

2 = *[Mode]* Resulting controller mode (relates to control variable and thus, as necessary, mA output)

3 = *[Measured variable output]* Consequence for the current output, if this is set as 'a measured variable output'

4 = *[Correction variable output]* Consequence for the current output, if this is set as 'a correction variable output'

7.5.11 MV-701/702 - Trouble Shooting

Conditions	Possibilities	Solutions
Motor does not operate	1. Is the supplied power and voltage correct? 2. Any blisters on the capacitor? 3. Are the gear trains free?	1. Checking by meter. 2. If so replace. 3. Remove motor to check.
Motor stops running	1. Is power supply short circuited? 2. Any foreign objects in flow stream?	1. Check wiring. 2. Check for obstructions.
Unable to fully open/close	1. Loose/Misaligned cam? 2. Bent valve stem? 3. Mechanical stop adjustment incorrect?	1. Adjust/Tighten using spanner. 2. Replace valve stem. 3. Check position of stops.
Valve stops operating when motor is running.	1. Gear worn out? 2. Sleeve adapter worn out or broken? 3. Broken valve stem or actuator transmission shaft?	1. Replace gear. 2. Replace sleeve adapter. 3. Replace valve stem or actuator transmission shaft.
Abnormal control for operating two or more actuators simultaneously.	1. Controlling circuit connects in tandem or parallel?	1. Please refer to the wiring diagram.
Motor overheats.	1. Is the voltage correct? 2. Is valve too tight to operate? 3. High working frequency? 4. Is motor stem or bearing binding?	1. Checking by meter. 2. Replace valve. 3. Check duty cycle. 4. Replace the binding parts.
Abnormal on/off angle on 3-phase voltage.	1. Wrong phase wiring?	1. Change phase wiring.
Occasional on/off actuator failure.	1. Simultaneous input power on/off.	1. Check if the selection switch is normal.
Vibration when valve is closed.	1. Motor brake spring fatigued or Teflon worn?	1. Replace spring or Teflon.

8.0 SHUT DOWN

8.1 MBR Temporary Shut Down

A temporary shutdown for a few days requires continuous aeration of the biomass to keep the DO level at least 2 mg/L and continuous biomass recycle between the bioreactors.

8.2 MBR Permanent Shut Down / Winterizing

Permanent shut down is required if system operation stops for at least 2 weeks without inflow. Permanent shut down includes the following procedure:

8.2.1 Process Shut Down Procedure

- Conduct a “Backwash Now” operation on the system
- Stop influent flow into the System
- Ensure all pumps are in the “OFF” position using the HOA HMI screen
- Ensure all Blowers are in the “AUTO” position using the HOA HMI screen. This is to be done until a vacuum truck can be provided or contracted locally to clean out the tanks.
- Ensure all automated valves are in the “OFF” position using the HOA HMI screen.
- Ensure that the MBR is disabled using the HMI screen button
- Conduct all maintenance procedures on Section 7 Table – regardless of schedule time

8.2.2 Cleaning - General

- Conduct general system interior cleaning
- Open all tanks, wash out with a garden hose and Vacuum out.
- Clean all sensors and level switches

8.2.3 Membranes

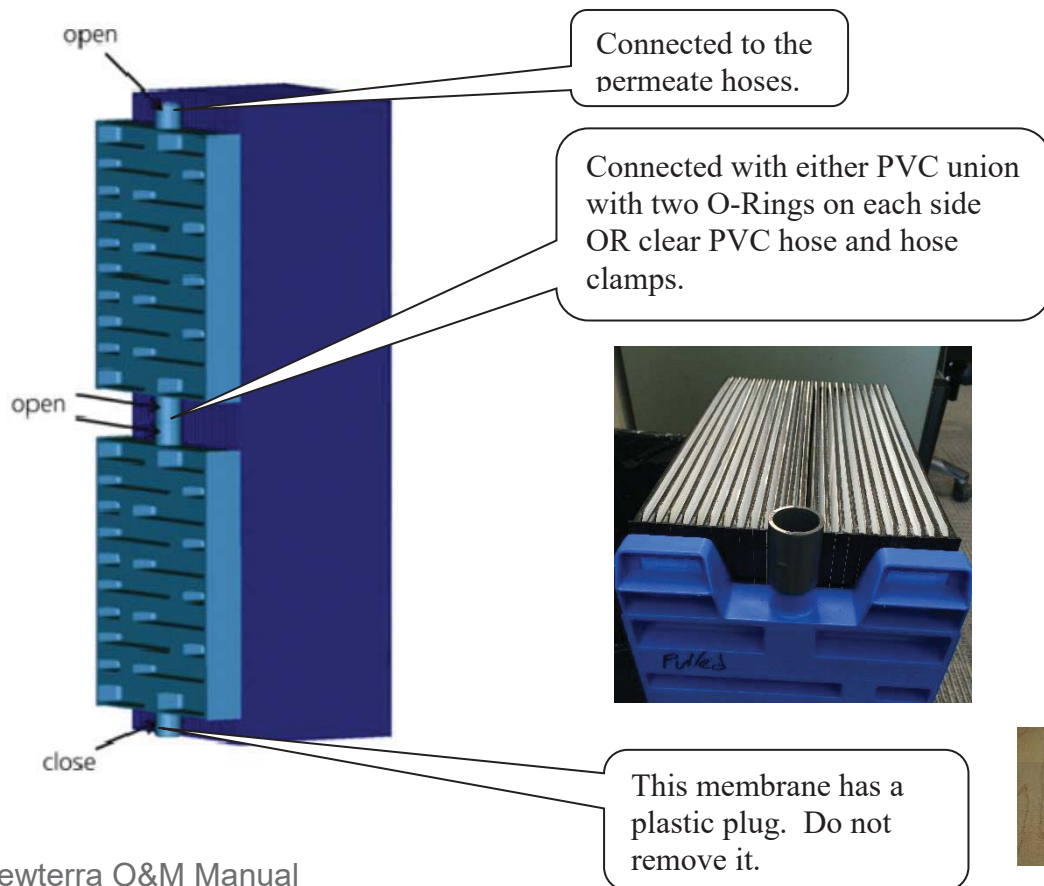
- Ensure that the membrane tanks (TNK-601/602) are drained before opening the membrane tanks.
- Open TNK-601/602 doors with hand/power tools.



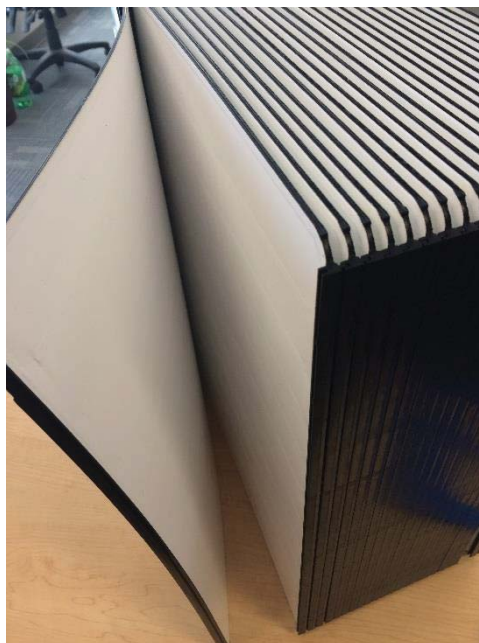
- Using a garden hose, wash the inside of the tanks and vac out any remaining waste water. **DO NOT USE A PRESSURE WASHER!**
- Disconnect the permeate hoses from the top of membrane the membrane stack.
- Remove the membranes from the membrane frame using hand tools.



- **CAUTION** – the membranes are contaminated with waste water. PPE required.
- **NOTE.** The membranes are double stacked. The bottom membrane has a plug in the bottom opening. Do not remove this plug. Note the membrane orientations for re-installation. The membranes are joined together with either a PVC union with two O-Rings on each side OR clear PVC hose and hose clamps.



- After membranes are separated, wash with clean water. Remove the blue backing plate and gently separate the membrane plates and clean with water to remove any debris.



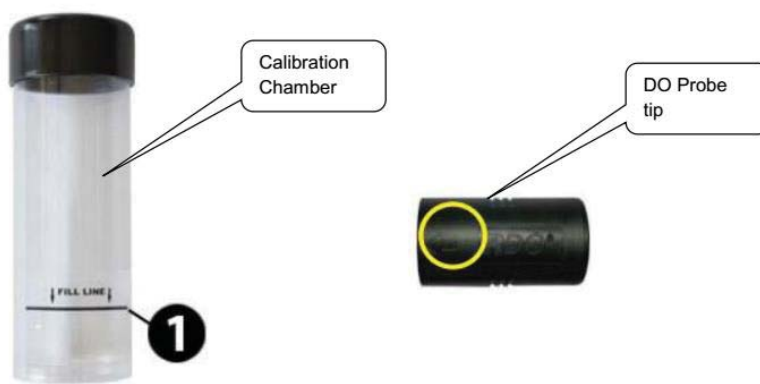
- Replace backing plate and let the membranes dry out.
- Shrink wrap the membrane cassettes in multiple film layers and seal the membranes cassettes with tape. Note and mark which membranes have the bottom plug in them.
- Store the preserved membrane cassettes at room temperature (never expose the membrane cassettes to frost, dust, or direct sunlight).

8.3 General Components

- Conduct all preventative maintenance as listed in Section 7.
- Drain/Vacuum Out and wash out all tanks.
- Clean and Wash out SCR-201/202
- Disassemble all PVC ball valves and drain any water inside (open and close to ensure trapped water escapes).
- Leave all valves ½ open during reinstallation
- Open all drain valves and leave open.
- Find all check valves and make sure water is not being held by valve (Wet/Dry Vac works well here).
- Drain / remove all pumps from tanks, ensure no water is left inside the pump.
- Use RV Antifreeze that is suitable for potable water systems
 - o Refill any check valve

- o Dump in 2 (qty) 4-L bottles in each tank
- Remove power from system.
- Double check and ensure that there is no water left in any pipes, fittings etc. If it is not possible to remove the water fill with antifreeze.
- Drain the chemical tanks and dispose of chemicals in accordance with manufacturer's recommendations and local regulations.
- Remove pH (PH-501) and DO (DO-501) probes from TNK-501 and store with membranes in a heated area ensure probes are kept wet.

- **NOTE: Remove DO probe tip from the DO sensor (DO-501) in accordance with vendor directions in Appendix E and store in the calibration chamber with the storage cap attached with a few drops of clean water. Store with the membranes in a heated area and ensure probe tip is kept wet.**



8.4 Blowers – B-501/502

STORAGE

Your Gardner Denver Blower was packaged at the factory with adequate protection to permit normal storage for up to six (6) months.

If the unit is to be stored under adverse conditions or for extended periods of time, the following additional measures should be taken to prevent damage.

1. Store the blower in a clean, dry, heated (if possible) area.
2. Make certain inlet and discharge air ports are tightly covered to prevent foreign material from entering the air box.
3. All exposed, non-painted surfaces should be protected against rust and corrosion.
4. Provide adequate protection to avoid accidental mechanical damage.
5. In high humidity or corrosive environments, additional measures may be required to prevent rusting of the blower internal surfaces.
6. To prevent rusting of gears, bearings, etc., the oil reservoirs may be filled with normal operating oil.



Before running the blower, drain the oil and replace to the proper operating level with clean, fresh lubricant.

7. Rotate the blower shaft (10 to 25 turns) weekly during storage. Inspect the blower shaft (near the shaft seal area) monthly and spray with rust inhibitor if needed.
8. For long term storage (over six (6) months), contact Gardner Denver Compressor Division Customer Service for recommendations.

REMOVING PROTECTIVE MATERIALS

The shaft extension is protected with rust inhibitor which can be removed with any standard solvent.



Follow the safety directions of the solvent manufacturer.

Blower inlet and outlet are temporarily capped to keep out dirt and other contaminants during shipment. These covers must be removed before start-up.

The internal surfaces of all Sutorbilt units are mist sprayed with a rust preventative to protect the machine during shipment. Remove this film upon initial startup, using any commercial safety solvent. Position the blower so that the inlet and discharge connections are in the vertical position (vertical airflow). On vertically mounted units, it will be necessary to lay the unit on its side supporting the ends of the unit so as not to restrict the port on the bottom side. Place a shallow pan on the under side of the unit. With the blower disconnected from power, spray the solvent in the top port, rotating the impellers by spinning the shaft manually. Continue this procedure until the unit is visibly clean.



Rotating components will cause severe injury in case of personal contact. Keep hands and loose clothing away from blower inlet and discharge ports.

8.4 Chemical Dosing Pumps – P-6101/6102/6103

1. ➤ Disconnect the pump from the mains power supply.
2. ➤ Empty the liquid end by turning the pump upside down and allowing the feed chemical to run out.
3. ➤ Flush the liquid end with a suitable medium; flush the dosing head thoroughly when using hazardous feed chemicals!

9.0 SERVICE & SUPPORT

9.1 Commissioning and Start-up

newterra MicroClear™ MBR System's **commissioning & start-up** is the last step of the **newterra** project execution process.

As part of your order, the following on site services will be provided by experienced factory trained newterra representative:

- Includes five (5) 8-hour days of onsite startup/commissioning by one (1) factory trained newterra representative
- Includes five (5) 8-hour days of onsite training by one (1) factory trained newterra representative

9.1.1 Startup/Commissioning

Typical System Startup/Commissioning includes the following:

- Equipment checks - Electrical, mechanical, and controls
- Functional test - Equipment and control system
- Hydraulic test
- Operation during plant seeding

9.1.2 Training

On-site operator training including the following topics:

- General MBR theory & process
- Specific system instruction
 - o Components
 - o Controls and operating philosophy
 - o Alarms and alarm troubleshooting
 - o Maintenance
 - o Troubleshooting
 - o MBR fouling control (Biology, physical, and chemical)

9.2 Post commissioning Services

A comprehensive range of post commissioning services are available from **newterra** beyond system design and installation. Specific services include:

- Technical support (including after-hours emergency telephone support).
- Spare parts order and delivery.
- Training program.
- Plant optimization and upgrades.
- Telemetry control and monitoring.
- Assistance in preparing system performance reports (process data monitoring & analysis).
- Preventive maintenance cleaning (including membrane cleaning).
- System audits for reviewing the performance and efficiency of all MBR subsystems..

9.2.1 Technical Support

Technical support is available to assist in troubleshooting of **newterra** MBR systems during normal working hours 8:30 am to 5:00 pm (Eastern Time Zone for **newterra** Ltd.). Telephone service is available via **1.800.420.4056**.

Emergency 24/7 telephone technical support – This will be activated upon subscribing to **newterra's** 24/7 technical support service. If a problem cannot be resolved through telephone or e-mail support, **newterra** technicians and engineers are available for site visits.

9.2.2 Spare Parts

newterra has spare parts to provide quick response to any critical system breakdown. Contact **newterra** parts department at **1.800.420.4056**.

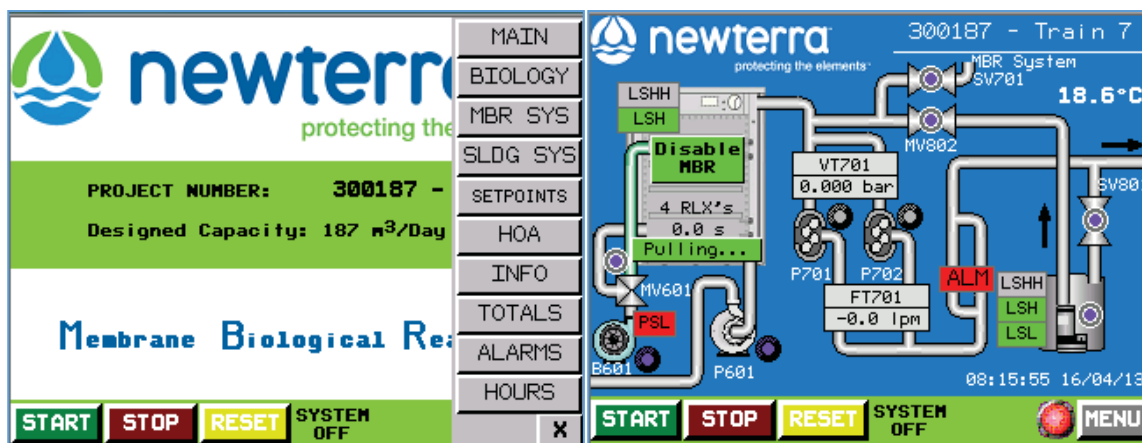
All parts and components associated with **newterra** MBR Systems are available from within service departments and manufacturing facilities of **newterra** Ltd across Canada and abroad.

Potentially required spare parts are:

- membrane modules/membrane cassettes;
- parts for repair/replacement (valves, transmitters, switches, gauges, pH & DO probes, pump motors, analyzers, PLC components, fuses, etc.);
- maintenance spare parts (air blowers, air filters, pumps, immersion heaters, chemical metering pumps, etc.).

9.2.3 Assistance in telemetry control and monitoring

newterra SITE-LINK is a customized software program and hardware configuration which provides a real-time link to a treatment system via cellular modem or customer supplied internet connection using our secure Site-Link Server.



newterra Site-Link comes with the following customizable features:

- Customized P&ID layout with system status
- Start/Stop/Reset of system
- Manual control of all system components
- Data logging downloads in .csv format[†]
- Daily system status reports (E-Monitor)
- Alarm history including current alarm status
- Hour meters for applicable equipment
- Customization of all system set points[†]
- Live and historical trending
- Immediate text & email on alarm (E-Alarm)

[†]certain restrictions apply

The basic system requires that the customer provide a standard computer network cable to the control panel. If the customer's computer network is accessible to the internet, this system can also be monitored from any internet enabled computer. Static IP is not required but is recommended and must be provided by customer.

This system is not available if customer supplied internet connection or cellular service is not available at the site. During internet outages, reports cannot be sent and system status cannot be monitored remotely.

9.2.4 Site visits and system audits

Site visits and system audits can be arranged at an additional cost. Contact **newterra** for all financial aspects of **newterra** initial and post-commissioning services.

During a system audit, technical reviews of the performance of all **newterra** MBR subsystems and the efficiency of the biological process can be performed. Based on the site visit and agenda discussed with the client, we can assist in:

- Maintenance coordination and scheduling, including membrane maintenance and cleaning.
- Validation of chemical dosing settings.
- MBR System inspection for the proper operation of the membrane system in accordance with the O&M manual; equipment calibration, process optimization and upgrades.
- Continued on-site operator training and coaching.

10.0 WARRANTY

General Warranty Statement

1. **newterra** warrants and guarantees products of its manufacture against defective workmanship or material for a period of one year from the date of notice of readiness to ship.
2. This warranty is expressly and strictly limited to replacing, without charge, any part or parts which prove to **newterra's** satisfaction upon examination, to have been defective in design, material or workmanship, and which have not been neglected, abused or misapplied, provided the buyer gives **newterra** immediate written notice upon discovery of any claimed defect.
3. During the warranty period, parts will be shipped as necessary with instructions to replace, which can be further elaborated over phone or email; visit(s) of our technician to site can be covered if there is a service agreement in place; otherwise, actual charges will be quoted to the owner at that time, if required.
4. **newterra** will also guarantee component parts manufactured by others to the extent of the guarantee made by the manufacturer of such equipment. In any case, guarantees on specific components will be extended a minimum of one year from date of notice of readiness to ship.

Warranty Exclusions

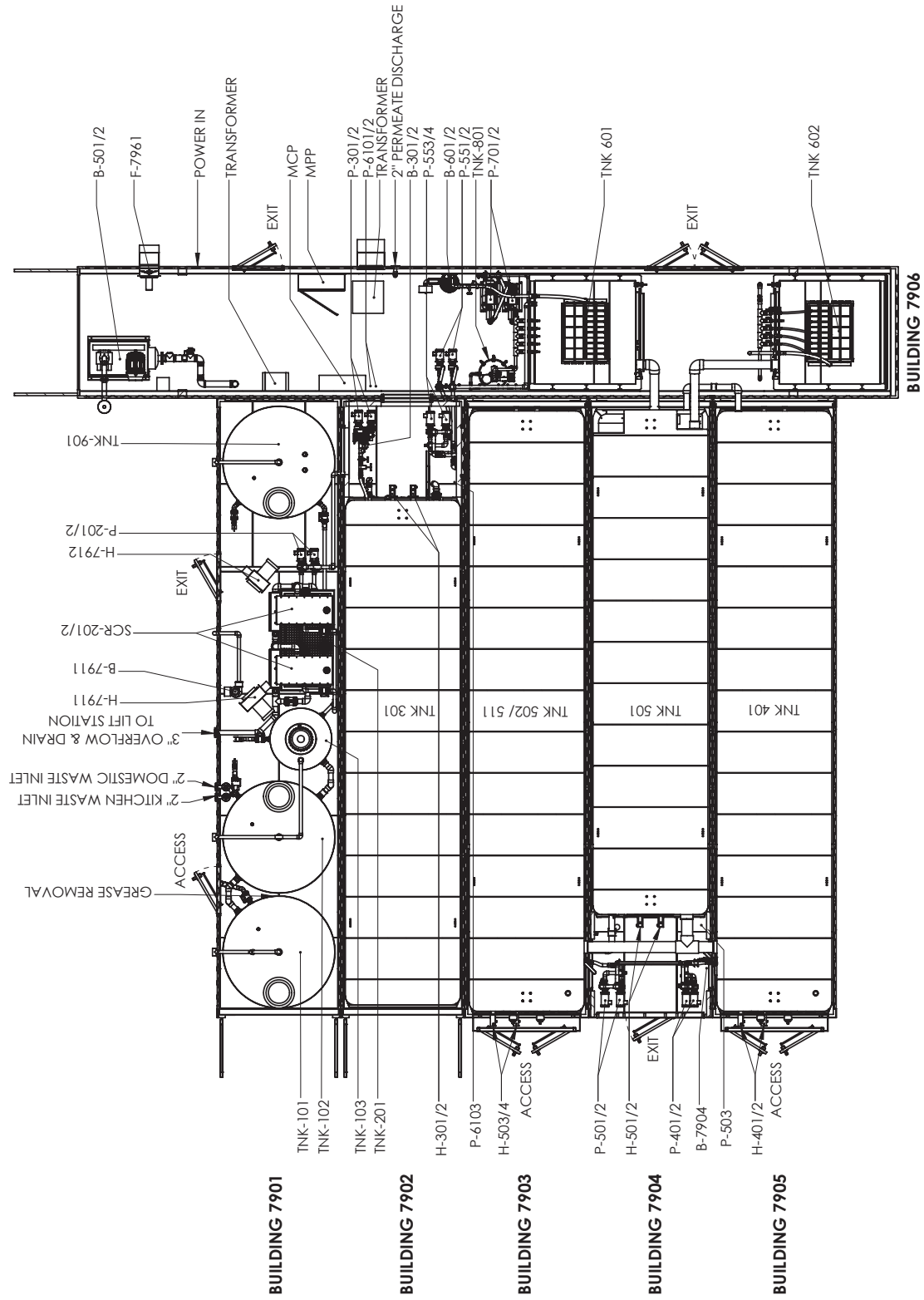
1. Warranty coverage does not include:
 - Freight, labor, travel, and living expenses associated with parts replacement
 - Normal maintenance items such as lubrication, fan belts, and cleaning of the equipment
 - System parts damaged as a result of customer changes to the system and/or PLC program without the written consent of **newterra**.
2. In the event that the customer, or any contractor employed by the customer, contracts an outside company, other than **newterra** for modification of system equipment, without knowledge of **newterra**, the warranty in that case may become null & void.
3. In the event that the customer, or any installation contractor employed by the customer, contracts outside **newterra** for installation work or erection of quoted equipment, the customer shall assume full responsibility for said contract.

Warranty Validation and Conditions

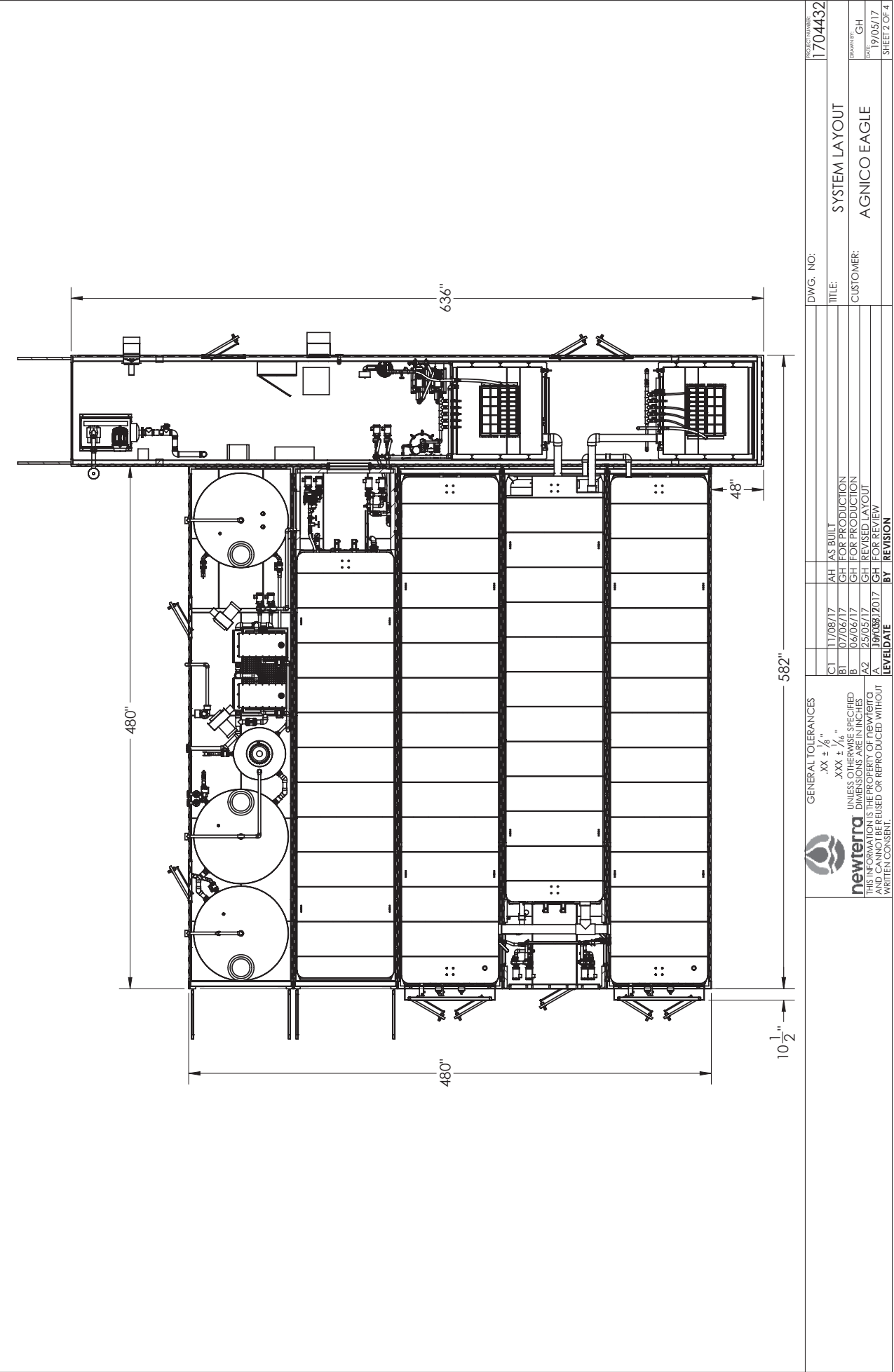
1. **newterra** highly recommends that the system be started up by a **newterra** factory trained technician to ensure the correct installation and trouble-free startup. The startup checklist provided in the O&M manual must be completed and returned to **newterra** to validate your equipment warranty which begins on the date of shipment from the factory.
2. In the event that the system is commissioned by a certified technician that is not an employee of **newterra**, the Startup Checklist must be returned to **newterra** within 15 days of the completion of startup

