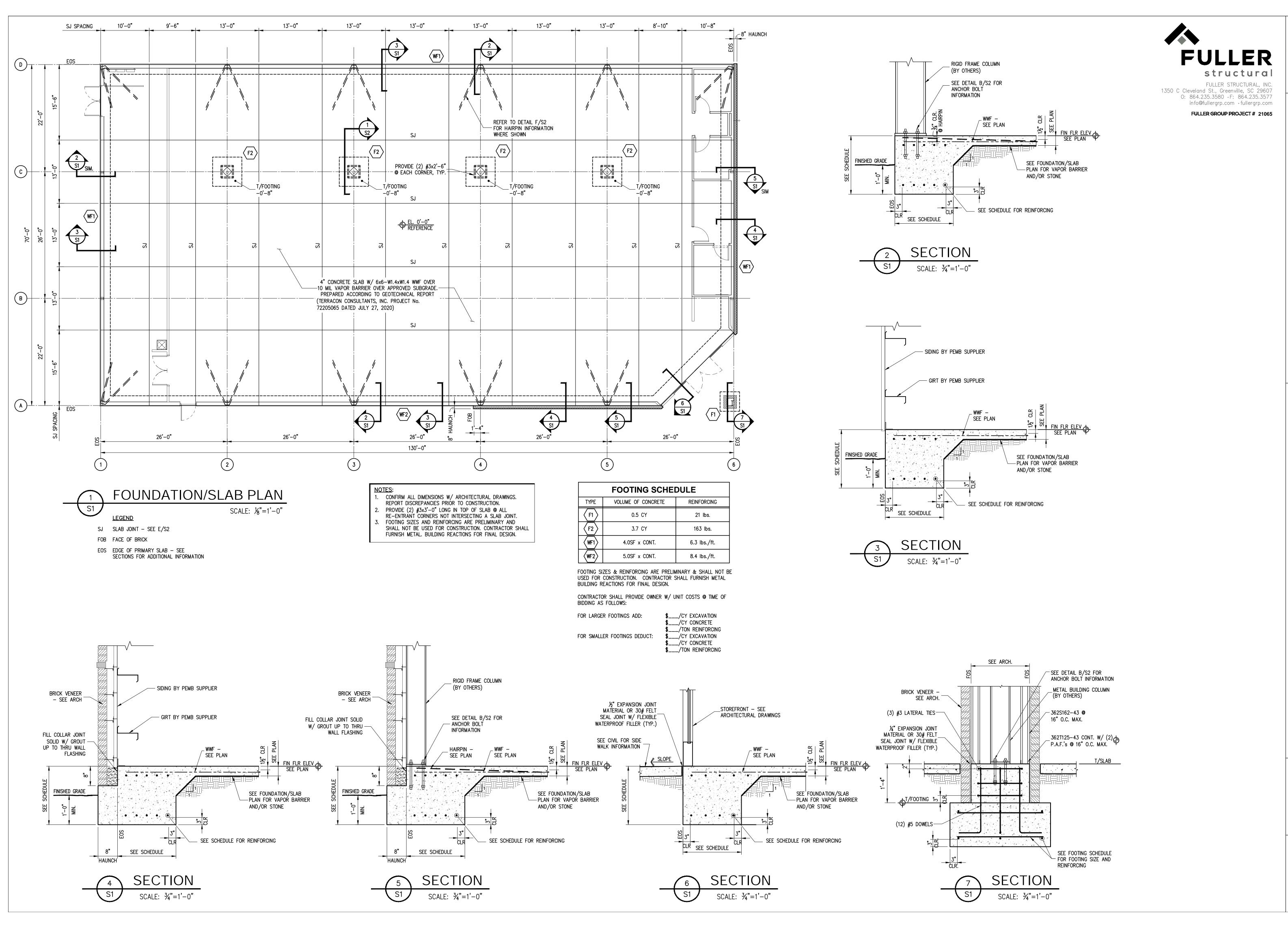


SCALE: 1/2" = 1'-0"







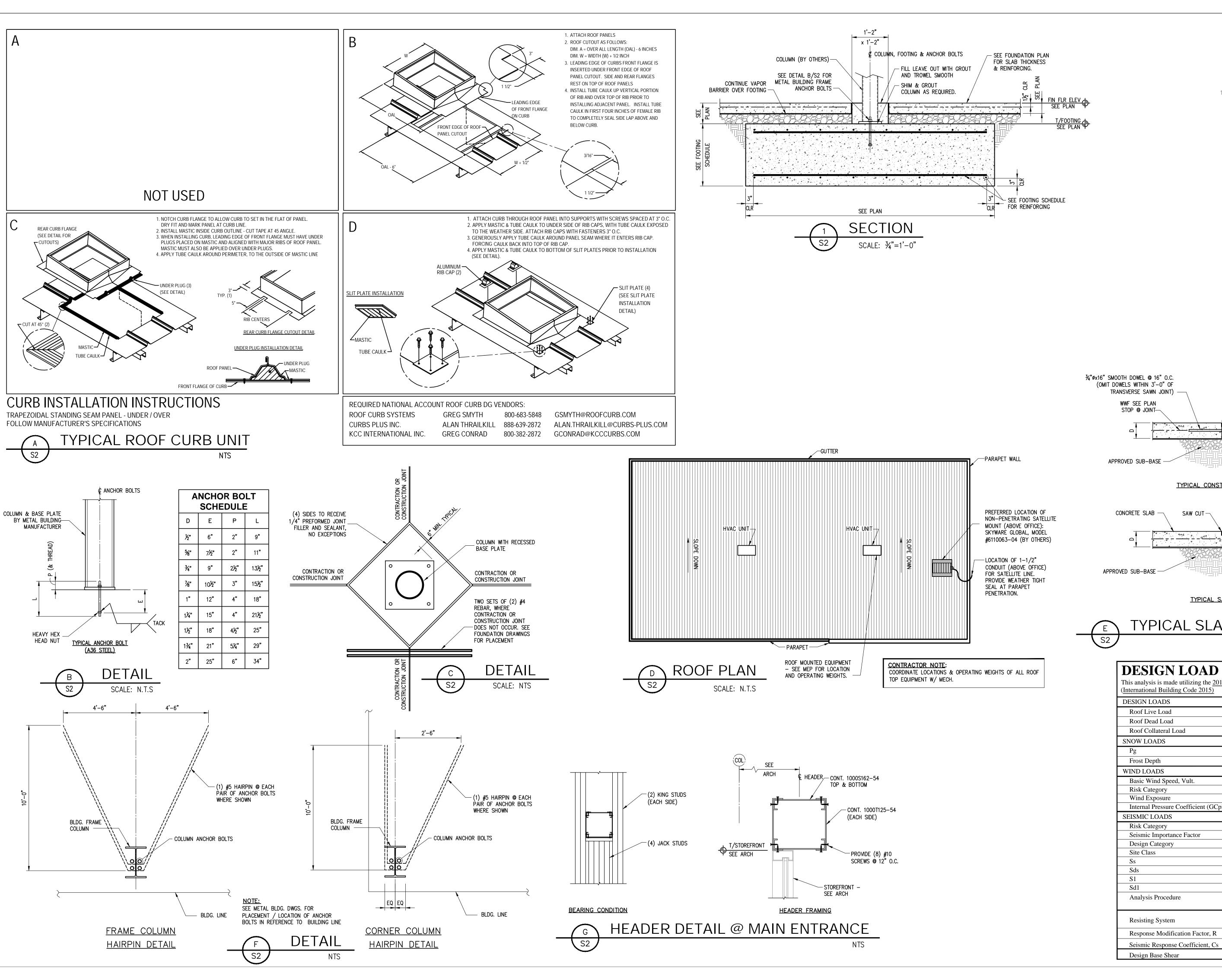


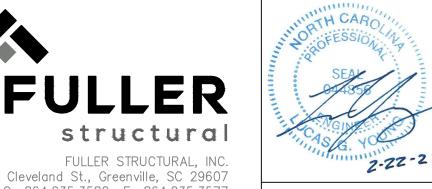
GENERAI DOLLAR
STORE # 22524
RAY ROAD
SPRING LAKE, 1

> JOB NUMBER DRAWN BY MEM DATE 02/22/21 REVISIONS Issued For Permits 02/22/2021

SHEET NUMBER

0F 3





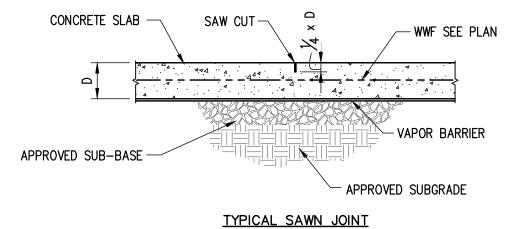
FULLER STRUCTURAL, INC. 1350 C Cleveland St., Greenville, SC 29607 O: 864.235.3580 ·F: 864.235.3577 info@fullergrp.com ·fullergrp.com FULLER GROUP PROJECT # 21065

PROVIDE PLASTIC

GREASE

SLEEVE OR COAT W/

- VAPOR BARRIER - APPROVED SUBGRADE TYPICAL CONSTRUCTION JOINT



TYPICAL SLAB JOINT DETAILS

(International Building Code 2015) DESIGN LOADS	
Roof Live Load	20 psf
Roof Dead Load	Weight of Materials
Roof Collateral Load	3.0 psf
SNOW LOADS	1
Pg	10 psf
Frost Depth	12"
WIND LOADS	
Basic Wind Speed, Vult.	120 mph
Risk Category	II
Wind Exposure	В
Internal Pressure Coefficient (GCpi)	0.18/-0.18
SEISMIC LOADS	
Risk Category	II
Seismic Importance Factor	1.0
Design Category	С
Site Class	D
Ss	0.200g
Sds	0.214g
S1	0.091g
Sd1	0.146g
Analysis Procedure	Equivalent Lateral Force Procedure
Resisting System	Steel System not Specifically detailed for Seismic Resistance
Response Modification Factor, R	3.0
Seismic Response Coefficient, Cs	0.072

Cs x W

GENER DOLLAR
STORE # 22524
RAY ROAD
SPRING LAKE, 1 JOB NUMBER DRAWN BY

> MEM 02/22/21 REVISIONS Issued For Permits

SHEET NUMBER

0F 3

A. 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.

B. The bearing materials shall be free of organic, expansive or corrosive material, and shall support the foundation in accordance with the following

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"

C. The foundations shall be of sufficient depth to bear below local frost depth where exposed, attain minimum design bearing pressure (1500 psf, U.N.O.), 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. The subgrade shall provide a minimum of 100 pounds per cubic inch (pci) modulus of sub-grade reaction and shall be proof-rolled to ensure that there are no pumping or soft zones greater than ½" (ACI 302, "Guide for Concrete Floor Slab Construction").

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. The slab on grade shall be a minimum of 4" thick and reinforced with a minimum 6" x 6" x W1.4 x W1.4 welded wire fabric located in the center of the slab.

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. Saw-cut contraction joints a minimum of \(^1\)4 the depth of the slab shall be provided in both principal directions across the entire floor slab, spaced as shown on sheet S1. The slab shall be protected from the effects of heat or wind as necessary to avoid any curling of the slab segments.

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. The concrete contractor's team shall have participated in the majority of these projects, and that team shall remain the same through the duration of this project.

5) 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 (1½") or 8% - 22% for smaller top size aggregates (1" or 3¼") retained on each sieve below the top size and above the no. 100 sieve. Slabs on grade shall have a maximum aggregate size of $1\frac{1}{2}$ " footings and piers 1" and beams $\frac{3}{4}$ ".

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. All exterior slabs shall be air-entrained (5% - 7%). Acceptable products: Euclid Chemical AEA-92 or Air 40; 1. Note: Air-entraining admixture shall not be used on interior concrete. BASF Micro Air; W.R. Grace Daravair 1000 or Darex-

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. The admixture manufacturer must have long-term, non-corrosive test data from an independent testing laboratory (of at least a year's duration) using an acceptable accelerated corrosion test method such as that using electrical potential measures. Acceptable products: Euclid Chemical Accelguard 80/90 or Accelguard NCA; BASF NC534 or Pozzutec 20; W.R. Grace Polarset.

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

6) 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

7) 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. 1. Acceptable products:

a. "Super Rez Seal" or "Super Aqua Cure" by Euclid Chemical - Phil Brandt 877-438-3826

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. The dissipating liquid membrane forming curing compound shall meet the requirements of ASTM C309 and V.O.C. contents in accordance to EPA 40 CFR, part 59, table 1, subpart D for concrete curing compounds with a maximum V.O.C. content of 350g/l. 1. Acceptable product:

a. "Kurez DR VOX" by Euclid Chemical - Phil Brandt 877-438-3826

C. Interior curing (building enclosed/sales floor slab is placed <u>last</u>): The interior sales floor slab shall be cured using a removable, low odor, fast drying liquid membrane forming curing compound. The removable liquid membrane forming curing compound shall meet the requirements of ASTM C309, AASHTO M 148, USDA compliancy and V.O.C. contents in accordance to EPA 40 CFR, part 59, Table 1, subpart D for concrete curing compounds with a maximum V.O.C. Content of 350g/l.

1. Acceptable product: a. "Kurez RC" by Euclid Chemical - Phil Brandt 877-438-3826

8) LIQUID DENSIFIER / SEALER FOR INTERIOR SALES FLOOR

A. Liquid densifier / sealer shall be a sodium silicate / siliconate 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. General contractors shall solicit and accept pricing only from those applicators as provided by Euclid Chemical or RetroPlate. The approved applicator selected for the initial application of liquid densifier / sealer shall be the same as for the joint filling and additional application of liquid densifier / sealer and polishing process. Within ten days after completion of work, the approved applicator shall furnish Euclid Chemical or RetroPlate a copy of the invoice, as well as square footage and coverage rate data confirming that the specified application

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. The representative will be on the project site during the first application of liquid densifier / sealer and will follow the project through to completion.

9) 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 - See sheet T01 for contact info.

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. 1. Acceptable semi-rigid polyurea joint filler:

a. "CreteFill Pro 75" by CureCrete - Curtis Turnbull 888-942-3144

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. General contractors shall solicit and accept pricing only from those applicators as provided by Euclid Chemical or RetroPlate. The approved applicator selected for the initial application of liquid densifier / sealer shall be the same as for the joint filling and additional application of liquid densifier / sealer

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. Concrete materials included in the mix design shall be the same materials provided to the project, and shall be prepared by an

independent testing laboratory approved by the owner. If sufficient backup data is not available, the laboratory mix design shall exceed

the desired job strength of concrete by 1,200psi. Four copies of the mix design shall be submitted to the owner before concrete work

2. Slump: Concrete containing mid or high range water reducer shall have a maximum slump of 5½" for the interior sales floor slab and 8" (200 mm) for other areas. All other concrete shall not exceed 4 inches (100 mm) unless otherwise indicated on the drawings.

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; at no additional cost to owner and as accepted by owner. Laboratory test data for revised mix design and strength results must be submitted to and accepted by owner before using in work. Both the concrete testing and inspection agency and the concrete contractor shall satisfy themselves that the concrete mix design will produce a concrete which will meet the specifications for this project. In addition, the General Contractor and Concrete Contractor shall verify that the workability, finishability and setting times are appropriate for slab installations. Placement shall be made directly from concrete trucks by chute. If pumping of the concrete is contemplated for any special locations, the proportions established above shall not be altered to suit the capabilities of the pumping equipment. For concrete containing macro-synthetic fibers, adjustments required to provide required placement conditions may warrant use of additional water reducer. No additional water is permitted into concrete mixture after addition of macro-synthetic fibers.

4 Interior concrete sales floor: Concrete shall be designed to meet 4000 psi compressive strength @ 28 days and exhibit <0.04% shrinkage @ 28 days. The mix shall contain approximately 12 cubic feet of #467 aggregate (1-1/2" top size), the specified water reducing admixture and achieve a w/cm ratio of 0.53 (max.). Concrete shall be non air-entrained and in no case shall the concrete be designed for less than 4000 psi (27.6mpa) @ 28 days. Proposed mix design shall be similar to the following

Prototype mix:

Materials Prototype mix 517-564lbs. Cement Fly ash/slag Prohibited

Coarse aggregate 12 cubic feet +/- .50 (#467 stone) 7 cubic feet +/- (adjust as necessary) Fine aggregate 250 - 300lbs. Water content Air content (Entrapped Air Only)

3.0% (max.)

Water Reducer (type a/f) 3oz.-10oz./100wt +/- (mid range preferred) W/cm 0.53 (max.)

Initial slump (water) Final Slump (with water reducer) 5.5" (max) Shrinkage ≤0.04% @ 28 days

A. The pre-manufactured metal building structure, shall be designed, detailed, fabricated, and constructed in accordance with all applicable codes, standards and regulations. The most stringent requirements apply where inconsistencies occur between the applicable standards.

B. The scope of the pre-manufactured metal building structure shall include the design, engineering, fabrication, delivery, and erection of the complete structural steel framing and exterior skin package. The metal building manufacturer shall be certified by American Institute of Steel Construction (AISC) metal building certification program.

C. The Front Fascia shall have (3) 12" Purlins (mounted vertically so that the 12" face is against the building metal siding. These purlins shall be centered over the entrance and spaced 96" apart to provide adequate support for signage which may weigh up to 1,400 lbs.

A. Metal roof must be a structural standing seam metal roof with mechanically rolled seams. Seams to be minimum 1-1/2" high. All fasteners to

B. Roof Panels to be minimum 24 gauge.

C. Metal roof system to be equal to VP buildings SLR II roof.

D. Condensate from HVAC units is to be piped to gutters

13) UNIT MASONRY ASSEMBLIES

A. An independent testing agency shall be retained by the owner to perform field inspection and testing of masonry construction. Testing agency shall inspect placement of all reinforcement as shown or described in the contract documents.

B. All concrete masonry work shall conform to ACI 530, "Building Code Requirements for Masonry Structures", and ACI 530.1, "Specification

C. Concrete masonry unit: ASTM C 90; lightweight. Provide special shapes for lintels, corners, jambs, sash, control joints, and other special

D. Mortar: ASTM C 270, proportion specification, for job-mixed mortar; and ASSTM C 1142 for ready-mixed mortar. All mortar for CMU work shall be type S. Do not use calcium chloride in mortar. E. Grout: Comply with ASTM C476, proportion specification. Place vertical reinforcing in masonry cells and secure in place prior to

placement of grout. Grout pour height shall not exceed 60 inches. All cells containing reinforcing bars shall be filled with grout. Webs of

hollow units containing vertical reinforcing shall be fully mortared to confine grout during placement. F. Vertical Reinforcement: Provide a minimum of (1) #5 @ 32" in 8" cmu walls, U.N.O. Secure reinforcement with vertical bar positioners, "Wire-Bond Corelock" single and/or double rebar positioners, or equal. Lap bars as follows: #4 - 25", #5 - 32", #6 - 57".

G. Horizontal reinforcement: Provide 9 gage, ladder type joint reinforcement formed from galvanized carbon-steel wire, ASTM 153, class B-2, for both interior and exterior walls. Space reinforcement at 8" o.c. below grade and 16" ol.c. above grade (lap 6" minimum). Cut or interrupt

H. Additional reinforcement: Provide a minimum of (1) #5 at corners, within 16" of each side of openings, within 8" of each side of control joints and within 8" of the ends of walls. Bond beams shall have (2) #4's continuous and reinforcement shall be turned and lapped at all corners and intersections.

I. Place block in running bond with $\frac{3}{8}$ " joints. Tool exposed joijnts concave.

J. Provide vertical control joints per NCMA recommendations: 1.5 to 1 panel size ratio, or 24'-8" maximum.

14) FLOOR SLAB FINISH AND TOLERANCES:

A. General: Unless otherwise noted by owner, concrete sales floor slab shall be cast in one continuous placement. Concrete shall be placed, screeded, re-straightened, and finished as necessary to meet the FF and FL tolerance requirements. Do not wet concrete surfaces during finishing

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. A back-up laser screed is required during concrete placement of the interior sales floor slab. Remove excess water before starting floating operations. Do not further disturb surfaces before starting finishing operations

2. Highway 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. Trowel the surface sufficiently to produce a smooth, tight, abrasion resistant surface. Care shall be taken not to overwork or burn the surface. Use 6" wide finish style steel-reinforced blades on final passes. Finishing blades shall be in new condition and completely clean of any deleterious materials. Interior machine trowel finish shall be achieved within a 3" tolerance of all walls, columns and <u>partitions.</u>

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. Cutting oils, etc, are not allowed on the sales floor slab at any time during the construction process

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. A copy of the final floor tolerance report shall be provided by the general contractor to the owner within 24 hours of receiving the report from the testing laboratory. The sales floor slab shall conform to the following flatness and levelness criteria:

Overall Floor Flatness rating of at least 35 Levelness Overall Floor Levelness rating of at least 30

+/- 0.375 inch Tolerance Band for Entire Floor

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

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

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.

15) CONCRETE PROTECTION AND CURING

A. General: Normalize concrete set time and protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 305 for hot-weather protection and ACI 306 for cold-weather protection during curing. **During concrete placement** operations, ventilate and exhaust all fumes from construction equipment and heaters to avoid potential early concrete carbonation. Apply the specified curing compound as quickly as possible for maximum protection. For concrete placement during hot, dry and windy conditions, concrete contractor shall use evaporation retarder as per manufacturer's instructions to maintain a moist condition and to minimize plastic drying shrinkage cracking at the surface of the freshly placed concrete.

1. Curing - Exterior Slabs:

All exterior concrete slabs shall be cured using the specified liquid membrane-forming curing compound. Per manufacturer's instructions, application shall be applied evenly and uniformly as soon as possible after final finishing. Surface shall be clean and damp, but not wet and can no longer be marred by walking workmen. All applications shall be made by an approved applicator of the manufacturer, and when surface and air temperature is above 50° f. Apply "Super Rez Seal" or "Super Aqua Cure" at an application rate of 400sf/gallon. Begin curing immediately after finishing concrete, but not before free water has disappeared from concrete surface.

2. Curing - Interior slabs:

The interior sales floor slab shall be cured using the specified dissipating or removable liquid membrane-forming curing compound. Per manufacturer's instructions, application shall be applied evenly and uniformly as soon as possible after final finishing. Surface shall be damp, but not wet and can no longer be marred by walking workmen. All applications shall be made by an approved applicator of the manufacturer, and when surface and air temperature is above 50° f. Apply "Kurez DR VOX" (slab first) or "Kurez RC" (slab last) at an application rate of 350sf/gallon. Begin curing immediately after finishing concrete, but not before free water has disappeared from concrete surface.

16) CONTRACTION JOINTS IN SLABS-ON-GRADE:

A. Form weakened-plane contraction joints, sectioning concrete into areas as indicated on drawings. Contraction joints shall be sawn to a depth equal to at least one-fourth of the concrete thickness, as follows:

B. Sawed joints: All saw cutting shall be accomplished with a "Soff-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. Note: Concrete dust shall be removed completely and immediately. If chalk lines are used for sawcuts, all chalk remaining on the slab shall be removed completely and immediately after sawing.

