

ADDENDUM NO. 2

TO: PLANS AND SPECIFICATIONS FOR STATE OF MISSOURI

**Shady Grove State School – Replace HVAC and Controls
Poplar Bluff, Missouri
PROJECT NO.: E2010-01**

Bid Opening Date: 1:30 PM, Thursday, June 22 (Not Changed)

Bidders are hereby informed that the construction Plans and/or Specifications are modified as follows:

SPECIFICATION CHANGES:

1. Section 230500 – BASIC HVAC REQUIREMENTS
 - a. REVISE 1.3.D.5 to “Furnishes, installs and connects all relays, etc., for automatic shutdown of certain fans upon actuation of the Fire Alarm System as indicated **on the electrical drawings.**”

DRAWING CHANGES:

2. Sheet E-100, First Floor Plan - Electrical Power
 - a. ADD MX-FC-1 PUMP to exterior wall.
 - b. ADD MX-FC-1 FANS to exterior wall.
 - c. ADD (2) VFD-FC-1 FAN to exterior wall.
3. Sheet E-500, Electrical Schedules
 - a. ADD MX-FC-1 PUMP to Disconnect and Starter Schedule.
 - b. ADD MX-FC-1 FANS to Disconnect and Starter Schedule.
 - c. ADD (2) VFD-FC-1 FAN to Variable Frequency Drive Schedule.

REQUESTS FOR INFORMATION:

1. Drawing M-501 show the electrical contractor furnishing and installing the disconnect and VFD for FC-1. I do not see these on the electrical schedules on drawing E-500.
 - a. Refer to Addendum 002 drawing changes.
2. Spec section 230500 1.3D 5 references a spec division 28. I do not see a division 28 included in the specs. Also who is the fire alarm vendor for the existing fire alarm? Key note #3 on drawing E-100 references coordinating with the fire alarm vendor for compatibility.
 - a. Refer to Addendum 002 specification changes.
 - b. Multiple fire alarm vendors and equipment are located on site. Coordinate with Honeywell and Notifier as required.

GENERAL COMMENTS:

1. The Pre-Bid Meeting was held Wednesday, June 7, 2023 followed by a walk-through of the facility.
2. Bidders needing additional site inspection should contact Malia Cummings at 573-840-9592 to schedule a time.

