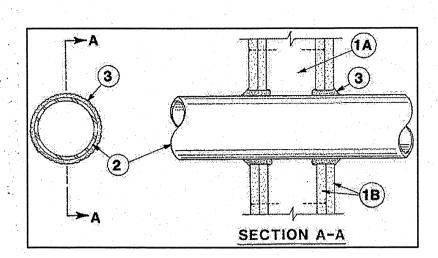
System No. W-L-1001

F Ratings -- 1, 2, 3 and 4 Hr (See Items 2 and 3)

T Ratings -- 0, 1, 2, 3, and 4 Hr (See Item 3)

L Rating At Ambient — less than 1 CFM/sq ft

L Rating At 400 F - less than 1 CFM/sq ft



1. Wall Assembly -- The 1, 2, 3 or 4 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. Stude -- Wall framing may consist of either wood stude (max 2 h fire rated assemblies) or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC with nom 2 by 4 in. lumber end plates and cross braces. Steel studs to be min 3-5/8 in. wide by 1-3/8 in. deep channels spaced max 24 in. OC.

B. Gypsum Boards -- Nom 1/2 or 5/8 in. thick, 4 ft. wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 26 in.

2. Through-Penetrant -- One metallic pipe, conduit or tubing installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit, or tubing and periphery of opening shall be min of 0 in. (point contact) to max 2 in. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

A. Steel Pipe -- Nom 24 in. diam (or smaller) Schedule 10 (or heavier)

B. Iron Pipe -- Nom 24 in. diam (or smaller) service weight (or heavier) cast iron soil pipe, nom 12 in. diam (or smaller) or Class 50 (or heavier) ductile iron pressure pipe.

C. Conduit -- Nom 6 in. diam (or smaller) steel conduit or nom 4 in.

diam (or smaller) steel electrical metallic tubing. D. Copper Tubing -- Nom 6 in. diam (or smaller) Type L (or heavier)

copper tubing. E. Copper Pipe -- Nom 6 in. diam (or smaller) Regular (or heavier)

F. Through Penetrating Product* -- Flexible Metal Piping --The following types of steel flexible metal gas piping may be used:

1. Nom 2 in. diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

2. Nom 1 in. diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

OMEGA FLEX INC

GASTITE, DIV OF TITEFLEX 3. Nom 1 in. diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor

WARD MFG LLC

or wall assembly.

Fill, Void or Cavity Material* -- Caulk or Sealant -- Min 5/8, 1-1/4, 1-7/8 and 2-1/2 in. thickness of caulk for 1, 2, 3 and 4 hr rated assemblies, respectively, applied within annulus, flush with both surfaces of wall. Min 1/4 in. diam bead of caulk applied to gypsum board/penetrant interface at point contact location on both sides of wall. The hourly F Rating of the firestop system is dependent upon the hourly fire rating of the wall assembly in which it is installed, as shown in the following table. The hourly T Rating of the firestop system is dependent upon the type or size of the pipe or conduit and the hourly fire rating of the wall assembly in which it is installed, as tabulated below:

Max Pipe or Conduit Diam In	F RATING Hr	T RATING Hr				
1	1 or 2	0+, 1 or 2				
1	3 or 4	3 or 4				
4	1 or 2	0				
8	3 or 4	0				
12	1 or 2	0				

+When copper pipe is used, T Rating is 0 hr.

3M COMPANY -- CP 25WB+ or FB-3000 WT.

*Bearing the UL Classification Mark

DIVISION 16 - ELECTRICAL

PART 1 - GENERAL

1.1 DESCRIPTION OF THE WORK A. Work under this section includes, but is not necessarily

- limited to, furnishing and installing the following:
- 1. Electrical service and service equipment.
- 2. Lighting and power distribution system. 3. Provide lighting fixtures selected by owner
- with lamps to match.
- 4. Wiring devices, boxes, cover plates, etc. 5. Source of power for all items of equipment.
- 6. Grounding. 7. Other requirements and/or systems where shown. B. All work shall be complete and items, equipment, etc., shall be electrically connected for proper and correct operation.
- C. All work under this contract shall be installed in accordance with the latest edition of the following codes and standards insofar as they apply:
- 1. The 2017 National Electrical Code.
- 2. The National Electrical Safety Code 3. Underwriter's Laboratories, Inc., Standards and
- approved listings. 4. Electrical Testing Labatories standards.
- 5. North Carolina Building Code, Latest Edition and Revisions. 6. All local codes and ordinances
- D. The Electrical Contractor shall be licensed in the State of North Carolina and have all local licenses required for the work.
- E. Obtain all permits, licenses, inspections, etc., required for the work and pay for the same. Furnish final certificate of inspection and approval from the electrical inspector having jurisdiction prior to acceptance of the work.
- F. All work shall be done by skilled mechanics and shall present a neat, trim, workmanlike condition when complete

A. The intent of these specifications and the accompanying drawings is to convey as reasonably as possible the requirements for a complete job ready for the building to operate. The Electrical Contractor shall take this into consideration and include in his base bid allowance for contingencies as will allow him to provide minor pieces of equipment and labor not specifically indicated but required for the job to operate properly, at no additional cost to the Owner.

1.3 COORDINATION

A. Coordinate work with other contractors. Notify Architect of apparent conflicts early to expedite construction. If structural damage appears imminent, stop work and notify Architect for a decision before resuming

B. Locations shown are approximate. The drawings do not give exact details as to elevations and locations of various pipes, fittings, ducts, conduit, etc., and do not show all offsets and other installation details which may be required. Coordinate all locations with architect before any rough—in.

1.4 SHOP DRAWINGS

A. Shop drawings shall be submitted for panels and service equipment, lighting, wiring devices, and cover plates. These may consist of the manufacturer's standard catalog or tear sheets and shall have the exact items being offered clearly identified.

PART 2 - PRODUCTS AND MATERIALS 2.1 GENERAL

A. All material shall be new and shall bear the manufacturer's name, trade name, and UL label where such 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. 1. Boxes installed in concealed locations shall be set flush with

the finished surfaces 2. Provide rated boxes in all fire barriers & walls installed per code.

