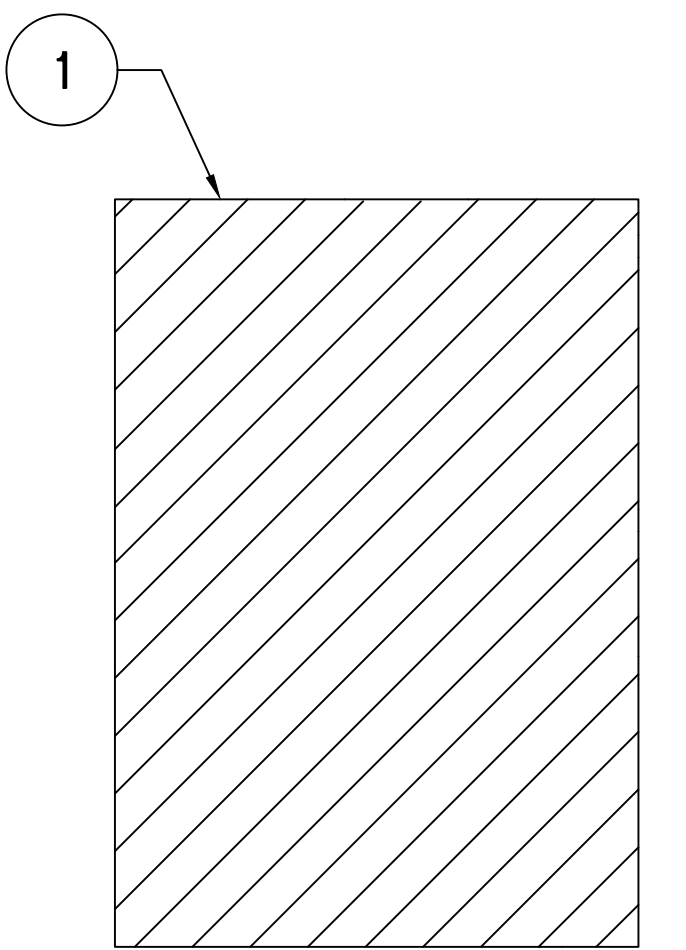


- GENERAL NOTES**
- A. REFER TO DRAWING E-001 FOR ELECTRICAL LEGEND, GENERAL NOTES, AND ABBREVIATIONS.
 - B. REFER TO ELECTRICAL DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS AND INFORMATION.
 - C. ALL CONDUIT USED SHALL BE 3/4" MINIMUM.
 - D. REFER TO DRAWING EM601 AND EM602 FOR ADDITIONAL MOTOR AND CIRCUITING INFORMATION.
 - E. MOTOR AND EQUIPMENT LOCATIONS ARE DIAGRAMMATIC ONLY, THE CONTRACTOR SHALL COORDINATE EXACT LOCATION AT SITE.
 - F. THREE-PHASE MOTOR STARTERS SHALL BE FULL-VOLTAGE, NON-REVERSING.

- KEY NOTES**
- 1. THE CONTRACTOR SHALL PROVIDE COMBINATION MOTOR STARTER/DISCONNECT SWITCH. REFER TO MOTOR EQUIPMENT SCHEDULE FOR ADDITIONAL MOTOR STARTER INFORMATION.
 - 2. VSD (VARIABLE SPEED DRIVE) FOR "12-EF-1", COORDINATE EXACT MOUNTING LOCATION AT SITE PRIOR TO INSTALLATION.
 - 3. PROVIDE 60 AMP, NON-FUSED, 3-POLE NEMA 1 DISCONNECT SWITCH.
 - 4. PROVIDE 30 AMP, NON-FUSED, 3-POLE, 15 HP, NEMA 1 DISCONNECT SWITCH MOUNTED AT MOTOR.
 - 5. THE CONTRACTOR SHALL PROVIDE SIZE 2, FULL VOLTAGE, NON-REVERSING COMBINATION MOTOR, STARTER, DISCONNECT SWITCH.
 - 6. PROVIDE MANUAL MOTOR STARTER SWITCH, WEATHER PROOF WITH THERMAL OVERLOADS.
 - 7. PROVIDE WEATHER PROOF LIGHT SWITCH AND LIGHT FIXTURE AS WELL AS GFI/WP RECEPTACLE MOUNTED ON ROOF, PROVIDE UNI-STRUT MOUNTING SYSTEM AS REQUIRED, INSTALL PER NEC ARTICLE 210.63. REFER TO DETAIL 7/E-501 FOR ADDITIONAL INFORMATION.
 - 8. VSD (VARIABLE SPEED DRIVE) FOR "12-EF-2", COORDINATE EXACT MOUNTING LOCATION AT SITE PRIOR TO INSTALLATION.



1 ELECTRICAL POWER AND EQUIPMENT PLAN - MEZZANINE
SCALE 3/16" = 1'-0"

KEY PLAN - MEZZANINE
NOT TO SCALE

ADDENDUM 1	08-09-2024
Revisions:	Date:

CONSULTANT

ARCHITECT/ENGINEER OF RECORD

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Office of
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 Management
 U.S. Department
 of Veterans
 Affairs

Drawing Title	Phase
ELECTRICAL POWER AND EQUIPMENT PLAN - MEZZANINE	100% CONSTRUCTION DOCUMENTS
Approved: Project Director	

Project Title	Location
SIoux FALLS BOILER PLANT	VAMC-Sioux Falls: 2501 W 22nd St, Sioux Falls, SD 57105
Issue Date	Checked
06/25/2024	WLM
Drawn	
KMB	

Project Number	Building Number	Drawing Number
438-22-900	12	EM102

GENERAL NOTES

- A. NEW PANEL BOARD SHALL BE FULLY RATED, SERIES RATED PANELS SHALL NOT BE PERMITTED.
- B. NEW PANEL BOARD SHALL BE COPPER BUS, ALUMINUM SHALL NOT BE PERMITTED.
- C. REFER TO DETAIL 6/E-502 FOR MOTOR STARTER INFORMATION.
- D. MOTOR STARTERS SHALL BE THREE PHASE, FULL VOLTAGE NON-REVERSING.

ITEM	DESCRIPTION	VOLTAGE	PHASE	MCA	HP	VFD BY	DISCONNECT INFORMATION	PANEL FED FROM	CIRCUIT NUMBER	CONDUIT SIZE	WIRE SIZE	GROUND SIZE	CIRCUIT BREAKER	NOTES
12-AHU-1	AIR HANDLING UNIT	480	3	-	15	DIVISION 26	30 AMP NON-FUSED 3-POLE NEMA 1 DISCONNECT SWITCH	BUCKET WITHIN "12-MDP"	7,9,11	3/4"	3#8	1#10	40/3	1

NOTES:
1. AIR HANDLING UNIT SHALL COME FURNISHED WITH VSD (VARIABLE SPEED DRIVE).

1 AIR HANDLING UNIT SCHEDULE
SCALE NOT TO SCALE

ITEM	DESCRIPTION	VOLTAGE	PHASE	HP	VFD BY	DISCONNECT INFORMATION	PANEL FED FROM	CIRCUIT NUMBER	CONDUIT SIZE	WIRE SIZE	GROUND SIZE	CIRCUIT BREAKER	NOTES
12B-101	BOILER FAN	480	3	25	DIVISION 26	60 AMP NON-FUSED 3-POLE NEMA 1 DISCONNECT SWITCH	12-MDP	1"	3#6	1#10	60/3		
12B-102	BOILER FAN	480	3	25	DIVISION 26	60 AMP NON-FUSED 3-POLE NEMA 1 DISCONNECT SWITCH	12-MDP	1"	3#6	1#10	60/3		
12B-103	BOILER FAN	480	3	25	DIVISION 26	60 AMP NON-FUSED 3-POLE NEMA 1 DISCONNECT SWITCH	12-MDP	1"	3#6	1#10	60/3		
12B-104	BOILER FAN (FUTURE)	480	3	25	DIVISION 26	60 AMP NON-FUSED 3-POLE NEMA 1 DISCONNECT SWITCH	12-MDP	1"	-	-	60/3		1

NOTES:
1. MOTOR "12B-104" IS FUTURE, PROVIDE CIRCUIT BREAKER WITHIN "12-MDP", AND EMPTY CONDUIT TO MOTOR LOCATION PROVIDE PULL STRINGS WITHIN THE EMPTY CONDUIT SYSTEM.

2 BOILER FAN SCHEDULE
SCALE NOT TO SCALE

ITEM	DESCRIPTION	VOLTAGE	PHASE	MCA	DISCONNECT INFORMATION	PANEL FED FROM	CIRCUIT NUMBER	CONDUIT SIZE	WIRE SIZE	GROUND SIZE	CIRCUIT BREAKER
12-DA-001	DEAERATOR	120	1	15	MANUAL MOTOR STARTER SWITCH WITH THERMAL OVERLOADS NEMA 1	12-LN2	58	3/4"	2#12	1#12	20/1

3 DEAERATOR SCHEDULE
SCALE NOT TO SCALE

ITEM	DESCRIPTION	VOLTAGE	PHASE	HP	MCA	DISCONNECT INFORMATION	PANEL FED FROM	CIRCUIT NUMBER	CONDUIT SIZE	WIRE SIZE	GROUND SIZE	CIRCUIT BREAKER
12-WH-1	DOMESTIC WATER HEATER	120	1	-	15	30 AMP DISCONNECT SWITCH NEMA 1	12-LN2	17	3/4"	2#12	1#12	20/1
12-RP-1	DOMESTIC HOT WATER PUMP	208	1	0.15	-	MANUAL MOTOR STARTER SWITCH NEMA 1	12-LN1	28,30	3/4"	2#12	1#12	20/2

4 DOMESTIC HOT WATER PUMP SCHEDULE
SCALE NOT TO SCALE

ITEM	DESCRIPTION	VOLTAGE	PHASE	MCA	DISCONNECT INFORMATION	PANEL FED FROM	CIRCUIT NUMBER	CONDUIT SIZE	WIRE SIZE	GROUND SIZE	CIRCUIT BREAKER
12-ACCU-1	CONDENSING UNIT FOR 12-FCCU-1	208	1	19	30 AMP 3-POLE NON-FUSED NEMA 1 DISCONNECT SWITCH	12-LN2	69,71	3/4"	2#10	1#10	30/2
12-FCCU-1	FAN COIL UNIT	208	1	20	30 AMP 3-POLE NON-FUSED NEMA 1 DISCONNECT SWITCH	12-LN2	73,75	3/4"	2#12	1#12	20/2
12-ACCU-2	CONDENSING UNIT FOR 12-FCCU-2	208	1	19	30 AMP 3-POLE NON-FUSED NEMA 1 DISCONNECT SWITCH	12-LN2	21,23	3/4"	2#10	1#10	30/2
12-FCCU-2	FAN COIL UNIT	208	1	20	30 AMP 3-POLE NON-FUSED NEMA 1 DISCONNECT SWITCH	12-LN2	25,27	3/4"	2#12	1#12	20/2
12-ACCU-3	CONDENSING UNIT FOR 12-FCCU-3	208	1	19	30 AMP 3-POLE NON-FUSED NEMA 1 DISCONNECT SWITCH	12-LN2	29,31	3/4"	2#10	1#10	30/2
12-FCCU-3	FAN COIL UNIT	208	1	20	30 AMP 3-POLE NON-FUSED NEMA 1 DISCONNECT SWITCH	12-LN2	33,35	3/4"	2#12	1#12	20/2
12-ACCU-4	CONDENSING UNIT FOR 12-FCCU-4	208	1	24	60 AMP 3-POLE NON-FUSED NEMA 1 DISCONNECT SWITCH	12-LN2	16,18	3/4"	2#8	1#10	40/2
12-FCCU-4	FAN COIL UNIT	208	1	30	30 AMP 3-POLE NON-FUSED NEMA 1 DISCONNECT SWITCH	12-LN2	20,22	3/4"	2#10	1#10	30/2

5 MINI SPLIT SYSTEM SCHEDULE
SCALE NOT TO SCALE

ITEM	DESCRIPTION	VOLTAGE	PHASE	VA	DISCONNECT INFORMATION	PANEL FED FROM	CIRCUIT NUMBER	CONDUIT SIZE	WIRE SIZE	GROUND SIZE	CIRCUIT BREAKER
12-WS-1	WATER SOFTENER	120	1	300	MANUAL MOTOR STARTER SWITCH NEMA 1	12-LN2	15	3/4"	2#12	1#12	20/1
12-WS-2	WATER SOFTENER	120	1	300	MANUAL MOTOR STARTER SWITCH NEMA 1	12-LN2	15	3/4"	2#12	1#12	20/1

NOTES:
A. REFER TO "EM" SERIES DRAWINGS FOR MOTOR LOCATIONS.

6 WATER SOFTENER SCHEDULE
SCALE NOT TO SCALE


ITEM	DESCRIPTION	VOLTAGE	PHASE	HP	DISCONNECT INFORMATION	STARTER	PANEL FED FROM	CIRCUIT NUMBER	CONDUIT SIZE	WIRE SIZE	GROUND SIZE	CIRCUIT BREAKER
12-BP-1	DOMESTIC COLD WATER PUMP	480	3	15	30 AMP DISCONNECT SWITCH NEMA 1 NON-FUSED	BY DIVISION 26 CONTRACTOR SIZE 2 - FVNR NEMA 1	12-MDP	5	3/4"	3#10	1#10	30/3
12-BP-2	DOMESTIC COLD WATER PUMP	480	3	15	30 AMP DISCONNECT SWITCH NEMA 1 NON-FUSED	BY DIVISION 26 CONTRACTOR SIZE 2 - FVNR NEMA 1	12-MDP	19	3/4"	3#10	1#10	30/3

7 DOMESTIC COLD WATER PUMP SCHEDULE
SCALE NOT TO SCALE

ADDENDUM 1	08-09-2024
ADDENDUM 2	08-23-2024
Revisions:	Date:

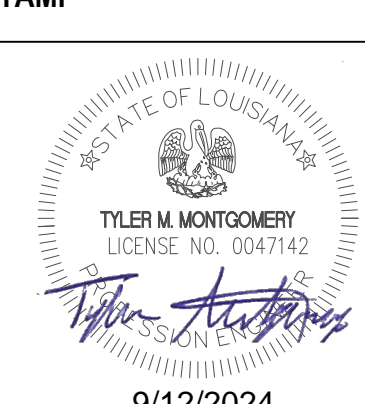
CONSULTANT

ARCHITECT/ENGINEER OF RECORD



9000 Westex Place, Louisville, KY 40222
www.paradigmusa.com

STAMP



Office of Construction and Facilities Management



Drawing Title

MOTOR AND EQUIPMENT SCHEDULE

Approved: Project Director

Phase

100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title

SIoux FALLS BOILER PLANT

Location

VAMC-SIoux Falls: 2501 W 22nd St, Sioux Falls, SD 57105

Issue Date

06/25/2024

Checked

WLM

Drawn

KMB

Project Number

438-22-900

Building Number

12

Drawing Number

EM601

Table with columns: ITEM, DESCRIPTION, VOLTAGE, PHASE, HP, VFD BY, DISCONNECT INFORMATION, PANEL FED FROM, CIRCUIT NUMBER, CONDUIT SIZE, WIRE SIZE, GROUND SIZE, CIRCUIT BREAKER, NOTES. Includes items 12-EF-1 to 12-EF-4.

NOTES: 1. THE CONTRACTOR SHALL PROVIDE VARIABLE FREQUENCY DRIVE AS INDICATED.

1 EXHAUST FAN SCHEDULE SCALE NOT TO SCALE

Table with columns: ITEM, DESCRIPTION, VOLTAGE, PHASE, HP, VFD BY, DISCONNECT INFORMATION, PANEL FED FROM, CIRCUIT NUMBER, CONDUIT SIZE, WIRE SIZE, GROUND SIZE, CIRCUIT BREAKER, NOTES. Includes items 12-BFW-101 to 12-BFW-104.

NOTES: 1. MOTOR "12-BFW-104" IS A FUTURE MOTOR, THE CONTRACTOR SHALL PROVIDE CIRCUIT BREAKER WITHIN "12-MDP" AND PROVIDE CONDUIT ONLY TO MOTOR LOCATION, PROVIDE PULL STRINGS WITHIN THE EMPTY CONDUIT SYSTEM.

2 BOILER BOOSTER PUMP SCHEDULE SCALE NOT TO SCALE

Table with columns: ITEM, DESCRIPTION, VOLTAGE, PHASE, VA, DISCONNECT INFORMATION, PANEL FED FROM, CIRCUIT NUMBER, CONDUIT SIZE, WIRE SIZE, GROUND SIZE, CIRCUIT BREAKER, NOTES. Includes items 12-B-101 to 12-B-104.