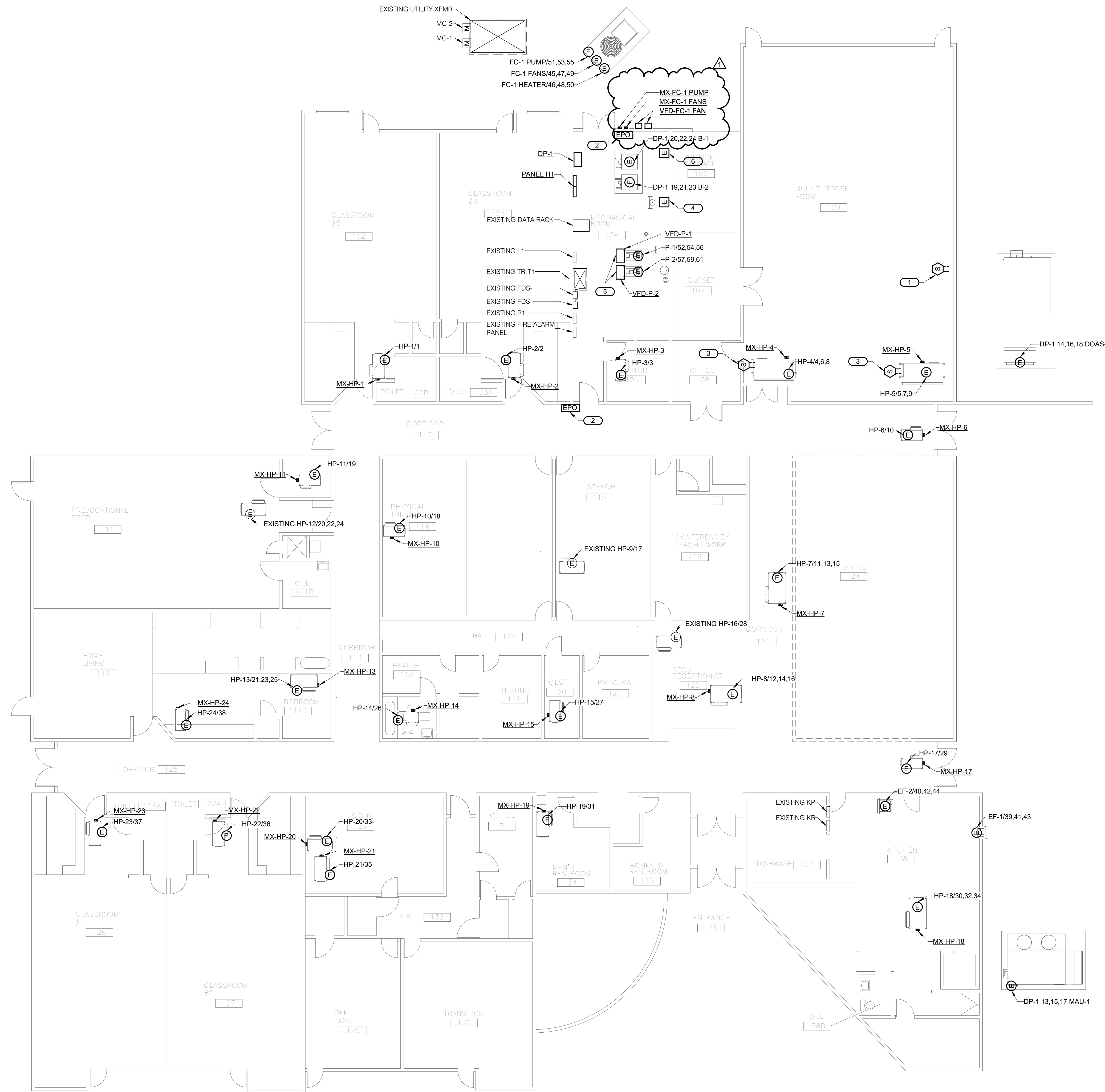
3. Please contact Paul Girouard, Contract Specialist, at 573-751-4797 or paul.girouard@oa.mo.gov for questions about bidding procedures and MBE\WBE\SDVE goals and submittal requirements.
4. **All bids shall be submitted on the bid forms without additional terms and conditions, modifications, or stipulations. Each space on the bid forms shall be properly filled including a bid amount for the alternate. Failure to do so will result in rejection of the bid.**
5. **MBE/WBE/SDVE participation requirements can be found in DIVISION 00. The MBE/WBE/SDVE participation goals are 10%/10%/3%, respectively. All MBE, WBE, and MBE/WBE contractors, subcontractors, and suppliers must be certified by the State of Missouri, Office of Equal Opportunity. No other certifications from other Missouri certifying agencies will be accepted. If a bidder is unable to meet a participation goal, a Good Faith Effort Determination Form must be completed. Failure to complete this process will result in rejection of the bid.**
6. The deadline for technical questions was June 14, 2023 at noon.
7. Changes to, or clarification of, the bid documents are only made as issued in the addenda.
8. All correspondence with respect to this project must include the State of Missouri project number as indicated above.
9. Current Planholders list available online at: <https://www.oafmdcplanroom.com/jobs/1573/planholders/c2010-01-replace-bas-hvac-system-supervision-center-bldg-community-supervision-center>
10. Prospective Bidders contact American Document Solutions, 1400 Forum Blvd., Suite 7A, Columbia MO 65203, 573-446-7768 to order official plans and specifications.

ATTACHMENTS:

1. Electrical Drawings E-100 and E-500

June 16, 2023

END OF ADDENDUM NO. 2



- GENERAL SHEET NOTES:**
1. ALL CIRCUITS SHOWN ARE FED FROM PANEL H1 UNLESS OTHERWISE NOTED.
 2. COORDINATE CEILING MOUNTED EQUIPMENT, SUCH AS LIGHTING, REINSTALL WITH MECHANICAL CONTRACTOR. CONTRACTOR RESPONSIBLE FOR REINSTALL OF ANY ELECTRICAL EQUIPMENT REMOVED TO ACCOMPLISH EQUIPMENT REMOVAL AND NOT DESIGNATED AS DEMOLITION ON SHEET ED-100.
 3. E.C SHALL COORDINATE WITH M.C. AND OWNER TO PHASE WORK TO MINIMIZE DOWN TIME. E.C SHALL CONNECT REPLACED HEAT PUMPS TO EXISTING PANEL UNTIL NEW PANEL ARRIVES TO KEEP BUILDING OPERATIONAL.

