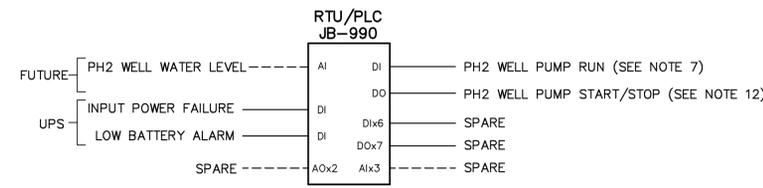
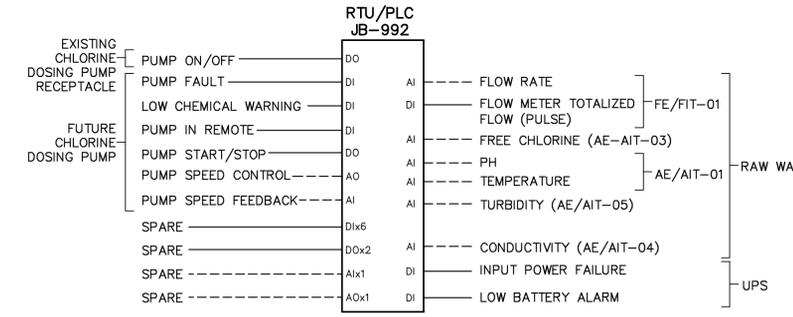


REMARKS	POWER: 120/240V, 1Ø, 3W	PANEL: A	SYM. I.C.: 10000 AMPS	REMARKS		
	No. OF CCTS.: 18	LOCATION: CHLORINATOR BUILDING (PH1)	MAINS: 100A AMPS			
DESIGNATION		LOAD	CIR.	DESIGNATION		
	PH A	PH B	No.	BKR	PH A	PH B
INTERIOR LIGHTS	300		1	15A	PH1 RTU/PLC PANEL	LOCK
EXTERIOR LIGHT		50	3	15A	FLOW METER	
RECEPTACLES	600		5	15A	FREE CHLORINE INSTRUMENT	
RESERVED FOR FUTURE CHLORINE METERING PUMP			7	15A	PH/CONDUCTIVITY/TURBIDITY	
SPACE			9	15A	CHLORINE METERING PUMP	GFI
SPACE			11	15A	SPACE	
SPACE			13	15A	SPACE	
SPACE			15	15A	SPACE	
SPACE			17	15A	SPACE	
PHASE A - TOTAL		SOURCE:				
PHASE B - TOTAL		FEEDER:				
PHASE C - TOTAL						
TOTAL LOAD: _____ KW, _____ AMP.						
REMARKS:						

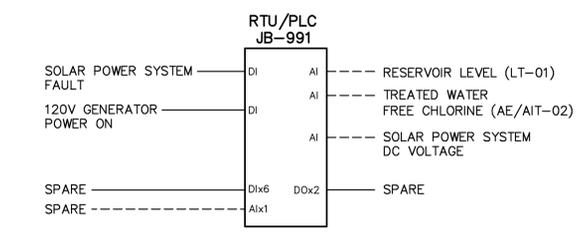


1 I/O LIST—BUILDING (PH2) RTU/PLC
N.T.S. (SEE NOTES 1,2,3,4,5 & 6)

REMARKS	POWER: 120/240V, 1Ø, 3W	PANEL: B	SYM. I.C.: 10000 AMPS	REMARKS		
	No. OF CCTS.: 18	LOCATION: CHLORINATOR BUILDING (PH1)	MAINS: 100A AMPS			
DESIGNATION		LOAD	CIR.	DESIGNATION		
	PH A	PH B	No.	BKR	PH A	PH B
INTERIOR LIGHTS			1	15A	RTU/PLC CONTROL PANEL	LOCK
RECEPTACLES			3	15A	TELECOM. CONTROL PANEL STRIP HEATER	LOCK
SUMP PUMP RECEPTACLE (IN WELL PIT)			5	15A	INTERNET ROUTER/FIREWALL	LOCK
WELL PIT LIGHT			7	15A	CONTROL PANEL STRIP HEATER	
SPACE			9	15A	SPACE	
SPACE			11	15A	SPACE	
SPACE			13	15A	SPACE	
SPACE			15	15A	SPACE	
SPACE			17	15A	SPACE	
PHASE A - TOTAL		SOURCE:				
PHASE B - TOTAL		FEEDER:				
PHASE C - TOTAL						
TOTAL LOAD: _____ KW, _____ AMP.						
REMARKS:						
① RECONNECT EXISTING LOAD.						