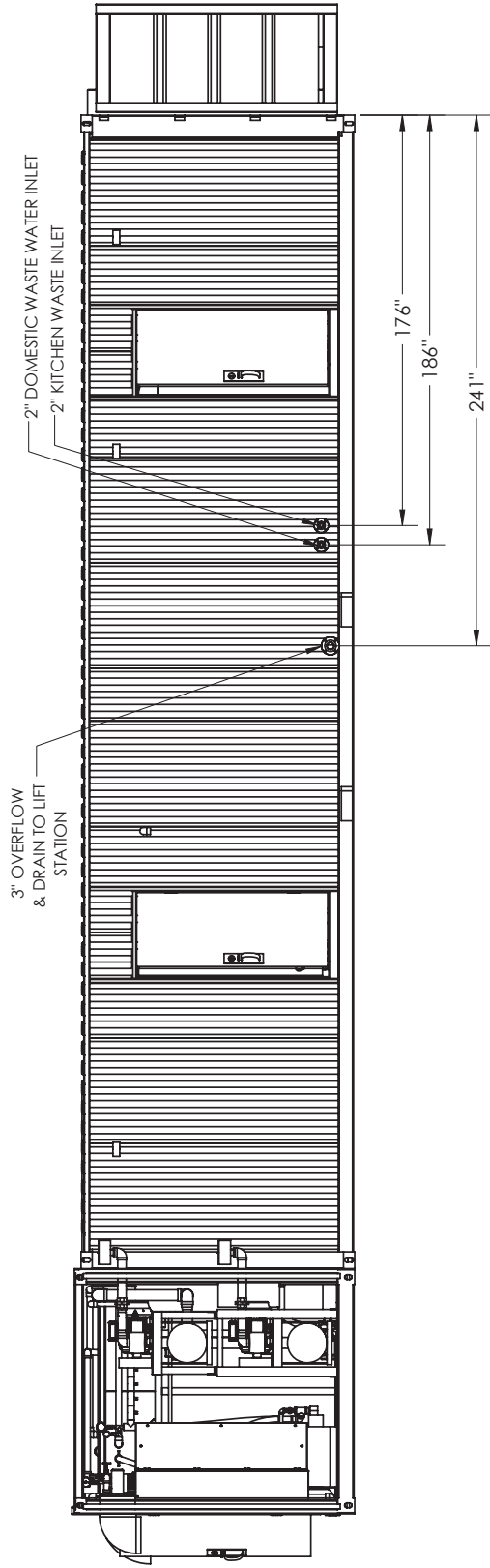
APPENDIX A

Drawings



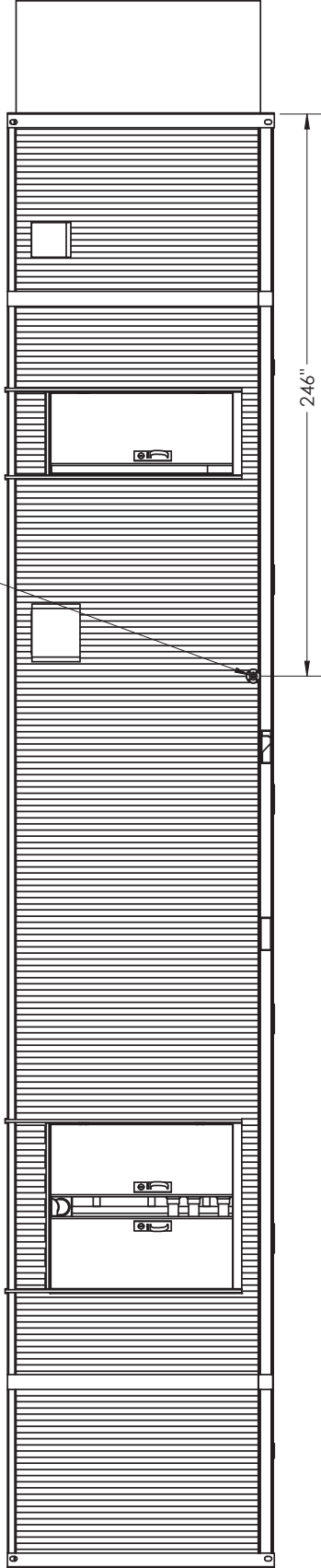
GENERAL TOLERANCES XX ± 1/8" XXX ± 1/4" UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES THIS INFORMATION IS THE PROPERTY OF NEWterra AND CANNOT BE REUSED OR REPRODUCED WITHOUT WRITTEN CONSENT.		DWG. NO:		PROJECT NUMBER:	
newterra		TITLE:		1704432	
LEVEL/DATE		CUSTOMER:		AGNICO EAGLE	
BY		DATE		19/05/17	
REVISION		DRAWN BY		GH	
A		FOR REVIEW		SHEET 1 OF 4	
B		FOR PRODUCTION			
C1		AS BUILT			
BT		FOR PRODUCTION			
B		FOR PRODUCTION			
A2		REVISED LAYOUT			
A		FOR REVIEW			
19/05/17					



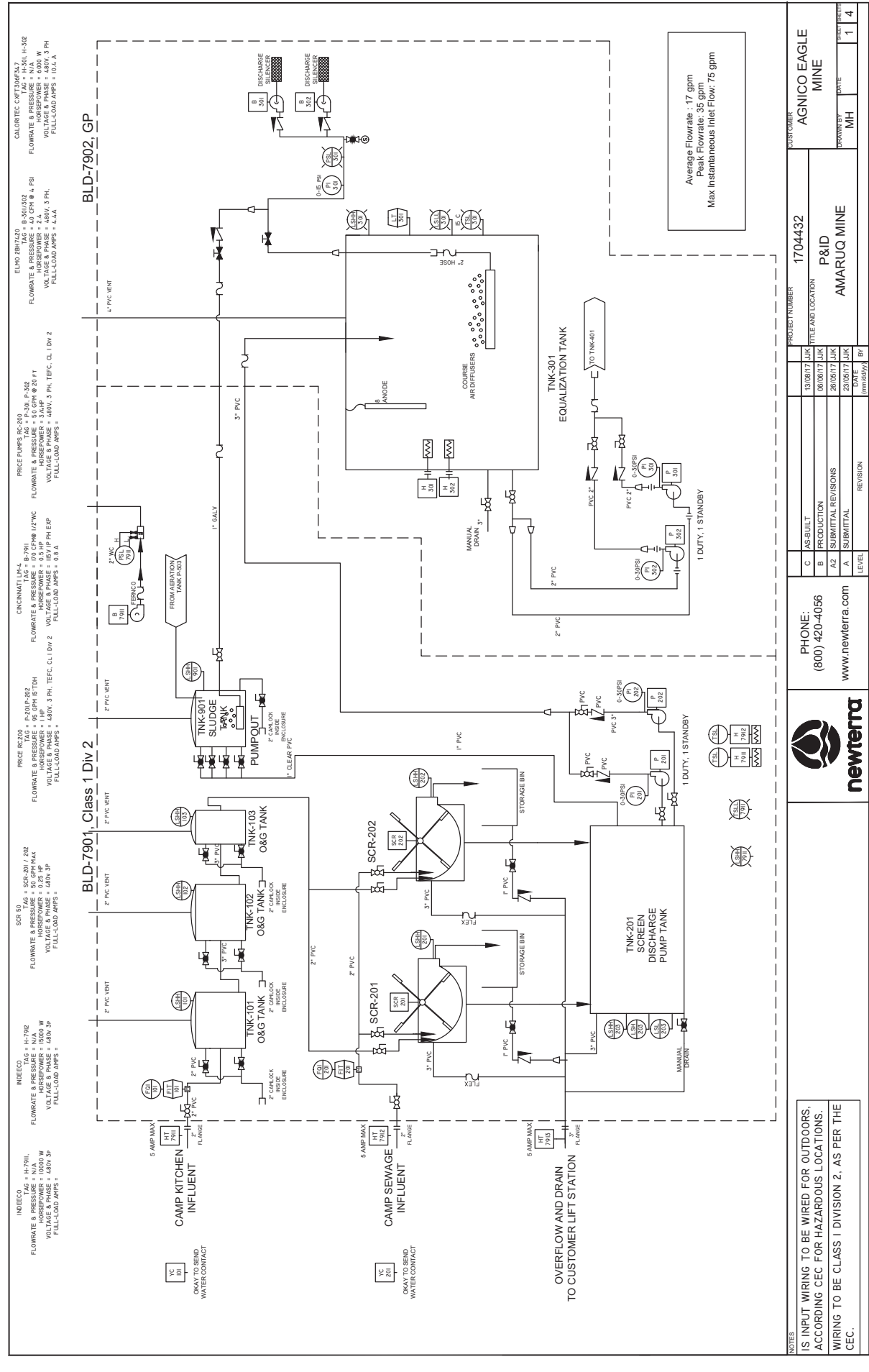


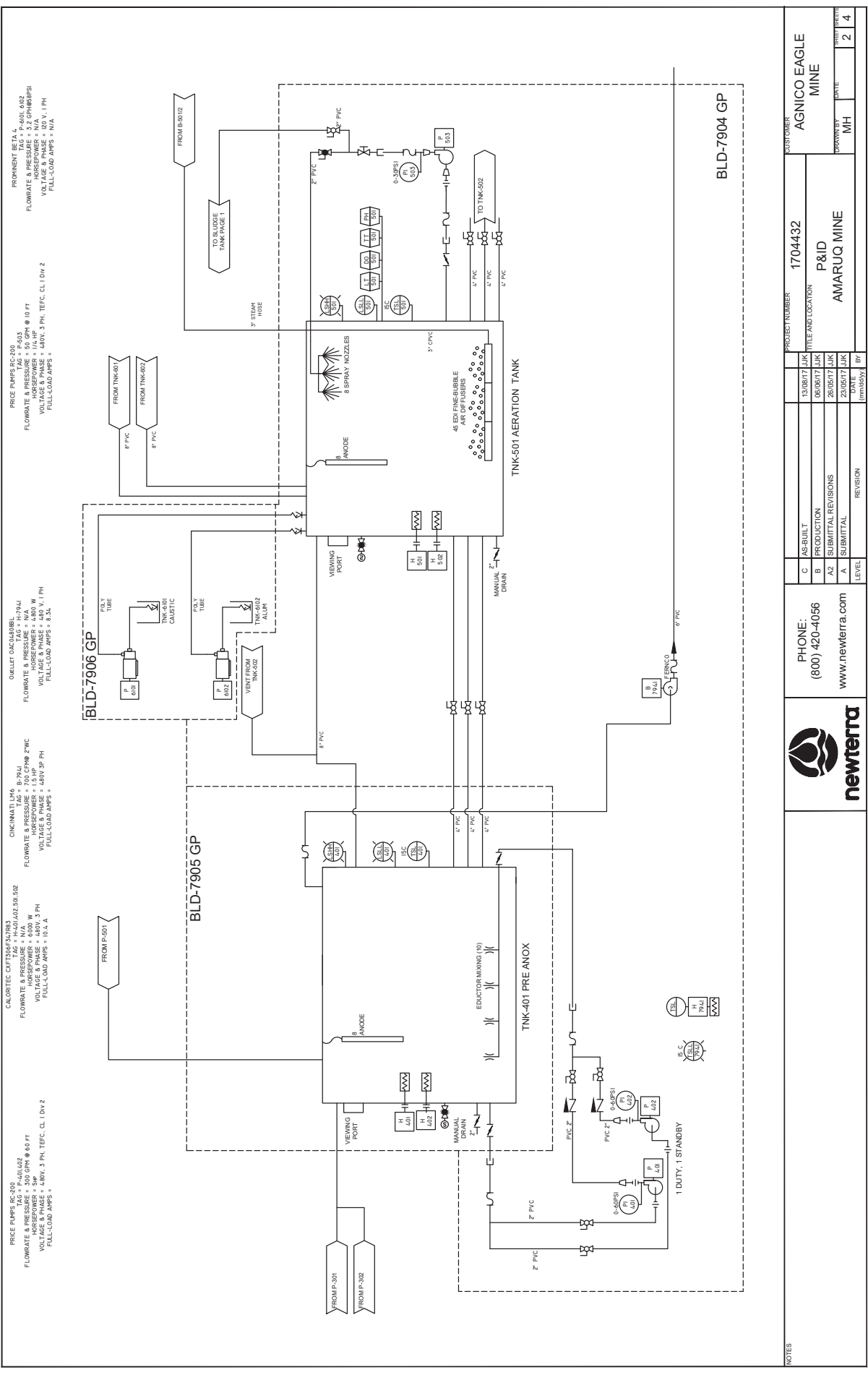
 GENERAL TOLERANCES .XX ± 1/8" XXX ± 1/4" UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES THIS INFORMATION IS THE PROPERTY OF newterra AND CANNOT BE REUSED OR REPRODUCED WITHOUT WRITTEN CONSENT.	DWG. NO:		1704432	
	TITLE:		SYSTEM LAYOUT	
	CUSTOMER:		AGNICO EAGLE	
	DATE:		06/06/17	
	C1	11/08/17	AH	AS BUILT
	BT	07/06/17	GH	FOR PRODUCTION
	B	06/08/2017	GH	FOR PRODUCTION
	LEVEL	DATE	BY	REVISION

2' PERMEATE DISCHARGE



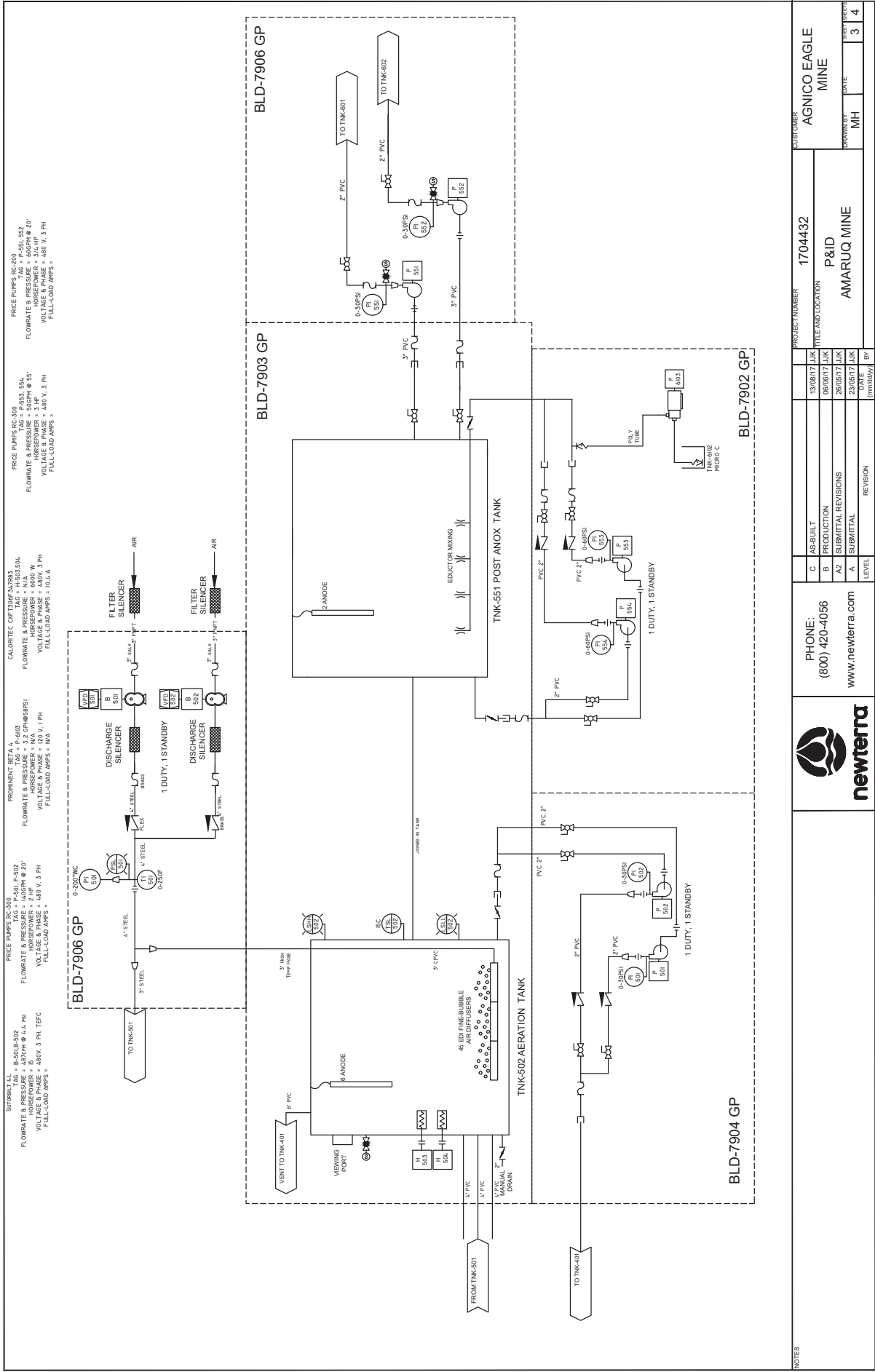
 GENERAL TOLERANCES XXX ± 1/16" UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES THIS INFORMATION IS THE PROPERTY OF newterra AND CANNOT BE REUSED OR REPRODUCED WITHOUT WRITTEN CONSENT.	DWG. NO:		1704432	
	TITLE:		SYSTEM LAYOUT	
	CUSTOMER:		AGNICO EAGLE	
	DATE:		06/06/17	
	C1	11/08/17	AH	AS BUILT
	BT	07/06/17	GH	FOR PRODUCTION
	B	06/08/2017	GH	FOR PRODUCTION
	LEVEL	DATE	BY	REVISION





NOTES	 newterra		PHONE: (800) 420-4056 www.newterra.com		LEVEL		REVISION		DATE (mm-dd-yy)		BY	
					A		SUBMITTAL		23/05/17		LJK	
					A2		SUBMITTAL REVISIONS		28/05/17		LJK	
					B		PRODUCTION		06/06/17		LJK	
	C		AS-BUILT		13/06/17		LJK		PROJECT NUMBER		1704432	
											TITLE AND LOCATION	
											P&ID	
											AMARUQ MINE	
											DRAWN BY	
									MH		DATE	
								2		4		
										SHEET TOTALS		
										2		
										4		

THIS INFORMATION IS THE PROPERTY OF newterra AND CANNOT BE REPRODUCED WITHOUT THE WRITTEN CONSENT OF newterra



NOTES	 newterra										PHONE: (800) 420-4056										www.newterra.com										PROJECT NUMBER 1704432										CUSTOMER AGNICO EAGLE MINE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	C										AS-BUILT										13/06/17 UK										B										PRODUCTION										06/06/17 UK										A2										SUBMITTAL REVISIONS										26/05/17 UK										A										SUBMITTAL										23/05/17 UK										LEVEL										REVISION										DATE										DRAWN BY MH										SHEET NO. 3										4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											

THIS INFORMATION IS THE PROPERTY OF NEWTERA AND CANNOT BE REPRODUCED WITHOUT THE WRITTEN CONSENT OF NEWTERA

ELMO BETA-2 2PH 480
FLOWRATE & PRESSURE = B-60B-402
VOLUME & PHASE = 0.5CFM @ 4.4 PSI
VOLUME & PHASE = 480 V, 3 PH, TEFC
FULL-LOAD AMPS = 9.9

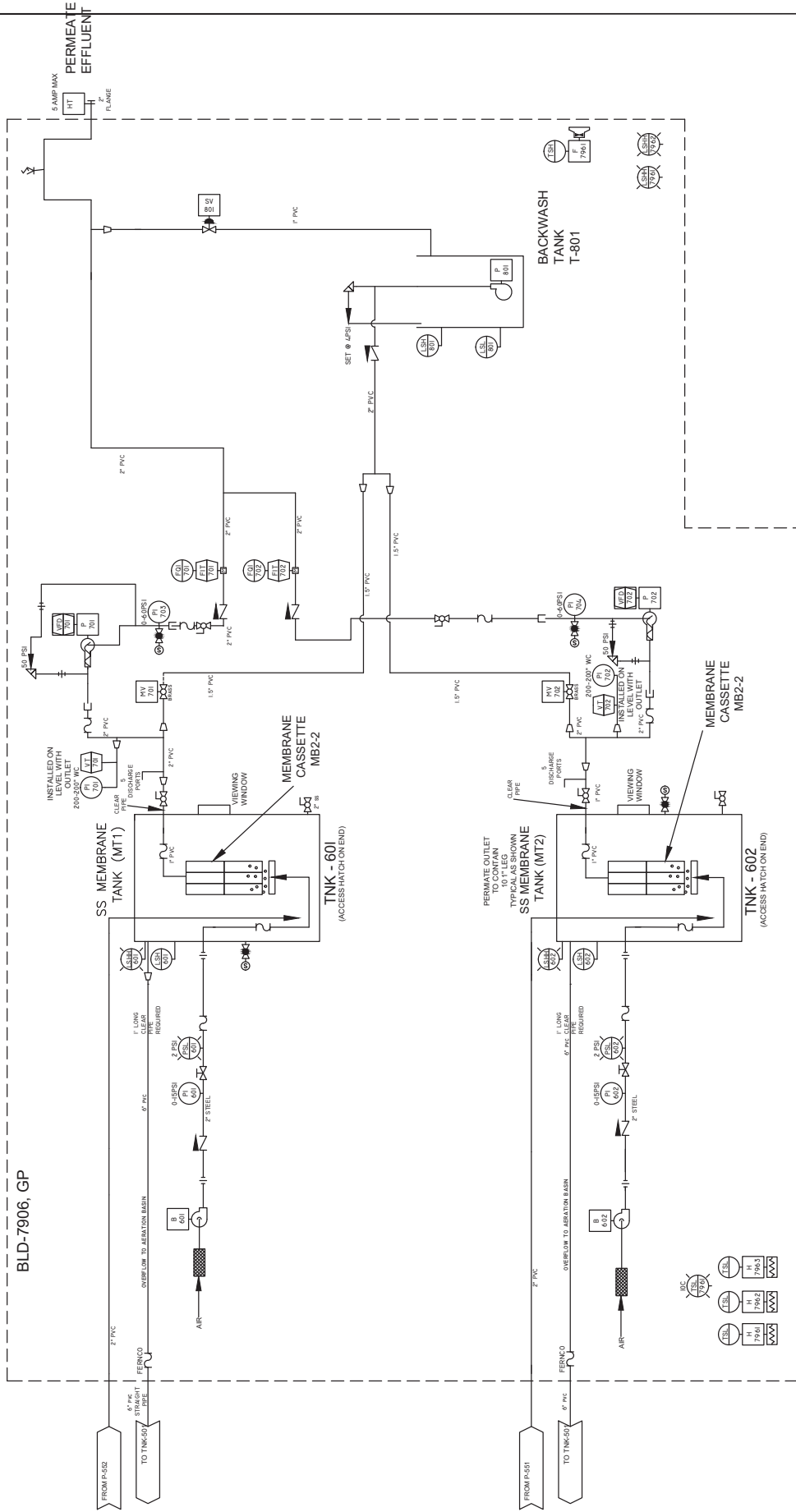
OUTLET CASSETTES
FLOWRATE & PRESSURE = N/A
VOLUME & PHASE = 480V, 1 PH
FULL-LOAD AMPS = 8.3A

MONO T&A
FLOWRATE & PRESSURE = P-70L P-702
VOLUME & PHASE = 0.5CFM
VOLUME & PHASE = 480 V, 3 PH, TEFC
FULL-LOAD AMPS =

ZOELLER P21
FLOWRATE & PRESSURE = P-400
VOLUME & PHASE = 0.5CFM
VOLUME & PHASE = 480 V, 1 PH, TEFC
FULL-LOAD AMPS =

CAN ARM 58-FI
FLOWRATE & PRESSURE = F-7961
VOLUME & PHASE = 0.5V / PHASE
FULL-LOAD AMPS = 0.6A

BLD-7906, GP



NOTES



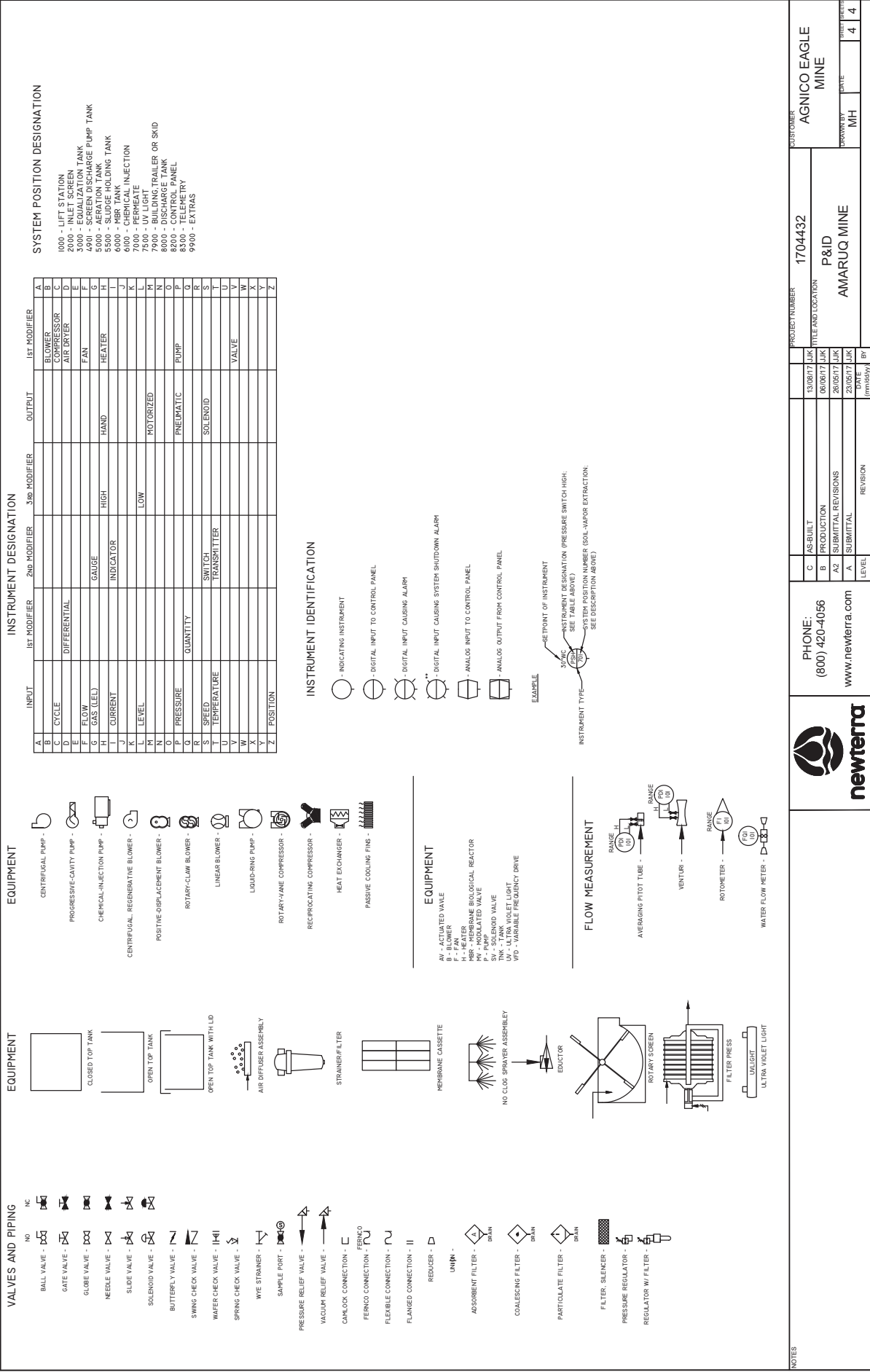
PHONE:
(800) 420-4056
www.newterra.com

LEVEL	REVISION
C	AS-BUILT
B	PRODUCTION
A2	SUBMITTAL REVISIONS
A	SUBMITTAL

PROJECT NUMBER
1704432
TITLE AND LOCATION
P&ID
AMARUQ MINE

CUSTOMER
AGNICO EAGLE
MINE
DRAWN BY
MH
DATE
4
4

THIS INFORMATION IS THE PROPERTY OF newterra AND CANNOT BE REPRODUCED WITHOUT THE WRITTEN CONSENT OF newterra



THIS INFORMATION IS THE PROPERTY OF newterra AND CANNOT BE REUSED OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF newterra

Project:

1704432 - AGNICO EAGLE MINE - C

Contents:

2	SYSTEM SPECIFICATIONS
3	LEGEND ELECTRICAL
4	SINGLE LINE DIAGRAM, SHEET 1 OF 3
5	SINGLE LINE DIAGRAM, SHEET 2 OF 3
6	SINGLE LINE DIAGRAM, SHEET 3 OF 3
7	PLC COMMUNICATION LAYOUT
8	PANEL LAYOUTS
9	SPARE SHEET
10	600V/480V POWER DISTRIBUTION
11	480V POWER DISTRIBUTION, SHEET 1 OF 4
12	480V POWER DISTRIBUTION, SHEET 2 OF 4
13	480V POWER DISTRIBUTION, SHEET 3 OF 4
14	480V POWER DISTRIBUTION, SHEET 4 OF 4
15	SPARE SHEET
16	LV DISTRIBUTION PANEL, SHEET 1 OF 2
17	LV DISTRIBUTION PANEL, SHEET 2 OF 2
18	SPARE SHEET
19	MCP - 120VAC, CONTROL POWER
20	MCP - 240VDC, CONTROL POWER
21	MCP DISCRETE INPUTS, SHEET 1 OF 4
22	MCP DISCRETE INPUTS, SHEET 2 OF 4
23	MCP DISCRETE INPUTS, SHEET 3 OF 4
24	MCP DISCRETE INPUTS, SHEET 4 OF 4
25	MCP DISCRETE OUTPUTS, SHEET 1 OF 2
26	MCP DISCRETE OUTPUTS, SHEET 2 OF 2
27	MCP ANALOG INPUTS, SHEET 1 OF 2
28	MCP ANALOG INPUTS, SHEET 2 OF 2
29	MCP ANALOG OUTPUTS, DOIT, PROBE & CUSTOMER CONNECTIONS
30	SPARE SHEET
31	MCP PANEL LAYOUT
32	MCP PANEL LAYOUT, TOP
33	MCP PANEL LAYOUT, BOTTOM
34	MPP 120VAC & 240VDC, CONTROL POWER
35	MPP OTB IO, DISCRETE INPUTS/OUTPUTS
36	MPP DISCRETE INPUTS, SHEET 1 OF 2
37	MPP DISCRETE INPUTS, SHEET 2 OF 2
38	MPP DISCRETE OUTPUTS & OUTPUTS
39	MPP RELAY OUTPUTS
40	MPP SPARE SHEET
41	MPP PANEL LAYOUT
42	MPP PANEL LAYOUT, TOP
43	MPP PANEL LAYOUT, MIDDLE
44	MPP PANEL LAYOUT, BOTTOM
45	JUNCTION BOX LAYOUTS, JB-7901S
46	JUNCTION BOX LAYOUTS, JB-7902S
47	JUNCTION BOX LAYOUTS, JB-7904S
48	MPP BILL OF MATERIAL, MODULE 8201 - SHEET 1 OF 2
49	MPP BILL OF MATERIAL, MODULE 8201 - SHEET 2 OF 2
50	MPP BILL OF MATERIAL, MODULE 8203 - SHEET 1 OF 3
51	MPP BILL OF MATERIAL, MODULE 8203 - SHEET 2 OF 3
52	MPP BILL OF MATERIAL, MODULE 8203 - SHEET 3 OF 3
53	JB-7901-AC BILL OF MATERIAL, MODULE 8203 - SHEET 1 OF 11
54	JB-7901-DC BILL OF MATERIAL, MODULE 8203 - SHEET 2 OF 11
55	JB-7901-HV BILL OF MATERIAL, MODULE 8203 - SHEET 3 OF 11
56	JB-7901-S BILL OF MATERIAL, MODULE 8203 - SHEET 4 OF 11
57	JB-7901S-AC BILL OF MATERIAL, MODULE 8203 - SHEET 5 OF 11
58	JB-7902-AC BILL OF MATERIAL, MODULE 8203 - SHEET 6 OF 11
59	JB-7902-DC BILL OF MATERIAL, MODULE 8203 - SHEET 7 OF 11
60	JB-7902-HV BILL OF MATERIAL, MODULE 8203 - SHEET 8 OF 11
61	JB-7904-AC BILL OF MATERIAL, MODULE 8203 - SHEET 9 OF 11
62	JB-7904-DC BILL OF MATERIAL, MODULE 8203 - SHEET 10 OF 11
63	JB-7904-HV BILL OF MATERIAL, MODULE 8203 - SHEET 11 OF 11
64	BLD-7901 BILL OF MATERIAL, MODULE 8801 - SHEET 1 OF 2
65	BLD-7901 BILL OF MATERIAL, MODULE 8801 - SHEET 2 OF 2
66	BLD-7902 BILL OF MATERIAL, MODULE 8802
67	BLD-7904 BILL OF MATERIAL, MODULE 8804 - SHEET 1 OF 2
68	BLD-7904 BILL OF MATERIAL, MODULE 8804 - SHEET 2 OF 2
69	BLD-7906 BILL OF MATERIAL, MODULE 8806
70	BLD-7906 BILL OF MATERIAL, MODULE 8806 - SHEET 1 OF 2
71	BLD-7906 BILL OF MATERIAL, MODULE 8806 - SHEET 2 OF 2



newterra®
clean water. modular solutions. *simple.™*

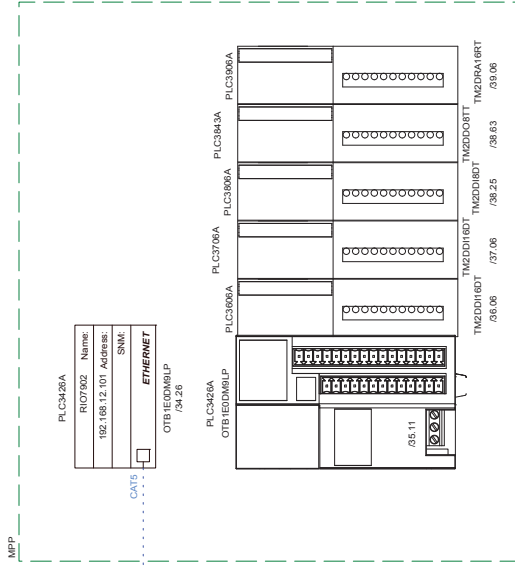
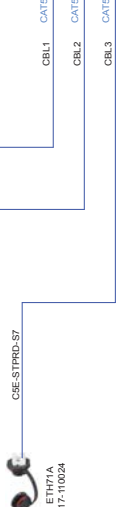
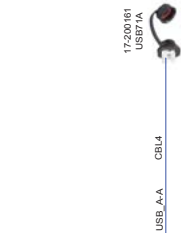
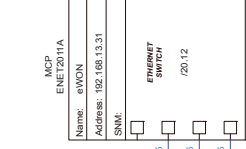
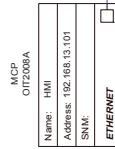
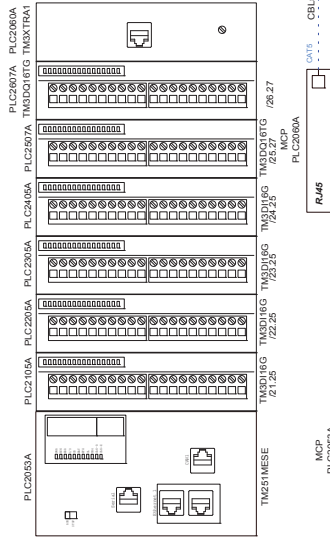
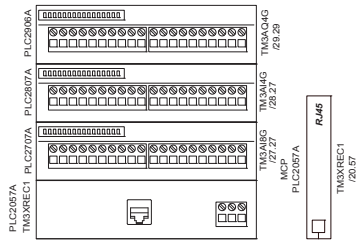
ELECTRICAL SPECIFICATIONS

VOLTAGE	600V
PHASE	3Ø
FREQUENCY	60 Hz
FULL LOAD AMPS	172A
MAIN DISCONNECT SIZE	400A - FUSED @ 250A
SCCR SYMMETRICAL (kAMPS)	10
SYSTEM APPROVAL AND CLASSIFICATION	cMET - CL1Div2
PANEL APPROVAL AND CLASSIFICATION	cMETus to UL698A

WIRE LEGEND BLACK: POWER RED: 12VAC CONTROL WHITE: NEUTRAL & IS WIRING BLUE/WHIT: 0VDC YELLOW: INTERLOCKS	 newterra		NOTES:	1325 CALIFORNIA AVE BROOKVILLE, ONTARIO CANADA K6V 5Y6 PHONE: (615) 458-1576 www.newterra.com	C	AS BUILT	DMB	14/08/17	PROJ. NO.	1704432	CUSTOMER: AGNICO EAGLE 600 MAN AMARUO MINE					
					B	FOR PRODUCTION	DMB	31/05/17	TITLE AND LOCATION: SYSTEM SPECIFICATIONS							
					A1	FOR REVIEW	DMB	23/05/17								
					A	FOR SUBMITTAL	DMB	12/05/17								
					LEVEL	BY	DMB	DATE:	SHEET:	SHEETS:						
	REVISION	(DATE)	DMB	08/05/17	2	71	DRAWN BY: DMB		DATE: 08/05/17		SHEET: 2		SHEETS: 71		DRAWN BY: JACOB DALLMAN, C.	

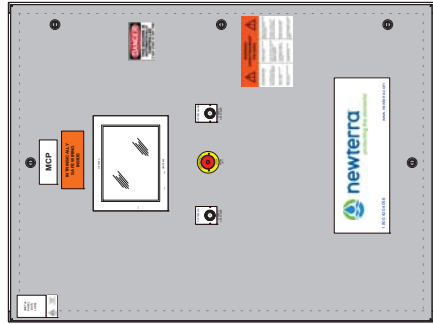
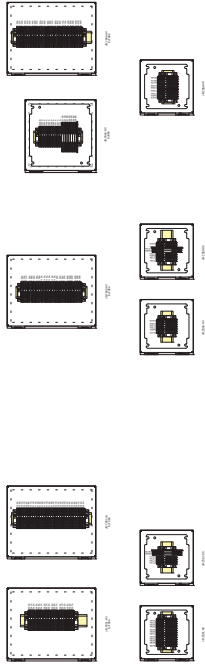
	FLOW SWITCH, NORMALLY CLOSED		TOGGLE SWITCH, NORMALLY OPEN		ANNUNCIATOR, BELL		FUSED DISCONNECT X-AMP RATING		TRANSFORMER CONTROL POWER (NOT REPRESENTATIVE OF ALL TYPES)
	FLOW SWITCH, NORMALLY OPEN		TOGGLE SWITCH, CHANGE OVER CONTACTS, 3 WAY		ANNUNCIATOR, HORN		FUSE, X-AMP RATING		TRANSFORMER DISTRIBUTION/LIGHTING (NOT REPRESENTATIVE OF ALL TYPES)
	FLOAT SWITCH, NORMALLY CLOSED		PUSHBUTTON, NORMALLY CLOSED		ANNUNCIATOR, BUZZER		CIRCUIT BREAKER X-AMP RATING		120VAC
	FLOAT SWITCH, NORMALLY OPEN		PUSHBUTTON, NORMALLY OPEN		BATTERY		COMBINATION STARTER X-AMP-CURRENT RANGE		24VDC 72Watt
	LIMIT SWITCH, NORMALLY CLOSED		PUSHBUTTON, NORMALLY CLOSED MUSHROOM HEAD		TRANSMITTER, 2 WIRE LOOP POWERED		CONTACTOR		DC POWER SUPPLY (NOT REPRESENTATIVE OF ALL TYPES)
	LIMIT SWITCH, NORMALLY OPEN		SELECTOR SWITCH, 2 POSITION 2 NORMALLY OPEN		INTRINSICALLY SAFE BARRIERS (NOT TO SCALE)		DISTRIBUTION BLOCK		4 CHANNEL DISCRETE
	PRESSURE SWITCH, CHANGE OVER CONTACTS		SELECTOR SWITCH, 3 POSITION 2 NORMALLY OPEN		2 CHANNEL ANALOG		3 PHASE MOTOR		NETWORK SWITCH-ETHERNET (NOT REPRESENTATIVE OF ALL TYPES) (NOT TO SCALE)
	PRESSURE SWITCH, NORMALLY CLOSED OPENS ON PRESSURE INCREASE		PILOT LIGHT, X-COLOR		PANEL METER AM-AMMETER VOLT-VOLTMETER		3 PHASE HEATER		ELAPSED TIME METER
	PRESSURE SWITCH, NORMALLY OPEN CLOSURES ON PRESSURE INCREASE		PILOT LIGHT, PUSH-TO-TEST X-COLOR		CURRENT TRANSFORMER		RECEPTACLE, SINGLE OUTLET		GROUND
	TEMPERATURE SWITCH, CHANGE OVER CONTACTS		BEACON LIGHT X-COLOR		INSTRUMENTATION GROUND		RECEPTACLE, DUPLEX		SOLENOID
	TEMPERATURE SWITCH, NORMALLY CLOSED OPENS ON TEMPERATURE INCREASE		CONTACT, NORMALLY CLOSED		CURRENT SWITCH		3 PHASE HEATER		COIL - RELAY, CONTACTOR TIMER, MOTOR STARTER
	TEMPERATURE SWITCH, NORMALLY OPEN CLOSURES ON TEMPERATURE INCREASE		CONTACT, NORMALLY OPEN		COIL		RECEPTACLE, DUPLEX		COIL - RELAY, CONTACTOR TIMER, MOTOR STARTER
	PROXIMITY SWITCH, NORMALLY CLOSED		TIME DELAY CONTACT, INSTANTANEOUS OPEN TIMED OPEN ON DE-ENERGIZE		TIME DELAY CONTACT, INSTANTANEOUS CLOSE TIMED OPEN ON DE-ENERGIZE		RECEPTACLE, DUPLEX		TIME DELAY CONTACT, INSTANTANEOUS OPEN TIMED CLOSE ON ENERGIZE
	PROXIMITY SWITCH, NORMALLY OPEN		TIME DELAY CONTACT, INSTANTANEOUS OPEN TIMED OPEN ON DE-ENERGIZE		TIME DELAY CONTACT, INSTANTANEOUS CLOSE TIMED OPEN ON ENERGIZE		RECEPTACLE, DUPLEX		TIME DELAY CONTACT, INSTANTANEOUS CLOSE TIMED OPEN ON ENERGIZE
	METAL OXIDE VARISTOR MOV		COIL - RELAY, CONTACTOR TIMER, MOTOR STARTER		COIL		RECEPTACLE, DUPLEX		COIL - RELAY, CONTACTOR TIMER, MOTOR STARTER
	DIODE		TANDEM TERMINAL BLOCK		TANDEM TERMINAL BLOCK		RECEPTACLE, DUPLEX		TANDEM TERMINAL BLOCK
	PANEL TERMINAL BLOCK		JUNCTION BOX TERMINAL BLOCK		JUNCTION BOX TERMINAL BLOCK		RECEPTACLE, DUPLEX		JUNCTION BOX TERMINAL BLOCK
	CUSTOMER TERMINAL BLOCK		FUSED TERMINAL BLOCK		FUSED TERMINAL BLOCK		RECEPTACLE, DUPLEX		FUSED TERMINAL BLOCK

WIRE LEGEND BLACK: POWER WHITE: CONTROL NEUTRAL BLUE: +24VDC & IS WIRING BLU/WH: 0VDC YELLOW: INTERLOCKS	NOTES: 1.		1525 CALIFORNIA AVE BRIDGEVIEW, CALIFORNIA 94607-576 CANADA 467.576 PHONE: (615) 458-1576 www.newterra.com	C AS BUILT B FOR PRODUCTION A1 FOR REVIEW A FOR SUBMITTAL LEVEL	14/08/17 DMB 31/05/17 DMB 23/05/17 DMB 12/05/17 DMB DATE BY (dd/mm/yy)	PROJ. NO 170432	CUSTOMER AGNICO EAGLE 600 MAN AMARUO MINE	SHEET: 3 SHEETS: 71
---	---------------------	--	--	---	--	--------------------	---	------------------------

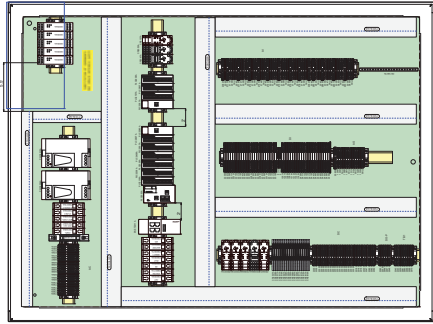


WIRE LEGEND BLACK: POWER RED: 120VAC CONTROL WHITE: WHITE BLUE: +240VAC & IS WIRING BLU/WHTE: 0V0C YELLOW: INTERLOCKS	NOTES: 1.		1325 CALIFORNIA AVE. BROCKVILLE, ONTARIO CANADA K6V 5T6 PHONE: (613) 496-1678 www.newterra.com	PROJ. NO. 1704432		CUSTOMER:			
				TITLE AND LOCATION: PLC/COMMUNICATION LAYOUT		AGNICO EAGLE 600 MAN AMARUQU MINE			
				C	AS BUILT	14/08/17	DMB	DRAWN BY: DATE: SHEET: SHEETS: DMB 08/05/17 7 71	
				B	FOR PRODUCTION	31/05/17	DMB		
				A	FOR REVIEW	23/05/17	DMB		
				A	FOR SUBMITTAL	02/05/17	DMB		
		LEVEL	REVISION	DATE (dd/mm/yyyy)	BY				

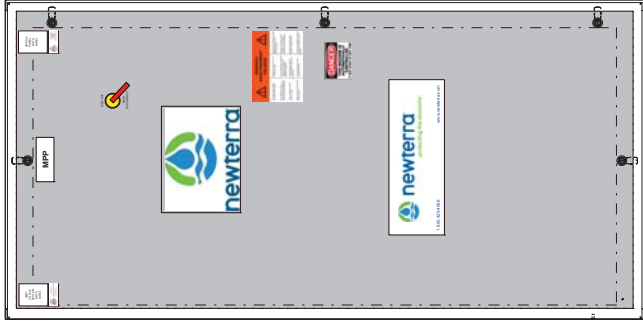
THIS INFORMATION IS THE PROPERTY OF newterra ltd., AND CANNOT BE REUSED OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF newterra ltd.



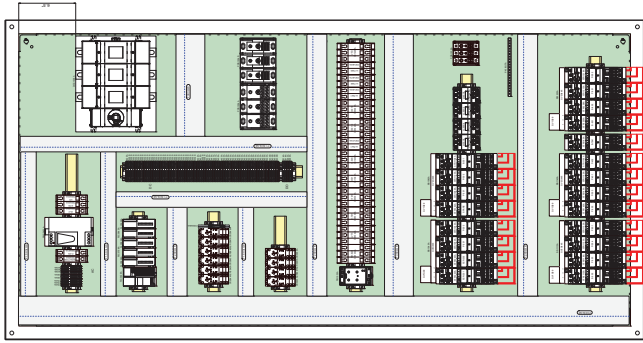
PANEL, OUTER DOOR



PANEL, OUTER DOOR



PANEL, OUTER DOOR



PANEL, INTERIOR

WIRE LEGEND BLACK: POWER RED: 120VAC CONTROL WHITE: 24VDC BLUE: +24VDC & IS WIRING BLU/WH: 0VDC YELLOW: INTERLOCKS	NOTES: 1.	 newterra www.newterra.com	1325 CALIFORNIA AVE. BROOKVILLE, ONTARIO CANADA M1V 5P6 PHONE: (616) 458-1576 www.newterra.com	C	AS BUILT	14/08/17	DMB	PROJ. NO. 1704432	CUSTOMER: AGNICO EAGLE 600 MAN AMARUO MINE	
				B	FOR PRODUCTION	31/05/17	DMB			TITLE AND LOCATION: PANEL LAYOUTS
				A1	FOR REVIEW	23/05/17	DMB			
				A	FOR SUBMITTAL	12/05/17	DMB			
				LEVEL	REVISION	DATE	BY			

9 01
9 02
9 03
9 04
9 05
9 06
9 07
9 08
9 09
9 10
9 11
9 12
9 13
9 14
9 15
9 16
9 17
9 18
9 19
9 20
9 21
9 22
9 23
9 24
9 25
9 26
9 27
9 28
9 29
9 30
9 31
9 32
9 33
9 34
9 35
9 36
9 37

INTENTIONALLY
BLANK

WIRE LEGEND
BLACK: POWER
WHITE: CONTROL
BLUE: +24VDC & IS WIRING
BLU/WH: 0VDC
YELLOW: INTERLOCKS

NOTES:
1.



1525 CALIFORNIA AVE
BRIDGEVIEW, CA 94605
CANADA 467.576
PHONE: (615) 458-1576
www.newterra.com

C	AS BUILT
B	FOR PRODUCTION
A1	FOR REVIEW
A	FOR SUBMITTAL
LEVEL	REVISION

14/08/17	DMB
31/05/17	DMB
23/05/17	DMB
12/05/17	DMB
DATE	BY
(dd/mm/yyyy)	

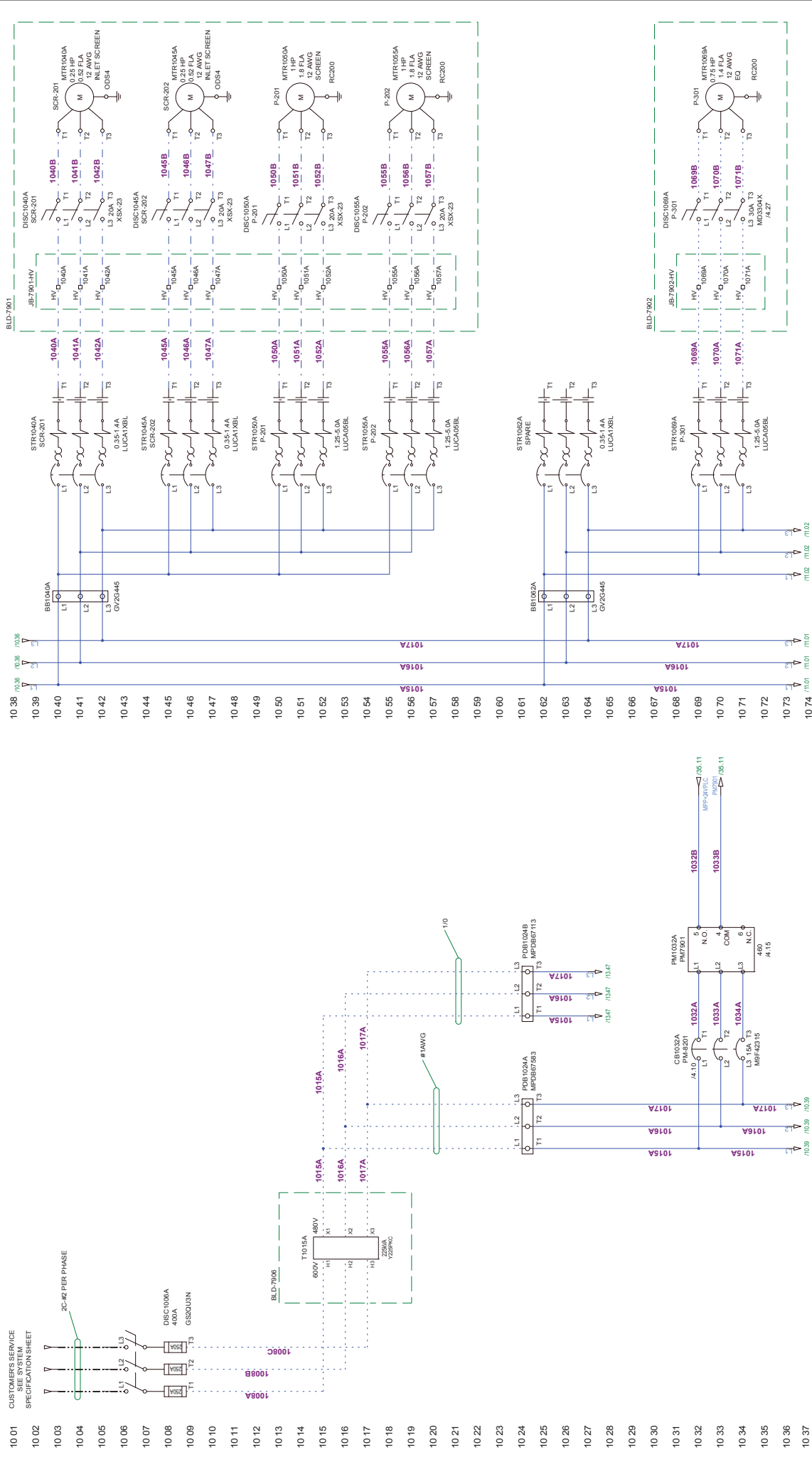
PROJ. NO. 1704432
TITLE AND LOCATION:
SPARE SHEET

CUSTOMER:

AGNICO EAGLE
600 MAN AMARUO MINE

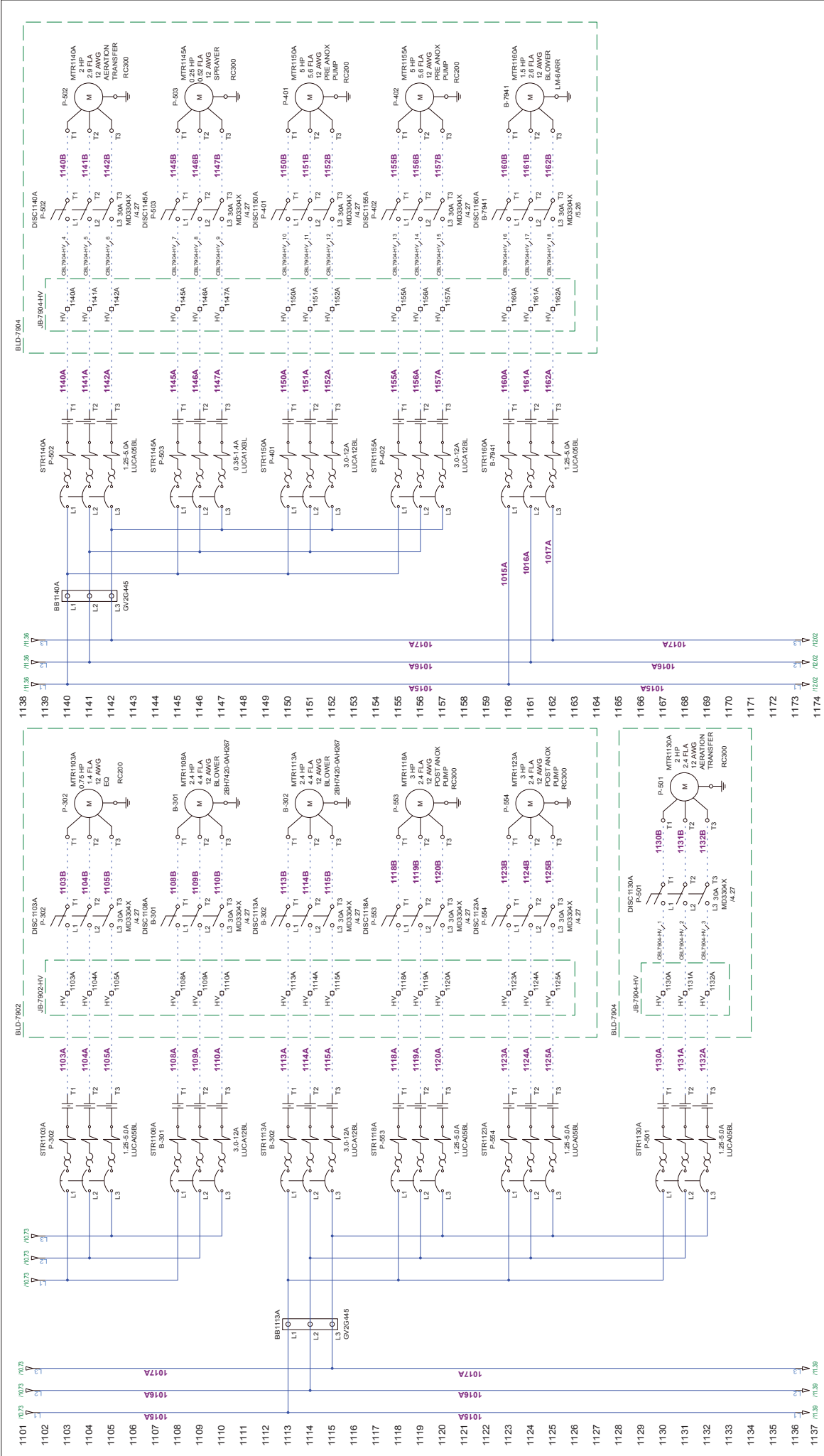
DRAWN BY:	DATE:	SHEET:	SHEETS:
DMB	08/05/17	9	71

TMSR JKX02 DAE-ME-C



WIRE LEGEND BLACK: POWER RED: 120VAC CONTROL WHITE: 24VDC & IS WIRING BLUE: +24VDC & IS WIRING BLU/WH: 0VDC YELLOW: INTERLOCKS	NOTES: 1. USE CANADIAN WIRING CODE		1325 CALIFORNIA AVE. BROOKVILLE, ONTARIO CANADA L3R 9V6 PHONE: (616) 468-1876 www.newterra.com	C	AS BUILT	14/09/17	DMB	PROJ. NO. 1704432	CUSTOMER: AGNICO EAGLE 600 MAN ANIARUQ MINE	
				B	FOR PRODUCTION	3/10/17	DMB			
				B	FOR PRODUCTION	3/10/17	DMB			
				A	FOR REVIEW	23/05/17	DMB			
				A	FOR REVIEW	23/05/17	DMB			
				A	FOR SUBMITTAL	12/05/17	DMB			
				LEVEL	DATE	BY	10/05/17			71
				REVISION	DATE	BY	10/05/17			71
				REVISION	DATE	BY	10/05/17			71
				REVISION	DATE	BY	10/05/17			71

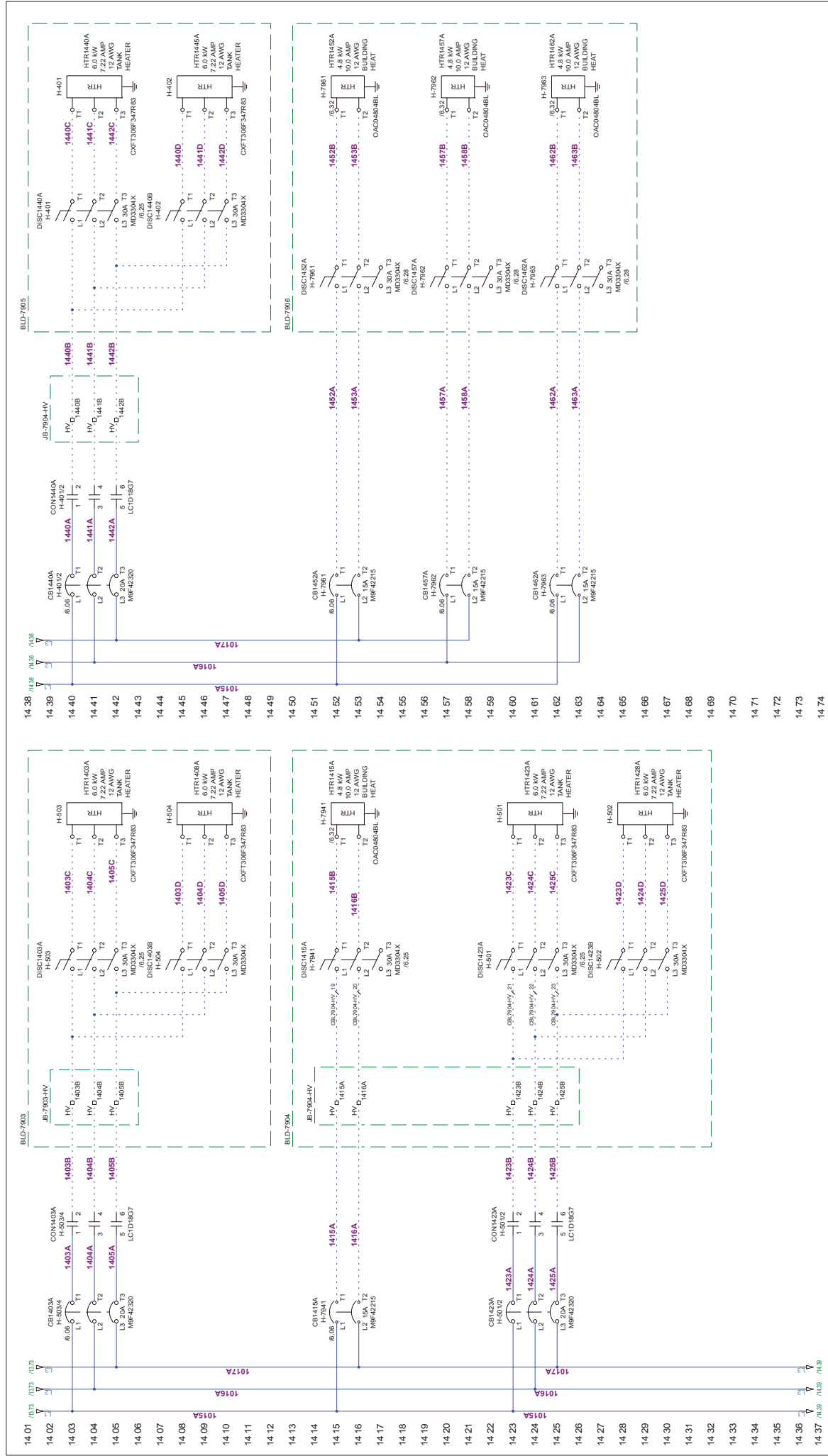
THIS INFORMATION IS THE PROPERTY OF **reforma** **Id.**, AND CANNOT BE REUSED OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF **reforma** **Id.**.



