HVAC Replacement and 3rd Floor Upfit for New Hanover County

320 Chestnut Street Wilmington, NC 28401





PROJECT LOCATION

INDEX OF DRAWINGS

G1.0 G1.1 G2.0	INDEX, LEGEND & ABBREVIATIONS LIFE SAFETY & APPENDIX B FIRE RATING PLANS
HVAC F M-001 MD101 MD102 MD103 MD104 MD105 MD106 MD107 MH101 MH102 MH103 MH104 MH105 MH106 MH107 MH106 MH107 M-601 M-602	REPLACEMENT: MECHANICAL NOTES, LEGEND, ABBREVIATIONS, AND CODE SUMMARIES MECHANICAL FIRST FLOOR PLAN - DEMOLITION MECHANICAL SECOND FLOOR PLAN - DEMOLITION MECHANICAL SECOND FLOOR PLAN - DEMOLITION MECHANICAL SECOND FLOOR PLAN - DEMOLITION MECHANICAL FIFTH FLOOR PLAN - DEMOLITION MECHANICAL FIFTH FLOOR PLAN - DEMOLITION MECHANICAL FIRST FLOOR PLAN - DEMOLITION MECHANICAL FIRST FLOOR PLAN - HVAC MECHANICAL FIRST FLOOR PLAN - HVAC MECHANICAL SECOND FLOOR PLAN - HVAC MECHANICAL SCHEDULES MECHANICAL SCHEDULE AND SYSTEM DIAGRAMS
E-001 E-002 NOTES E-003 E-501 E-601 ED101 ED102 ED103 ED104 EH101 EH102 EH103 EH104	ELECTRICAL LEGEND AND ABBREVIATIONS ELECTRICAL GENERAL NOTES AND SELECTIVE GENERAL DEMOLITION ELECTRICAL SPECIFICATIONS ELECTRICAL DETAILS ELECTRICAL PANEL SCHEDULES AND LOAD SUMMARY ELECTRICAL FIRST FLOOR PLAN - DEMOLITION ELECTRICAL SECOND FLOOR PLAN - DEMOLITION ELECTRICAL SECOND FLOOR PLAN - DEMOLITION ELECTRICAL FIFTH FLOOR PLAN - DEMOLITION ELECTRICAL ROOF PLAN - DEMOLITION ELECTRICAL FIRST FLOOR PLAN - HVAC POWER ELECTRICAL SECOND FLOOR PLAN - HVAC POWER ELECTRICAL SECOND FLOOR PLAN - HVAC POWER ELECTRICAL FIFTH FLOOR PLAN - HVAC POWER ELECTRICAL ROOF PLAN - HVAC POWER
3rd fl Ad1.0	OOR UPFIT: 3RD FLOOR DEMOLITION PLAN
A1.0 A1.1 A3.0 A5.0 A6.0	3RD FLOOR PLAN 3RD FLOOR REFLECTED CEILING PLAN WALL SECTIONS DETAILS SCHEDULES, DOOR & WINDOW ELEVATIONS
VI0.1 VID2.0 VI1.0 VIP1.0 VIP2.0 VI5.1 VI6.1 VI6.2	MECHANICAL ABBREVIATIONS, NOTES, SUMMARY & LEGEND MECHANICAL DEMO THIRD FLOOR PLAN MECHANICAL DEMO ROOF PLAN MECHANICAL DUCTWORK THIRD FLOOR NEW WORK MECHANICAL PIPING THIRD FLOOR PLAN MECHANICAL PIPING ROOF PLAN MECHANICAL DETAILS & RISER MECHANICAL SCHEDULES MECHANICAL SYSTEM DIAGRAM
E0.1 E0.2 E0.3 E5.1 E0.1 ED1.0 ED2.0 EH1.1 EH2.1 EP1.1 EL1.1 F0.1 F1.1	ELECTRICAL LEGEND AND ABBREVIATIONS ELECTRICAL GENERAL NOTES ELECTRICAL SPECIFICATIONS ELECTRICAL DETAILS AND ENERGY CODE SUMMARY ELECTRICAL SCHEDULES AND LOAD SUMMARIES ELECTRICAL SCHEDULES AND LOAD SUMMARIES ELECTRICAL THIRD FLOOR PLAN-DEMOLITION ELECTRICAL ROOF PLAN-DEMOLITION ELECTRICAL THIRD FLOOR PLAN- HVAC POWER ELECTRICAL ROOF PLAN- HVAC POWER ELECTRICAL ROOF PLAN- HVAC POWER ELECTRICAL POWER THIRD FLOOR PLAN ELECTRICAL LIGHTING THIRD FLOOR PLAN FIRE ALARM LEGEND, NOTES AND DETAILS FIRE ALARM THIRD FLOOR PLAN
P1.0	FIRE SUPPRESSION THIRD FLOOR PLAN



2018 APPENDIX B **BUILDING CODE SUMMARY** FOR ALL COMMERCIAL PROJECTS (EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)

(Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: HVAC Replacement & 3 rd Floor Upfit						
Address: <u>320 Chestnut Street</u>		Zip Code	28401			
Owner/Authorized Agent: Sawyer	Sherwood & Assoc., P.C. Phone # 9	<u>10 762-0892</u> E-Mail	john@s2a3.com			
Owned By:	New Hanover County					
Code Enforcement Jurisdiction:	City of Wilmington					

СОМТАСТ	John Sawyer				
DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural	Sawyer Sherwood & Associate	John R. Sawyer	3428	<u>(910)762-0892</u>	john@s2a3.com
Civil	N/A			()	
Electrical	CBHF Engineers	W, Allen Cribb	23311	(910)791-4000	acribb@cbhfengineers.cor
Fire Alarm	CBHF Engineers	W. Allen Cribb	23311	<u>(910)791-4000</u>	acribb@cbhfengineers.cor
Plumbing	CBHF Engineers	<u>Troy O. Grady</u>	43801	<u>(910)791-4000</u>	tgrady@cbhfengineers.co
Mechanical	CBHF Engineers	Troy O. Grady	43801	<u>(910)791-4000</u>	tgrady@cbhfengineers.co
Sprinkler-Standp	pipe <u>CBHF Engineers</u>	Troy O. Grady	43801	(<u>910)791-4000</u>	tgrady@cbhfengineers.co
Structural	N/A			()	
Retaining Walls	>5' H1gh <u>N/A</u>				
Other ("Others" should	include firms and individu	ale cuch as truss r	recast pre-engin	()	(mers etc.)
2018 NC EXIS Histori CONS	STING BUILDING CO ic Property: Yes TRUCTED:(date) 195(DE: Prescrip Change (of Use: No	NCV(S) (Ch. 3).	Rusiness
2018 NC EXIS Histori CONS' RENO RISK CATEG	STING BUILDING CO ic Property: Yes TRUCTED:(date) <u>195(</u> VATED: (date) <u>2015</u> SORY (table 1604.5)	DE: Prescrip Change () ORIGIN 5 CURRE 5 Current: Proposed:	ouve of Use: No IAL OCCUPAN NT OCCUPAN	NCY(S) (Ch. 3): [CY(S) (Ch. 3):] III III	Business Business
2018 NC EXIS Histori CONS' RENO RISK CATEG BASIC BUILI Construction T Sprinklers:	STING BUILDING CO ic Property: Yes TRUCTED:(date) <u>195(</u> VATED: (date) <u>2015</u> SORY (table 1604.5) DING DATA Type: II-B Yes, NFPA 13	DE: Prescrip Change () ORIGIN 5 CURRE 5 CURRE 7 Current: Proposed:	of Use: No IAL OCCUPAN NT OCCUPAN	NCY(S) (Ch. 3): ICY(S) (Ch. 3): I III III	<u>Business</u> Business
2018 NC EXIS Histori CONS' RENO RISK CATEG BASIC BUILI Construction T Sprinklers: Standpipes:	STING BUILDING CO ic Property: Yes TRUCTED:(date) <u>195(</u> VATED: (date) <u>2015</u> SORY (table 1604.5) DING DATA Type: II-B Yes, NFPA 13 Yes, Class I, Wet	DE: Prescrip Change ()ORIGIN 5CURRE 5CURRE Current: Proposed:	of Use: No IAL OCCUPAN NT OCCUPAN	NCY(S) (Ch. 3): [CY(S) (Ch. 3):] III III	Business Business
2018 NC EXIS Histori CONS' RENO RISK CATEG BASIC BUILI Construction T Sprinklers: Standpipes: Fire District:	STING BUILDING CO ic Property: Yes TRUCTED:(date) <u>195(</u> VATED: (date) <u>2015</u> SORY (table 1604.5) DING DATA Type: II-B Yes, NFPA 13 Yes, Class I, Wet No	DE: Prescrip Change () ORIGIN 5 CURRE Current: Proposed:	of Use: No IAL OCCUPAN NT OCCUPAN	NCY(S) (Ch. 3): ICY(S) (Ch. 3): 1 III III Area: No	Business Business

Gross Building Area:						
FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	RENO/ALTER (SQ FT)	SUB-TOTAL		
7 th Floor	1,885	0	0	1,885		
6 th Floor	7,614	0	0	7,614		
5 th Floor	7,614	0	0	7,614		
4 th Floor	7,614	0	0	7,614		
3 rd Floor	7,614	0	2576	7,614		
2 nd Floor	8,336	0	0	8,336		
Mezzanine	N/A					
1 st Floor	9,403	0	0	9,403		
Basement	N/A					
TOTAL	50,080		2576	50,080		

ALLOWABLE AREA

Primary Occupancy Classification: Business

Accessory Occupancy Classification(s): N/A

Incidental Uses (Table 509): N/A

Special Uses (Chapter 4 – List Code Sections): N/A Special Provisions: (Chapter 5 – List Code Sections): N/A

Mixed Occupancy: No

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2 ⁴ AREA	(C) AREA FOR FRONTAGE INCREASE ^{1,5}	(D) ALLOWABLE AREA PER STORY OR UNLIMITED ^{2,3}
7	Business	1,885			Existing
6	Business	7,614			Existing
5	Business	7,614			Existing
4	Business	7,614			Existing
3	Business	7,614			Existing
2	Business	8,336			Existing
1	Business	9,403			Existing

¹ Frontage area increases from Section 506.3 are computed thus:

a. Perimeter which fronts a public way or open space having 20 feet minimum width = _____(F) b. Total Building Perimeter = ____(P)

c. Ratio (F/P) = _____(F/P) d. W = Minimum width of public way = _____(W) e. Percent of frontage increase $I_f = 100 [F/P - 0.25] \times W/30 = ____(\%)$

² Unlimited area applicable under conditions of Section 507.

³ Maximum Building Area = total number of stories in the building x D (maximum 3 stories) (506.2).

⁴ The maximum area of open parking garages must comply with Table 406.5.4 ⁵ Frontage increase is based on the unsprinklered area value in Table 506.2.

ALLO	WABLE	HEIGHT

EFERENCE

Building

g Building

	(TABLE 503)	SHOWN ON PLANS	CODE F
Building Height in Feet (Table 504.3)	75'	84'	Existin
Building Height in Stories (Table 504.4)	4	7	Existin

Building Height in Stories (Table 504.4)

¹ Provide code reference if the "Show on Plans" quantity is not based on Table 504.3 or 504.4. ² The maximum height of air traffic control towers must comply with Table 412.3.1

³ The maximum height of open parking garages must comply with Table 406.5.4

FIRE PROTECTION REQUIREMENTS								
BUILDING ELEMENT	FIRE	RATING		DETAIL #	DESIGN #	DESIGN # FOR	DESIGN #	
	SEPARATION	REQ'D	PROVIDED	AND	FOR	RATED	FOR RATED	
	DISTANCE (FEET)		(W/* REDUCTION)	SHEET #	RATED ASSEMBLY	PENETRATION	JOINTS	
Structural Frame	60'	0	,		RODENIDET			
including columns, girders,	00	Ũ						
trusses								
Bearing Walls								
Exterior								
North								
East								
West								
South								
Interior								
Nonbearing Walls and								
Partitions								
Exterior walls	60'	0						
Fast	60'	0						
West	60'	0						
South	0	1	1	Existing				
Interior walls and partitions		0	-	Linoing				
Flace Construction		1 or 2	1 or 2 see plan	Sheets G2 ()	Existing	Existing	Existing	
Including supporting beams		see plan	1 01 2, see plan	& G2.1	G701.	Existing	Existing	
and joists		I			N782, &			
und Joibio					N777			
Floor Ceiling Assembly		0	0					
Column Supporting Floors		0	0					
Roof Construction, including		0						
supporting beams and joists								
Roof Ceiling Assembly		0						
Column Supporting Roof		0	0					
Shaft Enclosures - Exit		2	2	Existing				
Shaft Enclosures - Other		2	2	Existing				
Corridor Separation		0	0					
Occupancy/Fire Barrier Separation		1 or 2, see plan	1 or 2, see plan	Existing	Existing	Existing	Existing	
Party/Fire Wall Separation	0	2	2	Existing				
Smoke Barrier Separation		N/A						
Smoke Partition		N/A						
Tenant/Dwelling Unit/ Sleeping Unit Separation		N/A						
Incidental Use Separation	Fire Pump Room Only	1	1	Existing				

			ACCESS	IBLE DWELI	LING UNITS					
TOTAL UNITS N/A	CESSIBLE Units Equired	Accessible Units Provided	Type A Units Required	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B Units Provided	TOTAL ACCESSIBLE U PROVIDED	NITS		
			ACC	CESSIBLE PA	RKING 06)				i	
LOT OR PARKIN AREA Existing Build	NG TOT REG	AL # OF PARKING QUIRED PR	G SPACES OVIDED RE	# OF ACCE EGULAR WITH 5' ACCESS AISLE	SSIBLE SPACES F VAN SPA 132" ACCESS AISLE	PROVIDED ACES WITH 8' ACCES AISLE	TOTAL ACCESSI S PROVID	# BLE ED		
TOTAL									•	
USE		WATERCLOSE	PLUMBING	FIXTURE RE (TABLE 2902 RINALS	QUIREMEN .1)	NTS SERV SIN	ICE DRINKING K DROW - DR	G FOUNTAINS		
SPACE EXIS NEW REQ	MA ST'G 1 V 0 Q'D 2	2 0 0 2 2 2	0 0 0 0	MALE 1 2 0 0 1 1	PEMALE U 2 0 1 1	0 1 0 0 0 1	1 0 1	ACCESSIBL 1 0 1		
pecial approv	al: (Loca)	l Jurisdiction, 1	SPE Department o	CIAL APPRO f Insurance, SC	VALS O, DPI, DHH	S, ICC, etc.,	describe below)		i	
		*	EN ** Not Appli	ERGY SUMN cable – Interio	IARY or Upfit Only	***			•	
		(PROVIDE (*** Not Appl	STR ON THE STI icable – No S	UCTURAL D RUCTURAL S Structural work	ESIGN SHEETS IF A k included in	APPLICAB project scop	LE) e ***		•	
		(PROVIDE	MEC ON THE MI *** See	ECHANICAL D ECHANICL S Mechanical D	HEETS IF A	APPLICABL	E)		•	
		(PROVIDE)	ELE ON THE EL *** Se	CTRICAL D ECTRICAL S e Electrical Dr	ESIGN SHEETS IF A awings ***	APPLICABL	E)			
		Evistics 2 has a	h ft en de eur	_			Existing	2 hr. shaft er	nclosure	
				e 						
	1	20'		<u> </u>						1733.5"165 51 NA
I 1		Conference Room Osf = 21 occupants							-Existing 2 hr. shaft enclosure	
	Commo Dead er	n path of trave								
		Bu 3rc Te Tw	siness Occup d Floor = 7614 nant Space = ⁄o doors requi	pancy 4sf @ 100 gross 5088sf @ 100 ired and must s	s sf / occupani gross sf / occ wing in directi	t = 72 occupa upant = 51 oc on of egress	nts Exit D 33" / 0 cupants ravel	oor Capacity).2" per pers doors provid	/: on = 165 occu led	pants per door
	NOTES 1) ST/ 2) SP/ 3) EXI 4) CO 5) DE/ 6) BU/ 7) SH/ 8) SEC GR 9) PE	AIR WIDTH NO ACES WITH M IT ACCESS NO MMON PATH AD END LENG ILDING AREA AFTS MORE T CTION 303.1.2 OUP B OCCU R 1006.2.1, CO	DT LESS THA IORE THAN 4 DT TO EXCE NOT TO EXCE STHS NOT TO = 7614 sf X 1 FHAN 4 STOF 2, PARAGRAF PANCY. DMMON PAT	AN 44" - EXISTI 19 PEOPLE RE ED 300' FROM CEED 100' FRO D EXCEED 50' 0% = 761sf > 1 RIES REQUIRE PH 2, CONFER H OF TRAVEL	NG. QUIRE 2 MEA ANY LOCATI M ANY LOCA IN BUSINESS 75 sf OF STC A 2HR FIRE ENCE ROOM NOT TO EXC	ANS OF EGR ON FOR BUS TION DUE T OCCUPANO DRAGE. BARRIER - E I CLASSIFIED EED 100' DU	ESS. SINESS OCCUP O SPRINKLER S Y DUE TO SPR XISTING. AS E TO SPRINKLE	ANCY DUE SYSTEM. INKLER SYS	TO SPRINKLE STEM.	ER SYSTEM.
	EXIT I	EXIT DOOR EXIT DOOR	D MAX OCCL 330 68	JPANCY BASE	D ON DOOR	WIDTH S:				
		CLE	AR ACTU	AL HC	-PANIC HARI -DELAYED E -ELECTROM -HOLD OPEN	DWARE GRESS AGNETIC EG N	RESS			
			-							

ACCESSIBLE DWELLING UNITS
(SECTION 1107)Total UnitsAccessibleType AType AType BType BTotalUnitsUnitsUnitsUnitsUnitsUnitsUnitsAccessible UnitsRequiredProvidedRequiredProvidedRequiredProvidedProvidedN/ALLLLLLL
ACCESSIBLE PARKING (SECTION 1106)
LOT OR PARKING TOTAL # OF PARKING SPACES # OF ACCESSIBLE SPACES PROVIDED TOTAL # AREA REQUIRED PROVIDED REGULAR WITH VAN SPACES WITH ACCESSIBLE 5' ACCESS 132" ACCESS 8' ACCESS PROVIDED PROVIDED AISLE AISLE AISLE AISLE AISLE
Existing Building N/A Image: Constraint of the second sec
PLUMBING FIXTURE REQUIREMENTS (TABLE 2902.1)
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$
SPECIAL APPROVALS
pecial approval: (Local Jurisdiction, Department of Insurance, SCO, DPI, DHHS, ICC, etc., describe below)
ENERGY SUMINARY *** Not Applicable – Interior Upfit Only ***
STRUCTURAL DESIGN (PROVIDE ON THE STRUCTURAL SHEETS IF APPLICABLE) *** Not Applicable – No Structural work included in project scope ***
MECHANICAL DESIGN (PROVIDE ON THE MECHANICL SHEETS IF APPLICABLE) *** See Mechanical Drawings ***
ELECTRICAL DESIGN (PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE) *** See Electrical Drawings ***
*** See Electrical Drawings ***
Existing 2 hr. shaft enclosure
120' EXITISA 5' 165 5' NA 120' EXITISA 5' 165 5' NA Conference Room 310sf = 21 occupants Common path of travel; 51'
Dead end length: 26'
Business Occupancy 3rd Floor = 7614sf @ 100 gross sf / occupant = 72 occupants Tenant Space = 5088sf @ 100 gross sf / occupant = 51 occupants Two doors required and must swing in direction of egress travel Exit Door Capacity: 33" / 0.2" per person = 165 occupants per door 2 exit doors provided
 STAIR WIDTH NOT LESS THAN 44" - EXISTING. SPACES WITH MORE THAN 49 PEOPLE REQUIRE 2 MEANS OF EGRESS. EXIT ACCESS NOT TO EXCEED 300' FROM ANY LOCATION FOR BUSINESS OCCUPANCY DUE TO SPRINKLER SYSTEM. COMMON PATH NOT TO EXCEED 100' FROM ANY LOCATION DUE TO SPRINKLER SYSTEM. DEAD END LENGTHS NOT TO EXCEED 50' IN BUSINESS OCCUPANCY DUE TO SPRINKLER SYSTEM. BUILDING AREA = 7614 sf X 10% = 761sf > 175 sf OF STORAGE. SHAFTS MORE THAN 4 STORIES REQUIRE A 2HR FIRE BARRIER - EXISTING. SECTION 303.1.2, PARAGRAPH 2, CONFERENCE ROOM CLASSIFIED AS GROUP B OCCUPANCY. PER 1006.2.1, COMMON PATH OF TRAVEL NOT TO EXCEED 100' DUE TO SPRINKLER SYSTEM.
EXIT DOOR LEGEND EXIT DOOR MAX OCCUPANCY BASED ON DOOR WIDTH
EXIT 67" 330 68 PH DOOR DEVICES: PH-PANIC HARDWARE DE-DELAYED EGRESS EE-ELECTROMAGNETIC EGRESS CLEAR ACTUAL WIDTH OCCUPANCY
Image: Control of the state

PERCENTAGE OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE (FEET FROM PERPERTY LINES	DEGREES OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)
Existing Building	No New Wall Openings		

LIFE SAFETY SYSTEM REQUIREMENTS

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

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: G1.1 X Fire and/or smoke rated wall locations (Chapter 7)

N/A Assumed and real property line locations (if not on the site plan)

- N/A Exterior wall opening area with respect to distance to assumed property lines (705.8) X Occupancy types for each area as it relates to occupant load calculation (Table 1004.1.2)
- Occupant loads for each area Х
- X Exit access travel distances (1017) X Common path of travel distances (1006.2.1 & 2006.3.2(1))

X Dead end lengths (1020.4)

X Clear exit widths for each exit door

- Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3) Х X Actual occupant load for each exit door
- X A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation and supporting construction for a fire barrier/fire partition/smoke barrier. X Location of doors with panic hardware (1010.1.10)
- N/A Location of doors with delayed egress locks and the amount of delay (1010.1.9.7)
- N/A Location of doors with electromagnetic egress locks (1010.1.9.9)
- N/A Location of doors equipped with hold-open devices N/A Location of emergency escape windows (1030)
- X The square footage of each fire area (202)

N/A 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

Section/Table/Note	Title







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UL Product iQ [®]	Types Z	(-156, Z-156 PC n , Design No. <u>XI</u>	and Z-156T Spra <u>R731</u> .	ay-Applied Fire Resistiv	e Material inve
CHPX.R4339 - Spray-applied Fire-resistive Materials	Types N <u>D-0117</u>	/K-6HY, MK-6/H and <u>HW-D-101</u>	HY Extended Set 1 <u>9</u> .	or Z-146 Spray-Applie	d Fire Resistive
	Type M <u>0570</u> , <u>H</u> Other (K-10HB Spray-A IW-D-0571, <u>HW</u> Conditions of L	Applied Fire Resi <u>'-D-0636</u> , <u>HW-D</u> Jse	istive Materials for use i <u>-0639</u> , <u>HW-D-0640</u> anc	n Joint System <u>HW-D-0687</u> .
Spray-applied Fire-resistive Materials GCP Applied Technologies Inc R4339 R4339	The foll applied	owing condition fire-resistive m	ns of use apply o aterials (SFRM) I	only to the conditions d listed. For further techn	escribed and a cal assistance r
FIRE OPERATING UNIT 2325 Lakeview Pkwy, Ste 450 Alpharetta, GA 30009 United States	Applied UL Liste	l Technologies I ed or Classified _I ess Tables	nc. Authorities H products, equipr	laving Jurisdiction shou ment, systems, devices	ld be consulted and materials.
Types MK-6/HY, MK-6/HY Extended Set Spray-Applied Fire Resistive Material for use in:		Columns - Tubes	Columns -		
Beam, Design Nos. <u>N401, N404, N706, N708, N732, N736, N754, N777, N779, N782, N789, N852, N854, N855, N863, N878, S701, S702, S715, S728, S734, S735, S736, S749, S750 and</u>		and Pipes	W-Shaped X738 Full	Floors	<u>N706</u>
Column, Design Nos. <u>X527, X701, X704, X722, X723, X751, X752, X771, X772, X791, X854, Y710, Y715</u> and Floor-Ceiling, Design Nos. <u>A702, D701, D703, D704, D705, D706, D708, D709, D710, D711, D712, D715, D716, D722, D723, D726, D727, D729</u> ,		Rectangular	<u>and</u> <u>Y724 Half</u> <u>Flange</u>	<u>Fluted and</u> <u>Cellular Deck</u>	<u>Unrestraine</u> Normal We
D730, D739, D740, D742, D743, D744, D745, D746, D747, D750, D751, D752, D753, D754, D758, D779, D780, D782, D797, D798, D905, D907, D910, D916, D917, D920, D925, D985, D993, G701, G702, G703, G704, J701, J704, J705, J709, J712, J919, J957, K912, L702 and . Roof-Ceiling, Design Nos, P305, P675, P676, P701, P708, P709, P710, P711, P714, P717, P725, P732, P733, P740, P753, P901, P902, P907, P908,		<u>X794</u> <u>Square</u>	<u>X772 Full</u> and	D743 Fluted and	<u>N706</u> <u>Unrestraine</u>
P919, P920, P921, P923, P936 and Wall, Design Nos. <u>U475, U703, V443.</u>			<u>Y715 Half</u> <u>Flange</u>	Cellular Deck	Lightweigh
Type MK-6/HY Spray-Applied Fire Resistive Material for use in: Beam , Design Nos. <u>K918</u> .		<u>X795</u> <u>Generic</u>	<u>and</u> Y715 Half	<u>D779</u> <u>Fluted Deck</u>	<u>N706</u> <u>Restrained</u> <u>Normal We</u>
Floor-Ceiling , Design No. <u>D996</u> , <u>E902</u> . Type MK-6/HB Spray-Applied Fire Resistive Material for use in:		<u>X795</u>	<u>Flange</u> <u>X854</u>	<u>D780</u>	<u>N706</u>
Beam, Design Nos. <u>N706, N708, N736, N777, N779, N782, N789, N852, N854, N863, N878, S715, S728, S734, S735, S749, S750</u>		<u>Pipes</u>		Corrugated Deck	Restrained Lightweigh
Floor-Ceiling, Design Nos. <u>D739</u> , <u>D743</u> , <u>D744</u> , <u>D779</u> , <u>D780</u> , <u>D782</u> , <u>D798</u> , <u>D925</u> , <u>D985</u> , <u>D993</u> , <u>J709</u> , <u>J712</u> , <u>J957</u> , <u>L702</u> and		X795 Rectangular	<u>X854</u> (<u>Metric)</u>	D782 Fluted Deck	<u>N708</u> <u>Restrained</u> <u>Cellular De</u>
Type MK-6s Spray-Applied Fire Resistive Material for use in:		X795Square	<u>Y724</u>	<u>D925</u> <u>Cellular Deck</u>	<u>N708</u> <u>Restrained</u>
 Beam, Design Nos. <u>K318</u>, <u>N401</u>, <u>N404</u>, <u>N706</u>, <u>N708</u>, <u>N732</u>, <u>N736</u>, <u>N754</u>, <u>N717</u>, <u>N719</u>, <u>N782</u>, <u>N789</u>, <u>N852</u>, <u>N854</u>, <u>N855</u>, <u>N863</u>, <u>S701</u>, <u>S702</u>, <u>S715</u>, <u>S728</u>, <u>S734</u>, <u>S735</u>, <u>S736</u>, <u>S749</u>, <u>S750</u> and Column, Design Nos. <u>X527</u>, <u>X701</u>, <u>X704</u>, <u>X722</u>, <u>X723</u>, <u>X751</u>, <u>X752</u>, <u>X771</u>, <u>X772</u>, <u>X791</u>, <u>X854</u>, <u>Y710</u>, <u>Y715</u> and 					Lightweigh Fluted Dec
Floor-Ceiling, Design Nos. <u>A702</u> , <u>D701</u> , <u>D703</u> , <u>D704</u> , <u>D705</u> , <u>D706</u> , <u>D708</u> , <u>D709</u> , <u>D710</u> , <u>D711</u> , <u>D711</u> , <u>D715</u> , <u>D716</u> , <u>D722</u> , <u>D723</u> , <u>D726</u> , <u>D727</u> , <u>D728</u> , <u>D729</u> , <u>D730</u> , <u>D739</u> , <u>D740</u> , <u>D742</u> , <u>D743</u> , <u>D744</u> , <u>D745</u> , <u>D746</u> , <u>D747</u> , <u>D750</u> , <u>D751</u> , <u>D753</u> , <u>D753</u> , <u>D758</u> , <u>D779</u> , <u>D780</u> , <u>D782</u> , <u>D798</u> , <u>D905</u> , <u>D907</u> , <u>D910</u> ,		<u>Y710</u> <u>Generic</u>	<u>XR711 and</u> <u>XR718</u>	<u>D925</u> <u>Future Floor</u> <u>Lightweight</u>	<u>N708</u> <u>Unrestraine</u> <u>Cellular De</u>
2310, 2317, 2320, 2325, 2335, 2335, 2335, 2336, 2302, 3701, 3702, 3703, 3704, 1701, 1704, 1705, 1709, 1712, 1919, 1957, K912 and Roof-Ceiling, Design Nos. <u>P305, P675, P676, P701, P708, P709, P710, P711, P714, P717, P725, P732, P733, P740, P753, P901, P902, P907, P908, P919, P920, P921, P923, P936</u> and		<u>Y710</u>	<u>XR715</u>	Concrete D925	<u>N708</u>
Wall, Design Nos. <u>U475, U703</u> , V443.		<u>Pipes</u>		<u>Future Floor</u> <u>Normal Weight</u> <u>C</u> oncrete	Unrestraine Lightweigh Fluted Dec
Beam, Design Nos. <u>N736, N754, N777, N779, N782, N852, N854, N855, N863, S728, S734, S735, S749</u> , S <u>750</u> and		L	1	<u>.</u>	1
tps://iq.ulprospector.com/en/profile?e=18110 1/8	https://iq.ul	prospector.com/	en/profile?e=181	110	
17/23, 11:11 AM CHPX.R4339 - Spray-applied Fire-resistive Materials UL Product iQ Column, Design Nos. <u>X854</u> , <u>Y710</u> , <u>Y715</u> and	1/17/23, 11	11 AM <u>Y710</u>	<u>XR731</u>	CHPX.R4	339 - Spray-ap <u>N779</u>
Floor-Ceiling, Design Nos. <u>D743</u> , <u>D779</u> , <u>D780</u> , <u>D798</u> , <u>D925</u> , <u>D985</u> , <u>J701</u> , <u>J712</u> and Roof-Ceiling, Design Nos. <u>P305</u> , <u>P732</u> , <u>P753</u> .		Rectangular		<u>1957</u>	Unrestraine
Type MK-10 HB Spray-Applied Fire Resistive Material for use in: Beam, Design Nos. <u>K918, N706, N708, N736, N734, N777, N779, N782, N789, N852, N854, N855, N863, N878, S715, S728, S734, S735, S749, S750</u>		<u>Square</u>			Restrained
and Column, Design Nos. <u>X772, X791, X854, Y710, Y715</u> and					Unrestraine (Type MK-6
Floor-Ceiling, Design Nos. <u>D739, D743, D743, D744 D779, D780, D782, D798, D925, D985, D993, G702, J701, J709, J712, J957, K912, L702</u> and Roof-Ceiling, Design Nos. <u>P305, P714, P725, P732, P733, P753, P936</u> .					N779 Restrained (Type MK-6
Type MK-10 HB Extended Set Spray-Applied Fire Resistive Material for use in: Beam , Design Nos. <u>N706, N708, N754, N736, N777, N779, N782, N789, N852, N854, N855, N878, S715, S728, S734, S735, S749, S750</u> and					<u>N782</u> <u>Unrestraine</u>
Column, Design Nos. <u>X772, X854, Y710, Y715</u> and Floor-Ceiling, Design Nos. <u>D739, D743, D744, D779, D780, D782, D798, D925, D985, D993, G702, J709, J712, J957</u> and					Lightweigh
Roof-Ceiling , Design Nos. <u>P305, P714, P725, P732, P733, P753, P936.</u> Types MK-1000/HB and MK-1000/HB Extended Set Spray-Applied Fire Resistive material for use in:					Unrestraine Normal We
Beam , Design Nos. <u>K918, N736, N754, N777, N779, N782, N852, N854, N855, S728, S734, S735, S749, S750</u> and Column , Design Nos. <u>X854, Y710, Y715</u> and					<u>N782</u> <u>Restrained</u> Lightweigh
Floor-Ceiling, Design Nos. <u>D779</u> , <u>D798</u> , <u>D925</u> , <u>D985</u> , <u>G702</u> , <u>J701</u> , <u>J712</u> , <u>K912</u> and Boof-Ceiling , Design No. <u>P305</u> , <u>P732</u> , <u>P753</u>					N782 Restrained
Type SK-3 Spray-Applied Fire Resistive Material for use in:					Normal We
Beam, Design Nos. <u>5728</u> , <u>5749</u> and Floor-Ceiling, Design Nos. <u>D701</u> , <u>D703</u> , <u>D704</u> , <u>D705</u> , <u>D706</u> , <u>D708</u> , <u>D709</u> , <u>D711</u> , <u>D712</u> , <u>D716</u> , <u>D722</u> , <u>D723</u> , <u>D730</u> , <u>D739</u> , <u>D743</u> , <u>D751</u> , <u>D752</u> , <u>D754</u> , D758. L702 and					Restrained Lightweigh
Roof-Ceiling, Design Nos. <u>P717</u> , <u>P732</u> , <u>P753</u> . Type RG Spray-Applied Fire Resistive Materials for use in:					<u>N782</u> Restrained
Beam, Design Nos. <u>K918, N401, N404, N706, N708, N732, N736, N754, N777, N779, N782, N852, N854, N855, N863, S701, S702, S715, S728, S734, S735, S735, S736, S749, S750</u> and					<u>Normal We</u> (Type Z106
Column, Design Nos. <u>X527, X701, X704, X722, X723, X751, X752, X771, X772, X791, X854, Y710, Y715</u> and Floor-Ceiling, Design Nos. <u>A702, D701, D703, D704, D705, D706, D708, D709, D710, D711, D712, D715, D716, D722, D723, D726, D727, D728</u> ,					<u>N782</u> <u>Unrestraine</u>
D729, D739, D739, D740, D742, D743, D744, D745, D746, D747, D750, D751, D752, D753, D754, D758, D779, D780, D782, D798, D905, D907, D910, D916, D917, D920, D925, D985, D993, G701, G702, G703, G704, J701, J704, J705, J709, J712, J919, J957, K912, L702 and					(Type Z106
Noor-Cenning, Design 1905, F303, F903, F703, F701, F705, F703, F710, F711, F714, F717, F725, F732, F733, F740, F753, F901, F902, F907, F908, F919, F920, F921, F923, F936 and Wall, Design Nos. U475, U703, V443.					Unrestraine
Type Z-3306 Spray-Applied Fire Resistive Material for use in: Column , Design No. <u>X73</u> 7.					<u>N852</u>
Type Z-3306G Spray-Applied Fire Resistive Material for use in:					Normal We
Type Z-106 Spray-Applied Fire Resistive Material for use in:					Unrestraine
Beam, Design Nos. K918, N720, N736, N754, N763, N777, N781, N782, N852, N854, N855, N861, S701, S715, S725, S728, S734, S735, S736, S749, S750 and ttps://ig.ulprospector.com/en/profile?e=18110	https://ia.uk	prospector.com/	en/profile?e=181	110	-
28 	4/47/00				330
CHPA.R4339 - Spray-applied Fire-resistive Materials UL Product IQ Column, Design Nos. X701, X704, X738, X771, X772, X791, X794, X854, Y710, Y713, Y724 and Floor-Ceiling Design Nos. D739, D743, D744, D754, D759, D739, D739, D739, D739, D739, D739, D739, D744, D754, D754, D759, D739, D739, D739, D739, D744, D754, D754, D759, D739,	1/17/23, 11	AM		CHPX.R4	N852Restra
					N852
Wall, Design Nos. <u>U202</u> , <u>U475</u> , <u>U703</u> , <u>V443</u> . Type Z-106/G Spray-Applied Fire Resistive Material for use in:					Light Weig Concrete
Beam, Design Nos. <u>K918, N720, N736, N754, N763, N777, N781, N782, N852, N854, N855, S701, S715, S725, S728, S734, S735, S736, S749, S750</u> and					N852 Restrained
Column, Design Nos. <u>X771, X772, X791, X794, X854, Y710, Y713, Y724</u> and Floor-Ceiling, Design Nos. <u>D739, D743, D744, D754, D760, D779, D780, D782, D798, D916, D925, D985, D996, E902, G701, G702, G704, J701, J704,</u>					Concrete
<u>1709</u> , <u>1712</u> , <u>1957</u> , <u>K912</u> , <u>L702</u> and Roof-Ceiling , Design Nos. <u>P305</u> , <u>P701</u> , <u>P725</u> , <u>P732</u> , <u>P733</u> , <u>P740</u> , <u>P753</u> , <u>P908</u> , <u>P921</u> , <u>P936</u> and	1. Patc	hing			
Wall Design , Nos. <u>U475</u> , <u>V443</u> . Type Z-106/HY Spray-Applied Fire Resistive Material for use in:	Spray A	pplied Fire Resi	stive Materials n	nay be hand patched in	all designs foll
	B.) All I	oose material,	including dirt	and any other foreigr	material, tha
Beam , Design Nos. <u>K918, N720, N736, N754, N763, N777, N781, N782, N852, N854, N855, S701, S715, S725, S728, S734, S735, S736, S749, S750 and</u>	remove	ed prior to pat te substrate.	ching. Where c	aamaged material ext	ends to the st
Beam, Design Nos. K918, N720, N736, N754, N763, N777, N781, N782, N852, N854, N855, S701, S715, S725, S728, S734, S735, S736, S749, S750 and Column, Design Nos. X701, X704, X738, X772, X791, X794, X854, Y710, Y713, Y724, and Floor-Ceiling, Design Nos. D739, D744, D760, D779, D780, D782, D798, D916, D925, D985, D996, E902, G701, G702, G704, J701, J704, J712, J957, Wata Large La		ere well-bonde d firm material	ed material exis I. There is no re rial. Well-bood	sts below the damage equirement to remove led material may be a	d material, re well-bonded etermined by
 Beam, Design Nos. <u>K918, N720, N736, N736, N754, N763, N777, N781, N782, N852, N854, N855, S701, S715, S725, S728, S734, S735, S736, S749, S750 and</u> Column, Design Nos. <u>X701, X704, X738, X772, X791, X794, X854, Y710, Y713, Y724</u>, and Floor-Ceiling, Design Nos. <u>D739, D744, D760, D779, D780, D782, D798, D916, D925, D985, D996, E902, G701, G702, G704, J701, J704, J712, J957, K912, L702</u> and Roof-Ceiling, Design Nos. <u>P701, P725, P732, P733, P740, P753, P908, P921, P936</u> and 	C.) Wh bonde	adhered mata		rial may be hand mixe	d and trowel
Beam, Design Nos. K918, N720, N736, N754, N763, N777, N781, N782, N852, N854, N855, S701, S715, S725, S728, S734, S735, S736, S749, S750 and Column, Design Nos. X701, X704, X738, X772, X791, X794, X854, Y710, Y713, Y724, and Floor-Ceiling, Design Nos. D739, D744, D760, D779, D780, D782, D798, D916, D925, D985, D996, E902, G701, G702, G704, J701, J704, J712, J957, K912, L702 and Roof-Ceiling, Design Nos. P701, P725, P732, P733, P740, P753, P908, P921, P936 and Wall, Design Nos. U475, U703, V443. Type Z-146 Spray-Applied Fire Resistive Material investigated for exterior use in:	C.) Wh bonde poorly D.) Cer	adhered mate nentitious fire	resistive mater	d 144 cquare inches	
Beam, Design Nos. K918, N720, N736, N754, N763, N777, N781, N782, N852, N854, N855, S701, S715, S725, S728, S734, S735, S736, S749, S750 and Column, Design Nos. X701, X704, X738, X772, X791, X794, X854, Y710, Y713, Y724, and Floor-Ceiling, Design Nos. D739, D744, D760, D779, D780, D782, D798, D916, D925, D985, D996, E902, G701, G702, G704, J701, J704, J712, J957, K912, L702 and Roof-Ceiling, Design Nos. P701, P725, P732, P733, P740, P753, P908, P921, P936 and Wall, Design Nos. U475, U703, V443. Type Z-146 Spray-Applied Fire Resistive Material investigated for exterior use in: Beam, Design Nos. K918, N727, N736, N754, N756, N777, N789 and Column, Design Nos. X701, X704, X745, X746, X747, X748, X791, X792, XR711, XR712, XR715, XR718 and	C.) Wh bonde poorly D.) Cer the are E.) The	adhered mate mentitious fire a of the patch minimum in-r	resistive mater will not exceed	nd minimum thicknes	s of the mater
 Beam, Design Nos. K918, N720, N736, N754, N763, N777, N781, N782, N852, N854, N855, S701, S715, S725, S728, S734, S735, S736, S749, S750 and Column, Design Nos. X701, X704, X738, X772, X791, X794, X854, Y710, Y713, Y724, and Floor-Ceiling, Design Nos. D739, D744, D760, D779, D780, D782, D798, D916, D925, D985, D996, E902, G701, G702, G704, J701, J704, J712, J957, K912, L702 and Roof-Ceiling, Design Nos. P701, P725, P732, P733, P740, P753, P908, P921, P936 and Wall, Design Nos. L475, U703, V443. Type Z-146 Spray-Applied Fire Resistive Material investigated for exterior use in: Beam, Design Nos. K918, N727, N736, N754, N756, N776, N777, N789 and Column, Design Nos. D780, D782, D916, D925, D985, G702, G710, J712, X8715, X8718 and Floor-Ceiling, Design Nos. P309, D782, D916, D925, D985, G702, G710, J712, K912, L702 and Roof-Ceiling, Design Nos. P305, P725, P732, P733, P740, P753, P908, P921, P936, S728, S736 and 	C.) Wh bonde poorly D.) Cer the are E.) The mainta	adhered mate mentitious fire a of the patch minimum in-p ined.	resistive mater will not exceed	nd minimum thicknes	s of the mater
Beam, Design Nos. K918, N720, N736, N754, N763, N777, N781, N782, N852, N854, N855, S701, S715, S725, S728, S734, S735, S736, S749, S750andColumn, Design Nos. X701, X704, X738, X772, X791, X794, X854, Y710, Y713, Y724, andFloor-Ceiling, Design Nos. D739, D744, D760, D779, D780, D782, D798, D916, D925, D985, D996, E902, G701, G702, G704, J701, J704, J712, J957, K912, L702 andRoof-Ceiling, Design Nos. P701, P725, P732, P733, P740, P753, P908, P921, P936 andWall, Design Nos. L475, U703, V443.Type Z-146 Spray-Applied Fire Resistive Material investigated for exterior use in:Beam, Design Nos. K918, N727, N736, N756, N756, N777, N789 andColumn, Design Nos. Z701, X704, X745, X746, X747, X748, X791, X792, XR711, XR712, XR718, andFloor-Ceiling, Design Nos. D780, D782, D916, D925, D985, G702, G710, J712, K912, L702 andRoof-Ceiling, Design Nos. D780, D782, D916, D925, D985, G702, G710, J712, K912, L702 andRoof-Ceiling, Design Nos. D780, D782, D916, D925, D985, G702, G710, J712, K912, L702 andRoof-Ceiling, Design Nos. D730, D782, D916, D925, D985, G702, G710, J712, K912, L702 andRoof-Ceiling, Design Nos. D730, D782, D916, D925, D985, G702, G710, J712, K912, L702 andRoof-Ceiling, Design Nos. D730, D782, D916, D925, D985, G702, G710, J712, K912, L702 andMall, Design Nos. U703, V443.Types Z-146, Z-146PC, Z-146PC, Z-146PC, and Z-156PC and Z-156T Sprav-Applied Fire Resistive Materials investigated for exterior use in:	C.) Wh bonde poorly D.) Cer the are E.) The mainta F.) The conduc	adhered mate nentitious fire a of the patch minimum in-p ined. in-place bond cted in accorda nce Directory.	resistive mater will not exceed place density ar l strength of the ance with ASTM	nd minimum thicknes ne material meets the A E736 and the requir	s of the mater minimum valu ements for Sp
 Beam, Design Nos. K918, N720, N736, N754, N763, N777, N781, N782, N852, N854, N855, S701, S715, S726, S734, S735, S736, S749, S750 and Column, Design Nos. X701, X704, X738, X772, X791, X794, X854, Y710, Y713, Y724, and Floor-Ceiling, Design Nos. D739, D744, D760, D779, D780, D782, D798, D916, D925, D985, D996, E902, G701, G702, G704, J701, J704, J712, J957, K912, L702 and Roof-Ceiling, Design Nos. P701, P725, P732, P733, P740, P753, P908, P921, P936 and Wall, Design Nos. U475, U703, V443. Type Z-146 Spray-Applied Fire Resistive Material investigated for exterior use in: Beam, Design Nos. X701, X704, X745, X745, N756, N766, N777, N789 and Column, Design Nos. D780, D782, D915, D925, G702, G710, J712, K9712, X8715, X8718 and Floor-Ceiling, Design Nos. D780, D782, D916, D925, D985, G702, G710, J712, K9712, X8715, X8718 and Floor-Ceiling, Design Nos. P305, P725, P732, P733, P740, P753, P908, P921, P936, S728, S736, and Wall, Design Nos. U703, V443. Types Z-146, Z-146PC, Z-146T, Z-156, Z-156PC and Z-156T Spray-Applied Fire Resistive Materials investigated for exterior use in: Beam, Design Nos. K918, N727, N736, N754, N756, N779, N789, N852, N854, N855, S734, S735, S749, S750, and Column, Design Nos. K918, N727, N736, N754, N756, N779, N789, N852, N854, N855, S734, S735, S749, S750, and 	C.) Wh bonde poorly D.) Cer the are E.) The conduc Resista G.) The surrou	adhered mate mentitious fire ta of the patch minimum in-p ined. in-place bond cted in accorda nce Directory.	resistive mater will not exceed place density ar strength of th ance with ASTN erial is keyed ir shall not have	nd minimum thicknes e material meets the d E736 and the requir nto the material surro	s of the mater minimum valu ements for Sp unding the pa surrounding
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Beam, Design Nos. <u>K918, N720, N736, N754, N763, N777, N781, N782, N852, N854, N855, S701, S715, S725, S728, S734, S735, S736, S749, S750Column, Design Nos. <u>X701, X704, X738, X772, X791, X794, X854, Y710, Y713, Y724, and</u>Foor-Ceiling, Design Nos. <u>D739, D744, D760, D779, D780, D782, D798, D916, D925, D985, D996, F902, G701, G702, G704, J701, J704, J712, J957, K312, J702 andRoof-Ceiling, Design Nos. <u>P701, P725, P732, P733, P740, P753, P908, P921, P936, and</u>Wall, Design Nos. <u>L475, U703, V443.</u>Type Z-146 Spray-Applied Fire Resistive Material investigated for exterior use in: Beam, Design Nos. <u>K701, X704, X745, X746, X748, X791, X795, XR711, XR712, XR718, and</u>Foor-Ceiling, Design Nos. <u>D780, D782, D916, D925, D985, G702, G710, J712, K912, K7718, and</u>Foor-Ceiling, Design Nos. <u>P305, P725, P732, P733, P740, P753, P908, P921, P936, S728, S736, and</u>Wall, Design Nos. <u>L703, V443.</u>Types Z-146, Z-1467, Z-1567, Z-156PC and Z-156T Spray-Applied Fire Resistive Material investigated for exterior use in: Beam, Design Nos. <u>K918, N727, N736, N754, N756, N777, N779, N782, N852, N854, N855, S734, S735, S749, S750, and</u>Hall, Design Nos. <u>K918, N727, N736, N754, N756, N777, N779, N782, N852, N854, N855, S734, S735, S749, S750, andFoor-Ceiling, Design Nos, <u>K918, N727, N736, N754, N756, N777, N779, N782, N852, N854, N855, S734, S735, S749, S750, andFoor-Ceiling, Design Nos, <u>K918, N727, N736, N754, N756, N777, N779, N782, N852, N854, N855, S734, S735, S749, S750, andFoor-Ceiling, Design Nos, <u>K918, N727, N736, N754, N758, N756, N777, N779, N782, N852, N854, N857, N734, S735, S749, S750, andFoor-Ceiling, Design Nos, <u>K918, N727, N736, N754, N753, P908, P921, P936, and</u>Foor-Ceiling, Design Nos, <u>N782, D773, D798, D916, D925, D985, G70</u></u></u></u></u></u></u>	C.) Wh bonde poorly D.) Cer the are E.) The condu Resista G.) The surrou patchir H.) Wh sufficie require	adhered mate mentitious fire a of the patch minimum in-p ined. in-place bond cted in accorda nce Directory. e patching material ng. en applying me ently to preven ement to pre-w	resistive mater will not exceed olace density ar I strength of th ance with ASTM erial is keyed ir shall not have ew material ove t premature dr vet will depend	In the set time of the	s of the mater minimum valu ements for Sp unding the pa surrounding at has dried, i lied patching e applied mat
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MECHANICAL GENERAL NOTES	
PART 1 GENERAL	
 1.1 SCOPE OF WORK: THESE DRAWINGS AND SPECIFICATIONS DESCRIBE THE SCOPE OF WORK REQUIRED FOR PROJECT MECHANICAL HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS. CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIAL REQUIRED FOR COMPLETE, FULLY FUNCTIONING MECHANICAL SYSTEMS COMPLYING WITH THE INTENT OF THE DRAWINGS AND SPECIFICATIONS. 1.2 CONTRACTOR: THE WORD "CONTRACTOR" AS USED HEREIN SHALL MEAN THE HVAC INSTALLER UNLESS OTHERWISE QUALIFIED 	 A. PERFORM ELECTRICAL WORK FOR MECHANICAL EQUIPMENT IN COMPLIANCE WITH PROJECT ELECTRICAL REQUIREMENTS. ELECTRICAL WORK FOR MECHANICAL EQUIPMENT NOT SPECIFICALLY INDICATED TO BE PROVIDED BY THE ELECTRICAL CONTRACTOR IN THE ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AS PART OF HIS WORK.
1.3 DRAWINGS: DRAWINGS ARE DIAGRAMMATIC AND MAY NOT COMPLETELY DESCRIBE EVERY DETAIL OF THE INSTALLATION. HOWEVER, CONTRACTOR IS RESPONSIBLE FOR FURNISHING COMPLETE SYSTEMS INCLUDING ALL REQUIRED EQUIPMENT AND ACCESSORIES TO OBTAIN FULLY FUNCTIONING HVAC SYSTEMS.	B. ELECTRICAL DRAWINGS ARE BASED ON ELECTRICAL CHARACTERISTICS INDICATED IN DRAWING MECHANICAL EQUIPMENT SCHEDULES. ANY EQUIPMENT FURNISHED BY THE MECHANICAL CONTRACTOR WHICH DOES NOT MATCH THE ELECTRICAL CHARACTERISTICS INDICATED IN THE DRAWING SCHEDULES SHALL BE COORDINATED WITH THE ELECTRICAL CONTRACTOR. ANY ADDITIONAL COSTS FOR ELECTRICAL INSTALLATION REQUIRED FOR EQUIPMENT NOT MATCHING THE
1.4 CODE COMPLIANCE: COMPLY WITH THE LATEST EDITIONS OF THE FOLLOWING STANDARDS AND CODES, INSOFAR AS THEY APPLY:A. NORTH CAROLINA STATE BUILDING CODE, LATEST EDITION AND REVISIONS	DRAWING SCHEDULES SHALL BE BORNE BY THE MECHANICAL CONTRACTOR.C. LOW VOLTAGE CONTROL WIRING FOR MECHANICAL SYSTEMS SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR.
B. LOCAL JURISDICTION REQUIREMENTS: INCLUDE ALL WORK TO COMPLY WITH CODES WHETHER INDICATED ON DRAWINGS OR NOT. NOTIFY ENGINEER OF DISCREPANCIES BETWEEN DRAWINGS AND CODES PRIOR TO BEGINNING WORK.	1.16 SUBMITTALS: SUBMIT ONE (1) ELECTRONIC COPY OF DESCRIPTIVE DATA FOR MECHANICAL EQUIPMENT AND MATERIALS INCLUDING GRILLES AND DAMPERS FOR APPROVAL BY THE ENGINEER. CLEARLY IDENTIFY ALL ITEMS.
1.5 PERMITS AND INSPECTIONS: OBTAIN ALL PERMITS, LICENSES, INSPECTIONS, ETC., REQUIRED FOR THE WORK AND PAY FOR SAME. FURNISH A FINAL CERTIFICATE OF INSPECTION AND APPROVAL FROM THE AUTHORITY HAVING JURISDICTION PRIOR TO ACCEPTANCE OF THE WORK.	1.17 OPERATING AND MAINTENANCE MANUALS: SUBMIT TWO COPIES OF COMPLETE OPERATING AND MAINTENANCE INSTRUCTIONS FOR ALL EQUIPMENT, INCLUDING NECESSARY CUT SHEETS, CHARTS, WRITTEN INSTRUCTIONS, WIRING DIAGRAMS, FINAL AS-BUILT DRAWINGS WITH BALANCED AIRFLOWS INDICATED, ETC. BIND IN SUITABLE HARD BACK RING BINDERS, PROPERLY INDEXED, AND DELIVER TO THE OWNER PRIOR
1.6 MANUFACTURER'S RECOMMENDATIONS: INSTALL ALL EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.	TO BUILDING OCCUPANCY. IN ADDITION, AFFIX A FOLDER WITH TYPICAL "OWNER'S INSTRUCTIONS" AND "MAINTENANCE INFORMATION" INSIDE THE MECHANICAL EQUIPMENT AS APPLICABLE. THE FOLDER SHALL ALSO INCLUDE A COMPLETE STARTUP
1.7 WORKMANSHIP: UTILIZE SKILLED MECHANICS TO OBTAIN A HIGH-QUALITY PROFESSIONAL FINISH INSTALLATION WHEN COMPLETED. WORK OF UNACCEPTABLE QUALITY SHALL BE REMOVED AND REWORKED AT NO ADDITIONAL COST. ENGINEER SHALL BE THE JUDGE OF WORKMANSHIP AND THEIR OPINION WILL BE FINAL. IN ADDITION, ANY EXISTING CONSTRUCTION DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE ENGINEER BY THE	LOG FOR THE EQUIPMENT. 1.18 RECORD DRAWINGS: MAINTAIN ONE SET OF "RED-LINED" RECORD DRAWINGS ON SITE AT ALL TIMES AND PROVIDE DRAWINGS TO ENGINEER PRIOR TO FINAL INSPECTION. 1.19 WARRANTY: WARRANTY THE MATERIALS AND WORKMANSHIP COVERED BY THESE
CONTRACTOR AT NO ADDITIONAL COST. 1.8 SUPERVISION: PROVIDE SKILLED SUPERINTENDENTS TO SUPERVISE THE WORK FROM THE BEGINNING TO COMPLETION AND FINAL INSPECTION.	DRAWINGS AND SPECIFICATIONS FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER. REPAIR AND/OR REPLACE ANY PARTS OF ANY SYSTEM THAT MAY PROVE TO BE DEFECTIVE AT NO ADDITIONAL COST TO THE OWNER WITHIN THE WARRANTY PERIOD. PROVIDE 5 YEAR WARRANTY FOR ALL AIR CONDITIONING COMPRESSORS, EURNISH WARRANTY CERTIFICATES FOR ALL MECHANICAL

1.9 PROGRESS OF WORK: PERFORM WORK IN ACCORDANCE WITH SCHEDULE AND REQUIREMENTS OF THE OWNER. UNDER NO CIRCUMSTANCES SHALL THIS CONTRACTOR DELAY THE OVERALL PROJECT SCHEDULE.

