									EXISTING	PANEL	Α									
Circuit No.		KVA	С	GV		1	2	3				KVA	С	G	W	СВ	1	2	3	Circuit No
1	LIGHTS WAREHOUSE	1.5	Ε	EE	20	1.5				OFFICE RECEPT	ACLES	0.5	Ε	Е	Е	20	0.5			2
3	LIGHTS OFFICE	0.7	Ε	E	20		0.7			OFFICE RECEPT	ACLES	0.5	Ε	Е	Е	20		0.5		4
5	LIGHTS EXTERIOR	0.2	Ε	EE	20			0.2		CONFERENCE R	ECEPT.	0.9	Ε	Е	Е	20			0.9	6
7	AH-1	2.3	E	EE	30	2.3				OFFICE RECEPT	ACLES	0.5	Ε	Е	Е	20	0.5			8
9		2.3	Ε	EE	2F		2.3			ENTRY RECEPTA	CLES	0.7	Ε	Ε	Е	20		0.7		10
11	HP-1	1.6	Ε	EE	30			1.6		TOILET RECEPT	ACLES	0.2	Ε	Ε	E	20			0.2	12
13		1.6	E	EE	2F	1.6				BREAKROOM REC	EPTACLES	0.4	Ε	Е	Е	20	0.4			14
15	EF-2	0.9			20		0.9			BREAKROOM REC	EPTACLES	0.4	Ε	Е	Е	20		0.4		16
17	IL-2	0.5			20			0.5		BREAKROOM REC	EPTACLES	0.4	Е	Е	Е	20			0.4	18
19										BREAKROOM REC	EPTACLES	1.1	E	Е	Е	20	1.1			20
21										WAREHOUSE REC	EPTACLE	1.1	Ε	Е	Е	20		1.1		22
23																				24
25																				26
27																				28
29																				30
31																				32
33																				34
35																				36
37																				38
39																				40
41																				42
	TOTALS LEFT SIDE	11.6		-		5.4	3.9	2.3		TOTALS RIGHT	SIDE	6.7					2.5	2.7	1.5	
	TOTALS RIGHT SIDE	6.7				2.5	2.7	1.5												
	TOTAL CONNECTED	18.3				7.9	6.6	3.8												-
	200 amp; EXISTING			_	_															
	208/120 volts ; 3 phase																			
	4 Wire																			
	MAIN LUG ONLY																			

										PROPOSED	PANEL A									
Circuit No.		KVA	С	G	W	CB	1	2	3			KVA	C	G	W	CB	1	2	3	<u>Circuit</u>
1	LIGHTS WAREHOUSE	1.5	Е	Ε	E	20	1.5				OFFICE RECEPTACLES	0.5	Е	Е	Е	20	0.5			2
3	LIGHTS OFFICE	0.7	E	E	Ε	20		0.7			OFFICE RECEPTACLES	0.5	E	Ε	E	20		0.5		4
5	LIGHTS EXTERIOR	0.2	E	Ε	Ε	20			0.2		CONFERENCE RECEPT.	0.9	Е	Ε	Ε	20			0.9	6
7	AH-1	2.3	E	Ε	Ε	30	2.3				OFFICE RECEPTACLES	0.5	E	Ε	Ε	20	0.5			8
9		2.3	E	E	E	2P		2.3			ENTRY RECEPTACLES	0.7	E	E	E	20		0.7		10
11	HP-1	1.6	Е	Ε	Ε	30			1.6		TOILET RECEPTACLES	0.2	Е	Ε	E	20			0.2	12
13		1.6	E	E	Ε	2P		1.6			BREAKROOM RECEPTACLES	0.4	E	Ε	E	20	0.4			14
15	EF-2	<mark>0.9</mark>	E	E	Ε	20			0.9		BREAKROOM RECEPTACLES	0.4	E	E	Ε	20		0.4		16
17	TRAINING RM RECEPT.	0.6	3/4	12	12	20	0.6				BREAKROOM RECEPTACLES	0.4	E	Ε	E	20			0.4	18
19	TRAINING RM RECEPT.	0.4	3/4	12	12	20		0.4			BREAKROOM RECEPTACLES	1.1	E	E	Ε	20	1.1			20
21	TRAINING RM RECEPT.	0.6	3/4	12	12	20			0.6		WAREHOUSE RECEPTACLE	1.1	Е	Е	Е	20		1.1		22
23											LIGHTS TRAINING ROOM	1.8	3/4	12	12	20			1.8	24
25																				26
27																				28
29																				30
31																				32
33																				34
35																				36
37																				38
39																				40
41																				42
	TOTALS LEFT SIDE	12.7					4.4	5.0	3.3		TOTALS RIGHT SIDE	8.5					2.5	2.7	3.3	
	TOTALS RIGHT SIDE	8.5					2.5	2.7	3.3											
	TOTAL CONNECTED	21.2					6.9	7.7												-
	200 amp; EXISTING										CONNECTED LOAD									
	208/120 volts ; 3 phase										21.2 KVA X 1000/361 X 1.73									
	4 Wire										58.7 AMPERES									
	MAIN LUG ONLY																			
	E = "existing"																			
	RECEPT= receptacle				1															

