Docusign Envelope ID: 8A285E9A-2B1F-4ADE-92B1-47DE6F53A95F

SWITCHBOARD: MSB

Location: MAIN ELECTRICAL 128
Supply From: UTILITY
Mounting: Floor
Enclosure: NEMA 1

Volts: 480Y/277
Phases: 3
Wires: 4

A.I.C. Rating: 42,000
Mains Type: MCB (NOTE 1)
Mains Rating: 2000 A
SCC: 33,034

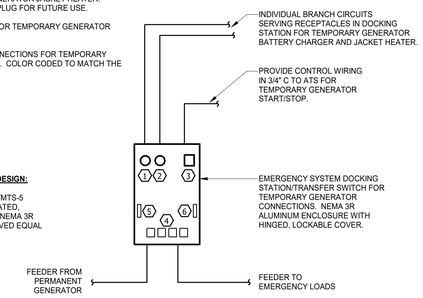
CKT	CIRCUIT DESCRIPTION	TRIP	POLES	WIRE SIZE	COND SIZE	NOTES	A	B	C
1							4060 VA		
2	1LH1	100 A	3	3-#1, 1-#1, 1-#8	1-1/2			5029 VA	
3									5251 VA
4							11080 VA		
5	ELEV-1	100 A	3	3-#1, 1-#1, 1-#8	1-1/2			11080 VA	
6									11080 VA
7							11080 VA		
8	ELEV-2	100 A	3	3-#1, 1-#1, 1-#8	1-1/2			11080 VA	
9									11080 VA
10							9620 VA		
11	ATS-E	200 A	3	3-#3/0, 1-#3/0, 1-#6	1-1/2	2		8540 VA	
12									8920 VA
13							4130 VA		
14	ATS-S	100 A	3	3-#1, 1-#1, 1-#8	1-1/2			3737 VA	
15									1799 VA
16							18548 VA		
17	X-1DL1	175 A	3					19642 VA	
18									18898 VA
19							0 VA		
20	X-1DL2	175 A	3					0 VA	
21									0 VA
22							1200 VA		
23	X-1DL3	175 A	3					7322 VA	
24									7322 VA
25							0 VA		
26	X-1DL4	175 A	3					0 VA	
27									0 VA
28							13656 VA		
29	1MH1	200 A	3	3-#3/0, 1-#3/0, 1-#6	2			13656 VA	
30									13656 VA
31							31000 VA		
32	1MH2	200 A	3	3-#3/0, 1-#3/0, 1-#6	2			31000 VA	
33									31000 VA
34							19534 VA		
35	2MH1	200 A	3	3-#3/0, 1-#3/0, 1-#6	(2) 2			19534 VA	
36									13534 VA
37							22667 VA		
38	2MH2	200 A	3	3-#3/0, 1-#3/0, 1-#6	2			22667 VA	
39									22667 VA
40							20973 VA		
41	X-2DL1 (VIA DISC-X-2DL1)	175 A	3					16106 VA	
42									13978 VA
43							66203 VA		
44	KVU-1	250 A	3	3-#250, 1-#250, 1-#4	3			66203 VA	
45									66203 VA
46							62325 VA		
47	RTU-1	250 A	3	3-#250, 1-#250, 1-#4	3			62325 VA	
48									62325 VA
49							0 VA		
50	SPD	60 A	3	--	--			0 VA	
51									0 VA
52							0 VA		
53	SPARE	400 A	3	--	--	2		0 VA	
54									0 VA
55							0 VA		
56	SPARE	200 A	3	--	--			0 VA	
57									0 VA
58							0 VA		
59	SPARE	175 A	3	--	--			0 VA	
60									0 VA
61							--		
62	SPACE	--	3	--	--			--	
63									--
64							--		
65	SPACE	--	3	--	--			--	
66									--
67							--		
68	SPACE	--	3	--	--			--	
69									--
70							--		
71	SPACE	--	3	--	--			--	
72									--
				Total Load:			296050 VA	297876 VA	287701 VA
				Total Amps:			1073 A	1080 A	1039 A

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Power	553676 VA	100.00%	553676 VA		
REC	56960 VA	58.78%	33480 VA	**Total Conn. Load:**	881627 VA
Lighting	19776 VA	100.00%	19776 VA	**Total Est. Demand:**	858147 VA
Mechanical	251297 VA	100.00%	251297 VA	**Total Conn. Current:**	1060 A
				Total Est. Demand Current:	1032 A

Notes:
1. PROVIDE DRAWOUT TYPE, ELECTRONIC MAIN CIRCUIT BREAKER WITH LSIG TRIP FUNCTIONS.
2. PROVIDE ELECTRONIC BREAKER WITH LSI TRIP FUNCTIONS.

