POWER NOTES:

1. REFER TO DRAWING E0.00 FOR LEGEND, SYMBOLS AND GENERAL NOTES.

WOLF SWAMP SCHOOL BOILER SHUT DOWN SYSTEM

EXISTING CONDITIONS

1. CO DETECTORS AND BOILER SHUTDOWN EQUIPMENT/CONTROLS INSTALLED UNDER PREVIOUS BOILER #1 REPLACEMENT PROJECT TO REMAIN AND REWORKED TO ACCOMMODATE REPLACEMENT OF BOILER #2.

EXISTING SEQUENCE OF OPERATIONS:

- 1. CO SENSOR, UPON REACHING SETPOINT, WILL INITIATE THE FOLLOWING:
- A. DISCONNECT POWER TO THE BOILER CONTROL PANEL FOR SYSTEM SHUTDOWN. B. SEND SUPERVISORY SIGNAL TO FIRE ALARM SYSTEM.
- 2. IF CO DETECTOR SYSTEM LOSES POWER, RELAYS WILL OPEN AND DISCONNECT POWER TO THE
- 3. EXISTING FIRESTATS ARE WIRED TO INDEPENDENTLY SHUTDOWN RESPECTIVE BOILER ONLY.

NEW WORK SCOPE:

- 1. EXISTING BOILER #2 FIRESTAT TO BE MAINTAINED AND REWIRED TO NEW BOILER #2.
- 2. NEW BOILER #2 SHUTDOWN CONTROL CIRCUIT WIRING SHALL BE WIRED THROUGH EXISTING "BOILER #2" RELAY AS REQUIRED TO ALLOW SYSTEM SHUTDOWN VIA CO DETECTION SYSTEM OR EMERGENCY SHUTOFF SWITCH.
- 3. UPON COMPLETION OF WORK, FIRE ALARM SYSTEM AND SHUTDOWN SEQUENCE OF OPERATION SHALL BE RE-TESTED. REFER TO SPECIFICATIONS FOR FIRE ALARM INSTALLATION, DOCUMENTATION REQUIREMENTS AND NFPA 72 TESTING/RE-ACCEPTANCE TESTING REQUIREMENTS.

	ELECTRICAL BOILER ROOM KEYNOTES
$\langle 1 \rangle$	EXISTING MECHANICAL EQUIPMENT STARTERS AND DISCONNECTS TO REMAIN (TYPICAL).
2	EXISTING PANELBOARD SERVING BOILER ROOM EQUIPMENT TO BE MODIFIED AS REQUIRED TO SERVE NEW BOILER.
3	EXISTING EMERGENCY BOILER SHUT OFF DISCONNECT SWITCHES TO REMAIN.
4	EXISTING CARBON MONOXIDE DETECTORS TO REMAIN (TYPICAL).
\(\frac{1}{5} \)	EXISTING BOILER #2 DISCONNECT SWITCHES TO BE REMOVED.
6	EXISTING BOILER #2 CONTROLS DISCONNECT SWITCH AND ASSOCIATED BRANCH CIRCUIT TO BE REMOVED.
\Diamond	NEW BOILER #2 DISCONNECT SWITCH TO BE MOUNTED ON STRUT SUPPORT SYSTEM.
8	PROVIDE BOILER #2 SHUTDOWN CIRCUIT (2 #12 IN 3/4"C.) FROM NEW BOILER # 2 CONTROL PANEL TO EXISTING BOILER #2 RELAY LOCATED OUTSIDE BOILER ROOM (ABOVE EMERGENCY DISCONNECT SWITCHES).

SCOPE OF WORK:

ALL WORK AT THIS FACILITY IS TO BE PERFORMED DURING UNOCCUPIED HOURS. COORDINATE ALL SYSTEM SHUTDOWNS WITH OWNER. EXISTING ELECTRICAL, HEATING, AND DOMESTIC HOT WATER SYSTEMS ARE TO REMAIN IN OPERATION DURING CONSTRUCTION WHILE BUILDING IS OCCUPIED.

B-2-1.01	CONTROLLER	1.5
NOTES:		

1. NOTES 2-5 APPLY TO ALL APPLICABLE LOADS.

PACKAGED

STARTER

LOCATION

LOAD TAG

B-2-1.01

2. PROVIDE THERMAL OVERLOAD UNITS FOR ALL STARTERS SIZED TO MATCH LOAD NAMEPLATE AND NEC REQUIREMENTS. 3. BRANCH CIRCUIT WIRING METHODS SHALL BE AS NOTED ON THE DRAWINGS AND/OR SPECIFICATIONS FOR THE APPLICABLE

VOLT

208

LOCATION. THE FINAL THREE FEET (MAXIMUM) SHALL BE FLEXIBLE METAL OR LIQUIDTIGHT FLEXIBLE METAL CONDUIT.