- 1.10 COORDINATION: COORDINATE MECHANICAL WORK WITH THE WORK OF OTHER TRADES. LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE UNLESS SPECIFICALLY DIMENSIONED. LAYOUT MECHANICAL WORK SO AS NOT TO INTERFERE WITH THE WORK OF OTHER TRADES. VERIFY ACTUAL BUILDING STRUCTURE PRIOR TO DUCT FABRICATION AND ADJUST ARRANGEMENT AS REQUIRED. INCLUDE ALL OFFSETS IN DUCTS, FITTINGS, PIPING, ETC. AS REQUIRED TO PROPERLY INSTALL EQUIPMENT.
- 1.11 EQUIPMENT LOCATIONS: DETERMINE EXACT EQUIPMENT AND MATERIALS LOCATIONS TO PROVIDE BEST ARRANGEMENT AND TO FACILITATE PROPER MAINTENANCE AND SERVICING OF EQUIPMENT.
- 1.12 LISTING AND LABELING: ALL EQUIPMENT SHALL BE LABELED OR LISTED BY UL OR OTHER APPROVED TESTING AGENCY WHERE REQUIRED.
- 1.13 STORAGE SPACE: CONSULT WITH THE OWNER REGARDING JOB SITE STORAGE FOR MECHANICAL MATERIALS TO BE INSTALLED UNDER THIS PROJECT. STORAGE SPACE MUST BE SECURED AND CONTRACTOR'S REPRESENTATIVE MUST BE ON JOB BEFORE ANY MATERIAL MAY BE RECEIVED.
- 1.14 CLEANUP: REMOVE ALL DEBRIS GENERATED IN THE ACCOMPLISHMENT OF WORK UNDER THIS PROJECT. CLEAN, REPLACE OR REPAIR ALL SURFACES SOILED OR DAMAGED DURING THE COURSE OF THE WORK. REMOVE DEBRIS DAILY SO TO MAINTAIN SAFE WORKING CONDITIONS. USE OF NHC DUMPSTERS IS PROHIBITED

- AINTENANCE INFORMATION" INSIDE THE MECHANICAL ABLE. THE FOLDER SHALL ALSO INCLUDE A COMPLETE STARTUP AINTAIN ONE SET OF "RED-LINED" RECORD DRAWINGS ON SITE VIDE DRAWINGS TO ENGINEER PRIOR TO FINAL INSPECTION. THE MATERIALS AND WORKMANSHIP COVERED BY THESE ICATIONS FOR A PERIOD OF ONE YEAR FROM THE DATE OF WNER. REPAIR AND/OR REPLACE ANY PARTS OF ANY SYSTEM
- DEFECTIVE AT NO ADDITIONAL COST TO THE OWNER WITHIN PROVIDE 5 YEAR WARRANTY FOR ALL AIR CONDITIONING COMPRESSORS. FURNISH WARRANTY CERTIFICATES FOR ALL MECHANICAL EQUIPMENT. WARRANTY TO COMMENCE UPON DATE OF ACCEPTANCE OF WORK BY OWNER
- 1.20 EXISTING BUILDINGS AND CONSTRUCTION A. WORK UNDER THIS CONTRACT IS TO BE PERFORMED IN AN EXISTING BUILDING. BUILDING LAYOUT INDICATED IS DEVELOPED FROM EXISTING RECORD DOCUMENTS AND LIMITED FIELD VERIFICATION FOR THE PURPOSES OF
 - DESCRIBING THE WORK. VERIFY ALL EXISTING CONDITIONS AND ADJUST WORK AS REQUIRED TO SUIT ACTUAL FIELD CONDITIONS.
- B. PERFORM ALL WORK IN ACCORDANCE WITH SAFETY REGULATIONS.
- C. DO NOT CUT ANY STRUCTURAL MEMBERS WITHOUT EXPRESS WRITTEN INSTRUCTIONS FROM ENGINEER. PROVIDE CUTTING AND PATCHING FOR EXISTING FINISHES AS REQUIRED.
- D. COORDINATE INSTALLATION OF NEW MECHANICAL SYSTEMS WITH EXISTING BUILDING SYSTEMS. ADJUST ARRANGEMENTS AS REQUIRED TO ACCOMMODATE INTERFERENCES.

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPME	NT
CLIMATE ZONE	3A - WARM/HUMID
WINTER DRY BULB:	23 °F
SUMMER DRY BULB	93 °F
INTERIOR DESIGN CONDITIONS	
WINTER DRY BULB	70 °F
SUMMER DRY BULB	75 °F
RELATIVE HUMIDITY	60°RH'
	*DESIGN- NOT CONTROLLED
UPFIT HEATING LOAD:	325.5 MBH
UPFIT COOLING LOAD:	351.9 MBH
MECHANICAL SPACING CONDITIONING SYSTEM	
UNITARY	
DESCRIPTION OF UNIT:	SEE SCHEDULES
HEATING EFFICIENCY:	SEE SCHEDULES
COOLING EFFICIENCY:	SEE SCHEDULES
SIZE CATEGORY OF UNIT:	SEE SCHEDULES
BOILER	
SIZE CATEGORY, IF OVERSIZED STATE REASON:	N/A
CHILLER	
SIZE CATEGORY, IF OVERSIZED STATE REASON:	N/A

MECHANICAL LEGEND							
\square	CEILING EXHAUST AIR GRILLE						
	CEILING RETURN AIR / TRANSFER AIR GRILLE						
\boxtimes	CEILING SUPPLY AIR DIFFUSER / GRILLE						
(X)	INDICATES EXISTING						
·/////.	INDICATES TO DEMOLISH						
\bigcirc	POINT OF CONNECTION						
	EXTENT OF DEMOLITION						
Ð	THERMOSTAT / TEMPERATURE SENSOR						
R	REFRIGERANT LINE-SET PIPING						
(X)R	REFRIGERANT LINE-SET PIPING - EXISTING						
c	CONDENSATE PIPING						
(X)C	CONDENSATE PIPING - EXISTING						
AIR TYPE DESIGNATOR	DIFFUSER / REGISTER / GRILLE TAG						
AIRFLOW, CFM							
NOTE: ALL ITEMS LISTED MAY NOT BE USED IN THIS PROJECT.							

OWNER REQUIREMENTS

THE CONTRACTOR MUST INCLUDE NEW HANOVER COUNTY AND CBHF ON ALL PROJECT.

2

MECHANICAL DEMOLITION NOTES ABBREVIA TFRM THE MECHANICAL CONTRACTOR SHALL REVIEW THE DRAWINGS AND SPECIFICATIONS ABOVE FINISHED FLOC FOR DEMOLITION REQUIREMENTS AND LAYOUT HIS WORK IN A COMPATIBLE AND ABOVE GROUND COMPLEMENTARY MANNER. REMOVE ALL EQUIPMENT, DUCTWORK, SUPPORTS, ABOVE SEA LEVEL CONTROLS, ACCESSORIES, ETC..., AND MECHANICAL ITEMS MADE OBSOLETE BY ACROSS THE LINE THESE ALTERATIONS AS SHOWN IN THE MECHANICAL DRAWINGS. ALL ITEMS TO BE AIR ADMITTANCE VALV REMOVED OR MODIFIED MAY NOT BE SHOWN, HOWEVER, THIS CONTRACTOR SHALL REMOVE ANY MECHANICAL WORK AS REQUIRED BY THE CONSTRUCTION OR AS AIR CONDITION(-ING, -E DIRECTED BY THE OWNER OR THE ENGINEER. SURVEY THE AFFECTED AREAS AIR-HANDLING UNIT BEFORE SUBMITTING A BID. AIR FLOW MEASURING AMBIENT Σ SCHEDULING OF DEMOLITION - COORDINATE SCHEDULING OF MECHANICAL AMPERE (AMP, AMPS) DEMOLITION WORK WITH THE OWNER AND GENERAL CONTRACTOR SO AS TO ANALOG INPUT MINIMIZE DISRUPTION OF THE OWNER'S USE OF THE FACILITIES AND MAINTAIN THE CONSTRUCTION SEQUENCE OF THE GENERAL CONTRACTOR. SEE ARCHITECTURAL ANALOG OUTPUT DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INSTRUCTIONS CONCERNING PHASING AND SEQUENCE OF WORK. **APPARATUS DEW POIN** APPROXIMATE . EXISTING MECHANICAL SYSTEMS - VERIFY CONDITION OF EXISTING MECHANICAL ARCHITECT SYSTEMS TO BE REUSED SO THAT COMPLETE, FULLY OPERATIONAL AND RELIABLE ATMOSPHERE SYSTEMS ARE OBTAINED AT THE COMPLETION OF THE WORK. NOTIFY ARCHITECT/ENGINEER OF ANY SYSTEMS FOUND TO BE OF QUESTIONABLE AVERAGE CONDITION. BRAKE HORSEPOWER **BROWN & SHARPE WIR** . ALL EXISTING MECHANICAL EQUIPMENT AND DEVICES SHALL REMAIN UNLESS BRITISH THERMAL UNI SPECIFICALLY NOTED TO BE REMOVED. BRITISH THERMAL UNI . DEMOLISHED MATERIALS - UNLESS SPECIFICALLY REQUESTED BY THE OWNER, ALL 1000 BRITISH THERMAL DEMOLISHED MECHANICAL MATERIALS SHALL BECOME THE PROPERTY OF THE BUILDING CONTRACTOR AND SHALL BE REMOVED FROM THE SITE AND DISPOSED OF BUILDING AUTOMATION PROPERLY. CELSIUS CHILLED WATER RETUR 6. CUTTING AND PATCHING - PERFORM CUTTING AND PATCHING FOR MECHANICAL CHILLED WATER SUPPL WORK SO AS TO MINIMIZE DAMAGE TO CEILINGS, FLOORS AND WALLS. REFER TO COEFFICIENT, VALVE F ARCHITECTURAL DRAWINGS AND GENERAL SPECIFICATIONS SECTIONS FOR SPECIFIC RESPONSIBILITIES REGARDING CUTTING AND PATCHING. COEFFICIENT OF PERF COMPRESSOR THESE DRAWINGS ARE COMPILED BY THE ARCHITECT/ENGINEER FROM THE OWNER'S CONCRETE AS-BUILT RECORD DRAWINGS AND LIMITED FIELD VERIFICATION OF EXISTING CONDENS(-ER, -ING, -A CONDITIONS FOR THE PURPOSE OF INDICATING THE WORK REQUIRED AND ARE CONNECTION BELIEVED TO BE CORRECT. NOTWITHSTANDING, THE CONTRACTOR SHALL VERIFY CONTINUATION ALL DUCTWORK, EQUIPMENT LOCATIONS, DIMENSIONS AND ALL FIELD CONDITIONS AFFECTING HIS WORK. COOLING LOAD CUBIC FEET . WHERE MECHANICAL SYSTEMS PASS THROUGH THE DEMOLITION AREAS TO SERVE CUBIC INCH OTHER PORTIONS OF THE PREMISES, THEY SHALL REMAIN OR BE SUITABLY CUBIC FEET PER MINU RELOCATED AND THE SYSTEM RESTORED TO NORMAL OPERATION. ADVISE THE CFM, STANDARD CONE ARCHITECT/ENGINEER IMMEDIATELY IF SUCH CONDITIONS ARE UNCOVERED BEFORE DECIBEL PROCEEDING WITH ADDITIONAL WORK. DEGREE). PROTECT ALL EXISTING LIFE SAFETY SYSTEMS, FIRE ALARM AND PUBLIC ADDRESS DEDICATED OUTDOOR SYSTEMS AND MAINTAIN THEM IN OPERATION THROUGHOUT THE PROGRESS OF THE DEGREES FAHRENHEIT WORK. NOTIFY THE OWNER AND ARCHITECT/ENGINEER IN WRITING OF SHUTDOWNS DETAIL ARE REQUIRED PRIOR TO ANY OUTAGE OF SERVICE. WHERE THE DURATION OF A **DEW-POINT TEMPERAT** PROPOSED OUTAGE CANNOT BE TOLERATED BY THE OWNER, PROVIDE TEMPORARY DIAMETER CONNECTIONS AS REQUIRED MAINTAINING SERVICE. DIAMETER, INSIDE 0.SURVEY THE EFFECTED AREAS BEFORE SUBMITTING A BID AS ALL EXISTING DIAMETER, OUTSIDE CONDITIONS CANNOT BE COMPLETELY DEPICTED ON THE DRAWINGS AND SOME DIFFERENCE OR DELT/ UNUSUAL CONDITIONS EXIST. DIGITAL INPUT DIGITAL OUTPUT 1.IF ANY UNUSUAL STRUCTURAL OR ARCHITECTURAL CONDITIONS ARE DOMESTIC HOT WATEF ENCOUNTERED DURING DEMOLITION, CONTACT THE ARCHITECT/ENGINEER. DOMESTIC HOT WATEF 2.REMOVE AIR CONDITIONING, REFRIGERATION, AND OTHER EQUIPMENT DRY-BULB TEMPERATI CONTAINING REFRIGERANTS WITHOUT RELEASING CHLOROFLUOROCARBON DUCTLESS SPLIT SYST REFRIGERANTS TO THE ATMOSPHERE IN ACCORDANCE WITH THE CLEAN AIR ACT DUCTLESS SPLIT SYST AMENDMENT OF 1990. RECOVER ALL REFRIGERANTS PRIOR TO REMOVING AIR ENERGY EFFICIENCY F CONDITIONING, REFRIGERATION, AND OTHER EQUIPMENT CONTAINING EFFICIENCY REFRIGERANTS AND DISPOSE OF IN ACCORDANCE WITH THE PARAGRAPH ENTITLED "DISPOSAL OF OZONE DEPLETING SUBSTANCE (ODS)." TURN IN SALVAGED CLASS I ELECTRIC UNIT HEATE ODS REFRIGERANTS AS SPECIFIED IN PARAGRAPH, "SALVAGED MATERIALS AND ELEVATION EQUIPMENT." ENTERING ENTERING WATER TEM ENTERING AIR TEMPER EXISTING EXTERNAL AMBIENT T EXTERNAL STATIC PRE MECHANICAL GENERAL SAFETY NOTES EXHAUST AIR EXHAUST FAN IF ANY EQUIPMENT PLANNED FOR DEMOLITION CONTAINS REFRIGERANT, THEN THE FACE VELOCITY CONTRACTOR IS REQUIRED TO CAPTURE ALL REFRIGERANT FOR REUSE OR FAHRENHEIT RECYCLING IN COMPLIANCE WITH SECTION 608 OF EPA CLEAN AIR ACT. WORK MUST FEET PER MINUTE BE CONDUCTED UNDER SUPERVISION OF AN EPA CERTIFIED TECHNICIAN. FEET PER SECOND . WHERE PIPING CONTAINS GAS THAT IS TO BE REMOVED OR WORKED ON, PROCEDURE FLOOR OD NCGC 406.7.1 ALONG WITH NFPA 54 7.2.7 AND 8.3.1 SHALL BE OBSERVED.THE LINE FOOT OR FEET SHALL BE FIRST DISCONNECTED FROM ALL SOURCES OF GAS PRESSURE, VENTED TO FULL LOAD AMPS THE OUTDOORS, AND THEN THOROUGHLY PURGED WITH AIR, WATER, OR INERT GAS BEFORE ANY CUTTING OR WELDING IS DONE. GAGE OR GAUGE GALLONS THERMOSTATS AND SENSORS CONTAINING MERCURY SHALL BE DISPOSED IN GALLONS PER HOUR ACCORDANCE WITH EPA RESOURCE CONSERVATION AND RECOVERY ACT (RCRA). CONTRACTOR SHALL REFER TO EPA WEBSITE FOR HANDLING PROCEDURES FOR GALLONS PER MINUTE DISPOSAL AND SPILL MANAGEMENT OF PRODUCTS CONTAINING MERCURY. GALLONS PER DAY GAS UNIT HEATER GRAINS HEAD HEAT EXCHANGER **ACOUSTICAL CEILING NOTES** HEATING AND VENTILA

PORTIONS OF THE EXISTING ACOUSTICAL CEILING MUST BE REMOVED AND REPLACED AS PART OF THIS PROJECT. CONTRACTOR IS RESPONSIBLE FOR:

•REPLACING CEILING GRID AND/OR TILE DAMAGED DURING THE PROJECT. CONTRACTOR

PIPE HANGERS AND PIPE INSULATION NOTES

MECHANICAL CONTRACTOR MUST REMOVE ALL REFRIGERANT LINESET INSULATION IN ORDER TO INSPECT REFRIGERANT LINESET PIPING, CONNECTIONS, PIPE HANGERS AND SADDLES AND REPLACE / REPAIR AS REQUIRED TO PROVIDE A FULLY OPERATIONAL AND FUNCTIONAL SYSTEM. PIPE HANGERS MUST BE SPACED PER MANUFACTURE'S INSTALLATION INSTRUCTIONS. PIPE HANGERS AND PIPE INSULATION MUST BE INSPECTED DURING CONSTRUCTION BY ENGINEER BEFORE CEILING GRID IS REPLACED. RUSTED PIPE HANGERS AND SADDLES MUST BE REPLACED.

COMMUNICATIONS WITH LG OR ANY LG REPRESENTATIVE CONCERNING THIS

•REMOVAL, STORAGE, AND REINSTALLATION OF CEILING MATERIALS.

TO DOCUMENT EXISTING CONDITIONS WITH PHOTOS OR VIDEO PRIOR TO START OF WORK. THE ARCHITECT'S DETERMINATION OF DAMAGED MATERIALS IS FINAL.

HEATING, VENTILATION HEIGHT HERTZ

HIGH DENSITY POLYPE HIGH-PRESSURE STEA HORSEPOWER, HEAT P

HOT WATER COIL HOUR(S)

HUMIDITY, RELATIVE INTEGRATED PART LOA INCH

IONS			
D	ABBREVIATION		ABBREVIATION
ĸ	AFF		
	ASL	IRON PIPE SIZE	IPS
_	ACL	KILOVOLT-AMP	KVA
E			КW
	AHU OR AH	LEAVING AIR TEMPERATURE	
STATION	AFMA	LEAVING WATER TEMPERATURE	LWT
	AMB		LG
	AO	MAXIMUM OVERCURRENT PROTECTION	MOCP
-	&	MEDIUM-PRESSURE STEAM	MPS
Γ			
	ARCH	MINIMUM CIRCUIT AMPERES	MCA
	ATM	MINUTE	MIN
	AVG		MFR
E GAGE	B&S	NOISE CRITERIA	
	BTU	NON-STANDARD PART LOAD	NPLV
PER HOUR	MBH	NORMALLY OPEN	NO
UNIT		NORMALLY CLOSED	
SYSTEM	BAS	NOT IN CONTRACT	
	°C	NOT TO SCALE	NTS
RN	CHWR	NUMBER	NO
LOW	CV	OUNCE	OC
DRMANCE FACTOR	COP	OUTDOOR UNIT	ODU
	COMP		OA
,	CONN	PARTS PER MILLION	PPM
	CONT	PERCENT	%
		PHASE	PH
		POUNDS POUNDS PER SQUARE FOOT	PSF
Ē	CFM	POWER VENTILATOR	PV
TIONS	SCFM	PRESSURE	PRESS
		PRESSURE REDUCING VALVE	PRV PSV
AIR SYSTEM	DOAS	PUMPED CONDENSATE	PC
	DEG. F	QUANTITY	QTY
	DET		RLA
JRE	DIA	REDUCED PRESSURE BACKFLOW PREVENTER	RPZ
	ID	REFRIGERANT (12, 22, ETC.)	R22, R410
	OD	REFRIGERANT LIQUID	RL
			RS REOD OB REO'D
	DO	RELATIVE HUMIDITY	RH
	DHW	RETURN AIR	RA
	DHWR	REVOLUTIONS PER MINUTE	RPM
	DAH	ROOF VENTILATOR	RV
EM HEAT PUMP	DHP	ROOF TOP UNIT	RTU
ATING	ERR		SF
)		SEASONAL ENERGY EFFICIENCY RATIO	SEER
х	EL	SHADING COEFFICIENT	SC
	ENT	SPECIFICATION	SPEC
	EWT	SQUARE	SQ
ATORE	(X)	STANDARD STATIC PRESSURE	SP
MPERATURE	EAT	SUPPLY	SPLY
SSURE	ESP	SUPPLY AIR	SA
	FVEL	THERMOSTAT	T STAT
	°F	TONS OF REFRIGERATION	TONS
	FPM FPS		
	FLR	TOTAL DYNAMIC HEAD	TDH
	FT	TYPICAL	ТҮР
	FLA		U
	GA	UNDER GROUND	
	GPH	UNIT HEATER - ELECTRIC	
	GPM		VAV
	GPD GUH		
	GR	VELOGITI VENTILATION, VENT	
	HD	VENT THRU ROOF	VTR
	HX	VERTICAL	VERT
			V νΔ
	HGT	VOLUME	VOL
	HZ	WATER PRESSURE DROP	WPD
OPYLENE	HDPE	WATER GAUGE	WG
	HPS HP		W
	HWC	WITH	
	HR	WEIGHT	WT
	RH	WET BULB	WB
U VALUES			
		· · · · · ·	



REVISION:

NOTE: ALL ABBREVIATIONS MAY NOT BE USED IN PROJECT.

























	3		4	

1

		FRIGERAN	FLOW AIR HA		SCHEDULE	=																	
	DRAWING CODE (UNIT NUMBER)	ROOM NUMBER	OUTDOOR UNIT BAS	SIS OF DESIGN	BASIS OF DESIGN MODEL	UNIT CONFIGURATION	NOMINAL CAPACITY (BTU/h) TOTAL COOLING SENSIBLE CO		CORF G TOTA	RECTED CAPACITY (BTU L COOLING SENSIBLE	/h) COOLING	ROOM DES	SIGN TE	MP.(RETURN AIR TEMP.)(°F) COOLING WBT HEATING DBT	AIRF (CFN	LOW RATE PIPI 1) LIQI	ING CONNECTIONS(IN)	POWER SUP VOLTS	PLY PHASE	Hz RLA		ACCES	SORIES
	1-20 (ALTERNATE G-1) 1-3 (ALTERNATE G-1)	120 H 101 H	HP-1 LG HP-1 LG		ARNU153TQD4 ARNU073TRD4	CASSETTE 4WAY CASSETTE 4WAY	15400 7500	11100 5400	17100 8500	15400 7500	11104 5399	17100 8500	80.0 80.0	67.0 67.0	70.0 70.0	388/353/328 265/247/212	1/4 · · · · · · · · · · · · · · · · · · ·	1/2 208~230V 1/2 208~230V	1Ph 1Ph	60Hz 60Hz	0.2	1,2,3,4,5 1,2,3,4,5	A,E
	1-1 (ALTERNATE G-1) 1-4 (ALTERNATE G-1)	100 H	HP-1 LG HP-1 LG		ARNU073TRD4 ARNU123TRD4	CASSETTE 4WAY CASSETTE 4WAY	7500 12300	5400 8900	8500 13600	7500 12300	5399 8800	8500 13600	80.0 80.0	67.0 67.0	70.0 70.0	265/247/212 307/283/247	1/4 1/4	1/2 208~230V 1/2 208~230V	1Ph 1Ph	60Hz 60Hz	0.2	1,2,3,4,5 1,2,3,4,5	A,B
	1-16 (ALTERNATE G-1) 1-18 (ALTERNATE G-1)	116 H	HP-1 LG HP-1 LG		ARNU053TRD4 ARNU053TRD4	CASSETTE 4WAY CASSETTE 4WAY	5500 5500	3900 3900	6100 6100	5500 5500	3900 3900	6100 6100	80.0 80.0	67.0 67.0	70.0 70.0	265/247/212 265/247/212	1/4	1/2 208~230V 1/2 208~230V	1Ph 1Ph	60Hz 60Hz	0.2	1,2,3,4,5 1,2,3,4,5	A,E
D	1-19 (ALTERNATE G-1) 1-17 (ALTERNATE G-1)	119 H	HP-1 LG HP-1 LG		ARNU053TRD4 ARNU153TQD4	CASSETTE 4WAY CASSETTE 4WAY	5500 15400	3900 11100	6100 17100	5500 15400	3900 11104	6100 17100	80.0 80.0	67.0 67.0	70.0 70.0	265/247/212 388/353/328	1/4 · · · · · · · · · · · · · · · · · · ·	1/2 208~230V 1/2 208~230V	1Ph 1Ph	60Hz 60Hz	0.2	1,2,3,4,5 1,2,3,4,5	A,E
	1-14 (ALTERNATE G-1) 1-22 (ALTERNATE G-1)	113 H 125 H	HP-1 LG HP-1 LG		ARNU123TRD4 ARNU183TQD4	CASSETTE 4WAY CASSETTE 4WAY	12300 19100	8900 13800	13600 21500	12300 19100	8800 12590	13600 21500	80.0 80.0	67.0 67.0	70.0 70.0	307/283/247 396/388/353	1/4 · · · · · · · · · · · · · · · · · · ·	1/2 208~230V 1/2 208~230V	1Ph 1Ph	60Hz 60Hz	0.2	1,2,3,4,5 1,2,3,4,5	A,E
	1-21 (ALTERNATE G-1) 1-15 (ALTERNATE G-1)	124 H 115 H	HP-1 LG HP-1 LG		ARNU053TRD4 ARNU053TRD4	CASSETTE 4WAY CASSETTE 4WAY	5500 5500	3900 3900	6100 6100	5500 5500	3900 3900	6100 6100	80.0 80.0	67.0 67.0	70.0 70.0	265/247/212 265/247/212	1/4	1/2 208~230V 1/2 208~230V	1Ph 1Ph	60Hz 60Hz	0.2	1,2,3,4,5 1,2,3,4,5	A,E
	1-13 (ALTERNATE G-1) 2-41 (ALTERNATE G-1)	110 H 221 H	HP-1 LG HP-1 LG		ARNU093SJS4 ARNU123TRD4	WALL MOUNTED CASSETTE 4WAY	9600 12300	7808 8900	10900 13600	9600 12300	7293 8800	10900 13600	80.0 80.0	67.0 67.0	70.0	275/254/208 307/283/247	1/4 7	1/2 208~230V 1/2 208~230V	1Ph 1Ph	60Hz 60Hz	0.25	1,2,3,4,5	A,E
	2-42 (ALTERNATE G-1) 2-44 (ALTERNATE G-1)	222 F 224 F	HP-1 LG HP-1 LG		ARNU0731RD4 ARNU073SJS4	WALL MOUNTED	7500	6682 5400	8500	7500	6106	8500	80.0	67.0	70.0	265/247/212 254/240/208	1/4 1/4	1/2 208~230V 1/2 208~230V 1/2 208~230V	1Ph 1Ph	60Hz 60Hz	0.2	1,2,3,4,5 1,2,3,4,5	A,E
	1-6 (ALTERNATE G-1) 1-7 (ALTERNATE G-1) 1.5 (ALTERNATE C.1)	103 F	HP-1 LG HP-1 LG		ARNU0731RD4 ARNU053TRD4	CASSETTE 4WAY	5500	3900	8500 6100	5500	3900	6100	80.0	67.0	70.0	265/247/212	1/4 1/4	1/2 208~230V 1/2 208~230V 1/2 208~230V	1Ph 1Ph	60Hz 60Hz	0.2	1,2,3,4,5	A,E
	1-8 (ALTERNATE G-1)	102 F	HP-1 LG		ARNU153TQD4 ARNU123TRD4	CASSETTE 4WAY	12300	8900	17100	12300	8800	17100	80.0	67.0	70.0	388/353/328 307/283/247	1/4	1/2 208~230V 1/2 208~230V 1/2 208~230V	1Ph 1Ph	60Hz 60Hz	0.2	1,2,3,4,5	A,E
	1-9 (ALTERNATE G-1) 1-10 (ALTERNATE G-1) 1.2 (ALTERNATE G.1)	105 F	HP-1 LG HP-1 LG		ARNU123TRD4 ARNU123TRD4	CASSETTE 4WAY	12300	8900	13600 13600	12300	8800	13600	80.0	67.0	70.0	307/283/247 307/283/247	1/4 1/4	1/2 208~230V 1/2 208~230V 1/2 208~230V	1Ph 1Ph	60Hz 60Hz	0.2	1,2,3,4,5	A,E
	5-A6 (ALTERNATE G-2)	533 H	HP-1 LG		ARNU073SJS4	WALL MOUNTED	7500	6682	8500	7500	6106	8500	80.0	67.0 67.0	70.0	254/240/208	1/4	1/2 208~230V 1/2 208~230V	1Ph 1Ph	60Hz	0.2	1,2,3,4,5	A,E
	5-85 (ALTERNATE G-2)	502 H	HP-5 LG		ARNU153TQD4	CASSETTE 4WAY	15400	11100	17100	15400	11104	17100	80.0 80.0	67.0	70.0	388/353/328	1/4	1/2 208~230V 1/2 208~230V	1Ph 1Ph	60Hz	0.2	1,2,3,4,5	A,E
	5-A7 (ALTERNATE G-2) 5-A5 (ALTERNATE G-2)	502 H	HP-5 LG		ARNU153TQD4 ARNU153TQD4	CASSETTE 4WAY	15400	11100	17100	15400	11104	17100	80.0 80.0	67.0	70.0	388/353/328	1/4	1/2 208~230V 1/2 208~230V	1Ph 1Ph	60Hz	0.2	1,2,3,4,5	A,E
	5-98 (ALTERNATE G-2) 5-99 (ALTERNATE G-2)	516 H	HP-5 LG		ARNU153TQD4	CASSETTE 4WAY	15400	11100 11100	17100 17100	15400	11104	17100	80.0	67.0 67.0	70.0	388/353/328	1/4 1/4	1/2 208~230V 1/2 208~230V	1Ph 1Ph	60Hz	0.2	1,2,3,4,5	A,E
c	5-0A (ALTERNATE G-2) 5-86 (ALTERNATE G-2)	516 H	HP-5 LG		ARNU153TQD4 ARNU053TRD4	CASSETTE 4WAY CASSETTE 4WAY	15400	11100 3900	17100 6100	15400	11104 3900	17100 6100	80.0 80.0	67.0 67.0	70.0	388/353/328 265/247/212	1/4 · · · · · · · · · · · · · · · · · · ·	1/2 208~230V 1/2 208~230V	1Ph 1Ph	60Hz 60Hz	0.2	1,2,3,4,5	A,E
	5-87 (ALTERNATE G-2) 5-A1 (ALTERNATE G-2)	504 H	HP-5 LG HP-5 LG		ARNU053TRD4 ARNU053TRD4	CASSETTE 4WAY CASSETTE 4WAY	5500	3900 3900	6100 6100	5500 5500	3900 3900	6100 6100	80.0 80.0	67.0 67.0	70.0	265/247/212 265/247/212	1/4 -	1/2 208~230V 1/2 208~230V	1Ph 1Ph	60Hz 60Hz	0.2	1,2,3,4,5 1,2,3,4,5	A,E
	5-A4 (ALTERNATE G-2) 5-88 (ALTERNATE G-2)	531 H 505 H	HP-5 LG HP-5 LG		ARNU053TRD4 ARNU053TRD4	CASSETTE 4WAY CASSETTE 4WAY	5500	3900 3900	6100 6100	5500 5500	3900 3900	6100 6100	80.0 80.0	67.0 67.0	70.0	265/247/212 265/247/212	1/4 · · · · · · · · · · · · · · · · · · ·	1/2 208~230V 1/2 208~230V	1Ph 1Ph	60Hz 60Hz	0.2	1,2,3,4,5 1,2,3,4,5	A,E
	5-89 (ALTERNATE G-2) 5-0B (ALTERNATE G-2)	506 H 517 H	HP-5 LG HP-5 LG		ARNU053TRD4 ARNU053TRD4	CASSETTE 4WAY CASSETTE 4WAY	5500 5500	3900 3900	6100 6100	5500 5500	3900 3900	6100 6100	80.0 80.0	67.0 67.0	70.0 70.0	265/247/212 265/247/212	1/4 · · · · · · · · · · · · · · · · · · ·	1/2 208~230V 1/2 208~230V	1Ph 1Ph	60Hz 60Hz	0.2	1,2,3,4,5 1,2,3,4,5	A,E
	5-97 (ALTERNATE G-2) 5-96 (ALTERNATE G-2)	514 H 513 H	HP-5 LG HP-5 LG		ARNU123TRD4 ARNU073TRD4	CASSETTE 4WAY CASSETTE 4WAY	12300 7500	8900 5400	13600 8500	12300 7500	8800 5399	13600 8500	80.0 80.0	67.0 67.0	70.0 70.0	307/283/247 265/247/212	1/4 · · · · · · · · · · · · · · · · · · ·	1/2 208~230V 1/2 208~230V	1Ph 1Ph	60Hz 60Hz	0.2	1,2,3,4,5 1,2,3,4,5	A,E
	5-95 (ALTERNATE G-2) 5-94 (ALTERNATE G-2)	512 H 511 H	HP-5 LG HP-5 LG		ARNU053TRD4 ARNU053TRD4	CASSETTE 4WAY CASSETTE 4WAY	5500 5500	3900 3900	6100 6100	5500 5500	3900 3900	6100 6100	80.0 80.0	67.0 67.0	70.0 70.0	265/247/212 265/247/212	1/4 1/4	1/2 208~230V 1/2 208~230V	1Ph 1Ph	60Hz 60Hz	0.2	1,2,3,4,5 1,2,3,4,5	A,B
	5-0E (ALTERNATE G-2) 5-0C (ALTERNATE G-2)	520 H 518 H	HP-5 LG HP-5 LG		ARNU053TRD4 ARNU073TRD4	CASSETTE 4WAY CASSETTE 4WAY	5500 7500	3900 5400	6100 8500	5500 7500	3900 5399	6100 8500	80.0 80.0	67.0 67.0	70.0 70.0	265/247/212 265/247/212	1/4 · · · · · · · · · · · · · · · · · · ·	1/2 208~230V 1/2 208~230V	1Ph 1Ph	60Hz 60Hz	0.2	1,2,3,4,5 1,2,3,4,5	A,B
	5-93 (ALTERNATE G-2) 5-92 (ALTERNATE G-2)	510 H 509 H	HP-5 LG HP-5 LG		ARNU053TRD4 ARNU053TRD4	CASSETTE 4WAY CASSETTE 4WAY	5500 5500	3900 3900	6100 6100	5500 5500	3900 3900	6100 6100	80.0 80.0	67.0 67.0	70.0	265/247/212 265/247/212	1/4 1/4	1/2 208~230V 1/2 208~230V	1Ph 1Ph	60Hz 60Hz	0.2	1,2,3,4,5 1,2,3,4,5	A,B A,E
	5-AU (ALTERNATE G-2) 5-OF (ALTERNATE G-2)	522 F	HP-5 LG		ARNU053TRD4 ARNU053TRD4	CASSETTE 4WAY	5500	3900 3900	6100 6100	5500	3900	6100 6100	80.0	67.0	70.0	265/247/212 265/247/212	1/4 1/4	1/2 208~230V 1/2 208~230V 1/2 208~230V	1Ph 1Ph	60Hz 60Hz	0.2	1,2,3,4,5	A,B
	5-00 (ALTERNATE G-2) 5-90 (ALTERNATE G-2)	519 F	HP-5 LG		ARNU053TRD4 ARNU053TRD4	CASSETTE 4WAY	5500	3900 3900 3900	6100 6100	5500	3900 3900	6100	80.0	67.0 67.0	70.0	265/247/212	1/4	1/2 208~230V 1/2 208~230V	1Ph 1Ph	60Hz	0.2	1,2,3,4,5	А, В А, В А, В
	5-A3 (ALTERNATE G-2) 5-91 (ALTERNATE G-2)	531 F	HP-5 LG		ARNU053TRD4	CASSETTE 4WAY	5500	3900	6100 6100	5500	3900	6100	80.0 80.0	67.0	70.0 70.0	265/247/212	1/4	1/2 208~230V 1/2 208~230V	1Ph 1Ph	60Hz	0.2	1,2,3,4,5	A,B A,B A,B
	NOTES:	1 REFER TO SPECIF 2 CONTRACTOR MU	FICATIONS ON SHEET M-001 F JST HAVE A VALID / UP-TO-DA	FOR FURTHER INF	FORMATION.	FICATE.	0000		0100		0000		00.0	01.0	10.0	200/241/212				00112	0.2	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
в		3 COOLING CAPACI 4 HEATING CAPACI 5 REFER TO SCHEM	TIES ARE BASED ON INDOOR TIES ARE BASED ON INDOOR	COIL EAT OF 80/ COIL EAT OF 70°	67°F (DB), OUTDOOR F (DB), OUTDOOR OF	R OF 93°F (DB) F 23°F (DB) DR INDICATION OF REOL																	
	ACCESSORIES:	A WIRED WALL MOU B BUILT-IN CONDEN	UNTED REMOTE CONTROLLER	R WITH HUMIDITY	Ó DISPLAY, LG MODE	EL #PREMTB101																	
	VARIABLE RE	BASIS OF DESIGN	BASIS OF DESIGN BASIS						INPUT(kW)		TURF(°F)	FEFICIENC	CY		REFE			POWER	SUPPI Y		N		ESSORIES
	HP-1 (ALTERNATE G-1)	MANUFACTURER	MODEL TYPE	JLTI V 5	TAL COOLING TOT	AL HEATING TOTAL	COOLING TOTAL HEATING CO	DOLING HE	EATING 23	COOLING DBT COO	DLING WBT 79.0	HEATING DBT COOLING I 23.0	ieer (Si	EER) HEATING COP (HSPF)	3.8 R410		LP GAS HP G. 3/4 1-1/8	AS VOLTS 1-1/8 460	PHASE	Hz MCA (/ n 60Hz	A) MOCP (A) 36 50	1,2,3,4,5,6	A,B,C
	HP-5 (ALTERNATE G-2) NOTES:	LG 1 REFER TO SPECIF	ARUM192DTE5 HR_MU	JLTI V 5	192000	216000	189109 236106	14.6	23	93.0	79.0	23.0		21.4	3.8 R410	A	3/4 1-1/8	1-1/8 460	IV 3Pł	60Hz	36 50	1,2,3,4,5,6	A,B,C
		2 IEER/COP IS BASE 3 COOLING CAPACI	ED ON NON-DUCTED, AHRI 123 ITIES ARE BASED ON INDOOR	30 . R COIL EAT OF 80/	67°F (DB), OUTDOOR	R OF 93°F (DB)																	
		4 HEATING CAPACI 5 REFER TO SCHEM 6 CONTRACTOR MU	TIES ARE BASED ON INDOOR /IATIC PIPING/CONTROL DIAGI JST HAVE A VALID / UP-TO-DA	COIL EAT OF 70° RAM ON MECHAN ATE LG VRE INSTA	F (DB), OUTDOOR OF IICAL DRAWINGS FO ALL TRAINING CERTIE	F 23°F (DB) PR INDICATION OF REQU FICATE	JIRED INDOOR UNIT REMOTE CON	NTROLLERS, SYSTE	EM CONTROLL	ERS, AND INTEGRATION	I DEVICES.												
	ACCESSORIES:	A MANUFACTURER	S STANDARD SEACOAT PROT ICM450A OR APPROVED EQU	TECTION JAL, FIELD INSTAL	LED BY THE M.C. IN	A NEMA 3R ENCLOSUR	E ON THE OUTDOOR UNIT																
		C ROOF MOUNTING D PACS5A000 AC SM	ACCESSORIES TO SECURE L MART CONTROLLER.		G EQUIPMENT STAN	D																	
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	ELECTRI	CAL LEGEND			
	SYMBOL	DESCRIPTION		SYMBOL	DESCRIPTION
				©3	CEILING MOUNTED D 2 = SECOND CONTA
		CEILING FAN, SEE LIGHTING FIXTURE SCHEDULE F	FOR TYPE	-09	CEILING MOUNTED D 2 = SECOND CONTA
				Q	WALL MOUNTED DUA
	0	2x4 LIGHT FIXTURE, RECESSED OR SURFACE MOU	JNTED	ġ	
D		2x2 LIGHT FIXTURE, RECESSED OR SURFACE MOU	JNTED		LONG RANGE SENSO
		4FT OR 8FT LIGHT FIXTURE, RECESSED OR SURFA	ACE MOUNTED	-03	OCCUPANCY SENSOR TWO SIDED AISLEWA
		4FT OR 8FT CHANNEL LIGHT FIXTURE, SUSPENDE	D OR SURFACE MOUNTED	0\$	WALL MOUNTED DUA CONTROL, 180° COVE
		UNDER COUNTER LIGHT FIXTURE		О\$2	WALL MOUNTED DUA CONTROL, 180° COVE
	• •	DIRECT/INDIRECT FIXTURE, SUSPENDED		O\$D	WALL MOUNTED DUA ON/OFF CONTROL WI
	<u>, , , , ,</u>	TRACK WITH LIGHT KIT		ОŞЕ	WALL MOUNTED DUA
	Ø	RECESSED LIGHT FIXTURE		с <u>г</u> .	MOUNTED AT 46" AFF
	¤	SURFACE LIGHT FIXTURE		्रा O	CONTROL, MOUNTED
	Å	RECESSED WALL WASH LIGHT FIXTURE		Φ Υ	UNLESS OTHERWISE
	ğ	WALL MOUNTED LIGHT FIXTURE		Ψ	
	*	EXIT SIGN, SINGLE FACE, CEILING, CHEVRON INDI	CATES DIRECTION.	₩ ₩	
	*	EXIT SIGN, DOUBLE FACE, CEILING MOUNTED, CH	EVRON INDICATES DIRECTION.	± ⊕	RECEPTACLE, DUPLE
С	** *	EXIT SIGN W/EMERGENCY LIGHTING UNIT CEILING		#	
	♦			Ψ	RECEPTACLE, DUPLE
	Y tet	EXIT SIGN, SINGLE FACE, WALL/END MOUNTED, C			RECEPTACLE, DUPLE
		EXIT SIGN, DOUBLE FACE, WALL/END MOUNTED, C		 ⊕	RECEPTACLE, QUADE
	\ ♥	DIRECTION.	ND MOUNTED, CHEVRON INDICATES	 ₽	RECEPTACLE, QUADE
		EMERGENCY LIGHTING UNIT, 2-HEAD WITH BATTE SWITCHED"	RY BACK-UP, WALL MOUNTED, "NOT	Ŷ	RECEPTACLE, 250VA
	\$	EMERGENCY LIGHTING UNIT, 2-HEAD WITH BATTE	RY BACK-UP, CEILING MOUNTED, "NOT	Ŷ	RECEPTACLE, 480VA
				Ф m	RECEPTACLE, DUPLE
		LETTER ADJACENT TO FIXTURE INDICATES FIXTURE	URE TYPE, SEE LIGHTING FIXTURE SCHEDULE	Φ	UPS FED RECEPTACL
	\frown	POWER & SWITCH LEG		 ⊕	UPS FED RECEPTACE
		UNSWITCHED LEG CONDUIT, HOME RUN TO PANEL BOARD			**FOR ALL RECEPTAC
	¢	PHOTOCELL, REMOTE MOUNTED, 120V, 10 SECON RATED FOR 1500 W @ 120 VAC AND 4000 W @ 277	D TIME DELAY, UL WET LOCATION, VAC (FOR USE WITH LAMP SOURCE(S)		+XX"- INDICATES ELECTRICAL MO WP - LISTED WEA
в	ـــــــــــــــــــــــــــــــــــــ	SHOWN.			TR - TAMPER RES S - INDICATES TH
	Ŷ	SEE ELECTRICAL DEVICES MOUNTING HEIGHT DE FIXTURE SWITCHING, WHEN INDICATED.	TAIL. LOWER CASE LETTER INDICATES	204/2/20	U - USB IN-WALL
	\$3	3-WAY SWITCH, 120/277 VAC, 20A, MOUNTED AT 46 ELECTRICAL DEVICES MOUNTING HEIGHT DETAIL. SWITCHING, WHEN INDICATED.	" AFF UNLESS OTHERWISE NOTED SEE LOWER CASE LETTER INDICATES FIXTURE	- 30A/3/3R, W/ 30AF ピ	DISCONNECT SWITCH ##A = DISCONNECT
	\$4	4-WAY SWITCH 120/277 VAC, 20A, MOUNTED AT 46 ELECTRICAL DEVICES MOUNTING HEIGHT DETAIL.	" AFF UNLESS OTHERWISE NOTED SEE LOWER CASE LETTER INDICATES	Псв	ENCLOSED BREAKER ##A = BREAKER SIZI
	နုန	INDICATES BI-LEVEL SWITCHING, 1 SWITCH SWITCHING, 1 SWITCH SWITCHING, 1 SWITCH SWITCHING, 1 STAR STAR STAR STAR STAR STAR STAR STAR	CHES OUTSIDE LAMPS, 1 SWITCH SWITCHES FING HEIGHT DETAIL. LOWER CASE LETTER	"Equip"	VARIABLE FREQUENO
	4	INDICATES FIXTURE SWITCHING, WHEN INDICATE	D. /AC, 20A, MOUNTED AT 46" AFF UNLESS		STARTER, FULL VOLT
	ን WP ኮጵ	OTHERWISE NOTED. DIMMER SWITCH, 0-10V OR LINE VOLTAGE RATING	AS REQUIRED BY LIGHTING FIXTURE(S). LINE	"Equip" #AMP ☐J HMCP ⊠	COMBINATION START INDICATED ON DRAW
	AFC\$	VOLTAGE RATED DIMMERS MUST BE 1500W FOR 1 ADJUSTABLE FAN CONTROL, 120/277VAC, SINGLE	120 VAC AND 4000W 277VAC MINIMUM. POLE, 20A, MOUNTED AT 46" AFF UNLESS	(#HP) NEMA # MS##	MANUAL MOTOR STA
		OTHERWISE NOTED, SEE ELECTRICAL DEVICES M LETTER INDICATES FIXTURE SWITCHING, WHEN IN	OUNTING HEIGHT DETAIL. LOWER CASE IDICATED	•	## = AMPERAGE RA
	TYPICAL	ABBREVIATIONS:			
	A, AMP AMPE AFF ABOV AFG ABOV	RE () E FINISHED FLOOR () E FINISHED GRADE	CR CONTROL RELAY, CORROSION RESI CS CONTROL SWITCH	STANT	FA FIRE ALAR FAAP FIRE ALAR FACP FIRE ALAR
	AHU AIR H AIC AMPE	ANDLING UNIT (CAPACITY (CAPACITY)	CT CURRENT TRANSFORMER CU COPPER		FBO FURNISHE FLA FULL LOAD
A	ATS AUTO AWG AMER	MATIC TRANSFER SWITCH	DC DIRECT CURRENT DI DOOR INTERLOCK		FLUOR FLUORESC FLR FLOOR
	BRKR BREA		DISCONNECT SWITCH DN DOWN EF FXHALIST FAN		GEN GENERATO
	CAB CABI CAT CATA	IET ELOG	EMERGENCY EMERCENCY EMT ELECTRICAL METALLIC TURING		GFI, GFCI GROUND F HH HANDHOI
	CL CHLC CB CIRC	RINE E	ENCL ENCLOSURE EPO EMERGENCY POWER OFF		HID HIGH INTEL HOA HAND-OFF
	CCTV CLOS CKT CIRC	ED CIRCUIT TELEVISION	EQ, EQIP EQUIPMENT EWC ELECTRIC WATER COOLER		HP HORSE PO HPF HIGH POW
	CLG CEILI CP CONT	NG E E E E E E E E E E E E E E E E E E E	EWH ELECTRIC WATER HEATER EPRF EXPLOSION PROOF		HPS HIGH PRES
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	SYMBOL	DESCRIPTION	
DUAL TECHNOLOGY OCCUPANCY SENSOR, 360° COVERAGE ACT TO BE PROVIDED FOR CONNECTION TO BUILDING MANAGEMENT	•	2 START/STOP PUSHBUT	TON CONTROLLER
DUAL TECHNOLOGY OCCUPANCY SENSOR, LONG RANGE COVERAGE ACT TO BE PROVIDED FOR CONNECTION TO BUILDING MANAGEMENT	Ğ	3 UP/STOP/DN PUSHBUT	TON CONTROLLER
AL TECHNOLOGY OCCUPANCY SENSOR, 180° COVERAGE ACT TO BE PROVIDED FOR CONNECTION TO BUILDING MANAGEMENT	EPO	WALL MOUNTED 120V EN WITH MANUAL PULL RES AT 46" AFF UNLESS OTHE	AERGENCY OFF PUSH BUITON WITH RED MUSHROOM STYLE HEAD T, NORMALLY OPEN, WITH CLEAR PROTECTIVE COVER. MOUNTED ERWISE NOTED.
AL TECHNOLOGY OCCUPANCY SENSOR, PIR TECHNOLOGY R, LOW VOLTAGE (24VDC) 19mA DRAW, WATTSTOPPER CX100-1, DR. INSTALL WHERE FREE OF OBSTRUCTIONS.		WALL MOUNTED PUSH P	LATE MOUNTED AT 46" AFF UNLESS OTHERWISE NOTED.
AL TECHNOLOGY OCCUPANCY SENSOR, PIR TECHNOLOGY R, LOW VOLTAGE (24VDC) 19mA DRAW, WATTSTOPPER CX100-3, AY. INSTALL WHERE FREE OF OBSTRUCTIONS.		PANELBOARD, SURFACE	OR RECESSED MOUNTED AS SHOWN. SIZE, RATINGS, AND
AL TECHNOLOGY OCCUPANCY SENSOR, SINGLE BUTTON ON/OFF ERAGE, MOUNTED AT 46" AFF UNLESS OTHERWISE NOTED.	480/277V	WORKING SPACES FOR	D ON PANEL SCHEDULE. CONTRACTOR IS RESPONSIBLE FOR IN FRONT OF ELECTRICAL PANEL. SEE NEC TABLE 110.26 ADDITIONAL CLEARANCE CONDITIONS.
ERAGE, MOUNTED AT 46" AFF UNLESS OTHERWISE NOTED.			
AL TECHNOLOGY OCCUPANCY SENSOR, DUAL BUTTON ITH 0-10V DIMMING, 180° COVERAGE, MOUNTED AT 46" AFF NOTED. WATTSTOPPER DW-311 OR EQUAL.		TRANSFORMER, SIZE AS	INDICATED ON DRAWING
AL TECHNOLOGY OCCUPANCY SENSOR, DUAL BUTTON ON/OFF ERAGE, ADDITIONAL POWER SUPPLY FOR FAN OPERATION, - UNLESS OTHERWISE NOTED.		METER	
ITAL TIMED SWITCH (5 MIN'S TO 12 HR'S), SINGLE BUTTON ON/OFF O AT 46" AFF UNLESS OTHERWISE NOTED.	PP	SERVICE POLE, HUBBEL, 2-CHANNELS WITH CEILII POLE WITH (2) KNOCKOU FOR MOUNTING POLES II	, LEGRAND, OR EQUAL, EXTRUDED ALUMINUM SERVICE POLE, NG TRIM, ANODIZED ALUMINUM, MULTI-SERVICE, TWO-CHANNEL JTS, (2) 20AMP RECEPTACLES. ADJUSTABLE T-BAR ASSEMBLY N MIDDLE OF CEILING. UL LISTED. EACH POWER POLE SHOWN
NOTED		ON PLAN SHALL HAVE PF	ROVISIONS FOR (2) DATA DROPS AND (1) VOICE DROP.
ED/PICTURE/CLOCK SINGLE OUTLET, 120VAC, 20A, MOUNTED AS VING.	<u><u> </u></u>	GROUND BUS, "E" INDICA TELECOMMUNICATIONS	ATES ELECTRICAL GROUND BAR, "TG" INDICATES GROUND BAR
ING HEIGHT DETAIL)		CABLE TRAY, LADDER TY	/PE
PLEX, 120VAC, 20A MOUNTED 16"AFF UNLESS OTHERWISE NOTED (SEE		CABLE TRAY, CENTER HI	UNG TYPE 'PE
PLEX, 120VAC, 20A, MOUNTED 6" ABOVE COUNTER TOP OR BACK SPLASH.			
EX, GROUND FAULT CIRCUIT INTERRUPTER TYPE, 120VAC, 20A, MOUNTED HERWISE NOTED. (SEE ELECTRICAL MOUNTING HEIGHT DETAIL)		HAND HOLE, IN GRADE, I	TER RATING AS INDICATED ON DRAWING
EX, GROUND FAULT CIRCUIT INTERRUPTER TYPE, 120VAC, 20A, COUNTER TOP OR BACK SPLASH.		HATCHING INDICATES IT INDICATED, CIRCUIT, ANI	EMS TO BE DEMOLISHED. REMOVE DEVICE, EQUIPMENT, FIXTURE D CONDUIT BACK TO SOURCE UNLESS OTHERWISE NOTED.
PLEX, GROUND FAULT CIRCUIT INTERRUPTER TYPE, 120VAC, 20A ILESS OTHERWISE NOTED (SEE ELECTRICAL MOUNTING HEIGHT DETAIL)		DEMOLITION KEY NOTE S	SYMBOL
PLEX, GROUND FAULT CIRCUIT INTERRUPTER TYPE, 120VAC, 20A, COUNTER TOP OR BACK SPLASH.		KEY NOTE SYMBOL	
C, 2 POLE, 3 WIRE, WALL MOUNTED, SIZE AS INDICATED ON DRAWING		WIRELESS ACCESS POIN	IT, 2 CAT6 DATA CABLES IN A DUAL GANG BOX
C, 2 POLE, 3 WIRE, WALL MOUNTED, SIZE AS INDICATED ON DRAWING		WITH A SINGLE GANG PI PROTECTOR AND WAP D	LASTER RING, OWNER SHALL PROVIDE SURGE EVICE, THE ELECTRICAL CONTRACTOR SHALL
EX, 120VAC, 20A CEILING MOUNTED (LAY-IN / GYPBOARD / SUSPENDED)	CLNG 🗙	INSTALL. WP - LISTED WEAT	HER-RESISTANT TYPE DEVICE
EX, 120VAC, 20A RECESSED FLOOR MOUNTED. LE, DUPLEX, 120VAC, 20A, MOUNTED 16" AFF, UNLESS OTHERWISE	2V/2D	COMBINATION DATA/TEL PROVIDE 11/4" CONDUIT	EPHONE OUTLET, MOUNTED 18" AFF UNLESS OTHERWISE NOTED. TO ABOVE ACCESSIBLE GRID CEILING W/PULL STRING FOR OUTLETS
RICAL MOUNTING HEIGHT DETAIL) LE, QUADPLEX, 120VAC, 20A, MOUNTED 16" AFF, UNLESS		LOCATED BELOW HARD ROOM. #V = NUMBER OF VOICE	(GYPBOARD) CEILINGS, ROUTE 11/4" CONDUIT TO TELEPHONE/DATA E CONNECTIONS / #D = NUMBER OF DATA CONNECTIONS, IF INDICATED
(SEE ELECTRICAL MOUNTING HEIGHT DETAIL) CLE TYPES ABOVE:		WALL TELEPHONE OUTL	ET, MOUNTED 48" AFF UNLESS OTHERWISE NOTED. PROVIDE 11/4"
MOUNTING HEIGHT OF DEVICE IN INCHES AFF (IF GIVEN) (SEE OUNTING HEIGHT DETAIL) ATHER-RESISTANT TYPE DEVICE WITH WEATHERPROOF IN USE COVER	×	BELOW HARD (GYPBOAR	EPHONE OUTLET. RECESSED CEILING MOUNTED (LAY-IN / GYPBOARD)
SISTANT HE TOP RECEPTACLE OF THE DEVICE IS CONTROLLED VIA WALL SWITCH NTED HORIZONTALLY CHARGER	©	PROVIDE 11/4" CONDUIT LOCATED BELOW HARD (ROOM.	TO ABOVE ACCESSIBLE GRID CEILING W/PULL STRING FOR OUTLETS (GYPBOARD) CEILINGS, ROUTE 11/4" CONDUIT TO TELEPHONE/DATA
H, FUSED, HEAVY DUTY, SIZE AS INDICATED ON DRAWINGS SIZE / # = NUMBER OF POLES / # = NEMA RATING. / ##AF = FUSE SIZE	2V/2D	COMBINATION POWER/D SIMILAR TO HUBBELL SI	ATA/TELEPHONE BOX, RECESSED FLOOR MOUNTED (POKE-THROUGH PT4X4BRS). PROVIDE BRASS COVER PLATE WITH FLUSH ACCESS
R, HEAVY DUTY, SIZE AS INDICATED ON DRAWINGS			ATA/TELEDHONE BOX, DECESSED ELOOD MOUNTED (CAST IN DLACE)
CY DRIVE (VFD)	2V/2D	PROVIDE BRASS COVER CONNECTION, PROVIDE	PLATE WITH FLUSH ACCESS COVERS FOR EACH PLUG IN PULL STRING IN CONDUIT. SEE DETAIL #. SHEET E###
TAGE, SIZE AS INDICATED ON DRAWINGS	2G	#V = NUMBER OF VOICE UNDER SLAB TO I #G = GANG FLOOR BOX	E CONNECTIONS / #D = NUMBER OF DATA CONNECTIONS; 1"CND NEAREST WALL, STUB ABOVE CEILING (WITH TWO DUPLEX RECEPTACLES, VOICE AND DATA
TER WITH CIRCUIT BREAKER DISCONNECT, FULL VOLTAGE, SIZE AS /INGS	FBX	4 GANG FLOOR BOX WIT OWNER FOR REQUIREM OR EQUIVALENT).	H DUPLEX RECEPTACLE AND DATA CAPABILITIES (CONFIRM WITH ENTS). PROVIDE METALLIC IN-USE COVER (HUBBELL CFB4G30CR
ARTER, ELECTRICAL CONTRACTOR SHALL COORDINATE POLES	모	JUNCTION BOX - WALL M +##" - INDICATES MOUN	IOUNTED ITING HEIGHT OF DEVICE IN INCHES AFF (if given)
IPMENT ATING WHEN INDICATED ON DRAWING	Ø	JUNCTION BOX - CEILING	G/ABOVE CEILING MOUNTED
LER	J	JUNCTION BOX - FLOOR	MOUNTED
•			
RMHVHIGH VOLTAGERM ANNUNCIATOR PANELHzHERTZRM CONTROL PANELIMCINTERMEDIATE NED BY OTHERSINCAND INCANDESCENTD AMPSJBJUNCTION BOX	METALLIC CONDUIT	MLO MTD MTG MTS MV	MAIN LUGS ONLYPH,φMOUNTEDPLCMOUNTINGPNLMANUAL TRANSFER SWITCHPPMEDIUM VOLTAGEPT