2.2 NOT USED

- 2.3 CONDUCTORS A. Conductors shall be color coded, sizes #8 and larger may be color taped on the job. Color coding shall be: Standard Practice.
- B. Conductors shall be manufactured by Dodge, Southwire or approved equal. Conductors shall meet the latest requirements of NEMA and IPCEA and shall be UL approved.
- C. Metallic sheathed "MC" cable may be used where allowed by N.E.C.
- D. Conductors shall be spliced and taped as follows: 1. Size #10 and #12, use Ideal "Wing Nuts" or T&B "Piggy" connectors. Connectors shall be rated for

150 degrees C for use in recessed lighting fixtures.

- 2. Size #8 and larger shall be solderless screw and screw-clamping type, smoothly covered and shaped with rubber gum type with final cover vinyl plastic electrical type. In lieu of rubber gum and vinyl plastic type, factory fabricated approved preformed insulating covers may be used. All connectors shall be UL approved.
- 3. No split-bolt type connectors may be used.
- E. All branch wire and connections shall be copper and sized per National Electric Code.
- F. All conductors shall be continuous without splice between junction, outlet, device boxes, etc. No splicing will be permitted in panelboard cabinets, safety switches, etc.
- G. All wiring in mechanical spaces shall be plenum rated.
- H. Provide GFI protection within 6'-0" of any sink.
- I. All multi-wire branch circuits shall comply with 2017 NEC, 210.4(B).
- J. All wiring at medical facilities shall comply with 2017 NEC, 517.1.

2.4 PANELBOARDS, SAFETY SWITCHES

- A. Panelboards shall comply with NEMA Standard PB 1 Latest Edition and as manufactured by Square D or ITE-Siemens.
- B. The contractor shall be responsible for correctly phasing the circuits in the panelboards.
- C. Safety switches shall be general duty type, size and rating as required for lead service. Safety switches shall be fused or unfused as shown and/or as required. Safety switches serving motor loads shall be horsepower rated for load served.
- 2.5 NOT USED
- 2.6 WIRING DEVICES
- A. Wiring devices shall be commercial grade by Bryant, Leviton, or approved equal. With matching cover. Color by Architect.
- B. Wiring devices installed under a Kitchen Hood shall have
- stainless steel covers. C. Wiring devices installed over counters shall comply with ANSI A117.1.
- 2.7 NOT USED

2.8 CONDUIT A. PVC conduit will be allowed where N.E.C. approved.

B. All service conduit shall be rigid where exposed below 8'-0" AFF or exposed to the elements or hazardous conditions.

PART 3 - EXECUTION

3.1 CIRCUIT GROUNDING A. All circuits shall contain an insulated, green, copper grounding conductor, sized in accordance with Table 250-95 of the NEC. Grounding conductors shall be connected to equipment grounding bus in panelboard and securely attached and grounded to the

3.2 GROUNDING TYPE CONVENIENCE OUTLETS AND SWITCHES

device or enclosure at the other end.

A. 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.

(minimum length 24" and maximum length 36") of flexible liquidtight

3.3 MOTORS A. All motors shall be connected to conduit system with short length

3.4 NOT USED

3.5 EQUIPMENT LABELING A. Provide permanent name plates for all panelboards, safety switches, wiring troughs, etc., for identification of equipment controlled, services, etc. Nameplates shall be securely and permanently attached to equipment with stainless steel screws. Nameplates shall include the name of the equipment and where it is fed from.

B. All switch plates, receptacle plates and outlet covers shall be labeled with machine printed vinyl labels identifying the circuit(s) within.

C. All empty conduit runs shall be identified and indicated where they terminate.

D. Provide typewritten directory in each panelboard to clearly identify each circuit, service, etc.

3.6 NOT USED

3.7 NOT USED 3.8 JUNCTION AND/OR PULL BOXES

A. Boxes shall be installed where necessary to avoid excessive runs and/or too many bends between outlets.

3.9 PULL WIRE

A. Leave pull wire in each empty conduit run.

3.10 NOT USED 3.11 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 connections to grounding 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. All equipment enclosures, and non-current-carrying metallic parts of electrical equipment, raceway systems, etc., shall be

6. All equipment enclosures, and non-current-carrying metallic

parts of electrical equipment, raceway systems, etc., shall be effectively and adequately bonded to ground.

3.12 ELECTRICAL WORK IN CONNECTION WITH OTHER WORK

effectively and adequately bonded to ground.

A. PLUMBING WORK: The Electrical Contractor shall furnish and install switches and devices as shown and electrically connect electric water heaters, etc. All other electrical work required will be performed by the PLUMBING CONTRACTOR.

B. HEATING AND AIR CONDITIONING WORK: The Electrical Contractor shall provide all disconnect switches, starters, and associated hardware for the equipment furnished including all line and load side wiring and conduit. Final connections to the equipment will be by the HVAC contractor. All control wiring will be accomplished by the HVAC contractor. Coordinate all work associated with the HVAC

3.13 CLEAN UP A. During construction, keep the site clean of debris. Upon completion, and before final inspection. clean up the premises to remove all evidence of work. In addition upon completion of construction leave equipment clean.

3.14 GUARANTEE

A. Guarantee all materials and labor included in the electrical work for a period of one year from date of final acceptance by the Owner. Any part or parts of the work or equipment which prove to be defective during the guarantee period shall be replaced at no additional cost to the Owner.

GENERAL NOTES

INSTALLING LIGHT SWITCH OUTLETS.

IN THE PANELBOARDS.

- 1 ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND ALL LOCAL CODES HAVING JURISDICTION.
- 2 ALL BRANCH CIRCUIT CONDUCTORS TO BE COPPER (SERVICE CONDUCTORS MAY BE ALUMINUM WITH SAME AMPACITY AS COPPER CONDUCTORS. RE-SIZE CONDUCTERS AND CONDUIT PER NEC.)
- 3 ALL CIRCUITS TO BE 2 #12, 1 #12 GND IN 1/2" EMT CONDUIT AS A MINIMUM. PROVIDE WIRING FOR LARGER CIRCUITS AS REQUIRED BY NEC. RIGID
- CONDUIT IS REQUIRED WHERE EXPOSED BELOW 8'-0" A.F.F. 4 ALL EMPTY CONDUIT RUNS IN EXCESS OF 10 FEET SHALL BE PROVIDED WITH
- A PULL WIRE OR FISH TAPE/CORD. 5 CONTRACTOR SHALL VERIFY THAT ALL DOOR SWINGS ARE CORRECT BEFORE
- 6 ALL BRANCH CIRCUIT CONDUCTORS FROM THE PANEL TO THE FIRST OUTLET SHALL BE INCREASED TO THE NEXT LARGER SIZE WHERE THE LENGTH OF

THE HOME RUN EXCEEDS 120 FEET ON 120V AND 208V CIRCUITS.