3 I/O LIST—(PH1) RTU/PLC
N.T.S. (SEE NOTES 1,2,3,4,5 & 6)



2 I/O LIST—RESERVOIR VALVE HOUSE RTU/PLC
N.T.S. (SEE NOTES 1,2,3,4,5 & 6)

LUMINAIRE TYPE	SUPPLY VOLTAGE	LAMP SOURCE	NUMBER OF LAMPS	LAMP WATTAGE	GENERAL DESCRIPTION
F1	120VAC	T8 FLUORESCENT	2	32W	1200mm INDUSTRIAL ENCLOSED AND GASKETED TYPE LUMINAIRE
L1	120VAC	LED	N/A	35W	WALL MOUNTED AREA LIGHT (FULL CUT-OFF), C/W INTEGRAL PHOTOCELL AND INTEGRAL MOTION SENSOR FOR DUAL LIGHT LEVEL CONTROL (15% AT LOW, 100% AT HIGH)

TYPE F - FLUORESCENT
TYPE L - LED

TAG	DESCRIPTION	VOLTAGE	PHASE	KW RATING	CONTROL	LOCATION	COMMENTS
EUH-1	UNIT HEATER	575	3	5	INTEGRAL THERMOSTAT	CHLORINATION BUILDING	INDUSTRIAL, HORIZONTAL FORCED FAN TYPE, DIE-FORMED STEEL CABINET WITH ADJUSTABLE LOUVERS, TUBULAR ELEMENTS WITH SPIRAL WOUND FINS, TOTALLY ENCLOSED PERMANENTLY LUBRICATED BALL BEARING FAN MOTOR, EPOXY POWDER COAT FINISH. UNIT HEATER TO BE C/W AUTOMATIC RESET, OVER TEMPERATURE PROTECTION, CONTROL CIRCUIT TERMINAL BLOCKS FOR FIELD WIRING, CONTACTOR, FAN SWITCH, WALL MOUNT KIT AND THERMOSTAT.