M ANNUNCIATOR PANEL	Hz	HERTZ	MTD	MOUNTED	PLC
M CONTROL PANEL	IMC	INTERMEDIATE METALLIC CONDUIT	MTG	MOUNTING	PNL
D BY OTHERS	INCAND	INCANDESCENT	MTS	MANUAL TRANSFER SWITCH	PP
AMPS	JB	JUNCTION BOX	MV	MEDIUM VOLTAGE	PT
ENT	К	THOUSAND	N, NEUT	NEUTRAL	PWR
	Kcmil	THOUSAND CIRCULAR MILLS	N/A	NOT APPLICABLE	RECPT,
D WITH EQUIPMENT	KVA	KILOVOLT AMPERE	NC	NORMALLY CLOSED	REQ'D
DR	KW	KILOWATTS	NEC	NATIONAL ELECTRIC CODE	RGS
	KWH	KILOWATT-HOURS	NIC	NOT IN CONTRACT	RM
AULT CIRCUIT INTERRUPTER	LP	LIGHTING PANEL, LIGHT POLE	NL	NIGHT LIGHT	RTU
	LTG	LIGHTING	NO	NORMALLY OPEN	SCR
NSITY DISCHARGE	MCB	MAIN CIRCUIT BREAKER	NTS	NOT TO SCALE	SH
-AUTO	MCC	MOTOR CONTROL CENTER	Р	POLE	SM
WER	MCP	MOTOR CIRCUIT PROTECTOR	PA	PUBLIC ADDRESS	SPEC
ER FACTOR	MDP	MAIN DISTRIBUTION PANEL	PB	PULL BOX, PUSH-BUTTON	SS
SSURE SODIUM	MFR	MANUFACTURER	PF	POWER FACTOR	SST
	MH	MANHOLE			

		5	_		<u>0.22.24</u> Date:
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	SYMBOL	DESCRIPTION WALL MOUNTED DOUBLE GANG BOX FOR TELEVISION MOUNTED AT 72" AFF UNLESS NOTED OTHERWISE. BOX SHALL HAVE DUPLEX RECEPTACLE AND DATA CONNECTIONS FOR TELEVISION AS DIRECTED BY OWNER/CLIENT/TENANT. BOX SHALL BE PASS & SEYMOUR TV2MW OR APPROVED EQUIVALENT.			
)	Ø	CEILING MOUNTED DOUBLE GANG BOX FOR TELEVISION RECESSED IN CEILING. BOX SHALL HAVE DUPLEX RECEPTACLE AND DATA CONNECTIONS FOR TELEVISION AS DIRECTED BY OWNER/CLIENT/TENANT. BOX SHALL BE PASS & SEYMOUR TV2MW OR APPROVED EQUIVALENT.			SNO
	ES	ELECTRIC STRIKE			<u>CTION</u>
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	DQ CR	CARD READER			R CON
		KEYPAD			<u>D FOF</u>
		MOTION DETECTOR (TYPE DENOTED)			<u>ISSUE</u> DESCF
	DWP	WALL MOUNTED CAMERA, WP INDICATES WEATHERPROOF			No:
	0	CEILING MOUNTED CAMERA			0 evision
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	₽ ₽	WALL MOUNTED SPEAKER			.4000 .5266 ers.com
		FLOOR MOUNTED DATA RACK			910.791 910.791 Scbhfenginee NC#
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		1 HOUR RATED FIRE WALL			11 ers, PL
		1 HOUR RATED FIRE WALL - EXISTING	C		ive 2840 Engine
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				with CA	ARO (11)
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	(X)OHS UGS	OVERHEAD SECONDARY CONDUCTORS - EXISTING UNDERGROUND SECONDARY CONDUCTORS		0233	
	(X)UGS	UNDERGROUND SECONDARY CONDUCTORS - EXISTING		GIN ALLEN	CRIBUIN
TS	G	ALUMINUM CLASS 1 CONDUCTOR ON ROOF			10/22/2024
A					
ATED.	c	CONTROL CABLE CONDUIT			
	\otimes	GROUND ROD, COPPER, 3/4"DIA x 10'-0" LONG			
RD)		COPPER AIR TERMINAL IN BRONZE BASE			
A	•A.	ALUMINUM AIR TERMINAL IN ALUMINUM BASE	B		S
	т) (Т)	226V - STYLE THRU-ROOF CONNECTOR (TYPE T)		T ⊥	NO
L #,	<u> </u>	230V - STYLE THRU-ROOF CONNECTOR (TYPE T1)			АТІ
CE).	" BM"	LIGHTNING CONDUCTOR CABLE CONNECTOR		REET 2840	AL EVI
·	\bigcirc	GROUNDING ELECTRODE CONDUCTOR, 10' COILED ABOVE GRADE		ACE VEF N.C.	RIC/ BBR
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φ	PHASE	SW SWITCH	1		
L	PROGRAMMABLE PANEL POWER PANEL, F	2 OGIC CONTROLLER SWBD SWITCHBOARD SWGR SWITCH GEAR 20WER POLE TEL TELEPHONE			
'R	POTENTIAL TRAN POWER	NSFORMER TPS TWISTED PAIR SHIELDED TVSS, SPD TRANSIENT VOLTAGE SURGE SUPPRESSER			
Q'D S	REQUIRED RIGID GALVANIZE	ED STEEL CONDUIT UH UNIT HEATER			
J	ROOM REMOTE TELEME	TRY UNIT UNIL UTILITY			23217
IX.	SHEET SURFACE MOUN	v volis VFD VARIABLE FREQUENCY DRIVE TED W WIRE, WATT		DESIGNED:	AJC
EC	SPECIFICATION SELECTOR SWIT	CH WH WATT-HOUR WP WEATHERPROOF			
1	STAINLESS STEE	XFMR I RANSFORMER (X) EXISTING			
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	ELECTRICAL GENERAL NOTES:			
	 ALL ELECTRICAL WORK SHALL BE IN FULL COMPLIANCE WITH NFPA 70 THE NORTH CAROLINA STATE BUILDING CODE, ALL LOCAL CODES AND ORDINANCES AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION. 	DEGREE C. WIRING. IF ANY EQUIPMENT IS RATED FOR USE WITH LESS THA CONDUCTORS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEE EVALUATION/CORRECTION.	N 75 DEGREE C. R IMMEDIATELY FOR 53. SOME EXISTING RECEPTACLE, LIGHTING OR OTHER LOA INDICATED TO BE REMOVED. IF SUCH CONDITIONS ARE	DS MAY BE SERVED BY CIRCUITS DISCOVERED, REQUEST THE
	 ALL EQUIPMENT PROVIDED BY THE CONTRACTOR SHALL BE LISTED AND LABELED BY A NATIONALLY-RECOGNIZED TESTING AGENCY, ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION, FOR THE CONDITIONS OF INSTALLATION. ALL MATERIAL, EQUIPMENT AND DEVICES SHALL BE NEW CURRENT PRODUCTS OF MANUFACTURERS REGULARLY ENGAGED IN THE PRODUCTION OF SUCH PRODUCTS. EQUIPMENT SHALL BE SUITABLE FOR ITS APPLICATION (E.G. WHEN INSTALLED OUTDOORS, IT SHALL BE WEATHERPROOF, ETC.) 	 29. DO NOT PULL CONDUCTORS UNTIL THE CONDUIT SYSTEM IS COMPLETE IN CASE OF CONCEALED WORK, "COMPLETE" MEANS UNTIL ALL ROUGH PLAST HAS BEEN COMPLETED. 30. WHERE SIZE IS NOT SHOWN ON THE DRAWINGS, BRANCH CIRCUITS SHALL AWG MINIMUM PHASE, NEUTRAL AND EQUIPMENT GROUND CONDUCTORS 	ARCHITECT/ENGINEER PROVIDE NEW CIRCUIT NUMBER INDISCRIMINATELY CONNECT TO THE NEAREST CIRCUIT. SERING OR MASONRY 54. THE EXISTING FACILITIES WILL REMAIN OCCUPIED BY TH SUCH, WORK WILL [BE DONE IN PHASES AND WILL] REQU CONTRACTOR TO ALLOW THE WORK TO PROCEED IN A T SHALL BE COORDINATED WITH THE OWNER AND GENER.	FOR THE LOAD. DO NOT IE STAFF THROUGHOUT THE PROJECT. AS JIRE SPECIAL EFFORT BY THIS TIMELY MANNER. ALL ELECTRICAL WORK AL CONTRACTOR SO AS TO MINIMIZE
D	 THE CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS FOR WORK REQUIREMENTS, THE AMOUNT OF SPACE AVAILABLE FOR ELECTRICAL EQUIPMENT, AND LAYOUT HIS WORK IN A COMPATIBLE AND COMPLEMENTARY MANNER. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THOROUGHLY FAMILIARIZING HIMSELF WITH ANY CONTRACTUAL REQUIREMENTS AS MAY BE SET FORTH IN THE OTHER DIVISIONS OF 	 RACEWAY. 31. USE #10 AWG CONDUCTORS FOR 20 AMPERE, 120 VOLT BRANCH CIRCUITS INSTALLED LENGTH GREATER THAN 75 FEET AND/OR BRANCH CIRCUIT HON 50 FEET, I.E.; #12 AWG INCREASED TO #10 AWG FOR RECEPTACLE BRANCH FEET TOTAL LENGTH (INCLUDING THE HOMERUN SEGMENT) AND HOMERUN 	WITH A TOTALDISRUPTION OF THE OWNER'S USE OF THE FACILITIES AN SEQUENCE OF THE GENERAL CONTRACTOR. SEE ARCH SPECIFICATIONS FOR ADDITIONAL INSTRUCTIONS CONC WORK.CIRCUITS OVER 7555. SEE "SELECTIVE DEMOLITION NOTES" FOR ADDITIONAL F	ND MAINTAIN THE CONSTRUCTION TECTURAL DRAWINGS AND ERNING PHASING AND SEQUENCE OF REQUIREMENTS.
	 THE PROJECT SPECIFICATIONS. 5. UNLESS SPECIFICALLY NOTED OTHERWISE, SYSTEMS PROVIDED OR INSTALLED BY THE ELECTRICAL CONTRACTOR SHALL BE COMPLETE AND FULLY-FUNCTIONING AFTER INSTALLATION. INCIDENTAL COMPONENTS MAY NOT BE SHOWN, AND ALL WORK WHICH MAY BE REASONABLY IMPLIED AS BEING INCIDENTAL TO THIS WORK, BUT REQUIRED FOR THE PROPER OPERATION OF THE EQUIPMENT OR SYSTEM, SHALL BE PROVIDED BY THE CONTRACTOR AND INCLUDED IN THE 	32. KEEP CONDUCTOR SPLICES TO A MINIMUM. INSTALL SPLICES AND TAPES T EQUIVALENT OR BETTER MECHANICAL STRENGTH AND INSULATION RATING BEING SPLICED. USE SPLICE AND TAP CONNECTORS COMPATIBLE WITH CO INSTALL CONDUCTORS AT EACH OUTLET WITH AT LEAST 6 INCHES OF SLAC AND COMPONENTS TO WIRING AND TO GROUND AS INDICATED AND INSTRU- MANUFACTURER.	 56. SAFETY 57. SAFETY 58. THAN CONDUCTORS 56. SAFETY 56. COMPLY WITH OSHA AND NEC ARC FLASH PROTECT 56. SAFETY 56. SAFETY<!--</td--><td>ION REQUIREMENTS. THE CONTRACTOR SHALL DE-ENERGIZE OVAL AND COMPLY WITH OSHA QUIPMENT TO PREVENT INADVERTENT</td>	ION REQUIREMENTS. THE CONTRACTOR SHALL DE-ENERGIZE OVAL AND COMPLY WITH OSHA QUIPMENT TO PREVENT INADVERTENT
	 BID. ADDITIONAL CIRCUITS SHALL BE INSTALLED WHEREVER NEEDED TO CONFORM TO THE SPECIFIC REQUIREMENTS OF EQUIPMENT. 6. TEMPORARY POWER CONNECTIONS AS REQUIRED SHALL BE PROVIDED BY THE CONTRACTOR 	33. DO NOT SPLICE BRANCH CIRCUIT HOMERUNS WITHOUT THE PERMISSION C ARCHITECT/ENGINEER. HOMERUNS SHALL BE CONTINUOUS FROM THE LAS SERVING PANELBOARD.	F THE ST OUTLET BOX TO THE C. WHERE EQUIPMENT IS BEING REMOVED, BUT NOT R FEEDING THE EQUIPMENT BACK TO THE POINT WHE ACCESSIBLE CONDUITS. ABANDON IN PLACE INACC	EPLACED, REMOVE THE CONDUCTORS RE THEY RECEIVE POWER. REMOVE ESSIBLE CONDUITS. AFTER REMOVAL OF
	AND INCLUDED IN THE BID. ALL TEMPORARY EQUIPMENT WIRING SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. THE CONTRACTOR SHALL PROVIDE DETAILS, METHODS, MATERIALS, ETC. FOR REVIEW PRIOR TO MAKING TEMPORARY CONNECTIONS. FURNISH AND INSTALL ALL EQUIPMENT AND MATERIALS INCLUDING CONTROL FOURMENT MOTOR STARTERS	 34. DO NOT COMBINE BRANCH CIRCUIT HOMERUNS UNLESS SPECIFICALLY IND DRAWINGS. 35. DO NOT CHANGE CIRCUITING SHOWN WITHOUT PERMISSION OF THE ARCH 	ICATED ON THE EQUIPMENT, REPAIR ANY OPENING LEFT TO MATCH FLOORS TO THE ARCHITECT/ENGINEER'S SATISFACT	SURROUNDING WALLS, CEILINGS, OR TION.
	 7. THE WORK SHALL INCLUDE COMPLETE TESTING OF ALL EQUIPMENT AND WIRING AT THE COMPLETION OF WORK AND ANY MINOR CORRECTIONS, CHANGES OR ADJUSTMENTS NECESSARY FOR THE PROPER ELINICTIONING OF THE SYSTEM AND FOURMENT. 	 36. COORDINATE LOCATIONS OF MECHANICAL EQUIPMENT WITH THE RESPEC AND VENDORS AND THE OWNER BEFORE ROUGH-IN. ADJUST LIGHTING FIX AND ELECTRICAL EQUIPMENT TO ACCOMMODATE THIS EQUIPMENT. ADVIS ARCHITECT/ENGINEER OF CONFLICTS BEFORE ROUGH-IN. 	ELECTRICAL DISCONNECTION OF ANY EQUIPMENT B ELECTRICAL DISCONNECTION OF ANY EQUIPMENT B EXPLICITLY SHOWN. UNLESS NOTED OTHERWISE, F FROM THE PROPERTY.	EING DEMOLISHED, EVEN IF NOT REMOVE ALL DEMOLISHED EQUIPMENT
	 ALL EQUIPMENT SHOWN DOTTED OR DASHED IS BY OTHERS OR IS EXISTING, AS NOTED. ALL ELECTRICAL EQUIPMENT SHALL, AT ALL TIMES DURING CONSTRUCTION, BE ADEQUATELY PROTECTED AGAINST MECHANICAL INJURY, OR DAMAGE BY WATER AND/OR THE ELEMENTS. ELECTRICAL EQUIPMENT SHALL NOT BE STORED OUT OF DOORS, BUT SHALL BE STORED IN DRY 	37. BEFORE COMMENCING WORK OR ORDERING MATERIALS, THE CONTRACTO WITH OTHER TRADES AND VERIFY THE NAMEPLATE RATINGS OF ALL EQUIF HEATERS, COMPRESSORS, ETC.) AND ADJUST THE RATINGS OF THE ELECT (SWITCHES, FUSES, CIRCUIT BREAKERS, FEEDERS, ETC.) AS APPROPRIATE EQUIPMENT.	R SHALL COORDINATE MENT (MOTORS, RICAL EQUIPMENT TO SERVE THIS	
c	PERMANENT SHELTERS. IF AN APPARATUS HAS BEEN DAMAGED, OR HAS BEEN SUBJECT TO POSSIBLE INJURY BY WATER OR THE ELEMENTS, SUCH DAMAGE SHALL BE REPLACED AT NO ADDITIONAL COST.	38. ENERGIZE EQUIPMENT ONLY AFTER OBTAINING PERMISSION FROM THE CO THE EQUIPMENT.		
	 DO NOT SCALE ELECTRICAL DRAWINGS. FIELD VERIFY ALL DIMENSIONS. CIRCUIT LAYOUTS ARE NOT INTENDED TO SHOW THE NUMBER OF FITTINGS, OR OTHER INSTALLATION DETAILS. UNLESS NOTED OTHERWISE, THE EXACT ROUTING OF FEEDER AND BRANCH CIRCUIT RACEWAYS AND CABLES IS THE RESPONSIBILITY OF THE CONTRACTOR. RISER AND CENERAL CIRCUIT ARRANGEMENTS ARE SHOWN SCHEMATICALLY/DIACRAMMATICALLY ONLY. 	39. UNLESS SPECIFICALLY NOTED OTHERWISE, THE ELECTRICAL CONTRACTOR CONNECTIONS TO ALL UTILIZATION EQUIPMENT SHOWN ON THE DRAWINGS FINAL CONNECTION AND PROVIDE APPROPRIATE WIRING METHOD. THE EL CONTRACTOR SHALL COORDINATE WITH THE MECHANICAL, PLUMBING AND CONTRACTORS, PRIOR TO ORDERING OR INSTALLATION OF ANY EQUIPMEN MECHANICAL AND PLUMBING EQUIPMENT REQUIREMENTS ARE PROVIDED DESIGN. THE CONTRACTOR WILL NOT BE COMPENSATED FOR COSTS ASS	R SHALL MAKE FINAL S. VERIFY THE TYPE OF ECTRICAL GENERAL T, TO VERIFY N THE ELECTRICAL OCLATED WITH	
	THE CONTRACTOR SHALL ROUTE CONDUITS AS REQUIRED BY THE CONDITIONS OF THE INSTALLATION.	CHANGING THE ELECTRICAL SYSTEMS TO MATCH UTILIZATION EQUIPMENT ELECTRICAL WORK IS INSTALLED PER THE ELECTRICAL DRAWINGS.		
	ADJUST EXACT LOCATIONS AS REQUIRED TO SERVE THE INTENDED PURPOSE AND TO AVOID CONFLICTS AND INTERFERENCES WITH OTHER TRADES. EXACT DEVICE LOCATIONS SHALL BE AS INDICATED ON THE ARCHITECTURAL DRAWINGS OR AS DIMENSIONED. IF NOT SHOWN ON THE ARCHITECTURAL DRAWINGS OR DIMENSIONED ON THE ELECTRICAL DRAWINGS, VERIFY EXACT LOCATION WITH THE ARCHITECT/ENGINEER PRIOR TO ROUGH-IN.	EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL MOUNT STARTERS FU MECHANICAL CONTRACTORS, THE ELECTRICAL CONTRACTOR PROVIDE ALL WIRING AND CONNECTIONS TO LINE SIDE AND LOAD SIDE OF STARTERS AN COMPLETE TO MECHANICAL EQUIPMENT. FOR RESISTANCE TYPE LOADS W CONTACTORS ARE NOT REQUIRED, THE ELECTRICAL CONTRACTOR SHALL WIRING AND CONNECTIONS COMPLETE TO EQUIPMENT. THE MECHANICAL	RNISHED BY THE SAFETY SWITCHES, D SAFETY SWITCHES HERE STARTERS OR PROVIDE ALL POWER SHALL PROVIDE ALL	
	 CONDUIT TERMINATING IN PRESSED STEEL BOXES SHALL HAVE DOUBLE LOCKNUTS AND INSULATED BUSHINGS. CONDUITS TERMINATING IN GASKETED ENCLOSURES SHALL BE TERMINATED WITH GROUNDING TYPE CONDUIT HUBS. 	 CONTROL WIRING AND CONNECTIONS AND DEVICES FOR THEIR EQUIPMEN 41. THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL EQUIPMENT TERM CORDSETS WITH VENDOR EQUIPMENT AND VERIFY ALL DEVICE LOCATIONS 	T. IINATIONS, PLUGS AND FOR SPECIALITY	
	14. BRANCH CIRCUIT HOMERUNS SHOWN ON DRAWINGS INDICATE PHASE CONDUCTORS, NEUTRAL, EQUIPMENT GROUND CONDUCTORS AS REQUIRED. ADDITIONAL CONDUCTORS REQUIRED FOR CONTROL SHALL BE INCLUDED EVEN IF NOT EXPLICITLY SHOWN.	EQUIPMENT WITH CASEWORK PRIOR TO ROUGH-IN.42. INSTALLATION INFORMATION PACKED WITH EQUIPMENT SHALL BE RETAINE THE OPERATIONS AND MAINTENANCE MANUALS.	D FOR INCLUSION IN	
	 SEAL ALL CONDUIT OPENINGS THROUGH EXTERIOR BUILDING WALLS WATERTIGHT. IN WET LOCATIONS AND EXTERIOR, ALL WIRING DEVICES SHALL BE WEATHER-RESISTANT LISTED WITH WEATHERPROOF WHILE IN USE COVER. RACEWAYS PENETRATING FLOORS, CEILINGS OR WALLS SHALL BE PROPERLY SEALED SMOKETIGHT. 	43. PROTECT ALL EXISTING POWER, COMMUNICATIONS, DATA, LIFE SAFETY SY AND PUBLIC ADDRESS SYSTEMS AND MAINTAIN THEM IN OPERATION THRO PROGRESS OF THE WORK. NOTIFY THE OWNER AND ARCHITECT/ENGINEER REQUIRED PRIOR TO ANY OUTAGE OF SERVICE. WHERE THE DURATION OF CANNOT BE TOLERATED BY THE OWNER, PROVIDE TEMPORARY CONNECTION MAINTAIN SERVICE.	STEMS, FIRE ALARM UGHOUT THE R IF SHUTDOWNS ARE A PROPOSED OUTAGE ONS AS REQUIRED TO	
в	 RACEWAYS PENETRATING RATED FLOOR, CEILING OR WALL ASSEMBLIES SHALL BE PROPERLY SEALED IN ACCORDANCE WITH THE CORRESPONDING UNDERWRITERS LABORATORIES (OR OTHER APPROVED THIRD PARTY TESTING AGENCY) APPROVED AND LISTED FIRESTOPPING MATERIALS AND MANUFACTURER APPROVED INSTALLATION TECHNIQUES COMPLYING WITH ALL APPLICABLE CODES. SEE ARCHITECTURAL DRAWINGS FOR IDENTIFICATION OF RATED WALLS AND CEILINGS 	44. THE CONTRACTOR SHALL PERFORM ALL CUTTING AND PATCHING NECESS, EQUIPMENT AS REQUIRED AND SHALL REESTABLISH ALL FINISHES TO THEI WHERE CUTTING AND PATCHING OCCUR. ALL CUTTING AND PATCHING SH, THOROUGHLY WORKMANSHIP MANNER. SAW CUT CONCRETE AND MASON OUT SECTIONS. ALL PATCHING MATERIALS AND WORKMANSHIP SHALL BE TRADESMEN EXPERIENCED IN THAT WORK. ALL WORK SHALL BE SUBJECT	ARY TO INSTALL ALL R ORIGINAL CONDITION ALL BE DONE IN A RY PRIOR TO BREAKING PERFORMED BY TO THE APPROVAL OF	
	19. ALL RACEWAYS SHALL BE CONCEALED WHERE POSSIBLE. IF APPLICABLE, MATCH EXISTING RACEWAY INSTALLATION METHODS AND ROUTINGS AT OR NEAR EXISTING FACILITIES.	THE ARCHITECT/ENGINEER. 45. EXISTING CIRCUITING WHERE SHOWN IS FOR CONVENIENCE PURPOSES OF EXISTING WIRING DESTINATION. TERMINATION AND ADDITIONS OF NEW LO	ILY. VERIFICATION OF	
	20. INSTALL EXPOSED RACEWAYS PARALLEL TO OR AT RIGHT ANGLES TO NEARBY SURFACES OR STRUCTURAL MEMBERS, AND FOLLOW THE SURFACE CONTOURS AS MUCH AS POSSIBLE. NO DIAGONAL RUNS WILL BE ALLOWED. ALL CONDUITS SHALL BE RUN STRAIGHT AND TRUE. RUN PARALLEL OR BANKED RACEWAYS TOGETHER ON COMMON SUPPORTS WHERE PRACTICAL. MAKE	 46. MAINTAIN CONTINUITY OF ALL EXISTING CIRCUITS TO REMAIN OR PORTION BY THIS WORK. 	S THEREOF AFFECTED	
	 BENDS IN PARALLEL OR BANKED RUNS FROM SAME CENTERLINE TO MAKE BENDS PARALLEL. 21. USE FLUSH MOUNTING OUTLET BOXES IN FINISHED AREAS AND FOR EXTERIOR DEVICES UNLESS NOTED OTHERWISE. 	47. DESIGN AND ADDITION OF NEW CIRCUITING IS BASED ON THE ENGINEER'S REGARDING EXISTING CONDITIONS AND CURRENT BASE BUILDING DRAWIN ADEQUATE CIRCUIT BREAKER SPACE FOR NEW WORK IN EXISTING PANELE	BEST INFORMATION GS. AVAILABILITY OF OARDS SHALL BE	
	22. PATCHING OF WATERPROOFED SURFACES SHALL RENDER THE AREA OF THE PATCHING COMPLETELY WATERPROOF.	VERIFIED BY THE CONTRACTOR AFTER DEMOLITION OF THE EXISTING SPACE SPACE IS NOT AVAILABLE FOR NEW CIRCUIT BREAKERS THE CONTRACTOR ENGINEER FOR RESOLUTION.	CE. IF ADEQUATE SHALL NOTIFY THE	
	23. ALL MOTORS AND OTHER VIBRATING EQUIPMENT SHALL BE CONNECTED TO THE CONDUIT SYSTEM BY MEANS OF A SHORT SECTION (18 INCH MINIMUM) OF FLEXIBLE CONDUIT UNLESS OTHERWISE INDICATED. AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED INSIDE THE FLEXIBLE CONDUIT AND TERMINATE AT THE LOAD END WITH AN APPROVED GROUNDING CLAMP OR LUG.	 48. ABANDONED POWER WIRING, RACEWAYS AND CONDUCTORS, SHALL BE RESOURCE. THE ACCESSIBLE PORTIONS OF ABANDONED CABLES (VOICE, DA ETC.) SHALL BE REMOVED. 49. TRACE OUT EXISTING WIRING THAT IS TO BE RELOCATED, OR REMOVED AND ADDRESSION ADDRESSION AND ADDRESSION ADDRESSION	MOVED BACK TO THEIR TA, VIDEO, ALARM, ID PERFORM THE	
	24. SURFACE MOUNTED PANELBOARDS, JUNCTION, OUTLET AND PULL BOXES, RACEWAYS, ETC., INSTALLED ON EXTERIOR SURFACES OR INSIDE ON EXTERIOR WALLS SHALL BE SUPPORTED BY SPACERS TO PROVIDE A 1/4" MINIMUM CLEARANCE BETWEEN THE WALL AND EQUIPMENT.	 RELOCATION OR REMOVAL WORK AS REQUIRED FOR A COMPLETE OPERAT SYSTEM. 50. INSOFAR AS POSSIBLE, MATCH EXISTING EXPOSED DEVICES IN FINISHED A AND FINISH 	ING AND SAFE REAS IN TYPE, COLOR	
A	25. CEILING MOUNTED DEVICES INSTALLED IN ACOUSTICAL TILE CEILING AREAS SHALL BE SUPPORTED FROM THE STRUCTURE ABOVE WITH RODS OF SUFFICIENT SIZE TO PREVENT VERTICAL MOVEMENT OF THE OUTLET BOX. BRIDGES ALONE ARE NOT ADEQUATE UNLESS SPECIFICALLY APPROVED. CEILING MOUNTED EXIT LIGHT FIXTURES SHALL BE INSTALLED LEVEL. DO NOT SUPPORT DEVICES FROM ACCOUSTICAL CEILING TILE.	 51. THE EXISTING ELECTRICAL SYSTEMS DEPICTED ON THESE DRAWINGS HAV THE ENGINEER FROM THE OWNER'S RECORD DRAWINGS AND LIMITED FIEL THE EXISTING CONDITIONS FOR THE PURPOSE OF INDICATING THE WORK I BELIEVED TO BE CORRECT. NOTWITHSTANDING, THE CONTRACTOR SHALL DIMENSIONS, POINTS OF ACCESS AND FIELD CONDITIONS AFFECTING HIS V 	E BEEN COMPILED BY D VERIFICATION OF REQUIRED AND ARE VERIFY ALL /ORK.	
	 PROVIDE ADHESIVE BACKED RECEPTACLE AND SWITCH DEVICE PLATE LABELS IDENTIFYING THE PANEL AND CIRCUIT FEEDING THE DEVICE. LABELS SHALL INDICATE PANEL AND CIRCUIT NUMBER. SEE SPECIFICATIONS SECTION 260553 FOR REQUIREMENTS. 	52. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE SYSTEMS AND THE EXISTING BUILDING. THE SUBMISSION OF THE PROPOSICONTRACTOR SHALL BE CONSIDERED EVIDENCE THAT HE OR HIS REPRESENT.	EXISTING ELECTRICAL AL BY THE ENTATIVE HAS VISITED	
	 27. FINAL TYPED PANELBOARD DIRECTORIES INSTALLED IN THE PANELBOARD DOOR POCKET SHALL INCLUDE FINAL ACTUAL ROOM NAMES AND NUMBERS IN ADDITION TO THE GENERAL DESCRIPTION SHOWN ON THE PANEL SCHEDULES ON THE DRAWINGS. 28. CONDUCTOR SIZING IS PASED ON 75 DECREE OF CORDER NEO DATINGS. 	THE SITE AND BUILDINGS AND NOTED THE LOCATION AND CONDITIONS UN WILL BE PERFORMED AND THAT HE TAKES FULL RESPONSIBILITY OF ALL FA HIS WORK. NO EXTRAS WILL BE CONSIDERED BECAUSE OF ADDITIONAL WO EXISTING JOB CONDITIONS THAT ARE NOT INDICATED ON THE DRAWINGS.	DER WHICH THE WORK ACTORS GOVERNING DRK NECESSITATED BY	
	28. CONDUCTOR SIZING IS BASED ON 75 DEGREE C. COPPER NEC RATINGS, UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL VERIFY, PRIOR TO INSTALLATION OF CONDUCTORS OR CONDUIT FEEDING ANY EQUIPMENT, THE ELECTRICAL EQUIPMENT IS RATED FOR USE WITH 75			
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EI	ECTRICAL SPECIFICATIONS:	
	 A. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE FOLLOWING CODES AND STANDARDS INSOFAR AS THEY APPLY. 1. THE NATIONAL ELECTRICAL CODE, 2020 EDITION 2. THE NATIONAL ELECTRICAL SAFETY CODE 3. UNDERWRITER'S LABORATORIES, INC., STANDARDS AND APPROVED LISTINGS 4. ELECTRICAL TESTING LABORATORIES STANDARDS 5. NORTH CAROLINA STATE BUILDING CODE, LATEST EDITION AND REVISIONS 6. ALL LOCAL CODES AND ORDINANCES 7. NFPA 72 8. ADA 8. THE CONTRACTOR SHALL OBTAIN ALL PERMITS, LICENSES, INSPECTIONS, ETC., REQUIRED FOR THE WORK AND SHALL PAY FOR SAME. THE CONTRACTOR SHALL FURNISH A FINAL CERTIFICATE OF INSPECTION AND APPROVAL FROM THE AUTHORITY HAVING JURISDICTION PRIOR TO ACCEPTANCE OF THE WORK. C. ALL WORK SHALL BE DONE BY SKILLED MECHANICS AND SHALL PRESENT A NEAT, TRIM AND WORKMANLIKE FINISH WHEN COMPLETED. D. COORDINATION: DO NOT SCALE ELECTRICAL DRAWINGS. LOCATIONS SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT MEASUREMENTS IN THE PLACEMENT OF EQUIPMENT, FIXTURES, OUTLETS, ETC. THE DRAWINGS DO NOT GIVE EXACT DETAILS AS TO ELEVATIONS AND LOCATIONS OF VARIOUS FITTINGS, CONDUIT, ETC., AND DO NOT SHOW ALL OFFSETS AND OTHER INSTALLATION DETAILS WHICH MAY BE REQUIRED. E. WORK WITH OTHER CONTRACTORS: THE ELECTRICAL CONTRACTOR SHALL MAKE FINAL ELECTRICAL CONNECTIONS FOR ALL PLUMBING AND HVAC EQUIPMENT. 	 A. ALL GROUNDING SHALL BE IN ACCORTHE FOLLOWING REQUIREMENTS SHALL 1. GROUNDING CONDUCTORS SHALL B DIRECT PATH FROM EQUIPMENT TO CONDUCTORS SHALL BE ACCESSIBL 2. EQUIPMENT GROUND CONTINUITY S CONDUIT. 3. ALL WIRING DEVICES EQUIPPED WIT GROUNDED TO GROUND SYSTEM WI 4. THE FRAME OF ALL LIGHTING FIXTUP EQUIPMENT GROUND SYSTEM WITH 5. GROUNDING TYPE CONVENIENCE OU TO EQUIPMENT GROUNDING SYSTEM ELECTRICAL CONNECTIONS SHALL B PANELBOARD TO THE HEX NUT ON T 6. ALL CIRCUITS SHALL CONTAIN AN IN SIZED IN ACCORDANCE WITH TABLE SHALL BE CONNECTED TO EQUIPME ATTACHED AND GROUNDED TO THE 7. ALL EQUIPMENT ENCLOSURES, AND EQUIPMENT, RACEWAY SYSTEMS, ET TO GROUND. 260529 SUPPORTING DEVICES
	 F. MATERIALS: ALL MATERIALS SHALL BE NEW AND SHALL BEAR THE MANUFACTURER'S NAME, TRADE NAME, AND UL LABEL WHERE SUCH A STANDARD HAS BEEN ESTABLISHED FOR THE PARTICULAR MATERIAL. SHALL BE SHALL BE THE STANDARD PRODUCTS OF MANUFACTURER'S REGULARLY ENGAGED IN THE MANUFACTURE OF THE REQUIRED TYPE OF EQUIPMENT AND THE MANUFACTURER'S LATEST APPROVED DESIGN. OTHER MATERIALS AND EQUIPMENT TO BE AS SHOWN ON THE DRAWINGS. WHERE NO SPECIFIC MATERIAL SAND EQUIPMENT TO BE AS SHOWN ON THE DRAWINGS. WHERE NO SPECIFIC MATERIAL TYPE IS MENTIONED, A HIGH-QUALITY PRODUCT OF A REPUTABLE MANUFACTURER MAY BE USED PROVIDED IT CONFORMS TO THE REQUIREMENTS OF THESE SPECIFICATIONS. G. ELECTRICAL DISTRIBUTION SYSTEM TESTS 1. ALL CURRENT CARRYING PHASE CONDUCTORS AND NEUTRALS SHALL BE TESTED AS INSTALLED, AND BEFORE CONNECTIONS ARE MADE, FOR INSULATION RESISTANCE AND ACCIDENTAL GROUNDS. THIS SHALL BE DONE WITH A 500 VOLT MEGGER. a. MINIMUM READINGS SHALL BE ONE MILLION (1,000,000) OR MORE OHMS FOR #6 WIRE AND SMALLER, 250,000 OHMS OR MORE FOR #4 WIRE OR LARGER BETWEEN CONDUCTORS AND BETWEEN CONDUCTOR AND THE GROUNDED METAL RACEWAY. b. AFTER ALL FIXTURES, DEVICES AND EQUIPMENT ARE INSTALLED AND ALL CONNECTIONS COMPLETED TO EACH PANEL, THE CONTRACTOR SHALL DISCONNECT THE NEUTRAL FEEDER CONDUCTOR FROM THE NEUTRAL BAR AND TAKE A MEGGER READING BETWEEN THE NEUTRAL BAR AND GROUNDED ENCLOSURE. IF THIS READING IS LESS THAN 250,000 OHMS, THE CONTRACTOR SHALL DISCONNECT THE BRANCH CIRCUIT NEUTRAL WIRES FROM THIS NEUTRAL BAR. HE SHALL THEN TEST EACH ONE SEPARATELY TO THE PANEL AND UNTIL THE CONTRACTOR SHALL DISCONNECT THE NEUTRAL WIRES FROM THIS NEUTRAL BAR. HE SHALL THEN TEST EACH ONE SEPARATELY TO THE PANEL AND UNTIL THE CONTRACTOR SHALL DISCONNECT THE BRANCH CIRCUIT NEUTRAL WIRES FROM THIS NEUTRAL BAR. HE SHALL THEN TEST EACH ONE SPRATELY TO THE PANEL AND UNTIL THE CONTRACTOR SHALL DISCONNECT THE BRANCH CIRCUIT NEUTRAL BAR TO THE GROUNDED PANEL CAN BE ACHIEVED WITH ONLY THE NEUTRAL BAR TO THE GROUNDED	 A. PROVIDE MATERIALS, SIZES, AND TYCARRY THE LOADS OF EQUIPMENT ANWHEN SELECTING PRODUCTS. PROVIDE B. ANCHORS AND FASTENERS: CONCRETE STRUCTURAL ELEMENTS: US STEEL STRUCTURAL ELEMENTS: US CONCRETE SURFACES: USE SELF_E HOLLOW MASONRY, PLASTER, AND C SOLID MASONRY WALLS: USE EXPANSION OF INSTALL PRODUCTS IN ACCORDANCE AND OF INSTALLATION". E. DO NOT FASTEN SUPPORTS TO PIPES, F. DO NOT USE POWDER_ACTUATED AND OF INSTALLATION". E. DO NOT FASTEN SUPPORTS TO PIPES, F. DO NOT USE POWDER_ACTUATED AND OF INSTALLATION". E. DO NOT USE POWDER_ACTUATED AND OF INSTALLATION". E. DO NOT USE POWDERS. FABRICATE SUPPORTS FROM STRUCTOR MEMBERS OR USE HEXAGON HEAD BO STRENGTH AND RIGIDITY. USE SPRINCE INSTALL SURFACE_MOUNTED CABINET ANCHORS. J. IN WET AND DAMP LOCATIONS USE STIPANELBOARDS ONE INCH (25 MM) OFF K. CONDUITS INSTALLED ON THE INTERICAWAY FROM THE WALL SURFACE A MIT STRUTS. L. USE SHEET METAL CHANNEL TO BRIDOW PANELBOARDS RECESSED IN HOLLOW
	 AND COMPONENT INDICATED INCLUDING EACH SAFETY SWITCH, OVERCURRENT PROTECTIVE DEVICE, SURFACE RACEWAY, WIREWAY, RACEWAY FITTINGS, WIRING DEVICES AND ACCESSORIES. INCLUDE DIMENSIONS AND MANUFACTURERS TECHNICAL DATA ON FEATURES, PERFORMANCE, ELECTRICAL CHARACTERISTICS, RATINGG AND FINISHES. J. GUARANTEE: THE CONTRACTOR SHALL GUARANTEE THE MATERIALS AND WORKMANSHIP COVERED BY THESE DRAWINGS AND SPECIFICATIONS FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER. THE CONTRACTOR SHALL REPAIR AND/OR REPLACE ANY PARTS OF ANY SYSTEM THAT MAY PROVE TO BE DEFECTIVE AT NO ADDITIONAL COST TO THE OWNER WITHIN THE GUARANTEE PERIOD. K. EXISTING BUILDINGS AND CONSTRUCTION 1. THE CONTRACTOR IS CAUTIONED THAT WORK TO BE PERFORMED UNDER THIS CONTRACT IS TO BE ACCOMPLISHED IN AN EXISTING OCCUPIED BUILDING. ALL SUCH WORK SHALL BE SCHEDULED AND ARRANGED TO BE DONE AT THE CONVENIENCE OF THE OWNER SO AS NOT TO INTERFERE WITH, DISRUPT, OR DISTURB NORMAL OPERATIONS IN THE BUILDING. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE OWNER BEFORE PROCEEDING WITH WORK IN EXISTING BUILDINGS AND SHALL WORK IN EXISTING BUILDINGS ON SCHEDULE AS AGREED UPON WITH THE OWNER. 2. THE CONTRACTOR SHALL, AT ALL TIMES, PROVIDE SAFETY BARRIERS, PROTECTIVE DEVICES, SCREENING, DUST BARRIERS, ETC., AS REQUIRED TO MAINTAIN THE SAFETY AND COMFORT OF THE BUILDING'S PERSONNEL AND/OR OCCUPANTS IN OR NEAR HIS WORK AREA. 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANUP IN CONNECTION WITH HIS WORK IN EXISTING BUILDING'S ALL DEMOLISHED EQUIPMENT AND MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. AT THE END OF EACH WORKING DAY, DEBRIS, BOXES, WASTE, ETC., SHALL BE RESPONSIBLE FOR CLEANUP IN CONNECTION WITH HIS WORK IN EXISTING BUILDING'S ALL DEMOLISHED EQUIPMENT AND MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. AT THE END OF EACH WORKING DAY, DEBRIS, BOXES, WASTE, ETC., SHALL BE REPONSIBLE FOR CLEANUP ING NORD, SALL BERIS, BOXES, WASTE, ETC., SHALL BE REPAIRED AND AND ROPERELY STORED, ST	 A. RACEWAYS SHALL BE RIGID GALVANIZ SCHEDULE 40 PVC WITH APPROPRIATE COMPRESSION TYPE WITH INSULATED B. MC CABLE WITH INSULATED GROUND (NOT USE WHERE SUBJECT TO PHYSIC/ CONDITIONS. C. FLEXIBLE METAL CONDUIT AND LIQUID LABELED WITH HEX NUT STEEL FITTING D. JUNCTION AND OUTLET BOXES FOR IN OR CADMIUM PLATED SHEET STEEL, 4' DEVICE BOXES MAY BE SINGLE GANG. E. RACEWAYS, BOXES, FITTINGS, ETC., S' ANCHORS AND MACHINE SCREWS OR STRUCTURAL STEEL WITH BEAM CLAM OTHER APPROVED DEVICES. F. BOXES INSTALLED IN CONCEALED LOC SURFACES AND SHALL BE PROVIDED V SHALL BE RIGIDLY INSTALLED. G. RACEWAYS PASSING THROUGH RATED ACCORDANCE WITH PUBLISHED UL CC H. RACEWAYS SHALL BE SIZED AS SHOW SHALL BE 1/2". I. RACEWAYS SHALL BE SIZED AS SHOW SHALL BE 1/2". I. RACEWAYS CONCEALED: USE RIGID S SUBJECT TO PHYSICAL DAMAGE. 2. OUTDOORS (EXPOSED): USE RIGID S SUBJECT TO PHYSICAL DAMAGE. 2. OUTDOORS (CONCEALED): USE RIGII 3. INDOORS (CONCEALED): USE EMT, IN GROUND. INDOORS (WET AND DAMF 5. BOXES AND ENCLOSURES a. INDOORS: NEMA 250, TYPE 1, EXCE STAINLESS STEEL OR NON-METAL b. OUTDOORS: NEMA 250, TYPE 3R. 260534 BOXES A. JUNCTION, SWITCH, RECEPTACLE AND SHALL BE 7 INC COATED OP CODMUM
	 S. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL DAVIAGE THE EXISTING BUILDINGS, GROUNDS, WALKWAYS, PAVING, ETC., CAUSED BY THE WORK, THE CONTRACTOR AND/OR HIS PERSONNEL, AND/OR HIS EQUIPMENT IN THE ACCOMPLISHMENT OF THIS WORK. SUCH DAMAGES SHALL BE REPAIRED AND/OR REPLACED BY THE CONTRACTOR A NO ADDITIONAL COST TO THE OWNER, TO FINISH EQUAL TO THAT FINISH PRIOR TO DAMAGE. THE OWNER'S REPRESENTATIVE SHALL BE THE JUDGE AS TO EQUAL FINISHES, ETC. COORDINATE POWER OUTAGES WITH THE OWNER. REQUEST OUTAGES 24 HOURS IN ADVANCE. 260519 CONDUCTORS CONDUCTORS SHALL BE COPPER, MINIMUM SIZE #12. SIZES #10 AND #12 SHALL BE SOLID, #8 AND LARGER, STRANDED. INSULATION SHALL BE TYPE THW, THWN OR THHN FOR FEEDERS, TYPE THWN OR THHN FOR BRANCH CIRCUITS. CONDUCTORS SHALL BE COLOR CODED THROUGHOUT, SIZES #10 AND #12 SHALL BE FACTORY CODED, SIZES #8 AND LARGER MAY BE COLOR TAPED ON THE JOB. COLOR CODING SHALL BE: PHASE A - BLACK, PHASE B - RED, PHASE C - BLUE, NEUTRAL - WHITE, GROUND - GREEN FOR 120/208 VOLT SYSTEMS. COLOR CODING SHALL BE: PHASE A - BROWN, PHASE B - ORANGE, PHASE C - YELLOW, NEUTRAL - GREY, GROUND - GREEN FOR 277/480 VOLT SYSTEMS. C CONDUCTORS SHALL MEET THE LATEST REQUIREMENTS OF NEMA AND IPCEA AND SHALL BE UL APPROVED. ALL CONDUCTORS SHALL BE CONTINUOUS WITHOUT SPLICE BETWEEN JUNCTION, OUTLET, DEVICE BOXES, ETC., UNLESS NOTED OTHERWISE. NO SPLICING WILL BE PERMITTED IN PANELBOARD CABINETS, SAFETY SWITCHES, ETC. 	 A. JONCTION, SWITCH, RECEPTACLE ARE SHALL BE ZINC COATED OR CADMIUM UNLESS OTHERWISE INDICATED ON TH BOXES SHALL BE CAST TYPE WITH HU PERMITTED ONLY BY SPECIAL PERMIS BOXES ARE NECESSARY DUE TO STRUJUNCTION BOXES ARE REQUIRED, THE GAUGE SHEET STEEL AS REQUIRED, THE GAUGE SHEET STEEL AS REQUIRED B GALVANIZED AFTER FABRICATION. B. USE FLUSH MOUNTING OUTLET BOXES DEVICES/LIGHT FIXTURES UNLESS NO FASTEN FLUSH MOUNTING OUTLET BOXES ONDITIONS. D. SET WALL MOUNTED BOXES AT ELEVA INDICATED AND SPECIFIED IN SECTION DRAWINGS IN APPROXIMATE LOCATIO TO 10 FEET (3 M) IF REQUIRED TO ACC AND JUNCTION BOXES ABOVE ACCESS COORDINATE MOUNTING HEIGHTS AN COUNTERS, BENCHES, AND BACKSPLA E. INSTALL BOXES TO PRESERVE FIRE RI ELEMENTS, USING APPROVED MATERI

- NCE WITH ARTICLE 250 OF THE NEC. IN ADDITION, BE MET: NSTALLED AS TO PERMIT THE SHORTEST AND MOST OUND. ALL GROUND CONNECTIONS TO GROUND
- L BE MAINTAINED THROUGH FLEXIBLE METAL
- ROUNDING CONNECTION SHALL BE SOLIDLY GROUNDING CONDUCTORS. SHALL BE SECURELY GROUNDED TO THE
- OUNDING CONDUCTORS. ETS AND SWITCHES SHALL BE SOLIDLY GROUNDED /ITH A GREEN COLORED INSULATED CONDUCTOR. CONTINUOUS FROM EQUIPMENT GROUND BUS IN
- CONVENIENCE OUTLET OR SWITCH. LATED, GREEN, COPPER GROUNDING CONDUCTOR, D-122 OF THE NEC. GROUNDING CONDUCTORS GROUND BUS IN PANELBOARD AND SECURELY VICE OR ENCLOSURE AT THE OTHER END.
- N-CURRENT METALLIC PARTS OF ELECTRICAL SHALL BE EFFECTIVELY AND ADEQUATELY BONDED
- ES OF ANCHORS, FASTENERS AND SUPPORTS TO CONDUIT. CONSIDER WEIGHT OF WIRE IN CONDUIT ADEQUATE CORROSION RESISTANCE.
- JSE EXPANSION ANCHORS.
- EAM CLAMPS. LING ANCHORS AND EXPANSION ANCHORS. SUM BOARD PARTITIONS: USE TOGGLE BOLTS.
- ON ANCHORS. EWS OR BOLTS
- . H MANUFACTURER'S INSTRUCTIONS. UPPORTS IN ACCORDANCE WITH NECA "STANDARD
- CTS, MECHANICAL EQUIPMENT, AND CONDUIT.
- NGINEER BEFORE DRILLING OR CUTTING
- AL STEEL OR STEEL CHANNEL. RIGIDLY WELD S TO PRESENT NEAT APPEARANCE WITH ADEQUATE OCK WASHERS UNDER ALL NUTS. AND PANELBOARDS WITH MINIMUM OF FOUR
- CHANNEL SUPPORTS TO STAND CABINETS AND
- LL. DF EXTERIOR BUILDING WALLS SHALL BE SPACED UM OF 1/4 INCH (65MM) USING "CLAMP-BACKS" OR
- STUDS ABOVE AND BELOW CABINETS AND
- STEEL, ELECTRICAL METALLIC TUBING AND/OR TTINGS. EMT FITTINGS SHALL BE HEX NUT STEEL IROATS. NDUCTOR MAY BE USED FOR BRANCH CIRCUITS. DO
- DAMAGE, OR WHERE EXPOSED TO CORROSIVE
- GHT FLEXIBLE METAL CONDUIT: UL APPROVED AND . RIOR USE IN DRY LOCATIONS SHALL BE ZINC COATED
- QUARE BY 2-1/8" DEEP, EXCEPT SINGLE WIRING LL BE SOLIDLY FASTENED TO MASONRY WITH LEAD GGLE BOLTS. RACEWAYS SHALL BE FASTENED TO , CONDUIT HANGERS, TRAPEZE HANGERS, OR
- IONS SHALL BE SET FLUSH WITH THE FINISHED H EXTENSION RINGS WHERE REQUIRED. BOXES
- ALLS, FLOORS, ETC., SHALL BE INSTALLED IN IGURATIONS.
- ND/OR AS REQUIRED BY THE NEC. MINIMUM SIZE
- EL, IMC OR SCHEDULE 40 PVC. RIGID STEEL WHERE
- STEEL, IMC OR SCHEDULE 40 PVC. STEEL OR IMC. RIGID STEEL WHERE SUBJECT TO
- OR RIGID STEEL, MC CABLE WITH INSULATED OCATIONS): USE RIGID STEEL.
- IN DAMP AND WET LOCATIONS: NEMA 250, TYPE 4,
- JTLET BOXES FOR INTERIOR USE IN DRY LOCATIONS ATED SHEET STEEL, 4" SQUARE AND 2-1/8" DEEP, CONTRACT DRAWINGS. EXTERIOR AND EXPOSED SMALLER AND SHALLOWER OUTLET BOXES WILL BE N OF THE ARCHITECT/ENGINEER WHERE SUCH URAL CONDITIONS ENCOUNTERED. WHERE LARGER SHALL BE FABRICATED FROM NO. 10, 12, 14 OR 16 HE UNDERWRITER'S LABORATORIES, INC., AND
- FINISHED AREAS AND FOR EXTERIOR O OTHERWISE. USE STAMPED STEEL BRIDGES TO SETWEEN STUDS, CADDY RBS SERIES OR
- W FASTENED COVERS. OUTLET BOXES SHALL BE NGS WHERE REQUIRED BY STRUCTURAL AND FINISH
- ONS TO ACCOMMODATE MOUNTING HEIGHTS OR OUTLET DEVICE. BOXES ARE SHOWN ON UNLESS DIMENSIONED. ADJUST BOX LOCATION UP MODATE INTENDED PURPOSE. INSTALL PULL BOXES LE CEILINGS AND IN UNFINISHED AREAS ONLY. OCATIONS OF OUTLETS MOUNTED ABOVE
- STANCE RATING OF PARTITIONS AND OTHER AND METHODS.