NOTES: 1. CONTROL PANEL "12-B-104" IS A FUTURE CONTROL PANEL, THE CONTRACTOR SHALL PROVIDE 20/1 CIRCUIT BREAKER WITHIN PANEL "12-LN2", AND PROVIDE EMPTY CONDUIT TO MOTOR LOCATION, PROVIDE PULL STRINGS WITHIN THE EMPTY CONDUIT SYSTEM.

3 BOILER CONTROL PANELS SCHEDULE SCALE NOT TO SCALE

- GENERAL NOTES
A. NEW PANEL BOARD SHALL BE FULLY RATED, SERIES RATED PANELS SHALL NOT BE PERMITTED.
B. NEW PANEL BOARD SHALL BE COPPER BUS, ALUMINUM SHALL NOT BE PERMITTED.
C. REFER TO DETAIL 6/E-502 FOR MOTOR STARTER INFORMATION.
D. MOTOR STARTERS SHALL BE THREE PHASE, FULL VOLTAGE, NON-REVERSING.

Table with columns: ITEM, DESCRIPTION, VOLTAGE, PHASE, MCA, DISCONNECT INFORMATION, PANEL FED FROM, CIRCUIT NUMBER, CONDUIT SIZE, WIRE SIZE, GROUND SIZE, CIRCUIT BREAKER. Includes items 12-FO-101 to 12-FO-104.

4 BOILER FUEL OIL PUMP SCHEDULE SCALE NOT TO SCALE

Table with columns: ITEM, DESCRIPTION, VOLTAGE, PHASE, HP, DISCONNECT INFORMATION, STARTER, PANEL FED FROM, CIRCUITS FED FROM, CONDUIT SIZE, WIRE SIZE, GROUND SIZE, CIRCUIT BREAKER. Includes items 12-CRP-101 and 12-CRP-102.

5 CONDENSATE PUMP SCHEDULE SCALE NOT TO SCALE

Table with columns: ITEM, DESCRIPTION, VOLTAGE, PHASE, MCA, DISCONNECT INFORMATION, PANEL FED FROM, CIRCUIT NUMBER, CONDUIT SIZE, WIRE SIZE, GROUND SIZE, CIRCUIT BREAKER. Includes item 12-CR-1.

6 CONDENSATE STORAGE SCHEDULE SCALE NOT TO SCALE

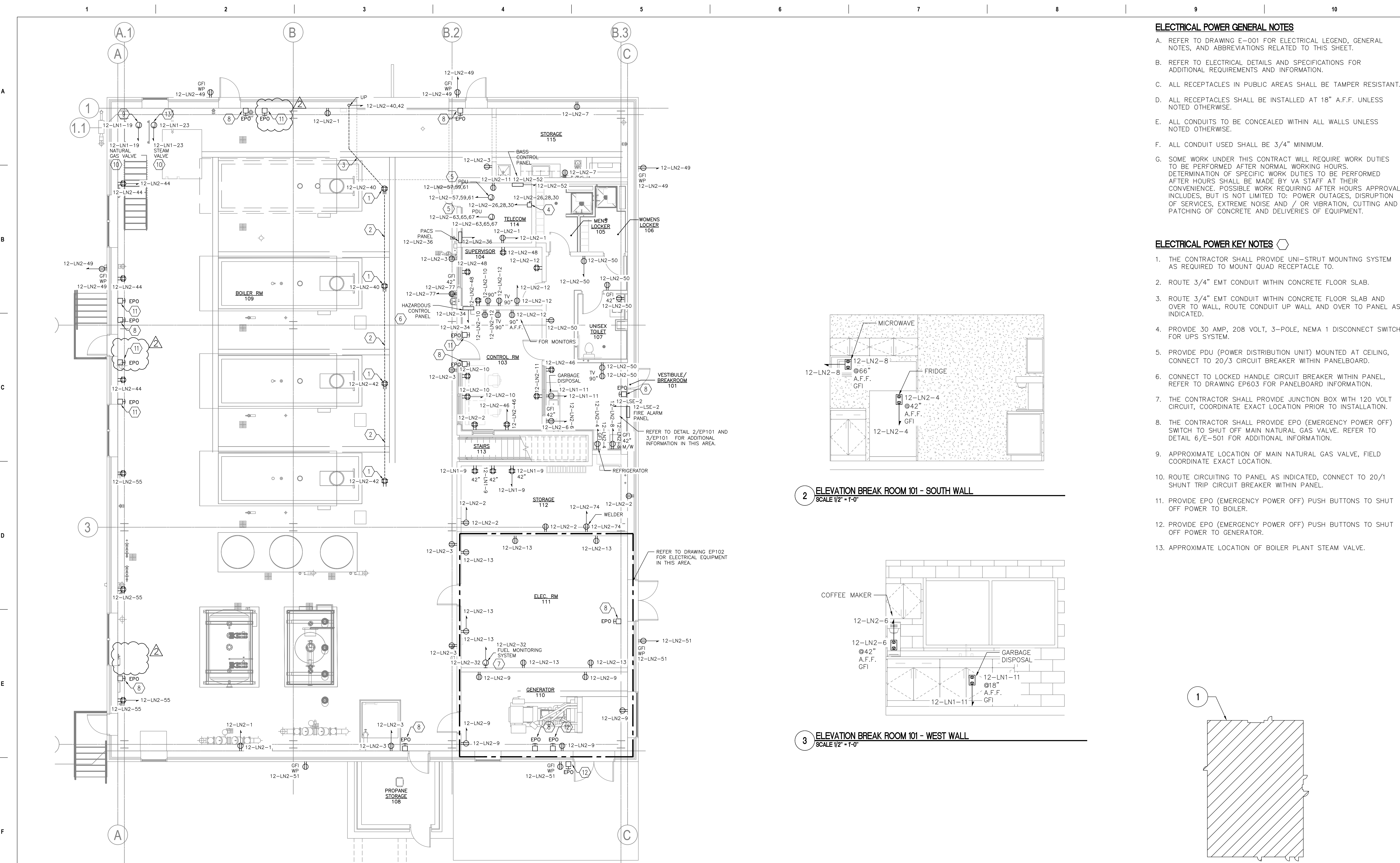
Table with columns: ITEM, DESCRIPTION, VOLTAGE, PHASE, VA, DISCONNECT INFORMATION, PANEL FED FROM, CIRCUIT NUMBER, CONDUIT SIZE, WIRE SIZE, GROUND SIZE, CIRCUIT BREAKER. Includes items 12-CP1 and 12-CP2.

7 CONTROL ROOM CONTROL PANEL SCHEDULE SCALE NOT TO SCALE

Table with columns: ITEM, DESCRIPTION, VOLTAGE, PHASE, HP, DISCONNECT INFORMATION, PANEL FED FROM, CIRCUIT NUMBER, CONDUIT SIZE, WIRE SIZE, GROUND SIZE, CIRCUIT BREAKER. Includes item 12-AC-1.

8 AIR COMPRESSOR SCHEDULE SCALE NOT TO SCALE

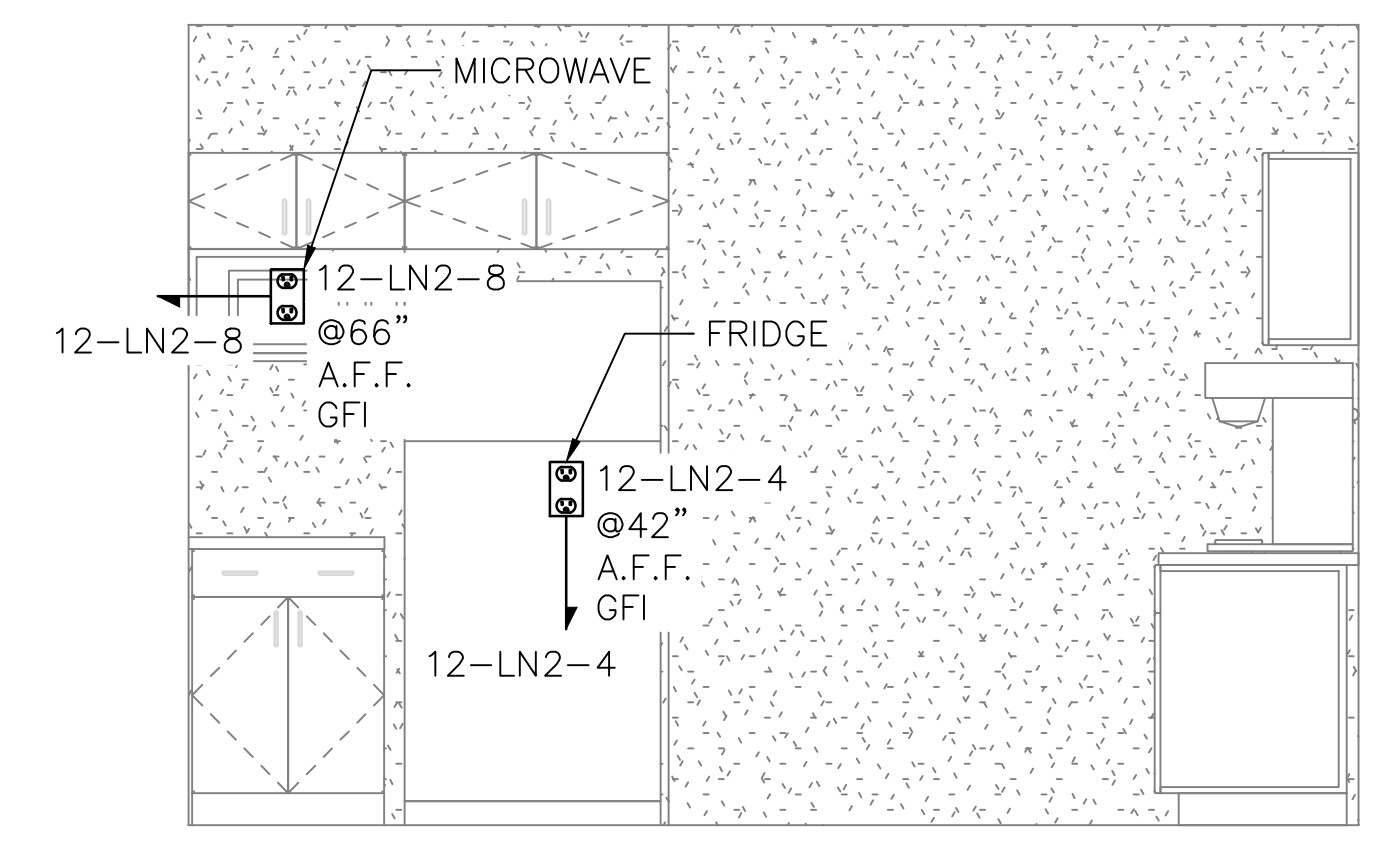
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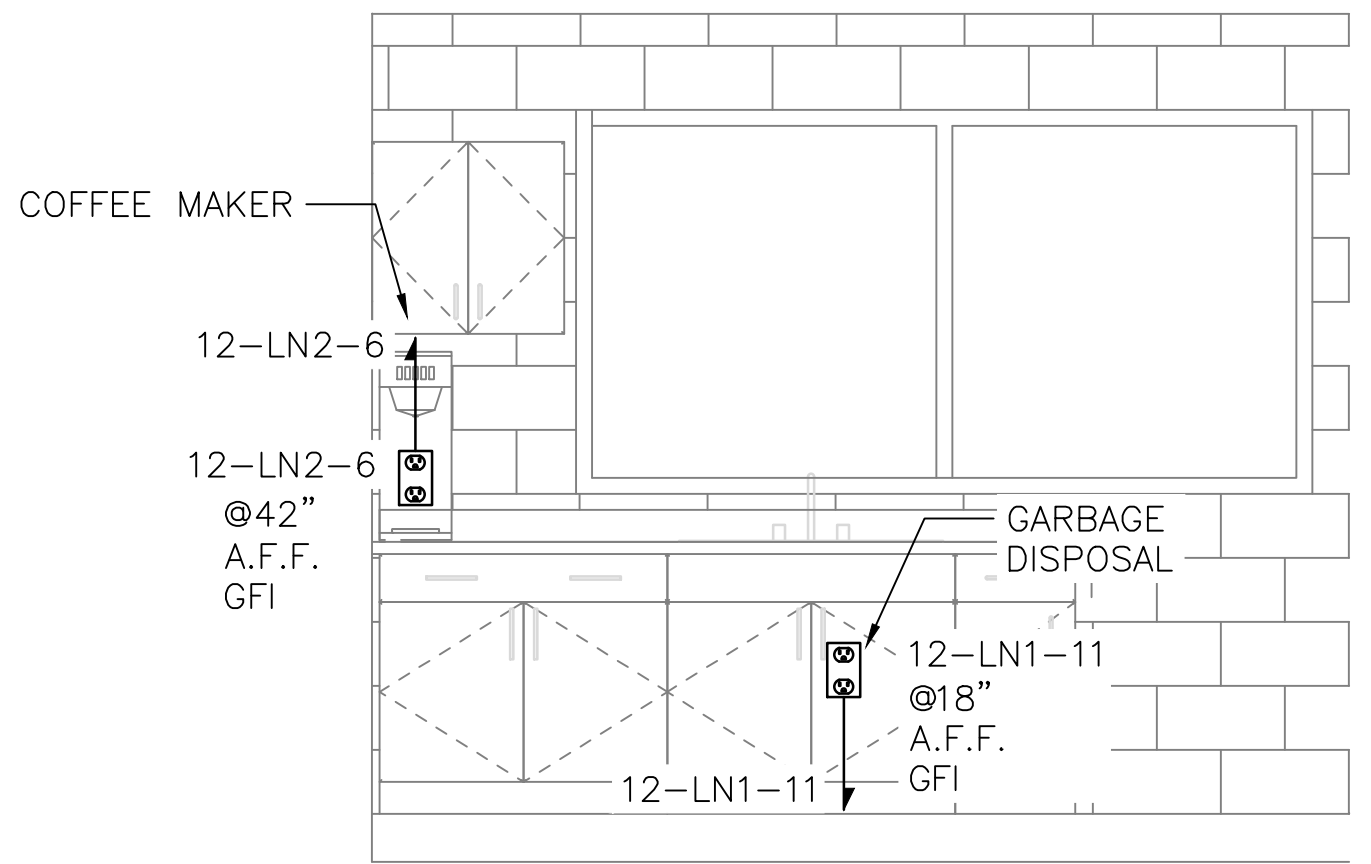
1 ELECTRICAL POWER PLAN - FIRST FLOOR
SCALE 3/16" = 1'-0"

- ELECTRICAL POWER GENERAL NOTES**
- A. REFER TO DRAWING E-001 FOR ELECTRICAL LEGEND, GENERAL NOTES, AND ABBREVIATIONS RELATED TO THIS SHEET.
 - B. REFER TO ELECTRICAL DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS AND INFORMATION.
 - C. ALL RECEPTACLES IN PUBLIC AREAS SHALL BE TAMPER RESISTANT.
 - D. ALL RECEPTACLES SHALL BE INSTALLED AT 18" A.F.F. UNLESS NOTED OTHERWISE.
 - E. ALL CONDUITS TO BE CONCEALED WITHIN ALL WALLS UNLESS NOTED OTHERWISE.
 - F. ALL CONDUIT USED SHALL BE 3/4" MINIMUM.
 - G. SOME WORK UNDER THIS CONTRACT WILL REQUIRE WORK DUTIES TO BE PERFORMED AFTER NORMAL WORKING HOURS. DETERMINATION OF SPECIFIC WORK DUTIES TO BE PERFORMED AFTER HOURS SHALL BE MADE BY VA STAFF AT THEIR CONVENIENCE. POSSIBLE WORK REQUIRING AFTER HOURS APPROVAL INCLUDES, BUT IS NOT LIMITED TO: POWER OUTAGES, DISRUPTION OF SERVICES, EXTREME NOISE AND / OR VIBRATION, CUTTING AND PATCHING OF CONCRETE AND DELIVERIES OF EQUIPMENT.