DEVICE No.	DESCRIPTION	LOCATION DWG. No.	INSTALLATION DWG. No.	PROCESS CONDITIONS	APPLICATION SPECIFIC SPECIFICATIONS
AE-01	RAW WATER PH/TEMP SENSOR	E01	DETAIL 1, P01	RAW WATER, LOCATED INDOORS, CONNECTED TO SAMPLE PIPE	NEMA 4X RATED, PH SENSOR, c/w 5m OF INTEGRAL CABLE (SEE NOTES 9 & 10)
AE-02	TREATED WATER FREE CHLORINE SENSOR	E01	P01	TREATED WATER, LOCATED INDOORS, CONNECTED TO SAMPLE PIPE	NEMA 4X RATED, FREE CHLORINE SENSOR, c/w 5m OF INTEGRAL CABLE (SEE NOTES 9 & 10)
AE-03	RAW WATER FREE CHLORINE SENSOR	E01	DETAIL 1, P01	RAW WATER, LOCATED INDOORS, CONNECTED TO SAMPLE PIPE	NEMA 4X RATED, FREE CHLORINE SENSOR, c/w 5m OF INTEGRAL CABLE (SEE NOTES 9 & 10)
AE-04	RAW WATER CONDUCTIVITY SENSOR	E01	DETAIL 1, P01	RAW WATER, LOCATED INDOORS, CONNECTED TO SAMPLE PIPE	NEMA 4X RATED, CONDUCTIVITY SENSOR, c/w 5m OF INTEGRAL CABLE (SEE NOTES 9 & 10)
AE/AIT-05	RAW WATER TURBIDITY	E01	DETAIL 1, P01	RAW WATER, LOCATED INDOORS, WALL MOUNTED	NEMA 4X RATED, 4-20mA OUTPUT SIGNAL, CALIBRATED RANGE OF 0-10 NTU (SEE NOTE 9)
AIT-01	RAW WATER PH/TEMP	E01	DETAIL 1, P01	LOCATED INDOORS, WALL MOUNTED	NEMA 4X RATED, 4-20mA OUTPUT SIGNAL, CALIBRATED RANGE OF 0-14PH (SEE NOTE 9)
AIT-02	TREATED WATER FREE CHLORINE ANALYZER	E01	P01	LOCATED INDOORS, WALL MOUNTED	NEMA 4X RATED, 4-20mA OUTPUT SIGNAL, CALIBRATED FOR 0-5 CL ₂ MG/L (SEE NOTE 9)
AIT-03	RAW WATER FREE CHLORINE ANALYZER	E01	DETAIL 1, P01	LOCATED INDOORS, WALL MOUNTED	NEMA 4X RATED, 4-20mA OUTPUT SIGNAL, CALIBRATED RANGE FOR 0-5 CL ₂ MG/L (SEE NOTE 9)
AIT-04	RAW WATER CONDUCTIVITY	E01	DETAIL 1, P01	RAW WATER, LOCATED INDOORS, WALL MOUNTED	NEMA 4X RATED, 4-20mA OUTPUT SIGNAL, CALIBRATED RANGE OF 10-2000 uS/cm ² (SEE NOTE 9)
FE/FIT-01	RAW WATER FLOW	E01	IN-LINE	LOCATED INDOORS, RAW WATER, 75mm DIA., 125 CLASS BACKING FLANGED CONNECTIONS, HORIZONTAL INSTALLATION.	75mm DIA. MAGNETIC FLOW METER WITH INTEGRAL ELECTRONICS (NEMA 4X RATED), CALIBRATED RANGE OF 0-30l/s, FLANGED CONNECTIONS, c/w RECOMMENDED GROUNDING EQUIPMENT (SEE NOTE 9)
JB-992	CHLORINATION BUILDING (PH1) PLC/RTU CONTROL PANEL	E01	DETAIL 2, E05	LOCATED INDOORS, WALL MOUNTED	NEMA 4X RATED, BOTTOM ENTRY CABLES, PLC/RTU CONTROL PANEL. REFER TO SCADA CONTROL SYSTEM BLOCK DIAGRAM (SEE NOTE 11)
JB-991	RESERVOIR PLC/RTU CONTROL PANEL	E01	DETAIL 2, E05	LOCATED INDOORS, WALL MOUNTED	NEMA 4X RATED, BOTTOM ENTRY CABLES, PLC/RTU CONTROL PANEL. REFER TO SCADA CONTROL SYSTEM BLOCK DIAGRAM AND I/O LIST (SEE NOTE 11)
JB-990	WELLHEAD ELECTRICAL BUILDING (PH2) CONTROL PANEL	E01	DETAIL 2, E05	LOCATED INDOORS, WALL MOUNTED	NEMA 12 RATED, BOTTOM ENTRY CABLES, PLC/RTU CONTROL PANEL. REFER TO SCADA CONTROL SYSTEM BLOCK DIAGRAM AND I/O LIST (SEE NOTE 11)
LT-01	RESERVOIR LEVEL	E01	DETAIL 4, E05	TREATED WATER, SUBMERSIBLE	SUBMERSIBLE PRESSURE TRANSMITTER, LOOP POWERED, CALIBRATED RANGE OF 0-3m, 4-20mA OUTPUT SIGNAL

