

CV1 1/16" = 1'0"

- Toilets provide = 4 w/c/lav for female + 3 w/c/lav for male

General Notes

- 1 This project is for the interior renovations to an existing storage area to offices to match existing.
- 2 Project to comply with NC Building Code and ANSI standards. (Accessible and Usable Buildings and Facilities)
- 3 Notify Architect of any discrepancies with existing conditions prior to new construction.

Legend

	- Room Name - Finish Type - see schedule - Room Number
A.	- Door Type - see schedule
└──── ←───	- Existing Construction to remain
	- Existing Construction to be removed
⋘⋘⋘ ←	- New Construction
<1><	- Key Note reference - see listing
〈 3/a1 〈	Elevation Mark - see detail referenced
—ı1 (- Wall Type Mark - see 4/a1 All walls type 1 unless noted

Door Schedule

All hardware to "lever" type to comply with ADA and ANSI requirements. Replace existing as required. All interior doors to be paint grade birch veneer unless noted

"HM" indicates hollow metal door frame (paint) "FWHC" indicates flush wood hollow core door (Solid Core door may be used as tenant option) All unmarked doors are existing to remain "as is" unless noted on life safety plan



3' x 7' FWSC in HM frame to match existing Door and frame finish to match existing Lockset hardware - key per owner direction

3' x 7' FWSC in HM frame to match existing Door and frame finish to match existing Lockset hardware - key per owner direction







Finish Schedule

Where existing finishes are to remain, patch and match where demo. occurs. Finish type 'A' Floor Carpet Base 4" rubber Walls Paint GWB Ceiling 2x2 Acoustical Tile match existing ceiling ht.

Finish type 'B' Existing to remain - tape and prep new wall





7319 Vero Lane Charlotte, NC 28215 704.323.9321 klandrews@carolina.rr.com



for construction 1.21.2022

Al



WRAP WITH FSK FACING, OR EQUAL. FACING SHALL HAVE MAXIMUM VAPOR TRANSMISSION RATE OF 0.02 PERMS. ADHESIVES: WATERPROOF FIRE RETARDANT TYPE. LAGGING ADHESIVE: FIRE RESISTIVE TO ASTM E84. IMPALE ANCHORS: GALVANIZED STEEL, 12 GAGE, SELF-ADHESIVE PAD OR WELDED PINS. JOINT TAPE: GLASS FIBER CLOTH, OPEN MESH. R=5 MINIMUM. JM MICROLITE XG OR EQUAL. 2. DUCT – INTERNAL – N/A

EXECUTION

INSTALLATION

- 1. COORDINATE AND AVOID INTERFERENCE WITH STRUCTURE AND WITH WORK OF OTHER TRADES. PRESERVE ADEQUATE HEAD ROOM AND SERVICE ROOM. ALL PIPING TO BE HUNG WITH CLEVIS HANGERS FASTENED TO STRUCTURE WITH POWER INSERTS OR CLAMPS. SUPPORT PIPE AND EQUIPMENT FROM ANGLES.
- 2. WHEN OBSTRUCTIONS REQUIRE A CHANGE IN THE DUCT SHAPE MAINTAIN THE EQUIVALENT AREA AND PRESSURE DROP OF ORIGINAL DUCT. ALL SIZES SHOWN ARE NET INSIDE DIMENSIONS OF CLEAR AIRSTREAM. MAKE ALL DUCT ELBOWS RIGHT ANGLES WITH ELBOW TURNS OR TURNING BLADES OR CONSTRUCT WITH A RADIUS OF 1.5 TIMES THE DUCT WIDTH. INSTALL FLAT BRAIDED WIRE GROUND STRAP ACROSS FLEXIBLE CONNECTS AT AHU'S AND DUCTS. SECURELY ANCHOR ALL GRILLES, REGISTERS AND DIFFUSERS AND SEAL WITH RUBBER GASKETS TO PREVENT LEAKAGE.
- 3. THOROUGHLY CLEAN ALL DUCTS, EQUIPMENT, PARTS, ETC. FREE FROM ALL DIRT, GREASE, OIL AND FOREIGN SUBSTANCES. 4. DO NOT CLOSE-IN ANY WORK UNTIL IT HAS BEEN INSPECTED, TESTED AND APPROVED BY AUTHORITIES HAVING JURISDICTION.

TEST AND ADJUSTING

PROVIDE ALL NECESSARY PERSONNEL, EQUIPMENT AND SERVICES NECESSARY TO DEMONSTRATE INTEGRITY OF THE COMPLETE INSTALLATION. ALL WORK SHALL BE IN ACCORDANCE WITH AABC STANDARDS AND BY MC'S INDEPENDENT TAB SUB-CONTRACTOR. NOTE: TAB SERVICES MAY BE PROVIDED DIRECTLY BY MC IN ACCORDANCE TO AABC WITH OWNER'S PRIOR APPROVAL.