L

260553 IDENTIFICATION

3

- A. WIRE MARKERS
- 1. PROVIDE SPLIT SLEEVE TYPE WIRE MARKERS OR APPROVED EQUIVALENT ON EACH CONDUCTOR AT PANELBOARD GUTTERS, PULL BOXES, OUTLET AND JUNCTION BOXES, AND EACH LOAD CONNECTION. LEGEND: (1) POWER AND LIGHTING CIRCUITS: BRANCH CIRCUIT OR FEEDER NUMBER AS INDICATED ON DRAWINGS. (2) CONTROL CIRCUITS: CONTROL WIRE NUMBER AS INDICATED ON SCHEMATIC AND INTERCONNECTION DIAGRAMS ON DRAWINGS.
- 2. MULTIWIRE BRANCH CIRCUIT PHASE CONDUCTORS SHALL BE CLEARLY IDENTIFIED IN EACH BRANCH CIRCUIT PANELBOARD. ATTACH A YELLOW FLAG TYPE PLASTIC CABLE TIE TO EACH PHASE CONDUCTOR OF A MULTIWIRE BRANCH CIRCUIT AT APPROXIMATELY 2" FROM THE CIRCUIT BREAKER TERMINAL. INSTALL A YELLOW WITH BLACK LETTER IDENTIFICATION LABEL IN THE PANELBOARD DOOR STATING "YELLOW CABLE TIE FLAGS ON CONDUCTORS INDICATE THE CONDUCTOR IS PART OF A COMMON NEUTRAL MULTIWIRE BRANCH CIRCUIT. DO NOT MOVE CONDUCTOR TO ANOTHER BREAKER".
- B. IDENTIFICATION NAMEPLATES: FURNISH AND INSTALL ENGRAVED LAMINATED PHENOLIC NAMEPLATES FOR ALL SAFETY SWITCHES, PANELBOARDS AND ELECTRICAL EQUIPMENT SUPPLIED FOR IDENTIFICATION OF EQUIPMENT CONTROLLED, SERVED, PHASE, VOLTAGE, ETC. NAMEPLATES SHALL BE SECURELY ATTACHED TO EQUIPMENT WITH METAL SCREWS AND SHALL IDENTIFY BY NAME THE EQUIPMENT CONTROLLED, ATTACHED, ETC. LETTERS SHALL BE APPROXIMATELY 1/4-INCH HIGH MINIMUM. EMBOSSED, SELF-ADHESIVE PLASTIC TAPE IS NOT ACCEPTABLE. NAMEPLATE MATERIAL COLORS SHALL BE BLACK SURFACE WITH WHITE CORE FOR THE NORMAL POWER SYSTEM.
- C. RECEPTACLE CIRCUIT IDENTIFICATION: PROVIDE ADHESIVE BACKED, LAMINATED PLASTIC RECEPTACLE DEVICE PLATE LABELS IDENTIFYING THE CIRCUIT FEEDING THE DEVICE. LABELS SHALL BE LABEL MACHINE PRINTED, BLACK LETTERING ON A CLEAR BACKGROUND, TO INDICATE PANEL AND CIRCUIT NUMBER AND SHALL BE CASIO, BROTHER, T&B OR APPROVED EQUAL. PRINT CIRCUIT NUMBER ON FLAG TYPE PLASTIC CABLE TIE WITH A PERMANENT MARKER (SHARPIE, ETC.) AND ATTACH TO CONDUCTORS IN OUTLET BOX. FLAG SHALL BE READILY VISIBLE UPON REMOVAL OF DEVICE PLATE. LOCATION: EACH RECEPTACLE DEVICE PLATE. APPLY CENTERED ON THE LOWER PORTION BELOW THE RECEPTACLE, PARALLEL TO THE LOWER SURFACE. LEGEND: TYPED LABELS TO INDICATE PANEL AND CIRCUIT NUMBER FEEDING THE DEVICE (I.E., RPA-24).

262817 CIRCUIT BREAKERS

- A. ENCLOSED CIRCUIT BREAKERS SHALL BE MOLDED CASE, UL LISTED, BOLT-ON TYPE AND SHALL BE RATED AS SHOWN ON THE DRAWINGS WITH APPROPRIATE WITHSTAND RATINGS AND CURRENT LIMITING CHARACTERISTICS AS REQUIRED TO SAFELY FUNCTION AND PROTECT THE DISTRIBUTION SYSTEM. ACCESSORIES SHALL BE PROVIDED AS NOTED OR REQUIRED AND SHALL BE UL LISTED AND FIELD INSTALLABLE.
- B. CIRCUIT BREAKERS INDICATED TO BE INSTALLED IN EXISTING PANELBOARDS SHALL BE MOLDED CASE, UL LISTED AND SHALL BE RATED AS SHOWN ON THE DRAWINGS. PROVIDE ALL NECESSARY MOUNTING HARDWARE AND ACCESSORIES AS REQUIRED TO INSTALL NEW CIRCUIT BREAKERS. NEW CIRCUIT BREAKERS SHALL MATCH EXISTING TYPES INSTALLED AND BE RATED CONSISTENT WITH THE EXISTING EQUIPMENT TO MANITAIN EQUIPMENT RATINGS. ACCESSORIES SHALL BE PROVIDED AS NOTED OR REQUIRED AND SHALL BE UL LISTED AND FIELD INSTALLABLE.
- C. CIRCUIT BREAKERS SHALL BE MANUFACTURED BY CUTLER HAMMER, GENERAL ELECTRIC, SIEMENS OR SQUARE D.

7).22.24 Date:
D		0 ISSUED FOR CONSTRUCTION Revision No: DESCRIPTION: REVISIONS
С	Cost Cost <thcost< th=""> Cost Cost</thcost<>	© Copyright 2024 CBHF Engineers, PLLC COPYRIGHT 2024 CBHF Engineers, PLLC
	CARO CARO	/2024
В	REPLACEMENT HANOVER COUNTY HESTNUT STREET VGTON, N.C. 28401 ECTRICAL	
A	HVAC F FOR NEW 320 CI WILMIT	
A	JOB NO: DRAWN: DESIGNED: CHECKED:	23217 AJC AJC WAC
A	JOB NO: DRAWN: DESIGNED: CHECKED: DRAWING NO: E-003	23217 AJC AJC WAC

Movement Direction	Penetrant Item	Nominal Penetrant Diameter		Annula Space
Y	2A, 2C*		2 in.	Max 2-1
Z	2A, 2C*		2 in.	2-1/4

INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION

REVISION:

TYPE: NEMA 1	208	120	V,	3	PH,	4	WIRE		PROVIDE I	F XX	EQUIP.
BOLT-ON	MOUNT:	SURFACE							CHECKED	: XX	NEUTR
DOOR-IN-DOOR, HINGED FRONT COVER	FEED:	BOTTOM									GUTTEI
											SUB-FE
	LOAD	CKT	CKT		LOAD VA		CKT	CKT	LOAD		
LOAD SERVED	VA	BKR	#	А	В	С	#	BKR	VA	LOAD SERVED	
RECEPTACLES 113, 114, 115, 116		20/1	1				2	20/1		SPARE	
RECEPTACLES 116, 117		20/1	3				4	20/1		RECEPTACLES 108,	, 109, 110, 1
RECEPTACLES 117, 118, 124		20/1	5				6	20/1		RECEPTACLES 102	
RECEPTACLES 119		20/1	7				8	20/1		RECEPTACLES 102	
RECEPTACLES 119		20/1	9				10	20/1		RECEPTACLES 102	
RECEPTACLES 119		20/1	11				12	20/1		RECEPTACLES 105	
RECEPTACLES 117		20/1	13				14	20/1		RECEPTACLES 102,	, 105
RECEPTACLES 100, 118, 119, 120		20/1	15				16	20/1		RECEPTACLES 103,	, 104, 105
RECEPTACLES 120		20/1	17				18	20/1		RECEPTACLES 105	
RECEPTACLES 120		20/1	19				20	20/1		RECEPTACLES 105	
RECEPTACLES 121, 122		20/1	21				22	20/1		RECEPTACLES 105	
EWC 101		20/1	23				24	20/1		SPARE	
PUMP		20/1	25				26	20/1		CONTACTOR EXT. L	IGHTS
SIGN		20/1	27				28	20/1		COPIER	
CC'S	1,200	15/2	29			1,200	30	30/2		HOT WATER TANK	
	1			1 0 0 0		,					

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1,200

1,200 15/2 1,200 |

20/1

20/1 30/1

1

BOLT-ON DOOR-IN-DOOR, HINGED FRONT COVER MOUNT: FEED: SURFACE BOTTOM CKT CAD CKT CKT CKT CKT LOAD CKT LOAD CKT CKT CKT CKT LOAD BKR # A B C # BKR VA LOAD SERVED VA BKR # A B C # BKR VA LOAD SERVED VA BKR # A B C # LOAD SERVED VA LOAD SERVED CKT CKT CKT CKT LOAD SERVED VA LOAD SERVED CKT LOAD SERVED SUB-FECLUS SUB-FECLUS </th <th>TYPE: NEMA 1</th> <th>208</th> <th>120</th> <th>V,</th> <th>3</th> <th>PH,</th> <th>4</th> <th>WIRE</th> <th></th> <th>PROVIDE</th> <th>IF X</th> <th>(X</th> <th>EQUIP. GND BUS</th>	TYPE: NEMA 1	208	120	V,	3	PH,	4	WIRE		PROVIDE	IF X	(X	EQUIP. GND BUS
DOOR-IN-DOOR, HINGED FRONT COVER FEED: BOTTOM GUTTER TAPS SUB-FEED LUGS LOAD SERVED VA BKR # A B C # BKR VA LOAD SERVED LOAD SERVED VA BKR # A B C # BKR VA LOAD SERVED LOAD SERVED LOAD SERVED LOAD SERVED RECEPTACLES 501, 532, 533 20/1 1 2 20/1 RECEPTACLES 511, 513, 521, 531 SPACE 3 20/1 5 6 20/1 RECEPTACLES 513, 514, 517 RECEPTACLES 503, 504, 527 20/1 7 8 20/1 RECEPTACLES 503, 504, 527 20/1 10 20/1 RECEPTACLES 518 20/1 RECEPTACLES 518 20/1 11 12 20/1 RECEPTACLES 518 20/1 RECEPTACLES 518 20/1 11 12/2 20/1 RECEPTACLES 518 20/1 RECEPTACLES 503, 506, 507 20/1 15 16 1 1 1 1 1 1 1 1 1 1 1 1	BOLT-ON	MOUNT:	SURFACE	Ξ						CHECKED	: X	X	NEUTRAL BUS
LOAD CKT CKT LOAD VA CKT CK	DOOR-IN-DOOR, HINGED FRONT COVER	FEED:	BOTTOM										GUTTER TAPS
LOAD CK1 CK1 CK1 CK1 CK1 CK1 LOAD IADAD SERVED VA BKR # A B C # BKR VA LOAD SERVED IADAD SERVED IADADAD SERVED IADADADADAD SERVED				OVT					OVT				SUB-FEED LUGS
LOAD SERVED VA BRR # A B C # BRR VA LOAD SERVED RECEPTACLES 501, 532, 533 20/1 1 2 20/1 RECEPTACLES 511, 513, 514, 517 SPACE 3 4 20/1 RECEPTACLES 513, 514, 517 RECEPTACLES 531, 504, 527 20/1 7 8 20/1 RECEPTACLES 517 RECEPTACLES 504, 505, 506 20/1 1 12 20/1 RECEPTACLES 517 RECEPTACLES 531, 506, 506 20/1 11 12 20/1 RECEPTACLES 517 RECEPTACLES 548, 521, 531 20/1 13 14 15/2 SPARE RECEPTACLES 506, 507 20/1 15 16 1 1 RECEPTACLES 506, 507 20/1 17 1,200 18 15/2 1,200 1 RECEPTACLES 506, 507 20/1 17 1,200 18 15/2 1,200 1 RECEPTACLES 508, 509, 510 20/1 27 22 SPACE SPACE RECEPTACL		LOAD		CKI	٨	LOAD VA	0		CKI	LOAD			
RECEPTACLES 501, 532, 533 20/1 1 2 20/1 RECEPTACLES 511, 513, 521, 531 SPACE 3 4 20/1 RECEPTACLES 513, 514, 517 RECEPTACLES 527, 528 20/1 5 6 20/1 RECEPTACLES 517 RECEPTACLES 531 20/1 7 8 20/1 RECEPTACLES 517 RECEPTACLES 503, 504, 527 20/1 9 10 20/1 RECEPTACLES 517 RECEPTACLES 504, 505, 506 20/1 11 12 20/1 RECEPTACLES 518 RECEPTACLES 518, 521, 531 20/1 13 14 15/2 SPARE RECEPTACLES 508, 507 20/1 17 1,200 18 15/2 1,200 RECEPTACLES 506, 507 20/1 19 1,200 20 1 1,200 1 RECEPTACLES 506, 507 20/1 19 1,200 20 1 1,200 1 RECEPTACLES 506, 507 20/1 21 22 SPACE SPACE RECEPTACLES 500, 5010 20/1 21 22 SPACE SPACE RECEPTACLES 502 20/1	LOAD SERVED	VA	BKR	#	A	В	C	#	BKR	VA	LOAD SER		
SPACE 3 4 20/1 RECEPTACLES 51, 514, 517 RECEPTACLES 52, 528 20/1 5 6 20/1 RECEPTACLES 517 RECEPTACLES 531 20/1 7 8 20/1 RECEPTACLES 517 RECEPTACLES 503, 504, 527 20/1 9 10 20/1 RECEPTACLES 517 RECEPTACLES 504, 505, 506 20/1 11 12 20/1 RECEPTACLES 518 RECEPTACLES 518 20/1 13 14 15/2 SPARE RECEPTACLES 506, 507 20/1 17 1,200 1 1,200 RECEPTACLES 508, 509, 510 20/1 19 1,200 20 1 1,200 RECEPTACLES 502 20/1 21 1,200 1 1,200 1 1,200 RECEPTACLES 508, 509, 510 20/1 21 22 SPACE SPACE SPACE RECEPTACLES 502 20/1 21 23 24 SPACE SPACE RECEPTACLES 502 20/1 27 28 20/1 RECEPTACLES 519, 520 SPACE RECEPTACLES 502 20/1	RECEPTACLES 501, 532, 533		20/1	1				2	20/1		RECEPTAC	JES 511,	513, 521, 531
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RECEPTACLES 531 20/1 7 8 20/1 RECEPTACLES 517 RECEPTACLES 503, 504, 505, 506 20/1 10 20/1 RECEPTACLES 517 RECEPTACLES 504, 505, 506 20/1 11 12 20/1 RECEPTACLES 518 RECEPTACLES 518 20/1 13 14 15/2 SPARE RECEPTACLES 522 20/1 17 1,200 18 15/2 1,200 CC'S RECEPTACLES 506, 507 20/1 19 1,200 20 1 1,200 I 1,200 I 1,200 III IIII IIII IIIII IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	RECEPTACLES 527, 528		20/1	5				6	20/1		RECEPTAC	CLES 517	
RECEPTACLES 503, 504, 527 20/1 9 10 20/1 RECEPTACLES 517 RECEPTACLES 504, 505, 506 20/1 11 12 20/1 RECEPTACLES 518 RECEPTACLES 518 20/1 13 14 15/2 SPARE RECEPTACLES 518, 521, 531 20/1 15 16 RECEPTACLES 506, 507 20/1 17 1,200 18 15/2 1,200 CC'S RECEPTACLES 506, 507 20/1 19 1,200 20 1,200 1,200 RECEPTACLES 508, 509, 510 20/1 21 22 SPARE SPACE SPACE RECEPTACLES 501, 511 20/1 23 24 SPACE SPACE SPARE IN DATA ROOM 20/1 27 28 20/1 SPARE RECEPTACLES 502 20/1 27 28 20/1 RECEPTACLES 519, 520 RECEPTACLES 502 20/1 31 32 20/1 RECEPTACLES 519, 520 RECEPTACLES 502 20/1 31 32 20/1 RECEPTACLES 502 SPARE	RECEPTACLES 531		20/1	7				8	20/1		RECEPTAC	CLES 517	
RECEPTACLES 504, 505, 506 20/1 11 12 20/1 RECEPTACLES 518 RECEPTACLES 518 20/1 13 14 15/2 SPARE RECEPTACLES 518, 521, 531 20/1 15 16 1 1 RECEPTACLES 522 20/1 17 1,200 18 15/2 1,200 CC'S RECEPTACLES 506, 507 20/1 19 1,200 20 1 1,200 CC'S RECEPTACLES 508, 509, 510 20/1 21 22 SPACE SPACE RECEPTACLES 510, 511 20/1 23 24 SPACE SPACE SPARE IN DATA ROOM 20/1 25 26 20/1 SPARE RECEPTACLES 502 20/1 27 28 20/1 RECEPTACLES 530, BATHROOMS RECEPTACLES 502 20/1 27 28 20/1 RECEPTACLES 519, 520 RECEPTACLES 502 20/1 31 32 20/1 RECEPTACLES 502 20/1 RECEPTACLES 502 20/1 31 32 20/1 RECEPTACLES 502 20/1 36 20/1 SPARE <td>RECEPTACLES 503, 504, 527</td> <td></td> <td>20/1</td> <td>9</td> <td></td> <td></td> <td></td> <td>10</td> <td>20/1</td> <td></td> <td>RECEPTAC</td> <td>CLES 517</td> <td></td>	RECEPTACLES 503, 504, 527		20/1	9				10	20/1		RECEPTAC	CLES 517	
RECEPTACLES 518 20/1 13 14 15/2 SPARE RECEPTACLES 518, 521, 531 20/1 15 16 RECEPTACLES 522 20/1 17 1,200 18 15/2 1,200 CC's RECEPTACLES 506, 507 20/1 19 1,200 18 15/2 1,200 1,200 RECEPTACLES 508, 509, 510 20/1 19 1,200 20 1,200 RECEPTACLES 508, 509, 510 20/1 21 22 SPACE SPACE RECEPTACLES 510, 511 20/1 25 26 20/1 SPARE RECEPTACLES 502 20/1 27 28 20/1 RECEPTACLES 530, BATHROOMS RECEPTACLES 502 20/1 29 30 20/1 RECEPTACLES 519, 520 RECEPTACLES 502 20/1 31 32 20/1 RECEPTACLES 521 RECEPTACLES 502 20/1 33 34 20/1 EWC SPACE 35 36 20/1 SPARE SPARE RECEPTACLES 502 <td< td=""><td>RECEPTACLES 504, 505, 506</td><td></td><td>20/1</td><td>11</td><td></td><td></td><td></td><td>12</td><td>20/1</td><td></td><td>RECEPTAC</td><td>CLES 518</td><td></td></td<>	RECEPTACLES 504, 505, 506		20/1	11				12	20/1		RECEPTAC	CLES 518	
RECEPTACLES 518, 521, 531 20/1 15 16 RECEPTACLES 522 20/1 17 1,200 18 15/2 1,200 CC'S RECEPTACLES 506, 507 20/1 19 1,200 20 1,200 RECEPTACLES 508, 509, 510 20/1 21 22 SPACE RECEPTACLES 510, 511 20/1 23 24 SPACE SPARE IN DATA ROOM 20/1 25 26 20/1 SPARE RECEPTACLES 502 20/1 27 28 20/1 RECEPTACLES 530, BATHROOMS RECEPTACLES 502 20/1 29 30 20/1 RECEPTACLES 519, 520 RECEPTACLES 502 20/1 31 32 20/1 RECEPTACLES 519, 520 RECEPTACLES 502 20/1 31 32 20/1 RECEPTACLES 521 RECEPTACLES 502 20/1 33 34 20/1 EWC SPACE 35 36 20/1 SPARE SPARE RECEPTACLES 502 20/1 37 38 20/1 RECEPTACLES 502	RECEPTACLES 518		20/1	13				14	15/2		SPARE		
RECEPTACLES 522 20/1 17 1,200 18 15/2 1,200 CC'S RECEPTACLES 506, 507 20/1 19 1,200 20 1 1,200 1 RECEPTACLES 508, 509, 510 20/1 21 22 SPACE SPACE RECEPTACLES 510, 511 20/1 23 24 SPACE SPACE SPARE IN DATA ROOM 20/1 25 26 20/1 SPARE RECEPTACLES 502 20/1 27 28 20/1 RECEPTACLES 530, BATHROOMS RECEPTACLES 502 20/1 29 30 20/1 RECEPTACLES 519, 520 RECEPTACLES 502 20/1 31 32 20/1 RECEPTACLES 521 RECEPTACLES 502 20/1 31 32 20/1 RECEPTACLES 521 RECEPTACLES 502 20/1 33 34 20/1 EWC SPACE 35 36 20/1 SPARE RECEPTACLES 502 20/1 37 38 20/1 RECEPTACLES 502 RECEPTACLES 502 20/1 39 40 20/1 RECEPTACL	RECEPTACLES 518, 521, 531		20/1	15				16					
RECEPTACLES 506, 507 20/1 19 1,200 20 1 1,200 RECEPTACLES 508, 509, 510 20/1 21 22 SPACE RECEPTACLES 510, 511 20/1 23 24 SPACE SPARE IN DATA ROOM 20/1 25 26 20/1 SPARE RECEPTACLES 502 20/1 27 28 20/1 RECEPTACLES 530, BATHROOMS RECEPTACLES 502 20/1 29 30 20/1 RECEPTACLES 519, 520 RECEPTACLES 502 20/1 31 32 20/1 RECEPTACLES 519, 520 RECEPTACLES 502 20/1 31 32 20/1 RECEPTACLES 521 RECEPTACLES 502 20/1 33 34 20/1 EWC SPACE 35 36 20/1 SPARE RECEPTACLES 502 20/1 37 38 20/1 RECEPTACLES 502 RECEPTACLES 502 20/1 39 40 20/1 RECEPTACLES 502 RECEPTACLES 502 20/1 41 42 SPACE SPACE	RECEPTACLES 522		20/1	17			1,200	18	15/2	1,200	CC'S		
RECEPTACLES 508, 509, 510 20/1 21 22 SPACE RECEPTACLES 510, 511 20/1 23 24 SPACE SPARE IN DATA ROOM 20/1 25 26 20/1 SPARE RECEPTACLES 502 20/1 27 28 20/1 RECEPTACLES 530, BATHROOMS RECEPTACLES 502 20/1 29 30 20/1 RECEPTACLES 519, 520 RECEPTACLES 502 20/1 31 32 20/1 RECEPTACLES 519, 520 RECEPTACLES 502 20/1 31 32 20/1 RECEPTACLES 519, 520 RECEPTACLES 502 20/1 31 32 20/1 RECEPTACLES 521 RECEPTACLES 502 20/1 33 34 20/1 EWC SPACE 35 36 20/1 SPARE RECEPTACLES 502 20/1 37 38 20/1 RECEPTACLES 502 RECEPTACLES 502 20/1 39 40 20/1 RECEPTACLES 502 RECEPTACLES 502 20/1 41 42 </td <td>RECEPTACLES 506, 507</td> <td></td> <td>20/1</td> <td>19</td> <td>1,200</td> <td></td> <td></td> <td>20</td> <td></td> <td>1,200</td> <td></td> <td></td> <td></td>	RECEPTACLES 506, 507		20/1	19	1,200			20		1,200			
RECEPTACLES 510, 511 20/1 23 24 SPACE SPARE IN DATA ROOM 20/1 25 26 20/1 SPARE RECEPTACLES 502 20/1 27 28 20/1 RECEPTACLES 530, BATHROOMS RECEPTACLES 502 20/1 29 30 20/1 RECEPTACLES 519, 520 RECEPTACLES 502 20/1 31 32 20/1 RECEPTACLES 521 RECEPTACLES 502 20/1 31 32 20/1 RECEPTACLES 521 RECEPTACLES 502 20/1 33 34 20/1 EWC SPACE 35 36 20/1 SPARE RECEPTACLES 502 20/1 37 38 20/1 RECEPTACLES 502 RECEPTACLES 502 20/1 37 38 20/1 RECEPTACLES 502 RECEPTACLES 502 20/1 39 40 20/1 RECEPTACLES 502 RECEPTACLES 502 20/1 39 40 20/1 RECEPTACLES 502	RECEPTACLES 508, 509, 510		20/1	21				22			SPACE		
SPARE IN DATA ROOM20/1252620/1SPARERECEPTACLES 50220/121272820/1RECEPTACLES 530, BATHROOMSRECEPTACLES 50220/120/1293020/1RECEPTACLES 519, 520RECEPTACLES 50220/1313220/1RECEPTACLES 521RECEPTACLES 50220/1333420/1EWCSPACE353620/1SPARERECEPTACLES 50220/1373820/1RECEPTACLES 502RECEPTACLES 50220/1394020/1RECEPTACLES 502RECEPTACLES 50220/1394020/1RECEPTACLES 502RECEPTACLES 50220/1414142SPACE	RECEPTACLES 510, 511		20/1	23				24			SPACE		
RECEPTACLES 50220/1272820/1RECEPTACLES 530, BATHROOMSRECEPTACLES 50220/120/1293020/1RECEPTACLES 519, 520RECEPTACLES 50220/1313220/1RECEPTACLES 521RECEPTACLES 50220/1333420/1EWCSPACE353620/1SPARERECEPTACLES 50220/1373820/1RECEPTACLES 502RECEPTACLES 50220/1394020/1RECEPTACLES 502RECEPTACLES 50220/1394020/1RECEPTACLES 502RECEPTACLES 50220/14142SPACE	SPARE IN DATA ROOM		20/1	25				26	20/1		SPARE		
RECEPTACLES 502 20/1 29 30 20/1 RECEPTACLES 519, 520 RECEPTACLES 502 20/1 31 32 20/1 RECEPTACLES 521 RECEPTACLES 502 20/1 33 34 20/1 EWC SPACE 35 36 20/1 SPARE RECEPTACLES 502 20/1 37 38 20/1 RECEPTACLES 502 RECEPTACLES 502 20/1 39 40 20/1 RECEPTACLES 502 RECEPTACLES 502 20/1 41 42 SPACE	RECEPTACLES 502		20/1	27				28	20/1		RECEPTAC	CLES 530,	BATHROOMS
RECEPTACLES 50220/1313220/1RECEPTACLES 521RECEPTACLES 50220/1333420/1EWCSPACE353620/1SPARERECEPTACLES 50220/1373820/1RECEPTACLES 502RECEPTACLES 50220/1394020/1RECEPTACLES 502RECEPTACLES 50220/14142SPACE	RECEPTACLES 502		20/1	29				30	20/1		RECEPTAC	CLES 519,	520
RECEPTACLES 502 20/1 33 34 20/1 EWC SPACE 35 36 20/1 SPARE RECEPTACLES 502 20/1 37 38 20/1 RECEPTACLES 502 RECEPTACLES 502 20/1 39 40 20/1 RECEPTACLES 502 RECEPTACLES 502 20/1 41 42 SPACE	RECEPTACLES 502		20/1	31				32	20/1		RECEPTAC	CLES 521	
SPACE 35 36 20/1 SPARE RECEPTACLES 502 20/1 37 38 20/1 RECEPTACLES 502 RECEPTACLES 502 20/1 39 40 20/1 RECEPTACLES 502 RECEPTACLES 502 20/1 41 42 SPACE	RECEPTACLES 502		20/1	33				34	20/1		EWC		
RECEPTACLES 502 20/1 37 38 20/1 RECEPTACLES 502 RECEPTACLES 502 20/1 39 40 20/1 RECEPTACLES 502 RECEPTACLES 502 20/1 41 42 SPACE	SPACE			35				36	20/1		SPARE		
RECEPTACLES 502 20/1 39 40 20/1 RECEPTACLES 502 RECEPTACLES 502 20/1 41 42 504.00 504.00	RECEPTACLES 502		20/1	37				38	20/1		RECEPTAC	CLES 502	
	RECEPTACLES 502		20/1	39				40	20/1		RECEPTAC	CLES 502	
	RECEPTACLES 502		20/1	41				42			SPACE		
					10		10	CONN	AMPS	150	A. MAIN CI	RCUIT BF	REAKER

D

NEON SIGNS

NEON SIGNS SPARE SPACE SPACE NOTES:

TYPE: NEMA 3R BOLT-ON DOOR-IN-DOOR, HINGED FRONT COVER	480 MOUNT: FEED:	277 SURFACE BOTTOM	V, E	3	PH,	4	WIRE		PROVIDE	IF XX D: XX	EQUIP. GND BU NEUTRAL BUS GUTTER TAPS SUB-FEED LUG
	LOAD	CKT	CKT		LOAD VA		СКТ	CKT	LOAD		
LOAD SERVED	VA	BKR	#	A	В	С	#	BKR	VA	LOAD SERVED	
PANEL G	14,958	125/3		14,958							
	14,958	<u> </u>			14,958	11.101					
	14,404			44.740		14,404		10/0	E 540		
HP-4	9,179	50/3	1	14,719	44 740		2	40/3	5,540	HP-1A	
	9,179	<u> </u>	3		14,719	44.740	4		5,540		
	9,179	05/0	5	0.004		14,719	6	0.5./0	5,540		
SPARE		25/3	/	3,324	0.004		8	25/3	3,324	HP-1B	
			9		3,324	2 2 2 4	10		3,324		
	5.540	10/2	11	10 526		3,324	12	25/2	3,324		
	5,540	40/3	13	10,520	10.526		14	35/3	4,900		
	5,540	I	10		10,520	10 526	10		4,900		
	3 324	25/2	10	8 864		10,520	10	10/2	4,900		
	3 324	23/3	19	0,004	8 864		20	40/3	5,540		
	3 324	<u> </u>	21		0,004	8 864	24		5,540		
 ΗΡ_3Δ	5 540	10/3	25	11 080		0,004	24	10/3	5 540		
	5 540	40/3	23	11,000	11 080		20	40/3	5 540		
	5 540	<u> </u>	20		11,000	11 080	30		5 540		
	3 324	25/3	31	6 648		11,000	32	25/3	3 324	HP-5B	
	3 324	20/0	33	0,010	6 648		34	20/0	3 324		
	3.324		35		0,010	6.648	36		3.324		
SPD		30/3	37			-1	38			SPACE	
			39				40			SPACE	
			41				42			SPACE	
NOTES:		1		70,119	70,119	69,565	TOTAL	V. AMPS	400	A. BUS (COPPER)	
				253	253	251	CONN.	AMPS	400	A. MAIN LUGS	
						-					

2

2

HVAC CONTROLS

SPARE SPACE

SPACE

10 KAIC MIN.

225 A. BUS (COPPER)

LIGHTS DISPLAY WINDOW

150 A. MAIN CIRCUIT BREAKER

20/1

20/1

30/1

32 34 36

38 40

42

 1,200
 1,200
 TOTAL V. AMPS

 10
 10
 CONN. AMPS

REVISED PANEL SA	Δ										
TYPE: NEMA 1 BOLT-ON DOOR-IN-DOOR, HINGED FRONT COVER	208 MOUNT: FEED:	120 SURFACE BOTTOM	V, <u>=</u>	3	PH,	4	WIRE		PROVIDE CHECKE	E IF XX D: XX	EQUIP. GND NEUTRAL BL GUTTER TAF
	LOAD	CKT	CKT		LOAD VA		СКТ	CKT	LOAD		SUB-FEED L
LOAD SERVED	VA	BKR	#	А	В	С	#	BKR	VA	LOAD SERVED	
(X)RECEPTACLES 113, 114, 115, 116		20/1	1				2	20/1		(X)SPARE	
(X)RECEPTACLES 116, 117		20/1	3				4	20/1		(X)RECEPTACLES	108, 109, 110, 125
(X)RECEPTACLES 117, 118, 124		20/1	5				6	20/1		(X)RECEPTACLES	102
(X)RECEPTACLES 119		20/1	7				8	20/1		(X)RECEPTACLES	102
(X)RECEPTACLES 119		20/1	9				10	20/1		(X)RECEPTACLES	102
(X)RECEPTACLES 119		20/1	11				12	20/1		(X)RECEPTACLES	105
(X)RECEPTACLES 117		20/1	13				14	20/1		(X)RECEPTACLES	102, 105
(X)RECEPTACLES 100, 118, 119, 120		20/1	15				16	20/1		(X)RECEPTACLES	103, 104, 105
(X)RECEPTACLES 120		20/1	17				18	20/1		(X)RECEPTACLES	105
(X)RECEPTACLES 120		20/1	19				20	20/1		(X)RECEPTACLES	105
(X)RECEPTACLES 121, 122		20/1	21				22	20/1		(X)RECEPTACLES	105
(X)EWC 101		20/1	23				24	20/1		(X)SPARE	
(X)PUMP		20/1	25				26	20/1		(X)CONTACTOR EX	T. LIGHTS
(X)SIGN		20/1	27				28	20/1		(X)COPIER	
CC'S & HR'S (NOTE 1)	541	15/2	29			54	1 30	30/2		(X)HOT WATER TA	VK
	541		31	541			32				
(X)NEON SIGNS		20/1	33				34	20/1		(X)HVAC CONTROL	.S
(X)NEON SIGNS		20/1	35				36	20/1		(X)LIGHTS DISPLA	Y WINDOW
(X)SPARE		30/1	37			_	38	30/1		(X)SPARE	
(X)SPACE			39				40			(X)SPACE	
(X)SPACE			41				40			(V)SBACE	

3

NOTES: 1. UTILIZE EXISTING BREAKER.

(X) INDICATES EXISTING LOAD

TYPE: NEMA 1 BOLT-ON DOOR-IN-DOOR, HINGED FRONT COVER	208 MOUNT: FEED:	120 SURFACE BOTTOM	V, E	3	PH,	4	WIRE		PROVIDE CHECKED	IF XX : XX	EQUIP. GND BUS NEUTRAL BUS GUTTER TAPS SUB-FEED LUGS
	LOAD	СКТ	CKT		LOAD VA		СКТ	CKT	LOAD		
OAD SERVED	VA	BKR	#	A	В	С	#	BKR	VA	LOAD SERVED	
X)RECEPTACLES 501, 532, 533		20/1	1				2	20/1		(X)RECEPTACLES 511	, 513, 521, 531
X)SPACE			3				4	20/1		(X)RECEPTACLES 513	, 514, 517
X)RECEPTACLES 527, 528		20/1	5				6	20/1		(X)RECEPTACLES 517	
X)RECEPTACLES 531		20/1	7				8	20/1		(X)RECEPTACLES 517	
X)RECEPTACLES 503, 504, 527		20/1	9				10	20/1		(X)RECEPTACLES 517	
X)RECEPTACLES 504, 505, 506		20/1	11				12	20/1		(X)RECEPTACLES 518	
X)RECEPTACLES 518		20/1	13				14	15/2		(X)SPARE	
X)RECEPTACLES 518, 521, 531		20/1	15				16				
X)RECEPTACLES 522		20/1	17			811	18	15/2	811	CC'S & HR'S (NOTE 1)	
X)RECEPTACLES 506, 507		20/1	19	811			20		811		
X)RECEPTACLES 508, 509, 510		20/1	21				22			(X)SPACE	
X)RECEPTACLES 510, 511		20/1	23				24			(X)SPACE	
X)SPARE IN DATA ROOM		20/1	25				26	20/1		(X)SPARE	
X)RECEPTACLES 502		20/1	27				28	20/1		(X)RECEPTACLES 530	, BATHROOMS
X)RECEPTACLES 502		20/1	29				30	20/1		(X)RECEPTACLES 519	, 520
X)RECEPTACLES 502		20/1	31				32	20/1		(X)RECEPTACLES 521	
X)RECEPTACLES 502		20/1	33				34	20/1		(X)EWC	
X)SPACE			35				36	20/1		(X)SPARE	
X)RECEPTACLES 502		20/1	37				38	20/1		(X)RECEPTACLES 502	
X)RECEPTACLES 502		20/1	39				40	20/1		(X)RECEPTACLES 502	
X)RECEPTACLES 502		20/1	41				42			(X)SPACE	
OTES: . UTILIZE EXISTING BREAKER.				811		811 7	TOTAL CONN.	V. AMPS AMPS	225 150	A. BUS (COPPER) A. MAIN CIRCUIT BRE/	AKER

 541
 541
 TOTAL V. AMPS

 5
 5
 CONN. AMPS

TYPE: NEMA 3R BOLT-ON DOOR-IN-DOOR, HINGED FRONT COVER	480 MOUNT: FEED:	277 SURFACE BOTTOM	V, ≣	3	РН,	4	WIRE		PROVIDE	IF XX): XX	EQUIP. GND BUS NEUTRAL BUS GUTTER TAPS SUB-FEED LUGS
	LOAD	CKT	CKT	٨	LOAD VA	0	CKT	CKT	LOAD		
(X)PANEL G	14 958	125/2	#	A 1/ 058	В	ل ل	#	BKK	VA	LUAD SERVED	
	14 958	120/0		14,900	14 958						
	14 404				14,000	14 404					
(X)HP-4	9,179	50/3	1	17.094		11,101	2	50/3	7.915	HP-1 (NOTE 1.2)	
	9,179		3		17,094		4		7,915		
	9,179		5		,	17,094	6		7,915		
(X)SPARE		25/3	7				8	25/3		SPARE (NOTE 3)	
			9				10			1	
			11				12				
(X)HP-2A	5,540	40/3	13	10,526			14	35/3	4,986	(X)HP-6A	
	5,540		15		10,526		16		4,986		
	5,540		17			10,526	18		4,986		
(X)HP-2B	3,324	25/3	19	8,864			20	40/3	5,540	(X)HP-6B	
	3,324		21		8,864		22		5,540		
	3,324		23			8,864	24		5,540		
(X)HP-3A	5,540	40/3	25	13,455			26	50/3	7,915	HP-5 (NOTE 1,2)	
	5,540		27		13,455		28		7,915		
	5,540		29			13,455	30		7,915		
(X)HP-3B	3,324	25/3	31	3,324			32	25/3		SPARE (NOTE 3)	
	3,324		33		3,324		34				
0.0000	3,324		35			3,324	36				
(X)SPD	_	30/3	37				38			(X)SPACE	
			39				40			(X)SPACE	
NOTEO			41	60.001	60.004	67.667	42		100		
				08,221	08,221	07,007		V. AMPS	400	A. BUS (COPPER)	
		алеко. Матон г			240	244	COINN.	AIVIPO	400	A. WAIN LUGO	
				IC RATING.					25	KAIC MIN.	

3

4

225 A. BUS (COPPER) 150 A. MAIN CIRCUIT BREAKER 10 KAIC MIN.

LOAD SUMMARY STATEMENT

THIS PROJECT IS A ONE FOR ONE EQUIPMENT REPLACEMENT. THERE IS ALSO EQUIPMENT THAT IS BEING REMOVED AND WILL NOT BE REPLACED. BASED ON THIS INFORMATION, THE EXISTING SERVICE AND PANEL LOADS WILL BE DECREASED AS A RESULT OF THIS PROJECT.

			Α	В		С		D	
REVIS	E-6	JOB NO.: DRAWN: DESIGNED: CHECKED: DRAWIN	FOR NEW 320 C WILMI	REPLACEMENT HANOVER COUNTY CHESTNUT STREET INGTON, N.C. 28401	PARTH CA PARTH CA PARTH CA PARTH ES PARTH PARTH ES PARTH	Engineers.	PLLC		
ION:	601	23217 AJC AJC WAC	EI PANE AND L	LECTRICAL EL SCHEDULES OAD SUMMARY	NRO (27 8 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2246 Yaupon Drive Wilmington, NC 28401 © Copyright 2024 CBHF Engineers, PLLC	Phone: 910.791.4000 Fax: 910.791.5266 www.cbhfengineers.com NC# P-0506	0 ISSUED FOR CONSTRUCTION Revision No: DESCRIPTION: REVISIONS REVISIONS	10.22.24 Date:

	3			4	
	8	9	(10)		
				(X)ERU-1	

	3		4	
		9		
			(X)ERU-1	

Wall Legend	
	Existing walls to remain.
	Existing fire rated construction to remain - See tags below.
	Walls to be demolished.
	Existing fire rating around column.
T T	Existing 1 HR Fire rating.
24	Existing U419 2 HR Fire rating. 2 layers of 1/2" GWB on each side of stud.
2B	Existing shaft Wall - U415 2 HR Fire rating.
20	Existing U411 2 HR Fire rating.
FE	Fire Extinguisher Cabinet.

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Condition at Key Note 2

Wall Legella	
	Existing wall.
	New wall: All framing 3 5/8" metal studs, 16" O.C., 5/8" GWB both sides of wall U.N.O., sound batt insulation. Wall continues to underside of slab above U.N.O.
	New wall: All framing 3 5/8" metal studs, 16" O.C., 5/8" GWB & sound batt insulation, wall continues to 8'-8" AFF, U.N.O.
	Existing fire rated construction - see tags below.
	Existing fire rating around column.
	Existing 1 HR Fire rating.
2A	Existing U419 2 HR Fire rating. 2 layers of 1/2" GWB on each side of stud.
ZB	Existing shaft Wall - U415 2 HR Fire rating.
20	Existing U411 2 HR Fire rating.
ΕĒ	Fire Extinguisher Cabinet.

North

Genera	Il Notes
A	Portions of existing acoustical ceiling must be removed and replaced as part of this project. Contractor is responsible for: -Removal, storage, and reinstallation of ceiling materials. -Replacing ceiling grid and/or tile damaged during the project. Contractor to document existing conditions with photos or video prior to start of work. Architect's determination of damaged materials is final.
Reflect	ed Ceiling Plan Key Notes
RCP1	Install 9' manual roller shade from Owner's attic stock.
RCP2	Provide 4'-4" manual roller shade, field verify length.
RCP3	Provide 3'-0" manual roller shade, field verify length.

- ACOUSTICAL CEILING TILE AND GRID AS SCHEDULED. - METAL STUD BOX HEADER.

- GWB COLUMN WRAP BEYOND.

- TRANSACTION WINDOW.

SEE PLAN SHEETS FOR BASE BID & ALTERNATE BID CONDITIONS

 LIGHT GAUGE AND GWB SILL UNDER TRANSACTION WINDOW COUNTER TO PROVIDE CODE-REQUIRED CANE DETECTION - PROVIDE BULLNOSE TRIM AT ALL OUTSIDE EDGES AND CORNERS.

- FLOOR FINISH AS SCHEDULED.

- WALL BASE AS SCHEDULED.

— GWB

 BALLISTICS-RESISTANT PANEL, PRE-DRILL HOLES FOR FASTENERS.

PROVIDE BATTEN STRIP AT
 BUTT JOINTS AS RECOMMENDED
 BY PANEL MFG.

- LIGHT GAUGE STUD FRAMING.

ATTACH PANELS TO FRAMING WITH FASTENER TYPE AND SPACING RECOMMENDED BY PANEL MFG.

