

MONTANA STATE UNIVERSITY

BRICK BREEDEN FIELDHOUSE

ELECTRICAL MDP REPLACEMENT

BOZEMAN, MONTANA



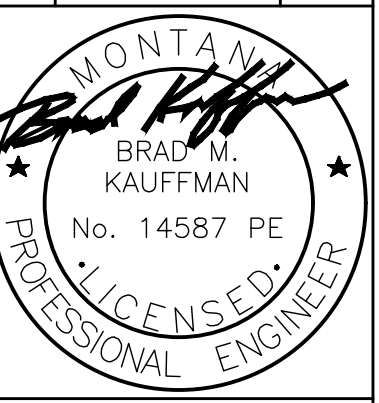
MSU-CPDC

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BOZEMAN, MONTANA
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FIELDHOUSE
ELECTRICAL MDP REPLACEMENT



DRAWN BY:		
REVIEWED BY:		
REV.	DESCRIPTION	DATE



PPA#22-0525

A/E#00-00-00

GPD#22-2501

SHEET TITLE
COVER SHEET

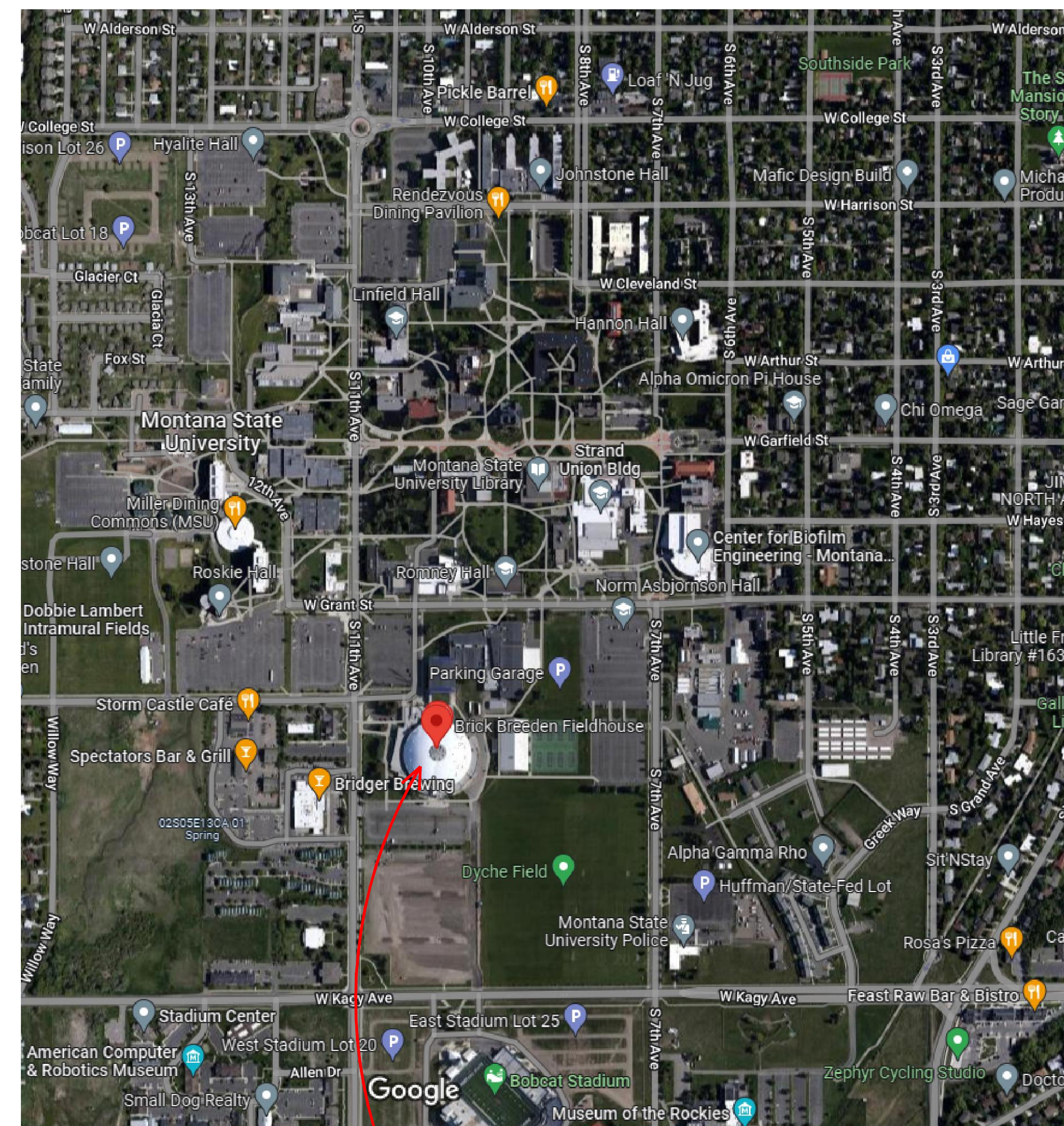
SHEET
G1.0

DATE
3-24-23



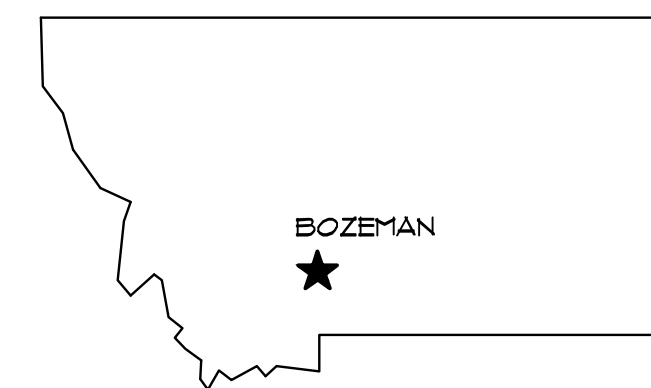
PROJECT LOCATION

BOZEMAN AREA MAP



PROJECT LOCATION

MONTANA MAP



OWNER

Montana State University - Bozeman
University Facilities Management
PO Box 172160
Bozeman, MT 59711-2160
phone 406-994-2001

ENGINEER

GPD PC
524 1st Avenue South
Great Falls, MT 59401
phone 406-452-9558
Brad Kauffman, PE

PROJECT ADDRESS

MONTANA STATE UNIVERSITY
