



## REQUEST FOR STATEMENTS OF QUALIFICATIONS (RFSQ) No. 22-001

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**DATE:** December 3, 2021

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**Project Title:** Greater Nanaimo Pollution Control Centre Engineering Services for Basement MCC Replacement Project

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The Regional District of Nanaimo invites qualified and experienced firms to submit Statements of Qualifications to complete the design engineering for the replacement/upgrade of electrical and controls equipment in the Greater Nanaimo Pollution Control Center (GNPCC) Basement MCC Room, specifically Motor Control Centres MCC961, MCC962, MCC973 and control panel CP100.

### **A. Intent**

This Request for Statements of Qualifications (RFSQ) is issued to determine the most qualified and experienced service provider that can meet the Regional District of Nanaimo's requirements, expectations, and timeline.

The Regional District of Nanaimo will review submissions received in response to this RFSQ and enter discussions with the top-ranked Respondent to negotiate the terms, scope, timeline, and cost based on the actual scope of work required (the Work). Should these negotiations fail to result in a contract for the Work, the Regional District of Nanaimo may then elect to negotiate with the next highest ranked service provider and so on until an agreement is reached or the process cancelled.

In any event, the Regional District of Nanaimo shall not be bound to enter a contract with any Respondent to this RFSQ and, at its sole discretion, may elect to collapse this process.

### **B. Background**

The Regional District of Nanaimo (RDN) owns and operates the Greater Nanaimo Pollution Control Centre (GNPCC), located at 4600 Hammond Bay Road, Nanaimo B.C. The facility was constructed in 1973, and has seen numerous upgrades during its lifetime, most recently the upgrade to secondary treatment which was completed in November 2020.

The GNPCC Basement MCC Room contains electrical and controls equipment which is end of life and requires upgrade and/or replacement. The installed equipment no longer meets RDN expectations for safety, reliability and operability.

Photographs of the existing MCCs and control panel are included in Appendix A, available drawings in Appendix B.

### **C. Contemplated Scope of Services**

The general scope of services requested as part of this RFSQ includes:

- i. Review all available record documents and plant redline drawings to provide a design basis;
- ii. Perform a field audit of existing conditions and wiring as necessary to provide a complete engineered design. Field audits will be supported by a qualified RDN electrician where required;
- iii. Develop a complete detailed design to replace MCC961 and MCC962, upgrade MCC973 to DeviceNET, and replace CP100;
- iv. Develop detailed control narratives based on existing PLC logic to incorporate upgraded equipment (programming by others);
- v. Develop a detailed and complete equipment tender package for the replacement of MCC961, MCC962 and retrofit MCC973 with DeviceNET controls (RDN to issue);
- vi. Develop a detailed and complete equipment tender package for the replacement of CP100 with a new control panel and ControlLogix PLC (RDN to issue);
- vii. Develop an installation tender package for equipment referenced above (RDN to issue);
- viii. Provide procurement support during tendering of above-mentioned items. This includes shop drawing review, and prompt response to requests for information;
- ix. Detailed design to include all civil, structural, electrical, instrumentation, controls, required for a complete engineered design with future maintenance and operability in mind;
- x. Work with RDN operations and engineering to develop an execution strategy to mitigate process impact due to prolonged outage;
- xi. All design calculations are to be submitted to the owner for record.

### **D. Contemplated Schedule**

- Project award in January 2022;
- Project definition documents (50%) IFR - March 11, 2022;
- Class B Capital Cost Estimate ( $\pm$  20%) - April 1, 2022;
- MCC Tender IFR – April 14, 2022;
- MCC Tender IFT – May 6, 2022;
- MCC Vendor Drawings – July 29, 2022;
- Panel Tender IFR – May 6, 2022;
- Panel Tender IFT – May 27, 2022;
- Control Narrative IFR – June 24, 2022;
- Control Narrative IFD – July 22, 2022;
- Installation Drawings IFR – August 26, 2022;
- Installation Drawings IFT – September 23, 2022

### **E. Statement of Qualifications and Evaluation**

The statement of qualifications should be no longer than twelve (12) single sided pages in length (not including cover page, cover letter and appendices). Please include the following:

- Qualifications and areas expertise of the Firm and nominated Project Manager. Please include CV/Resume of the Project Manager and explain how this individual will provide value for the RDN.
-

- Experience of Firm and nominated Project Manager in previous relevant work. Provide short descriptions of similar projects and assignments completed by both the Firm and nominated Project Manager. Examples must be industrial in nature. Expertise in multiple industries is considered an asset.
- Describe your Firm’s approach and methodology to detailed engineering projects in an operating plant such as GNPCC. Also include:
  - Project management processes to assure quality and project control.
  - List of relevant engineering and design software
- Provide within the appendices sample documents that highlight your firm’s ability to execute the work. These documents must include:
  - Project Execution Plan Table of Contents (1 page)
  - Monthly progress report (1 page)
  - Process control narrative (2 pages)
  - Capital Cost Estimate template (1-2 pages)
  - Engineering work package (incl. table of contents) (1-3 pages)
- A statement of your firm’s ability to complete the work within the timeframe described.
- Indicate your firm’s ability to perform engineering work in the Province of British Columbia.

Statements of Qualifications (the “SOQ”) will be initially evaluated by the Regional District of Nanaimo based on the above and assigned a qualitative score out of 50. Any or all SOQs will not necessarily be accepted.

**E. Submission Date & Time**

Statements of Qualifications should be received **BY EMAIL ONLY** on or before 3:00 p.m. pacific standard time on the 9<sup>th</sup> day of January 2022. The RDN reserves the right to accept late submissions.

**F. Questions and Submissions**

Questions and submissions should be directed to:

**Duncan Taylor**  
**Manager, Engineering Services, Regional and Community Utilities**  
**Regional District of Nanaimo**  
**6300 Hammond Bay Road, V9T 6N2**  
**Phone: 250-390-6583**  
**Email: [dtaylor@rdn.bc.ca](mailto:dtaylor@rdn.bc.ca)**

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**REGIONAL  
DISTRICT  
OF NANAIMO**

**REQUEST FOR STATEMENTS OF  
QUALIFICATIONS (RFSQ) No. 22-001**

Date: December 2, 2021  
Ref. No: 22-001

**Appendix A: Photos**

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MCC-962 Rear



**MCC-962 Front**

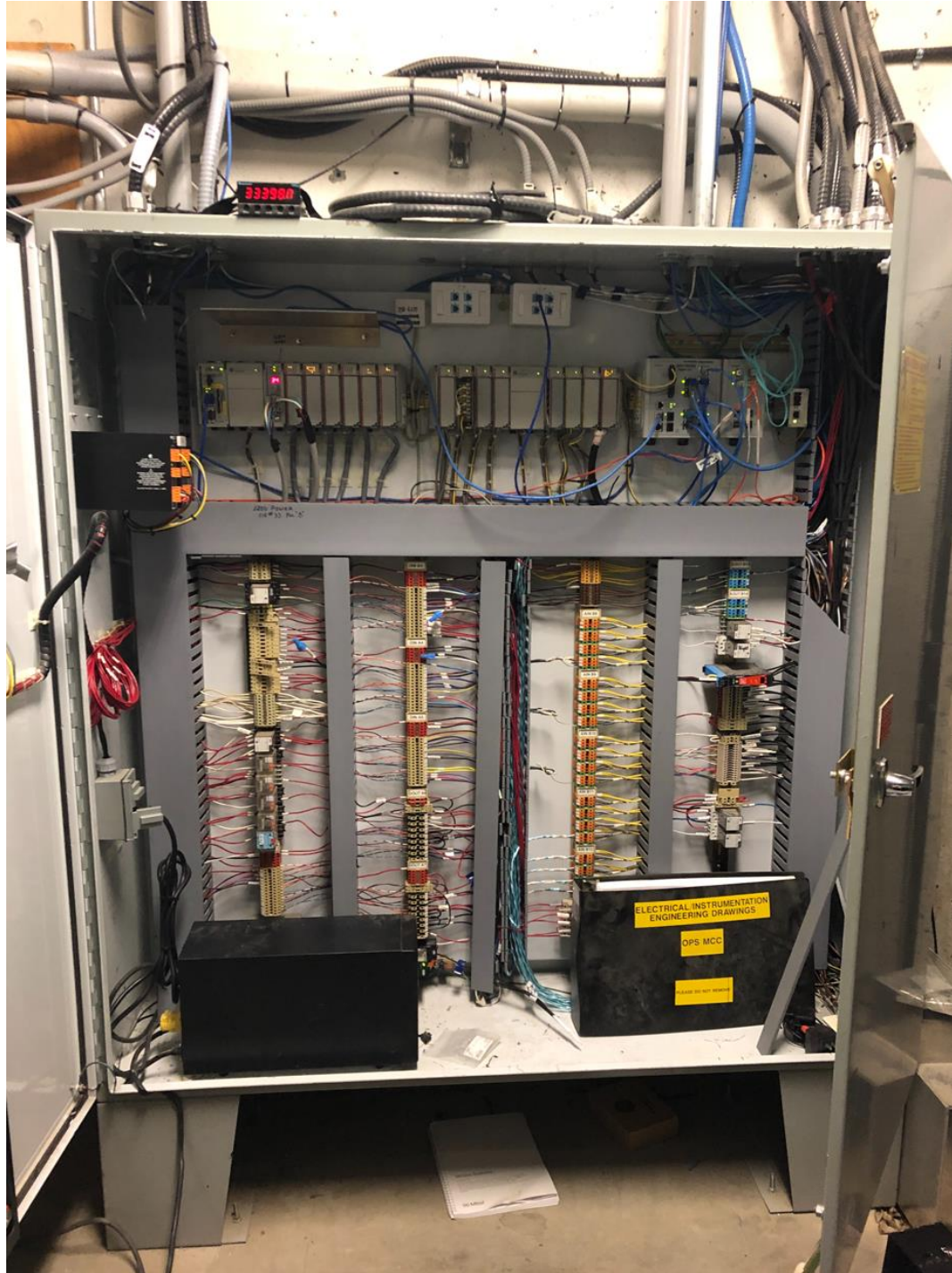


**MCC-961 Front**



MCC-973





CP-100



REGIONAL  
DISTRICT  
OF NANAIMO

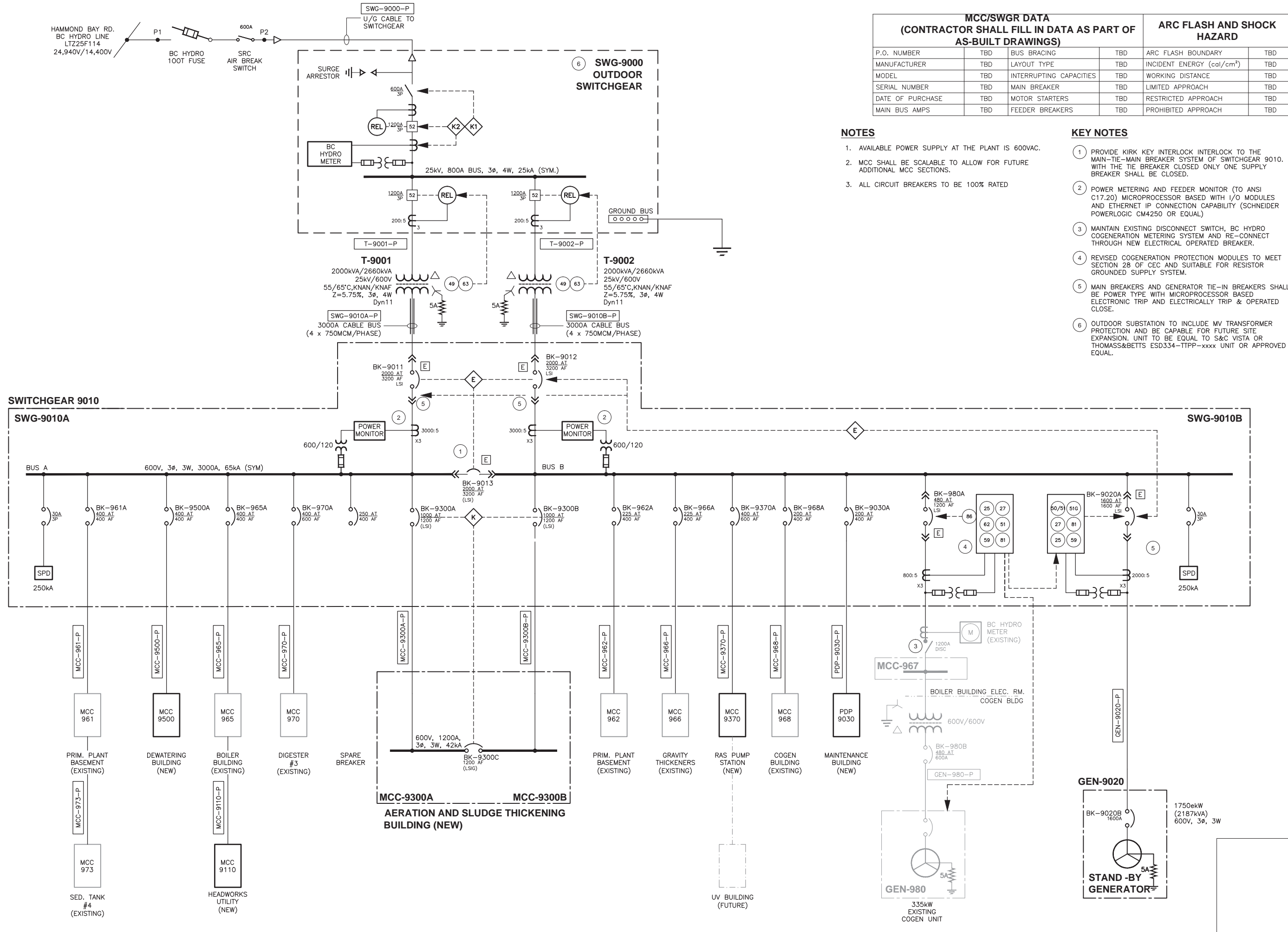
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Date: December 2, 2021  
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**Appendix B: Existing Drawings**

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MCC/SWGR DATA (CONTRACTOR SHALL FILL IN DATA AS PART OF AS-BUILT DRAWINGS)			ARC FLASH AND SHOCK HAZARD		
P.O. NUMBER	TBD	BUS BRACING	TBD	ARC FLASH BOUNDARY	TBD
MANUFACTURER	TBD	LAYOUT TYPE	TBD	INCIDENT ENERGY (cal/cm <sup>2</sup> )	TBD
MODEL	TBD	INTERRUPTING CAPACITIES	TBD	WORKING DISTANCE	TBD
SERIAL NUMBER	TBD	MAIN BREAKER	TBD	LIMITED APPROACH	TBD
DATE OF PURCHASE	TBD	MOTOR STARTERS	TBD	RESTRICTED APPROACH	TBD
MAIN BUS AMPS	TBD	FEEDER BREAKERS	TBD	PROHIBITED APPROACH	TBD

**NOTES**

1. AVAILABLE POWER SUPPLY AT THE PLANT IS 600VAC.
2. MCC SHALL BE SCALABLE TO ALLOW FOR FUTURE ADDITIONAL MCC SECTIONS.
3. ALL CIRCUIT BREAKERS TO BE 100% RATED

**KEY NOTES**

1. PROVIDE KIRK KEY INTERLOCK INTERLOCK TO THE MAIN-TIE-MAIN BREAKER SYSTEM OF SWITCHGEAR 9010. WITH THE TIE BREAKER CLOSED ONLY ONE SUPPLY BREAKER SHALL BE CLOSED.
2. POWER METERING AND FEEDER MONITOR (TO ANSI C17.20) MICROPROCESSOR BASED WITH I/O MODULES AND ETHERNET IP CONNECTION CAPABILITY (SCHNEIDER POWERLOGIC CM4250 OR EQUAL)
3. MAINTAIN EXISTING DISCONNECT SWITCH, BC HYDRO COGENERATION METERING SYSTEM AND RE-CONNECT THROUGH NEW ELECTRICAL OPERATED BREAKER.
4. REVISED COGENERATION PROTECTION MODULES TO MEET SECTION 28 OF CEC AND SUITABLE FOR RESISTOR GROUNDED SUPPLY SYSTEM.
5. MAIN BREAKERS AND GENERATOR TIE-IN BREAKERS SHALL BE POWER TYPE WITH MICROPROCESSOR BASED ELECTRONIC TRIP AND ELECTRICALLY TRIP & OPERATED CLOSE.
6. OUTDOOR SUBSTATION TO INCLUDE MV TRANSFORMER PROTECTION AND BE CAPABLE FOR FUTURE SITE EXPANSION. UNIT TO BE EQUAL TO S&C VISTA OR THOMAS&BETTS ESD334-TTPP-xxxx UNIT OR APPROVED EQUAL.