LOAD

KVA

2.4

4. COPPER BRANCH CIRCUIT CONDUCTOR SIZING BASED UPON NEC TABLE 310.16. MAKE ADJUSTMENTS TO CONDUCTORS FOR TEMPERATURE OR VOLTAGE DROP THAT EXCEED NEC AND SPECIFICATION CRITERIA.

FLA

6.6

5. RACEWAY SIZES ARE BASED UPON GRSC AND LFMC WITH THWN CONDUCTORS.

HP

1.5

- 6. REQUIRED DISCONNECT IS PROVIDED INTEGRAL/PREWIRED TO MECHANICAL EQUIPMENT. 7. REQUIRED STARTER IS PROVIDED INTEGRAL/PREWIRED TO MECHANICAL EQUIPMENT.
- 8. DISCONNECT FOR 2S1W AND 2S2W MOTORS SHALL BE SIX POLE.
- 9. PROVIDE NEUTRAL FROM SOURCE TO STARTER ONLY FOR 120V CONTROL POWER OF 208V 3PH UNITS. 10. FUSES FOR DISCONNECT SWITCHES SHALL BE CLASS RK5. 11. BOILER PROVIDED WITH INTEGRAL STEP-DOWN TRANSFORMER FOR CONTROL CIRCUIT.
- 12. CONTRACTOR SHALL RE-USE EXISTING 20A-3P CIRCUIT BREAKER (MADE AVAILABLE THROUGH DEMOLITION) TO SERVE NEW BOILER.
- 13. DISCONNECT SWITCH PROVIDED WITH LOCKING MEANS FOR "LOCK-OUT-TAG-OUT" CAPABILITIES.

FVNR FULL VOLTAGE NON-REVERSING FVR FULL VOLTAGE REVERSING

2S1W TWO SPEED SINGLE WINDING 2S2W TWO SPEED TWO WINDING RVAT REDUCED VOLTAGE AUTOTRANSFORMER

RVPW REDUCED VOLTAGE PART WINDING RVYDOT REDUCED VOLTAGE WYE DELTA OPEN TRANSITION

PANEL

49/51/53

POWER SOURCE

C/B

20A/3P

FLEX

JB

CONNECTION

AS

REC

DISC

AF

NEMA

BRANCH CIRCUIT

4#10 & 1#10G. - 3/4"C.