BRICK BREEDEN FIELDHOUSE
BOZEMAN, MONTANA 59711

DRAWING INDEX

GENERAL

G1.0 COVER SHEET

ELECTRICAL

E1.0 ELECTRICAL PLAN
E2.0 SWITCHBOARD DETAILS
E3.0 OVERALL ELECTRICAL ONE-LINE DIAGRAM

PROJECT SCOPE OF WORK

THIS PROJECT IS FOR THE REPLACEMENT OF AN EXISTING SWITCHBOARD WITHIN THE LOWER LEVEL OF THE FIELDHOUSE AND THE RECONNECTION OF ALL EXISTING LOADS SERVED FROM THE SWITCHBOARD. THE CONTRACTOR SHALL NOTE THE IMPORTANCE OF THIS SITE AND CLOSELY COORDINATE AND DETAIL ALL ELECTRICAL OUTAGES WITH OWNER. IN ADDITION, THE CONTRACTOR SHALL OBTAIN THE NEW SWITCHBOARD AS SOON AS POSSIBLE, SO THAT IT IS READY FOR THE MAY 2024 INSTALLATION DATE. ALL ELECTRICAL OUTAGES SHALL OCCUR ONLY BETWEEN THE DAYS OF MAY 11TH AND MAY 29TH, 2024 - NO EXCEPTIONS WILL BE ALLOWED. THE CONTRACTOR SHALL SUBMIT OUTAGE DATES FOR APPROVAL TO MSU AND THE ENGINEER 1 MONTH PRIOR TO THE ANTICIPATED ELECTRICAL OUTAGE.