REGIONAL DISTRICT OF NANAIMO  
 GREATER NANAIMO POLLUTION CONTROL CENTRE  
 SECONDARY TREATMENT UPGRADE  
 ELECTRICAL  
 SITE POWER DISTRIBUTION  
 SINGLE LINE DIAGRAM

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 DRAWING No. E-112

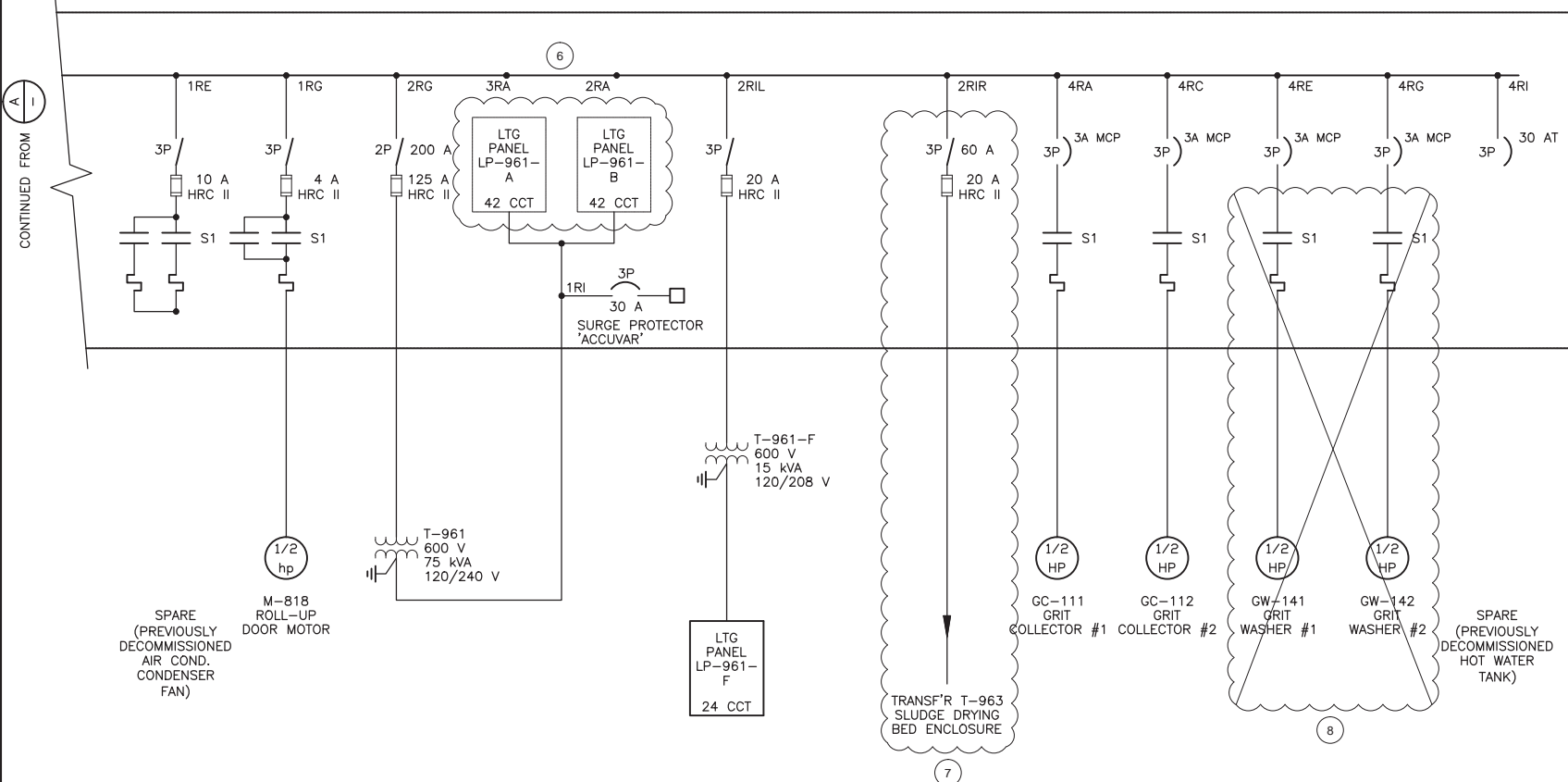
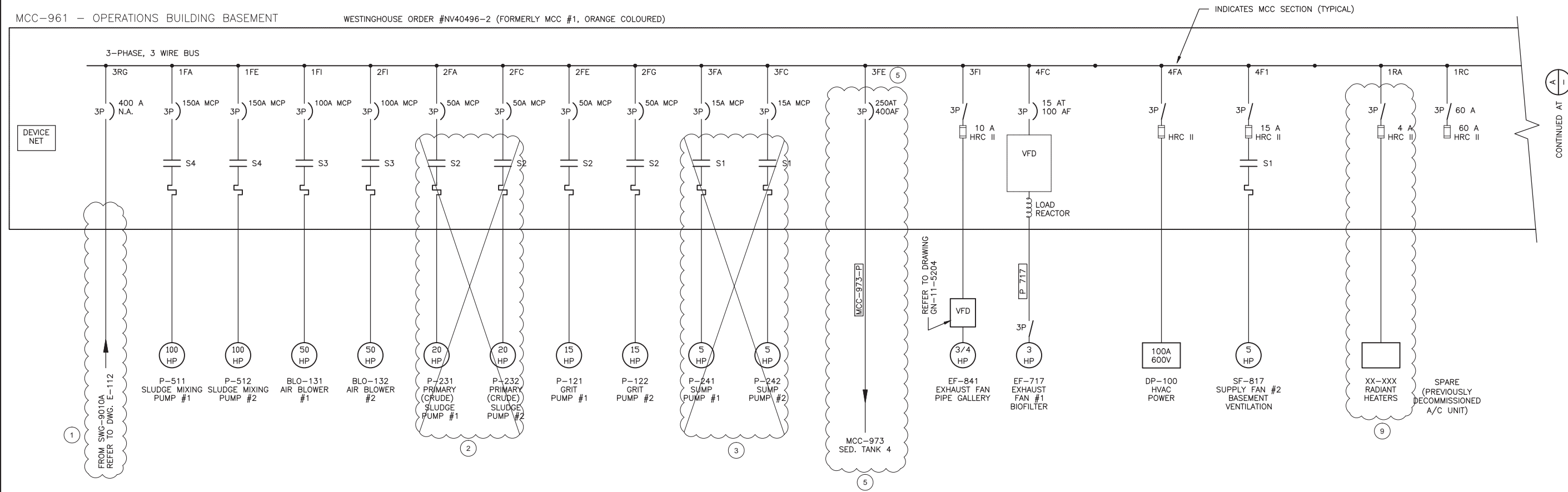
PREPARED BY: AECOM  
 4th FLOOR,  
 3282 PRODUCTION WAY,  
 BURNABY, B.C., V5A 4R4  
 604-444-6400

DRN BY: WM  
 DES BY: LCS  
 CHK BY: LCS  
 APP BY: LCS  
 RJK

ISSUED FOR CONSTRUCTION 1  
 ISSUED FOR TENDER 0  
 REV 0

2017/03/01  
 2016/11/28  
 DATE (Y/M/D)  
 KSB LCS  
 KSB LCS  
 DRN CHK  
 DESCRIPTION

VERIFY SCALE IF PLAN SHEET IS REDUCED  
 30 mm



**KEY NOTES**

- ① RE-FEED MCC961 FROM NEW 600V SWITCHGEAR SWG-9010A
- ② PRIMARY (CRUDE) SLUDGE PUMPS 1 & 2 (P-231, P-232) HAVE PREVIOUSLY BEEN REMOVED AND ARE FED FROM MCC-973.
- ③ REMOVE OPERATIONS BUILDING SUMP PUMPS 1 & 2 (P-241, P-242). THEY WILL BE REPLACED WITH NEW SUMP PUMPS (P-8010, P-8020), WHICH WILL BE FED FROM MCC-973
- ④ REMOVE SLUDGE COLLECTOR 1 & 2 (SC-211, SC-212). THEY WILL BE REPLACED BY PRIMARY SEDIMENTATION TANK 1 & 2 SLUDGE COLLECTORS (SCP-211D, SCP-212D), WHICH WILL BE FED FROM MCC-9110
- ⑤ ADD NEW FEED TO MCC-973. REMOVE COMPONENTS IN CELL 3FE AND 3FG AND FIT OUT CELL 3FE WITH A 400A FRAME CIRCUIT BREAKER. MERGE CELLS 3FE AND 3FG IF REQUIRED.
- ⑥ REMOVE CIRCUITS FROM EXISTING PANELBOARDS (LP-961-A, LP-961-B AND LP-961-F) AS REQUIRED DURING DEMOLITION. NEW PANELBOARDS FOR THE OPERATIONS BUILDING WILL BE FED FROM MCC-973. EXISTING PANELBOARDS MAY BE DECOMMISSIONED DEPENDING ON THE NUMBER OF CIRCUITS REMAINING AFTER DEMOLITION
- ⑦ REMOVE FEED TO SLUDGE DRYING BED MCC MCC-963. CONFIRM FIRST WITH OPERATIONS THAT THIS LOAD HAS BEEN DECOMMISSIONED.
- ⑧ REMOVE GRIT WASHER 1 & 2 (GW-141, GW-142). THEY WILL BE REPLACED BY GRIT CYCLONE 1 & 2 (GCY-1151, GCY-1161) AND GRIT CLASSIFIER 1 & 2 (GCL-1150, GCL-1160), WHICH WILL BE FED FROM MCC-9110
- ⑨ REMOVE EXISTING RADIANT HEATERS AND ASSOCIATED CABLING BACK TO MCC-961. TAG MCC BUCKET AS "SPARE"

DRNBY:	WM	DES BY:	LCS	CHK BY:	LCS	ISSUED FOR CONSTRUCTION	2017/03/01	2016/11/28
APP BY:	0	REV	0	DESCRIPTION	0	ISSUED FOR TENDER	0	0



REGIONAL DISTRICT OF NANAIMO  
 GREATER NANAIMO POLLUTION CONTROL CENTRE  
 SECONDARY TREATMENT UPGRADE  
 ELECTRICAL  
 OPERATIONS BUILDING  
 MCC-961 SINGLE LINE DIAGRAM

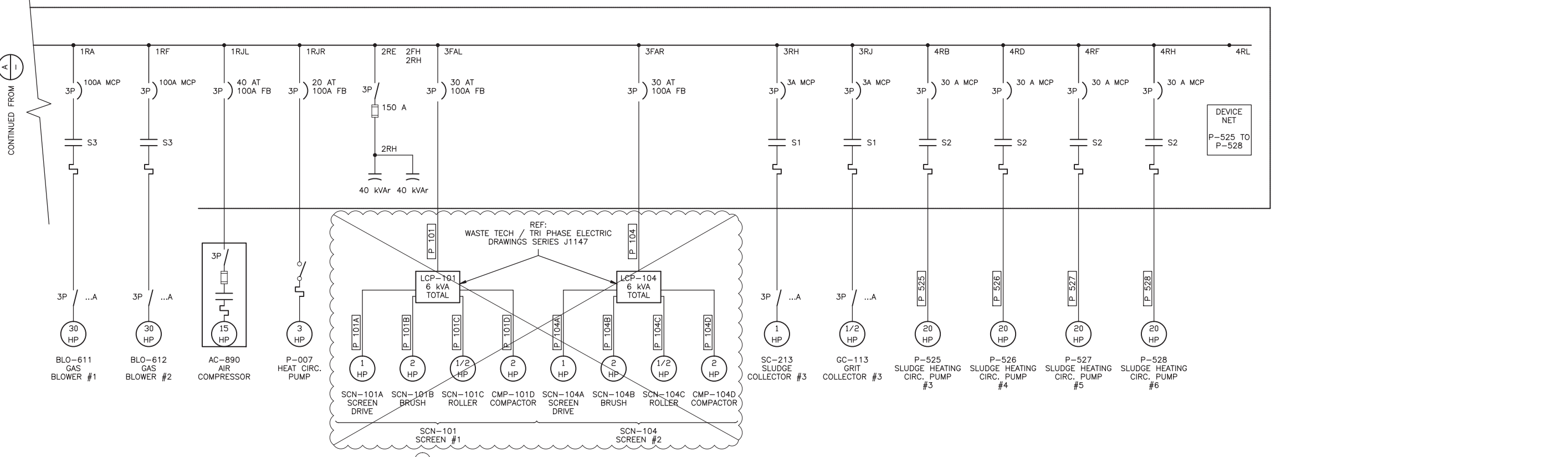
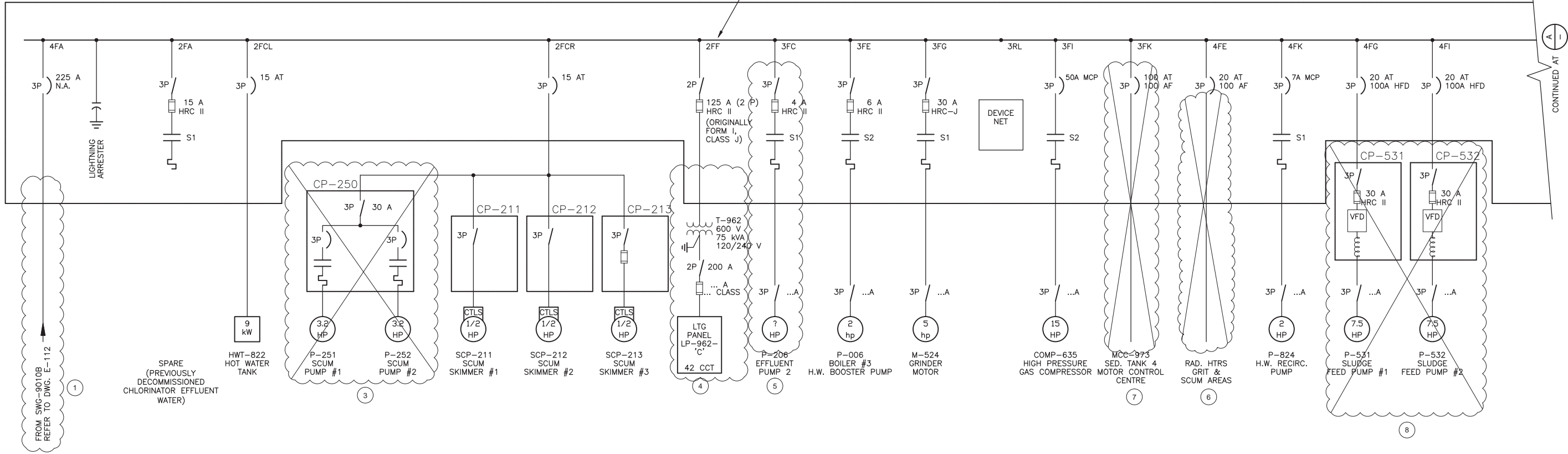
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MCC-962 - OPERATIONS BUILDING BASEMENT

ORIGINAL MCC (SECTION 1 & 2) - WESTINGHOUSE ORDER #NV40496-1 (FORMERLY MCC #2, ORANGE COLOURED)  
 ADDITION 1 - (SECTION 3) - WESTINGHOUSE ORDER #06B202480 (GREY COLOURED)  
 ADDITION 2 - (SECTION 4) - WESTINGHOUSE ORDER #37B6150 (GREY COLOURED)

INDICATES MCC SECTION (TYPICAL)



KEY NOTES

- RE-FEED MCC-962 FROM NEW 600V SWITCHGEAR SWG-9010B
- ELECTRICAL COMPONENTS AND RATINGS IN CELL 2FA FOR CHLORINATOR EFFLUENT WATER REQUIRE SITE VERIFICATION
- REMOVE EXISTING SCUM SUMP PUMPS 1 & 2 (P-251, P-252), AND CONTROL PANEL CP-250
- REMOVE CIRCUITS FROM EXISTING PANELBOARD (LP-962-C) AS REQUIRED DURING DEMOLITION. NEW PANELBOARDS FOR THE OPERATIONS BUILDING WILL BE FED FROM MCC-973. EXISTING PANELBOARDS MAY BE DECOMMISSIONED DEPENDING ON THE NUMBER OF CIRCUITS REMAINING AFTER DEMOLITION
- ELECTRICAL COMPONENTS AND RATINGS IN CELL 3FC FOR EFFLUENT PUMP 2 REQUIRE SITE VERIFICATION
- REMOVE EXISTING RADIANT HEATERS AND ASSOCIATED CABLING BACK TO MCC-961. TAG MCC BUCKET AS "SPARE"
- REMOVE FEED TO MCC-973. NEW FEED TO MCC-973 WILL BE FROM MCC-961. ELECTRICAL COMPONENTS AND RATINGS IN CELL 3FK REQUIRE SITE VERIFICATION.
- REMOVE SLUDGE FEED PUMPS P-531 AND P-532, AND CONTROL PANELS CP-531 AND CP-532. PUMPS SHALL BE RE-FED FROM MCC-973 AND VFDS SHALL BE INSTALLED INSIDE THE MCC CELLS.
- REMOVE SCREEN 1 & 2 LOCAL CONTROL PANELS AND ASSOCIATED EQUIPMENT. THEY WILL BE REPLACED BY RAW SEWAGE SCREENS 1 & 2 (SCN-1010, SCN-1020) AND SCREENINGS WASHER COMPACTOR 1 & 2 (CMP-1070, CMP-1080), WHICH WILL BE FED FROM MCC970

DRNBY:	WM	DES BY:	LCS	CHK BY:	LCS	ISSUED FOR CONSTRUCTION	1	ISSUED FOR TENDER	0
REV	0	REV	0	REV	0	REV	0	REV	0
DATE (YMD)	2017/03/01	DATE (YMD)	2016/11/28	DATE (YMD)	2016/11/28	DATE (YMD)	2016/11/28	DATE (YMD)	2016/11/28

