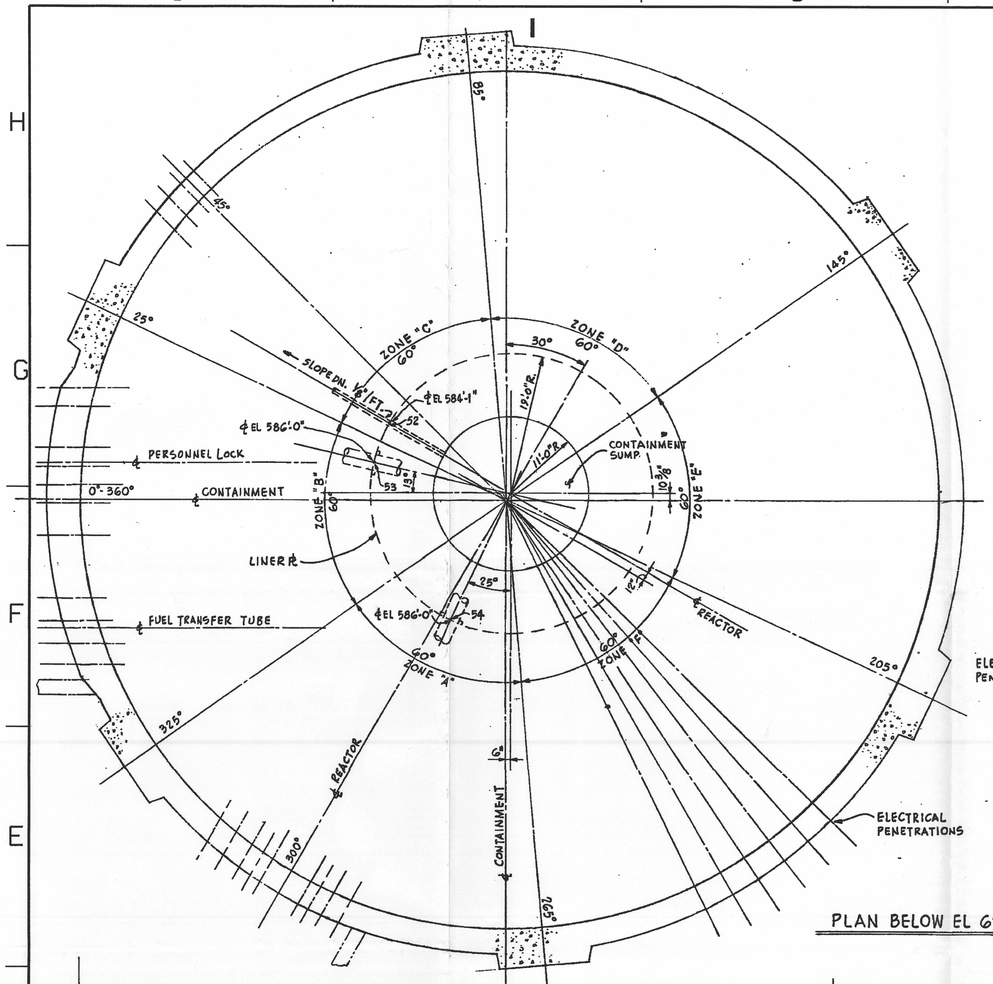
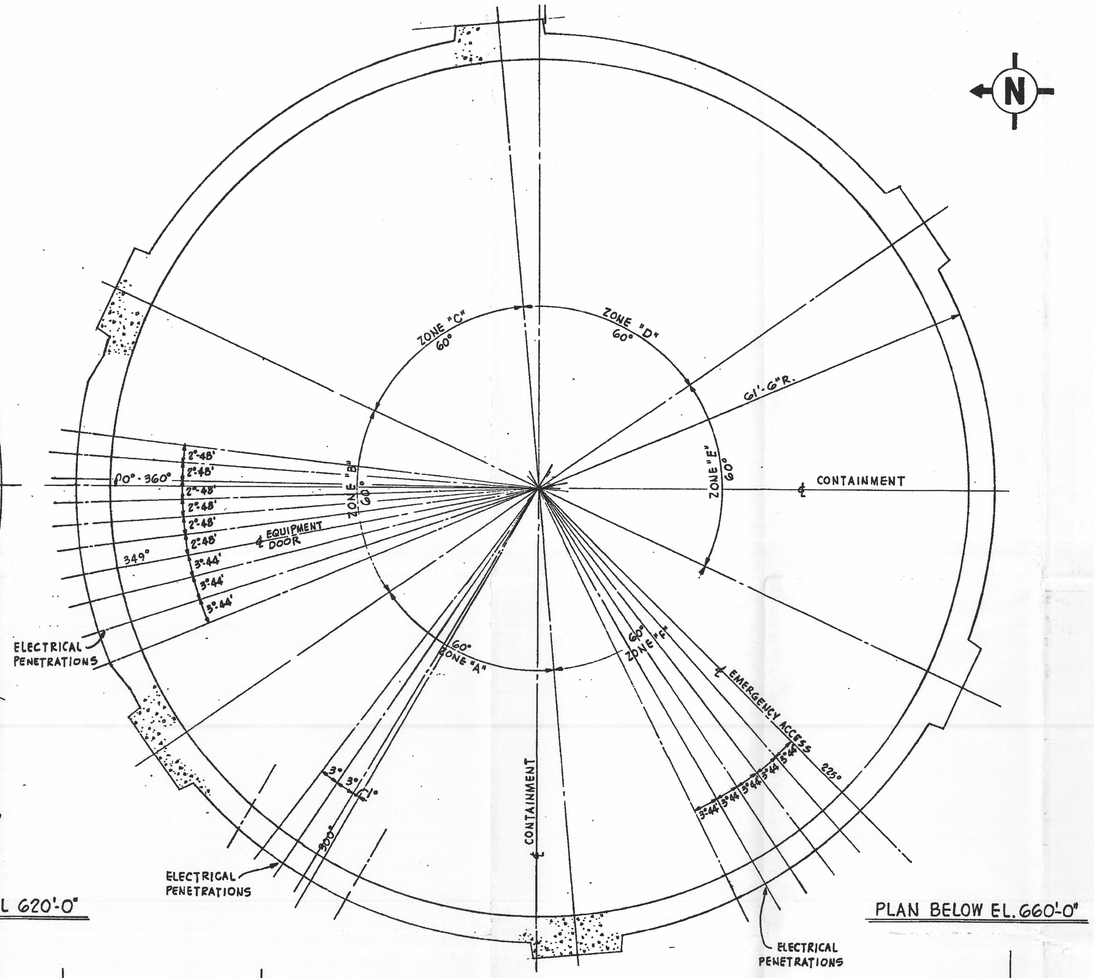