17) INTERIOR SALES FLOOR SLAB PROTECTION:

A. Take the following measures to protect the interior sales floor slab:

1. Wrap or "diaper" all motorized and hydraulic equipment to prevent fluid leaks

2. Provide non-marking tires on rubber tired vehicles or equip rubber tires with tire boots made of nylon fabric 3. Provide mats at all entrances to prevent mud stains

18) <u>TIMING OF JOINT FILLER, LIQ</u>UID DENSIFER AND POLISHING PROCESS:

A. Do not commence installation of semi-rigid polyurea joint filler, liquid densifier and sealer or polishing processes until the building is completely enclosed, permanent power and lighting is operating and the building is thermostatically controlled. Installation of these materials shall commence approximately two weeks prior to "fixture date."

19) INSTALLATION OF SEMI-RIGID POLYUREA JOINT FILLER:

A. 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. General contractors shall solicit and accept pricing only from those applicators as provided by Euclid Chemical or RetroPlate. The approved applicator selected for the initial application of liquid densifier / sealer shall be the same as for the joint filling and additional application of liquid densifier / sealer.

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

C. Surface cleaning of joints: Clean out joints immediately before installing joint filler. Remove foreign material from joint substrates that could interfere with adhesion of joint filler by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint filler. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air. Also remove all laitance and form-release agents from concrete surface. Clean nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues could interfere with adhesion of joint sealants. All surfaces to be filled shall be clean and dry.

D. For proper load transfer, joints must be filled full depth, but in no case should the joint filler be any less than 1" deep in

E. Mixing: Joint filler is a two part product requiring machine mixing and placing. Premix part b separately before using. Follow pump manufacturer's equipment instructions.

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. Shaving of excess joint filler can be approximately 30 minutes after placement, and up to 24 hours later, depending on jobsite conditions such as concrete and

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. This shall take place one week prior to grand opening.

20) 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. The following floor stripper or removal solution shall be applied to the floor to thoroughly strip, clean and remove all curing compound

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

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

21) 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. 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.

D. Only the **Sales Floor** will receive the full 9 step process outlined below under item K.

E. All other areas will only receive steps 1 through 4, no additional work is necessary. The yellow safety striping will

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. The Resin grind will remove a minimal top layer of the concrete surface and should greatly reduce the amount of Waste Product created when compared to the old Metal grind process.

I. If a Cure-n-Seal product is required at the time of slab placement only Water Based Dissipating Sealers are allowed. NO Acrylic Cure-N-Seals 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.

1. Cut, clean out, prep and fill the concrete floor joints with the Euclid QWIKjoint UVR polyurea joint filler.

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

4. Thoroughly clean the concrete floor and apply Diamond Hard densifier at 225 square feet per gallon.

3. Grind concrete floor with a combo set of 60/100 grit resin bond diamonds.

5. Polish concrete floor with a combo set of 100/200 grit resin bond diamonds.

6. Polish concrete floor with 400 grit resin bond diamonds.

7. Thoroughly clean concrete floor and then apply Diamond Hard densifier at 700 square feet per gallon.

8. Burnish / Polish concrete floor with 800 grit diamond impregnated pads 9. Burnish / Polish concrete floor with 1500 Grit Diamond Impregnated pads.

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 IG-320, and a specified minimum gloss reading of ≥30 minimum local gloss value (MGLV). A minimum of 75 readings shall be taken throughout the interior sales floor. The approved applicator shall take four gloss measurement readings at 90° from each other, and then averaged for one reading at each location. The overall measurement shall be reported to Dollar General within 24 hours of the polishing process. Gloss shall be considered as a quantitative value that expresses the degree of reflection when light hits the concrete floor surface. Gloss measurements will be taken independent of ambient lighting and will be taken within a sealed measurement window located beneath the test unit.



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FULLER GROUP PROJECT # 21065



K GENER AR

NORTH

JOB NUMBER DRAWN BY MEW 02/22/21 REVISIONS Issued For Permits

GENERAL PLUMBING NOTES:

- 1. THE FOLLOWING ABBREVIATIONS SHALL APPLY TO NOTES AND PLANS: PC -- PLUMBING CONTRACTOR, EC -- ELECTRICAL CONTRACTOR, MC - MECHANICAL CONTRACTOR, GC - GENERAL CONTRACTOR, FASC - FIRE ALARM SYSTEM CONTRACTOR.
- 2. "PROVIDE" MEANS TO FURNISH AND INSTALL. THE PLUMBING CONTRACTOR SHALL ALSO INSTALL MATERIALS FURNISHED BY OTHERS AND THE GENERAL CONTRACTOR.
- 3. THE PC SHALL BE RESPONSIBLE FOR A COMPLETE AND OPERATIONAL System as described by these plans and specifications. 4. 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.
- 5. 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 BEAR APPROVAL FROM UL OR AN APPROVED THIRD PARTY AGENCY. WHERE A MANUFACTURER AND MODEL NUMBER IS GIVEN, IT IS TO ESTABLISH A STANDARD OF QUALITY AND NOT TO LIMIT PRODUCTS TO A PARTICULAR MANUFACTURER. PRODUCTS DETERMINED TO BE EQUAL
- BY THE ENGINEER WILL BE ACCEPTED. 6. THE PLUMBING SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE 2018 NORTH CAROLINA PLUMBING CODE AND ANY APPLICABLE LOCAL CODES, WHERE A CONFLICT EXISTS BETWEEN THE ABOVE REQUIREMENTS, THE CONTRACTOR SHALL OBTAIN CLARIFICATION FROM THE ENGINEER OR IN THE EVENT ANY PART OF THESE PLANS
- CONFLICTS WITH THE ABOVE REQUIREMENTS. 7. THE PC SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS NECESSARY FOR THE COMPLETION OF THE WORK UNDER
- THIS CONTRACT. 8. DO NOT SCALE THESE DRAWINGS—REFER TO ARCHITECTURAL SHEETS
- FOR DIMENSIONS 9. THESE PLANS ARE DIAGRAMMATIC. THE PC SHALL ADJUST THE LOCATIONS OF EQUIPMENT, FIXTURES, PIPING, 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 PC SHALL MAKE ALLOWANCES FOR SUCH DEVIATIONS AND CONTINGENCIES IN BID TO IMPLEMENT THEM WITHOUT ADDITIONAL COST TO THE OWNER. THE PC SHALL VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS, CONTRACTOR SHALL CONTACT THE ENGINEER TO RESOLVE ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THESE PLANS. TO AVOID POTENTIAL CONFLICTS, COORDINATE WITH OTHER TRADES PRIOR TO THE START OF CONSTRUCTION. ALL
- UNDERGROUND UTILITIES SHALL BE LOCATED PRIOR TO ANY DIGGING. 10. EXTEND DOMESTIC WATER PIPE FROM FIVE (5) FEET OUTSIDE THE BUILDING 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 BUILDING SEWER SHALL BE SEPARATED BY 5 FEET OF UNDISTURBED OR COMPACTED EARTH IN ACCORDANCE WITH 603.2. PROVIDE ALL FITTINGS, VALVES, AND OTHER ACCESSORIES AS NECESSARY FOR A COMPLETE INSTALLATION. ALL DOMESTIC WATER PIPING SHALL BE CONCEALED IN FINISHED AREAS. ANY OPEN ENDS SHALL BE PROTECTED UNTIL FINAL CONNECTIONS ARE MADE.
- 11. ALL OVERHEAD DOMESTIC WATER PIPING SHALL BE TYPE L COPPER WITH 95/5 LEAD FREE SOLDER, AND ALL BELOW GRADE WATER PIPING SHALL BE TYPE K COPPER WITH NO JOINTS, ALL PIPING SHALL HAVE MANUFACTURER'S NAME AND THE APPLICABLE STANDARD TO WHICH IT WAS MANUFACTURED CLEARLY MARKED ON EACH LENGTH, PIPING SHALL COMPLY WITH ASTM B-88. USE BRAZED JOINTS ON ALL COPPER PIPING 1-1/2 INCH AND LARGER, ALL PIPE AND PIPE FITTINGS, INCLUDING VALVES AND FAUCETS, USED IN THE WATER DISTRIBUTION SYSTEM SHALL HAVE A MAXIMUM LEAD CONTENT OF ,25-PERCENT AND SHALL CONFORM TO NSF 61. HOT WATER DISTRIBUTION PIPE AND TUBING SHALL HAVE A MINIMUM PRESSURE RATING OF 100 PSI AT 180°F. COLD WATER DISTRIBUTION PIPE AND TUBING SHALL HAVE A MINIMUM PRESSURE RATING OF 160 PSI AT 73.4°F. DO NOT INSTALL PEX OR CPVC PIPING IN RETURN AIR
- 12. ABOVE GRADE DOMESTIC WATER PIPING SHALL BE SLOPED AT A MINIMUM OF 1/32 INCH PER FOOT AND ARRANGED TO DRAIN AT LOW POINTS. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS, OR CONNECTED EQUIPMENT. ROUTE PIPING IN AN ORDERLY MANNER-PARALLEL OR PERPENDICULAR TO WALLS WHEN POSSIBLE-AND MAINTAIN GRADIENT. EACH SUPPLY BRANCH LINE SERVING MORE THAN ONE FIXTURE SHALL HAVE A SHUTOFF VALVE INSTALLED TO ISOLATE ALL FIXTURES AND PIECES OF FOUIPMENT SUPPLIED BY THE BRANCH LINE. THE SHUTOFF VALVE SHALL BE LABELED AND LOCATED AS CLOSE TO THE CONNECTION TO THE SUPPLY MAIN AND RISER AS POSSIBLE. PROVIDE A FULL-OPEN VALVE ON THE BASE OF EVERY WATER RISER PIPE AND ON THE TOP of every water down-feed pipe. Provide valve handle EXTENSIONS AS NECESSARY FOR INSULATION.
- 13. BALL VALVES SHALL HAVE BRASS BODY, FULL PORT, CHROME PLATED BALL, WITH TEFLON SEATS, 150 PSI WSP, AND COMPLY WITH MSS SP-110. GATE VALVES SHALL HAVE BRONZE BODY, CLASS 150, AND COMPLY WITH MSS SP-80, TYPE 2 STANDARD. VALVE BODY SHALL BE ASTM B 62, BRONZE WITH INTEGRAL SEAT AND UNION RING BONNET, ENDS SHALL BE THREADED OR SOLDER WITH COPPER-SILICON BRONZE STEM AND SOLID-WEDGE BRONZE DISC. INSTALL VALVES IN LOCATIONS THAT PERMIT EASY ACCESS WITHOUT DAMAGE TO BUILDING OR FINISHED MATERIALS; PROVIDE ACCESS DOORS IF REQUIRED, VALVES SHALL BE BY NIBCO, WATTS, OR
- 14. IT SHALL BE THE RESPONSIBILITY OF THE PC TO SUSPEND AND SUPPORT ALL PIPING SYSTEMS FOLLOWING RECOGNIZED ENGINEERING PRACTICES AND USING STANDARD, COMMERCIALLY ACCEPTED PIPE HANGERS AND SUSPENSION EQUIPMENT. ALL FIXTURES, DEVICES, AND EQUIPMENT SHALL BE SECURELY MOUNTED TO THE BUILDING STRUCTURE AND SHALL NOT RELY ON CEILING OR WALL SURFACES FOR SUPPORT, THE SUPPORT ATTACHMENT SHALL SUPPORT THE WEIGHT OF THE FIXTURE OR EQUIPMENT PLUS THE WEIGHT OF THE SUPPORT ATTACHMENT ITSELF. SUPPORT FROM THE TOP CHORD OF THE ROOF JOISTS, GIRDERS, AND BEAMS. THE BOTTOM CHORD IS NOT TO BE USED FOR EQUIPMENT AND PIPING SUPPORT. HANGERS SHALL NOT BE ATTACHED TO CORRUGATED STEEL DECKING. USE STEEL HANGERS FOR STEEL AND PLASTIC PIPE AND COPPER OR COPPER-PLATED HANGERS FOR COPPER PIPE, PROVIDE PROTECTION FOR COPPER PIPING IN CONTACT WITH DISSIMILAR METALS. WHERE COPPER PIPING IS SUPPORTED ON HANGERS WITH OTHER PIPING. PROVIDE A PERMANENT ELECTROLYTIC ISOLATION MATERIAL TO PREVENT CONTACT WITH OTHER METALS, IN GENERAL, HANGERS SHALL BE CLEVIS TYPE, STANDARD WEIGHT, FOR PIPING, HANGER SPACING SHALL BE IN ACCORDANCE WITH TABLE 308.5 OF THE NC PLUMBING CODE. HANGERS AND ACCESSORIES SHALL BE GRINNEL, MASON, OR B-LINE.
- 15. 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. TACK WELD ON THE LONGITUDINAL SEAM. PROVIDE SLEEVES WHERE PIPES PASS

- THROUGH FLOORS AND WALLS ABOVE AND BELOW CEILINGS. PROVIDE SPLIT PIPE SLEEVES IN NEW WALLS BUILT UP AROUND EXISTING PIPES, TACK WELD SPLIT SLEEVES TOGETHER. SLEEVES IN WALLS SHALL BE INSTALLED FLUSH WITH THE WALL. SLEEVES IN FLOORS SHALL EXTEND 3/4 INCH ABOVE THE FLOOR-EXCEPT THEY SHALL BE FLUSH FOR 2 HOUR RATED FLOORS-AND SHALL BE FLUSH WITH THE STRUCTURE BELOW. EACH SLEEVE SHALL HAVE AN INSIDE DIAMETER 1 INCH LARGER THAN THE OUTSIDE DIAMETER OF THE COVERING OF EACH COVERED PIPE TO ALLOW CONTINUOUS INSULATION—BUT NOT less than two pipe sizes larger than each uncovered. ANNULAR SPACES BETWEEN SLEEVES AND PIPES SHALL BE FILLED OR
- CAULKED IN AN APPROVED MANNER. 16. 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 WHICHEVER IS GREATER. WATER PIPING INSTALLED IN A WALL EXPOSED TO THE EXTERIOR SHALL BE located on the heated side of the Wall insulation. Water PIPING INSTALLED IN AN UNCONDITIONED UTILITY ROOM OR UNCONDITIONED ATTIC SHALL BE INSULATED TO A MINIMUM OF R6.5 DETERMINED IN ACCORDANCE WITH ASTM C 177.
- 17. COLD WATER LINES SHALL BE INSULATED WITH 1/2 INCH THICK FIBROUS GLASS INSULATION WITH A FLAME DENSITY RATING LESS THAN 25 AND A SMOKE DENSITY RATING LESS THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84. HOT WATER LINES UP TO 2 INCHES DIAMETER SHALL HAVE 1 INCH THICK INSULATION CONFORMING TO THE SAME STANDARD. PIPING LARGER THAN 2 INCHES SHALL RECEIVE 1-1/2 INCH THICK INSULATION. CLOSED CELL RUBBER INSULATION MEETING THE SMOKE AND FLAME RATINGS ABOVE MAY BE SUBSTITUTED FOR FIBROUS GLASS TYPE IF SO DESIRED. INSULATION INSTALLED ON PIPING OPERATING BELOW AMBIENT TEMPERATURES MUST HAVE A CONTINUOUS VAPOR RETARDER. ALL JOINTS, SEAMS AND FITTINGS MUST BE SEALED. ON SYSTEMS OPERATING ABOVE AMBIENT, THE BUTT JOINTS SHOULD NOT BE SEALED. ON COLD SURFACES WHERE A VAPOR SEAL MUST BE MAINTAINED, INSULATION SHALL BE APPLIED WITH A CONTINUOUS. UNBROKEN MOISTURE AND VAPOR RETARDER. ALL HANGERS, SUPPORTS, ANCHORS, OR OTHER PROJECTIONS SECURED TO COLD
- SURFACES SHALL BE INSULATED AND VAPOR SEALED TO PREVENT CONDENSATION, ALL PIPE INSULATION SHALL BE CONTINUOUS THROUGH WALLS, CEILING OR FLOOR OPENINGS, OR SLEEVES EXCEPT WHERE FIRESTOP OR FIRESAFING MATERIALS ARE REQUIRED. INSULATION SHALL HAVE A FACTORY APPLIED ALL—SERVICE JACKET WITH SELF-SEALING LAP. WHITE-KRAFT PAPER BONDED TO ALUMINUM FOIL AND REINFORCED WITH GLASS FIBERS; CONFORMING TO ASTM C 1136 TYPE 1: VAPOR RETARDER: WITH A SELF-SEALING ADHESIVE. VERIFY THAT PIPING HAS BEEN TESTED, SURFACES ARE CLEAN AND DRY, AND ALL FOREIGN MATERIALS ARE REMOVED BEFORE APPLYING INSULATION MATERIALS. INSULATION SHALL BE BY KNAUF, ARMACELL, JOHNS-MANVILLE, OR OWENS-CORNING.
- 18. ALL INSULATION CONTAINING FIBROUS MATERIALS EXPOSED TO AIRFLOW SHALL BE RATED FOR THAT EXPOSURE OR SHALL BE ENCAPSULATED. INSULATING PROPERTIES FOR ALL MATERIALS SHALL MEET OR EXCEED INDUSTRY STANDARDS. POLYSTYRENE PRODUCTS SHALL MEET ASTM C578 91. ALL INSULATION SHALL BE LOW-EMITTING WITH NOT GREATER THAN 0.05 PPM FORMALDEHYDE EMISSIONS. THE MAXIMUM FLAME SPREAD AND SMOKE DEVELOPED INDEX FOR INSULATION SHALL MEET THE REQUIREMENTS OF THE LOCAL CODES AND ORDINANCES ADOPTED BY THE JURISDICTION IN
- WHICH THE BUILDING IS LOCATED. 19. FAUCETS AND FIXTURE FITTINGS SHALL CONFORM TO ASME A112.18.1. FAUCETS AND FIXTURE FITTINGS THAT SUPPLY DRINKING WATER FOR HUMAN CONSUMPTION SHALL CONFORM TO THE REQUIREMENTS OF NSF 61, SECTION 9. FIXTURE FITTINGS, FAUCETS, AND DIVERTERS SHALL BE INSTALLED AND ADJUSTED SO THAT THE FLOW OF HOT WATER FROM THE FITTINGS CORRESPONDS TO THE LEFT HAND SIDE OF THE FIXTURE FITTING. 20. HOT WATER PROVIDED TO PUBLIC HAND-WASHING
- FACILITIES/LAVATORIES SHALL BE TEMPERED WATER DELIVERED THROUGH AN APPROVED WATER-TEMPERATURE LIMITING DEVICE THAT CONFORMS TO ASSE 1070 OR CSA B125.3. 21. INSULATE ALL EXPOSED WASTE AND SUPPLY PIPING UNDER LAVATORIES, SINKS, AND ELECTRIC WATER COOLERS WITH THE HANDI-LAV GUARD INSULATION KIT BY TRUEBRO OR EQUAL.
- 22. BACKFLOW PREVENTION SHALL BE IN ACCORDANCE WITH SECTION 608.13 OF THE NC PLUMBING CODE AND THE LOCAL AUTHORITY HAVING JURISDICTION. REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTERS SHALL CONFORM TO ASSE 1013 OR AWWA C511. THE RELIEF OPENING SHALL DISCHARGE BY AIR GAP. AIR GAPS SHALL COMPLY WITH ASME A112.1.1 AND AIR GAP FITTINGS WITH ASME A112.1.3. DOUBLE CHECK VALVE ASSEMBLIES SHALL CONFORM TO ASSE 1015 OR AWWA C510, ACCESS TO BACKFLOW PREVENTERS SHALL BE PROVIDED AS SPECIFIED BY THE INSTALLATION INSTRUCTIONS OF THE APPROVED MANUFACTURER.
- 23. POTABLE WATER OUTLETS SHALL BE PROTECTED FROM BACKFLOW IN ACCORDANCE WITH 608.15. PRESSURE TYPE VACUUM BREAKERS SHALL CONFORM TO ASSE 1020 AND SPILPROOF VACUUM BREAKERS SHALL COMPLY WITH ASSE 1056, HOSE-CONNECTION VACUUM BREAKERS SHALL CONFORM TO ASSE 1011, ASSE 1019, ASSE 1035, OR ASSE 1052. CONNECTIONS TO BEVERAGE DISPENSERS, COFFEE MACHINES, AND NON-CARBONATED BEVERAGE DISPENSERS SHALL BE PROTECTED BY A BACKFLOW PREVENTER IN ACCORDANCE WITH ASSE
- 24. THE PC SHALL INSTALL WATER HAMMER ARRESTORS ON BRANCH LINES WITH QUICK CLOSING VALVES PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. WATER HAMMER ARRESTORS SHALL CONFORM TO ASSE 1010.
- 25. BEFORE COMMENCING WORK, CHECK INVERT ELEVATIONS REQUIRED FOR SEWER CONNECTIONS, CONFIRM INVERTS, AND VERIFY THESE CAN BE PROPERLY CONNECTED TO WITH SLOPE FOR DRAINAGE AND COVER TO AVOID FREEZING. ONCE INVERTS AND FALL HAVE BEEN ESTABLISHED, EXTEND SANITARY SEWER PIPING TO 5 FEET OUTSIDE THE BUILDING AND INSTALL ALL DRAINS, STACKS, VENTS, FLOOR
- DRAINS, AND CLEANOUTS NECESSARY FOR A COMPLETE INSTALLATION. 26. TRENCHING, COMPACTION, AND BACKFILL SHALL BE BY PC AND SHALL BE IN ACCORDANCE WITH SECTION 306 OF THE NC PLUMBING CODE, UNDERGROUND LINES SHALL BE LOCATED SUCH THAT THEY DO NOT ENDANGER FOOTINGS OR FOUNDATION WALLS.
- 27. ALL SANITARY SEWER PIPING IS BELOW GRADE OR WITHIN WALLS UNLESS OTHERWISE NOTED. ALL SANITARY VENT PIPING IS ABOVE THE CEILING OR WITHIN WALLS UNLESS OTHERWISE NOTED, SOIL AND WASTE PIPING SHALL BE INSTALLED TO PROVIDE PROTECTION AGAINST Freezing per 305.6.1. Waste and soil lines leaving the BUILDING MUST HAVE A MINIMUM COVER OF 3 INCHES.
- 28. FOR BELOW GRADE SANITARY WASTE PIPING, PC SHALL USE SERVICE WEIGHT CAST IRON PIPE WITH COMPRESSION JOINTS (ASTM A 74). USE MINIMUM 2 INCH SIZE UNDERGROUND. SOLID WALL SCHEDULE 40 PVC (ASTM D 2665) WITH SCHEDULE 40 SOCKET TYPE PIPE FITTINGS (ASTM D 3311) MAY ALSO BE USED. DO NOT USE PVC PIPE FOR APPLICATIONS WHERE THE WASTE WATER TEMPERATURE EQUALS OR EXCEEDS 140°F OR IF THE BUILDING HEIGHT EXCEEDS
- 29. FOR ABOVE GRADE SANITARY WASTE AND VENT PIPING, USE SERVICE WEIGHT CAST IRON NO-HUB TYPE WITH COUPLINGS (CISPI 301). SOLID WALL SCHEDULE 40 PVC (ASTM D 2665) WITH SCHEDULE 40 SOCKET TYPE FITTINGS (ASTM D 3311) MAY BE USED IF PERMITTED BY LOCAL CODE, EXCEPT IN BUILDINGS EXCEEDING 75 FEET IN