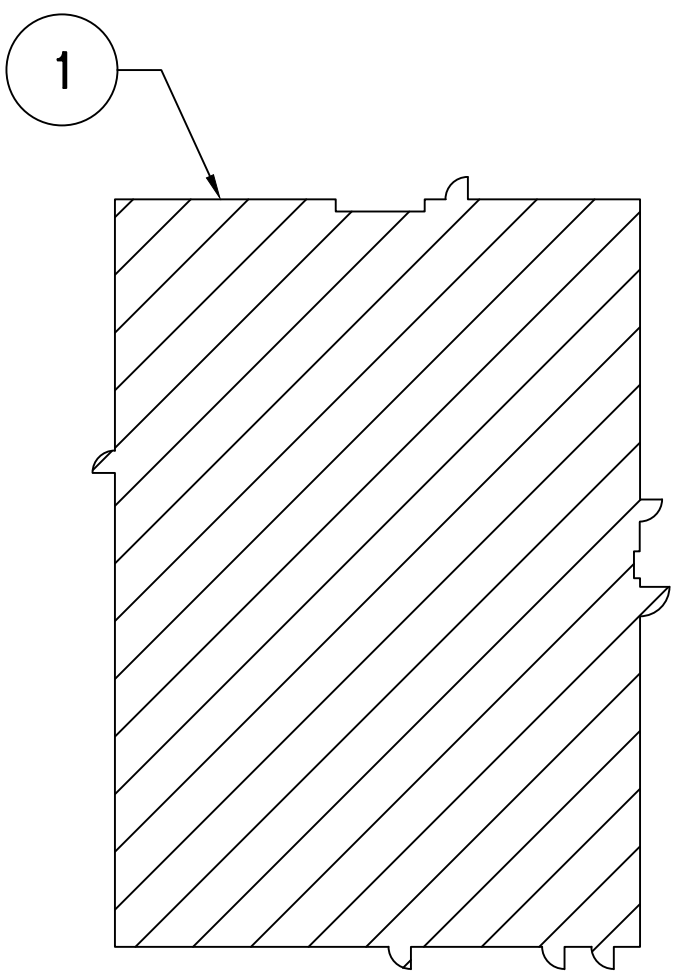
- ELECTRICAL POWER KEY NOTES**
1. THE CONTRACTOR SHALL PROVIDE UNI-STRUT MOUNTING SYSTEM AS REQUIRED TO MOUNT QUAD RECEPTACLE TO.
 2. ROUTE 3/4" EMT CONDUIT WITHIN CONCRETE FLOOR SLAB.
 3. ROUTE 3/4" EMT CONDUIT WITHIN CONCRETE FLOOR SLAB AND OVER TO WALL, ROUTE CONDUIT UP WALL AND OVER TO PANEL AS INDICATED.
 4. PROVIDE 30 AMP, 208 VOLT, 3-POLE, NEMA 1 DISCONNECT SWITCH FOR UPS SYSTEM.
 5. PROVIDE PDU (POWER DISTRIBUTION UNIT) MOUNTED AT CEILING, CONNECT TO 20/3 CIRCUIT BREAKER WITHIN PANELBOARD.
 6. CONNECT TO LOCKED HANDLE CIRCUIT BREAKER WITHIN PANEL, REFER TO DRAWING EP603 FOR PANELBOARD INFORMATION.
 7. THE CONTRACTOR SHALL PROVIDE JUNCTION BOX WITH 120 VOLT CIRCUIT, COORDINATE EXACT LOCATION PRIOR TO INSTALLATION.
 8. THE CONTRACTOR SHALL PROVIDE EPO (EMERGENCY POWER OFF) SWITCH TO SHUT OFF MAIN NATURAL GAS VALVE. REFER TO DETAIL 6/E-501 FOR ADDITIONAL INFORMATION.
 9. APPROXIMATE LOCATION OF MAIN NATURAL GAS VALVE, FIELD COORDINATE EXACT LOCATION.
 10. ROUTE CIRCUITING TO PANEL AS INDICATED, CONNECT TO 20/1 SHUNT TRIP CIRCUIT BREAKER WITHIN PANEL.
 11. PROVIDE EPO (EMERGENCY POWER OFF) PUSH BUTTONS TO SHUT OFF POWER TO BOILER.
 12. PROVIDE EPO (EMERGENCY POWER OFF) PUSH BUTTONS TO SHUT OFF POWER TO GENERATOR.
 13. APPROXIMATE LOCATION OF BOILER PLANT STEAM VALVE.



2 ELEVATION BREAK ROOM 101 - SOUTH WALL
SCALE 1/2" = 1'-0"



3 ELEVATION BREAK ROOM 101 - WEST WALL
SCALE 1/2" = 1'-0"



KEY PLAN - FIRST FLOOR
NOT TO SCALE

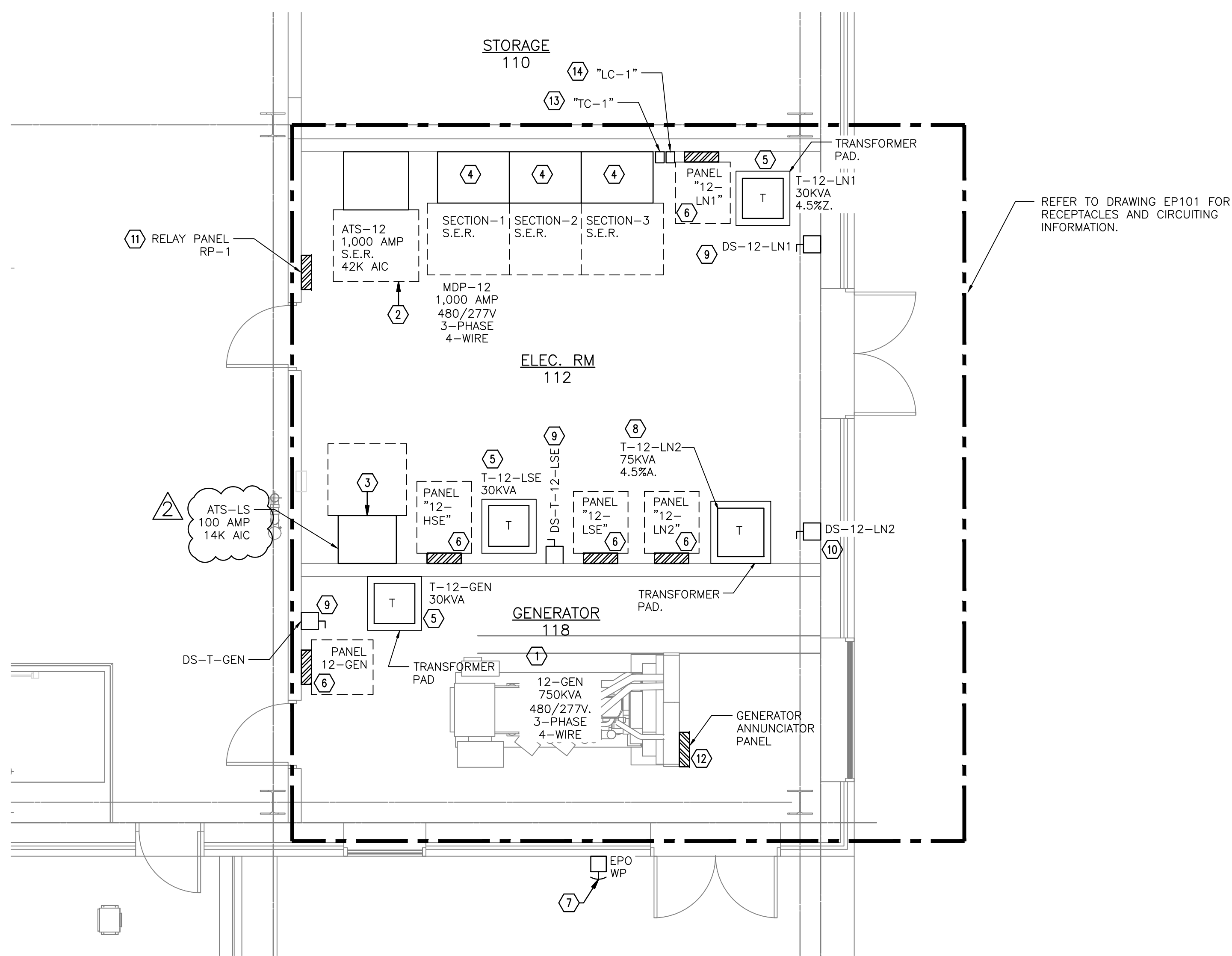
ADDENDUM 1 08-09-2024 ADDENDUM 2 09-12-2024	CONSULTANT	ARCHITECT/ENGINEER OF RECORD Architecture Engineering Design-Build 9000 Weesax Place, Louisville, KY 40222 www.paradigmusa.com	STAMP 	Office of Construction and Facilities Management U.S. Department of Veterans Affairs	Drawing Title ELECTRICAL POWER PLAN FIRST FLOOR	Phase 100% CONSTRUCTION DOCUMENTS	Project Title SIOUX FALLS BOILER PLANT	Project Number 438-22-900 Building Number 12 12
Revisions: _____ Date: _____					Approved: Project Director		Location VAMC-Sioux Falls: 2501 W 22nd St, Sioux Falls, SD 57105	
					FULLY SPRINKLERED		Issue Date 06/25/2024	
					Checked WLM		Drawn KMB	
							Drawing Number EP101	

ELECTRICAL POWER KEY NOTES

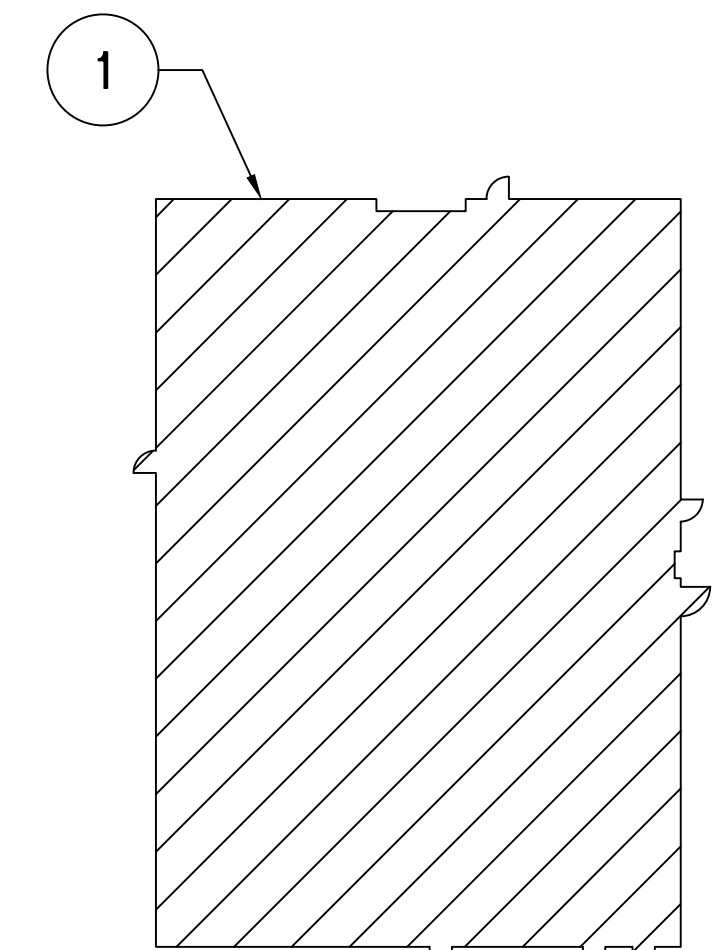
1. PROVIDE 750KVA, 480/277 VOLT, EMERGENCY GENERATOR, GENERATOR SHALL COME FURNISHED WITH "DAY TANK"
2. PROVIDE 1,000 AMP, 4-POLE, 480/277 VOLT, 3-PHASE, 4-WIRE, 42K AIC, SERVICE ENTRANCE RATED AUTOMATIC TRANSFER SWITCH.
3. PROVIDE 100 AMP, 4-POLE, 480/277 VOLT, 3-PHASE, 4-WIRE, 14K AIC, AUTOMATIC TRANSFER SWITCH, LIFE SAFETY BRANCH.
4. PROVIDE MAIN DISTRIBUTION BOARD "MDP-12", IT SHALL BE: 1,000 AMP, 480/277 VOLT, 3-PHASE, 4-WIRE, 42K AIC, SERVICE ENTRANCE RATED, MAIN DISTRIBUTION PANEL BOARD.
5. PROVIDE 30KVA, 480 VOLT PRIMARY, 120/208 VOLT SECONDARY, DRY TYPE, 3-PHASE, 4-WIRE, 4.5%Z, FLOOR / PAD MOUNTED TRANSFORMER, REFER TO DRAWING 1/E-501 FOR ADDITIONAL INFORMATION.
6. PROVIDE NEW PANEL AS INDICATED, REFER TO EP600 SERIES DRAWINGS FOR ADDITIONAL INFORMATION.
7. PROVIDE EMERGENCY POWER OFF (EPO) BUTTON AS INDICATED, REFER TO DRAWING 6/EP501 FOR ADDITIONAL INFORMATION. PROVIDE A WEATHERPROOF CLEAR PLASTIC COVER ON DEVISE, COVER SHALL BE WEATHERPROOF.
8. PROVIDE 75KVA, 480 VOLT PRIMARY, 120-208 VOLT SECONDARY, DRY-TYPE 3-PHASE, 4-WIRE, 4.5%Z, FLOOR / PAD MOUNTED TRANSFORMER, REFER TO DRAWING 1/E-501 FOR ADDITIONAL INFORMATION.
9. PROVIDE 100 AMP DISCONNECT SWITCH, FUSED WITH 3-100 AMP FUSES, NEMA 1 ENCLOSURE.
10. PROVIDE 400 AMP DISCONNECT SWITCH, FUSED WITH 3-225 AMP FUSES, NEMA 1 ENCLOSURE.
11. THE CONTRACTOR SHALL PROVIDE LIGHTING RELAY PANEL "RP-1", REFER TO DETAILS 2&3/EL503 FOR ADDITIONAL INFORMATION.
12. THE CONTRACTOR SHALL PROVIDE EMERGENCY GENERATOR ANNUNCIATOR PANEL AS INDICATED.
13. PROVIDE DIGITAL PROGRAMMABLE TIMECLOCK.
14. PROVIDE 4-POLE, 120 VOLT COIL AND CONTACTS, ELECTRICALLY HELD LIGHTING CONTACTOR.

ELECTRICAL POWER GENERAL NOTES

- A. REFER TO DRAWING E-001 FOR ELECTRICAL LEGEND, GENERAL NOTES, AND ABBREVIATIONS RELATED TO THIS SHEET.
- B. REFER TO ELECTRICAL DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS AND INFORMATION.
- C. ALL RECEPTACLES SHALL BE INSTALLED AT 18" A.F.F. UNLESS NOTED OTHERWISE.
- D. ALL CONDUITS TO BE CONCEALED WITHIN ALL WALLS UNLESS NOTED OTHERWISE.
- E. ALL CONDUIT USED SHALL BE 3/4" MINIMUM.
- F. SOME WORK UNDER THIS CONTRACT WILL REQUIRE WORK DUTIES TO BE PERFORMED AFTER NORMAL WORKING HOURS. DETERMINATION OF SPECIFIC WORK DUTIES TO BE PERFORMED AFTER HOURS SHALL BE MADE BY VA STAFF AT THEIR CONVENIENCE. POSSIBLE WORK REQUIRING AFTER HOURS APPROVAL INCLUDES, BUT IS NOT LIMITED TO: POWER OUTAGES, DISRUPTION OF SERVICES, EXTREME NOISE AND / OR VIBRATION, CUTTING AND PATCHING OF CONCRETE AND DELIVERIES OF EQUIPMENT.
- G. DASHED LINE IN FRONT OF ELECTRICAL EQUIPMENT REPRESENTS CLEARANCE REQUIREMENTS PER NEC ARTICLE 110.
- H. THE CONTRACTOR SHALL PROVIDE HOUSE KEEPING PADS FOR ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT.
- I. ALL TRANSFORMERS INDICATED ON THIS DRAWING SHALL BE PAD/FLOOR MOUNTED.