- 7 THE CORRECT NUMBER OF WIRES MAY NOT BE INDICATED FOR ALL CIRCUITS, ONLY THOSE WHERE CLARIFICATION IS NECESSARY. THE ELECTICAL CONTRACTOR SHALL PROVIDE ALL WIRES NECESSARY FOR THE PROPER FUNCTION OF THE SYSTEM WHETHER INDICATED ON DRAWINGS OR NOT.
- 8 THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTLY PHASING THE CIRCUITS
- 9 THE ELECTRICAL CONTRACTOR SHALL VERIFY THE TYPE OF CEILING SYSTEM WITH THE GENERAL CONTRACTOR TO INSURE THAT ALL LIGHTING FIXTURES ARE COMPATIBLE WITH THE CEILING SYSTEM BEING INSTALLED. LIGHTING FIXTURES SHOULD NOT BE ORDERED UNTIL TYPE OF CEILING HAS BEEN VERIFIED.
- 10 ELECTRICAL REQUIREMENTS INDICATED ON DRAWINGS MAY DIFFER FROM ACTUAL EQUIPMENT FURNISHED. IF FURNISHED EQUIPMENT DIFFERS FROM RATINGS ON DRAWINGS CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER FOR APPROPRIATE ACTION TO BE TAKEN.
- 11 IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO COORDINATE EXACT BREAKER REQUIREMENTS FOR ALL EQUIPMENT PRIOR TO ORDERING PANEL. ADJUST BREAKER AND WIRE SIZES AS REQUIRED.

LAY-IN CEILING

THIS FIGURE ILLUSTRATES THE WORKING SPACE IN FRONT OF THE ELECTRICAL

EQUIPMENT REQUIRED BY SECTION 110-16

EXPOSED LIVE PARTS ON ONE SIDE AND NO LIVE

OR GROUNDED PARTS ON THE OTHER SIDE OF THE

WORKING SPACE, OR EXPOSED LIVE PARTS ON BOTH

SIDES EFFECTIVELY GUARDED BY SUITABLE WOOD OR

INSULATED BUSBARS OPERATING AT NOT OVER 300V

EXPOSED LIVE PARTS ON ONE SIDE AND GROUNDED

EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORK

SPACE (NOT GUARDED AS PROVIDED IN CONDITION 1)

WHERE THE CONDITIONS ARE AS FOLLOWS:

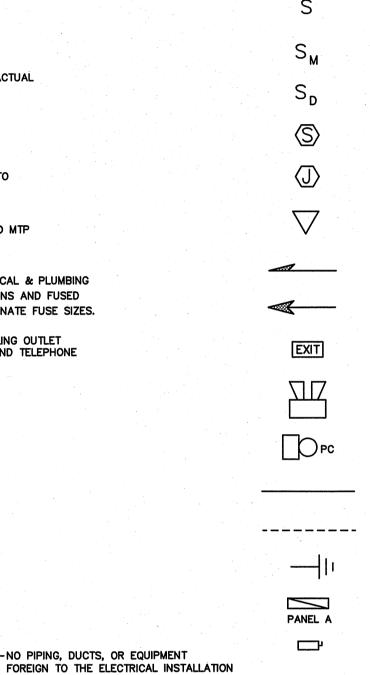
SHALL NOT BE CONSIDERED LIVE PARTS.

OF THE N.E.C.

PARTS ON THE OTHER SIDE.

WITH THE OPERATOR BETWEEN.

- 12 PROVIDE BOXES, JACKS, WIRING AND CONDUIT FROM LOCATIONS SHOWN TO MTP LOCATION. VERIFY EXACT REQUIREMENTS WITH OWNER.
- 13 ELECTRICAL CONTRACTOR SHALL PROVIDE ALL DISCONNECTS FOR MECHANICAL & PLUMBING EQUIPMENT. DISCONNECTS SHALL BE PER MANUFACTURES RECOMMENDATIONS AND FUSED PER NAME PLATE. PROVIDE NEMA 3R ENCLOSURES ON EXTERIOR. COORDINATE FUSE SIZES.
- 14 THE EC SHALL MEET WITH THE ARCHITECT AND TENANT PRIOR TO INSTALLING OUTLET BOXES TO VERIFY LOCATIONS AND MOUNTING HEIGHTS OF RECEPTACLES AND TELEPHONE



SHALL PENETRATE THIS ZONE.

- ELECTRICAL EQUIPMENT SPACE SHALL

BE NOT LESS THAN THE WIDTH AND DEPTH OF THE EQUIPMENT.

-SPACE CONTINUES THRU

DEDICATED ELECTRICAL

--- FLOOR

ELECTRICAL EQUIPMENT DEDICATED SPACE

PER ARTICLE 110.26.F.1 OF N.E.C.