KEYED NOTES :

1. SECONDARY 120V, 20 AMP, GFCI RECEPTACLE FOR TEMPORARY GENERATOR BATTERY CHARGER.
2. SECONDARY 208V, 30 AMP, TWIST LOCK RECEPTACLE FOR TEMPORARY GENERATOR JACKET HEATER. PROVIDE MATCHING PLUG FOR FUTURE USE.
3. CONNECTION PORT FOR TEMPORARY GENERATOR START/STOP.
4. CAMLOK WIRING CONNECTIONS FOR TEMPORARY POWER CONNECTION. COLOR CODED TO MATCH THE PROJECT VOLTAGE.
5. NEUTRAL BUS.
6. GROUND BUS.



BASIS OF DESIGN:

TRYSTAR TMTS-5
200 AMP RATED,
480Y/277V, NEMA 3R
OR APPROVED EQUAL

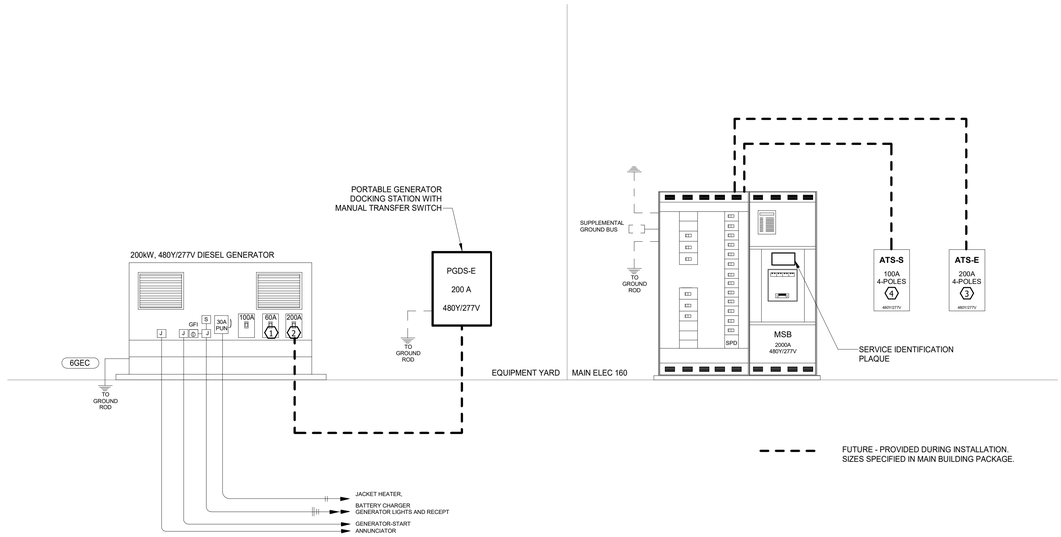
3 E604 **GENERATOR DOCKING STATION**
SCALE: NTS

GENERAL NOTES TO POWER RISERS:

1. PROVIDE 4" (NOMINAL) THICK, 3000 PSI CONCRETE EQUIPMENT PAD FOR ALL FLOOR MOUNTED GEAR AND TRANSFORMERS. FNISH SMOOTH AND CHAMFER EDGES.
2. COORDINATE LOCAITIONS FOR ALL DRY TYPE TRANSFORMERS TO PROVIDE NEC MANDATED WORKING CLEARANCES AND PROVIDE CLEARANCES FROM WALLS AS RECOMMENDED BY PRODUCT MANUFACTURER TO PROMOTE AIR CIRCULATION (6" MIN.)