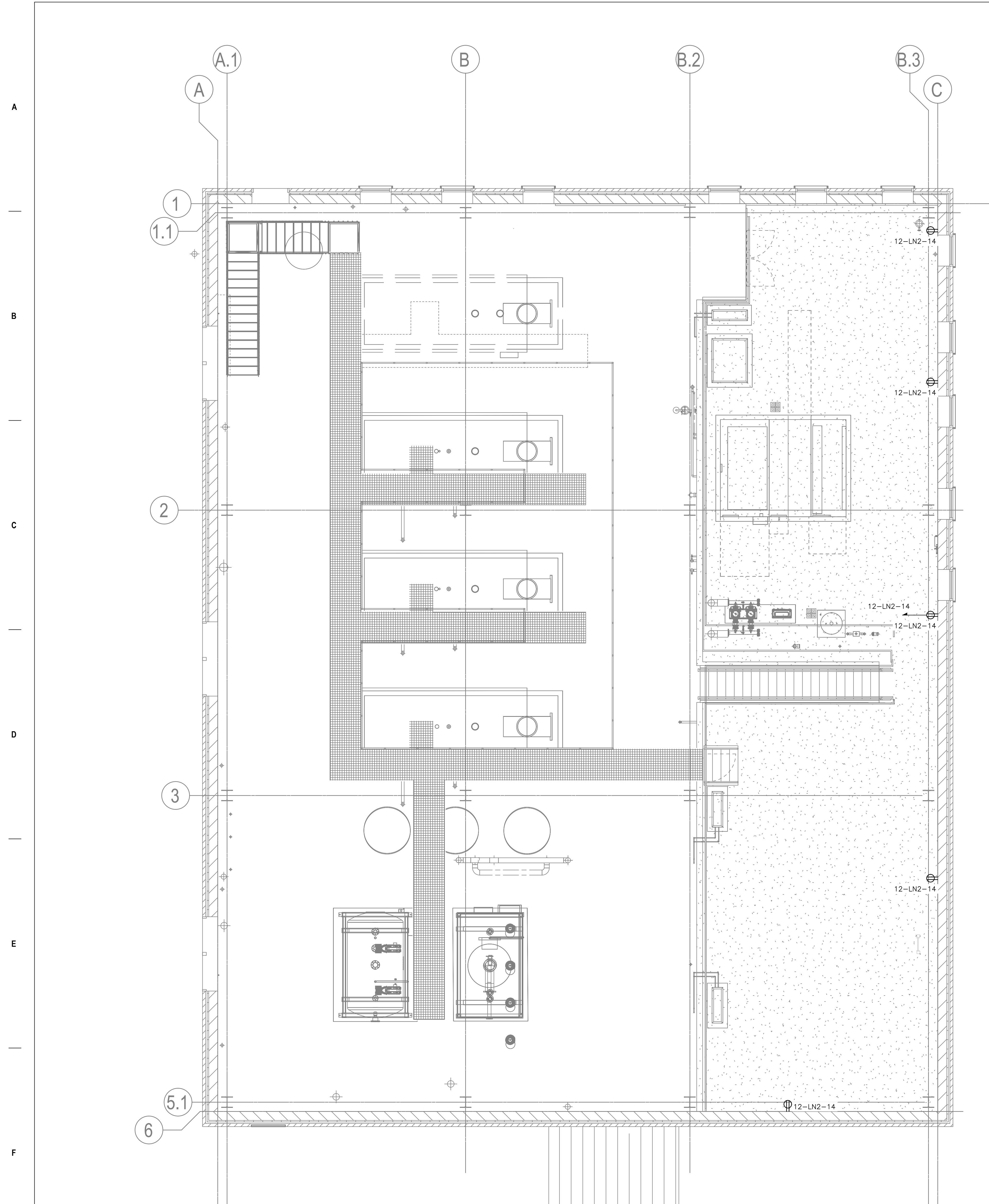
REFER TO DRAWING EP101 FOR RECEPTACLES AND CIRCUITING INFORMATION.



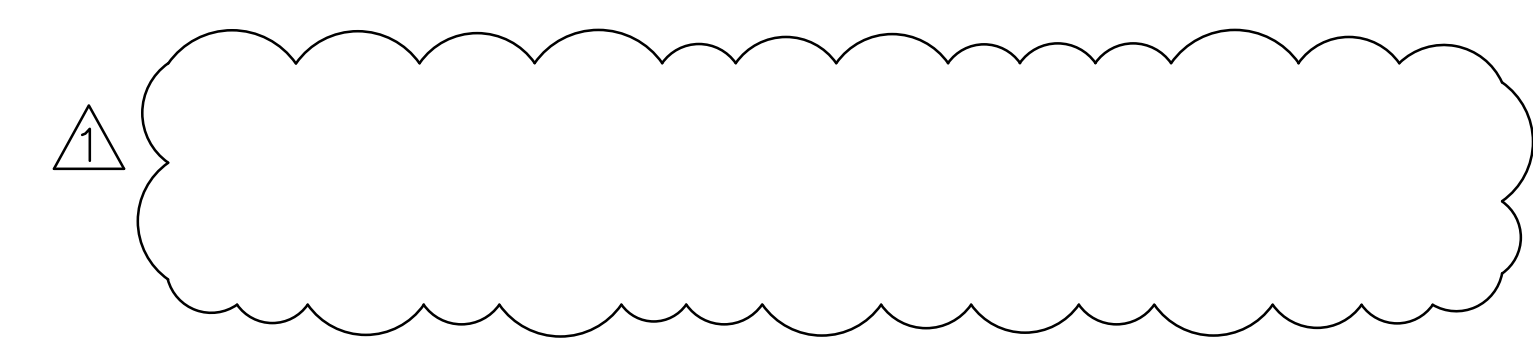
1 ENLARGED ELECTRICAL ROOM PLANS
SCALE 1/4" = 1'-0"

KEY PLAN - FIRST FLOOR
NOT TO SCALE

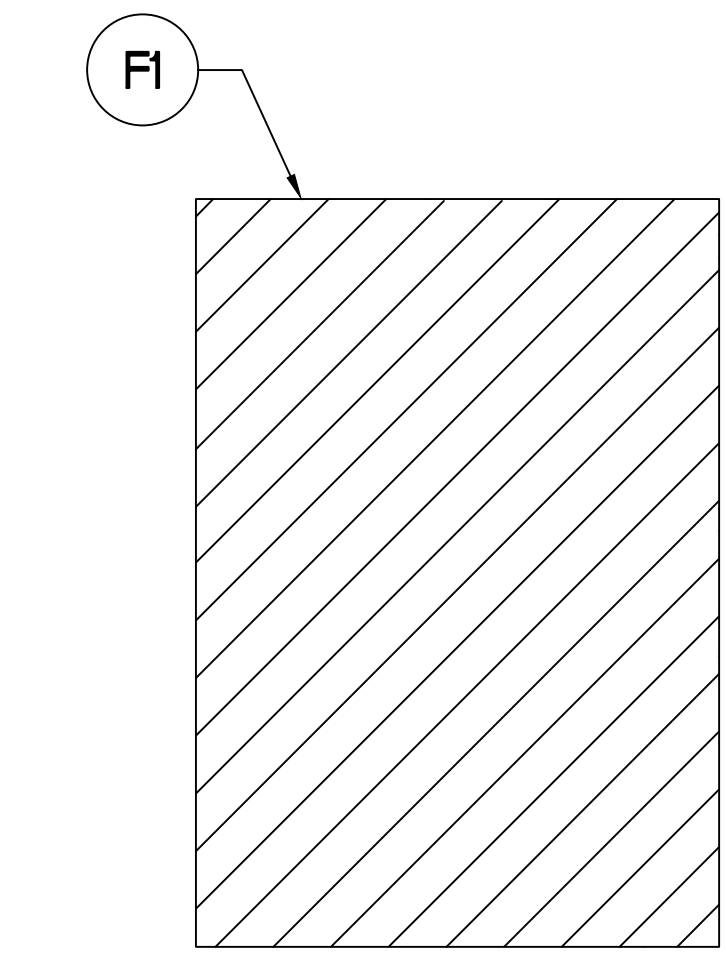
<table border="1"> <tr> <td>ADDENDUM 1</td> <td>08-09-2024</td> </tr> <tr> <td>ADDENDUM 2</td> <td>08-23-2024</td> </tr> <tr> <td>Revisions:</td> <td>Date:</td> </tr> </table>	ADDENDUM 1	08-09-2024	ADDENDUM 2	08-23-2024	Revisions:	Date:	<p>CONSULTANT</p>	<p>ARCHITECT/ENGINEER OF RECORD</p> <p>Architecture Engineering Design-Build 9000 Wesssex Place, Louisville, KY 40222 www.paradigmusa.com</p>	<p>STAMP</p>	<p>Office of Construction and Facilities Management</p> <p>U.S. Department of Veterans Affairs</p>	<p>Drawing Title ENLARGED ELECTRICAL ROOM PLANS</p> <p>Approved: Project Director</p>	<p>Phase 100% CONSTRUCTION DOCUMENTS</p> <p>FULLY SPRINKLERED</p>	<p>Project Title SIOUX FALLS BOILER PLANT</p> <p>Location VAMC-Sioux Falls: 2501 W 22nd St, Sioux Falls, SD 57105</p> <p>Issue Date 06/25/2024</p> <p>Checked WLM</p> <p>Drawn KMB</p>	<p>Project Number 438-22-900</p> <p>Building Number 12 12</p> <p>Drawing Number EP102</p>
ADDENDUM 1	08-09-2024													
ADDENDUM 2	08-23-2024													
Revisions:	Date:													



- ELECTRICAL POWER GENERAL NOTES**
- A. REFER TO DRAWING E-001 FOR ELECTRICAL LEGEND, GENERAL NOTES, AND ABBREVIATIONS RELATED TO THIS SHEET.
 - B. REFER TO ELECTRICAL DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS AND INFORMATION.
 - C. ALL RECEPTACLES IN PUBLIC AREAS SHALL BE TAMPER RESISTANT.
 - D. ALL RECEPTACLES SHALL BE INSTALLED AT 18" A.F.F. UNLESS NOTED OTHERWISE.
 - E. ALL CONDUITS TO BE CONCEALED WITHIN ALL WALLS UNLESS NOTED OTHERWISE.
 - F. ALL CONDUIT USED SHALL BE 3/4" MINIMUM.
 - G. SOME WORK UNDER THIS CONTRACT WILL REQUIRE WORK DUTIES TO BE PERFORMED AFTER NORMAL WORKING HOURS. DETERMINATION OF SPECIFIC WORK DUTIES TO BE PERFORMED AFTER HOURS SHALL BE MADE BY VA STAFF AT THEIR CONVENIENCE. POSSIBLE WORK REQUIRING AFTER HOURS APPROVAL INCLUDES, BUT IS NOT LIMITED TO: POWER OUTAGES, DISRUPTION OF SERVICES, EXTREME NOISE AND / OR VIBRATION, CUTTING AND PATCHING OF CONCRETE AND DELIVERIES OF EQUIPMENT.



F1 ELECTRICAL POWER PLAN - MEZZANINE
SCALE 3/16" = 1'-0"



KEY PLAN - MEZZANINE
NOT TO SCALE

ADDENDUM 1 08-09-2024 CONSULTANT Revisions: Date:	ARCHITECT/ENGINEER OF RECORD Architecture Engineering Design-Build 9000 Wesley Place, Louisville, KY 40222 www.paradigmusa.com	Office of Construction and Facilities Management U.S. Department of Veterans Affairs	Drawing Title ELECTRICAL POWER PLAN MEZZANINE	Phase 100% CONSTRUCTION DOCUMENTS	Project Title SIOUX FALLS BOILER PLANT	Project Number 438-22-900
			Approved: Project Director	FULLY SPRINKLERED	Location VAMC-Sioux Falls: 2501 W 22nd St, Sioux Falls, SD 57105	Building Number 12
			Issue Date 06/25/2024	Checked WLM	Drawn KMB	Drawing Number EP103

CURRENT RATINGS	AMPS	PHASE CONDUCTORS	SETS	EQUIPMENT GROUNDING CONDUCTOR	CONDUIT SIZE
1	1,000	4#250MCM	4	-	3"
2	100	4#3	1	1#8	1 1/4"
3	50	3#8	1	1#10	3/4"
4	100	4#3	1	1#8	1 1/4"
5	125	3#1	1	1#6	2"
6	225	4#4/0	1	1#2	2 1/2"
7	30	3#10	1	1#10	3/4"
8	60	3#6	1	1#10	1"

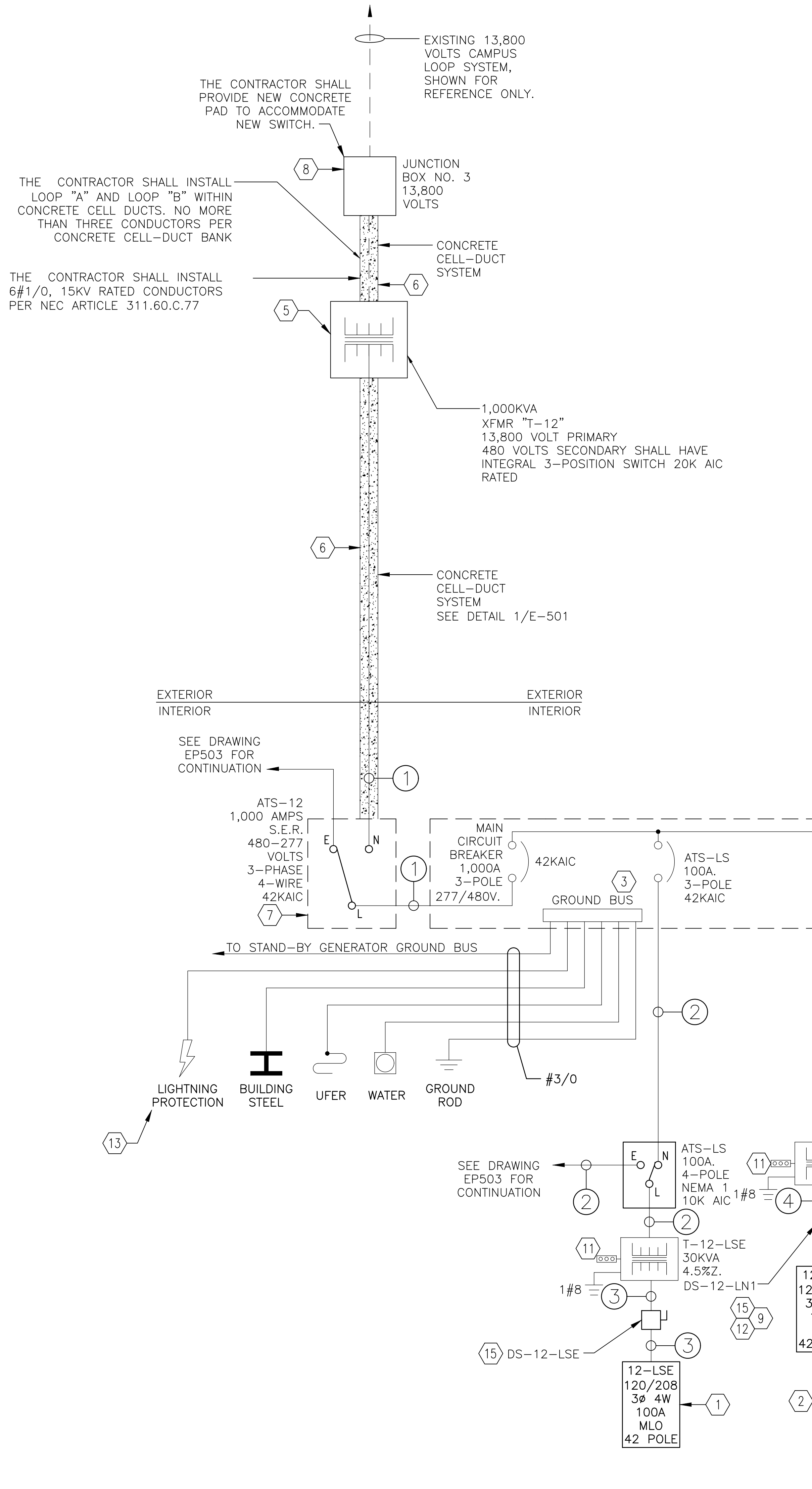
2 NORMAL POWER / STAND-BY POWER ONE-LINE DIAGRAM
SCALE NOT TO SCALE

ELECTRICAL ONE LINE DIAGRAM GENERAL NOTES

- REFER TO DWG. E-001 FOR ELECTRICAL LEGEND, ABBREVIATIONS, AND GENERAL NOTES RELATED TO THIS SHEET.
- PROVIDE NEMA 3R ENCLOSURES FOR ALL EQUIPMENT LOCATED OUTDOORS, REFER TO DRAWINGS FOR LOCATION OF EQUIPMENT.
- REFER TO PLANS FOR PHYSICAL RESTRAINTS ON PHYSICAL DIMENSIONS AND CLEARANCE REQUIREMENTS OF EQUIPMENT. PROVIDE EQUIPMENT DIMENSIONS THAT ARE WITHIN THE RESTRAINTS OF EACH SPECIFIC EQUIPMENT LOCATION.
- ALL BUSSING SHALL BE COPPER, ALUMINUM SHALL NOT BE PERMITTED.
- ALL CONDUCTORS SHALL BE 75C RATED. 60C CONDUCTORS SHALL NOT BE PERMITTED.
- ALL ELECTRICAL PANELS AND DISTRIBUTION PANEL BOARDS SHALL BE FULLY RATED, SERIES RATED SYSTEMS SHALL NOT BE PERMITTED.
- THE STAND-BY GENERATOR AND THE AUTOMATIC TRANSFER SWITCHES SHALL BE COMPATIBLE AND SHALL COMMUNICATE BETWEEN THE TWO PIECES OF EQUIPMENT.
- REFER TO DRAWING E-500 FOR TRANSFORMER PAD DETAILS AND CONCRETE CELL-DUCT SYSTEM.
- NEW 15KV FUSES INSTALLED WITHIN EXISTING PRIMARY SWITCH SHALL MATCH EXISTING.
- THE CONTRACTOR SHALL NOTIFY VAMC IN WRITING MINIMUM OF (21) DAYS NOTICE ON SHUTDOWN OF BUILDING.
- THE CONTRACTOR SHALL MAKE EVERY EFFORT TO THE GREATEST EXTENT POSSIBLE TO MINIMIZE AND MITIGATE SHUTDOWN DOWNTIME AND DISRUPTION TO THE VAMC.
- FOR CONTINUATION REFER TO DRAWING EP502 FOR ADDITIONAL INFORMATION.
- REFER TO DETAILS 6/EP504, 7/EP504 AND 8/EP504 FOR ATS, TRANSFORMER AND SPD SCHEDULES.