										EXISTING	PANEL B								
Circuit No.		KVA	С	G	w	CB	1	2	3			KVA	С	G	W	СВ	1 2	2 3	Circuit No
1	EMERGENCY LIGHTS	E	Ε	Ε	Е	Ε	Е												2
3	DOOR RECEPTACLES	E	Ε	Ε	Е	Ε		Е											4
5	LIGHTS	E	Ε	Ε	Ε	Ε			E										6
7	RECEPTACLES	E	Ε	Ε	Ε	Ε	Е												8
9																			10
11																			12
13																			14
15																			16
17																			18
19																			20
21																			22
23																			24
25																			26
27																			28
29																			30
31																			32
33																			34
35																			36
37																			38
39																			40
41																			42
	TOTALS LEFT SIDE	2.4					1.5	0.9	0		TOTALS RIGHT SIDE	0					0 (0 0	
	TOTALS RIGHT SIDE	0					<u>0</u>	<u>0</u>	0										
	TOTAL CONNECTED	2.4					1.5	0.9											-
	200 amp; NEW																		
	208/120 volts; 3 phase																		
	4 Wire																		
	200 AMP MAIN BREAKER																		
	E = "existing"																		
	RECEPT= receptacle																		
	CONTRACTOR VERIFY																		
	ALL VOLTAGES																		

SERVICE		
SERVICE	SIZING-CONNECTED	LOA

SERVICE A SERVICE SIZING-	-CONNECTED LOAD CONNECTED		CONT/	NEC					
	LOAD (KVA) 7.52 KVA (SEE BELOW)	100%	NONCONT	DEMAND 9.4 KVA .5 KVA					ENGINEERING
FANS	180 VA X 55 = 900 VA= 9.9 KVA .9 KVA	100%	125% 100% 100%	9.9 KVA .9 KVA					703 N. MAIN ST. FUQUAY-VARINA, NC 27526
HVAC HEATING HVAC COOLING WATER HEATING	7.8 KVA NA (HEATING LARGER) 4.5 KVA	100% 100% 100%	100% 100% 100%	7.8 KVA NA 4.5 KVA					919-906-0812
EQUIPMENT HVAC LARGEST SHOW WINDOW	NA (INCLUDED W/ COOLING NA	100% 25% 100%	100% 100% 100%	NA NA NA					FIRM # P-1150
SIGN CIRCUIT TOTALS	NA 31.1 KVA MBER OF RECEPTACLE	100%	125%	NA 33.0 KVA					NUT CAROLAND
SERVICE VOLTAG VOLTAGE FACTO MINIMUM SERV	GE CHARACTERISTICS A	RE 208/12 AND DIVIDE	0, 3P, 4W		WING LOADS				SEAL 025582
SERVICE B SERVICE SIZING	-CONNECTED LOAD	1	CONT/	NEC					Chickes has been been we
	LOAD (KVA) 3.0 KVA (SEE BELOW)	DIVERSITY	NONCON 125%	DEMAND 3.75 KVA					
EXTERIOR LIGHTING RECEPTACLES FANS	0 180 VA X 13 = 2.4 KVA 0 KVA	100% 100% 100%	125% 100% 100%	0 KVA 2.4 KVA 0 KVA					
HVAC HEATING HVAC COOLING WATER HEATING	7.8 KVA NA (HEATING LARGER 0 KVA	100%) 100% 100%	100% 100% 100%	7.8 KVA NA 0 KVA					
EQUIPMENT HVAC LARGEST SHOW WINDOW	NA (INCLUDED W/ HEATING O KVA	100% 25% 100%	100% 100%	NA NA O KVA					
SIGN CIRCUIT TOTALS	NA 13.2 KVA	100%	100% 125%	NA 13.95 KVA					
VOLTAGE FACTO MINIMUM SER MINIMUM SERVI	VICE SIZE EQUALS DEN CE SIZE = 38.6 AMPE	IAND DIVIDE	ED BY VOL	TAGE FACTOR					
UNIT A UNIT B	INTERIOR LIGHTING WARE INTERIOR LIGHTING OFFIC INTERIOR LIGHTING WARE	E 2046 SF @	3.5 VA/SF	= 7161 VA					
	INTERIOR LIGHTING WARE INTERIOR LIGHTING OFFIC								
				INSIDE EXIST PANEL MLO RATE 2004 120/2 3 PH			STEA M	INSIDE BLDG. EXIST. PANEL A MLO RATED 200A 120/208 3 PH	DAWSON'S ELECTRIC ALTERATION 280 JARCO DRIVE FUQUAY-VARINA, NC
									DRAWN BY: CBM
						SHEET METAL WI			PLOT DATE: 4-16-2024
									ISSUED FOR: CONSTRUCTION
									REVISIONS:
						·		— GRADE	
					MAKE NO	TYPICAL SERV	ING 1 UTILITY (UNDERGROUND /ICE_RISER		PANEL SCHEDULES
									F-3

