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7

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A

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C

D

E

F

A

B

C

D


E

F

REVISIONS			
REV	DATE	DESCRIPTION	APPROVED
1	-	UPDATED BREAKER SIZING	W. MARCUM

ELECTRICAL POWER WIRING

<u>SHEET NO.</u>	<u>CONTENTS</u>
1	SHEET INDEX
2	MAIN POWER DISTRIBUTION
3	AC-1/EXPERIMENT HEATER ONE LINE
4	AC-2/AC-3 PANEL ONE LINE
5	AC-4/ 240/120V PANEL ONE LINE
6	AC-5/HEAT TRACE PANEL ONE LINE
7	AC-6/ROOM 480V PANEL ONE LINE
8	AC-7/ROOM 240/120V PANEL ONE LINE

		NUCLEAR SCIENCE & ENGINEERING THERMAL HYDRAULICS SCHOOL OF NUCLEAR SCIENCE AND ENGINEERING OREGON STATE UNIVERSITY RADIATION CENTER, CORVALLIS, OREGON 97331 TELEPHONE: (541) 737-2341 FAX: (541) 737-0480		<h1>SoFIE</h1>	
DRAWN BY A. WEISS	DATE 05/03/2022	TITLE POWER DISTRIBUTION ONE LINES			
REVIEWED BY T.K. HOWARD	DATE 05/03/2023	SIZE B	DWG NO. OSU-SoFIE-500000-DWG-001	REV 1	
APPROVED BY W. MARCUM	DATE 05/04/2023	SCALE AS NOTED	PROJECT SODIUM FLOW INVESTIGATION EXPERIMENT	PAGE 1 OF 8	

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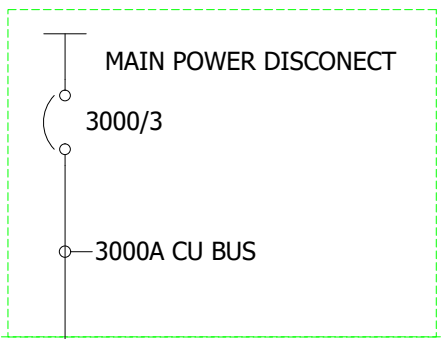
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1 2 3 4 5 6 7 8

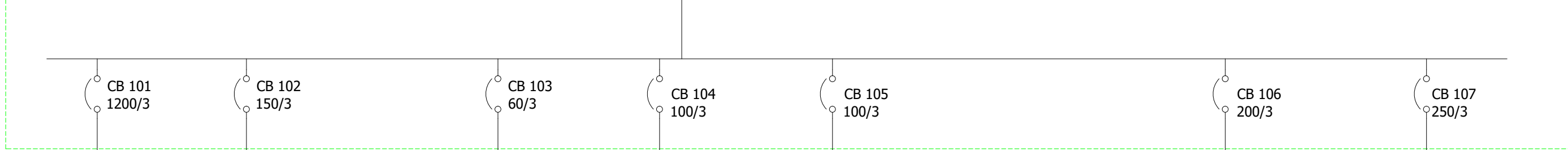
A
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E
F

F100 MAIN POWER DISTRIBUTION



3000A, 65KAIC, WITH 100% RATED BREAKERS



TO AC-1

TO AC-2
(MCP-101 / CMI NOVACAST)

TO AC-3
(AC CONTROLS)

TO AC-4
(240/120V PANEL)

TO AC-5
(HEAT TRACE PANEL)

TO AC-6
(ROOM 480V PANEL)