PREPARED FOR:

REGIONAL DISTRICT OF NANAIMO

PREPARED BY:

AECOM

4th FLOOR,  
 3282 PRODUCTION WAY,  
 BURNABY, B.C., V5A 4R4  
 604-444-6400

REGIONAL DISTRICT OF NANAIMO  
 GREATER NANAIMO POLLUTION CONTROL CENTRE  
 SECONDARY TREATMENT UPGRADE

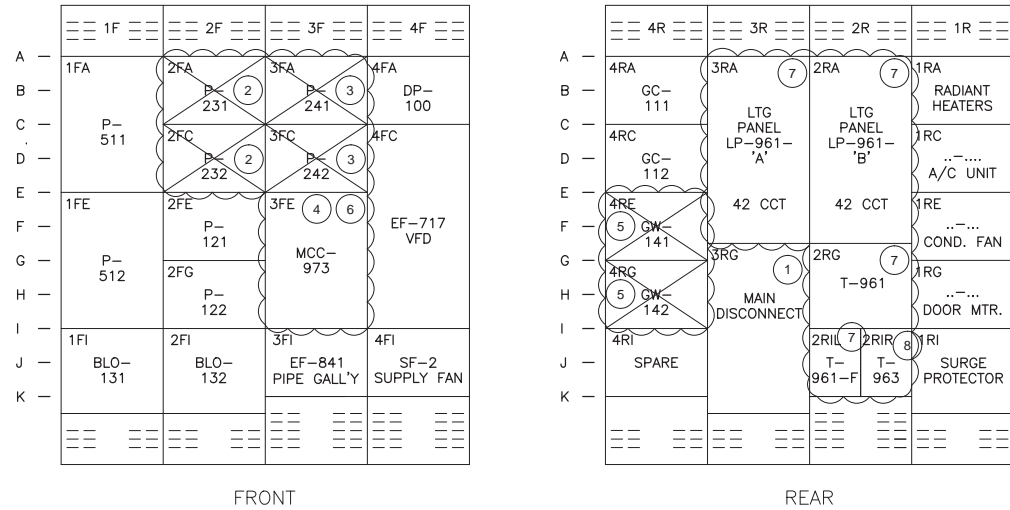
ELECTRICAL  
 OPERATIONS BUILDING  
 MCC-962 SINGLE LINE DIAGRAM

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**NOTES**

1. MCC CELLS WHICH SERVES EQUIPMENT WHICH ARE TO BE REMOVED MAY BE LEFT IN PLACE. CABLES SHALL BE REMOVED AND CELLS LABELS/TAGS SHALL BE REMOVED AND 'SPARE' LABELS SHALL BE FITTED.
2. MCC ORDER NUMBER - WESTINGHOUSE ORDER NV40496-1



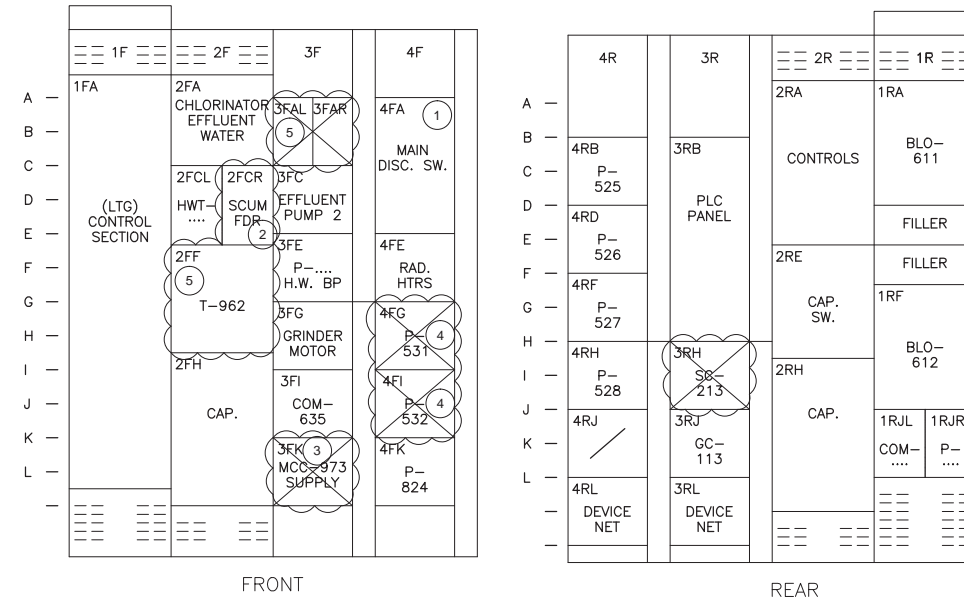
**MCC-961 ELEVATION**  
N.T.S

**KEY NOTES - MCC-961**

- 1 RE-FEED MCC-961 FROM NEW 600V SWITCHGEAR SWG-9010A
- 2 PRIMARY (CRUDE) SLUDGE PUMPS 1 & 2 (P-231, P-232) HAVE PREVIOUSLY BEEN REMOVED AND ARE FED FROM MCC-973.
- 3 REMOVE OPERATIONS BUILDING SUMP PUMPS 1 & 2 (P-241, P-242). THEY WILL BE REPLACED WITH NEW SUMP PUMPS (P-8010, P-8020), WHICH WILL BE FED FROM MCC-973
- 4 REMOVE SLUDGE COLLECTOR 1 & 2 (SC-211, SC-212). THEY WILL BE REPLACED BY PRIMARY SEDIMENTATION TANK 1 & 2 SLUDGE COLLECTORS (SCP-211D, SCP-212D), WHICH WILL BE FED FROM MCC-9110
- 5 REMOVE GRIT WASHER 1 & 2 (GW-141, GW-142). THEY WILL BE REPLACED BY GRIT CYCLONE 1 & 2 (GCY-1151, GCY-1161) AND GRIT CLASSIFIER 1 & 2 (GCL-1150, GCL-1160), WHICH WILL BE FED FROM MCC-9110
- 6 ADD NEW FEED TO MCC-973. REMOVE COMPONENTS IN CELL 3FE AND 3FG AND FIT OUT CELL 3FE WITH A 400A FRAME CIRCUIT BREAKER. MERGE CELLS 3FE AND 3FG IF REQUIRED.
- 7 REMOVE CIRCUITS FROM EXISTING PANELBOARDS (LP-961-A, LP-961-B AND LP-961-F) AS REQUIRED DURING DEMOLITION. NEW PANELBOARDS FOR THE OPERATIONS BUILDING WILL BE FED FROM MCC-973. EXISTING PANELBOARDS PLUS ASSOCIATED TRANSFORMERS AND FEEDERS MAY BE DECOMMISSIONED DEPENDING ON THE NUMBER OF CIRCUITS REMAINING AFTER DEMOLITION
- 8 REMOVE FEED TO SLUDGE DRYING BED MCC MCC-963. CONFIRM FIRST WITH OPERATIONS THAT THIS LOAD HAS BEEN DECOMMISSIONED.

**NOTES**

1. MCC CELLS WHICH SERVES EQUIPMENT WHICH ARE TO BE REMOVED MAY BE LEFT IN PLACE. CABLES SHALL BE REMOVED AND CELLS LABELS/TAGS SHALL BE REMOVED AND 'SPARE' LABELS SHALL BE FITTED.
2. MCC ORDER NUMBER - (ORIGINAL MCC, SECTION 1 AND 2) WESTINGHOUSE ORDER NV40496-1
3. MCC ORDER NUMBER - (ADDITION 1, SECTION 3) WESTINGHOUSE FIVE STAR 06B202480
4. MCC ORDER NUMBER - (ADDITION 2, SECTION 4) WESTINGHOUSE FIVE STAR 37B6150



**MCC-962 ELEVATION**  
N.T.S

**KEY NOTES - MCC-962**

- 1 RE-FEED MCC-962 FROM NEW 600V SWITCHGEAR SWG-9010B
- 2 REMOVE EXISTING SCUM SUMP PUMPS 1 & 2 (P-251, P-252), AND CONTROL PANEL CP-250
- 3 REMOVE FEED TO MCC-973. NEW FEED TO MCC-973 WILL BE FROM MCC-961.
- 4 REMOVE SLUDGE FEED PUMPS P-531 AND P-532, AND CONTROL PANELS CP-531 AND CP-532. PUMPS SHALL BE RE-FED FROM MCC-973 AND VFDS SHALL BE INSTALLED INSIDE THE MCC CELLS.
- 5 REMOVE SCREEN 1 & 2 LOCAL CONTROL PANELS AND ASSOCIATED EQUIPMENT. THEY WILL BE REPLACED BY RAW SEWAGE SCREENS 1 & 2 (SCN-1010, SCN-1020) AND SCREENINGS WASHER COMPACTOR 1 & 2 (CMP-1070, CMP-1080), WHICH WILL BE FED FROM MCC970
- 6 REMOVE CIRCUITS FROM EXISTING PANELBOARDS (LP-962-C) AS REQUIRED DURING DEMOLITION. NEW PANELBOARDS FOR THE OPERATIONS BUILDING WILL BE FED FROM MCC-973. EXISTING PANELBOARDS PLUS ASSOCIATED TRANSFORMERS AND FEEDERS MAY BE DECOMMISSIONED DEPENDING ON THE NUMBER OF CIRCUITS REMAINING AFTER DEMOLITION

RECORD DRAWING - NOT TO BE USED FOR CONSTRUCTION OR ALTERATIONS. ALL ITEMS SHOWN, MATERIALS, AND DIMENSIONS TO BE CONFIRMED ON SITE.

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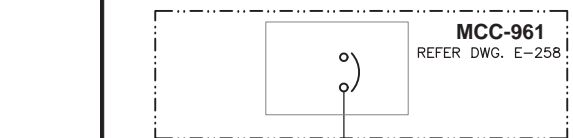
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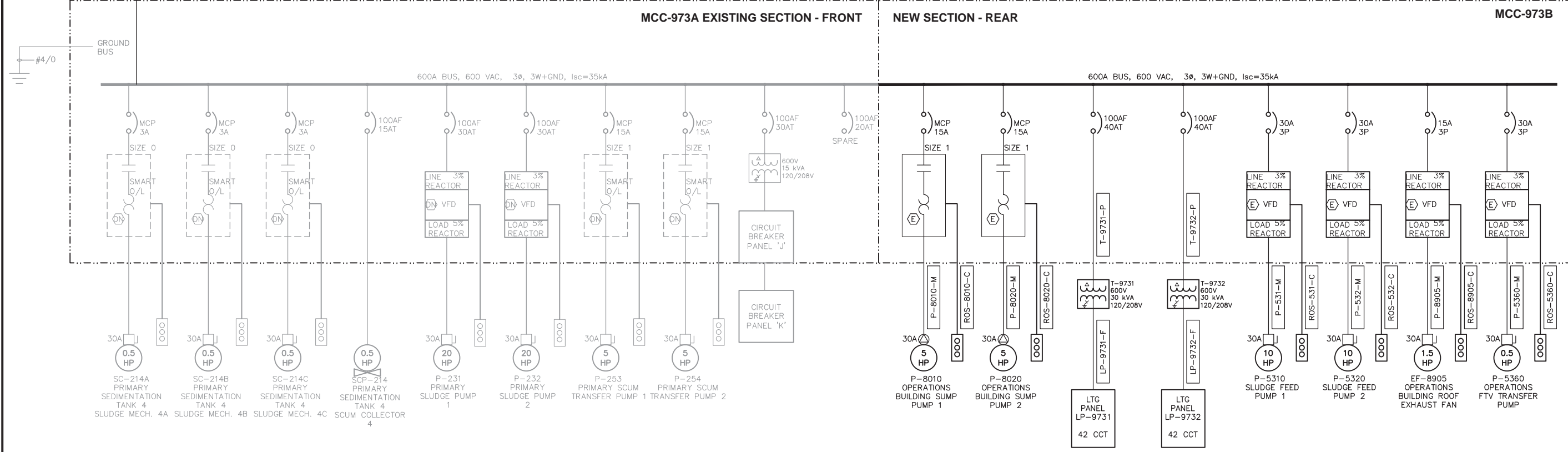
PREPARED BY:  
**AECOM**  
4th FLOOR,  
3892 PRODUCTION WAY,  
BURNABY, B.C., V5A 4R4  
604-444-6400

**REGIONAL DISTRICT OF NANAIMO**  
GREATER NANAIMO POLLUTION CONTROL CENTRE  
SECONDARY TREATMENT UPGRADE  
ELECTRICAL  
OPERATIONS BUILDING  
MCC-961 & MCC-962 ELEVATIONS

PROJECT START DATE (M/Y)	APR/2015
PROJECT NO.	60343972
FILENAME	E-260.dwg
RDN DRAWING No.	
DRAWING No.	<b>E-260</b>



MCC-973-P MCC ORDER NUMBER - ALLEN BRADLEY ORDER 6501191522/100



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B		SPARE 20A	DEVICENET	
C	SC-214A	SC-214B		CIRCUIT BREAKER PANEL 'J'
D			SC-214C	
E				CIRCUIT BREAKER (TRANSFORMER)
F	P-231	P-232	P-253	
G				TRANSFORMER
H			P-254	
J				
K				
L				
M				

**MCC-973A ELEVATION - BUS A (EXISTING)**  
1:10

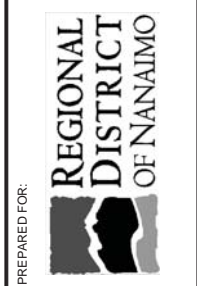
	1	2	3	4
A	BUS CONNECTION	ETHERNET POWER SUPPLY	T-9731	SPACE
B			T-9732	
C	SPACE	ETHERNET SWITCH	P-8010	SPACE
D	SPACE	SPACE		
E			P-8020	SPACE
F				
G				
H	P-5310	P-5320		
J			EF-8905	P-5360
K				
L				
M	VFD	VFD	VFD	VFD

**MCC-973B ELEVATION - BUS B (NEW)**  
1:10

**GENERAL NOTES**

1. AVAILABLE POWER SUPPLY AT THE PLANT IS 600VAC
2. PROVIDE NAMEPLATE WITH DEVICENET NODE NUMBER FOR EACH PIECE OF EQUIPMENT ON DEVICENET NETWORK AND INSTALL AT ASSOCIATED MCC DOOR.
3. MCC SHALL BE SCALABLE TO ALLOW FOR FUTURE ADDITIONAL MCC SECTIONS.
4. LAYOUT FOR INFORMATION PURPOSES ONLY. ACCURATE LAYOUT SHALL BE PROVIDED BY MCC MANUFACTURER.
5. EXTEND EXISTING CONCRETE HOUSEKEEPING PAD TO ACCOMMODATE MCC.
6. SLUDGE FEED PUMPS REMOVED FROM MCC962 AND LOCAL CONTROL PANEL REMOVED AND REPLACED WITH VFD IN MCC973.