- HEIGHT. DO NOT INSTALL PVC IN RETURN AIR PLENUMS. ALL VENT AND BRANCH VENT PIPES SHALL BE SO GRADED AND CONNECTED AS TO DRAIN BACK TO THE DRAINAGE PIPE BY GRAVITY. BRANCH VENTS EXCEEDING 40 FEET IN DEVELOPED LENGTH SHALL BE INCREASED BY ONE NOMINAL SIZE FOR THE ENTIRE DEVELOPED LENGTH OF THE
- 30. 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 PFR FOOT MINIMUM.
- 31. FOR WATER CLOSET WASTE CONNECTIONS, A 4 INCH BY 3 INCH CLOSET BEND SHALL BE ACCEPTABLE. WHERE A 3 INCH BEND IS UTILIZED ON WATER CLOSETS, A 4 INCH BY 3 INCH FLANGE SHALL BE INSTALLED TO RECEIVE THE FIXTURE HORN.
- 32. 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. BRACES BLOCKS, RODDING, BACKFILL AND OTHER SUITABLE METHODS AS SPECIFIED BY THE COUPLING MANUFACTURER SHALL BE UTILIZED 33. BASES OF STACKS SHALL BE SUPPORTED BY THE BUILDING STRUCTURE, VIRGIN OR COMPACTED EARTH, OR OTHER SUITABLE
- MATERIAL TO SUPPORT THE WEIGHT OF THE PIPING. 34. HORIZONTAL DRAIN PIPES SHALL HAVE CLEANOUTS IN ACCORDANCE WITH 708.10. EXTEND CLEANOUTS TO FINISHED FLOOR OR WALL SURFACE, LUBRICATE THREADED CLEANOUT PLUGS WITH A MIXTURE of graphite and linseed oil. Ensure clearance at all CLEANOUTS FOR RODDING OF DRAINAGE SYSTEM. INSTALL FLOOR CLEANOUTS AT AN ELEVATION TO ACCOMMODATE FINISHED FLOOR EVERY CLEANOUT SHALL BE INSTALLED TO ALLOW CLEANING IN THI DIRECTION OF FLOW OF THE DRAINAGE PIPE OR AT RIGHT ANGLES THERETO, CLEANOUTS ON 6 INCH AND SMALLER PIPES SHALL BE PROVIDED WITH A CLEARANCE OF NOT LESS THAN 18 INCHES FOR
- 35. DRAINAGE PIPING FOR FUTURE FIXTURES SHALL TERMINATE WITH AN
- APPROVED CAP OR PLUG. 36. AIR ADMITTANCE VALVES SHALL BE INSTALLED AFTER THE DWV TESTING REQUIRED BY SECTIONS 312.2 AND 312.3. PROVIDE ACCESS TO ALL AIR ADMITTANCE VALVES PER CODE. INSTALLATION OF ALL AIR ADMITTANCE VALVES SHALL CONFORM TO SECTION 917 OF THE NC PLUMBING CODE, AIR ADMITTANCE VALVES SHALL CONFORM TO ASSE 1050 OR 1051.
- 37. INDIRECT WASTE PIPING THAT EXCEEDS 2 FEET IN DEVELOPED LENGTH MEASURED HORIZONTALLY, OR 4 FEET IN TOTAL DEVELOPED LENGTH, SHALL BE TRAPPED. THE AIR CAP BETWEEN THE INDIRECT WASTE PIPE AND THE FLOOD LEVEL RIM OF THE WASTE RECEPTOR SHALL BE A MINIMUM OF TWICE THE EFFECTIVE OPENING OF THE
- indirect waste Pipe. 38. THE PC SHALL PROVIDE UNIONS FOR DISASSEMBLY AND SERVICE OF ALL FIXTURES AND OTHER RELEVANT PLUMBING EQUIPMENT. UNIONS SHALL BE GROUND-JOINT WITH BRASS SEAT. PROVIDE INSULATING
- Unions at each junction of dissimilar materials. 39. THE PC SHALL PROVIDE CHECK VALVES AT ALL FIXTURES WITH THREADED OUTLETS AS REQUIRED BY CODE. TRAP PRIMERS SHALL BE PROVIDED AS SHOWN ON THE PLANS OR AS REQUIRED.
- 40. THE PC SHALL ACCURATELY ROUGH-IN ALL FIXTURES ACCORDING TO MANUFACTURER'S INSTALLATION DIMENSIONS AND INSTRUCTIONS. OFFSET ADAPTERS AND FLEXIBLE CONNECTORS ARE NOT ACCEPTABLE Flush Handles shall be mounted on the wide side of toilet AREAS FOR ADA COMPLIANCE. INSTALL EACH FIXTURE WITH TRAP EASILY REMOVABLE FOR SERVICING AND CLEANING, SEAL FIXTURES TO WALL AND FLOOR SURFACES WITH SEALANT. SOLIDLY ATTACH WATER CLOSETS TO FLOOR WITH LAG SCREWS. SEAL ALL SELF-RIMMING LAVATORIES AND SINKS (VITREOUS CHINA AND STAINLESS STEEL) WITH A COMMERCIAL GRADE PLUMBER'S PUTTY OR ACRYLIC LATEX CAULK APPLIED TO THE UNDERSIDE OF THE FIXTURE RIM IN A GENEROUS AMOUNT SO THAT WHEN FIXTURE IS SET, SEALANT SHALL OOZE OUT. 41. ADJUST STOPS AND VALVES FOR INTENDED FLOW RATE TO FIXTURES
- WITHOUT SPLASHING, NOISE, OR OVERFLOW. 42. PC SHALL PROVIDE ALL WATER HEATERS (WATTAGE/INPUT AND CAPACITY AS NOTED IN SCHEDULE). ALL WATER HEATERS SHALL BE THIRD PARTY CERTIFIED; PROVIDE PANS FOR WATER HEATERS IN ACCORDANCE WITH 504.7 OF THE NC PLUMBING CODE, ELECTRICAL CONNECTIONS SHALL BE BY ELECTRICAL CONTRACTOR, PC SHA COORDINATE WITH EC ON ELECTRICAL CHARACTERISTICS OF THE EQUIPMENT PROVIDED.
- 43. SYSTEM TESTING SHALL BE PERFORMED BY PLUMBING CONTRACTOR IN ACCORDANCE WITH NORTH CAROLINA PLUMBING CODE, SECTIONS 312.2, 312.3, AND 312.5.
- 44. ALL VENT THRU THE ROOF (VTR) PENETRATIONS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR. PC SHALL PROVIDE Flashing material required for VTRS. Joints at the Roof and AROUND VENT PIPES, SHALL BE MADE WATER TIGHT BY THE USE OF LEAD, COPPER, GALVANIZED STEEL, ALUMINUM, OR OTHER APPROVED FLASHINGS OR FLASHING MATERIAL. MAINTAIN MINIMUM 10 FEET FROM ALL OUTSIDE AIR INTAKES.
- 45. PC SHALL DISINFECT THE ENTIRE DOMESTIC WATER PIPING SYSTEM IN ACCORDANCE WITH THE AMERICAN WATER WORKS ASSOCIATION'S SPECIFICATIONS AND LOCAL HEALTH DEPARTMENT REGULATIONS.
- 46. AT THE COMPLETION OF WORK AND PRIOR TO ACCEPTANCE BY OWNER, THE PC SHALL CLEAN ALL EXPOSED FIXTURES, MATERIALS, AND EQUIPMENT UNDER THIS CONTRACT.
- 47, PC SHALL COORDINATE WITH THE GENERAL CONTRACTOR TO ENSURE ALL APPLICABLE CONSTRUCTION WASTE IS RECYCLED DURING THE CONSTRUCTION PHASE OF THE PROJECT.

			PLUMBING FIXTURE SCHEDULE			·
SYMBOL	FIXTURE	MANUFACTURER	FITTING	HV	C₩	WASTE
P-1H	TANK TYPE WATER CLUSET	AMERICAN STANDARD CHAMPIUN 4 'RIGHT HEIGHT' #2002.014 DR EQUAL.	FLOOR MOUNTED ADA VITREDUS CHINA ELONGATED FLUSH TANK, 1.6 GPF CLOSED COUPLED TWO PIECE SIPHON JET WATER CLOSET, FLUSH TANK WITH 12" ROUGH IN. PROVIDE AMERICAN STANDARD #5901. 100 OR EQUAL. WITH OPEN FRONT, NO LID. ADA REQUIREMENT MOUNT SO SEAT IS 17'-19" AFF. PROVIDE WITH STOP AND SUPPLY. ORDER WITH FLUSH LEVER ON OPEN SIDE OF TOILET.	-	K.	3 *
P-2	WALL MOUNT LAVATORY	AMERICAN STANDARD 0355, 012 OR EQUAL BY TOTO	FAUCET HOLES ON 4" CENTERS - FAUCET SHALL CHROME PLATED CAST BRASS BODY WITH 4" SPOUT, 4" BRASS WRIST BLADE, O. 5 GPM SPRAY AND GRID STRAINER DRAIN. USE AMERICAN STANDARD MOINTERREY #5502. 175 WITH WATTS MODEL USG-B-MA TEMPERING VALVE OR EQUAL. ADA REQUIREMENT, MOUNT RIM 34" AFF - INSULATE EXPOSED DRAIN AND WATER PIPES WITH TRUEBRO LAV GUARD KIT #102 E-Z. PROVIDE SUPPLY LINES, STOP VALVES & P-TRAP.	<i>¥</i> *	¥*	2*
P-3	DRINKING FOUNTAIN	ELKAY #EZTLRDDC OR EQUAL	TWO-STATION, WALL MOUNTED ELECTRIC DRINKING FOUNTAIN, ADA, FRONT ONLY EASY TOUCH CONTROL, HIGH UNIT ON RIGHT. PROVIDE SUPPLY, STOP VALVE & TRAP. PROVIDE CANE APRON AS REQUIRED.	-	₩	2.
P-4	FLOOR CLEANOUT	ZURN, WATTS, JR SMITH	EPDXY COATED CAST IRON FLOOR CLEANOUT WITH ROUND ADJUSTABLE GASKETED NICKEL BRONZE TOP, REMOVABLE GAS TIGHT GASKETED BRASS CLEANOUT PLUG, AND NO HUB INLET.	-	-	4*
P-5	2-WAY YARD CLEAN DUT	TYLER PIPE #003519 DR EQUAL	TRAFFIC RATED	-	-	4*
P-6	VATER HAMMER ARRESTER	ZURN Z1700 SHDCKTRDL 100	INSTALL ON BRANCH LINES PER MFG'S INSTRUCTIONS	-	VARIES	_
P-7	FREEZEPROOF WALL HYDRANT	ZURN #Z1320C ECDLOTROL WALL HYDRANT	FREEZE PROOF WALL HYDRANT WITH BRONZE BODY, ANTI-SIPHON VACUUM BREAKER, HOSE CONNECTION, BOX AND LOCKING COVER MOUNT AT 24" ABOVE FINISHED GRADE. FLUSH MOUNT AND TAMPER RESISTANT. CONTRACTOR TO SUBMIT SPEC. FOR OWNER APPROVAL FOR ALL STORES.	-	3/4"	 .
P-8	ELECTRIC WATER HEATER	AD SMITH DEL-10	10 GALLON, 1.65KW, 120V	3/4"	3/4"	-
P-9	EXPANSION TANK	AMTROL ST-5	INSTALL ON COLD WATER LINE BETWEEN WATER HEATER AND RPZ	***	3/4"	-
P-10	MOP SINK	FIAT MSB2424	USE 830AA SERVICE FAUCET, PROVIDE WITH HOSE BEACKET AND HANGER	₩.	1/2"	3'

PROVIDE CLEANOUT WITH ADJUSTABLE CLEANOUT TOP WITH VARIATIONS

SUITABLE FOR FLOOR COVERING (CARPET WARKER, RECESSED FOR TILE,

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

CLEANOUT WHERE THERE IS 18" CLEAR AROUND, FOR ACCESSIBILITY. CONSULT

RISERS. PROVIDE BACKFILL PER ARCHITECTURAL SPECIFICATIONS. LOCATE

LOCAL CODES AND OFFICIALS FOR OTHER REQUIREMENTS.

THERMAL EXPANSION TANK SIZE PER

MANUFACTURER'S RECOMMENDATIONS

TEMPERATURE AND PRESSURE

ELBOW TURNED DOWN

DISCHARGE FULL SIZE OF VALVE

DISCHARGE PIPE TO MOP SINK OR

FUNNEL DRAIN AND TERMINATE WITH

INSTALL WATER HEATER ABOVE MOP SINK AT 7'-6" A.F.F. UPON

8" 20 GAUGE STEEL STUD JOISTS SPACED 8" O.C. SPANNING

WITH ELBOW TURNED DOWN.

SURROUNDING WALLS. COORDINATE STRUCTURAL SUPPORT

3" DEEP PLASTIC DRAIN PAN

1" DRAIN LINE ROUTE TO MOPSINK, TERMINATE

PROVIDE AND INSTALL WALL MOUNTED

MOP HOLDER SO MOPS ALWAYS DRIPS -

INSTALL FRP @ 48" A.F.F.

60" WIDE ON THIS WALL

RECEIVING AREA FLOOR

FRAMING WITH G.C.

into mop sink.

C.W. SUPPLY

relief valve

H.W. TO FIXTURES

AFTER INSTALLATION.

SAME SIZE AS SEWER

up to 4" maximum

AS REQUIRED FOR

DELIH OL ZEMEK

SANITARY AND/OR STORM

SEWER, SIZE PER PLAN

DIRECTION OF FLOW

SCORIATED FOR UNFINISHED FLOORS). CLEAN THE TOP OF EXPOSED FCO

CLEANOUT PLUG AS SPECIFIED.

APPLY TEFLON JOINT COMPOUND

TO THE CLEANOUT PLUG THREADS

– Floor Slab on Grade

MEMBRANE CLAMP

LONG SWEEP ELBOW A

END OR TURN OF RUN

COMBINATION WYE AND EIGHTH

BEND IN RUN, REDUCING TYPE

REQUIRED. ENTER TOP OF PIPE.

· VACUUM BREAKER

MOP SINK

CUT OFF VALVE

ALUMINUM CORNER GUARDS ON MOP SINK WING WALL.

FIXTURE TYPE	DCCUPANCY	QTY	DRAINAGE FIX	TURE UNITS		VATER	SUPPLY FIXTU	RE UNITS	
			EACH	TOTAL	CV	H₩	CW & HW	HV TOTAL	TOTAL
vater closet (flush tank)	PUBLIC	2	4	8	5	0	5	0	10
LAVATORY	PUBLIC	5	1	. 2	1.5	1, 5	2	3. 0	4
DRINKING FOUNTAIN	PUBLIC	1	0.5	0.5	0, 25	0	0. 25	0	0.3
AUTO ATAIL	DUDI TO		_	^	2.25	2.25	2	2.25	2
MOP SINK	PUBLIC	1	. 2	2	2. 25	2. 25	3	2, 25	3
DEMAND FIXTURE	GPM	QTY	TOTAL GPM	<u> </u>	<u> </u>	2.23	TOTAL DFU	<u> </u>	
DEMAND FIXTURE	1			2	2.23			12.	
	GPM	QTY	TOTAL GPM	2	2. 23	2.23	TOTAL DFU	12.	5
DEMAND FIXTURE	GPM	QTY	TOTAL GPM	2	2. 23	·····	TOTAL DFU TOTAL WFSUs	12. 5. 3	5 17. 3

* Assumes only 1 hose bibb running.

MINIMUM BUILDING DRAIN SIZE 4"

EXTRA HEAVY DUTY CAST IRON

COUNTER SUNK HEAD

CLEAN OUT DETAILS-NO SCALE

(2) SHEET METAL SCREWS

PROVIDE WITH OVERFLOW DRAIN,

DRAINED TO EXTERIOR IN FRONT

PIPED TO MOP SINK IN REAR, AND

3/4" WIDE 20

GAUGE STRAP

WATER HEATER

ADJUSTABLE SCORIATED SECURE COVER.

- Bronze taper thread plug with

WASTE LINE LENGTH TO SUIT

MINIMUM VATER LINE SIZE

PLUMBING FIXTURE SCHEDULE | 2

Floor line

METAL CUP WITH (3) SHEET

METAL SCREWS FASTENED

WATER HEATER

OF 4" FROM CONTROLS.

WATER HEATER DRAIN -

HEIGHT OF 7'-6" A.F.F.

ABOVE CEILING.

to both studs

SHELF MOUNTED WATER HEATER STRAP TO WALL

AS INDICATED. (1) STRAP ON THE UPPER 1/3 &

(1) ON THE LOWER 1/3 MAINTAINING A MINIMUM

3" DEEP PLASTIC DRAIN PAN ----

INSTALL WATER HEATER (P-8) ABOVE MOP SINK (P-10) AT A $^{1-}$

NOTE: ELECTRIC WATER HEATER (P-8) SHALL SIMILARLY BE

INSTALLED ABOVE ELECTRIC DRINKING FOUNTAIN (P-3) JUST

THIS DETAIL USED FOR 4" SANITARY LINE

RUN BELOW FIXTURE RACKING. SEE PLANS

LATERAL SUPPORT

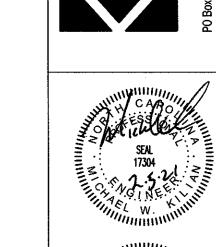
<u>NOTE:</u> CLEANOUT TO BE TYLER PIPE

WITH SURROUNDING FLOOR SURFACES.

MODEL 003533 SERIES OR EQUAL

INSTALLATION SHALL BE FLUSH

WATER LINE SIZING TABLE | 3

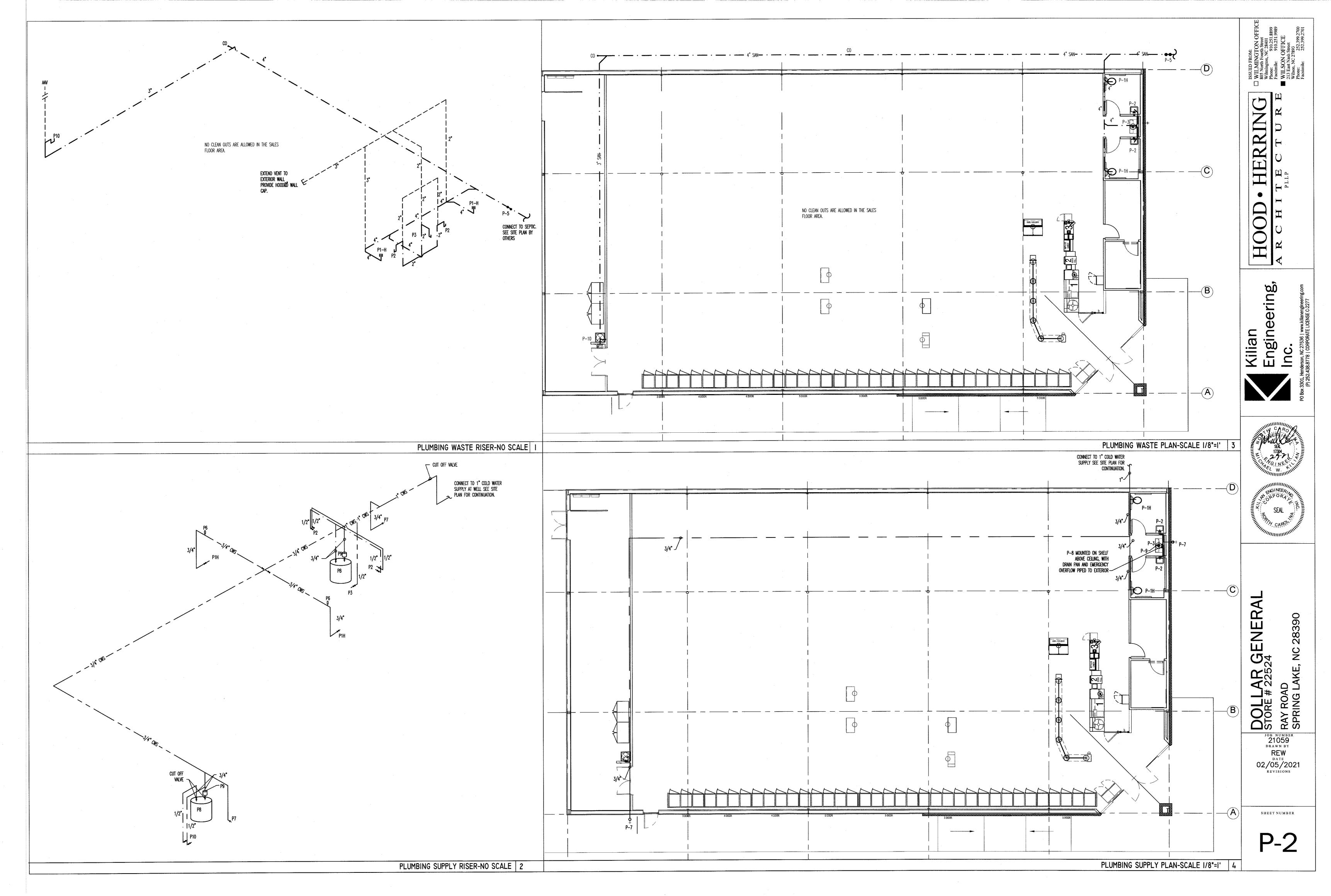


€ 45° >**`**MIN. ∽SOIL OR WASTE SEWER SOIL OF Waste Sewer

> 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.

> > Ш Z Ш **U**5 40

21059 DRAWN BY 02/05/2021



			RE	GISTER & GR	ILLE SCHEDULE	
MARK	MFG	MODEL #	SIZE	MOUNTING	DESCRIPTION	NOTE
Α	HART & COOLEY	RVS	24X24	LAY-IN	4-WAY DIFFUSER, BRIGHT WHITE	1
В	HART & COOLEY	92V0H	10X6	SIDEWALL	STEEL, 4 WAY DIFFUSER, BRIGHT WHITE	1
R	HART & COOLEY	RH45	24'X8'	SIDEVALL	STEEL RETURN TRANSFER GRILL	2

OR EQUAL BY PRICE, METAL-AIRE, CARNES, TITUS OR NAILOR

	EXHAUST FAN SCHEDULE										
MARK	MFG / MDDEL #	TYPE	ESP (in VG)	CFM	VOLT/PH	FLA	SONES	NOTES			
EF-1-2	GREENHECK SP-A125	CEILING	0, 25	105	120/1	1	1.8	1-3			

PROVIDE WITH PITCHED ROOF CAP OR HOODED WALL CAP AS APPLICABLE.