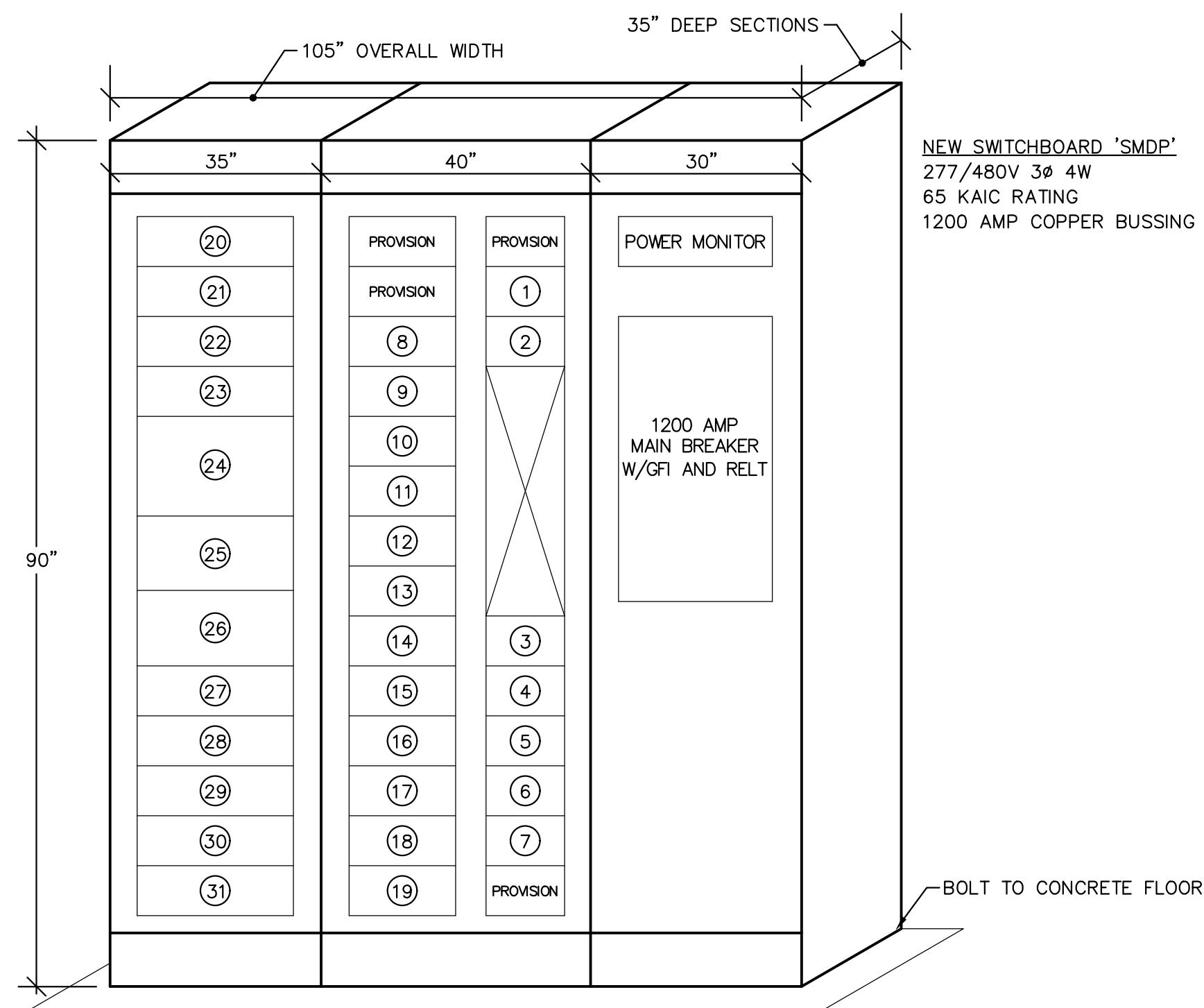
APPLICABLE BUILDING CODES

2020 NATIONAL ELECTRICAL CODE (NEC)

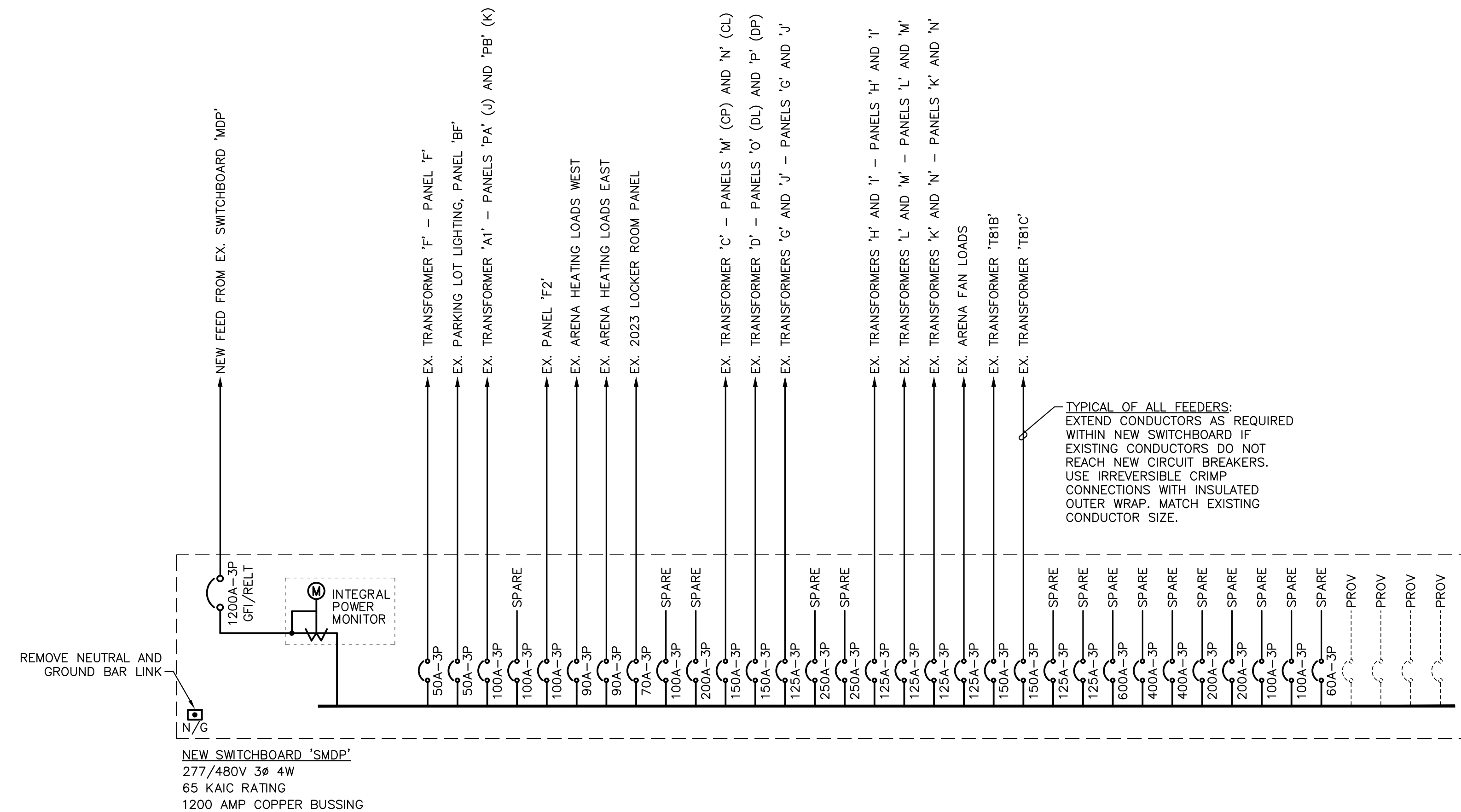
SWITCHBOARD 'SMDP' SCHEDULE

SPACE	TRIP RATING (AMPS)	POLES	LOAD DESIGNATION	LOAD WIRE SIZE
①	50	3	EX. TRANSFORMER 'F' - PANEL 'F'	3#1 COPPER
②	50	3	EX. PARKING LOT LIGHTING, PANEL 'BF'	3#6 AND #10G COPPER
③	100	3	EX. TRANSFORMER 'A1' - PANELS 'PA' (J) AND 'PB' (K)	3#1 AND #8G COPPER
④	100	3	SPARE	
⑤	100	3	EX. PANEL 'F2'	3#1 AND #8G COPPER
⑥	90	3	EX. ARENA HEATING LOADS WEST	3#4 COPPER
⑦	90	3	EX. ARENA HEATING LOADS EAST	3#4 COPPER
⑧	70	3	EX. 2023 LOCKER ROOM PANEL	3#3 AND #8G COPPER
⑨	100	3	SPARE	
⑩	200	3	SPARE	
⑪	150	3	EX. TRANSFORMER 'C' - PANELS 'M' (CP) AND 'N' (CL)	3#350 KCMIL COPPER
