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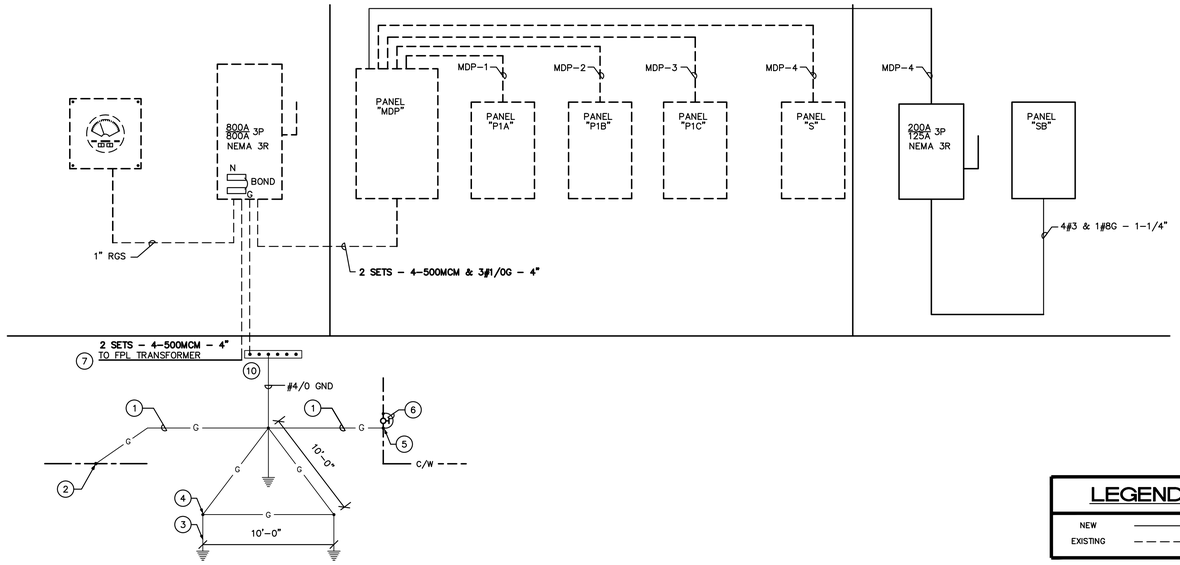
ELECTRICAL ONE-LINE NOTES

1. 1#3/0 GROUNDING ELECTRODE CONDUCTOR IN 1" SCHEDULE 40 PVC CONDUIT.
2. EXOTHERMIC CONNECTION. ELECTRICALLY CONT-INUOUS STEEL REINFORCING BAR (25FT LENGTH) IN BOTTOM OF BUILDING FOUNDATION IN DIRECT CONTACT WITH EARTH.
3. 10 FT. LONG x 3/4" DIAMETER COPPER DRIVEN GROUND ELECTRODE. (TYPICAL)
4. EXOTHERMIC CONNECTION OR HEAVY DUTY SOLID BRONZE BOLTED GROUND CLAMP U.L. LISTED FOR THE PURPOSE. (TYPICAL)
5. MAKE CONNECTION TO METALLIC COLD WATER ENTRANCE PIPE BEFORE FIRST VALVE WITH HEAVY DUTY BRONZE GROUND CLAMP.
6. PROVIDE 1#3/0 BONDING JUMPER AROUND FIRST VALVE. FOR METALIC PIPING ONLY, NOT NEEDED FOR PVC PIPING.
7. TERMINATE CONDUIT IN EXACT MANNER AND LOCATION AS DIRECTED BY UITLITY COMPANY. LEAVE 15ft. SLACK CONDUCTOR PER CONDUCTOR FOR EXTENSION AND CONNECTION BY UTILITY COMPANY.
8. BUILDING PRINCIPLE GROUND BAR, LOCATED IN MAIN ELECTRICAL ROOM. REFER TO DETAIL THIS SHEET.



