

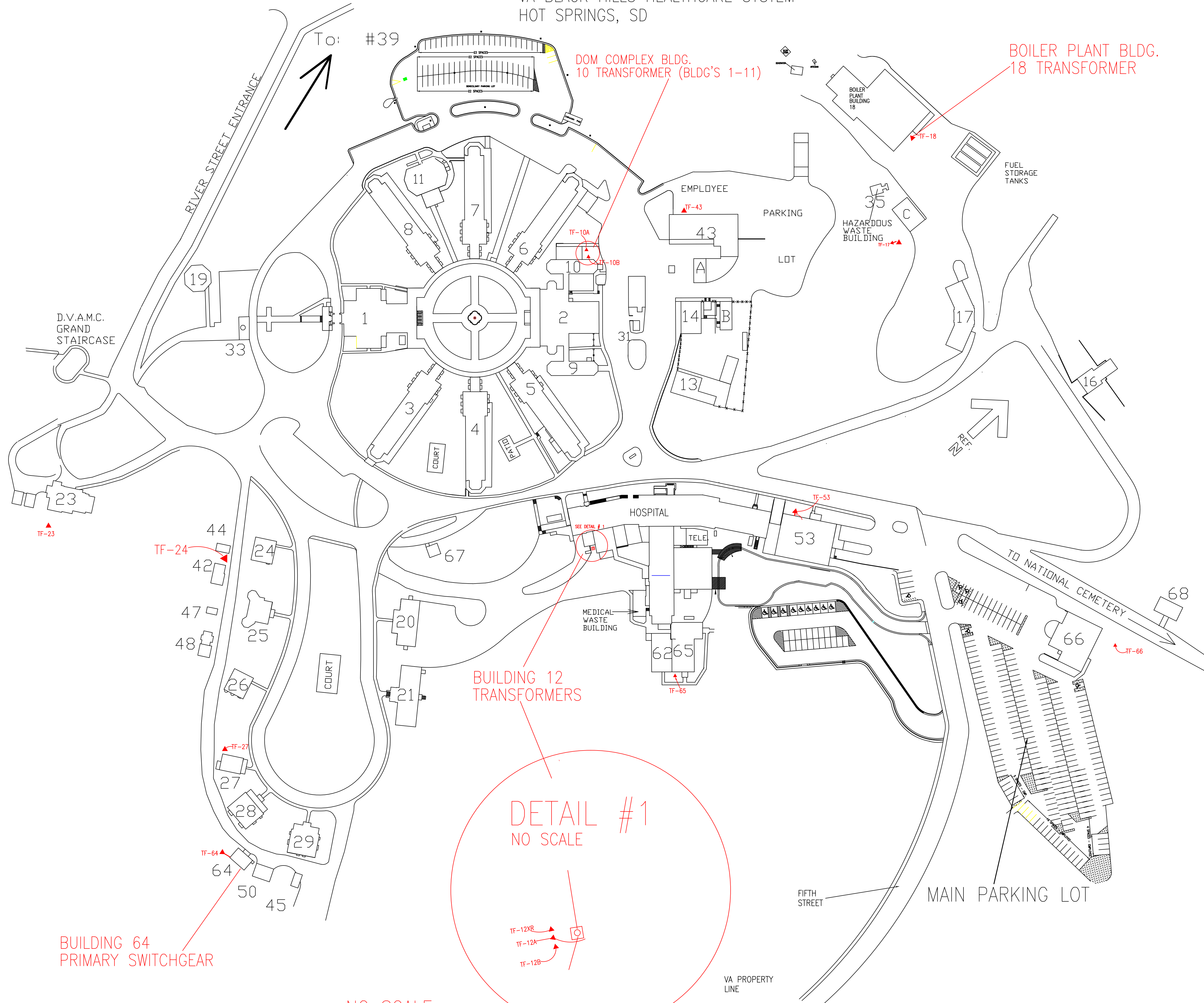
TESTING & CALIBRATING ELECTRICAL SYSTEMS
 V.A. BLACK HILLS HEALTH CARE SYSTEM
 HOT SPRINGS, S.D. AND FORT MEADE, S.D.

SHEET INDEX

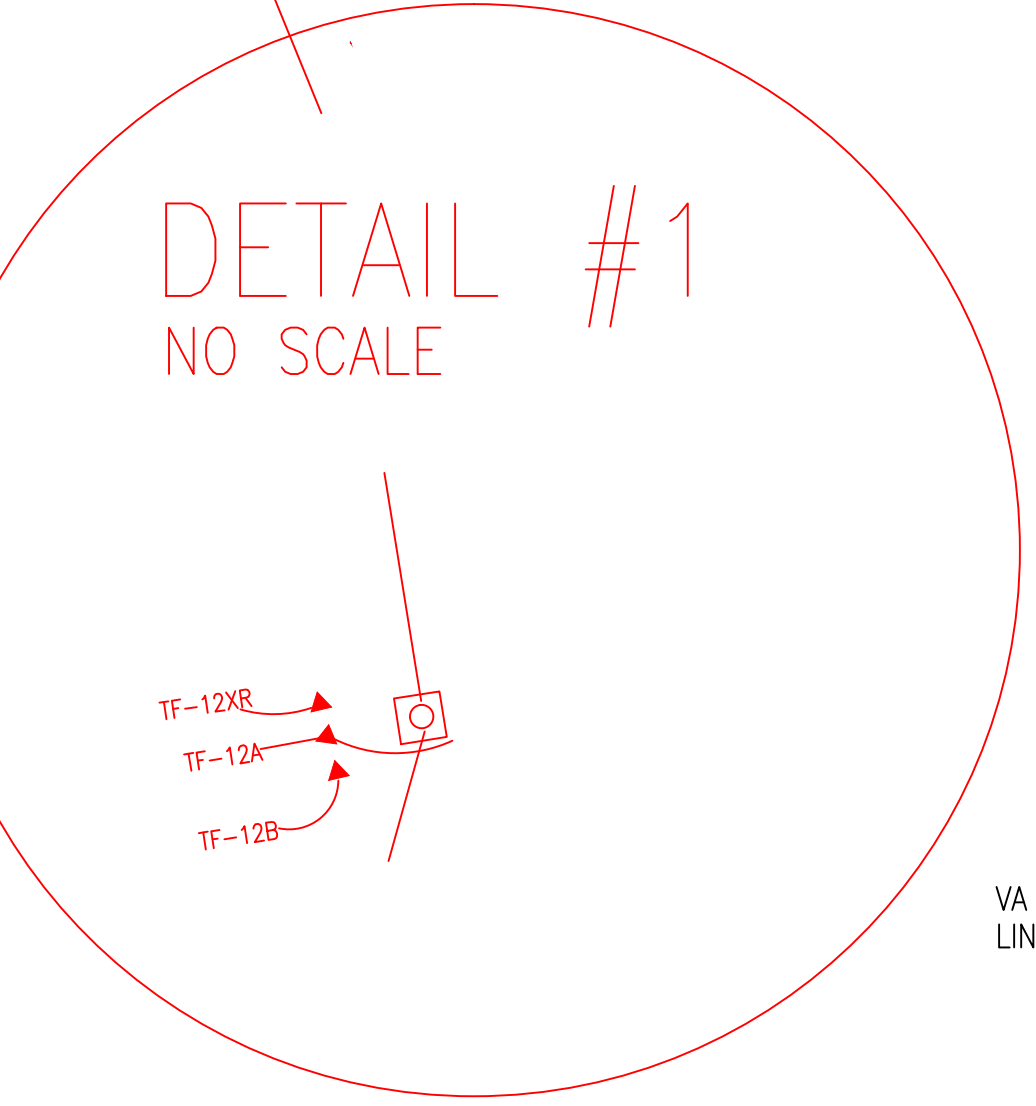
T-1	TITLE SHEET
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E-2	HOT SPRINGS PRIMARY SWITCHGEAR AND HOSPITAL SWITCHGEAR
E-3	HOT SPRINGS 15KV SWITCHGEAR
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Drawing Title TITLE SHEET	Project Title TESTING & CALIBRATING ELECTRICAL SYSTEMS	Date Oct. 2013
Approved: Division Chief	Building Number	Checked DS
Approved: Service Director	Location HOT SPRINGS, SOUTH DAKOTA	Drawn T-1
		DRAWING NO. T-1
		Dwg. 1 OF 15

VA BLACK HILLS HEALTHCARE SYSTEM
HOT SPRINGS, SD

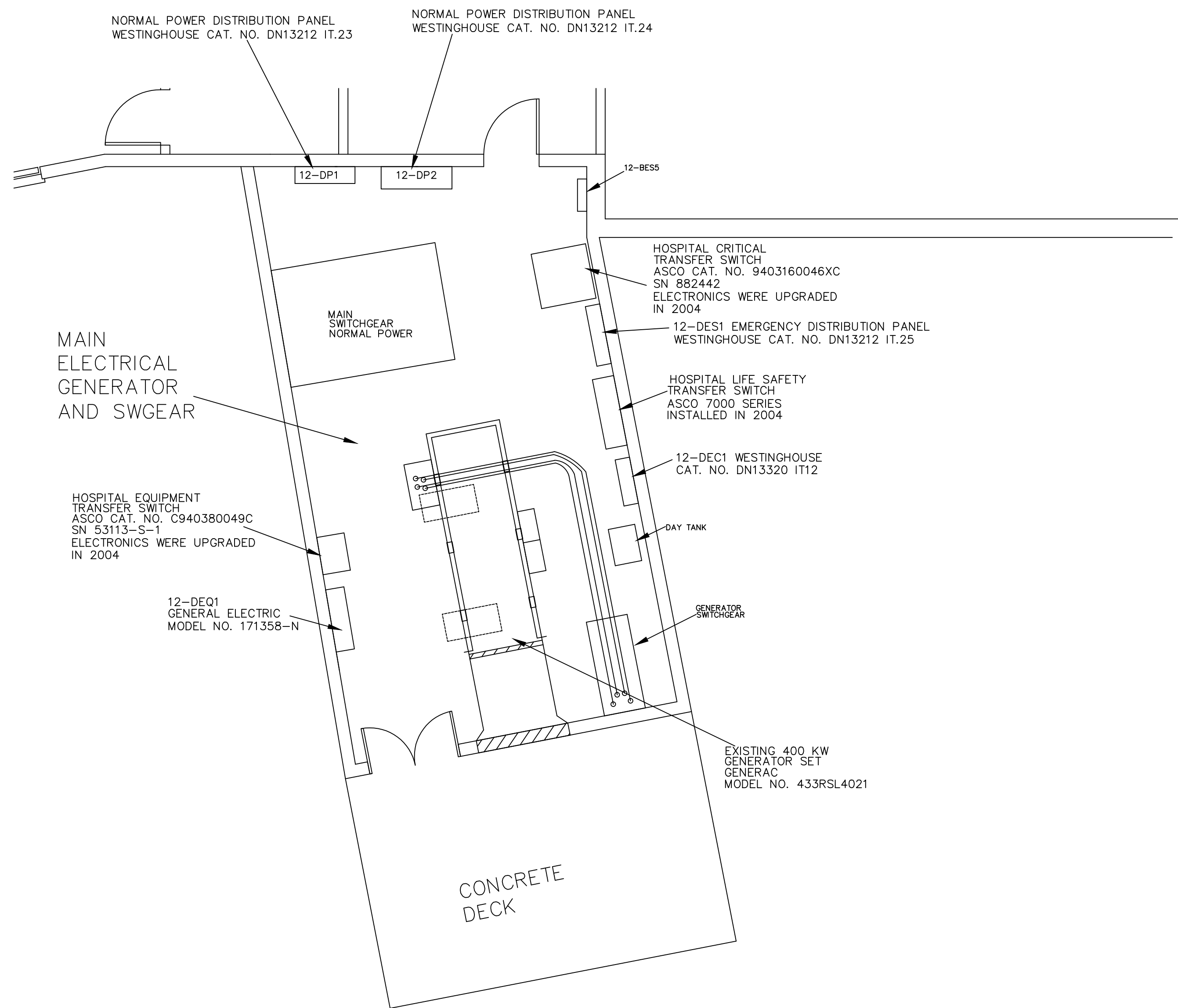


BUILDING 64
PRIMARY SWITCHGEAR

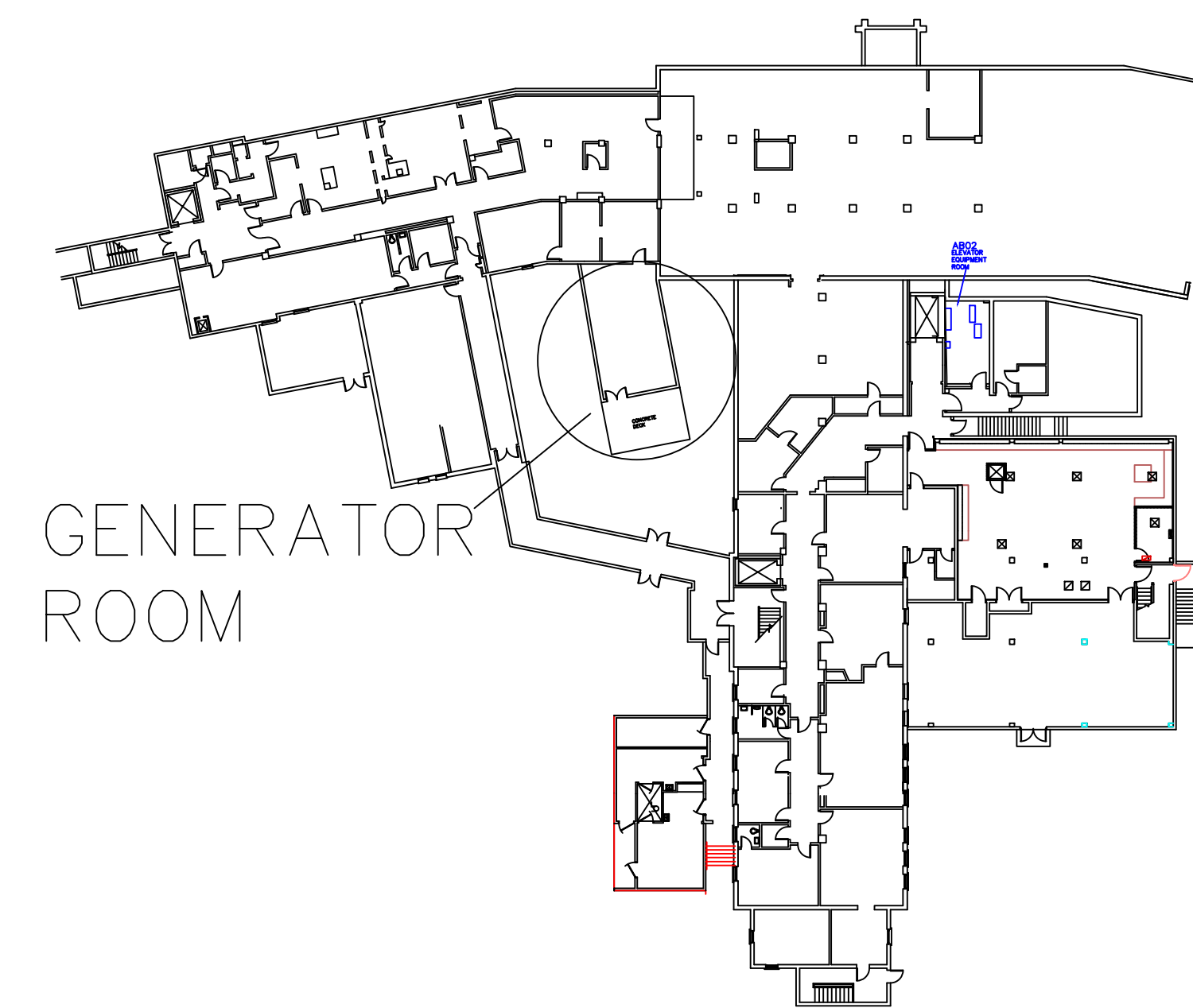


NO SCALE

Drawing Title HOT SPRINGS SITE PLAN		Project Title TESTING & CALIBRATING ELECTRICAL SYSTEMS		Date Oct. 2013
Approved: Division Chief		Building Number	Checked DS	Project No. DRAWING NO. E-1
Approved: Service Director		Location HOT SPRINGS, SOUTH DAKOTA		Dwg 2 of 15