PROVIDE WITH SQUARE TO ROUND DUCT ADAPTER AS NECESSARY or equal by loren cook or pennbarry

PIPE SUPPORT DETAIL NO SCALE | 3

						ROOFTOP PAC	CKAGE AC	WITH ELE	CTRIC STR	IP SCHEDULE					-					
		NUMINAL	AIR	FLOV	COMPRESSORS	FAN MO	TORS			COOL	ing capa	CITY	FIL	TER		EL	ECTRICAL	-	WEIGHT	
MARK	MFG / MODEL #	CAPACITY	SUPPLY	MIN. O	4	SUPPLY	ESP	AUX EI	EC HEAT	EAT WB/DB	TOTAL	SENSIBLE	INCHES	MERV	EER	V/PH	MCA	MDCP		REMARKS
		TUNS	CFM	CFM	NO	NO-HP	in wg	k₩	STAGES	• F	MBH	MBH	TIMPLE?	MERY	E,E,K	1 /୮ภ	MUH	MUCI	LBS	
RTU-1&2	CARRIER 50TC-D12A2A5-A0AGO	10.0	4000	884	2	1-3	. 25	30	2	67/80	124. 1	96, 20	2'	8	11. 2	208/3	124	125	1005	1-12

PROVIDE WITH ROOF CURB. THRU THE BASE CONNECTIONS

PROVIDE WITH VARIABLE FREQUENCY DRIVE.

ELECTRIC HEAT WITH SINGLE POINT CONNECTION KIT, AS SPECIFIED IN SCHEDULE

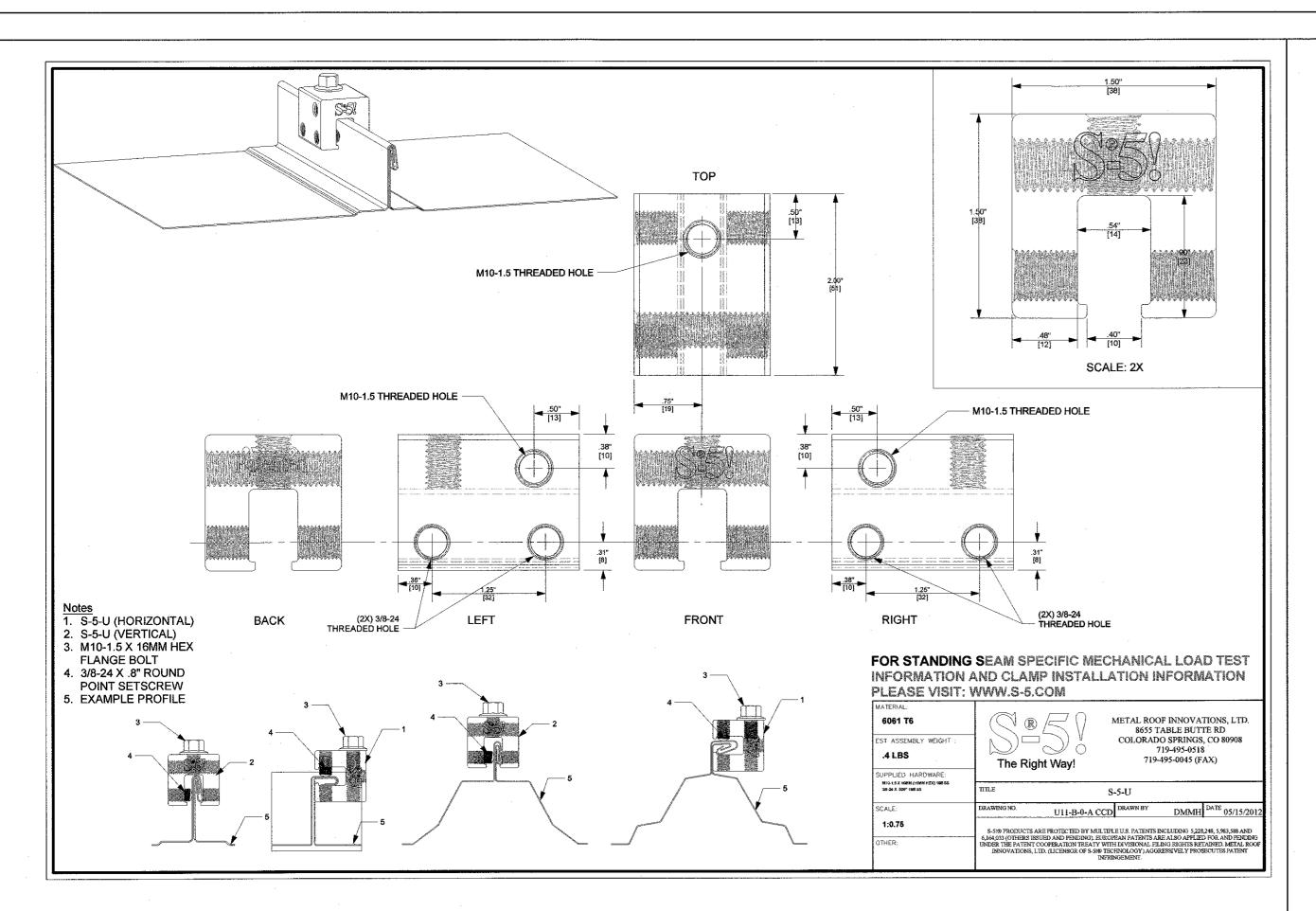
PROVIDE WITH SINGLE INPUT ELECTRONIC ENTHALPY ECONOMIZERS WITH BARDMETRIC RELIEF DAMPERS ENTHALPY ACCESSORY CONTROL KIT TO CONVERT SINGLE ENTHALPY ECONOMIZER TO DUAL ENTHALPY FOR ECONOMIZERS.

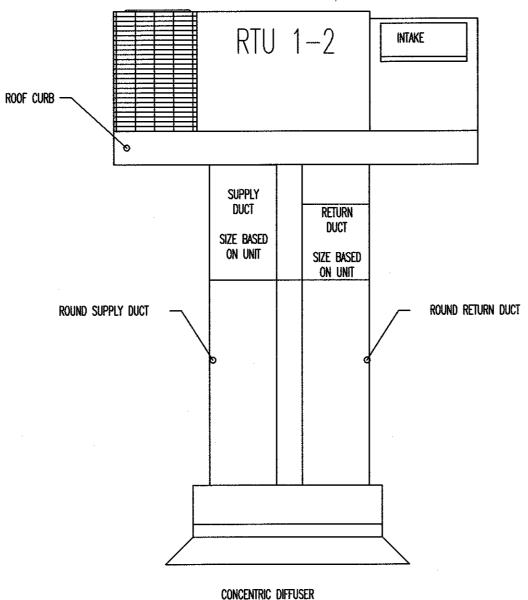
TWO (2) ADDITIONAL SETS OF FILTERS (POST CONSTRUCTION/PRE TEST AND BALANCE, AND ONE SET TO OWNER FOR FUTURE USE ANY EQUIPMENT SUBSTITUTIONS MUST EQUAL OR EXCEED EFFICIENCIES LISTED (RATINGS PER ARI)

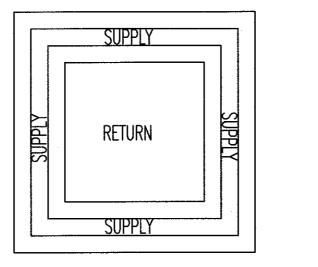
MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES 10. PROVIDE DUCT DETECTOR IN RETURN DUCT. PROVIDE RELAY FOR KILLING POWER TO UNIT'S FAN

11. PROVIDE HAIL GUARDS 12. 4 WAY DIFFUSER

2. PROVIDE ONE ON EACH SIDE OF WALL.







RTU CONCENTRIC DIFFUSER DETAIL NO SCALE | 4

MECHANICAL SCHEDULES | 1

GENERAL MECHANICAL NOTES:

1. THE FOLLOWING ABBREVIATIONS SHALL APPLY TO NOTES AND PLANS: PC - PLUMBING CONTRACTOR, EC - ELECTRICAL CONTRACTOR, MC - MECHANICAL CONTRACTOR, GC - GENERAL CONTRACTOR, FASC - FIRE ALARM SYSTEM CONTRACTOR.

"PROVIDE" MEANS TO FURNISH AND INSTALL, MC SHALL ALSO INSTALL MATERIALS FURNISHED BY OTHERS AND GENERAL CONTRACTOR AS SHOWN ON THE PLANS OR NECESSARY FOR A COMPLETE INSTALLATION.

THE MC SHALL BE RESPONSIBLE FOR A COMPLETE AND OPERATING SYSTEM AS DESCRIBED BY THESE PLANS AND SPECIFICATIONS.

4. 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 O THE MC UNTIL THE PROJECT HAS BEEN COMPLETED AND TURNED OVER TO THE

THE NC SHALL INSTALL ALL MATERIALS AND EQUIPMENT IN ACCORDANCE WITH THE 2018 NORTH CAROLINA MECHANICAL AND BUILDING CODES AND ANY APPLICABLE LOCAL CODES. WHERE A CONFLICT EXISTS BETWEEN THE ABOVE REQUIREMENTS, THE MC SHALL OBTAIN CLARIFICATION FROM THE ENGINEER OR IN THE EVENT ANY PART OF THESE PLANS CONFLICTS WITH THE ABOVE

REQUIREMENTS. 6. THE MC 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 8. THE MC SHALL VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS. THE MC SHALL CONTACT THE ENGINEER TO RESOLVE ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THESE PLANS. THE MC SHALL COORDINATE WITH OTHER TRADES PRIOR TO THE START OF

CONSTRUCTION 9. 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. WHERE A MANUFACTURER AND MODEL NUMBER IS GIVEN. THE CITED EXAMPLE IS INTENDED TO ESTABLISH A STANDARD OF QUALITY AND NOT TO LIMIT PRODUCTS TO A PARTICULAR MANUFACTURER. SUCH EXAMPLES are used to convey a general style, type, character, and quality of THE PRODUCT DESIRED; PRODUCTS DETERMINED TO BE EQUAL BY THE ENGINEER

WILL BE ACCEPTED. 10. THE MC SHALL PROVIDE ALL DX UNITARY HEATING AND COOLING EQUIPMENT AS SCHEDULED ON THE DRAWINGS. AIR-COOLED ROOFTOP PACKAGE GAS-ELECTRIC UNITS, AND AIR-CONDITIONERS SHALL BE BY TRANE, CARRIER, OR YORK, THE MC SHALL PROVIDE FACTORY AND FIELD INSTALLED ACCESSORIES AS SCHEDULED OR AS NECESSARY FOR A COMPLETE AND OPERATIONAL HVAC SYSTEM. 11. THE MC SHALL PROVIDE ALL EXHAUST AND SUPPLY FANS AS SCHEDULED. FANS

SHALL BE BY GREENHECK, LOREN COOK, TWIN CITY, OR PENNBARRY. 12. THESE PLANS ARE DIAGRAMMATIC. THE MC SHALL ADJUST THE LOCATIONS OF EQUIPMENT, DUCTS, REGISTERS, 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

13. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POWER CONNECTIONS 26. FACTORY-MADE AIR DUCTS AND CONNECTORS SHALL COMPLY WITH UL 181-96. TO THE MECHANICAL EQUIPMENT, MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONTROL WIRING.

14. DUCTWORK IS SHOWN WITH FREE AREA DIMENSIONS, ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA LOW PRESSURE DUCT STANDARD, 2 INCH S.P.

15. 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 28. IT SHALL BE THE RESPONSIBILITY OF THE MC TO SUSPEND AND SUPPORT ALL MUST ALTER EQUIPMENT DUE TO SPACE CONSIDERATIONS, THE MC SHALL PROVIDE SIZES AND SHAPES THAT FIT THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS.

16. 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:

16.1. FOR DUCT BOARD, DUCT LINER AND FACTORY—MADE RIGID DUCTS NOT NORMALLY SUBJECTED TO COMPRESSION, THE NOMINAL INSULATION THICKNESS SHALL BE USED.

FOR DUCT WRAP, THE INSTALLED THICKNESS SHALL BE ASSUMED TO BE 75 PERCENT (25-PERCENT COMPRESSION) OF NOMINAL THICKNESS.

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.

17. INSULATE DUCTWORK WITH FIBERGLASS DUCT WRAP; INSTALLED R-VALUE SHALL BE A MINIMUM R-6. COVERINGS AND LININGS, 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. ALL NEW DUCTWORK SHALL RECEIVE INSULATION ON THE OUTSIDE. INSTALL DUCT WRAP INSULATION WITH FACING OUTSIDE SO THAT TAPI FLAP OVERLAPS INSULATION AND FACING OF ADJACENT PIECE OF DUCT WRAP. INSULATION SHALL BE TIGHTLY BUTTED. FOR RECTANGULAR DUCTS, INSTALL SO 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 TIGHTLY 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.

TO THE BEST OF MY KNOWLEDGE, THE MECHANICAL DESIGN FOR THIS BUILDING COMPLIES WITH MECHANICAL AND

EQUIPMENT REQUIREMENTS OF THE 2018 EDITION OF THE NORTH CAROLINA STATE BUILDING CODE.

INSULATION SHALL BE BY KNAUF INSULATION, OWENS CORNING CORP, OR CERTAINTEED CORPORATION. 18. ALL INSULATION CONTAINING FIBROUS MATERIALS EXPOSED TO AIRFLOW SHALL BE RATED FOR THAT EXPOSURE OR SHALL BE ENCAPSULATED. INSULATING PROPERTIES FOR ALL MATERIALS SHALL MEET OR EXCEED INDUSTRY STANDARDS. POLYSTYRENE PRODUCTS SHALL MEET ASTM C578. ALL INSULATION SHALL HAVE FORMALDEHYDE EMISSIONS NOT GREATER THAN 0.05 PPM. THE MAXIMUM FLAME SPREAD AND SMOKE DEVELOPED INDEX FOR INSULATION SHALL MEET THE

MECHANICAL SYSTEM, SERVICE SYSTEMS, AND EQUIPMENT

METHOD OF COMPLIANCE

EXTERIOR DESIGN CONDITIONS

WINTER DRY BULB

SUMMER DRY BULB

SUMMER WET BULB

INTERIOR DESIGN CONDITIONS

WINTER DRY BULB SUMMER DRY BULB

RELATIVE HUMIDITY

MECHANICAL SPACING CONDITIONING SYSTEM:

DESCRIPTION OF UNIT(S)

TOTAL BOILER OUTPUT

TOTAL CHILLER CAPACITY

EQUIPMENT SCHEDULES WITH MOTORS (MECHANICAL SYSTEMS):

EQUIPMENT EFFICIENCIES:

DESIGNER STATEMENT:

THERMAL ZONE

<u>Heating Load:</u>

SENSIBLE COOLING LOAD:

LATENT COOLING LOAD

PRESCRIPTIVE

ZONE 3A

25, 8° F

94. 7° F 75. 9° F

70°F

75°F

N/A

see adjacent

152, 350 BTU/H

128,635 BTU/H

65, 610 BTU/H

AIR COOLED DX

SEE EQUIPMENT SCHEDULES

APPLIED HEAT @ 17°F

2-10 TON PACKAGED AC/ELECTRIC HEAT

REQUIREMENTS OF THE LOCAL CODES AND ORDINANCES ADOPTED BY THE JURISDICTION IN WHICH THE BUILDING IS LOCATED. 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. WHERE DUCTS ARE CONNECTED TO EXTERIOR WALL LOUVERS AND DUCT OUTLET IS SMALLER THAN LOUVER FRAME, PROVIDE BLANK-OUT PANELS SEALING LOUVER AREA AROUND DUCT. USE SAME MATERIAL AS DUCT, PAINTED BLACK ON EXTERIOR SIDE; SEAL TO LOUVER FRAME AND DUCT.

PROVIDE DUCT ACCESS DOORS FOR INSPECTION AND CLEANING BEFORE AND AFTER FILTERS, COILS, FANS, AUTOMATIC DAMPERS, AT FIRE DAMPERS, COMBINATION FIRE AND SMOKE DAMPERS.

CONSTRUCT I's, BENDS, AND ELBOWS WITH RADII 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. INCREASE DUCT SIZES GRADUALLY, NOT EXCEEDING 15 DEGREES DIVERGENCE; MAXIMUM OF 30 DEGREES DIVERGENCE UPSTREAM OF EQUIPMENT AND 45 DEGREES CONVERGENCE DOWNSTREAM.

24. 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 THAT THOSE RECOMMENDED BY THE SEALANT MANUFACTURER. 25. ALL ADHESIVES AND SEALANTS SHALL HAVE 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.

27. FLEXIBLE DUCT SHALL BE ULLISTED 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 CONNECTORS SHALL NOT PASS THROUGH ANY FIRE RESISTANCE RATED ASSEMBLY.

EQUIPMENT, DUCTWORK, DIFFUSERS, AND OTHER MATERIALS FOLLOWING RECOGNIZED ENGINEERING PRACTICES AND USING STANDARD, COMMERCIALLY ACCEPTED HANGERS AND SUSPENSION EQUIPMENT. ALL HVAC EQUIPMENT SHALL BE SECURELY MOUNTED TO THE BUILDING STRUCTURE AND SHALL NOT RELY ON 43. MC SHALL FURNISH A BOUND SET OF OPERATING AND MAINTENANCE CEILING OR WALL SURFACES FOR SUPPORT. THE SUPPORT ATTACHMENT SHALL SUPPORT THE WEIGHT OF THE EQUIPMENT PLUS THE WEIGHT OF THE SUPPORT ATTACHMENT ITSELF. SUPPORT FROM THE TOP CHORD OF THE ROOF JOISTS, OR PIPING SUPPORT. HANGERS SHALL NOT BE ATTACHED TO CORRUGATED STEEL

29. DUCTS SHALL BE SUPPORTED IN ACCORDANCE WITH SMACNA AT INTERVALS NOT HANGERS SUSPENDED WITH THREADED ROD. SUPPORT DUCTS FROM BAR JOISTS, GIRDERS, OR BEAMS. 30. 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

31. THE MC SHALL PROVIDE ALL DIFFUSERS GRILLES, LOUVERS, AND OTHER AIR DISTRIBUTION OUTLETS AND INLETS. LOUVERS, GRILLES, AND DIFFUSERS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS, FOR LAY-IN CEILINGS, INSTALL SUPPORT FROM THE STRUCTURE FOR EACH DIFFUSER OR DAMPER. AIR DISTRIBUTION OUTLETS AND INLETS SHALL

MECHANICAL DESIGNER'S STATEMENT | 3 BE BY HART & COOLEY, PRICE, METAL-AIRE, NAILOR, OR CARNES.

32. AIR FILTERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 605 OF THE 2018 NC MECHANICAL CODE. . PROVIDE BALANCING DAMPERS AT POINTS ON SUPPLY WHERE BRANCHES ARE TAKEN FROM LARGER DUCTS AS REQUIRED FOR AIR BALANCING. INSTALL MINIMUM 2 DUCT WIDTHS FROM DUCT TAKE-OFF. PROVIDE BALANCING DAMPERS ON DUCT |

TAKE-OFFS TO DIFFUSERS, AND REGISTERS, REGARDLESS OF WHETHER DAMPERS ARE SPECIFIED AS PART OF THE DIFFUSER OR REGISTER ASSEMBLY. ADJUST AIR HANDLING AND DISTRIBUTION SYSTEMS TO PROVIDE DESIGN SUPPLY. return, and exhaust air quantities at site altitude. 34. MC SHALL INSTALL A SMOKE DETECTOR—UL LISTED FOR DUCT INSTALLATION (U 268A) 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 SUPERVISION SHALL COMPLY WITH 606.4.1 OF THE 2018 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,

DEVICE. IT SHALL BE THE RESPONSIBILITY OF THE MC TO INSTALL ALL SMOKE DUCT DETECTORS PER NFPA AND MFG'S INSTALLATION INSTRUCTIONS REGARDLESS of who furnishes the devices. 35. MC SHALL INSTALL PROGRAMMABLE THERMOSTATS AS SHOWN ON THE PLANS. THERMOSTAT SHALL BE MOUNTED AT 48 INCHES AFF. THERMOSTATS SHALL MEET

THE MC SHALL FURNISH AND WIRE THE DUCT SMOKE DETECTORS AND AN

THE REQUIREMENTS OF SECTION C403.2.4 OF THE 2018 NORTH CAROLINA ENERGY CONSERVATION CODE.

36. MC SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR REGARDING THE ELECTRICAL REQUIREMENTS OF ALL EQUIPMENT BEING PROVIDED. 37. FRESH AIR INTAKES SHALL BE INSTALLED ON ALL UNITS AS SHOWN ON

DRAWINGS. MAINTAIN 10 FEET OF DISTANCE BETWEEN FRESH AIR INTAKES AND ALL EXHAUST TERMINATIONS AND PLUMBING VENT THRU ROOFS. 38. UNITS PROVIDED WITH ECONOMIZERS SHALL ALSO BE PROVIDED WITH POWERED EXHAUST AND COMPARATIVE ENTHALPY CONTROLS.

MAINTAIN CLEARANCES FOR ALL EQUIPMENT ACCORDING TO MANUFACTURER'S RECOMMENDATIONS FOR SERVICEABILITY, ALL ROOFTOP EQUIPMENT MUST BE A MINIMUM OF 10 FEET FROM ROOF EDGE.