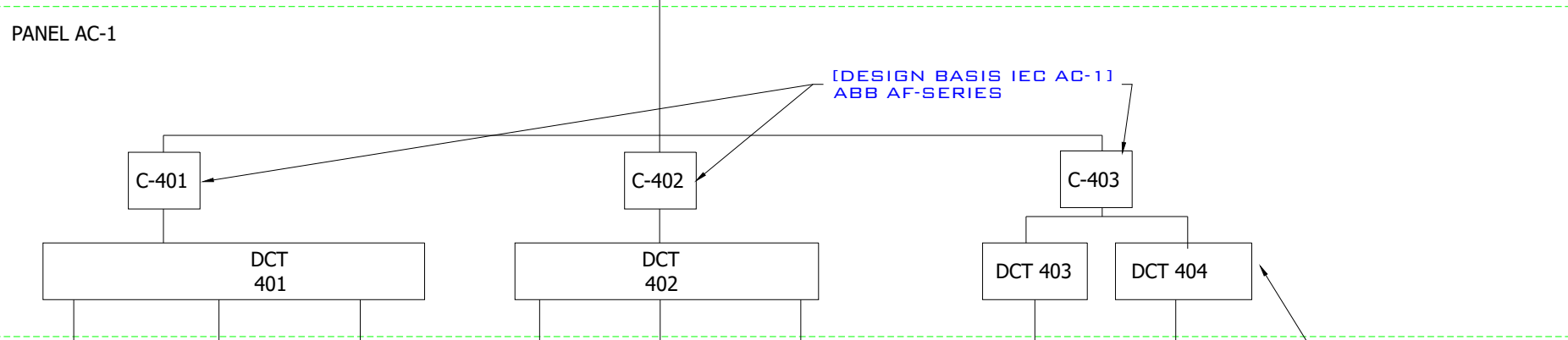
TO AC-7
(ROOM 240/120V PANEL)

SIZE B	DWG. NO. OSU-SOFIE-500000-DWG-001	REV 1
SCALE AS NOTED	PROJECT SODIUM FLOW INVESTIGATION EXPERIMENT	PAGE 2 OF 8

1 2 3 4 5 6 7 8

AC-1/EXPERIMENT HEATER ONE LINE

FROM MAIN BREAKER PANEL

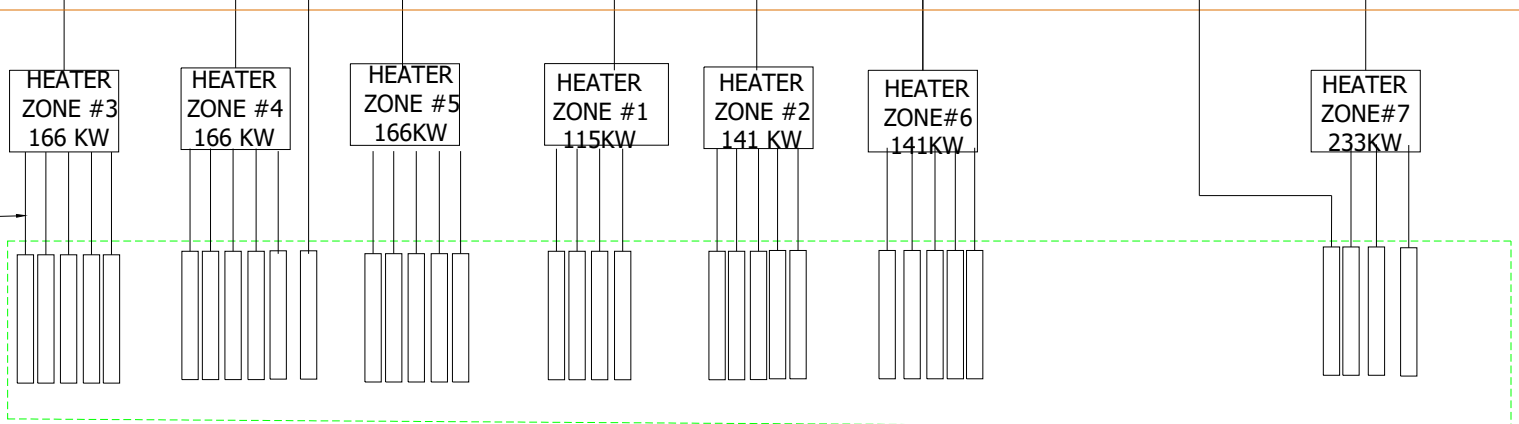


250 AWG
XHHW-2

3/0 AWG
XHHW-2

4 AWG
XHHN-2

[DESIGN BASIS IEC AC-1]
DCT 401 -ABB DCT880-W03-0420-05XA
DCT 402 -ABB DCT880-W03-0360-05XA
DCT 403 -ABB DCT880-W02-0080-05XA
DCT 404 -ABB DCT880-W02-0080-05XA