LEGEND

NEW
EXISTING

ELECTRICAL RISER DIAGRAM

NTS

Voltage Drop Calculation Results: –
PANEL "MDP" TO PANEL "SB"

Source	=	AC, 3ø
Voltage	=	208.0
Cond. Material	=	PVC
Power Factor	=	0.95
Cond. Temp.	=	75°C
Conductor Metal	=	Copper
Cond. Per Phase	=	1
Wire Size	=	3/0
Load	=	80.0 Amps
Length (1-way)	=	200.0 Feet

Result:
The Voltage Drop is 1.15%, 2.39V L-L.

Based on:
ANSI/IEEE Standard 141, 1993
NEC Ch. 9, Tables 8 & 9

SCHEDULE OF DISTRIBUTION PANEL "MDP" (EXISTING)

MAIN: 800 AMP MAIN LUGS ONLY — VOLTAGE: 208/120V, 3ø, 4 WIRE
SPEC: SQUARE D TYPE "XXX" I-LINE OR APPROVED EQUIVALENT — AIC SYMM: 65,000

DESIGNATION	DESCRIPTION	CIRCUIT BREAKER FRAME	TRIP	POLES	FEEDER	A PHASE KVA	B PHASE KVA	C PHASE KVA	NOTES
MDP-1	PANEL "P1A"	200	200	3	4#3/0 & 1#6G – 2-1/2"	17.3	14.9	19.8	1
MDP-2	PANEL "P1B"	200	200	3	4#3/0 & 1#6G – 2-1/2"	15.7	12.6	16.3	1
MDP-3	PANEL "P1C"	200	200	3	4#3/0 & 1#6G – 2-1/2"	13.6	14.5	15.7	1
MDP-4	PANEL "S"	200	200	3	4#3/0 & 1#6G – 2-1/2"	9.6	8.4	7.2	1
MDP-5	DISCONNECT & PANEL "SB"	200	125	3	4#3/0 & 1#6G – 2-1/2"	6.6	11.0	8.4	2
–									
–									
–									
–									
–									
–									
						62.8	61.4	67.4	KVA PER PHASE
						523.4	511.7	561.7	AMPS PER PHASE
							191.6		TOTAL KVA

NOTES:
1. EXISTING
2. NEW

SCHEDULE OF BRANCH CIRCUIT PANEL "SB"

PROVIDE WITH LOCKABLE ENCLOSURE

MAIN: 125 AMP MAIN LUGS ONLY — VOLTAGE: 208/120V, 3ø, 4 WIRE
SPEC: SQUARE D TYPE "NQ" OR APPROVED EQUIVALENT
MOUNTING: – — AIC SYMM: 10,000