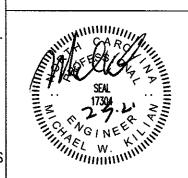
40. MC SHALL INSTALL ALL EXHAUST FANS AND VENT TO THE BUILDING'S EXTERIOR. EC SHALL SWITCH FANS WITH LIGHTS OR ON SEPARATE SWITCH AS SHOWN. 41. THE MC SHALL PROVIDE ALL REFRIGERATION PIPING. ALL PIPE AND FITTINGS SHALL BE TYPE ACR HARD COPPER TUBING WITH SWEAT FITTINGS. REFRIGERATION LINES SHALL BE RUN NEATLY. WHERE A GROUP OF LINES ARE RUN, TRAPEZE HANGERS MAY BE USED. DO NOT USE CHAIN OR WIRE HANGERS. WRAP TUBING WITH RUBBER TAPE AT EACH CLAMP OR HANGER. FOR COVERED PIPES, HANGERS SHALL FIT AROUND THE OUTSIDE OF THE COVERING WITH 12 GAUGE CALVANIZED STEEL SHIELDS OF A LENGTH EQUAL TO THE OUTSIDE DIAMETER OF THE INSULATION AND COVERING 3/4 OF THE CIRCUMFERENCE OF THE INSULATION. SAGS SHALL NOT BE PERMISSIBLE. HORIZONTAL LINES SHALL PITCH DOWN NOT LESS THAN 1 INCH IN 40 FEET. INSULATE REFRIGERANT PIPING PER 2018 NORTH CAROLINA ENERGY CONSERVATION CODE C403.2.10 WITH 1-1/2 INCH CLOSED CELL ARMAPLEX TYPE INSULATION WITH A FLAME DENSITY RATING LESS THAN 25 AND A SMOKE DENSITY RATING LESS THAN 50. ALL JOINTS AND SPLICES IN INSULATION SHALL BE TAPED AND AIR TIGHT. SOLDER REFRIGERATION lines using 15 percent silver solder and evacuate lines to 300 MICRONS. PROVIDE MOISTURE INDICATING SIGHT GLASS AND FILTER DRYER IN LIQUID LINE, PROVIDE OIL TRAPS AND DOUBLE RISERS IN REFRIGERANT SUCTION AND HOT GAS LINES WHERE REQUIRED TO PREVENT OIL SLUGGING AT THE COMPRESSOR AND INSURE PROPER LUBRICATION. MC SHALL BE RESPONSIBLE FOR SEALING LINE SET PENETRATIONS OF ANY RATED ASSEMBLIES IN ACCORDANCE WITH A SYSTEM LISTED IN THE UL DIRECTORY FOR THE SPECIFIC

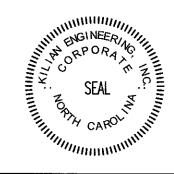
ASSEMBLY BEING PENETRATED. SEE ARCHITECTURAL PLANS FOR A LIST OF ALL UL FIRE RATED ASSEMBLIES. 42. P-TRAPS MUST BE INSTALLED ON ALL UNITS, MC SHALL INSTALL AUXILIARY DRAIN PANS UNDER OVERHEAD AIR HANDLERS AND AN AUTOMATIC CUT-OFF FLOAT SWITCH FOR EACH. P-TRAPS AND CONDENSATE LINES SHALL BE 1 INCH. P--TRAPS AND CONDENSATE LINES MAY BE PVC WHERE NOT LOCATED IN PLENUMS; OTHERWISE, THEY SHALL BE TYPE M COPPER. INSTRUCTIONS FOR ALL EQUIPMENT TO THE OWNER UPON COMPLETION OF THE

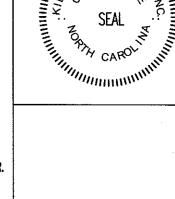
PROJECT. MC SHALL PROVIDE ALL DOCUMENTATION TO THE OWNER AS NECESSARY TO SUBMIT FOR FACTORY WARRANTIES. CIRDERS, AND BEAMS. THE BOTTOM CHORD IS NOT TO BE USED FOR EQUIPMENT 44. CONTRACTOR SHALL PROTECT ALL HVAC EQUIPMENT FROM CONSTRUCTION AND SHEET ROCK DUST DURING CONSTRUCTION. ALL FILTERS SHALL BE REPLACED WITH NEW AT THE COMPLETION OF THE PROJECT.

45. ALL EQUIPMENT INSTALLED ON ROOF MUST BE WITHIN THE ROOF SCREEN. EXCEEDING 10 FEET. DUCTS 36 INCHES OR LARGER SHALL HAVE TRAPEZE TYPE 46. IF A ROOF PENETRATION IS REQUIRED AND THE ROOF IS UNDER WARRANTY, USE THE AUTHORIZED ROOFER. PROVIDE DOCUMENTATION,

> 47. 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. 48. MC SHALL COORDINATE WITH THE GENERAL CONTRACTOR TO ENSURE ALL APPLICABLE CONSTRUCTION WASTE IS RECYCLED DURING THE CONSTRUCTION PHASE OF THE PROJECT.







40

21059 DRAWN BY REW

02/05/2021 REVISIONS

SHEET NUMBER

GENERAL MECHANICAL NOTES | 5

	·		Vent	ilation Calculation (Fo	r Unit MS)					
Room N	lame(s)		Zone Type	Area (sq.ft.)	Rp	Ra	Default Occupancy	Pz	Ez	Airflow to Zone (cfm)
Ret	tail		Retail Sales	6867	7.5	0.12	15	103.01	0.8	6000
Rece	iving		Shipping/Receiving	1085	0	0.12	0	0.00	0.8	2000
			N/A		0	. 0	0	0.00	0.8	
		1	N/A		0	0	0	0.00	0.8	
			N/A		0	0	0	0.00	8.0	
K 42 Sebenda	No			Maximum Zp: Ev:	0.33262 0.8					
K-12 School?	No			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, AN 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

2. ALL HVAC UNITS REQUIRE AN ECONOMIZER AND BAROMETRIC RELIEF.

TRAPEZOIDAL STANDING SEAM PANEL - UNDER / OVER

REQUIRED NATIONAL ACCOUNT ROOF CURB DG VENDORS:

800-683-5848 GSMYTH@ROOFCURB.COM

ALAN THRAILKILL 888-639-2872 ALAN.THRAILKILL@CURBS-PLUS.COM

KCC INTERNATIONAL INC. GREG CONRAD 800-382-2872 GCONRAD@KCCCURBS.COM

FOLLOW MANUFACTURER'S SPECIFICATIONS

ROOF CURB SYSTEMS

CURBS PLUS INC.

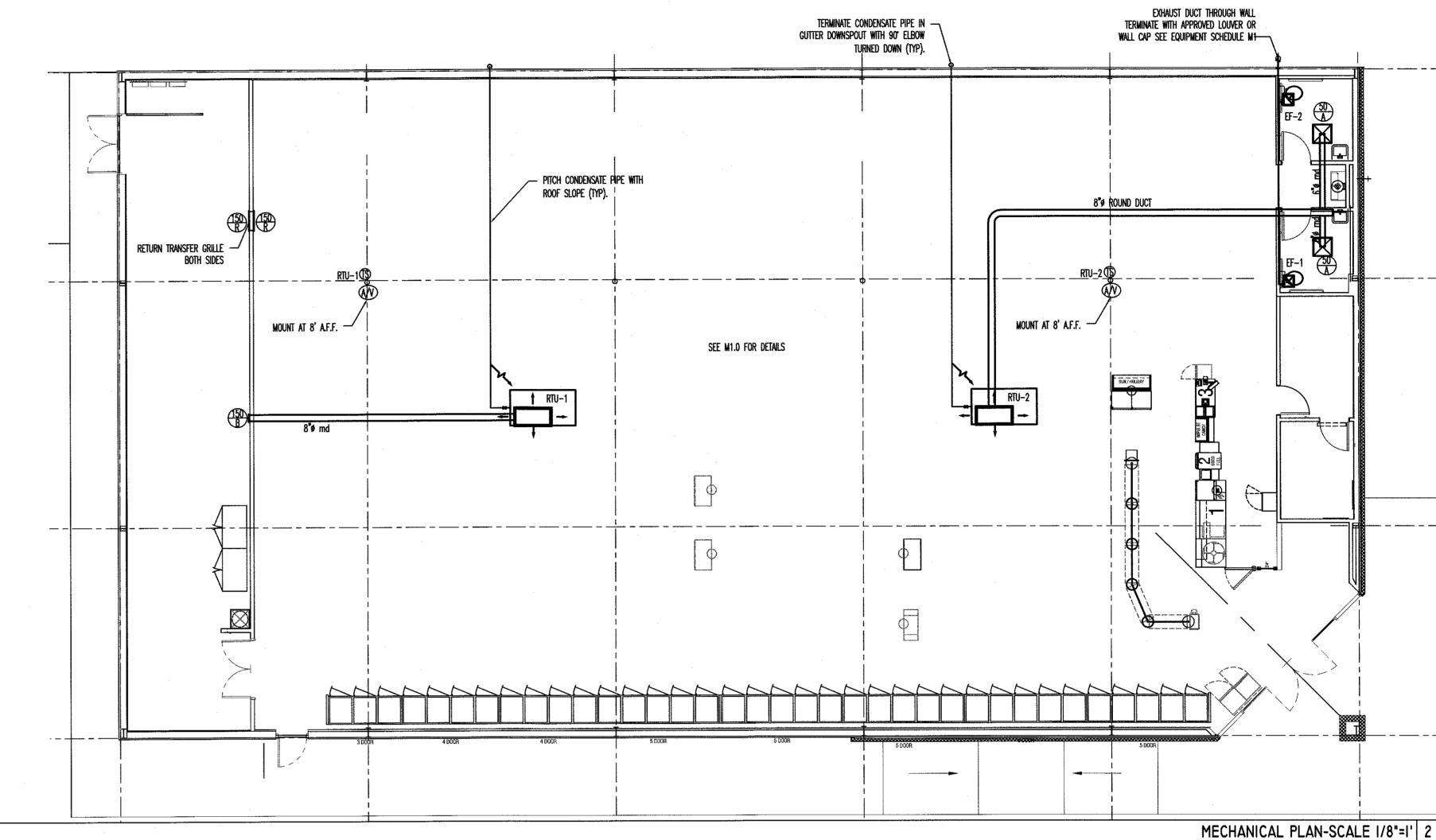
2. ALL HAC UNITS REQUIRE AN ECONOMIZER AND BAROMETRIC RELIEF.

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.

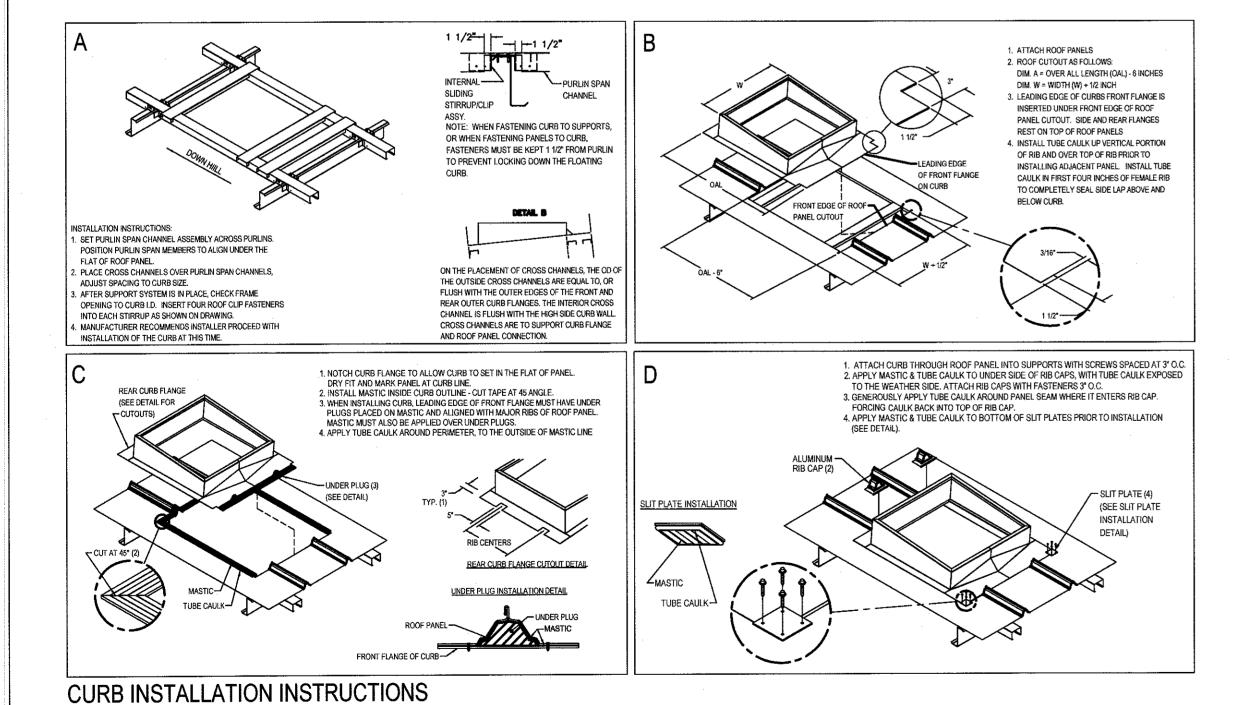
TESTING OF HVAC UNITS THRU EMS PANEL IS ACCOMPLISHED BY WARMING UP OR COOLING DOWN A SPACE TEMPERATURE SENSOR AND WATCH THE FAN, HEAT AND COOL STAGES CYCLE ON AND OFF. THIS REQUIRES TWO PEOPLE AT ALL TIMES...ONE TO WATCH THE SCREEN AND THE OTHER TO WATCH OPERATION OF THE HVAC UNIT. WHEN COMPLETE, PRESS THE HOME BUTTON TO RETURN TO THE MAIN SCREEN.

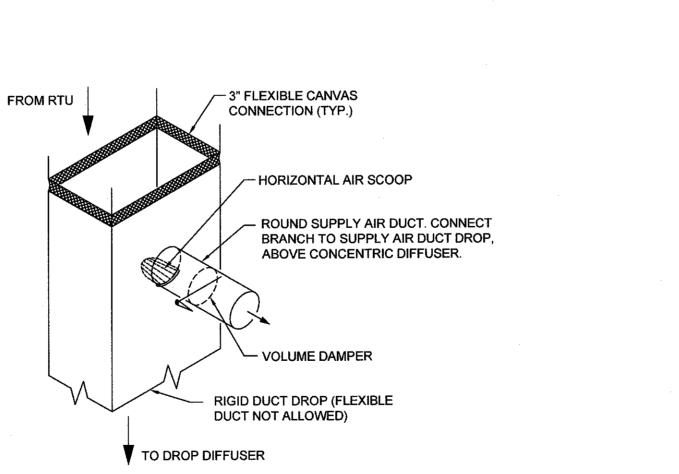
TIMES...ONE TO WATCH THE SCREEN AND THE OTHER TO WATCH OPERATION OF THE HVAC UNIT. WHEN COMPLETE, PRESS THE HOME BUTTON TO RETURN TO THE MAIN SCREE 5. PROVIDE CEILING MOUNTED EXHAUST FANS FOR RESTROOMS, INTERLOCK WITH RESTROOM LIGHTS. EXHAUST FAN SHALL BE VENTED THRU SIDE WALL, NOT THRU THE ROOF.

6. ROOF CURB INFORMATION SEE DETAILS M2-2



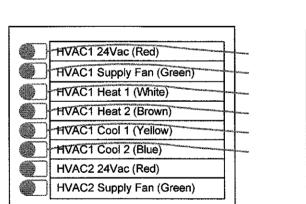
VENTILATION CALCULATION TABLES | I





NOTE:
INSTALL HORIZONTAL AIR SCOOP HAVING A CONTINUOUSLY CURVED
CROSS SECTION AND BALANCING DAMPER AT DUCT CONNECTION TO
DIVERT SUPPLY AIR INTO THE CONNECTED DUCTWORK. LENGTH OF SCOOP
SHALL BE LIMITED TO THE WIDTH OF THE SUPPLY AIR ANNULAR SPACE.

TYPICAL SUPPLY BRANCH
CONNECTION DETAIL
M1 NTS



SYMBOL LEGEND

EXHAUST FAN

TRANSFER GRILLE

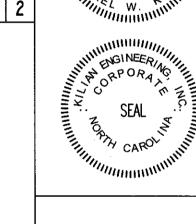
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TEMPERATURE SENSOR MTD.

@ 8'-0" A.F.F. REFER TO EMS1.

RETURN/EXHAUST AIRFLOW

SUPPLY AIRFLOW

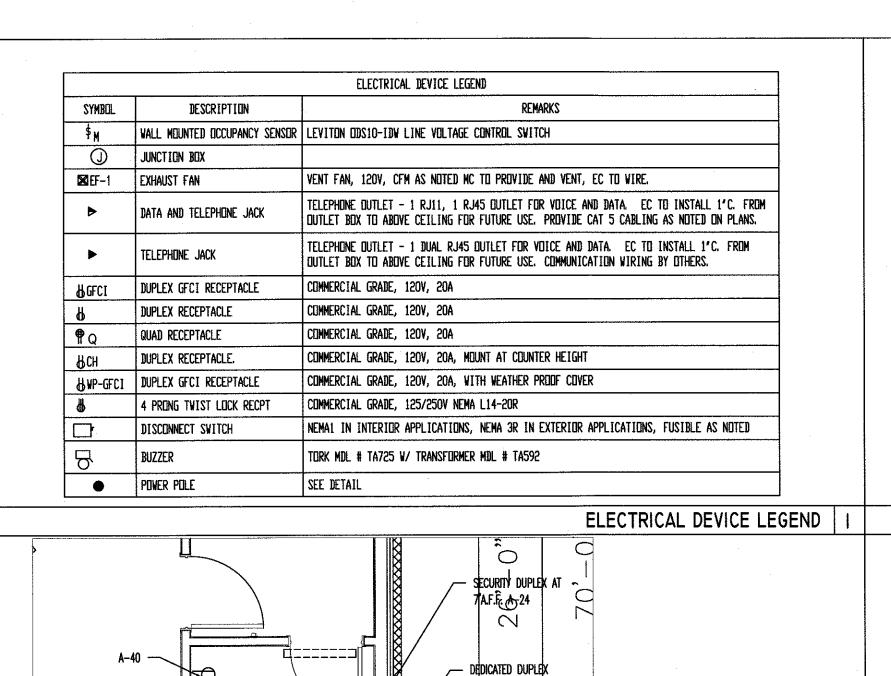


OLLAR GENERAL
ORE # 22524
V ROAD

JOB NUMBER
21059
DRAWN BY
REW
DATE
02/05/2021
REVISIONS

SHEET NUMBER

M-2



RECEPT. AT 48" FOR

interface, a–18

DEDICATED QUAD RECEP

© 6'-0" FOR VSAT,

D-LINK (QUIP., A-20

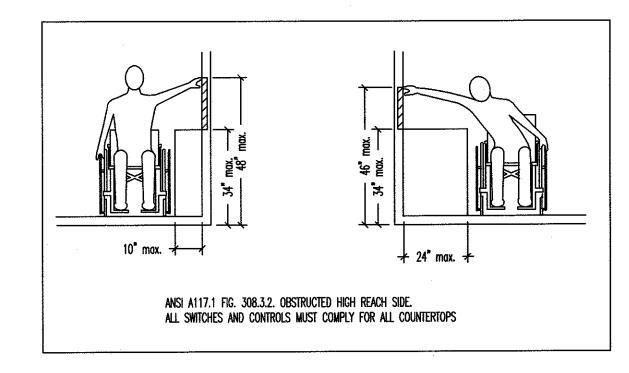
DEDICATE QUAD RECEPT.

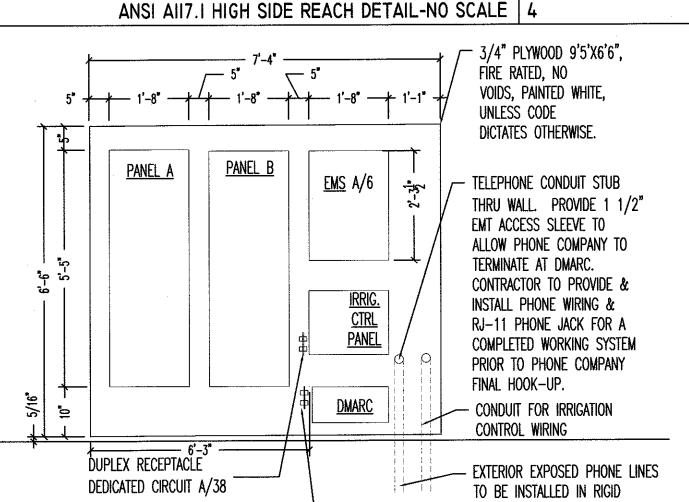
@3' A.F.F. FOR CCTV -

ΰP DEDICATED QUAD ®

3' A.F.F. A-26-

EQUIP., A-22





DUPLEX RECEPTACLE

DEDICATED CIRCUIT A/4

METER BASE -

CONDUIT. PROVIDE EMERSON 3/4"

X 5' METALLIC CABLE U—GUARD

#755 OR EQUAL.

ELECTRICAL PANEL ELEVATION-NO SCALE | 5

- Bring rigid pipe sleeve through building

BRING RIGID PIPE SLEEVE THROUGH

BUILDING TO ALLOW TELEPHONE WIRING.

ALL PENETRATIONS

SEAL ALL PENETRATIONS

ELECTRICAL KEYED NOTES

CONTROL 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)

4. 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

7. SO WHITE ELECTRICAL CORD IS NEEDED. SEE SHEET A1,

8. CONFIRM THE FINAL NUMBER AND LOCATION OF OUTLETS IN SALES AREA WITH THE FINAL DG FIXTURE PLAN.

9. PROVIDE 208V, 1 PHASE CONNECTION TO A J-BOX AT 100" AFF WITH (3)#12 CU. & #12 GROUND IN 3/4"C. REFRIGERATION CONTRACTOR TO PROVIDE AND INSTALL 30A/2NF DISCONNECT SWITCH AND WIRE FROM DISCONNECT SWITCH TO EQUIPMENT CONNECTIONS.

10. PROVIDE 208V, 1 PHASE CONNECTION TO A J-BOX AT 100" AFF WITH (3)#8 CU. & #10 GROUND IN 1"C. REFRIGERATION CONTRACTOR TO PROVIDE AND INSTALL 60A/2NF DISCONNECT SWITCH AND WIRE FROM DISCONNECT SWITCH TO EQUIPMENT CONNECTIONS.

PROVIDE 208V, 1 PHASE CONNECTION TO A J-BOX AT 100" AFF WITH (3)#10 CU. & #10 GROUND IN 3/4"C. REFRIGERATION CONTRACTOR TO PROVIDE AND INSTALL 30A/2NF DISCONNECT SWITCH AND WIRE FROM DISCONNECT SWITCH TO EQUIPMENT CONNECTIONS.

12. MOUNT J-BOX 11" FROM THE RIGHT SIDE OF EACH UNIT. CONFIRM EXACT LOCATION WITH REFRIGERATION VENDOR PRIOR TO WORK (TYPICAL).

ELECTRICAL SPECIFICATIONS

A. ALL WIRING SHALL SHALL BE CONTAINED IN CONDUIT OF PROPER SIZE.

ALL WIRING SHALL CONFORM TO LOCAL, STATE AND

FEDERAL CODES. C. SERVICE IS TO BE A MINIMUM 400 AMP, 3 PHASE (PREFERRED), 600 AMP, 1 PHASE OR LARGER IF REQUIRED

BY CODE OR ELECTRICAL LOAD. D. 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.

G. 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.

M. ALL POWER AND DATA TO BE ROUTED OVERHEAD. UNDER SLAB NOT ALLOWED.

N. WIRE SIZE TO BE #8 OR #10 FOR ALL COOLERS/FREEZERS.

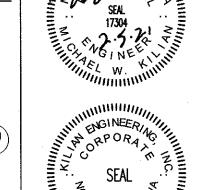
O. MOUNT ALL REFRIGERATOR OUTLETS AT 12" AFF.