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Finis	sh Schedule									Door Schedule							
ID	ROOM NAME	FLOOR FINISH	BASE MATERIAL	NORTH WALL FINISH	EAST WALL FINISH	SOUTH WALL FINISH	WEST WALL FINISH	CEILING	REMARKS	Door			Frame				
301	Elevator Lobby	ETR	ETR	ETR	ETR	ETR	ETR	ETR		ID # Size WxH	Туре	Material	Туре	Materia	I Jamb Dep	th Remarks	
303	Intern Hub	ETR	ETR	ETR	ETR	ETR	ETR	ETR		301A 3-0 x 8-0	ETR	ETR	ETR	ETR	ETR		
304	Exit Stair	ETR	ETR	ETR	ETR	ETR	ETR	ETR		303A 3-0 x 8-0	ETR	ETR	ETR	ETR	ETR		
305	Men's Restroom	ETR	ETR	ETR	ETR	ETR	ETR	ETR		304A 3-0 x 8-0	FTR	FTR	FTR	FTR	FTR		
306	Women's Restroom	ETR	ETR	ETR	ETR	ETR	ETR	ETR		305A 3-0 x 8-0	FTR	FTR	FTR	FTR	FTR		
307	Exit Stair	ETR	ETR	ETR	ETR	ETR	ETR	ETR			ETP	ETP	ETR	ETD	ETP		
308	IT Closet	ETR	ETR	ETR	ETR	ETR	ETR	ETR									
309	Mechanical	ETR	ETR	ETR	ETR	ETR	ETR	ETR									
310	Hall	ETR	ETR	ETR Painted	ETR Painted	ETR Painted	ETR Painted	ETR		308A 3-0 X 8-0	EIR	EIR	EIR	EIR	EIR		
311	Attorney 1	ETR	ETR	ETR	ETR	ETR	ETR	ETR		309A 3-0 x 8-0		EIR	EIR	EIR	EIR		
312	Administration Assistant	ETR	ETR	ETR	ETR	ETR	ETR	ETR		311A 3-0 x 8-0	ETR	ETR	ETR	ETR	ETR		
313	Attorney 2	ETR	ETR	ETR	ETR	ETR	ETR	ETR		312A 3-0 x 8-0	ETR	ETR	ETR	ETR	ETR		
314	Attorney 3	ETR	ETR	ETR	ETR	ETR	ETR	ETR		313A 3-0 x 8-0	ETR	ETR	ETR	ETR	ETR		
315	Attorney 4	ETR	ETR	ETR	ETR	ETR	ETR	ETR		314A 3-0 x 8-0	ETR	ETR	ETR	ETR	ETR		
316	Attorney 5	ETR	ETR	ETR	ETR	ETR	ETR	ETR		315A 3-0 x 8-0	ETR	ETR	ETR	ETR	ETR		
317	Attorney 6	ETR	ETR	ETR	ETR	ETR	ETR	ETR		316A 3-0 x 8-0	ETR	ETR	ETR	ETR	ETR		
318	Attorney 7	ETR	ETR	ETR	ETR	ETR	ETR	ETR		317A 3-0 x 8-0	ETR	ETR	ETR	ETR	ETR		
319	Hall 2	ETR	ETR	ETR	ETR	ETR	ETR	ETR		318A 3-0 x 8-0	ETR	ETR	ETR	ETR	ETR		
320	Break Room	ETR	ETR	ETR Painted	ETR Painted	ETR Painted	ETR Painted	ETR		320A 4-2 x 8-0	CASED OPENING	_	IAF1	Aluminu	um 6" nominal	Field verify width of existing framed opening.	
321	Legal Assistant 1	ETR	ETR	ETR	ETR	ETR	ETR	ETR		321A 3-0 x 8-0	ETR	ETR	ETR	ETR	ETR		
322	Office Supply Closet	ETR	ETR	ETR	ETR	ETR	ETR	ETR		322A 3-0 x 8-0	FTR	FTR	FTR	FTR	FTR		
323	Legal Assistant 2	ETR	ETR	ETR	ETR	ETR	ETR	ETR		323A 3-0 x 8-0	ETR	ETR	FTR	FTR	ETR		
324	Legal Assistant 3	ETR	ETR	ETR	ETR	ETR	ETR	ETR					ETR				
325	Office	Carpet Tile	RB-Profile	GWB Painted	GWB Painted	GWB Painted	GWB Painted	ACT									
326	Office	Carpet Tile	RB-Profile	GWB Painted	GWB Painted	GWB Painted	GWB Painted	ACT			A	WD		Aiuminu			
327	Office	Carpet Tile	RB-Profile	GWB Painted	GWB Painted	GWB Painted	GWB Painted	ACT		326A 3-0 X 8-0	A	WD	IAF2	Aluminu			
328	Office	Carpet Tile	RB-Profile	GWB Painted	GWB Painted	GWB Painted	GWB Painted	ACT		327A 3-0 x 8-0	A	WD	IAF2	Aluminu	im 6" nominal		
329	Office	Carpet Tile	RB-Profile	GWB Painted	GWB Painted	GWB Painted	GWB Painted	ACT		328A 3-0 x 8-0	Α	WD	IAF2	Aluminu	im 6" nominal		
330	Conference	Carpet Tile	RB-Profile	GWB Painted	GWB Painted	GWB Painted	GWB Painted	ACT		329A 3-0 x 8-0	Α	WD	IAF3	Aluminu	ım 6" nominal		
331	Сору	Carpet Tile	RB-Profile	GWB Painted	GWB Painted	GWB Painted	GWB Painted	ACT		330A 3-0 x 8-0	A	WD	IAF1	Aluminu	ım 6" nominal	See Elec. dwgs for elec. hdw. info.	
332	Reception / Office	Carpet Tile	RB-Profile	GWB Painted	GWB Painted	GWB Painted	GWB Painted	ACT		330B 3-0 x 8-0	A	WD	IAF2	Aluminu	um 6" nominal		
333	Office	Carpet Tile	RB-Profile	GWB Painted	GWB Painted	GWB Painted	GWB Painted	ACT		331A 3-0 x 8-0	A	WD	IAF1	Aluminu	ım 6" nominal	See Elec. dwgs for elec. hdw. info.	
334	Hall 3	Carpet Tile	RB-Profile	GWB Painted	GWB Painted	GWB Painted	GWB Painted	ACT		332A 3-0 x 8-0	A	WD	IAF2	Aluminu	ım 6" nominal		
335	Closet	Carpet Tile	RB-Profile	GWB Painted	GWB Painted	GWB Painted	GWB Painted	ACT		333A 3-0 x 8-0	A	WD	IAF2	Aluminu	um 6" nominal		
336	Files	ETR	ETR	ETR	ETR	ETR	ETR	ETR		335A 3-0 x 8-0 PAIR	A	WD	IAF1	Aluminu	ım 6" nominal		
						Einsh Ch	adula Lagandi			336A 3-0 x 8-0	ETR	ETR	ETR	ETR	ETR		·
						ACT - Act	<u>equie Legena:</u> oustical Ceiling Tiles. See RC	P for CLG. HT.								<u> </u>	

CPT - Actostical Celling Tiles, CPT - Carpet Tile ETR - Existing to Remain GWB - Gypsum Wall Board OTS - Open to Structure PT - Porcelain Tile RB - Resilient Base

Ballistics-Resistant Transaction Window (A)

Interior Aluminum Storefront <u>Window (</u>B)

3'-0"

3'-0"

5'-0"

Interior Aluminum Storefront Window (C)

MECHANICAL GENERAL NOTES

PART 1 GENERAL

- 1.1 SCOPE OF WORK: THESE DRAWINGS AND SPECIFICATIONS DESCRIBE THE SCOPE OF WORK REQUIRED FOR PROJECT MECHANICAL HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS. CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIAL REQUIRED FOR COMPLETE, FULLY FUNCTIONING MECHANICAL SYSTEMS COMPLYING WITH THE INTENT OF THE DRAWINGS AND SPECIFICATIONS.
- 1.2 CONTRACTOR: THE WORD "CONTRACTOR" AS USED HEREIN SHALL MEAN THE HVAC INSTALLER UNLESS OTHERWISE QUALIFIED.
- 1.3 DRAWINGS: DRAWINGS ARE DIAGRAMMATIC AND MAY NOT COMPLETELY DESCRIBE EVERY DETAIL OF THE INSTALLATION. HOWEVER, CONTRACTOR IS RESPONSIBLE FOR FURNISHING COMPLETE SYSTEMS INCLUDING ALL REQUIRED EQUIPMENT AND ACCESSORIES TO OBTAIN FULLY FUNCTIONING HVAC SYSTEMS.
- 1.4 CODE COMPLIANCE: COMPLY WITH THE LATEST EDITIONS OF THE FOLLOWING STANDARDS AND CODES, INSOFAR AS THEY APPLY:
- A. NORTH CAROLINA STATE BUILDING CODE, LATEST EDITION AND REVISIONS
- B. LOCAL JURISDICTION REQUIREMENTS: INCLUDE ALL WORK TO COMPLY WITH CODES WHETHER INDICATED ON DRAWINGS OR NOT. NOTIFY ENGINEER OF DISCREPANCIES BETWEEN DRAWINGS AND CODES PRIOR TO BEGINNING WORK.
- 1.5 PERMITS AND INSPECTIONS: OBTAIN ALL PERMITS, LICENSES, INSPECTIONS, ETC., REQUIRED FOR THE WORK AND PAY FOR SAME, FURNISH A FINAL CERTIFICATE OF INSPECTION AND APPROVAL FROM THE AUTHORITY HAVING JURISDICTION PRIOR TO ACCEPTANCE OF THE WORK.
- 1.6 MANUFACTURER'S RECOMMENDATIONS: INSTALL ALL EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- 1.7 WORKMANSHIP: UTILIZE SKILLED MECHANICS TO OBTAIN A HIGH-QUALITY PROFESSIONAL FINISH INSTALLATION WHEN COMPLETED. WORK OF UNACCEPTABLE QUALITY SHALL BE REMOVED AND REWORKED AT NO ADDITIONAL COST. ENGINEER SHALL BE THE JUDGE OF WORKMANSHIP AND THEIR OPINION WILL BE FINAL. IN ADDITION, ANY EXISTING CONSTRUCTION DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE ENGINEER BY THE CONTRACTOR AT NO ADDITIONAL COST.
- 1.8 SUPERVISION: PROVIDE SKILLED SUPERINTENDENTS TO SUPERVISE THE WORK FROM THE BEGINNING TO COMPLETION AND FINAL INSPECTION.
- 1.9 PROGRESS OF WORK: PERFORM WORK IN ACCORDANCE WITH SCHEDULE AND REQUIREMENTS OF THE OWNER. UNDER NO CIRCUMSTANCES SHALL THIS CONTRACTOR DELAY THE OVERALL PROJECT SCHEDULE.
- 1.10 COORDINATION: COORDINATE MECHANICAL WORK WITH THE WORK OF OTHER TRADES. LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE UNLESS SPECIFICALLY DIMENSIONED. LAYOUT MECHANICAL WORK SO AS NOT TO INTERFERE WITH THE WORK OF OTHER TRADES. VERIFY ACTUAL BUILDING STRUCTURE PRIOR TO DUCT FABRICATION AND ADJUST ARRANGEMENT AS REQUIRED. INCLUDE ALL OFFSETS IN DUCTS, FITTINGS, PIPING, ETC. AS REQUIRED TO PROPERLY INSTALL EQUIPMENT.
- 1.11 EQUIPMENT LOCATIONS: DETERMINE EXACT EQUIPMENT AND MATERIALS LOCATIONS TO PROVIDE BEST ARRANGEMENT AND TO FACILITATE PROPER MAINTENANCE AND SERVICING OF EQUIPMENT.
- 1.12 LISTING AND LABELING: ALL EQUIPMENT SHALL BE LABELED OR LISTED BY UL OR OTHER APPROVED TESTING AGENCY WHERE REQUIRED.
- 1.13 STORAGE SPACE: CONSULT WITH THE OWNER REGARDING JOB SITE STORAGE FOR MECHANICAL MATERIALS TO BE INSTALLED UNDER THIS PROJECT. STORAGE SPACE MUST BE SECURED AND CONTRACTOR'S REPRESENTATIVE MUST BE ON JOB BEFORE ANY MATERIAL MAY BE RECEIVED.
- 1.14 CLEANUP: REMOVE ALL DEBRIS GENERATED IN THE ACCOMPLISHMENT OF WORK UNDER THIS PROJECT. CLEAN, REPLACE OR REPAIR ALL SURFACES SOILED OR DAMAGED DURING THE COURSE OF THE WORK. REMOVE DEBRIS DAILY SO TO MAINTAIN SAFE WORKING CONDITIONS. USE OF NHC DUMPSTERS IS PROHIBITED

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIP	MENI
CLIMATE ZONE	3A - WARM/HUMID
WINTER DRY BULB:	23 °F
SUMMER DRY BULB	95 °F
INTERIOR DESIGN CONDITIONS	
WINTER DRY BULB	70 °F
SUMMER DRY BULB	72 °F
RELATIVE HUMIDITY	60°RH*
	*DESIGN- NOT CONTROLLED
UPFIT HEATING LOAD:	39.4 MBH
UPFIT COOLING LOAD:	79.4 MBH
MECHANICAL SPACING CONDITIONING SYSTEM	
UNITARY	
DESCRIPTION OF UNIT:	SEE SCHEDULES
HEATING EFFICIENCY:	SEE SCHEDULES
COOLING EFFICIENCY:	SEE SCHEDULES
SIZE CATEGORY OF UNIT:	SEE SCHEDULES
BOILER	
SIZE CATEGORY, IF OVERSIZED STATE REASON:	N/A
CHILLER	
SIZE CATEGORY, IF OVERSIZED STATE REASON:	N/A
LIST EQUIPMENT EFFICIENCIES:	SEE SCHEDULES

WALL LEGEND **1 HOUR RATED WALL** 1 HOUR RATED WALL - EXISTING ------(X) 2 HOUR RATED WALL ____**+**+

2 HOUR RATED WALL - EXISTING

NOTE: ALL ITEMS LISTED MAY NOT BE USED IN THIS PROJECT

1.15 ELECTRICAL WORK

- A. PERFORM ELECTRICAL WORK FOR MECHANICAL EQUIPMENT IN COMPLIANCE WITH PROJECT ELECTRICAL REQUIREMENTS, ELECTRICAL WORK FOR MECHANICAL EQUIPMENT NOT SPECIFICALLY INDICATED TO BE PROVIDED BY THE ELECTRICAL CONTRACTOR IN THE ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AS PART OF HIS WORK
- ELECTRICAL DRAWINGS ARE BASED ON ELECTRICAL CHARACTERISTICS INDICATED IN DRAWING MECHANICAL EQUIPMENT SCHEDULES. ANY EQUIPMENT FURNISHED BY THE MECHANICAL CONTRACTOR WHICH DOES NOT MATCH THE ELECTRICAL CHARACTERISTICS INDICATED IN THE DRAWING SCHEDULES SHALL BE COORDINATED WITH THE ELECTRICAL CONTRACTOR. ANY ADDITIONAL COSTS FOR ELECTRICAL INSTALLATION REQUIRED FOR EQUIPMENT NOT MATCHING THE DRAWING SCHEDULES SHALL BE BORNE BY THE MECHANICAL CONTRACTOR.
- C. LOW VOLTAGE CONTROL WIRING FOR MECHANICAL SYSTEMS SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR.
- 1.16 SUBMITTALS: SUBMIT ONE (1) ELECTRONIC COPY OF DESCRIPTIVE DATA FOR MECHANICAL EQUIPMENT AND MATERIALS INCLUDING GRILLES AND DAMPERS FOR APPROVAL BY THE ENGINEER. CLEARLY IDENTIFY ALL ITEMS.
- 1.17 OPERATING AND MAINTENANCE MANUALS: SUBMIT A, ELECTRONIC ONLY, COPY OF THE COMPLETE OPERATING AND MAINTENANCE INSTRUCTIONS FOR ALL EQUIPMENT, INCLUDING NECESSARY CUT SHEETS, CHARTS, WRITTEN INSTRUCTIONS, WIRING DIAGRAMS, FINAL AS-BUILT DRAWINGS WITH BALANCED AIRFLOWS INDICATED, ETC. DELIVER TO THE OWNER PRIOR TO BUILDING OCCUPANCY. IN ADDITION, AFFIX A FOLDER WITH TYPICAL "OWNER'S INSTRUCTIONS" AND "MAINTENANCE INFORMATION" INSIDE THE MECHANICAL EQUIPMENT AS APPLICABLE. THE FOLDER SHALL ALSO INCLUDE A COMPLETE STARTUP LOG FOR THE EQUIPMENT.
- I.18 RECORD DRAWINGS: MAINTAIN ONE SET OF "RED-LINED" RECORD DRAWINGS ON SITE AT ALL TIMES AND PROVIDE DRAWINGS TO ENGINEER PRIOR TO FINAL INSPECTION.
- 1.19 WARRANTY: WARRANTY THE MATERIALS AND WORKMANSHIP COVERED BY THESE DRAWINGS AND SPECIFICATIONS FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER. REPAIR AND/OR REPLACE ANY PARTS OF ANY SYSTEM THAT MAY PROVE TO BE DEFECTIVE AT NO ADDITIONAL COST TO THE OWNER WITHIN THE WARRANTY PERIOD. PROVIDE 5 YEAR WARRANTY FOR ALL AIR CONDITIONING COMPRESSORS. FURNISH WARRANTY CERTIFICATES FOR ALL MECHANICAL EQUIPMENT. WARRANTY TO COMMENCE UPON DATE OF ACCEPTANCE OF WORK BY OWNER.
- 1.20 EXISTING BUILDINGS AND CONSTRUCTION
- A. WORK UNDER THIS CONTRACT IS TO BE PERFORMED IN AN EXISTING BUILDING. BUILDING LAYOUT INDICATED IS DEVELOPED FROM EXISTING RECORD DOCUMENTS AND LIMITED FIELD VERIFICATION FOR THE PURPOSES OF DESCRIBING THE WORK. VERIFY ALL EXISTING CONDITIONS AND ADJUST WORK AS REQUIRED TO SUIT ACTUAL FIELD CONDITIONS.
- B. PERFORM ALL WORK IN ACCORDANCE WITH SAFETY REGULATIONS.
- C. DO NOT CUT ANY STRUCTURAL MEMBERS WITHOUT EXPRESS WRITTEN INSTRUCTIONS FROM ENGINEER. PROVIDE CUTTING AND PATCHING FOR EXISTING FINISHES AS REQUIRED.
- D. COORDINATE INSTALLATION OF NEW MECHANICAL SYSTEMS WITH EXISTING BUILDING SYSTEMS. ADJUST ARRANGEMENTS AS REQUIRED TO ACCOMMODATE INTERFERENCES.

MECHANICAL LEGEND

\square	CEILING EXHAUST AIR GRILLE
	CEILING RETURN AIR / TRANSFER AIR GRILLE
\bowtie	CEILING SUPPLY AIR DIFFUSER / GRILLE
(X)	INDICATES EXISTING
·/////.	INDICATES TO DEMOLISH
\bigcirc	POINT OF CONNECTION
	EXTENT OF DEMOLITION
Ū	THERMOSTAT / TEMPERATURE SENSOR
R	REFRIGERANT LINE-SET PIPING
(X)R	REFRIGERANT LINE-SET PIPING - EXISTING
c	CONDENSATE PIPING
(X)C	CONDENSATE PIPING - EXISTING
AIR TYPE DESIGNATOR	DIFFUSER / REGISTER / GRILLE TAG
— 🍆 AIRFLOW, CFM	

NOTE: ALL ITEMS LISTED MAY NOT BE USED IN THIS PROJECT.

OWNER REQUIREMENTS

THE CONTRACTOR MUST INCLUDE NEW HANOVER COUNTY AND CBHF ON ALL COMMUNICATIONS WITH MANUFACTURER OR ANY MANUFACTURER REPRESENTATIVE CONCERNING THIS PROJECT.

MECHANICAL DEMOLITION NOTES

THE MECHANICAL CONTRACTOR SHALL REVIEW THE DRAWINGS AND SPECIFICATIONS FOR DEMOLITION REQUIREMENTS AND LAYOUT HIS WORK IN A COMPATIBLE AND COMPLEMENTARY MANNER. REMOVE ALL EQUIPMENT, DUCTWORK, SUPPORTS, CONTROLS, ACCESSORIES, ETC ..., AND MECHANICAL ITEMS MADE OBSOLETE BY THESE ALTERATIONS AS SHOWN IN THE MECHANICAL DRAWINGS. ALL ITEMS TO BE REMOVED OR MODIFIED MAY NOT BE SHOWN, HOWEVER, THIS CONTRACTOR SHALL REMOVE ANY MECHANICAL WORK AS REQUIRED BY THE CONSTRUCTION OR AS DIRECTED BY THE OWNER OR THE ENGINEER. SURVEY THE AFFECTED AREAS BEFORE SUBMITTING A BID.

- SCHEDULING OF DEMOLITION COORDINATE SCHEDULING OF MECHANICAL DEMOLITION WORK WITH THE OWNER AND GENERAL CONTRACTOR SO AS TO MINIMIZE DISRUPTION OF THE OWNER'S USE OF THE FACILITIES AND MAINTAIN THE CONSTRUCTION SEQUENCE OF THE GENERAL CONTRACTOR. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INSTRUCTIONS CONCERNING PHASING AND SEQUENCE OF WORK.
- EXISTING MECHANICAL SYSTEMS VERIFY CONDITION OF EXISTING MECHANICAL SYSTEMS TO BE REUSED SO THAT COMPLETE, FULLY OPERATIONAL AND RELIABLE SYSTEMS ARE OBTAINED AT THE COMPLETION OF THE WORK. NOTIFY ARCHITECT/ENGINEER OF ANY SYSTEMS FOUND TO BE OF QUESTIONABLE CONDITION.
- ALL EXISTING MECHANICAL EQUIPMENT AND DEVICES SHALL REMAIN UNLESS SPECIFICALLY NOTED TO BE REMOVED.
- DEMOLISHED MATERIALS UNLESS SPECIFICALLY REQUESTED BY THE OWNER, ALL DEMOLISHED MECHANICAL MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE AND DISPOSED OF PROPERLY.
- CUTTING AND PATCHING PERFORM CUTTING AND PATCHING FOR MECHANICAL WORK SO AS TO MINIMIZE DAMAGE TO CEILINGS, FLOORS AND WALLS. REFER TO ARCHITECTURAL DRAWINGS AND GENERAL SPECIFICATIONS SECTIONS FOR SPECIFIC RESPONSIBILITIES REGARDING CUTTING AND PATCHING.
- THESE DRAWINGS ARE COMPILED BY THE ARCHITECT/ENGINEER FROM THE OWNER'S AS-BUILT RECORD DRAWINGS AND LIMITED FIELD VERIFICATION OF EXISTING CONDITIONS FOR THE PURPOSE OF INDICATING THE WORK REQUIRED AND ARE BELIEVED TO BE CORRECT. NOTWITHSTANDING, THE CONTRACTOR SHALL VERIFY ALL DUCTWORK, EQUIPMENT LOCATIONS, DIMENSIONS AND ALL FIELD CONDITIONS AFFECTING HIS WORK.
- WHERE MECHANICAL SYSTEMS PASS THROUGH THE DEMOLITION AREAS TO SERVE OTHER PORTIONS OF THE PREMISES, THEY SHALL REMAIN OR BE SUITABLY RELOCATED AND THE SYSTEM RESTORED TO NORMAL OPERATION. ADVISE THE ARCHITECT/ENGINEER IMMEDIATELY IF SUCH CONDITIONS ARE UNCOVERED BEFORE PROCEEDING WITH ADDITIONAL WORK.
- PROTECT ALL EXISTING LIFE SAFETY SYSTEMS, FIRE ALARM AND PUBLIC ADDRESS SYSTEMS AND MAINTAIN THEM IN OPERATION THROUGHOUT THE PROGRESS OF THE WORK. NOTIFY THE OWNER AND ARCHITECT/ENGINEER IN WRITING OF SHUTDOWNS ARE REQUIRED PRIOR TO ANY OUTAGE OF SERVICE. WHERE THE DURATION OF A PROPOSED OUTAGE CANNOT BE TOLERATED BY THE OWNER, PROVIDE TEMPORARY CONNECTIONS AS REQUIRED MAINTAINING SERVICE.
- 0.SURVEY THE EFFECTED AREAS BEFORE SUBMITTING A BID AS ALL EXISTING CONDITIONS CANNOT BE COMPLETELY DEPICTED ON THE DRAWINGS AND SOME UNUSUAL CONDITIONS EXIST.
- 1.IF ANY UNUSUAL STRUCTURAL OR ARCHITECTURAL CONDITIONS ARE ENCOUNTERED DURING DEMOLITION, CONTACT THE ARCHITECT/ENGINEER.

2.REMOVE AIR CONDITIONING, REFRIGERATION, AND OTHER EQUIPMENT CONTAINING REFRIGERANTS WITHOUT RELEASING CHLOROFLUOROCARBON REFRIGERANTS TO THE ATMOSPHERE IN ACCORDANCE WITH THE CLEAN AIR ACT AMENDMENT OF 1990. RECOVER ALL REFRIGERANTS PRIOR TO REMOVING AIR CONDITIONING, REFRIGERATION, AND OTHER EQUIPMENT CONTAINING REFRIGERANTS AND DISPOSE OF IN ACCORDANCE WITH THE PARAGRAPH ENTITLED "DISPOSAL OF OZONE DEPLETING SUBSTANCE (ODS)." TURN IN SALVAGED CLASS I ODS REFRIGERANTS AS SPECIFIED IN PARAGRAPH, "SALVAGED MATERIALS AND EQUIPMENT."

MECHANICAL GENERAL SAFETY NOTES

- IF ANY EQUIPMENT PLANNED FOR DEMOLITION CONTAINS REFRIGERANT, THEN THE CONTRACTOR IS REQUIRED TO CAPTURE ALL REFRIGERANT FOR REUSE OR RECYCLING IN COMPLIANCE WITH SECTION 608 OF EPA CLEAN AIR ACT. WORK MUST BE CONDUCTED UNDER SUPERVISION OF AN EPA CERTIFIED TECHNICIAN.
- WHERE PIPING CONTAINS GAS THAT IS TO BE REMOVED OR WORKED ON, PROCEDURE OD NCGC 406.7.1 ALONG WITH NFPA 54 7.2.7 AND 8.3.1 SHALL BE OBSERVED.THE LINE SHALL BE FIRST DISCONNECTED FROM ALL SOURCES OF GAS PRESSURE, VENTED TO THE OUTDOORS, AND THEN THOROUGHLY PURGED WITH AIR, WATER, OR INERT GAS BEFORE ANY CUTTING OR WELDING IS DONE.
- THERMOSTATS AND SENSORS CONTAINING MERCURY SHALL BE DISPOSED IN ACCORDANCE WITH EPA RESOURCE CONSERVATION AND RECOVERY ACT (RCRA). CONTRACTOR SHALL REFER TO EPA WEBSITE FOR HANDLING PROCEDURES FOR DISPOSAL AND SPILL MANAGEMENT OF PRODUCTS CONTAINING MERCURY.

PIPE HANGERS AND PIPE INSULATION NOTES

MECHANICAL CONTRACTOR MUST REMOVE ALL REFRIGERANT LINESET INSULATION IN ORDER TO INSPECT REFRIGERANT LINESET PIPING, CONNECTIONS, PIPE HANGERS AND SADDLES AND REPLACE / REPAIR AS REQUIRED TO PROVIDE A FULLY OPERATIONAL AND FUNCTIONAL SYSTEM. PIPE HANGERS MUST BE SPACED PER MANUFACTURE'S INSTALLATION INSTRUCTIONS. PIPE HANGERS AND PIPE INSULATION MUST BE INSPECTED DURING CONSTRUCTION BY ENGINEER BEFORE CEILING GRID IS REPLACED. RUSTED PIPE HANGERS AND SADDLES MUST BE REPLACED.

ABBREVIATIONS			
TERM	ABBREVIATION	TERM	ABBREVIATION
ABOVE FINISHED FLOOR	AFF	INCH OF WATER GAUGE	INWG
	AG		IDU
	ASL		
	AAV	KILOWATT	KW
AIR CONDITION(-ING, -ED)	AIR COND	KILOWATT HOUR	KWH
AIR-HANDLING UNIT	AHU	LEAVING AIR TEMPERATURE	LAT
AIR FLOW MEASURING STATION	AFMA		LWT
AMBIENT AMERICAN NATIONAL STANDARDS INSTITUTE			LG
AMPERE (AMP, AMPS)	AMP	LOW-PRESSURE STEAM	LPS
ANALOG INPUT	AI	MAXIMUM	MAX
ANALOG OUTPUT	AO	MAXIMUM OVERCURRENT PROTECTION	MOCP
AND	&	MEDIUM-PRESSURE STEAM	MPS
			MPH
ARCHITECT	ARCH		MCA
ATMOSPHERE	ATM	MINUTE	MIN
AVERAGE	AVG	MANUFACTURER	MFR
BRAKE HORSEPOWER	BHP	MOTOR CONTROL CENTER	MCC
	B&S	NOISE CRITERIA	NC
	BTUH		NPLV
1000 BRITISH THERMAL UNIT	МВН	NORMALLY CLOSED	NC
BUILDING	BLDG	NOT APPLICABLE	N/A
BUILDING AUTOMATION SYSTEM	BAS	NOT IN CONTRACT	NIC
			NTS
COEFFICIENT, VALVE FLOW	CV	OUNCE	OZ
COEFFICIENT OF PERFORMANCE FACTOR	COP	OUTDOOR UNIT	ODU
COMPRESSOR	COMP	OUTSIDE AIR	OA
	CONC		PU
CONDENS(-ER, -ING, -ATION)	COND	PACKAGE TERMINAL AIR CONDITIONER	
CONTINUATION	CONT	PARTS PER MILLION	%
COOLING LOAD	CLG LOAD	PHASE	PH
CUBIC FEET	CU FT	POUNDS	LBS
	CU IN	POUNDS PER SQUARE FOOT	PSF
CUBIC FEET PER MINUTE	CFM		PRESS
DECIBEI		OUANTITY	OTY
DEGREE	DEG OR °	RATED LOAD AMPS	RLA
DEGREES FAHRENHEIT	DEG. F	RECIRCULATE	RECIRC
DETAIL	DET	REDUCED PRESSURE BACKFLOW PREVENTER	RPZ
	NPT	REERIGERANT (12, 22, ETC.)	R22, R410
DIAMETER INSIDE	DIA	REFRIGERANT LIQUID	RL
DIAMETER DIAMETER, INSIDE DIAMETER, OUTSIDE	DIA ID OD	REFRIGERANT LIQUID REFRIGERANT SUCTION REQUIRED	RL RS REQD OR REQ'D
DIAMETER DIAMETER, INSIDE DIAMETER, OUTSIDE DIFFERENCE OR DELTA	DIA ID OD DIFF	REFRIGERANT LIQUID REFRIGERANT SUCTION REQUIRED RELATIVE HUMIDITY	RL RS REQD OR REQ'D RH
DIAMETER DIAMETER, INSIDE DIAMETER, OUTSIDE DIFFERENCE OR DELTA DIGITAL INPUT	DIA ID OD DIFF DI	REFRIGERANT LIQUID REFRIGERANT SUCTION REQUIRED RELATIVE HUMIDITY RETURN AIR	RL RS REQD OR REQ'D RH RA
DIAMETER DIAMETER, INSIDE DIAMETER, OUTSIDE DIFFERENCE OR DELTA DIGITAL INPUT DIGITAL OUTPUT	DIA ID OD DIFF DI DO	REFRIGERANT LIQUID REFRIGERANT SUCTION REQUIRED RELATIVE HUMIDITY RETURN AIR REVOLUTIONS PER MINUTE	RL RS REQD OR REQ'D RH RA RPM
DEW-FOINT TEMPERATURE	DIA ID OD DIFF DI DO DHW DBT	REFRIGERANT LIQUID REFRIGERANT SUCTION REQUIRED RELATIVE HUMIDITY RETURN AIR REVOLUTIONS PER MINUTE REVOLUTIONS PER SECOND	RL RS REQD OR REQ'D RH RA RPM RPS SE
DIAMETER DIAMETER, INSIDE DIAMETER, OUTSIDE DIFFERENCE OR DELTA DIGITAL INPUT DIGITAL OUTPUT DOMESTIC HOT WATER DRY-BULB TEMPERATURE DUCTLESS SPLIT SYSTEM AIR HANDLER	DIA ID OD DIFF DI DO DHW DBT DAH	REFRIGERANT LIQUID REFRIGERANT SUCTION REQUIRED RELATIVE HUMIDITY RETURN AIR REVOLUTIONS PER MINUTE REVOLUTIONS PER SECOND SAFETY FACTOR SEASONAL ENERGY EFFICIENCY RATIO	RL RS REQD OR REQ'D RH RA RPM RPS SF SEER
DEW-FOINT TEMPERATORE DIAMETER DIAMETER, INSIDE DIAMETER, OUTSIDE DIFFERENCE OR DELTA DIGITAL INPUT DIGITAL OUTPUT DOMESTIC HOT WATER DRY-BULB TEMPERATURE DUCTLESS SPLIT SYSTEM AIR HANDLER DUCTLESS SPLIT SYSTEM HEAT PUMP	DIA ID OD DIFF DI DO DHW DBT DAH DHP	REFRIGERANT LIQUID REFRIGERANT SUCTION REQUIRED RELATIVE HUMIDITY RETURN AIR REVOLUTIONS PER MINUTE REVOLUTIONS PER SECOND SAFETY FACTOR SEASONAL ENERGY EFFICIENCY RATIO SECOND	RL RS REQD OR REQ'D RH RA RPM RPS SF SEER S
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DEW-FOINT TEMPERATORE DIAMETER DIAMETER, INSIDE DIAMETER, OUTSIDE DIFFERENCE OR DELTA DIGITAL INPUT DIGITAL OUTPUT DOMESTIC HOT WATER DRY-BULB TEMPERATURE DUCTLESS SPLIT SYSTEM AIR HANDLER DUCTLESS SPLIT SYSTEM HEAT PUMP ENERGY EFFICIENCY RATING EFFICIENCY ELECTRIC UNIT HEATER ELEVATION	DIA ID OD DIFF DI DO DHW DBT DAH DHP ERR EFF EUH EI	REFRIGERANT LIQUID REFRIGERANT SUCTION REQUIRED RELATIVE HUMIDITY RETURN AIR REVOLUTIONS PER MINUTE REVOLUTIONS PER SECOND SAFETY FACTOR SEASONAL ENERGY EFFICIENCY RATIO SECOND SHADING COEFFICIENT SPECIFICATION SQUARE STANDARD	RL RS REQD OR REQ'D RH RA RPM RPS SF SEER S SC SPEC SQ STD
DEW-FOINT TEMPERATORE DIAMETER DIAMETER, INSIDE DIAMETER, OUTSIDE DIFFERENCE OR DELTA DIGITAL INPUT DIGITAL OUTPUT DOMESTIC HOT WATER DRY-BULB TEMPERATURE DUCTLESS SPLIT SYSTEM AIR HANDLER DUCTLESS SPLIT SYSTEM HEAT PUMP ENERGY EFFICIENCY RATING EFFICIENCY ELECTRIC UNIT HEATER ELEVATION ENTERING	DIA ID OD DIFF DI DO DHW DBT DAH DHP ERR EFF EUH EL ENT	REFRIGERANT LIQUID REFRIGERANT SUCTION REQUIRED RELATIVE HUMIDITY RETURN AIR REVOLUTIONS PER MINUTE REVOLUTIONS PER SECOND SAFETY FACTOR SEASONAL ENERGY EFFICIENCY RATIO SECOND SHADING COEFFICIENT SPECIFICATION SQUARE STANDARD STATIC PRESSURE	RL RS REQD OR REQ'D RH RA RPM RPS SF SEER S SC SPEC SQ STD SP
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DEW-FORM TEMPERATURE DIAMETER DIAMETER, INSIDE DIAMETER, OUTSIDE DIFFERENCE OR DELTA DIGITAL INPUT DIGITAL OUTPUT DOMESTIC HOT WATER DRY-BULB TEMPERATURE DUCTLESS SPLIT SYSTEM AIR HANDLER DUCTLESS SPLIT SYSTEM HEAT PUMP ENERGY EFFICIENCY RATING EFFICIENCY ELECTRIC UNIT HEATER ELEVATION ENTERING ENTERING WATER TEMPERATURE ENTERING AIR TEMPERATURE	DIA DIA ID OD DIFF DI DO DHW DBT DAH DHP ERR EFF EUH EL ENT EWT EAT	REFRIGERANT LIQUID REFRIGERANT SUCTION REQUIRED RELATIVE HUMIDITY RETURN AIR REVOLUTIONS PER MINUTE REVOLUTIONS PER SECOND SAFETY FACTOR SEASONAL ENERGY EFFICIENCY RATIO SECOND SHADING COEFFICIENT SPECIFICATION SQUARE STANDARD STATIC PRESSURE SUPPLY SUPPLY AIR	RL RS REQD OR REQ'D RH RA RPM RPS SF SEER S SC SPEC SQ STD SPLY SA
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DIAMETER DIAMETER, INSIDE DIAMETER, INSIDE DIAMETER, OUTSIDE DIFFERENCE OR DELTA DIGITAL INPUT DIGITAL OUTPUT DOMESTIC HOT WATER DRY-BULB TEMPERATURE DUCTLESS SPLIT SYSTEM AIR HANDLER DUCTLESS SPLIT SYSTEM HEAT PUMP ENERGY EFFICIENCY RATING EFFICIENCY ELECTRIC UNIT HEATER ELEVATION ENTERING ENTERING WATER TEMPERATURE EXTERNAL STATIC PRESSURE EXTERNAL STATIC PRESSURE EXTERNAL STATIC PRESSURE EXTRAL AMBIENT TEMPERATURE FEET PER SECOND FLOOR FLOOR FLOOR FLOOR FLOOR FLOOR FLOOR FLOOR FEET FULL LOAD AMPS GAGE OR GAUGE GALLONS PER HOUR GALLONS PER HOUR GALLONS PER MINUTE GALLONS PER MINUTE GALLONS PER MINUTE HEATING AND VENTILATION UNIT HEATING, VENTILATION AND AIR CONDITIONING HEIGHT HEATING, VENTILATION AND AIR CONDITIONING HEIGHT HERTZ HIGH DENSITY POLYETHYLENE HIGH PRESSURE STEAM HORSEPOWER HOT WATER COIL HOUR(S) HUMIDITY, RELATIVE INTEGRATED PART LOAD VALUES	DIA DIA ID OD DIFF DI DO DHW DBT DAH DHP ERR EFF EUH EL ENT EAT ESP EA FVEL ♥F FPM FPS FLR FLR FLR GA GAL GPH GPD GUH GR HD HV HVAC HGT HZ HDPE HPS HP HWC HR RH IPLV	REFRIGERANT LIQUID REFRIGERANT SUCTION REQUIRED RELATIVE HUMIDITY RETURN AIR REVOLUTIONS PER MINUTE REVOLUTIONS PER SECOND SAFETY FACTOR SEASONAL ENERGY EFFICIENCY RATIO SECOND SHADING COEFFICIENT SPECIFICATION SQUARE STANDARD STATIC PRESSURE SUPPLY SUPPLY SUPPLY SUPPLY SUPPLY AIR TEMPERATURE DIFFERENCE THERMOSTAT TONS OF REFRIGERATION TO BE DETERMINED TOP OF STEEL TOTAL DYNAMIC HEAD TRANSFER GRILLE TYPICAL U-FACTOR UNDER GROUND UNLESS OTHERWISE NOTED VARIABLE AIR VOLUME VARIABLE FREQUENCY DRIVE VELOCITY VENTILATION, VENT VENTILATION, VENT VENTILATION WATER PRESSURE DROP WATER PRESSURE DROP	RLRSREQD OR REQ'DRHRARPMRPSSFSEERSSCSPECSQSTDSPLYSATEMPTDT STATTONSTBDTOSTDHTGTYPUUGUONVAVVFDVELVERTVVAVOLWPDWWHW/WBYDYDWBYD

NOTE: ALL ABBREVIATIONS MAY NOT BE USED IN PROJECT.

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MECHANICAL CONTRACTOR MUST REMOVE ALL REFRIGERANT LINESET INSULATION IN ORDER TO INSPECT REFRIGERANT LINESET PIPING, CONNECTIONS, PIPE HANGERS AND SADDLES AND REPLACE / REPAIR AS REQUIRED TO PROVIDE A FULLY OPERATIONAL AND FUNCTIONAL SYSTEM. PIPE HANGERS MUST BE SPACED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. PIPE HANGERS AND PIPE INSULATION MUST BE INSPECTED DURING CONSTRUCTION BY ENGINEER BEFORE CEILING GRID IS REPLACED. RUSTED PIPE HANGERS AND SADDLES MUST BE REPLACED.

MECHANICAL DEMOLITION KEYED NOTES

- (1) REMOVE / SALVAGE EXISTING INDOOR UNIT IN ITS ENTIRETY AND TURN OVER TO THE PROJECT MANAGER/ CLIENT FOR FUTURE USE. REMOVE /DISPOSE HANGERS, SUPPORTS, ETC.. DISCONNECT EXISTING CONDENSATE PIPING FROM EXISTING CEILING CASSETTE. PROTECT IN PLACE AND PREPARE FOR RECONNECTION TO NEW CEILING CASSETTE. DISCONNECT EXISTING REFRIGERANT PIPING FROM EXISTING CEILING CASSETTE. PROTECT IN PLACE AND PREPARE FOR RECONNECTION TO NEW CEILING CASSETTE. TAKE NECESSARY PRECAUTIONS TO AVOID DAMAGE TO EXISTING ITEMS TO REMAIN IN PLACE.
- 2 REMOVE / SALVAGE EXISTING "HR" UNITS IN ITS ENTIRETY AND TURN OVER TO THE PROJECT MANAGER/ CLIENT FOR FUTURE USE. REMOVE /DISPOSE HANGERS, SUPPORTS, ETC.. TAKE NECESSARY PRECAUTIONS TO AVOID DAMAGE TO EXISTING ITEMS TO REMAIN IN PLACE.
- 3 REMOVE /SALVAGE EXISTING TEMPERATURE SENSOR AND CONTROL WIRING INCLUDING BUT NOT LIMITED TO TEMPERATURE SENSOR, CONTROL WIRING, INSERTS, ANCHORS, ETC.. TURN OVER TO PROJECT MANAGER/CLIENT FOR FUTURE USE. TAKE NECESSARY PRECAUTIONS TO
- 4 ONLY EXISTING DUCTWORK RELATED TO THIS PROJECT IS SHOWN, ENTIRETY OF DUCT

MECHANICAL DEMOLITION KEYED NOTES

1 REMOVE / SALVAGE EXISTING HP OUTDOOR UNITS AND TURN OVER TO THE PROJECT MANAGER/ CLIENT FOR FUTURE USE, TAKE NECESSARY PRECAUTIONS TO AVOID DAMA MANAGER/ CLIENT FOR FUTURE USE. TAKE NECESSARY PRECAUTIONS TO AVOID DAMAGE TO

(2) MECHANICAL CONTRACTOR TO WORK WITH MANUFACTURER'S REPRESENTATIVE TO DETERMINE IF EXISTING REFRIGERANT PIPING CAN BE REUSED. IF IT CAN BE REUSED CLEAN AND PREPARE FOR REUSE. IF IT CANNOT BE REUSED MECHANICAL CONTRACTOR TO INSTALL NEW IN SIMILAR FASHION AND ROUTING TO EXISTING.

GENERAL NOTE

ONLY EXISTING DUCTWORK RELATED TO THIS PROJECT IS SHOWN, ENTIRETY OF DUCT NETWORK OMITTED FOR DRAWINGS CLARITY.

MECHANICAL KEYED NOTES

1 REBALANCE EXISTING DIFFUSER TO AIRFLOW SHOWN.

2 CONNECT 6"Ø SUPPLY AIR DUCTWORK TO EXISTING RECTANGULAR DUCT ACCORDING TO DETAIL 2/M5.1.

3 PROVIDE RETURN AIR DUCTWORK PATH TO ADJACENT ABOVE CEILING SPACE ACCORDING TO 1/M5.1.

4 CREATE HOLE IN WALL FROM 319 HALL 2 SIDE OF PENETRATION. INSTALL DUCTWORK IN OPENING AND SEAL TO GYPSUM BOARD INSIDE 336 FILES SPACE. WORK IS TO BE PERFORMED WITHOUT ACCESS TO 336 FILES SPACE.

INSTALL NEW TEMPERATURE SENSOR AND CONTROL WIRING INCLUDING BUT NOT LIMITED TO 5 INSERTS, ANCHORS, ETC. TO PROVIDE A FULLY OPERATIONAL SYSTEM.

6 PROVIDE A 12"X14" OPENING IN WALL ABOVE CEILING ELEVATIONS TO ALLOW RETURN AIR TO ROUTE FROM 331 COPY ABOVE-CEILING SPACE TO 310 HALL ABOVE-CEILING SPACE.

- WIRING COILED UP ABOVE THE ACT CEILING FOR FUTURE USE.

REFRIGERANT PIPING NOTES

- MECHANICAL CONTRACTOR MAY REUSE EXISTING REFRIGERANT PIPING, BUT THE CONTRACTOR MUST TAKE FULL RESPONSIBILITY FOR THE EXISTING PIPING, INCLUDING ANY DEFICIENCIES IN PAST INSTALLATION OR ARRANGEMENT.
- A. MECHANICAL CONTRACTOR MUST CORRECT ALL DEFICIENCIES AND PROVIDE A COMPLETE SYSTEM THAT IS IN COMPLIANCE WITH ALL CURRENT MANUFACTURER'S INSTALLATION INSTRUCTIONS. B. MECHANICAL CONTRACTOR MUST REMOVE ALL INSULATION FROM EXISTING REFRIGERANT PIPING. AFTER INSULATION IS REMOVED, EXISTING REFRIGERANT PIPING MUST BE INSPECTED BY A VRF
- FACTORY AUTHORIZED REPRESENTATIVE FOR COMPLETE COMPLIANCE WITH ALL CURRENT MANUFACTURER'S INSTALLATION INSTRUCTIONS. C. THE VRF FACTORY AUTHORIZED REPRESENTATIVE MUST PROVIDE A WRITTEN REPORT ALONG WITH SUPPORTING PHOTOS OF ANY DEFICIENCIES FOUND, INCLUDING PIPING TYPE, SIZES, EVALUATION OF ALL EXISTING TRAPS AND ETC. REFRIGERANT LINES SHOWN ON THE PLAN AS EXISTING BUT DETERMINED INADEQUATE BY THE VRF FACTORY AUTHORIZED REPRESENTATIVE MUST BE REPLACED WITH NEW REFRIGERANT LINES. ADD, REPLACE, OR REMOVE REFRIGERANT PIPING TRAPS AND OTHER COMPONENTS AS NECESSARY TO COMPLY WITH CURRENT MANUFACTURER INSTALLATION INSTRUCTIONS.
- D. MECHANICAL CONTRACTOR MUST PROVIDE NEW INSULATION ON ALL REFRIGERANT PIPING. PRIOR TO INSTALLING NEW INSULATION, THE VRF FACTORY AUTHORIZED REPRESENTATIVE MUST RE-INSPECT REFRIGERANT PIPING AND CONFIRM IN WRITING THAT THE MODIFIED REFRIGERANT PIPING SYSTEM IS IN COMPLETE COMPLIANCE WITH ALL CURRENT MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- E. PROVIDE NEW HANGERS AND SUPPORTS AND ADJUST OR REPLACE THE EXISTING HANGERS AND SUPPORTS AS NECESSARY TO PROVIDE LINESETS INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS.
- F. MECHANICAL CONTRACTOR MUST PROVIDE ALL DOCUMENTATION REQUIRED BY THE MANUFACTURER AND MANUFACTURER'S REPRESENTATIVE IN REGARD TO REFRIGERANT PIPING INSTALLATION, EVACUATION, PRESSURE TESTING, AND REFRIGERANT CHARGING.

MECHANICAL KEYED NOTES

- 1 INSTALL NEW INDOOR UNITS INCLUDING BUT NOT LIMITED TO INDOOR UNITS, HANGERS, SUPPORTS, ANCHORS, ETC. TO PROVIDE A FULLY OPERATIONAL SYSTEM. RECONNECT EXISTING CONDENSATE PIPING TO NEW INDOOR UNIT. MECHANICAL CONTRACTOR MUST INSPECT PIPE HANGERS AND PIPE INSULATION AND REPLACE / REPAIR AS REQUIRED TO PROVIDE A FULLY OPERATIONAL SYSTEM. RECONNECT EXISTING REFRIGERANT PIPING TO NEW INDOOR UNIT.
- 2 INSTALL NEW "HR" HEAT RECOVERY UNITS INCLUDING BUT NOT LIMITED TO "HR" RECOVERY UNITS, HANGERS, SUPPORTS, ANCHORS, ETC. TO PROVIDE A FULLY OPERATIONAL SYSTEM. PROVIDE NEW BRANCH ISOLATION VALVES AND NEW PIPING AS NECESSARY TO FACILITATE THEIR INSTALLATION.
- 3 INSTALL NEW INDOOR UNITS INCLUDING BUT NOT LIMITED TO INDOOR UNITS, HANGERS, SUPPORTS, ANCHORS, ETC. TO PROVIDE A FULLY OPERATIONAL SYSTEM. CONNECT NEW INDOOR UNIT TO NEW REFRIGERANT AND CONDENSATE PIPING, SEE 3/M5.1 FOR MORE INFORMATION.
- 4 CONNECT NEW CONDENSATE PIPING INTO THE TOP OF THE EXISTING CONDENSATE LINE.
- INSTALL NEW CPVC CONDENSATE PIPING SUSPENDED FROM STRUCTURE ABOVE, SLOPE TOWARDS POINT OF CONNECTION AT 1/4" PER FOOT. INSTALL CLEANOUT AT TERMINATION OF
- 6 EXTEND REFRIGERANT LINESET TO OUTSIDE OF WALL OF 336 FILES AND CAP FOR FUTURE USE.

REFRIGERANT PIPING NOTES

- MECHANICAL CONTRACTOR MAY REUSE EXISTING REFRIGERANT PIPING, BUT THE CONTRACTOR MUST TAKE FULL RESPONSIBILITY FOR THE EXISTING PIPING, INCLUDING ANY DEFICIENCIES IN PAST INSTALLATION OR ARRANGEMENT.
- A. MECHANICAL CONTRACTOR MUST CORRECT ALL DEFICIENCIES AND PROVIDE A COMPLETE SYSTEM THAT IS IN COMPLIANCE WITH ALL CURRENT MANUFACTURER'S INSTALLATION INSTRUCTIONS. B. MECHANICAL CONTRACTOR MUST REMOVE ALL INSULATION FROM EXISTING REFRIGERANT PIPING. AFTER INSULATION IS REMOVED, EXISTING REFRIGERANT PIPING MUST BE INSPECTED BY A VRF
- FACTORY AUTHORIZED REPRESENTATIVE FOR COMPLETE COMPLIANCE WITH ALL CURRENT MANUFACTURER'S INSTALLATION INSTRUCTIONS. C. THE VRF FACTORY AUTHORIZED REPRESENTATIVE MUST PROVIDE A WRITTEN REPORT ALONG WITH SUPPORTING PHOTOS OF ANY DEFICIENCIES FOUND, INCLUDING PIPING TYPE, SIZES, EVALUATION OF ALL EXISTING TRAPS AND ETC. REFRIGERANT LINES SHOWN ON THE PLAN AS EXISTING BUT DETERMINED INADEQUATE BY THE VRF FACTORY AUTHORIZED REPRESENTATIVE MUST BE REPLACED WITH NEW REFRIGERANT LINES. ADD, REPLACE, OR REMOVE REFRIGERANT PIPING TRAPS AND OTHER COMPONENTS AS NECESSARY TO COMPLY WITH CURRENT MANUFACTURER INSTALLATION INSTRUCTIONS.
- D. MECHANICAL CONTRACTOR MUST PROVIDE NEW INSULATION ON ALL REFRIGERANT PIPING. PRIOR TO INSTALLING NEW INSULATION, THE VRF FACTORY AUTHORIZED REPRESENTATIVE MUST RE-INSPECT REFRIGERANT PIPING AND CONFIRM IN WRITING THAT THE MODIFIED REFRIGERANT PIPING SYSTEM IS IN COMPLETE COMPLIANCE WITH ALL CURRENT MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- E. PROVIDE NEW HANGERS AND SUPPORTS AND ADJUST OR REPLACE THE EXISTING HANGERS AND SUPPORTS AS NECESSARY TO PROVIDE LINESETS INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS.
- F. MECHANICAL CONTRACTOR MUST PROVIDE ALL DOCUMENTATION REQUIRED BY THE MANUFACTURER AND MANUFACTURER'S REPRESENTATIVE IN REGARD TO REFRIGERANT PIPING INSTALLATION, EVACUATION, PRESSURE TESTING, AND REFRIGERANT CHARGING.

NS. 7 A VRF SIZES, MUST TURER MUST URER'S

MECHANICAL KEYED NOTES

- 1 INSTALL NEW HEATPUMP OUTDOOR UNIT AND SECURE TO EXISTING ROOF RAILS WITH STAINLESS STEEL HARDWARE.
- 2 MECHANICAL CONTRACTOR TO WORK WITH MANUFACTURER'S REPRESENTATIVE TO DETERMINE IF EXISTING REFRIGERANT PIPING IS ADEQUATE FOR REUSE. IF REFRIGERANT PIPING IS DETERMINED TO BE ADEQUATE FOR REUSE, CLEAN AND PREPARE FOR REUSE. IF IT CANNOT BE REUSED MECHANICAL CONTRACTOR IS TO PROVIDE NEW REFRIGERANT PIPING IN SIMILAR FASHION AND ROUTING TO EXISTING.
- 3 EXISTING EQUIPMENT TO REMAIN IN PLACE.