- KEYNOTES: (#)**
1. MOUNT DUCT SMOKE DETECTOR ON THE SUPPLY SIDE OF DOAS-1. CONTRACTOR TO COORDINATE WITH FIRE ALARM VENDOR TO CONFIRM COMPATIBILITY WITH EXISTING FIRE ALARM SYSTEM. DETECTION OF SMOKE SHALL TRIGGER A SUPERVISORY INDICATION AND MECHANICAL FAN SHUTDOWN.
 2. EMERGENCY POWER OFF FOR B-1 AND B-2. PROVIDE ONE (1) 120V CIRCUIT FROM PANEL R1. CONTRACTOR TO UTILIZE A SPARE 20A BREAKER ON PANEL R1. REFER TO EMERGENCY BOILER SHUTDOWN DIAGRAM ON SHEET M-402 MECHANICAL DIAGRAMS FOR MORE INFORMATION.
 3. MOUNT DUCT SMOKE DETECTOR ON THE RETURN SIDE OF THE UNIT. CONTRACTOR TO COORDINATE WITH FIRE ALARM VENDOR TO CONFIRM COMPATIBILITY WITH EXISTING FIRE ALARM SYSTEM. DETECTION OF SMOKE SHALL TRIGGER A SUPERVISORY INDICATION AND MECHANICAL FAN SHUTDOWN.
 4. POWER FOR HVAC CONTROL PANEL. PROVIDE (1) 120V CIRCUIT FROM PANEL R1. CONTRACTOR TO UTILIZE A SPARE 20A BREAKER ON PANEL R1. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL CONTRACTOR.
 5. MOUNT VFD AT +36" ON UNISTRUT.
 6. POWER FOR SOLUTION PUMP. PROVIDE (1) 120V CIRCUIT FROM PANEL R1. CONTRACTOR TO UTILIZE A SPARE 20A BREAKER ON PANEL R1. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL CONTRACTOR. CONTRACTOR SHALL CONFIRM BRANCH CIRCUIT REQUIREMENTS WITH PUMP MANUFACTURER.

1 FIRST FLOOR PLAN - ELECTRICAL POWER
1/8" = 1'-0"

VARIABLE FREQUENCY DRIVE SCHEDULE										
STARTER TYPE: PWM - PULSE WIDTH MODULATED			ACCESSORIES & OPTIONS: SA - STANDARD ACCESSORIES (INCLUDES * ITEMS)					*SHZ - SKIP FREQUENCY CAPABILITY		
LINE DISCONNECT: DS - DISCONNECT SWITCH			*ET - ELECTRONIC THERMAL OVERLOADS *CT - CONTROL TRANSFORMER, FUSED, 120V					*MA - MANUAL SPEED ADJUSTMENT *HA - HAND-OFF-AUTO DOOR SWITCH		
ITEM	LINE DISC.	DRIVE BYPASS	CIRCUIT VOLTAGE	POLES	HP RATING	TORQUE TYPE	ENCLOSURE	REQUIRED ACCESSORIES & OPTIONS	APPROVED MANUFACTURERS	
VFD-FC-1 FAN	DS	3 CONTACT	460 V	3	2	PWM	VARIABLE	NEMA 3R	SA	DANFOSS YAKASAWA Q9 SERIES ABB ACH 580 SERIES
VFD-FC-1 FAN	DS	3 CONTACT	460 V	3	2	PWM	VARIABLE	NEMA 3R	SA	DANFOSS YAKASAWA Q9 SERIES ABB ACH 580 SERIES
VFD-P-1	DS	3 CONTACT	460 V	3	7.5	PWM	VARIABLE	NEMA 1	SA	DANFOSS YAKASAWA Q9 SERIES ABB ACH 580 SERIES
VFD-P-2	DS	3 CONTACT	460 V	3	7.5	PWM	VARIABLE	NEMA 1	SA	DANFOSS YAKASAWA Q9 SERIES ABB ACH 580 SERIES