ELECTRICAL ONE LINE DIAGRAM NOTES

- PROVIDE NEW ELECTRICAL PANEL AS INDICATED, REFER TO EP600 SERIES DRAWINGS FOR FURTHER INFORMATION.
- PROVIDE SPD (SURGE PROTECTION DEVICE) 125KA MINIMUM, CONNECT TO 30/3 CIRCUIT BREAKER WITHIN PANEL BOARD, BASIS OF DESIGN SHALL BE MANUFACTURED BY CURRENT TECHNOLOGY, MODEL NO. "TG3" SERIES, REFER TO DRAWING EP504 FOR ADDITIONAL INFORMATION. REFER TO DETAIL 1/EP504 FOR CUT SHEET INFORMATION.
- PROVIDE MAIN GROUNDING ELECTRODE AS INDICATED, REFER TO DETAIL 5/E-501 FOR ADDITIONAL INFORMATION.
- PROVIDE "12-MDP", SHALL BE 1,000 AMPS, 277-480 VOLT, 3-PHASE, 4-WIRE, 42KAIC, 1,000 AMP MCB, S.E.R. (SERVICE ENTRANCE RATED).
- THE CONTRACTOR SHALL PROVIDE NEW 1,000KVA DRY-TYPE, TRANSFORMER, 13.8KV PRIMARY SHALL BE: 13,800 VOLTS, 480 VOLTS SECONDARY, 3-PHASE, 3-WIRE, TRANSFORMER SHALL HAVE INTEGRAL 3-POSITION SWITCH TO SWITCH BETWEEN LOOP "A", LOOP "B" AND "OFF". REFER TO DRAWING E-902 FOR PICTURE INFORMATION OF EXISTING TRANSFORMER AT SITE WITH 3-POSITION SWITCH.
- THE CONTRACTOR SHALL INSTALL CONDUIT AND FEEDER CONDUCTORS WITHIN CONCRETE CELL-DUCT SYSTEM, REFER TO DETAIL 1/E-501 THIS DRAWING FOR ADDITIONAL INFORMATION.
- "ATS-12" SHALL BE 1,000 AMP RATED, 480-277 VOLT, 3-PHASE, 4-WIRE, 42KAIC, S.E.R. (SERVICE ENTRANCE RATED) AND SHALL BE WALL MOUNTED.
- THE CONTRACTOR SHALL DISCONNECT, REMOVE AND REPLACE EXISTING JUNCTION BOX NO. 3 AND REPLACE WITH NEW. BASIS OF DESIGN SHALL BE MANUFACTURED BY HUBBELL, EACH PHASE SHALL BE 200 AMP RATED, SHALL BE 13,800 VOLTS, 3-PHASE, AND FIVE INTERFACE POINTS.
- PROVIDE 30KVA, DRY-TYPE, TRANSFORMER, 480 VOLT PRIMARY, 120-208 VOLT SECONDARY, 3-PHASE, 4-WIRE, PAD MOUNTED, 4.5% Z.
- PROVIDE 75KVA, DRY-TYPE TRANSFORMER, 480 VOLT PRIMARY, 120-208 VOLT SECONDARY, 3-PHASE, 4-WIRE, PAD MOUNTED, 4.5% Z.
- CONNECT TO TRANSFORMER BUS-BAR, REFER TO DETAILS 4 & 5/E-501 FOR ADDITIONAL INFORMATION.
- TRANSFORMER SHALL BE PAD MOUNTED ON FLOOR.
- THE CONTRACTOR SHALL CONNECT TO BUILDING GROUNDING SYSTEM AS INDICATED PER ARTICLE 250 OF NEC, REFER TO DETAIL 2/E-501 FOR ADDITIONAL INFORMATION.
- PROVIDE 400 AMP DISCONNECT SWITCH, FUSED WITH 3-225 AMP FUSES, NEMA 1 ENCLOSURE.
- PROVIDE 100 AMP DISCONNECT SWITCH FUSED WITH 3-100 AMP FUSES, NEMA 1 ENCLOSURE.
- THE CONTRACTOR SHALL PROVIDE COMBINATION MOTOR STARTER/DISCONNECT SWITCH. REFER TO MOTOR EQUIPMENT SCHEDULE ON EM600 SERIES DRAWINGS FOR ADDITIONAL MOTOR STARTER INFORMATION.
- THE CONTRACTOR SHALL PROVIDE ASTRODIAL PROGRAMMABLE DIGITAL TIMELOCK "TC-1" AS INDICATED.
- THE CONTRACTOR SHALL PROVIDE LIGHTING CONTACTOR "LC-1", IT SHALL BE 4-POLE, 120 VOLT CONTACTS, 120 VOLT COIL, ELECTRICALLY HELD IN NEMA 1 ENCLOSURE.
- VARIABLE FREQUENCY DRIVE (VFD) PROVIDED BY THE DIVISION 26 CONTRACTOR.
- TO BUILDING AUTOMATION SYSTEM PANEL, REFER TO DRAWING EP101 FOR EXACT LOCATION OF PANEL.
- THE CONTRACTOR SHALL PROVIDE 60 AMP, NON-FUSED, 3-POLE, NEMA 1 DISCONNECT SWITCH MOUNTED AT MOTOR.

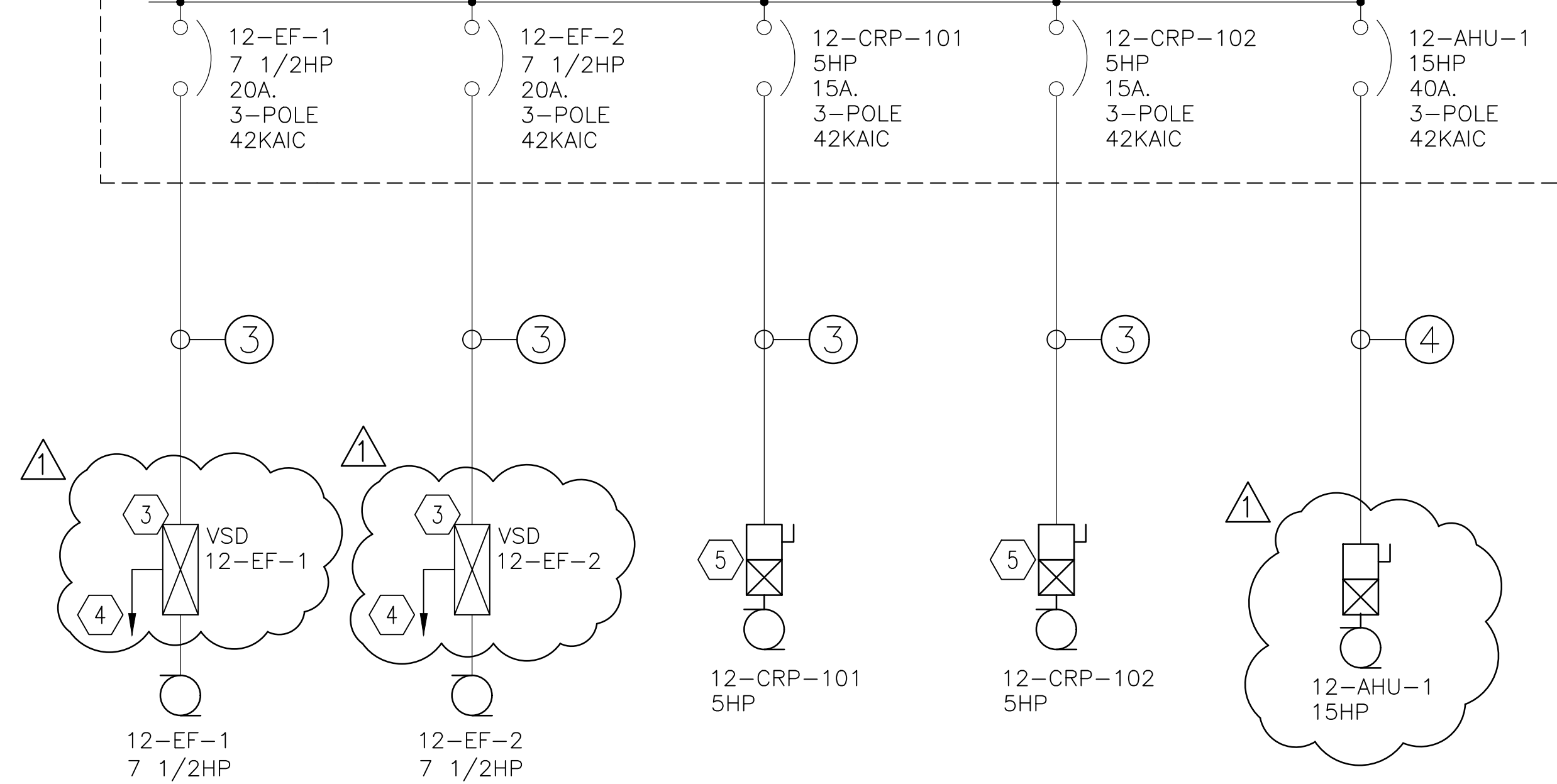


SEE DRAWING EP502 FOR CONTINUATION OF MDP-12.

1 NORMAL POWER / STAND-BY POWER ONE-LINE DIAGRAM
SCALE NOT TO SCALE

Revisions: _____ Date: _____	CONSULTANT	ARCHITECT/ENGINEER OF RECORD	STAMP	Office of Construction and Facilities Management	Drawing Title	Phase	Project Title	Project Number
		Architecture Engineering Design-Build 9000 Weissee Place, Louisville, KY 40222 www.paradigmusa.com		U.S. Department of Veterans Affairs	NORMAL POWER ONE-LINE DIAGRAM	100% CONSTRUCTION DOCUMENTS	SIoux FALLS BOILER PLANT	438-22-900
					Approved: Project Director		Location	Building Number
						FULLY SPRINKLERED	VAMC-Sioux Falls: 2501 W 22nd St, Sioux Falls, SD 57105	12
							Issue Date	Drawing Number
							06/25/2024	EP501
							Checked	Drawn
							WLM	KMB

"12-MDP" 1,000A MCB 277/480 NEMA 1, 42KAIC (SERVICE ENTRANCE RATED)



CURRENT RATINGS AMPS	AMPS	PHASE CONDUCTORS THHW-THWN (75 DEGREE)	SETS	EQUIPMENT GROUNDING CONDUCTOR	CONDUIT SIZE
1	60	3#6	1	#10	1"
2	30	3#10	1	#10	3/4"
3	20	3#12	1	#12	3/4"
4	40	3#8	1	#10	3/4"

2 NORMAL POWER / STAND-BY POWER ONE-LINE DIAGRAM
SCALE NOT TO SCALE

ELECTRICAL ONE LINE DIAGRAM GENERAL NOTES

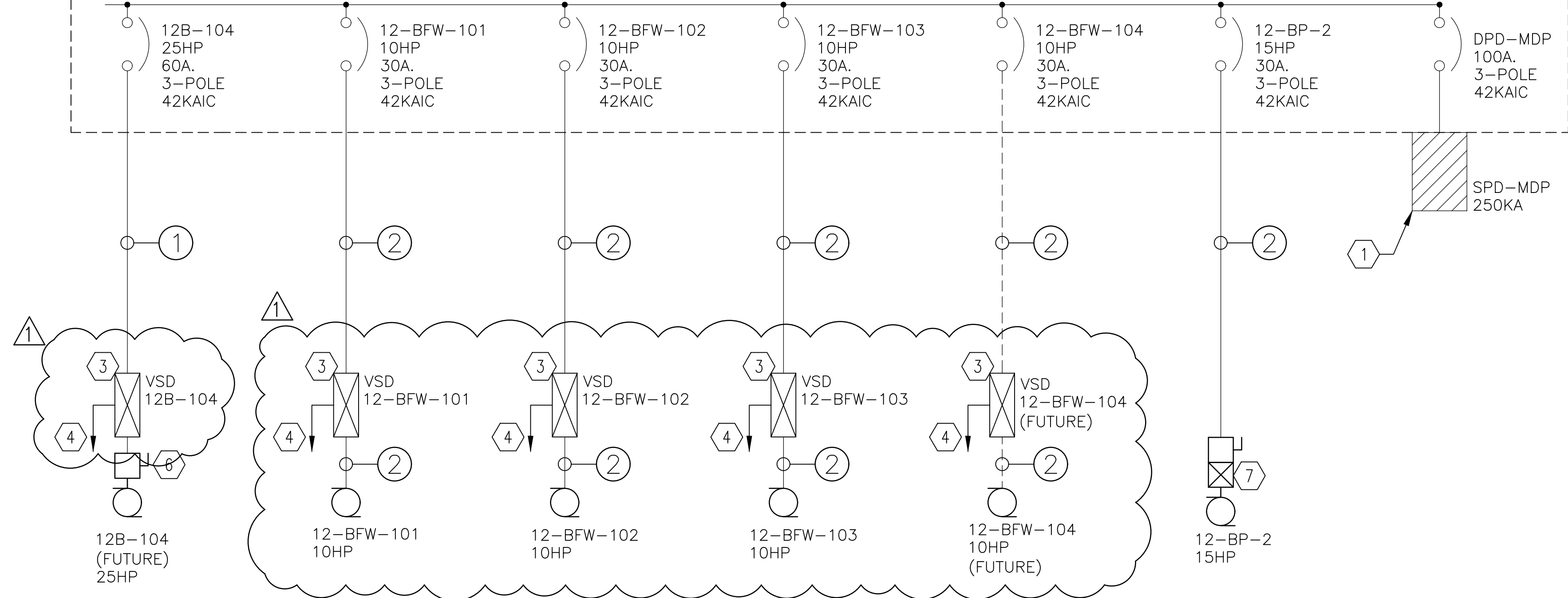
- REFER TO DWG. E-001 FOR ELECTRICAL LEGEND, ABBREVIATIONS, AND GENERAL NOTES RELATED TO THIS SHEET.
- REFER TO PLANS FOR PHYSICAL RESTRAINTS ON PHYSICAL DIMENSIONS AND CLEARANCE REQUIREMENTS OF EQUIPMENT. PROVIDE EQUIPMENT DIMENSIONS THAT ARE WITHIN THE RESTRAINTS OF EACH SPECIFIC EQUIPMENT LOCATION.
- ALL BUSSING SHALL BE COPPER, ALUMINUM SHALL NOT BE PERMITTED.
- ALL CONDUCTORS SHALL BE 75C RATED. 60C CONDUCTORS SHALL NOT BE PERMITTED.
- ALL ELECTRICAL PANELS AND DISTRIBUTION PANEL BOARDS SHALL BE FULLY RATED, SERIES RATED SYSTEMS SHALL NOT BE PERMITTED.
- THE CONTRACTOR SHALL NOTIFY VAMC IN WRITING MINIMUM OF (21) DAYS NOTICE ON SHUTDOWN OF BUILDING.
- THE CONTRACTOR SHALL MAKE EVERY EFFORT TO THE GREATEST EXTENT POSSIBLE TO MINIMIZE AND MITIGATE SHUTDOWN DOWNTIME AND DISRUPTION TO THE VAMC.
- REFER TO DRAWING EP501 FOR REMAINDER OF MAIN DISTRIBUTION PANELBOARD "12-MDP".
- REFER TO DETAILS 6/EP504, 7/EP504 AND 8/EP504 FOR ATS, TRANSFORMER AND SPD SCHEDULES.