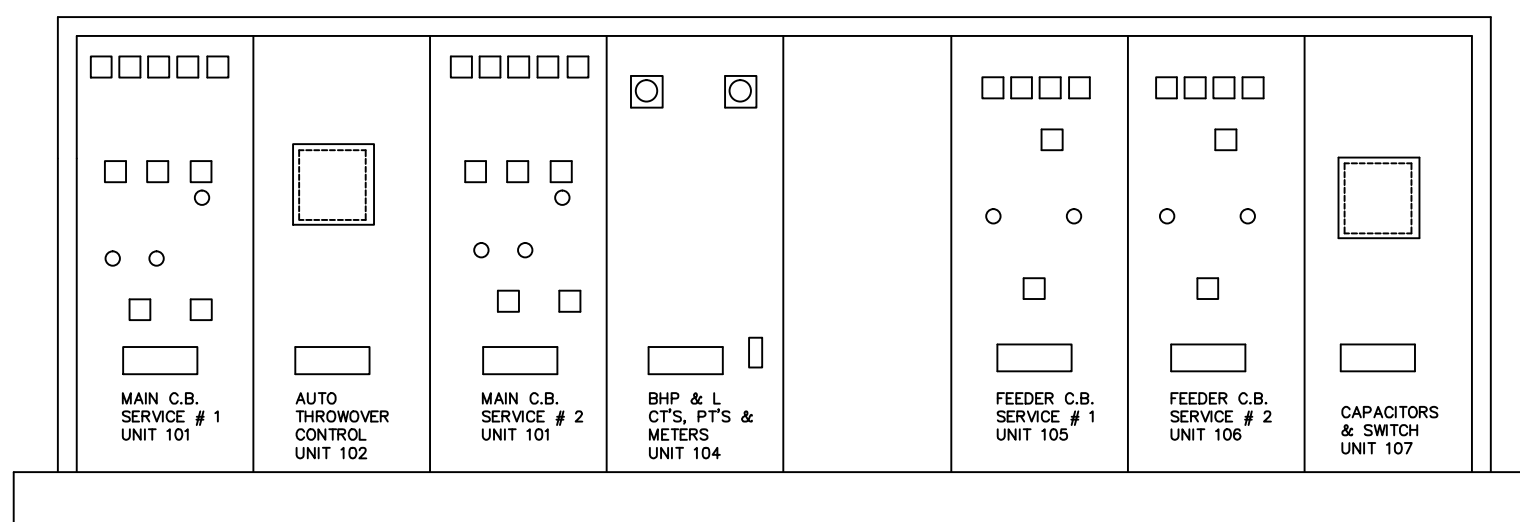


HOSPITAL SWITCHGEAR AND GENERATOR ROOM FLOOR PLAN
NO SCALE



GENERATOR ROOM

BUILDING 12 BASEMENT FLOOR
NO SCALE

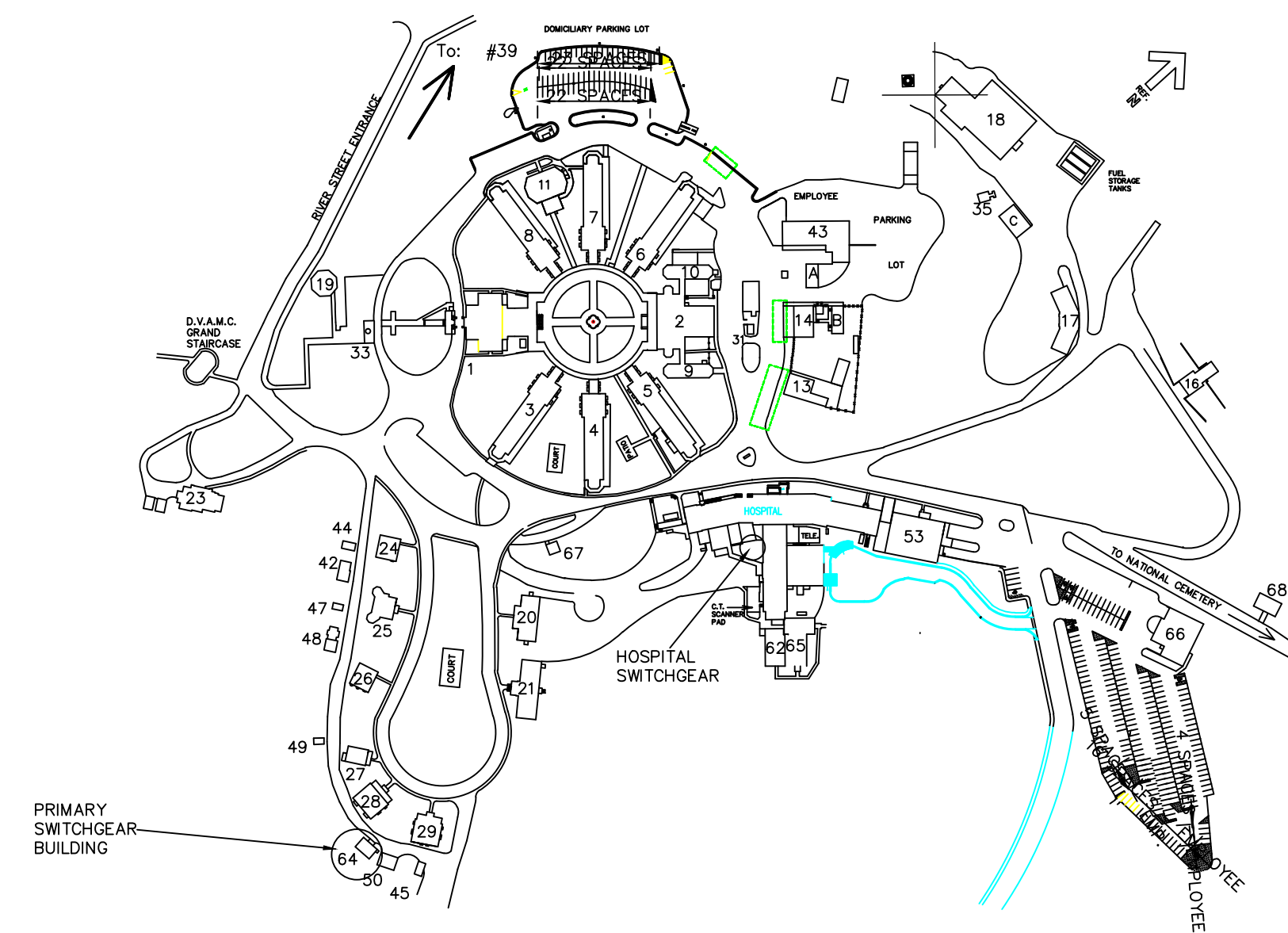


MAIN PRIMARY SWITCHGEAR – BUILDING # 64
WESTINGHOUSE MODEL DS
INSTALLED 1978

UNIT 101	UNIT 102	UNIT 103	UNIT 104	UNIT 105
FUSED – DRAW OUT POWER AIR CIRCUIT BREAKER 800/3 FRAME 800A TRIP	METER CABINET	METER CABINET	SPARE SPACE	METER CABINET
FUSED – DRAW OUT POWER AIR CIRCUIT BREAKER 800/3 FRAME 800A TRIP	TE DRAW OUT POWER AIR CIRCUIT BREAKER 11 2000/3 FRAME NON-AUTOMATIC TRIP ONLY	EMPTY BAY NO BREAKER	FUSED – DRAW OUT POWER AIR CIRCUIT BREAKER 800/3 FRAME 800A TRIP	FUSED – DRAW OUT POWER AIR CIRCUIT BREAKER 800/3 FRAME 800A TRIP
FUSED – DRAW OUT POWER AIR CIRCUIT BREAKER 800/3 FRAME 800A TRIP	MAIN DRAW OUT POWER AIR CIRCUIT BREAKER 2000/3 FRAME 2000A TRIP	MAIN DRAW OUT POWER AIR CIRCUIT BREAKER 2000/3 FRAME 2000A TRIP	1600A BREAKER	EMPTY BAY NO BREAKER
FUSED – DRAW OUT POWER AIR CIRCUIT BREAKER 800/3 FRAME SPACE ONLY	EMPTY BAY NO BREAKER	FUSED – DRAW OUT POWER AIR CIRCUIT BREAKER 1600/3 FRAME 1600 A TRIP	2000A SPARE BREAKER	1600A SPARE BREAKER

MAIN SWITCHGEAR – BUILDING # 12
WESTINGHOUSE MODEL DN-13212
INSTALLED 1978

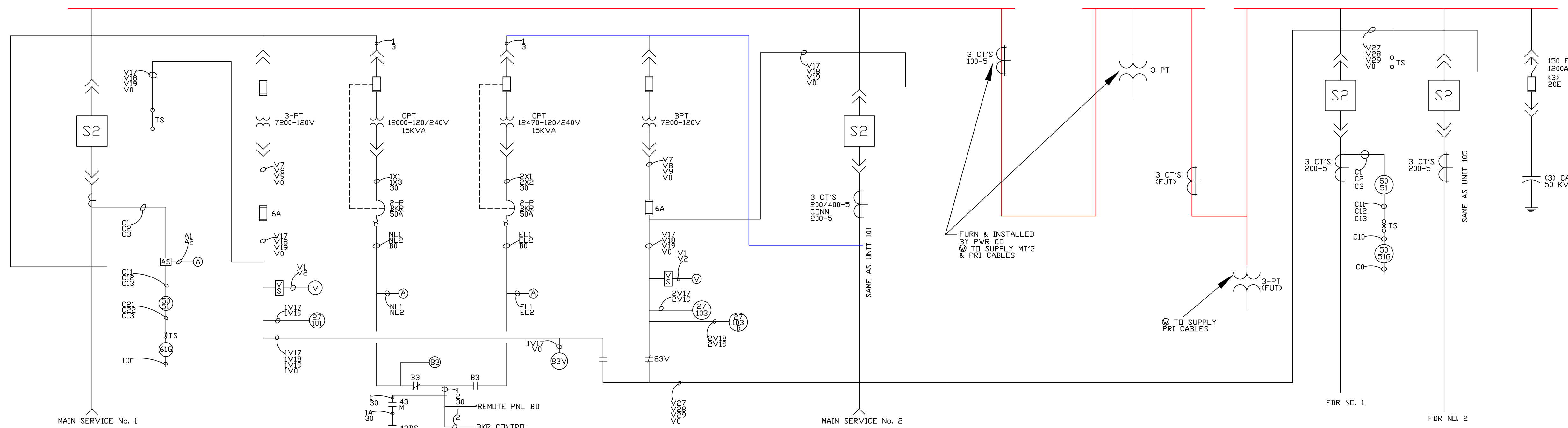
NO SCALE



HOT SPRINGS SITE

Drawing Title HOT SPRINGS PRIMARY SWITCHGEAR AND HOSPITAL SWITCHGEAR	Project Title TESTING & CALIBRATING ELECTRICAL SYSTEMS	Date Oct. 2013
Approved: Division Chief	Building Number 12, 64	Checked DS
Approved: Service Director	Location HOT SPRINGS, SOUTH DAKOTA	Project No. DRAWING NO. E2 Dwg 3 OF 15

12500 V 3 PHASE 60 HZ 1200 A BUS



DESCRIPTION OF OPERATION

NORMAL OPERATION IS WITH EITHER INCOMING SERVICE LINE BREAKER CLOSED. EITHER LINE, NO. 1 OR NO. 2 WHICH IS CLOSED, IS DESIGNATED AS THE "PREFERRED" LINE, AND THE OTHER LINE IS THEN THE "SECONDARY" LINE.
 MAKE SURE THAT THE LOCKOUT RELAYS 66HR-101 & 86ER-103 ARE IN THE RESET POSITION AND THE "STOP-MANUAL" TRANSFER SWITCH, DEVICE 43 IN THE CONTROL BOX ON SWITCHGEAR PANEL 102, IS IN THE MANUAL POSITION BEFORE CLOSING ONE OF THE INCOMING SERVICE LINE BREAKERS TO ENERGIZE THE MAIN BUS FOR NORMAL OPERATION. AFTER THE BREAKER HAS BEEN CLOSED, THE TRANSFER SWITCH, DEVICE 43, MUST BE TURNED TO THE "AUTO" POSITION TO PERMIT AUTOMATIC TRANSFER IN THE EVENT THERE IS A LOSS OF VOLTAGE ON THE PREFERRED LINE.

CAUTION - BE SURE THE PANEL FOR THE CONTROL BOX, ON THE SWITCHGEAR PANEL NO. 102, IS CLOSED BEFORE LEAVING THE STATION IF AUTOMATIC OPERATION IS REQUIRED.

IF THE ALARM BELL SOUNDS WHEN THE CONTROL BOX PANEL IS CLOSED IT INDICATES THAT THE TRANSFER SWITCH, DEVICE 43, IS IN THE "MANUAL" POSITION.

IN THE EVENT THE "PREFERRED" INCOMING SERVICE LINE BECOMES DE-ENERGIZED, THE UNDERVOLTAGE RELAY 27 WILL DROP OUT AND PICK UP AUXILIARY RELAY 27E, PROVIDING NORMAL VOLTAGE IS ON THE ENERGIZED LINE.

THE "PREFERRED" LINE BREAKER WILL BE TRIPPED, AND THE ENERGIZED LINE BREAKER WILL CLOSE IMMEDIATELY THEREAFTER TO REENERGIZE THE MAIN FUSE AND NORMAL OPERATION.

RETRANSFER BACK TO THE ORIGINAL NORMAL OPERATION WILL NOT OCCUR WHEN THE FAULTED LINE IS REENERGIZED. THE LINE WITH THE CLOSED BREAKER BECOMES THE "PREFERRED" LINE, AND THE ONE WITH THE OPEN BREAKER BECOMES THE "EMERGENCY" LINE. AUTOMATIC TRANSFER WILL TAKE PLACE, AS DESCRIBED, ABOVE, IN THE EVENT THE "PREFERRED" INCOMING SERVICE LINE BECOMES DE-ENERGIZED.

IF EITHER INCOMING LINE BREAKER IS TO BE OPERATED (CLOSE OR TRIP) BY THE CONTROL SWITCH ON THE SWITCHGEAR PANEL, THE TRANSFER SWITCH, DEVICE #3, MUST BE IN THE "MANUAL" POSITION. THE TWO INCOMING LINE BREAKERS ARE ELECTRICALLY INTERLOCKED TO PREVENT BOTH BREAKERS FROM BEING CLOSED IN THE CONNECTED POSITION. EITHER BREAKER, WHEN IN THE TEST POSITION OR OUT OF THE CELL, CAN BE CLOSED THOUGH THE OTHER BREAKER IS CLOSED AND IN SERVICE.

IF THERE IS AN OVERCURRENT FAULT ON THE INCOMING LINE THAT IS IN SERVICE, ONE OR MORE OF THE OVERCURRENT RELAYS 50/51 OR 516 WILL OPERATE TO PICK UP THE LOCKOUT RELAY, 66BR. THIS WILL TRIP AND LOCKOUT THE "PREFERRED" LINE BREAKER AND LOCK OUT THE "EMERGENCY" LINE BREAKER.

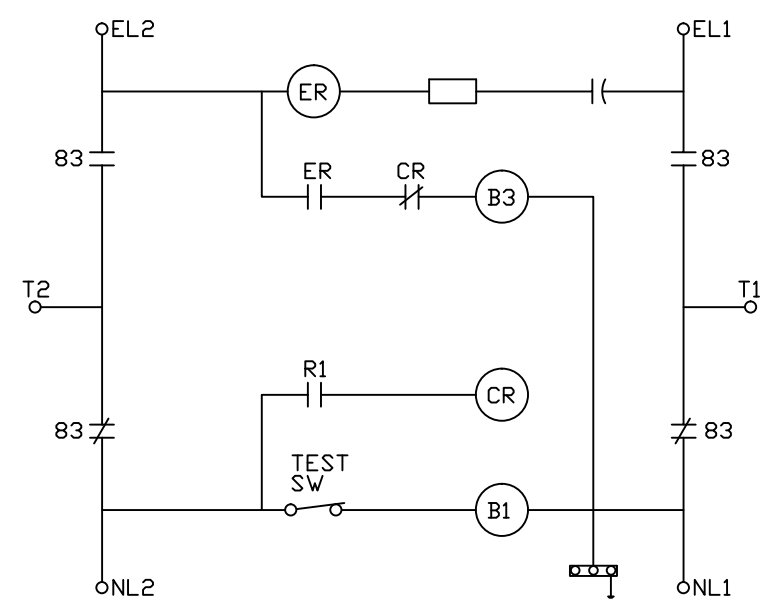
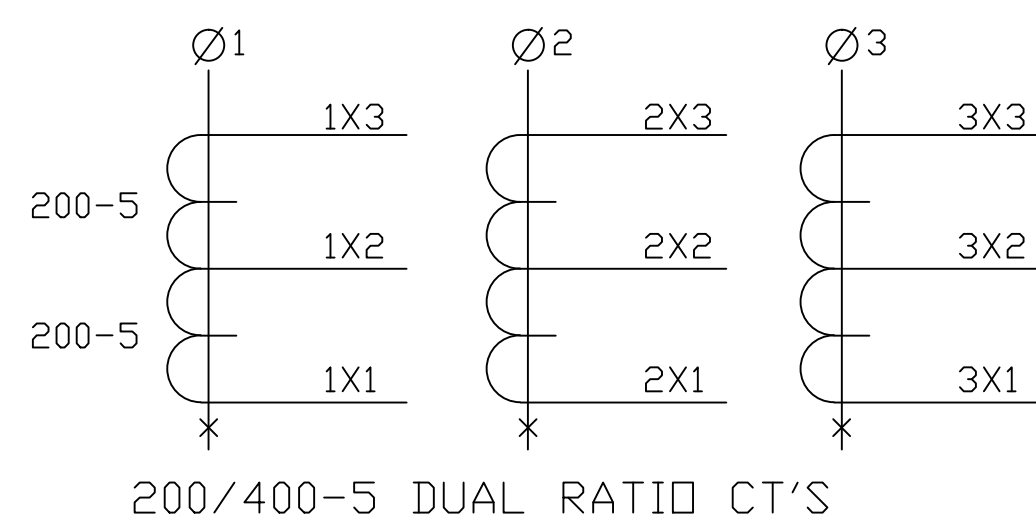
27X DEVICE