⑫	150	3	EX. TRANSFORMER 'D' - PANELS 'O' (DL) AND 'P' (DP)	3#350 KCMIL COPPER
⑬	125	3	EX. TRANSFORMERS 'G' AND 'J' - PANELS 'G' AND 'J'	3#1/0 COPPER
⑭	250	3	SPARE	
⑮	250	3	SPARE	
⑯	125	3	EX. TRANSFORMERS 'H' AND 'I' - PANELS 'H' AND 'I'	3#1/0 COPPER
⑰	125	3	EX. TRANSFORMERS 'L' AND 'M' - PANELS 'L' AND 'M'	3#2/0 COPPER
⑱	125	3	EX. TRANSFORMERS 'K' AND 'N' - PANELS 'K' AND 'N'	3#2/0 COPPER
⑲	125	3	EX. ARENA FAN LOADS	3#2 COPPER
⑳	150	3	EX. TRANSFORMER 'T81B'	3#3/0 AND #6G COPPER
㉑	150	3	EX. TRANSFORMER 'T81C'	3#3/0 AND #6G COPPER
㉒	125	3	SPARE	
㉓	125	3	SPARE	
㉔	600	3	SPARE	
㉕	400	3	SPARE	
㉖	400	3	SPARE	
㉗	200	3	SPARE	
㉘	200	3	SPARE	
㉙	100	3	SPARE	
㉚	100	3	SPARE	
㉛	60	3	SPARE	

NOTES:
 A. SWITCHBOARD ELEVATION IS REPRESENTATIVE OF DESIGN INTENT. ACTUAL CIRCUIT BREAKER ARRANGEMENTS AND NUMBER OF SECTIONS MAY VARY BASED ON MANUFACTURER. WHEN SPACE IS MARKED AS "PROVISION" ENSURE THAT BUSSING FOR FUTURE BREAKERS IS INSTALLED IN THAT SPACE.
 B. OVERALL SWITCHBOARD WIDTH SHALL BE 84" TO 110" AND DEPTH SHALL BE 35" (NOMINAL) NO EXCEPTIONS. BAYS MUST BE OPEN ON SIDES TO ALLOW EXISTING CABLES TO FREELY LAND ON CIRCUIT BREAKERS IN ALL 3 BAYS. CONTRACTOR SHALL VERIFY SWITCHBOARD STRUCTURE WITH EXISTING CONDUIT FLOOR PENETRATIONS TO ENSURE ALL EXISTING CONDUITS ARE ACCESSIBLE AND NOT BLOCKED.



1 SWITCHBOARD ELEVATION
SCALE: NONE



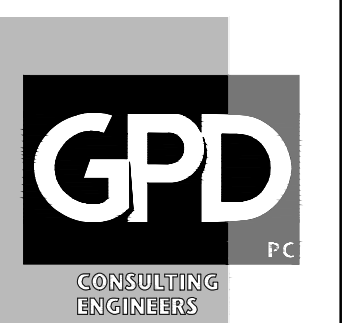
2 SWITCHBOARD ONE-LINE DIAGRAM
SCALE: NONE