ELECTRICAL ONE LINE DIAGRAM NOTES

- PROVIDE SPD (SURGE PROTECTION DEVICE) 125KA MINIMUM, CONNECT TO 100/3 CIRCUIT BREAKER WITHIN PANEL BOARD, BASIS OF DESIGN SHALL BE MANUFACTURED BY CURRENT TECHNOLOGY, MODEL NO. "SL3" SERIES, REFER TO DRAWING EP504 FOR ADDITIONAL INFORMATION. REFER TO DETAIL 2/EP504 FOR ADDITIONAL INFORMATION.
- PROVIDE "12-MDP", SHALL BE 1,000 AMPS, 277-480 VOLT, 3-PHASE, 4-WIRE, 42KAIC, 1,000 AMP MCB, PANEL SHALL BE S.E.R. (SERVICE ENTRANCE RATED).
- VSD (VARIABLE SPEED DRIVE) PROVIDED BY THE DIVISION 26 CONTRACTOR, VSD SHALL BE COMBINATION DISCONNECT SWITCH AND VARIABLE FREQUENCY DRIVE.
- TO BUILDING AUTOMATION SYSTEM PANEL, REFER TO DRAWING EM101 FOR EXACT LOCATION OF PANEL.
- THE CONTRACTOR SHALL PROVIDE COMBINATION MOTOR STARTER/DISCONNECT SWITCH, REFER TO MOTOR EQUIPMENT SCHEDULE ON EM600 SERIES DRAWINGS FOR ADDITIONAL MOTOR STARTER INFORMATION.
- PROVIDE 60 AMP, NON-FUSED, 3-POLE, NEMA 1 DISCONNECT SWITCH MOUNTED AT MOTOR.
- PROVIDE COMBINATION MOTOR STARTER AND DISCONNECT SWITCH, STARTER SHALL BE SIZE 2, FULL VOLTAGE, NON-REVERSING, NEMA 1 ENCLOSURE.

REFER TO DRAWING EP501 FOR REMAINDER OF PANELBOARD "12-MDP"

"12-MDP" 1,000A MCB 277/480 NEMA 1, 42KAIC (SERVICE ENTRANCE RATED)



1 NORMAL POWER / STAND-BY POWER ONE-LINE DIAGRAM
SCALE NOT TO SCALE

ELECTRICAL LOAD CALCULATION								
LOAD DESCRIPTION	DESCRIPTION	NEC CODE ARTICLE	SQUARE FEET	TOTAL IN VA	VA PER SQ./FT.	WATTS PER SQ./FT.	DIVERSITY FACTOR	TOTAL V/A
LIGHTING	LIGHTING LOAD	220.12	8,155			1.7		13863.5
RECEPTACLES	RECEPTACLE LOAD	220.44					1	10000
	1ST 10KVA @ 100% REMAINDER @ 50%			10000			0.5	3730
HVAC:		220.51						
12-BFW-101	BOILER FEED WATER PUMP (10HP)			11,634		1		11634
12-BFW-102	BOILER FEED WATER PUMP (10HP)			11,634		1		11634
12-BFW-103	BOILER FEED WATER PUMP (10HP)			11,634		1		11634
12-BFW-104	BOILER FEED WATER PUMP (10HP)			11,634		1		11634
12B-101	BOILER FAN (25HP)			28,254		1		28254
12B-102	BOILER FAN (25HP)			28,254		1		28254
12B-103	BOILER FAN (25HP)			28,254		1		28254
12B-104	BOILER FAN (25HP)			28,254		1		28254
12-CRP-101	CONDENSATE PUMP (5HP)			6,315		1		6315
12-CRP-102	CONDENSATE PUMP (5HP)			6,315		1		6315
12-DA-001	DEAERATOR			1,800		1		1800
12-CR-1	CONDENSATE STORAGE			1,800		1		1800
12-WS-1	WATER SOFTENER			300		1		300
12-WS-2	WATER SOFTENER			300		1		300
12-BP-1	DOMESTIC COLD WATER PUMP (15HP)			17,451		1		17451
12-BP-2	DOMESTIC COLD WATER PUMP (15HP)			17,451		1		17451
12-FO-101	BOILER FUEL OIL PUMP			1,800		1		1800
12-FO-102	BOILER FUEL OIL PUMP			1,800		1		1800
12-FO-103	GENERATOR FUEL OIL PUMP			1,800		1		1800
12-FO-104	GENERATOR FUEL OIL PUMP			1,800		1		1800
12-EF-1	EXHAUST FAN (7 1/2HP)			9,141		1		9141
12-EF-2	EXHAUST FAN (7 1/2HP)			9,141		1		9141
12-EF-3	WXHAUST FAB (.15HP)			528		1		528
12-EF-4	EXHAUST FAN 1/4HP)			528		1		528
12-AHU-1	AIR HANDLING UNIT (15 HP)			17,451		1		17451
12-ACCU-1 & FCCU-1	CONDENSER & FAN COIL UNIT			6,240		1		6240
12-ACCU-2 & FCCU-2	CONDENSER & FAN COIL UNIT			6,240		1		6240
12-ACCU-3 & FCCU-3	CONDENSER & FAN COIL UNIT			6,240		1		6240
12-ACCU-4 & FCCU-4	CONDENSER & FAN COIL UNIT			6,240		1		6240
EXTERIOR LIGHTING				1,470		1.25		1837.5
MISC. LOADS								
PANEL "12-LN1"				5,800		1		5800
PANEL "12-LN2"				40,750		1		40750
PANEL "IT"				19,500		1		19500
PANEL "12-GEN"				9,900		1		9900
LARGEST MOTOR:								
12B-104	BOILER FAN (25HP)	220.18.A		49,860		1.25		62325
TOTAL IN VA								441699
OVERALL LOAD CALCULATION TOTALS								
TOTAL VA:								441699
TOTAL AMPS:								531.5271
@480 VOLTS								1,000A.
SERVICE SIZE								

3 SERVICE LOAD CALCULATION
SCALE NOT TO SCALE

ADDENDUM 1	08-09-2024
Revisions:	Date:

CONSULTANT

ARCHITECT/ENGINEER OF RECORD

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Architecture | Engineering | Design-Build
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TYLER M. MONTGOMERY
LICENSE NO. 0047142
9/12/2024

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title
NORMAL POWER / STAND-BY POWER ONE-LINE DIAGRAM

Approved: Project Director

Phase
100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title
SIOUX FALLS BOILER PLANT

Location
VAMC-Sioux Falls: 2501 W 22nd St, Sioux Falls, SD 57105

Issue Date
06/25/2024

Checked
WLM

Drawn
KMB

Project Number
438-22-900

Building Number
12

Drawing Number
EP502

A
B
C
D
E
F

ELECTRICAL ONE LINE DIAGRAM GENERAL NOTES

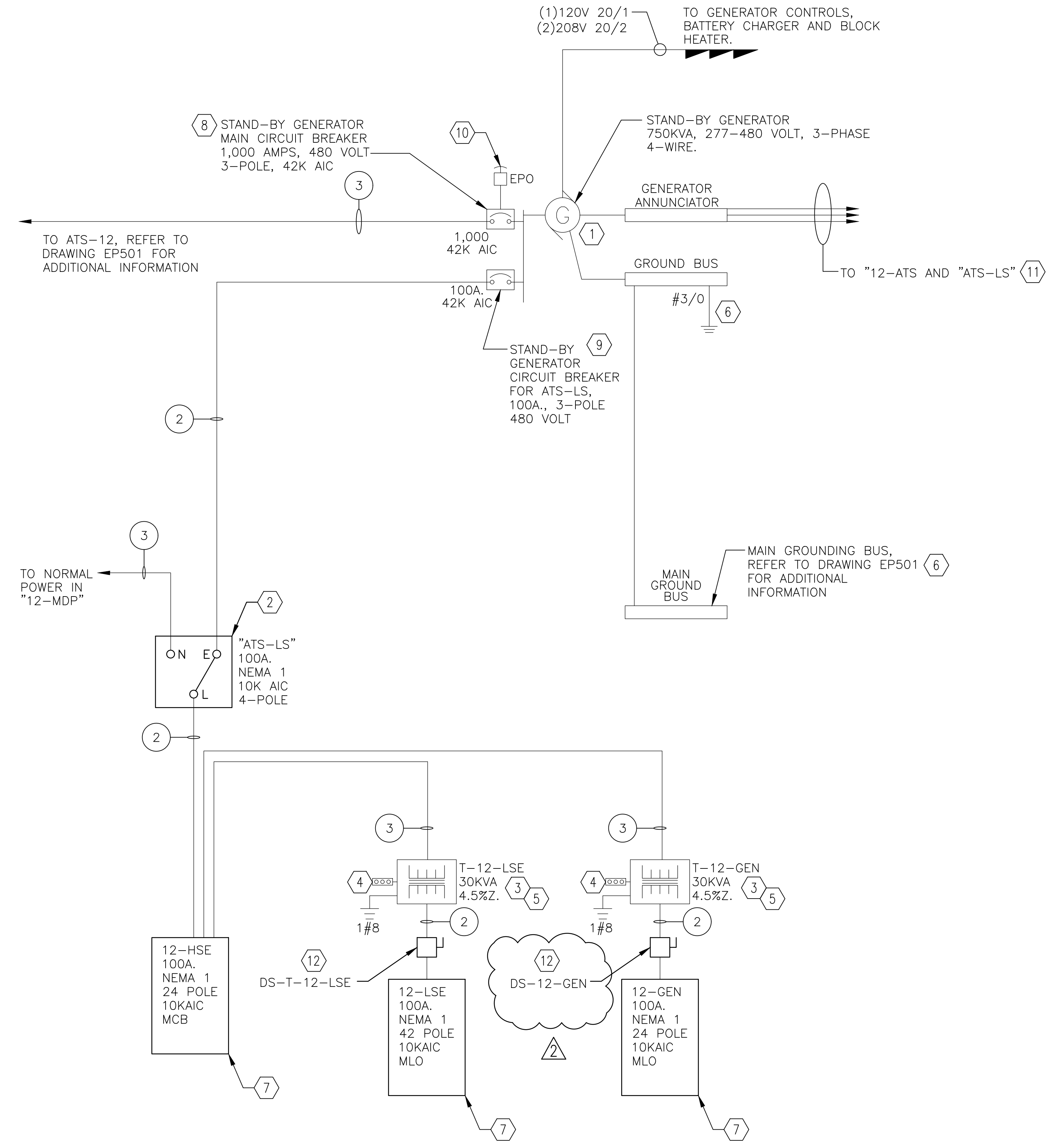
- A. REFER TO DWG. E-001 FOR ELECTRICAL LEGEND, ABBREVIATIONS, AND GENERAL NOTES RELATED TO THIS SHEET.
- B. REFER TO PLANS FOR PHYSICAL RESTRAINTS ON PHYSICAL DIMENSIONS AND CLEARANCE REQUIREMENTS OF EQUIPMENT. PROVIDE EQUIPMENT DIMENSIONS THAT ARE WITHIN THE RESTRAINTS OF EACH SPECIFIC EQUIPMENT LOCATION.
- C. ALL BUSSING SHALL BE COPPER, ALUMINUM SHALL NOT BE PERMITTED.
- D. ALL CONDUCTORS SHALL BE 75C RATED. 60C CONDUCTORS SHALL NOT BE PERMITTED.
- E. ALL ELECTRICAL PANELS AND DISTRIBUTION PANEL BOARDS SHALL BE FULLY RATED, SERIES RATED SYSTEMS SHALL NOT BE PERMITTED.
- F. THE STAND-BY GENERATOR AND THE AUTOMATIC TRANSFER SWITCHES SHALL BE COMPATIBLE AND SHALL COMMUNICATE BETWEEN THE TWO PIECES OF EQUIPMENT.
- G. THE CONTRACTOR SHALL NOTIFY VAMC IN WRITING MINIMUM OF (21) DAYS NOTICE ON SHUTDOWN OF BUILDING.
- H. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO THE GREATEST EXTENT POSSIBLE TO MINIMIZE AND MITIGATE SHUTDOWN DOWNTIME AND DISRUPTION TO THE VAMC.
- I. REFER TO DETAILS 6/EP504, 7/EP504 AND 8/EP504 FOR ATS, TRANSFORMER AND SPD SCHEDULES.

ELECTRICAL ONE LINE DIAGRAM NOTES

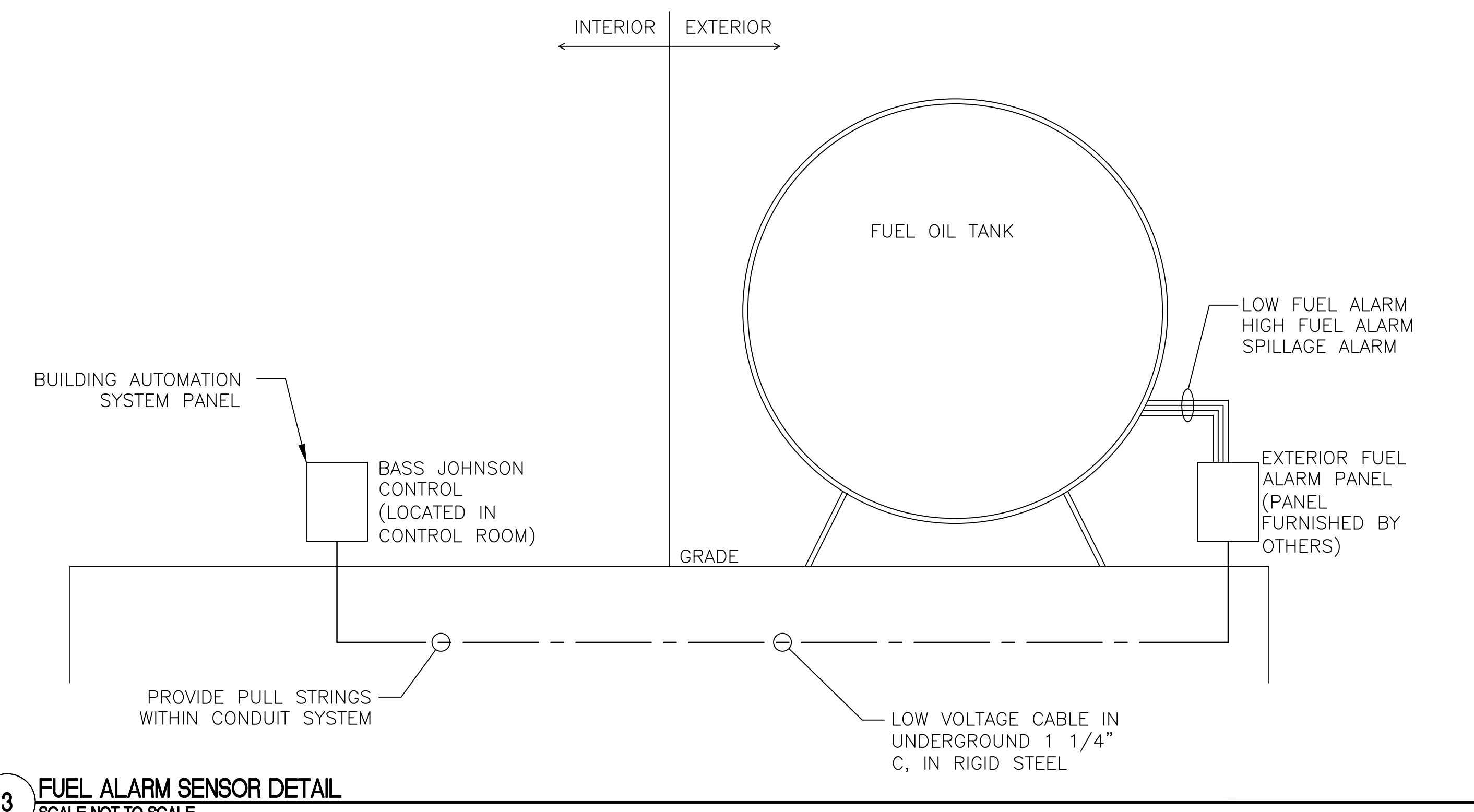
- 1. BASIS OF DEIGN CATAPILLAR DIESEL GENERATOR, REFER TO SPECIFICATION 263213 FOR ADDITIONAL INFORMATION. STAND-BY GENERATOR SHALL BE 750KVA, 480-277 VOLT, 3-PHASE, 4-WIRE.
- 2. "ATS-LS" SHALL BE 100 AMP RATED, 480-277 VOLT, 3-PHASE, 4-WIRE, 10KAIC.
- 3. PROVIDE 30KVA, DRY-TYPE, TRANSFORMER, 480 VOLT PRIMARY, 120-208 VOLT SECONDARY, 3-PHASE, 4-WIRE, TRAPEZE MOUNTED.
- 4. CONNECT TO TRANSFORMER BUS-BAR, REFER TO DETAIL 5/E-501 FOR ADDITIONAL INFORMATION.
- 5. TRANSFORMER SHALL BE PAD MOUNTED ON FLOOR.
- 6. CONNECT TO BUILDING GROUNDING SYSTEM, REFER TO DETAIL 2/E-501 FOR ADDITIONAL INFORMATION.
- 7. PROVIDE NEW ELECTRICAL PANEL AS INDICATED, REFER TO EP600 SERIES DRAWINGS FOR ADDITIONAL INFORMATION.
- 8. PROVIDE 1,000 AMP, 480 VOLT, 3-PHASE, 42K AIC, CIRCUIT BREAKER AS INDICATED.
- 9. PROVIDE 100 AMP, 480 VOLT, 3-PHASE, 65K AIC, CIRCUIT BREAKER.
- 10. PROVIDE EPO (EMERGENCY POWER OFF) BUTTON, REFER TO DETAIL 7/E-501 FOR ADDITIONAL INFORMATION.
- 11. THE CONTRACTOR SHALL ROUTE 3/4-INCH EMPTY CONDUIT FROM GENERATOR ANNUNCIATOR TO "ATS-12" AND "ATS-LS", PROVIDE PULL STRINGS WITHIN THE EMPTY CONDUIT SYSTEM, THE GENERATOR MANUFACTURER SHALL PULL LOW VOLTAGE CABLING AND MAKE FINAL CONNECTIONS.
- 12. PROVIDE 100 AMP DISCONNECT SWITCH FUSED WITH 4-100 AMP FUSES, NEMA 1 ENCLOSURE.