W MG-6 AUX RELAY
 STYLE # 8913473A26
 I.L. # 41-7531

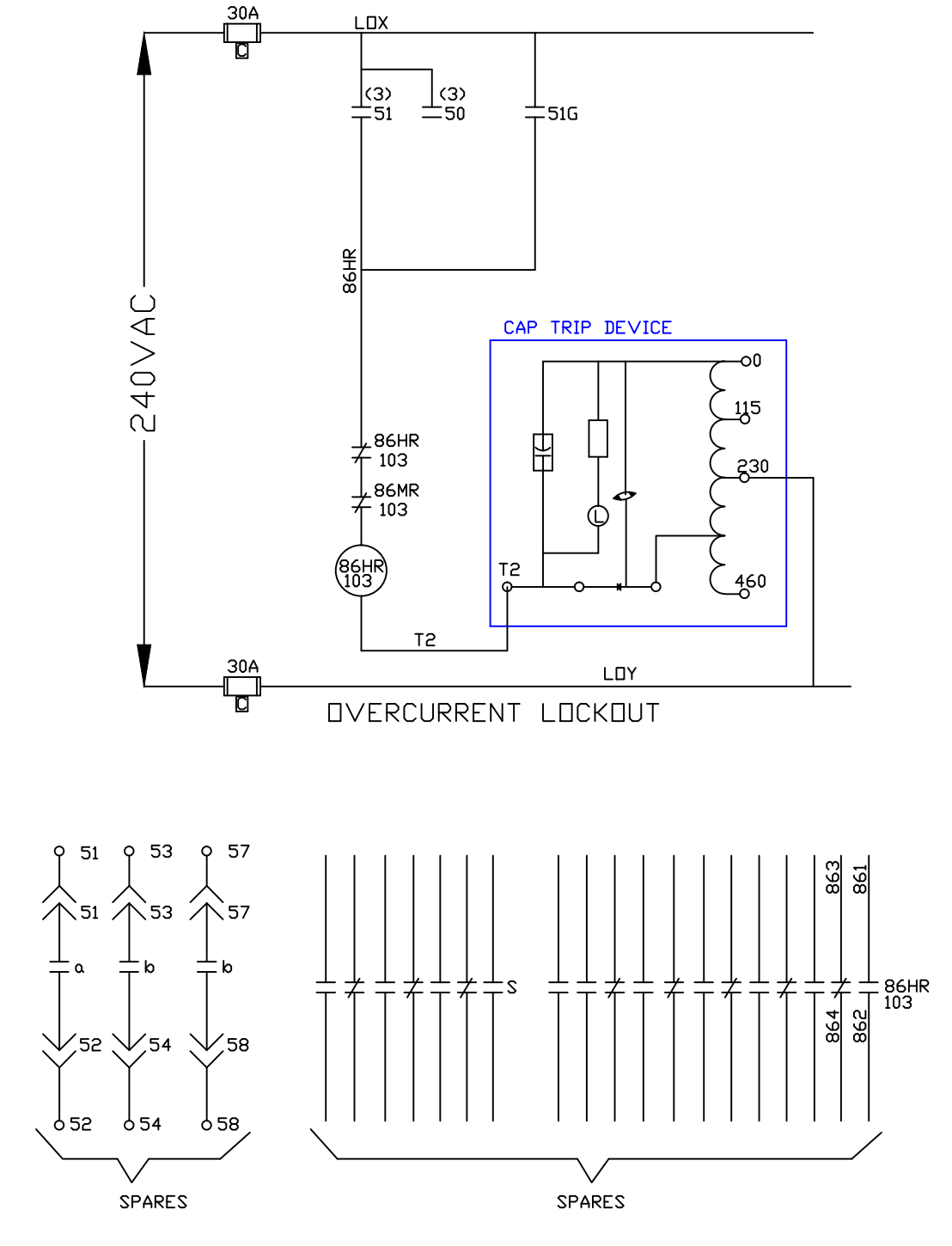
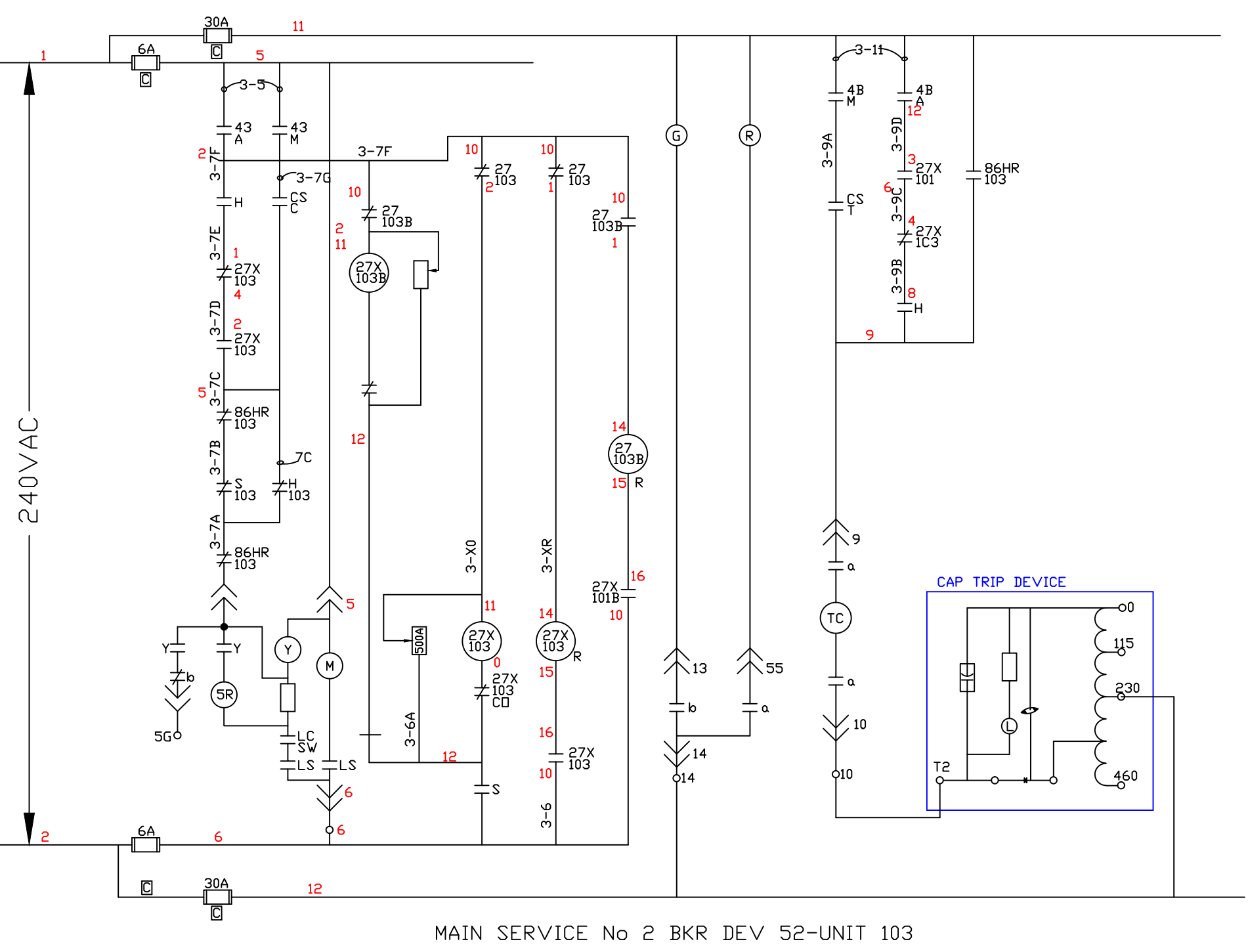
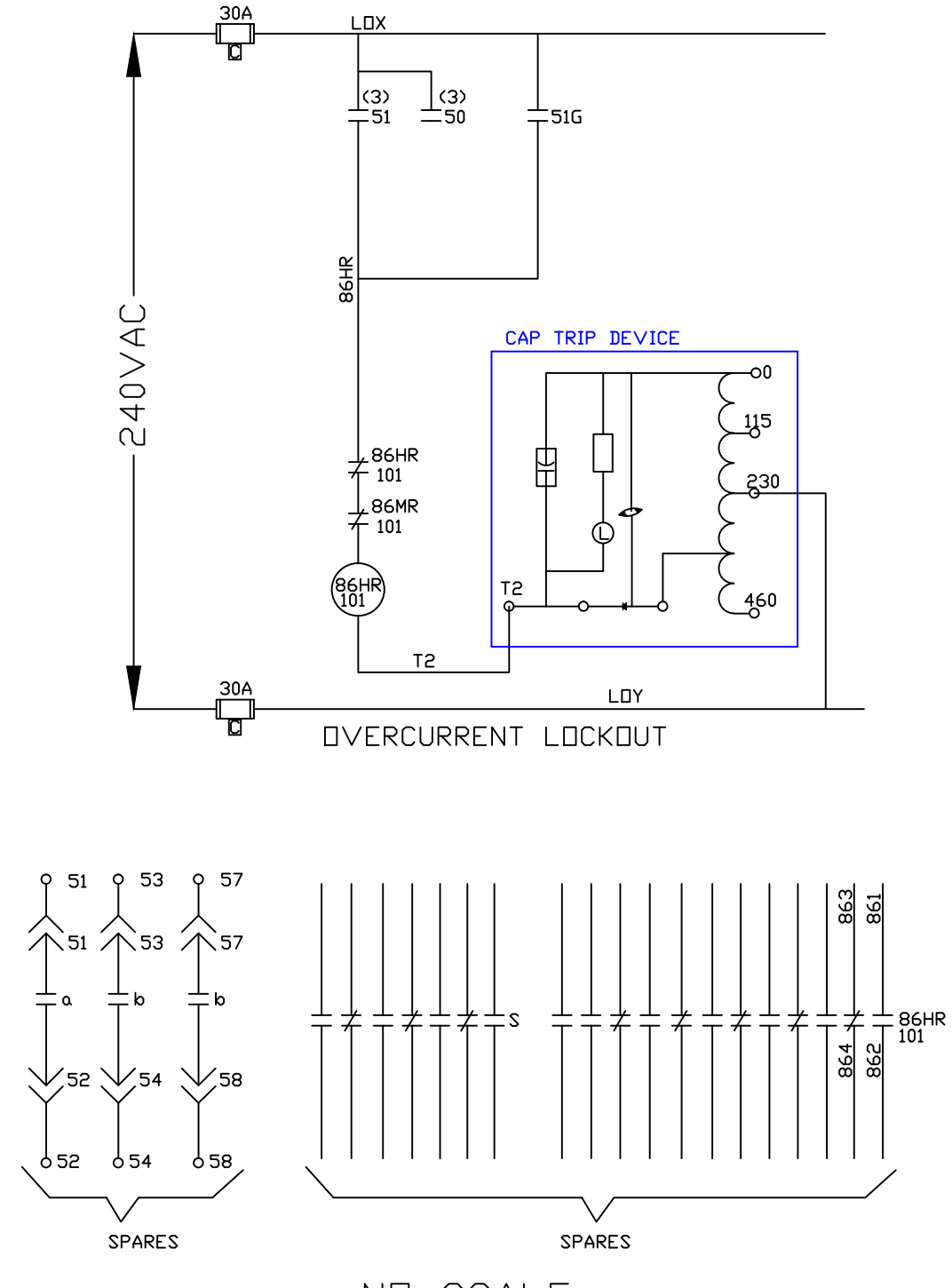
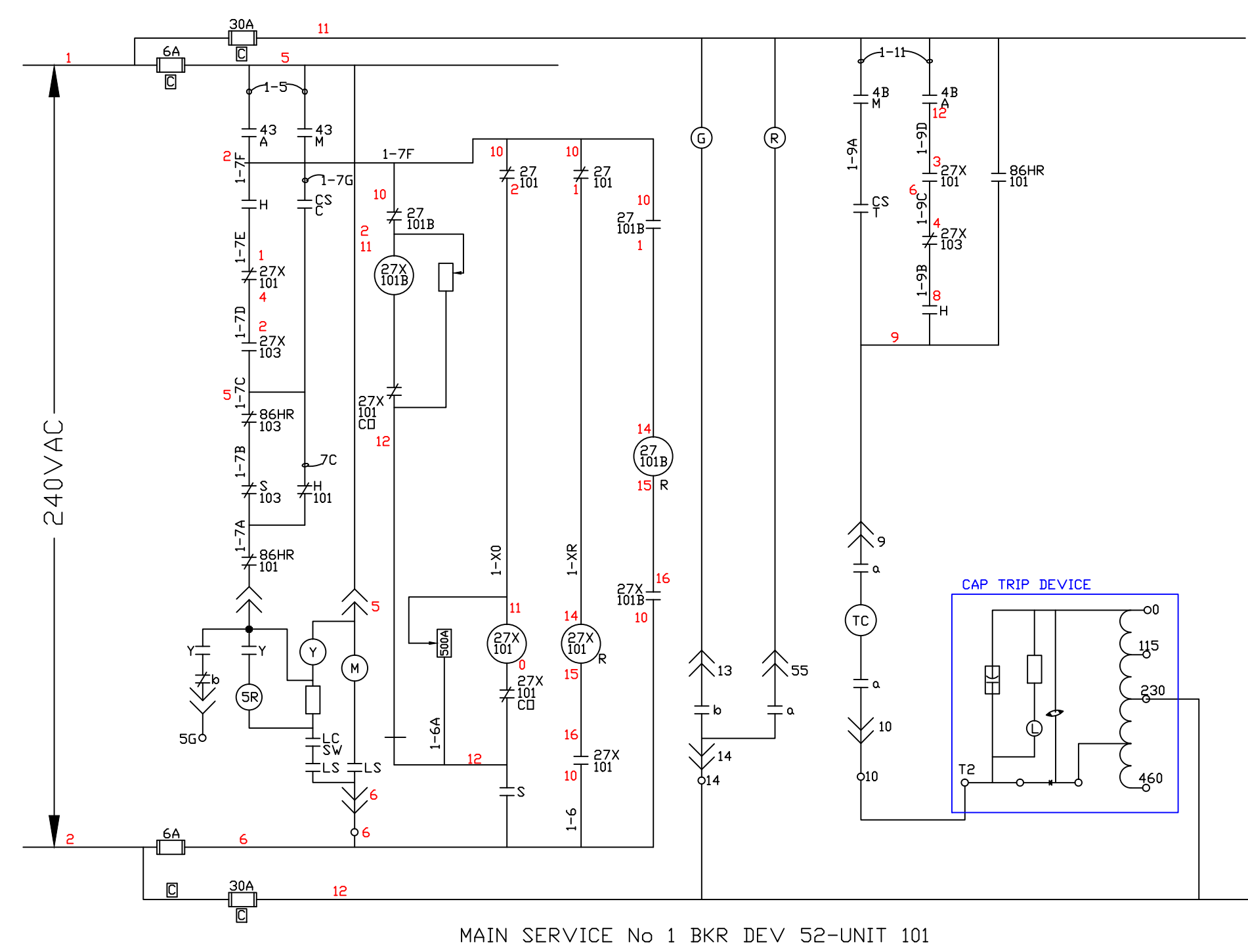
27 DEVICE
 W CV-7 STYLE # 71813850A30
 I.L. # 41-201, 183A293 240V
 #1 & 03 INDU A 9,8

CONTACT OUTPUT

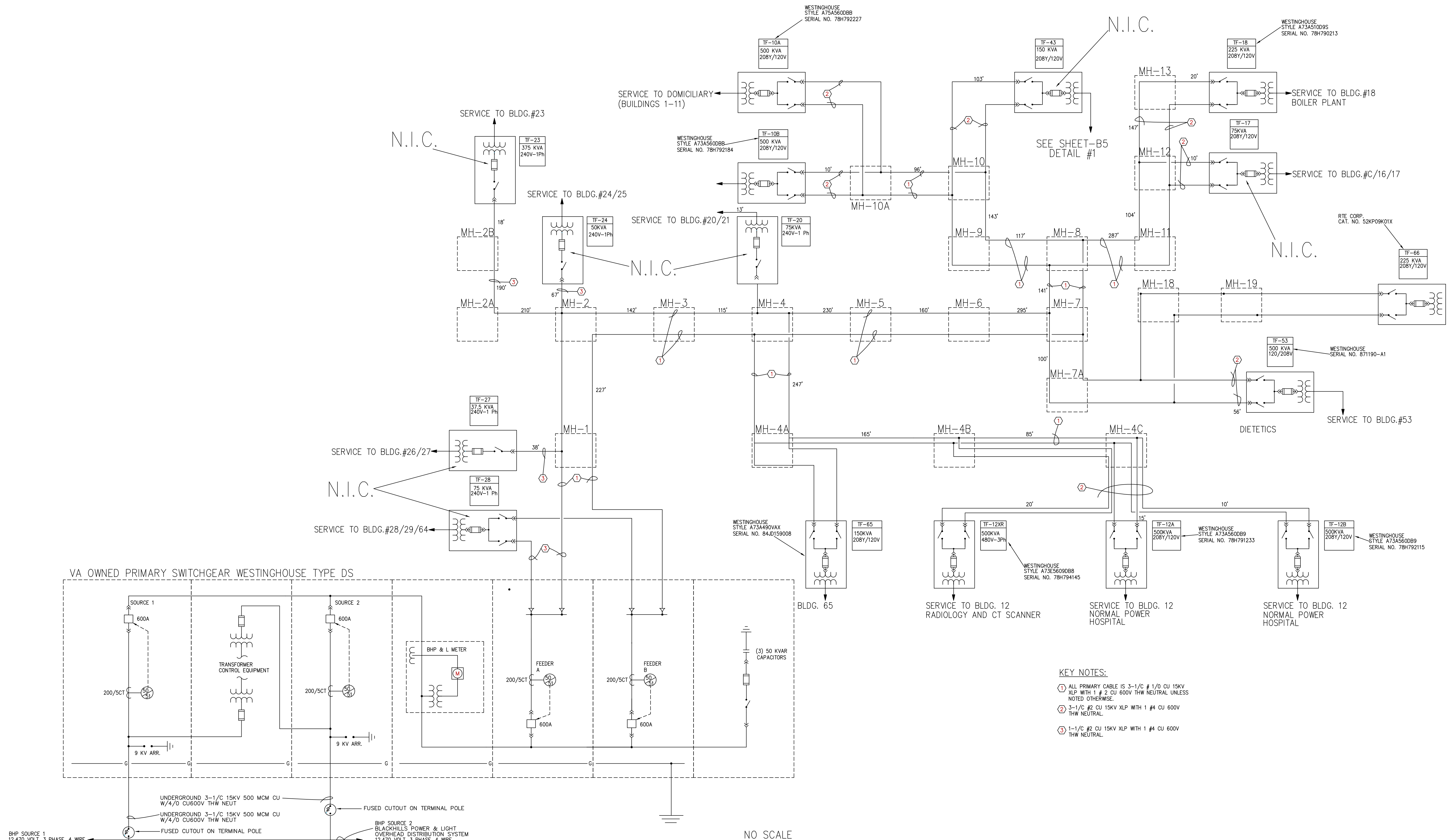
- 10 - COMMON
- 1 - CLOSED WHEN ENERGIZED (NORMAL)
- 2 - CLOSED WHEN DE-ENERGIZED (LOSS OF PRIMARY POWER)



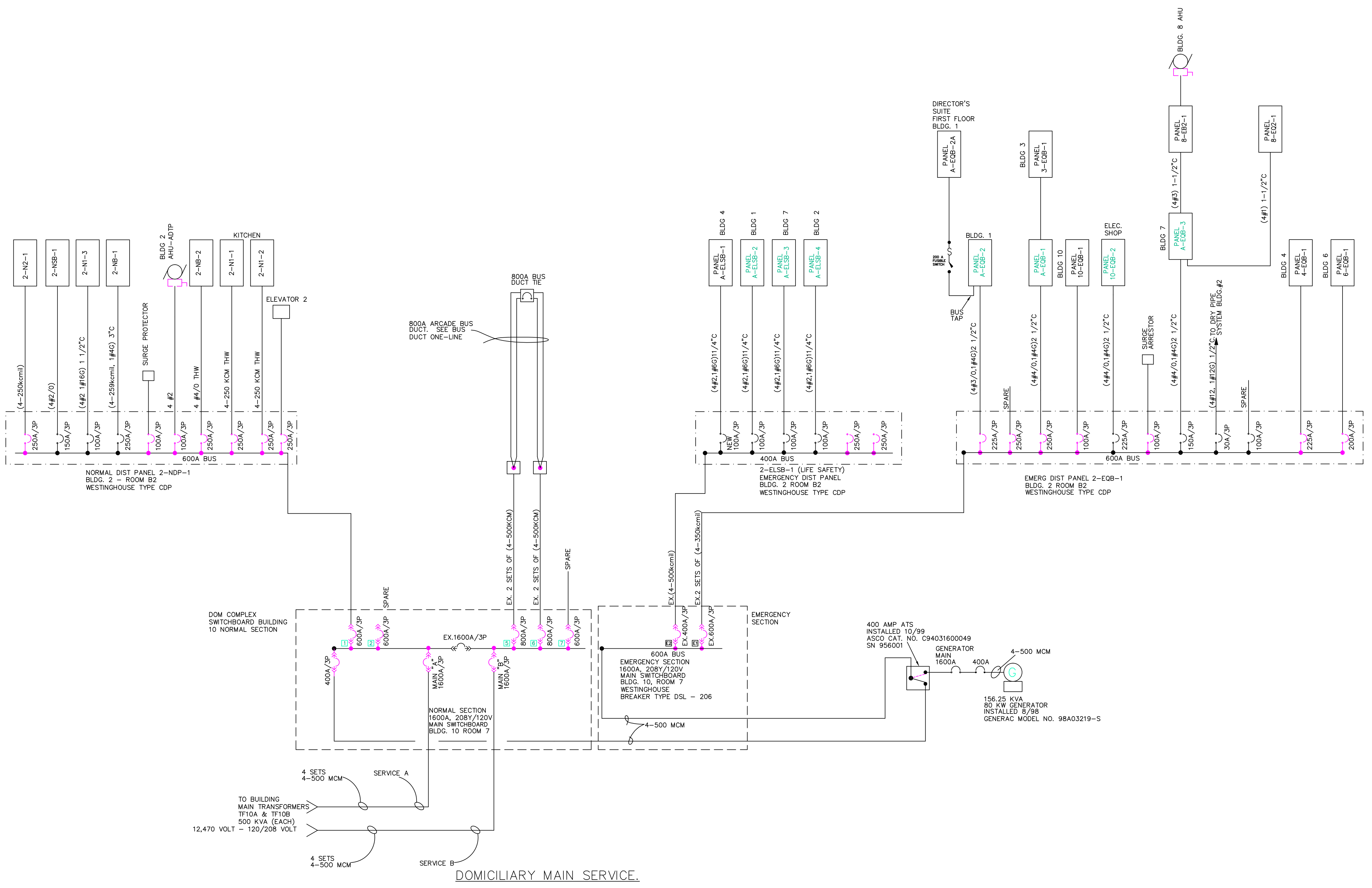
DEVICE OF OPERATING SEQUENCE
 WHEN NORMAL LINE IS DE-ENERGIZED, RELAY B1 WILL BE DE-ENERGIZED, THIS IN TURN WILL LEAVE CR DE-ENERGIZED WITH ITS CONTACT CLOSED IN THE B3 COIL CIRCUIT. PROVIDING THE EMERGENCY LINE IS ENERGIZED ER COIL WILL PICKUP AND CLOSE ITS CONTACT TO ENERGIZE B3 AND TRANSFER TO THE EMERGENCY SOURCE.
 WHEN THE NORMAL LINE RESTORES, THE B1 RELAY OPERATES. THE CR RELAY IS ENERGIZED DISCONNECTING THE B3 COIL CIRCUIT. THE LOAD IS RELEASED FROM THE EMERGENCY LINE VOLTAGE AND IMMEDIATELY RESTORED TO THE NORMAL LINE.