DESCRIPTION	WIRE	GND.	COND.	TRIP	CKT.	A PHASE KVA	B PHASE KVA	C PHASE KVA	CKT.	TRIP	COND.	GND.	WIRE	DESCRIPTION
LIGHTING & EM	2#12	1#12	1/2"	20	1	1.2 | 0.8	— | —	— | —	2	20	1/2"	1#12	2#12	RECEPTACLES SM APPL GFI
LIGHTING & EM	2#12	1#12	1/2"	20	3	— | —	1.2 | 0.8	— | —	4	20	1/2"	1#12	2#12	RECEPTACLES SM APPL GFI
LIGHTING & EM	2#12	1#12	1/2"	20	5	— | —	— | —	1.2 | 0.8	6	20	1/2"	1#12	2#12	GARBAGE DISPOSAL GFI
EXTERIOR LIGHTING	2#12	1#12	1/2"	20	7	1.2 | 0.4	— | —	— | —	8	20	1/2"	1#12	2#12	RECEPTACLES EXTERIOR GFI
MOTORIZED DAMPER	2#12	1#12	1/2"	20	9	— | —	1.2 | 0.4	— | —	10	20	1/2"	1#12	2#12	RECEPTACLES GFI
SPARE	–	–	–	20	11	— | —	— | —	– | –	12	20	–	–	–	SPARE
SPARE	–	–	–	20	13	– | –	— | —	— | —	14	20	–	–	–	SPARE
SPARE	–	–	–	20	15	— | —	– | –	— | —	16	20	–	–	–	SPARE
SPARE	–	–	–	20	17	— | —	— | —	– | –	18	20	–	–	–	SPARE
SPARE	–	–	–	20	19	– | –	— | —	— | —	20	20	–	–	–	SPARE
SPARE	–	–	–	20	21	— | —	– | –	— | —	22	20	–	–	–	SPARE
SPARE	–	–	–	20	23	— | —	— | —	– | –	24	20	–	–	–	SPARE
SPARE	–	–	–	20	25	– | –	— | —	— | —	26	20	–	–	–	SPARE
INSTAHOT	2#10	1#12	3/4"	25 / 2	27 / 29	— | —	2.2 | 1.0	— | —	28 / 30	20 / 2	3/4"	2#12	2#12	EXHAUST FAN #4
							— | —	2.2 | 1.0						
EXHAUST FAN #1	2#12	1#12	3/4"	20 / 2	31 / 33	1.0 | 1.0	— | —	— | —	32 / 34	20 / 2	3/4"	2#12	2#12	EXHAUST FAN #5
							1.0 | 1.0	— | —						
EXHAUST FAN #2	2#12	1#12	3/4"	20 / 2	35 / 37	— | —	— | —	1.0 | (0.1)	36 / 38	15 / 2	3/4"	2#12	2#12	AHU-1
						1.0 | (0.1)	— | —	— | —						
EXHAUST FAN #3	2#12	1#12	3/4"	20 / 2	39 / 41	— | —	1.0 | 1.2	— | —	40 / 42	30 / 2	3/4"	2#10	2#10	CU-1
						— | —	— | —	1.0 | 1.2						
						6.6	11.0	8.4	KVA PER PHASE					
						55.0	91.7	70.0	AMPS PER PHASE					
							26.0		TOTAL KVA					

NOTE:
1. MULTI-WIRE BRANCH CIRCUITS WITH MULTI-POLE BREAKERS ARE ACCEPTABLE FOR USE WITH NORMAL LIGHTING AND POWER BRANCH CIRCUITS IN LIEU OF THE SINGLE POLE BRANCH CIRCUITS INDICATED.
2. MULTI-WIRE BRANCH CIRCUITS ARE NOT ALLOWED FOR EMERGENCY LIGHTING AND POWER BRANCH CIRCUITS

ISSUED FOR PERMIT
ISSUED FOR CONSTRUCTION -

KAMM CONSULTING PROJECT #: 2023-0419SB
PROJECT MANAGER: RON SLOAN

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ISSUED FOR :
BIDS
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CONSTRUCTION
SEAL

JESS M. SOWARDS
FL. REG# A000

PROJECT TITLE
STONEBRIDGE COUNTRY CLUB CHEMICAL STORAGE BUILDING

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REVISIONS

THESE DRAWINGS ARE PREPARED PER ESTABLISHED INDUSTRY STANDARDS AND REPRESENT THE ARCHITECT AND ENGINEERS DESIGN CONCEPT. THEY ARE NOT INTENDED TO PROVIDE EVERY DETAIL OR CONDITION REQUIRED TO CONSTRUCT THE BUILDING. THE CONTRACTOR THROUGH SUBMITTALS AND OTHER COORDINATION EFFORTS IS FULLY RESPONSIBLE FOR PROVIDING A COMPLETE AND OPERATIONAL BUILDING WHETHER INDICATED ON THE PLANS OR NOT.

PERMIT SET - 10/16/23

DRAWING TITLE
RISER DIAGRAM

DATE 10/16/23
DRAWN BY KAB
JOB NUMBER 220906
DRAWING NUMBER
E5SB.1