DISCONNECT AND STARTER SCHEDULE											
NOTE: ALL DISCONNECTS (EXCEPT MANUAL STARTERS) SHALL BE HEAVY DUTY TYPE.											
STARTER TYPE: MX - MANUAL SWITCH											
ITEM	DISCONNECT TYPE & RATING	CIRCUIT VOLTAGE	POLES	STARTER NEMA SIZE	TORQUE TYPE	ENCLOSURE	APPROVED MANUFACTURERS		COMMENTS		
MX-FC-1 FANS	30 A	480 V	3	0	MX	NEMA 4	SQUARE D 2510 OR EQUAL				
MX-FC-1 PUMP	30 A	480 V	3	0	MX	NEMA 4	SQUARE D 2510 OR EQUAL				
MX-HP-1	30 A	480 V	2	0	MX	NEMA 1	SQUARE D 2510 OR EQUAL				
MX-HP-2	30 A	277 V	2	0	MX	NEMA 1	SQUARE D 2510 OR EQUAL				
MX-HP-3	30 A	277 V	2	0	MX	NEMA 1	SQUARE D 2510 OR EQUAL				
MX-HP-4	30 A	480 V	3	0	MX	NEMA 1	SQUARE D 2510 OR EQUAL				
MX-HP-5	30 A	480 V	3	0	MX	NEMA 1	SQUARE D 2510 OR EQUAL				
MX-HP-6	30 A	277 V	2	0	MX	NEMA 1	SQUARE D 2510 OR EQUAL				
MX-HP-7	30 A	480 V	3	0	MX	NEMA 1	SQUARE D 2510 OR EQUAL				
MX-HP-8	30 A	480 V	3	0	MX	NEMA 1	SQUARE D 2510 OR EQUAL				
MX-HP-10	30 A	277 V	2	0	MX	NEMA 1	SQUARE D 2510 OR EQUAL				
MX-HP-11	30 A	277 V	2	0	MX	NEMA 1	SQUARE D 2510 OR EQUAL				
MX-HP-13	30 A	480 V	3	0	MX	NEMA 1	SQUARE D 2510 OR EQUAL				
MX-HP-14	30 A	277 V	2	0	MX	NEMA 1	SQUARE D 2510 OR EQUAL				
MX-HP-15	30 A	277 V	2	0	MX	NEMA 1	SQUARE D 2510 OR EQUAL				
MX-HP-17	30 A	277 V	2	0	MX	NEMA 1	SQUARE D 2510 OR EQUAL				
MX-HP-18	30 A	277 V	2	0	MX	NEMA 1	SQUARE D 2510 OR EQUAL				
MX-HP-19	30 A	277 V	2	0	MX	NEMA 1	SQUARE D 2510 OR EQUAL				
MX-HP-20	30 A	277 V	2	0	MX	NEMA 1	SQUARE D 2510 OR EQUAL				
MX-HP-21	30 A	277 V	2	0	MX	NEMA 1	SQUARE D 2510 OR EQUAL				
MX-HP-22	30 A	277 V	2	0	MX	NEMA 1	SQUARE D 2510 OR EQUAL				
MX-HP-23	30 A	277 V	2	0	MX	NEMA 1	SQUARE D 2510 OR EQUAL				
MX-HP-24	30 A	277 V	2	0	MX	NEMA 1	SQUARE D 2510 OR EQUAL				