REMARKS

REFER TO NOTES 11,12 & 13

RVYDCT REDUCED VOLTAGE WYE DELTA CLOSED TRANSITION

MMS MANUAL MOTOR STARTER CB CIRCUIT BREAKER

AUXILIARY

CONTACTS

I NO I NO

MECHANICAL EQUIPMENT SCHEDULE

INDICATING

LIGHTS

STARTER

PACKAGED CONTROLLER FURNISHED WITH EQUIPMENT

OVERCURRENT

RK1

FUSE

MCP I

СВ

TOTAL AMPERES-

NEMA

SIZE

PH

MCP MOTOR CIRCUIT PROTECTOR PB START AND STOP PUSH BUTTON

HOA HAND-OFF-AUTOMATIC SELECTOR SWITCH CPT CONTROL POWER TRANSFORMER

VFD VARIABLE FREQUENCY DRIVE W/O BYPASS

VFD/B VARIABLE FREQUENCY DRIVE W/ BYPASS CNTCR CONTACTOR - NO THERMAL OVERLOAD

											_		
	EXIS.	TING GE PANELBO	ARD SO	CHEDU	LE (W	OLF S	WAMP	ELEMENTARY SCH	OOL)				ı
PANEL: BRP (SEC. 1 OF 2)			208Y/120	•		SURFACE	GROUND BUS:	Υ					
MAIN: 400A MLO		AMPS:	400A	•	AIC:		ISOLATED GROUND BUS:	N	•				
			PH/WIRE:	3/4	•	LOC.:	BOILER RM						
AMPS/			LOAD	LOAD	BY PHASE	, kVA	LOAD		AMPS/				Α
₹.	POLES	DESCRIPTION OF LOAD	kVA	Α	В	С	kVA	DESCRIPTION OF LOAD	POLES	CIR.		CIR.	Р
				0.00						2		42	
	20/3 (XM)	FUEL PUMPS			0.00	0.00 PUMP 4		PUMP 4	20/3 (XM)	4		43 45	20
						0.00				6		47	┨
_				0.00						8		49	
	20/3 (XM)	SPARE (ON)			0.00			PUMP 5	20/3 (XM)	10	*	51	20
1						0.00	23			12	ı	53	1
3 5 80/3 (XM) PUMP 1A				0.00						14		55	20
		PUMP 1A			0.00			PUMP 6 20/3 (XM)		16	l	57	20
7						0.00	215			18	l	59	20
9				0.00						20	**	61	20/
1 80/3 (XM) PUMP 1B				0.00			SPARE	20/3 (XM)	22	l	63	20	
3						0.00				24	l	65	20
5	45.00.000			0.00					2010 (101)	26	ł	67	20
7 45/3 (XM) PUMP 2A		PUMP 2A	0.00				RTU-2	60/3 (XM)	28	ł	69		
9						0.00	1	HOTMATER BOILER	004	30	ŀ	71	
1_	4E/2 (VM)	DUMP OF		0.00				HOT WATER BOILER	20/1	32	ł		
<u> </u>	45/3 (XM)	POMP 2B			0.00			CIRC. PUMP TO TANK	20/1	34	ł		
<u>, </u>				0.00		0.00		CIRC. PUMP TO RETUN WATER	20/1	36	ł	*	R
<u> </u>	20/3 (XM)	DUMD 3		0.00	0.00			ROOF GFI	20/1	38		**	
<u> </u>	20/3 (AVI)	FOIVIF 3			0.00	0.00		UH-8 RM 123 UNMARKED LOAD (BKR ON)	20/1	40 42	l		
TOTAL MARY DUACE			0.00	0.00	0.00	1	TOTAL KVA	0.00	42	l			
TOTAL kVA BY PHASE -			0.00	0.00	0.00	1	TOTAL KVA	0.00		i			

EXISTING PANELBOARD NOTES:

- PANELBOARD INFORMATION BASED ON FIELD SURVEY AND AVAILABLE SITE INFORMATION.
- 2. CONTRACTOR TO CIRCUIT TRACE AND METER ALL EXISTING CIRCUITS TO DETERMINE WHETHER THEY ARE ACTIVE/IN-USE PRIOR TO COMMENCEMENT OF WORK. CONTRACTOR TO WORK WITH SCHOOL FACILITIES STAFF.
- CONTRACTOR TO PROVIDE NEW TYPE WRITTEN PANEL DIRECTORY IN EACH PANELBOARD WITH UPDATED LOAD DESCRIPTION INFORMATION.

	EXIS	STING GE PANELBO	ARD SC	HEDUL	E (WC	DLF SW	/AMP E	LEMENTARY SCH	OOL)	
	PANEL: BRP (SEC. 2 OF 2) MAIN: MLO		VOLTS:	208Y/120		MOUNT:	SURFACE	GROUND BUS:	Υ	
			AMPS:	400A		AIC:		ISOLATED GROUND BUS:	N	_
			PH/WIRE:	3/4	•	LOC.:	BOILER RM	200% NEUTRAL:	N	_
	AMPS/		LOAD	LOAD	BY PHASE, kVA		LOAD		AMPS/	
CI	R. POLES	DESCRIPTION OF LOAD	kVA	Α	В	С	kVA	DESCRIPTION OF LOAD	POLES	CIR.
4	43 20/3 (XM) BOILER 1			0.00				CO DETECTOR - BOILER SHUTDOWN	20/1 (XM)	44
4	5 20/3 (XIVI)	BOILER			0.00			SPARE	20/1 (XM)	46
4	7					0.00		SPARE	20/1 (XM)	48
4	49 51 20/3 (XM)	BOILER 2	0.83	0.83						50
* 5			0.83		0.83			UNMARKED LOAD (BKR ON)	60/3 (XM)	52
5	3		0.83			0.83				54
5	5 20/1 (XM)	UH-9 BOILER RM.		0.00				SPACE	-	56
5	7 20/1 (XM)	RECPT. LOWER BOILER ROOM			0.00			SPACE	•	58
5	9 20/1 (XM)	SPARE				0.00		SPACE	-	60
* 6	1 20/1 (XM)	SPARE (BOILER 2 CONTROL)		0.00				SPACE	-	62
6	3 20/1 (XM)	EMS BOILER RM.			0.00			SPACE	-	64
6	5 20/1 (XM)	REC. UNDER PANEL				0.00		SPACE	-	66
6	7 20/1 (XM)	REC SUMP PUMP		0.00				SPACE	-	68
6	9 -	SPACE			0.00			SPACE	-	70
7	1 -	SPACE				0.00		SPACE	-	72
		TOTAL kVA BY PHASE -		0.83	0.83	0.83		TOTAL KVA-	2.48	,
								TOTAL AMPERES-	6.90)