DRN	WM	DES BY	LCS	CHK BY	LCS	ISSUED FOR CONSTRUCTION	2017/03/01	2016/11/28	DATE (YMD)
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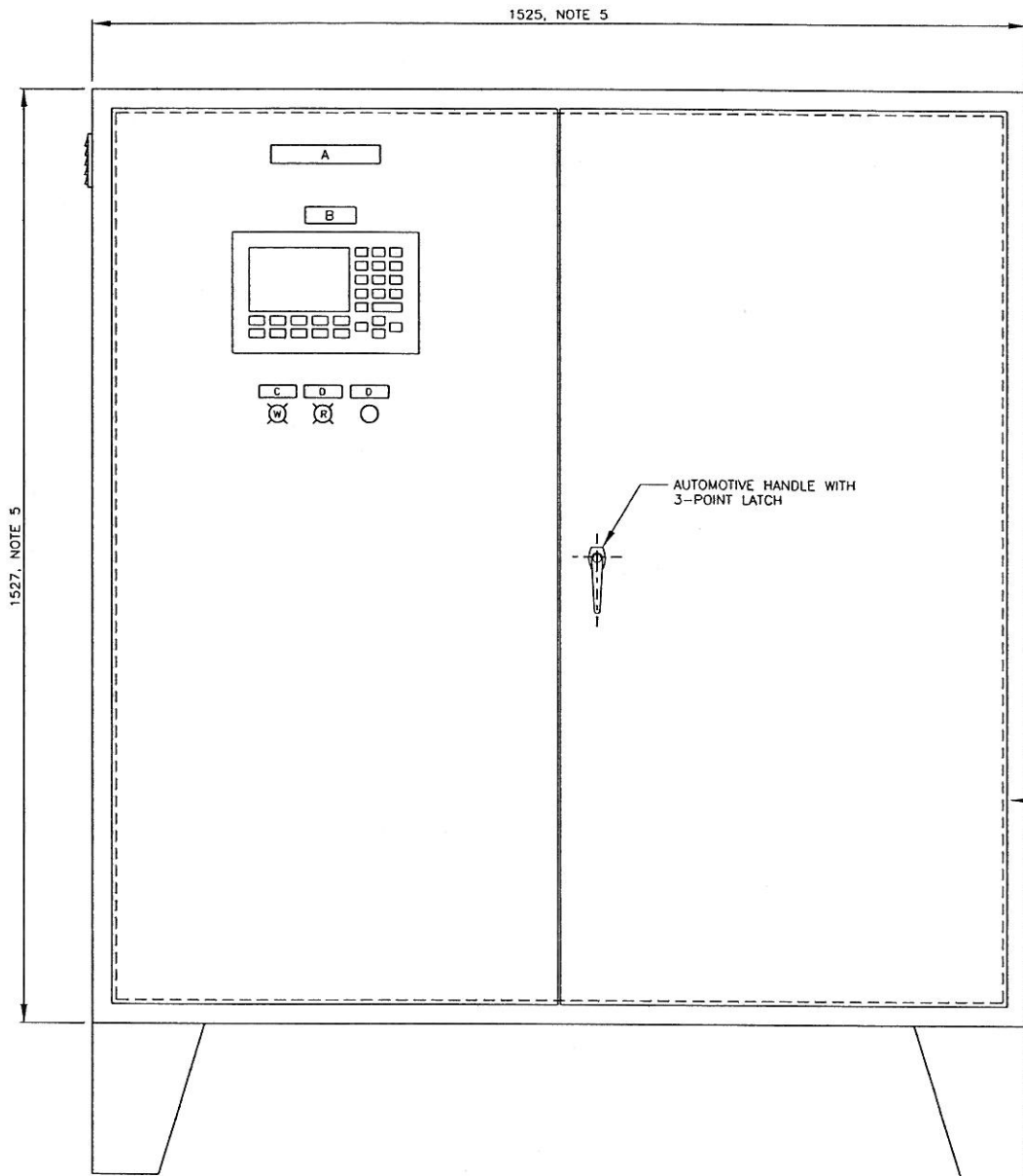


PREPARED BY:  
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3282 PRODUCTION WAY,  
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604-444-6400

**REGIONAL DISTRICT OF NANAIMO**  
GREATER NANAIMO POLLUTION CONTROL CENTRE  
SECONDARY TREATMENT UPGRADE  
ELECTRICAL  
OPERATIONS BUILDING  
MCC-973 SINGLE LINE DIAGRAM AND ELEVATION

PROJECT START DATE (M/Y)	APR/2015
PROJECT NO.	60343972
FILENAME	E-261.dwg
RDN DRAWING No.	GN-OPS-E-131
DRAWING No.	<b>E-261</b>

Plotted By: bloneyk  
Plot File Date Created: Mar/03/2017 11:13 AM  
Layout-Sheet Name: E-261  
Filename: P:\60343972\900-WORK\910 CAD\20-SHEETS\EIC\ELECTRICAL\E-261.DWG



**PANEL DOOR LAYOUT**  
N.T.S.

**NOTES**

1. PLACE A GROUND TERMINAL AT THE TOP OF EACH TERMINAL BLOCK ROW AND AN END BRACKET AT THE BOTTOM.
2. CONNECT WIRING FROM PLC TO RIGHT SIDE OF TERMINAL BLOCKS. CONNECT FIELD WIRING TO LEFT SIDE OF TERMINALS. RUN WIRING TO DOOR IN TOP WIRING DUCT.
3. GROUND BAR FOR "BONDING GROUND": USE FOR GROUNDING PANEL CHASSIS, DOORS, INNER PANELS, TECK CABLE GROUNDS, ANALOG SHIELDS AND 24V- TERMINAL ON DC POWER SUPPLY.
4. INSTALL (2) LOUVRED VENT PLATES AS SHOWN.
5. DIMENSIONS SHOWN ARE MINIMUM REQUIREMENTS; REFER TO SPECIFICATION SECTION 16445. MINIMUM DEPTH IS 424 mm.
6. PROVIDE SHEET FOR MODEM. MINIMUM 12"Wx8"D

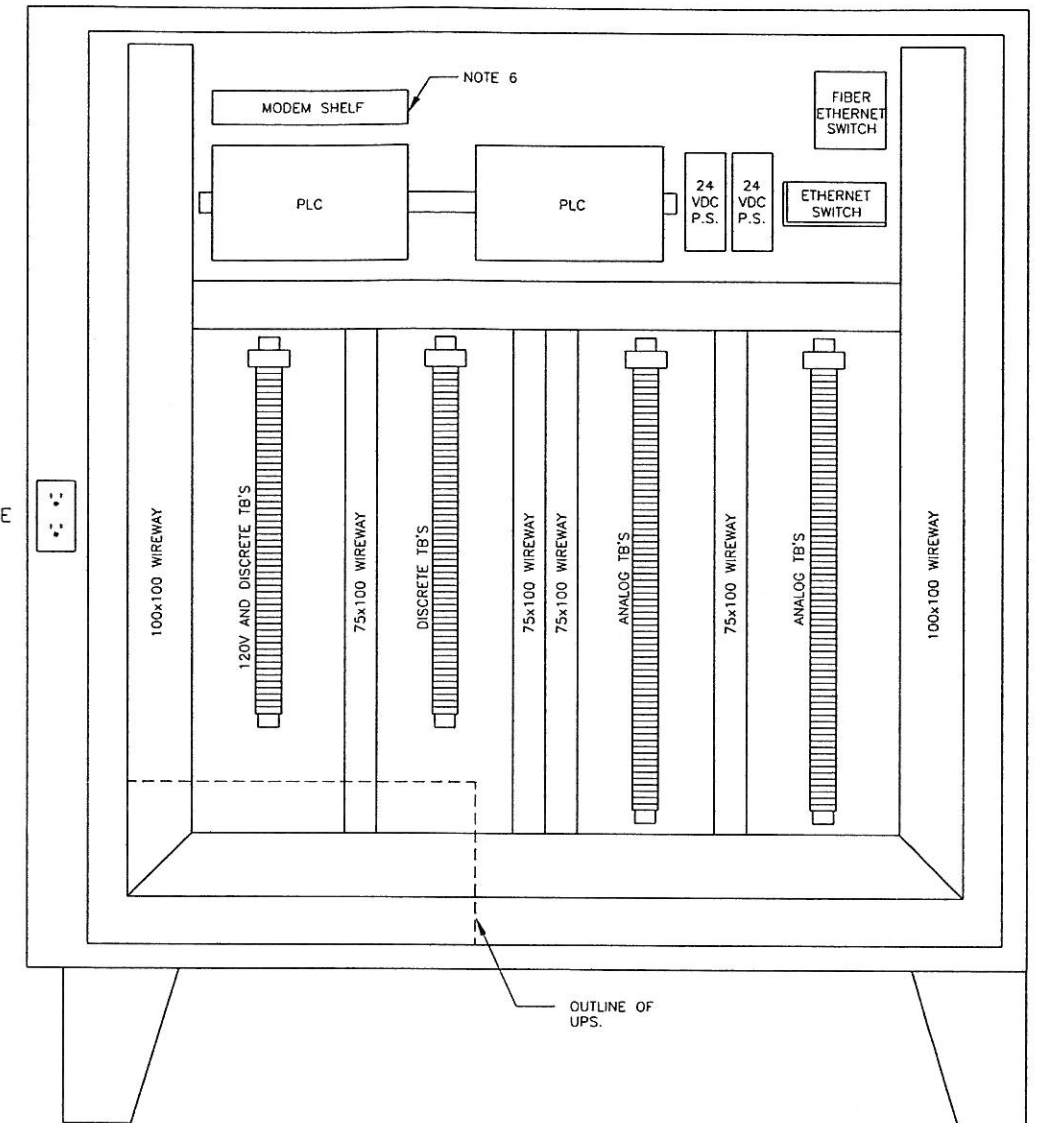
**NAMEPLATES**

1. 2-PLY LAMACOID, 3mm THICK WITH BEVELLED EDGES. WHITE FACE, BLACK CORE TO PROVIDE BLACK WRITING ON A WHITE SURFACE.
2. TAG NUMBER ON TOP LEFT, REMAINING TEXT IS CENTERED.
3. VERIFY THAT THE NAMEPLATE SIZES ARE ADEQUATE BEFORE FABRICATION.
4. ITEM 'A' WITH 10mm HIGH LETTERING.
5. REMAINING NAMEPLATE LETTER SIZE TO BE 4 mm HIGH.
6. RED FACE WITH WHITE LETTERING FOR DANGER LABELS.

ITEM	TEXT
A	CP-100 CONTROL PANEL
B	BOILER CONTROL PANEL
C	XI-100 CONTROL POWER ON
D	XA-100 GENERAL ALARM
E	HS-100 ALARM RESET

**NOTE**

1. INSTALL RECEPTABLE ON SIDE WALL OF PANEL



**PANEL INTERIOR LAYOUT**  
(SHOWN WITH DOORS OPEN)  
N.T.S.

NO.	DATE	ENG.	BY	SUBJECT
4	2004/06/02	K.N.	M.I.	NEW MAIN SCADA PANEL
3	03/10/17	J.T.	S.T.	CP-500 UPDATES
2	03/08/22	J.T.	S.T.	ISSUED FOR CONSTRUCTION
0	03/05/23	K.N.	S.T.	ISSUED FOR TENDER

VERIFY SCALES

BAR IS 20mm ON ORIGINAL DRAWING

0 — 20mm

IF NOT 20mm ON THIS SHEET, ADJUST SCALES ACCORDINGLY

**ASSOCIATED ENGINEERING**

PROJECT No.	0982819	
SCALE	NONE	
DRAWN	S. Thing	
DESIGNED	K. Neave	KN
CHECKED	M. Laurin	ML
APPROVED		
DATE		INITIAL

REGIONAL DISTRICT OF NANAIMO

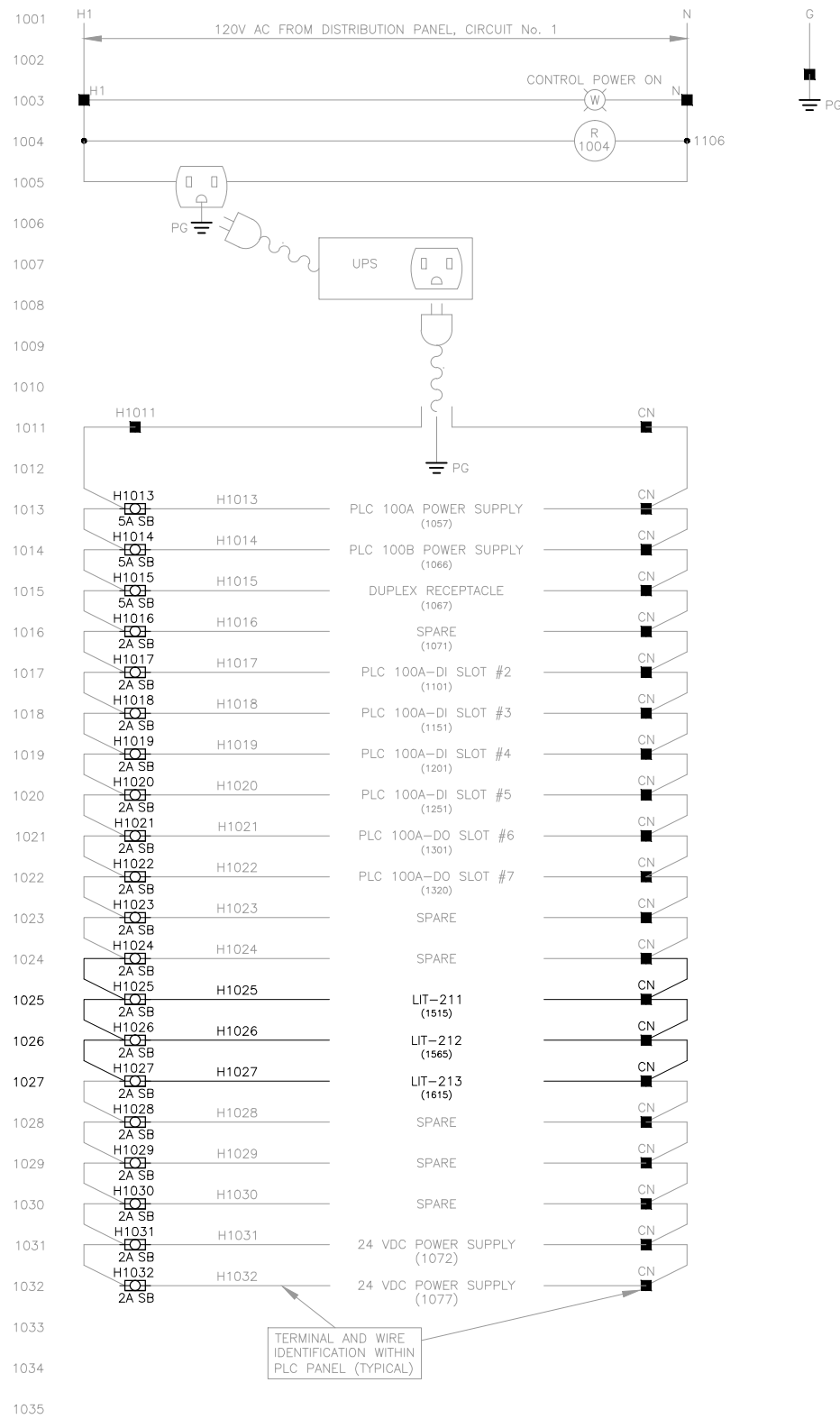
CONTROL PANEL CP-100  
GENERAL ARRANGEMENT

GREATER NANAIMO  
PCC  
MAIN SCADA PANEL

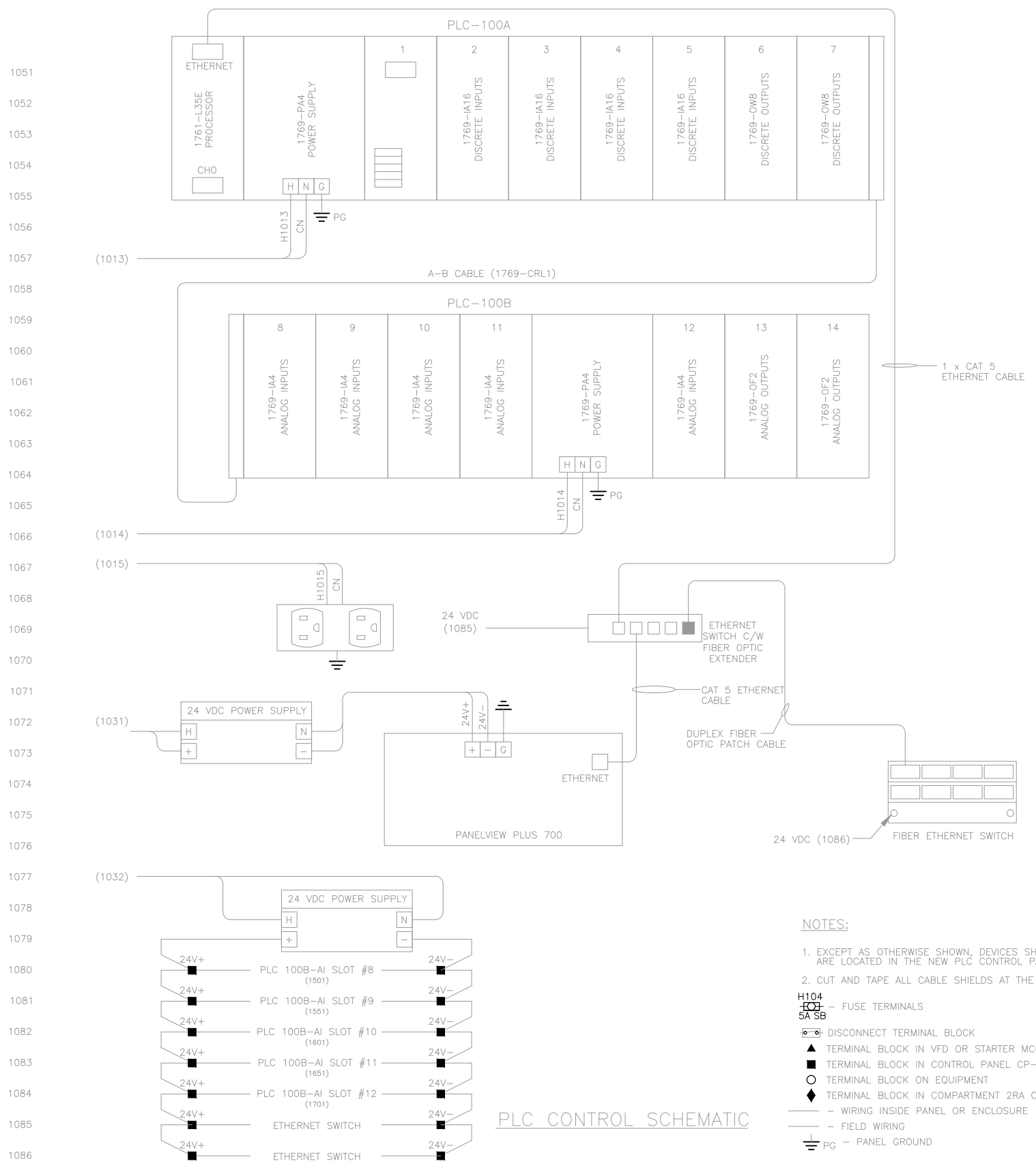
DRAWING NUMBER	REV. NO.	SHEET
GN-06-7120	4	



This Drawing Is For The Use Of The Client And Project Indicated  
No Representations Of Any Kind Are Made To Other Parties



PLC CONTROL SCHEMATIC



PLC CONTROL SCHEMATIC

- NOTES:
- EXCEPT AS OTHERWISE SHOWN, DEVICES SHOWN ON THIS DRAWING ARE LOCATED IN THE NEW PLC CONTROL PANEL.
  - CUT AND TAPE ALL CABLE SHIELDS AT THE FIELD DEVICE.
- H104  
5A SB
- - FUSE TERMINALS
  - - DISCONNECT TERMINAL BLOCK
  - ▲ - TERMINAL BLOCK IN VFD OR STARTER MCC COMPARTMENT
  - - TERMINAL BLOCK IN CONTROL PANEL CP-500
  - - TERMINAL BLOCK ON EQUIPMENT
  - ◆ - TERMINAL BLOCK IN COMPARTMENT 2RA OF MCC-962
  - - WIRING INSIDE PANEL OR ENCLOSURE
  - - FIELD WIRING
  - PG - PANEL GROUND

GN-I-OPS-011

NO.	DATE	ENG.	BY	SUBJECT
2	2009/JAN	K.N.	S.L.	RECORD DRAWING
1	2007/06/01	K.N.	Y.K.	ISSUED FOR CONSTRUCTION
0	2006/11/30	K.N.	P.C.	ISSUED FOR TENDER

REVISIONS

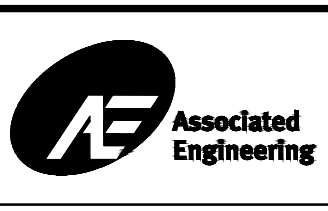
VERIFY SCALES

BAR IS 20mm ON ORIGINAL DRAWING

0 20mm

IF NOT 20mm ON THIS SHEET, ADJUST SCALES ACCORDINGLY

THE INFORMATION CONTAINED ON THIS DRAWING, OTHER THAN CHANGES MADE BY ASSOCIATED ENGINEERING (B.C.) LTD. ORIGINATED FROM SOURCES OTHER THAN THE DESIGN PROFESSIONAL AND ASSOCIATED ENGINEERING (B.C.) LTD., DOES NOT WARRANT OR REPRESENT THAT SUCH INFORMATION IS ACCURATE OR REPRESENTS THE ORIGINAL DESIGN AS CONTAINED IN THE CONTRACT DOCUMENTS.