Drawing Title HOT SPRINGS 15KV SWITCHGEAR	Project Title TESTING & CALIBRATING ELECTRICAL SYSTEMS	Date Oct. 2013
Approved: Division Chief	Building Number	Checked
Approved: Service Director	Location HOT SPRINGS, SOUTH DAKOTA	Drawn DS
		DRAWING NO. E-3
		Dwg 4 OF 15



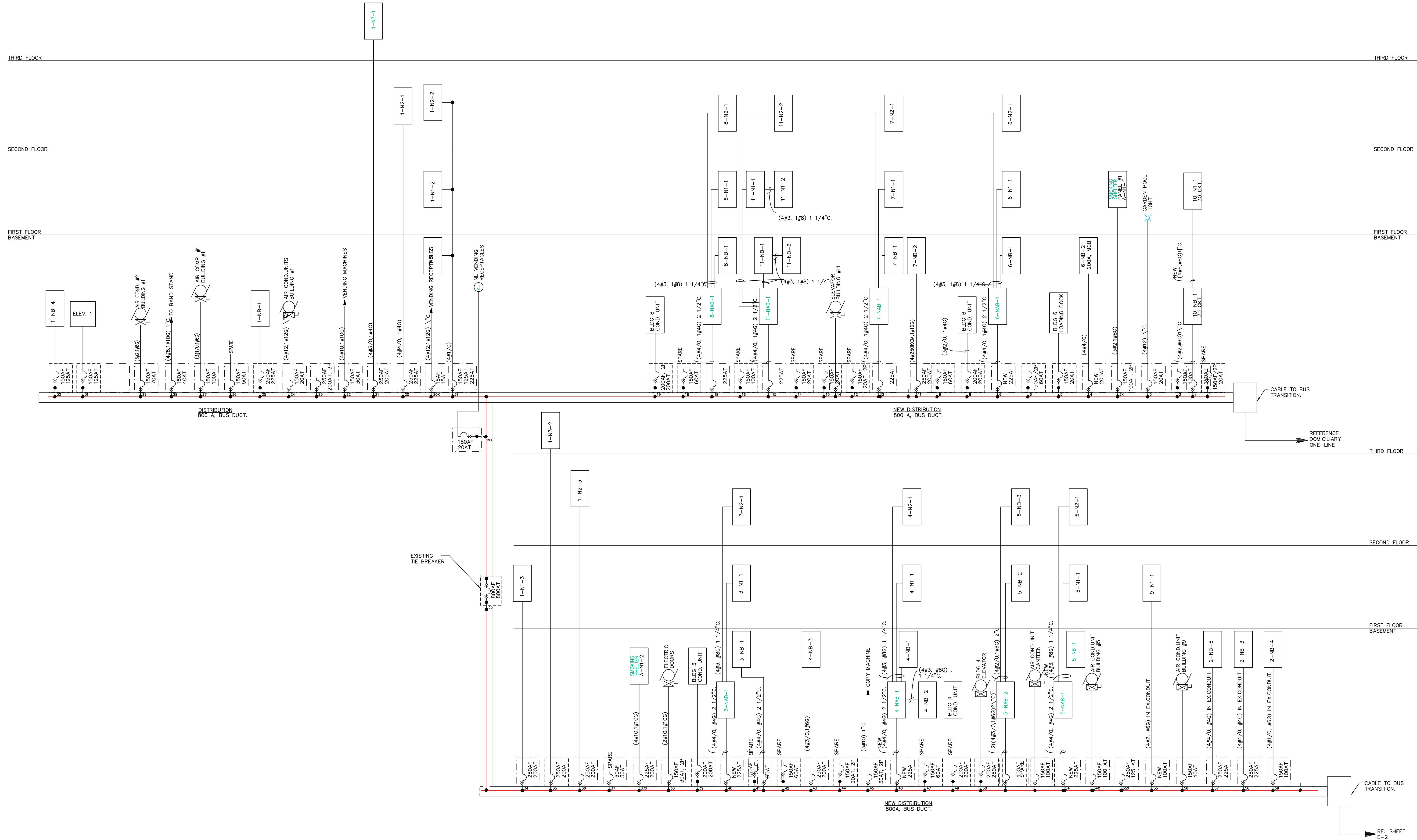
Drawing Title		Project Title		Date
HOT SPRINGS PRIMARY POWER ONE-LINE DIAGRAM		TESTING & CALIBRATING ELECTRICAL SYSTEMS		Oct. 2013
Approved: Division Chief		Building Number	Checked	Drawn
Approved: Service Director				DS
		Location		DRAWING NO.
		HOT SPRINGS, SOUTH DAKOTA		E4
				Dwg 5 OF 15



NORMAL SECTION		EMERGENCY SECTION	
2-NDP-1 MAIN A METER	MAIN B METER	BUS DUCT # 2	GENERATOR METER
600AMP DOM ATS BREAKER	TOOLS	BUS DUCT # 1	EMERGENCY SPACE
400AMP 1600AMP MAIN A	MAIN B	800AMP	2-ELSB-1 DIST. PANEL
SPD-A 60A	1600AMP 1600AMP SPD-B 60A	800AMP	DIST.PNL. 2-EOB-1
SPARE 600A	EMPTY BAY	SPARE 600A	EMERG. SPACE
			SPD-EM 60A
			SPARE 400A

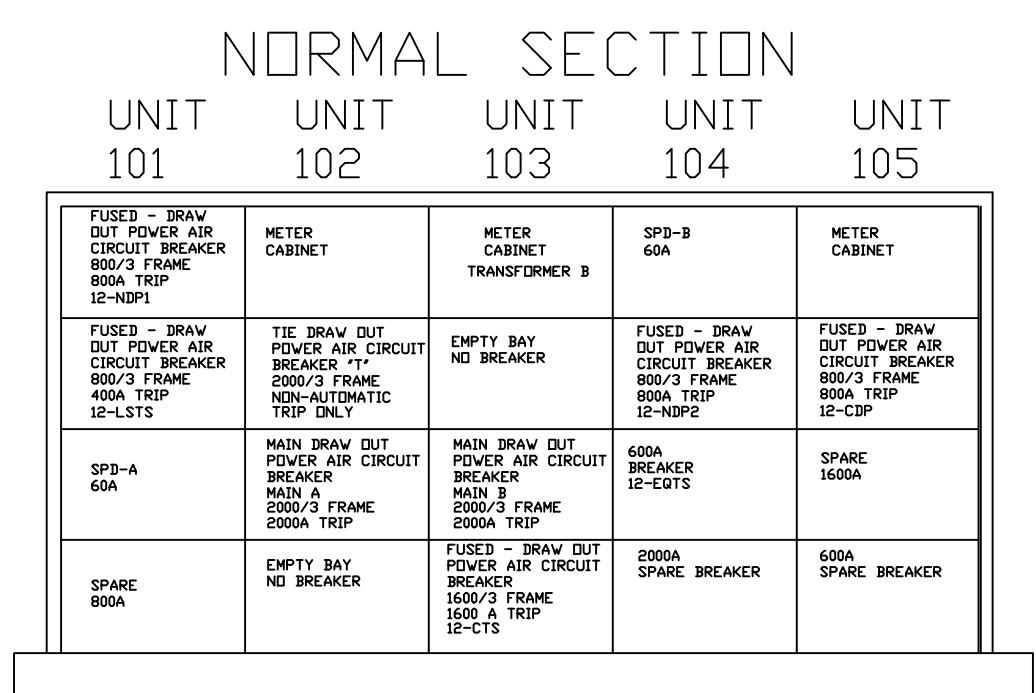
DOM-COMPLEX
ELEVATION MAIN SWITCHBOARD
N.T.S.
WESTINGHOUSE DN-13212

Drawing Title HOT SPRINGS DOM COMPLEX ONE-LINE DIAGRAM		Project Title TESTING & CALIBRATING ELECTRICAL SYSTEMS		Date Oct. 2013
Approved: Division Chief		Building Number DOM	Checked DS	Project No.
Approved: Service Director		Location HOT SPRINGS, SOUTH DAKOTA		DRAWING NO. E-5
				Dwg. 6 OF 15

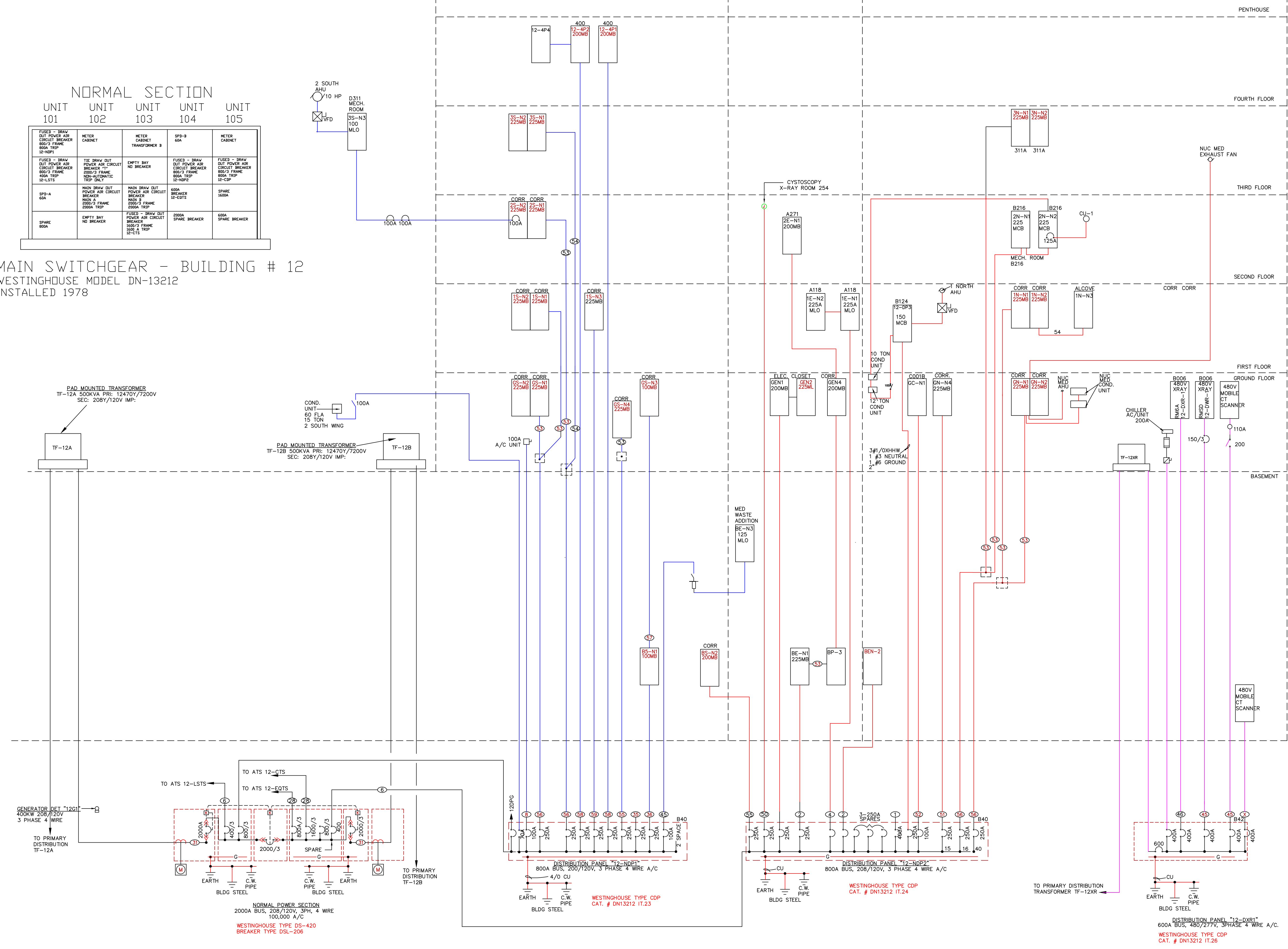


Drawing Title HOT SPRINGS DOM BUS DUCT	Project Title TESTING & CALIBRATING ELECTRICAL SYSTEMS	Date OCT. 2013
Approved: Division Chief	Building Number DOM	Checked DS
Approved: Service Director	Location HOT SPRINGS, SOUTH DAKOTA	DRAWING NO. E-6
		Dwg. 7 OF 15

NORMAL SOUTH WING NORMAL EAST WING NORMAL NORTH WING



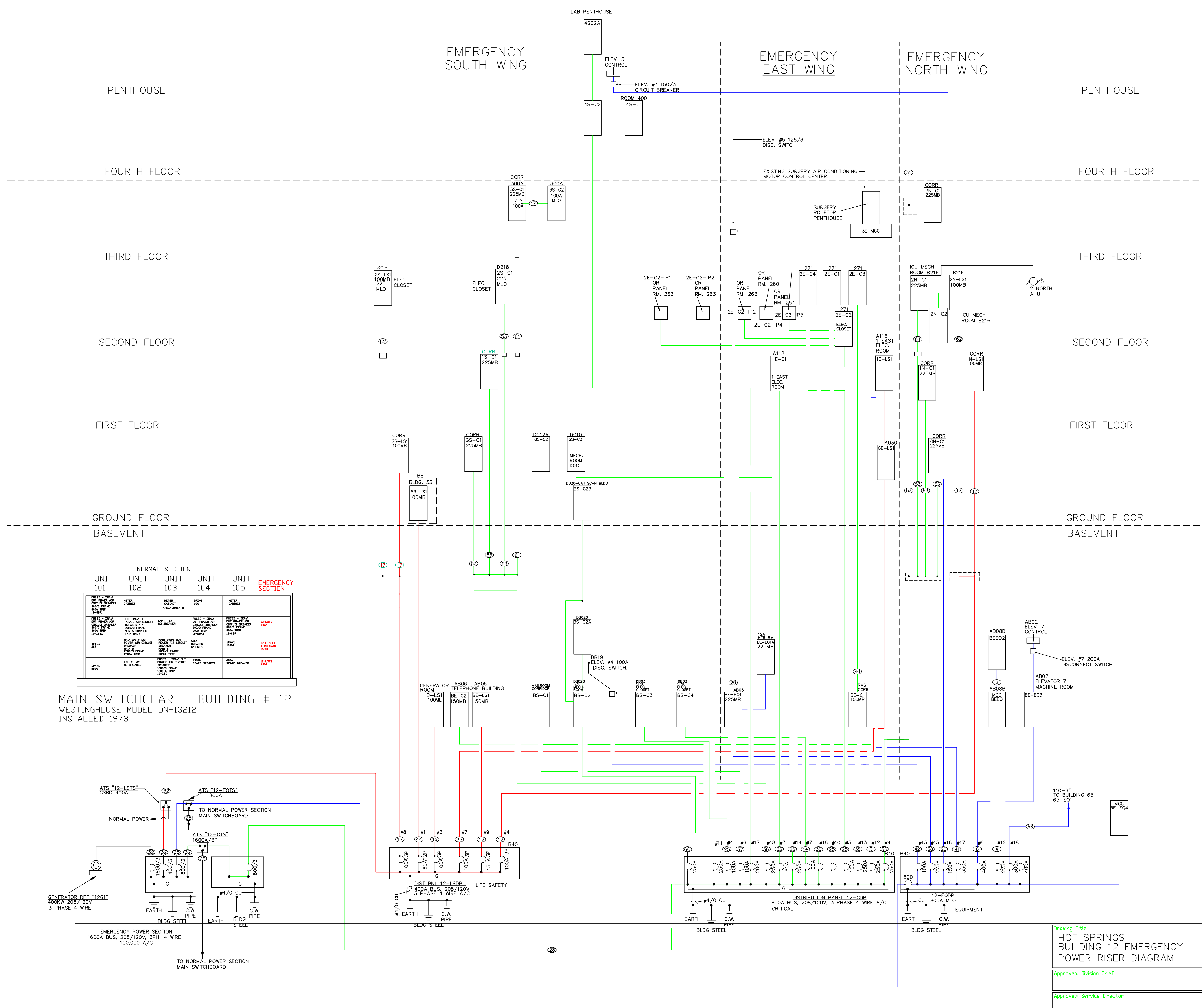
MAIN SWITCHGEAR - BUILDING # 12
WESTINGHOUSE MODEL DN-13212
INSTALLED 1978



FEEDER SCHEDULE

KEY	SETS	CONDUCTOR NO.	SIZE	NEUTRAL	GND	TYPE	CONDUIT	NOTES
1	2	3	4/0		#2 AWG	THW	2-1/2"	
2	1	3	#4AWG	#4AWG	#8 AWG	THW	1-1/4"	
3	1	3	#1AWG	#1AWG	#6AWG	THW	2"	
4	1	3	3/0	3/0	#4	THW	2-1/2"	
5	2	3	500MCM	500MCM	2/0	THW	3-1/2"	WIREWAY
6	1	3	500MCM	500MCM		THW	3-1/2"	
7	2	3	500MCM	500MCM	2/0	THW	3-1/2"	
8	1	3	#2 AWG	#8 AWG		THW	2"	
9	1	3	2/0	2/0	#4 AWG	THW	1 1/4"	
10	1	3	#2AWG	#2AWG		USE	2"	
11	1	3	#2AWG	#2AWG		USE	2-1/2"	
12	1	3	#2AWG	#2AWG		TW	2"	
13	1	3	#2AWG	#2AWG	#4AWG	THW	1-1/2"	
14	1	3	#4AWG	#4AWG		THW	2"	
15	1	3	#2AWG	#2AWG		TW	1-1/2"	
16	1	3	1/0		#4	THW	1 1/2"	
17	1	3	#1AWG	#1AWG	#8AWG	THW	1-1/2"	
18	1	3	350MCM	350MCM		THW	3-1/2"	
19	2	3	500MCM	500MCM		XHHW	3"	
20	1	3	4/0			THW	2"	
21	1	3	4/0			RH	2-1/2"	
22	2	3	250MCM			RH	3"	
23	1	3	3/0			RH	2"	
24	1	3	4/0	4/0		XHHW	2"	
25	1	3	1/0	1/0		THW	2"	
26	1	3	#2 AWG	#2 AWG	#8 AWG	THW	2"	
27	1	3	500MCM	500MCM	#3 AWG	XHHW	3-1/2"	
28	2	3	500MCM	500MCM	1/0	XHHW	3-1/2"	
29	1	3	500MCM			RHH	3"	
30	2	3	350MCM	350MCM		THW	3"	
31	4	3	500MCM	500MCM		XHHW	3"	1-3" MT
32	4	3	500MCM	500MCM	4/0	XHHW	3-1/2"	
33	1	3	#2 AWG	#2 AWG		TW	1-1/4"	
34	1	3	4/0			THW	3"	
35	1	3	4/0	4/0		THW	2 1/2"	
36	1	3	250MCM	250MCM		THW	2 1/2"	
37	1	3	1/0	1/0	#8 AWG	THW	2"	
38	1	3	500MCM	500MCM		XHHW	3"	
39	1	3	400MCM	400MCM		RH	3"	
40	1	3	#3 AWG		#8 AWG	THW	2"	
41	1	3	350MCM			THW	2-1/2"	
42	1	3	1/0			THW/TW	2"	
43	1	3	#3 AWG	#2 AWG	#6 AWG	TW		
44	1	3	#6 AWG			TW		
45	1	3	1/0	#8		THW/TW	2"	
46	1	3	3/0			THW	2"	
47	1	3	2/0	2/0		TW	2"	
48	1	3	4/0	4/0		TW	3"	
49	1	3	4/0	4/0		THW	2"	
50	1	2	350MCM	#6 AWG	#6 AWG	THW	2"	
51	1	3	4/0	4/0	#4	TW	2"	
52	1	3	#4 AWG			TW	2"	
53	1	3	4/0	4/0	#4	THW	2-1/2"	
54	1	3	4/0	4/0		TW	2-1/2"	
55	1	3	3/0	3/0	#6 AWG	XHHW/THW	2"	
56	1	3	250	250	#4 AWG		2 1/2"	
57	1	3	250	250			2"	
58	1	3	250	250			2"	
59	1	3	3/0	4/0		THW	3"	
60	1	3	4/0	4/0	#4	XHHW	2 1/2"	
61	1	3	1	1	#8	THHN	1 1/2"	
62	1	3	4		#8	THHN	1 1/2"	

Drawing Title HOT SPRINGS BUILDING 12 NORMAL POWER RISER DIAGRAM	Project Title TESTING & CALIBRATING ELECTRICAL SYSTEMS	Date OCT. 2013
Approved: Division Chief	Building Number 12	Checked DS
Approved: Service Director	Location HOT SPRINGS, SOUTH DAKOTA	DRAWING NO. E-7 Dwg. 8 OF 15