WIRE LEGEND BLACK: POWER CONTROL WHITE: NEUTRAL BLUE: +24VDC & B WIRING BLU/WH: OVDC YELLOW: INTERLOCKS	NOTES: 1. USE CANADIAN WIRING CODE	1525 CALIFORNIA AVE SUITE 200 CANADA V6V 5V6 PHONE: (613) 458-1576 www.newterra.com		1704432		CUSTOMER: AGNICO EAGLE 600 MAN AMARUO MINE	
		REVISION		PROJ. NO.		TITLE AND LOCATION:	
		LEVEL		DATE		DATE	
		BY		DATE		DATE	



THIS INFORMATION IS THE PROPERTY OF newterra ltd., AND CANNOT BE REUSED OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF newterra ltd.



WIRE LEGEND BLACK: POWER RED: 120VAC CONTROL WHITE: NEUTRAL BLU/WH: GND & IS WIRING BLU/WH: 0VDC YELLOW: INTERLOCKS	NOTES: 1. USE CANADIAN WIRING CODE 3. DEVICES IN BLD-7903 ARE ONLY REQUIRED FOR THE 400 MAN OPTION. IF THE 400 MAN IS NOT REQUIRED, STOP WIRING AT BASE OF P2019A CONNECTOR. 4. USE TANDEM FERRULES FOR CONNECTING WIRES TO DISTRIBUTION LUG		1505 CALLEVERA AVE BROOKVILLE ONTARIO CANADA M6V 5V6 PHONE: (615)458-1976 www.newterra.com	<table><tr><td>C</td><td>AS BUILT</td><td>DWG</td></tr><tr><td>B</td><td>FOR PRODUCTION</td><td>DWG</td></tr><tr><td>A1</td><td>FOR REVIEW</td><td>DWG</td></tr><tr><td>A</td><td>FOR SUBMITTAL</td><td>DWG</td></tr><tr><td>LEVEL</td><td></td><td>DATE: 12/05/17 BY: (company)</td></tr><tr><td colspan="2">REVISION</td><td>DATE: 08/05/17 BY: DMB</td></tr></table>	C	AS BUILT	DWG	B	FOR PRODUCTION	DWG	A1	FOR REVIEW	DWG	A	FOR SUBMITTAL	DWG	LEVEL		DATE: 12/05/17 BY: (company)	REVISION		DATE: 08/05/17 BY: DMB	PROJ. NO. 1704432 TITLE AND LOCATION: 480V POWER DISTRIBUTION SHEET 4 OF 4 MPP	CUSTOMER: AGNICO EAGLE 600 MAN AMARUQ MINE DRAWN BY: DATE: SHEET: SHEETS: 14 71 TIMOTHY JAMBO/DALE HINE - C
C	AS BUILT	DWG																						
B	FOR PRODUCTION	DWG																						
A1	FOR REVIEW	DWG																						
A	FOR SUBMITTAL	DWG																						
LEVEL		DATE: 12/05/17 BY: (company)																						
REVISION		DATE: 08/05/17 BY: DMB																						

THIS INFORMATION IS THE PROPERTY OF newterra ltd., AND CANNOT BE REUSED OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF newterra ltd.

15 01
15 02
15 03
15 04
15 05
15 06
15 07
15 08
15 09
15 10
15 11
15 12
15 13
15 14
15 15
15 16
15 17
15 18
15 19
15 20
15 21
15 22
15 23
15 24
15 25
15 26
15 27
15 28
15 29
15 30
15 31
15 32
15 33
15 34
15 35
15 36
15 37

INTENTIONALLY
BLANK

WIRE LEGEND
BLACK: POWER
WHITE: CONTROL
BLUE: NEUTRAL
BLU/WH: +24VDC & IS WIRING
YELLOW: INTERLOCKS

NOTES:
1. USE CANADIAN WIRING CODE



1525 CALIFORNIA AVE
BRANDON, MANITOBA
CANADA S6Y 5Y6
PHONE: (819) 458-1576
www.newterra.com

C	AS BUILT	14/05/17	DMB
B	FOR PRODUCTION	31/05/17	DMB
A1	FOR REVIEW	23/05/17	DMB
A	FOR SUBMITTAL	12/05/17	DMB
LEVEL	REVISION	DATE	BY

PROJ. NO.	1704432
TITLE AND LOCATION:	SPARE SHEET
DATE	MPP

CUSTOMER:			
AGNICO EAGLE			
600 MAN AMARUO MINE			
DRAWN BY:	DATE:	SHEET:	SHEETS:
DMB	23/05/17	15	71



THIS INFORMATION IS THE PROPERTY OF newterra ltd. AND CANNOT BE REUSED OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF newterra ltd.



CUSTOMER: **AGNICO EAGLE**
600 MAN AMARUQ MINE

DRAWN BY: DMB	DATE: 08/05/17	SHEET: 17	SHEETS: 71
------------------	-------------------	--------------	---------------

170432 - AGNICO EAGLE MINE - C

18 01
18 02
18 03
18 04
18 05
18 06
18 07
18 08
18 09
18 10
18 11
18 12
18 13
18 14
18 15
18 16
18 17
18 18
18 19
18 20
18 21
18 22
18 23
18 24
18 25
18 26
18 27
18 28
18 29
18 30
18 31
18 32
18 33
18 34
18 35
18 36
18 37

INTENTIONALLY
BLANK

INTENTIONALLY
BLANK

WIRE LEGEND
BLACK: POWER CONTROL
WHITE: NEUTRAL
BLUE: +24VDC & IS WIRING
BLU/WH: 0VDC
YELLOW: INTERLOCKS

NOTES:
1.



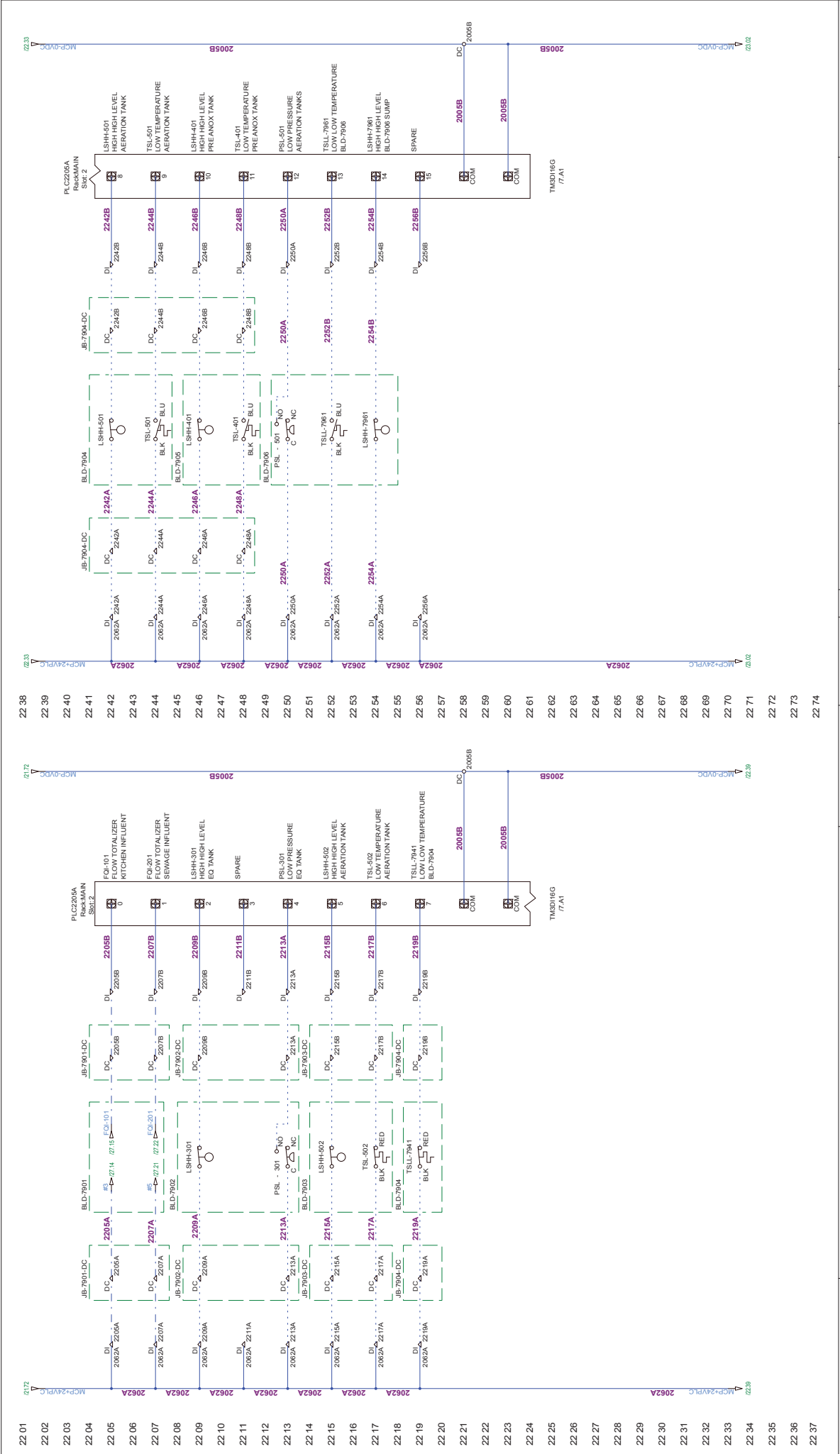
1525 CALIFORNIA AVE
SPRING VALLEY, CA 94766
CANADA: 467.576
PHONE: (615) 458-1576
www.newterra.com

C	AS BUILT	14/08/17	DMB
B	FOR PRODUCTION	31/05/17	DMB
A1	FOR REVIEW	23/05/17	DMB
A	FOR SUBMITTAL	12/05/17	DMB
LEVEL	REVISION	DATE	BY

PROJ. NO.	1704432
TITLE AND LOCATION:	SPARE SHEET
DATE	BLD-7906

CUSTOMER:	AGNICO EAGLE 600 MAN AMARUO MINE
DRAWN BY:	DMB
DATE:	23/05/17
SHEET:	16
SHEETS:	71





WIRE LEGEND

BLACK: POWER CONTROL
WHITE: NEUTRAL
BLUE: +24VDC & IS WIRING
BLU/WH: 0VDC
YELLOW: INTERLOCKS

NOTES:

1. FOLLOW CANADIAN COLOUR CODE FOR POWER WIRING (SEE SHEET 3 - LEGEND)
2. WIRE SIZE IS #12 AWG FOR POWER UNLESS OTHERWISE SPECIFIED

newterra

1525 CALIFORNIA AVE
SUITE 100
CANADA V6V 5V6
PHONE: (613) 458-1576
www.newterra.com

PROJECT NO: 170432

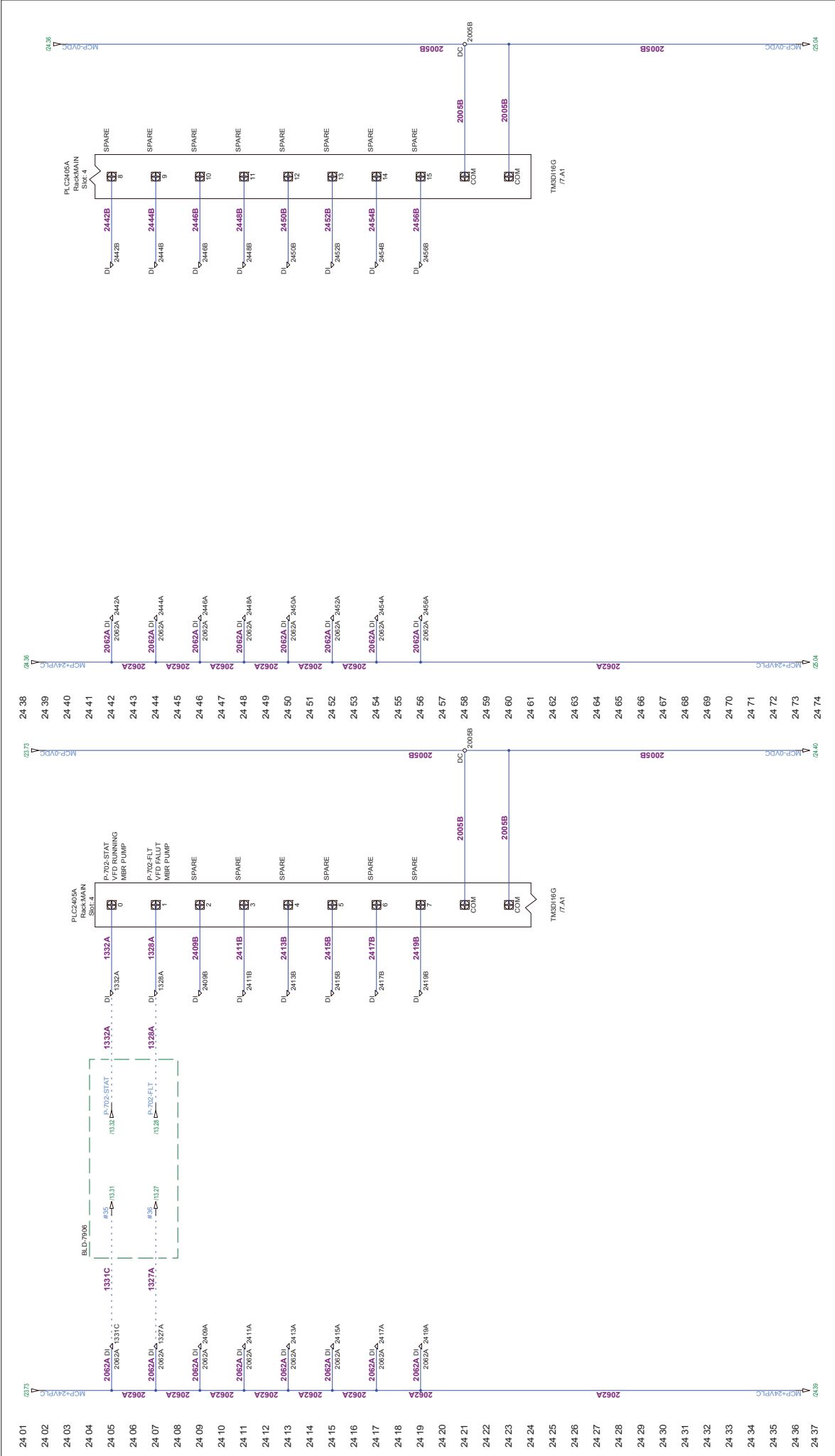
TITLE AND LOCATION:
MCP DISCRETE INPUTS
SHEET 2 OF 4
MCP

DATE: 08/05/17
DRAWN BY: DMB
DATE: 08/05/17
SHEET: 71
SHEETS: 71

CUSTOMER:

AGNICO EAGLE
600 MAN AMARUO MINE

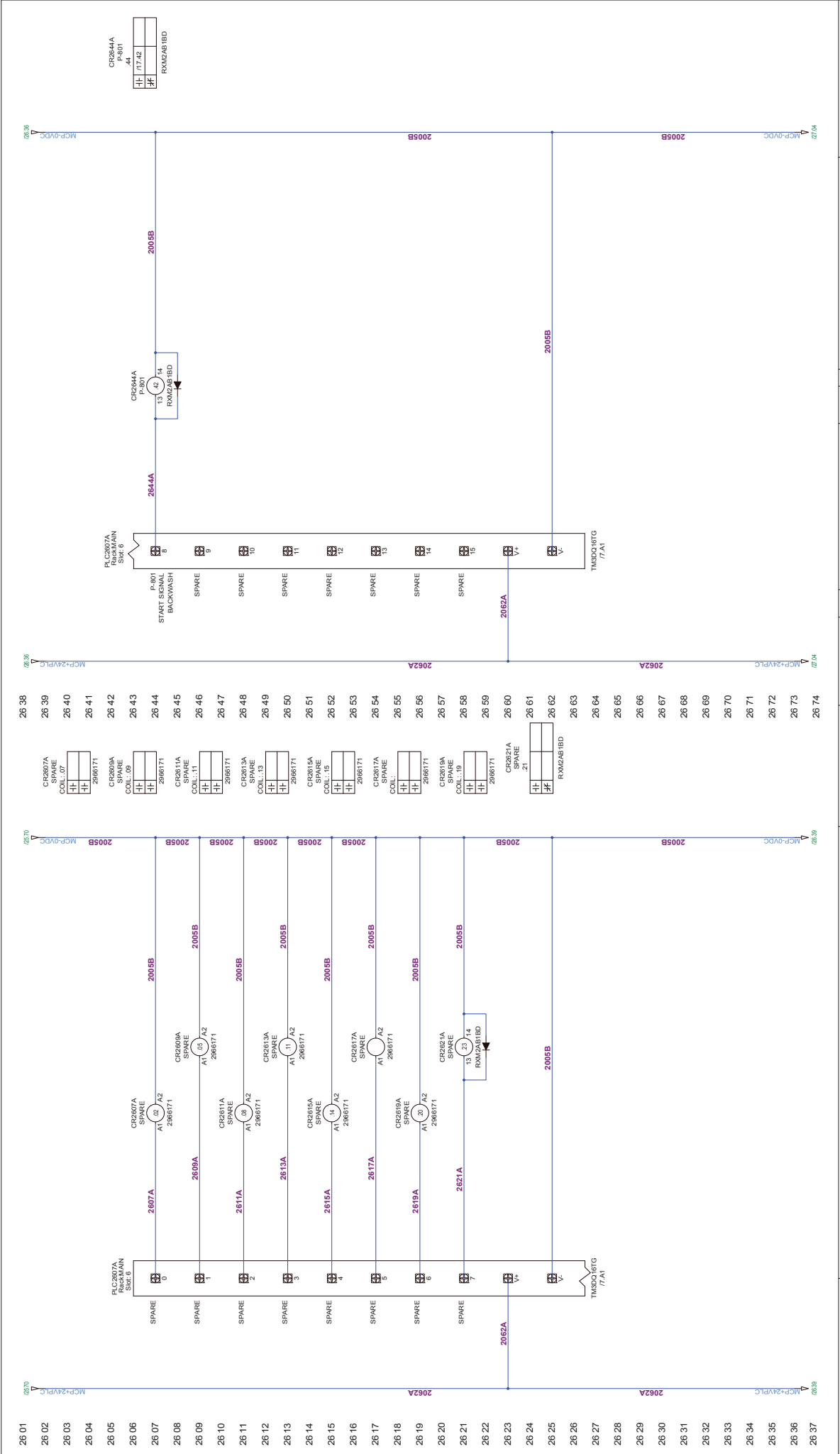
THIS INFORMATION IS THE PROPERTY OF newterra inc. AND CANNOT BE REUSED OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF newterra inc.



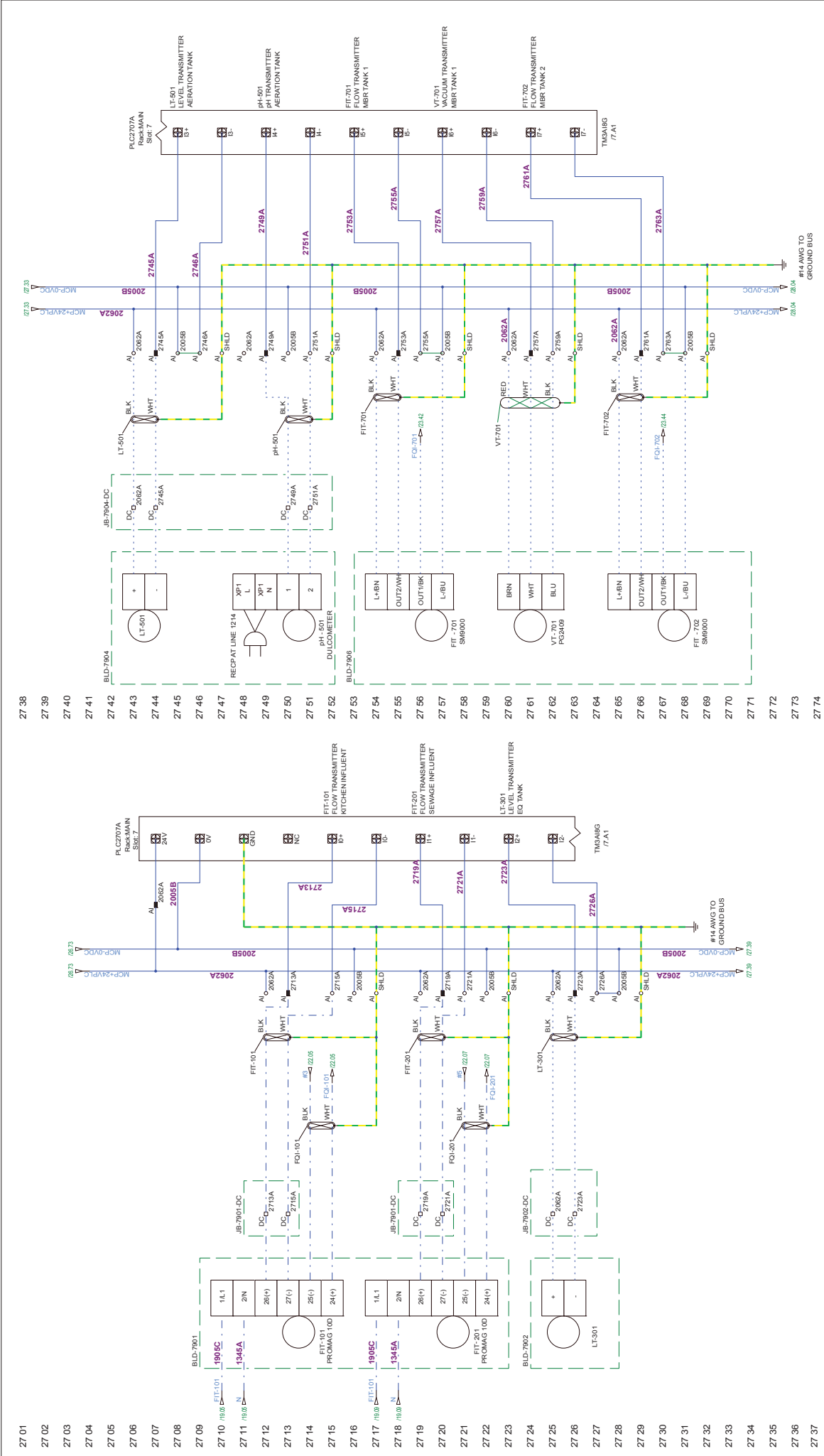
WIRE LEGEND BLACK: POWER RED: 120VAC CONTROL WHITE: WIRING BLUE: +24VDC & IS WIRING BLU/WH: 0VDC YELLOW: INTERLOCKS	NOTES: 1.		1325 CALIFORNIA AVE BROOKVILLE, ONTARIO CANADA K6V 5Y6 PHONE: (519)495-1878 www.newterra.com	C	AS BUILT	DMB	1704432	CUSTOMER: AGNICO EAGLE 600 MAN AMARUO MINE
				B	FOR PRODUCTION	DMB		
				A1	FOR REVIEW	DMB		
				A	FOR SUBMITTAL	DMB		
				DATE: 12/26/17	BY: (drawing)	DATE: 25/05/17		
				REVISION				

THIS INFORMATION IS THE PROPERTY OF newterra ltd., AND CANNOT BE REUSED OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF newterra ltd.