DEDICATED SPACE

SPACE-ABOVE AND BELOW

ELECTRICAL LEGEND LIGHT FIXTURE: LETTER DENOTES FIXTURE TYPE O_{X} (REFER TO LIGHTING PLAN AND FIXTURE SCHEDULE). NL = NIGHT LIGHT (NOT SWITCHED/ALWAYS ON) DUPLEX RECEPTACLE - 120V; MOUNT 18" TO CENTER AFF UNLESS NOTED OTHERWISE; 'WP' INDICATES WEATHER PROOF. 'GFI' INDICATES GROUND FAULT CURRENT INTERRUPT PROTECTED. 'U' INDICATES RECEPTACLE WITH (2) USB PORTS. QUADRAPLEX RECEPTACLE - 120V FLOOR BOX- POWER/DATA-120V PROVIDE LEGRAND RFB2 OR APPROVED EQUAL RECESSED FLOOR BOX. PROVIDE MINIMUM 20A DUPLEX AND (2) CAT 6E DATA SPECIAL PURPOSE RECEPTACLE - REFER TO POWER PLAN AND PANEL SCHEDULE LIGHT SWITCH SWITCH WITH INTEGRAL PIR/US MOTION SENSOR FOR AUTOMATIC SHUT-OFF WITH UP TO 2 HOUR ADJUSTABLE DELAY. DIMMABLE LIGHT SWITCH MOTOR RATED SWITCH JUNCTION BOX TELE/DATA OUTLET - PROVIDE JUNCTION BOX WITH CONDUIT BACK TO MTP. PROVIDE (1) TELEPHONE JACK AND (1) CAT 5 DATA JACK SINGLE-POLE HOMERUN TO PANELBOARD

TWO-POLE OR 3-POLE HOMERUN TO PANELBOARD EXIT LIGHT **EMERGENCY EGRESS FIXTURE** PHOTOCELL (LED COMPLIANT) BRANCH CIRCUIT WRING ---- SWITCH LEG GROUND CONNECTION DISTRIBUTION PANELBOARD DISCONNECTING MEANS AS REQUIRED BY CODE 1 HR FIREWALL 2-HR FIREWALL

APPENDIX B 2018 BUILDING CODE SUMMARY

ELECTRICAL DESIGN
(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)

FOR ALL COMMERCIAL PROJECTS

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance

Prescriptive

Lighting Schedule

lamp type required in fixture number of lamps in fixture ballast type used in fixture number of ballasts in fixture total interior wattage specified vs. allowed total exterior wattage specified vs. allowed

Additional Prescriptive Compliance

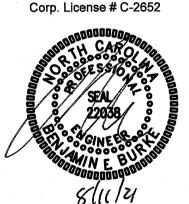
506.2.1 More Efficient Mechanical Equipment 506.2.2 Reduced Lighting Power Density 506.2.3 Energy Recovery Ventiation Systems 506.2.4 Higher Efficiency Service Water Heater 506.2.5 On-Site Supply of Renewable Energy 506.2.6 automatic Daylighting Control System



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ENGINEER

BURKE DESIGN GROUP, PE CONSULTING ENGINEERS 3305-109 Durham Drive Raleigh, North Carolina 27603 919.771.1916 fax: 919.779.0826 email: benburke@nc.rr.com



PROJECT TITLE

311 JARCO DR FUQUAY VARINA, NC 27526

PROJECT NO. DRAWING TITLE **ELECTRICAL SPECIFICATIONS**

POWERMASTER ELECTRIC

PLOT DATE

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8/11/21

ELECTRICAL CLEARANCES

- STRUCTURAL CEILING

- SUSPENDED CEILING

- ELECTRICAL EQUIPMENT

- EVEN WITH FRONT EDGE

- DEDICATED ELECTRICAL

EQUIP. WORKING CLEARANCE

OF EQUIPMENT

30" MINIMUM OR WIDTH OF EQUI

ELECTRICAL EQUIPMENT WORKING CLEARANCE

PER ARTICLE 110-26 OF N.E.C.