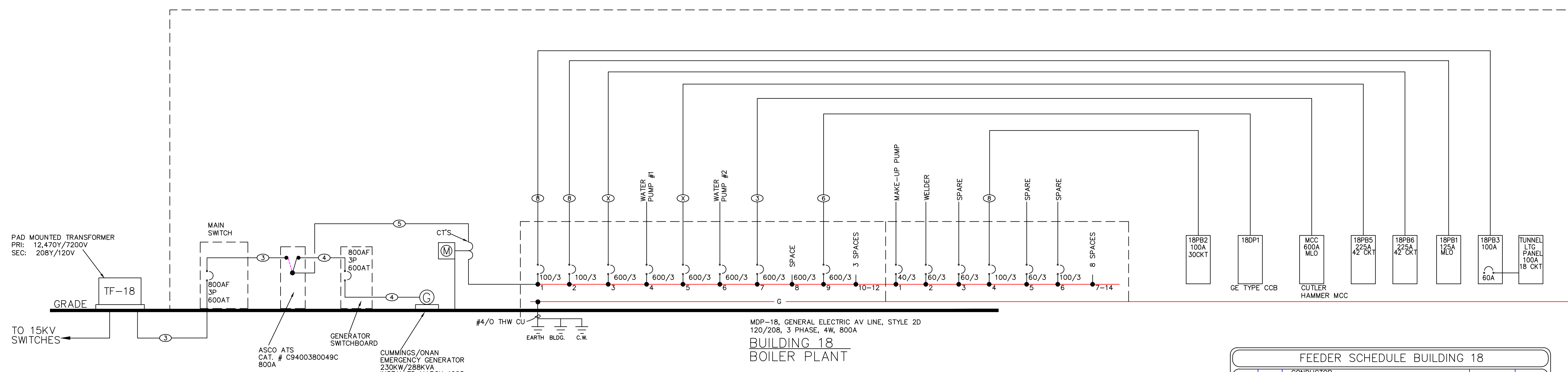


FEEDER SCHEDULE									
KEY	SETS	CONDUCTOR NO.	CONDUCTOR SIZE	NEUTRAL	GND	TYPE	CONDUIT	NOTES	
1	2	3	4/0	4/0	#2 AWG	THW	2-1/2"		
2	1	3	#4AWG	#4AWG	#8 AWG	THW	1-1/4"		
3	1	3	#1AWG	#1AWG	#6AWG	THW	2"		
4	1	3	3/0	3/0	#4	THW	2-1/2"		
5	2	3	500MCM	500MCM	2/0	THW	3-1/2"		
6	1	3	500MCM	500MCM	2/0	THW	3-1/2"		
7	2	3	500MCM	500MCM	2/0	THW	3-1/2"		
8	1	3	#2 AWG	#8 AWG	#4 AWG	THW	2"		
9	1	3	2/0	2/0	#4 AWG	THW	1 1/4"		
10	1	3	#2AWG	#2AWG		USE	2"		
11	1	3	#2AWG	#2AWG		USE	2-1/2"		
12	1	3	#2AWG	#2AWG		TW	2"		
13	1	3	#8AWG	#4AWG	#4AWG	THW	1-1/2"		
14	1	3	#4AWG	#4AWG		THW	2"		
15	1	3	#2AWG	#2AWG		TW	1-1/2"		
16	1	3	1/0		#4	THW	1 1/2"		
17	1	3	#1AWG	#1AWG	#8AWG	THW	1-1/2"		
18	1	3	350MCM	350MCM		THW	3-1/2"		
19	2	3	500MCM	500MCM		XHHW	3"		
20	1	3	4/0			THW	2"		
21	1	3	4/0			RH	2-1/2"		
22	2	3	250MCM			RH	3"		
23	1	3	3/0			RH	2"		
24	1	3	4/0	4/0		XHHW	2"		
25	1	3	1/0	1/0			2"		
26	1	3	#2 AWG	#2 AWG	#8 AWG	THW	2"		
27	1	3	500MCM	500MCM	#3 AWG	XHHW	3-1/2"		
28	2	3	500MCM	500MCM	1/0	XHHW	3-1/2"		
29	1	3	500MCM			RHW	3"		
30	2	3	350MCM	350MCM		THW	3"		
31	4	3	500MCM	500MCM		XHHW	3"		1-3" MT
32	4	3	500MCM	500MCM	4/0	XHHW	3-1/2"		
33	1	3	#2 AWG	#2 AWG		TW	1-1/4"		
34	1	3	4/0			THHN	2-1/2"		
35	1	3	4/0	4/0		THW	3"		
36	1	3	250MCM	250MCM		THW	2 1/2"		
37	1	3	1/0	1/0	#8 AWG	THW	2"		
38	1	3	500MCM	500MCM		XHHW	3"		
39	1	3	400MCM	400MCM		RH	3"		
40	1	3	#3 AWG		#8 AWG	THW	2"		
41	1	3	350MCM			THW	2-1/2"		
42	1	3	1/0			THW/TW	2"		
43	1	3	#3 AWG	#2 AWG	#6 AWG	TW			
44	1	3	#6 AWG			TW			
45	1	3	1/0		#8	THW/TW	2"		
46	1	3	3/0			THW	2"		
47	1	3	2/0	2/0		TW	2"		
48	1	3	4/0	4/0		TW	3"		
49	1	3	4/0	4/0		THW	2"		
50	1	2	350MCM	#6 AWG	#6 AWG	THW	2"		
51	1	3	4/0	4/0	#4	TW	2"		
52	1	3	#4 AWG			TW	2"		
53	1	3	4/0	4/0	#4	THW	2-1/2"		
54	1	3	4/0	4/0		TW	2-1/2"		
55	1	3	3/0	3/0	#6 AWG	XHHW/THW	2"		
56	1	3	250	250	#4 AWG		2 1/2"		
57	1	3	250	250			2"		
58	1	3	250	250			2"		
59	1	3	3/0	4/0		THW	3"		
60	1	3	4/0			THW			
61	1	3	4/0	4/0	4	XHHW	2 1/2"		
62	1	3	1	1	8	THHN	1 1/2"		

NORMAL SECTION					EMERGENCY SECTION
UNIT 101	UNIT 102	UNIT 103	UNIT 104	UNIT 105	
FUSES - DRAW OUT POWER AIR CIRCUIT BREAKER 1500A 1P	METER CABINET	METER CABINET TRANSFORMER 3	SPD-B GSP	METER CABINET	
FUSES - DRAW OUT POWER AIR CIRCUIT BREAKER 1500A 1P	FUSE - DRAW OUT POWER AIR CIRCUIT BREAKER 1500A 1P	FUSE - DRAW OUT POWER AIR CIRCUIT BREAKER 1500A 1P	FUSE - DRAW OUT POWER AIR CIRCUIT BREAKER 1500A 1P	FUSE - DRAW OUT POWER AIR CIRCUIT BREAKER 1500A 1P	DISCONNECT
SPD-A	MAIN DRAW OUT POWER AIR CIRCUIT BREAKER 1500A 1P	MAIN DRAW OUT POWER AIR CIRCUIT BREAKER 1500A 1P	SPARE BREAKER 1500A	SPARE BREAKER 1500A	DISCONNECT
SPARE BREAKER	SPARE BREAKER 1500A	SPARE BREAKER 1500A	SPARE BREAKER 1500A	SPARE BREAKER 1500A	DISCONNECT

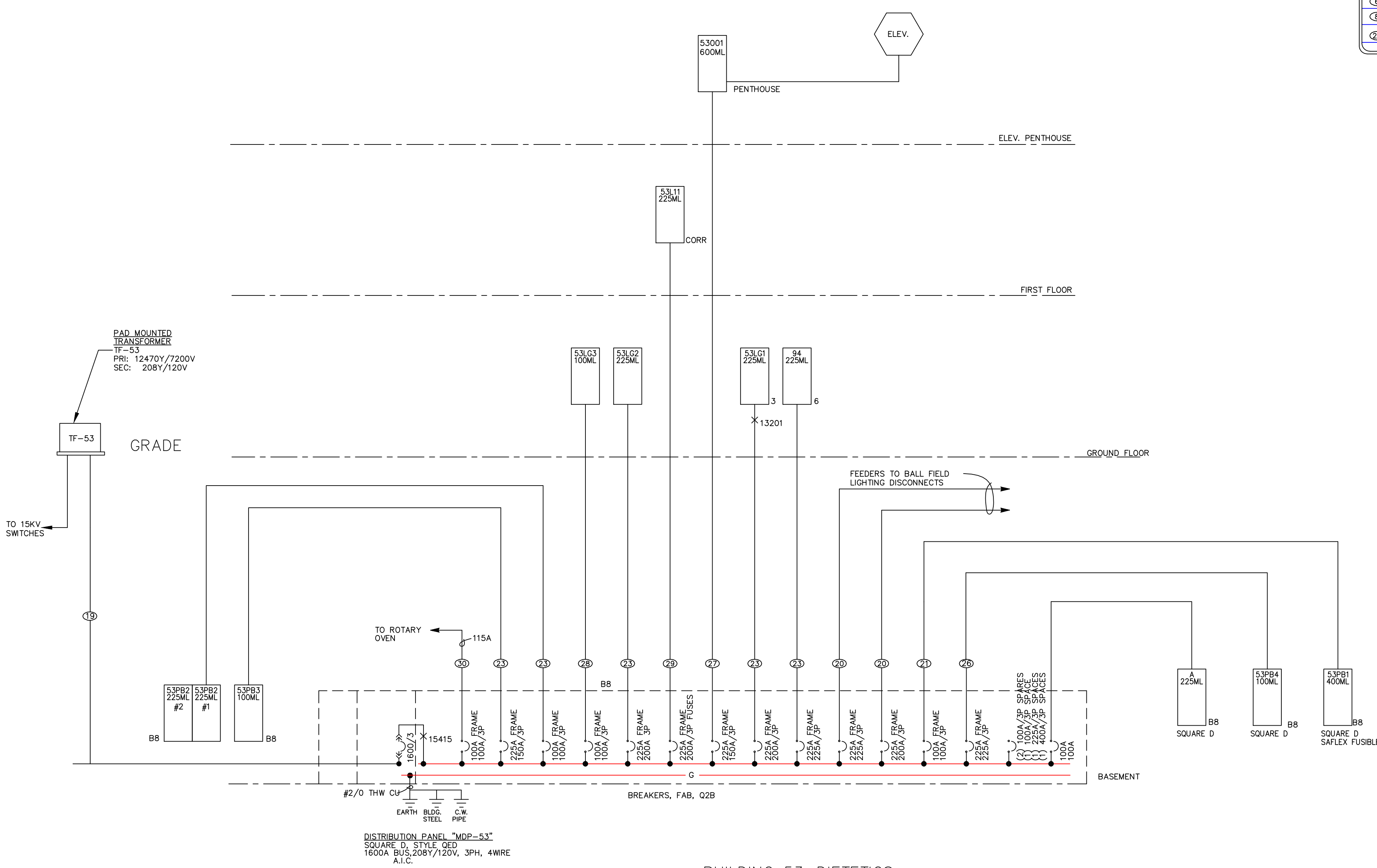
MAIN SWITCHGEAR - BUILDING # 12
WESTINGHOUSE MODEL DN-13212
INSTALLED 1978

Drawing Title HOT SPRINGS BUILDING 12 EMERGENCY POWER RISER DIAGRAM	Project Title TESTING & CALIBRATING ELECTRICAL SYSTEMS	Date OCT. 2013
Approved: Division Chief	Building Number 12	Checked DS
Approved: Service Director	Location HOT SPRINGS, SOUTH DAKOTA	Drawn DS
		DRAWING NO. E-8
		Dwg 9 of 15



FEEDER SCHEDULE BUILDING 18

KEY	SETS	CONDUCTOR NO.	CONDUCTOR SIZE	NEUTRAL	GND	TYPE	CONDUIT	NOTES
①	2	3	500MCM	500MCM	2/0	XHHW	3-1/2"	
④	2	3	500MCM	500MCM	2/0	THW	4"	
⑤	2	3	500MCM	500MCM	2/0	THW	WIREWAY	
⑥	1	3	500MCM	500MCM		THW	3-1/2"	
⑧	1	3	#2 AWG	#2 AWG		THW	2"	
⑫	2	3	250MCM			RH	3"	

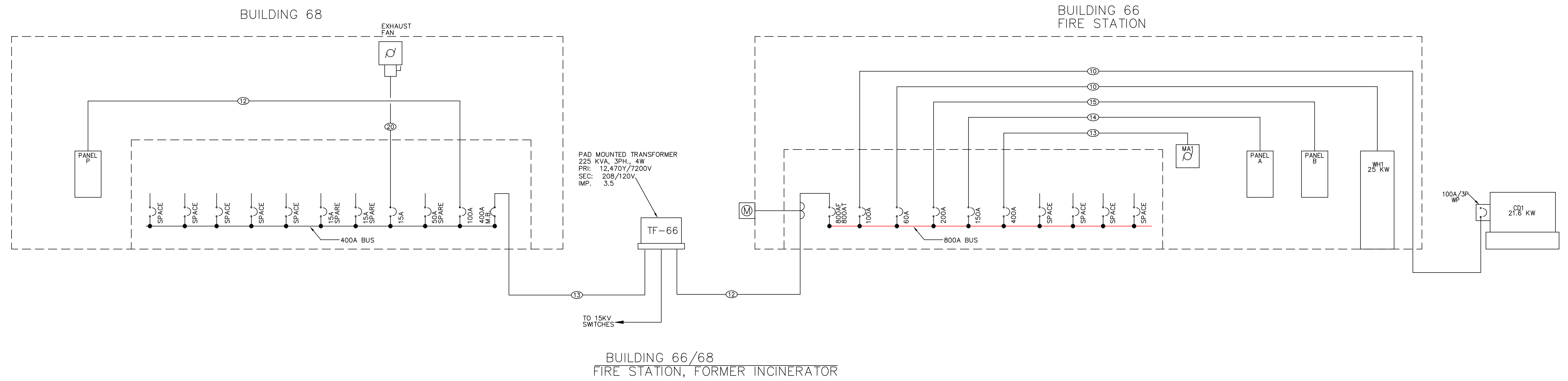


FEEDER SCHEDULE BUILDING 53

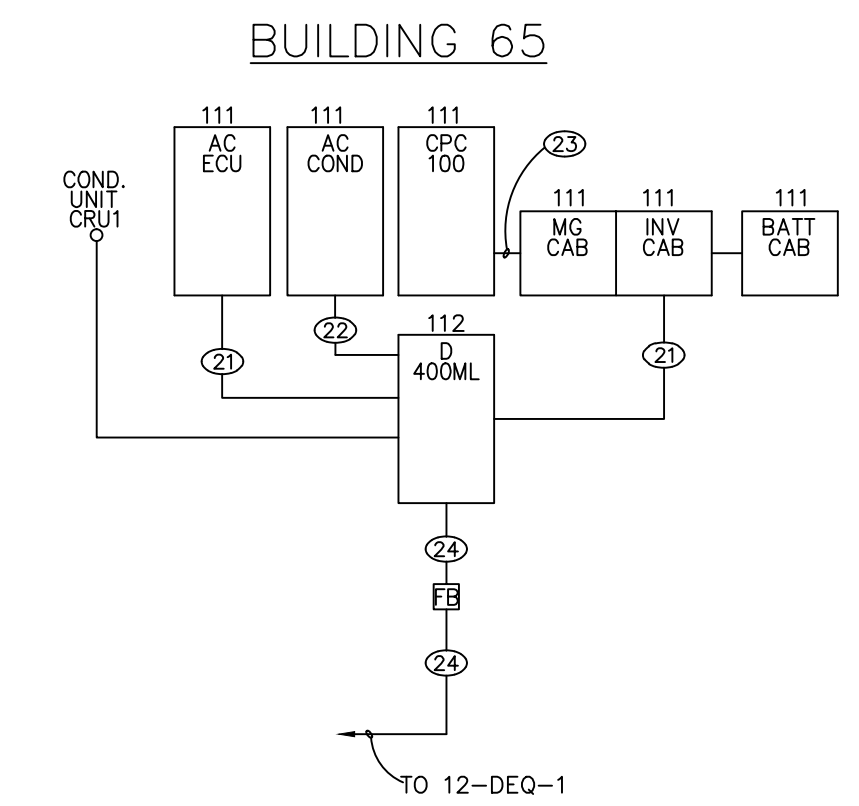
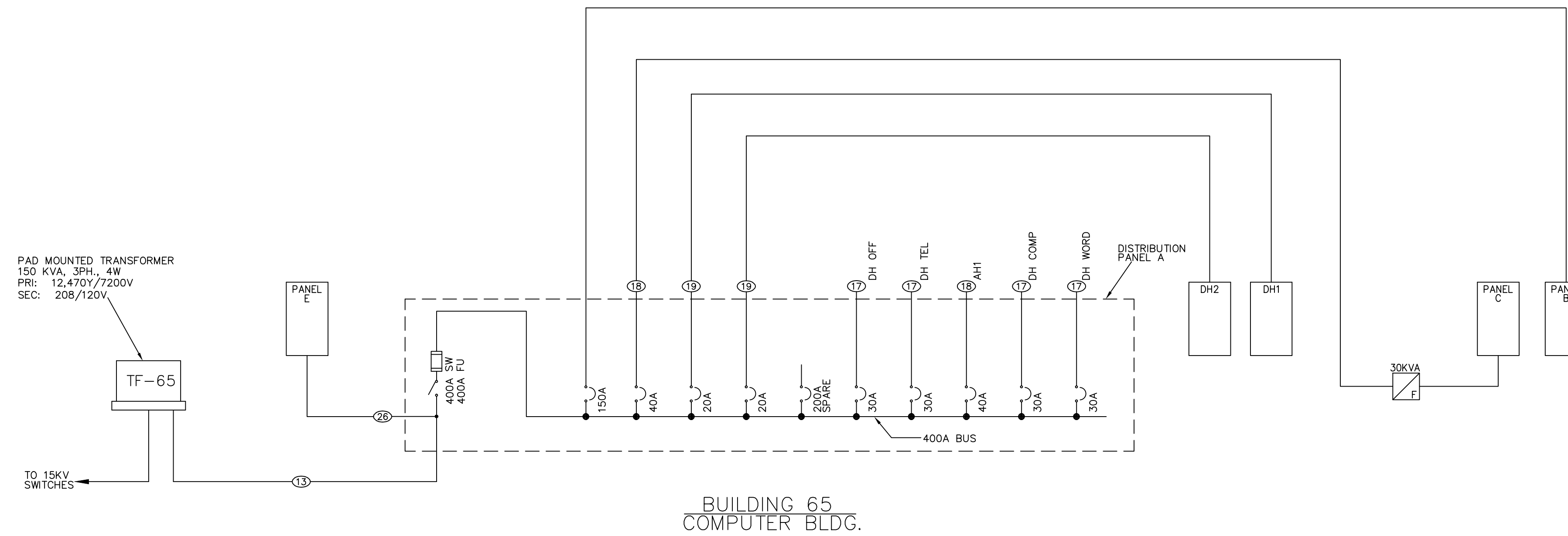
KEY	SETS	CONDUCTOR NO.	CONDUCTOR SIZE	NEUTRAL	GND	TYPE	CONDUIT	NOTES
①	1	3	500MCM	500MCM		XHHW	3"	ISO. GR.
②	1	3	250MCM		#2 AWG		3"	
③	2	3	500MCM	500MCM	2/0	XHHW	3-1/2"	
④	2	3	500MCM	500MCM	2/0	THW	4"	
⑤	2	3	500MCM	500MCM	2/0	THW	WIREWAY	
⑥	1	3	500MCM	500MCM		THW	3-1/2"	
⑦	2	3	500MCM	500MCM	2/0	THW	3-1/2"	
⑧	1	3	#2 AWG	#2 AWG		THW	2"	
⑨	1	3	4/0	4/0		USE	3"	
⑩	1	3	#2AWG	#2AWG		USE	2"	
⑪	1	3	#2AWG	#2AWG		USE	2-1/2"	
⑫	1	3	#2AWG	#2AWG		TW	2"	
⑬	1	3	#4AWG	#4AWG		THW	1-1/2"	
⑭	1	3	#4AWG	#4AWG		THW	2"	
⑮	1	3	#2AWG	#2AWG		TW	1-1/2"	
⑯	1	3	#6AWG			R	1"	
⑰	1	3	#1AWG	#1AWG		THW	1-1/2"	
⑱	1	3	350MCM	350MCM		THW	3-1/2"	
⑲	2	3	500MCM	500MCM		XHHW	3"	
⑳	1	3	4/0			THW	2"	
㉑	1	3	4/0			RH	2-1/2"	
㉒	2	3	250MCM			RH	3"	
㉓	1	3	3/0			RH	2"	
㉔	1	3	4/0	4/0		XHHW		
㉕	1	3	1/0			RH	2"	
㉖	1	2	#2 AWG	#2 AWG	#8 AWG	THW	2"	
㉗	1	3	250MCM	250MCM		RHH	3"	
㉘	1	3	#1 AWG	#1 AWG			2"	
㉙	1	3	3/0			THHN	2"	
㉚	1	3	#2			THW	1 1/4"	

BUILDING 53-DIETETICS.