PROJECT No.	982819-215
SCALE	NONE
DRAWN	P. CUI
DESIGNED	K. NEAVE
CHECKED	M. LAURIN
APPROVED	L. PICKARD
DATE	

REGIONAL DISTRICT OF NANAIMO

INSTRUMENTATION AND CONTROL CONTROL PANEL CP-100

PLC CONTROL SCHEMATICS SHEET 1 OF 8

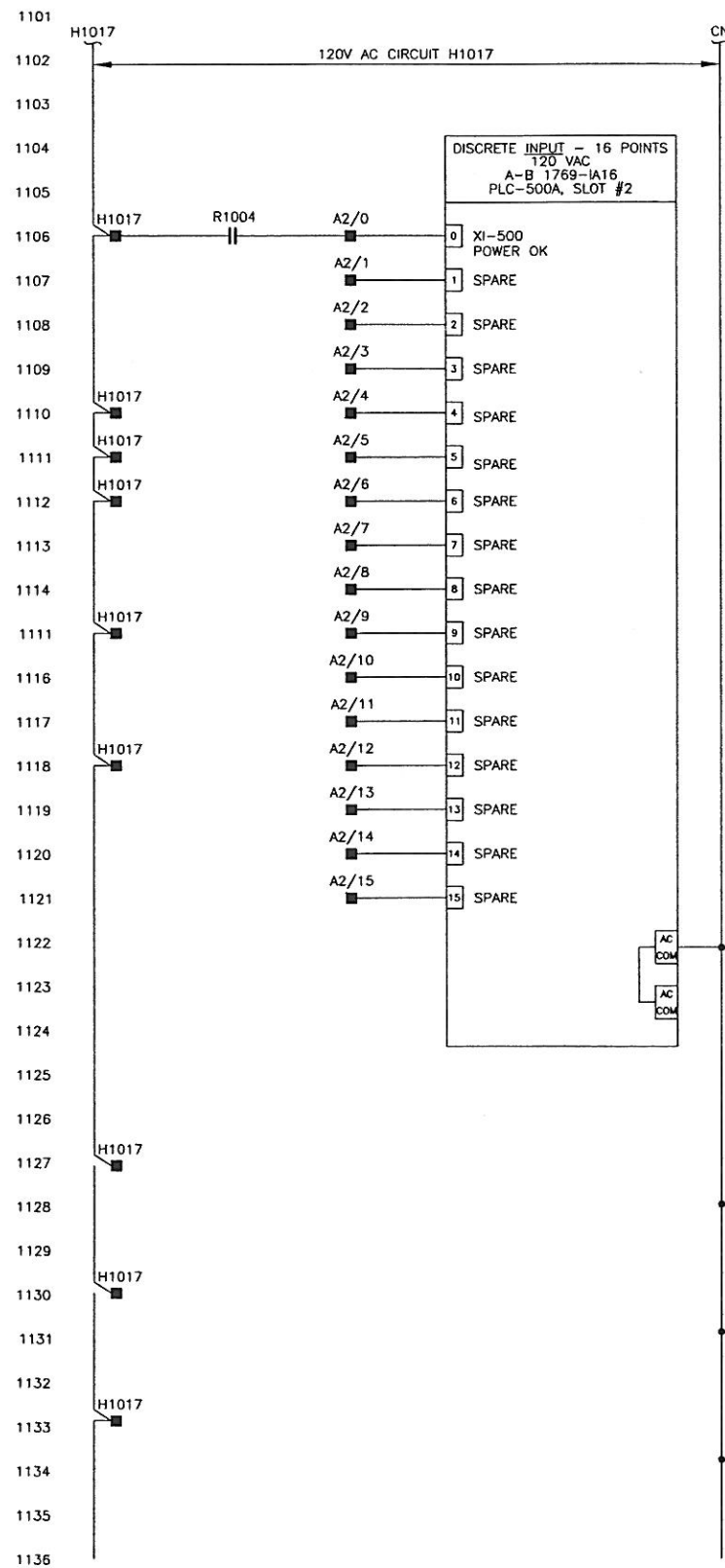
GREATER NANAIMO PCC GRAVITY THICKENERS		
DRAWING NUMBER	REV. NO.	SHEET
GN-17-7121	2	

Time: 12:54 Date: 2007/6/3 User: s. Secor Plot: S:\proj\1 - GN-17-7121 - GN-OPS-011 - INSTR\GND-UNED1-2007-TEMP\GN17712.DWG (M)

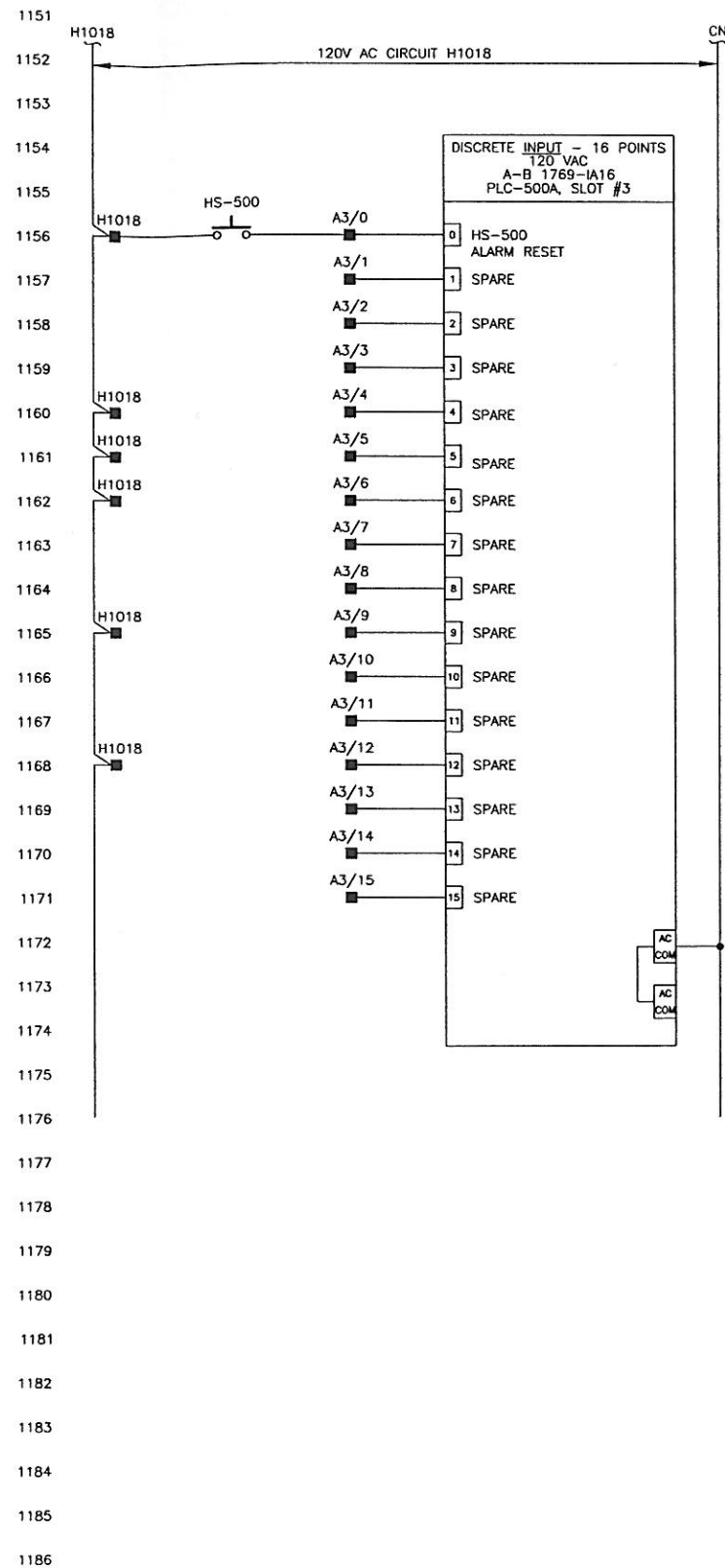
This Drawing Is For The Use Of The Client And Project Indicated  
No Representations Of Any Kind Are Made To Other Parties

AutoCAD File: Q:\982819\GN\INSTR\GN067122.DWG (ST)  
Plot Scale: 1=1 (Paper Space)

Date: 2004/8/27  
Time: 14:45



PLC CONTROL SCHEMATIC



PLC CONTROL SCHEMATIC

**NOTES:**

1. EXCEPT AS OTHERWISE SHOWN, DEVICES SHOWN ON THIS DRAWING ARE LOCATED IN THE NEW PLC CONTROL PANEL.
2. CUT AND TAPE ALL CABLE SHIELDS AT THE FIELD DEVICE.
3. RE-USE OR REPLACE EXISTING TERMINALS AS PER DRAWINGS.
4. BRIDGE ALL UNUSED ANALOG INPUTS.

H104  
 - FUSE TERMINALS  
 SA SB

- DISCONNECT TERMINAL BLOCK

- TERMINAL BLOCK IN VFD OR STARTER MCC COMPARTMENT

- TERMINAL BLOCK IN CONTROL PANEL CP-500

- TERMINAL BLOCK ON EQUIPMENT

— - WIRING INSIDE PANEL OR ENCLOSURE

— - FIELD WIRING

PG - PANEL GROUND

NO.	DATE	ENG.	BY	SUBJECT
4	04/04/28	K.N.	M.I.	NEW MAIN SCADA PANEL
3	03/10/17	K.N.	S.T.	CP-500 UPDATES
2	03/08/22	K.N.	S.T.	ISSUED FOR CONSTRUCTION
0	03/05/23	K.N.	S.T.	ISSUED FOR TENDER

REVISIONS

VERIFY SCALES

BAR IS 20mm ON ORIGINAL DRAWING

0 20mm

IF NOT 20mm ON THIS SHEET, ADJUST SCALES ACCORDINGLY

**ASSOCIATED ENGINEERING**

PROJECT No.	0982819		
SCALE	N.T.S.		
DRAWN	S. Thing		
DESIGNED	K. Neave	KN	
CHECKED	M. Laurin	ML	
APPROVED	L. PICKARD		
DATE	03/05/28	INITIAL	

REGIONAL DISTRICT OF NANAIMO

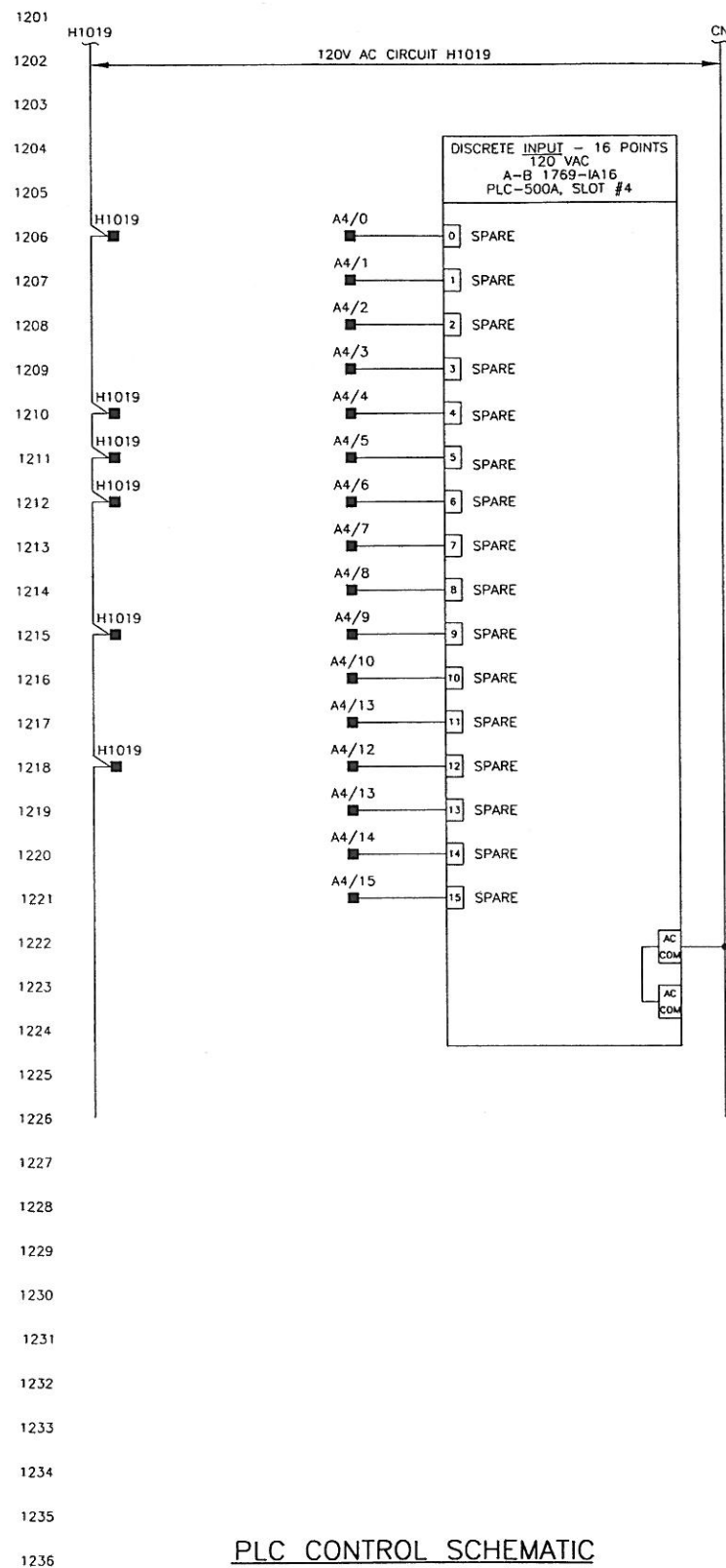
CONTROL PANEL CP-100  
 PLC CONTROL SCHEMATICS SHEET 2 OF 8