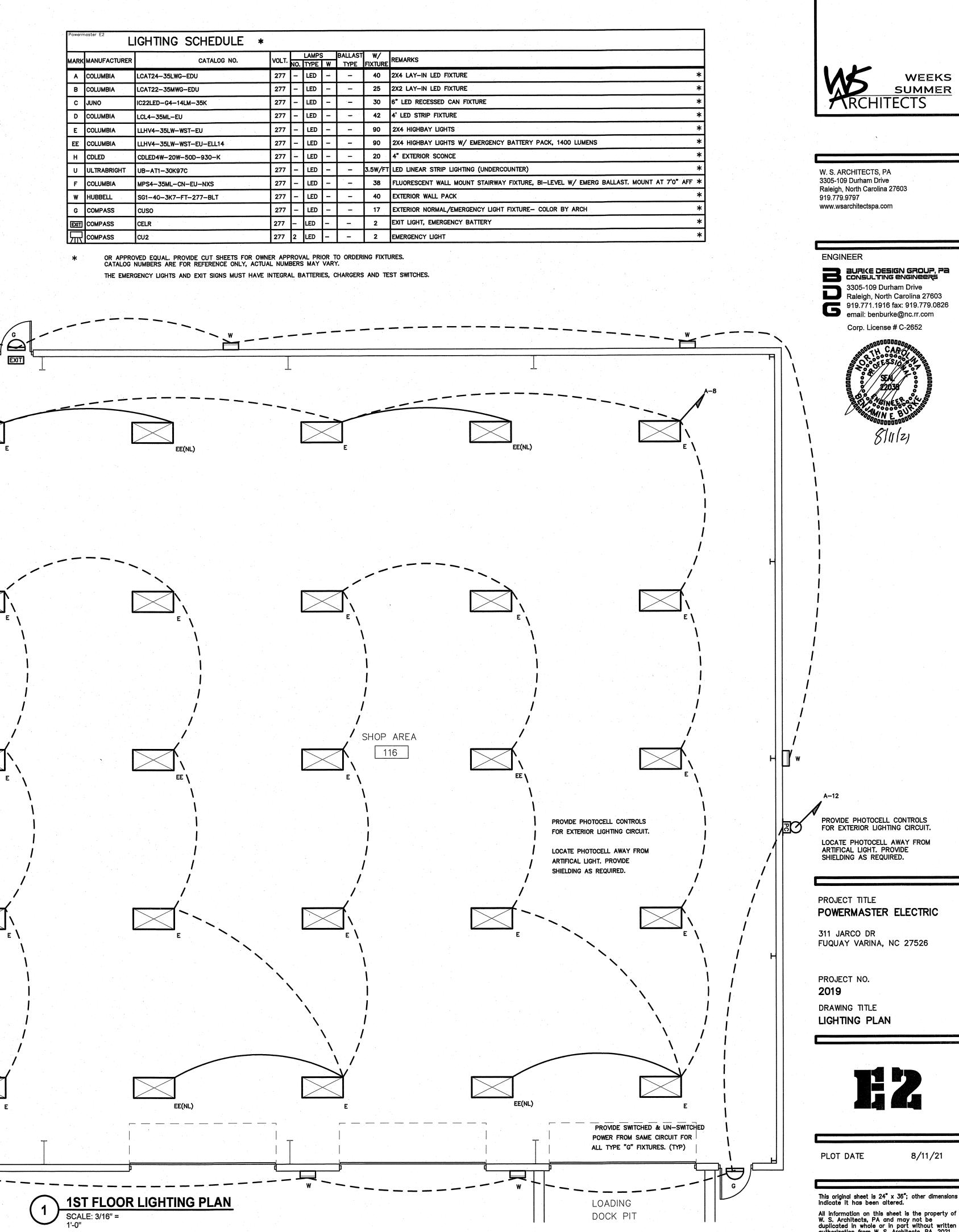
VOLTAGE TO

GROUND NOMINAL

WORKING CLEARANCES

MIN. CLEAR DISTANCE IN FEET

3-1/2



PROVIDE LABELING ON EACH SWITCH NOTING CIRCUIT SERVED.

TIE ALL EXIT AND EMERGENCY LIGHTS TO NEAREST AVAILABLE UNSWITCHED LIGHTING CIRCUIT IN THE AREA SERVED.

FUTURE OFFICES

AUTOMATIC LIGHTING SHUTOFF IS NOT SHOWN IN THE EGRESS PATH LIGHTING AS ALLOWED PER 405.2.1-3 EXCEPTION #3, WHERE AUTOMATIC SHUTOFF WOULD ENDANGER OCCUPANT SAFETY.

106

MEZZANINE LIGHTING PLAN

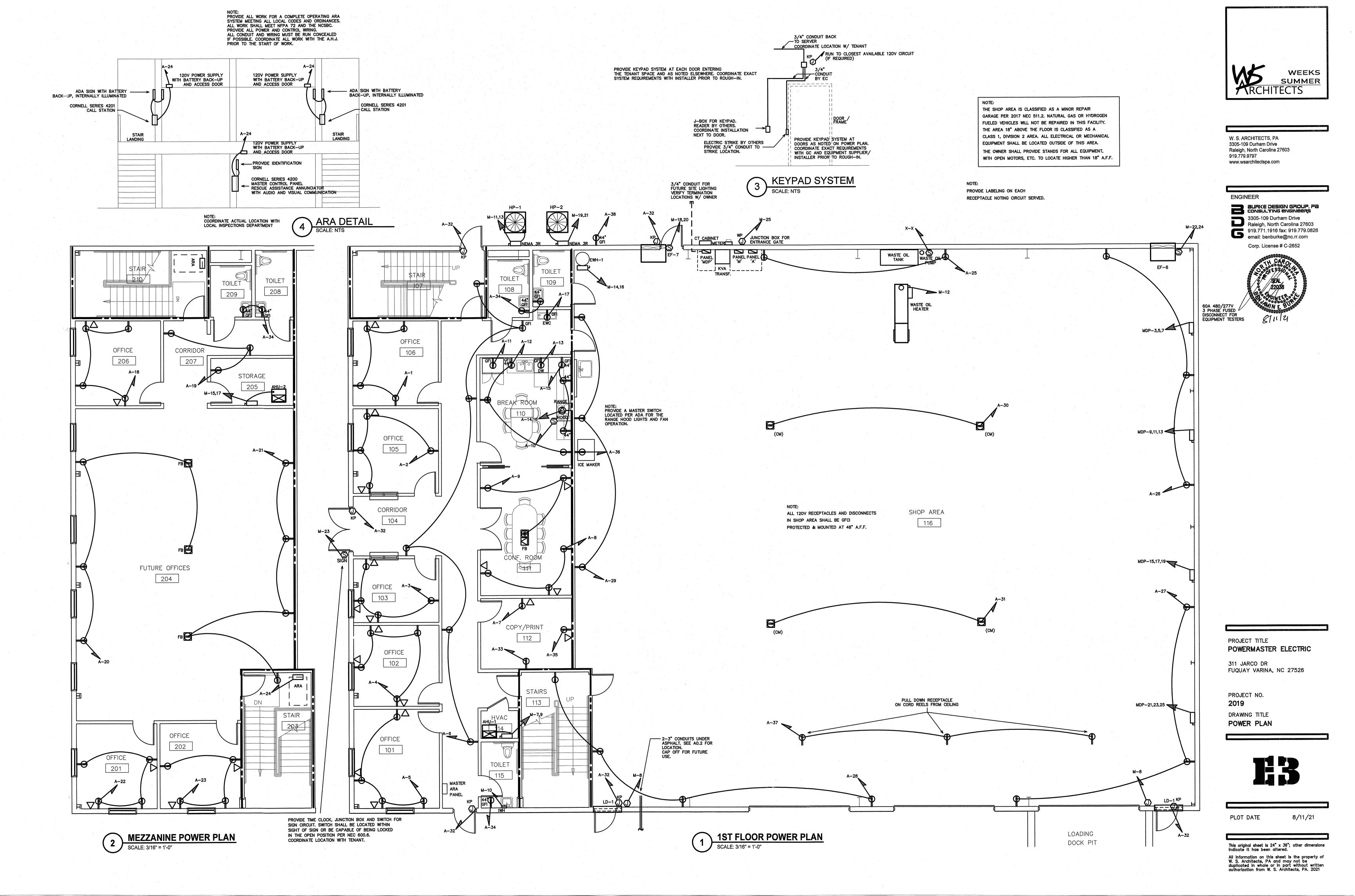
SCALE: 3/16" =
1'-0"