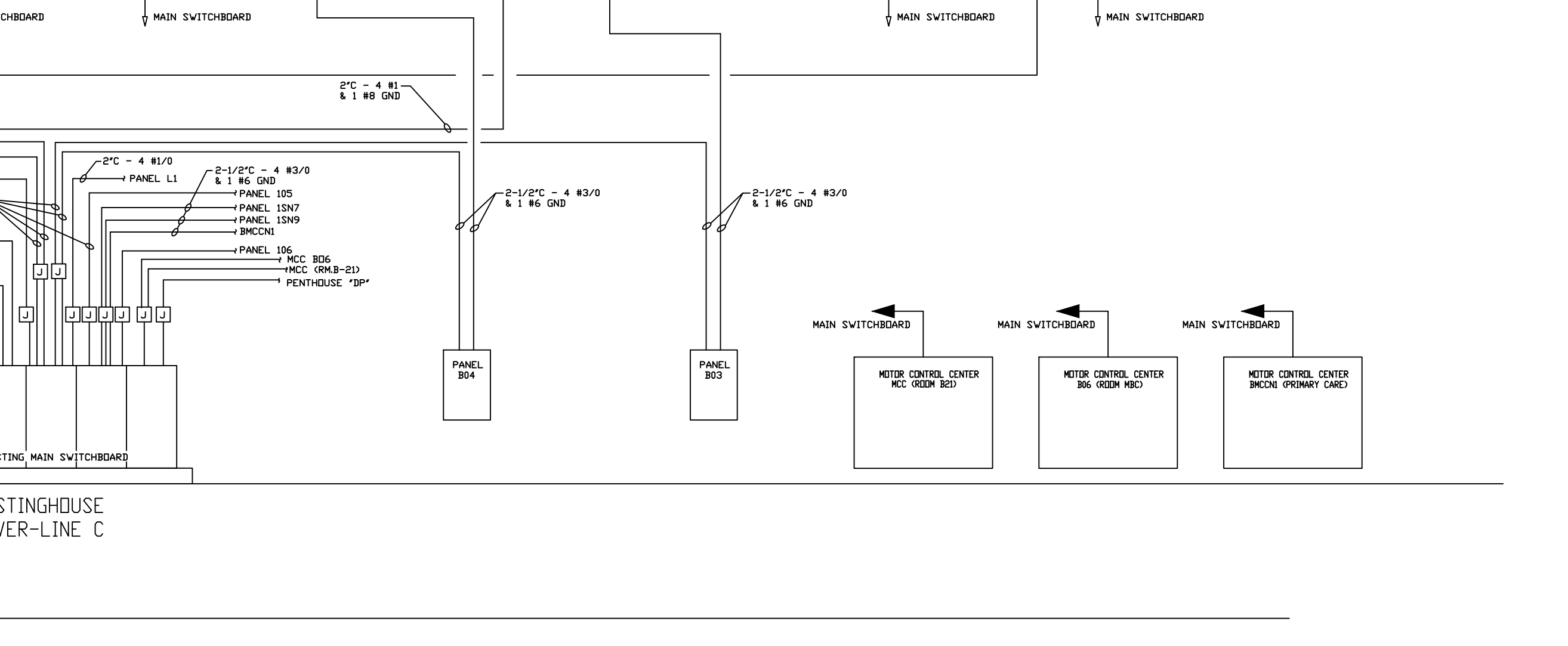
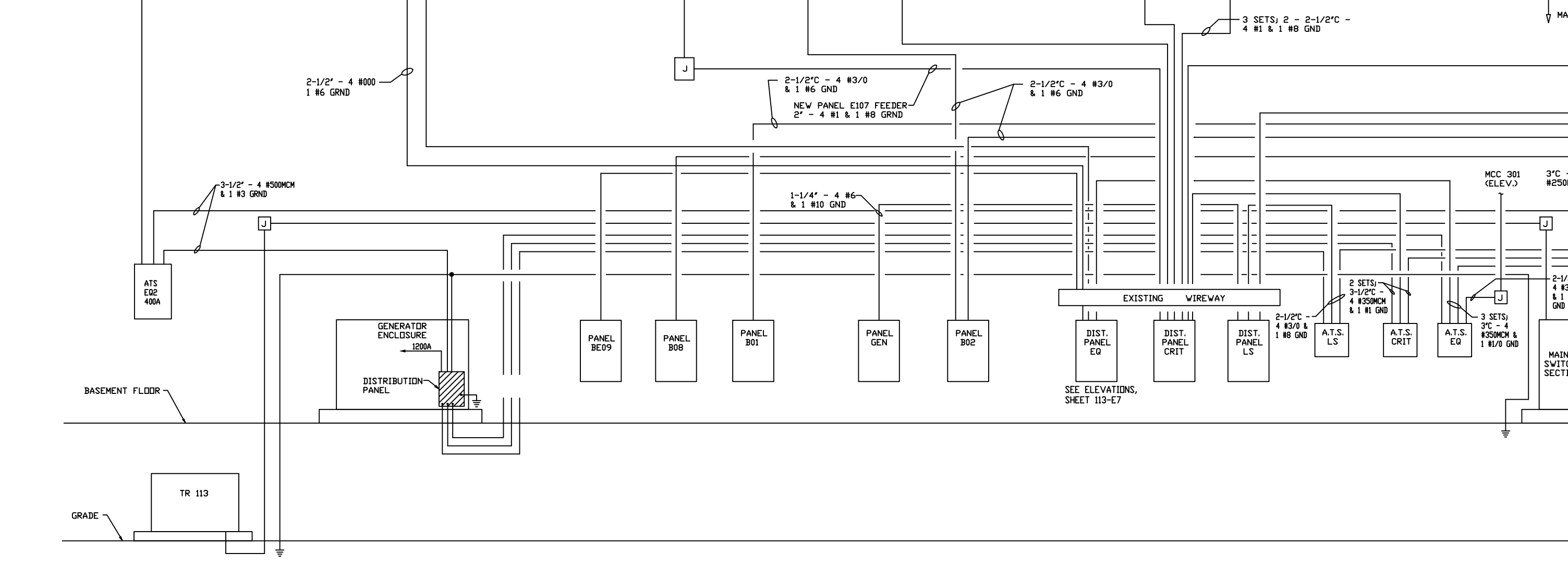
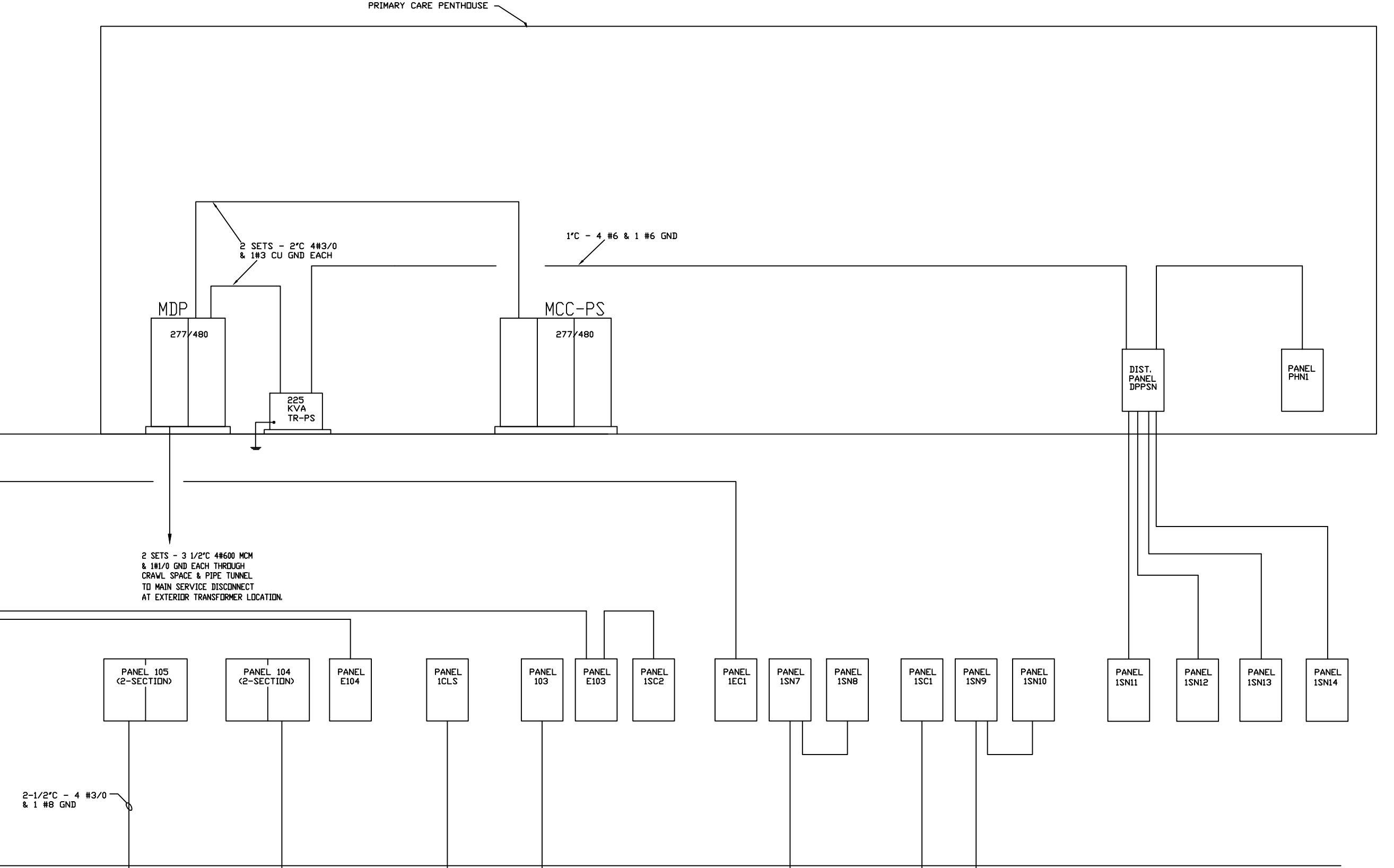
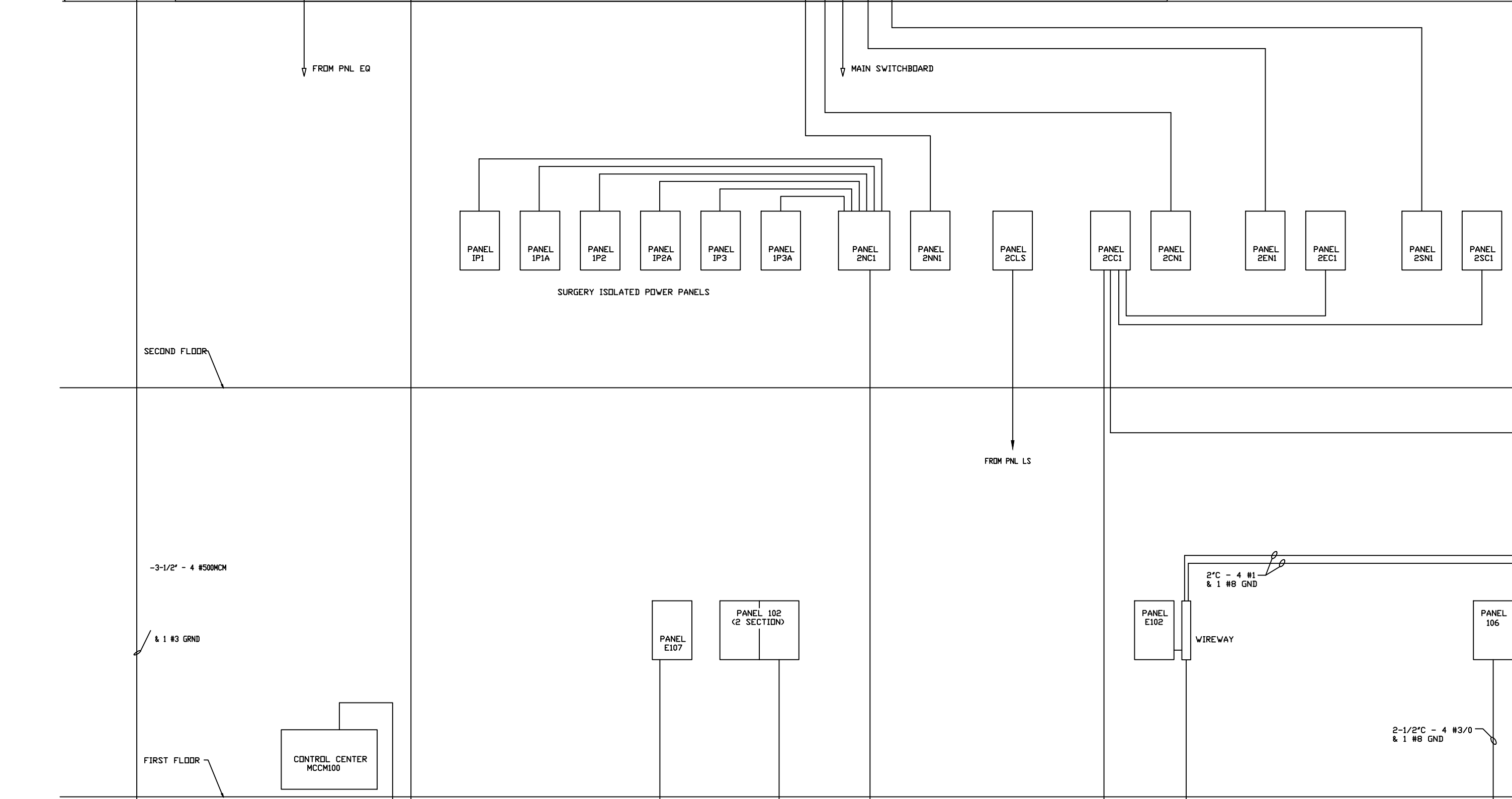
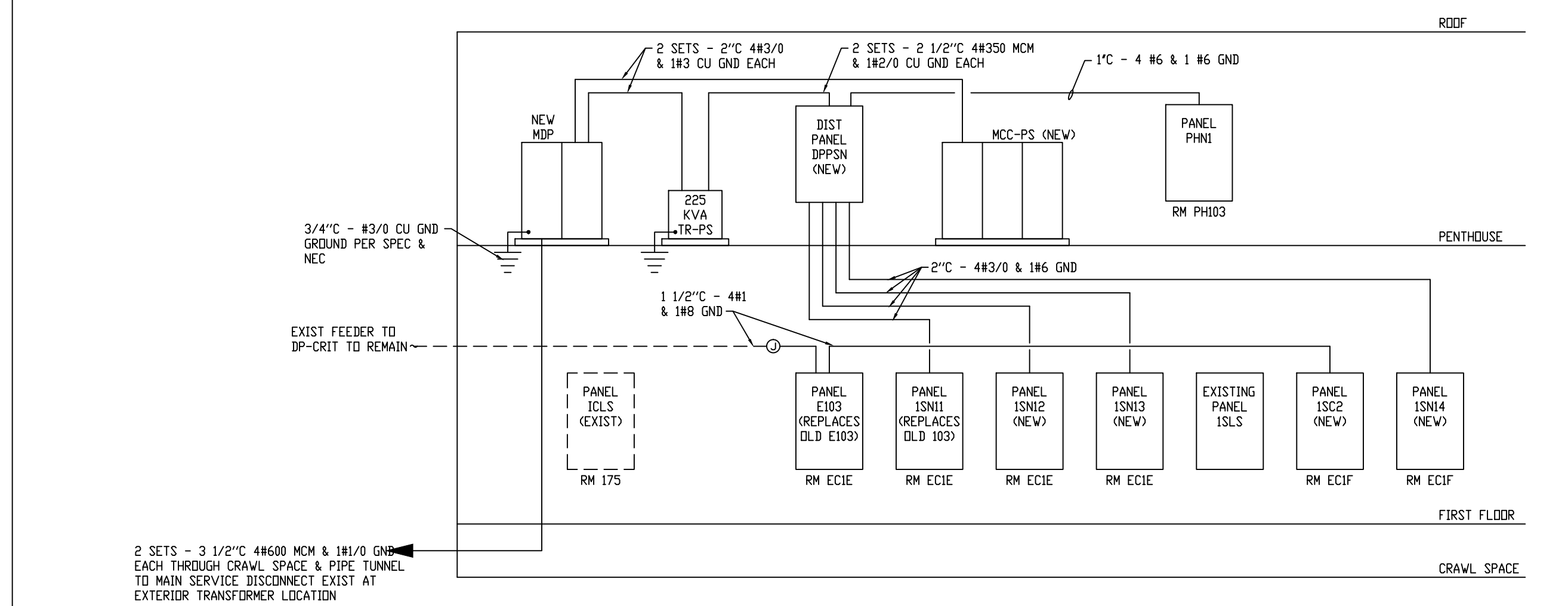
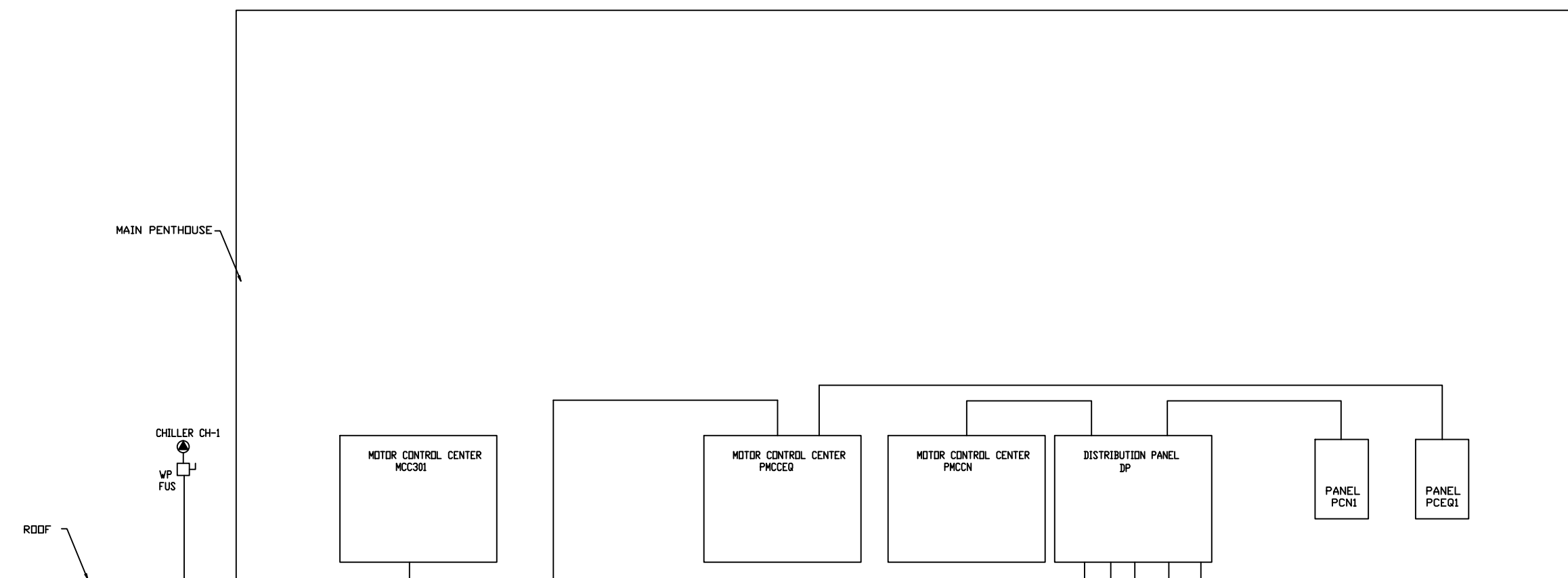
Drawing Title HOT SPRINGS BUILDINGS 18 & 53 ONE-LINE DIAGRAM	Project Title TESTING & CALIBRATING ELECTRICAL SYSTEMS		Date Oct. 2013	
	Building Number 18, 53		Checked DS	Project No. E-9
	Approved: Division Chief Approved: Service Director		Location HOT SPRINGS, SDUTH DAKOTA	