HVAC SYSTEM: TEST AND REGULATE ALL COMPONENTS TO CONFORM TO QUANTITIES SHOWN ON THE DRAWINGS. PROVIDE LARGER OR SMALLER PULLEYS AS REQUIRED AT NO ADDITIONAL COST. FOR EACH SYSTEM SUBMIT AS A MINIMUM THE FOLLOWING:

- 1. AIR VOLUMES AT EACH SUPPLY, RETURN, AND EXHAUST OUTLET. 2. TOTAL CFM AND SP SUPPLIED OR EXHAUSTED BY EACH FAN.
- 3. MOTOR SPEED, FAN SPEED AND AMP READING FOR EACH FAN.
- 4. AVERAGE VELOCITY ON INTAKE OF EACH FAN. 5. AVERAGE VELOCITY, EAT, LAT, AND PRESSURE DROP ACROSS
- EACH COIL. 6. WATER GPM @ EACH PUMP, PUMP PRESSURES, BALANCE VALVE
- POSITION, MOTOR AMPS. 7. WATER GPM @ EACH COIL, BALANCE VALVE POSITION, PRES DROP ACCROSS COIL.

IF CONTRACTOR'S INDEPENDENT TAB SUBCONTRACTOR FAILS TO PERFORM THE ABOVE TESTS TO THE SATISFACTION OF THE ENGINEER, THE ENGINEER MAY RETAIN THE SERVICES OF AN OUTSIDE CONSULTANT TO PERFORM SAID SERVICES AT THE SOLE EXPENSE OF THE CONTRACTOR AND WITHOUT ANY EXPENSE TO THE OWNER.

INSTRUCTION

UPON COMPLETION OF ALL WORK AND BALANCING, THOROUGHLY TRAIN AND INSTRUCT OWNER'S PERSONNEL IN ALL ASPECTS OF THE OPERATION AND MAINTENANCE OF THE INSTALLED SYSTEMS.







VENTILATION RATE PROCEDURE - CALCULATIONS																	
ROOM	CLASSIFICATION	AREA (FT²) AIF C	PEOPLE OUTDOOR RFLOW RATI FM/PERSON (Rp)	AREA OUTDOOR AIRFLOW RA CFM/SF (Ra		CEFAULT CCUPANT DENSITY #/1000 SF		PANCY #	PEOPLE BREATHING ZONE AIR FLOW RATE (Vbz-people)	ULATI AR BREA ZC OUTDC FLOW	EA - ATHING DNE DOR AIR V RATE	TOTAL BREATHING ZONE OUTDOOR AII FLOW RATE	ZONE AIF EFFECTI S (E	R DIST. VENES ^{Ez})	NE OUTDOOR (Voz)	AIRFLOW	
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KEY PLAN