KEY NOTES TO E604

1. 60A MOTOR CIRCUIT PROTECTION CIRCUIT BREAKER FOR 25 HP FIRE PUMP. THE INSTANTANEOUS TRIP SETTING FOR THE BREAKER SHALL NOT EXCEED THE CALCULATED SHORT CIRCUIT FAULT AVAILABLE FROM THE GENERATOR. THE BREAKER SHALL HAVE PROVISIONS TO LOCK IN THE CLOSED POSITION AND MEET ALL REQUIREMENTS OF NEC 695.4 (B)(3). PROVIDE SIGNAGE TO INDICATE "FIRE PUMP DISCONNECTING MEANS" WITH 1" HIGH LETTERS.
2. PROVIDE ELECTRONIC CIRCUIT BREAKER WITH LSI TRIP FUNCTIONS FOR EMERGENCY SYSTEM.
3. ATS-E IS THE TRANSFER SWITCH SERVING THE NEC ARTICLE 700 EMERGENCY SYSTEM.
4. ATS-S IS THE TRANSFER SWITCH SERVING THE NEC ARTICLE 702 OPTIONAL STANDBY SYSTEM.



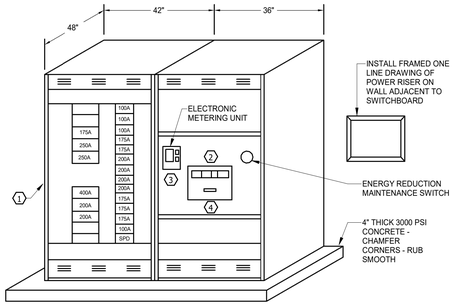
1 E604 **ELECTRICAL DISTRIBUTION RISER - EARLY PROCUREMENT**
SCALE: NTS

ELECTRICAL LOAD SUMMARY		
LOAD	kVA	AMP/PHASE
LIGHTING	19.8	23.8
RECEPTACLE	57.0	68.6
POWER	553.7	666.3
MECHANICAL	251.3	302.4
.		
TOTAL	881.8	1061.1

LOAD SUMMARY NOTES:

1. LOAD KVA VALUES ARE TOTAL OVER ALL THREE PHASES.
2. LOAD CURRENTS ARE EQUALLY DISTRIBUTED EQUALLY OVER ALL THREE PHASES AT THE THE SUPPLY VOLTAGE.

SO DETAIL: SC0001



GENERAL NOTES :

1. SET BREAKER TRIP ADJUSTMENTS AS DIRECTED BY THE ENGINEER. VALUES WILL BE DETERMINED BASED ON CONTRACTOR SUBMITTED TIME-CURRENT CURVES. PROVIDE TRIP UNITS SEALS WHERE APPLICABLE.
2. ALL CIRCUIT BREAKERS SHOWN IN SWITCHBOARD ARE 3 POLE UNLESS OTHERWISE INDICATED.
3. SUPPLY TVSS FOR SWITCHBOARD WITH 3-#6 PHASE, 1-#6 NEU & 1-#6 GND IN 1" RMC NIPPLE.

KEYED NOTES :

1. NEW 480Y/277 V, 2000A, 42K AIC SWITCHBOARD WITH 2000A HORIZONTAL BUS AND WITH 2000A DISTRIBUTION SECTION. PROVIDE DISTRIBUTION SECTION WITH 2000A VERTICAL BUS AND 11.7" VERTICAL MOUNTING SPACE. SWITCHBOARD SHALL BE LISTED FOR USE AS SERVICE EQUIPMENT.
2. PROVIDE 100% RATED, 2000A, ELECTRONIC FULL-FUNCTION, DRAWOUT TYPE MAIN CIRCUIT BREAKER WITH GROUND FAULT PROTECTION, LOCAL AMMETER AND A NEUTRAL CURRENT TRANSFORMER.
3. PROVIDE DIGITAL CIRCUIT MONITOR WITH RS-485 COMMUNICATION PORT AND 0.2% TOLERANCE FOR METERED VALUE ACCURACY. ADDITIONAL FEATURES TO INCLUDE WAVEFORM CAPTURE, 12-CYCLE EVENT CAPTURE AND POWER QUALITY MONITORING. MONITOR SHALL HAVE EXTENDED MEMORY AND BE PROGRAMMABLE.
4. PROVIDE (2) 3" INFRARED VIEWING WINDOWS IN MAIN BREAKER SECTION.

2 E604 **SWITCHBOARD ELEVATION**
SCALE: NTS

SW DETAIL: EQ0003

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 039503 MATTHEW J. JOHNSON
01/06/2025

NO.	REVISION	DATE

JOB NUMBER
23-013
DATE ISSUED
1/8/2025
PROJECT STATUS
BID SET
SHEET
ELECTRICAL DISTRIBUTION SYSTEM

E604

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