FEEDER SCHEDULE BUILDING 53								
KEY	SETS	CONDUCTOR		NEUTRAL	GND	TYPE	CONDUIT	NOTES
		NO.	SIZE					
1	1	2	3/0	3/0		THW	2"	
2	1	2	1/0	1/0		THW	1-1/2"	ISO. GR.
3	1	2	4/0	4/0		THW	2"	
4	1	2	2/0	2/0		THW	1-1/2"	
5	1	2	1/0	1/0		THW	2"	
6	1	2	350MCM	350MCM		XHHW	2-1/2"	
7	1	2	500MCM	500MCM		XHHW	3"	
8	1	2	#1 AWG	#1 AWG		THW	2"	
9	1	2	#1 AWG	#1 AWG		THW	1-1/2"	
10	1	2	#2 AWG	#2 AWG		THW	2"	
11	1	2	#2 AWG	#2 AWG		THW	1-1/2"	
12	2	3	#2 AWG	#2 AWG		THW	3"	
13	1	3	500 MCM	500 MCM	#2 AWG	THW	3"	
14	1	3	1/0	1/0	#6 AWG	THW	2"	
15	1	3	3/0	3/0	#6 AWG	THW	2"	
16	1	2	#2 AWG	#2 AWG	#8 AWG	THW	1-1/4"	
17	1	2	#10 AWG	#10 AWG		TW	3/4"	
18	1	2	#8 AWG	#8 AWG		TW	3/4"	
19	1	2	#12 AWG	#12 AWG		TW	1/2"	
20	1	3	#12 AWG	#12 AWG		TW	3/4"	
21	1	3	1/0		#4		1-1/2"	
22	1	3	#8		#4	THW	1-1/2"	
23	1	3	2/0	2/0	#4		1-1/4"	
24	1	3	250	250	#4		2-1/2"	
25	1	3	#6				1"	
26	1	3	#4	#4		THW		

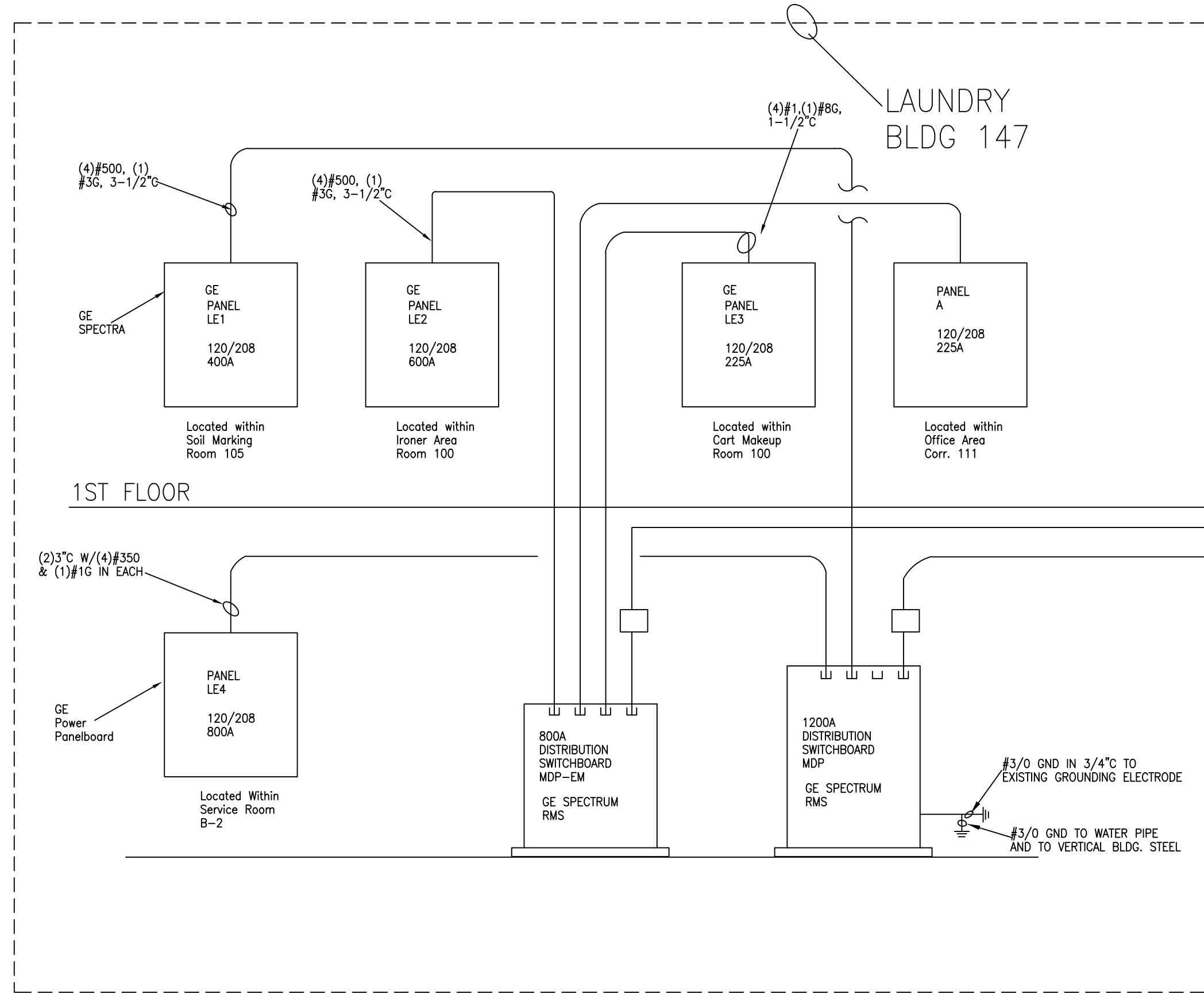


Drawing Title HOT SPRINGS BUILDINGS 65, 66 & 68 ONE-LINE DIAGRAM	Project Title TESTING & CALIBRATING ELECTRICAL SYSTEMS	Date Oct. 2013
Approved: Division Chief	Building Number 65,66,68	Project No.
Approved: Service Director	Checked DS	DRAWING NO. E-10
	Location HOT SPRINGS, SOUTH DAKOTA	Dwg11 OF 15

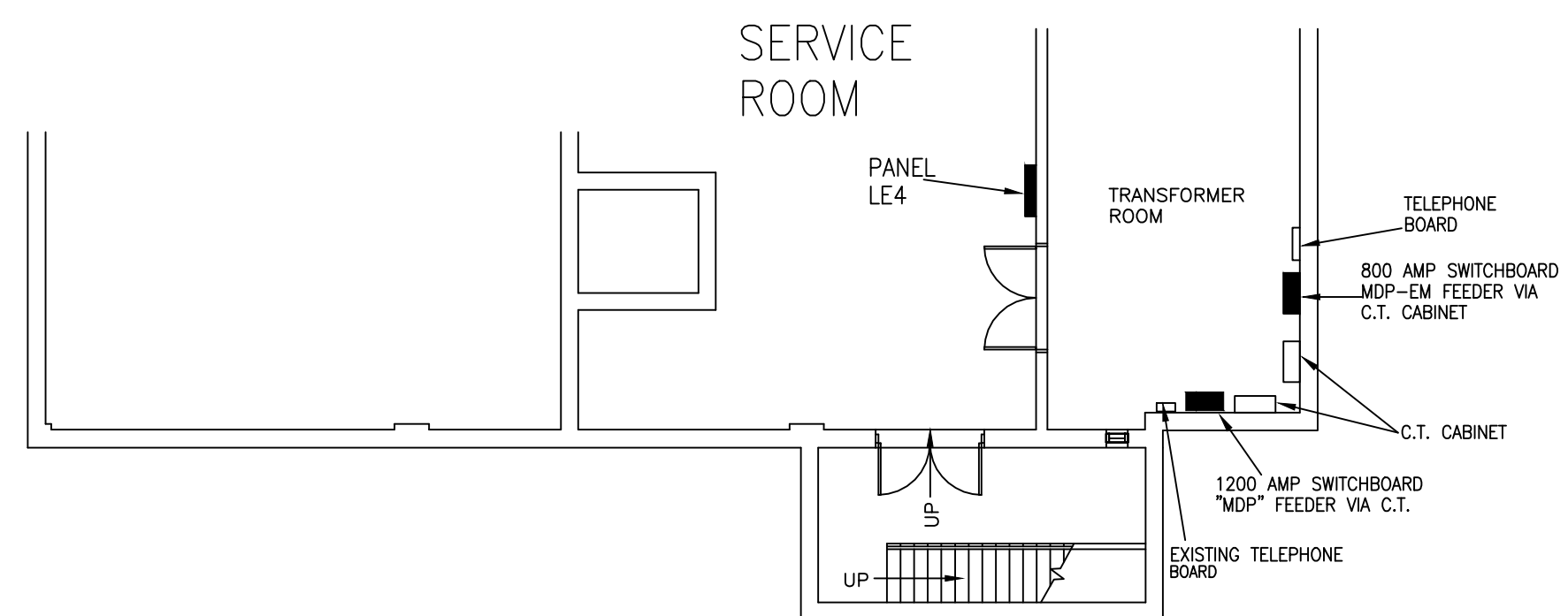


DOLLER DH-1 VP FUS		MOTOR CONTROL CENTER MCC33 FROM PHL ED		MAIN SWITCHBOARD		PANEL P0N1 PANEL P0E01			
FROM PHL ED		MAIN SWITCHBOARD		FROM PHL LS		PANEL IP1, IP1A, IP2, IP2A, IP3, IP3A PANEL ZNC1, ZNC2, ZNC3 PANEL E107, E102, E106 MAIN SWITCHBOARD			
3-1/2" - 4 #50MCM & 1 #3 GND		2-1/2" - 4 #000 & 1 #6 GND		2-1/2" - 4 #3/0 & 1 #6 GND		2-1/2" - 4 #3/0 & 1 #6 GND			
2-1/2" - 4 #50MCM & 1 #3 GND		1-1/4" - 4 #6 & 1 #8 GND		2-1/2" - 4 #3/0 & 1 #6 GND		2-1/2" - 4 #3/0 & 1 #6 GND			
TR 113		GENERATOR ENCLOSURE DISTRIBUTION PANEL		PANEL BE9, BE0, BE1, GEN, BE2 DIST. PANEL ED, CRIT, LS A.T.S. LS, CRIT, ED MAIN SWITCH SECTION WESTINGHOUSE POWER-LINE C		MCC 351 (ELEV.) 3" - 4 #250MCM PANEL L1 PANEL L2 PANEL L3 PANEL L4 PANEL L5 PANEL L6 PANEL L7 PANEL L8 PANEL L9 PANEL L10 PANEL L11 PANEL L12 PANEL L13 PANEL L14 PANEL L15 PANEL L16 PANEL L17 PANEL L18 PANEL L19 PANEL L20 PANEL L21 PANEL L22 PANEL L23 PANEL L24 PANEL L25 PANEL L26 PANEL L27 PANEL L28 PANEL L29 PANEL L30 PANEL L31 PANEL L32 PANEL L33 PANEL L34 PANEL L35 PANEL L36 PANEL L37 PANEL L38 PANEL L39 PANEL L40 PANEL L41 PANEL L42 PANEL L43 PANEL L44 PANEL L45 PANEL L46 PANEL L47 PANEL L48 PANEL L49 PANEL L50 PANEL L51 PANEL L52 PANEL L53 PANEL L54 PANEL L55 PANEL L56 PANEL L57 PANEL L58 PANEL L59 PANEL L60 PANEL L61 PANEL L62 PANEL L63 PANEL L64 PANEL L65 PANEL L66 PANEL L67 PANEL L68 PANEL L69 PANEL L70 PANEL L71 PANEL L72 PANEL L73 PANEL L74 PANEL L75 PANEL L76 PANEL L77 PANEL L78 PANEL L79 PANEL L80 PANEL L81 PANEL L82 PANEL L83 PANEL L84 PANEL L85 PANEL L86 PANEL L87 PANEL L88 PANEL L89 PANEL L90 PANEL L91 PANEL L92 PANEL L93 PANEL L94 PANEL L95 PANEL L96 PANEL L97 PANEL L98 PANEL L99 PANEL L100		MAIN SWITCHBOARD MAIN SWITCHBOARD MAIN SWITCHBOARD	
TR 113		GENERATOR ENCLOSURE DISTRIBUTION PANEL		PANEL BE9, BE0, BE1, GEN, BE2 DIST. PANEL ED, CRIT, LS A.T.S. LS, CRIT, ED MAIN SWITCH SECTION WESTINGHOUSE POWER-LINE C		MCC 351 (ELEV.) 3" - 4 #250MCM PANEL L1 PANEL L2 PANEL L3 PANEL L4 PANEL L5 PANEL L6 PANEL L7 PANEL L8 PANEL L9 PANEL L10 PANEL L11 PANEL L12 PANEL L13 PANEL L14 PANEL L15 PANEL L16 PANEL L17 PANEL L18 PANEL L19 PANEL L20 PANEL L21 PANEL L22 PANEL L23 PANEL L24 PANEL L25 PANEL L26 PANEL L27 PANEL L28 PANEL L29 PANEL L30 PANEL L31 PANEL L32 PANEL L33 PANEL L34 PANEL L35 PANEL L36 PANEL L37 PANEL L38 PANEL L39 PANEL L40 PANEL L41 PANEL L42 PANEL L43 PANEL L44 PANEL L45 PANEL L46 PANEL L47 PANEL L48 PANEL L49 PANEL L50 PANEL L51 PANEL L52 PANEL L53 PANEL L54 PANEL L55 PANEL L56 PANEL L57 PANEL L58 PANEL L59 PANEL L60 PANEL L61 PANEL L62 PANEL L63 PANEL L64 PANEL L65 PANEL L66 PANEL L67 PANEL L68 PANEL L69 PANEL L70 PANEL L71 PANEL L72 PANEL L73 PANEL L74 PANEL L75 PANEL L76 PANEL L77 PANEL L78 PANEL L79 PANEL L80 PANEL L81 PANEL L82 PANEL L83 PANEL L84 PANEL L85 PANEL L86 PANEL L87 PANEL L88 PANEL L89 PANEL L90 PANEL L91 PANEL L92 PANEL L93 PANEL L94 PANEL L95 PANEL L96 PANEL L97 PANEL L98 PANEL L99 PANEL L100		MAIN SWITCHBOARD MAIN SWITCHBOARD MAIN SWITCHBOARD	

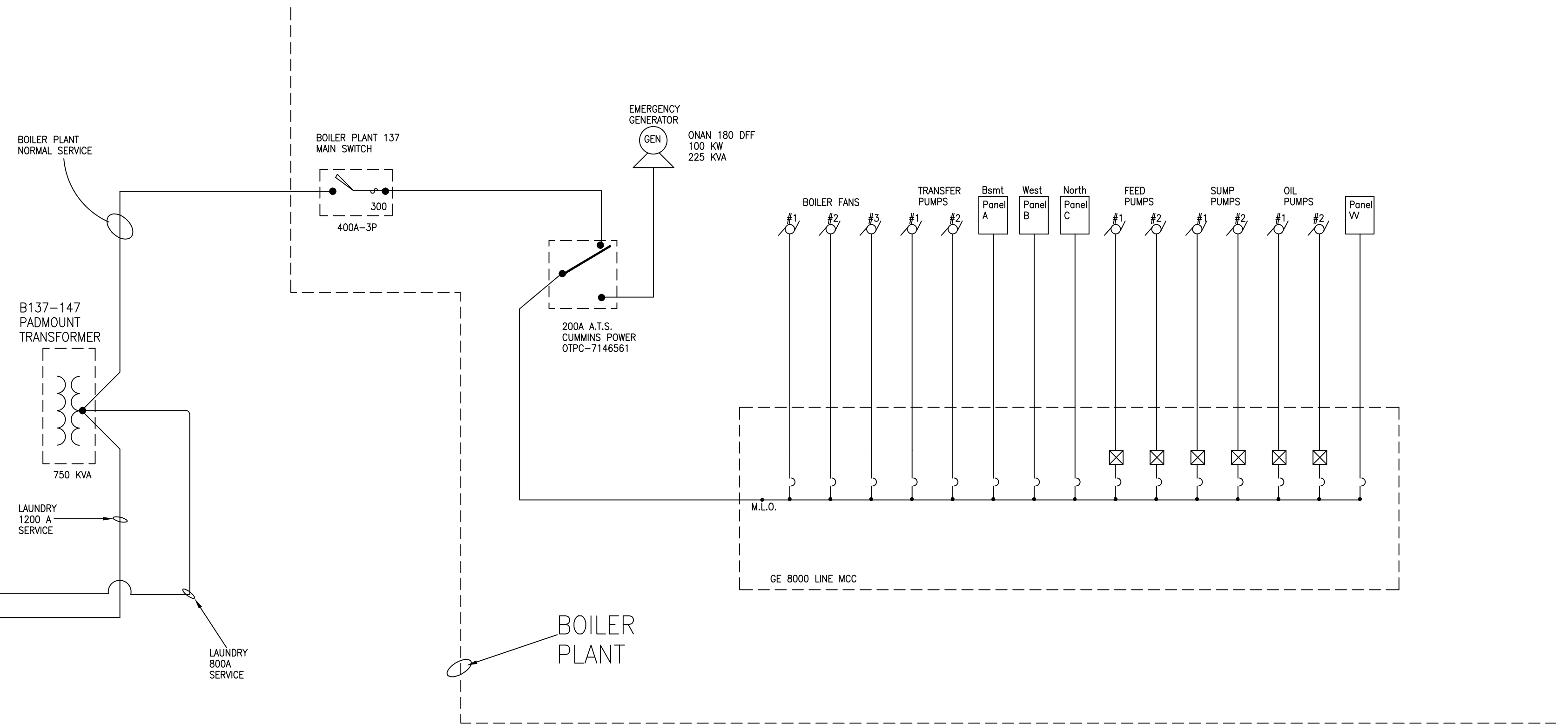
Drawing Title FORT MEADE BUILDING 113 ONE-LINE DIAGRAM		Project Title TESTING & CALIBRATING ELECTRICAL SYSTEMS		Date Oct. 2013	
Approved: Division Chief		Building Number 113		Project No.	
Approved: Service Director		Checked JW		Drawn NH	
Location HDT SPRINGS, SOUTH DAKOTA		DRAWING NO. E-11		Dwg 12 OF 15	



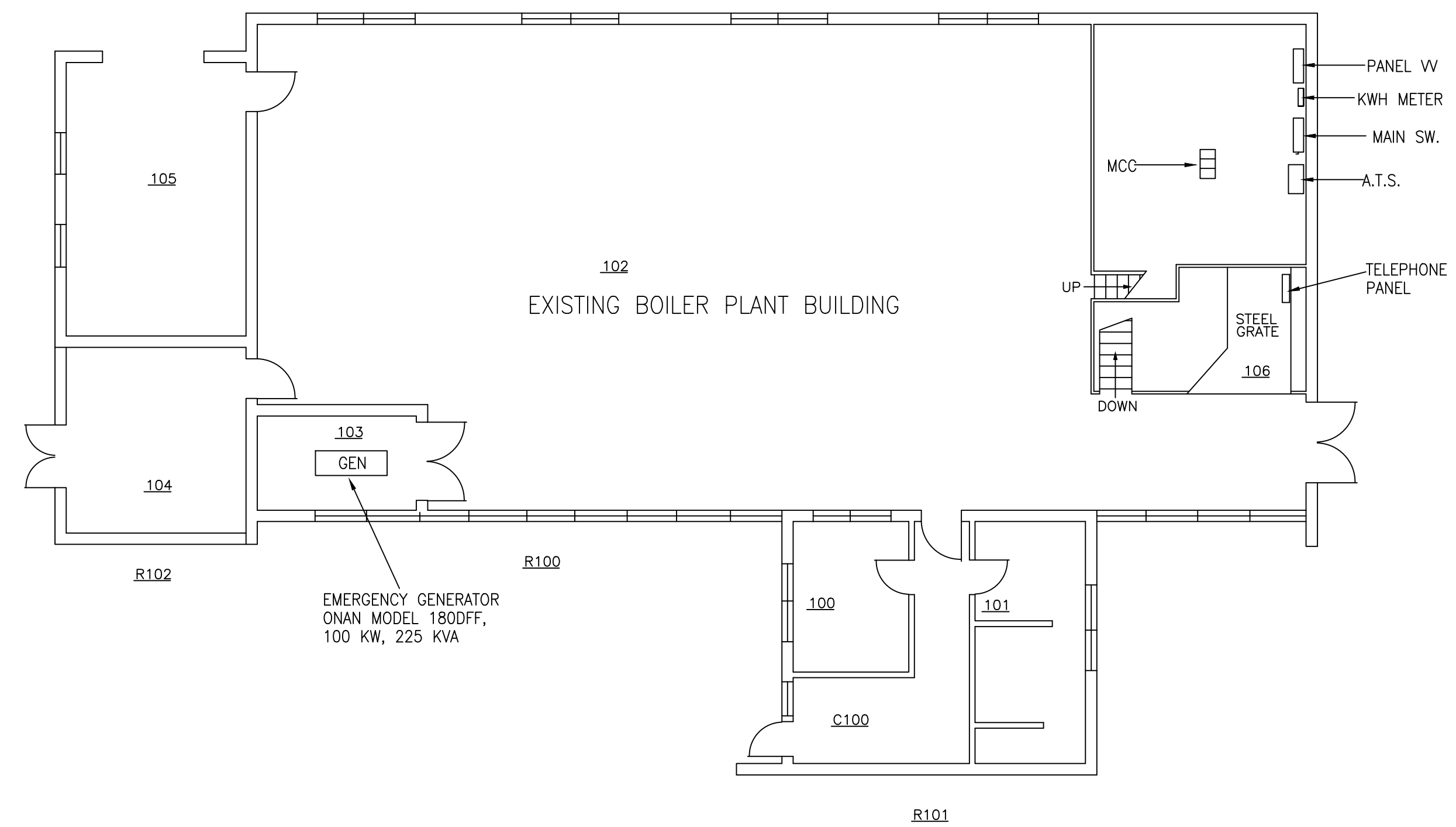
LAUNDRY BUILDING 147
ELECTRICAL RISER DIAGRAM