SCALE: N/A



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ELECTRICAL	SPECIFICATIONS

- PART 1: GENERAL A. PROVIDE ALL WORK AND MATERIALS FOR THE INSTALLATION OF COMPLETE WIRING SYSTEMS AS SPECIFIED HEREIN AND
- INDICATED ON THE DRAWINGS. B.ALL ELECTRICAL PERMITS AND INSPECTION FEES SHALL BE OBTAINED AND PAID FOR
- BY THE ELECTRICAL CONTRACTOR. C.ELECTRICAL CONTRACTOR SHAL GUARANTEE ALL WORK AND MATERIALS FOR
- ONE YEAR EFFECTIVE THE DAY THE PROJECT IS ACCEPTED BY THE OWNER. D.WORK SHALL BE IN ACCORDANCE WITH THE 2020 NATIONAL ELECTRICAL CODE, OSHA, STATE BUILDING CODE AND ALL OTHER APPLICABLE LOCAL REQUIREMENTS. ALL WORK SHALL COMPLY WITH THE LATEST ADDITION OF NECA STANDARDS OF
- INSTALLATION. E.ALL MATERIALS, DEVICES, AND APPLIANCES SHALL BE NEW, EXCEPT WHERE OTHERWISE NOTED, AND SHALL BE LISTED BY AN APPROVED TESTING AGENCY WHERE SUCH A LISTING IS AVAILABLE. FACTORY ASSEMBLED EQUIPMENT SHALL BE LISTED AND LABELED AS AN ASSEMBLY, ANY EQUIPMENT NOT LISTED SHALL HAVE PRIOR APPROVAL FROM LOCAL AUTHORITY HAVING THE JURISDICTION. ALL MATERIALS SHALL COMPLY WITH APPLICABLE ANSI, IEEE AND NEMA STANDARDS.
- F.AN ELECTRICAL INSPECTION CERTIFICATE SHALL BE ISSUED BY THE LOCAL INSPECTION AUTHORITIES BEFORE APPROVAL FOR FINAL PAYMENT.
- G.WIRING SHALL BE TESTED FOR CONTINUITY AND GROUNDS BEFORE BEING ENERGIZED FAULTY WIRING SHALL BE REPLACED AT NO ADDITIONAL EXPENSE TO THE OWNER.
- H. THE ELECTRICAL CONTRACTOR SHALL CONNECT ALL EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS, UNLESS OTHERWISE NOTED, EXCEPT FOR CONTROL WIRING FOR EQUIPMENT NOT PROVIDED BY THE ELECTRICAL CONTRACTOR. CONTROL WIRING FOR SUCH EQUIPMENT SHALL BE PROVIDED BY THE RESPECTIVE DISCIPLINE.
- PART 2: RACEWAY
- A. CONDUIT SHALL BE ZINC-COATED EMT INDOORS. EMT FITTINGS SHALL BE STEEL SCREW. MINIMUM SIZE SHALL BE 1/2"C, UNLESS OTHERWISE NOTED. USE IMC WHERE REQUIRED BY CODE OR EXPOSED BELOW 8'-0".
- B.SUPPORT ALL CONDUITS WITH STRAPS AND CLAMPS. RUN ALL CONDUIT PARALLEL OR PERPENDICULAR TO BUILDING WALLS. C.JUNCTION AND PULL BOXES SHALL BE CODE
- GAUGE GALVANIZED SHEET METAL. D.LIQUID-TIGHT FLEXIBLE METAL CONDUIT SHALL BE USED FOR EQUIPMENT CONNECTIONS, BUT NOT AS A WIRING
- METHOD OTHERWISE. E. CONDUIT INSTALLED UNDERGROUND OR IN CONCRETE SHALL HAVE JOINTS MADE WATER-TIGHT BY USE OF USE POLYTETRA-FLUOROETHYLENE TAPE.
- PART 3: CONDUCTORS A. ALL CONDUCTORS SHALL BE SINGLE CONDUCTOR COPPER. THHN/THWN, SOLID
- FOR SIZES #14 THROUGH #10. THHN/THWN STRANDED FOR SIZES #8 AND LARGER. B.BRANCH CIRCUITS SHALL NOT BE SMALLER THAN #12 AWG. CONTROL WIRING MAY BE
- #14 AŴG. C.CONDUCTORS SHALL BE COLOR CODED BLACK/RED/BLUE FOR 120/208 VOLT SYSTEMS FOR A, B, AND C PHASES,
- RESPECTIVELY. D.ALL EQUIPMENT AND DEVICE TERMINATIONS SHALL BE UL LISTED FOR USE WITH 75°C INSULATED CONDUCTORS AT THEIR 75°C AMPACITY
- PART 4: DISCONNECT SWITCHES
- A. DISCONNECT SWITCHES SHALL BE HEAVY-DUTY TYPE IN NEMA 1 ENCLOSURES (UNLESS OTHERWISE INDICATED), FUSED OR NON-FUSED AS INDICATED. FUSED SWITCHES SHALL HAVE REJECTION-TYPE FUSE CLIPS. SWITCHES SHALL BE SQUARE D, OR EQUAL. FUSES SHALL BE CLASS R-5, TIME DELAY. A SET OF 3 SPARE FUSES OF EACH SIZE AND TYPE SHALL BE FURNISHED TO THE OWNER.
- PART 5: FIRE ALARM SYSTEM A. NEW DEVICES SHALL BE CONNECTED TO THE EXISTING FIRE ALARM SYSTEM IN COMPLIANCE WITH ALL APPLICABLE NFPA 72 AND OTHER STANDARDS AS WELL AS THE AMERICAN'S WITH DISABILITIES ACT (ADA). ALL FINAL CONNECTIONS, TESTING ÀND ADJUSTMENTS SHALL BE PERFORMED BY OR UNDER DIRECT SUPERVISION OF AN AUTHORIZED FACTORY REPRESENTATIVE. NEW DEVICES SHALL BE COMPATIBLE WITH THE EXISTING FIRE ALARM SYSTEM. THE CONTRACTOR SHALL FIELD VERIFY EXACT SYSTEM MANUFACTURER AND TYPE. THE FIRE ALARM SUPPLIER SHALL VERIFY THE EXISTING SYSTEM CAN ACCOMMODATE THE NEW DEVICES PRIOR TO BID. WHEN THE EXISTING SYSTEM CAN NOT HANDLE THE DEVICES, THE FIRE ALARM SUPPLIER SHALL INCLUDE IN THEIR PRICE THE ADDITION OF NOTIFICATION APPLIANCE CIRCUITS (NAC) POWER EXTENDERS AS REQUIRED.
- PART 6: RENOVATION OF EXISTING A. EACH BIDDER SHALL VISIT THE PROJECT SITE PRIOR TO BID AND FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS. FAILURE TO VISIT THE SITE SHALL NOT EXCUSE THE CONTRACTOR FROM PERFORMING THE REQUIRED WORK NOR SHALL IT BE AN ACCEPTABLE REASON FOR REQUESTING ADDITIONS TO THE CONTRACT. B.EXISTING PORTIONS OF THE FACILITY SHALL
- REMAIN IN OPERATION DURING THIS RENOVATION AND/OR ADDITION. THE CONTRACTOR SHALL CAUSE AS LITTLE DISRUPTION AS POSSIBLE TO MAINTAIN THE COMFORT AND SAFETY OF THE BUILDING OCCUPANTS. ALL POWER OUTAGES SHALL BE CLOSELY COORDINATED WITH THE OWNER'S REPRESENTATIVE.
- C.PROJECT INVOLVES WORK ON EXISTING ELECTRICAL PANELS AND FEEDERS REQUIRED IN OPERATING THE FACILITY. TEMPORARY POWER ARRANGEMENTS SHALL BE MADE TO SERVE THOSE AREAS AFFECTED BY THIS PROJECT.