DRAWING CODE	E BASIS OF DESIGN BASIS OF DESIGN		BASIS OF DESIGN BASIS OF DES		BASIS OF DESIGN	I TOTAL CAPACITY(BTU	J/h)	CORRECTED CAPA	CITY(BTU/h)	CORRECTED P	WER INPUT(kW)	OUTDOOR TEM	IPERATURE(°F)		EFFICIENCY		REFRIGERANT	PIPING C	ONNECTIONS	(IN)	POWER	SUPPLY
	MANUFACTURER	MODEL	TYPE	TOTAL COOLING TO	TAL HEATING	G TOTAL COOLING	TOTAL HEATING	COOLING	HEATING		COOLING DBT	COOLING WB	HEATING DB	T COOLING IEER (SE	ER) HEATING COP (HSPF)		LIQUID	LP GAS	HP GAS	VOLTS	PHASE		
HP-3	LG	ARUM192DTE5	HR_MULTI V 5	192000	21600	00 195954	242642	1	.9	23.5	93.0	79.	23.	0	25.9	3.8 R410A		1 1-	/8 1	-1/8 4	60V ;		
	 2 COOLING CAPACI 3 HEATING CAPACI 4 REFER TO SCHEM 5 CONTRACTOR MU 6 IEER/COP IS BASE 	TIES ARE BASED ON FIES ARE BASED ON MATIC PIPING/CONTR IST HAVE A VALID / L ED ON NON-DUCTED	INDOOR COIL EAT C INDOOR COIL EAT C OL DIAGRAM ON ME IP-TO-DATE MANUFA AHRI 1230.	DF 80/67°F (DB), OUTDOC DF 70°F (DB), OUTDOOR (ECHANICAL DRAWINGS F ACTURER'S VRF INSTALL	DR OF 93°F (E DF 23°F (DB) OR INDICAT . TRAINING C	DB) ION OF REQUIRED IND CERTIFICATE.	OOR UNIT REMOTE	CONTROLLERS,	SYSTEM CON	TROLLE	ERS, AND INTEG	RATION DEVIC	ES.										
ACCESSORIES:	A MANUFACTURER B PROVIDE CENTRA C PHASE MONITOR D ROOF MOUNTING	S STANDARD SEACC AL CONTROLLER WIT ICM450A OR APPRO ACCESSORIES TO S	AST PROTECTION H BACNET INTEGRA VED EQUAL, FIELD II ECURE UNIT TO EXI	TION INTO THE EXISTIN NSTALLED BY THE M.C. I ISTING EQUIPMENT STA	G BUILDING I N A NEMA 3F ND	MANAGEMENT SYSTEM R ENCLOSURE ON THE	1. OUTDOOR UNIT																

VARIABL	E REF	RIGER	ANT FLOW	AIR HAND	LER SCHED	JLE														
DRAWING CODE	PREVIOUS	ROOM	BASIS OF DESIGN	BASIS OF	UNIT CONFIGURATION	NOMINAL CAPACI	TY (BTU/h)		ROOM DESIGN	TEMP.(RETURN A	IR TEMP.)(°F)	AIRFLOW RATE	PIPING CONNEC	CTIONS(IN)) POWER SU	IPPLY			NOTES	ACCESSORIES
(UNIT NUMBER)	TAG	NUMBER	MANUFACTURER	DESIGN MODEL		TOTAL COOLING	SENSIBLE COOLING	HEATING	COOLING DBT	COOLING WBT	HEATING DBT	(CFM)	LIQUID	GAS	VOLTS	PHASE	Hz	RLA (A)	1	
AH-301	3-55	301	LG	ARNU073TRD4	CASSETTE 4WAY	7500	5400	8500	80.	0 67.0	70.0	254/240/208	1/4	1/2	2 208~230V	1Ph	60Hz	0.20	1,2,3,4,	5 A,B
AH-303	3-57	303	LG	ARNU053TRD4	CASSETTE 4WAY	5500	3900	6100	80.	0 67.0) 70.0	265/247/212	1/4	1/2	2 208~230V	1Ph	60Hz	0.20	1,2,3,4,	5 A,B
AH-308	3-58	308	LG	ARNU053TRD4	CASSETTE 4WAY	5500	3900	6100	80.	0 67.0) 70.0	265/247/212	1/4	1/2	2 208~230V	1Ph	60Hz	0.20	1,2,3,4,	5 A,B
AH-309	3-59	309	LG	ARNU073SJS4	WALL MOUNTED	7500	6000	8500	80.	0 67.0	70.0	254/240/208	1/4	1/2	2 208~230V	1Ph	60Hz	0.25	1,2,3,4,	5 A,B
AH-310A	3-60	310	LG	ARNU153TQD4	CASSETTE 4WAY	15400	11000	17100	80.	0 67.0) 70.0	388/353/328	1/4	1/2	2 208~230V	1Ph	60Hz	0.20	1,2,3,4,	5 A,B
AH-310B	3-61	310	LG	ARNU153TQD4	CASSETTE 4WAY	15400	11000	17100	80.	0 67.0	70.0	388/353/328	1/4	1/:	2 208~230V	1Ph	60Hz	0.20	1,2,3,4,	5 A,B
AH-310C	3-62	310	LG	ARNU153TQD4	CASSETTE 4WAY	15400	11000	17100	80.	0 67.0) 70.0	388/353/328	1/4	1/2	2 208~230V	1Ph	60Hz	0.20	1,2,3,4,	5 A,B
AH-311	3-63	311	LG	ARNU123TRD4	CASSETTE 4WAY	12300	8800	13600	80.	0 67.0) 70.0	307/283/247	1/4	1/:	2 208~230V	1Ph	60Hz	0.20	1,2,3,4,	5 A,B
AH-312	3-64	312	LG	ARNU053TRD4	CASSETTE 4WAY	5500	3900	6100	80.	0 67.0	70.0	265/247/212	1/4	1/:	2 208~230V	1Ph	60Hz	0.20	1,2,3,4,	5 A,B
AH-313	3-65	313	LG	ARNU053TRD4	CASSETTE 4WAY	5500	3900	6100	80.	0 67.0) 70.0	265/247/212	1/4	1/:	2 208~230V	1Ph	60Hz	0.20	1,2,3,4,	5 A,B
AH-314	3-66	314	LG	ARNU073TRD4	CASSETTE 4WAY	7500	5400	8500	80.	0 67.0) 70.0	653/556/468	1/4	1/:	2 208~230V	1Ph	60Hz	0.20	1,2,3,4,	5 A,B
AH-315	3-67	315	LG	ARNU073TRD4	CASSETTE 4WAY	7500	5400	8500	80.	0 67.0) 70.0	653/556/468	1/4	1/:	2 208~230V	1Ph	60Hz	0.20	1,2,3,4,	5 A,B
AH-316	3-68	316	LG	ARNU073TRD4	CASSETTE 4WAY	7500	5400	8500	80.	0 67.0	70.0	653/556/468	1/4	1/2	2 208~230V	1Ph	60Hz	0.20	1,2,3,4,	5 A,B
AH-317	3-69	317	LG	ARNU073TRD4	CASSETTE 4WAY	7500	5400	8500	80.	0 67.0) 70.0	653/556/468	1/4	1/2	2 208~230V	1Ph	60Hz	0.20	1,2,3,4,	5 A,B
AH-318	3-70	318	LG	ARNU073TRD4	CASSETTE 4WAY	7500	5400	8500	80.	0 67.0	70.0	653/556/468	1/4	1/2	2 208~230V	1Ph	60Hz	0.20	1,2,3,4,	5 A,B
AH-319	3-71	319	LG	ARNU053TRD4	CASSETTE 4WAY	5500	3900	6100	80.	0 67.0) 70.0	265/247/212	1/4	1/:	2 208~230V	1Ph	60Hz	0.20	1,2,3,4,	5 A,B
AH-320	3-72	320	LG	ARNU053TRD4	CASSETTE 4WAY	5500	3900	6100	80.	0 67.0) 70.0	265/247/212	1/4	1/2	2 208~230V	1Ph	60Hz	0.20	1,2,3,4,	5 A,B
AH-321	3-73	321	LG	ARNU053TRD4	CASSETTE 4WAY	5500	3900	6100	80.	0 67.0) 70.0	265/247/212	1/4	1/:	2 208~230V	1Ph	60Hz	0.20	1,2,3,4,	5 A,B
AH-323	3-74	323	LG	ARNU053TRD4	CASSETTE 4WAY	5500	3900	6100	80.	0 67.0) 70.0	265/247/212	1/4	1/:	2 208~230V	1Ph	60Hz	0.20	1,2,3,4,	5 A,B
AH-324	3-75	324	LG	ARNU053TRD4	CASSETTE 4WAY	5500	3900	6100	80.	0 67.0) 70.0	265/247/212	1/4	1/:	2 208~230V	1Ph	60Hz	0.20	1,2,3,4,	5 A,B
AH-325	-	325	LG	ARNU073TRD4	CASSETTE 4WAY	7500	5400	8500	80.	0 67.0) 70.0	653/556/468	1/4	1/:	2 208~230V	1Ph	60Hz	0.20	1,2,3,4,	5 A,B
AH-326	-	326	LG	ARNU073TRD4	CASSETTE 4WAY	7500	5400	8500	80.	0 67.0) 70.0	653/556/468	1/4	1/:	2 208~230V	1Ph	60Hz	0.20	1,2,3,4,	5 A,B
AH-327	-	327	LG	ARNU073TRD4	CASSETTE 4WAY	7500	5400	8500	80.	0 67.0) 70.0	653/556/468	1/4	1/2	2 208~230V	1Ph	60Hz	0.20	1,2,3,4,	5 A,B
AH-328	-	328	LG	ARNU073TRD4	CASSETTE 4WAY	7500	5400	8500	80.	0 67.0) 70.0	653/556/468	1/4	1/:	2 208~230V	1Ph	60Hz	0.20	1,2,3,4,	5 A,B
AH-329	-	329	LG	ARNU073TRD4	CASSETTE 4WAY	7500	5400	8500	80.	0 67.0) 70.0	653/556/468	1/4	1/:	2 208~230V	1Ph	60Hz	0.20	1,2,3,4,	5 A,B
AH-330	-	330	LG	ARNU053TRD4	CASSETTE 4WAY	5500	3900	6100	80.	0 67.0) 70.0	265/247/212	1/4	1/:	2 208~230V	1Ph	60Hz	0.20	1,2,3,4,	5 A,B
AH-331	-	331	LG	ARNU053TRD4	CASSETTE 4WAY	5500	3900	6100	80.	0 67.0) 70.0	265/247/212	1/4	1/2	2 208~230V	1Ph	60Hz	0.20	1,2,3,4,	5 A,B
AH-332	-	332	LG	ARNU053TRD4	CASSETTE 4WAY	5500	3900	6100	80.	0 67.0) 70.0	265/247/212	1/4	1/2	2 208~230V	1Ph	60Hz	0.20	1,2,3,4,	5 A,B
AH-333	-	333	LG	ARNU053TRD4	CASSETTE 4WAY	5500	3900	6100	80.	0 67.0) 70.0	265/247/212	1/4	1/:	2 208~230V	1Ph	60Hz	0.20	1,2,3,4,	5 A,B
NOTES:	1 REFER T	O SPECIFICA	TIONS FOR FURTHER	INFORMATION.																
	2 CONTRA	CTOR MUST I	HAVE A VALID / UP-TO	-DATE MANUFACTUP	RER'S VRF INSTALL TRAI	NING CERTIFICATE.														
	3 COOLING	G CAPACITIES	S ARE BASED ON INDC	OR COIL EAT OF 80/	67°F (DB), OUTDOOR OF	93°F (DB)														
	4 HEATING	CAPACITIES	ARE BASED ON INDO	OR COIL EAT OF 70°	F (DB), OUTDOOR OF 23°	F (DB)														
			C PIPING/CONTROL DI					EMOTECON	TRULLERS, SYS	IEM CONTROLLE	KS, AND INTEGRA	ION DEVICES.								
AUGESSURIES:					DISPLAT. DASIS UP DES	DIGIN, LG WIODEL #PI														
		JONDENGAI																		

DIFFUSE	RS, REGIS	IERS	AND GRILL	ES SCHEDULE								
DRAWING CODE	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	ALTERNATE APPROVED MANUFACTURERS	TYPE	SERVICE	NECK SIZE (IN.)	MODULE SIZE (IN.)	MATERIAL	FINISH	MOUNTING	NOTES	ACCESSORIES
S1	PRICE	ASPD	METALAIRE, TITUS	SQUARE CEILING DIFFUSER	SUPPLY	6Ø	24 X 24	ALUMINUM	WHITE	T-BAR	1,2	A
R1	PRICE	630	METALAIRE, TITUS	FIXED FACE GRILLE	RETURN	-	24 X 24	ALUMINUM	WHITE	T-BAR	1,2	-
NOTES:	1 REFER TO SPECIF	ICATIONS F	OR FURTHER INFORM	ATION.								
	2 DUCT BRANCH CC	ONNECTION	SIZE TO BE EQUAL TO	THE NECK SIZE OF DIFFUSER UNLES	S NOTED OTHERWISE ON PL	ANS.						
ACCESSORIES:	A VOLUME DAMPER											

VARIABI	E REF	RIGERAN	r flow he	EAT RE		ERY UN	IIT SCH	EDULE		
DRAWING CODE	OUTDOOR	BASIS OF DESIGN	BASIS OF DESIGN	POWER SU	PPLY			NOTES	ACCESSORIES	
	UNIT	MANUFACTURER	MODEL	VOLTS	PHASE	Hz	RLA			
HR3-1	HP-3	LG	PRHR043A	208 / 230V	1Ph	60Hz	0.2	1,2	A	
HR3-2	HP-3	LG	PRHR033A	208 / 230V	1Ph	60Hz	0.15	1,2	A	
HR3-3	HP-3	LG	PRHR043A	208 / 230V	1Ph	60Hz	0.2	1,2	A	
HR3-4	HP-3	LG	PRHR043A	208 / 230V	1Ph	60Hz	0.2	1,2	A	
HR3-5	HP-3	LG	PRHR023A	208 / 230V	1Ph	60Hz	0.1	1,2	A	
HR3-6	HP-3	LG	PRHR033A	208 / 230V	1Ph	60Hz	0.15	1,2	A	
HR3-7	HP-3	LG	PRHR063A	208 / 230V	1Ph	60Hz	0.2	1,2	A	
HR3-8	HP-3	LG	PRHR063A	208 / 230V	1Ph	60Hz	0.2	1,2	A	
NOTES:	1 REFER T	O SPECIFICATIONS F	OR FURTHER INFOR	MATION.	•	L				
	2 CONTRA	CTOR MUST HAVE A	VALID / UP-TO-DATE	MANUFACTU	JRER'S VRF	INSTALL TRA	INING CERTIF	CATE.		
ACCESSORIES:	A SUCTION	AND LIQUID LINES S	SERVICE ISOLATION	VALVES FOR	ALL PORTS	S.				

				NOTES	ACCESSORIES
	Hz	MCA (A)	MOCP (A)		
3Ph	60Hz	36	50	1,2,3,4,5,6	A,B,C,D

REFRIGERANT PIPING NOTES

- MECHANICAL CONTRACTOR MAY REUSE EXISTING REFRIGERANT PIPING, BUT THE CONTRACTOR MUST TAKE FULL RESPONSIBILITY FOR THE EXISTING PIPING, INCLUDING ANY DEFICIENCIES IN PAST INSTALLATION OR ARRANGEMENT.
- A. MECHANICAL CONTRACTOR MUST CORRECT ALL DEFICIENCIES AND PROVIDE A COMPLETE SYSTEM THAT IS IN COMPLIANCE WITH ALL CURRENT MANUFACTURER'S INSTALLATION INSTRUCTIONS. B. MECHANICAL CONTRACTOR MUST REMOVE ALL INSULATION FROM EXISTING REFRIGERANT PIPING. AFTER INSULATION IS REMOVED, EXISTING REFRIGERANT PIPING MUST BE INSPECTED BY A VRF
- FACTORY AUTHORIZED REPRESENTATIVE FOR COMPLETE COMPLIANCE WITH ALL CURRENT MANUFACTURER'S INSTALLATION INSTRUCTIONS. C. THE VRF FACTORY AUTHORIZED REPRESENTATIVE MUST PROVIDE A WRITTEN REPORT ALONG WITH SUPPORTING PHOTOS OF ANY DEFICIENCIES FOUND. INCLUDING PIPING TYPE. SIZES. EVALUATION OF ALL EXISTING TRAPS AND ETC. REFRIGERANT LINES SHOWN ON THE PLAN AS EXISTING BUT DETERMINED INADEOUATE BY THE VRF FACTORY AUTHORIZED REPRESENTATIVE MUST BE REPLACED WITH NEW REFRIGERANT LINES. ADD, REPLACE, OR REMOVE REFRIGERANT PIPING TRAPS AND OTHER COMPONENTS AS NECESSARY TO COMPLY WITH CURRENT MANUFACTURER INSTALLATION INSTRUCTIONS.
- D. MECHANICAL CONTRACTOR MUST PROVIDE NEW INSULATION ON ALL REFRIGERANT PIPING. PRIOR TO INSTALLING NEW INSULATION, THE VRF FACTORY AUTHORIZED REPRESENTATIVE MUST RE-INSPECT REFRIGERANT PIPING AND CONFIRM IN WRITING THAT THE MODIFIED REFRIGERANT PIPING SYSTEM IS IN COMPLETE COMPLIANCE WITH ALL CURRENT MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- E. PROVIDE NEW HANGERS AND SUPPORTS AND ADJUST OR REPLACE THE EXISTING HANGERS AND SUPPORTS AS NECESSARY TO PROVIDE LINESETS INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS.
- F. MECHANICAL CONTRACTOR MUST PROVIDE ALL DOCUMENTATION REQUIRED BY THE MANUFACTURER AND MANUFACTURER'S REPRESENTATIVE IN REGARD TO REFRIGERANT PIPING INSTALLATION, EVACUATION, PRESSURE TESTING, AND REFRIGERANT CHARGING.

100.0 ft(0)

HP-3 ARUM192DTE5 (184.48 kBtu/h) (212.21 kBtu/h) Additional Refrigerant : 58.59 lbs (Precharged Refrigerant : 30.90 lbs)

--(0%) / --(0%) kBtu/h--(0%) kBtu/h

ELECTRIC	CAL LEGEND				
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
		09	CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR, 360° COVERAGE 2 = SECOND CONTACT TO BE PROVIDED FOR CONNECTION TO BUILDING MANAGEMENT	208/120V	
	CEILING FAN, SEE LIGHTING FIXTURE SCHEDULE FOR TYPE	-03-	CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR, LONG RANGE COVERAGE 2 = SECOND CONTACT TO BE PROVIDED FOR CONNECTION TO BUILDING MANAGEMENT	480/277V	EXISTING PANELBOARD, SURFACE OR RECESSED MOUNTED AS SHOWN.
	2x4 LIGHT FIXTURE, RECESSED OR SURFACE MOUNTED	e e e	WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR, 180° COVERAGE 2 = SECOND CONTACT TO BE PROVIDED FOR CONNECTION TO BUILDING MANAGEMENT WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR. PIR TECHNOLOGY		
	2x2 LIGHT FIXTURE, RECESSED OR SURFACE MOUNTED	Ŷ	OCCUPANCY SENSOR, LOW VOLTAGE (24VDC) 19mA DRAW, WATTSTOPPER CX100-1, LONG RANGE SENSOR. INSTALL WHERE FREE OF OBSTRUCTIONS.	$ \begin{bmatrix} \nabla & - & \partial \\ \partial & \partial & \partial \\ \partial & \partial & \partial \\ \partial & \partial & \partial$	EXISTING TRANSFORMER
	4FT OR 8FT LIGHT FIXTURE, RECESSED OR SURFACE MOUNTED	-@-	WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR, PIR TECHNOLOGY OCCUPANCY SENSOR, LOW VOLTAGE (24VDC) 19mA DRAW, WATTSTOPPER CX100-3, TWO SIDED AISLEWAY. INSTALL WHERE FREE OF OBSTRUCTIONS.		HATCHING INDICATES ITEMS TO BE DEMOLISHED. REMOVE DEVICE, EQUIPMENT, FIXTURE INDICATED, CIRCUIT, AND CONDUIT BACK TO SOURCE UNLESS OTHERWISE NOTED.
	4FT OR 8FT CHANNEL LIGHT FIXTURE, SUSPENDED OR SURFACE MOUNTED	o\$	WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR, SINGLE BUTTON ON/OFF CONTROL, 180° COVERAGE, MOUNTED AT 46" AFF UNLESS OTHERWISE NOTED.		DEMOLITION KEY NOTE SYMBOL
	UNDER COUNTER LIGHT FIXTURE	O\$2	WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR, DUAL BUTTON ON/OFF CONTROL, 180° COVERAGE, MOUNTED AT 46" AFF UNLESS OTHERWISE NOTED.		
• •	DIRECT/INDIRECT FIXTURE, SUSPENDED	О\$₽	WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR, DUAL BUTTON ON/OFF CONTROL WITH 0-10V DIMMING, 180° COVERAGE, MOUNTED AT 46" AFF UNLESS OTHERWISE NOTED. WATTSTOPPER DW-311 OR EQUAL.	VP WAP	WIRELESS ACCESS POINT, 2 CAT6 DATA CABLES IN A DUAL GANG BOX WITH A SINGLE GANG PLASTER RING, OWNER SHALL PROVIDE SURGE
<u>, , , , ,</u>	TRACK WITH LIGHT KIT	O\$F	WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR, DUAL BUTTON ON/OFF CONTROL, 180° COVERAGE, ADDITIONAL POWER SUPPLY FOR FAN OPERATION, MOUNTED AT 46" AFE UNIESS OTHERWISE NOTED		PROTECTOR AND WAP DEVICE, THE ELECTRICAL CONTRACTOR SHALL INSTALL. WP - LISTED WEATHER-RESISTANT TYPE DEVICE
Ø	RECESSED LIGHT FIXTURE	\$T	WALL MOUNTED DIGITAL TIMED SWITCH (5 MIN'S TO 12 HR'S), SINGLE BUTTON ON/OFF CONTROL, MOUNTED AT 46" AFF UNLESS OTHERWISE NOTED.		COMBINATION DATA/TELEPHONE OUTLET, MOUNTED 18" AFF UNLESS OTHERWISE NOTED. PROVIDE 11/4" CONDUIT TO ABOVE ACCESSIBLE GRID CEILING W/PULL STRING FOR OUTLETS LOCATED BELOW HARD (GYPBOARD) CEILINGS, ROUTE 11/4" CONDUIT TO TELEPHONE/DATA
¤	SURFACE LIGHT FIXTURE	Q	RECESSED SINGLE/DOUBLE GANG BOX WITH BLANK COVER PLATE, MOUNTED 16" AFF,		ROOM.
ģ	RECESSED WALL WASH LIGHT FIXTURE		UNLESS OTHERWISE NOTED RECESSED DEDICATED/PICTURE/CLOCK SINGLE OUTLET, 120VAC, 20A, MOUNTED AS	见	JUNCTION BOX - WALL MOUNTED +##" - INDICATES MOUNTING HEIGHT OF DEVICE IN INCHES AFF (if given)
Ţ	WALL MOUNTED LIGHT FIXTURE		INDICATED ON DRAWING. RECEPTACLE, DUPLEX, 120VAC, 20A, MOUNTED 16" AFF, UNLESS OTHERWISE NOTED. (SEE	ں ت	JUNCTION BOX - CEILING/ABOVE CEILING MOUNTED JUNCTION BOX - FLOOR MOUNTED
♦	EXIT SIGN, SINGLE FACE, CEILING, CHEVRON INDICATES DIRECTION.	л П			WALL MOUNTED DOUBLE GANG BOX FOR TELEVISION MOUNTED AT 72" AFF UNLESS NOTED
*	EXIT SIGN, DOUBLE FACE, CEILING MOUNTED, CHEVRON INDICATES DIRECTION.		RECEPTACLE, QUADPLEX, 120VAC, 20A, MOUNTED 6 ABOVE COUNTER TOP OR BACK SPLASH. RECEPTACLE, QUADPLEX, 120VAC, 20A MOUNTED 16"AFF UNLESS OTHERWISE NOTED (SEE		OTHERWISE. BOX SHALL HAVE DUPLEX RECEPTACLE AND DATA CONNECTIONS FOR TELEVISION AS DIRECTED BY TENANT. BOX SHALL BE PASS & SEYMOUR TV2MW OR APPROVED EQUIVALENT.
	EXIT SIGN W/EMERGENCY LIGHTING UNIT, CEILING MOUNTED, CHEVRON INDICATES DIRECTION.	₽	RECEPTACLE, QUADPLEX, 120VAC, 20A, MOUNTED 6" ABOVE COUNTER TOP OR BACK SPLASH.	•	1 HOUR RATED FIRE WALL
\$ ₽	EXIT SIGN, SINGLE FACE, WALL/END MOUNTED, CHEVRON INDICATES DIRECTION.	Ŧ	RECEPTACLE, DUPLEX, GROUND FAULT CIRCUIT INTERRUPTER TYPE, 120VAC, 20A, MOUNTED 16" AFF, UNLESS OTHERWISE NOTED. (SEE ELECTRICAL MOUNTING HEIGHT DETAIL)		1 HOUR RATED FIRE WALL - EXISTING 2 HOUR RATED FIRE WALL
‡₽ ‡	EXIT SIGN, DOUBLE FACE, WALL/END MOUNTED, CHEVRON INDICATES DIRECTION.	Ŧ	RECEPTACLE, DUPLEX, GROUND FAULT CIRCUIT INTERRUPTER TYPE, 120VAC, 20A, MOUNTED 6" ABOVE COUNTER TOP OR BACK SPLASH.		2 HOUR RATED FIRE WALL - EXISTING
	EXIT SIGN W/EMERGENCY LIGHTING UNIT, WALL/END MOUNTED, CHEVRON INDICATES DIRECTION.	₩	RECEPTACLE, QUADPLEX, GROUND FAULT CIRCUIT INTERRUPTER TYPE, 120VAC, 20A MOUNTED 16"AFF UNLESS OTHERWISE NOTED (SEE ELECTRICAL MOUNTING HEIGHT DETAIL)	(X)	3 HOUR RATED FIRE WALL - EXISTING
4	EMERGENCY LIGHTING UNIT, 2-HEAD WITH BATTERY BACK-UP, WALL MOUNTED, "NOT SWITCHED"	 ⊈	RECEPTACLE, QUADPLEX, GROUND FAULT CIRCUIT INTERRUPTER TYPE, 120VAC, 20A, MOUNTED 6" ABOVE COUNTER TOP OR BACK SPLASH. RECEPTACLE, 250VAC, 2 POLE, 3 WIRE, WALL MOUNTED. SIZE AS INDICATED ON DRAWING		
48	EMERGENCY LIGHTING UNIT, 2-HEAD WITH BATTERY BACK-UP, CEILING MOUNTED, "NOT	Ŷ	RECEPTACLE, 480VAC, 2 POLE, 3 WIRE, WALL MOUNTED, SIZE AS INDICATED ON DRAWING		
	**FOR ALL LIGHTING FIXTURE TYPES ABOVE:		RECEPTACLE, DUPLEX, 120VAC, 20A CEILING MOUNTED (LAY-IN / GYPBOARD / SUSPENDED) RECEPTACLE, DUPLEX, 120VAC, 20A RECESSED FLOOR MOUNTED.		
	LETTER ADJACENT TO FIXTURE INDICATES FIXTURE TYPE, SEE LIGHTING FIXTURE SCHEDULE	₽	UPS FED RECEPTACLE, DUPLEX, 120VAC, 20A, MOUNTED 16" AFF, UNLESS OTHERWISE NOTED. (SEE ELECTRICAL MOUNTING HEIGHT DETAIL)		
	POWER & SWITCH LEG UNSWITCHED LEG	₽	UPS FED RECEPTACLE, QUADPLEX, 120VAC, 20A, MOUNTED 16" AFF, UNLESS OTHERWISE NOTED. (SEE ELECTRICAL MOUNTING HEIGHT DETAIL)		
	CONDUIT, HOME RUN TO PANEL BOARD		**FOR ALL RECEPTACLE TYPES ABOVE: +XX"- INDICATES MOUNTING HEIGHT OF DEVICE IN INCHES AFF (IF GIVEN) (SFF	1	
Ē	PHOTOCELL, REMOTE MOUNTED, 120V, 10 SECOND TIME DELAY, UL WET LOCATION, RATED FOR 1500 W @ 120 VAC AND 4000 W @ 277 VAC (FOR USE WITH LAMP SOURCE(S) SHOWN.		ELECTRICAL MOUNTING HEIGHT DETAIL) WP - LISTED WEATHER-RESISTANT TYPE DEVICE WITH WEATHERPROOF IN USE COVER TR - TAMPER RESISTANT		
Ş	SWITCH, SINGLE POLE, 120/277VAC, 20A, MOUNTED AT 46" AFF UNLESS OTHERWISE NOTED, SEE ELECTRICAL DEVICES MOUNTING HEIGHT DETAIL. LOWER CASE LETTER INDICATES		S - INDICATES THE TOP RECEPTACLE OF THE DEVICE IS CONTROLLED VIA WALL SWITCH H - DEVICE MOUNTED HORIZONTALLY U - USB IN-WALL CHARGER		
\$3	3-WAY SWITCH, 120/277 VAC, 20A, MOUNTED AT 46" AFF UNLESS OTHERWISE NOTED SEE ELECTRICAL DEVICES MOUNTING HEIGHT DETAIL. LOWER CASE LETTER INDICATES FIXTURE	30A/3/3R W/ 30AF 다가	DISCONNECT SWITCH, FUSED, HEAVY DUTY, SIZE AS INDICATED ON DRAWINGS ##A = DISCONNECT SIZE / # = NUMBER OF POLES / # = NEMA RATING, / ##AF = FUSE SIZE		
\$4	SWITCHING, WHEN INDICATED. 4-WAY SWITCH 120/277 VAC, 20A, MOUNTED AT 46" AFF UNLESS OTHERWISE NOTED SEE ELECTRICAL DEVICES MOUNTING HEIGHT DETAIL. LOWER CASE LETTER INDICATES	Св	ENCLOSED BREAKER, HEAVY DUTY, SIZE AS INDICATED ON DRAWINGS ##A = BREAKER SIZE / # = NUMBER OF POLES / # = NEMA RATING		
ß	FIXTURE SWITCHING, WHEN INDICATED. INDICATES BI-LEVEL SWITCHING, 1 SWITCH SWITCHES OUTSIDE LAMPS, 1 SWITCH SWITCHES	"Equip" ☑ #AMP	VARIABLE FREQUENCY DRIVE (VFD)		
тт	INSIDE LAMPS. SEE ELECTRICAL DEVICES MOUNTING HEIGHT DETAIL. LOWER CASE LETTER INDICATES FIXTURE SWITCHING, WHEN INDICATED.	HMCP (#HP) 🛛 NEMA #	STARTER, FULL VOLTAGE, SIZE AS INDICATED ON DRAWINGS		
\$wp	OTHERWISE NOTED. DIMMER SWITCH, 0-10V OR LINE VOLTAGE RATING AS REQUIRED BY LIGHTING FIXTURE(S). LINE	"Equip" #AMP II HMCP X	COMBINATION STARTER WITH CIRCUIT BREAKER DISCONNECT, FULL VOLTAGE, SIZE AS INDICATED ON DRAWINGS		
AFC\$	VOLTAGE RATED DIMMERS MUST BE 1500W FOR 120 VAC AND 4000W 277VAC MINIMUM. ADJUSTABLE FAN CONTROL, 120/277VAC, SINGLE POLE, 20A, MOUNTED AT 46" AFF UNLESS	(#HP) NEMA # M\$##	MANUAL MOTOR STARTER, ELECTRICAL CONTRACTOR SHALL COORDINATE POLES		
	OTHERWISE NOTED, SEE ELECTRICAL DEVICES MOUNTING HEIGHT DETAIL. LOWER CASE LETTER INDICATES FIXTURE SWITCHING, WHEN INDICATED	•	## = AMPERAGE RATING WHEN INDICATED ON DRAWING 1 BUTTON CONTROLLER		
TYPICAL	ABBREVIATIONS:			-	· · · · · · · · · · · · · · · · · · ·
A, AMP AMPE AFF ABOV	RE CR CONTROL RELAY, CORROSION RESI	ISTANT	FAFIRE ALARMHVHIGH VOLTAGEFAAPFIRE ALARM ANNUNCIATOR PANEIH7HERT7		MLO MAIN LUGS ONLY PH, ϕ MTD MOUNTED PL C
AFG ABOV AHU AIR H	E FINISHED GRADE CV CONTROL VALVE NDLING UNIT CT CURRENT TRANSFORMER		FACPFIRE ALARM CONTROL PANELIMCINTERMEDIATEFBOFURNISHED BY OTHERSINCAND INCANDESCENT	METALLIC CONDUIT	MTG MOUNTING PNL MTS MANUAL TRANSFER SWITCH PP
AIC AMPE ATS AUTO	RE INTERRUPTING CAPACITY CU COPPER MATIC TRANSFER SWITCH DC DIRECT CURRENT		FLAFULL LOAD AMPSJBJUNCTION BOXFLUORFLUORESCENTKTHOUSAND		MVMEDIUM VOLTAGEPTN, NEUTNEUTRALPWR
AWG AMER BOF BOTTO	CAN WIRE GAUGE DI DOOR INTERLOCK DM OF FIXTURE DISC SW DISCONNECT SWITCH		FLR FLOOR FWE FURNISHED WITH EQUIPMENT	CULAR MILLS	N/A NOT APPLICABLE RECPT, RCF NC NORMALLY CLOSED REO'D
BRKR BREAL	KER DN DOWN EF EYHALIST EANI		GEN GENERATOR G. GND GROUND	IRS	NEC NATIONAL ELECTRIC CODE RGS
CAB CABIN	EF EXTRAUST FAIN ET EM EMERGENCY		GFI, GFCI GROUND FAULT CIRCUIT INTERRUPTER	EL, LIGHT POLE	NL NIGHT LIGHT RTU
	RINE ENCL ENCLOSURE		HID HIGH INTENSITY DISCHARGE MCB MAIN CIRCUIT E		NTS NOT TO SCALE SH
CAT CATAL CL CHLO				UL CENTER T PROTECTOR	P POLE SM PA PUBLIC ADDRESS SPEC
CAT CATAI CL CHLO CB CIRCL CCTV CLOSI	ED CIRCUIT TELEVISION EQ, EQIP EQUIPMENT				
CAT CATAI CL CHLO CB CIRCU CCTV CLOS CKT CIRCU CLG CEILIN	ED CIRCUIT TELEVISION EQ, EQIP EQUIPMENT IT EWC ELECTRIC WATER COOLER IG EWH ELECTRIC WATER HEATER		HPHORSE POWERMCPMOTOR CIRCUIHPFHIGH POWER FACTORMDPMAIN DISTRIBUHPSHIGH PRESSURE SODIUMMFRMANUFACTURE	TION PANEL R	PBPULL BOX, PUSH-BUTTONSSPFPOWER FACTORSST

	SYMBOL	DESCRIPTION
Y OCCUPANCY SENSOR, 360° COVERAGE DED FOR CONNECTION TO BUILDING MANAGEMENT	208/120V	
3Y OCCUPANCY SENSOR, LONG RANGE COVERAGE DED FOR CONNECTION TO BUILDING MANAGEMENT	480/277V	EXISTING PANELBOARD, SURFACE OR RECESSED MOUNTED AS SHOWN.
OCCUPANCY SENSOR, 180° COVERAGE DED FOR CONNECTION TO BUILDING MANAGEMENT		
OCCUPANCY SENSOR, PIR TECHNOLOGY (24VDC) 19mA DRAW, WATTSTOPPER CX100-1, RE FREE OF OBSTRUCTIONS.	$\begin{bmatrix} & & & \\ & & & & \\ & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ $	EXISTING TRANSFORMER
OCCUPANCY SENSOR, PIR TECHNOLOGY (24VDC) 19mA DRAW, WATTSTOPPER CX100-3, RE FREE OF OBSTRUCTIONS.		HATCHING INDICATES ITEMS TO BE DEMOLISHED. REMOVE DEVICE, EQUIPMENT, FIXTURE
OCCUPANCY SENSOR, SINGLE BUTTON ON/OFF O AT 46" AFF UNLESS OTHERWISE NOTED.	<pre>////////////////////////////////////</pre>	DEMOLITION KEY NOTE SYMBOL
CCUPANCY SENSOR, DUAL BUTTON ON/OFF AT 46" AFF UNLESS OTHERWISE NOTED.		KEY NOTE SYMBOL
OCCUPANCY SENSOR, DUAL BUTTON G, 180° COVERAGE, MOUNTED AT 46" AFF FOPPER DW-311 OR EQUAL.		REVISION DELTA WIRELESS ACCESS POINT, 2 CAT6 DATA CABLES IN A DUAL GANG BOX WITH A SINGLE GANG PLASTER RING, OWNER SHALL PROVIDE SURGE
CCUPANCY SENSOR, DUAL BUTTON ON/OFF AL POWER SUPPLY FOR FAN OPERATION, WISE NOTED.		PROTECTOR AND WAP DEVICE, THE ELECTRICAL CONTRACTOR SHALL INSTALL. WP - LISTED WEATHER-RESISTANT TYPE DEVICE
CH (5 MIN'S TO 12 HR'S), SINGLE BUTTON ON/OFF SS OTHERWISE NOTED.	V	COMBINATION DATA/TELEPHONE OUTLET, MOUNTED 18" AFF UNLESS OTHERWISE NOTED. PROVIDE 11/4" CONDUIT TO ABOVE ACCESSIBLE GRID CEILING W/PULL STRING FOR OUTLETS LOCATED BELOW HARD (GYPBOARD) CEILINGS, ROUTE 11/4" CONDUIT TO TELEPHONE/DATA
X WITH BLANK COVER PLATE, MOUNTED 16" AFF,		
CK SINGLE OUTLET, 120VAC, 20A, MOUNTED AS	日 日 一 日	+##" - INDICATES MOUNTING HEIGHT OF DEVICE IN INCHES AFF (if given)
MOUNTED 16" AFF, UNLESS OTHERWISE NOTED. (SEE	L L	JUNCTION BOX - CEILING/ABOVE CEILING MOUNTED
MOUNTED 6" ABOVE COUNTER TOP OR BACK SPLASH.	F 77	WALL MOUNTED DOUBLE GANG BOX FOR TELEVISION MOUNTED AT 72" AFF UNLESS NOTED OTHERWISE, BOX SHALL HAVE DUPLEX RECEPTACLE AND DATA CONNECTIONS FOR
A MOUNTED 16"AFF UNLESS OTHERWISE NOTED (SEE \IL)	뽀	TELEVISION AS DIRECTED BY TENANT. BOX SHALL BE PASS & SEYMOUR TV2MW OR APPROVED EQUIVALENT.
A, MOUNTED 6" ABOVE COUNTER TOP OR BACK SPLASH.		1 HOUR RATED FIRE WALL
-T CIRCUIT INTERRUPTER TYPE, 120VAC, 20A, MOUNTED (SEE ELECTRICAL MOUNTING HEIGHT DETAIL)		1 HOUR RATED FIRE WALL - EXISTING 2 HOUR RATED FIRE WALL
_T CIRCUIT INTERRUPTER TYPE, 120VAC, 20A, R BACK SPLASH.		2 HOUR RATED FIRE WALL - EXISTING
AULT CIRCUIT INTERRUPTER TYPE, 120VAC, 20A E NOTED (SEE ELECTRICAL MOUNTING HEIGHT DETAIL)		3 HOUR RATED FIRE WALL 3 HOUR RATED FIRE WALL - EXISTING
AULT CIRCUIT INTERRUPTER TYPE, 120VAC, 20A, R BACK SPLASH.		
, WALL MOUNTED, SIZE AS INDICATED ON DRAWING		
;, WALL MOUNTED, SIZE AS INDICATED ON DRAWING		
EILING MOUNTED (LAY-IN / GYPBOARD / SUSPENDED)		
ECESSED FLOOR MOUNTED.		
AC, 20A, MOUNTED 16" AFF, UNLESS OTHERWISE HEIGHT DETAIL)		
20VAC, 20A, MOUNTED 16" AFF, UNLESS L MOUNTING HEIGHT DETAIL)		
E: HT OF DEVICE IN INCHES AFF (IF GIVEN) (SEE DETAIL)		
CLE OF THE DEVICE IS CONTROLLED VIA WALL SWITCH		
،LL Y		
DUTY, SIZE AS INDICATED ON DRAWINGS R OF POLES / # = NEMA RATING, / ##AF = FUSE SIZE		
IZE AS INDICATED ON DRAWINGS >F POLES / # = NEMA RATING		
JICATED ON DRAWINGS		
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S A W Y E R SHERWOOD
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CAROLANA RTHESSIC
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10/22/2024
3rd Floor Upfit
320 Chestnut Street Wilminaton, NC 28401
Construction Drawings
October 22, 2024
Electrical Legend And Abbreviations
Rev. Date Notes
EO.1
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	SW	SWITCH
MABLE LOGIC CONTROLLER	SWBD	SWITCHBOARD
	SWGR	SWITCH GEAR
NEL, POWER POLE	TEL	TELEPHONE
_ TRANSFORMER	TPS	TWISTED PAIR SHIELDED
	TVSS, SPD	TRANSIENT VOLTAGE SURGE SUPPRESSER
CLE	TYP	TYPICAL
	UG, UGND	UNDERGROUND
ANIZED STEEL CONDUIT	UH	UNIT HEATER
	UON	UNLESS OTHERWISE NOTED
ELEMETRY UNIT	UTIL	UTILITY
DRIVE	V	VOLTS
	VFD	VARIABLE FREQUENCY DRIVE
MOUNTED	W	WIRE, WATT
TION	WH	WATT-HOUR
SWITCH	WP	WEATHERPROOF
STEEL	XFMR	TRANSFORMER
	(X)	EXISTING

ELECTRICAL GENERAL NOTES:

- ALL ELECTRICAL WORK SHALL BE IN FULL COMPLIANCE WITH NFPA 70, THE NORTH CAROLINA STATE BUILDING CODE, ALL LOCAL CODES AND ORDINANCES AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION.
- ALL EQUIPMENT PROVIDED BY THE CONTRACTOR SHALL BE LISTED AND LABELED BY A NATIONALLY-RECOGNIZED TESTING AGENCY, ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION, FOR THE CONDITIONS OF INSTALLATION. ALL MATERIAL, EQUIPMENT AND DEVICES SHALL BE NEW CURRENT PRODUCTS OF MANUFACTURERS REGULARLY ENGAGED IN THE PRODUCTION OF SUCH PRODUCTS. EQUIPMENT SHALL BE SUITABLE FOR ITS APPLICATION (E.G. WHEN INSTALLED OUTDOORS, IT SHALL BE WEATHERPROOF, ETC.)
- THE CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS FOR WORK REQUIREMENTS, THE AMOUNT OF SPACE AVAILABLE FOR ELECTRICAL EQUIPMENT, AND LAYOUT HIS WORK IN A COMPATIBLE AND COMPLEMENTARY MANNER.
- THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THOROUGHLY FAMILIARIZING HIMSELF WITH ANY CONTRACTUAL REQUIREMENTS AS MAY BE SET FORTH IN THE OTHER DIVISIONS OF THE PROJECT SPECIFICATIONS.
- UNLESS SPECIFICALLY NOTED OTHERWISE, SYSTEMS PROVIDED OR INSTALLED BY THE ELECTRICAL CONTRACTOR SHALL BE COMPLETE AND FULLY-FUNCTIONING AFTER INSTALLATION. INCIDENTAL COMPONENTS MAY NOT BE SHOWN, AND ALL WORK WHICH MAY BE REASONABLY IMPLIED AS BEING INCIDENTAL TO THIS WORK, BUT REQUIRED FOR THE PROPER OPERATION OF THE EQUIPMENT OR SYSTEM, SHALL BE PROVIDED BY THE CONTRACTOR AND INCLUDED IN THE BID. ADDITIONAL CIRCUITS SHALL BE INSTALLED WHEREVER NEEDED TO CONFORM TO THE SPECIFIC REQUIREMENTS OF EQUIPMENT.
- TEMPORARY POWER CONNECTIONS AS REQUIRED SHALL BE PROVIDED BY THE CONTRACTOR AND INCLUDED IN THE BID. ALL TEMPORARY EQUIPMENT WIRING SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. THE CONTRACTOR SHALL PROVIDE DETAILS, METHODS, MATERIALS, ETC. FOR REVIEW PRIOR TO MAKING TEMPORARY CONNECTIONS. FURNISH AND INSTALL ALL EQUIPMENT AND MATERIALS INCLUDING CONTROL EQUIPMENT, MOTOR STARTERS. BRANCH AND FEEDER CIRCUIT BREAKERS, PANELBOARDS, TRANSFORMERS, ETC. FOR TEMPORARY POWER. COORDINATE WITH THE ELECTRICAL UTILITY COMPANY AS REQUIRED.
- THE WORK SHALL INCLUDE COMPLETE TESTING OF ALL EQUIPMENT AND WIRING AT THE COMPLETION OF WORK AND ANY MINOR CORRECTIONS, CHANGES OR ADJUSTMENTS NECESSARY FOR THE PROPER FUNCTIONING OF THE SYSTEM AND EQUIPMENT.
- ALL EQUIPMENT SHOWN DOTTED OR DASHED IS BY OTHERS OR IS EXISTING, AS NOTED.
- ALL ELECTRICAL EQUIPMENT SHALL, AT ALL TIMES DURING CONSTRUCTION, BE ADEQUATELY PROTECTED AGAINST MECHANICAL INJURY, OR DAMAGE BY WATER AND/OR THE ELEMENTS. ELECTRICAL EQUIPMENT SHALL NOT BE STORED OUT OF DOORS, BUT SHALL BE STORED IN DRY PERMANENT SHELTERS. IF AN APPARATUS HAS BEEN DAMAGED, OR HAS BEEN SUBJECT TO POSSIBLE INJURY BY WATER OR THE ELEMENTS, SUCH DAMAGE SHALL BE REPLACED AT NO ADDITIONAL COST.
- 10. DO NOT SCALE ELECTRICAL DRAWINGS. FIELD VERIFY ALL DIMENSIONS.
- CIRCUIT LAYOUTS ARE NOT INTENDED TO SHOW THE NUMBER OF FITTINGS, OR OTHER INSTALLATION DETAILS. UNLESS NOTED OTHERWISE, THE EXACT ROUTING OF FEEDER AND BRANCH CIRCUIT RACEWAYS AND CABLES IS THE RESPONSIBILITY OF THE CONTRACTOR. RISER AND GENERAL CIRCUIT ARRANGEMENTS ARE SHOWN SCHEMATICALLY/DIAGRAMMATICALLY ONLY. THE CONTRACTOR SHALL ROUTE CONDUITS AS REQUIRED BY THE CONDITIONS OF THE INSTALLATION.
- UNLESS DIMENSIONED, DEVICE LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE ADJUST EXACT LOCATIONS AS REQUIRED TO SERVE THE INTENDED PURPOSE AND TO AVOID CONFLICTS AND INTERFERENCES WITH OTHER TRADES. EXACT DEVICE LOCATIONS SHALL BE AS INDICATED ON THE ARCHITECTURAL DRAWINGS OR AS DIMENSIONED. IF NOT SHOWN ON THE ARCHITECTURAL DRAWINGS OR DIMENSIONED ON THE ELECTRICAL DRAWINGS, VERIFY EXACT LOCATION WITH THE ARCHITECT/ENGINEER PRIOR TO ROUGH-IN.
- CONDUIT TERMINATING IN PRESSED STEEL BOXES SHALL HAVE DOUBLE LOCKNUTS AND INSULATED BUSHINGS. CONDUITS TERMINATING IN GASKETED ENCLOSURES SHALL BE TERMINATED WITH GROUNDING TYPE CONDUIT HUBS.
- 14. DEVICE BOXES SHOWN BACK-TO-BACK SHALL BE OFFSET A MINIMUM OF TWELVE (12) INCHES TO REDUCE SOUND TRANSMISSION BETWEEN ROOMS.
- BRANCH CIRCUIT HOMERUNS SHOWN ON DRAWINGS INDICATE PHASE CONDUCTORS, NEUTRAL EQUIPMENT GROUND CONDUCTORS AS REQUIRED. ADDITIONAL CONDUCTORS REQUIRED FOR CONTROL SHALL BE INCLUDED EVEN IF NOT EXPLICITLY SHOWN.
- 16. SEAL ALL CONDUIT OPENINGS THROUGH EXTERIOR BUILDING WALLS WATERTIGHT.
- 7. IN WET LOCATIONS AND EXTERIOR, ALL WIRING DEVICES SHALL BE WEATHER-RESISTANT LISTED WITH WEATHERPROOF WHILE IN USE COVER. LIGHTING FIXTURES SHALL BE APPROPRIATELY RATED AND LISTED FOR THE ENVIRONMENT INCLUDING 0 DEGREE BALLASTS FOR FLUORESCENT.
- RACEWAYS PENETRATING FLOORS, CEILINGS OR WALLS SHALL BE PROPERLY SEALED SMOKETIGHT.
- RACEWAYS PENETRATING RATED FLOOR, CEILING OR WALL ASSEMBLIES SHALL BE PROPERLY SEALED IN ACCORDANCE WITH THE CORRESPONDING UNDERWRITERS LABORATORIES (OR OTHER APPROVED THIRD PARTY TESTING AGENCY) APPROVED AND LISTED FIRESTOPPING MATERIALS AND MANUFACTURER APPROVED INSTALLATION TECHNIQUES COMPLYING WITH ALL APPLICABLE CODES. SEE ARCHITECTURAL DRAWINGS FOR IDENTIFICATION OF RATED WALLS AND CEILINGS.
- . LIGHTING FIXTURES, SPEAKER ASSEMBLIES, ETC. MOUNTED IN FIRE-RATED CEILINGS SHALL BE PROVIDED WITH UL-LISTED, PRE-FABRICATED OR FIELD FABRICATED SHROUDS/ACCESSORIES NECESSARY TO MAINTAIN THE CEILING FIRE RATING.
- 21. ALL RACEWAYS SHALL BE CONCEALED WHERE POSSIBLE. IF APPLICABLE, MATCH EXISTING RACEWAY INSTALLATION METHODS AND ROUTINGS AT OR NEAR EXISTING FACILITIES.
- . INSTALL EXPOSED RACEWAYS PARALLEL TO OR AT RIGHT ANGLES TO NEARBY SURFACES OR STRUCTURAL MEMBERS, AND FOLLOW THE SURFACE CONTOURS AS MUCH AS POSSIBLE. NO DIAGONAL RUNS WILL BE ALLOWED. ALL CONDUITS SHALL BE RUN STRAIGHT AND TRUE. RUN PARALLEL OR BANKED RACEWAYS TOGETHER ON COMMON SUPPORTS WHERE PRACTICAL. MAKE BENDS IN PARALLEL OR BANKED RUNS FROM SAME CENTERLINE TO MAKE BENDS PARALLEL.
- 23. USE FLUSH MOUNTING OUTLET BOXES IN FINISHED AREAS AND FOR EXTERIOR DEVICES/LIGHT FIXTURES UNLESS NOTED OTHERWISE.
- 24. PATCHING OF WATERPROOFED SURFACES SHALL RENDER THE AREA OF THE PATCHING COMPLETELY WATERPROOF.
- 5. SURFACE MOUNTED PANELBOARDS, JUNCTION, OUTLET AND PULL BOXES, RACEWAYS, ETC., INSTALLED ON EXTERIOR SURFACES OR INSIDE ON EXTERIOR WALLS SHALL BE SUPPORTED BY SPACERS TO PROVIDE A 1/4" MINIMUM CLEARANCE BETWEEN THE WALL AND EQUIPMENT.
- 26. CEILING MOUNTED DEVICES INSTALLED IN ACOUSTICAL TILE CEILING AREAS SHALL BE SUPPORTED FROM THE STRUCTURE ABOVE WITH RODS OF SUFFICIENT SIZE TO PREVENT VERTICAL MOVEMENT OF THE OUTLET BOX. BRIDGES ALONE ARE NOT ADEQUATE UNLESS SPECIFICALLY APPROVED. CEILING MOUNTED EXIT LIGHT FIXTURES SHALL BE INSTALLED LEVEL. DO NOT SUPPORT DEVICES FROM ACOUSTICAL CEILING TILE.
- PROVIDE ADHESIVE BACKED RECEPTACLE AND SWITCH/DIMMER/OCCUPANCY SENSOR DEVICE PLATE LABELS IDENTIFYING THE PANEL AND CIRCUIT FEEDING THE DEVICE. LABELS SHALL INDICATE PANEL AND CIRCUIT NUMBER. SEE SPECIFICATIONS SECTION 260553 FOR REQUIREMENTS.
- 3. FINAL TYPED PANELBOARD DIRECTORIES INSTALLED IN THE PANELBOARD DOOR POCKET SHALL INCLUDE FINAL ACTUAL ROOM NAMES AND NUMBERS IN ADDITION TO THE GENERAL DESCRIPTION SHOWN ON THE PANEL SCHEDULES ON THE DRAWINGS.