DISTRIBUTION PANEL DP-1															
MOUNTING: SURFACE ENCLOSURE: NEMA PB 1 FED FROM: 600 A/3P @ EXISTING UTILITY XFMR LOCATION:			SOLID NEUTRAL GROUND BUS					MAIN: 600 A MCB VOLTS: 480/277 Wye PHASE: 3 WIRE: 4 SCCR: 35 kA ISC: 12.81 kA							
NOTES:															
K E Y	CKT NO.	LOAD DESCRIPTION	OC PD AMPS	P	WIRE SIZE N G	A	B	C	WIRE SIZE G N H	OC PD AMPS	LOAD DESCRIPTION	CKT NO.	K E Y		
R	1	EXISTING PANEL KP	200 A	3	--	5.77	39.92			4 2/0 2/0	175 A	PANEL H1	2	--	
--	3		--	--	--		5.77	33.89					4	--	
--	5		--	--	--			5.77	35.99				6	--	
R	7	EXISTING PANEL L1	100 A	3	--	5.77	5.77			3 150 A	EXISTING TR-T1	8	R		
--	9		--	--	--		5.77	5.77					10	--	
--	11		--	--	--			5.77	5.77				12	--	
13	MAU-1		70 A	3	3	8	14.69	30.48			4 2/0 2/0	175 A	DOAS-1	14	--
--	15		--	--	--			14.69	30.48				16	--	
--	17		--	--	--			14.69	30.48				18	--	
19	BOILER B-2		125 A	3	1	--	24.94	24.94			6 -- 1 3	125 A	BOILER B-1	20	--
--	21		--	--	--			24.94	24.94				22	--	
--	23		--	--	--			24.94	24.94				24	--	
--	25	SPACE	--	1	--	--	--	--			1	--	SPACE	26	--
--	27	SPACE	--	1	--	--	--	--			1	--	SPACE	28	--
--	29	SPACE	--	1	--	--	--	--			1	--	SPACE	30	--
			Total Load:			152.29 kVA	146.26 kVA	148.36 kVA							
			Total Amps:			550.96	528.03	536.76							
LOAD CLASSIFICATION			CONNECTED LOAD			DEMAND FACTOR			ESTIMATED DEMAND			TOTALS*			
HVAC			394.957 kVA			80.00%			315.966 kVA			TOTAL CONNECTED LOAD: 446.92 kVA			
Power			51.96 kVA			100.00%			51.96 kVA			TOTAL ESTIMATED DEMAND LOAD: 367.926 kVA			
												TOTAL CONNECTED AMPS: 537.56 A			
												TOTAL ESTIMATED DEMAND AMPS: 442.5 A			
*TOTAL DEMAND CALCS SUBTRACT ANY REDUNDANT LOAD AND THE SMALLER OF ANY NONCOINCIDENT HVAC LOADS. THIS CALC IS DONE AT EACH PANEL.															
CIRCUIT KEY NOTES: R = RECONNECT EXISTING FEEDERS TO EXISTING DISTRIBUTION EQUIPMENT.															