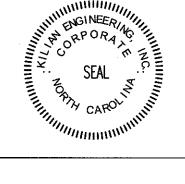
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ELECTRICAL PANEL ELEVATION-NO SCALE

1" PVC TO SEWER PUMP

VERIFY LOCATION, A-13,15

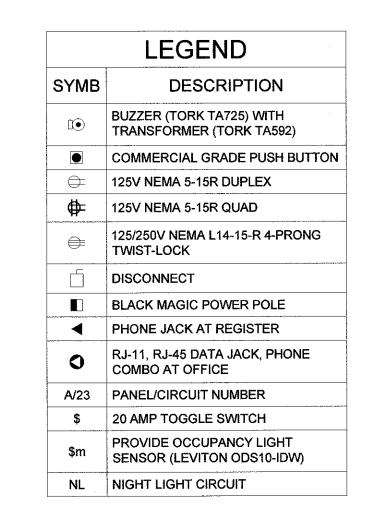




21059 DRAWN BY REW 02/05/2021 REVISIONS

SHEET NUMBER

_____Buzzėr push 2-1" PVC TO HOT BOX FOR TO RTU-1 (TS) _rpz_and_irrigation_pump_ip C REQ'D. VERIFY LOCATION, A-41, A-38 SALES AREA RECEIVING area SECURITY DUPLEX AT 7'A.F.F. A-24 @3' A.F.F. FOR CCTV EQUIP., A-22 DEDICATED QUAD © DEDICATED DUPLEX RECEPT. AT 48" FOR 3' A.F.F. A-26 POWER POLE REGISTER DETAIL SHEE E3.5 (B-2,4,6,8,10,12) **0** 6'-0" FOR VSAT B-16,18 A-25 GFCI-WP - VERIFY LOCATION AND VOLTAGE WITH FIXTURE PLAN PRIOR TO ROUGH IN VERIFY LOCATION. PRODUCE COOLER



ENLARGED OFFICE LAYOUT - NTS | 2

ELECTRICAL KEYED NOTES AND LEGEND | 3

A-12 GFCI-WP

4' A.F.F. RECESSED \(\rightarrow 4' \rightarrow 1'

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

"PROVIDE" MEANS TO FURNISH AND INSTALL. THE ELECTRICAL CONTRACTOR SHALL ALSO INSTALL MATERIALS AND EQUIPMENT FURNISHED BY OTHERS AND THE GENERAL CONTRACTOR AS REQUIRED. EC SHALL PROVIDE LABOR, MATERIALS, EQUIPMENT, AND SERVICES

NECESSARY AND REASONABLY INCIDENTAL TO INSURE A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS. MINOR ITEMS, ACCESSORIES, AND DEVICES REASONABLY INFERABLE AS NECESSARY FOR THE COMPLETION AND PROPER OPERATION OF ANY ELECTRICAL SYSTEM SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.

. Workmanship shall be in accordance with NECA 1 "Standard PRACTICE FOR GOOD WORKMANSHIP IN ELECTRICAL CONTRACTING." . ALL MATERIALS AND EQUIPMENT SHALL BE DELIVERED TO THE SITE AND THE ELECTRICAL CONTRACTOR SHALL PROTECT ALL MATERIALS AND EQUIPMENT FROM BREAKAGE, THEFT, AND THE ELEMENTS. ALL MATERIALS AND EQUIPMENT SHALL REMAIN THE PROPERTY OF THE ELECTRICAL CONTRACTOR UNTIL THE PROJECT HAS BEEN COMPLETED AND TURNED OVER TO THE OWNER.

THE ELECTRICAL CONTRACTOR 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. TRADE NAMES AND MANUFACTURERS ARE SPECIFIED TO ESTABLISH A QUALITY STANDARD. SUBSTITUTIONS SHALL BE PERMITTED IF APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. ALL LISTED MODEL NUMBERS SHALL BE VERIFIED WITH THE MANUFACTURER FOR PROPER APPLICATION

9. THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS. THE ELECTRICAL CONTRACTOR SHALL CONTACT THE ENGINEER TO RESOLVE ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THESE PLANS. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OTHER TRADES PRIOR TO THE START OF CONSTRUCTION.

10. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY DISCONNECTS, SWITCHES, RECEPTACLES, TERMINALS, ETC, UNDER THE ELECTRICAL BID AND SHALL INCLUDE ALL NECESSARY CIRCUITS AND CONNECTIONS TO THE EQUIPMENT PROVIDED BY ALL SUPPLIERS, UNLESS NOTED OTHERWISE BY OTHER DISCIPLINES.

I. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL SERVICE ENTRANCE EQUIPMENT, SUB PANELS, AND OTHER ELECTRICAL DISTRIBUTION EQUIPMENT AS NECESSARY FOR A COMPLETE INSTALLATION. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH UTILITY REGARDING SERVICE AN METERING DETAILS. PANEL BOARDS AND SWITCH BOARDS SHALL BE SQUARE D, CUTLER-HAMMER, SIEMENS, OR GE. BUSES SHALL BE COPPER UNLESS OTHERWISE APPROVED BY THE ENGINEER, RECESSEL PANEL BOARDS SHALL BE INSTALLED FLUSH WITH THE WALL FINISH. METER BASES SHALL COMPLY WITH THE UTILITY'S SPECIFICATIONS AND SHALL BE MOUNTED AT A HEIGHT APPROVED BY THE UTILITY. ALL EQUIPMENT IDENTIFIED FOR SERVICE ENTRANCE USE SHALL BE SO LABELED AND UL LISTED FOR SUCH USE. ELECTRICAL CONTRACTOR SHALL INSTALL ALL ELECTRICAL EQUIPMENT WITH CLEARANCES PER NEC 110.26. ELECTRICIAN SHALL PERMANENTLY LABEL EQUIPMENT PER NEC

2. ENCLOSED SAFETY SWITCHES SHALL BE HEAVY DUTY TYPE BY SQUARE D, EATON, OR GE. ENCLOSED SWITCHES SHALL HAVE A HANDLE LOCKABLE IN THE OFF POSITION AND SHALL HAVE A HANDLE INTERLOCKED TO PREVENT OPENING THE FRONT COVER WHILE IN THE ON POSITION. ENCLOSED SWITCHES OF THE FUSIBLE TYPE SHALL BE FUSED IN ACCORDANCE WITH NAMEPLATE DATA WITH DUAL ELEMENT TYPE FUSES

BY BUSSMAN, LITTELFUSE, OR MERSEN. 13. OCCUPANCY SENSORS SHALL BE BY WATTSTOPPER, LUTRON, LEVITON, SENSOR SWITCH, HUBBELL, OR APPROVED EQUAL. 4. CIRCUIT BREAKERS SHALL BE MOLDED-CASE, THERMAL MAGNETIC TYPE

WITH QUICK-MAKE, QUICK-BREAK MECHANISM, COMMON TRIP ON MULTI-POLE BREAKERS, AND ULL LISTED FOR BOTH COPPER AND ALUMINUM CONDUCTORS. CIRCUIT BREAKERS IN PANELS SHALL BE SERIES RATED WITH THE MAIN BREAKER, FULLY RATED FOR THE SYSTEM,

5. EC SHALL REVIEW THE MECHANICAL PLANS TO ESTABLISH POINTS OF CONNECTION AND THE EXTENT OF THE ELECTRICAL WORK TO BE PROVIDED IN THE CONTRACT. ALL CIRCUIT BREAKERS FEEDING HVAC EQUIPMENT SHALL BE HACR BREAKERS. ALL BRANCH CIRCUIT CONDUCTORS SHALL BE MINIMUM #12 AWG IN 3/4 in CONDUIT. EACH MULTI-WIRE BRANCH CIRCUIT SHALL BE PROVIDED WITH A MEANS TO SIMULTANEOUSLY DISCONNECT ALL UNGROUNDED CONDUCTORS AT THE SOURCE PER NEC 210.4(B). GROUP ALL CONDUCTORS OF EACH MULTI-WIRE BRANCH CIRCUIT PER 210.4(D) WITH WIRE TIES OR SIMILAR MEANS, DO NOT EXCEED THREE HOMERUNS PER CONDUIT, DO NOT INSTALL ISOLATED GROUND AND NON-ISOLATED GROUND CIRCUITS IN

SEPARATE CONDUITS. 6. ALL WIRE, CONNECTORS, TERMINALS, AND LUGS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. WHERE CONDUCTORS ARE RUN IN PARALLEL, LUGS SHALL BE LISTED FOR PARALLEL CONDUCTORS. PUSH WIRE CONNECTORS ARE NOT ALLOWED FOR BUILDING WIRE. PUSH CONNECTORS ARE ONLY ALLOWED, WHEN APPROVED, AS PART OF MANUFACTURED LISTED PRODUCTS. ALL WIRE SHALL BE INSTALLED IN

CONDUIT UNLESS SPECIFICALLY NOTED OTHERWISE. 7. THE INSULATION TYPE FOR INTERIOR WIRING SHALL BE DUAL RATED THHN/THWN OR XHHW: ALL WIRING INSTALLED BELOW GRADE OR IN MOIST OR WET LOCATIONS SHALL HAVE TYPE THWN OR XHHW insulation. Insulation voltage rating shall be 600 volts and a MINIMUM TEMPERATURE RATING OF 75°C. CONDUCTORS SHALL BE SOLID OR STRANDED COPPER FOR #10 AWG AND #12 AWG, AND STRANDED COPPER FOR #8 AWG AND LARGER SIZES. ALL WIRING AND CABLE

SHALL BE UL LISTED. ALL TERMINATIONS AND DEVICES SHALL BE RATED FOR USE WITH 75°C CONDUCTORS. FINAL CONNECTIONS TO ALL MOTORS AND EQUIPMENT SUBJECT TO VIBRATION OR MOVEMENT SHALL BE MADE WITH STRANDED COPPER CONDUCTORS. CONDUCTORS SHALL BE BY cerro wire, inc, industrial wire & cable, inc, or southwire

18. JOINTS IN SOLID CONDUCTORS SHALL BE SPLICED USING IDEAL "WIRE NUTS", 3M "SCOTCH LOCK", OR T&B "PIGGY" CONNECTORS IN JUNCTION BOXES, OUTLET BOXES, AND LIGHTING FIXTURES. JOINTS IN STRANDED CONDUCTORS SHALL BE SPLICED BY APPROVED MECHANICAL CONNECTORS AND GUM RUBBER TAPE OR FRICTION TAPE. SOLDERLESS MECHANICAL CONNECTORS FOR SPLICES AND TAPS, PROVIDED WITH UL APPROVED INSULATING COVERS, MAY BE USED INSTEAD OF MECHANICAL CONNECTORS PLUS TAPE. IN ALL CASES, CONDUCTORS SHALL BE CONTINUOUS FROM OUTLET TO OUTLET AND NO SPLICING SHALL BE MADE EXCEPT WITHIN OUTLET OR JUNCTION BOXES, TROUGHS, OR GUTTERS. WHERE CONCENTRIC, ECCENTRIC, OR OVERSIZED KNOCKOUTS are encountered, a grounding type insulated bushing shall be

UNLOADED BY THE ELECTRICAL CONTRACTOR AT AN APPROVED LOCATION. 19. COLOR CODE CONDUCTORS PER NEC. FEEDERS SHALL BE IDENTIFIED IN ACCORDANCE WITH NEC 215.12. USE BLACK, RED, AND BLUE FOR PHASES A. B. AND C RESPECTIVELY ON 208Y/120 VOLT THREE-PHASE Y SYSTEMS AND WHITE FOR THE NEUTRAL ISOLATED GROUND WIRES shall be green with yellow bands or stripes. This identification SHALL BE MADE AT EACH POINT WHERE A CONNECTION IS MADE. COLORS SHALL BE FACTORY APPLIED FOR CONDUCTORS #6 AWG AND COLOR AND MINIMUM #12 AWG. THE EC SHALL PROVIDE PLENUM RATED CABLE FOR ANY ELECTRICAL, TELEPHONE, COMMUNICATION, OR OTHER Cable that enters ceiling return plenums.

20. ALL LUMINAIRES SHALL BE LISTED. LUMINAIRES IN WET OR DAMP locations shall be marked as suitable for the respective use. EMERGENCY LIGHTING SHALL BE INSTALLED AS SHOWN, FINAL LOCATIONS OF ALL EXIT AND EMERGENCY LIGHTS SHALL BE VERIFIED WITH THE BUILDING INSPECTOR PRIOR TO INSTALLATION. ALL FLUORESCENT FIXTURES SHALL HAVE ELECTRONIC BALLASTS MEETING ANSI C82.11 FOR ELECTRONIC BALLAST PERFORMANCE. ALL BALLASTS SHALL BE UL LISTED

AND MEET FEDERAL AND STATE EFFICIENCY REQUIREMENTS. 21. ALL LIGHT FIXTURES SHALL BE SUPPORTED INDEPENDENTLY OF THE SUSPENDED CEILING. COORDINATE LIGHTING LAYOUT WITH CEILING GRID, MECHANICAL EQUIPMENT, DUCTWORK AND SPRINKLER HEADS AS NECESSARY. SEE REFLECTED CEILING PLAN FOR DETAILS. FLUORESCENT FIXTURES UTILIZING DOUBLE-ENDED LAMPS MUST HAVE A DISCONNECTING MEANS COMPLYING WITH NEC 410.130(G).

22. MOUNT LIGHT SWITCHES AT 48 in AFF. MULTIPLE SWITCHES AT SAME LOCATION SHALL BE UNDER ONE WALL PLATE. VERIFY WALL PLATE COLOR AND MATERIAL WITH THE ARCHITECT/OWNER. INSTALL SWITCHES WITH off POSITION DOWN. ALL SWITCHES SHALL BE HEAVY DUTY, IVORY PLASTIC WITH TOGGLE HANDLE, RATED 120-277V AC, AND COMPLYING WITH NEMA WD 6 AND WD 1. SWITCHES SHALL BE BY COOPER WIRING DEVICES, LEVITON MANUFACTURING, PASS & SEYMOUR, OR HUBBELL. PROVIDE BOX DEVICE PARTITION/DIVIDERS FOR MULTI-GANG BOXES FOR COMPLIANCE WITH NEC 404.8(B).

23. ELECTRICAL CONTRACTOR SHALL PROVIDE FIRE—STOPPING AT ALL ELECTRICAL PENETRATIONS OF RATED FLOORS AND WALLS TO PRESERVE OR RESTORE THE FIRE-RESISTANCE RATING. SEAL PENETRATIONS USING A UL LISTED SYSTEM FOUND IN THE UL DIRECTORY SPECIFIC TO THE UL LISTING OF THE ASSEMBLY BEING PENETRATED. SEE ARCHITECTURAL PLANS FOR UL RATED ASSEMBLIES SPECIFIC TO THIS PROJECT.

ELECTRICAL CONTRACTOR SHALL PROVIDE GFCI RECEPTACLES IN KITCHENS. RESTROOMS, OUTDOORS, AND IN SHOP AREAS AS REQUIRED BY NEC. REFRIGERATORS AND WATER COOLERS MUST HAVE A DEDICATED GFCI BREAKER, EACH OUTDOOR HVAC UNIT MUST HAVE A GFCI RECEPTACLE WITHIN 25 FEET FOR SERVICING. GFCI RECEPTACLES SHALL CONFORM TO UL 943 CLASS A AND UL 498 STANDARDS. SHOW WINDOW RECEPTACLES SHALL BE PROVIDED IN ACCORDANCE WITH 210.62 OF THE NEC. RECEPTACLES SHALL BE BY COOPER WIRING DEVICES, LEVITON MANUFACTURING, PASS & SEYMOUR, OR HUBBELL. ALL RECEPTACLES SHALL BE 125V RATED, HEAVY DUTY, AND COMPLY WITH NEMA WD 6

LOCATIONS AND HEIGHTS OF ALL WALL—MOUNTED DEVICES SHALL BE

COORDINATED WITH THE ARCHITECT PRIOR TO INSTALLATION. GROUNDING AND BONDING SHALL BE PER NEC ARTICLE 250. THE RACEWAY SYSTEM SHALL NOT BE RELIED UPON FOR GROUNDING CONTINUITY. A GREEN EQUIPMENT GROUNDING CONDUCTOR, SIZED PER NEC TABLE 250-122, SHALL BE RUN IN ALL POWER RACEWAYS. FOR NON-ISOLATED GROUND CIRCUITS PROVIDE ONE EQUIPMENT GROUNDING CONDUCTOR PER CONDUIT RUN. FOR ISOLATED GROUND CIRCUITS. PROVIDE ONE NEUTRAL AND ONE ISOLATED GROUND WIRE FOR EACH CIRCUIT; IN ADDITION, PROVIDE ONE EQUIPMENT GROUNDING CONDUCTOR PER CONDUIT RUN, MAIN BONDING JUMPERS AND SYSTEM BONDING JUMPERS SHALL BE INSTALLED IN ACCORDANCE WITH 250.28 OF THE NEC. FOR BUILDINGS OR STRUCTURES SUPPLIED BY FEEDERS OR BRANCH CIRCUITS, GROUNDING AND BONDING SHALL BE IN ACCORDANCE WITH 250.32. SEPARATELY DERIVED AC SYSTEMS SHALL BE GROUNDED IN 36. PROVIDE AN UNDERGROUND PVC CONDUIT SYSTEM FOR TELEPHONE ACCORDANCE WITH 250.30. RESISTANCE TO GROUND SHALL NOT EXCEED

25 OHMS; ADDITIONAL GROUNDING ELECTRODES SHALL BE INSTALLED PER 250.56 AS NECESSARY. THE SAME CONDUIT. INSTALL CONDUCTORS OF DIFFERENT VOLTAGES IN 27. THE ELECTRICAL CONTRACTOR SHALL ALSO COORDINATE WITH THE GENERAL CONTRACTOR REGARDING THE BONDING OF THE FOOTING REBAR, SO THAT IT WILL BE IN PLACE AND READY AT TIME OF FOOTING

> 28. ALL CONDUIT, FITTINGS, COUPLINGS, AND SUPPORTS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. CONDUIT FITTINGS AND COUPLINGS SHALL BE BY APPLETON, RACO, OR O-Z/GEDNEY. COUPLINGS SHALL BE THREADED, SET-SCREW, OR COMPRESSION TYPE, INDENTER OR CRIMP TYPE ARE NOT PERMITTED. CONDUIT FITTINGS AT ALL ELECTRICAL BOXES INCLUDING PULL, JUNCTION, AND OUTLET BOXES, SHALL HAVE INSULATED THROATS TO PREVENT INSULATION SCORING. DIE CAST FITTINGS ARE NOT

29. CONCEAL ALL CONDUIT EXCEPT IN MECHANICAL ROOMS OR UNFINISHED AREAS AS NOTED. USE EMT CONDUIT FOR ALL BRANCH CIRCUITS AND FEEDERS INSIDE THE BUILDING. TYPE MC CABLE AND TYPE AC CABLE MAY BE INSTALLED WITHIN WALLS IF ALL NEUTRAL WIRES, ISOLATED

Ground Wires, and equipment ground wires as listed above are CONTAINED IN THE CABLE. FLEXIBLE CONNECTIONS TO MOTORS AND OTHER EQUIPMENT SHALL BE MADE USING WEATHERPROOF FLEXIBLE CONDUIT. FOR LAY-IN LIGHT FIXTURES, USE MAXIMUM OF SIX (6) FEET OF FLEXIBLE MC CABLE (OR THE FLEXIBLE CONDUIT PROVIDED BY THE FIXTURE MANUFACTURER). SCHEDULE 40 PVC CONDUIT MAY BE USED FOR THE SECONDARY UNDERGROUND SERVICE, UNDERGROUND TELEPHONE SERVICE, AND BRANCH AND FEEDER CIRCUITS UNDER SLAB OR EXTERIOR TO THE BUILDING. EXPOSED EXTERIOR CONDUIT SHALL BE SCHEDULE 80 PVC. ALL UNDERGROUND RACEWAYS SHALL BE IDENTIFIED WITH UNDERGROUND LINE MARKING TAPE 6-8 in BELOW GRADE DIRECTLY ABOVE THE RACEWAY. PROVIDE PULL WIRE IN EMPTY CONDUITS. UPSIZE CONDUIT FROM MINIMUM SIZE AS NECESSARY FOR LONGER PULLS, UNDERGROUND RACEWAYS THAT STUB INTO THE BOTTOM OF SWITCHBOARDS, OUTDOOR TRANSFORMERS, GENERATORS, ETC., SHALL RISE AT LEAST 2 in ABOVE THE FINISHED SLAB TO PREVENT WATER FROM DRAINING INTO THE RACEWAYS, RACEWAYS THAT PENETRATE EXTERIOR WALLS OR INTERIOR PARTITIONS SEPARATING SPACES THAT WILL BE AT SIGNIFICANTLY DIFFERENT TEMPERATURES SHALL BE SEALED IN ACCORDANCE WITH 300.5(G), 300.7(A), AND 300.50(E) OF THE NEC. ROUTE CONDUIT IN AND UNDER SLAB FROM POINT-TO-POINT. ROUTE EXPOSED CONDUIT AND CONDUIT INSTALLED ABOVE ACCESSIBLE CEILINGS PARALLEL AND PERPENDICULAR TO WALLS. COMPLETELY AND

THOROUGHLY SWAB ALL RACEWAYS BEFORE INSTALLING WIRE. PULL ALL CONDUCTORS INTO EACH RACEWAY AT ONE TIME. USE A SUITABLE WIRE PULLING LUBRICANT FOR BUILDING WIRE #4 AWG AND LARGER. SMALLER. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL BE GREEN IN 30. CABLES, RACEWAYS, OR BOXES, INSTALLED IN EXPOSED OR CONCEALED LOCATIONS UNDER METAL-CORRUGATED SHEET ROOF DECKING, SHALL BE Installed and supported so there is not less than 1-1/2 in MEASURED FROM THE LOWEST SURFACE OF THE ROOF DECKING TO THE TOP OF THE CABLE, RACEWAY, OR BOX. A CABLE, RACEWAY, OR BOX SHALL NOT BE INSTALLED IN CONCEALED LOCATIONS IN

METAL-CORRUGATED. SHEET DECKING-TYPE ROOF. SEE NEC 300.4(E). 1. ENT SHALL BE MANUFACTURED IN ACCORDANCE WITH AMERICAN NATIONAL STANDARDS INSTITUTE—AMERICAN NATIONAL STANDARD FOR STEEL ELECTRICAL METALLIC TUBING (EMT), ANSI C80.3 AND UL 797. RIGID METAL CONDUIT SHALL BE MANUFACTURED IN ACCORDANCE WITH ANSI-AMERICAN NATIONAL STANDARD FOR ELECTRICAL RIGID STEEL CONDUIT (ERSC), ANSI C80.1 AND UL 6. INTERMEDIATE METAL CONDUIT SHALL BE MANUFACTURED IN ACCORDANCE WITH ANSI-AMERICAN NATIONAL STANDARD FOR INTERMEDIATE METAL CONDUIT ANSI C80.6 AND