GREATER NANAIMO PCC		MAIN SCADA PANEL	
DRAWING NUMBER	REV. NO.	SHEET	
GN-06-7122	3		

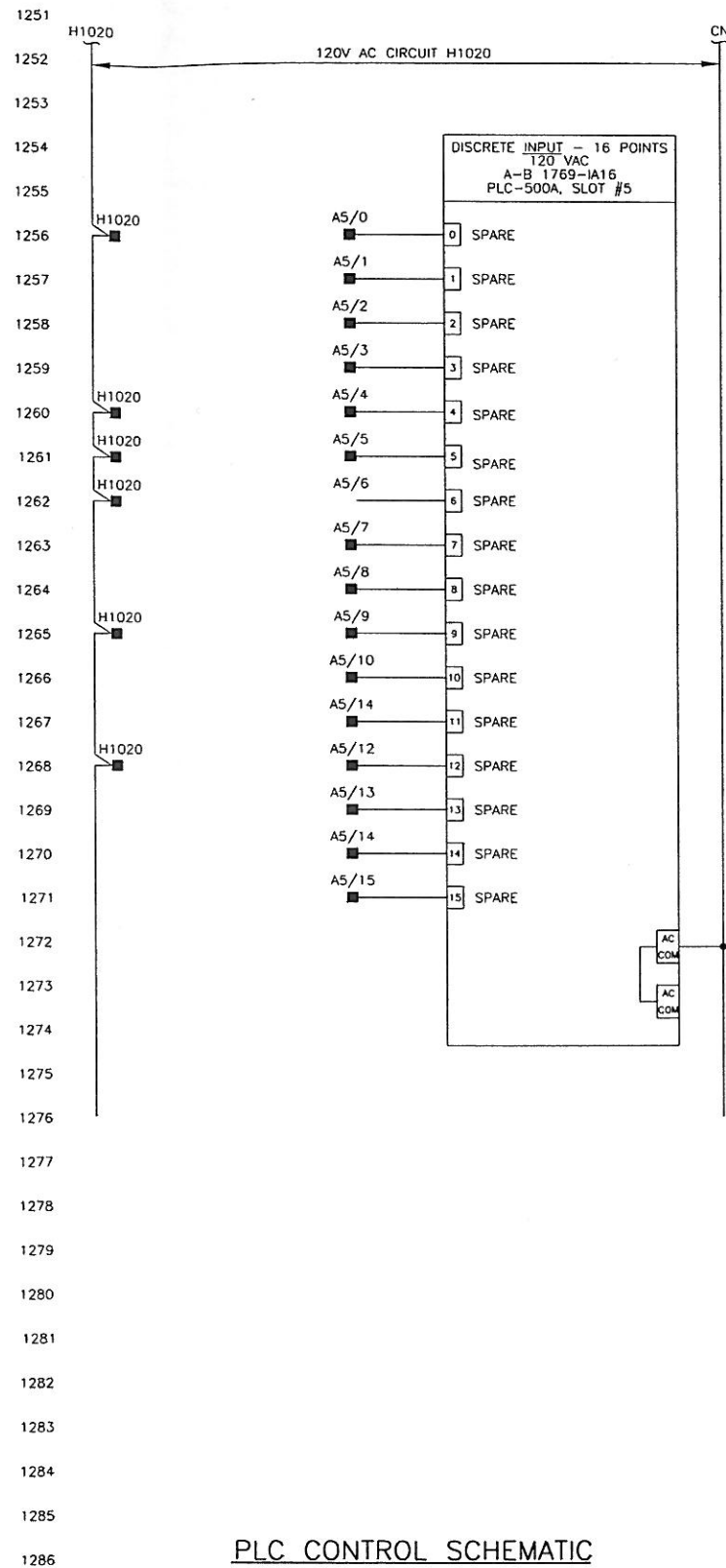
This Drawing Is For The Use Of The Client And Project Indicated  
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Plot Scale: 1=1 (Paper Space) AutoCAD File: Q:\982819\GN\INSTR\GN067123.DWG (ST)

Date: 2004/8/27 Time: 14:47



PLC CONTROL SCHEMATIC



PLC CONTROL SCHEMATIC

**NOTES:**

1. EXCEPT AS OTHERWISE SHOWN, DEVICES SHOWN ON THIS DRAWING ARE LOCATED IN THE NEW PLC CONTROL PANEL.
2. CUT AND TAPE ALL CABLE SHIELDS AT THE FIELD DEVICE.
3. RE-USE OR REPLACE EXISTING TERMINALS AS PER DRAWINGS.
4. BRIDGE ALL UNUSED ANALOG INPUTS.

- H104  
SA SB
- △ FUSE TERMINALS
  - DISCONNECT TERMINAL BLOCK
  - ▲ TERMINAL BLOCK IN VFD OR STARTER MCC COMPARTMENT
  - TERMINAL BLOCK IN CONTROL PANEL CP-500
  - TERMINAL BLOCK ON EQUIPMENT
- WIRING INSIDE PANEL OR ENCLOSURE  
 - - FIELD WIRING  
 ⊥ PG - PANEL GROUND

NO.	DATE	ENG.	BY	SUBJECT
4	04/06/02	K.N.	M.I.	NEW MAIN SCADA PANEL
3	03/10/17	K.N.	S.T.	CP-500 UPDATES
2	03/08/22	K.N.	S.T.	ISSUED FOR CONSTRUCTION
0	03/05/23	K.N.	S.T.	ISSUED FOR TENDER

VERIFY SCALES  
 BAR IS 20mm ON ORIGINAL DRAWING  
 0 20mm  
 IF NOT 20mm ON THIS SHEET, ADJUST SCALES ACCORDINGLY



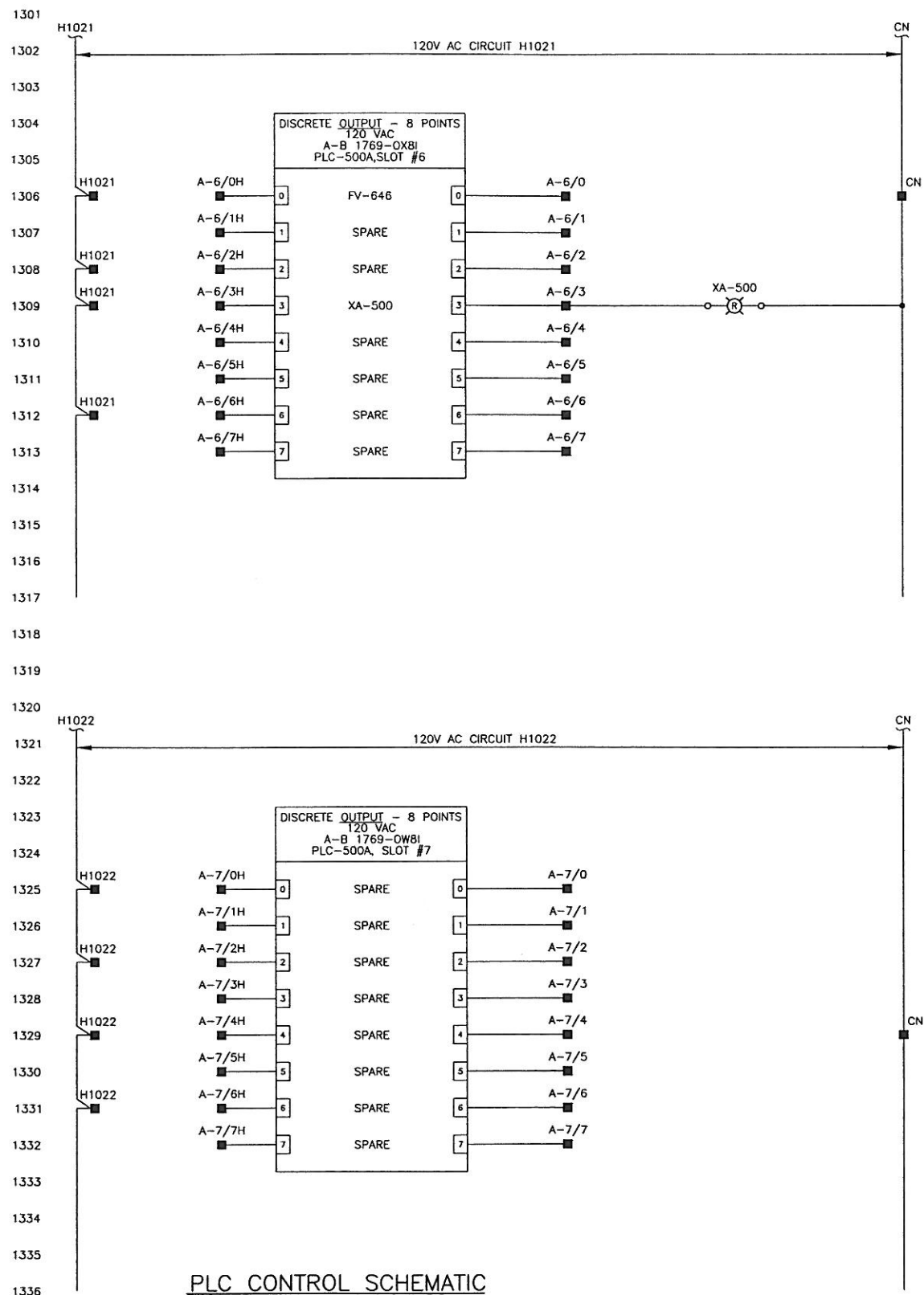
PROJECT No.	0982819		
SCALE	N.T.S.		
DRAWN	S. Thing		
DESIGNED	K. Neove	KN	
CHECKED	M. Lourin	ML	
APPROVED	L. PICKARD		
DATE	03/05/28	INITIAL	

REGIONAL DISTRICT OF NANAIMO	
CONTROL PANEL CP-100 PLC CONTROL SCHEMATICS SHEET 3 OF 8	

GREATER NANAIMO PCC MAIN SCADA PANEL		
DRAWING NUMBER	REV. NO.	SHEET
GN-06-7123	4	

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Date: 2004/06/03 Plot Scale: 1=1 (Paper Space) AutoCAD File: 982819\GN\INSTR\GN067124.DWG (ST)



**PLC CONTROL SCHEMATIC**

**NOTES:**

1. EXCEPT AS OTHERWISE SHOWN, DEVICES SHOWN ON THIS DRAWING ARE LOCATED IN THE NEW PLC CONTROL PANEL.
2. CUT AND TAPE ALL CABLE SHIELDS AT THE FIELD DEVICE.
3. RE-USE OR REPLACE EXISTING TERMINALS AS PER DRAWINGS.
4. BRIDGE ALL UNUSED ANALOG INPUTS.

H104  
5A SB

- ⊞ - FUSE TERMINALS
- ⊞ - DISCONNECT TERMINAL BLOCK
- ▲ - TERMINAL BLOCK IN VFD OR STARTER MCC COMPARTMENT
- - TERMINAL BLOCK IN CONTROL PANEL CP-500
- - TERMINAL BLOCK ON EQUIPMENT

- - WIRING INSIDE PANEL OR ENCLOSURE
- - FIELD WIRING
- ⊥ PG - PANEL GROUND

NO.	DATE	ENG.	BY	SUBJECT
4	04/05/31	K.N.	M.J.	NEW MAIN SCADA PANEL
3	03/10/17	K.N.	S.T.	CP-500 UPDATES
2	03/08/22	K.N.	A.L.	ISSUED FOR CONSTRUCTION
1	03/06/13	K.N.	A.L.	ISSUED FOR ADDENDUM #1
0	03/05/23	K.N.	S.T.	ISSUED FOR TENDER

VERIFY SCALES  
BAR IS 20mm ON ORIGINAL DRAWING  
0 — 20mm  
IF NOT 20mm ON THIS SHEET, ADJUST SCALES ACCORDINGLY

**ASSOCIATED ENGINEERING**

PROJECT No.	0982819		
SCALE	N.T.S.		
DRAWN	S. Thing		
DESIGNED	K.Neave	KN	
CHECKED	M. Laurin	ML	
APPROVED	L. PICKARD		
DATE	03/05/28	INITIAL	

REGIONAL DISTRICT OF NANAIMO

CONTROL PANEL CP-100  
PLC CONTROL SCHEMATICS SHEET 4 OF 8

GREATER NANAIMO PCC  
MAIN SCADA PANEL

DRAWING NUMBER	REV. NO.	SHEET
GN-06-7124	4	

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Date: 2004/06/02 Plot Scale: 1=1 (Paper Space) AutoCAD File: 982819\GN\INSTR\GN067125.DWG (ST)

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SPARE

**NOTES:**

1. EXCEPT AS OTHERWISE SHOWN, DEVICES SHOWN ON THIS DRAWING ARE LOCATED IN THE NEW PLC CONTROL PANEL.
2. CUT AND TAPE ALL CABLE SHIELDS AT THE FIELD DEVICE.
3. RE-USE OR REPLACE EXISTING TERMINALS AS PER DRAWINGS.
4. BRIDGE ALL UNUSED ANALOG INPUTS.

H104  
5A SB

☐ - FUSE TERMINALS

☐ - DISCONNECT TERMINAL BLOCK

▲ TERMINAL BLOCK IN VFD OR STARTER MCC COMPARTMENT

■ TERMINAL BLOCK IN CONTROL PANEL CP-500

○ TERMINAL BLOCK ON EQUIPMENT

— - WIRING INSIDE PANEL OR ENCLOSURE

— - FIELD WIRING

⊥ PG - PANEL GROUND

NO.	DATE	ENG.	BY	SUBJECT
4	04/06/02	K.N.	M.I.	NEW MAIN SCADA PANEL
3	03/10/17	K.N.	S.T.	CP-500 UPDATES
2	03/08/22	K.N.	S.T.	ISSUED FOR CONSTRUCTION
0	03/05/23	K.N.	S.T.	ISSUED FOR TENDER

VERIFY SCALES  
  
BAR IS 20mm ON ORIGINAL DRAWING  
  
0 — 20mm  
  
IF NOT 20mm ON THIS SHEET, ADJUST SCALES ACCORDINGLY

ASSOCIATED ENGINEERING

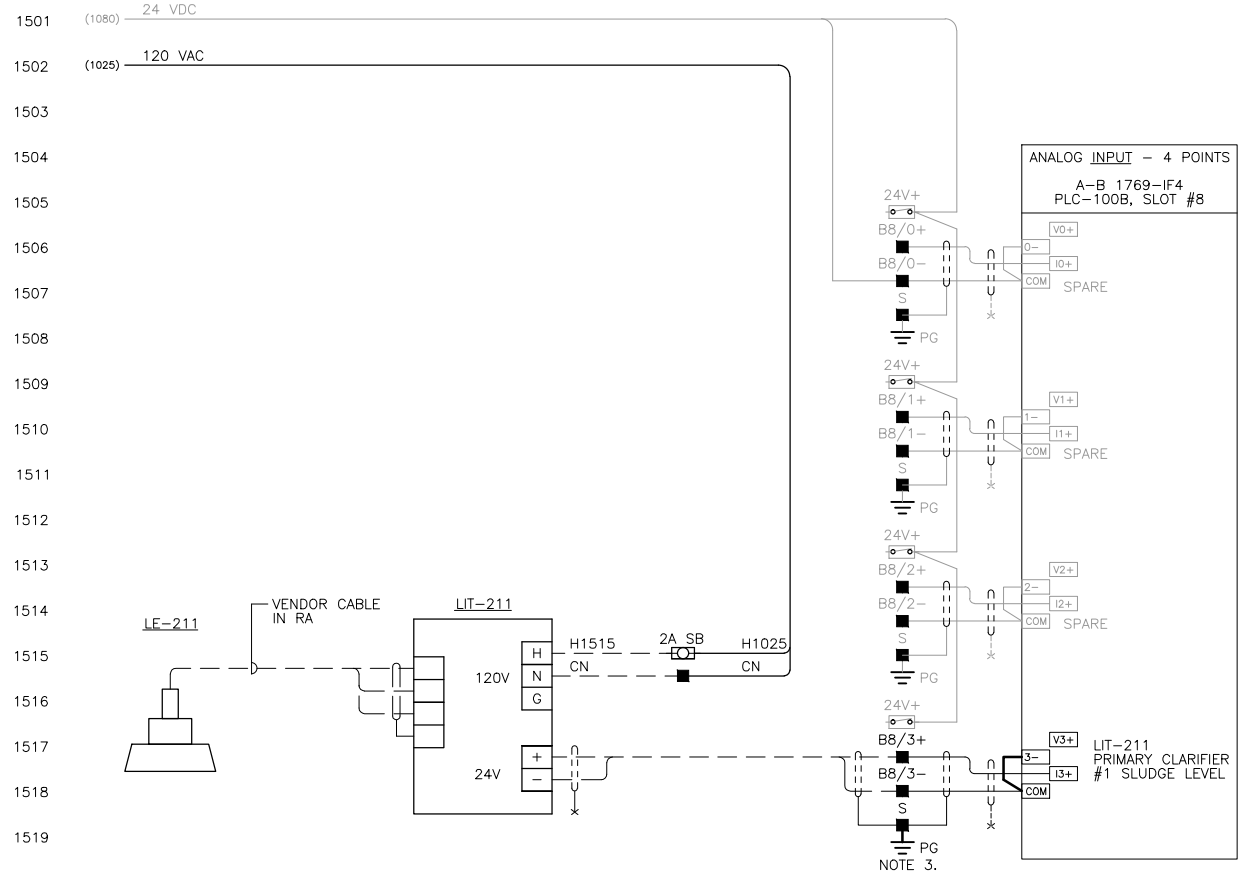


PROJECT No.	0982819		
SCALE	N.T.S.		
DRAWN	S. Thing		
DESIGNED	K. Neave	KN	
CHECKED	M. Laurin	ML	
APPROVED	L. PICKARD		
DATE	03/05/28	INITIAL	