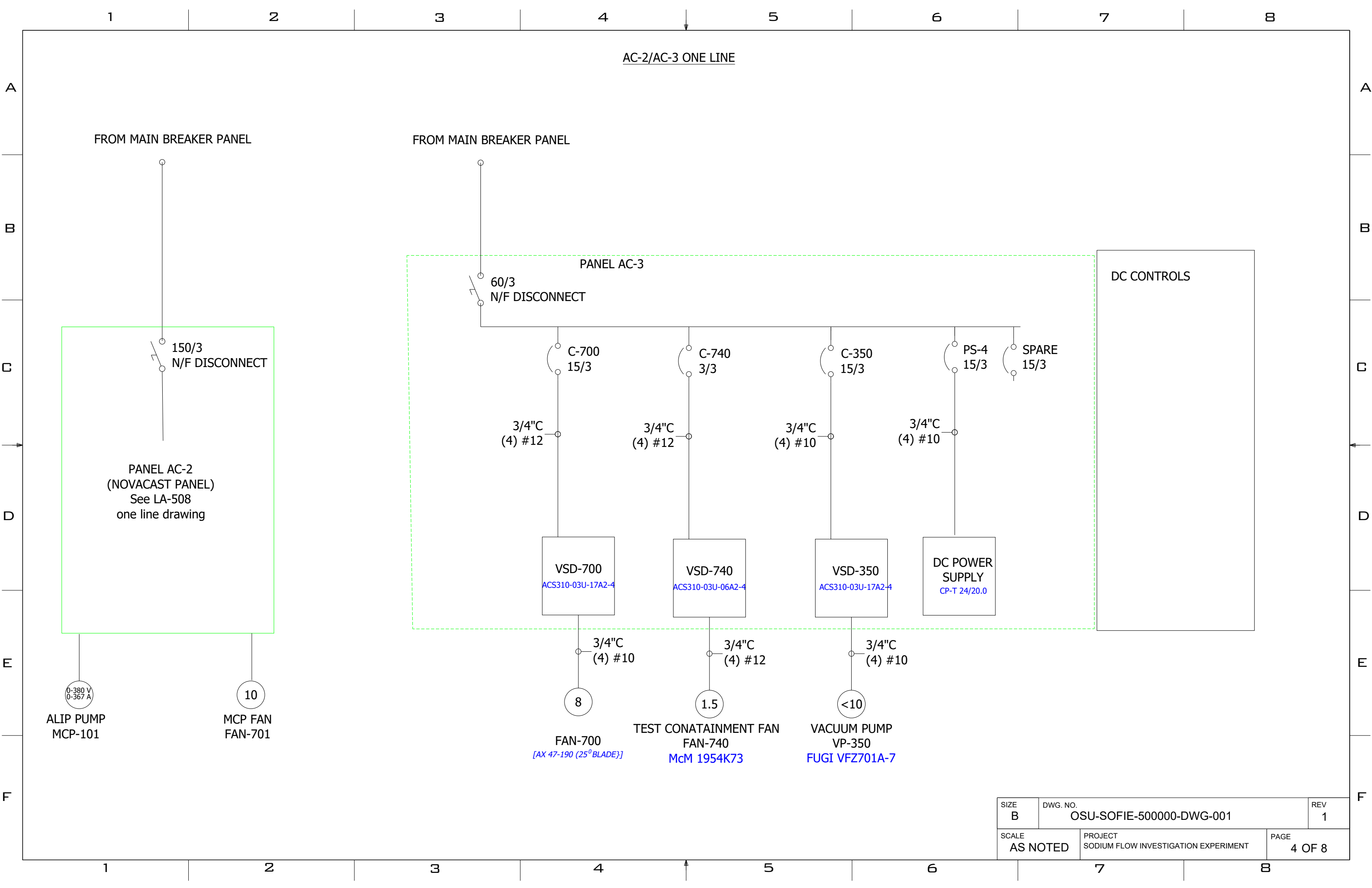
7BA @
97.5%
10 AWG MG
TYPICAL

BUSS/POWER DISTIBUTION
BLOCKS TBD

HEATERS BY OTHERS
≤ 35.2KW EA 80 AMPS 440V / 1 PH

TAB {Test Assembly Box} CLASS 1, DIV 2, GROUP B

SIZE B	DWG. NO. OSU-SOFIE-500000-DWG-001	REV 1
SCALE AS NOTED	PROJECT SODIUM FLOW INVESTIGATION EXPERIMENT	PAGE 3 OF 8



SIZE B	DWG. NO. OSU-SOFIE-500000-DWG-001	REV 1
SCALE AS NOTED	PROJECT SODIUM FLOW INVESTIGATION EXPERIMENT	PAGE 4 OF 8

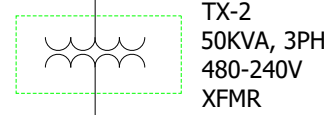
1 2 3 4 5 6 7 8

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AC-5/HEAT TRACE PANEL ONE LINE

