MSB–BANK 1 ⚠

ROOM
MOUNTING FLOOR
FED FROM UTILITY 2
NOTE * = LOAD CALCULATED IN METERED DEMAND

VOLTS 480Y/277V 3P 4W
BUS AMPS 4000
NEUTRAL 100%

AIC T.B.D.
MAIN BKR 3600
LUGS STANDARD

CKT #	BREAKER TRIP/POLES	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	FEEDER RACEWAY AND CONDUCTORS
1	200/3	* = EXISTING LOAD	0	0	0	–
2	200/3	* = EXISTING LOAD	0	0	0	–
3	200/3	* = EXISTING LOAD	0	0	0	–
4	200/3	* = EXISTING LOAD	0	0	0	–
5	200/3	PANEL TSHVP	21.4	22.1	21	2–1/2"C,3#250kcmil AL,#250kcmil AL N,#4 AL G
6	100/3	* = EXISTING LOAD	0	0	0	–
7	100/3	* = EXISTING LOAD	0	0	0	–
8	100/3	* = EXISTING LOAD	0	0	0	–
9	600/3	* = EXISTING LOAD	0	0	0	–
10	–/3	INCOMING SECONDARY	0	0	0	–
11	–/3	INCOMING SECONDARY	0	0	0	–
12	2500/3	SWITCHBOARD PD1	352	352	352	(8)4"C,3#600kcmil AL,#600kcmil AL N,#600kcmil AL G
13	–/3	* = EXISTING LOAD	0	0	0	–
14	–/3	* = EXISTING LOAD	0	0	0	–
15	–/3	* = EXISTING LOAD	0	0	0	–
16	–/3	* = EXISTING LOAD	0	0	0	–
17	–/3	* = EXISTING LOAD	0	0	0	–
18	–/3	SPARE	0	0	0	–
19	–/3	* = EXISTING LOAD	0	0	0	–
20	–/3	* = EXISTING LOAD	0	0	0	–
21	–/3	* = EXISTING LOAD	0	0	0	–
22	–/3	SPACE	0	0	0	
23	200/3	* = EXISTING LOAD	0	0	0	–
24	200/3	* = EXISTING LOAD	0	0	0	–
		TOTAL CONNECTED KVA BY PHASE	518	519	518	

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
RECEPTACLES	11.2	10.6	(50%>10)	FUTURE DEMAND	7.21	7.21	
NONCONTINUOUS	1,100	1,100	(100%)	METERED DEMAND	435	543	(125%)
				TOTAL LOAD		1,660	
				BALANCED 3-PHASE LOAD		2,000 A	

TSHVP

ROOM
MOUNTING SURFACE
FED FROM MSB–BANK 2
NOTE

VOLTS 480Y/277V 3P 4W
BUS AMPS 200
NEUTRAL 100%

AIC T.B.D.
MAIN BKR MLO
LUGS STANDARD

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/1	0	SPACE	o	2	20/1	0	SPACE
3	20/1	0	SPACE	b	4	20/1	0	SPACE
5	20/1	0	SPACE	c	6	20/1	0	SPACE
7	20/1	0	SPACE	o	8	20/1	0	SPACE
9	20/1	0	SPACE	b	10	20/1	0	SPACE
11	20/1	0	SPACE	c	12	20/1	0	SPACE
13	20/1	0	SPACE	o	14	20/1	0	SPACE
15	20/1	0	SPACE	b	16	20/1	0	SPACE
17	20/1	0	SPACE	c	18	20/1	0	SPACE
19	20/1	0	SPACE	o	20	20/1	0	SPACE
21	20/1	0	SPACE	b	22	20/1	0	SPACE
23	20/1	0	SPACE	c	24	20/1	0	SPACE
25	20/1	0	SPACE	o	26	20/1	0	SPACE
27	20/1	0	SPACE	b	28	20/1	0	SPACE
29	20/1	0	SPACE	c	30	20/1	0	SPACE
31	20/1	0	SPACE	o	32	20/1	0	SPACE
33	20/1	0	SPACE	b	34	20/1	0	SPACE
35	20/1	0	SPACE	c	36	20/1	0	SPACE
37	20/1	0	SPACE	o	38	125/3	64.5	XFMR T–TSLVP
39	20/1	0	SPACE	b	40	|		
41	20/1	0	SPACE	c	42	|		

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
RECEPTACLES	11.2	10.6	(50%>10)	NONCONTINUOUS	46.1	46.1	(100%)
				FUTURE DEMAND	7.21	7.21	
				TOTAL LOAD		63.9	
				BALANCED 3-PHASE LOAD		76.9 A	
				PHASE A		99.5%	
				PHASE B		103%	
				PHASE C		97.8%	