203

TO FIRST FLOOR

DOCK PIT

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NEW PANEL 'MDP'	MAKE: _ TYPE: _ OR AP			M	ATING: _3 OUNTING INIMUM	G: <u>SU</u>	RFACE		E <u>4</u> WR	_ EQU		GROUN	uit Breake Id Bus Ated				
LOAD SERVICE	CKT BRKR	WATTS	PER F	HASE C	CKT		JTRAL B C	CKT NO	WATT	S PER B	PHASE C	CKT BRKR	• • · · · · · · · · · · · · · · · · · ·				
SPARE	20A				1		110	2	24102				PANEL 'M'				
DISCONNECT			13000		3	\overline{A}		4		28742	 	150A	A				
NOONNEO T	60A		.0000	13000		$\overline{}$		6	 		20556	100/1					
	00/1	13000		10000	7		\Box	8	2250		-	20A					
DISCONNECT		10000	13000		9			10	2200	2745			LIGHTS-OFF				
/ISCONNECT	60A		13000	13000			\coprod_{\frown}	12	 	2/43	462						
	DUA	47000		13000	13			14	 		402		LIGHTS-EXT				
		13000					$\overline{\Box}$			-		30A	SPARE (SIT	<u> </u>	······································		
DISCONNECT		-	13000		15		 	16	<u> </u>				SPACE				
	60A			13000			#	18	<u> </u>				SPACE				
<u> </u>		13000			19	\cap	$+\!\!+\!$	20					SPACE				
DISCONNECT			13000		21	\triangle	+	22	<u></u>				SPACE				
	60A			13000	23	$ \uparrow $	+	24	دي				SPACE				
		13000			25	$\overline{}$	+	26		-			SPACE				
SPACE					27			28					SPACE				
SPACE					29	$\overline{}$	\Box	30	1 .				SPACE				
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NOTES SUB-T	OTALS 'B'	52000	52000	52000	<u> </u>	6	00A	BUS	26352	31487	21018		TOTALS 'A'				
						6	00A	LUGS	52000	52000	52000	52000 SUB-TOTALS 'B' TOTAL CONNEC					
						600A FEED 78352			83487 73018	GRAND TOTAL							
						VERIFY SIZE 2			283A	A 301A 264A		AMPS	/PHASE				
NEC ALLOWABLE DEMAND	FACTO	RS	DI	VERS	IFIED	LOAD	SUM	MARY	•	4							
1 DEMAND FACTORS PER NEC				LOA) TYPI	DEMAND A FACTOR					С	TOTAL	TOTAL DIVERSIFIED LOAD				
2 LARGEST OF: NEC TABLE 2 CONNECTED LOAD	20.12 OR				LIGHTING			125%	2813	3431	578		6822				
3 NEC TABLE 220.56				IERAL				125% XVA © 100%	3333	3333	3333	<u> </u>	9999				
(4) NEC 220.51			REC	EPTAC	LES		>10	KVA@50%	854	1214	944		3012				
- X	AD ET			TORS A		VRGEST		125%	5000	5000	3165		13165				
(5) NEC 220.43A, 200 VA/LINE				JIPMEN'	ATERS	L OTHER	S	100% 125%	8344 2250	5600 5750	10168	<u> </u>	24112 8000				
6 NON-COINCIDENT LOADS, LA OF THE TWO LOADS IS COU					QUIPME	NT.		100%							<u> </u>		
FIX. ELEC. SPACE SHOW WINDOW LIG						FIX. ELEC. SPACE HEAT. (4) 100% 3468 69							13872				
						SHOW WINDOW LIGHTS (a) 125% SIGN 125%							1500				
			MIS					100%	52960				156960				
:						PHAS		TAL VA		83264			237442				
								TOTAL AMPS	285A	301A	271A	AOT.	NT AMPS . IS X 1.732	286A	TOTAL AMPS		

Powermaster E4 NEW PANEL 'M'	MAKE: _	ER HAMMER RATING: 208/120V 3							<u> 4</u> WIR	1			UIT BREAKE					
NEW PANEL M	TYPE: _	PRL1a	M	MOUNTING: SURFACE							_ EQUIPMENT GROUND BUSXYES □NO							
	OR AF	R APPROVED EQUAL MINIMUM AIC: 20.000A SERVICE ENT					INTRY RATEDYES XNO											
LOAD	CKT	WATT:	s per f	PHASE	CKT	NE	UTRA	AL:	CKT	WATT	s per	PHASE	CKT	LOAD				
SERVICE	BRKR	Α	В	C	NO	A	BC)	NO	Α .	В	C.	BRKR	SERVICE				
PANEL 'A'		11180			1	\bigcap		\setminus	2					SPARE				
SUB-FED	150A		11896		3		-	\backslash	4				60A	(FUTURE P.	PANEL)			
				9320	5	\cap		7	6					• ,				
AHU-1	45A	3960			7	\bigcap		$\overline{}$	-8	360			20A	LOUVERS				
	45A		3960		9	\cap	-	\setminus	10		3500		40A	IWH				
HP-1	404			2676	11	\cap		$\left \frac{1}{2} \right $	12			2400	25A	WASTE OIL	HEATER			
	40A	2676			13			$\left \cdot \right $	14	2250			30A	EWH				
AHU-2	AEA		3960		15	\cap	<u></u>)	16		2250		JUA	•				
	45A			3960	17	\bigcirc		7	18			500	20A	EF-6				
HP-2	404	2676			19	\bigcap		7	20	500			ZUA	<u>, </u>				
	40A		2676		21	\bigcirc	-	\langle	22		500		20A	EF-7				
SIGN	20A			1200	23	\bigcirc		(24			500	ZUA		4 4			
GATE	20A	500			25	7			26				20A	SPARE				
SPARE	20A			1,00	27	7	+	ζ	28				20A	SPARE				
SPARE	20A				29	\bigcirc		ζ	30		4 .		20A	SPARE				
SPARE	20A				31			7	32			,	20A	SPARE				
SPARE	20A				33	\overline{C}	-	5	34	1 1	-		20A	SPARE				
SPACE					35	7		$\left(\cdot \right)$	36					SPACE				
SPACE					37	7		ς	38					SPACE				
SPACE	t in the second				39	7		ς	40					SPACE				
SPACE					41	\Box	Щ	<u>,</u>	42		1			SPACE				
	OTALS 'B'	20992	22492	17156	\bowtie		400A		BUS	3110	6250	3400	SUB-	TOTALS 'A'				
	**						400A		LUGS	20992	22492	ATASO CUID TOTAL C 'D'		TOTAL CONNECTED LOAD				
							400A		FEED	24102		20556 GRAND TOTAL			TOTAL COMMECTED LUAD			
						۷	ERIF	Y_	SIZE	201A	240A	171A	AMPS	/PHASE				
NEC ALLOWABLE DEMAND	FACTO	RS	D	VERS	FIED	LOA	D S	UMN	MARY		• ;							
					LOAD TYPE DEMAND					Α	В	С	TOTAL	. DIVERSIFIE	ED LOAD			
2 LARGEST OF: NEC TABLE 2					JGHTING		Q		ACTOR ① 25%									
CONNECTED LOAD		TRACK						1	25%									
3 NEC TABLE 220.56				NERAL (CEPTACI					KVA@100% KVA@50%	3333 854	3333 1214	3333 944		9999 3012				
4 NEC 220.51	MOTORS						CCEPTACLES ;				5000	3165		13165				
5 NEC 220.43A, 200 VA/LINE				JIPMENT	MENT ALL OTHERS 100%					8344 2250	5600 5750	10168		24112 8000				
(6) NON-COINCIDENT LOADS, L												===						
I OF THE TWO LOADS IS COUNTED					IX. ELEC. SPACE HEAT.					3468 69		3468	13872					