LIGHTING FIXTURE SCHEDULE											
TYPE		BALLASTS	DESCRIPTION	MANUFACTURER &	VA	VOLTS					
IA	LED MODULES 3500K	N/A (LED DRIVER)	8' ENCLOSED AND GASIE ED LED FATTRED MOUNTED 12' WHE BOOM LUMENS	COLUMBIA LCL8-35ML-E-U OR EQUAL	73	UNV					
GA	LED MODULES 3500K	N/A (LED DRIVER)	2'X2' RECESSED LED WITH CURVED, ACRYLIC DIFFUSER. DRIVER SHALL HAVE 0-10V DIMMING CAPABILITY.	WILLIAMS AT1-22-L40/835-D-DIM OR EQUAL	44	UNV					
GB	LED MODULES 3500K	N/A (LED DRIVER)	2'X4' RECESSED LED WITH CURVED, ACRYLIC DIFFUSER. DRIVER SHALL HAVE 0-10V DIMMING CAPABILITY. 5500 LUMENS	WILLIAMS AT1-24-L55/835-D-DIM OR EQUAL	48	UNV					
ΙB	LED MODULES 3500K	N/A (LED DRIVER		COLUMBIA LXEM4-35ML-RFA-EU OR EQUAL	73	UNV					
WA	23 W LED 2372 LUMEN, 4000 K	N/A (LED DRIVER	FLOODHEHTS WMOTION SENJOR. MUUI SPER Above FINISHED OR ADE OR AS DIRECTED.	COOPER ESF2A4MB OR EQUAL	23	UNV					
EL	ECTI	RICA	L SYSTEM -)	OF					
			COMPLIAN	CE:							

APPENDIX B (2018 NCECC) ELECTRICAL SUMMARY

- Prescriptive Performance Energy Cost Budget LIGHTING SCHEDULE: NEW LIGHTING TOTAL INTERIOR WATTAGE SPECIFIED = 1204 WATTS
- TOTAL INTERIOR WATTAGE ALLOWED = 1394 WATTS TOTAL EXTERIOR WATTAGE SPECIFIED = N/A WATTS USED N/A WATTS ALLOWED (BASE SITE)
- PRESCRIPTIVE COMPLIANCE: TABLE C405.4.2(1) - OFFICE 0.82 W/SF

SYMBOL SCHEDULE

THE ELECTRICAL SYMBOLS HEREINAFTER LISTED ARE A BASIC STANDARD FOR ALL PROJECTS AS APPLICABLE, FACH AND EVERY SYMBOL MAY NOT NECESSARILY APPEAR ON THE SPECIFIC PROJECT DRAWINGS. ALL DIMENSIONS ARE TO TOP OF THE OUTLET BOX UNLESS OTHERWISE NOTED. THE ELECTRICAL CONTRACTOR SHALL COORDINATE THE EXACT OUTLET HEIGHT WITH COUNTERS. BACKSPLASHES WAINSCOT AND FOUIPMENT TO ASSURE PROPER MOUNTING HEIGHTS

