

ELECTRICAL RISER DIAGRAM

- AVAILABLE UTILITY INFINITE ASSUMPTION
- 112.5KVA 4.5%Z, 120/208V, 3 PHASE, 20', 3/0 SINGLE CONDUCTORS, 2 PER PHASE.
- MAGNETIC CONDUIT
- AIC RATING OF PANEL'S, MDP AND LPA, ARE 10K.

NOTE FOR PANEL MDP

- DEMAND AMPACITY, FOR PANEL MDP, IS 200.5A

PANEL MDP LOAD CALCULATIONS

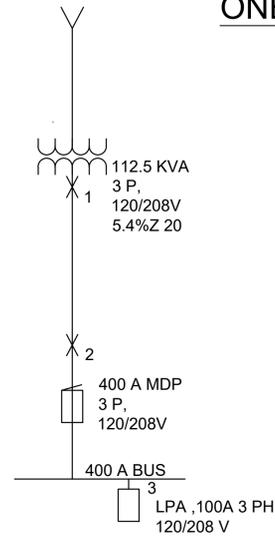
Load	KVA CONNECTED	DF	DEMAND KVA CONNECTED
LIGHTING			
PANEL MDP.			
PANEL LPA	20,160VA.	1.25.	24,162VA
PANEL MDP			
HVAC			
HVAC1.	11910VA.	1.25.	14,887.5VA
HVAC2.	11910VA.	1.	11910VA
TOTAL HVAC IN PANEL MDP.	23,820VA.		26,797.5VA
Receptacles			
PANEL MDP.	12,060VA		11,030VA
TOTAL.	12,060VA.		11,030VA
Motors			
EXHAUST FAN1.	3,560VA.	1.	1,780VA
EXHAUST FAN2.	3,560VA.	1.	1,780VA
WARER HEATER.	800VA.	1.	800VA
WATER FOUNTAIN.	500VA.	1.	500VA
PAGE 2 LOAD CALCULATIONS			
CEILING FANS 457.5VA EA. TOTAL OF 4 UNITS 1,830VA.		1.	1,830VA
TOTAL MOTOR LOAD.	10,250VA.	1.	10,250VA
TOTAL CONNECTED MDP LOAD	66,285VA.		CONNECTED AMPS 179.57A
TOTAL DEMAND LOAD MDP.	72,239.5VA		
TOTAL DEMAND AMPS 200.A			
BREAKER TO BE INSTALLED FOR PANEL MDP SHALL BE 225A			