LAUNDRY BUILDING 147
BASEMENT FLOOR PLAN
ELECTRICAL RISER DIAGRAM

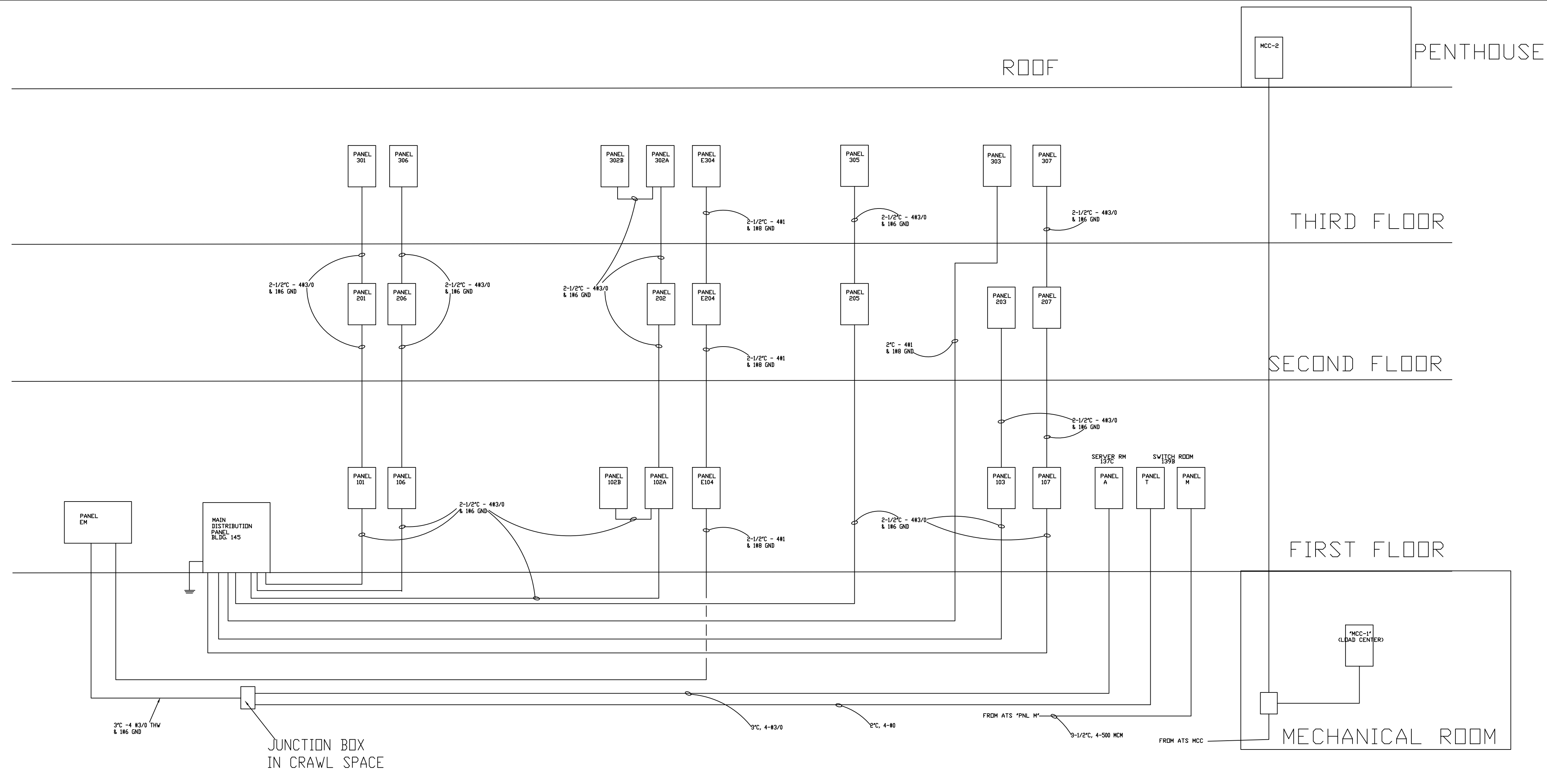


BOILER PLANT BLDG. 137 ONE LINE

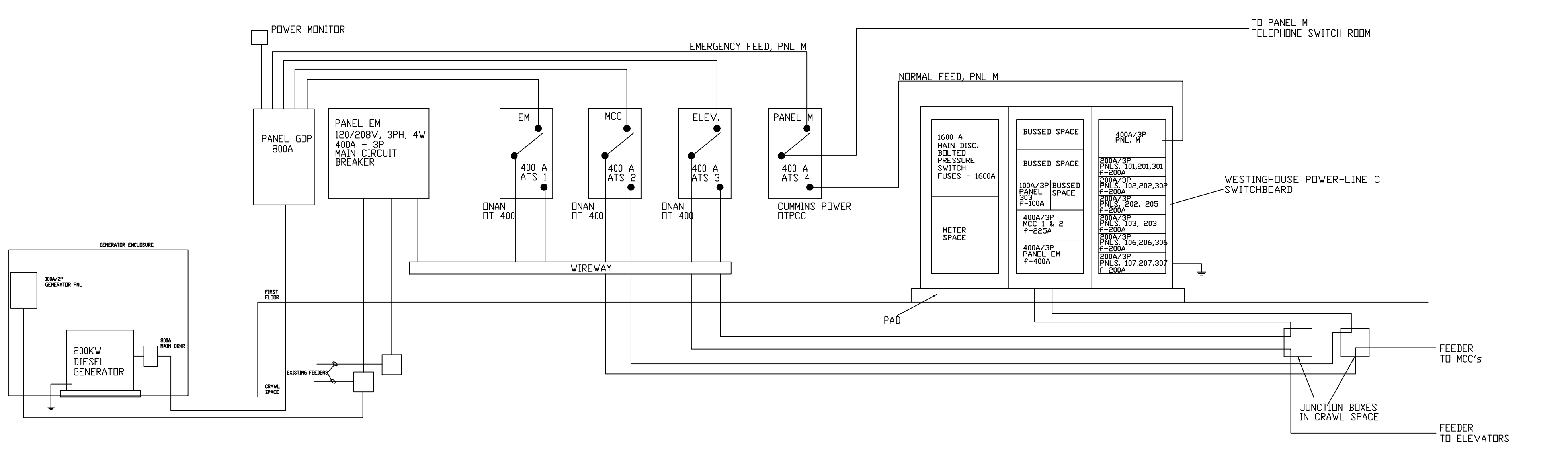
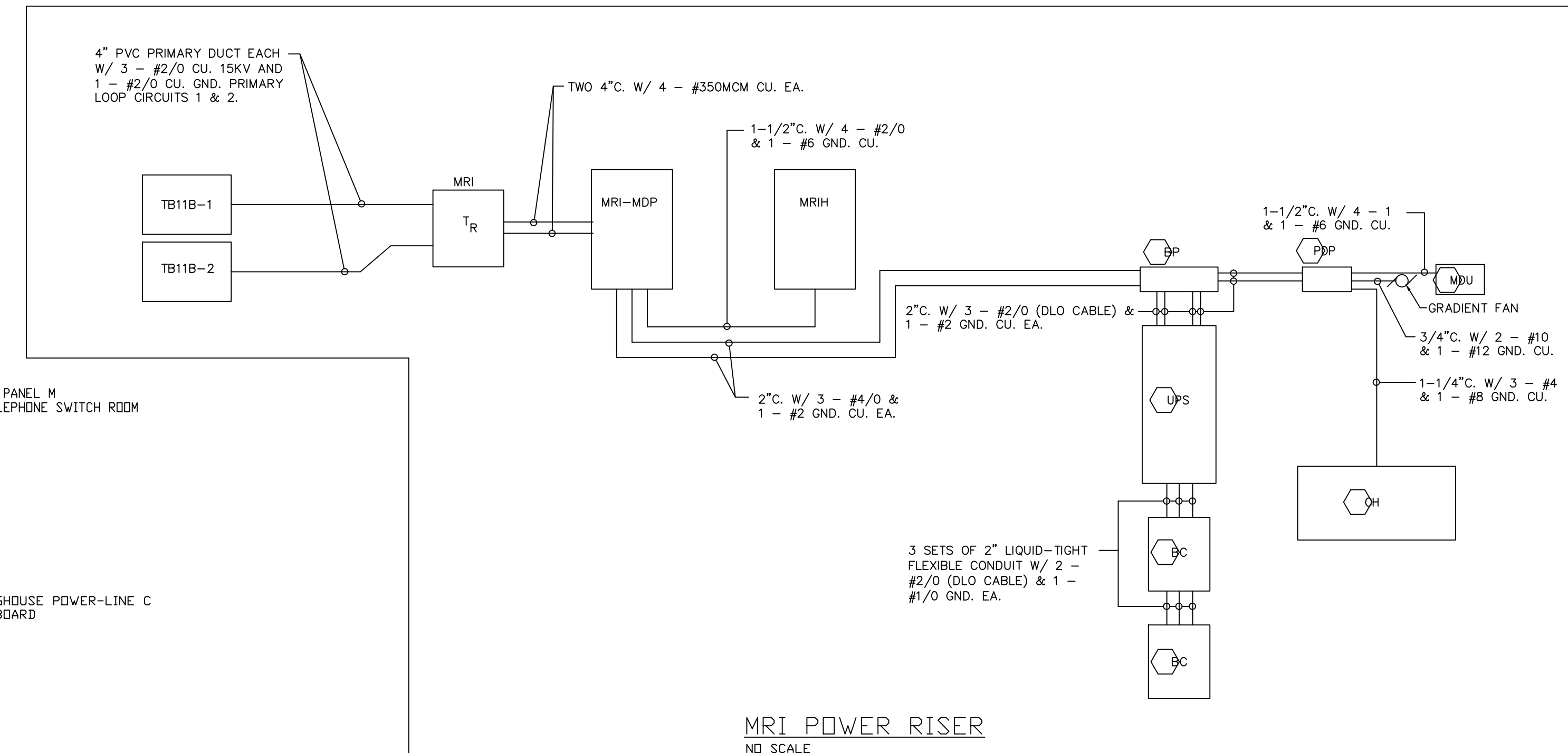


FIRST FLOOR BUILDING #137 - BOILER PLANT

Drawing Title FORT MEADE BUILDING 137 & 147 ONE-LINE DIAGRAM		Project Title TESTING & CALIBRATING ELECTRICAL SYSTEMS		Date Oct. 2013
Approved: Division Chief		Building Number 137, 147	Checked DS	Project No.
Approved: Service Director		Location HOT SPRINGS, SOUTH DAKOTA		DRAWING NO. E-12
				Dwg.13 Of 15



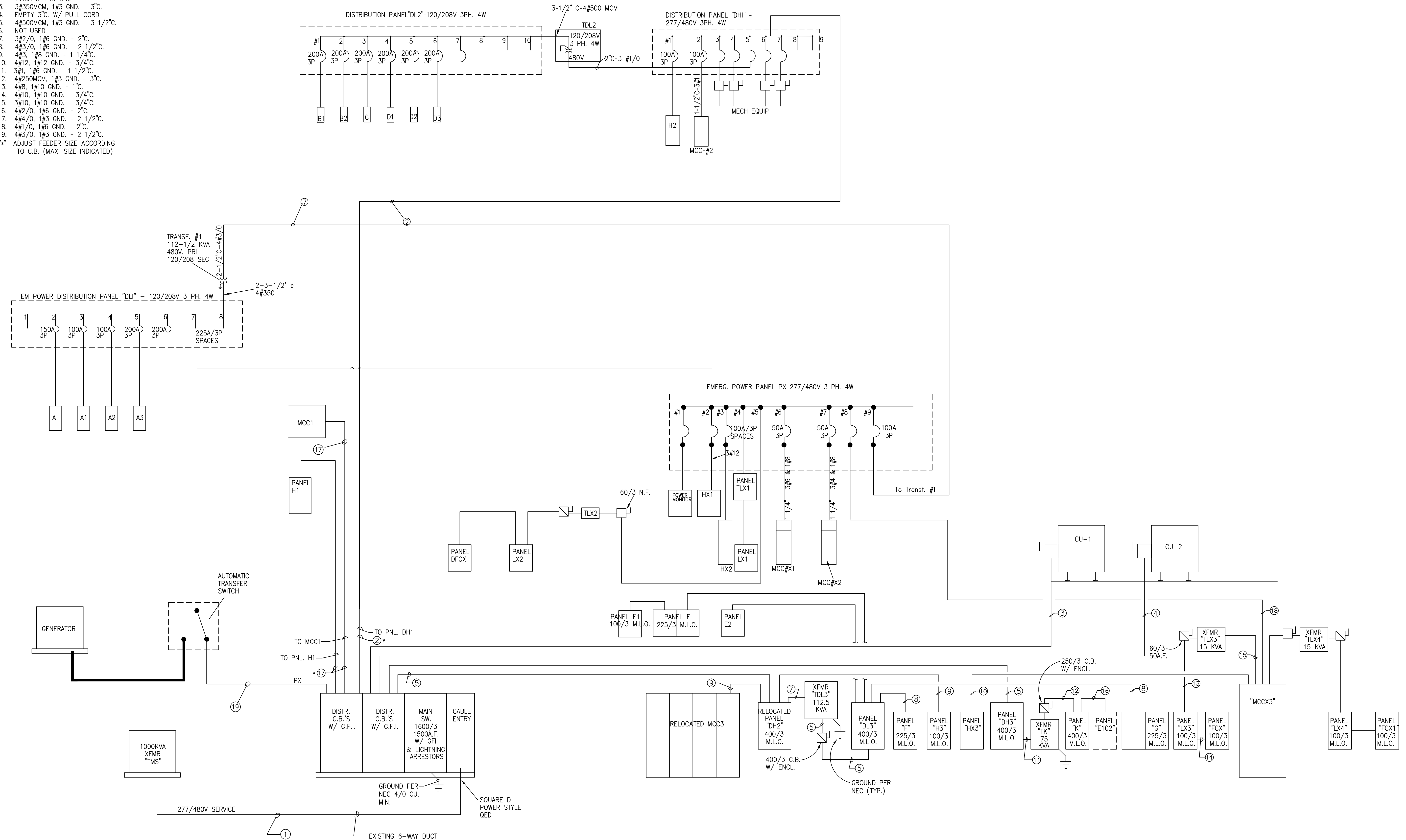
PANEL SCHEDULES							
VOLTAGE - 120/208V, 3PH, 4W							
DESIGNATION	BUS	MAIN LUGS	SUBFEED LUGS	DMOUNTING	BREAKERS	SPACES (POLES)	SPARES
101	225A	X	X	SURFACE	26-20A/1P 6-30A/1P 2-20A/2P 3-30A/2P		
102A	225A	X	X X (2)	SURFACE	47-20A/1P 3-30A/2P 1-40A/3P		4-20A/1P 12-30A/2P
102B	225A	X	X	SURFACE	30-20A/1P 3-30A/1P 2-20A/2P 1-30A/2P 1-40A/3P	1	
103	225A	X	X	SURFACE	20-20A/1P 1-20A/2P	3	5-20A/1P
E104	100A	X	X	SURFACE	33-20A/1P 1-30A/1P 1-50A/3P		6-20A/1P
201	225A	X	X	SURFACE	32-20A/1P 3-20A/2P 1-30A/2P		
202	225A	X	X	SURFACE	31-20A/1P 2-30A/2P 1-50A/3P		
203	225A	X		SURFACE	28-20A/1P 1-20A/2P 1-30A/2P 1-30A/3P 1-50A/3P	4	
E204	100A	X	X	SURFACE	35-20A/1P 1-30A/1P 2-20A/2P 1-30A/2P	12	6-20A/1P 12-30A/2P
205	225A	X		SURFACE	31-20A/1P 1-30A/1P 3-30A/2P	4	
301	225A	X		SURFACE	16-20A/1P 1-30A/1P 1-30A/2P 1-50A/2P 1-20A/3P	6	6-30A/2P
302A	225A	X	X	SURFACE	18-30A/2P	6	
302B	225A	X		SURFACE	4-20A/1P 1-20A/2P 12-30A/2P	12	
303	225A	X		SURFACE	1-200A/3P 1-60A/3P 12-20A/1P	12	
E304	100A	X		SURFACE		3	9-20A/1P
305	225A	X		FLUSH		6	6-30A/2P
106, 107, 206, 207	225A	X	X	SURFACE		6	
307	225A	X		SURFACE		6	
306	225A	X		SURFACE		12	
EM	225A	X		SURFACE		12	
A	225A	X		SURFACE			
T	200A	X		SURFACE			
M	400A	X		SURFACE			



Drawing Title FORT MEADE BUILDING 145 ONE-LINE DIAGRAM		Project Title TESTING & CALIBRATING ELECTRICAL SYSTEMS		Date Oct. 2013
Approved Division Chief	Building Number 145	Checked NH	Drawn NH	Project No.
Approved Service Director	Location HDT SPRINGS, SDUTH DAKOTA		DRAWING NO. E-13	
				Dwg 14 DF 15

FEEDER SCHEDULE: ○

1. 5 SETS - 4#400MCM, 1#4/0 GND. IN EXTG 4" C. @ 6-WAY DUCT
 2. 2 SETS - 4#350MCM, 1#1 GND. EACH SET IN 3"
 3. 3#350MCM, 1#3 GND. - 3"
 4. EMPTY 3" C. W/ PULL CORD
 5. 4#500MCM, 1#3 GND. - 3 1/2"
 6. NOT USED
 7. 3#2/0, 1#6 GND. - 2"
 8. 4#3/0, 1#6 GND. - 2 1/2"
 9. 4#3, 1#8 GND. - 1 1/4"
 10. 4#12, 1#12 GND. - 3/4"
 11. 3#1, 1#6 GND. - 1 1/2"
 12. 4#250MCM, 1#3 GND. - 3"
 13. 4#5, 1#10 GND. - 1"
 14. 4#10, 1#10 GND. - 3/4"
 15. 3#10, 1#10 GND. - 3/4"
 16. 4#2/0, 1#6 GND. - 2"
 17. 4#4/0, 1#3 GND. - 2 1/2"
 18. 4#1/0, 1#6 GND. - 2"
 19. 4#3/0, 1#3 GND. - 2 1/2"
- ** ADJUST FEEDER SIZE ACCORDING TO C.B. (MAX. SIZE INDICATED)



ELECTRICAL RISER DIAGRAM
NO SCALE
BLDG. 148-NHCU

Drawing Title FORT MEADE BUILDING 148 ONE-LINE DIAGRAM	Project Title TESTING & CALIBRATING ELECTRICAL SYSTEMS		Date Oct. 2013
	Building Number 148		Project No.
Approved: Division Chief	Checked NH	Drawn NH	DRAWING NO. E-14
Approved: Service Director	Location HOT SPRINGS, SOUTH DAKOTA		Dwg.15 Of 15