REUSE EXISTING CIRCUIT BREKAER MADE AVAILABLE THROUGH DEMOLITION EXISTING CIRCUIT BREAKER MADE "SPARE" AVAILABLE THROUGH DEMOLITION

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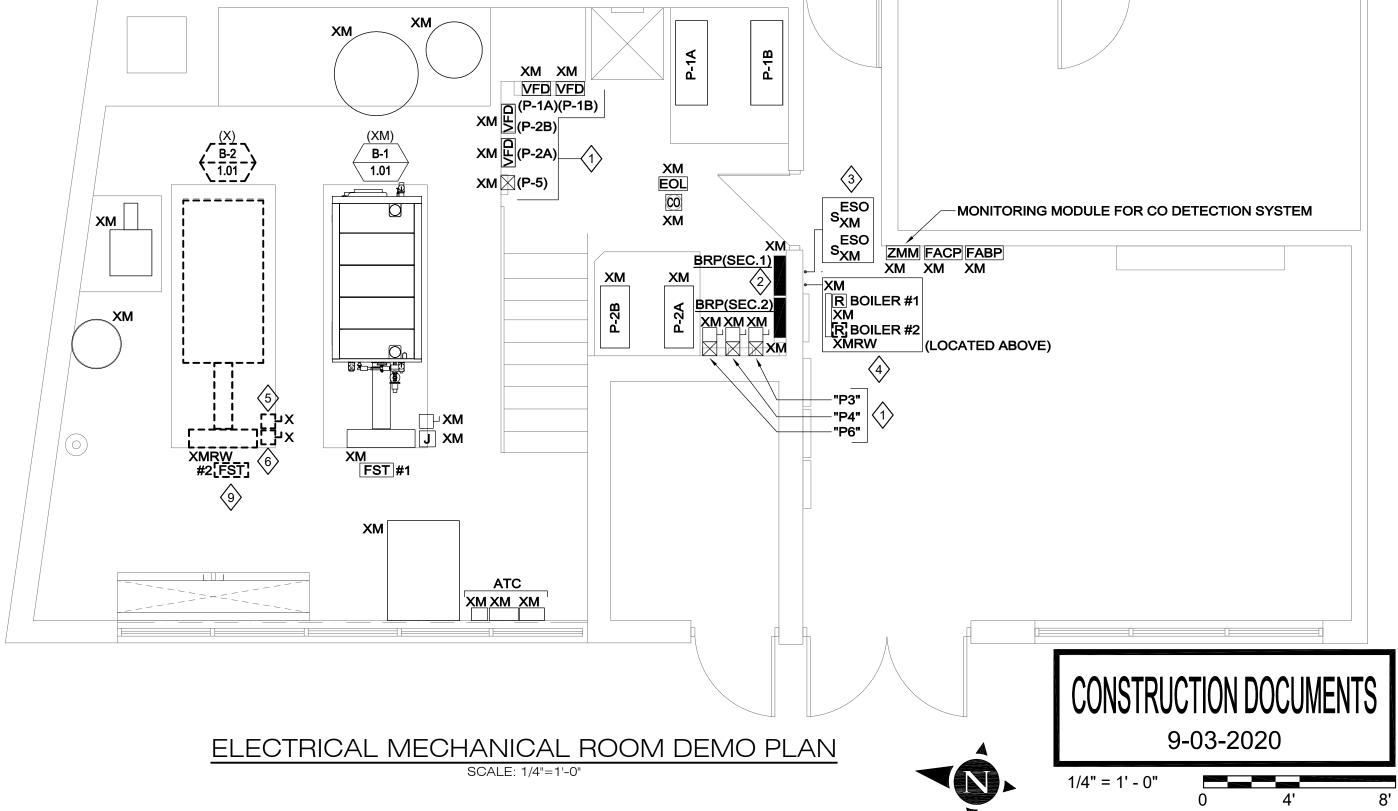
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XM XM XM VFD VFD (P-1A)(P-1B) XM (P-2B) XM (P-2A) EOL © s_{XM} s_{XM} ZMM FACP FABP XM XM XM XM XM XM R BOILER #2 XMRW □⊢XM XM XM XM

ELECTRICAL MECHANICAL ROOM NEW PLAN



PROJECT 0200375 DATE-08/27/2020

LONGMEADOW WOLFSWAMP **ELEMENTARY SCHOOL BOILER REPLACEMENT**

DRAWING

KEG CHECKED BY

KEG SCALE-1/4" = 1'-0"

ELECTRICAL MECHANICAL ROOM

FLOOR PLANS