WIRE LEGEND BLACK: POWER CONTROL WHITE: NEUTRAL BLUE: +24VDC & IS WIRING BROWN: 0VDC YELLOW: INTERLOCKS	NOTES: 1.		1525 CALIFORNIA AVE SPRINGFIELD, CA 95758 CANADA 467.576 PHONE: (813) 458-1576 www.newterra.com	C AS BUILT B FOR PRODUCTION A1 FOR REVIEW A FOR SUBMITTAL LEVEL	PROJ. NO. 170432	TITLE AND LOCATION: MCP DISCRETE OUTPUTS SHEET 2 OF 2 MCP	CUSTOMER: AGNICO EAGLE 600 MAN AMARUO MINE		
							DATE: 23/05/17	SHEET: 26	SHEETS: 71
							DATE: 23/05/17	DATE: 23/05/17	DATE: 23/05/17
							DATE: 23/05/17	DATE: 23/05/17	DATE: 23/05/17



WIRE LEGEND

BLACK: POWER CONTROL
WHITE: NEUTRAL
BLUE: +24VDC & IS WIRING
BLU/WH: 0VDC
YELLOW: INTERLOCKS

NOTES:

1. FOLLOW CANADIAN COLOUR CODE FOR POWER WIRING (SEE SHEET 3 - LEGEND)
2. WIRE SIZE IS #12 AWG FOR POWER UNLESS OTHERWISE SPECIFIED

1525 CALIFORNIA AVE
SUITE 100
CANADA V6T 5V6
PHONE: (604) 498-1676
www.newterra.ca

PROJECT NO: 170432

TITLE AND LOCATION: MCP ANALOG INPUTS

C: AS BUILT
B: FOR PRODUCTION
A1: FOR REVIEW
A: FOR SUBMITTAL

LEVEL: MCP

CUSTOMER: AGNICO EAGLE
600 MAN AMARUO MINE

DATE: 08/05/17
DRAWN BY: DMB

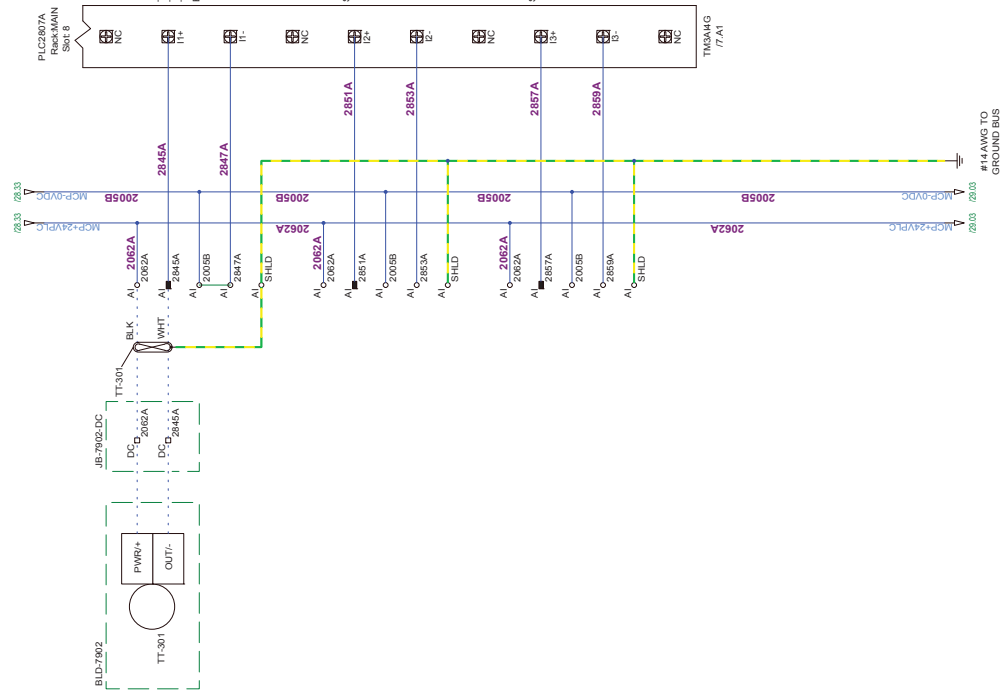
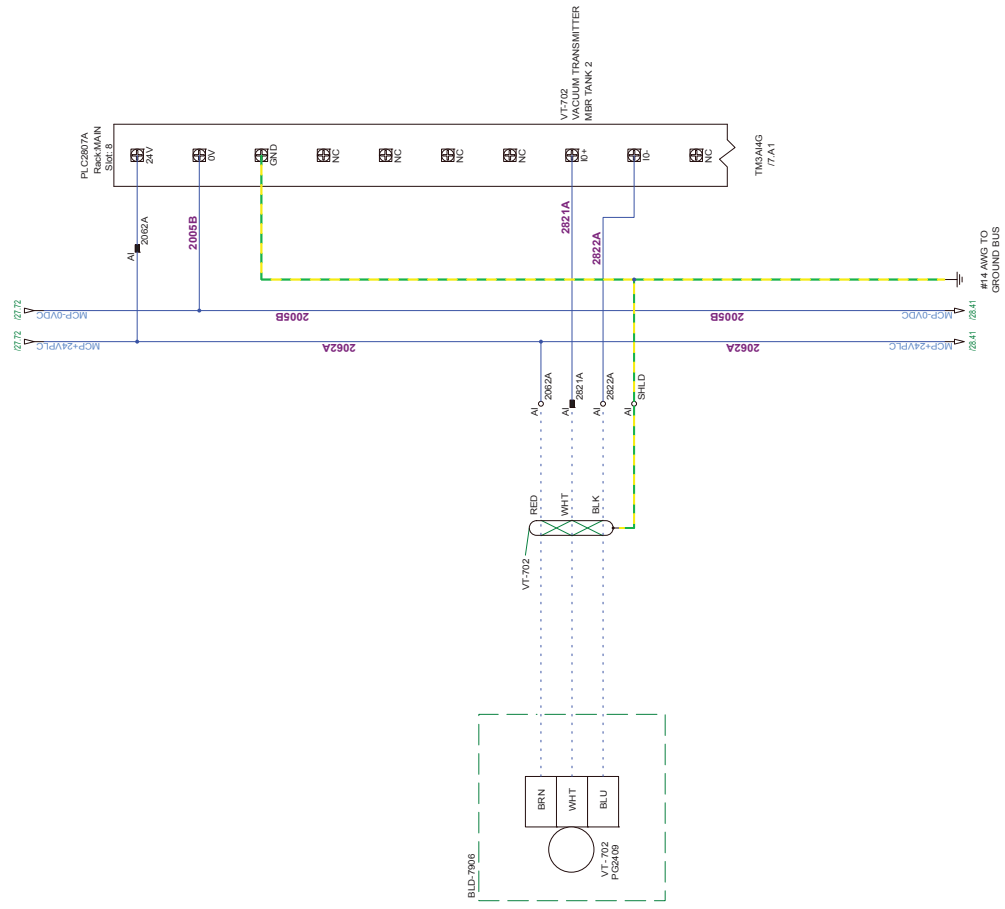
DATE: 08/05/17
SHEET: 27
SHEETS: 71

TM&E JK&D BALE INC. C

THIS INFORMATION IS THE PROPERTY OF newterra inc. AND CANNOT BE REUSED OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF newterra inc.

28 01
28 02
28 03
28 04
28 05
28 06
28 07
28 08
28 09
28 10
28 11
28 12
28 13
28 14
28 15
28 16
28 17
28 18
28 19
28 20
28 21
28 22
28 23
28 24
28 25
28 26
28 27
28 28
28 29
28 30
28 31
28 32
28 33
28 34
28 35
28 36
28 37

28 38
28 39
28 40
28 41
28 42
28 43
28 44
28 45
28 46
28 47
28 48
28 49
28 50
28 51
28 52
28 53
28 54
28 55
28 56
28 57
28 58
28 59
28 60
28 61
28 62
28 63
28 64
28 65
28 66
28 67
28 68
28 69
28 70
28 71
28 72
28 73
28 74



WIRE LEGEND
BLACK: POWER CONTROL
WHITE: NEUTRAL
BLUE: +24VDC & IS WIRING
BLU/WH: 0VDC
YELLOW: INTERLOCKS

NOTES:
1.



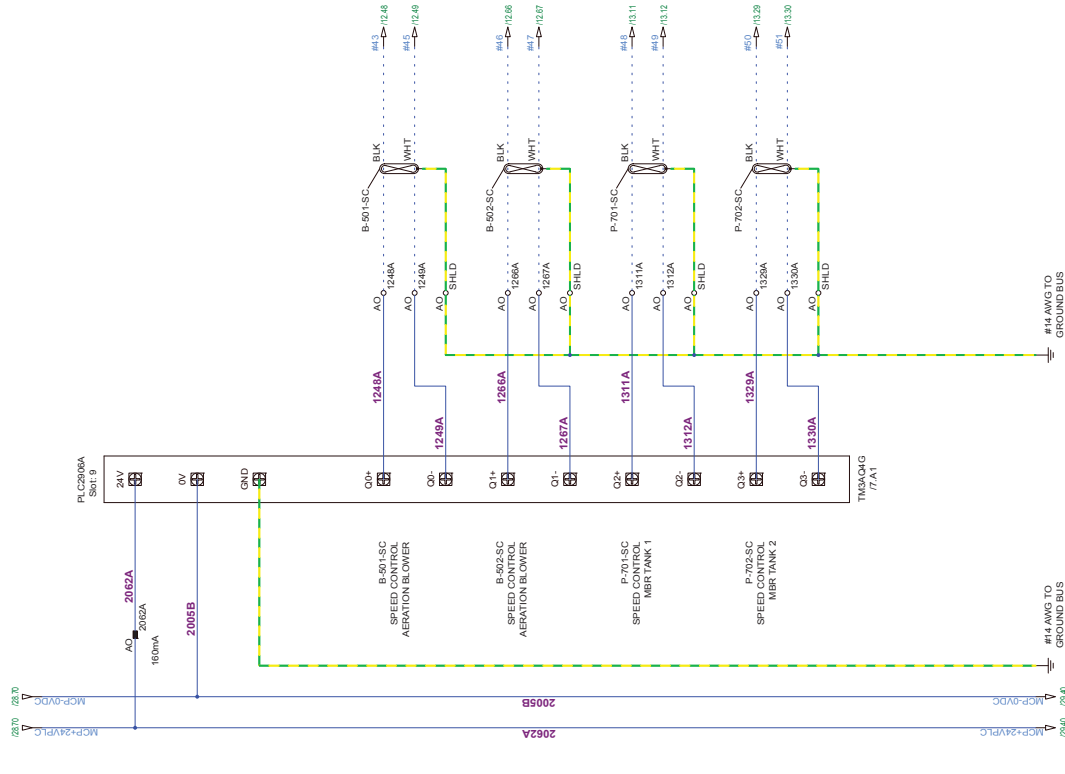
1525 CALIFORNIA AVE
SPRINGFIELD, CA 95756
CANADA 1-877-576
PHONE (613) 458-1576
www.newterra.com

C	AS BUILT	14/08/17	DMB
B	FOR PRODUCTION	31/05/17	DMB
A1	FOR REVIEW	23/05/17	DMB
A	FOR SUBMITTAL	12/05/17	DMB
LEVEL	REVISION	DATE	BY

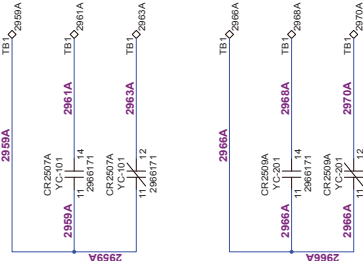
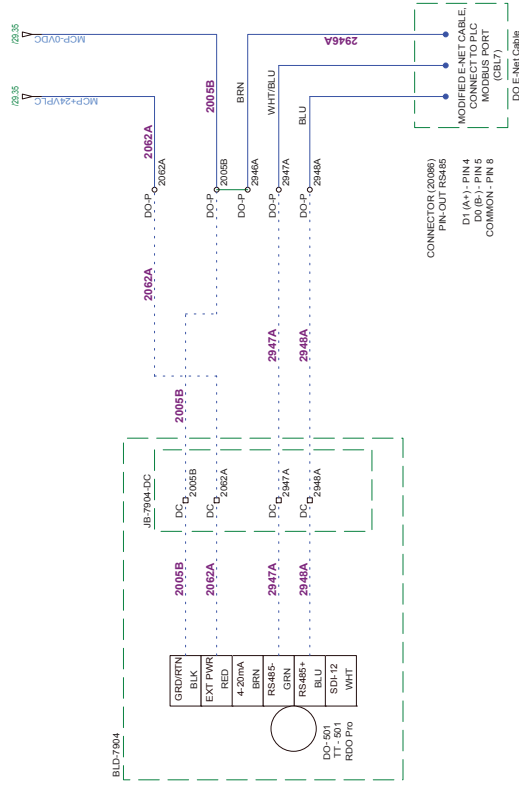
PROJ. NO. 1704432
TITLE AND LOCATION: MCP ANALOG INPUTS
SHEET 2 OF 2
MCP

CUSTOMER: AGNICO EAGLE
600 MAN AMARUO MINE
DRAWN BY: DMB
DATE: 23/05/17
SHEET: 28
SHEETS: 71
TIME: JMK/DAL/ME/C

29 01
29 02
29 03
29 04
29 05
29 06
29 07
29 08
29 09
29 10
29 11
29 12
29 13
29 14
29 15
29 16
29 17
29 18
29 19
29 20
29 21
29 22
29 23
29 24
29 25
29 26
29 27
29 28
29 29
29 30
29 31
29 32
29 33
29 34
29 35
29 36
29 37



29 38
29 39
29 40
29 41
29 42
29 43
29 44
29 45
29 46
29 47
29 48
29 49
29 50
29 51
29 52
29 53
29 54
29 55
29 56
29 57
29 58
29 59
29 60
29 61
29 62
29 63
29 64
29 65
29 66
29 67
29 68
29 69
29 70
29 71
29 72
29 73
29 74



WIRE LEGEND
BLACK: POWER CONTROL
WHITE: NEUTRAL
BLUE: +24VDC & IS WIRING
BLU/WH: 0VDC
YELLOW: INTERLOCKS

1.



1525 CALIFORNIA AVE
SUITE 100
CANADA, K6V 5Y6
PHONE: (613) 458-1576
www.newterra.com

LEVEL	REVISION	DATE	BY
C	AS BUILT	14/08/17	DMB
B	FOR PRODUCTION	31/05/17	DMB
A1	FOR REVIEW	23/05/17	DMB
A	FOR SUBMITTAL	12/05/17	DMB

PROJ. NO. 1704432
TITLE AND LOCATION:
MCP ANALOG OUTPUTS, DO/TT
PROBE & CUSTOMER CONNECTIONS
MCP

CUSTOMER:
AGNICO EAGLE
600 MAN AMARUO MINE
DRAWN BY: DMB
DATE: 23/05/17
SHEET: 29
SHEETS: 71
TMS: JMK/DAL/ME/C

30 01
30 02
30 03
30 04
30 05
30 06
30 07
30 08
30 09
30 10
30 11
30 12
30 13
30 14
30 15
30 16
30 17
30 18
30 19
30 20
30 21
30 22
30 23
30 24
30 25
30 26
30 27
30 28
30 29
30 30
30 31
30 32
30 33
30 34
30 35
30 36
30 37

INTENTIONALLY
BLANK

INTENTIONALLY
BLANK

WIRE LEGEND
BLACK: POWER
CONTROL
WHITE: NEUTRAL
BLUE: +24VDC & IS WIRING
BLU/WH: 0VDC
YELLOW: INTERLOCKS

NOTES:
1.

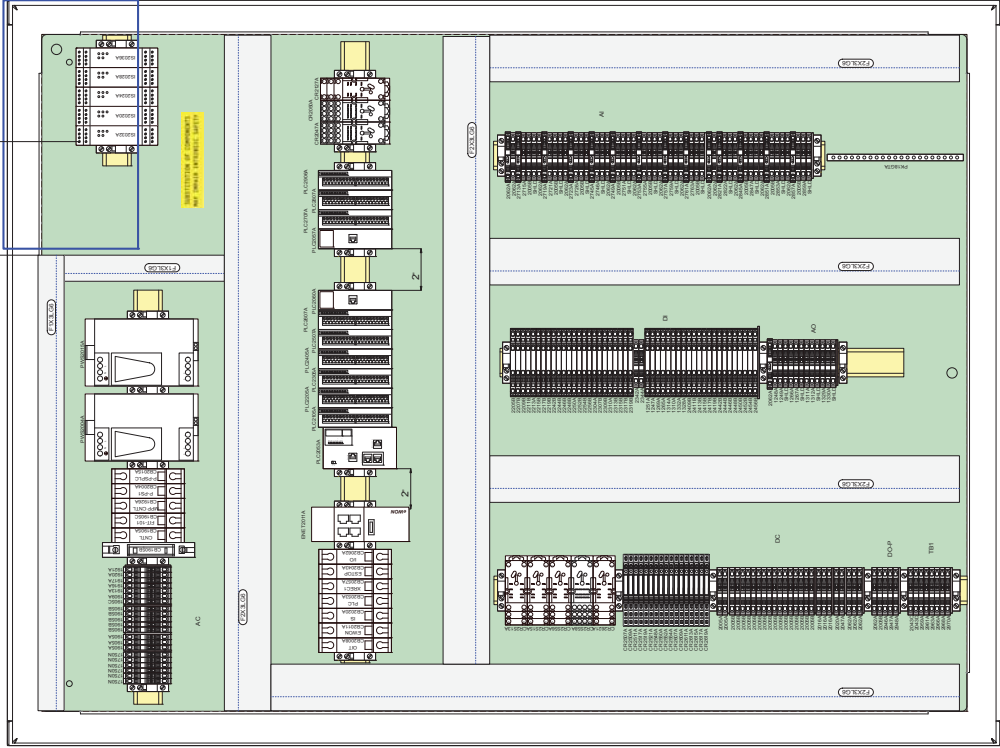
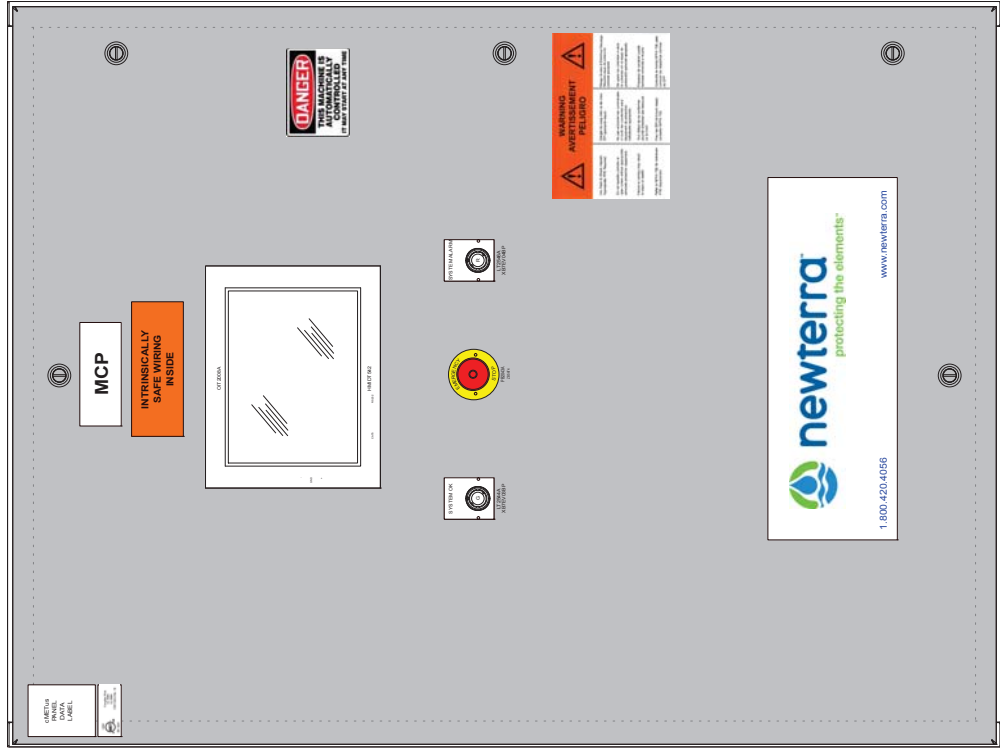


1525 CALIFORNIA AVE
SPRING VALLEY, CA 94576
CANADA: 467.576
PHONE: (615) 458-1576
www.newterra.com

C	AS BUILT	
B	FOR PRODUCTION	
A1	FOR REVIEW	
A	FOR SUBMITTAL	
LEVEL	REVISION	

14/08/17	DMB	PROJ. NO.	1704432
31/05/17	DMB	TITLE AND LOCATION:	SPARE SHEET
23/05/17	DMB		
12/05/17	DMB		MCP
DATE	BY		
(dd/mm/yyyy)			

CUSTOMER:			
AGNICO EAGLE			
600 MAN AMARUO MINE			
DRAWN BY:	DATE:	SHEET:	SHEETS:
DMB	23/05/17	30	71



PANEL OUTER DOOR

MCP
EN4SD43612GY
PANEL INTERIOR

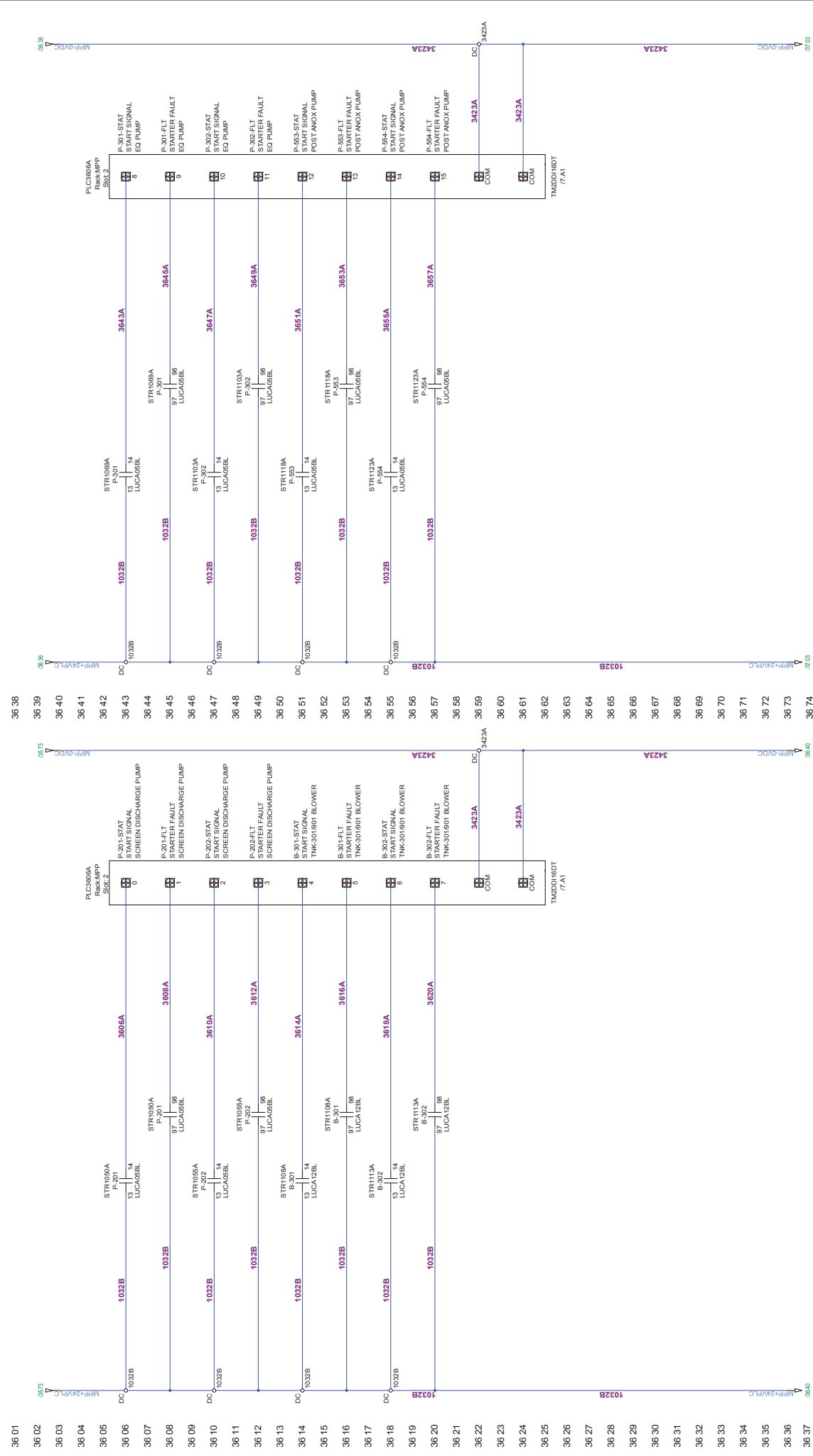
WIRE LEGEND BLACK: POWER WHITE: CONTROL BLUE: +24VDC & IS WIRING BLU/WH: 0VDC YELLOW: INTERLOCKS	NOTES:	1525 CALIFORNIA AVE BIRMINGHAM, AL 35202 CANADA: 487.576 PHONE: (813) 488-1576 www.newterra.com		1704432		CUSTOMER: AGNICO EAGLE 600 MAN AMARUO MINE	
		1200 CALIFORNIA AVE BIRMINGHAM, AL 35202 CANADA: 487.576 PHONE: (813) 488-1576 www.newterra.com		1704432		CUSTOMER: AGNICO EAGLE 600 MAN AMARUO MINE	
		1200 CALIFORNIA AVE BIRMINGHAM, AL 35202 CANADA: 487.576 PHONE: (813) 488-1576 www.newterra.com		1704432		CUSTOMER: AGNICO EAGLE 600 MAN AMARUO MINE	
		1200 CALIFORNIA AVE BIRMINGHAM, AL 35202 CANADA: 487.576 PHONE: (813) 488-1576 www.newterra.com		1704432		CUSTOMER: AGNICO EAGLE 600 MAN AMARUO MINE	



WIRE LEGEND

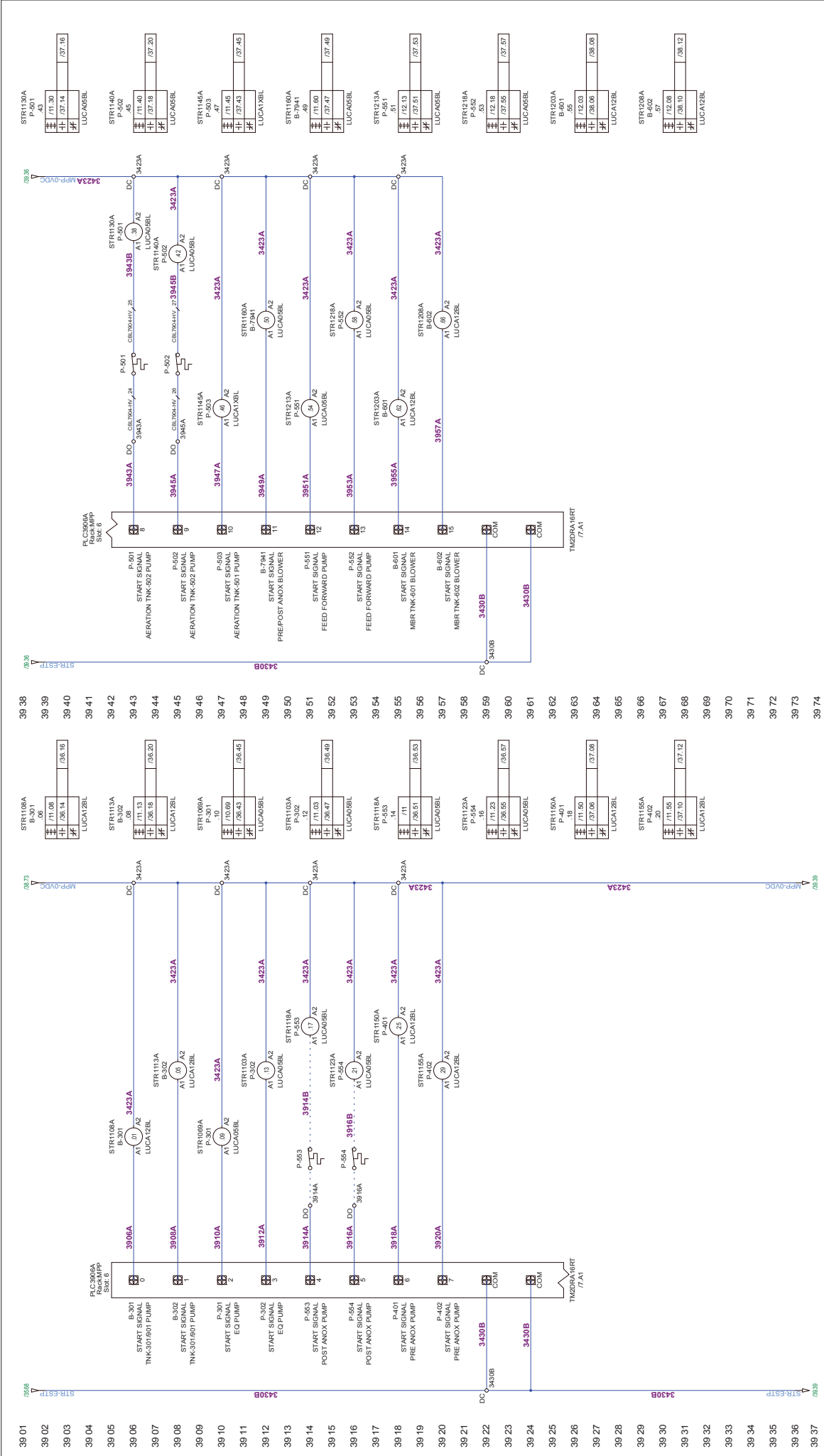
BLACK:	POWER
RED:	120VAC CONTR
WHITE:	NEUTRAL
BLUE:	+24VDC & IS WI
BLU/WH:	0VDC
YELLOW:	INTERLOCKS

THIS INFORMATION IS THE PROPERTY OF NEWTECH INC., AND CANNOT BE REUSED OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF NEWTECH INC.



WIRE LEGEND BLACK: POWER RED: 120VAC CONTROL WHITE: NEUTRAL BLUE: GROUND & IS WIRING BLU/WH: 0VDC YELLOW: INTERLOCKS	NOTES: 1.	 1325 CALIFORNIA AVE BROCKVILLE, ONTARIO CANADA K6V 5Y6 PHONE: (815)458-1576 www.newterra.com	C	AS BUILT	DMB	PROJ. NO. 170432	CUSTOMER: AGNICO EAGLE 600 MAN AMARUQ MINE	
			B	FOR PRODUCTION	DMB			
			A1	FOR REVIEW	DMB			
			A	FOR SUBMITTAL	DMB			
			LEVEL	DATE: BY	DMB			
			REVISION					DATE: BY
								DATE: SHEET: SHEETS: DMB 29/05/17 36 71

THIS INFORMATION IS THE PROPERTY OF newterra ltd., AND CANNOT BE REUSED OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF newterra ltd.



