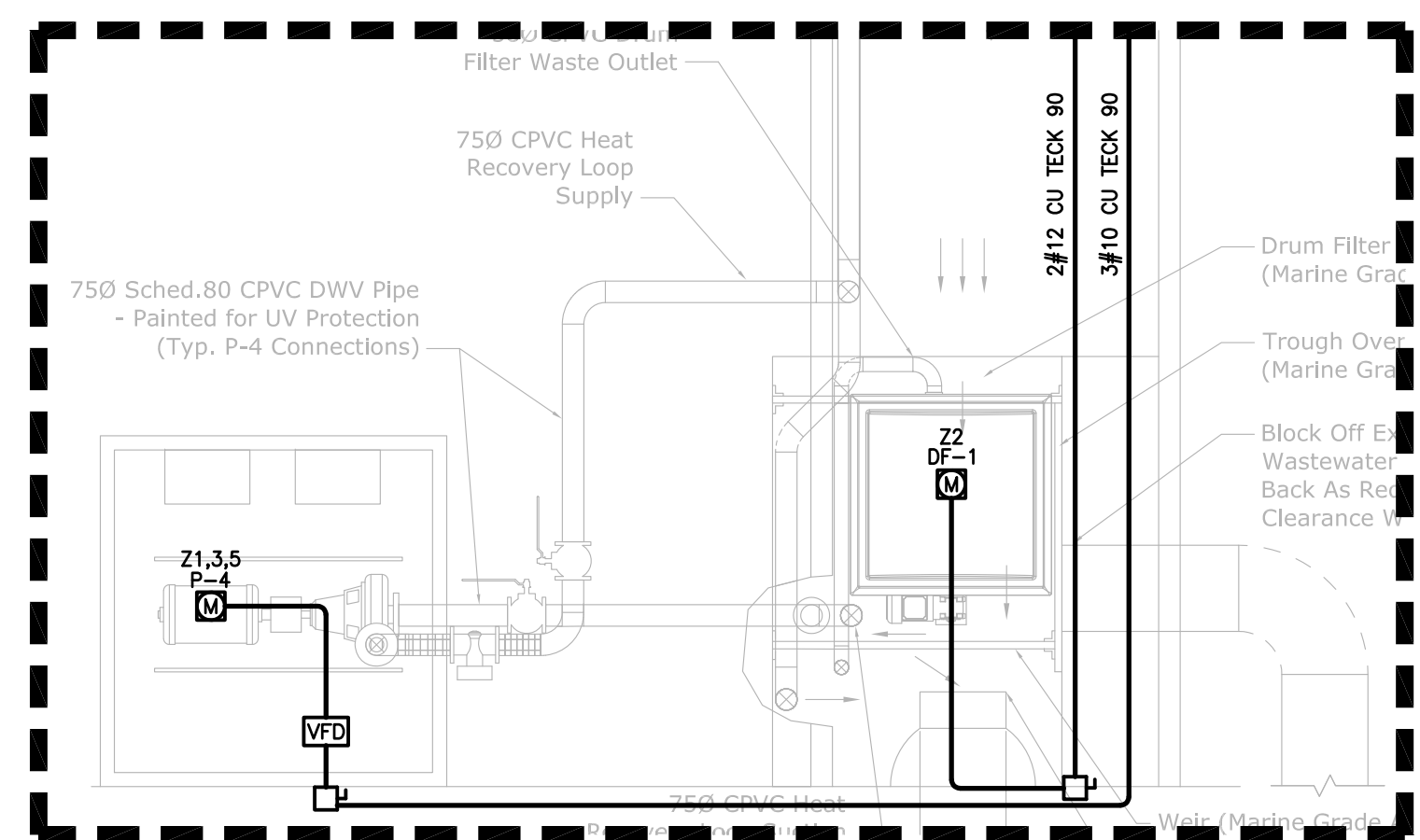


SITE PLAN
SCALE: 1:200



DETAIL 1: WASTEWATER SUMP
SCALE: 1:25

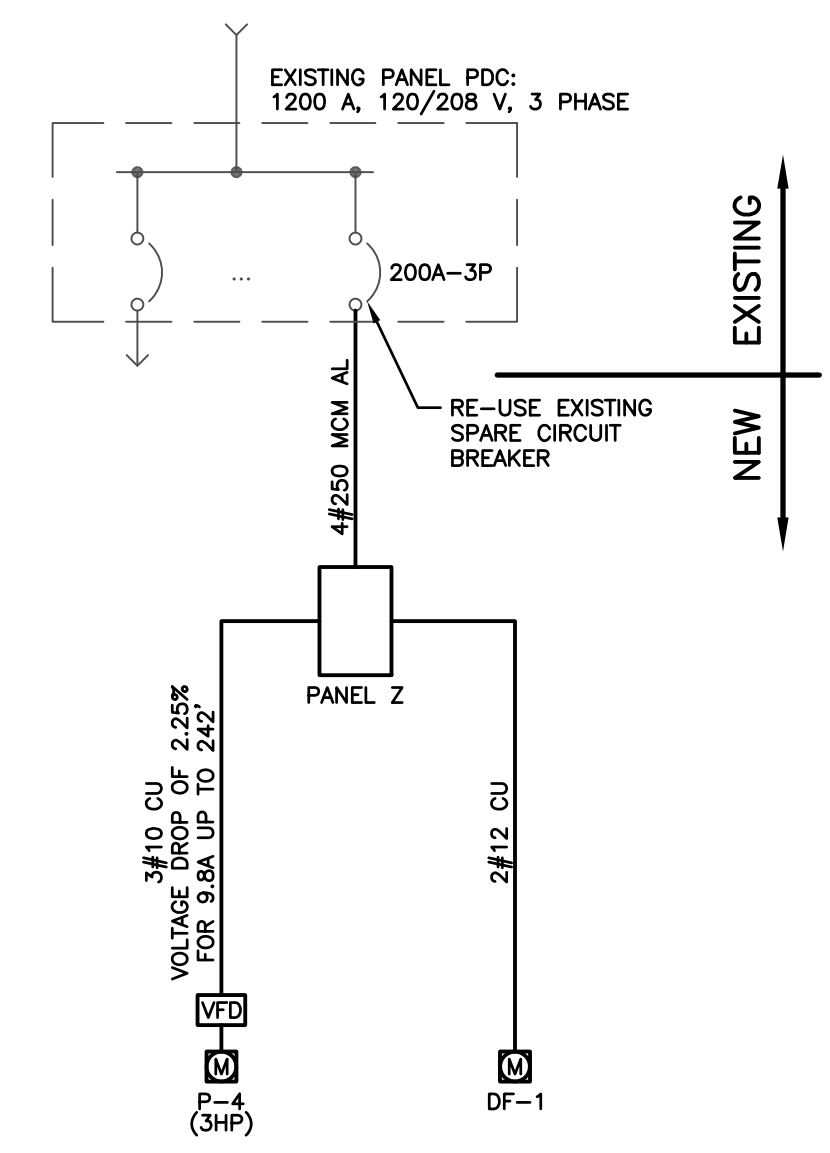


INSTALL:
STARTER IN SPARE MCC SLOT AND PROVIDE WIRING AND 1" CONDUIT TO P-3

DETAIL 2: MCC STARTER LOCATION
SCALE: N.T.S.

SYMBOL LEGEND

SYMBOL	MOUNTING	DESCRIPTION
□ PNL A	AS REQUIRED	PANEL BOARD 'A'
⊕	AS REQUIRED	JUNCTION BOX
Ⓜ	-	MECHANICAL EQUIPMENT CONNECTION
Ⓢ	AS REQUIRED	DISCONNECT SWITCH