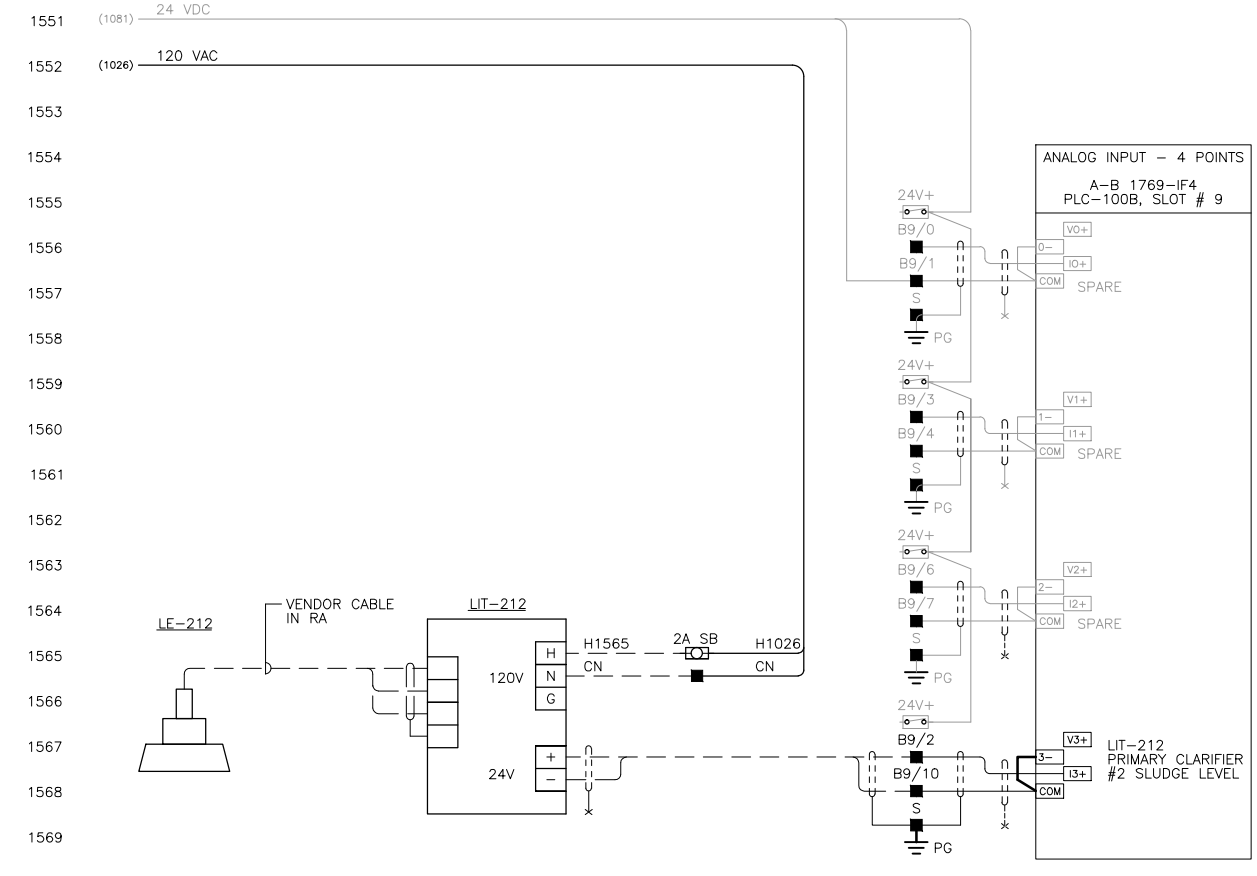
REGIONAL DISTRICT OF NANAIMO	CONTROL PANEL CP-100 PLC CONTROL SCHEMATICS SHEET 5 OF 8
------------------------------	---

GREATER NANAIMO PCC MAIN SCADA PANEL		
DRAWING NUMBER	REV. NO.	SHEET
GN-06-7125	4	

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PLC CONTROL SCHEMATIC



PLC CONTROL SCHEMATIC

- NOTES:**
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  - CUT AND TAPE ALL CABLE SHIELDS AT THE FIELD DEVICE.
  - RE-USE OR REPLACE EXISTING TERMINALS AS PER DRAWINGS.
  - BRIDGE ALL UNUSED ANALOG INPUTS.
- H104**  
5A SB - FUSE TERMINALS
- DISCONNECT TERMINAL BLOCK
- ▲ TERMINAL BLOCK IN VFD OR STARTER MCC COMPARTMENT
  - TERMINAL BLOCK IN CONTROL PANEL CP-500
  - TERMINAL BLOCK ON EQUIPMENT
  - ◆ TERMINAL BLOCK IN COMPARTMENT 2RA OF MCC-962
- WIRING INSIDE PANEL OR ENCLOSURE  
- FIELD WIRING  
PG - PANEL GROUND

GN-I-OPS-016

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NO.	DATE	ENG.	BY	SUBJECT
2	2009/JAN	K.N.	S.L.	RECORD DRAWING
1	2007/06/01	K.N.	Y.K.	ISSUED FOR CONSTRUCTION
0	2006/11/30	K.N.	P.C.	ISSUED FOR TENDER

REVISIONS

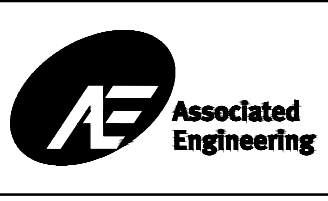
VERIFY SCALES

BAR IS 20mm ON ORIGINAL DRAWING

0 20mm

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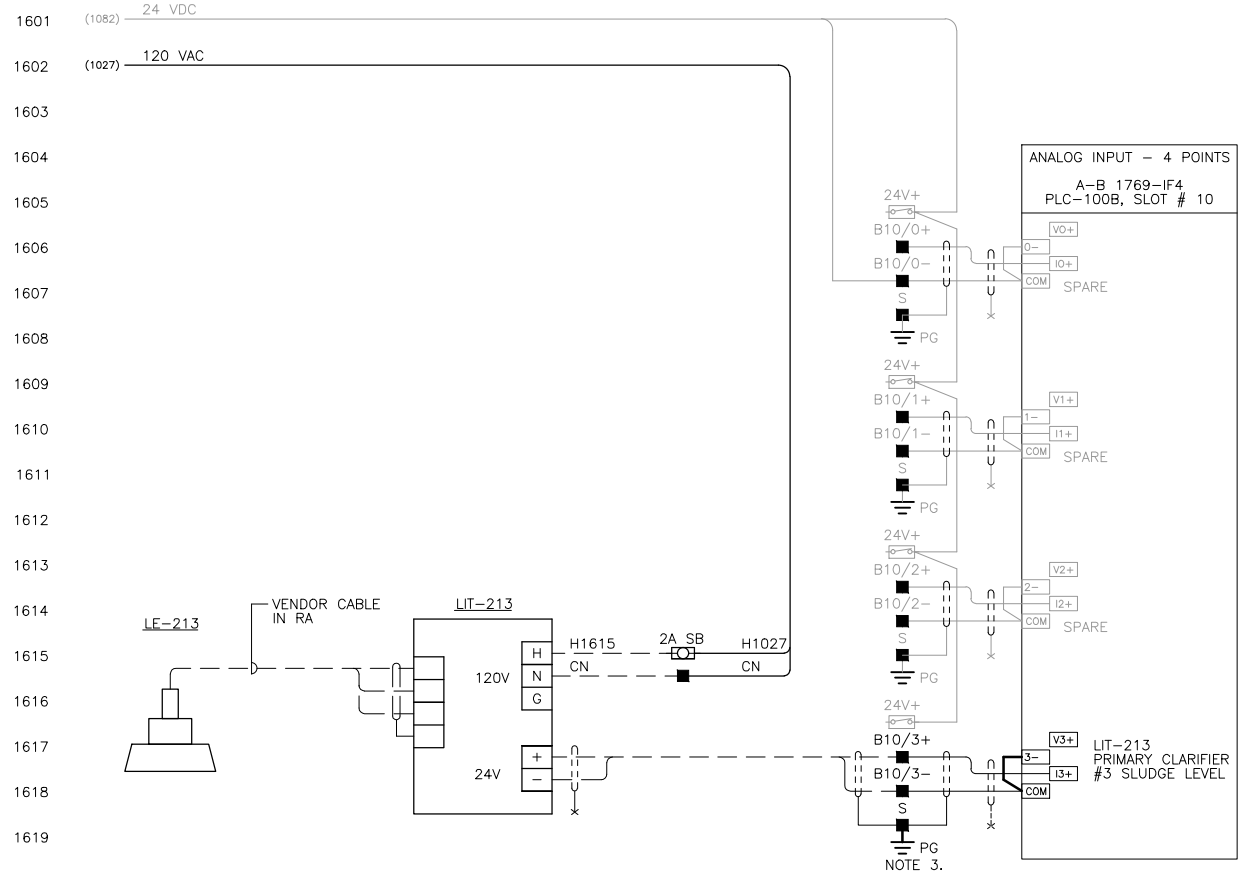
PROJECT No.	982819-215
SCALE	NONE
DRAWN	P. CUI
DESIGNED	K. NEAVE
CHECKED	M. LAURIN
APPROVED	L. PICKARD
DATE	

REGIONAL DISTRICT OF NANAIMO

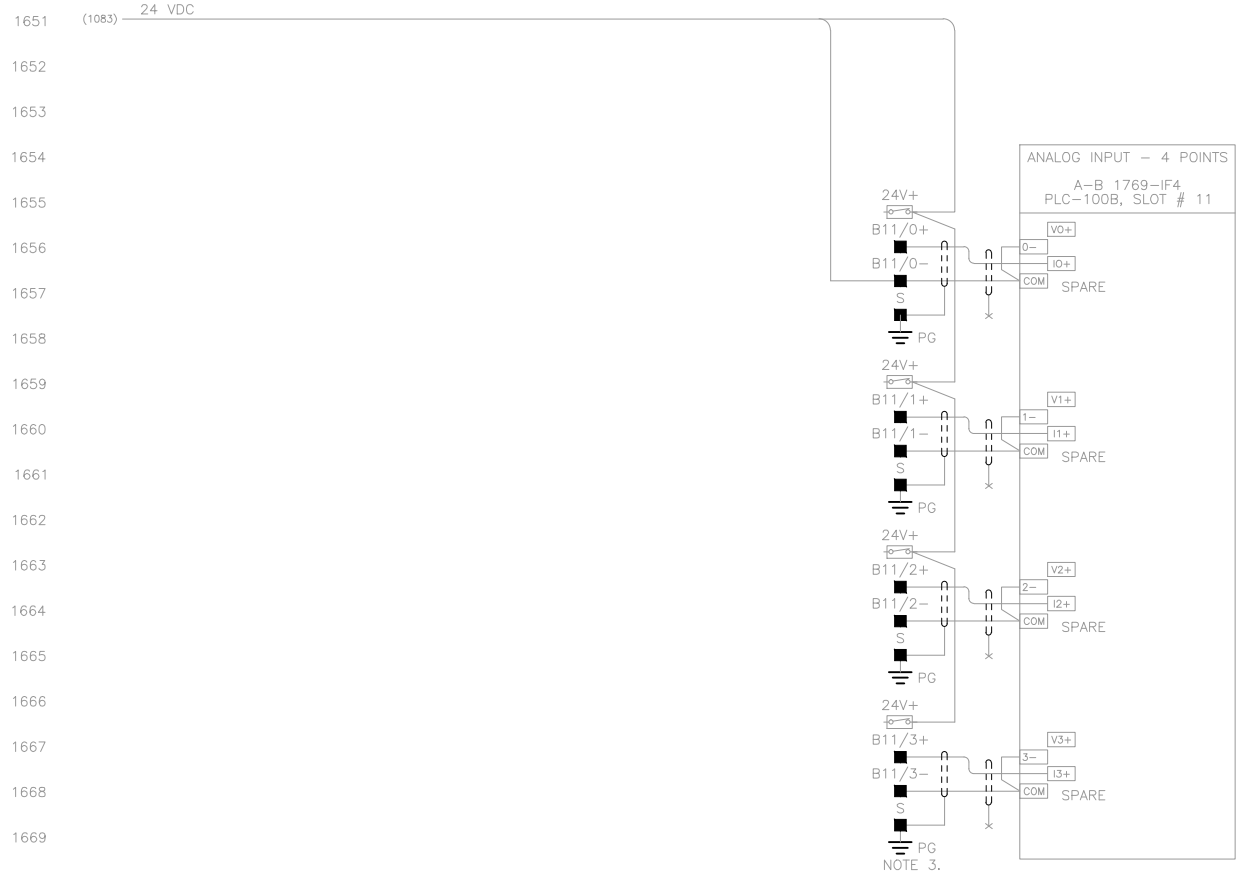
INSTRUMENTATION AND CONTROL CONTROL PANEL CP-100 PLC CONTROL SCHEMATICS SHEET 6 OF 8

GREATER NANAIMO PCC GRAVITY THICKENERS		
DRAWING NUMBER	REV. NO.	SHEET
GN-17-7126	2	

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PLC CONTROL SCHEMATIC



PLC CONTROL SCHEMATIC

NOTES:

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2. CUT AND TAPE ALL CABLE SHIELDS AT THE FIELD DEVICE.
3. RE-USE OR REPLACE EXISTING TERMINALS AS PER DRAWINGS.
4. BRIDGE ALL UNUSED ANALOG INPUTS.

- H104  
5A SB  
DISCONNECT TERMINAL BLOCK
- ▲ TERMINAL BLOCK IN VFD OR STARTER MCC COMPARTMENT
  - TERMINAL BLOCK IN CONTROL PANEL CP-500
  - TERMINAL BLOCK ON EQUIPMENT
  - ◆ TERMINAL BLOCK IN COMPARTMENT 2RA OF MCC-962
  - WIRING INSIDE PANEL OR ENCLOSURE
  - - - FIELD WIRING
  - PG - PANEL GROUND

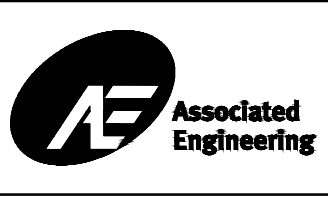
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NO.	DATE	ENG.	BY	SUBJECT
2	2009/JAN	K.N.	S.L.	RECORD DRAWING
1	2007/06/01	K.N.	Y.K.	ISSUED FOR CONSTRUCTION
0	2006/11/30	K.N.	P.C.	ISSUED FOR TENDER

REVISIONS

VERIFY SCALES  
BAR IS 20mm ON ORIGINAL DRAWING  
0 20mm  
IF NOT 20mm ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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PROJECT No.	982819-215
SCALE	NONE
DRAWN	P. CUI
DESIGNED	K. NEAVE
CHECKED	M. LAURIN
APPROVED	L. PICKARD
DATE	

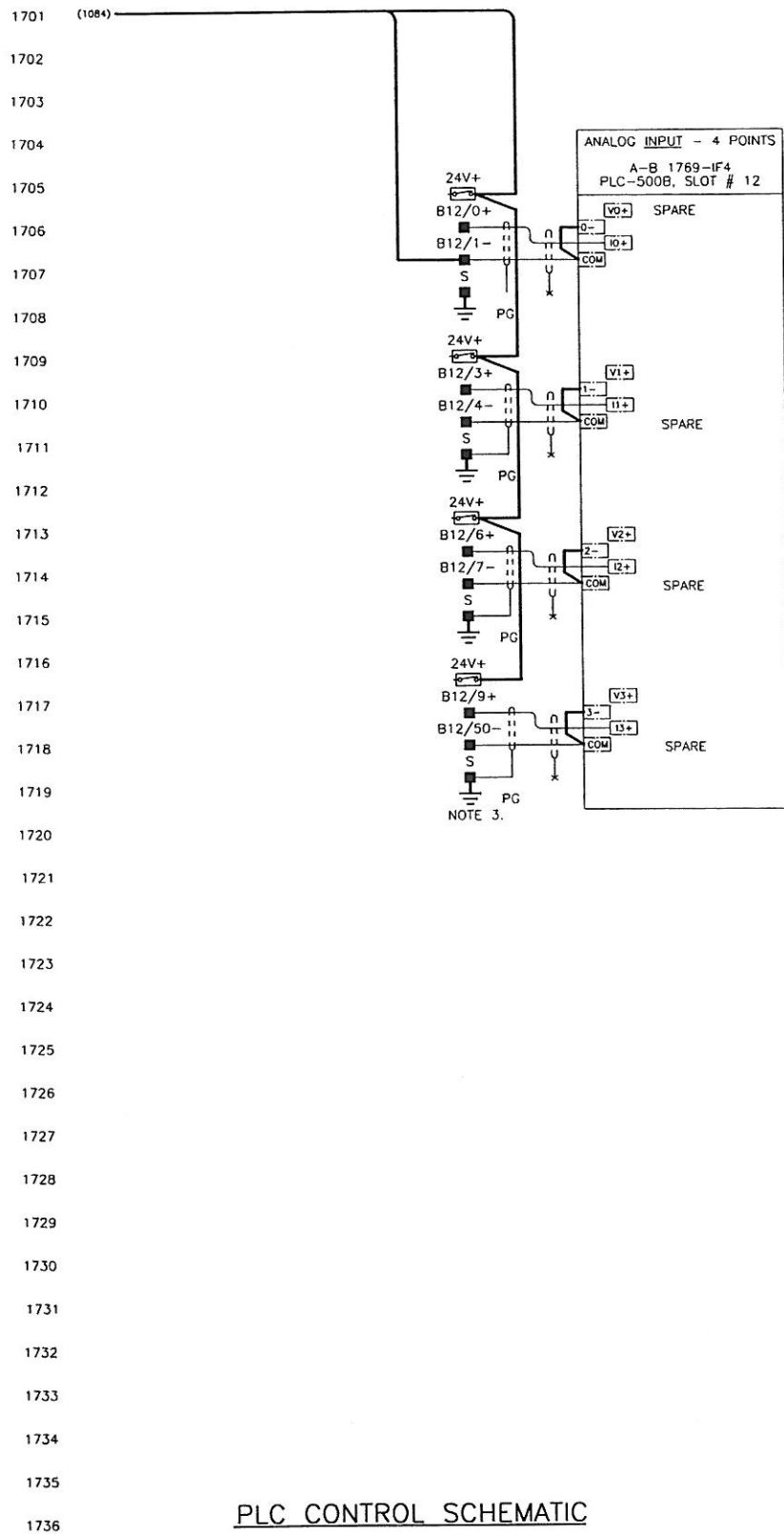
REGIONAL DISTRICT OF NANAIMO  
INSTRUMENTATION AND CONTROL CONTROL PANEL CP-100  
PLC CONTROL SCHEMATICS SHEET 7 OF 8