- NOTES:**
- ELECTRICAL EQUIPMENT IS NEW UNLESS OTHERWISE NOTED.
 - ALL I/O INDICATED AS SPARE IS TO BE PRE-WIRED TO THE MAIN FIELD TERMINAL STRIP.
 - FOR EACH DI/DO, SUPPLY AND INSTALL 2x1C #14 AWG RW90 IN CONDUIT.
 - FOR EACH AI/AO, SUPPLY AND INSTALL 1PR. #16 AWG (SHIELDED & TWISTED) IN CONDUIT.
 - CONTRACTOR SHALL SUPPLY AND INSTALL AND SIZE CONDUITS, CONDUIT FITTINGS, PULL BOXES AND JUNCTION BOXES PER THE CANADIAN ELECTRICAL CODE. THE CONTRACTOR MAY COMBINE CONDUITS OF SIMILAR CIRCUITS AS DICTATED BY FIELD CONDITIONS AND THE CANADIAN ELECTRICAL CODE TO REDUCE THE NUMBER OF CONDUITS. THE MAXIMUM INSTRUMENTATION/CONTROL CONDUIT SIZE SHALL BE 53mm DIAMETER.
 - WIRE ANALOG INPUT TO BE EITHER LOOP POWERED OR SELF POWERED TO MATCH THE ACTUAL INSTRUMENT TO BE INSTALLED. FOR SPARE ANALOG INPUTS, WIRE TERMINALS FOR LOOP POWERED OPERATION WITH SPARE TERMINALS TO CHANGE TO SELF POWERED BY ADDING/REMOVING JUMPERS.
 - SUPPLY AND INSTALL CURRENT SWITCH, 600V, 1A-135A ADJUSTABLE, 1 N.O. STATUS CONTACT RATED AT 0.2A AT 120VAC IN WELL PUMP CONTROL PANEL FOR MONITORING THE WELL PUMP RUN STATUS.
 - THIS EQUIPMENT SCHEDULE IS FOR THE INSTRUMENTATION & CONTROLS EQUIPMENT REQUIRED TO BE PURCHASED DIRECTLY BY THE INSTALLATION CONTRACTOR. THIS LIST DOES NOT INCLUDE ANY INSTRUMENTATION AND CONTROLS EQUIPMENT SUPPLIED WITH PRE-PURCHASED EQUIPMENT VENDOR PACKAGES, BUILDING ELECTRICAL SYSTEMS, OR BUILDING MECHANICAL SYSTEMS.
 - REFER TO SPECIFICATION SECTION 26 90 00 FOR DETAILED SPECIFICATION REQUIREMENTS FOR EACH INSTRUMENT TYPE.
 - CONFIRM ALL INSTRUMENT INTEGRAL CABLE LENGTH REQUIREMENTS ON SITE BEFORE ORDERING EQUIPMENT.
 - REFER TO SPECIFICATION SECTION 26 91 00 FOR DETAILED SPECIFICATION REQUIREMENTS FOR CONTROL PANELS.
 - CONNECT START/STOP SIGNAL TO EXISTING WELL PUMP CONTROL PANEL (VCC-PH2) FOR AUTOMATIC CONTROL OF WELL PUMP IN "AUTO MODE".

No.	Description	Date	By
0	ISSUED FOR TENDER	JUNE 5/15	AB
A	ISSUED FOR 80% REVIEW	APRIL 8/15	AB

Revision or Issue

PARKS CANADA
BROAD COVE CAMPGROUND
WATER SYSTEM UPGRADES

ELECTRICAL
RTU/PLC I/O LISTS & SCHEDULES



Contract No. 142493.00	Date MAR 17/15	Scale N.T.S.
Designed LH	Drawn RuD	
Checked IR	Approved JAB	
Sheet No. 4 of 6	Drawing No. E04	

DRAWING NAME: PROJECTS\142493.00_BROAD COVE CAMPGROUND WATER SUPPLY\20 CAD\05 ELEC\142493.00_E04.DWG PLOT DATE: 2015-05-15 4:06:01 PM CAD OPERATOR: RWANDREW