SERVICE A SERVICE SIZING	-CONNECTED LOAD		CONT/	NEC						
INTERIOR LIGHTING EXTERIOR LIGHTING	LOAD (KVA) 7.52 KVA (SEE BELOW) .5 180 VA X 55 = 900 VA= 9.9 KVA	100% 100%	NONCONT 125% 125% 100%	DEMAND 9.4 KVA .5 KVA 9.9 KVA						GINEERING
FANS HVAC HEATING HVAC COOLING	.9 KVA 7.8 KVA NA (HEATING LARGER)	100% 100%	100% 100% 100%	.9 KVA 7.8 KVA NA					703 N. M FUQUAY- 919-906	-VARINA, NC 27526
WATER HEATING EQUIPMENT HVAC LARGEST	4.5 KVA NA (INCLUDED W/ COOLING	100% 100% 25%	100% 100% 100%	4.5 KVA NA NA					FIRM # F	
SHOW WINDOW SIGN CIRCUIT TOTALS	NA NA 31.1 KVA	100% 100%	100% 125%	NA NA 33.0 KVA						Strand CAROL States
SERVICE VOLTA VOLTAGE FACTO MINIMUM SERV	IMBER OF RECEPTACLE GE CHARACTERISTICS A IR IS 361 /ICE SIZE EQUALS DEM CE SIZE = 86.1 AMPE	RE 208/120 AND DIVIDED	D, 3P, 4W		VING LOADS					SEAL 025582
SERVICE B SERVICE SIZING	-CONNECTED LOAD	-	CONT/	NEC						Cuchanger & Mull
DESCRIPTION INTERIOR LIGHTING EXTERIOR LIGHTING	LOAD (KVA) 3.0 KVA (SEE BELOW)	DIVERSITY 100% 100%	NONCONT 125% 125%	DEMAND 3.75 KVA 0 KVA						
RECEPTACLES FANS HVAC HEATING	180 VA X 13 = 2.4 KVA 0 KVA 7.8 KVA	100% 100% 100%	100% 100% 100%	2.4 KVA 0 KVA 7.8 KVA						
HVAC COOLING WATER HEATING EQUIPMENT	NA (HEATING LARGER O KVA NA	100% 100%	100% 100% 100%	NA O KVA NA						
HVAC LARGEST SHOW WINDOW SIGN CIRCUIT	(INCLUDED W/ HEATING O KVA NA	25% 100% 100%	100% 100% 125%	NA O KVA NA						
VOLTAGE FACTO MINIMUM SER	13.2 KVA AGE CHARACTERISTICS A DR IS 361 VICE SIZE EQUALS DEN ICE SIZE = 38.6 AMPE	MAND DIVIDE								
UNIT A UNIT B	INTERIOR LIGHTING WARE INTERIOR LIGHTING OFFIC INTERIOR LIGHTING WARE INTERIOR LIGHTING OFFIC	E 2046 SF @ HOUSE 535 SF	3.5 VA/SF =	= 7161 VA SF = 384 VA						
				INSIDE B EXIST. PANEL MLO RATED 200A 120/20 3 PH				INSIDE BLDG. EXIST. PANEL A MLO RATED 200A 120/208 3 PH	DAWSON'S ELECTRIC ALTERATION	280 JARCO DRIVE FUQUAYVARINA, NC
						SHEET METAL WI			PLOT DATE:	4–16–2024
							ING 1 UTILITY (UNDERGROUNE	——	ISSUED FO REVISION	R: CONSTRUCTION S:
					MAKE NO	TYPICAL SER	<u>VICE_RISER_</u> ABEL AVAILABLE FAULT		PANE	EL SCHEDULES
									E	[-3