GREATER NANAIMO PCC GRAVITY THICKENERS		
DRAWING NUMBER	REV. NO.	SHEET
GN-17-7127	2	

GN-I-OPS-017

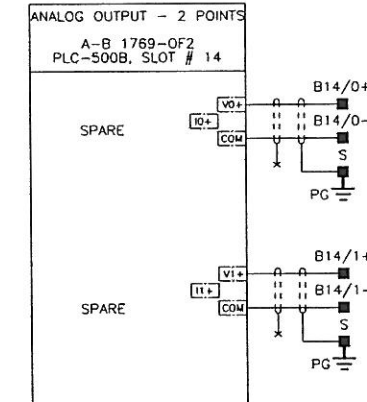
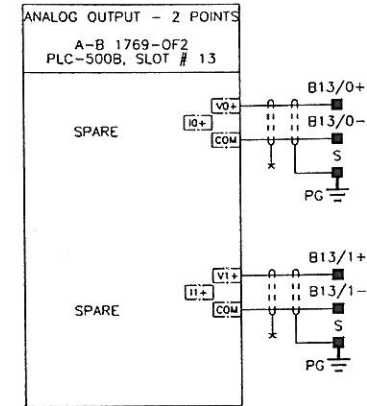
This Drawing Is For The Use Of The Client And Project Indicated  
No Representations Of Any Kind Are Made To Other Parties

Date: 2004/09/27 Plot Scale: 1=1 (Paper Space) AutoCAD File: C:\982819\ON\INSTR\GN067128.DWG (ST)



PLC CONTROL SCHEMATIC

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PLC CONTROL SCHEMATIC

- NOTES:**
- EXCEPT AS OTHERWISE SHOWN, DEVICES SHOWN ON THIS DRAWING ARE LOCATED IN THE NEW PLC CONTROL PANEL.
  - CUT AND TAPE ALL CABLE SHIELDS AT THE FIELD DEVICE.
  - RE-USE OR REPLACE EXISTING TERMINALS AS PER DRAWINGS.
  - BRIDGE ALL UNUSED ANALOG INPUTS.
  - LOAD SHEDDING AT HVAC CONTROL PANEL TO BE DETERMINED.
- H104 - FIELD WIRING  
 F104 - FUSE TERMINALS  
 SA SB  
 [Symbol] DISCONNECT TERMINAL BLOCK  
 ▲ TERMINAL BLOCK IN VFD OR STARTER MCC COMPARTMENT  
 ■ TERMINAL BLOCK IN CONTROL PANEL CP-500  
 ○ TERMINAL BLOCK ON EQUIPMENT  
 ——— WIRING INSIDE PANEL OR ENCLOSURE  
 PG - PANEL GROUND

NO.	DATE	ENG.	BY	SUBJECT
4	04/06/02	K.N.	M.I.	NEW MAIN SCADA PANEL
3	03/10/17	K.N.	S.T.	CP-500 UPDATES
2	03/08/22	K.N.	S.T.	ISSUED FOR CONSTRUCTION
0	03/05/23	K.N.	S.T.	ISSUED FOR TENDER

VERIFY SCALES  
 BAR IS 20mm ON ORIGINAL DRAWING  
 0 20mm  
 IF NOT 20mm ON THIS SHEET, ADJUST SCALES ACCORDINGLY



PROJECT No.	0982819	
SCALE	N.T.S.	
DRAWN	S. Thing	
DESIGNED	K. Neave	KN
CHECKED	M. Laurin	ML
APPROVED	L. PICKARD	
DATE	03/05/28	INITIAL

REGIONAL DISTRICT OF NANAIMO	
CONTROL PANEL CP-100 PLC CONTROL SCHEMATICS SHEET 8 OF 8	

GREATER NANAIMO PCC MAIN SCADA PANEL		
DRAWING NUMBER	REV. NO.	SHEET
GN-06-7128	4	



Plotted By: blaneyk  
 Plot File Date: Created: Mar/03/2017 10:25 AM  
 Layout-Sheet Name: I-101  
 Filename: P:\60343972\900-WORK\910 CAD\20-SHEETS\EIC\INSTRUMENTATION & CONTROLS\I-101.DWG

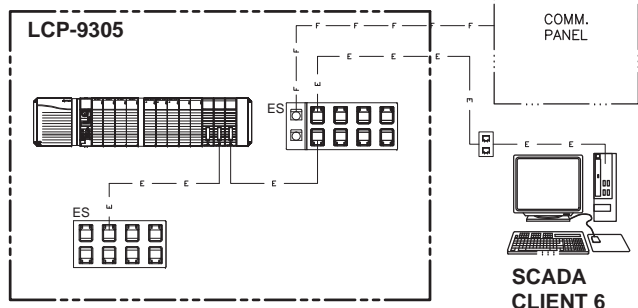
**KEY NOTES:**

- 1 27" LED SCREEN
- 2 WALL MOUNT NETWORK RACK HOFFMAN PROTEK Double-Hinged, NEMA Type 12
- 3 KVM LINK TO STRATUS FT SERVER
- 4 REPLACE EXISTING ETHERNET SWITCH WITH STRATIX 5700 AS INDICATED IN SECTION 17127
- 5 EXISTING EQUIPMENT OR CABLES
- 6 EXISTING TO BE MODIFIED
- 7 THROUGH EXISTING FIBER PATCH PANEL
- 8 UTILIZES SCADA CLIENT #10

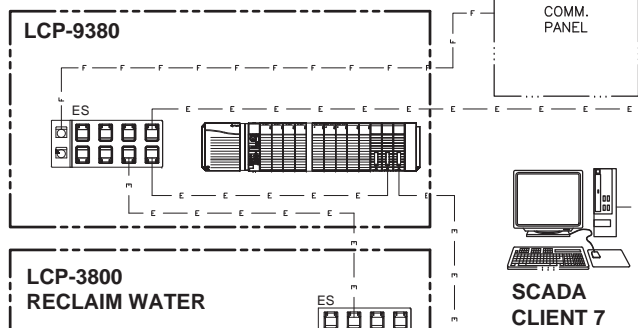
**LEGEND:**

- 1. COMPACTLOGIX PLC
- 2. CONTROLLOGIX PLC
- 3. ETHERNET SWITCH - WITH FIBER PORTS
- 4. ETHERNET SWITCH - WITHOUT FIBER PORTS
- 5. FIBER/COPPER CONVERTER
- 6. OPERATOR INTERFACE PANEL
- 7. FIBER PATCH PANEL
- 8. DUPLEX WALL MOUNT CAT5E RECEPTACLE
- 9. CAT5E ETHERNET
- 10. FIBER ETHERNET

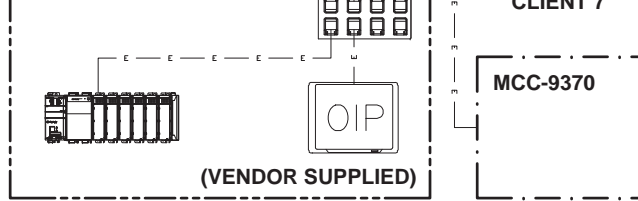
**AERATION AND THICKENING ELECTRICAL ROOM**  
 REFER TO DRAWING I-102



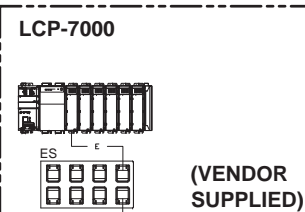
**RAS PUMP STATION ELECTRICAL ROOM**



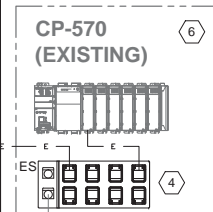
**LCP-3800 RECLAIM WATER**  
 (VENDOR SUPPLIED)



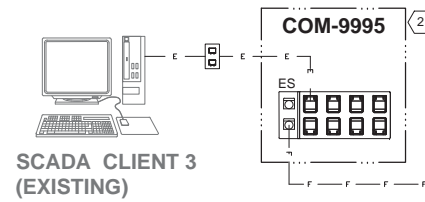
**BIOFILTER**



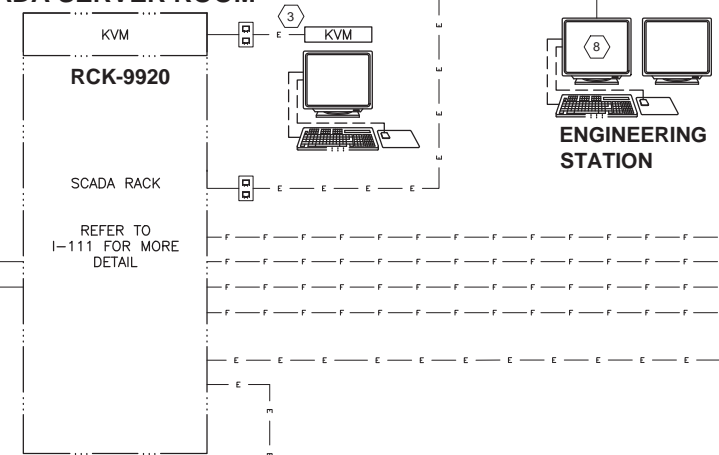
**GRAVITY THICKENER (EXISTING)**



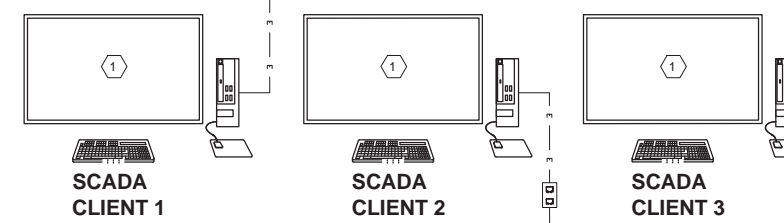
**OPERATOR SERVICES BUILDING (EXISTING)**



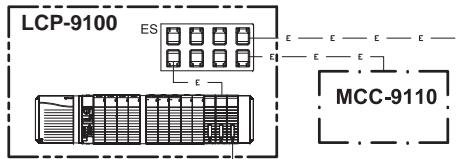
**SCADA SERVER ROOM**



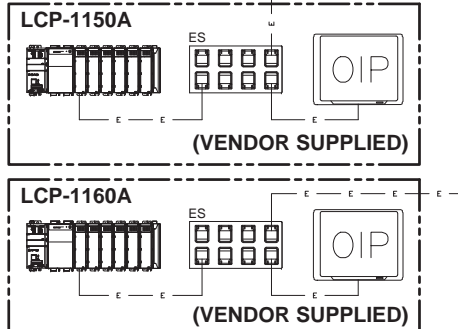
**CONTROL ROOM**



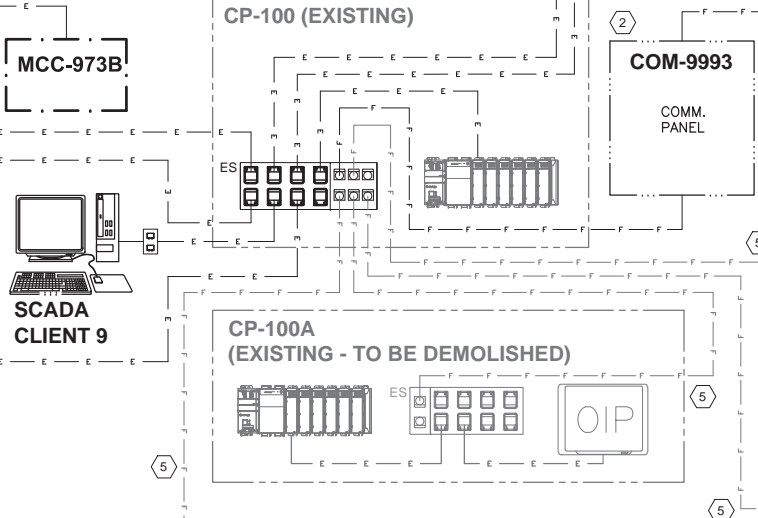
**HEADWORKS UTILITY ROOM**



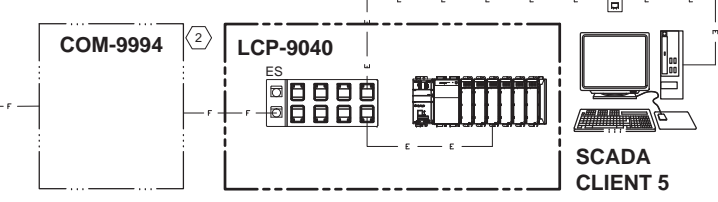
**GRIT CLASSIFIERS**



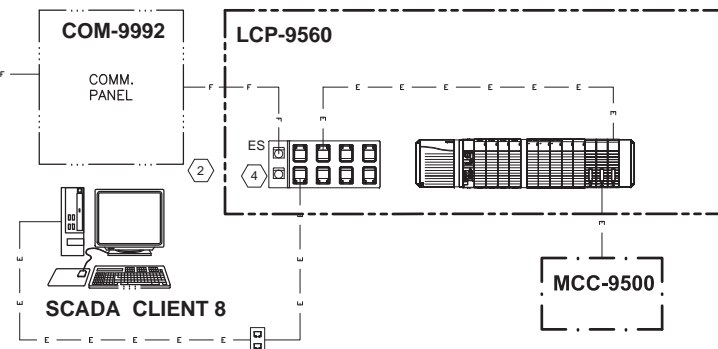
**MCC ROOM IN BASEMENT (EXISTING)**



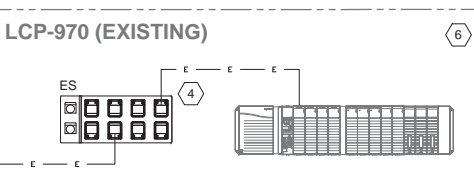
**MAINTENANCE BUILDING**



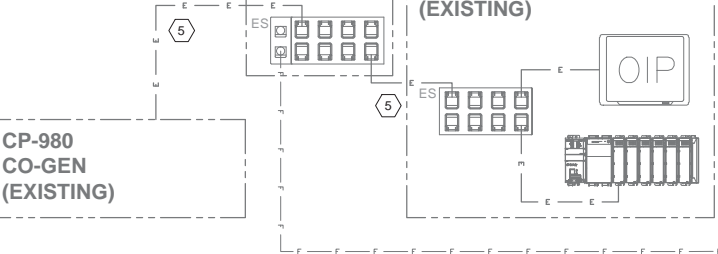
**DEWATERING BUILDING (EXISTING) REFER TO DRAWING I-103**



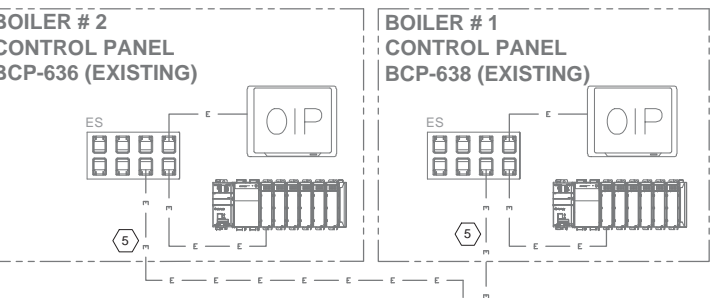
**DIGESTER #3 BUILDING (EXISTING) REFER TO DRAWING I-104**



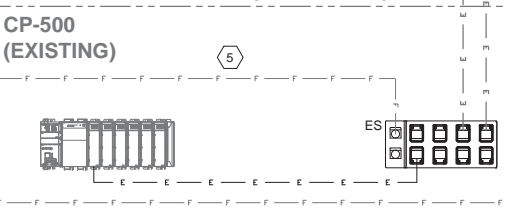
**CO-GEN (EXISTING)**



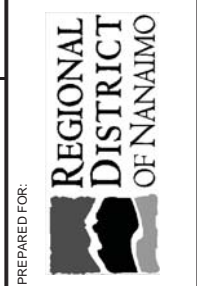
**BLOWERS ROOM (EXISTING)**



**BOILER BUILDING ELECTRICAL ROOM (EXISTING)**



DRN BY:	MN	DES BY:	DB	CHK BY:	DB	APP BY:	CM	REV	DESCRIPTION
								1	ISSUED FOR CONSTRUCTION
								0	ISSUED FOR TENDER



**AECOM**  
 4th FLOOR,  
 3282 PRODUCTION WAY,  
 BURNABY, B.C., V5A 4R4  
 604-444-6400

**REGIONAL DISTRICT OF NANAIMO**  
 GREATER NANAIMO POLLUTION CONTROL CENTRE  
 SECONDARY TREATMENT UPGRADE  
 INSTRUMENTATION AND CONTROL  
 CONTROL SYSTEM ARCHITECTURE

PROJECT START DATE (M/Y)	APR./2015
PROJECT NO.	60343972
FILENAME	I-101.dwg
RDN DRAWING No.	
DRAWING No.	I-101