WIRE LEGEND		NOTES:		1.	
BLACK:	POWER	CONTROL			
WHITE:	NEUTRAL				
BLUE:	+24VDC & IS WIRING				
BROWN:	OVDC				
YELLOW:	INTERLOCKS				

CUSTOMER:		PROJ. NO.		170432	
AGNICO EAGLE		TITLE AND LOCATION:		MPP RELAY OUTPUTS	
600 MAN AMARUO MINE		DATE:		MPP	
DRAWN BY:		DATE:		BY:	
DMS		08/05/17		08/05/17	
SHEET:		71		71	
SHEETS:		39		39	
TMSR: JMK02/DALE.ME.C					

40 01
40 02
40 03
40 04
40 05
40 06
40 07
40 08
40 09
40 10
40 11
40 12
40 13
40 14
40 15
40 16
40 17
40 18
40 19
40 20
40 21
40 22
40 23
40 24
40 25
40 26
40 27
40 28
40 29
40 30
40 31
40 32
40 33
40 34
40 35
40 36
40 37

INTENTIONALLY
BLANK

INTENTIONALLY
BLANK

40 38
40 39
40 40
40 41
40 42
40 43
40 44
40 45
40 46
40 47
40 48
40 49
40 50
40 51
40 52
40 53
40 54
40 55
40 56
40 57
40 58
40 59
40 60
40 61
40 62
40 63
40 64
40 65
40 66
40 67
40 68
40 69
40 70
40 71
40 72
40 73
40 74

NOTES:
1. FOLLOW CANADIAN COLOUR CODE FOR POWER WIRING (SEE SHEET 3 - LEGEND)
2. WIRE SIZE IS #12 AWG FOR POWER UNLESS OTHERWISE SPECIFIED

WIRE LEGEND
BLACK: POWER CONTROL
WHITE: NEUTRAL
BLUE: +24VDC & IS WIRING
BLU/WH: 0VDC
YELLOW: INTERLOCKS

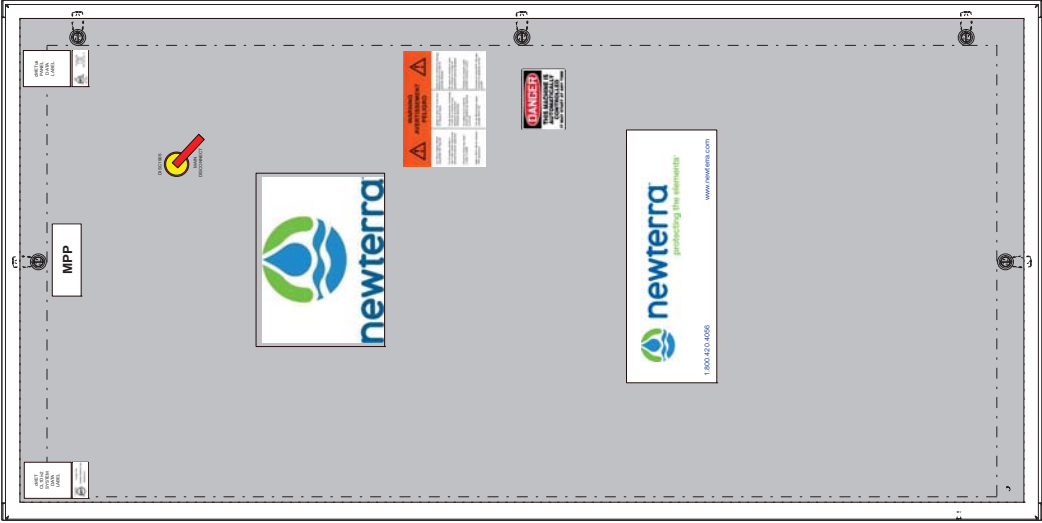


1525 CALIFORNIA AVE
SUITE 100
CANADA V6V 5V6
PHONE: (613) 458-1576
www.newterra.com

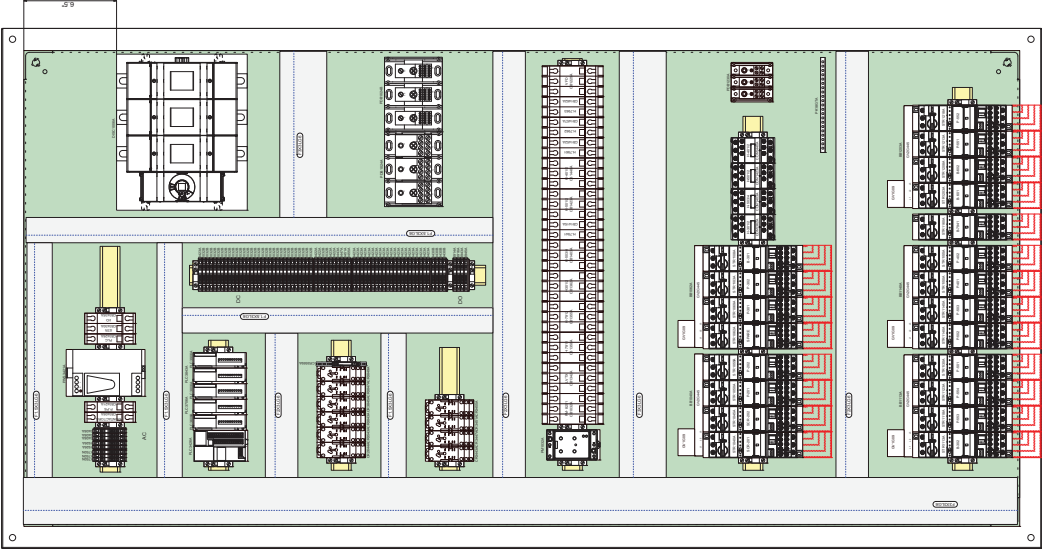
C	AS BUILT	14/08/17	DMB	PROJ. NO.	1704432	CUSTOMER:
B	FOR PRODUCTION	31/05/17	DMB	TITLE AND LOCATION:		
A1	FOR REVIEW	23/05/17	DMB	MPP SPARE SHEET		
A	FOR SUBMITTAL	12/05/17	DMB	MPP		
LEVEL	REVISION	DATE	BY			

DRN	BY	DATE	SHEET	SHEETS
DMB	08/05/17	40	71	

THIS INFORMATION IS THE PROPERTY OF newterra inc. AND CANNOT BE REPRODUCED WITHOUT THE WRITTEN CONSENT OF newterra inc.



PANEL OUTER DOOR



PANEL INTERIOR

WIRE LEGEND
BLACK: POWER
WHITE: CONTROL
BLUE: +24VDC & IS WIRING
BLU/WH: 0VDC
YELLOW: INTERLOCKS

NOTES:

THIS INFORMATION IS THE PROPERTY OF newterra inc. AND CANNOT BE REUSED OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF newterra inc.



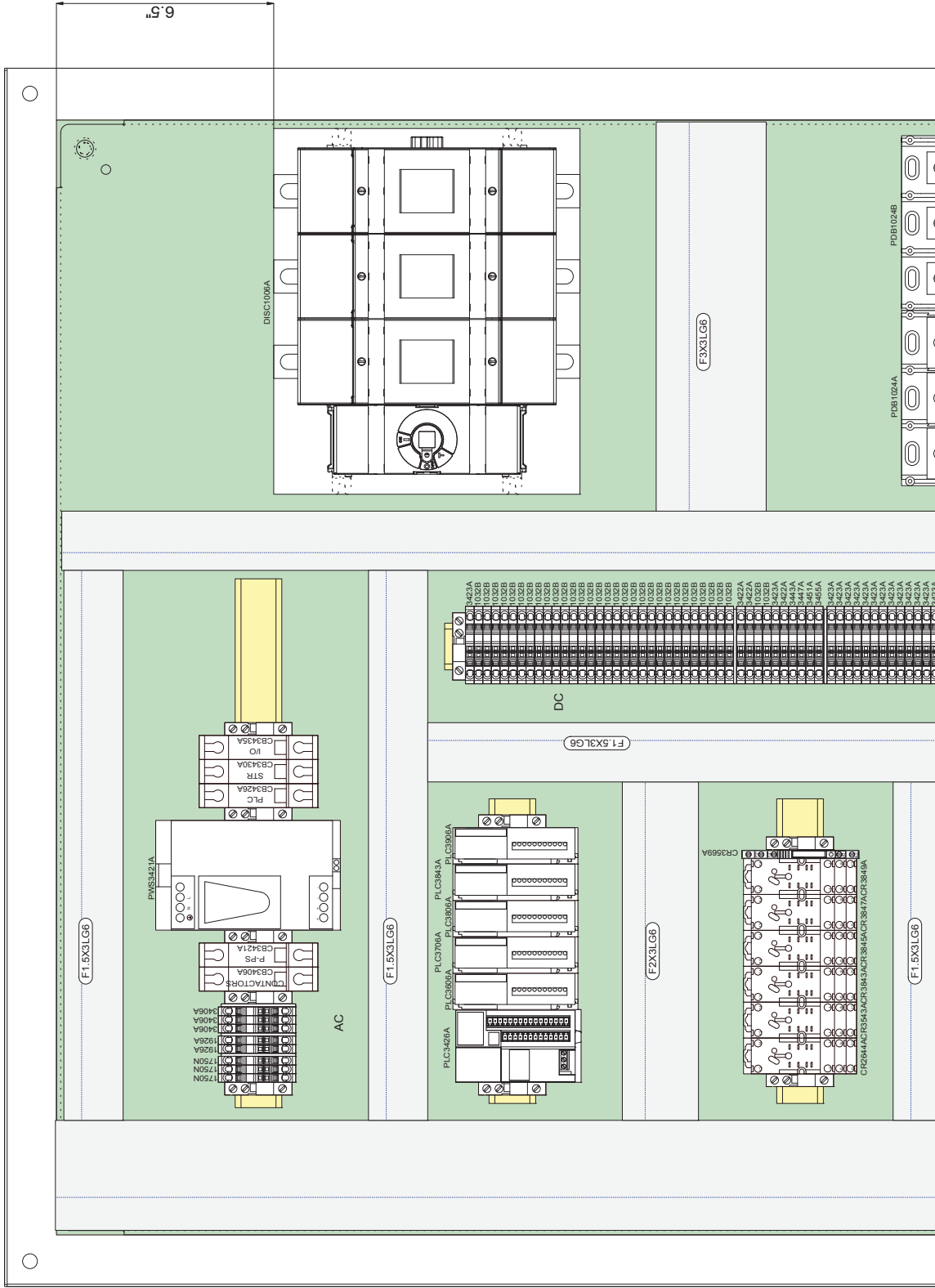
1525 CALIFORNIA AVE
BRANDON, MANITOBA R7C 3A6
CANADA X8V 5Y6
PHONE: (819) 498-1576
www.newterra.com

LEVEL	REVISION
C	AS BUILT
B	FOR PRODUCTION
A1	FOR REVIEW
A	FOR SUBMITTAL

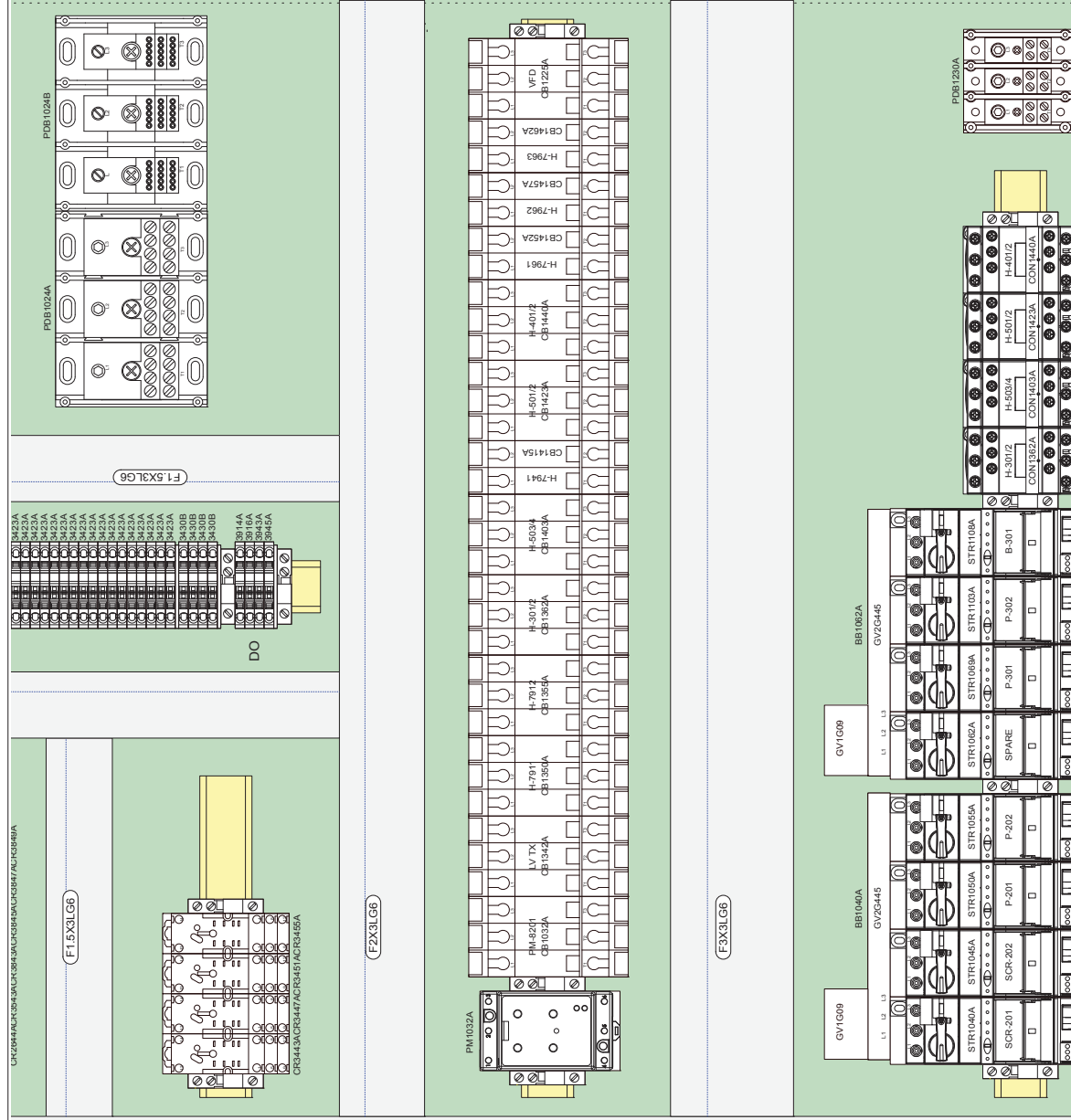
DATE	BY
14/08/17	DMB
31/05/17	DMB
23/05/17	DMB
12/05/17	DMB
(08/05/17)	BY

PROJ. NO. 1704432
TITLE AND LOCATION:
MPP PANEL LAYOUT

CUSTOMER:
AGNICO EAGLE
600 MAN AMARUO MINE
DRAWN BY: DMB
DATE: 08/05/17
SHEET: 41
SHEETS: 71
TMSR: JMK02/DALE.MEC



WIRE LEGEND BLACK: POWER WHITE: CONTROL BLUE: +24VDC & IS WIRING BLU/WH: 0VDC YELLOW: INTERLOCKS	NOTES:		1.
	THIS INFORMATION IS THE PROPERTY OF newterra inc. AND CANNOT BE REUSED OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF newterra inc.		
	 1525 CALIFORNIA AVE SUITE 100 CANADA, BC V5Y 5Y6 PHONE: (604) 498-1676 www.newterra.com		
	C AS BUILT B FOR PRODUCTION A1 FOR REVIEW A FOR SUBMITTAL LEVEL		
PROJ. NO. 1704432 TITLE AND LOCATION: MPP PANEL LAYOUT TOP		CUSTOMER: AGNICO EAGLE 600 MAN AMARUO MINE	
14/08/17 DMB 31/05/17 DMB 23/05/17 DMB 12/05/17 DMB DATE BY		DRAWN BY: DMB DATE: 08/05/17 SHEET: 42 SHEETS: 71	



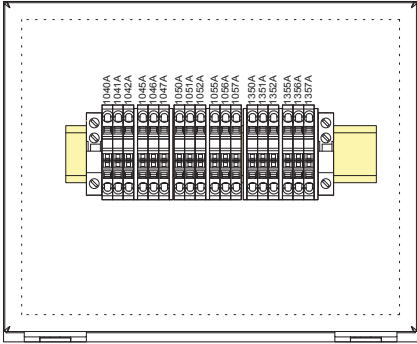
WIRE LEGEND BLACK: POWER RED: 120VAC CONTROL WHITE: WHITE BLUE: +240VAC & IS WIRING BLU/WHIT: 0VDC YELLOW: INTERLOCKS	NOTES: 1.		1325 CALIFORNIA AVE. BROCKVILLE, ONTARIO CANADA N6Y 3Y6 PHONE: (613)495-1516 www.newterra.com	C	AS BUILT				14/08/17	DMB	PROJ. NO: 1704432 TITLE AND LOCATION: MPP PANEL LAYOUT MIDDLE MPP	CUSTOMER: AGNICO EAGLE 600 MAN AMARUQ MINE DRAWN BY: DATE: SHEET: SHEETS: DMB 08/05/17 43 71
				B	FOR PRODUCTION				31/05/17	DMB		
				A1	FOR REVIEW				23/06/17	DMB		
				A	FOR SUBMITTAL				19/06/17	DMB		
				LEVEL	REVISION				DATE BY (dd-mmm-yy)			

THIS INFORMATION IS THE PROPERTY OF newterra ltd., AND CANNOT BE REUSED OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF newterra ltd.

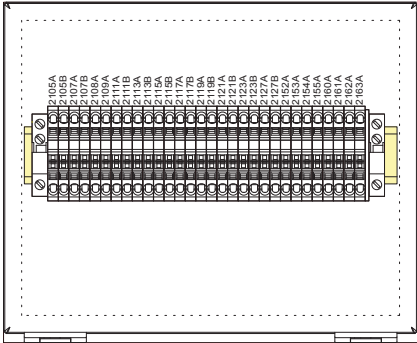


WIRE LEGEND BLACK: 120VAC CONTROL RED: 120VAC CONTROL WHITE: 120VAC CONTROL BLUE: +24VDC & IS WIRING BLU/WHTE: 0VDC YELLOW: INTERLOCKS	NOTES:	 newterra	1325 CALIFORNIA AVE BROCKVILLE, ONTARIO CANADA K6V 5Y6 PHONE: (616)465-1876 www.newterra.com					PROJ. NO. 1704432	CUSTOMER: AGNICO EAGLE 600 MAN AMARUQ MINE				
				C	AS BUILT	14/08/17	DMB	TITLE AND LOCATION: MPP PANEL LAYOUT BOTTOM MPP					
				B	FOR PRODUCTION	13/05/17	DMB						
				A1	FOR REVIEW	23/05/17	DMB						
				A	FOR SUBMITTAL	23/05/17	DMB						
				DATE: 08/05/17	SHEET: 44	SHEETS: 71							
				LEVEL	REVISION	DATE: (drawing)	BY:						

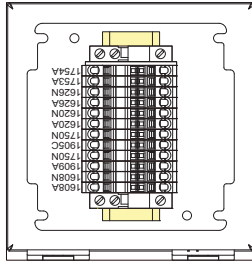
THIS INFORMATION IS THE PROPERTY OF newterra llc... AND CANNOT BE REUSED OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF newterra llc.



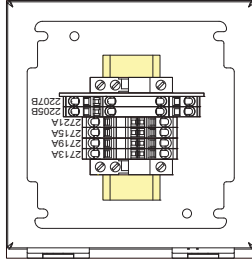
JB-7901-HV
EJ1084



JB-7901-S
EJ1084



JB-7901-AC
E.1864



JB-7901-DC
E.1864

WIRE LEGEND

- BLACK: POWER
- WHITE: CONTROL
- BLUE: +24VDC & IS WIRING
- BLU/WH: 0VDC
- YELLOW: INTERLOCKS

NOTES:

- 1.

1525 CALIFORNIA AVE
SUITE 100
CANADA 1607 576
PHONE: (613) 458-1576
www.newterra.com



PROJ. NO. 1704432

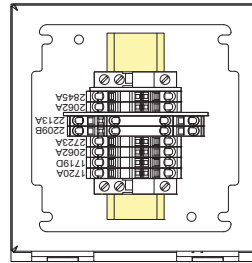
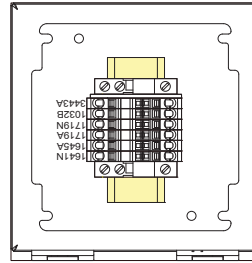
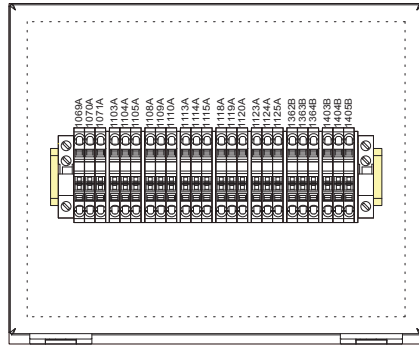
TITLE AND LOCATION:
JUNCTION BOX LAYOUTS

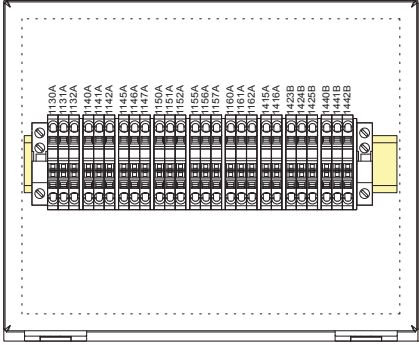
JB-7901'S

CUSTOMER:

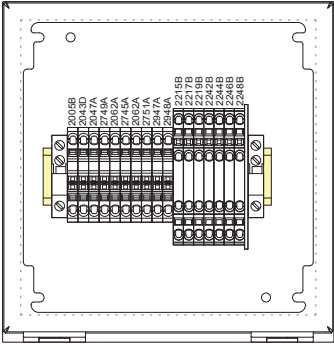
AGNICO EAGLE
600 MAN AMARUO MINE

DRAWN BY: DMB
DATE: 300517
SHEET: 45
SHEETS: 71

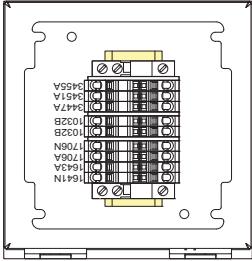
[illegible]



JB-7904-HV
EJ1084



JB-7904-DC
EJ884



JB-7904-AC
EJ684

WIRE LEGEND BLACK: POWER WHITE: CONTROL WHITE: NEUTRAL BLUE: +24VDC & IS WIRING BLUWHIT: 0VDC YELLOW: INTERLOCKS	NOTES: 1.	 newterra	1325 CALIFORNIA AVE SUITE 100 CANADA 4617 5Y6 PHONE: (613) 458-1576 www.newterra.com	C	AS BUILT	14/08/17	DMB	PROJ. NO. 1704432	CUSTOMER: AGNICO EAGLE 600 MAN AMARUO MINE	DRAWN BY: DMB	DATE: 30/03/17	SHEET: 47	SHEETS: 71
				B	FOR PRODUCTION	31/05/17	DMB						
				A1	FOR REVIEW	23/05/17	DMB						
				A	FOR SUBMITTAL	12/05/17	DMB						
				LEVEL	REVISION	DATE (dd/mm/yyyy)	BY						
TITLE AND LOCATION: JUNCTION BOX LAYOUTS JB-7904'S													

MPP - Bill of Materials

Qty	APES#	Part Number	Description	Manufacturer	Device Designation(s)
1	37557	2QP1	Pad Lockable Quarater Turn Latch	Hammond	MPP
1	18396	460	190-480V, 3PH Power/Phase Monitor	Symcom	PM1032A
25	23745	800886	End Bracket - DIN Rail	Phoenix Contact	TB1, TB5, TB13, TB14, TB15, TB17, TB19, TB20, TB21, TB22, TB23, TB24, TB25, TB26, TB27, TB28, TB31, TB34, TB38, TB39, TB40, TB41, TB42, TB43, TB44
8	19168	0801733	Steel mounting rail, 35x7,5 mm, 1 mm thick; perforated	Phoenix Contact	TS1, TS5, TS6, TS7, TS8, TS9, TS10, TS11
1	23751	2966171	Relay, SPDT, 24VDC Coil	Phoenix Contact	CR3569A
7	23742	3030420	End Plate - 30A Feed Thru	Phoenix Contact	TB16, TB30, TB32, TB33, TB35, TB36, TB37
69	23738	3031377	Terminal, Blue, 28-12AWG, 30A, 600V	Phoenix Contact	AC(3), DC(66)
5	23740	3037151	Terminal, Red, 28-12AWG, 30A, 600V	Phoenix Contact	AC(5)
1	35707	ABL8REM24050	24VDC Power Supply, 120W, 5A	Schneider Electric	PWS3421A
3	12404	AJT250	Fuse GLD AJT250250A 600V Time Delay, Class J	Ferraz Shawmut	DISC1006A(3)
1	24694	Arc Flash	Panel Label - Arc Flash Tri-lingual	Panel	8, 11D
5	27397	C1.5LG6	Wire Duct Cover, 1.5", Grey	Panduit	WD8, WD9, WD10, WD12, WD16
3	27399	C2LG6	Wire Duct Cover, 2", Grey	Panduit	WD7, WD13, WD15
3	27405	C3LG6	Wire Duct Cover, 3", Grey	Panduit	WD1, WD4, WD11
1	38090	EN4SD723612GY	72" x 36" x 12" NEMA4 Steel Enclosure	Hammond	MPP
1	38041	EP7236	72" x 36" Backplate	Hammond	MPP
1	37558	EZPMFHD	Mounting Feet, Zinc, Set of 4	Hammond	MPP
5	27396	F1.5X3LG6	Wire Duct, 1.5"x3", Grey, Narrow Finger	Panduit	WD8, WD9, WD10, WD12, WD16
3	27398	F2X3LG6	Wire Duct, 2"x3", Grey, Narrow Finger	Panduit	WD7, WD13, WD15
3	27404	F3X3LG6	Wire Duct, 3"x3", Grey, Narrow Finger	Panduit	WD1, WD4, WD11
1	27929	GS1AW503	Terminal Lug, 2@#2AWG-600MCM, for use in 400A, 600A, 800A	Schneider Electric	DISC1006A
1	27712	GS2AE2	Shaft for Rotary Thru Door Handle	Schneider Electric	DISC1905
1	27713	GS2AH140	Through Door Rotary Handle	Schneider Electric	DISC1905
1	27928	GS2AP53	Terminal Shroud Kit 400A	Schneider Electric	DISC1006A
1	27927	GS2QU3N	Internal Fusible switch, 400A, Class J	Schneider Electric	DISC1006A
6	17158	GV1G09	Combination Starter, Busbar Top Mount	Schneider Electric	BB1040A, BB1062A, BB1113A, BB1140A, BB1203A, STR1160A
5	22546	GV2G445	Busbar 4 TeSysU Starters, #6AWG 63A MAX	Schneider Electric	BB1040A, BB1062A, BB1113A, BB1140A, BB1203A
4	10254	LC1D18G7	Contactor (TeSys D) Non-Reversing, 18A(AC3) 125A(AC1), 3-Pole (3 NO)	Schneider Electric	CON1362A, CON1403A, CON1423A, CON1440A
15	37367	LU9BN11C	TeSysU Prewired Coil Connection, Front Connection	Schneider Electric	STR1040A, STR1045A, STR1050A, STR1055A, STR1069A, STR1103A, STR1108A, STR1113A, STR118A, STR1123A, STR1130A, STR1140A, STR1145A, STR1203A, STR1208A

NOTES:



1325 CALIFORNIA AVE.
BIRMINGHAM, AL 35202
CANADA 469 576
PHONE: (615) 488-1876
www.newterra.com

C	AS BUILT	DATE	BY
B	FOR PRODUCTION	14/08/17	DMB
A1	FOR REVIEW	31/05/17	DMB
A	FOR SUBMITTAL	23/05/17	DMB
LEVEL	REVISION	DATE	BY

CUSTOMER:

1704432	AGNICO EAGLE
MPP BILL OF MATERIAL	600 MAN AMARUO MINE
MODULE 8201 - SHEET 1 OF 2	
DRAWN BY: DMB	DATE: 31/05/17
SHEET: 46	SHEETS: 71