32. METAL CONDUIT SHALL BE BY ALLIED TUBING & CONDUIT, BECK MANUFACTURING, INC. OR WHEATLAND TUBE COMPANY, FLEXIBLE META CONDUIT, LIQUID-TIGHT FLEXIBLE METAL CONDUIT, AND NONMETALLIC CONDUIT SHALL BE BY AFC CABLE SYSTEMS, INC, ELECTRI-FLEX

COMPANY, OR INTERNATIONAL METAL HOSE. 33. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL OUTLET, JUNCTION, PULL BOXES, FITTINGS, AND SUPPORTS. ALL OUTLET AND JUNCTION BOXES SHALL BE GALVANIZED STEEL TYPE BY APPLETON, STEEL CITY, OR RACO. EXTERIOR BOXES SHALL BE TYPE FS. VAPORTITE BOXES SHALL BE TYPE GS. WHERE SURFACE MOUNTED BOXES ARE USED, THOSE BOXES AND THEIR FACEPLATES SHALL HAVE ROUNDED CORNERS BOXES INSTALLED IN FLOORS SHALL BE RATED FOR THE APPLICATION. MOUNT JUNCTION AND OUTLET BOXES FLUSH WITH FINISH SURFACES UNLESS OTHERWISE NOTED. WHERE MOUNTING HEIGHTS ARE GIVEN, THEY SHALL BE MEASURED FROM THE FINISHED FLOOR TO THE CENTER OF THE BOX. ALL BOXES SHALL BE SIZED PER NEC ARTICLE 314. ALL OUTLET AND JUNCTION BOXES SHALL HAVE A COVER PLATE, PROVIDED BY THE ELECTRICAL CONTRACTOR. OUTLET BOXES IN RATED WALLS SHALL BE INSTALLED IN ACCORDANCE WITH NORTH CAROLINA BUILDING CODE 712.3.2 (MAXIMUM BOX SIZE IS 16 SQUARE IN AND MAXIMUM OF SIX (6) BOXES PER 100 SQUARE FEET). INSTALL OUTLET BOXES IN RATED WALLS SUCH THAT OPENINGS OCCUR IN ONE SIDE ONLY WITHIN ANY GIVEN STUD SPACE, ALL CLEARANCES BETWEEN THE OUTLET BOX AND THE GYPSUM BOARD SHALL BE FILLED WITH JOINT COMPOUND OR OTHER APPROVED FIRE STOP MATERIAL. FLUSH MOUNTED JUNCTION BOXES IN ADJACENT ROOMS SHALL NOT BE MOUNTED BACK-TO-BACK, SURFACE MOUNTED FIXTURES SHALL BE FED THROUGH FLUSH MOUNTED 4X4

OCTAGONAL OR SQUARE BOXES. 34. ALL CONDUIT, BOXES, AND ELECTRICAL EQUIPMENT SHALL BE FIRMLY AND SECURELY FASTENED TO OR SUPPORTED FROM THE BUILDING STRUCTURAL MEMBERS OR EMBEDDED IN CONCRETE OR MASONRY. ELECTRICAL SUPPORTS SHALL NOT BE ATTACHED TO DUCTWORK, PIPING, OR THEIR SUPPORTS. HANGERS SHALL BE CATALOG ITEMS COMPATIBLE WITH AND SUITABLE FOR THE INTENDED USE, FOR METAL ROOF DECK INSTALLATIONS, 1 in EMT CONDUIT MAXIMUM AND 4 in JUNCTION BOXES MAXIMUM MAY BE SUPPORTED BY DECKING. THE SUSPENDED CEILING SYSTEM SHALL NOT BE USED FOR THE SUPPORT OF ELECTRICAL RACEWAY SYSTEMS OR SUPPORT OF COMMUNICATIONS OR DATA SYSTEMS WIRING. CONTRACTOR SHALL COMPLY WITH 1613 OF THE NORTH

CAROLINA GENERAL CONSTRUCTION BUILDING CODE. 35. WHERE CONDUCTORS ARE RUN IN PARALLEL, THE EC SHALL COMPLY WITH NEC 310.4.

SERVICE WITH PULL WIRES, ELECTRICAL CONTRACTOR SHALL COORDINATE WITH TELEPHONE UTILITY REGARDING ADDITIONAL FACILITIES REQUIRED

FOR THE SERVICE INSTALLATION. 37. INSTALL ONE (1) 3/4 in FIRE RETARDANT TREATED PLYWOOD BACKBOARD WHERE INDICATED ON THE DRAWINGS FOR THE USE BY THE TELEPHONE SYSTEM. PROVIDE A 120 VOLT RECEPTACLE ADJACENT TO THE TELEPHONE BOARD. GROUND ALL TELEPHONE AND COMMUNICATIONS

CIRCUITS PER NEC 800. 38. ALL TELEPHONE AND COMMUNICATIONS OUTLETS AND RACEWAYS ARE ROUGH-INS ONLY, EACH TELEPHONE AND COMMUNICATIONS OUTLET SHALL BE A 4 in SQUARE BY 2-1/8 in DEEP BOX WITH 3/4 in KNOCK-OUTS AND A 3/4 in CONDUIT STUBBED FROM THE OUTLET BOX TO ABOVE THE CEILING. PROVIDE A NON-METALLIC INSULATING BUSHING ON ALL CONDUITS STUBBED ABOVE THE CEILING, PROVIDE A BLANK

COVER PLATE ON ALL OUTLET BOXES. 39. ALL MATERIALS AND EQUIPMENT SHALL COMPLY WITH THE UNDERWRITERS' LABORATORIES, INC. STANDARDS OR HAVE UL APPROVAL, OR BEAR UL RE-EXAMINATION LISTING WHERE SUCH APPROVAL HAS BEEN

ESTABLISHED FOR THE TYPE OF DEVICE IN QUESTION. 40. CONDUCTORS, FUSES, CIRCUIT BREAKERS, AND DISCONNECT SWITCHES SHOWN ON THESE PLANS HAVE BEEN SIZED FOR THE SPECIFIED EQUIPMENT. BEFORE ORDERING ELECTRICAL EQUIPMENT, THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OTHER CONTRACTORS ON THE SITE AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES SHOULD CONDUCTOR, CIRCUIT BREAKER, OR FUSE SIZES REQUIRE CHANGE.

ELECTRICAL CONTRACTOR SHALL INSTALL DISCONNECT SWITCHES IN SIGHT OF ALL HARDWIRED EQUIPMENT AND APPLIANCES OR PROVIDE BREAKERS CAPABLE OF BEING LOCKED IN THE OPEN POSITION PER NEC 422.31. FOR MOTOR DRIVEN APPLIANCES, PROVIDE A DISCONNECTING MEANS PER NEC 422.31 AND 430 PART IX. WHERE AN INDIVIDUAL DISCONNECT SWITCH, CIRCUIT BREAKER, STARTER, ETC, IS SHOWN ON THE PLANS ADJACENT TO ITS LOAD AND NOT LOCATED ON A WALL, PROVIDE NECESSARY MATERIALS AND LABOR TO SUPPORT THE DEVICE. 42. ELECTRICAL CONTRACTOR SHALL FIELD IDENTIFY ALL SWITCH BOARD. PANEL BOARDS, CONTROL PANELS, METER SOCKETS, ETC., TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRICAL ARC FLASH HAZARDS PER 110.16 OF NEC.

. ELECTRICAL CONTRACTOR SHALL PROVIDE NAMEPLATES FOR IDENTIFICATION OF ALL EQUIPMENT, SWITCHES, PANELS, ETC. THE NAMEPLATES SHALL BE LAMINATED PHENOLIC PLASTIC, BLACK FRONT, AND BACK WITH WHITE CORE, WHITE ENGRAVED LETTERS (1/4 in MINIMUM) ETCHED INTO THE WHITE CORE, ELECTRICAL CONTRACTOR SHALL PROVIDE A TYPE WRITTEN DIRECTORY CARD THAT ACCURATELY IDENTIFIES CIRCUITS INSIDE EACH PANEL. HANDWRITTEN LABELS ARE NOT

44. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE GENERAL DURING THE CONSTRUCTION PHASE OF THE PROJECT: LIGHT FIXTURES, INCLUDING PROPER DISPOSAL OF BALLASTS, FLUORESCENT LIGHT BULBS, AND TRANSFORMERS, WIRING AND ELECTRICAL EQUIPMENT, AND INSULATION. WASTE MATERIALS CONTAINING LEAD, ASBESTOS, PCBs (FLUORESCENT LAMP BALLASTS), OR OTHER HARMFUL SUBSTANCES SHALL BE HANDLED AND DISPOSED OF IN ACCORDANCE WITH FEDERAL AND STATE LAWS AND REQUIREMENTS CONCERNING HAZARDOUS WASTE. 45. ALL WORK SHALL CONFORM TO 2017 NATIONAL ELECTRIC CODE, 2018 STATE BUILDING CODE, AND ALL APPLICABLE LOCAL CODES.

A-B-9 A-B-15 A-B-7 A-B-7 A-B-13 A-B-9 A-B-11 A-8-5 F-B-35**⊞ 6** C-B+3 A-B-15 A-B-7 D-B-19 A-B-13 A-8-9 A-B-7 A-B-7 A-B-13 SALES AREA RECEIVING D-B-19 (TA-B-9) (CT) A-B-7 A-B-7 ~OFFICE A-B-15 A-B-9 TAREA AT 11'-0" AFF LIGHTS IN RECEIVING TAREA AT 10'-12' ATT _A_B_7_ **↓** _iA-B-9 A-B-11 A-B-11 (| F-B-35 - MOTION SENSOR (TYP). A-B-15 1" SCHEDULE 40 PVC A1-B-35 -UNDER GRADE TO SITE F-B-35 F-B-35 4 F-B-19 ② Q | LIGHTING PLAN. B-29 G-B-35 - (1) 1" SCHEDULE 40 PVC UNDER GRADE TO Pylon Sign. See Site LIGHTING PLAN. B-25 ⟨ → HEX PLAN NOTES EMERGENCY/EXIT SIGNS AND LIGHTS: INSTALL EMERGENCY LIGHTS AND EXIT SIGNS (CENTERED AT 10'-6" A.F.F. TO BE ABOVE FIXTURES AND MERCHANDISE) THROUGHOUT THE BUILDING. COORDINATE BUILDING SIGN SIZE WITH DOLLAR GENERAL SIGN DEPARTMENT BY EMAILING TO SIGNAGE@DOLLARGENERAL.COM. LOCATE JBOX AS NOTED ON ARCHITECTURAL PLANS. EMERGENCY/EXIT SIGNS AND LIGHTS: INSTALL EMERGENCY LIGHTS AND EXIT SIGNS (CENTERED AT 8'-0" A.F.F. TO BE ABOVE FIXTURES AND MERCHANDISE) IN RECEIVING AREA LIGHTING PLAN-SCALE I/8"=I' | |

***			***************************************			LIGHT	FIXTURE S	CHEDULE				
LAA DIV	DECORPTION		LAMPS - SY	'LVANIA		VOLTAGE	INPUT	MUNITIME	MOUNTING QTY.	REMARKS	MFG	MODEL
MARK	DESCRIPTION	TYPE	WATTAGE	QTY.	CCT	T VULIAUE	WATTAGE	MUUNIINO	WII.	KENHKAS	nru	PAUDEL
A	4' LED STRIP (INC (2) - 10 FEET CABLES)	LED	33	1	5000K	120	33	SUSPENDED	70		LEDS	ST5000
A-NL	4' BBU LED STRIP (INC (2) - 10 FEET CABLES)	LED	33	1	5000K	120	33	SURFACE	3		ETI	54583361
В	2' LED STRIP	LED	20	1	5000K	120	20	SURFACE	4		LEDS	ST2000
С	EMERGENCY LIGHT/EXIT COMBO 2 HEADS	LED	2	1	-	120	2	SUSPENDED	3	1	LEDS	EM2505
D	EMERGENCY LIGHT 2 HEADS	LED	2	1	-	120	2	SUSPENDED	10	1	LEDS	EL2500
E	EMERGENCY EGRESS LIGHT 2 HEADS	LED	2	i	-	120	2	SUSPENDED	. 3	1,2	LEDS	EL2501
G	WALL PACK	LED	42	1	5000K	120	42	VALL	8	1-4	LEDS	WP4250
Н	HILUMZ FLOOD	LED	150	1	5000K	120	150	VALL	4	1-4	LEDS	AL1210

FIXTURES LABELED FOR EMERGENCY USE SHALL HAVE BATTERY FOR 90 MINUTE ILLUMINATION OF TWO (2) LAMPS

WET LOCATION LISTED

PHOTOCELL CONTROLLED 4. FULL CUT OFF

	REQUIRED NATIONAL A	CCOUNT VENDORS	
HARRIS LIGHTING	SHENNEL JOHNSON sjohnson@harrislights.com	904-284-1220 EXT. 262	ELECTRICAL LIGHTING SUPPLIES
CED-CONSULIDATED ELECTRICAL DISTRIBUTORS	ROBERT DECKER robertd@cedbgky.com	270-781-2229	ELECTRICAL SWITCH GEAR

FNFRGY CONSERVATION CODE. WE ARE CHOOSING C406.3 - REDUCED LIGHTING POWER DENSITY.

2400 W SPECIFIED <= 10319 W (11466 W ALLOWED X 90%)

LAMP TYPE REQUIRE	D IN FIXTURE:		SEE LIGHTING LEGEN				
NUMBER OF LAMPS F	PER FIXTURE:		SEE LIGHTING LEGENI				
BALLAST TYPE USEI	IN FIXTURE:		SEE LIGHTING LEGENI				
NUMBER OF BALLAST	S IN FIXTURE:	SEE LIGHTING LEGEND					
TOTAL WATTAGE PER	R FIXTURE:	SEE LIGHTING LEGEND					
TOTAL INTERIOR WA	ATTAGE SPECIFIED VS	WATTS SPECIFIED	WATTS ALLOWED				
ALLOVED:		2400 11466					
ALL EXTERIOR LUN	ILNAIRES > 100N MUST H	HAVE A MINIMUM EFFICACY OF 60 LUMENS/WATT					
DCCUPANCY	AREA (FT³)	ALLOWANCE (W/FT²) MAX WATTAGE ALLOWED					
RETAIL	9100	1, 26	11466				
TOTAL	9100		11466				
TOTAL 9100 EQUIPMENT SCHEDULES WITH MOTORS (NOT MOTOR HORSEPOWER: N/A WUMBER OF PHASES: BUILDING IS 208Y/12 MINIMUM EFFICIENCY: N/A MOTOR TYPE: N/A WUMBER OF POLES: N/A			STEMS)				
	NT: TO THE BEST OF MY S WITH THE NORTH CAROL						

ELECTRICAL DESIGNER'S STATEMENT <u>ELECTRICAL SYSTEM AND EQUIPMENT METHOD OF COMPLIANCE</u>

GENERAL ELECTRICAL NOTES | 3

ELECTRICAL DEVICE LEGEND DESCRIPTION SYMBOL WALL MOUNTED DICCUPANCY SENSOR LEVITON DDS10-IDW LINE VOLTAGE CONTROL SWITCH JUNCTION BOX VENT FAN, 120V, CFM AS NOTED NC TO PROVIDE AND VENT, EC TO VIRE. **⊠**EF−1 EXHAUST FAN

SHEET NUMBER

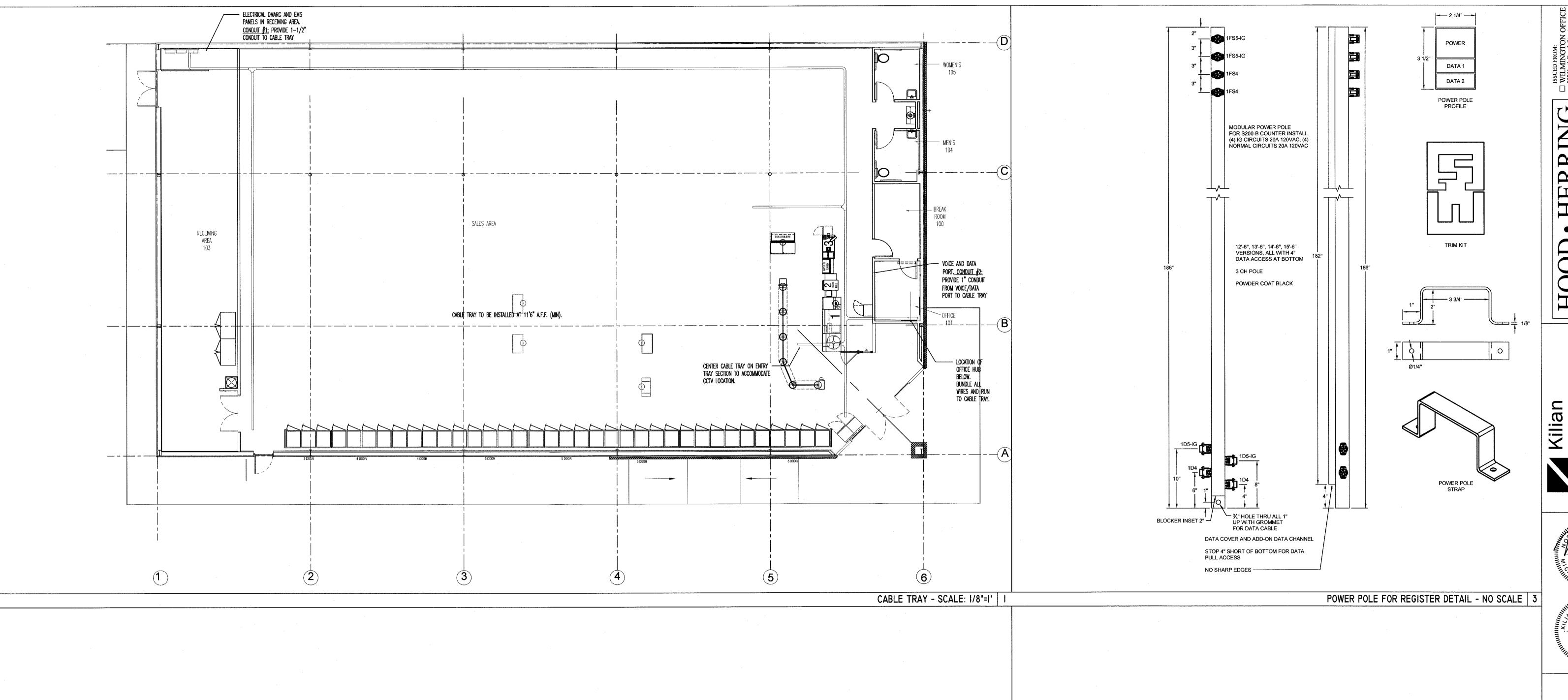
JOB NUMBER 21059 DRAWN BY REW

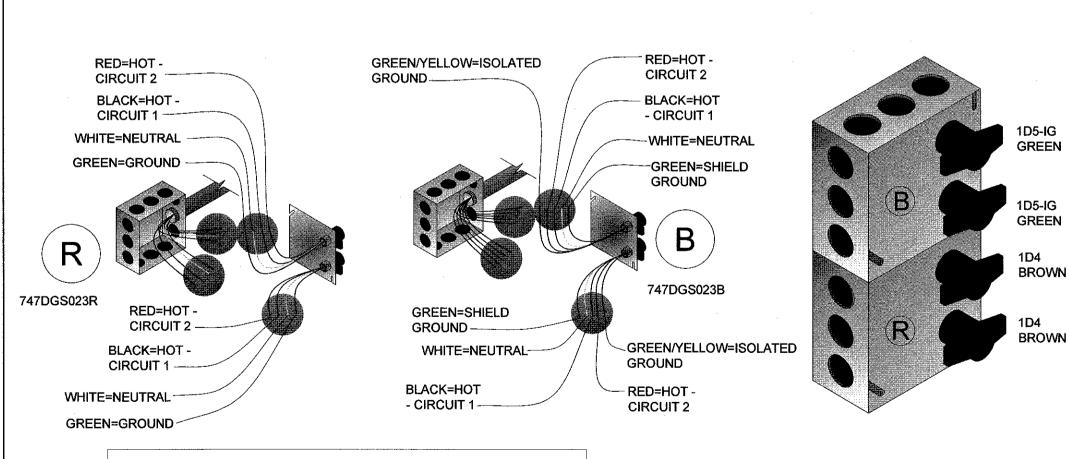
02/05/2021 REVISIONS

02/17/21 REVISED LIGHTING

Z

LIGHTING FIXTURE SCHEDULE AND LEGEND | 2





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	AND CONTRACTOR OF THE PROPERTY.
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

SHEET NUMBER

ENERAL

Q4

DOLLAR STORE # 2252

JOB NUMBER
21059
DRAWN BY

REW

02/05/2021 REVISIONS

PHONE WIRING FOR REGISTER DETAIL - NO SCALE | 2

PHONE LINE #1 LABEL AS "PHONE" RJ-11 JACK: 1 - REGISTER

EXTRA WIRES TO BE WRAPPED AND TAPED AROUND CABLE

USE SEPARATE RJ-11 JACKS FOR EACH

ALL WIRES ARE CAT 5, 4-PAIR

CONNECTION

FREEZER/COOLER POWER POLE - NO SCALE 4

				Panel A	4			
CKT	LOAD	BKR	LOAD kva	PH	LOAD kVa	BKR	LOAD	CKT
1			14. 87	A	0. 10	20/1	AUTOMATIC DOOR	2
3	RTU-1	125/3	14. 87	В	0. 36	20/1	TELEPHONE BOARD/BUZZER	<u>(4)</u>
5			14. 87	С	0. 18	20/1	energy management	6
7			14. 87	A	0.18	20/1	RECEPT FOR IRRIGATION PANEL	8
9	RTU-2	125/3	14. 87	В	0, 72	20/1	OD HVAC RECEPT (ON ROOF)	10
11			14. 87	C	0, 18	20/1	OD DRINK VEND	12
13			2, 88	Α	1, 00			14
15	SEWER PUMP	35/2	2. 88	В	1. 00	20/2	FREEZER #1	16
17	SPARE	20/1	0, 00	С	0. 50	20/1	INTERFACE EQUIPMENT	18
(19)	WATER HEATER	20/1	1.70	A	0. 50	20/1	VSAT SATA HUB EQUIPMENT	20
<u>a</u>	VATER HEATER	20/1	1. 70	В	0. 50	20/1	CCTV EQUIP	22
23	DRINKING FOUNTAIN	20/1	0. 18	С	0. 18	20/1	SECURITY RECEPT.	(4)
(3)	OUTDOOR ICE RECEPT.	20/1	0. 18	A	0.36	20/1	OFFICE RECEPT.	8
(1)	OFFI ED IN	45.00	1. 30	В	0. 54	20/1	Break room recept.	28
<u>@</u>	COOLER #1	15/2	1, 30	С	1. 70	00 (0	DOUBLINE OFFICE	30
(31)	0001 50 110	45.00	1. 30	A	1. 70	20/2	PRODUCE COOLER	32
33	COOLER #2	15/2	1, 30	В	1. 20	20/1	ICE CREAM FREEZER	(34)
3	OFFI ED HO	45.00	1, 30	С	1. 60	20/1	GATORADE	36)
3	COOLER #3	15/2	1. 30	A	1.00	20/1	IRRIGATION PUMP	38
39	PRODUCE COOLER	20/1	0. 18	В	0. 54	20/1	OFFICE RECEPT.	40
41	HOT BOX	20/1	1.00	С	1. 20	20/1	IMPULSE COOLER	42
		•	kVA	PH	AMPS		· · · · · · · · · · · · · · · · · · ·	
			41. 9	A	350			
			42.0	В	350		The second secon	
			39, 1	С	326			
	, <u>, , , , , , , , , , , , , , , , , , </u>	VOLTACI	T /DUACE	Ι	2008/1	20V 2D /	n/	
			E/PHASE RATING		400A	20V, 3P, 4	11	
		EUTRAL BUS			400A			
		JIT BREAKER			400A		· · · · · · · · · · · · · · · · · · ·	
		AIC	RATING		22K			
	SERVI	ice entranci	E RATED		YES		· · · · · · · · · · · · · · · · · · ·	
		EN	CLOSURE		NEMA 1			
		М	DUNTING		SURFAC	E		
	IS	SOLATED GRO	IIND RIIS	1	N/A			