AVAILABLE FAULT CURRENT CALCULATION NOTES FOR DURGA TEMPLE

- AVAILABLE UTILITY INFINITE ASSUMPTION
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NOTE FOR PANEL MDP

- DEMAND AMPACITY, FOR PANEL MDP, IS 200.5A



ONE LINE SHORT CIRCUIT DIAGRAM

FAULT X1 LOAD SIDE OF TRANSFORMER 125KVA

STEP 1, IFL = 112.5 KVA X 1000 /208 X 1.732 = 312.28 A
208 X 1.732

STEP 2 MULTIPLIER 100 / 5.4 = 18.52

STEP 3 312.28 X 18.52 = 5,783.42 A

Is c. MOTOR CONTRIBUTION =

4X312.28 A = 1249.12 A
TOTAL s.c. sim rms = 5,777.1 A + 1,249.12 A = 7,026.22 A

FAULT X 2 400 A MDP

STEP 4 F = 1.732 X 20' X 5783.43 / (2CX 12,843) X C208 V = .037

STEP 5 M = 1 I = .96432

1+ F 1.037

STEP 6 Is.c sum rms = Is.c. x M = 5,783.42 X .96432 = 5,777.1A

Is.c. MOTOR CONTRIBUTION = 4 X 312.28 A = 1249.12 A

Panel 'LPA', 120/208 VOLT, 3 PHASE, 4 WIRE, 125 AMP, 100A MCB, SURFACE MOUNT, NEMA 1

CKT #	Description	Wire Size	AMP	POLES	Total Phase per kwatts in			Total Phase Per kWatts In			POLES	AMP	Wire Size	Description	CKT #
					A	B	C	A	B	C					
1	FIXTURE C	12	20	1	0.8			1.92			1	20	12	FIXTURE C	2
3	FIXTURE C	12	20	1		0.8		1.92			1	20	12	FIXTURE C	4
5	FIXTURE C	12	20	1			0.8	1.92	1.92		1	20	12	FIXTURE C	6
7	FIXTURE C	12	20	1	0.8			1.92			1	20	12	FIXTURE C	8
9	FIXTURE E	12	20	1		0.8		1.664	1.664		1	20	12	FIXTURE A	10
11	EM, X, EL FIXT	12	20	1			0.54		1.664	1.664	1	20	12	FIXTURE A	12
13								1.538			1	20	12	FIXTURE A	14
15									1.6		1	20	12	Outside lights	16
17	FIXTURE F	12	20	1			0.3		0.675	0.675	1	20	12	FIXTURE D	18
19															20
21															22
23									0.494	0.494	1	20	12	FIXTURE B	24
25															26
27															28
29															30
31															32
33															34
35															36
37															38
39															40
41															
Totals								1.6	1.6	1.64	5.378	5.184	4.753		

PHASE A	PHASE B	PHASE C	TOTAL PANEL CONNECTED KVA = 20.16 KVA TOTAL
5.378	5.184	4.753	
1.6	1.6	1.64	
TOTALS 6.978 KVA	6.784	6.393	
CONNECTED AMPS = 55.96A			

DEMAND LIGHTING LOAD = 20.16 KVA X 1.25 = 24.162 KVA DEMAND AMPS = 67.152A PANEL TO BE INSTALLED 125A BUS WITH 100A MCB

Panel 'MDP', 120/208 VOLT, 3 PHASE, 4 WIRE, 400 AMP, 225A MCB, SURFACE MOUNT, NEMA 1

CKT #	Description	Wire Size	AMP	POLES	Total Phase per kwatts in			Total Phase Per kWatts In			POLES	AMP	Wire Size	Description	CKT #	
					A	B	C	A	B	C						
1	HVAC #1	8	35	3	3.97			3.97			3	35	8	HVAC #2	2	
3								3.97	3.97						4	
5	ERV #1	12	20	2	1.78			6.98	6.98	3.97	3	100	2	PANEL LPA	6	
7						1.78		6.98	6.784	6.393					8	
9	ERV #2			2			1.78	1.62	6.393	6.393					10	
11					1.78			1.62			1	20	12	101_104_105	12	
13						1.62		1.62	1.62	1.62	1	20	12	105_106_116_107	14	
15	101_102_10	12	20	1			1.62				1	20	12	107_108_109_110	16	
17	112	12	20	1			1.8		1.62	1.62	1	20	12	STORAGE ROOM	18	
19								1.62			1	20	12		20	
21	WATER HTR	12	20	1			0.8				1.8	1	20	12	112_113_HALL	22
23															24	
25															26	
27	WATER	12	20	1			0.5								28	
29															30	
31															32	
33	ROOFTOP RECPTICA	12	20	1			0.36								34	
35	CFILING	12	20	2				0.915	0.915						36	
37								0.915							38	
39															40	
41								8.445	9.03	8.465	14.19	12.374	13.783			

PHASE A	PHASE B	PHASE C	TOTAL DEMAND LOAD 72.24KVA	TOATAL DEMAND AMPS 197.8A
8.445	9.03	8.465		
14.19	12.374	13.783		
TOTAL 22.64 KVA	21.404 KVA	22.248 KVA		
CONNECTED AMPS = 184 A				

CONNECTED KVA = 66.3.

BREAKER TO BE INSTALLED 300A SEE MDP LOAD CALCULATION SHEET



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Project

DURGA TEMPLE

Project No.

2022-23

Certification

I here by certify that the construction documents contained herein were prepared under my direct supervision and I am a registered architect under the laws of the State of Michigan.



Sheet Title

POWER PLAN

Issued Date

PERMIT	03 / 08 / 2024
REVISION 1	07 / 11 / 2024
REVISION 2	11 / 30 / 2024

Sheet No.

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