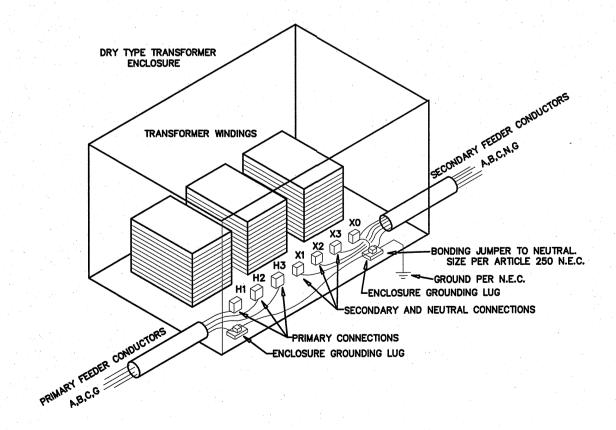
PHASE (TOTAL VA) 24209 27833 22578 74620

TOTAL AMPS 202A 232A 188A VOLTS X 1.732 207A AMPS

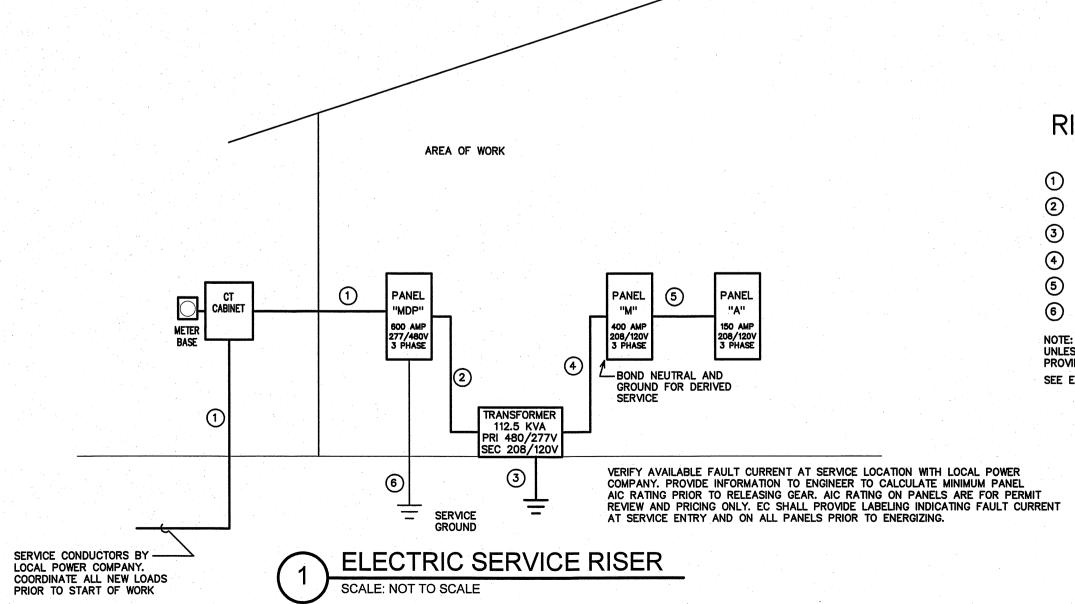
NEW PANEL 'A'	MAKE: _ TYPE: _	PRL1a		м	OUNTING	S: SURFAC	Έ		_ EQU	MLO_MAIN CIRCUIT BREAKER EQUIPMENT GROUND BUSXYES □NO SERVICE ENTRY RATED□YES XNO						
	OR AF	PROVE	EQUA	L M	INIMUM	AIC: 20.0	000A		_ SER	VICE EN	ITRY R	ATED	□YES ⊠NO			
LOAD	CKT	WATT	PER F	PHASE	CKT	NEUTRAI		WATT	S PER I		4		LOAD			
SERVICE	BRKR	A	В	C	NO	ABC	NO	Α	В	С	BRKR		SERVICE			
RECEP-1ST FLOOR OFFICE	20A	720			1 1		<u> 2</u>	720			20A	RECEP-1ST	RECEP-1ST FLOOR OFFICE			
RECEP-1ST FLOOR OFFICE	20A		720		3		4		720		20A	RECEP-1ST	FLOOR OFFICE			
RECEP-1ST FLOOR OFFICE	20A			720	5		6			1080	20A	RECEP-HA	L			
RECEP-COPY/PRINT RM	20A	540			7		<u> </u>	540			20A	RECEP-CO	NFERENCE RM			
RECEP-CONFERENCE RM	20A		720		9		10		696		20A	MOTORIZED	SWITCH			
REFRIGERATOR	20A		1	1800	11		12			720	20A	RECEP-KIT	CHEN			
DISHWASHER	20A	1500	·	٠.	13	$I \cap + I + I$	14	4000			EOA	RANGE				
RECEP-KITCHEN	20A		540		15		16		4000	100	50A					
EWC	20A			180	17		18			720	20A	RECEP-ME	ZZ. OFFICE			
RECEP-MEZZ. HALL/STORAG	E 20A	720			19		20	900	1.0		20A	RECEP-OP	EN OFFICE			
RECEP-OPEN OFFICE	20A		900		21		22		720		20A	RECEP-ME	ZZ. OFFICE			
RECEP-MEZZ. OFFICE	20A			720	23		24			500	20A	ARA SYSTE	M			
RECEP-WAREHOUSE	20A	360			25		→ 26	540			20A	RECEP-WA	REHOUSE			
RECEP-WAREHOUSE	20A		540		27		→ 28		540			RECEP-WAREHOUSE				
RECEP-WAREHOUSE	20A			540	29		30		-	360	 	RECEP-WAREHOUSE				
RECEP-WAREHOUSE	20A	360			31		32	100			 	KEYPAD				
PRINTER	20A		1440		33		34		360		20A	REC- BATHROOM GFI				
COPY/ PRINT	20A		1110	180	35		36			1800		ICE MAKER				
REC- OVERHEAD	20A	180			37		$\frac{38}{38}$	180				REC- EXTERIOR				
SPACE	1201				39		√ 40				1	SPACE SPACE				
SPACE					41		142					SPACE				
	SUB-TOTALS 'B'	4700	4860	4140		4	BUS	6800	7076	E100	SUR-	TOTALS 'A'				
NOTES	SOU-TOTALS D	4380	1 4860	4140	KXXX		LUGS	6800	7036	5180	 		1			
						150A	FEED				SUB-TOTALS 'B		TOTAL CONNECTE			
						150A	SIZE									
	<u> </u>					VERIFY		93A	99A	78A	I AMPS	/PHASE	<u> </u>			
NEC ALLOWABLE DE	MAND FACTO	RS	D	IVERS	IFIED	LOAD SU	MMARY			,						
1 DEMAND FACTORS P	ER NEC 220			LOAD	TYP	E	DEMAND FACTOR ①	Α	В	С	TOTAL	L DIVERSIFIE	D LOAD			
2 LARGEST OF: NEC T	ABLE 220.12 OR				LIGHTING	2	125%									
CONNECTED LOAD (3) NEC TABLE 220.56				ACK LIG NERAL (125% ≤10KVA © 100%	7777	3333	3333		9999				
				CEPTACI			>10KVA@50%	854	1214	944	<u> </u>	3012				
4 NEC 220.51	/A /I INIEAD ET			TORS A	_	VRGEST	125%	5000	5000	2250		12250 5240				
5 NEC 220.43A, 200 \ 6 NON-COINCIDENT LO				JIPMENT TER HE		LL OTHERS	100% 125%	1500	1440	2300		5240				
OF THE TWO LOADS	•		KIT	CHEN E	QUIPME		100%									
					SPACE DOW LIG		100% 125%									
				N WINL	JUN 116	HTS 6	125%									
				C		C41464-7	100%	100	10097			100				
			L			PHASE (TOTAL		10987	8827	W	30601 OLT AMPS	- REA TOTA			
							AMPS	90A	92A	74A	1	TS X 1.732	= 85A AMPS			