SINGLE LINE DIAGRAM

MECHANICAL EQUIPMENT SCHEDULE

ITEM	DESCRIPTION	VOLTS/PHASE/FREQ	HP	kW	FLA	MCA	MOC	DISC.	STARTER	CONTROL	NOTES
P-3	ARMSTRONG 4380	208/3/60	3					30A-3P	MAGNETIC	BY MECH	1,4
P-4	PENTAIR SPARUS H3+	208-230/3/60	3	9.8			20	30A-3P	VFD	BY MECH	1,5
DF-1	ROTOFILTER DRUM FILTER	120/1/60	0.08					15A-1P		BY MECH	1
HP-1	HEAT PUMP	208-230/1/60		25	30	45		60A-2P		BY MECH	2
HP-2	HEAT PUMP	208-230/1/60		22.3	26.8	40		60A-2P		BY MECH	2
HP-3	HEAT PUMP	208-230/1/60		7	8.6	15		15A-2P		BY MECH	2
HP-3A	HEAT PUMP	208-230/1/60		7	8.6	15		15A-2P		BY MECH	2
HP-4	HEAT PUMP	208-230/1/60		7.2	8.8	15		15A-2P		BY MECH	2
HP-5	HEAT PUMP	208-230/1/60		17.3	20.8	30		30A-2P		BY MECH	2
HP-6	HEAT PUMP	208-230/1/60		7	8.6	15		15A-2P		BY MECH	3
HP-7	HEAT PUMP	208-230/1/60		7.2	8.8	15		15A-2P		BY MECH	2
HP-8	HEAT PUMP	208-230/1/60		7.2	8.8	15		15A-2P		BY MECH	2
HP-9	HEAT PUMP	208-230/1/60		15.7	19	30		30A-2P		BY MECH	2
HP-10	HEAT PUMP	208-230/1/60		15.7	19	30		30A-2P		BY MECH	2
HP-11	HEAT PUMP	208-230/1/60		7	8.6	15		15A-2P		BY MECH	2
HP-12	HEAT PUMP	208-230/1/60		7.2	8.8	15		15A-2P		BY MECH	2
HP-13	HEAT PUMP	208-230/1/60		7.2	8.8	15		15A-2P		BY MECH	2
HP-14	HEAT PUMP	208-230/1/60		11.1	13.5	20		30A-2P		BY MECH	2
HP-15	HEAT PUMP	208-230/1/60		11.1	13.5	20		30A-2P		BY MECH	2
HP-16	HEAT PUMP	208-230/1/60		7.2	8.8	15		15A-2P		BY MECH	2
HP-17	HEAT PUMP	208-230/1/60		7.2	8.8	15		15A-2P		BY MECH	2
HP-18	HEAT PUMP	208-230/1/60		17.3	20.8	30		30A-2P		BY MECH	2
HP-19	HEAT PUMP	208-230/1/60		15.7	19	30		30A-2P		BY MECH	2
HP-20	HEAT PUMP	208-230/1/60		4.3	5.2	15		15A-2P		BY MECH	2
HP-21	HEAT PUMP	208-230/1/60		7.2	8.8	15		15A-2P		BY MECH	2
HP-22	HEAT PUMP	208-230/1/60		7.2	8.8	15		15A-2P		BY MECH	2
HP-23	HEAT PUMP	208-230/1/60		11.1	13.5	20		30A-2P		BY MECH	2
HP-24	HEAT PUMP	208-230/1/60		17.3	20.8	30		30A-2P		BY MECH	2
HP-25	HEAT PUMP	208-230/1/60		7.2	8.8	15		15-2P		BY MECH	2
HP-26	HEAT PUMP	208-230/1/60		7.2	8.8	15		15A-2P		BY MECH	2
HP-27	HEAT PUMP	208-230/1/60		17.3	20.8	30		30A-2P		BY MECH	2
HP-28	HEAT PUMP	208-230/1/60		15.7	19	30		30A-2P		BY MECH	2
HP-29	HEAT PUMP	208-230/1/60		15.7	19	30		30A-2P		BY MECH	2
HP-30	HEAT PUMP	208-230/1/60		7.2	8.8	15		15A-2P		BY MECH	2
HP-31	HEAT PUMP	208-230/1/60		7.2	8.8	15		15A-2P		BY MECH	2
HP-32	HEAT PUMP	208-230/1/60		11.1	13.5	20		30A-2P		BY MECH	2
HP-33	HEAT PUMP	208-230/1/60		17.3	20.8	30		30A-2P		BY MECH	2

- NOTES:**
- PROVIDE POWER POINT CONNECTION AND DISCONNECT AS REQUIRED.
 - DISCONNECT EXISTING HEAT PUMP AND CONNECT NEW HEAT PUMP. RE-USE EXISTING CIRCUIT BREAKER AND BRANCH WIRING.
 - DISCONNECT EXISTING HEAT PUMP AND CONNECT NEW HEAT PUMP. REPLACE 20A-2P CIRCUIT BREAKER WITH A 15A-2P CIRCUIT BREAKER. RE-USE EXISTING BRANCH WIRING.
 - PROVIDE NEW MAGNETIC STARTER IN EXISTING EATON MCC.
 - VFD STARTER PROVIDED BY MECHANICAL. ELECTRICAL TO INSTALL.

ELECTRICAL CONTRACTOR MUST CONFIRM LOCATION, VOLTAGE, PHASE, AMPACITY OF ALL MECHANICAL EQUIPMENT BEFORE CONNECTION. REPORT ANY MAJOR DISCREPANCIES TO THE ELECTRICAL CONSULTANT. NO EXTRAS WILL BE ALLOWED FOR REMOVING INSTALLED CABLE AND BREAKERS FOR UNCOORDINATED MECHANICAL EQUIPMENT CONNECTION.

DESCRIPTION	WATTAGE			BKR	CIRC	BOILER RM IN TAYLOR BLDG			CIRC	BKR	WATTAGE			DESCRIPTION
	#A	#B	#C			A	B	C			#A	#B	#C	
P-4	1176			20	1				2	15	100			DF-1
					3				4					
				1176	3P	5			6					
					7				8					
					9				10					
					11				12					
					13				14					
					15				16					
					17				18					
					19				20					
					21				22					
					23				24					
					25				26					
					27				28					
					29				30					
					31				32					
					33				34					
					35				36					
					37				38					
					39				40					
					41				42					
TOTAL A	1,276													
TOTAL B	1,176													
TOTAL C	1,176													
TOTAL LOAD	3,628					10								

NO.		DEC 21 2016	ISSUED FOR TENDER
COMMENT		REVISION	
 RB ENGINEERING LTD ELECTRICAL CONSULTING ENGINEERS #4150 NORTHFIELD ROAD TEL: 250-756-4444 NANAIMO, BC, V9S 3B3 RBENGINEERING.CA			
CLIENT			
PROJECT			
PACIFIC BIOLOGICAL STATION CLEMENS BUILDING HVAC UPGRADE			
TITLE			
SITE PLAN ELECTRICAL LAYOUT			
PROJECT NO.	SEAL		
16-2481			
DATE			
DECEMBER, 2016			
SCALE			
AS SHOWN			
DRAWING NO.			
E-1			