SERVICE A SERVICE SIZING	-CONNECTED LOAD		CONT/	NEC						
INTERIOR LIGHTING EXTERIOR LIGHTING	LOAD (KVA) 7.52 KVA (SEE BELOW) .5 180 VA X 55 = 900 VA= 9.9 KVA	100% 100%	NONCONT 125% 125% 100%	DEMAND 9.4 KVA .5 KVA 9.9 KVA						GINEERING
FANS HVAC HEATING HVAC COOLING	.9 KVA 7.8 KVA NA (HEATING LARGER)	100% 100%	100% 100% 100%	.9 KVA 7.8 KVA NA					703 N. M FUQUAY- 919-906	-VARINA, NC 27526
WATER HEATING EQUIPMENT HVAC LARGEST	4.5 KVA NA (INCLUDED W/ COOLING	100% 100% 25%	100% 100% 100%	4.5 KVA NA NA					FIRM # F	
SHOW WINDOW SIGN CIRCUIT TOTALS	NA NA 31.1 KVA	100% 100%	100% 125%	NA NA 33.0 KVA						Strand CAROL States
SERVICE VOLTA VOLTAGE FACTO MINIMUM SERV	IMBER OF RECEPTACLE GE CHARACTERISTICS A IR IS 361 /ICE SIZE EQUALS DEM CE SIZE = 86.1 AMPE	RE 208/120 AND DIVIDED	D, 3P, 4W		VING LOADS					SEAL 025582
SERVICE B SERVICE SIZING	-CONNECTED LOAD	-	CONT/	NEC						Cuchanger & Mull
DESCRIPTION INTERIOR LIGHTING EXTERIOR LIGHTING	LOAD (KVA) 3.0 KVA (SEE BELOW)	DIVERSITY 100% 100%	NONCONT 125% 125%	DEMAND 3.75 KVA 0 KVA						
RECEPTACLES FANS HVAC HEATING	180 VA X 13 = 2.4 KVA 0 KVA 7.8 KVA	100% 100% 100%	100% 100% 100%	2.4 KVA 0 KVA 7.8 KVA						
HVAC COOLING WATER HEATING EQUIPMENT	NA (HEATING LARGER O KVA NA	100% 100%	100% 100% 100%	NA O KVA NA						
HVAC LARGEST SHOW WINDOW SIGN CIRCUIT	(INCLUDED W/ HEATING O KVA NA	25% 100% 100%	100% 100% 125%	NA O KVA NA						
VOLTAGE FACTO MINIMUM SER	13.2 KVA AGE CHARACTERISTICS A DR IS 361 VICE SIZE EQUALS DEN ICE SIZE = 38.6 AMPE	MAND DIVIDE								
UNIT A UNIT B	INTERIOR LIGHTING WARE INTERIOR LIGHTING OFFIC INTERIOR LIGHTING WARE INTERIOR LIGHTING OFFIC	E 2046 SF @ HOUSE 535 SF	3.5 VA/SF =	= 7161 VA SF = 384 VA						
				INSIDE B EXIST. PANEL MLO RATED 200A 120/20 3 PH				INSIDE BLDG. EXIST. PANEL A MLO RATED 200A 120/208 3 PH	DAWSON'S ELECTRIC ALTERATION	280 JARCO DRIVE FUQUAYVARINA, NC
						SHEET METAL WI			PLOT DATE:	4–16–2024
							ING 1 UTILITY (UNDERGROUNE	——	ISSUED FO REVISION	R: CONSTRUCTION S:
					MAKE NO	TYPICAL SER	<u>VICE_RISER_</u> ABEL AVAILABLE FAULT		PANE	EL SCHEDULES
									E	[-3