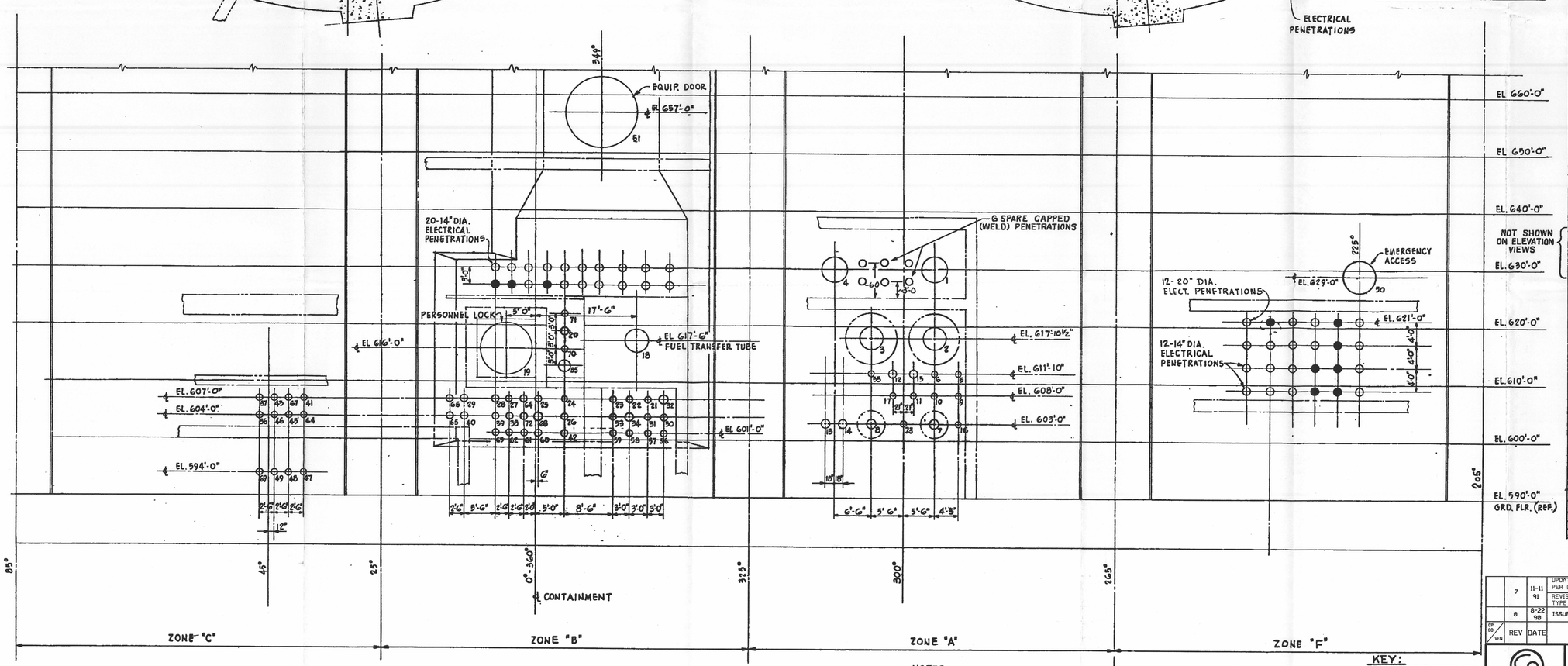