Powermaster E4 EQUIPM	ENT	WIF	RING	S	CHEDULE
EQUIPMENT	МСА	МОСР	VOLTS	PH	WIRE SIZE
AHU-1	44.7A	45A	208V	1	2-#6, 1-#10 GND IN 1" CONDUIT
HP-1	28.5A	40A	208V	1	2-#8, 1-#10 GND IN 3/4" CONDUIT
AHU-2	44.7A	45A	208V	1	2-#8, 1-#10 GND IN 3/4" CONDUIT
HP-2	28.5A	40A	208V	1	2-#8, 1-#10 GND IN 3/4" CONDUIT
IWH	(3.5KW)	40A	120V	1	2-#8, 1-#10 GND IN 3/4" CONDUIT
EWH	(4.5KW)	30A	208V	.1	2-#10, 1-#10 GND IN 3/4" CONDUIT
EF-6	16A	20A	208V	- 1.	2-#12, 1-#12 GND IN 1/2" CONDUIT
EF-7	16A	20A	208V	1	2-#12, 1-#12 GND IN 1/2" CONDUIT
WASTE OIL HEATER	20A	25A	120V	1	2-#10, 1-#10 GND IN 3/4" CONDUIT
RANGE	(8KW)	50A	208V	1	3-#8, 1-#10 GND IN 3/4" CONDUIT
EQ TESTING DISCONNECT (X4)	48A	60A	480V	3	4-#6, 1-#10 GND IN 1" CONDUIT

NOTE: THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL EQUIPMENT ELECTRICAL REQUIREMENTS PRIOR TO ROUGH-IN AND RELEASING GEAR. ADJUST BREAKER, WIRE SIZES, ETC. AS REQUIRED.



TRANSFORMER WIRING DETAIL



RISER WIRING SCHEDULE

- 1) 600A: (2 SETS) 4-#350MCM, 1-#1 CU GND, IN (2) 3" CONDUIT
- 2 150A: 3-#1/0, 1-#6 CU GND, IN 2" CONDUIT
- FOR XFRMR: SIZE PER DERIVED PHASE CONDUCTORS USING TABLE 250.66; CONNECT TO NEAREST GROUNDING ELECTRODE PER NEC 250.30 (7) 2008
- 4 400A: 4-#500MCM, 1-#3/0 CU GND, IN 3 1/2" CONDUIT
- 5 150A: 4-#1/0, 1-#6 CU GND, IN 2" CONDUIT
- 6 #3/0 CU GND TO BUILDING STEEL, FOUNDATION STEEL AND METALLIC WATER MAIN AND #6 CU GND TO 10' X 5/8" DRIVEN GROUND ROD

NOTE:
UNLESS OTHERWISE NOTED ALL OTHER CIRCUITS ARE 20A, 120VOLT.
PROVIDE 2-#12, 1-#12 CU GND IN 1/2" CONDUIT. SEE EQUIPMENT SCHEDULES FOR ADDITIONAL WIRE SIZES.

WEEKS TURNER ARCHITECTURE

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ENGINEER

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PROJECT TITLE POWERMASTER ELETRIC

JARCO DRIVE FUQUAY—VARINA, NORTH CAROLINA

PROJECT NO.

DRAWING TITLE PANELS & RISER

PLOT DATE

8/11/21