										PROPOSED	PANEL B									
it No.		KVA	С	G	W	CB	1	2	3			KVA	С	G	W	CB	1	2	3	Circuit N
1																				2
3	DOOR RECEPTACLES	0.5	E	Ε	E	E		0.5			OFFICE RECEPTACLES	0.9	3/4	12	12	20		0.9		4
5	RECEPTACLES	0.9	E	Ε	E	E			0.9		OFFICE RECEPTACLES	0.8	3/4	12	12	20			0.8	6
7	LIGHTS	1.3	E	Ε	E	Ε	1.3				AH-2	4.7	1	10	10		2.4			8
Э																2P		2.4		10
1	OFFICE LIGHTS	1.3	3/4	12	12	20			1.3		HP-2	3.2	1	10	10				1.6	12
.3																2P	1.6			14
.5											OFFICE RECEPTACLES	0.8	3/4	12	12	20		0.8		16
.7											EMERGENCY LIGHTS	0.4	Е	Е	Ε	Е			0.4	18
.9																				20
1																				22
3																				24
5																				26
7																				28
9																				30
1																				32
3																				34
5																				36
7																				38
9																				40
1																				42
	TOTALS LEFT SIDE	4					1.3	0.5	2.2		TOTALS RIGHT SIDE	10.8					4.0	4.1	2.8	
	TOTALS RIGHT SIDE	10.8					4	4.1	2.8											
	TOTAL CONNECTED	14.8					5.3	4.6	5.0											_
	200 amp; NEW																			
	208/120 volts; 3 phase										CONNECTED LOAD									
	4 Wire										14.8 X 1000/ 208 X 1.73									
	MAIN LUG ONLY										41 AMPERES									
	E = "existing"																			
	RECEPT= receptacle																			
	CONTRACTOR VERIFY																			
	ALL VOLTAGES																			

PROJECT ELECTRICAL NOTES

<u>GENERAL</u>

A. CONTRACTOR TO INSPECT PHYSICAL EQUIPMENT NAMEPLATE DATA AND VERIFY ON SITE PRIOR TO INSTALLING ELECTRICAL EQUIPMENT AND CIRCUITS.

B ALL WORK SHALL BE INSTALLED PER ALL GOVERNING CODES.

- C. ALL 125 VOLT, SINGLE PHASE, 15 OR 20 AMP RECEPTACLES LOCATED WITHIN 6 FEET OF A SINK SHALL HAVE GROUND-FAULT PROTECTION AS REQUIRED BY NEC.
- D. EMERGENCY LIGHTING SHALL BE CONNECTED AHEAD OF ANY SWITCH ON THE EXISTING LOCAL LIGHTING CIRCUIT. REFER TO NEC 700.12(F)(2)(3) FOR AN EXCEPTION THAT ALLOWS A SEPARATE CIRCUIT WITH A LOCK-ON FEATURE.
- E. ALL EQUIPMENT SHALL BE THIRD PARTY LISTED.
- F. DEVICES REQUIRED TO BE ADA ACCESSIBLE SHALL BE INSTALLED IN ACCORDANCE WITH ANSI A117.1. G. POST MAXIMUM FAULT CURRENT WITH PLAQUE ON SERVICE DISCONNECT.
- H. SHOW WINDOW RECEPTACLES SHALL BE INSTALLED WITHIN 18" OF WINDOW TOP PER NEC 210.62 AND 220.14(G).
- WIRING A. ALL WIRING SHALL CONSIST OF COPPER CONDUCTORS WITH THERMOPLASTIC INSULATION RATED FOR SIX HUNDRED (600) VOLTS. ALL WIRING INSULATION SHALL BE HEAT AND MOISTURE RESISTANT TYPES THW, THWN, OR THHN FOR INTERNAL AND DRY LOCATIONS.

RACEWAY SYSTEMS

- A. ALL BRANCH CIRCUIT WIRING SHALL BE ROUTED IN EMT (ELECTRICAL METALLIC TUBING), OR RIGID STEEL. USE STEEL SET SCREW TYPE FITTINGS ON ALL EMT. USE MC CABLE FOR SHORT RUNS & WHIPS ACCORDING TO GOOD PRACTICE.
- B. RACEWAY SHALL BE SUPPORTED AT INTERVALS PER NEC REQUIREMENTS AND SHALL BE SECURELY FASTENED TO BUILDING WITH AN APPROVED FASTENING SYSTEM.