PLAN BELOW EL 620'-0"



PLAN BELOW EL. 660'-0"



ELEVATION

REV. NO.	N/R	ELECT/CS	MECH.	CIVIL	PJC PLANT DESIGN	N/R ARCH.	N/R NUCLEAR
1							

COORDINATION SIGN-OFF

PENETRATION LIST

NO.	PIPE SIZE	WALL OPNG DIA.	TYPE SEE NOTE 5	DESCRIPTION	REF. DWG.
1	48"	52"	III	CONTAINMENT PURGE AIR SUPPLY	M-218
2	36"	48"	VI	MAIN STEAM (FROM E-50A)	M-207
3	36"	48"	VI	MAIN STEAM (FROM E-50B)	"
4	48"	52"	III	CTMT. PURGE AIR EXHAUST	M-218
4A	3"	–		CTMT. PURGE EXH. TO CBR VF-70	M-218
5	4"	12"	III/C ALT	STM. GEN. B.D. (E-50A)	M-226
6	4"	12"	III/C ALT	STEAM GEN BLOWDOWN (E-50B)	M-226
7	18"	30"	VI	FEEDWATER (TO E-50A)	M-207
8	18"	30"	VI	FEEDWATER (TO E-50B)	M-207
9		12"	V	AUX FEED TO STM GEN E50A	M207
10	2"	12"	III	SERVICE AIR	M-212
11	1½"	12"	III	CONDENSATE TO SHIELD COOLING SURGE TANK	M-223
12	16"	20"	III	SERVICE WATER SUPPLY	M-208
13	16"	20"	III	SERVICE WATER RETURN	M-208
14	10"	16"	III	COMPONENT COOLING WTR. IN	M-209
15	10"	16"	III	COMPONENT COOLING WTR. OUT	M-209
16	4"	12"	IV/C ALT	STEAM GENERATOR RECIRC (E50A)	M-226
17	FOUR ½"	12"	IV	CONTAINMENT PRESS INSTR.	M-218
18	36"	48"	—	FUEL TRANSFER TUBE	
19	9'-2"	9'-4"	—	PERSONNEL LOCK	
20		18"	V	SPARE	
21	½"	12"		CAPPED SPARE	M-218
22	6"	12"	III	REDUNDANT H.P. SAFETY INJECTION	M-203
23	6"	18"	III	H.P. SAFETY INJECTION	M-203
24		12"	V	(SPARE)	
25	2"	12"	III	CLEAN WASTE RECEIVER TANK VENT TO STACK	M-210
26	2"	12"	III	NITROGEN TO QUENCH TANK	M-222
27	6"	12"	IV	ICRT FILL LINE	M-218
28	½"	12"	IV	CONT AIR SAMPLE	M-224
29	2"	12"		CAPPED & FLANGED SPARE	M-218
30	8"	12"	III	CONTAINMENT SPRAY PUMP DISCH.	M-203
31	8"	12"	III	CONTAINMENT SPRAY PUMP DISCH.	M-203
32	12"	16"	III	L.P. SAFETY INJECTION	M-203
33	8"	12"	III	SAFETY INJECTION TANK DRAIN	M-204
34		18"	V	SPARE	
35	14"	24"	III	SHUTDOWN COOLING	M-204
36	1½"	12"	III	LETDOWN TO PURIFICATION ION EXCHANGER	M-202
37	1½"	12"	III	PRIMARY SYSTEM DRAIN PUMP RECIRC.	M-210
38	2"	12"	III	CONDENSATE RETURN FROM STEAM HEATING UNITS	M-215
39	4"	12"	III	CONTAINMENT HEATING STM.	M-215
40	½"	12"		PCS SAMPLE	M-219
40A	½"	12"	V	SPARE	M-201
41	3"	12"	III	DEGASSIFIER PUMP DISCH.	M-210
42	2"	12"	III	DEMINERALIZED WATER TO QUENCH TANK	M-201
43		12"	V	SPARE	
44	¾"	12"	III	CONTROLLED BLEED-OFF	M-202
45	2"	12"	III	CHARGING PUMP DISCH.	M-202
46	4"	12"	III	CONTAINMENT VENT HEADER	M-211
47	4"	12"	III	PRIMARY SYSTEM DRAIN TANK PUMP SUCTION	M-210
48	FOUR ½"	12"	IV	CONTAINMENT PRESS. INSTR.	M-218
49	6"	12"	III	CLEAN WASTE RECEIVER TANK CIRC. PUMP SUCTION	M-210
50	5'-0"	5'-10"	—	EMERGENCY ACCESS	
51	12'-10"	12'-0"	—	EQUIPMENT DOOR	
52	4"	EMBEDDED		CONTAINMENT SUMP DRAIN TO SUMP TK.	M-211
53	24"	EMBEDDED		CONTAINMENT SPRAY PP. SUCTION	M-204
54	24"	EMBEDDED		" " " "	"
55	4"	12"	IV/C ALT	STM. GEN RECIRC E50B	M-226
56		12"	V	CONTAINMENT SUMP LEVEL INSTRUMENTATION	M211
57		12"	V	SPARE	
58		12"	V	"	
59		12"	V	"	
60		12"	V	"	
61		12"	V	"	
62		12"	V	"	
63		12"	IV	SPARE	
64	6"	12"	III	REACTOR CAVITY FILL & RECIR.	M-221
65	2"	12"	III	INSTRUMENT AIR	M-212
66	1½"	12"	IV	IRT INSTRUMENT LINE	M-218
67	3"	12"	III	CLEAN WASTE REC'R. TK. PP. RECIR.	M-210
68	12"	18"	III	AIR SUPPLY TO AIR ROOM	M-218
69	4"	12"	III	CLEAN WASTE RECEIVER TANK PUMP SUCTION	M-210
70		12"	V	SPARE	
71		12"	V	SPARE	
72	8"	12"	III	REACTOR REFUELING CAVITY DRAIN	M-221
73	1½"	12"	IV	AUX FEED TO STEAM GEN E50B	M207