CURRENT RATINGS	AMPS	PHASE CONDUCTORS	SETS	EQUIPMENT GROUNDING CONDUCTOR	CONDUIT SIZE
1	1,000	3#250MCM	4	1#3/0	3"
2	100	4#3	1	1#8	1 1/4"
3	50	3#8	1	1#10	3/4"

2 NORMAL POWER / STAND-BY POWER ONE-LINE DIAGRAM
SCALE NOT TO SCALE



1 NORMAL POWER / STAND-BY POWER ONE-LINE DIAGRAM
SCALE NOT TO SCALE



3 FUEL ALARM SENSOR DETAIL
SCALE NOT TO SCALE

ADDENDUM	DATE
ADDENDUM 1	08-09-2024
ADDENDUM 2	09-12-2024

CONSULTANT

ARCHITECT/ENGINEER OF RECORD

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STATE OF LOUISIANA

TYLER M. MONTGOMERY
LICENSE NO. 0047142

9/12/2024

Office of Construction and Facilities Management

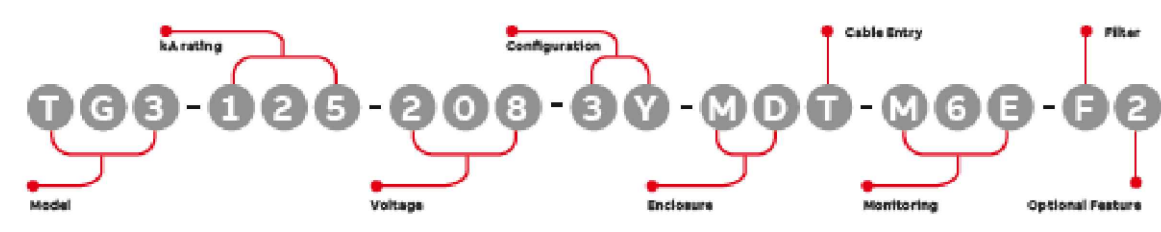
VA U.S. Department of Veterans Affairs

Drawing Title NORMAL POWER ONE-LINE DIAGRAM	Phase 100% CONSTRUCTION DOCUMENTS	Project Title SIOUX FALLS BOILER PLANT	Project Number 438-22-900
Approved: Project Director	FULLY SPRINKLERED	Location VAMC-Sioux Falls: 2501 W 22nd St, Sioux Falls, SD 57105	Building Number 12
		Issue Date 06/25/2024	Checked WLM
		Drawn KMB	Drawing Number EP503

TG3™ 125 Surge Protection TransGuard®



TransGuard™ TG3™ suppression filter systems feature a powerful Future-Free ISM™ Integrated Suppression Module. The ISM™ contains individual thermally fused and protected MOVs, surge-rated copper busbars, robust filtering and advanced remote communications capabilities. The TG3™ protects today's facilities from costly downtime and equipment damage caused by routine or catastrophic electrical disturbances.



KA Rating	Voltage* (General Factory for Additional Voltages)	Configuration* (General Factory for Additional Configurations)	Enclosure
050	208 120/208	1S 1 Phase, Grounded	MS Metal Without Disconnect
080	240 120/240	2S 2 Phase, Grounded, Split Phase	MS Metal With Disconnect
200	380 277/380	3S 3 Phase, Grounded, Split Phase	MS Metal Without Disconnect
125	480 277/480	3S 3 Phase, Grounded, High Leg Delta	SS Stainless Steel With Disconnect
350	600 241/600	3S 3 Phase, Grounded, High Leg Delta	SS Stainless Steel With Disconnect
200	350	3S 3 Phase, Grounded Delta	MS Metal Without Disconnect

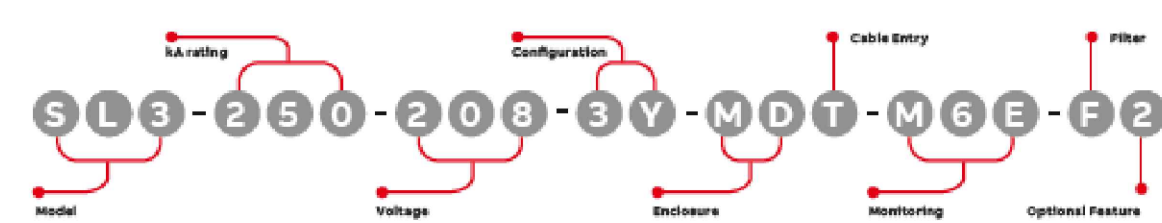
*See table on back for more Voltage/Configuration Options.

1 "TG3" SPD CUT SHEET (BASIS OF DESIGN) NOT TO SCALE

Select® - SL3™ series | 250 kA Current Technology®



Select™ SL3™ suppression filter systems feature a powerful Future-Free ISM™ Integrated Suppression Module. The ISM™ contains individual thermally fused and protected MOVs, surge-rated copper busbars, robust filtering and advanced remote communications capabilities. Additionally, the SL3™ selenium-enhanced ceramic technology design ensures maximum performance and a dramatically extended product life.



KA Rating	Voltage* (General Factory for Additional Voltages)	Configuration* (General Factory for Additional Configurations)	Enclosure
050	208 120/208	1S 1 Phase, Grounded	MS Metal Without Disconnect
080	240 120/240	2S 2 Phase, Grounded, Split Phase	MS Metal With Disconnect
200	380 277/380	3S 3 Phase, Grounded, Split Phase	MS Metal Without Disconnect
125	480 277/480	3S 3 Phase, Grounded, High Leg Delta	SS Stainless Steel With Disconnect
350	600 241/600	3S 3 Phase, Grounded, High Leg Delta	SS Stainless Steel With Disconnect
200	350	3S 3 Phase, Grounded Delta	MS Metal Without Disconnect

*See table on page three for more Voltage/Configuration Options.

2 "SL3" SPD CUT SHEET (BASIS OF DESIGN) NOT TO SCALE

Sectionalizing Cabinets Catalog Data CA650102EN | **COOPER POWER SERIES**

SecTER™ cabinet



General
 Eaton's Cooper Power™ series versatile single- and three-phase SecTER™ sectionalizing terminals are designed as cable sectionalizing centers, or as permanent or temporary transformer pad covers. The aesthetic low profile design provides unobstructed access for sectioning, tapping or terminating underground cable. The top hinged, die-cast aluminum cover and cabinet are designed for easy one-man opening. Hinged door and low step provide improved access to interior terminations. A door stop prevents the door from accidentally closing. TPC powder coating exceeds ANSI® coating requirements. Standard Marine Green 7075 D1915 twelve gauge mild steel designs with standard stainless steel hardware are available. For highly corrosive environments, stainless steel or aluminum are also available. Continuous seam welding creates a slurry smooth cabinet. Multiple configurations are available. A parking lot design is available on most SecTER cabinets that provides multiple locations for parking equipment. A weather ground nut is also provided for each phase.

Optional Features
 • 200 A loadbreak junctions installed
 • 600 A loadbreak junctions installed
 • Clear 600 A loadbreak connectors installed
 • Available in grey, tan, or brown colors
 • Angled mounting plane
 • 3/8" copper ground rod installed
 • Mild steel base extensions
 • Hinged ground sleeves



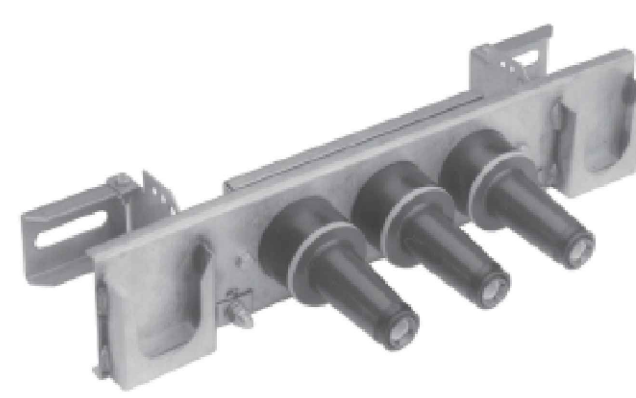
3 MEDIUM VOLTAGE JUNCTION BOX (BASIS OF DESIGN) NOT TO SCALE

ATS DESIGNATION	LOCATION	BRANCH	SWITCH RATING	NEMA	POLES	VOLTAGE	SHORT CIRCUIT WITHSTAND	BY PASS ISOLATION	CABLE ENTRY	SERVICE ACCESS	MOUNTING
ATS-12	ELECTRICAL ROOM NO. 112	NORMAL POWER	1,000	NEMA 1	4-POLE	480 VOLTS	42,000	YES	TOP OR BOTTOM	FRONT ONLY	SURFACE
ATS-LS	ELECTRICAL ROOM NO. 112	LIFE SAFETY BRANCH	100	NEMA 1	4-POLE	480 VOLTS	10,000	YES	TOP OR BOTTOM	FRONT ONLY	SURFACE

6 ATS SCHEDULE NOT TO SCALE

Loadbreak Connectors CA650102EN | **COOPER POWER SERIES**

200 A 15 kV class loadbreak junction



General
 Eaton's Cooper Power™ series 200 A, 15 kV class loadbreak junction provides true, true or true 15 kV class loadbreak interfaces that are internally fused together and meet all requirements of IEEE Std 388™ "Code Standard" separable insulated conductor systems. Loadbreak junctions are used in pad-mounted apparatus, underground vaults, and other apparatus to facilitate, maintain, repair, tap, or splice, and to facilitate apparatus components. Connections are made from the end and inside a cable fault to make easy when a loadbreak junction is used with 15 kV Class loadbreak elbows and other accessories meeting the requirements of IEEE Std 388™ "Code Standard". When installed with a company rated product, the junction provides a fully insulated, separable, reversible connection for loadbreak operation.

The junction has a continuous solid current path of all copper alloy. No aluminum components are used. It also has an exclusive interlocking with superior de-energizing properties. The body is made of high quality pressure-cast DTM insulation and has a molded on porcelain-cast semi-conductive EPDM shield. Cooper's latch indicator ring, located on the circumference of the shield, indicates the position of the junction. The ring provides immediate feedback to determine if the show is properly installed on the junction. If the yellow ring is completely covered by the loadbreak elbow, the show is fully "latched". If the ring is visible, the show is not fully installed, so the operator can correct it before any problems occur.

The loadbreak junction has an adjustable stainless steel bracket for mounting at various opening angles on flat or curved surfaces, with up to 90° in 10° increments. The solid backplate design provides strong, rigid support of the junction for optimum loadbreak operation. The design also accommodates insulated standard bushings of porcelain loadbreaks. Clear wire clamp can accept accommodate two wires up to 1/2" standard #14 diameter. Stainless steel "U" strips are available for direct wall mounting.



4 LOAD BREAK APPARATUS CONNECTOR (BASIS OF DESIGN) NOT TO SCALE

Hardware Accessories

3M™ Mounting Brackets MB and MBS Series
 The 3M Mounting Brackets MB and MBS Series have been designed to mount 3M molded rubber terminations. These brackets are attached to the cable just below the termination. This provides a single that can then be attached to an MBS mounting bracket or to any other termination.

3M™ Cross-Arm Mounting Bracket MB-1
 3M Cross-Arm Mounting Bracket MB-1 is a cross-arm bracket for use in latching terminated cable. The MB-1 is ideal to use when cutting the MB or MBS termination mounting brackets focused on this page.

3M Metal Clad Jacketed Cable Connectors - Connector Cross Reference

Trade Size (NPT Size)	Cable Jacket Range (Inch)	Connector Range (Inch)	Application	T A B	O-Z-Downey
3/4	0.88 - 1.14	TMC3088 - TMC3092	TMC3088	8700-460, 8700-464	JMC-05-01
1	1.10 - 1.40	TMC3095 - TMC3099	TMC3095	8700-460, 8700-468	JMC-05-110
1 1/4	1.37 - 1.76	TMC3102 - TMC3106	TMC3102	8700-460, 8700-468	JMC-05-146
1 1/2	1.74 - 2.15	TMC3109 - TMC3113	TMC3109	8700-460, 8700-468	JMC-05-179
2	2.08 - 2.59	TMC3116 - TMC3120	TMC3116	8700-460, 8700-468	JMC-05-209
2 1/2	2.47 - 3.03	TMC3123 - TMC3127	TMC3123	8700-460, 8700-468	JMC-05-243
3	2.93 - 3.61	TMC3130 - TMC3134	TMC3130	8700-460, 8700-468	JMC-05-281
3 1/2	3.50 - 4.29	TMC3137 - TMC3141	TMC3137	8700-460, 8700-468	JMC-05-325
4	4.08 - 4.75	TMC3144 - TMC3148	TMC3144	8700-460, 8700-468	JMC-05-373

5 MEDIUM VOLTAGE CABLE MOUNTING BRACKET (BASIS OF DESIGN) NOT TO SCALE

TRANSFORMER SCHEDULE

ITEM	BRANCH	KVA	PHASE	WIRE	TYPE	NEMA	MOUNTING	PRIMARY	SECONDARY	GROUND
T-12	NORMAL POWER TRANSFORMER	1000	3	4	OIL	3R	PAD MOUNT	13,800	480-277	-
T-12-GEN	NORMAL POWER TRANSFORMER	30	3	4	DRY	1	PAD MOUNT	480	120-208	1#8
T-12-LN1	NORMAL POWER TRANSFORMER	30	3	4	DRY	1	PAD MOUNT	480	120-208	1#8
T-12-LN2	NORMAL POWER TRANSFORMER	75	3	4	DRY	1	PAD MOUNT	480	120-208	1#2
T-12-LSE	EMERGENCY LIFE SAFETY TRANSFORMER	30	3	4	DRY	1	PAD MOUNT	480	120-208	1#8

NOTES:
 1. IMPEDANCE VALUES FOR TRANSFORMERS SHALL BE 4.5%

7 TRANSFORMER SCHEDULE NOT TO SCALE

EQUIPMENT DESIGNATION	EQUIPMENT OR PANEL SERVED	BRANCH	VOLTAGE RATING	PHASE	WIRE CONFIGURATION	PROTECTION MODES	ENCLOSURE	CATEGORY	SHORT CIRCUIT RATING	CIRCUIT BREAKER	LOCATION	MOUNTING
SPD-12-LN1	PANELBOARD "12-LN1"	NORMAL POWER	120-208	3	5W	L-G, L-N, L-L, N-G	NEMA 1	TYPE 3	125,000	30/3	MOUNTED AT "12-LN1"	SURFACE BOTTOM OF PANELBOARD
SPD-12-LN2	PANELBOARD "12-LN2"	NORMAL POWER	120-208	3	5W	L-G, L-N, L-L, N-G	NEMA 1	TYPE 3	125,000	30/3	MOUNTED AT "12-LN2"	SURFACE BOTTOM OF PANELBOARD
SPD-12-MDP	MAIN DISTRIBUTION PANELBOARD "12-MDP"	NORMAL POWER	277-480	3	5W	L-G, L-N, L-L, N-G	NEMA 1	TYPE 2	250,000	100/3	MOUNTED AT "12-MDP"	SURFACE BUCKET SLOT IN 12-MDP.