FROM MAIN BREAKER PANEL

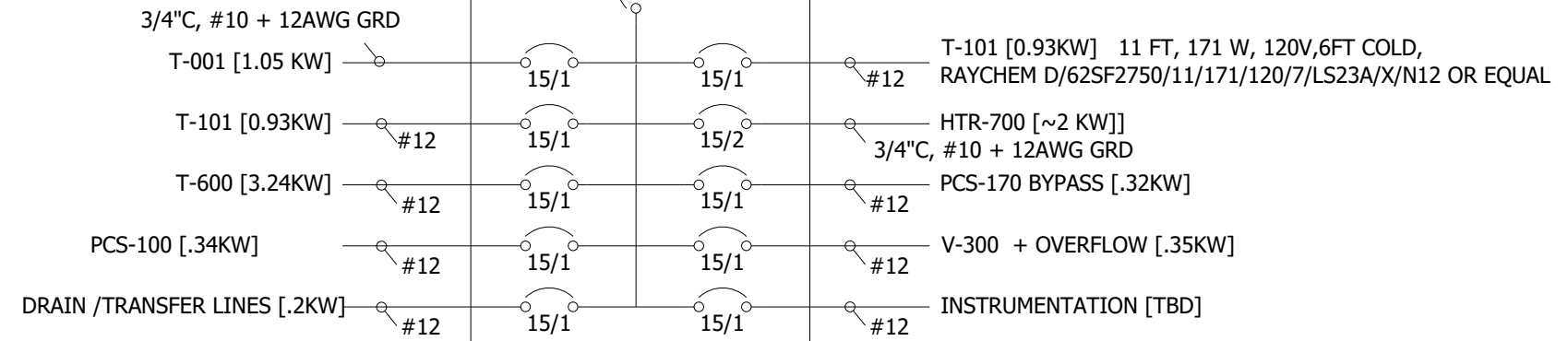
1-1/2"C
(2) #2
(1) #4



2"C
(3) 3/0
(1) #4

AC-5 HEAT TRACE PANEL

100/2



Option Packaged heat trace Panel

SIZE B	DWG. NO. OSU-SOFIE-500000-DWG-001	REV 1
SCALE AS NOTED	PROJECT SODIUM FLOW INVESTIGATION EXPERIMENT	PAGE 6 OF 8

1 2 3 4 5 6 7 8

1 2 3 4 5 6 7 8

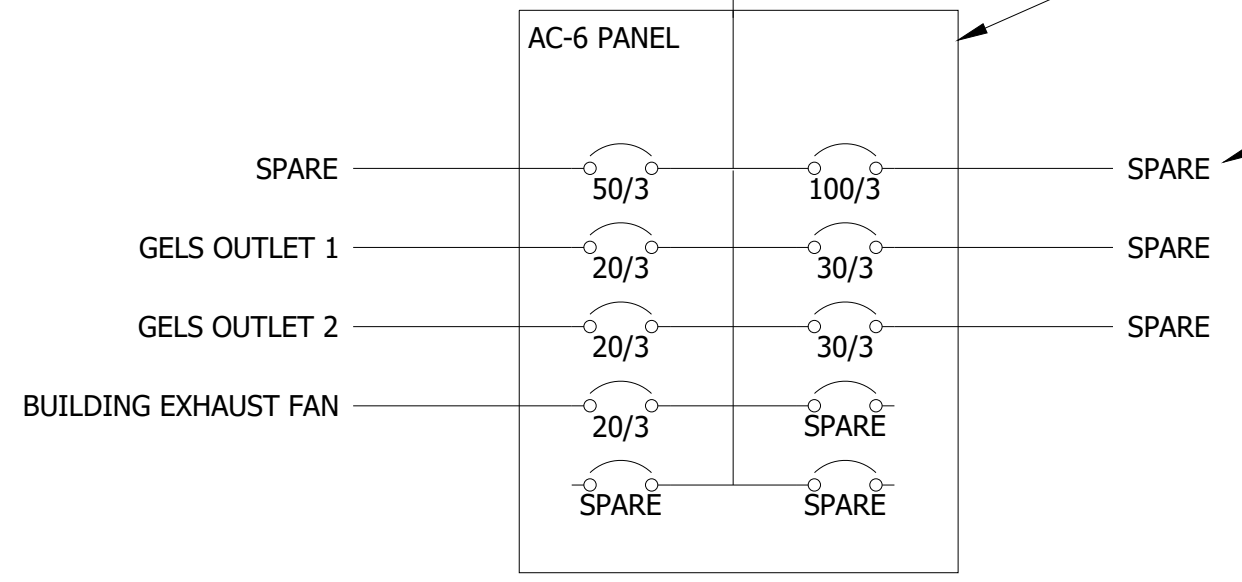
A
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AC-6/ROOM 480V PANEL ONE LINE