- GENERAL SHEET NOTES:**
- ALL ELECTRICAL OUTAGES SHALL OCCUR ONLY BETWEEN THE DAYS OF MAY 11TH AND MAY 29TH, 2024 - NO EXCEPTIONS WILL BE ALLOWED. THE CONTRACTOR SHALL SUBMIT OUTAGE DATES FOR APPROVAL TO MSU AND THE ENGINEER 1 MONTH PRIOR TO THE ANTICIPATED ELECTRICAL OUTAGE.
 - CONTRACTOR SHALL ALLOW TIME IN BID FOR INSTALLING ARC FLASH LABELS ON ALL TRANSFORMERS AND PANELS SERVED FROM NEW SWITCHBOARD 'SMDP'. LABELS WILL BE PROVIDED BY ENGINEER.
 - CONTRACTOR SHALL ALLOW TIME IN BID TO ASSIST ENGINEER WITH INVESTIGATING THE CONDUCTOR AND CONDUIT SIZES FOR ALL FEEDERS LEAVING NEW SWITCHBOARD 'SMDP' AS WELL AS VERIFYING THE ACTUAL LOADS (AND THEIR LOCATIONS) SERVED FROM SWITCHBOARD 'SMDP'.
 - CONTRACTOR SHALL RE-LABEL ANY EXISTING PANELBOARD SERVED FROM NEW SWITCHBOARD 'SMDP' SO THAT NAME ON LABEL AT NEW SWITCHBOARD BREAKER MATCHES NAME ON LABEL OF EXISTING PANELBOARD.

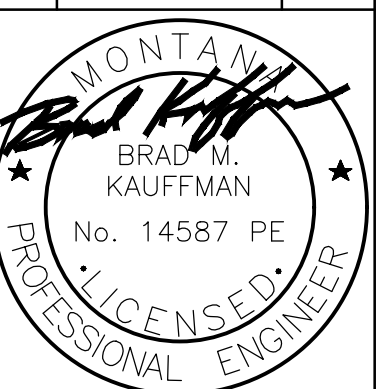


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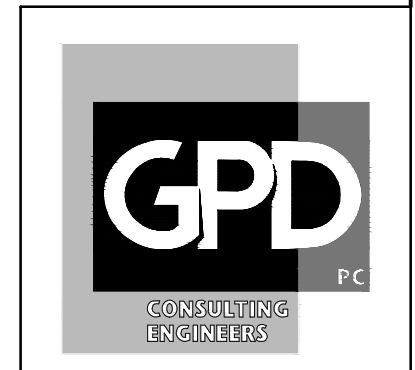
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SHEET TITLE
 SWITCHBOARD
 DETAILS