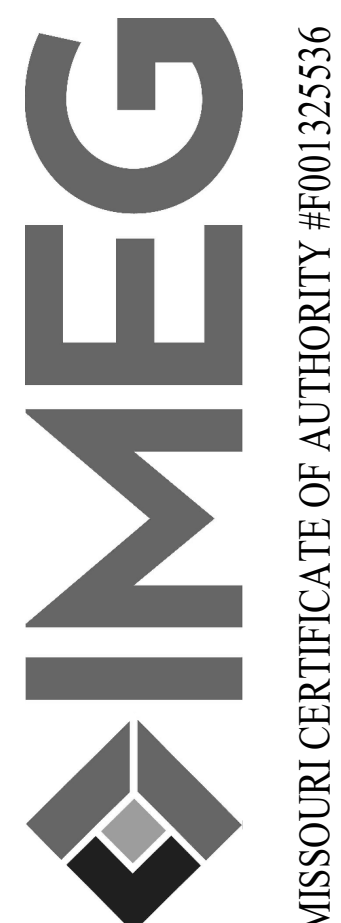
PANEL H1														
MOUNTING: SURFACE ENCLOSURE: NEMA PB 1 FED FROM: 175 A/3P @ DP-1 LOCATION:			SOLID NEUTRAL GROUND BUS					MAIN: 175 A MLO VOLTS: 480/277 Wye PHASE: 3 WIRE: 4 SCCR: 35 kA ISC: 12.78 kA						
NOTES: 2 SECTION PANEL AS SHOWN ON DRAWINGS.														
K E Y	CKT NO.	LOAD DESCRIPTION	OC PD AMPS	P	WIRE SIZE N G	A	B	C	WIRE SIZE G N H	OC PD AMPS	LOAD DESCRIPTION	CKT NO.	K E Y	
	1	HP-1	20 A	1	12 12 12	2.22	2.3				12 12 12	1 20 A	HP-2	2
	3	HP-3	15 A	1	12 12 12		0.9	2.72			12 12 12	3 20 A	HP-4	4
	5	HP-5	20 A	3	12 12 12					2.72	2.72			6
--	7		--	--	--		2.72	2.72						8
--	9		--	--	--			2.72	0.9					10
	11	HP-7	20 A	3	12 12 12				1.88	1.88	12 12 12	3 20 A	HP-8	12
--	13		--	--	--		1.88	1.88						14
--	15		--	--	--			1.88	1.88					16
	17	HP-9	15 A	1	12 12 12				1.73	1.36	12 12 12	1 15 A	HP-10	18
	19	HP-11	15 A	1	12 12 12	0.9	1.1				12 12 12	3 15 A	HP-12	20
	21	HP-13	15 A	3					1.1	1.1				22
--	23		--	--	--				1.1	1.1				24
--	25		--	--	--		1.1	1.36						26
	27	HP-15	15 A	1	12 12 12			1.1	1.73					28
	29	HP-17	15 A	1	12 12 12				0.9	1.88	12 12 12	3 20 A	HP-18	30
	31	HP-19	20 A	1	12 12 12	2.22	1.88							32
	33	HP-20	15 A	1	12 12 12			1.73	1.88					34
	35	HP-21	20 A	1	12 12 12				2.26	2.22	12 12 12	1 20 A	HP-22	36
	37	HP-23	20 A	1	12 12 12	2.22	1.18				12 12 12	1 15 A	HP-24	38
	39	EF-1	20 A	3	12 12 12			1.33	2.72		12 12 12	3 20 A	EF-2	40
--	41		--	--	--				1.33	2.72				42
--	43		--	--	--		1.33	2.72						44
	45	FC-1 FANS	20 A	3	12 12 12			2.03	1.5		12 12 12	3 20 A	FC-1 HEATER	46
--	47		--	--	--				2.03	1.5				48
--	49		--	--	--		2.03	1.5						50
	51	FC-1 PUMP	20 A	3	12 12 12			0.57	3.05		12 12 12	3 20 A	PUMP P-1	52
--	53		--	--	--				0.57	3.05				54
--	55		--	--	--		0.57	3.05						56
	57	PUMP P-2	20 A	3	12 12 12			3.05	0					58
--	59		--	--	--				3.05	0				60
--	61		--	--	--		3.05	0						62
--	63	SPACE	--	1	--	--	--	--						64
--	65	SPACE	--	1	--	--	--	--						66
--	67	SPACE	--	1	--	--	--	--						68
--	69	SPACE	--	1	--	--	--	--						70
--	71	SPACE	--	1	--	--	--	--						72
--	73	SPACE	--	1	--	--	--	--						74
--	75	SPACE	--	1	--	--	--	--						76
--	77	SPACE	--	1	--	--	--	--						78
--	79	SPACE	--	1	--	--	--	--						80
--	81	SPACE	--	1	--	--	--	--						82
--	83	SPACE	--	1	--	--	--	--						84
			Total Load:			39.92 kVA	33.89 kVA	35.99 kVA						
			Total Amps:			145.29	122.35	131.09						
LOAD CLASSIFICATION			CONNECTED LOAD			DEMAND FACTOR			ESTIMATED DEMAND			TOTALS*		
HVAC			109.803 kVA			80.00%			87.842 kVA			TOTAL CONNECTED LOAD: 109.80 kVA		
												TOTAL ESTIMATED DEMAND LOAD: 87.842 kVA		
												TOTAL CONNECTED AMPS: 132.07 A		
												TOTAL ESTIMATED DEMAND AMPS: 105.7 A		
*TOTAL DEMAND CALCS SUBTRACT ANY REDUNDANT LOAD AND THE SMALLER OF ANY NONCOINCIDENT HVAC LOADS. THIS CALC IS DONE AT EACH PANEL.														
CIRCUIT KEY NOTES:														

STATE OF MISSOURI
MICHAEL L PARSON,
GOVERNOR



4/16/23

PROFESSIONAL SEAL



ENGINEER
IMEG CORP.
15 SUNNEN, SUITE 104, ST. LOUIS, MO 63143

MISSOURI CERTIFICATE OF AUTHORITY #F001525536

OFFICE OF ADMINISTRATION
DIVISION OF FACILITIES
MANAGEMENT,
DESIGN AND CONSTRUCTION
SHADY GROVE STATE
SCHOOL

2400 HIGH STREET
POPLAR BLUFF, MO 63901

SHADY GROVE STATE
SCHOOL - REPLACE HVAC
AND CONTROLS

POPLAR BLUFF, MISSOURI

PROJECT # E2010-01
SITE # 2024
FACILITY # 5012024003

REVISION: ADD 002
DATE: 6/16/2023
REVISION:
DATE:
REVISION:
DATE:
ISSUE DATE: 04/05/2023

CAD DWG FILE: E-500
DRAWN BY: CLAFAL
CHECKED BY: IMEG
DESIGNED BY: MASRYA/CLAFAL

SHEET TITLE:
ELECTRICAL
SCHEDULES

SHEET NUMBER:

E-500

21 OF 21 SHEETS
04/05/2023