- 30. CONDUCTOR SIZING IS BASED ON 75 DEGREE C. COPPER NEC RA OTHERWISE. THE CONTRACTOR SHALL VERIFY, PRIOR TO INSTAL CONDUIT FEEDING ANY EQUIPMENT, THE ELECTRICAL EQUIPMENT DEGREE C. WIRING. IF ANY EQUIPMENT IS RATED FOR USE WITH CONDUCTORS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT. EVALUATION/CORRECTION.
- 31. DO NOT PULL CONDUCTORS UNTIL THE CONDUIT SYSTEM IS COMI CASE OF CONCEALED WORK, "COMPLETE" MEANS UNTIL ALL ROUG HAS BEEN COMPLETED.
- 32. WHERE SIZE IS NOT SHOWN ON THE DRAWINGS, BRANCH CIRCUIT #10 AWG MINIMUM PHASE, NEUTRAL AND EQUIPMENT GROUND CC RACEWAY
- 33. USE #10 AWG CONDUCTORS FOR 20 AMPERE, 120 VOLT BRANCH (INSTALLED LENGTH GREATER THAN 75 FEET AND/OR BRANCH CIR 50 FEET, I.E.; #12 AWG INCREASED TO #10 AWG FOR RECEPTACLE FEET TOTAL LENGTH (INCLUDING THE HOMERUN SEGMENT) AND H 277 VOLT CIRCUITS ARE SHOWN, USE #10 AWG CONDUCTORS FOR CIRCUITS WITH TOTAL INSTALLED LENGTH GREATER THAN 200 FE HOMERUNS LONGER THAN 125 FEET, I.E.; #12 AWG INCREASED TO BRANCH CIRCUITS OVER 75 FEET TOTAL LENGTH (INCLUDING THE HOMERUNS OVER 50 FEET.
- 34. KEEP CONDUCTOR SPLICES TO A MINIMUM. INSTALL SPLICES AND EQUIVALENT OR BETTER MECHANICAL STRENGTH AND INSULATIO BEING SPLICED. USE SPLICE AND TAP CONNECTORS COMPATIBLE INSTALL CONDUCTORS AT EACH OUTLET WITH AT LEAST 6 [12] INC OUTLETS AND COMPONENTS TO WIRING AND TO GROUND AS INDI THE MANUFACTURER.
- 35. DO NOT SPLICE BRANCH CIRCUIT HOMERUNS WITHOUT THE PERM ARCHITECT/ENGINEER. HOMERUNS SHALL BE CONTINUOUS FROM SERVING PANELBOARD.
- 36. DO NOT COMBINE BRANCH CIRCUIT HOMERUNS UNLESS SPECIFIC DRAWINGS
- 37. DO NOT CHANGE CIRCUITING SHOWN WITHOUT PERMISSION OF T
- 39. INSTALL WIRING DEVICES AT HEIGHTS AS SHOWN ON THE DRAWIN MOUNTING HEIGHTS WITH THE ARCHITECTURAL DRAWINGS AND (CONFLICTING, ARCHITECTURAL DRAWINGS AND DETAILS SHALL G
- 40. PROVIDE GROUND FAULT CIRCUIT-INTERRUPTER PROTECTION FC WITH THE NEC INCLUDING ALL ELECTRIC WATER COOLERS. EXTE RECEPTACLES IN AREAS SUBJECT TO POSSIBLE WET CONDITIONS INSTALLED WITHIN 6 FEET OF A SINK SHALL BE GFI PROTECTED. NON-RESIDENTIAL KITCHENS SHALL BE GFI PROTECTED.
- 41. IN AREAS IN WHICH DUAL LEVEL SWITCHING IS INDICATED (TYPICA GANGED SWITCHES), PROVIDE THE APPROPRIATE NUMBER OF CO FUNCTION (AS TYPICALLY SHOWN).
- 42. CONNECT BATTERY PACK TYPE EMERGENCY AND EXIT LIGHTING CIRCUIT SERVING THE SPACE LIGHTED BY THE EMERGENCY AND CONNECTIONS ARE INTENTIONALLY NOT SHOWN TO MAINTAIN DRA
- 43. COORDINATE LIGHTING FIXTURE LOCATIONS WITH THE ARCHITEC PLAN. IF CONFLICTS ARE NOTED, REQUEST CLARIFICATION FROM BEFORE PROCEEDING.
- 44. ADJACENT SWITCHES SHALL BE GANGED. INSTALL BARRIERS BE SECTIONS.
- 45. SEPARATE NEUTRALS ARE REQUIRED FOR ALL DIMMED LIGHTING
- 46. WHERE THE DRAWINGS INDICATE A LIGHTING FIXTURE IS TO BE PF FEATURES/SWITCHING (DIMMING, EMERGENCY BATTERY BALLAST CONTRACTOR SHALL PROVIDE THESE FIXTURES WITH THE APPRO ACCOMMODATE THE SPECIAL FEATURE. THE CONTRACTOR SHALL INDICATED IN THE LIGHTING FIXTURE SCHEDULE WITH MODIFICATI DRAWING NOTES.
- 47. COORDINATE LOCATIONS OF PLUMBING, MECHANICAL, DATA AND EQUIPMENT AND OF TENANT-PROVIDED EQUIPMENT WITH THE RES VENDORS AND THE TENANT BEFORE ROUGH-IN. ADJUST LIGHTING ELECTRICAL EQUIPMENT TO ACCOMMODATE THIS EQUIPMENT. AE ARCHITECT/ENGINEER OF CONFLICTS BEFORE ROUGH-IN
- 48. BEFORE COMMENCING WORK OR ORDERING MATERIALS. THE CON WITH OTHER TRADES AND VERIFY THE NAMEPLATE RATINGS OF A HEATERS, COMPRESSORS, ETC.) AND ADJUST THE RATINGS OF TH (SWITCHES, FUSES, CIRCUIT BREAKERS, FEEDERS, ETC.) AS APPR EQUIPMENT.
- 49. ENERGIZE EQUIPMENT ONLY AFTER OBTAINING PERMISSION FROM THE EQUIPMENT.
- 50. THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL EQUIPME CORDSETS WITH VENDOR EQUIPMENT AND VERIFY ALL DEVICE LO EQUIPMENT WITH CASEWORK PRIOR TO ROUGH-IN.
- 51. THE LAYOUT AND PLACEMENT OF ELECTRICAL DISTRIBUTION EQU MECHANICAL EQUIPMENT ROOMS IS BASED ON PUBLISHED EQUIP FOLLOWED AS CLOSELY AS POSSIBLE. DEVIATIONS FROM CONFIG RESPONSIBILITY OF THE CONTRACTOR. PROVIDE NATIONAL ELEC CLEARANCES FOR ALL ELECTRICAL EQUIPMENT, PANELBOARDS, SWITCHES, SWITCHBOARDS, ETC. COORDINATE RESOLUTION OF TRADES. ADVISE THE ARCHITECT/ENGINEER OF CONFLICTS BEFO
- 52. TELECOMMUNICATIONS AND DATA CABLES WILL BE PROVIDED ANI LEAVE PULL WIRES OR ROPES OF ADEQUATE TENSILE STRENGTH
- 53. EXACT SPACING OF SMOKE AND HEAT DETECTORS AND A/V DEVIC CLOSELY AS POSSIBLE WITH POSITIONS SHOWN ON THE DRAWING BASED UPON NFPA 72 INCLUDING APPENDIX A. SLIGHT ADJUSTME IF REQUIRED BY FIELD CONDITIONS, BUT SPACING SHALL NOT EXC EQUIPMENT MANUFACTURERS SPACING CRITERIA. DO NOT INSTA 3 FEET OF SUPPLY AIR DIFFUSERS OR RETURN GRILLES. PROVIDE TO SMOKE AND HEAT DETECTORS OF ADEQUATE LENGTH TO ALLC OF FOUR FEET FROM POSITION INDICATED ON DRAWINGS.
- 54. SHOP DRAWINGS MUST BE SUBMITTED BY THE FIRE ALARM CONTR FIRE ALARM PLAN REVIEW REQUIREMENTS POLICY - JANUARY 200 WILMINGTON FIRE DEPARTMENT. THESE DRAWINGS DO NOT CON CHANGE AFTER A FULL REVIEW BY THE WILMINGTON FIRE DEPART MUST BE OBTAINED PRIOR TO INSTALLATION.
- 55. COORDINATE FIRE ALARM SYSTEM MODIFICATIONS WITH THE TEN ALARM SYSTEM VENDOR. THE EXISTING SYSTEM SHALL REMAIN (UNLESS PRIOR ARRANGEMENTS HAVE BEEN MADE WITH THE TENA

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30 31 32 33 33 34 35 36 37 38 39 40 41 42 43 44 45 50 51	 CONDUCTOR SIZING IS BASED ON 75 DEGREE C. COPPER NEC RATINGS, UNLESS NOTED OTHERWISE: THE CONTRACTOR SIMIL VERITY, PRIOR TO INSTALLATION OF CONJUCTORS OF CONDUCTIONS AND EQUIPABILITS IN A RELED FOR USE WITH 5 DEGREE C. WRING, IF ANY EQUIPABILITS, HALLENDER USE WITH 5 DEGREE C. WRING, IF ANY EQUIPABILITS, HALLENDER USE AND THE CONTUNE ON USE WITH AND THE DEGREE C. WRING, IF ANY EQUIPABILITS, HALLENDER USE WITH 5 DEGREE C. WRING, IF ANY EQUIPABILITS, HALLENDER USE WITH 5 DEGREE C. WRING, IF ANY EQUIPABILITS, HALLENDER USE WITH 5 DEGREE C. WRING, IF ANY EQUIPABILITS, HALLENDER USE WITH 5 DEGREE C. WRING, IF ANY EQUIPABILITS, HALLENDER USE WITH 5 DEGREE C. WRING, IF ANY EQUIPABILITS, WALLENDER WITH AND THE INFORMATION OF MANY MARKEN WITH AND THE INFORMATION OF MARKEN WITH AND THE INFORMATION OF MARKEN WITH AND THE INFORMATION ON THE INFORMATION ON THE AND THE	 ELECTRON. CONTRACTOR IS REPORTING. TO REPORT AND RECOVER DEVICE, PLTTING STREAM ON THE LINE OF D. E. PRODUKTING RECOVER DEVICE, PLTTING STREAM ON THE PLANT IN THE LINE OF D. PLANT ALL AND RECOVERED DEVICE, PLTTING STREAM ON THE PLANT IN THE CONTRACT AND AND RECOVERED DEVICES AND EQUILIBRE THE PLANT IN THE CONTRACT AND AND RECOVERED DEVICES AND EQUILIBRE THE PLANT IN THE CONTRACT AND AND RECOVERED DEVICES AND EQUILIBRE THE PLANT IN THE CONTRACT AND AND RECOVERED DEVICES AND EQUILIBRE THE PLANT IN THE CONTRACT AND AND AND RECOVERED DEVICES AND EQUILIBRE THE PLANT IN THE CONTRACT AND AND AND RECOVERED DEVICES AND EQUILIBRE THE PLANT IN THE CONTRACT AND AND RECOVERED DEVICES AND EQUILIBRE THE PLANT IN THE CONTRACT AND RECOVERED DEVICES AND AND AND AND AND AND AND AND AND AND	 ELECTRIC SELECTIVE ELE DESCRIBED HE PROVIDED BY T APPROPRIATE PERSONNEL ON SUCH OPERATI REUSE. IDENTI THE ELECTRICA AND ELECTRICA OUT HIS WORK BOXES, FIXTUR OBSOLETE BY TO BE REMOVE REMOVE ANY E OWNER OR ARC ALL EXISTING C UNUSUAL CONIC REMOVE, RELO CONSTRUCTION ALL EXISTING END VERIFY FIELD M VERIFY FIELD M VERIFY THAT A DISCONNECT A SCHEDULED FOR REQUIRED BY CONNECTIONS OR CONPLETEND REQUIRED BY CONNECTIONS OR COMPLETED CONNECTIONS EXISTING ELEC EXISTING SYST CONNECTIONS OR COMPLETED CONNECTIONS OR COMPLETED CONNECTIONS OR COMPLETED CONNECTIONS OR COMPLETED CONNECTIONS OR COMPLETED CONNECTIONS OR COMPLETED CONNECTIONS OR COMPLETED CONDITIONS OF T SUITABLY RELO CONDITIONS OF T SUITABLY RELO CONDITIONS AF EXISTING FIRE VENDOR AND M DISABLE SYSTE CONDITIONS OF T SUITABLY RELO CONDITIONS AF EXISTING FIRE VENDOR AND M DISABLE SYSTE CONDUCTORS MAINTAIN ACCED ING STURE WHI IA PROTECT EXIST CONDUCTORS EXISTING FIRE SUITABLY RELO CONDITIONS AF EXISTING FIRE SUITABLY RELO CONDITIONS AF EXISTING FIRE SUITABLY RELO CONDUCTORS EXISTING FIRE SUITABLY RELO CONDUCTORS EXISTING FIRE SUITABLY RELO CONDUCTORS EXISTING FIRE SUITABLY RELO CONDITIONS AF EXISTING FIRE SUITABLY RELO CONDUCTORS TRACE OUT EXIST RECONNECT EXIST RECONNECT EXIST PROTECT EXIST PROTECT EXIST DELIVER ALL RE DEVICES, SPEA OFF SITE SNACIA PONTED DISTURE SONT DISTURE SONT DISTURE SONT DISTURE
45 46 47 48 49 50	 SECTIONS. SEPARATE NEUTRALS ARE REQUIRED FOR ALL DIMMED LIGHTING CIRCUITS. WHERE THE DRAWINGS INDICATE A LIGHTING FIXTURE IS TO BE PROVIDED WITH SPECIAL FEATURES/SWITCHING (DIMMING, EMERGENCY BATTERY BALLAST, MULTI-LEVEL, ETC), THE CONTRACTOR SHALL PROVIDE THESE FIXTURES WITH THE APPROPRIATE BALLASTING TO ACCOMMODATE THE SPECIAL FEATURE. THE CONTRACTOR SHALL PROVIDE THE SPECIAL FEATURE. THE CONTRACTOR SHALL PROVIDE THE FIXTURES AS INDICATED IN THE LIGHTING FIXTURE SCHEDULE WITH MODIFICATIONS AS REQUIRED BY DRAWING NOTES. COORDINATE LOCATIONS OF PLUMBING, MECHANICAL, DATA AND TELEPHONE AND AUDIO/VISUAL EQUIPMENT AND OF TENANT-PROVIDED EQUIPMENT WITH THE RESPECTIVE CONTRACTORS AND VENDORS AND THE TENANT BEFORE ROUGH-IN. ADJUST LIGHTING FIXTURES, RECEPTACLES AND ELECTRICAL EQUIPMENT TO ACCOMMODATE THIS EQUIPMENT. ADVISE THE ARCHITECT/ENGINEER OF CONFLICTS BEFORE ROUGH-IN BEFORE COMMENCING WORK OR ORDERING MATERIALS, THE CONTRACTOR SHALL COORDINATE WITH OTHER TRADES AND VERIFY THE NAMEPLATE RATINGS OF ALL EQUIPMENT (MOTORS, HEATERS, COMPRESSORS, ETC.) AND ADJUST THE RATINGS OF THE ELECTRICAL EQUIPMENT (MOTORS, HEATERS, COMPRESSORS, ETC.) AND ADJUST THE RATINGS OF THE ELECTRICAL EQUIPMENT (MOTORS, HEATERS, COMPRESSORS, ETC.) AND ADJUST THE RATINGS OF THE ELECTRICAL EQUIPMENT (SWITCHES, FILE) AND ADJUST THE RATINGS OF THE ELECTRICAL EQUIPMENT (SWITCHES, FILE) AND ADJUST THE RATINGS OF THE ELECTRICAL EQUIPMENT (SWITCHES, FILE) AND ADJUST THE RATINGS OF THE ELECTRICAL EQUIPMENT (SWITCHES, FILE) AND ADJUST THE RATINGS OF THE ELECTRICAL EQUIPMENT (SWITCHES, FILE) AND ADJUST THE RATINGS OF THE ELECTRICAL EQUIPMENT (SWITCHES, FILE) AND ADJUST THE RATINGS OF THE ELECTRICAL EQUIPMENT (SWITCHES, FILES, CIRCUIT BREAKERS, FEEDERS, ETC.) AS APPROPRIATE TO SERVE THIS EQUIPMENT. ENERGIZE EQUIPMENT ONLY AFTER OBTAINING PERMISSION FROM THE CONTRACTOR PROVIDING THE EQUIPMENT. 	HIS WORK. NO EXTRAS WILL BE CONSIDERED BECAUSE OF ADDITIONAL WORK NECESSITATED BY EXISTING JOB CONDITIONS THAT ARE NOT INDICATED ON THE DRAWINGS. 70. SOME EXISTING RECEPTACLE, LIGHTING OR OTHER LOADS MAY BE SERVED BY CIRCUITS INDICATED TO BE REMOVED. IF SUCH CONDITIONS ARE DISCOVERED, REQUEST THE ARCHITECT/ENGINEER PROVIDE NEW CIRCUIT NUMBER FOR THE LOAD. DO NOT INDISCRIMINATELY CONNECT TO THE NEW CIRCUIT. 71. ALL UNUSED OUTLET BOXES SHALL BE REMOVED OR, WITH SPECIFIC APPROVAL OF THE ARCHITECT/ENGINEER, SHALL BE BLANKED WITH STAINLESS STEEL PLATES. ALL OPENINGS IN EXISTING WALLS AND CEILINGS MADE BY THIS CONTRACTOR SHALL BE REPAIRED TO AN EQUAL FINISH AS ADJACENT SURFACES. D 72. THE EXISTING FACILITIES WILL REMAIN OCCUPIED BY THE STAFF THROUGHOUT THE PROJECT. AS SUCH, WORK WILL BE DONE IN PHASES AND WILL REQUIRE SPECIAL EFFORT BY THIS CONTRACTOR TO ALLOW THE WORK TO PROCEED IN A TIMELY MANNER. ALL ELECTRICAL WORK SHALL BE COORDINATED WITH THE TENANT AND GENERAL CONTRACTOR SO AS TO MINIMIZE DISRUPTION OF THE TENANT'S USE OF THE FACILITIES AND MAINTAIN THE CONSTRUCTION SEQUENCE OF THE GENERAL CONTRACTOR. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INSTRUCTIONS CONCERNING PHASING AND SEQUENCE OF WORK. G 73. SAFETY: COMPLY WITH OSHA AND NEC ARC FLASH PROTECTION REQUIREMENTS. 74. ALL SWITCHES, RECEPTACLE AND LIGHTS SHALL COMPLY WITH ANSI 117.2 FOR ADA REQUIREMENTS.	 MAINTAIN ACCE INSTALLATION OF MOISTURE WHIL ENDS OF ALL COMOISTURE WHIL PROTECT EXIST CONDUCTORS A SECURE ALL CIT CONSTRUCTION WIRING BACK T CEILINGS. REM POINT OF USAG PLATES FOR AL ALL SUCH WOR ORDINANCES. TRACE OUT EXI RELOCATION OF SYSTEM. RECONNECT EXISTINAL
51 52 53 54 55	 CORDSETS WITH VENDOR EQUIPMENT AND VERIFY ALL DEVICE LOCATIONS FOR SPECIALITY EQUIPMENT WITH CASEWORK PRIOR TO ROUGH-IN. THE LAYOUT AND PLACEMENT OF ELECTRICAL DISTRIBUTION EQUIPMENT IN ELECTRICAL AND MECHANICAL EQUIPMENT ROOMS IS BASED ON PUBLISHED EQUIPMENT IN ELECTRICAL AND MECHANICAL EQUIPMENT ROOMS IS BASED ON PUBLISHED EQUIPMENT ISZES AND SHALL BE FOLLOWED AS CLOSELY AS POSSIBLE. DEVIATIONS FROM CONFIGURATIONS SHOWN IS THE RESPONSIBILITY OF THE CONTRACTOR. PROVIDE NATIONAL ELECTRIC CODE REQUIRED CLEARANCES FOR ALL ELECTRICAL EQUIPMENT, PANELBOARDS, TRANSFORMERS, SAFETY SWITCHES, SWITCHBOARDS, ETC. COORDINATE RESOLUTION OF CONFLICTS WITH OTHER TRADES. ADVISE THE ARCHITECT/ENGINEER OF CONFLICTS BEFORE ROUGH-IN. TELECOMMUNICATIONS AND DATA CABLES WILL BE PROVIDED AND INSTALLED BY THE TENANT. LEAVE PULL WIRES OR ROPES OF ADEQUATE TENSILE STRENGTH IN ALL EMPTY CONDUITS. EXACT SPACING OF SMOKE AND HEAT DETECTORS AND AV DEVICES SHALL BE FOLLOWED AS CLOSELY AS POSSIBLE WITH POSITIONS SHOWN ON THE DRAWINGS. DETECTOR SPACING IS BASED UPON NFPA 72 INCLUDING APPENDIX A. SLIGHT ADJUSTMENTS MAY BE MADE IN SPACING IF REQUIRED BY FIELD CONDITIONS, BUT SPACING GRITERIA. DO NOT INSTALL SMOKE DETECTORS WITHIN 3 FEET OF SUPPLY AIR DIFFUSERS OR RETURN GRILLES. PROVIDE FLEX CONDUIT CONNECTION TO SMOKE AND HEAT DETECTORS OF ADEQUATE LENGTH TO ALLOW HORIZONTAL ADJUSTMENT OF FOUR FEET FROM POSITION INDICATED ON DRAWINGS. SHOP DRAWINGS MUST BE SUBMITTED BY THE FIRE ALARM CONTRACTOR COMPLYING WITH THE FIRE ALARM PLAN REVIEW REQUIREMENTS POLICY - JANUARY 2006 BEFORE PERMITTING BY THE WILMINGTON FIRE DEPARTMENT. THESE DRAWINGS DO NOT CONSTITUTE APPROVAL AND MAY CHANGE AFTER A FULL REVIEW BY THE WILLINGTON FIRE DEPARTMENT. A SEPARATE PERMIT MUST BE OBTAINED PRIOR TO INSTALLATION. COORDINATE FIRE ALARM SYSTEM MODIFICATIONS WITH THE TENANT AND THE OWNER'S FIRE ALARM SYSTEM VENDOR. THE EXISTING SYSTEM SHALL REMAIN OPERATIONAL AT ALL TIMES UNLESS PRIOR ARRANGEMENTS HAVE BEEN MADE WITH		 21. DELIVER ALL REDEVICES, SPEAL OFF SITE IN ACC FEES ASSOCIAT 22. PROTECT EXIST RELOCATED LIG 23. DO NOT DISTUR SYSTEMS, DEVI 24. ALL FLUSH MOU REMOVED. IT IS DEVICES THAT OCIRCUITS. 25. REMOVE ALL FL THEIR ASSOCIA 26. COORDINATE W ELECTRICAL DIS SHOWN. UNLES PROPERTY AND 27. THESE DRAWIN DRAWINGS AND INDICATING THE CONTRACTOR S AND ALL FIELD CONTRACTOR 4 28. THE CONTRACT 29. SEE GENERAL N

CAL SELECTIVE DEMOLITION NOTES:

CTRICAL DEMOLITION SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR AS REIN AND AS SHOWN ON THE CONTRACT DRAWINGS. GROSS DEMOLITION WILL BE THE GENERAL CONTRACTOR. IDENTIFY ACTIVE UTILITIES, AND AT THE TIME, DISCONNECT AND CAP OFF SUCH UTILITIES AND PROVIDE EXPERIENCED I SITE DURING GENERAL CONTRACTOR DEMOLITION OPERATIONS TO PERFORM ONS AND RESOLVE ISSUES. REMOVE MATERIALS NOTED FOR SALVAGE AND IFY AND MARK WIRING AND DEVICES TO REMAIN FOR THE GENERAL CONTRACTOR.

AL CONTRACTOR SHALL REVIEW THE ARCHITECTURAL, MECHANICAL, PLUMBING AL DRAWINGS AND SPECIFICATIONS FOR DEMOLITION REQUIREMENTS AND CARRY (IN A COMPATIBLE AND COMPLEMENTARY MANNER. REMOVE ALL WIRING DEVICES, RES, EXPOSED ABANDONED RACEWAYS, HANGARS, ETC., AND THOSE MADE THESE ALTERATIONS AND AS SHOWN ON THE ELECTRICAL DRAWINGS. ALL ITEMS ED OR MODIFIED MAY NOT BE SHOWN, HOWEVER, THIS CONTRACTOR SHALL LECTRICAL WORK AS REQUIRED BY THE CONSTRUCTION OR AS DIRECTED BY THE CHITECT/ENGINEER. SURVEY THE AFFECTED AREAS BEFORE SUBMITTING A BID AS CONDITIONS CANNOT BE COMPLETELY DEPICTED ON THE DRAWINGS AND SOME DITIONS MAY EXIST.

CATE, AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW

ELECTRICAL EQUIPMENT AND DEVICES SHALL REMAIN UNLESS SPECIFICALLY REMOVED.

MEASUREMENTS AND CIRCUITING ARRANGEMENTS ARE AS SHOWN ON DRAWINGS.

ABANDONED WIRING AND EQUIPMENT SERVE ONLY ABANDONED FACILITIES.

ND/OR DE-ENERGIZE ELECTRICAL SYSTEMS IN WALLS, FLOORS, AND CEILINGS OR REMOVAL

PORARY AND/OR PERMANENT WIRING AND CONNECTIONS AS SHOWN AND/OR AS CONDITIONS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING CONSTRUCTION. IUST BE PERFORMED ON ENERGIZED EQUIPMENT OR CIRCUITS, AND WHEN SUCH IFICALLY APPROVED BY THE OWNER AND PERMITTED BY REGULATORY USE PERSONNEL EXPERIENCED IN SUCH OPERATIONS.

TRICAL SERVICE: COORDINATE POWER OUTAGES WITH THE OWNER. MAINTAIN TEMS IN SERVICE. DISABLE SYSTEMS ONLY TO MAKE SWITCHOVERS AND OBTAIN PERMISSION FROM THE OWNER AT LEAST 24 HOURS BEFORE PARTIALLY LY DISABLING SYSTEM. MINIMIZE OUTAGE DURATION. MAKE TEMPORARY TO MAINTAIN SERVICE IN AREAS ADJACENT TO WORK AREA.

SERVICE IS REQUIRED ON ALL CIRCUITS AND OUTLETS AFFECTED BY THESE CEPT WHERE THE OWNER WILL PERMIT AN OUTAGE FOR A SPECIFIC TIME. OBTAIN SENT BEFORE REMOVING ANY CIRCUIT FROM CONTINUOUS SERVICE.

EXISTING TELEPHONE, DATA, LIFE SAFETY SYSTEMS, FIRE ALARM, SECURITY, ROL AND PUBLIC ADDRESS SYSTEMS AND MAINTAIN THEM IN OPERATION THE PROGRESS OF THE WORK. NOTIFY THE OWNER AND ARCHITECT/ENGINEER IN UTDOWNS ARE REQUIRED PRIOR TO ANY OUTAGE OF SERVICE. WHERE THE PROPOSED OUTAGE CANNOT BE TOLERATED BY THE OWNER, PROVIDE ONNECTIONS AS REQUIRED TO MAINTAIN SERVICE.

RICAL SYSTEMS PASS THROUGH THE DEMOLITION AREAS TO SERVE OTHER THE PREMISES, THEY SHALL BE PROTECTED FROM DAMAGE AND REMAIN OR BE OCATED UTILIZING MATCHING SIZE AND TYPE MATERIALS AND THE SYSTEM NORMAL OPERATION. ADVISE THE ARCHITECT/ENGINEER IMMEDIATELY IF SUCH RE UNCOVERED BEFORE PROCEEDING WITH ADDITIONAL WORK.

ALARM SYSTEM: COORDINATE WORK WITH THE OWNER'S FIRE ALARM SYSTEM MAINTAIN THE EXISTING SYSTEM IN SERVICE UNTIL THE NEW SYSTEM IS ACCEPTED EM ONLY TO MAKE SWITCHOVERS AND CONNECTIONS. NOTIFY THE OWNER AND RVICE AT LEAST 24 HOURS BEFORE PARTIALLY OR COMPLETELY DISABLING OUTAGES TO NORMAL BUSINESS HOURS ONLY AND MINIMIZE OUTAGE DURATION. ARY CONNECTIONS TO MAINTAIN SERVICE IN AREAS ADJACENT TO WORK AREA.

ESS TO EXISTING ELECTRICAL INSTALLATIONS WHICH REMAIN ACTIVE. MODIFY OR PROVIDE ACCESS PANEL AS APPROPRIATE.

ONDUITS TO REMAIN SHALL BE TIGHTLY PLUGGED TO EXCLUDE DUST AND ILE THE BUILDING IS UNDER RENOVATION.

TING CIRCUITS TO REMAIN AND EXTEND AS REQUIRED UTILIZING MATCHING AND CONDUIT SIZE AND TYPE.

IRCUITS, RACEWAYS, CABLE AND CONDUCTORS THAT, AS A RESULT FROM THIS N, ARE ABANDONED OR UNUSED. REMOVE UNUSED EXPOSED CONDUIT AND TO POINT OF CONCEALMENT INCLUDING ABANDONED CONDUIT ABOVE ACCESSIBLE MOVE UNUSED WIRING IN CONCEALED CONDUITS BACK TO SOURCE OR NEAREST 3E, BLANK ABANDONED KNOCKOUTS IN REMAINING BOXES, INSTALL BLANK LL UNUSED OUTLETS THAT WILL REMAIN AS A RESULT OF THIS CONSTRUCTION. RK SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES AND

KISTING WIRING THAT IS TO BE RELOCATED OR REMOVED AND PERFORM THE OR REMOVAL WORK AS REQUIRED FOR A COMPLETE OPERATING AND SAFE

XISTING CIRCUITS SEPARATED AS A RESULT OF THIS CONSTRUCTION.

ING SWITCH LEGS TO NEW SWITCH LOCATIONS AS SHOWN AND/OR REQUIRED.

EMOVED AND SALVAGED LIGHTING FIXTURES, WIRING DEVICES, FIRE ALARM AKERS, ETC., TO THE OWNER, OR AT THE OWNER'S OPTION, DISPOSE OF PROPERLY CORDANCE WITH LOCAL, STATE AND FEDERAL ENVIRONMENTAL REGULATIONS. TED WITH DISPOSAL SHALL BE INCLUDED IN THE CONTRACTOR'S BASE BID.

TING CIRCUITS FEEDING LIGHTING FIXTURES FOR EXTENSION TO NEW AND GHTING FIXTURES.

RB EXISTING DATA, TELEPHONE, SECURITY/INTRUSION AND ENERGY MANAGEMENT ICES OR CABLES UNLESS SPECIFICALLY NOTED OTHERWISE.

UNTED WIRING DEVICES SHALL REMAIN UNLESS SPECIFICALLY NOTED TO BE S THE INTENTION OF THE THIS CONTRACT TO REMOVE ALL FLUSH MOUNTED CONFLICT WITH NEW CONSTRUCTION AND SECURE THEIR ASSOCIATED BRANCH

LUSH MOUNTED DEVICES THAT CONFLICT WITH NEW CONSTRUCTION AND SECURE ATED BRANCH CIRCUITS.

NITH THE OTHER TRADES, PRIOR TO BID, AND INCLUDE IN THE BASE BID THE ISCONNECTION OF ANY EQUIPMENT BEING DEMOLISHED, EVEN IF NOT EXPLICITLY ESS NOTED OTHERWISE, REMOVE ALL DEMOLISHED EQUIPMENT FROM THE DIDENTIFIED IN THE ELECTRICAL DRAWINGS.

NGS ARE COMPILED BY THE ARCHITECT/ENGINEER FROM THE OWNER'S RECORD D LIMITED FIELD VERIFICATION OF EXISTING CONDITIONS FOR THE PURPOSE OF E WORK REQUIRED AND ARE BELIEVED TO BE CORRECT. NOTWITHSTANDING, THE SHALL VERIFY ALL CIRCUITS, WIRING, CONDUIT, DIMENSIONS, POINTS OF ACCESS CONDITIONS AFFECTING HIS WORK. BEGINNING OF DEMOLITION MEANS THE ACCEPTS EXISTING CONDITIONS.

TOR IS RESPONSIBLE FOR DISPOSAL OF ALL LAMPS CONTAINING MERCURY IN A IN ACCORDANCE WITH NC GEN STATUTE 309.10M.

NOTES FOR ADDITIONAL REQUIREMENTS.

ELECTRICAL SPECIFICATIONS:

260500 GENERAL ELECTRICAL

- A. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE FOLLOWING CODES AND STANDARDS INSOFAR AS THEY APPLY.
- 1. THE NATIONAL ELECTRICAL CODE, 2020 EDITION 2. THE NATIONAL ELECTRICAL SAFETY CODE
- 3. UNDERWRITER'S LABORATORIES, INC., STANDARDS AND APPROVED LISTINGS
- 4. ELECTRICAL TESTING LABORATORIES STANDARDS 5. NORTH CAROLINA STATE BUILDING CODE, LATEST EDITION AND REVISIONS
- 6. ALL LOCAL CODES AND ORDINANCES 7. NFPA 72
- 8. ADA
- B. THE CONTRACTOR SHALL OBTAIN ALL PERMITS, LICENSES, INSPECTIONS, ETC., REQUIRED FOR THE WORK AND SHALL PAY FOR SAME. THE CONTRACTOR SHALL FURNISH A FINAL CERTIFICATE OF INSPECTION AND APPROVAL FROM THE AUTHORITY HAVING JURISDICTION PRIOR TO ACCEPTANCE OF THE WORK.
- C. ALL WORK SHALL BE DONE BY SKILLED MECHANICS AND SHALL PRESENT A NEAT, TRIM AND WORKMANLIKE FINISH WHEN COMPLETED.
- D. COORDINATION: DO NOT SCALE ELECTRICAL DRAWINGS. LOCATIONS SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT MEASUREMENTS IN THE PLACEMENT OF EQUIPMENT, FIXTURES, OUTLETS, ETC. THE DRAWINGS DO NOT GIVE EXACT DETAILS AS TO ELEVATIONS AND LOCATIONS OF VARIOUS FITTINGS, CONDUIT, ETC., AND DO NOT SHOW ALL OFFSETS AND OTHER INSTALLATION DETAILS WHICH MAY BE REQUIRED.
- WORK WITH OTHER CONTRACTORS: THE ELECTRICAL CONTRACTOR SHALL MAKE FINAL ELECTRICAL CONNECTIONS FOR ALL PLUMBING AND HVAC EQUIPMENT. MATERIALS: ALL MATERIALS SHALL BE NEW AND SHALL BEAR THE MANUFACTURER'S NAME, TRADE NAME, AND UL LABEL WHERE SUCH A STANDARD HAS BEEN ESTABLISHED FOR THE PARTICULAR MATERIAL. MATERIALS SHALL BE THE STANDARD PRODUCTS OF MANUFACTURER'S REGULARLY ENGAGED IN THE MANUFACTURE OF THE REQUIRED TYPE OF EQUIPMENT AND THE MANUFACTURER'S LATEST APPROVED DESIGN. OTHER MATERIALS AND EQUIPMENT TO BE AS SHOWN ON THE DRAWINGS. WHERE NO SPECIFIC MATERIAL TYPE IS MENTIONED, A HIGH-QUALITY PRODUCT OF A REPUTABLE MANUFACTURER MAY BE USED
- PROVIDED IT CONFORMS TO THE REQUIREMENTS OF THESE SPECIFICATIONS. G. ELECTRICAL DISTRIBUTION SYSTEM TESTS
- 1. ALL CURRENT CARRYING PHASE CONDUCTORS AND NEUTRALS SHALL BE TESTED AS INSTALLED, AND BEFORE CONNECTIONS ARE MADE, FOR INSULATION RESISTANCE AND ACCIDENTAL GROUNDS. THIS SHALL BE DONE WITH A 500 VOLT MEGGER a. MINIMUM READINGS SHALL BE ONE MILLION (1,000,000) OR MORE OHMS FOR #6 WIRE AND SMALLER, 250,000 OHMS OR MORE FOR #4 WIRE OR LARGER BETWEEN CONDUCTORS
- AND BETWEEN CONDUCTOR AND THE GROUNDED METAL RACEWAY b. AFTER ALL FIXTURES, DEVICES AND EQUIPMENT ARE INSTALLED AND ALL CONNECTIONS COMPLETED TO EACH PANEL, THE CONTRACTOR SHALL DISCONNECT THE NEUTRAL FEEDER CONDUCTOR FROM THE NEUTRAL BAR AND TAKE A MEGGER READING BETWEEN THE NEUTRAL BAR AND GROUNDED ENCLOSURE. IF THIS READING IS LESS THAN 250,000 OHMS, THE CONTRACTOR SHALL DISCONNECT THE BRANCH CIRCUIT NEUTRAL WIRES FROM THIS NEUTRAL BAR. HE SHALL THEN TEST EACH ONE SEPARATELY TO THE PANEL AND UNTIL THE LOW READING ONES ARE FOUND. THE CONTRACTOR SHALL CORRECT TROUBLES, RECONNECT AND RETEST UNTIL AT LEAST 250,000 OHMS FROM THE NEUTRAL BAR TO THE GROUNDED PANEL CAN BE ACHIEVED WITH ONLY THE NEUTRAL FEEDER DISCONNECTED.
- c. THE CONTRACTOR SHALL CERTIFY IN WRITING THE ABOVE HAS BEEN DONE AND TABULATE THE MEGGER READINGS FOR EACH PANEL
- 2. TEST ALL SYSTEMS MODIFIED OR DISTURBED BY THIS CONSTRUCTION FOR PROPER OPERATION AND FUNCTION IN A MANNER APPROVED BY THE SYSTEM MANUFACTURER. PROVIDE WRITTEN CERTIFICATION OF ALL TESTS.
- THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR PROVIDING CODE CLEARANCES. SUBMITTALS: SUBMITTALS SHALL INCLUDE PRODUCT DATA FOR ALL MATERIALS SPECIFIED AND COMPONENT INDICATED INCLUDING EACH SAFETY SWITCH, ENCLOSED CIRCUIT BREAKER, LIGHTING FIXTURE, OVERCURRENT PROTECTIVE DEVICE, FIRE ALARM SYSTEM SURFACE RACEWAY, WIREWAY, RACEWAY FITTINGS, WIRING DEVICES AND ACCESSORIES. INCLUDE DIMENSIONS AND MANUFACTURERS TECHNICAL DATA ON FEATURES, PERFORMANCE, ELECTRICAL CHARACTERISTICS, RATINGS AND FINISHES.
- GUARANTEE: THE CONTRACTOR SHALL GUARANTEE THE MATERIALS AND WORKMANSHIP COVERED BY THESE DRAWINGS AND SPECIFICATIONS FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER. THE CONTRACTOR SHALL REPAIR AND/OR REPLACE ANY PARTS OF ANY SYSTEM THAT MAY PROVE TO BE DEFECTIVE AT NO ADDITIONAL COST TO THE OWNER WITHIN THE GUARANTEE PERIOD. K. EXISTING BUILDINGS AND CONSTRUCTION
- 1. THE CONTRACTOR IS CAUTIONED THAT WORK TO BE PERFORMED UNDER THIS CONTRACT IS TO BE ACCOMPLISHED IN AN EXISTING OCCUPIED BUILDING. ALL SUCH WORK SHALL BE SCHEDULED AND ARRANGED TO BE DONE AT THE CONVENIENCE OF THE OWNER SO AS NOT TO INTERFERE WITH, DISRUPT, OR DISTURB NORMAL OPERATIONS IN THE BUILDING. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE OWNER BEFORE PROCEEDING WITH WORK IN EXISTING BUILDINGS AND SHALL WORK IN EXISTING BUILDINGS ON SCHEDULE AS AGREED UPON WITH THE OWNER.
- 2. THE CONTRACTOR SHALL, AT ALL TIMES, PROVIDE SAFETY BARRIERS, PROTECTIVE DEVICES, SCREENING, DUST BARRIERS, ETC., AS REQUIRED TO MAINTAIN THE SAFETY AND COMFORT OF THE BUILDING'S PERSONNEL AND/OR OCCUPANTS IN OR NEAR HIS WORK ARFA
- 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANUP IN CONNECTION WITH HIS WORK IN EXISTING BUILDINGS. ALL DEMOLISHED EQUIPMENT AND MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. AT THE END OF EACH WORKING DAY, DEBRIS, BOXES, WASTE, ETC., SHALL BE REMOVED FROM THE BUILDINGS AND PROPERLY DISPOSED OF. CONTRACTOR EQUIPMENT, MATERIALS, ETC., MUST BE PROPERLY STORED, STACKED AND LOCATED AS INSTRUCTED BY THE OWNER.
- 4. THE CONTRACTOR SHALL DO ALL CUTTING, PATCHING, FINISHING, REPAIRING, PAINTING, ETC., NECESSARY FOR WORK TO BE INSTALLED IN EXISTING BUILDINGS. ALL FINISHES SHALL BE LEFT TO EQUAL FINISH AND CONDITION PRIOR TO CUTTING. NO CUTTING OF STRUCTURAL MEMBERS WILL BE ALLOWED. REMOVE/REPLACE EXISTING LAY-IN CEILING AS REQUIRED TO ACCOMPLISH WORK. ALL CUTTING OF WALLS, FLOORS, ROOFS, ETC., SHALL BE REPAIRED AND/OR REPLACED TO EQUAL FINISH PRIOR TO CUTTING. CORE DRILL ALL HOLES FOR PIPING AND CONDUIT. THE CONTRACTOR SHALL ROUTE PIPE, CONDUITS, DUCTWORK AND LOCATE EQUIPMENT AS APPROVED BY THE OWNER'S REPRESENTATIVE. ROUTINGS AND LOCATIONS SHALL BE FIRMLY ESTABLISHED AND APPROVED BEFORE PROCEEDING WITH ANY PHASE OF THE WORK.
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL DAMAGE TO THE EXISTING BUILDINGS, GROUNDS, WALKWAYS, PAVING, ETC., CAUSED BY THE WORK, THE CONTRACTOR AND/OR HIS PERSONNEL, AND/OR HIS EQUIPMENT IN THE ACCOMPLISHMENT OF THIS WORK. SUCH DAMAGES SHALL BE REPAIRED AND/OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER, TO FINISH EQUAL TO THAT FINISH PRIOR TO DAMAGE. THE OWNER'S REPRESENTATIVE SHALL BE THE JUDGE AS TO EQUAL FINISHES, ETC.
- 6. COORDINATE POWER OUTAGES WITH THE OWNER. REQUEST OUTAGES 24 HOURS IN ADVANCE.

260519 CONDUCTORS

- A. CONDUCTORS SHALL BE COPPER, MINIMUM SIZE #12. SIZES #10 AND #12 SHALL BE SOLID, #8 AND LARGER, STRANDED. INSULATION SHALL BE TYPE THW, THWN OR THHN FOR FEEDERS, TYPE THWN OR THHN FOR BRANCH CIRCUITS.
- B. CONDUCTORS SHALL BE COLOR CODED THROUGHOUT, SIZES #10 AND #12 SHALL BE FACTORY CODED, SIZES #8 AND LARGER MAY BE COLOR TAPED ON THE JOB. COLOR CODING SHALL BE: PHASE A - BLACK, PHASE B - RED, PHASE C - BLUE, NEUTRAL - WHITE, GROUND -GREEN FOR 120/208 VOLT SYSTEMS. COLOR CODING SHALL BE: PHASE A - BROWN, PHASE B -ORANGE, PHASE C - YELLOW, NEUTRAL - GREY, GROUND - GREEN FOR 277/480 VOLT SYSTEMS.
- C. CONDUCTORS SHALL MEET THE LATEST REQUIREMENTS OF NEMA AND IPCEA AND SHALL BE UL APPROVED.
- D. ALL CONDUCTORS SHALL BE CONTINUOUS WITHOUT SPLICE BETWEEN JUNCTION, OUTLET, DEVICE BOXES, ETC., UNLESS NOTED OTHERWISE. NO SPLICING WILL BE PERMITTED IN PANELBOARD CABINETS, SAFETY SWITCHES, ETC.

260526 GROUNDING

- A. ALL GROUNDING SHALL BE IN ACCORDANCE WITH ARTICLE 250 OF THE NEC. IN ADDITION THE FOLLOWING REQUIREMENTS SHALL BE MET:
- 1. GROUNDING CONDUCTORS SHALL BE INSTALLED AS TO PERMIT THE SHORTEST AND MOST DIRECT PATH FROM EQUIPMENT TO GROUND. ALL GROUND CONNECTIONS TO GROUND
- CONDUCTORS SHALL BE ACCESSIBLE. 2. EQUIPMENT GROUND CONTINUITY SHALL BE MAINTAINED THROUGH FLEXIBLE METAL CONDUIT.
- 3. ALL WIRING DEVICES EQUIPPED WITH GROUNDING CONNECTION SHALL BE SOLIDLY
- GROUNDED TO GROUND SYSTEM WITH GROUNDING CONDUCTORS. 4. THE FRAME OF ALL LIGHTING FIXTURES SHALL BE SECURELY GROUNDED TO THE EQUIPMENT GROUND SYSTEM WITH GROUNDING CONDUCTORS. 5. GROUNDING TYPE CONVENIENCE OUTLETS AND SWITCHES SHALL BE SOLIDLY GROUNDED
- TO EQUIPMENT GROUNDING SYSTEM WITH A GREEN COLORED INSULATED CONDUCTOR. ELECTRICAL CONNECTIONS SHALL BE CONTINUOUS FROM EQUIPMENT GROUND BUS IN PANELBOARD TO THE HEX NUT ON THE CONVENIENCE OUTLET OR SWITCH. 6. ALL CIRCUITS SHALL CONTAIN AN INSULATED, GREEN, COPPER GROUNDING CONDUCTOR
- SIZED IN ACCORDANCE WITH TABLE 250-122 OF THE NEC. GROUNDING CONDUCTORS SHALL BE CONNECTED TO EQUIPMENT GROUND BUS IN PANELBOARD AND SECURELY ATTACHED AND GROUNDED TO THE DEVICE OR ENCLOSURE AT THE OTHER END. 7. ALL EQUIPMENT ENCLOSURES, AND NON-CURRENT METALLIC PARTS OF ELECTRICAL
- EQUIPMENT, RACEWAY SYSTEMS, ETC., SHALL BE EFFECTIVELY AND ADEQUATELY BONDED TO GROUND.

260529 SUPPORTING DEVICES

- A. PROVIDE MATERIALS, SIZES, AND TYPES OF ANCHORS, FASTENERS AND SUPPORTS TO CARRY THE LOADS OF EQUIPMENT AND CONDUIT. CONSIDER WEIGHT OF WIRE IN CONDUIT WHEN SELECTING PRODUCTS. PROVIDE ADEQUATE CORROSION RESISTANCE. ANCHORS AND FASTENERS:
- 1. CONCRETE STRUCTURAL ELEMENTS: USE EXPANSION ANCHORS. 2. STEEL STRUCTURAL ELEMENTS: USE BEAM CLAMPS. 3. CONCRETE SURFACES: USE SELF DRILLING ANCHORS AND EXPANSION ANCHORS.
- 4. HOLLOW MASONRY, PLASTER, AND GYPSUM BOARD PARTITIONS: USE TOGGLE BOLTS. 5. SOLID MASONRY WALLS: USE EXPANSION ANCHORS.
- 6. SHEET METAL: USE SHEET METAL SCREWS OR BOLTS 7. WOOD ELEMENTS: USE WOOD SCREWS.
- INSTALL PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. PROVIDE ANCHORS, FASTENERS, AND SUPPORTS IN ACCORDANCE WITH NECA "STANDARD OF INSTALLATION"
- E. DO NOT FASTEN SUPPORTS TO PIPES, DUCTS, MECHANICAL EQUIPMENT, AND CONDUIT. DO NOT USE POWDER ACTUATED ANCHORS.
- G. OBTAIN PERMISSION FROM ARCHITECT/ENGINEER BEFORE DRILLING OR CUTTING STRUCTURAL MEMBERS.
- FABRICATE SUPPORTS FROM STRUCTURAL STEEL OR STEEL CHANNEL. RIGIDLY WELD MEMBERS OR USE HEXAGON HEAD BOLTS TO PRESENT NEAT APPEARANCE WITH ADEQUATE STRENGTH AND RIGIDITY. USE SPRING LOCK WASHERS UNDER ALL NUTS.
- I. INSTALL SURFACE_MOUNTED CABINETS AND PANELBOARDS WITH MINIMUM OF FOUR ANCHORS. J. IN WET AND DAMP LOCATIONS USE STEEL CHANNEL SUPPORTS TO STAND CABINETS AND
- PANELBOARDS ONE INCH (25 MM) OFF WALL. K. CONDUITS INSTALLED ON THE INTERIOR OF EXTERIOR BUILDING WALLS SHALL BE SPACED
- STRUTS USE SHEET METAL CHANNEL TO BRIDGE STUDS ABOVE AND BELOW CABINETS AND
- PANELBOARDS RECESSED IN HOLLOW PARTITIONS.

260533 RACEWAYS AND FITTINGS

- A. RACEWAYS SHALL BE RIGID GALVANIZED STEEL, ELECTRICAL METALLIC TUBING AND/OR SCHEDULE 40 PVC WITH APPROPRIATE FITTINGS. EMT FITTINGS SHALL BE HEX NUT STEEL
- COMPRESSION TYPE WITH INSULATED THROATS. B. MC CABLE WITH INSULATED GROUND CONDUCTOR MAY BE USED FOR BRANCH CIRCUITS. DO NOT USE WHERE SUBJECT TO PHYSICAL DAMAGE, OR WHERE EXPOSED TO CORROSIVE CONDITIONS
- C. FLEXIBLE METAL CONDUIT AND LIQUIDTIGHT FLEXIBLE METAL CONDUIT: UL APPROVED AND LABELED WITH HEX NUT STEEL FITTINGS.
- D. JUNCTION AND OUTLET BOXES FOR INTERIOR USE IN DRY LOCATIONS SHALL BE ZINC COATED OR CADMIUM PLATED SHEET STEEL, 4" SQUARE BY 2-1/8" DEEP, EXCEPT SINGLE WIRING DEVICE BOXES MAY BE SINGLE GANG.
- E. RACEWAYS, BOXES, FITTINGS, ETC., SHALL BE SOLIDLY FASTENED TO MASONRY WITH LEAD ANCHORS AND MACHINE SCREWS OR TOGGLE BOLTS. RACEWAYS SHALL BE FASTENED TO STRUCTURAL STEEL WITH BEAM CLAMPS, CONDUIT HANGERS, TRAPEZE HANGERS, OR OTHER APPROVED DEVICES.
- F. BOXES INSTALLED IN CONCEALED LOCATIONS SHALL BE SET FLUSH WITH THE FINISHED SURFACES AND SHALL BE PROVIDED WITH EXTENSION RINGS [OR PLASTIC COVERS] WHERE REQUIRED. BOXES SHALL BE RIGIDLY INSTALLED.
- G. RACEWAYS PASSING THROUGH RATED WALLS, FLOORS, ETC., SHALL BE INSTALLED IN ACCORDANCE WITH PUBLISHED UL CONFIGURATIONS.
- H. RACEWAYS SHALL BE SIZED AS SHOWN AND/OR AS REQUIRED BY THE NEC. MINIMUM SIZE

SHALL BE 1/2".

- I. RACEWAY AND BOX INSTALLATION: 1. OUTDOORS (EXPOSED): USE RIGID STEEL, IMC OR SCHEDULE 40 PVC. RIGID STEEL WHERE SUBJECT TO PHYSICAL DAMAGE.
- 2. OUTDOORS (CONCEALED): USE RIGID STEEL, IMC OR SCHEDULE 40 PVC. 3. INDOORS (EXPOSED): USE EMT, RIGID STEEL OR IMC. RIGID STEEL WHERE SUBJECT TO
- PHYSICAL DAMAGE. 4. INDOORS (CONCEALED): USE EMT. IMC OR RIGID STEEL). MC CABLE WITH INSULATED
- GROUND. INDOORS (WET AND DAMP LOCATIONS): USE RIGID STEEL. 5. BOXES AND ENCLOSURES a. INDOORS: NEMA 250, TYPE 1, EXCEPT IN DAMP AND WET LOCATIONS: NEMA 250, TYPE 4,
- STAINLESS STEEL OR NON-METALLIC
- b. OUTDOORS: NEMA 250, TYPE 3R.

260534 BOXES

- A. JUNCTION, SWITCH, RECEPTACLE AND OUTLET BOXES FOR INTERIOR USE IN DRY LOCATIONS SHALL BE ZINC COATED OR CADMIUM PLATED SHEET STEEL, 4" SQUARE AND 2-1/8" DEEP, UNLESS OTHERWISE INDICATED ON THE CONTRACT DRAWINGS. EXTERIOR AND EXPOSED BOXES SHALL BE CAST TYPE WITH HUBS. SMALLER AND SHALLOWER OUTLET BOXES WILL BE PERMITTED ONLY BY SPECIAL PERMISSION OF THE ARCHITECT/ENGINEER WHERE SUCH BOXES ARE NECESSARY DUE TO STRUCTURAL CONDITIONS ENCOUNTERED. WHERE LARGER JUNCTION BOXES ARE REQUIRED, THEY SHALL BE FABRICATED FROM NO. 10, 12, 14 OR 16 GAUGE SHEET STEEL AS REQUIRED BY THE UNDERWRITER'S LABORATORIES, INC., AND GALVANIZED AFTER FABRICATION.
- B. USE FLUSH MOUNTING OUTLET BOXES IN FINISHED AREAS AND FOR EXTERIOR DEVICES/LIGHT FIXTURES UNLESS NOTED OTHERWISE. USE STAMPED STEEL BRIDGES TO FASTEN FLUSH MOUNTING OUTLET BOX BETWEEN STUDS, CADDY RBS SERIES OR EQUIVALENT
- C. ALL JUNCTION BOXES SHALL HAVE SCREW FASTENED COVERS. OUTLET BOXES SHALL BE PROVIDED WITH EXTENSION PLASTER RINGS WHERE REQUIRED BY STRUCTURAL AND FINISH CONDITIONS
- D. SET WALL MOUNTED BOXES AT ELEVATIONS TO ACCOMMODATE MOUNTING HEIGHTS INDICATED AND SPECIFIED IN SECTION FOR OUTLET DEVICE. BOXES ARE SHOWN ON DRAWINGS IN APPROXIMATE LOCATIONS UNLESS DIMENSIONED. ADJUST BOX LOCATION UP TO 10 FEET (3 M) IF REQUIRED TO ACCOMMODATE INTENDED PURPOSE. INSTALL PULL BOXES AND JUNCTION BOXES ABOVE ACCESSIBLE CEILINGS AND IN UNFINISHED AREAS ONLY. COORDINATE MOUNTING HEIGHTS AND LOCATIONS OF OUTLETS MOUNTED ABOVE
- COUNTERS, BENCHES, AND BACKSPLASHES. INSTALL BOXES TO PRESERVE FIRE RESISTANCE RATING OF PARTITIONS AND OTHER ELEMENTS, USING APPROVED MATERIALS AND METHODS.

AWAY FROM THE WALL SURFACE A MINIMUM OF 1/4 INCH (65MM) USING "CLAMP-BACKS" OR

260553 IDENTIFICATION

- A. WIRE MARKERS 1. PROVIDE SPLIT SLEEVE TYPE WIRE MARKERS OR APPROVED EQUIVALENT ON EACH CONDUCTOR AT PANELBOARD GUTTERS, PULL BOXES, OUTLET AND JUNCTION BOXES, AND EACH LOAD CONNECTION. LEGEND: (1) POWER AND LIGHTING CIRCUITS: BRANCH CIRCUIT OR FEEDER NUMBER AS INDICATED ON DRAWINGS. (2) CONTROL CIRCUITS: CONTROL WIRE NUMBER AS INDICATED ON SCHEMATIC AND INTERCONNECTION DIAGRAMS ON DRAWINGS.
- 2. MULTIWIRE BRANCH CIRCUIT PHASE CONDUCTORS SHALL BE CLEARLY IDENTIFIED IN EACH BRANCH CIRCUIT PANELBOARD. ATTACH A YELLOW FLAG TYPE PLASTIC CABLE TIE TO EACH PHASE CONDUCTOR OF A MULTIWIRE BRANCH CIRCUIT AT APPROXIMATELY 2" FROM THE CIRCUIT BREAKER TERMINAL. INSTALL A YELLOW WITH BLACK LETTER IDENTIFICATION LABEL IN THE PANELBOARD DOOR STATING "YELLOW CABLE TIE FLAGS ON CONDUCTORS INDICATE THE CONDUCTOR IS PART OF A COMMON NEUTRAL MULTIWIRE BRANCH CIRCUIT. DO NOT MOVE CONDUCTOR TO ANOTHER BREAKER".
- IDENTIFICATION NAMEPLATES: FURNISH AND INSTALL ENGRAVED LAMINATED PHENOLIC NAMEPLATES FOR ALL SAFETY SWITCHES, PANELBOARDS AND ELECTRICAL EQUIPMENT SUPPLIED FOR IDENTIFICATION OF EQUIPMENT CONTROLLED, SERVED, PHASE, VOLTAGE ETC. NAMEPLATES SHALL BE SECURELY ATTACHED TO EQUIPMENT WITH METAL SCREWS AND SHALL IDENTIFY BY NAME THE EQUIPMENT CONTROLLED, ATTACHED, ETC. LETTERS SHALL BE APPROXIMATELY 1/4-INCH HIGH MINIMUM. EMBOSSED, SELF-ADHESIVE PLASTIC TAPE IS NOT ACCEPTABLE. NAMEPLATE MATERIAL COLORS SHALL BE BLACK SURFACE WITH
- WHITE CORE FOR THE NORMAL POWER SYSTEM. RECEPTACLE CIRCUIT IDENTIFICATION: PROVIDE ADHESIVE BACKED, LAMINATED PLASTIC RECEPTACLE DEVICE PLATE LABELS IDENTIFYING THE CIRCUIT FEEDING THE DEVICE. LABELS SHALL BE LABEL MACHINE PRINTED, BLACK LETTERING ON A CLEAR BACKGROUND, TO INDICATE PANEL AND CIRCUIT NUMBER AND SHALL BE CASIO, BROTHER, T&B OR APPROVED EQUAL. PRINT CIRCUIT NUMBER ON FLAG TYPE PLASTIC CABLE TIE WITH A PERMANENT MARKER (SHARPIE, ETC.) AND ATTACH TO CONDUCTORS IN OUTLET BOX. FLAG SHALL BE READILY VISIBLE UPON REMOVAL OF DEVICE PLATE. LOCATION: EACH RECEPTACLE DEVICE PLATE. APPLY CENTERED ON THE LOWER PORTION BELOW THE RECEPTACLE, PARALLEL TO THE LOWER SURFACE. LEGEND: TYPED LABELS TO INDICATE PANEL AND CIRCUIT NUMBER FEEDING THE DEVICE (I.E., RPA-24).