NOTE: CIRCLED CIRCUITS	REPRESENT	Breaker	LOCKS	
------------------------	-----------	---------	-------	--

				PANEL E	}	-		
CKT	LGAD	BKR	LOAD	PH	LOAD	BKR	LGAD	СКТ
LKI	LUAU	DAK	kVA	f fi	kVa	7AfQ	LUMU	CA I
1		20/1	0.30	A	1. 20	20/1	POWER TERMINAL BRN	@
3	RECETVING LTS	20/1	0. 24	В	1. 20	20/1	POWER TERMINAL BRN	4
5	SALES LIGHTS	20/1	0. 50	С	1. 20	20/1	POVER TERMINAL GRN	6
7	SALES LIGHTS	20/1	0. 78	A	1. 20	20/1	POWER TERMINAL GRN	8
9	SALES (LIGHTS)	20/1	0, 56	В	1. 20	20/1	POWER TERMINAL GRN	(10)
11	SALES LIGHTS	20/1	0. 45	C	1. 20	20/1	POVER TERMINAL BRN	(12
13	SALES LIGHTS	20/1	0, 90	A	0. 70	20/1	COOLER #3	14
15	SALES LIGHTS	20/1	0, 90	В	1. 00	20/2	FREEZER #2	(16 (18
17	Building Sign	20/1	1. 20	С	1. 00	בט/ב	FREEZER #C	(18
(6)	EMERGENCY/EXIT LIGHTS	20/1	0. 40	A	1, 60	20/1	DRINK COOLERS	(20
(B)	BREAK RM/DFFICE/RR LTS & RR EF'S	20/1	0.50	В	3, 90	40/2	Freezer #3	@
23	BUILDING SIGN	20/1	1. 20	С	3, 90	1 0/C	INCLILIN #3	(24
25		20/1	0, 90	A	3. 20	40/2	FREEZER #4	(%
27	SITE LIGHTING	20/1	1. 20	В	3, 20	40/6	FREEZER #7	(28
29	SITE LIGHTING	20/1	0, 90	С	3, 20	40/2	Freezer #5	(30
31	SPARE	20/1	0, 00	A	3, 20	1 0/2	FREEZER #J	32
33	EXTERIÓR LTS	20/1	0, 56	В	1.60	20/1	SODA COOLERS	(34
35	FRONT EXTERIOR/CANOPY LTS	20/1	0, 28	. C	2, 60	25/2	FREEZER #6	(36
37	SPARE	20/1	0, 00	A	2, 60	EJ/E	FREEZER WO	<u>36</u>
39	SPARE	20/1	0, 00	B	1. 30	15/2	COOLER #4	(40 (42
41	EXTÉRITOR DUSK/DAVIN	20/1	0. 13	C	1. 30	13/1	CUULLN 11T	42
			kVA	PH	AMPS			
			17. 0	A	142			
			17. 4	В	145			
			19. 1	С	159			
		VOLTAG	E/PHASE		208Y/1	20V, 3P, 4	AV .	
-		BUS	RATING		200A			
	NEUTF	RAL BUS	RATING		200A			
	MAIN CIRCUIT I	Breaker	RATING		200A			
-		AIC	RATING		22K			
	SERVICE E	NTRANC	E RATED		YES			
		EN	CLOSURE		NEMA 1			
		M	OUNTING		SURFAC	E		
	ISDLAT	UND BUS		N/A				

NOTE: CIRCLED CIRCUITS REPRESENT BREAKER LOCKS NOTE: SHADED CIRCUITS RUN THROUGH EMS PANEL

NEC ELECTRIC DEMAND SUMMARY 208Y/120V, 3P, 4W							
CONTONENT	DEMAND		LCAD KVA				
EQUIPMENT	FACTOR	A	В	С	LUMUKYA		
LIGHTING 1	125%	11. 51	11.51	11. 51	34, 53		
RECEPTACLES < 10 kVA 5	100%	1. 80	1, 80	1. 80	5. 40		
RECEPTACLES > 10 kVA 5	50%	0. 00	0, 00	0.00	0.00		
HVAC 2	100%	29. 74	29. 74	29, 74	89. 22		
WATER HEATER	100%	1. 70	1. 70	0, 00	3, 40		
SHOW MINDOM 3	125%	1. 53	1, 53	1, 53	4, 59		
SIGN 6	125%	1. 20	0, 90	0,00	2. 10		
FREEZERS/COOLERS	100%	16. 60	15, 80	17. 90	50, 30		
DEMAND KVA	64. 08	62, 98	62, 48				
DEMAND AMPS	534	525	520				

- 1. 9209 SF X 3VA/SF X 1.25 PER NEC 220.12. THIS EXCEEDS THE CONNECTED LIGHTING LOAD.

- 6. PER NEC 220.14(F) 7. NOT USED

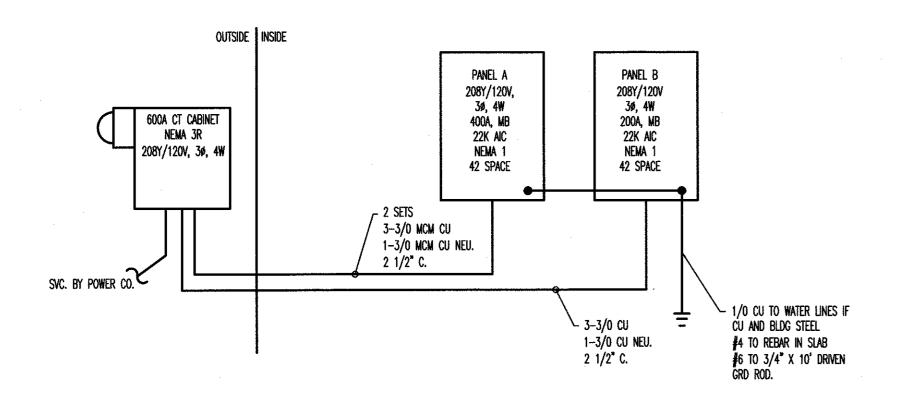
2.	all hvac equipment is based on MCA.
3.	NOT USED
4.	23 FT X 150 VA/2FT PER NEC 220.43(B)
	NOT USED
6	DED NEC 220 14(E)

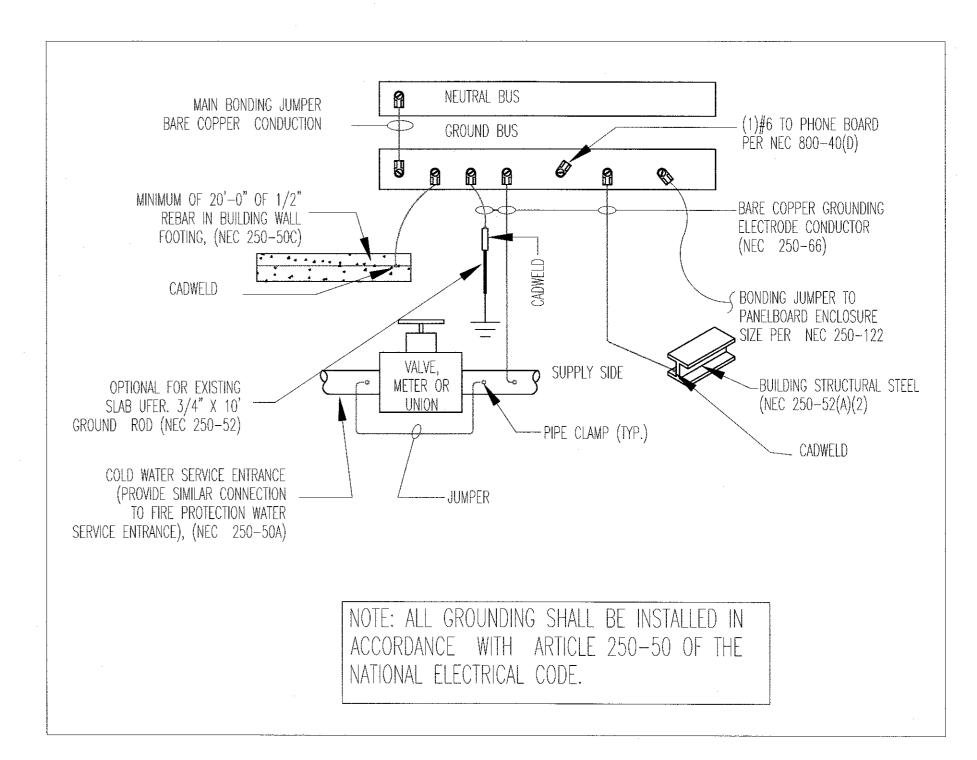
EQUIPMENT CONNECTION SCHEDULE												
SYMBOL	DESCRIPTION	FURN. BY	kVA	HP	VOLT/PH	MCA	MOCP	DISC	AWG	EGC	COND	NOTES
RTU-1,2	AIR CONDITONERS	M. C.	-	-	208/3	124. 0	125	200	#1	#6	2*	
P-11	WATER HEATERS	P. C.	1.65	-	120/1	13, 00	20	30	#12	#12	3/4"	

	BREAKER	FEEDER SCHEDULE	В		
AMPS	WIRE SIZE	GROUND SIZE	CONDUIT SIZE		
15A	#12	#12	1/2'		
A02	#12	#12	1/2"		
25A	#10	#10	3/4"		
30A	#10	#10	3/4*		
35A	#8	#10	1'		
40A	#8	#10	1'		
50A	#8	#10	1'		
60A	#6	#10	1 1/4"		
70A	#4	#8	1 1/4"		
80A	#4	#8	1 1/4"		
90A	#3	#8	1 1/2"		
100A	#3	#8	1 1/2'		
110A	#2	#6	2'		
125A	#1	#6	2'		
150A	1/0	#6	2 1/2"		
175A	2/0	#6	2 1/2*		
200A	3/0	#6	2 1/2"		
225A	4/0	#4	2 1/2"		
250A	250 MCM	#4	3'		
300A	350 MCM	#4	3 1/2*		
350A	500 MCM	#3	4'		
400A	2 SETS - 3/0	#3	2 1/2*		

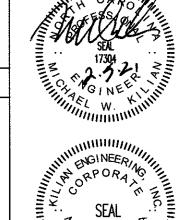
1 CONDUCTOR PER POLE PLUS NEUTRAL PER SET. E.C. TO VERIFY NECESSITY OF NEUTRAL FOR EACH CIRCUIT. NEUTRAL MAY BE DELETED IF NOT REQUIRED FOR INDMIDUAL PIECES.

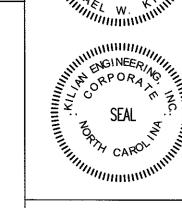
PANEL SCHEDULES - NO SCALE | |





Kilian

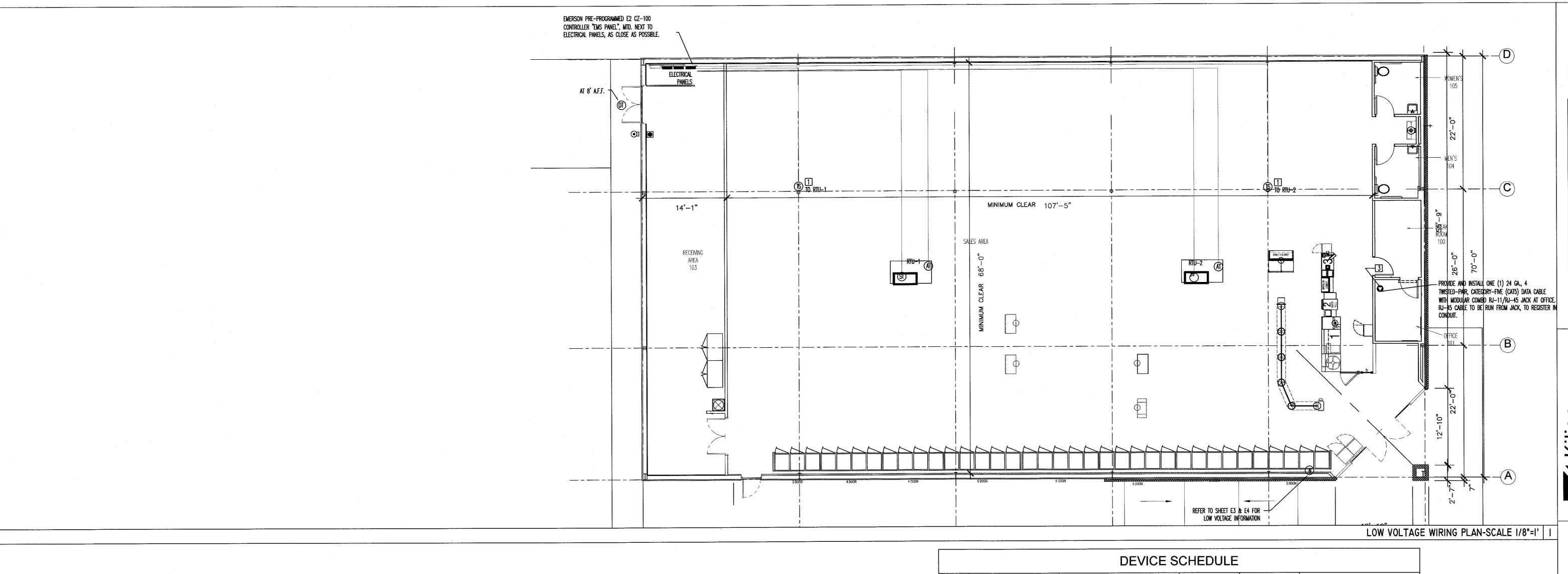


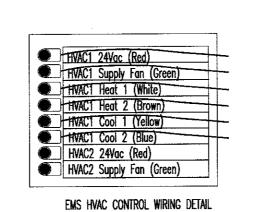


DOLLAR GENERAL
STORE # 22524
RAY ROAD
SPRING LAKE, NC 28390

JOB NUMBER
21059
DRAWN BY REW
DATE
02/05/2021
REVISIONS

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





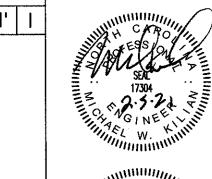
	The state of the s				 			
DEVICE SCHEDULE								
SYMB	DESCRIPTION	CABLE TYPE	SUPPLIER	INSTALLER	NOTES			
ОТ	OUTDOOR AIR TEMP (501-1122) MOUNTED 8'-0" A.F.F.	BELDEN 8761 OR EQUIVALENT (22AWG, 2C, STRANDED, SHIELDED)	EMS SUPPLIER	GENERAL CONTRACTOR	(1) PER RECEIVING ENTRY			
ST	SUPPLY TEMP (201-0041) IN SUPPLY DUCT	BELDEN 8761 OR EQUIVALENT (22AWG, 2C, STRANDED, SHIELDED)	EMS SUPPLIER	GENERAL CONTRACTOR	(1) PER HVAC UNIT			
TS	TOUCHSCREEN THERMOSTAT (810-1600) 8'-0" A.F.F.	8C T-STAT CABLE	EMS SUPPLIER	GENERAL CONTRACTOR	(1) PER HVAC UNIT ZONE			
•	RJ-11/RJ-45 DATA JACK PHONE COMBO	CAT-5 DATA CABLE (24AWG, 4 TWISTED PAIR)	GENERAL CONTRACTOR	GENERAL CONTRACTOR	(1) AT OFFICE COMPUTER CART			
\$ m	MOTION SENSOR SWITCH	LEVITON EZ-FIND ODS-10-IDW	GENERAL CONTRACTOR	GENERAL CONTRACTOR	(1) PER RESTROOM (1) PER BREAK ROOM (1) PER OFFICE			

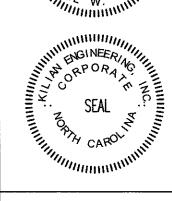
GENERAL NOTES

- A. REFER TO E1 FOR GENERAL CONTRACTOR
 RESPONSIBILITIES. E.C. MAY USE CABLE TRAY FOR LOW
 VOLTAGE CABLES, SEE 2/E2.
- B. RUN CONDUIT FROM SENSORS TO BOTTOM OF STRUCTURE.
- REFRIGERATION UNITS TO BE CONNECTED TO EMS PANEL BY DOLLAR GENERAL REFRIGERATION CONTRACTOR.

SENSOR PLAN KEYED NOTES

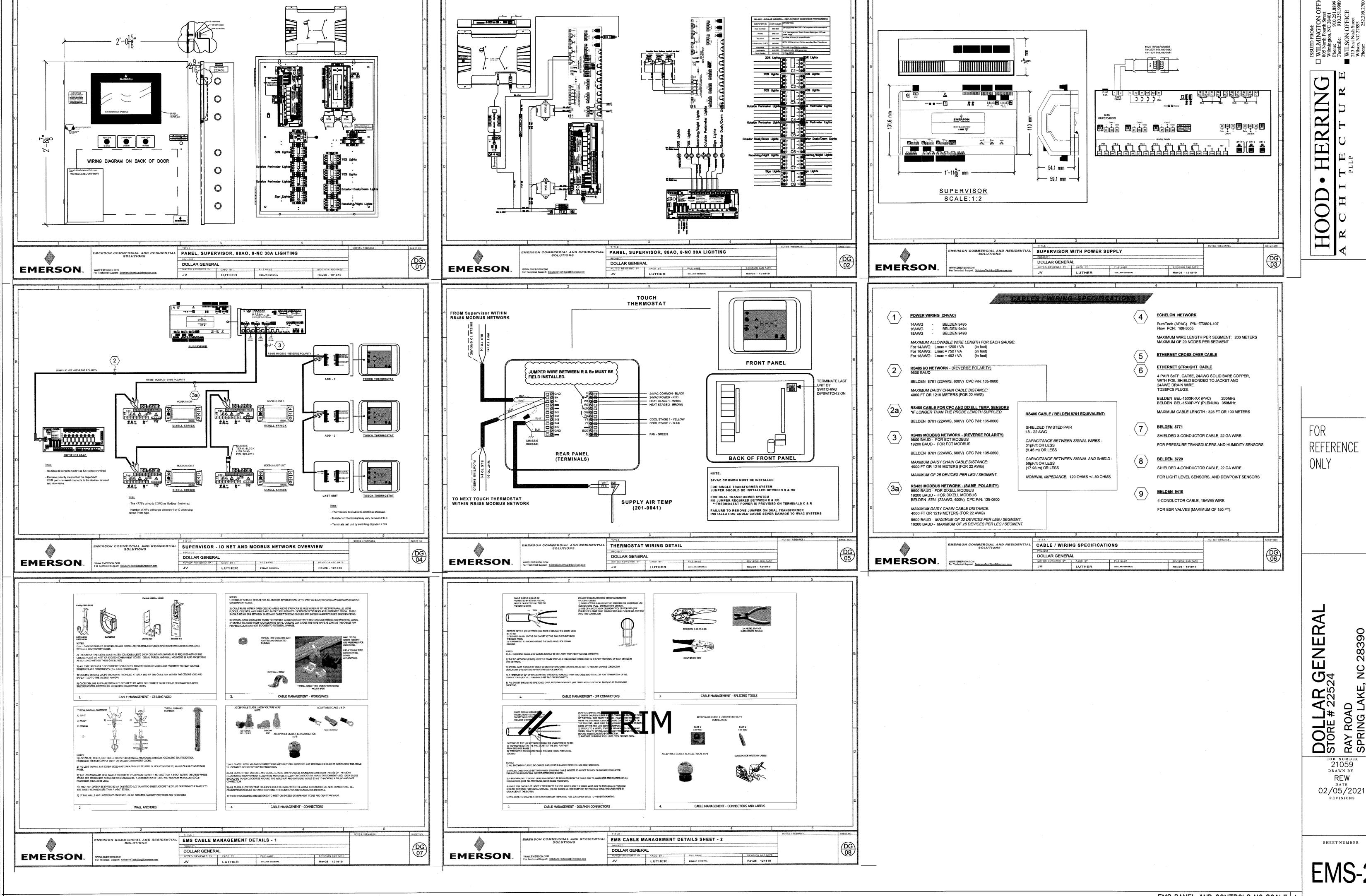
- ALWAYS INSTALL THERMOSTATS 8'-0" A.F.F. THE EXACT MOUNTING LOCATION OF THE THERMOSTAT "TS" MAY VARY DEPENDING ON THE STORE LAYOUT AND DUCT CONFIGURATION. REFER TO SITE SPECIFIC MECHANICAL DRAWINGS FOR HVAC ZONED THERMOSTAT MOUNTING LOCATIONS. IF THERMOSTATS ARE MOUNTED ON EXTERIOR WALLS DUE TO DUCT CONFIGURATION, THEY ARE THEN TO BE INSULATED TO PREVENT AIR INFILTRATION. IF ADDITIONAL HVAC UNITS ARE USED, ADD ADDITIONAL THERMOSTATS "TS".
- 2. ADD ADDITIONAL HVAC UNIT WHEN REQUIRED.
- PHONE LINE #1 TWO RJ-11 PORTS. ONE (1) LOCATED IN OFFICE W/RJ-45 DATA JACK COMBO AND ONE (1) AT REGISTER. 24 GA. CAT 5, 4-PAIR TWISTED WIRE ONLY. USE BLUE AND BLUE & WHITE WIRES. HOOK TO LINE #1 TERMINAL IN RJ-11 JACK EACH PHONE JACK TO HAVE DEDICATED, SEPARATE HOME RUN TO DMARC. LABEL AS "PHONE" AT THE DESTINATION AND AT DMARC. PHONE COMPANY PROVIDES FINAL HOOK UP TO DMARC ONLY. PHONE LINE #2 RJ-11 PHONE JACK SUPPLIED AND WIRED BY CONTRACTOR.





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EMS PANEL AND CONTROLS-NO SCALE | 1