SHEET
E2.0

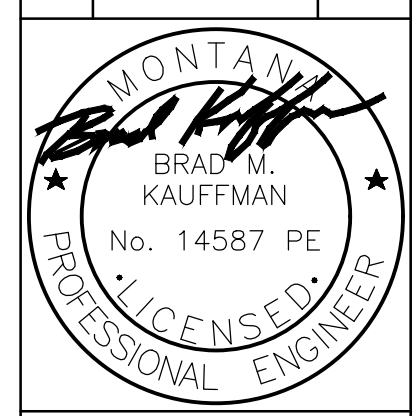
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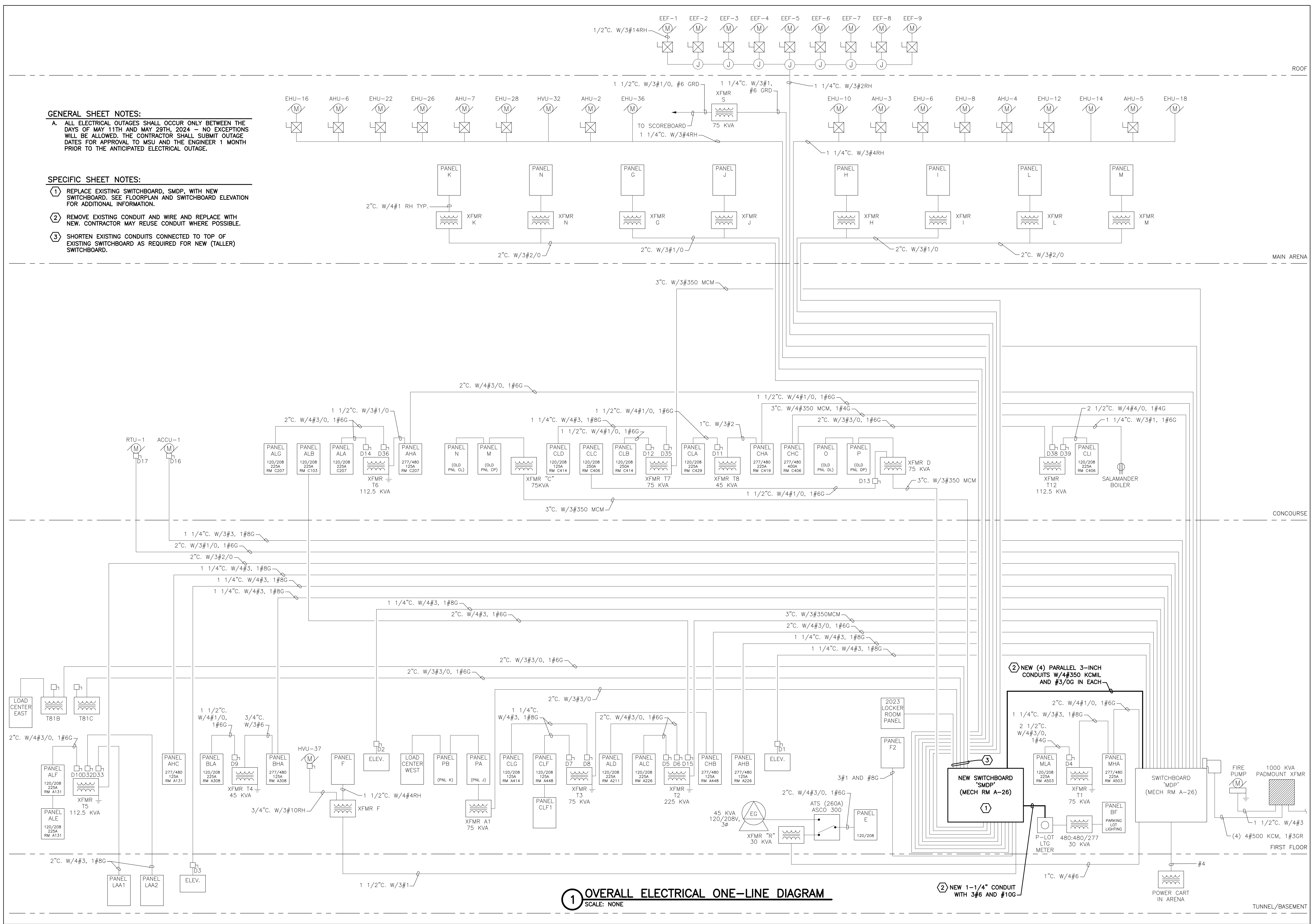


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SHEET TITLE
OVERALL ELECTRICAL ONE-LINE DIAGRAM

SHEET
E3.0

DATE
3-24-23



1 OVERALL ELECTRICAL ONE-LINE DIAGRAM
SCALE: NONE

GENERAL SHEET NOTES:
A. ALL ELECTRICAL OUTAGES SHALL OCCUR ONLY BETWEEN THE DAYS OF MAY 11TH AND MAY 29TH, 2024 — NO EXCEPTIONS WILL BE ALLOWED. THE CONTRACTOR SHALL SUBMIT OUTAGE DATES FOR APPROVAL TO MSU AND THE ENGINEER 1 MONTH PRIOR TO THE ANTICIPATED ELECTRICAL OUTAGE.

- SPECIFIC SHEET NOTES:**
- 1 REPLACE EXISTING SWITCHBOARD, SMDP, WITH NEW SWITCHBOARD. SEE FLOORPLAN AND SWITCHBOARD ELEVATION FOR ADDITIONAL INFORMATION.
 - 2 REMOVE EXISTING CONDUIT AND WIRE AND REPLACE WITH NEW. CONTRACTOR MAY REUSE CONDUIT WHERE POSSIBLE.
 - 3 SHORTEN EXISTING CONDUITS CONNECTED TO TOP OF EXISTING SWITCHBOARD AS REQUIRED FOR NEW (TALLER) SWITCHBOARD.