NOTES.
1. PIPE & MISC. PENETRATIONS NUMBERED FROM 1 TO 73. ELECTRICAL PENETRATIONS ARE NOT NUMBERED.
2. FOR PENETRATION DETAILS SEE DWG. C-137.
3. ALL ELECTRICAL PENETRATIONS ARE RADIAL.
4. ALL PIPE PENETRATIONS ARE PARALLEL TO A DESIGNATED LINE.
5. FOR DETAILS OF PENETRATION SEALS SEE THE FOLLOWING: TYPE III DETAIL 5 DWG M-146; IV 6; V 7; VI 1 — M-23 & DETAIL 1 M-65

KEY: ●—SPARE ELECTRICAL PENETRATIONS

NO	REV	DATE	DESCRIPTION	FC# SC#	BY	CK	APP
	7	11-11 91	UPDATED PENETRATIONS #9, #56 & #73 PER M232 PER DCR 950 92 007 (PLM) REVISED PENETRATION LIST ITEMS 5, 6, 16, AND 55 PIPE SIZE, TYPE AND DESCRIPTION PER DCR 950-91-675A (PWB)		PRC	JGD	DMB
	8	8-22 90	ISSUED FOR FC-893 AND FC-894		HN	PJC	

CONSUMERS POWER COMPANY
PALISADES NUCLEAR PLANT
COVERT, MICHIGAN
M140-1.087

PREVIOUS RECORD ISSUE
MICHIGAN P.E. No.
UFI No.

PENETRATIONS
CONTAINMENT BUILDING WALL

DRAWING NUMBER	SHT. NO.	REV
M-140	—	7

D-18