Brieffer Erferiee,	
	CONDUIT CONCEALED IN OR ABOVE CEILING, IN OVERHEAD SLAB OR IN WALL, AS APPLICABLE.
	HOMERUN TO PANELBOARD, MOTOR CONTROL CENTER, OR SWITCHBOARD AS APPLICABLE.
0	JUNCTION BOX SIZED PER N.E.C. UNLESS OTHERWISE INDICATED.
سرل	JUNCTION BOX WITH FLEX CONNECTION TO EQUIPMENT.
\$ \$2	SINGLE OR DOUBLE POLE SWITCH AS INDICATED, MOUNTED 48" AFF.
\$3\$4	THREE-WAY OR FOUR-WAY SWITCH AS INDICATED, MOUNTED 48" AFF.
\$wp	SWITCH AS SPECIFIED ABOVE WITH CAST WEATHERPROOF COVER AND OUTLET AND BOX ADAPTER IF REQUIRED.
\$ ^a	SWITCH AS SPECIFIED ABOVE WITH OUTLETS CONTROLLED INDICATED BY BY SUBSCRIPT.
\$v	DUAL TECHNOLOGY OCCUPANCY SENSOR MOUNTED AT 48" AFF.
\$ _D	DIMMER SWITCH WALL MOUNTED 48" AFF. COORDINATE WITH FIXTURES TO BE CONTROLLED. SEE FIXTURE SCHEDULE.
Φŧ	NEMA 5-20R DUPLEX CONVENIENCE RECEPTACLE MOUNTED 20", UNLESS NOTED OTHERWISE. NEMA 5-20R QUAD CONVENIENCE RECEPTACLE MOUNTED 20", UNLESS NOTED OTHERWISE.
	NEMA 5-20R DUPLEX CONVENIENCE RECEPTACLE MOUNTED 48" AFF OR BACKSPLASH.
÷,	RECEPTACLE AS SPECIFIED ABOVE EXCEPT WITH INTEGRATED GROUND FAULT CIRCUIT INTERRUPTER (GFCI).
	GFCI RECEPTACLE SIMILAR TO THOSE SPECIFIED ABOVE EXCEPT U.L. "WR" (WEATHER-RESISTANT) LISTED AND PROVIDED WITH A WEATHERPROOF COVER.
	NEMA 5-20R RECEPTACLE TO POWER ELECTRIC WATER COOLER (WHERE APPLICABLE). FURNISH GFCI TYPE DEVICE AT UNIT. COORDINATE EXACT COORDINATE EXACT PLACEMENT WITH PLUMBING CONTRACTOR & LOCAL CODE ENFORCEMENT.
∎J	FUSIBLE OR NON-FUSIBLE DISCONNECT FURNISHED WITH EQUIPMENT UNDER OTHER DIVISIONS OF THESE SPECIFICATIONS. TERMINATE WIRING ON LINE SIDE OF DISCONNECT.
□- ¹ 30/2	NON-FUSIBLE DISCONNECT. NUMERALS INDICATE SIZE AND POLES. WP INDICATES NEMA 3R ENCLOSURE OR WITH OTHER ENCLOSURE AS INDICATED.
J 30 %∂/bl₽ 2 % P	FUSIBLE DISCONNECT. NUMERALS INDICATE SIZE, POLES, AND FUSETRON SIZE. WP INDICATES NEMA 3R ENCLOSURE OR WITH OTHER ENCLOSURE AS INDICATED.
	CIRCUIT BREAKER NUMERALS INDICATE AMPERE RATING, POLES, AND FRAME. WP INDICATES 3R ENCLOSURE OR WITH OTHER ENCLOSURE AS INDICATED.
\$м	MOTOR RATED 1-POLE SWITCH.
03	CEILING MOUNTED OCCUPANCY SENSOR, WITH DUAL TECHNOLOGY CAPABILITES. AUTO ON/OFF. FIELD CHANGEABLE TO VACANCY SENSOR.
(A)-	WALL OUTLET WITH DIRECT CONNECTION TO KITCHEN EQUIPMENT
	ENCLOSED CIRCUIT BREAKER. VOLTAGE, AMPERAGE, AND ENCLOSURE TYPE AS NOTED ON DRAWINGS
ര	120 OR 240-VOLT, SINGLE PHASE MOTOR, HORSEPOWER AS INDICATED.
<u> </u>	208 OR 240-VOLT, THREE PHASE MOTOR, HORSEPOWER AS INDICATED.
↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓↓	TELEPHONE/DATA OUTLET, 20" TO TOP OF BOX UNLESS OTHERWISE NOTED. TELEPHONE/DATA OUTLET, 48" TO TOP OF BOX UNLESS OTHERWISE NOTED.

EXIT / EGRESS SYMBOLS

THE ELECTRICAL SYMBOLS HEREINAFTER LISTED ARE A BASIC STANDARD FOR ALL PROJECTS AS APPLICABLE. EACH AND EVERY SYMBOL MAY NOT NECESSARILY APPEAR ON THE SPECIFIC PROJECT DRAWINGS. CONNECT EXIT AND EMERGENCY LIGHTING TO UN-SWITCHED LIGHTING CIRCUIT SERVING GENERAL LIGHTING IN AREA WHERE UNIT IS LOCATED PER NEC700.12(F)(2)(3). FIXTURE SHALL HAVE SELF CONTAINED UNIT BATTERY. UPON LOSS OF NORMAL POWER FIXTURE SHALL BE SELF POWERED FOR A MINIMUM OF 90 MINUTES

ЕВ	EXTERIOR EMERGENCY WALL PACK SUITABLE FOR WET LOCATION MOUNTED 6 ABOVE DOOR TO BOTTOM OF FIXTURE. LED 4000K. DUAL LITE - PG Z. 16 VA 120V.
⊗ Ş	EXIT LIGHTS. LED. UNIVERSAL MOUNT EDGE-LIT EXIT SIGN WITH SINGLE OR DUAL FACE AS INDICATED ON THE DRAWINGS. ISOLITE EUN-EM-R-1C. 5VA, UN VOLTAGE.
ক্ষ ক্ষ	COMBINATION EXIT / DUAL HEAD, LED EMERGENCY LIGHTING UNIT WITH SELF- CONTAINED BATTERY/INVERTER. ISOLITE DCLR1AA. 10VA. UNV VOLTAGE.
	LED INTERIOR EMERGENCY EGRESS LIGHT. HE WILLIAMS EMER/STD (OR EQUAL) (BATTERY BACKUP). 10 VA. UNIV VOLTAGE.