TSLVP

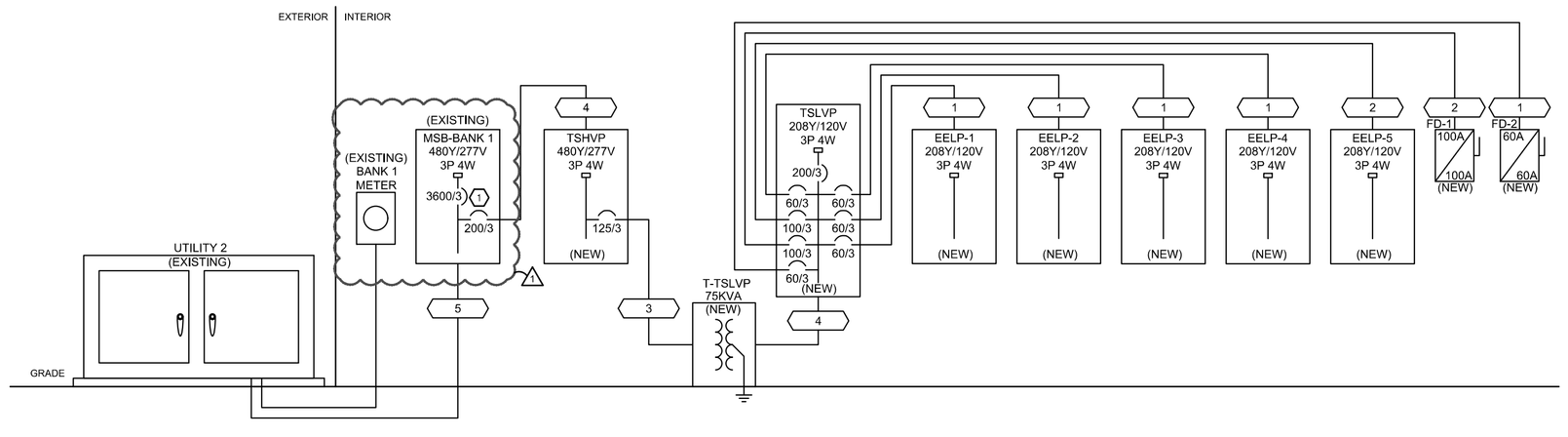
ROOM
MOUNTING SURFACE
FED FROM T–TSLVP
NOTE

VOLTS 208Y/120V 3P 4W
BUS AMPS 225
NEUTRAL 100%

AIC T.B.D.
MAIN BKR 200
LUGS STANDARD

CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION		CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	60/3	1.8	PANEL EELP–1	o	2	60/3	1.8	PANEL EELP–2
3	|			b	4	|		
5	|			c	6	|		
7	60/3	1.8	PANEL EELP–3	o	8	60/3	0	PANEL EELP–4
9	|			b	10	|		
11	|			c	12	|		
13	100/3	1.44	PANEL EELP–5	o	14	100/3	28.8	BREAKER FD–1
15	|			b	16	|		
17	|			c	18	|		
19	60/3	17.3	BREAKER FD–2	o	20	20/1	0.36	RECEPTACLE
21	|			b	22	20/1	0.36	RECEPTACLE
23	|			c	24	20/1	0.36	RECEPTACLE
25	20/1	0.36	RECEPTACLE	o	26	20/1	0.36	RECEPTACLE
27	20/1	0.36	RECEPTACLE	b	28	20/1	0.36	RECEPTACLE
29	20/1	0.36	RECEPTACLE	c	30	20/1	0.36	RECEPTACLE
31	20/1	0.36	RECEPTACLE	o	32	20/1	0.36	RECEPTACLE
33	20/1	0	SPACE	b	34	20/1	0.36	RECEPTACLE
35	20/1	0	SPACE	c	36	20/1	0	SPACE
37	20/1	0	SPACE	o	38	20/1	0	SPACE
39	20/1	0	SPACE	b	40	20/1	0	SPACE
41	20/1	0	SPACE	c	42	20/1	0	SPACE

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
RECEPTACLES	11.2	10.6	(50%>10)	NONCONTINUOUS	46.1	46.1	(100%)
				FUTURE DEMAND	7.21	7.21	
				TOTAL LOAD		63.9	
				BALANCED 3-PHASE LOAD		177 A	
				PHASE A		104%	
				PHASE B		101%	
				PHASE C		94.4%	