FROM MAIN BREAKER PANEL

EXISTING SQUARE-D PANEL, RELOCATE

CURRENTLY FEEDING TX-3

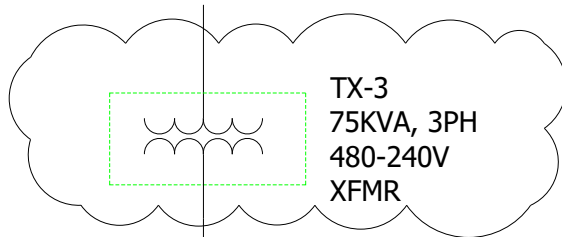


SIZE B	DWG. NO. OSU-SOFIE-500000-DWG-001	REV 1
SCALE AS NOTED	PROJECT SODIUM FLOW INVESTIGATION EXPERIMENT	PAGE 7 OF 8

1 2 3 4 5 6 7 8

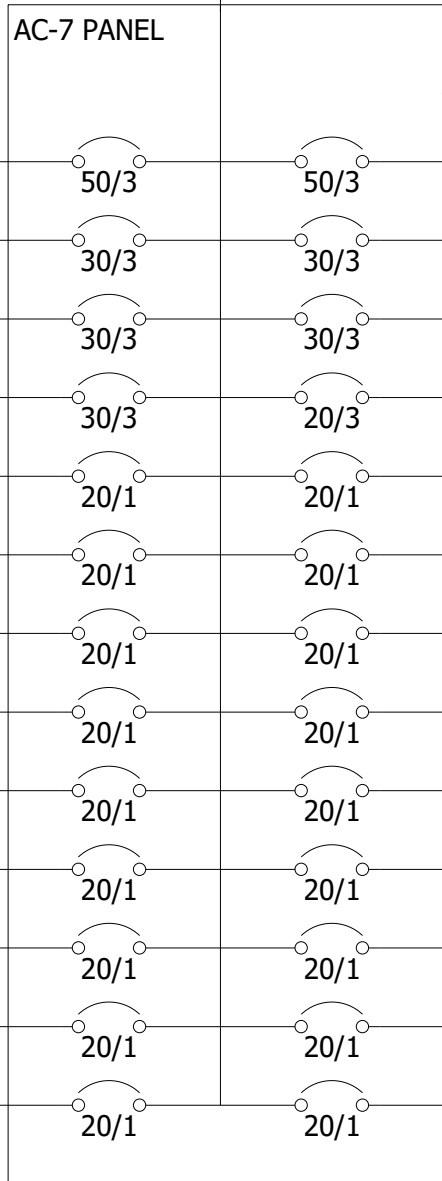
AC-7/ROOM 240/120V PANEL ONE LINE

FROM MAIN BREAKER PANEL



XFMR ALREADY ON SITE, POSSIBLE TO REUSE?

EXISTING SQUARE-D PANEL, RELOCATE?



- GELS OUTLET 3 — SPARE
- GELS OUTLET 4 — GELS OUTLET 7
- GELS OUTLET 5 — ROOF AIR COOLER
- GELS OUTLET 6 — SPARE
- SOUTH WALL OUTLETS — ROOF SERVICE OUTLET
- SOUTH WALL OUTLETS — SPARE
- WEST WALL OUTLETS — SPARE
- WEST WALL OUTLETS — SPARE
- WEST WALL OUTLETS — SPARE
- WEST WALL OUTLETS — SPARE
- NORTH WALL OUTLETS — SPARE
- NORTH WALL OUTLETS — SPARE
- EAST WALL OUTLETS — SPARE

SIZE B	DWG. NO. OSU-SOFIE-500000-DWG-001	REV 1
SCALE AS NOTED	PROJECT SODIUM FLOW INVESTIGATION EXPERIMENT	PAGE 8 OF 8