ABBREVIATIONS

A = ampere
AF = amp frame
AT = amp trip
ADA = Americans with Disabilities Act
AFF = above finished floor
ATS = automatic transfer switch
AHJ = authority having jurisdiction
C = conduit
0/C = disconnect
X = existing
.C. = empty conduit for future use
MT = electrical metallic tubing
V = electric vehicle
CB = enclosed circuit breaker
LA = full load amps
MC = flexible metal conduit
GFCI = ground fault circuit interrupter
G = isolated ground
V = kilovolt
VA = kilovolt ampere
CMIL = thousand circular mils
W = kilowatt
I = liquid tight flexible metal conduit
ACB = main circuit breaker
ACC = motor control center
/ILO = main lug only
/IIS = manual transfer switch
I/A = not applicable
IEC = National Electrical Code
ITS = not to scale
NV = New
p = pnase
r = pole (3-pole, 2-pole, 1-pole)
R = Reflocate
VP - typical
r – typical
/ED - variable frequency drive
$I \cap N = unless otherwise noted$
N = wire (3W = 3 - wire system etc)
V = whet (3W = 3 whet system, etc)
(FMR = transformer
R = NFMA 3R enclosure



M DUKE POWER 318 944 276 225 KVA XMER **◄** - - - -EXISTING NDERGROUND UTILITY SERVICE



Detail #1 Notes: 1. NO CHANGE TO EXISTING RISER.



LOAD SUMMARY

254.9 KW – PEAK DEMAND (LAST 12 M 318.6 KVA – PEAK DEMAND 398.3 KVA – PEAK DEMAND @ 125%	IONTHS-SEPT	2021-PER	DUKE	POWER)
ADDED: 1.5 KVA — LIGHTING DEMAND 18.8 KVA — RECEPTACLE DEMAND				
20.3 KVA – DEMAND ADDED				
418.6 KVA – NEW TOTAL DEMAND (503	3.7 AMPS)			



		EX	ISTI	NG P	ANEI	_ F					
	Voltage:	208/12	20V		Phase/V	Vire	3PH/4W	Mountin	g:	Surfac	ce
	AIC Rating:	10K			Enclosu	re:	NEMA 1		-	1	
D	0	с	ONNEC	TED LO		4)					
E	DESCRIPTION	KVA	PH A	PH B	PHC	KVA	DESCRIPTION	TYPE	POLE	TRIP	СКТ
	EX RECPT	1.0	2.8			1.8		R	2	20	2
	EX RECPT	1.0		2.8		1.8	EX FORMITORE STSTEM	R	2	20	4
	EX RECPT	1.0			2.8	1.8	EX FURNITURE SYSTEM	R	2	20	6
	EX RECPT	1.0	2.8			1.8		R	2	20	8
	EX RECPT	1.0		2.8		1.8	EX FURNITURE SYSTEM	R	2	20	10
	EX RECPT	1.0			2.8	1.8		R	2	20	12
	EX EWC	0.5	2.3			1.8	NEW FURNITURE	R	2	20	14
	SPARE			1.8		1.8	SYSTEM	R	2	20	16
	SPARE				1.8	1.8	NEW FURNITURE	R	2	20	18
	SPARE		1.8			1.8	SYSTEM	R	2	20	20
	SPARE			1.8		1.8	NEW FURNITURE	R	2	20	22
	SPARE				1.8	1.8	SYSTEM	R	2	20	24
	SPARE		1.8			1.8	NEW FURNITURE	R	2	20	26
	SPARE			1.8		1.8	SYSTEM	R	R		28
	SPARE				0.5	0.5	NEW RECPT - COPIER	R	1	20	30
	SPACE		1.3			1.3	NEW RECPT	R	1	20	32
	SPACE			0.9		0.9	NEW RECPT	R	1	20	34
	SPACE				0.7	0.7	NEW RECPT	R	1	20	36
	SPACE		9.0			9.0	NEW RECPT	R	1	20	38
	SPACE			0.7		0.7	NEW RECPT	R	1	20	40
	SPACE				0.5	0.5	NEW RECPT	R	1	20	42
	Total Con	nected:	21.5	12.4	10.8						
			Panel	Load A	nalysis						
		CONN.	DEMND		DEMND	CONN.		DE	SCRIPT	ION	LOAD
	2017 NEO REFERENCE	KVA	KVA		KVA	KVA	2017 NEC REFERENCE				TYPE
	NEC Article 215.2						NEC Table 220.56	KITCHE	EN EQU	PMENT	K
	NEC Table 220.44	44.6	27.3			£	NEC Article 430.24		MOTOR		M
	NEC Article 440.4						NEC Article 210.19		OTHERS	5	0
	NEC Article 220.51							SL	JB PANE	LS	S
	44.6 KVA		123.9 A		NOTES	-					
	27.3 KVA		75.8 A		NOTES						