262416 PANELBOARDS

PROVIDE TYPED CIRCUIT DIRECTORY FOR EACH BRANCH CIRCUIT PANELBOARD. FINAL TYPED PANELBOARD DIRECTORIES INSTALLED IN THE PANELBOARD DOOR POCKET SHALL INCLUDE FINAL ACTUAL ROOM NAMES AND NUMBERS IN ADDITION TO THE GENERAL DESCRIPTION SHOWN ON THE PANEL SCHEDULES ON THE DRAWINGS. REVISE DIRECTORY TO REFLECT CIRCUITING CHANGES REQUIRED TO BALANCE PHASE LOADS.

262726 WIRING DEVICES

- A. PROVIDE HEAVY DUTY SPECIFICATION GRADE RECEPTACLES AND SWITCHES IN COLOR SELECTED BY THE ARCHITECT. ALL DEVICES SHALL BE RATED 20 AMPERES. PROVIDE MATCHING PLASTIC DEVICE PLATES. EXTERIOR RECEPTACLES SHALL BE WEATHER RESISTANT TYPE, GFI AND INSTALLED IN WEATHERPROOF WHILE-IN-USE COVER. OCCUPANCY SENSORS: OCCUPANCY SENSORS SHALL UTILIZE DUAL TECHNOLOGY SENSING ACCEPTABLE TECHNOLOGY IS PASSIVE INFRARED (PIR), ULTRASONIC AND MICROPHONIC. DUAL TECHNOLOGY IS REQUIRED UTILIZING PIR AND ONE OF THE OTHER TECHNOLOGIES. SENSORS SHALL AUTOMATICALLY ADJUST TIME DELAYS AND SENSITIVITY BASED ON THE ACTIVITY LEVEL IN THE SPACE. ALL SWITCHES SHALL BE APPROVED BY A THIRD-PARTY AGENCY, APPROVED FOR THE VOLTAGE AND CURRENT INDICATED. SENSORS SHALL BE
- COMPATIBLE WITH ALL LOAD TYPES, INCLUDING ELECTRONIC AND COMPACT FLUORESCENT BALLASTS, INCANDESCENT OR FLUORESCENT AND REQUIRE NO MINIMUM LOAD. 1. WALL SWITCH LINE VOLTAGE SENSORS FOR SMALL AREAS: LINE VOLTAGE, SINGLE GANG, WALL MOUNTED OCCUPANCY SENSOR SWITCH WITH ONE OVERRIDE SWITCH. SENSOR SHALL RECESS INTO SINGLE GANG SWITCH BOX AND FIT A STANDARD GFI RECEPTACLE PLATE OPENING. SWITCHES SHALL BE COMPATIBLE WITH STANDARD THREE AND FOUR-WAY TOGGLE SWITCHES. PROVIDE HARD LENS SWITCHES IN STORAGE ROOMS AND OTHER LOCATION SUBJECT TO ABUSE. ADJUSTABLE TIME DELAY OF 20 MINUTES, 180
- DEGREE FIELD OF VIEW, MINIMUM COVERAGE AREA OF 900 SF. VOLTAGE: 120-277 VOLTS AC, MINIMUM LOAD RATING 800 WATTS AT 120 VAC, 1200 WATTS AT 277 VAC. HUBBELL AT120 OR AT277 OR EQUAL BY SENSOR SWITCH OR WATTSTOPPER. 2. CEILING MOUNTED LOW VOLTAGE SENSORS FOR LARGE AREAS: LOW VOLTAGE, RECESS CEILING MOUNTED OCCUPANCY SENSOR SWITCH SHALL OPERATE IN CONJUNCTION WITH A
- LINE VOLTAGE POWER PACK TO CONTROL THE CONNECTED LIGHTING LOADS. SENSORS SHALL OPERATE ON A CLASS 2, THREE-CONDUCTOR CABLE SYSTEM. MULTIPLE SENSORS SHALL BE CONNECTABLE TO A SINGLE POWER PACK. SENSOR SHALL RECESS INTO A TWO GANG OUTLET BOX. ADJUSTABLE TIME DELAY OF 1 - 15 MINUTES. HUBBELL ATD1000C OR ATD500C FOR SPACES LESS THAN 500 SQUARE FEET, OR EQUAL BY SENSOR SWITCH OR WATTSTOPPER. POWER PACKS SHALL BE RATED 20A AT 120-277 VOLTS AND SHALL BE COMPATIBLE WITH ALL LOAD TYPES, INCLUDING ELECTRONIC AND COMPACT FLUORESCENT BALLASTS, INCANDESCENT OR FLUORESCENT, THEY SHALL HAVE THE CAPACITY TO POWER ADDITIONAL REMOTE HEADS OR ADDITIONAL RELAYS. POWER PACKS MAY BE PARALLELED TO ACCOMMODATE EXTRA LOAD OR MORE THAN THREE HEADS OR ADDITIONAL RELAYS. ADDITIONAL RELAY SHALL BE USED WHERE THERE IS MORE THAN ONE CIRCUIT BEING CONTROLLED OR WHERE THERE IS A NEED TO CONTROL MULTIPLE VOLTAGES. HUBBELL CUL20A -(120V) OR HUBBELL CU277A-(277V) (ADDITIONAL RELAY FOR MULTIPLE CIRCUIT APPLICATIONS HUBBELL AAR), OR EQUAL BY SENSOR SWITCH OR WATTSTOPPER.

262817 CIRCUIT BREAKERS

- A. ENCLOSED CIRCUIT BREAKERS SHALL BE MOLDED CASE, UL LISTED, BOLT-ON TYPE AND SHALL BE RATED AS SHOWN ON THE DRAWINGS WITH APPROPRIATE WITHSTAND RATINGS AND CURRENT LIMITING CHARACTERISTICS AS REQUIRED TO SAFELY FUNCTION AND PROTECT THE DISTRIBUTION SYSTEM. ACCESSORIES SHALL BE PROVIDED AS NOTED OR REQUIRED AND SHALL BE UL LISTED AND FIELD INSTALLABLE.
- B. CIRCUIT BREAKERS INDICATED TO BE INSTALLED IN EXISTING PANELBOARDS SHALL BE MOLDED CASE, UL LISTED AND SHALL BE RATED AS SHOWN ON THE DRAWINGS. PROVIDE ALL NECESSARY MOUNTING HARDWARE AND ACCESSORIES AS REQUIRED TO INSTALL NEW CIRCUIT BREAKERS. NEW CIRCUIT BREAKERS SHALL MATCH EXISTING TYPES INSTALLED AND BE RATED CONSISTENT WITH THE EXISTING EQUIPMENT TO MAINTAIN EQUIPMENT RATINGS. ACCESSORIES SHALL BE PROVIDED AS NOTED OR REQUIRED AND SHALL BE UL LISTED AND FIELD INSTALLABLE.
- C. CIRCUIT BREAKERS SHALL BE MANUFACTURED BY CUTLER HAMMER, GENERAL ELECTRIC, SIEMENS OR SQUARE D.

265100 LIGHTING FIXTURES

- A. LIGHTING FIXTURE TYPES SHALL BE FURNISHED AS REQUIRED BY THE LIGHTING FIXTURE SCHEDULE AS INDICATED ON THE DRAWINGS. CATALOG NUMBERS ARE PROVIDED AS A GUIDE TO THE DESIGN AND QUALITY OF FIXTURE DESIRED. EQUIVALENT DESIGNS AND EQUAL QUALITY FIXTURES OF OTHER MANUFACTURERS LISTED WILL BE ACCEPTABLE UPON APPROVAL OF THE ARCHITECT/ENGINEER. THE CONTRACTOR SHALL VERIFY FROM THE CONTRACT DRAWINGS THE TYPE CEILINGS OR WALLS THE FIXTURE IS TO BE USED WITH AND SHALL PROVIDE COMPATIBLE MOUNTING ATTACHMENTS AND TRIM. PROVIDE ALL ACCESSORIES OR ADDITIONAL MATERIALS REQUIRED TO MAINTAIN THE CEILING FIRE RATING AS REQUIRED BY REGULATORY AUTHORITIES.
- B. ALL FIXTURES SHALL BE INSTALLED COMPLETE WITH LAMPS.

- ASSEMBLIES AND LUMINAIRES SHALL CONFORM TO IES LM 79-08.
- CLASS A STANDARDS FOR EMI. MINIMUM DRIVER SPECIFICATIONS: 1. POWER FACTOR ≥ 90% 2. EFFICIENCY ≥ 90%
- 3. CURRENT CREST FACTOR 1.5 MINIMUM. 4. TOTAL HARMONIC DISTORTION < 20% 5. RATED LIFE - 50,000 HOURS.
- REPLACEMENT FOR FIVE YEARS FROM THE DATE OF FINAL ACCEPTANCE.
- LED MODULES IN WHICH MORE THAN 5% OF THE LEDS HAVE FAILED LAMPS AT FINAL ACCEPTANCE OF THE WORK.

265200 EMERGENCY AND EXIT LIGHTING FIXTURES

- A. EMERGENCY AND EXIT LIGHTING FIXTURES SHALL BE SELF CONTAINED UNITS AS REQUIRED BY REGULATORY AUTHORITIES.
- FINAL INSPECTION OF THE PROJECT FOR ACCEPTANCE.
- THE BATTERY, AND ALSO EXERCISE THE TRANSFER RELAY.
- DOCUMENT.

270510 TELEPHONE AND DATA

COMBINATION TELEPHONE AND DATA OUTLETS SHALL BE PROVIDED AS SHOWN AND SHALL CONSIST OF RJ-45 JACKS IN A NYLON DEVICE PLATE, COLOR TO MATCH EXISTING, INSTALLED ON A 4" SQUARE X 2 1/8" DEEP BOX WITH 1-1/4" (MINIMUM) CONDUIT TO THE ACCESSIBLE CEILING CAVITY. FOR EACH OUTLET, PROVIDE TWO CAT 6 DATA CABLE(S) TO THE PATCH PANEL ON THE RACK IN THE TELEPHONE/DATA CLOSET. PROVIDE J HOOK CABLE SUPPORTS AT 4' MAXIMUM INTERVALS TO THE TELEPHONE/DATA CLOSET. COORDINATE EXACT CONNECTION DETAILS WITH THE OWNER. TERMINATE ALL CABLES AND TEST TO CAT 6 PERFORMANCE CRITERIA. LABEL ALL CABLES AND JACKS TO CONFORM TO THE OWNER'S EXISTING LABELING SCHEME AND AS REQUIRED BY THE OWNER. PROVIDE WRITTEN TEST RESULTS TO THE ARCHITECT/ENGINEER. INSTALLATION PERSONNEL SHALL BE MANUFACTURER CERTIFIED FOR THE WORK PERFORMED. ALL UTP END-TO-END CHANNEL CONFIGURATIONS AS DEFINED BY TIA 568B-1.2.3 SHALL BE PROVIDED BY A SINGLE MANUFACTURER. PROVIDE PATCH CORDS (COLOR PROVIDED BY OWNER) IN ADEQUATE QUANTITY FOR ACTIVE AND 25% SPARE CIRCUITS. PROVIDE SUITABLE CORD LENGTHS FOR EACH DATA OUTLET (6 FOOT MINIMUM) AND FOR ALL PATCH PANEL JACKS. NETWORK DATA CABLE SHALL BE CAT 6 (COLOR PER OWNER) PLENUM RATED. THE CONTRACTOR SHALL PROVIDE A 20 YEAR CABLING EXTENDED PRODUCT WARRANTY.

283111 FIRE ALARM SYSTEM

- ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE.
- SEPARATE PERMIT MUST BE OBTAINED PRIOR TO INSTALLATION.

C. LED SOURCES SHALL BE HIGH INTENSITY WHITE, SINGLE COLOR AS NOTED. PROVIDE WHITE LEDS IN THE COLOR TEMPERATURE(S) SPECIFIED. THE COLOR TEMPERATURE IN ALL LAMPS OF THE SAME TYPE SHALL BE CONSISTENT AND REMAIN SO OVER THE LIFE OF THE LAMP. COLOR CONSISTENCY BETWEEN LAMPS SHALL CONFORM TO ANSI NEMA ANSLG STANDARD C78.377-2008. THE CONTRACTOR SHALL REPLACE LAMPS/FIXTURES EXHIBITING INCONSISTENT LAMP COLOR. MINIMUM LUMEN MAINTENANCE SHALL BE 70% OF RATED INITIAL LUMEN OUTPUT AT 50,000 HOURS OF OPERATION. MEASUREMENT OF LUMEN

MAINTENANCE SHALL BE IN ACCORDANCE WITH ISED LM-80-09. THE LAMP AND/OR LUMINARE MANUFACTURER SHALL PROVIDE A MINIMUM OF FIVE YEAR WARRANTY FROM THE DATE OF FINAL ACCEPTANCE AGAINST PREMATURE FAILURE, DISCOLORATION AND DEFECTS. THE COLOR OR COLOR TEMPERATURE OF THE REPLACEMENT LED LAMPS SHALL MATCH THOSE OF THE SAME LAMP TYPES THAT REMAIN IN OPERATION. THE MINIMUM COLOR RENDERING INDEX OF WHILE LEDS SHALL BE 80. ELECTRICAL AND PHOTOMETRIC PERFORMANCE OF LED

D. LED DRIVERS: PROVIDE HIGH FREQUENCY ELECTRONIC TYPE WITH THE SECONDARY VOLTAGE MATCHING THOSE REQUIRED BY THE LED SOURCE THEY OPERATE. DRIVERS SHALL OPERATE WITH A 0F - 140F AMBIENT TEMPERATURE RANGE AND SHALL COMPLY WITH FCC

MANUFACTURERS SHALL HAVE BEEN MANUFACTURING LED DRIVERS FOR AT LEAST TEN YEARS WITH A DOCUMENTABLE LOW FAILURE RATE. THE CONTRACTOR SHALL PROVIDE A WRITTEN WARRANTY AGAINST DEFECTS IN MATERIAL AND WORKMANSHIP, INCLUDING RELAMP LUMINAIRES THAT HAVE FAILED LAMPS AT SUBSTANTIAL COMPLETION. REPLACE

AUTOMATICALLY ACTIVATED WHEN THE LINE VOLTAGE DROPS BELOW 80% AND SHALL COMPLY WITH UL 924, NFPA 101 - LIFE SAFETY CODE, NFPA 70 - NEC AND THE NCSBC. LIGHTING FIXTURE TYPES SHALL BE FURNISHED AS REQUIRED BY THE LIGHTING FIXTURE SCHEDULE AS INDICATED ON THE DRAWINGS. CATALOG NUMBERS ARE PROVIDED AS A GUIDE TO THE DESIGN AND QUALITY OF FIXTURE DESIRED. EQUIVALENT DESIGNS AND EQUAL QUALITY FIXTURES OF OTHER MANUFACTURERS LISTED WILL BE ACCEPTABLE UPON APPROVAL OF THE ARCHITECT/ENGINEER. THE CONTRACTOR SHALL VERIFY FROM THE CONTRACT DRAWINGS THE TYPE CEILINGS OR WALLS THE FIXTURE IS TO BE USED WITH AND SHALL PROVIDE COMPATIBLE MOUNTING ATTACHMENTS AND TRIM. PROVIDE ALL ACCESSORIES OR ADDITIONAL MATERIALS REQUIRED TO MAINTAIN THE CEILING FIRE RATING

ALL FIXTURES SHALL BE COMPLETELY SELF-CONTAINED, PROVIDED WITH MAINTENANCE FREE BATTERY, AUTOMATIC CHARGER AND OTHER FEATURES. THEY SHALL BE INSTALLED COMPLETE WITH LAMPS, BATTERIES, ETC. WHICH SHALL BE NEW AND UNUSED AT TIME OF

C. ALL FIXTURES SHALL HAVE SELF-DIAGNOSTICS. ELECTRONICS SHALL AUTOMATICALLY, OR MANUALLY UPON DEMAND, CONDUCT SELF TEST ON BATTERY CONDITION (INCLUDING ACTUAL DISCHARGE), CHARGER, LAMPS AND INTERNAL WIRING INTEGRITY PER NEC AND NFPA AT PRESCRIBED INTERVALS. A PILOT LIGHT SHALL INDICATE THE UNIT IS CONNECTED TO AC POWER. PROVIDE TEST SWITCH AND VISUAL INDICATOR(S) OF UNIT OPERATIONAL CONDITION INCLUDING CHARGER STATUS, READY AND SERVICE CODE. TEST SWITCH SHALL SIMULATE OPERATION OF THE UNIT UPON LOSS OF AC POWER BY ENERGIZING LAMPS FROM

WARRANTY: EACH UNIT SHALL BE WARRANTED FOR THREE YEARS. THE BATTERY SHALL HAVE AN ADDITIONAL TWO MORE YEARS PRO-RATED WARRANTY. WARRANTY SHALL DATE FROM THE DATE OF FINAL PROJECT ACCEPTANCE AND BE INCLUDED IN THE CONTRACT

A. MODIFY THE EXISTING FIRE ALARM SYSTEM AS SHOWN. THE CONTRACTOR SHALL FURNISH ALL PARTS, MATERIALS, LABOR, ACCESSORIES, CONNECTIONS, EQUIPMENT, PROGRAMMING, ETC. REQUIRED TO MODIFY THE SYSTEM AND MAINTAIN CODE COMPLIANCE IN ACCORDANCE WITH ALL APPLICABLE REQUIREMENTS, EVEN IF EACH NEEDED ITEM IS NOT SPECIFICALLY SHOWN OR DESCRIBED ON THE CONTRACT DRAWINGS OR SPECIFICATIONS. PROVIDE ALL DOCUMENTATION. TESTING AND CERTIFICATION SERVICES AS REQUIRED BY ALL PERTINENT

CODES AND THE AUTHORITY HAVING JURISDICTION (AHJ). ALL WORK SHALL BE IN COMPLIANCE WITH NFPA 70 AND 72 AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. ALL EQUIPMENT SUPPLIED SHALL BE LISTED FOR THE PURPOSE FOR WHICH IT IS USED AND INSTALLED IN ACCORDANCE WITH ANY INSTRUCTIONS INCLUDED IN ITS LISTING. IT SHALL ALSO BE NEW, WITH A FULL WARRANTY (PARTS AND LABOR) OF AT LEAST

B. SHOP DRAWINGS MUST BE SUBMITTED BY THE FIRE ALARM CONTRACTOR COMPLYING WITH THE FIRE ALARM PLAN REVIEW REQUIREMENTS POLICY - JANUARY 2006 BEFORE PERMITTING BY THE WILMINGTON FIRE DEPARTMENT. THESE DRAWINGS DO NOT CONSTITUTE APPROVAL AND MAY CHANGE AFTER A FULL REVIEW BY THE WILMINGTON FIRE DEPARTMENT. A

enetrant Item	Nominal Penetrant Diameter	Annular Space	Movement	Sealant Depth	F-Rating	L Rating with Movement
2A, 2C*	2 in.	Max 2-1/4 in	. 5%	5/8 in.	1 hr	N/A
2A, 2C*	2 in.	2-1/4 in.	0.25 in.	5/8 in.	1 hr	N/A

NOT TO SCALE

Existing Panel C									Revised P
TYPE: GE A-SERIES II TYPE AF31SP	480 MOUNT:	277 SURFACE	VOLTS	3 PHASE, 4	WIRE		PROVIDED	XX EQUIPMENT GROUND BUS XX 100 % NEUTRAL BUS	GE A-SERIES II TYPE AF:
	NEMA -	1 CKT BKR	ENCLO	OSURE PHASE LOAD VA	СКТ	CKT BKR	LOAD	ISOLATED GROUND BAR	
LOAD SERVED LTG:301,310	VA	TRIP/POLES	# 1	A B C 0	#	TRIP/POLES 60/3	S VA	LOAD SERVED PANEL SC	LOAD SERVED LTG:301,310
LTG: 303,311-324 SPARE		20/1 20/1	3 5	0 0	4				LTG: 303,311-324 LTG: 325-336 (NOTE 2)
SPARE SPARE		20/1 20/1	7 9 11	0 0	8 10	20/1 20/1		SPARE SPARE	SPARE SPARE
SPACE SPACE SPACE		-	13 15		12	-		SPACE SPACE SPACE	SPACE SPACE
SPACE SPACE		-	17 19	0	18 20	-		SPACE SPACE	SPACE SPACE
SPACE SPACE		-	21 23	0	22 24	-		SPACE SPACE	SPACE SPACE
SPACE SPACE		-	25 27	0 0	26 28	-		SPACE SPACE	SPACE SPACE
SPACE NOTES (AS APPLICABLE):		-	29		30 TTL P	- HASE VA	125	SPACE	NOTES (AS APPLICABLE
				#DIV/0! #DIV/0! #DIV/0	PHAS	E BALANCE	18	KAIC MINIMUM RATING	2. UTILIZE EXISTING BR 3. EXISTING LOADS ARE
Existing Panel SC									Revised P
TYPE:	208	120	VOLTS	3 PHASE, 4	WIRE		PROVIDED	XX EQUIPMENT GROUND BUS	TYPE:
GE A-SERIES II TYPE AF43SP	FEED:	BOTTOM					IF CHECKED	XX 100 % NEUTRAL BUS	GE A-SERIES II TYPE AF4
LOAD SERVED	LOAD	CKT BKR	CKT	PHASE LOAD VA	СКТ #	CKT BKR	LOAD VA		LOAD SERVED
RCPS: 301,324 EWC		20/1 20/1	1 3	624 624	2 4	15/2	624 624	CC'S	RCPS: 301,324 EWC
RCPS: RESTROOMS RCPS: 311		20/1 20/1	5 7	624 624	6 8	15/2 	624 624	CC'S	RCPS: RESTROOMS RCPS: 311
RCPS: 312,313,319 RCPS: 313,314,323		20/1 20/1	9 11	0 0	10 12	20/1 20/1		SPARE RCPS: 301,308,309	RCPS: 312,313,319 RCPS: 313,314,323
RCPS: 315,319,323 RCPS: COPIER 319		20/1 20/1	13 15	0 0	14 16	20/1 20/1		RCP: RAINBIRD SPARE	RCPS: 315,319,323 RCPS: COPIER 319
RCPS: 314,315,316 RCPS: 316,317		20/1 20/1	17 19	0	18 20	20/1 20/1		SPARE SPARE	RCPS: 314,315,316 RCPS: 316,317
RCPS: 303,319,321 RCPS: 303,316,320		20/1 20/1	21 23	0	22 24	20/1 20/1		SPARE SPARE	RCPS: 303,319,321 RCPS: 303,316,320
RCPS: 320 RCPS: 320 RCPS:		20/1	25 27 29	0	20 28 30	20/1 20/1 20/1		SPARE SPARE SDARE	RCPS: 320 RCPS: 320 RCPS: 320
SPARE SPARE		20/1	31 33		30 32 34	20/1 20/1 20/1		SPARE SPARE	SPARE SPARE
SPARE		20/1 20/1	35 37	0	36 38	20/1		SPARE SPACE	SPARE SPARE
SPACE SPACE		-	39 41	0 0	40 42	-		SPACE SPACE	SPACE SPACE
NOTES (AS APPLICABLE):				1,248 624 624 10 5 5	TTL P	HASE VA HASE AMPS	225 150	A. BUS (COPPER, UNO) A. MAIN CIRCUIT BREAKER	NOTES (AS APPLICABLE) 1. COORDINATE CIRCUI
				50% 25% 25%	PHAS	E BALANCE	10	KAIC MINIMUM RATING	2. UTILIZE EXISTING BR 3. EXISTING LOADS ARE
Existing Panel M									
TYPE: GE A-SERIES II TYPE ADF3424MBX	480 MOUNT:	277 SURFACE	VOLTS	3 PHASE, 4	WIRE		PROVIDED	XX EQUIPMENT GROUND BUS XX 100 % NEUTRAL BUS	
	FEED: NEMA -	BOTTOM 3R		DSURE			CHECKED	ULSE LABEL ISOLATED GROUND BAR	
LOAD SERVED	LOAD VA	CKT BKR TRIP/POLES	CKT #	PHASE LOAD VA A B C	СКТ #	CKT BKR TRIP/POLES	LOAD VA	LOAD SERVED	
PANEL G	14,958			14,958 14,958 14,404					
HP-4	9,179	50/3	1	17,094	2	50/3	7,915	HP-1	
SPARE	9,179	25/3	5 7	0 17,094	6 8	25/3	7,915	I SPARE	
			9 11	0	10 12			 	
HP-2A	5,540 5,540	40/3	13 15	10,526 10,526	14 16	35/3 	4,986 4,986	HP-6A 	
HP-2B	3,324	25/3	17 19 21	8,864 8,864	18 20 22	40/3	4,986 5,540	 HP-6B	
 HP.34	3,324	10/3	21 23 25	8,864	22	 50/3	5,540 5,540 7 915	 	
	5,540		20 27 29	13,455	28 30		7,915		
HP-3B	3,324 3,324	25/3	31 33	3,324 3,324	32 34	25/3 		SPARE	
 SPD	3,324	 30/3	35 37	0 3,324	36 38	 -		I SPACE	
			39 41	0 0	40 42	-		SPACE SPACE	
NOTES (AS APPLICABLE):				68,221 68,221 67,667 246 246 244 33% 33% 33%	TTL P TTL P	HASE VA HASE AMPS	400 400 35	A. BUS (COPPER, UNO)	
					11#10				
Revised Panel M	100	077					2201/1222		_
GE A-SERIES II TYPE ADF3424MBX	480 MOUNT:	SURFACE		3 PHASE, 4	WIRE			XX EQUIPMENT GROUND BUS XX 100 % NEUTRAL BUS	
	NEMA -	3R CKT BKR		DSURE PHASE LOAD VA	СКТ	CKT BKR	LOAD	ISOLATED GROUND BAR	
LOAD SERVED PANEL G	VA 14,958	TRIP/POLES	#	A B C 14,958	#	TRIP/POLES	S VA	LOAD SERVED	_
	14,958 14,404			14,958 14,404					
HP-4	9,179 9,179	50/3 	1 3	17,094 17,094	2 4	50/3 	7,915 7,915	HP-1	
 SPARE	9,179	25/3	5 7	0 17,094	6 8	25/3	7,915	l SPARE	
	EEAO		9 11	0 0	10 12		1.000		
nr-zA	5,540 5,540	40/3	13 15 17	10,520	14 16	35/3 	4,986 4,986 4 086		_
HP-2B	3,324	25/3	11/ 19 21	8,864 8,864	18 20 22	40/3	5,540	HP-6B	
	0.024		23	8,864	24	1 50/3	5,540		
HP-3 (NOTE 2)	3,324 7,915	50/3	25	13,030			.,010	HP-5	
HP-3 (NOTE 2)	3,324 7,915 7,915 7,915 7,915	50/3 	25 27 29	15,830 15,830 15.830	28 28 30		7,915 7,915	HP-5	
HP-3 (NOTE 2) SPARE (NOTE 3)	3,324 7,915 7,915 7,915	50/3 1 1 25/3	25 27 29 31 33	15,830 15,830 0 0 0	28 30 32 34	 25/3	7,915 7,915	HP-5 SPARE	
HP-3 (NOTE 2) I SPARE (NOTE 3) I SPD	3,324 7,915 7,915 7,915 7,915	50/3 I 25/3 I I 30/3	25 27 29 31 33 35 35 37	15,830 15,830 0 0 0 0 0 0	23 28 30 32 34 36 38	 25/3 -	7,915 7,915	HP-5 I SPARE I SPACE	
HP-3 (NOTE 2) HP-3 (NOTE 2) I SPARE (NOTE 3) I SPD I I NOTE0 (10.155)	3,324 7,915 7,915 7,915	50/3 I I I 25/3 I I 30/3 I I	25 27 29 31 33 35 37 39 41	15,830 15,830 0	23 28 30 32 34 36 38 40 42	 25/3 - -	7,915 7,915	HP-5 I SPARE I I SPACE SPACE SPACE	

nel C											480V EQUIPMENT LOAD SUM	IMARY	208/120V EQUIP. LOAD SUM	MARY
	480	277		3	PHASE	4	WIRF		PROVIDED			PHASE		PHASE
SP	MOUNT:	SURFACE				.			IF	XX 100 % NEUTRAL BUS	480	3	208	3
	FEED:	BOTTOM	1						CHECKED	ULSE LABEL	LOADS REMOVED THIS PROJECT	v .	LOADS REMOVED THIS PROJECT	_
	NEMA -	1	ENCLO	OSURE						ISOLATED GROUND BAR				
	LOAD	CKT BKR	CKT	PH/	ASE LOAD	VA	СКТ	CKT BKR	LOAD			26 592 \/A		2 496 \/A
	VA	TRIP/POLES	#	A	В	С	#	TRIP/POLES	VA	LOAD SERVED		20,002 VA		2,400 VA
	1,920	20/1	1	11,494	12,966		2	60/3	9,574	PANEL SC		32 AIVIFS	TOTAL TWAC EQUIPMENT REMOVED THIS PROJECT	/ AIVIFS
	934	20/1	5		12,000	11.562	6		10.628			00 41100		7 41450
		20/1	7	0		.,	8	20/1		SPARE		32 AMPS		7 AMPS
		20/1	9		0		10	20/1		SPARE	TOTAL LOAD REMOVED THIS PROJECT	26,592 VA	TOTAL LOAD REMOVED THIS PROJECT	2,496 VA
		-	11			0	12	-		SPACE				
		-	13	0			14	-		SPACE	LOAD ADDED THIS PROJECT		LOAD ADDED THIS PROJECT	
		-	15		0	0	16	-		SPACE			HVAC	
		-	17	0		0	18	-		SPACE	HP-3	23,745 VA	AH'S	1,217 VA
		-	21	0	0		22	-		SPACE	SUB-TOTAL HVAC DEMAND	23,745 VA	HR'S	291 VA
		-	23		-	0	24	-		SPACE	SUB-TOTAL HVAC DEMAND	29 AMPS	SUB-TOTAL HVAC DEMAND	1,508 VA
		-	25	0			26	-		SPACE			SUB-TOTAL HVAC DEMAND	4 AMPS
		-	27		0		28	-		SPACE	LIGHTING		11	
		-	29	44.45.1	10.005	0	30	-		SPACE	LIGHTS (INTERIOR)	1,024 VA	RECEPTACLES	11,380 VA
				11,494	12,966	11,562			125		TOTAL LIGHTING LOAD	1,024 VA	FIRST 10000VA	10,000 VA
	EQUIPIVIEN I.			41 32%	47 36%	42 32%		HASE AMPS	100	A. WAIN LUGS AND/OK FEEDER RATING	LIGHTING LOAD x 1.25	1,280 VA	REMAINDER @ 50%	690 VA
STIMATED.				JZ /0	5070	JZ /0	I NASE				TOTAL DEMAND FOR LIGHTING	2 AMPS	TOTAL DEMAND FOR RECEPTACLE/POWER PANFI S	10,690 VA
													TOTAL DEMAND FOR RECEPTACIE/POWER PANELS	30 AMPS
nol SC											TOTAL LOAD ADDED THIS PROJECT	30 AMPS		
											TOTAL LOAD ADDED THIS PROJECT	25,025 VA		34 AMPS
	208	120	VOLTS	3	PHASE,	4	WIRE		PROVIDED	XX EQUIPMENT GROUND BUS		- /		12.198 VA
SP	MOUNT:	SURFACE	-						IF	XX 100 % NEUTRAL BUS	NET LOAD CHANGED THIS PROJECT	-2 AMPS		12,100 VA
												-1.567 \/A	NET LOAD CHANGED THIS PROJECT	27 AMPS
	LOAD	CKT BKR	CKT	PH	ASE LOAD '	VA	CKT	CKT BKR	LOAD	INCLATED GROUND DAR		·,••• VA		9702 VA
	VA	TRIP/POLES	#	Α.	B	С	#	TRIP/POLES	VA	LOAD SERVED				0,102 VA
	1,080	20/1	1	1,486			2	15/2	406	AH'S & HR'S (NOTE 2)				
	1,080	20/1	3		1,486		4		406	1				
	1,080	20/1	5	4.400		1,428	6	15/2	348	AH'S & HR'S (NOTE 2)	_1			
	1,080	20/1	7	1,428	1 800		8	20/4	348	 				
	1 080	20/1	9 11		1,000	2 160	10	20/1	1 080	RCPS: 301.308.309	-1			
	1,080	20/1	13	2,160		2,100	14	20/1	1,080	RCP: RAINBIRD	-1			
	1,080	20/1	15		2,700		16	20/1	1,620	RCPS: 330 (NOTE 2)	-1			
	1,080	20/1	17			2,180	18	20/1	1,100	RCP: COPIER 331 (NOTE 2)				
	1,080	20/1	19	1,620			20	20/1	540	RCPS: 331 (NOTE 2)				
	1,080	20/1	21		2,180	4.000	22	20/1	1,100	RCPS PRINTER 331 (NOTE 2)	_1			
	1,080	20/1	23	1 0 9 0		1,980	24	20/1	900	KUPS: 332 (NOTE 2)				
	1,080	20/1	25 27	1,980	1.980		26 28	20/1	900	RCPS: 325 (NOTE 2)	-1			
	1.080	20/1	21		1,300	1,980	30	20/1	900	RCPS: 326 (NOTE 2)	-1			
	.,	20/1	31	900		.,	32	20/1	900	RCPS: 327 (NOTE 2)	-1			
		20/1	33		900		34	20/1	900	RCPS: 328 (NOTE 2)	-1			
		20/1	35			900	36	20/1	900	RCPS: 329 (NOTE 2)				
		20/1	37	0			38	-		SPACE				
		-	39		0		40	-		SPACE				
		-	41	0.571	44.042	0	42	-						
				9,574	11,046	10,628	TTL PH	HASE VA	225	A. BUS (COPPER, UNO)				
				00	00	00			450					
BREAKER TRIP WITH E	EQUIPMENT.			80 31%	92 35%	89 34%	TTL PH	HASE AMPS	150	A. MAIN CIRCUIT BREAKER				

LIGH	ITING FIXTURE	SCHEDULE									
MARK	DESCRIPTION	MANUFACTURER/SERIES	NOM. SIZE	SOURCE / TEMP(oK) / DELIVERED LUMENS	VOLTS	WATTS	LENS	COLOR/ MATERIAL	MOUNTING HEIGHT	DRIVER/ DIMMING	REMARKS
L1	LAY-IN GRID LED	ACUITY "CPANL" SERIES - BASE BID COLUMBIA "CBT-LSCS" SERIES - BASE BID ALS "LPA" SERIES - BASE BID	2'x4'	LED / 4000K / 6000 LUMENS	MVOLT	53	SATIN WHITE	WHITE/ ALUMINUM	RECESSED GRID MOUNTED	LED DRIVER 0-10V DIMMING	NOTE 9
		ACUITY "EPANL" SERIES - ALTERNATE L1	01/241			50	CATIN		DECESSED		
LZ	LAY-IN GRID LED	COLUMBIA "CBT-LSCS" SERIES - BASE BID ALS "LPA" SERIES - BASE BID	2 X4	4000K / 4800 LUMENS	MVOLT	43	WHITE	ALUMINUM	GRID MOUNTED	0-10V DIMMING	NOTE 9
L3	LAY-IN GRID LED	ACUITY "EPANL" SERIES - ALTERNATE L1 ACUITY "CPANL" SERIES - BASE BID COLUMBIA "CBT-LSCS" SERIES - BASE BID ALS "LPA" SERIES - BASE BID	2'x4'	LED / 4000K / 4000 LUMENS	MVOLT	45 35	SATIN WHITE	WHITE/ ALUMINUM	RECESSED GRID MOUNTED	LED DRIVER 0-10V DIMMING	NOTE 9
L4	LAY-IN GRID LED	ACUITY "EPANL" SERIES - ALTERNATE L1 ACUITY "CPANL" SERIES - BASE BID COLUMBIA "CBT-LSCS" SERIES - BASE BID	2'x2'	LED /	MVOLT	38 30	SATIN	WHITE/	RECESSED	LED DRIVER	NOTE 9
		ALS "LPA" SERIES - BASE BID ACUITY "EPANL" SERIES - ALTERNATE L1		4800 LUMENS		37		ALOWINGIN	MOUNTED	DIMMING	
L5	LAY-IN GRID LED	ACUITY "CPANL" SERIES - BASE BID COLUMBIA "CBT-LSCS" SERIES - BASE BID ALS "LPA" SERIES - BASE BID ACUITY "EPANL" SERIES - ALTERNATE L1	1'x4'	LED / 4000K / 4400 LUMENS	MVOLT	41	SATIN WHITE	WHITE/ ALUMINUM	RECESSED GRID MOUNTED	LED DRIVER 0-10V DIMMING	NOTE 9
X1	CEILING MOUNTED EXIT FIXTURE	ACUITY "LQM" SERIES EMERGILITE "ELX" SERIES CHLORIDE "CLX" SERIES		RED LED	MVOLT	1		WHITE	FLUSH CEILING		POLYCARBONATE HOUSING, STENCIL FACE, 6" LETTERS, 90 MINUTE BATTERY BACKUP, SINGLE FACE WITH CHEVRONS AS INDICATED
X2	CEILING MOUNTED EXIT FIXTURE	ACUITY "LQM" SERIES EMERGILITE "ELX" SERIES CHLORIDE "CLX" SERIES		RED LED	MVOLT	1		WHITE	FLUSH CEILING		POLYCARBONATE HOUSING, STENCIL FACE, 6" LETTERS, 90 MINUTE BATTERY BACKUP, DOUBLE FACE WITH CHEVRONS AS INDICATED
REMARH 1. BI-LE\ 2. DAMP 3. WET L	KS: /EL SWITCHING LOCATION LOCATION	 4. WIREGUARD 5. LED REQUIRED SURGE PROTECTION 6. VERIFY FINAL MOUNTING HEIGHT WITH ARCHITEC 	т		7. FINAL C 8. 0-10V D 9. 0-10V D	COLOR SELI MMING TO	ECTION BY A 1% 10%	RCHITECT	10. CLEAR	TRIM, MATT DIF	FUSE FINISH, WHITE PAINTED FLANGE
GENERA A. B. C. D. E. F.	AL NOTES: THE CONTRACTOR SHALL VE DURING THE BID PROCESS, T NO SUBSTITUTIONS WILL BE ALL EXPEDITED EXPENSES S THE ELECTRICAL CONTRACT FIXTURES TO BE INSTALLED	RIFY THE LEAD TIME OF ALL PRODUCTS SPECIFIED II THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/EN ALLOWED DUE TO THE LACK OF COORDINATION OF E SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR OR SHALL RECEIVE APPROVAL FOR ALL LIGHTING FI IN CEILINGS INDICATED ON THE ARCHITECTURAL PLA	N THIS SC GINEER (DELIVERY S. XTURES NS AS H/	CHEDULE AT THE TIME C DF ANY DELIVERY/SCHE DATES AND CONSTRUC FROM THE ARCHITECT/ AVING INSULATION IN C	DF PACKAG EDULING IS CTION SCH OWNER PF ONTACT W	GE QUOTE. SUES. IEDULE AFT RIOR TO PU /ITH THE CE	TER BID. RCHASE ANI EILING SURF,	D ROUGH-IN. ACE SHALL BE N	NANUFACTURE	R RATED "IC".	
G.	ALL LIGHTING FIXTURES PEN DRAWINGS FOR ADDITIONAL	IETRATING RATED FLOOR/CEILING ASSEMBLY SHALL RATINGS.	BE PROV	IDED WITH ACCESSORI	ES TO MAI	NTAIN ASSE	EMBLY FIRE	RATING. REFEF	R TO ARCHITEC	TURAL	
H. I. J. K. L.	"NL" ADJACENT TO FIXTURE I LED MODULES SHALL BE REF ACRYLIC PRISMATIC LENSES ALL EXIT AND EMERGENCY F SEE SPECIFICATIONS SECTIO	NDICATES AN UNSWITCHED 24 HOUR NIGHT LIGHT. T PLACEABLE. S SHALL BE 0.125" NOMINAL MINIMUM THICKNESS. IXTURES SHALL COMPLY WITH NCSBC STANDARDS A DNS 265100 AND 265200 FOR ADDITIONAL REQUIREME	THE FIXTU ND HAVE NTS.	JRE SHALL BE CONNEC	TED TO TH DEVICES.	IE UNSWITC	CHED INDICA	TED CIRCUIT.			

SUBSTITUTIONS MAY BE APPROVED BY THE ARCHITECT AND ENGINEER IF THEY ARE JUDGED TO BE EQUAL TO THE SPECIFIED FIXTURES. "EQUAL" MAY INCLUDE, AT THE SOLE DISCRETION OF THE ARCHITECT AND ENGINEER, LENS MATERIAL AND CHARACTERISTICS, COLORS, REFLECTORS, HOUSING MATERIAL AND CONFIGURATION, FINISHES, PHOTOMETRICS, EFFICIENCY, OPTIONS, FUNCTIONALITY, ETC. М.

S A W Y E R S H E R W O O D & ASSOCIATE RCHITECT 124 Market Street Wilmington, NC 28401 910 762-0892 S2a3.com **CBHF** Engineers, PLLC 2246 Yaupon Drive Wilmington, NC 28401 Phone: 910.791.4000 Fax: 910.791.5266 www.cbhfengineers.com © Copyright 2024 CBHF Engineers, PLLC NC# P-0506 SEAL 023311 10/22/2024 3rd Floor Upfit 320 Chestnut Street Wilmington, NC 28401 Construction Drawings October 22, 2024 Electrical Schedules And Load Summaries Rev. Date Notes E6.1

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KEYED NOTES

1 IN-CARPET FLOOR RACEWAY SYSTEM "18217 SW-WF-LP-ALM" WALL FEED BOX, ALUMINUM FINISH.

- 2 IN-CARPET FLOOR RACEWAY SYSTEM, LENGTH AS REQUIRED, ALUMINUM FINISH.
- 3 IN-CARPET FLOOR RACEWAY SYSTEM "18211 SW-DB-1P1D" DEVICE BOX, ALUMINUM FINISH WITH ONE DUPLEX RECEPTACLE AND ONE GANG FOR TELECOM/DATA OUTLETS.

4 PROVIDE RACEWAY BASE, COVER, COUPLERS, MOVABLE WIRE GUIDES, RACEWAY BASE EDGES, DEVICE BOXES, WALL FEED BOXES, END STOPS, FITTINGS, HARDWARE, ACCESSORIES, TOOLS, ETC., AS REQUIRED FOR A COMPLETE AND OPERATIONAL IN-CARPET FLOOR RACEWAY SYSTEM. FSR POWER PRODUCTS GROUP "SMART-WAY RACEWAY SYSTEM" OR APPROVED EQUAL.

FIRE ALARM LEGEND								
SYMBOL	DESCRIPTION							
-个Ē ^{15cd}	FIRE ALARM HORN/STROBE DEVICE, 80" AFF, "15cd" INDICATES CANDELA RATING							
	RELOCATED EXISTING FIRE ALARM HORN/STROBE DEVICE, 80" AFF, "15cd" INDICATES CANDELA RATING							
· 수 년 15cd	FIRE ALARM VISUAL (ONLY) DEVICE, 80" AFF, "15cd" INDICATES CANDELA RATING							
٢	HEAT DETECTOR, CEILING MOUNTED							
Ørl	RELOCATED EXISTING SMOKE DETECTOR, CEILING MOUNTED							
Øex	EXISTING SMOKE DETECTOR, CEILING MOUNTED							
M	MONITOR MODULE, WALL MOUNTED							
	EXISTING ISOLATION MODULE							
С	FIRE ALARM CONTROL MODULE							

FIRE ALARM SYSTEM NOTES

1.	AS A MINIMUM THE FIRE ALARM SYSTEM SHALL INCLUDE SMOKE AND HEAT DETECTORS AND HORN/STROBES AS INDICATED AND CABLING. THE FIRE ALARM SYSTEM SHALL MEET NFPA REQUIREMENTS, THE NATIONAL ELECTRICAL CODE, THE STATE CODES, AND THE LOCAL BUILDING CODES.
2.	THE CONTRACTOR SHALL FURNISH AND INSTALL ALL CABLE, MATERIALS AND EQUIPMENT AS SHOWN ON THE DRAWINGS/OR HEREIN SPECIFIED. ALL SYSTEM COMPONENTS SPECIFIED HEREIN, AS WELL AS THEIR INSTALLATION, SHALL COMPLY WITH APPLICABLE STANDARDS OF THE NATIONAL ELECTRICAL CODE, NATIONAL FIRE PROTECTION ASSOCIATION, AND LOCAL CODES HAVING AUTHORITY. ALL EQUIPMENT SHALL BE UL LISTED FOR FIRE ALARM SYSTEM USE.
3.	THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND SHALL BE INSTALLED AND CONNECTED UNDER THE DIRECTION AND SUPERVISION OF A MANUFACTURER'S REPRESENTATIVE. UPON COMPLETION OF INSTALLATION, THE MANUFACTURER'S REPRESENTATIVE SHALL PERFORM ALL OPERATIONAL TESTS AND ADJUSTMENTS AND CERTIFY IN WRITING THAT THE SYSTEM IS PROPERLY INSTALLED AND FUNCTIONS AS SPECIFIED.
4.	ALL WIRING SHALL BE SYSTEM OR UL LISTED FIRE RATED CABLE AND COLOR CODED TO ALLOW EASE OF IDENTIFICATION OF THE DIFFERENT CIRCUITRY REQUIRED FOR THE SYSTEM. NO CIRCUIT SHALL CHANGE COLOR AT ANY POINT END TO END.
5.	THE. MANUFACTURER'S AUTHORIZED REPRESENTATIVE SHALL PROVIDE SUPERVISION OF FINAL SYSTEM PANEL CONNECTIONS, PERFORM A COMPLETE FUNCTIONAL TEST OF THE SYSTEM, AND A WRITTEN REPORT TO THE CONTRACTOR ATTESTING THE PROPER OPERATION OF THE COMPLETED SYSTEM.
6.	THE CONTRACTOR SHALL PROVIDE A ONE YEAR WARRANTY FOR THE ALARM SYSTEM, ALONG WITH OTHER FORMS OR CERTIFICATE REQUIRED BY THE LOCAL JURISDICTION.
7.	SYSTEM OPERATION
7.1	THE OPERATION OF ANY SYSTEM ALARM INDICATOR, SHALL CAUSE ALL ALARM SIGNALS, BOTH AUDIBLE AND VISUAL TO ENERGIZE.
7.2	THE DEVICE FROM WHICH THE ALARM ORIGINATED SHALL BE INDICATED AT THE CONTROL PANEL, BOTH AUDIBLY AND VISUALLY. THE APPROPRIATE ALARM LED SHALL PULSE AND SHALL BE ILLUMINATED CONTINUOUSLY AFTER IT HAS BE ACKNOWLEDGED AT THE CONTROL PANEL.
7.3	ALL DEVICES SHALL BE COMPATIBLE WITH THE EXISTING FIRE ALARM SYSTEM.
8.	EQUIPMENT SHALL CONSIST OF THE FOLLOWING:
8.1	COMBINATION AUDIO AND VISUAL SIGNAL: AUDIO VISUAL FIRE ALARM SIGNAL SHALL BE SURFACE MOUNTED WITH FLASHER. UNITS SHALL BE RED IN COLOR. THE LEXAN LENS SHALL BE TRIANGULAR IN SHAPE TO SIGNIFICANTLY IMPROVE SIDE VIEWING VISIBILITY. THE UNIT SHALL MOUNT ON A STANDARD FOUR INCH ELECTRICAL BOX. A MATCHING TRIM PLATE SHALL BE SUPPLIED. THE LENS SHALL BE LETTERED RED "FIRE". THE AUDIO VISUAL SIGNALS SHALL MEET REQUIREMENTS OF ADA.
8.2	SMOKE DETECTOR: PROVIDE SOLID STATE PHOTO ELECTRIC TYPE WITH TWO WIRE OPERATION AND 360" SMOKE ENTRY FOR FACP.
9.1	ALL WIRING SHALL BE INSTALLED IN COMPLIANCE WITH N.E.C., NFPA 72, ALL STATE AND LOCAL REQUIREMENTS AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
9.2	SLEEVE AND SEAL ALL PENETRATIONS THROUGH FIRE WALLS.
9.3	WIRING SHALL BE A MINIMUM OF NO. 14 AWG UNLESS OTHERWISE NOTED.
10.	ALL WORK PERFORMED AND ALL MATERIAL FURNISHED UNDER THIS CONTRACT SHALL BE FREE FROM DEFECTS AND SHALL REMAIN SO FOR A PERIOD OF AT LEAST ONE YEAR FROM THE DATE OF ACCEPTANCE.
11.	SHOP DRAWINGS MUST BE SUBMITTED BY THE FIRE ALARM CONTRACTOR COMPLYING WITH THE FIRE ALARM PLAN REVIEW REQUIREMENTS POLICY - JANUARY 2006 BEFORE PERMITTING BY THE WILMINGTON FIRE DEPT. THESE DRAWINGS DO NOT CONSTITUTE APPROVAL AND MAY CHANGE AFTER A FULL REVIEW BY THE WILMINGTON FIRE DEPT. A SEPARATE PERMIT MUST BE OBTAINED PRIOR TO INSTALLATION.
12.	IN CORRIDORS WHERE MORE THAN TWO VISIBLE NOTIFICATION APPLIANCES ARE IN ANY FIELD OF VIEW, THEY SHALL FLASH IN SYNCHRONIZATION.
13.	FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR MODULES TO SHUTDOWN HVAC EQUIPMENT DURING ALARM CONDITION.
14.	ALL FIRE ALARM WORK AND DEVICES SHALL BE INSTALLED AND TERMINATED BY A NICET LEVEL 2 FIRE ALARM TECHNICIAN.
15.	IN THE EVENT OF AN ALARM THERE SHALL BE A "GLOBAL" SHUT DOWN OF ALL AIR HANDLERS.16.

PARTIAL FIRE ALARM RISER DIAGRAM NOT TO SCALE

KEYED NOTES

1 REWORK PIPING AND SPRINKLER HEAD LAYOUT TO SUIT ARCHITECTURAL RENOVATIONS, IN HATCHED AREA. COORDINATE WITH CEILINGS, WALLS AND MILLWORK. CURRENT SPACE IS UNFINISHED, WITHOUT CEILINGS.

FIRE SPRINKLER GENERAL NOTES

- CONTRACTOR SHALL PROVIDE COMPLETE SPRINKLER DESIGN AND INSTALLATION 1. FOR MODIFICATION TO EXISTING SPRINKLER SYSTEMS IN RENOVATED AREAS AS INDICATED PER NFPA 13, NC STATE BLDG CODE AND LOCAL JURISDICTION REQUIREMENTS. INCLUDE ALL SUBMITTAL DATA AND DOCUMENTATION AS REQUIRED BY AUTHORITIES HAVING JURISDICTION. PROVIDE WRITTEN DOCUMENTATION OF APPROVAL OF DESIGN BY AUTHORITIES HAVING JURISDICTION. INCLUDE ALL DESIGN, MATERIALS AND LABOR FOR FULLY COMPLETE AND APPROVED INSTALLATION.
- EXISTING BUILDING IS FULLY SPRINKLED. RENOVATION SCOPE OF WORK GENERALLY INCLUDES REWORK OF EXISTING BRANCH LINES, RELOCATION AND/OR INSTALLATION OF NEW SPRINKLER HEADS TO SUIT ARCHITECTURAL MODIFICATIONS. WHERE NEW SPRINKLER HEADS ARE REQUIRED, REPLACE WITH HEADS MATCHING THOSE CURRENTLY INSTALLED IN EXISTING FINISHED AREAS. EXISTING SPRINKLER PIPING MAY BE REUSED AS APPLICABLE TO RENOVATED WORK. CONTRACTOR IS RESPONSIBLE FOR EXISTING EQUIPMENT AND PIPING, ETC. AS REQUIRED BY JURISDICTION APPROVAL. COMPLETE, FULLY OPERATIONAL SYSTEMS IN COMPLIANCE WITH ALL APPLICABLE CODES ARE REQUIRED.
- VERIFY EXISTING CONDITIONS AND DEVELOP ALL DOCUMENTATION FOR REVIEW AND APPROVAL BY AUTHORITY HAVING JURISDICTION.
- REWORK PIPING AND HEAD LAYOUT TO SUIT ARCHITECTURAL RENOVATIONS. COORDINATE WITH CEILINGS, WALLS AND MILLWORK. LOCATE HEADS IN CENTER QUADRANT OF CEILING TILES.
- 5. COORDINATE REWORK OF SPRINKLER PIPING AND SPRINKLER HEADS WITH RENOVATION WORK OF OTHER TRADES.