8 SPD SCHEDULE (SURE PROTECTION DEVICE) NOT TO SCALE

Revisions:	Date:	CONSULTANT	ARCHITECT/ENGINEER OF RECORD	STAMP	Office of Construction and Facilities Management	Drawing Title	Phase	Project Title	Project Number
						POWER CUT SHEET INFORMATION AND ELECTRICAL SCHEDULES	100% CONSTRUCTION DOCUMENTS	SIoux FALLS BOILER PLANT	438-22-900
Approved: Project Director						FULLY SPRINKLERED		Location	Drawing Number
								VAMC-Sioux Falls: 2501 W 22nd St, Sioux Falls, SD 57105	12
								Issue Date	Checked
								06/25/2024	WLM
								Drawn	EP504
								KMB	

GENERAL NOTES

- A. NEW PANEL BOARD SHALL BE FULLY RATED, SERIES RATED PANELS SHALL NOT BE PERMITTED.
B. NEW PANEL BOARD SHALL BE COPPER BUS, ALUMINUM SHALL NOT BE PERMITTED.
C. ALUMINUM BUS WITHIN PANELS SHALL NOT BE PERMITTED.
D. PANEL BOARDS EXCEEDING (42) CIRCUITS SHALL BE FROM A SINGLE BUS CONFIGURATION, MULTIPLE BUS CONFIGURATIONS SHALL NOT BE PERMITTED.
E. ALL ELECTRICAL PANELS SHALL HAVE VISIBLE TRIP INDICATORS.

Table with columns: CKT NO., TRIP RATING, NO. OF POLES, INTERRUPTING AMPS (NOTE 1), LOAD SERVED, WIRE SIZE. Rows 1-20 detailing circuit specifications for PANEL '12-MDP'.

1 MAIN DISTRIBUTION PANEL '12-MDP' (NORMAL POWER - 277/480 VOLTS) SCALE NOT TO SCALE

Table for PANEL '12-LN1' NORMAL POWER. Includes PANEL INFORMATION (100A MLO, 120/208 VOLTS, SURFACE MOUNT, 10000 AIC, NEMA-1), PANEL RATING & FEEDER (100 AMPS, 3 THWN, 8 THWN, T-12-LN1), and a detailed load schedule table with columns for CKT, DESCRIPTION, CB AMPS, WIRE SIZE, and various load categories.

PANEL NOTES

LOAD CALCULATION (NEC 2023 - ARTICLE 220) table showing Demand Load in kW and Demand Amps for categories like LIGHTING, RECEPTACLES, KITCHEN EQUIPMENT, MISC., and HVAC.

2 PANEL SCHEDULE '12-LN1' (NORMAL POWER - 120/208 VOLTS) SCALE NOT TO SCALE

Project information and title block including Addendum list, Consultant, Architect/Engineer of Record (paradigm), Office of Construction and Facilities Management, Drawing Title (PANEL SCHEDULES), Phase (100% CONSTRUCTION DOCUMENTS), Project Title (SIOUX FALLS BOILER PLANT), Project Number (438-22-900), Building Number (12), Location, Issue Date, Checked (WLM), Drawn (KMB), Drawing Number (EP601), and Revisions table.

GENERAL NOTES


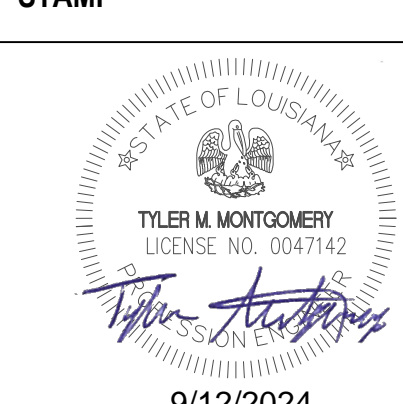

- A. NEW PANEL BOARD SHALL BE FULLY RATED, SERIES RATED PANELS SHALL NOT BE PERMITTED.
- B. NEW PANEL BOARD SHALL BE COPPER BUS, ALUMINUM SHALL NOT BE PERMITTED.
- C. ALUMINUM BUS WITHIN PANELS SHALL NOT BE PERMITTED.
- D. PANEL BOARDS EXCEEDING (42) CIRCUITS SHALL BE FROM A SINGLE BUS CONFIGURATION, MULTIPLE BUS CONFIGURATIONS SHALL NOT BE PERMITTED.
- E. ALL ELECTRICAL PANELS SHALL HAVE VISIBLE TRIP INDICATORS.

PANEL "12-LSE"										PANEL RATING & FEEDER									
EMERGENCY LIFE SAFETY BRANCH										NEW PANEL									
PANEL INFORMATION										PANEL RATING & FEEDER									
MAIN TYPE		100A MLO		VOLTS		3PH-4W		PANEL AMPACITY:		100		AMPS							
VOLTAGE		120/ 208		SURFACE MOUNT				PHASE CONDUCTORS:		(3)		#3		THWN					
MOUNTING		10000		AIC				NEUTRAL		(1)		#8		THWN					
AIC RATING		NEMA-1						# OF SETS				(1 SET)							
ENCLOSURE TYPE								SOURCE		"T-12-LSE"									
LOAD IN VOLT AMPS (VA)										LOAD IN VOLT AMPS (VA)									
CKT	DESCRIPTION	CB AMPS	WIRE SIZE	LTG (125%)	RECEPT.	KITCHEN	HVAC	MISC	PHASE	MISC	HVAC	KITCHEN	RECEPT.	LTG (125%)	WIRE SIZE	CB AMPS	DESCRIPTION	CKT	
1	EXIT LIGHTING (LOCKED HANDLE)	20	#12	100					A	200					#12	20	FACP (LOCKED HANDLE CIRCUIT BREAKER)	2	
3	EXTERIOR EGRESS LIGHTING	20	#12	781					B						#12	20	SPARE	4	
5	EMERGENCY EGRESS LIGHTING	20	#12	300					C						#12	20	SPARE	6	
7	SPARE	20	#12						A						#12	20	SPARE	8	
9	MEZZANINE EMERGENCY LIGHTS	20	#12	1218					B						#12	20	SPARE	10	
11	SPARE	20	#12						C						#12	20	SPARE	12	
13	SPARE	20	#12						A						#12	20	SPARE	14	
15	SPARE	20	#12						B						#12	20	SPARE	16	
17	SPARE	20	#12						C						#12	20	SPARE	18	
19	SPARE	20	#12						A						#12	20	SPARE	20	
21	SPARE	20	#12						B						#12	20	SPARE	22	
23	SPARE	20	#12						C						#12	20	SPARE	24	
25	SPARE	20	#12						A						#12	20	SPARE	26	
27	SPARE	20	#12						B						#12	20	SPARE	28	
29	SPARE	20	#12						C						#12	20	SPARE	30	
31	SPARE	20	#12						A						#12	20	SPARE	32	
33	SPARE	20	#12						B						#12	20	SPARE	34	
35	SPARE	20	#12						C						#12	20	SPARE	36	
37	SPARE	20	#12						A						#12	20	SPARE	38	
39	SPARE	20	#12						B						#12	20	SPARE	40	
41	SPARE	20	#12						C						#12	20	SPARE	42	
TOTAL LOADS				2399	0	0	0	0		200	0	0	0	0				TOTAL LOADS	
PANEL NOTES										LOAD CALCULATION (NEC 2023 - ARTICLE 220)									
										LOAD TYPE									
										LOAD (kVA)		DEMAND %		DEMAND LOAD		kW			
										2.40		1.25		3.0		kW			
										0.00		1.00		0.0		kW			
										0.00		0.50		0.0		kW			
										0.00		0.65		0.0		kW			
										0.20		1.00		0.2		kW			
										0.00		1.00		0.0		kW			
										TOTAL kW DEMAND				3.2		kW			
										TOTAL DEMAND AMPS		@ 100%		8.88		AMPS			

1 PANEL SCHEDULE "12-LSE" (EMERGENCY LIFE SAFETY BRANCH - 120/208 VOLTS)
SCALE NOT TO SCALE

PANEL "12-HSE"										PANEL RATING & FEEDER									
EMERGENCY LIFE SAFETY BRANCH										NEW PANEL									
PANEL INFORMATION										PANEL RATING & FEEDER									
MAIN TYPE		100A MCB		VOLTS		3PH-4W		PANEL AMPACITY:		100		AMPS							
VOLTAGE		277/ 480		SURFACE MOUNT				PHASE CONDUCTORS:		(3)		#3		THWN					
MOUNTING		14000		AIC				NEUTRAL		(1)		#8		THWN					
AIC RATING		NEMA-1						# OF SETS				(1 SET)							
ENCLOSURE TYPE								SOURCE		"ATS-LS"									
LOAD IN VOLT AMPS (VA)										LOAD IN VOLT AMPS (VA)									
CKT	DESCRIPTION	CB AMPS	WIRE SIZE	LTG (125%)	RECEPT.	KITCHEN	HVAC	MISC	PHASE	MISC	HVAC	KITCHEN	RECEPT.	LTG (125%)	WIRE SIZE	CB AMPS	DESCRIPTION	CKT	
1								10000	A						#12	20	SPARE	2	
3	T-12-LSE - 30KVA	50	#8					10000	B						#12	20	SPARE	4	
5								10000	C						#12	20	SPARE	6	
7								10000	A						#12	20	SPARE	8	
9	T-12-GEN - 30KVA	50	#8					10000	B						#12	20	SPARE	10	
11								10000	C						#12	20	SPARE	12	
13	SPARE	20	#12						A						#12	20	SPARE	14	
15	SPARE	20	#12						B						#12	20	SPARE	16	
17	SPARE	20	#12						C						#12	20	SPARE	18	
19	SPARE	20	#12						A						#12	20	SPARE	20	
21	SPARE	20	#12						B						#12	20	SPARE	22	
23	SPARE	20	#12						C						#12	20	SPARE	24	
TOTAL LOADS				0	0	0	0	60000		0	0	0	0	0				TOTAL LOADS	
PANEL NOTES										LOAD CALCULATION (NEC 2023 - ARTICLE 220)									
										LOAD TYPE									
										LOAD (kVA)		DEMAND %		DEMAND LOAD		kW			
										0.00		1.25		0.0		kW			
										0.00		1.00		0.0		kW			
										0.00		0.50		0.0		kW			
										0.00		0.65		0.0		kW			
										60.00		1.00		60.0		kW			
										0.00		1.00		0.0		kW			
										TOTAL kW DEMAND				60.0		kW			
										TOTAL DEMAND AMPS		@ 100%		72.17		AMPS			

2 PANEL SCHEDULE "12-HSE" (EMERGENCY LIFE SAFETY BRANCH - 277/480 VOLTS)
SCALE NOT TO SCALE

Revisions:	Date:	CONSULTANT	ARCHITECT/ENGINEER OF RECORD	STAMP	Drawing Title	Phase	Project Title	Project Number
					PANEL SCHEDULES	100% CONSTRUCTION DOCUMENTS	SIoux FALLS BOILER PLANT	438-22-900
 Architecture Engineering Design-Build			 Office of Construction and Facilities Management		Approved: Project Director	FULLY SPRINKLERED	Location	Building Number
			 U.S. Department of Veterans Affairs				VAMC-Sioux Falls: 2501 W 22nd St, Sioux Falls, SD 57105	12
							Issue Date	Drawing Number
							06/25/2024	EP602
							Checked	Drawn
							WLM	KMB


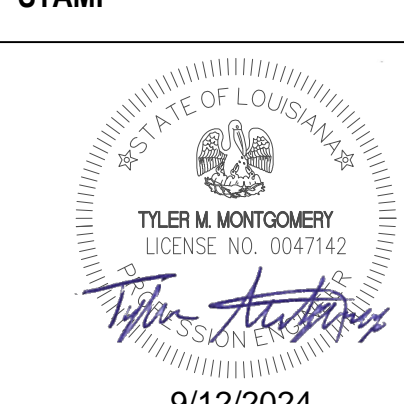
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- E. ALL ELECTRICAL PANELS SHALL HAVE VISIBLE TRIP INDICATORS.

PANEL INFORMATION				PANEL "IT"										PANEL RATING & FEEDER					
MAIN TYPE	100A MCB	VOLTS	3PH-4W	EMERGENCY LIFE SAFETY BRANCH										PANEL AMPACITY:	100	AMPS			
VOLTAGE	120/208	SURFACE MOUNT												PHASE CONDUCTORS:	(3)	THWN			
MOUNTING		AIC												NEUTRAL	(1)	#8 THWN			
AIC RATING	10000	ENCLOSURE TYPE	NEMA-1	NEW PANEL										# OF SETS	(1 SET)				
														SOURCE	"T-12-LSE"				
CKT	DESCRIPTION	CB AMPS	WIRE SIZE	LTG (125%)	RECEPT.	KITCHEN	HVAC	MISC	PHASE	MISC	HVAC	KITCHEN	RECEPT.	LTG (125%)	WIRE SIZE	CB AMPS	DESCRIPTION	CKT	
1								1500	A	1000					#12	20	RACK UPS	2	
3	RACK PDU (POWER DISTRIBUTION UNIT)	30	#10					1500	B	1000								4	
5								1500	C	1000								6	
7								1500	A	1000					#12	20	RACK UPS	8	
9	RACK PDU (POWER DISTRIBUTION UNIT)	30	#10					1500	B	1000								10	
11								1500	C	1000					#12	20	RACK UPS	12	
13								1500	A						#12	20	SPARE	14	
15	RACK PDU (POWER DISTRIBUTION UNIT)	30	#10					1500	B						#12	20	SPARE	16	
17								1500	C						#12	20	SPARE	18	
19	SPARE	20	#12						A						#12	20	SPARE	20	
21	SPARE	20	#12						B						#12	20	SPARE	22	
23	SPARE	20	#12						C						#12	20	SPARE	24	
25	SPARE	20	#12						A						#12	20	SPARE	26	
27	SPARE	20	#12						B						#12	20	SPARE	28	
29	SPARE	20	#12						C						#12	20	SPARE	30	
31	SPARE	20	#12						A						#12	20	SPARE	32	
33	SPARE	20	#12						B						#12	20	SPARE	34	
35	SPARE	20	#12						C						#12	20	SPARE	36	
37	SPARE	20	#12						A						#12	20	SPARE	38	
39	SPARE	20	#12						B						#12	20	SPARE	40	
41	SPARE	20	#12						C						#12	20	SPARE	42	
TOTAL LOADS				0	0	0	0	13500		6000	0	0	0	0				TOTAL LOADS	

PANEL NOTES		LOAD CALCULATION (NEC 2023 - ARTICLE 220)			
LOAD TYPE	LOAD (kVA)	DEMAND %	DEMAND LOAD		kW
LIGHTING	0.00	1.25			0.0
RECEPTACLES	0.00	1.00			0.0
RECEPTACLES > 10000	0.00	0.50			0.0
KITCHEN EQUIPMENT	0.00	0.65			0.0
MISC.	19.50	1.00			19.5
HVAC	0.00	1.00			0.0
TOTAL kW DEMAND					19.5
TOTAL DEMAND AMPS		⊕ 100%			54.13

1 PANEL SCHEDULE 'IT' (EMERGENCY LIFE SAFETY BRANCH - 120/208 VOLTS)
SCALE NOT TO SCALE

		CONSULTANT	ARCHITECT/ENGINEER OF RECORD	STAMP	Office of Construction and Facilities Management	Drawing Title PANEL SCHEDULES	Phase 100% CONSTRUCTION DOCUMENTS	Project Title SIOUX FALLS BOILER PLANT	Project Number 438-22-900
Revisions:	Date:		 Architecture Engineering Design-Build 9000 Vessex Place, Louisville, KY 40222 www.paradigmusa.com	 TYLER M. MONTGOMERY LICENSE NO. 0047142 9/12/2024	VA U.S. Department of Veterans Affairs	Approved: Project Director	FULLY SPRINKLERED	Location VAMC-Sioux Falls: 2501 W 22nd St, Sioux Falls, SD 57105	Building Number 12
								Issue Date 06/25/2024	Checked WLM
								Drawn KMB	Drawing Number EP603