ELECTRICAL	GENERAL	NOTES:

- 1. LABEL EXISTING ELECTRICAL PANEL CIRCUITS NEW AND EXISTING TO MATCH EXISTING CONDITIONS. LABEL PANEL AND CIRCUIT NUMBERS ON ALL DEVICES - NEW AND EXISTING. 2. VERIFY THAT EXIT AND EMERGENCY LIGHTING ARE CONNECTED TO
- UN-SWITCHED LIGHTING CIRCUIT SERVING GENERAL LIGHTING IN AREA WHERE UNIT IS LOCATED PER NEC700.12(F)(2)(3). REFERENCE ARCHITECTURAL CEILING PLANS FOR DIMENSIONAL AND 3.
- COORDINATION INFORMATION PRIOR TO INSTALLATION. ALL NEW MULTI-CIRCUIT HOMERUNS SHALL BE PROTECTED WITH MULTI-POLE SIMULTANEOUS-TRIP CIRCUIT BREAKERS PER NEC
- 210.4B. 5. E.C. SHALL BE RESPONSIBLE FOR COORDINATING FINAL QUANTITY AND LOCATION OF ALL EMERGENCY DEVICES (INCLUDING BUT NOT LIMITED TO BATTERY PACKS, EXIT SIGNS, FIRE ALARM DEVICES, ...) WITH AHJ. ALL FINAL LOCATIONS SHALL BE REVIEWED AND APPROVED BY THE ARCHITECT.
- 6. DEMO ALL EXISTING CIRCUITS THAT ARE NOT BEING RE-USED. VERIFY ALL EXISTING CIRCUITS IN FIELD. EXISTING CONDITIONS WERE DETERMINED FROM SITE SURVEY. FIELD VERIFY ALL EXISTING CONDITIONS AND NOTIFY ENGINEER

IMMEDIATELY OF IRRECONCILABLE CONFLICTS.

					EXI	STIN	<mark>G</mark> P/	NEL	LB											
MAINS:	200A	M	СВ	Voltage:	480/27	77V		Phase/\	Vire	3PH/4W	Mountin	g:	Surfa	ce						
BUS:		22	5 A	AIC Rating:	EXIST	ING		Enclosu	re:	NEMA 1										
											c	ONNEC	TED LO	AD (KV	A)		LOAD			
CKT #	TRIP	POLE	TYPE	DESCRIPTION	KVA	PH A	PH B	PHC	KVA	DESCRIPTION	TYPE	POLE	TRIP	CKT #						
1	35	1	Α	EX VAV-100	8.3	11.6		50 00 00 0000	3.3					2						
3	60	1	Α	EX VAV-102	13.9		17.2		3.3	EX GURNEY LIFT	A	3	20	4						
5	60	1	Α	EX VAV-106	13.9			17.2	3.3	1				6						
7	60	1	A	EX VAV-108	13.9	18.0			4.1	EX VAV-112	Α	1	20	8						
9					7.5		11.9		4.4					10						
11	30	3	A	EX VAV-222	7.5			11.9	4.4	EX VAV-224	A	2	20	12						
13					7.5	11.9			4.4					14						
15					9.6		10.3		0.7	EX LIGHTS	L	1	20	16						
17	50	3	Α	EX HUMDIFIER	9.6			10.8	1.2	NEW LIGHTS	L	1	20	18						
19					9.6	9.6				SPARE		1	20	20						
21	25	1	Α	EX VAV-225	5.8		5.8			SPARE		1	20	22						
23	15	1	Α	EX VAV-226	2.7			2.7		SPARE		1	20	24						
25	15	1	Α	EX VAV-227	3.2	3.2				SPARE		1	20	26						
27				SPACE						SPARE		1	20	28						
29	45	1	Α	EX VAV-228	9.5			9.5		SPARE		1	20	30						
31				SPACE						SPARE		1	20	32						
33				SPACE						SPARE		1	20	34						
35				SPACE						SPARE		1	20	36						
37				SPACE						SPARE		1	20	38						
39				SPACE						SPARE		1	20	40						
41				SPACE						SPARE		1	20	42						
				Total Con	nected:	54.3	45.2	52.1		•										
						Panel	Load A	nalysis			_									
LOAD TYPE	DE	SCRIPT	ION	2017 NEC REFERENCE	CONN. KVA	DEMND KVA		DEMND KVA	CONN. KVA	2017 NEC REFERENCE	DE	SCRIPT	ION	LOAD TYPE						
L	L	GHTIN	G	NEC Article 215.2	1.9	2.4				NEC Table 220.56	KITCHE	EN EQU	PMENT	K						
R	RE	CEPTAC	CLE	NEC Table 220.44	<u></u>			C		NEC Article 430.24		MOTOR		М						
Α	AIR C	ONDITIO	ONING	NEC Article 440.4	145.3	145.3				NEC Article 210.19		OTHERS	5	0						
н		HEATING	3	NEC Article 220.51							SL	JB PANE	LS	S						
Total C	onnecte	d:		147.2 KVA		177.1 A				•										
Total D	emande	d:		147.7 KVA		177.7 A		NOTES												