FEEDER SCHEDULE

ID	CONDUIT AND FEEDER
1	1"C,3#6 CU,#6 CU N,#10 CU G
2	1-1/4"C,3#1 AL,#1 AL N,#6 AL G
3	1-1/2"C,3#2/0 AL,#4 AL G
4	2-1/2"C,3#250kcmil AL,#250kcmil AL N,#4 AL G
5	(12)4"C,3#500kcmil AL,#500kcmil AL N

SIZING METHOD: COMPACT AL 75°C 100A AND ABOVE, CU 75°C BELOW 100A

SCOPE OF WORK

PROJECT CONSISTS OF THE INSTALLATION OF A TRAINING ROOM FOR ELECTRICAL ENGINEERING STUDENTS. SCOPE TO INCLUDE NEW RECEPTACLES FOR POWERING WORK AREAS AND ELECTRICAL DISTRIBUTION EQUIPMENT CONNECTED TO EXISTING SWITCHBOARDS. SEE SINGLE LINE AND NOTES FOR MORE INFORMATION.

GENERAL NOTES - OVERALL PROJECT

A. RTM DRAWINGS INDICATE DESIGN INTENT AND REQUIRED OUTCOMES. IF CONDITIONS ARISE IN THE FIELD THAT REQUIRE DEVIATIONS FROM THE DRAWINGS IT IS ASSUMED THAT THE CONTRACTOR WILL DETERMINE THE APPROPRIATE DEVIATION WITH APPROVAL FROM THE OWNER. RTM IS AVAILABLE TO ASSIST WHEN REQUIRED IF ISSUES ARISE.

GENERAL NOTES-SINGLE LINE DIAGRAM

A. ALL BREAKERS SHALL BE RATED TO WITHSTAND THE AVAILABLE FAULT CURRENT AT THEIR LOCATION. WHERE SERIES-RATED COMBINATIONS ARE USED IN ACCORDANCE WITH NEC 240.86 (B) AND (C) THE CONTRACTOR AND/OR HIS EQUIPMENT SUPPLIER MUST PROVIDE APPROPRIATE DOCUMENTATION AND LABELING.

B. WHERE BREAKERS WITH ADJUSTABLE SETTINGS ARE FURNISHED TO THE PROJECT, THE MANUFACTURER'S REP SHALL IDENTIFY AND PROVIDE THE APPROPRIATE SETTINGS TO THE ELECTRICAL CONTRACTOR FOR HIS USE IN INSTALLATION.

C. PANEL SCHEDULES INDICATE BREAKER SIZE ONLY. PROVIDE AFCI/GFCI PROTECTION AS REQUIRED BY NEC. COORDINATE FINAL BREAKER SIZES/TYPES FOR ITEMS FURNISHED BY OTHERS WITH SHOP DRAWINGS OR PRODUCT INFORMATION FOR ACTUAL EQUIPMENT BEING CONNECTED

D. ELECTRICAL CONTRACTOR SHALL NOT ORDER OR PURCHASE ANY MATERIALS OR EQUIPMENT UNTIL PERMIT DRAWINGS HAVE BEEN APPROVED BY AHJ.

E. PROVIDE SELECTIVE COORDINATION FOR EMERGENCY SYSTEM OVERCURRENT PROTECTION DEVICES IN ACCORDANCE WITH NEC 700.27.

F. PROVIDE GROUND-FAULT PROTECTION FOR EQUIPMENT IN ACCORDANCE WITH NEC 240.13 AND NEC 230.95.

G. OVERCURRENT PROTECTION DEVICES SUPPLYING TRANSFORMERS WHICH ARE NOT LOCATED WITHIN SIGHT OF THEIR OVERCURRENT PROTECTION SHALL BE LOCKABLE AND THE TRANSFORMER SHALL BE FIELD MARKED WITH THE LOCATION OF THE OVERCURRENT PROTECTION DEVICE.

H. CONTRACTOR TO PROVIDE GROUNDING AND BONDING AS REQUIRED FOR ELECTRICAL SYSTEMS. GROUNDING AND BONDING IS CONSIDERED MEANS AND METHODS OF CONSTRUCTION, AND SHOULD BE COMPLETED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH NEC 250.

KEYED SHEET NOTES ⚠

1. CONNECT NEW PANEL TSHVP TO EXISTING SPARE BUCKET IN MSB BANK 1 AND INSTALL NEW 200A FUSES.

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Drawn By WMM | Project Mgr. PRS
CAD File
X-Ref File

Issue/Revision	Revision Number	Date
FOR BID		03/19/2026
ADDENDUM 01		03/30/2026

RENOVATIONS AND ADDITION TO
BUTLER TECH AND CAREER DEVELOPMENT SCHOOLS
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Sheet Title
ELECTRICAL SINGLE LINE DIAGRAM

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