MPP - Bill of Materials

Qty	APES#	Part Number	Description	Manufacturer	Device Designation(s)
21	19289	LUA1C20	Combination Starter, 1NO Ready, 1NO Fault/Aux. Contact Module	Schneider Electric	STR1040A, STR1045A, STR1050A, STR1055A, STR1062A, STR1069A, STR1103A, STR1108A, STR1113A, STR1118A, STR1123A, STR1130A, STR1140A, STR1145A, STR1150A, STR1155A, STR1160A, STR1208A, STR1213A, STR1218A
21	19264	LUB12	Combination Starter, 12A Power Base, 3/7.5/10HP	Schneider Electric	STR1040A, STR1045A, STR1050A, STR1055A, STR1062A, STR1069A, STR1103A, STR1108A, STR1113A, STR1118A, STR1123A, STR1130A, STR1140A, STR1145A, STR1150A, STR1155A, STR1160A, STR1208A, STR1213A, STR1218A
4	19503	LUCA1XBL	Combination Starter, TeSysU Standard Control Unit 0.35-1.4A, 24VDC coil	Schneider Electric	STR1040A, STR1045A, STR1062A, STR1145A
11	21191	LUCA05BL	Combination Starter, TeSysU Standard Control Unit 1.25-5.0A, 24V/60mA DC coil	Schneider Electric	STR1050A, STR1055A, STR1069A, STR1103A, STR1108A, STR1113A, STR1130A, STR1140A, STR1160A, STR1213A, STR1218A
6	22706	LUCA12BL	Combination Starter, TeSysU Standard Control Unit 3-12A, 24V/60mA DC coil	Schneider Electric	STR1118A, STR1123A, STR1150A, STR1155A, STR1203A, STR1208A
4	38092	M9F42215	Breaker, Multi9, 480/277V 15 AMP 2P C Trip Curve, 10k SCCR	Schneider Electric	CB1415A, CB1452A, CB1457A, CB1462A
2	38069	M9F42315	Breaker, Multi9 480/277V 15 AMP 3P C Trip Curve, 10k SCCR	Schneider Electric	CB1032A, CB1342A
5	38070	M9F42320	Breaker, Multi9 480/277V 20 AMP 3P C Trip Curve, 10k SCCR	Schneider Electric	CB1350A, CB1362A, CB1403A, CB1423A, CB1440A
1	38071	M9F42330	Breaker, Multi9 480/277V 30 AMP 3P C Trip Curve, 10k SCCR	Schneider Electric	CB1355A
2	38136	MG24425	Breaker, 240V 1 AMP 1P C	Schneider Electric	CB3406A, CB3426A
1	38137	MG24426	Breaker, 240V 2 AMP 1P C	Schneider Electric	CB3435A
1	38138	MG24427	Breaker, 240V 3 AMP 1P C	Schneider Electric	CB3421A
1	38139	MG24428	Breaker, 240V 4 AMP 1P C	Schneider Electric	CB3430A
2	26722	MPDB67113	Power Block, 175A 1P/12Sec Aluminum, 2/0-#14P/10-14Sec	MERSEN	PDB1024A, PDB1024B
6	26741	MPDB C6667	Power Block, MPDBC6667 safety cover,	MERSEN	PDB1024A(3), PDB1024B(3)
1	36638	NT-CV-12	Panel Label - newterra Decal	Panel	8.11E
1	36639	NT-PS	Panel Label - newterra Slicker	Panel	8.11F
1	36316	OTB1E0DM9LP	OTB RIO Adapter, Ethernet	Schneider Electric	PLC3426A
1	10586	PK18GTA	NO Panelboard Ground Bus	Schneider Electric	GB1
10	22324	RXM2AB1BD	Relay, SQT RXM2AB1BD, Miniature Relay 2PDT 24 VDC	Schneider Electric	CR3443A, CR3447A, CR3451A, CR3455A, CR3541A, CR3543A, CR3843A, CR3845A, CR3847A, CR3849A
10	22326	RXZE2S108M	Relay, SQT RXZE2S108M, Base/Socket for RXM2 2P Relays	Schneider Electric	CR3443A, CR3447A, CR3451A, CR3455A, CR3541A, CR3543A, CR3843A, CR3845A, CR3847A, CR3849A
1	36317	TM2DDI8DT	TM2 8 point DI Expansion Module	Schneider Electric	PLC3806A
2	37596	TM2DDI16DT	TM2 16 point DI Expansion Module	Schneider Electric	PLC3806A, PLC3706A
1	38119	TM2DDO8TT	TM2 8 point DO Expansion Module, Removable Terminal Blocks	Schneider Electric	PLC3843A
1	38209	TM2DRA16RT	TM2 16RO Expansion Module	Schneider Electric	PLC3906A

NOTES:

		1325 CALIFORNIA AVE. BIRMINGHAM, AL 35202 CANADA 607 576 PHONE: (615) 488-1876 www.newterra.com	C	AS BUILT	14/08/17	DMB	PROJ. NO:	1704432	CUSTOMER:
			B	FOR PRODUCTION	31/05/17	DMB	TITLE AND LOCATION:		
A1	FOR REVIEW	23/05/17	DMB	MPP BILL OF MATERIAL			AGNICO EAGLE		
A	FOR SUBMITTAL	12/05/17	DMB	MODULE 8201 - SHEET 2 OF 2			600 MAN AMARUO MINE		
LEVEL	REVISION	DATE	BY	DRAWN BY:			DATE:	SHEET:	SHEETS:
				DMB			31/05/17	49	71
(50mm x 71)									

MCP - Bill of Materials

Qty	APES#	Part Number	Description	Manufacturer	Device Designation(s)
1	37557	2QP1	Pad Lockable Quarater Turn Latch	Hammond	MCP
1	26829	8GB_Micro	8GB Micro USB Key	Generic	OIT2008A
1	26511	17-200161	USB TypeA F-F Bulkhead Connector	Conec	USB71A
1	20698	20698	Mounting Bracket, Antenna & Surge Protector		ENET2011A
27	23745	800886	End Bracket - DIN Rail	Phoenix Contact	TB2, TB3, TB4, TB5, TB6, TB10, TB11, TB12, TB13, TB14, TB15, TB16, TB37, TB38, TB39, TB42, TB43, TB44, TB45, TB46, TB47, TB52, TB54, TB57, TB58, TB59, TB65
6	19168	0801733	Steel mounting rail, 35x7,5 mm, 1 mm thick; perforated	Phoenix Contact	TS1, TS2, TS3, TS8, TS9, TS10
17	23751	2966171	Relay, SPDT, 24VDC Coil	Phoenix Contact	CR2507A, CR2509A, CR2511A, CR2517A, CR2519A, CR2521A, CR2548A, CR2550A, CR2552A, CR2554A, CR2607A, CR2609A, CR2611A, CR2613A, CR2615A, CR2617A, CR2619A
14	23742	3030420	End Plate - 30A Feed Thru	Phoenix Contact	TB29, TB31, TB33, TB34, TB49, TB50, TB55, TB56, TB60, TB61, TB62, TB63, TB64, TB66
1	23748	3030747	End Plate - Double Feed Thru	Phoenix Contact	TB48
10	23737	3031384	Terminal, Grey, 28-12AWG, 30A, 600V	Phoenix Contact	AC(6), AO(4)
83	23738	3031377	Terminal, Blue, 28-12AWG, 30A, 600V	Phoenix Contact	AI(44), AO(8), DC(26), DO-P(5)
48	35073	3031432	Terminal, Double, 28-10AWG, 30A, 600V, Blue	Phoenix Contact	DI(48)
15	29545	3036369	Fused Terminal, 28-10AWG, 6.3A, 500V	Phoenix Contact	AI(14), AO
8	23741	3037148	Terminal, Yellow, 28-12AWG, 30A, 600V	Phoenix Contact	TB1(8)
15	23740	3037151	Terminal, Red, 28-12AWG, 30A, 600V	Phoenix Contact	AC(15)
2	35707	ABL8REM24050	24VDC Power Supply, 120W, 5A	Schneider Electric	PWS2004A, PWS2015A
1	24694	Arc Flash	Panel Label - Arc Flash Tri-lingual	Panel	8.11C
2	27402	C1LG6	Wire Duct Cover, 1", Grey	Panduit	WD2, WD11
6	27399	C2LG6	Wire Duct Cover, 2", Grey	Panduit	WD1, WD3, WD8, WD9, WD10, WD12
1	27949	C5E-STPRD-S3	Red Industrial Ethernet Cable, RJ45, 3ft, STP	Canada Computer	CBL5
2	27950	C5E-STPRD-S7	Industrial Ethernet Cable, RJ45, 7ft, STP	Canada Computer	CBL1, CBL3
1	27951	C5E-STPRD-S10	Industrial Ethernet Cable, RJ45, 10ft, STP	Canada Computer	CBL2
1	27953	C5E-STPRD-S25	Industrial Ethernet Cable, RJ45, 25ft, STP	Canada Computer	CBL6
4	12475	D1031Q	4Ch Discrete, Transistor Output, Intrinsically Safe Barrier	GM International	IS2020A, IS2024A, IS2028A, IS2032A
1	24602	E100502	Industrial RJ45 Jack	Belden	ETH71A
1	29140	EC6133D	eWON Cosy 131 LAN/Cell Router, 24VDC Power	eWON	ENET2011A
1	37906	EN4SD483612GY	48" x 36" x 12" NEMA4 Steel Enclosure	Hammond	MCP
1	37907	EP4836	48" x 36" Backplate	Hammond	MCP

NOTES:



1325 CALIFORNIA AVE.
BIRMINGHAM, AL 35203
CANADA 607 576
PHONE: (615) 488-1876
www.newterra.com

C	AS BUILT	14/08/17	DWG
B	FOR PRODUCTION	31/05/17	DWG
A1	FOR REVIEW	23/05/17	DWG
A	FOR SUBMITTAL	12/05/17	DWG
LEVEL	REVISION	DATE	BY

PROJ. NO: 1704432

TITLE AND LOCATION:
MCP BILL OF MATERIAL
MODULE 8202 - SHEET 1 OF 3

CUSTOMER:

AGNICO EAGLE
600 MAN AMARUO MINE

DRAWN BY:	DATE:	SHEET:	SHEETS:
DMB	30/05/17	50	71

MCP - Bill of Materials

Qty	APES#	Part Number	Description	Manufacturer	Device Designation(s)
1	37558	EZPMFHD	Mounting Feet, Zinc, Set of 4	Hammond	MCP
2	27400	FX3L3G6	Wire Duct, 1"x3", Grey, Narrow Finger	Panduit	WD2, WD11
6	27398	FX3L3G6	Wire Duct, 2"x3", Grey, Narrow Finger	Panduit	WD1, WD3, WD8, WD9, WD10, WD12
14	20369	GSB1/10	Fuse, GLD GSB1/10100mA 250V Fast Acting, Miniature 5x20mm	Ferraz Shawmut	AI(14)
1	36555	GSB16/100	Fuse, 160mA 250V Fast Acting, Miniature 5x20mm	Ferraz Shawmut	AO
1	20569	GW195-180-SMA-NIM	Cellular Modem Antenna Cable - 15Ft. N-Male to SMA-Male	Airlink_Communications	ENET2011A
1	36126	HMI DT542	Touchscreen, 10.4" TOUCH SMART DISPLAY	Schneider Electric	OIT2008A
1	36124	HMI G3U	HMI Linux Processor, for use with HMI DT smart displays	Schneider Electric	OIT2008A
1	26892	IS Wiring Inside	Panel Label - IS Wiring Inside	Panel	8.11A
4	38136	MG24425	Breaker, 240V 1 AMP 1 P C	Schneider Electric	CB1905C, CB1909A, CB2020A, CB2043A
2	38137	MG24426	Breaker, 240V 2 AMP 1 P C	Schneider Electric	CB2057A, CB2062A
5	38138	MG24427	Breaker, 240V 3 AMP 1 P C	Schneider Electric	CB1905A, CB2004A, CB2008A, CB2015A, CB2053A
2	38139	MG24428	Breaker, 240V 4 AMP 1 P C	Schneider Electric	CB1926A, CB2011A
1	36639	NT-PS	Panel Label - newterra Sticker	Panel	8.11D
1	10586	PK18G7A	NQ Panelboard Ground Bus	Schneider Electric	GB1
1	23504	PSD1001	4Ch Power Supply, 15V - 20mA	GM International	IS2036A
1	11482	QOU1PA	Breaker Lock for 1 pole QOU breakers	Schneider Electric	CB1905B
1	10270	QOU115	Breaker, SQD QOU115 1240V 15A 1P DIN Mount, 10k SCOR	Schneider Electric	CB1905B
5	23234	RXM2AB1BD	Relay, SQT RXM2AB1BD, Miniature Relay 2PDT 24 VDC	Schneider Electric	CR2127A, CR2513A, CR2515A, CR2556A, CR2621A
2	21888	RXM4AB1BD	Relay, SQT RXM4AB1BD, Miniature Relay, 4PDT, 24 VDC, 6A contacts	Schneider Electric	CR2050A, CR2558A
1	21887	RXM4AB1F7	Relay, SQT RXM4AB1F7, Miniature Relay, 4PDT, 120VAC, 6A contacts	Schneider Electric	CR2047A
5	23236	RXZE2S108M	Relay, SQT RXZE2S108M, Base/Socket for RXM2 2P Relays	Schneider Electric	CR2127A, CR2513A, CR2515A, CR2556A, CR2621A
3	21889	RXZE2S114M	Relay, SQT RXZE2S114M, Base/Socket for RXM4 4P Relays	Schneider Electric	CR2047A, CR2050A, CR2558A
1	26891	Substitution of IS	Panel Label - Substitution of IS Components	Panel	8.11B
1	36089	TM3A14G	TM3 4-channel AI Expansion Module	Schneider Electric	PLC2807A
1	36090	TM3A18G	TM3 8-channel AI Expansion Module	Schneider Electric	PLC2707A
1	36543	TM3AQ4G	TM3 4-channel AO Expansion Module	Schneider Electric	PLC2906A
4	36087	TM3DI16G	TM3 16DI Expansion Module	Schneider Electric	PLC2105A, PLC2205A, PLC2305A, PLC2405A
2	36088	TM3DQ16TG	TM3 16DO Expansion Module	Schneider Electric	PLC2507A, PLC2607A
1	36558	TM3XREC1	TME Bus Receiver Module	Schneider Electric	PLC2057A
1	36557	TM3XTRA1	TME Bus Transmitter Module	Schneider Electric	PLC2060A
1	28484	TM251MESE	M251 Controller, Dual Ethernet	Schneider Electric	PLC2053A
1	24550	USB_A-A	6ft. USB MaleA/MaleA	Generic	CBL4

NOTES:



1325 CALIFORNIA AVE.
BIRMINGHAM, AL 35203
CANADA 469 576
PHONE: (615) 488-1876
www.newterra.com

CUSTOMER:

PROJ. NO: 1704432
TITLE AND LOCATION:
MCP BILL OF MATERIAL
MODULE 8202 - SHEET 2 OF 3

AGNICO EAGLE
600 MAN AMARUO MINE

DRWN BY	DATE	SHEET	SHEETS
DMB	3/05/17	51	71

MCP - Bill of Materials

[illegible]

NOTES:

[illegible]

JB-7901-AC - Bill of Materials

[illegible]

NOTES:



1704432

1704432

AGNICO EAGLE
600 MAN AMARUQ

DRAWN BY:	DATE:	SHEET:	SHEETS:
DMB	30/05/17	53	71

JB-7901-IS - Bill of Materials

[illegible]

NOTES:



TITLE AND LOCATION		17 04N 52E	
C	AS BUILT	14/06/17	DMB
B	FOR PRODUCTION	31/05/17	DMB
A1	FOR REVIEW	20/05/17	DMB
A	FOR SUBMITTAL	12/05/17	DMB
LEVEL	REVISION	DATE	BY
AGNICO EAGLE 600 MAN AMARUO MINE		DRAWN BY: DMB	DATE: 30/05/17
JOB#-7901-IS BILL OF MATERIAL MODULE 8203 - SHEET 4 OF 11		SHEETS: 56 71	
DRAWN: JERRY DODD DATE: 05/05/17			

THIS INFORMATION IS THE PROPERTY OF newtama ltd., AND CANNOT BE REUSED OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF newtama ltd.

JB-79010S-AC - Bill of Materials

[illegible]

NOTES:



C	AS BUILT	14/08/17	DME	PROJ. NO:	1704432	CUSTOMER:	AGNICO EAGLE 600 MAN AMARUQ MINE	DRAWN BY:	DATE:	SHEET:	SHEETS:
B	FOR PRODUCTION	31/05/17	DME	TITLE AND LOCATION: JB-7901-03-AC BILL OF MATERIAL MODULE 8203 - SHEET 5 OF 11				DMB	30/05/17	57	71
A1	FOR REVIEW	23/05/17	DME					DRAWN BY:	DATE:	SHEET:	SHEETS:
A	FOR SUBMITTAL	12/05/17	DME	DATE	BY						
LEVEL	REVISION										

JB-7902-DC - Bill of Materials

[illegible]

NOTES:



CUSTOMER:

1
 2
 3
 4
 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
 43
 44
 45
 46
 47
 48
 49
 50
 51
 52
 53
 54
 55
 56
 57
 58
 59
 60
 61
 62
 63
 64
 65
 66
 67
 68
 69
 70
 71
 72
 73
 74
 75
 76
 77
 78
 79
 80
 81
 82
 83
 84
 85
 86
 87
 88
 89
 90
 91
 92
 93
 94
 95
 96
 97
 98
 99
 100
 101
 102
 103
 104
 105
 106
 107
 108
 109
 110
 111
 112
 113
 114
 115
 116
 117
 118
 119
 120
 121
 122
 123
 124
 125
 126
 127
 128
 129
 130
 131
 132
 133
 134
 135
 136
 137
 138
 139
 140
 141
 142
 143
 144
 145
 146
 147
 148
 149
 150
 151
 152
 153
 154
 155
 156
 157
 158
 159
 160
 161
 162
 163
 164
 165
 166
 167
 168
 169
 170
 171
 172
 173
 174
 175
 176
 177
 178
 179
 180
 181
 182
 183
 184
 185
 186
 187
 188
 189
 190
 191
 192
 193
 194
 195
 196
 197
 198
 199
 200
 201
 202
 203
 204
 205
 206
 207
 208
 209
 210
 211
 212
 213
 214
 215
 216
 217
 218
 219
 220
 221
 222
 223
 224
 225
 226
 227
 228
 229
 230
 231
 232
 233
 234
 235
 236
 237
 238
 239
 240
 241
 242
 243
 244
 245
 246
 247
 248
 249
 250
 251
 252
 253
 254
 255
 256
 257
 258
 259
 260
 261
 262
 263
 264
 265
 266
 267
 268
 269
 270
 271
 272
 273
 274
 275
 276
 277
 278
 279
 280
 281
 282
 283
 284
 285
 286
 287
 288
 289
 290
 291
 292
 293
 294
 295
 296
 297
 298
 299
 300
 301
 302
 303
 304
 305
 306
 307
 308
 309
 310
 311
 312
 313
 314
 315
 316
 317
 318
 319
 320
 321
 322
 323
 324
 325
 326
 327
 328
 329
 330
 331
 332
 333
 334
 335
 336
 337
 338
 339
 340
 341
 342
 343
 344
 345
 346
 347
 348
 349
 350
 351
 352
 353
 354
 355
 356
 357
 358
 359
 360
 361
 362
 363
 364
 365
 366
 367
 368
 369
 370
 371
 372
 373
 374
 375
 376
 377
 378
 379
 380
 381
 382
 383
 384
 385
 386
 387
 388
 389
 390
 391
 392
 393
 394
 395
 396
 397
 398
 399
 400
 401
 402
 403
 404
 405
 406
 407
 408
 409
 410
 411
 412
 413
 414
 415
 416
 417
 418
 419
 420
 421
 422
 423
 424
 425
 426
 427
 428
 429
 430
 431
 432
 433
 434
 435
 436
 437
 438
 439
 440
 441
 442
 443
 444
 445
 446
 447
 448
 449
 450
 451
 452
 453
 454
 455
 456
 457
 458
 459
 460
 461
 462
 463
 464
 465
 466
 467
 468
 469
 470
 471
 472
 473
 474
 475
 476
 477
 478
 479
 480
 481
 482
 483
 484
 485
 486
 487
 488
 489
 490
 491
 492
 493
 494
 495
 496
 497
 498
 499
 500
 501
 502
 503
 504
 505
 506
 507
 508
 509
 510
 511
 512
 513
 514
 515
 516
 517
 518
 519
 520
 521
 522
 523
 524
 525

PROJ. NO:	
-----------	--

--	--

--	--

--	--



--	--

NOTES:

END LOCATION:
JB-7902-DC BILL OF MATERIAL
MODULE 8203 - SHEET 7 OF 11

14/08/17	DMB	TITLI
31/05/17	DMB	
23/05/17	DMB	

--	--	--	--

INTRODUCTION

C	AS BUILT
B	FOR PRODUCTION
A1	FOR REVIEW

5 CALIFORNIA AVE.
ROCKVILLE, ONTARIO
CANADA K6V 5Y6
PHONE: (613) 498-1876



132
BRO
C
PHO



THIS INFORMATION IS THE PROPERTY OF NEWSTRA LTD. AND CANNOT BE REUSED OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF NEWSTRA LTD.

JB-7904-AC - Bill of Materials

[illegible]

NOTES:



CUSTOMER:	
-----------	--

1
 2
 3
 4
 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
 43
 44
 45
 46
 47
 48
 49
 50
 51
 52
 53
 54
 55
 56
 57
 58
 59
 60
 61
 62
 63
 64
 65
 66
 67
 68
 69
 70
 71
 72
 73
 74
 75
 76
 77
 78
 79
 80
 81
 82
 83
 84
 85
 86
 87
 88
 89
 90
 91
 92
 93
 94
 95
 96
 97
 98
 99
 100
 101
 102
 103
 104
 105
 106
 107
 108
 109
 110
 111
 112
 113
 114
 115
 116
 117
 118
 119
 120
 121
 122
 123
 124
 125
 126
 127
 128
 129
 130
 131
 132
 133
 134
 135
 136
 137
 138
 139
 140
 141
 142
 143
 144
 145
 146
 147
 148
 149
 150
 151
 152
 153
 154
 155
 156
 157
 158
 159
 160
 161
 162
 163
 164
 165
 166
 167
 168
 169
 170
 171
 172
 173
 174
 175
 176
 177
 178
 179
 180
 181
 182
 183
 184
 185
 186
 187
 188
 189
 190
 191
 192
 193
 194
 195
 196
 197
 198
 199
 200
 201
 202
 203
 204
 205
 206
 207
 208
 209
 210
 211
 212
 213
 214
 215
 216
 217
 218
 219
 220
 221
 222
 223
 224
 225
 226
 227
 228
 229
 230
 231
 232
 233
 234
 235
 236
 237
 238
 239
 240
 241
 242
 243
 244
 245
 246
 247
 248
 249
 250
 251
 252
 253
 254
 255
 256
 257
 258
 259
 260
 261
 262
 263
 264
 265
 266
 267
 268
 269
 270
 271
 272
 273
 274
 275
 276
 277
 278
 279
 280
 281
 282
 283
 284
 285
 286
 287
 288
 289
 290
 291
 292
 293
 294
 295
 296
 297
 298
 299
 300
 301
 302
 303
 304
 305
 306
 307
 308
 309
 310
 311
 312
 313
 314
 315
 316
 317
 318
 319
 320
 321
 322
 323
 324
 325
 326
 327
 328
 329
 330
 331
 332
 333
 334
 335
 336
 337
 338
 339
 340
 341
 342
 343
 344
 345
 346
 347
 348
 349
 350
 351
 352
 353
 354
 355
 356
 357
 358
 359
 360
 361
 362
 363
 364
 365
 366
 367
 368
 369
 370
 371
 372
 373
 374
 375
 376
 377
 378
 379
 380
 381
 382
 383
 384
 385
 386
 387
 388
 389
 390
 391
 392
 393
 394
 395
 396
 397
 398
 399
 400
 401
 402
 403
 404
 405
 406
 407
 408
 409
 410
 411
 412
 413
 414
 415
 416
 417
 418
 419
 420
 421
 422
 423
 424
 425
 426
 427
 428
 429
 430
 431
 432
 433
 434
 435
 436
 437
 438
 439
 440
 441
 442
 443
 444
 445
 446
 447
 448
 449
 450
 451
 452
 453
 454
 455
 456
 457
 458
 459
 460
 461
 462
 463
 464
 465
 466
 467
 468
 469
 470
 471
 472
 473
 474
 475
 476
 477
 478
 479
 480
 481
 482
 483
 484
 485
 486
 487
 488
 489
 490
 491
 492
 493
 494
 495
 496
 497
 498
 499
 500
 501
 502
 503
 504
 505
 506
 507
 508
 509
 510
 511
 512
 513
 514
 515
 516
 517
 518
 519
 520
 521
 522
 523
 524
 525

EAND LOCATION:
JB-7904-AC BILL OF MATERIAL
MODULE 8203 - SHEET 9 OF 11

AGNICO EAGLE
600 MAN AMARUQ MINE

MODULE 8203 - SHEET 9 OF 11

IN BY:	DATE:	SHEET:
--------	-------	--------

	17000 - 18000
--	---------------

JB-7904-DC - Bill of Materials

[illegible]

NOTES:



C	AS BUILT	14/08/17	DMB	PROJ. NO:	1704432	CUSTOMER:	AGNICO EAGLE 600 MAN AMARUO MINE
B	FOR PRODUCTION	31/05/17	DMB	TITLE AND LOCATION: JB-7904-DC BILL OF MATERIAL MODULE 8203 - SHEET 10 OF 11			
A1	FOR REVIEW	20/05/17	DMB				
A	FOR SUBMITTAL	12/05/17	DMB				
LEVEL	REVISION	DATE	BY	DRAWN BY: DMB			
				DATE: 30/05/17			
				SHEET: 71			
				SHEETS: 62			
				SHEET: 62 OF 71			

THIS INFORMATION IS THE PROPERTY OF newterra llc, AND CANNOT BE REUSED OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF newterra llc.

[illegible]

JB-7904-HV - Bill of Materials

[illegible]

NOTES:



C	AS BUILT	14/08/17	DMB	PROJ NO: 1704432 TITLE AND LOCATION: JB-7904-HV BILL OF MATERIAL MODULE 8203 - SHEET 11 OF 11	CUSTOMER: AGNICO EAGLE 600 MAN AMARUO MINE
B	FOR PRODUCTION	31/05/17	DMB		
A1	FOR REVIEW	20/05/17	DMB		
A	FOR SUBMITTAL	12/05/17	DMB		
LEVEL	REVISION	DATE	BY		
				DRAWN BY: DMB DATE: 30/05/17 SHEET: 63 SHEETS: 71	SHEET: 63 OF 71 SHEETS: 71

AGNICO EAGLE 600 MAN AMARUQ MINE		SHEETS: 71
DRAWN BY: DMB	DATE: 30/05/17	SHEET: 63

THIS INFORMATION IS THE PROPERTY OF newterra llc, AND CANNOT BE REUSED OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF newterra llc.

BLD-7901 - Bill of Materials

[illegible]

NOTES:



C	AS BUILT	14/06/17	DMB	1704432 BLD-7901 BILL OF MATERIAL MODULE 8901 - SHEET 1 OF 2	60 DRAWN BY DMB
B	FOR PRODUCTION	31/05/17	DMB		
A1	FOR REVIEW	29/05/17	DMB		
A	FOR SUBMITTAL	12/05/17	DMB		
LEVEL	REVISION	DATE	BY		

CUSTOMER:		AGNICO EAGLE 600 MAN AMARUQ MINE		SHEETS: 71	
		DATE: 30/05/17		SHEET: 64	
		DRAWN BY: DMB			

BLD-7902 - Bill of Materials

[illegible]

NOTES:

 newterra ENVIRONMENTAL TECHNOLOGIES INC.	1325 CALIFORNIA AVE. BROCKVILLE, ONTARIO CANADA K6V 5Y6 PHONE: (613) 498-1876 www.newterra.com		C AS BUILT B FOR PRODUCTION A1 FOR REVIEW A FOR SUBMITTAL LEVEL REVISION		14/08/17 DMB 31/05/17 DMB 23/05/17 DMB 12/05/17 DMB DATE BY DATE BY (DDMMYY) (DDMMYY)		PROJ. NO: 1704432 TITLE AND LOCATION: BLD-7902 BILL OF MATERIAL MODULE 9802		CUSTOMER: AGNICO EAGLE 600 MAN AMARUO MINE		DRAWN BY: DMB DATE: 30/05/17 SHEET: 66 SHEETS: 71 THREE, JAMES DODD, 1999, C.	
--	--	--	--	--	--	--	---	--	--	--	--	--

THIS INFORMATION IS THE PROPERTY OF newterra ltd., AND CANNOT BE REUSED OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF newterra ltd.

BLD-7904 - Bill of Materials

[illegible]

NOTES:

[illegible]

BLD-7904 OUTSIDE - Bill of Materials

[illegible]

NOTES:

	1325 CALIFORNIA AVE. BROCKVILLE, ONTARIO CANADA K6V 5Y6 PHONE: (613) 458-1676 www.newterra.com	A/S BUILT C FOR PRODUCTION B FOR REVIEW A1 FOR SUBMITAL LEVEL REVISION	DWG DWB DWB DWB DATE BY	14/08/17 31/05/17 23/05/17 12/05/17	TITLE AND LOCATION: BLD-7904 BILL OF MATERIAL MODULE 8904 - SHEET 2 OF 2	PROJ. NO.: 1704432	CUSTOMER:	AGNICO EAGLE 600 MAN AMIRAUO MINE	DRAWN BY: DMB	DATE: 30/05/17	SHEET: 68	SHEETS: 71	(THRU) APPROVED NAME :
--	--	--	-------------------------------------	--	--	-----------------------	-----------	--------------------------------------	------------------	-------------------	--------------	---------------	------------------------

THIS INFORMATION IS THE PROPERTY OF newterra llc, AND CANNOT BE REUSED OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF newterra llc.

BLD-7905 - Bill of Materials

[illegible]

NOTES:

[illegible]

THIS INFORMATION IS THE PROPERTY OF newterra ltd., AND CANNOT BE REUSED OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF newterra ltd.