					EXI	STIN	<mark>G</mark> P/	ANEL	LB					
MAINS: 200A		MCB		Voltage:	480/277V		Phase/Wire		3PH/4W	Mounting:		Surface		
BUS:		225 A		AIC Rating:	EXISTING			Enclosure:		NEMA 1				
			LOAD		CONNECTED LO			AD (KVA)			LOAD			
CKT #	TRIP	POLE	TYPE	DESCRIPTION	KVA	PH A	PH B	PHC	KVA	DESCRIPTION	TYPE	POLE	TRIP	CKT #
1	35	1	Α	EX VAV-100	8.3	11.6			3.3					2
3	60	1	Α	EX VAV-102	13.9		17.2		3.3	EX GURNEY LIFT	Α	3	20	4
5	60	1	Α	EX VAV-106	13.9			17.2	3.3	1				6
7	60	1	A	EX VAV-108	13.9	18.0			4.1	EX VAV-112	A	1	20	8
9		30 3	А	EX VAV-222	7.5		11.9		4.4	EX VAV-224	A	2	20	10
11	30				7.5			11.9	4.4					12
13					7.5	11.9			4.4					14
15	50	3	А	EX HUMDIFIER	9.6		10.3		0.7	EX LIGHTS	L	1	20	16
17					9.6			10.8	1.2	NEW LIGHTS	L	1	20	18
19					9.6	9.6				SPARE		1	20	20
21	25	1	Α	EX VAV-225	5.8		5.8			SPARE		1	20	22
23	15	1	Α	EX VAV-226	2.7			2.7		SPARE		1	20	24
25	15	1	A	EX VAV-227	3.2	3.2				SPARE		1	20	26
27				SPACE						SPARE		1	20	28
29	45	1	A	EX VAV-228	9.5			9.5		SPARE		1	20	30
31				SPACE						SPARE		1	20	32
33				SPACE						SPARE		1	20	34
35				SPACE						SPARE		1	20	36
37				SPACE						SPARE		1	20	38
39				SPACE						SPARE		1	20	40
41				SPACE						SPARE		1	20	42
Total Connected: 54.3 45.2 52.1														
Panel Load Analysis														
LOAD TYPE	DESCRIPTION		ON	2017 NEC REFERENCE	CONN. KVA	DEMND KVA		DEMND KVA	CONN. KVA	2017 NEC REFERENCE	DESCRIPTION		LOAD TYPE	
L	LIGHTING			NEC Article 215.2	1.9	2.4				NEC Table 220.56	KITCHEN EQUIPMENT			ĸ
R	RECEPTACLE			NEC Table 220.44						NEC Article 430.24	MOTOR			M
Α	AIR CONDITIONING			NEC Article 440.4	145.3	145.3				NEC Article 210.19	OTHERS			0
H HEATING			3	NEC Article 220.51							SUB PANELS S			
Total Connected: 147.2 KVA					177.1 A		NOTES							
Total Demanded:				147.7 KVA		177.7 A		NOTES	•					

ELECTRICAL PANEL NOTES:

- 1. PANEL SCHEDULE SHOWS PANEL CONFIGURATION AT THE END OF
- CONSTRUCTION. 2. FIELD VERIFY EXISTING PANEL CONDITIONS AND CIRCUITS BEFORE
- BID. 3. ADD NEW CB'S AND CIRCUITS TO PANEL WHERE REQUIRED TO
- REPLACE EXISTING SPACES. 4. REUSE EXISTING SPARES AS PRACTICAL.
- 5. DEMO EXISTING CB'S THAT DO NOT MATCH NEW EQUIPMENT. REPLACE EXISTING CB'S FOR NEW EQUIPMENT AS REQUIRED.

REFERENCE NOTES:

- (1) EXISTING COMBINATION EXIT/EGRESS LIGHT.
- (2) NEW EMERGENCY EGRESS LIGHT. (3) EXISTING EXTERIOR EGRESS LIGHT.
- (4) NEW POWER POLES. 4#12, 1#12G, $\frac{3}{4}$ °C (2) NEUTRALS) TO FURNITURE SYSTEM. MATCH EXISTING POWER POLES.