BLD-7906 - Bill of Materials

[illegible]

NOTES:



CUSTOMER:

1
 2
 3
 4
 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
 43
 44
 45
 46
 47
 48
 49
 50
 51
 52
 53
 54
 55
 56
 57
 58
 59
 60
 61
 62
 63
 64
 65
 66
 67
 68
 69
 70
 71
 72
 73
 74
 75
 76
 77
 78
 79
 80
 81
 82
 83
 84
 85
 86
 87
 88
 89
 90
 91
 92
 93
 94
 95
 96
 97
 98
 99
 100
 101
 102
 103
 104
 105
 106
 107
 108
 109
 110
 111
 112
 113
 114
 115
 116
 117
 118
 119
 120
 121
 122
 123
 124
 125
 126
 127
 128
 129
 130
 131
 132
 133
 134
 135
 136
 137
 138
 139
 140
 141
 142
 143
 144
 145
 146
 147
 148
 149
 150
 151
 152
 153
 154
 155
 156
 157
 158
 159
 160
 161
 162
 163
 164
 165
 166
 167
 168
 169
 170
 171
 172
 173
 174
 175
 176
 177
 178
 179
 180
 181
 182
 183
 184
 185
 186
 187
 188
 189
 190
 191
 192
 193
 194
 195
 196
 197
 198
 199
 200
 201
 202
 203
 204
 205
 206
 207
 208
 209
 210
 211
 212
 213
 214
 215
 216
 217
 218
 219
 220
 221
 222
 223
 224
 225
 226
 227
 228
 229
 230
 231
 232
 233
 234
 235
 236
 237
 238
 239
 240
 241
 242
 243
 244
 245
 246
 247
 248
 249
 250
 251
 252
 253
 254
 255
 256
 257
 258
 259
 260
 261
 262
 263
 264
 265
 266
 267
 268
 269
 270
 271
 272
 273
 274
 275
 276
 277
 278
 279
 280
 281
 282
 283
 284
 285
 286
 287
 288
 289
 290
 291
 292
 293
 294
 295
 296
 297
 298
 299
 300
 301
 302
 303
 304
 305
 306
 307
 308
 309
 310
 311
 312
 313
 314
 315
 316
 317
 318
 319
 320
 321
 322
 323
 324
 325
 326
 327
 328
 329
 330
 331
 332
 333
 334
 335
 336
 337
 338
 339
 340
 341
 342
 343
 344
 345
 346
 347
 348
 349
 350
 351
 352
 353
 354
 355
 356
 357
 358
 359
 360
 361
 362
 363
 364
 365
 366
 367
 368
 369
 370
 371
 372
 373
 374
 375
 376
 377
 378
 379
 380
 381
 382
 383
 384
 385
 386
 387
 388
 389
 390
 391
 392
 393
 394
 395
 396
 397
 398
 399
 400
 401
 402
 403
 404
 405
 406
 407
 408
 409
 410
 411
 412
 413
 414
 415
 416
 417
 418
 419
 420
 421
 422
 423
 424
 425
 426
 427
 428
 429
 430
 431
 432
 433
 434
 435
 436
 437
 438
 439
 440
 441
 442
 443
 444
 445
 446
 447
 448
 449
 450
 451
 452
 453
 454
 455
 456
 457
 458
 459
 460
 461
 462
 463
 464
 465
 466
 467
 468
 469
 470
 471
 472
 473
 474
 475
 476
 477
 478
 479
 480
 481
 482
 483
 484
 485
 486
 487
 488
 489
 490
 491
 492
 493
 494
 495
 496
 497
 498
 499
 500
 501
 502
 503
 504
 505
 506
 507
 508
 509
 510
 511
 512
 513
 514
 515
 516
 517
 518
 519
 520
 521
 522
 523
 524
 525

NO: 1704432

AND LOCATION:

AND LOCATION:
BLD-7906 BILL OF MATERIAL
MODULE 8906 - SHEET 1 OF 2

AGNICO EAGLE
600 MAIN AMADIG MINE

OWN BY:	DATE:	SHEET:	SHEETS:
MMB	30/05/17	70	71

BLD-7906 OUTSIDE - Bill of Materials

[illegible]

NOTES:

[illegible]

THIS INFORMATION IS THE PROPERTY OF newterra ltd., AND CANNOT BE REUSED OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF newterra ltd.

APPENDIX B

Packing Slip

Project Packing List

PMProjNum

1704432

Agnico Eagle - Amaruq Mine WWTP

Shipping Notes:

Tag	Part Number	Part Description	Req Rec PO #	EngMemo Line
0	24612	Container, 40' x 8' x 9'6", Once Use, High Cu	1	---
7901	ea	30,480kg rated, Forklift Pockets, CSC Plate,	1	
	Type: I	ABS/BV/LR Certs. Steel Checkerplate	1704432-0001	1

10	10959	Junction Box, PVC, 6" x 6" x 4"	5	Added by production team
	ea		5	
	Type: I	Junction Box, PVC, 6" x 6" x 4"	1704432-9999	###
10	37975	Junction Box, 6" x 6" x 4", Hammond EJ664	1	Added by production team
	ea	with Back Panel and Hinged Lid, NEMA 4	1	
	Type: I	Junction Box, 6" x 6" x 4", Hammond EJ664	1704432-9999	###
10	P1128	Elbow, 45deg, PVC 40, 4", SxS, 417-040G	1	Added by production team
	ea		1	
	Type: I	Elbow, 45deg, PVC 40, 4", SxS, 417-040G	1704432-9999	####
10	37795	Sealant, MetalSafe, Liquid Rubber, Black 3.7	6	---
-	ea		6	
	Type: P	---	1704432-0134	1
10	37796	Sealant, Polyurethane, Self Leveling, Grey 8	8	---
-	ea		8	
	Type: P	---	1704432-0131	1
10	29551	Insulation, Backer Rod, 7/8" x 15'	10	---
-	ea		10	
	Type: P	---	1704432-0131	2
10	37794	Insulation, Backer Rod, 3/8" x 30'	10	---
-	ea		10	
	Type: P	---	1704432-0131	3
10	22772	Foam, Spray, Tiger Foam, 200BF, Fast Rise	2	---
-	ea		2	
	Type: P	---	1704432-0131	4
10	21768	Chemical, Bacteria, Dry for Start Up, 25lbs p	5	---
-	pail	25 lb per pail (Buy in Pail Quantities)	5	
	Type: I	BI-CHEM CWT Blend CAN product BioRem	1704432-0143	1

10	37797	Tape, Seam, 4" x 50', Paintable	1	---
4	ea		1	
	Type: P	---	1704432-0134	2

Tag	Part Number	Part Description	Req Rec PO #	EngMemo Line
15	27536	Weather Barrier, Blueskin, 9" x 50' Roll	4	---
-	ea		0	
	Type: P	---		0
15	38671	3/4" copper pipe insulation foam 6' long	20	---
-	ea		0	
	Type: P	---		0
15	38672	Insulation, rigid foam sheet, 3", R10, codebo	10	---
-	ea	Blue Styrefoam	0	
	Type: P	---		0
15	10088	Elbow, 90deg, PVC 40, 6", SxS, 406-060G	2	---
-	ea		0	
	Type: I	---	1704432-0170	1
15	16240	Pipe, PVC 40 (Clear), 6"	4	---
-	ft	10ft Length, 40-060CL	0	
	Type: X	---		0
15	P1188	Flexible Coupling, 6" x 6"	4	---
-	ea		0	
	Type: I	---	1704432-0170	2
15	9998	Misc Part, Parts not included in purchasing	6	---
-	ea		0	
	Type: P	Aeration connection pipes 3 - Pre to Air 3 - Air to air		0
15	9998	Misc Part, Parts not included in purchasing	4	---
-	ea		0	
	Type: P	vent stack		0
15	9998	Misc Part, Parts not included in purchasing	2	---
-	ea		0	
	Type: P	MBR Overflow Pipes		0
15	9998	Misc Part, Parts not included in purchasing	1	---
7902	ea		0	
	Type: P	container 7902		0
15	9998	Misc Part, Parts not included in purchasing	1	---
7903	ea		0	
	Type: P	Container 7903		0
15	9998	Misc Part, Parts not included in purchasing	1	---
7904	ea		0	
	Type: P	Container 7904		0

Tag	Part Number	Part Description	Req Rec PO #	EngMemo Line
15	9998	Misc Part, Parts not included in purchasing	1	---
7905	ea		0	
	Type: P	Container 7905		0
100	P1128	Elbow, 45deg, PVC 40, 4", SxS, 417-040G	1	Added by production team
	ea		1	
	Type: I	Elbow, 45deg, PVC 40, 4", SxS, 417-040G	1704432-9999	###
500	10951	Elbow, 45deg, PVC 40, 6", SxS, 417-060G	1	---
-	ea		1	
	Type: I	---	1704432-0089	22
500	M1489	Filter, Silencer, Solberg, FS-230P-300	2	---
B501/2	ea	3"	2	
	Type: P	---	1704432-0091	1
500	36870	Transmitter, pH, Prominent pH Sensor PHER	1	MBR
PH-501	ea	requires probe holder p/n 36871	1	
	Type: P	-	1704432-0071	4
6100	15871	Spill Containment, Single Drum, Eagle 1633	3	---
-	ea		3	
	Type: P	---	1704432-0161	1
6100	19891	Pump, Metering, Misc	1	---
P-610X	ea	See Description for part details	1	
	Type: P	-	1704432-0162	1
		BT4B0708PVT2000UD010A01		
		Flow: 1.88GPH / 7.10L/H		
		Pressure: 102PSI / 07BAR		
		Options Included:		
		- dosing head material PV PVDF		
		- sealmaterial T st.diaphragm w. PTFE seal		
		- execution of dosing head 2 w. Bleed.v. ,		
		w/o. valvespr.		
		- hydraulic-connection 0 standard-connection		
		- execution 0 Hous.RAL5003/hoodRAL2003		
		- Logo 0 w. PM-Logo		
		- type of voltage U universal 100-240 V		
		- cable and plug D 2m USA 115 V		
		- relay function 0 without relay		
		- supplies 1 STDR. FV,IV,TB for PP, PV, NP		
		- control system type 0 without lock		
		- control version A external analog 0-20mA/4-		
		20mA		
		- Remote stop 0 Pause break con., Niv.		
		break		
		- auxiliar frequency 1 external callable		
		frequency		
6100	25823	Pump, Metering, Parts, Multi-function Valve	3	---
p-610x	ea	PVDF, 87PSIG Size 2	3	
	Type: P	740427	1704432-0162	2

Tag	Part Number	Part Description	Req Rec PO #	EngMemo Line
7906	20890	Container, Misc	1	---
7906	ea	See description	1	
	Type: P	53 foot Hi Cube Strong Industrial Steel Used Shipping Container As-is Where-is	1704432-0027	1
7906	24305	Hood, Louver, 21"	1	---
7906	ea	Fits 18" Louver	1	
	Type: I	---	1704432-0049	84
7906	24547	Hood, Fan, 15"	1	---
f7961	ea	Fits 12" Fan	1	
	Type: I	---	1704432-0049	83

APPENDIX C

Testing Checklists/Pre-Commissioning Test Checklist

Pre-Commissioning Checklist – 1704432

Please note that **newterra** has a limited number of Technicians. In order to successfully support your startup, **newterra** requires that the Pre-Commissioning Checklist be returned at least 10 business days prior to mobilizing a Technician to site (subject to Technician availability). **newterra** will not mobilize to site until the Pre-Commissioning Checklist has been executed and returned to service@newterra.com. Or by Fax to: 289.203.1319.

If newterra startup activities are delayed due to lack of site readiness then there may be additional charges associated with overtime and/ or additional days on site.

newterra highly recommends that the system is started by a factory trained startup technician to ensure the long term success of your project. We understand that this may not always be feasible in which case we would require a highly skilled technician capable of troubleshooting both mechanical and electrical aspects of a process treatment system and be familiar with our manual, equipment and capable of training the operator on operating and maintenance requirements of the treatment system.

The purpose of this report is to ensure that the customer is prepared for startup.

Checklist	Customer Initial	newterra Initial
Complete a visual inspection of all units when placed on the pad. **Record any damage to the systems that may have occurred during shipping and provide photos to newterra.		
Verify that system has been installed on a solid, level area		
Verify that system has been installed in accordance with the system layout drawing.		
Verify that the required approvals are in place to allow the system to discharge air and water.		
Verify site power is installed to the control panel and necessary electrical approvals have been completed.		
Verify that all high voltage wiring is completed and wired according to the Field Aid/ project O&M manual.		
Verify that all low voltage wiring is completed and wired according to the Field Aid/ project O&M manual.		
Verify that all process piping has been installed and terminated.		
Verify that all field piping is completed and wells are connected to the operating system.		
Verify that a phone line is installed and activated for alarm autodialer, if required.		
Please read through the packing list (located in the manual) and ensure the correct equipment was delivered.		
There are some items that have shipped loose with your system that will need to be installed prior to start up, these may include exterior components such as stacks, filters and hoods. Sufficient hardware should have been supplied to facilitate installation.		
Some unions in the system may have been loosened for shipment. This is done to prevent damaging susceptible equipment, especially flow meters. All unions in the systems should be checked and tightened.		

Any external equipment such as tanks, well pumps, oxidizers, etc. need to be installed, plumbed and wired prior to start up.		
Some items may have been secured with brackets or tie downs for shipment – ensured these have been removed (eg. reciprocating compressors/ stacked blowers).		
In colder climates, if you do not plan on starting up the system before the winter months, please refer to your O&M manual for instructions on extended shutdowns. It is imperative that the correct measures be taken to prevent freezing water from damaging your system.		
If the system has been winterized, ensure all anti-freeze has been drained and disposed of in accordance with local regulations.		
Email pictures of power connection, site piping connections and installed equipment to service@newterra.com .		

MBR Specific Checks	Customer Initial	newterra Initial
Verify that Ethernet network is installed and activated if required.		
If Ethernet is to be used on site please provide 2 Static IP Addresses _____._____._____._____. _____._____._____._____		
Verify fresh water is available for Wet Test.		
Is waste activated sludge from an operating WWTP available for start-up (Seed Sludge)		
Verify Sufficient amount of sewage is available to start system (Check with newterra to determine actual amounts required).		

RO Specific Checks	Customer Initial	newterra Initial
Ensure all tanks are clean and free of dirt and debris		
Verify that a Fresh Water supply is installed to system.		
Ensure that the necessary chemicals for system operation and cleaning are available for use for starting the installation and commissioning phase.		
Verify the feed water quality		
Verify building process flow and instrumentation matches P&ID drawing. Check off drawing components against actual		
DO NOT LOAD THE MEMBRANES UNTIL DIRECTED as all system inlet piping must be flushed thoroughly before it is connected to the RO system.		

DA Specific Checks	Customer Initial	newterra Initial
GENERAL INSTALLATION		
Stainless Steel nameplate present, visible and contains make and model information in agreement with vendor drawings		
Vessel Saddles Bolted To Structural Steel		
Vessel Properly Insulated for Personnel Protection at a minimum		
Access Platform Properly installed for full access to heater section		
Vessel Manway Gaskets appear to be undamaged		
VESSEL INTERNALS		
Heater Section Tray Assemblies Properly fastened and have been installed per the O & M manual.		
Equalizer connection to storage tank is unobstructed by any shipping materials		
Spray Nozzles appear unobstructed and undamaged by shipping		
PIPING		
Pipes properly insulated for Personnel protection at a minimum		
Relief valve installed and discharge piping run to roof		
Piping systems properly flushed		
Vent Valve is installed and fully open for initial vessel fill		
Steam Control Valve and Muffling plate installed as per drawings		
Low pressure steam trap isolated and discharge piped to flash separator		
Low pressure flash steam lines installed and isolated for initial testing		
Vacuum breaker installed per manufacturer's instructions		
Overflow trap installed with discharge piped to Blowdown Tank		
Condensate control valve installed and isolated for initial testing		
Strainer within condensate control valve station installed and cleaned		
Makeup control valve installed and isolated for initial testing		
Strainer within makeup control valve station installed and cleaned		
Level bridle and gauge glass column installed as per manufacturer's drawings. Vessel isolation valves closed for initial fill.		
Sight glass sections installed with proper washers and do not have any apparent cracks or defects.		
Level switches installed at proper heights relative to the vessel according to the manufacturer's drawings		
Level transmitter properly installed as per instrument installation detail IS-8308		
Pressure transmitter is properly installed as per instrument installation detail IS-8127		
Pressure and temperature Gauges installed with isolation valves as needed.		
Deaerator Steam flow transmitter properly installed as per instrumentation installation detail IS-8308		
Vessel Drain valve installed and fully closed for initial fill		

Chemical feed connection valved and capped. Proper chemical feed is not required at this stage of commissioning		
All remaining spare connections on the storage tank and heater section should be tightly secured with a blind flange.		
CONTROL AND POWER WIRING		
120 volt power is run to Deaerator control panel		
Three Level switches are wired back to Deaerator Control Panel		
Pressure Transmitter is wired back to Deaerator Control Panel		
Level Transmitter is wired back to Deaerator Control Panel		
Steam Pressure Control Valve is wired back to Deaerator Control Panel		
Makeup Water Control Valve is wired back to Deaerator Control Panel		
Deaerator Steam flow transmitter is wired back to existing panel.		

Comments:

Note any deficiencies or damage to the system on arrival.

In the event additional parts are required to be sent for commissioning, please provide a shipping address, contact name and cell number

Provide a list of PPE required or any additional Health and Safety or training requirements that will be required for site access.

Site Address: _____

Onsite Contact Name & Cell Number: _____

Customer Sign-off: _____ Date: _____

 clean water. modular solutions. <i>simple.</i>		Installation Checklist		
	Has Acceptance Criteria Been Met (Yes/No)	Details	Initial/Date	
Misc				
Confirm that all items have been received in accordance with the packing list				
All items are undamaged. Any damages are to be reported to newterra as soon as possible.				
Inspect all exterior of containers and note any damages, Take pictures of any damages and report to the newterra project manager as soon as possible.				
Inspect WWTP placement location and confirm that it is firm and level. It not report to the newterra project manager as soon as possible. WWTP needs to be firm and level otherwise the operation of the WWTP can be compromised.				
Containers may be placed in a on-site storage location until ready for placement. Containers should be placed and installed before freezing temperatures				
Civil				
Placement of container on site. 6 containers. After container placement, inspect for any damages and take pictures. Report damages to newterra project manager.		Lifting - crane equiv required to move container. Fine placement via forklifts or equiv. Firm/Level base for containers See Appendix A of this manual for container layout		
Install Liquid Rubber Container Seal as per attached drawing.				
Electrical				

Installation Checklist			
	Has Acceptance Criteria Been Met (Yes/No)	Details	Initial/Date
 newterra clean water. modular solutions. <i>simple.</i>			
Site power has been connected and verified as per system design criteria			
All internal electrical connections have been terminated			
Confirm Phase Monitor is not in alarm			
Site voltage measured:		L1/L2:	
		L2/L3:	
		L3/L1:	
		L1/GRD:	
		L2/GRD:	
		L3/GRD:	
Check field wiring and piping as per drawings at Appendix A of the O&M Manual			
Check panel for loose wiring, Correct as required			
Check voltage on AC transformer			
Check voltage on DC transformer			
Check I.S. barrier is grounded as per input drawing			
All customer wiring has been completed in accordance with the electrical drawing in Appendix A.			
Mechanical			
Connect all internal piping and hose connections between the containers and external piping hook ups as per P&ID at Appendix A.			

Installation Checklist		
	Has Acceptance Criteria Been Met (Yes/No)	Details
 Inspect the EQ, Pre-Anox, Aeration and Post-Anox Tanks and install anodes. Confirm that the tanks are clean and diffusers & hose connecting are secure.		Initial/Date
Inspect MBR tanks and removing transportation securing straps. Ensuring all hoses and fittings are tight and connected.		
MBR tank - Ensure that the membranes have not moved or shifted in the cassette. Re-secure as necessary. Ensure that the diffusers have not shifted and are secure. Re-secure as necessary.		
Inspect the screens (SCR-201/202) and ensure that the rotating brushes are still aligned. Adjust as necessary.		
Inspect TNK-101/102/103, TNK-201 & TNK-6101/6102 and ensure that they are clean and free of any debris.		
Ensure all unions and fittings are tight, as some are loosened to prevent stress in shipping		
Check alignment of motors, Correct as required		
Check all motor belt tensions, Correct as required		
Check alignment of pulleys for all belt driven blowers		
Install the permeate header to the membrane tank and connect all piping/hoses.		

Installation Checklist		
 Ensure that the backwash tank (TNK-801) and sludge tank (TNK-901) are clean and free of debris. Clean as necessary.	Has Acceptance Criteria Been Met (Yes/No)	Details
		Initial/Date



Installation Acceptance Sign-Off Form

1704432 - Amaruq Mine WWTP

newterra is pleased to announce that the Installation phase of 1704432, has successfully been completed. In order to move to the Commissioning phase, a visual inspection and walkthrough of the plant will be required, followed by signoff of this document. Installation signoff will be conditional on the completion of items listed in a Punchlist created during this walkthrough.

Installation Signoff		Customer Acceptance	
Name:	_____	Name:	_____
Company:	_____	Company:	_____
Date:	_____	Date:	_____
Signature:	_____	Signature:	_____

Commissioning Checklist			
	Has Acceptance Criteria Been Met (Yes/No)	Details	Initial/Date
			
Ensure availability of on-site emergency eyewash station and personal protection equipment.			
Ensure that all tanks are clean and free of any dirt or debris (this is to prevent obstruction or damage to the piping, pumps, and membranes).			
Ensure that all connections have been provided and joints have been tightened.			
Check the placement of the air diffusers in the equalization tank(s) and aeration tank(s) if incorrectly positioned, proper adjustment has to be performed.			
Verify membrane modules are secure within the membrane tanks and that there is no lateral movement (less than an inch) of the membrane modules			
Verify building process flow and instrumentation matches P&ID drawing. Check off drawing components against actual (preferably with the customer present). Ensure this document is placed in the commissioning binder			

Commissioning Checklist																																																							
	Has Acceptance Criteria Been Met (Yes/No)	Details	Initial/Date																																																				
 Measure and Verify influent characteristics and record.		<table border="1"> <thead> <tr> <th>Parameters</th> <th>Unit</th> <th>Influent*</th> <th>Effluent</th> </tr> </thead> <tbody> <tr> <td>pH</td> <td>s.u.</td> <td>6 - 9</td> <td>6.5 – 8.5</td> </tr> <tr> <td>Fat, Oil, Grease (FOG)</td> <td>mg/L</td> <td>< 30</td> <td>< 5</td> </tr> <tr> <td>Biological Oxygen Demand (BOD)</td> <td>mg/L</td> <td>907.5</td> <td>< 25</td> </tr> <tr> <td>Total Suspended Solids (TSS)</td> <td>mg/L</td> <td>262.5</td> <td>< 25</td> </tr> <tr> <td>Total Kjeldahl Nitrogen (TKN)</td> <td>mgN/L</td> <td>130</td> <td>-</td> </tr> <tr> <td>Unionized Ammonia Nitrogen (NH₃-N)</td> <td>mgN/L</td> <td>-</td> <td>< 1.25</td> </tr> <tr> <td>Nitrate Nitrogen (NO₃-N)</td> <td>mgN/L</td> <td>-</td> <td>< 5</td> </tr> <tr> <td>Total Phosphorus (TP)</td> <td>mgP/L</td> <td>12</td> <td>< 0.5</td> </tr> <tr> <td>Fecal Coliform</td> <td>CFU/100mL</td> <td>-</td> <td>< 200**</td> </tr> <tr> <td>Total Residual Chlorine</td> <td>mg/L</td> <td>-</td> <td>< 0.02</td> </tr> <tr> <td>Alkalinity (assumed)</td> <td>mg/L as CaCO₃</td> <td>471</td> <td>-</td> </tr> <tr> <td>Total Dissolved Solids (TDS)</td> <td>mg/L</td> <td>< 1,200</td> <td>-</td> </tr> </tbody> </table>	Parameters	Unit	Influent*	Effluent	pH	s.u.	6 - 9	6.5 – 8.5	Fat, Oil, Grease (FOG)	mg/L	< 30	< 5	Biological Oxygen Demand (BOD)	mg/L	907.5	< 25	Total Suspended Solids (TSS)	mg/L	262.5	< 25	Total Kjeldahl Nitrogen (TKN)	mgN/L	130	-	Unionized Ammonia Nitrogen (NH ₃ -N)	mgN/L	-	< 1.25	Nitrate Nitrogen (NO ₃ -N)	mgN/L	-	< 5	Total Phosphorus (TP)	mgP/L	12	< 0.5	Fecal Coliform	CFU/100mL	-	< 200**	Total Residual Chlorine	mg/L	-	< 0.02	Alkalinity (assumed)	mg/L as CaCO ₃	471	-	Total Dissolved Solids (TDS)	mg/L	< 1,200	-	
Parameters	Unit	Influent*	Effluent																																																				
pH	s.u.	6 - 9	6.5 – 8.5																																																				
Fat, Oil, Grease (FOG)	mg/L	< 30	< 5																																																				
Biological Oxygen Demand (BOD)	mg/L	907.5	< 25																																																				
Total Suspended Solids (TSS)	mg/L	262.5	< 25																																																				
Total Kjeldahl Nitrogen (TKN)	mgN/L	130	-																																																				
Unionized Ammonia Nitrogen (NH ₃ -N)	mgN/L	-	< 1.25																																																				
Nitrate Nitrogen (NO ₃ -N)	mgN/L	-	< 5																																																				
Total Phosphorus (TP)	mgP/L	12	< 0.5																																																				
Fecal Coliform	CFU/100mL	-	< 200**																																																				
Total Residual Chlorine	mg/L	-	< 0.02																																																				
Alkalinity (assumed)	mg/L as CaCO ₃	471	-																																																				
Total Dissolved Solids (TDS)	mg/L	< 1,200	-																																																				
Confirm that the customers piping and lectrical connections to the WWTP are complete																																																							
Confirm if any grinder pumps are upstream of the WWTP. Advise the newterra project manager as soon as possible.																																																							
Have all rotating equipment oiled and greased as per manufactured recommendations																																																							
Fill system with water and check for leaks (liquid and vapor) by filling the EQ tank first and then process the water thru the system by tank																																																							
Check rotation of all motors that were field wired																																																							
Ensure that proper electrical grounding and lightning protection installed by customer																																																							

Commissioning Checklist			
	Has Acceptance Criteria Been Met (Yes/No)	Details	Initial/Date
			
Check voltage + amperage + name plate info against mechanical test record on all motors NOT recorded in FAT. Please include this in the commissioning binder			
Fill out mechanical test record on each motor and check amperage and voltage. Document amperage on the System test records in the operating manual in the Field test load section			
Check overload settings for all motors			
Test position of ball float switches for proper start/stop level as per the P&ID and control narrative in this manual and observed on the HMI.			
Check that PLC Run light is on and no alarm lights are present on the PLC			
Wet test all control inputs and outputs (See Device Verification section in this checklist)			
Test analogue inputs (See Device Verification section in this checklist)			
Wet test all shut down alarms (See Control Narrative at Appendix K in this manual)			
Manually test all permeate stopping alarms(See Control Narrative at Appendix K in this manual)			
Test vacuum and pressure relief valve			
Check the setting of level switches/transmitters			
Check the hydraulic flow through the plant			
Check if all the ancillary equipment and controls of the plant function as per design			
Fill the system with potable water using the inlet and confirm piping & repair any leaks.			
			G-13

Commissioning Checklist			
	Has Acceptance Criteria Been Met (Yes/No)	Details	Initial/Date
			
Confirm heater and fan operation in the screen container.			
Fill TNK-101/102/103 and check for leaks. FIT-101 operations. Confirm operation of all level switches			
Confirm operation of SCR-201/202 and pump P-201/202. Check for leaks and repair as necessary. Confirm operation of FIT-201. Confirm operation of all level switches			
Fill EQ Tank (TNK-501), check for leaks. Confirm tank heater operation. Confirm LT-301 operation via the HMI display for values. Confirm operation of P-301/302			
Confirm B-301/302 operation and Check for - o Buoyancy of air diffusers and if this occurs, empty the tank and fix; - o Air leakages: if this occurs, tighten up the fittings;			
Confirm operation of H-301/302, TSSL-301 and all level switches			
Fill Pre-Anox tank with water (TNK-401) and confirm operation of educators and P-401/402			
Confirm operation of H-401/402, TSL-401 and all level switches			

Commissioning Checklist			
	Has Acceptance Criteria Been Met (Yes/No)	Details	Initial/Date
 Fill Aeration Tanks (TNK-501/502), check for leaks. Confirm tank heater operation. Confirm LT-501/DO-501/PH-501 operation via the HMI display for values. Confirm operation of P-501/502/503. Confirm operation of the sprayer. Confirm operation of B-501/502 and Check for - o Buoyancy of air diffusers and if this occurs, empty the tank and fix; - o Air leakages: if this occurs, tighten up the fittings;			
Confirm operation of H-501/502/503/504, TSL-501/502 and all level switches			
Fill Post Post-Anox Tank (TNK-551) with water and check for leaks. Confirm operation of P-554/555. Confirm operation of educators. Confirm operation of P-551/552			
Fill MBR tanks with water (TNK-601/602) and check for leaks. Confirm level switch operation. Confirm operation of B-601/602, confirm all level switch operation, and Check for			
- o Buoyancy of air diffusers and if this occurs, empty the tank and fix; - o Air leakages: if this occurs, tighten up the fittings;			
Perform electrical and instrumentation (E&I) functional checks and adjustment of level switches.			

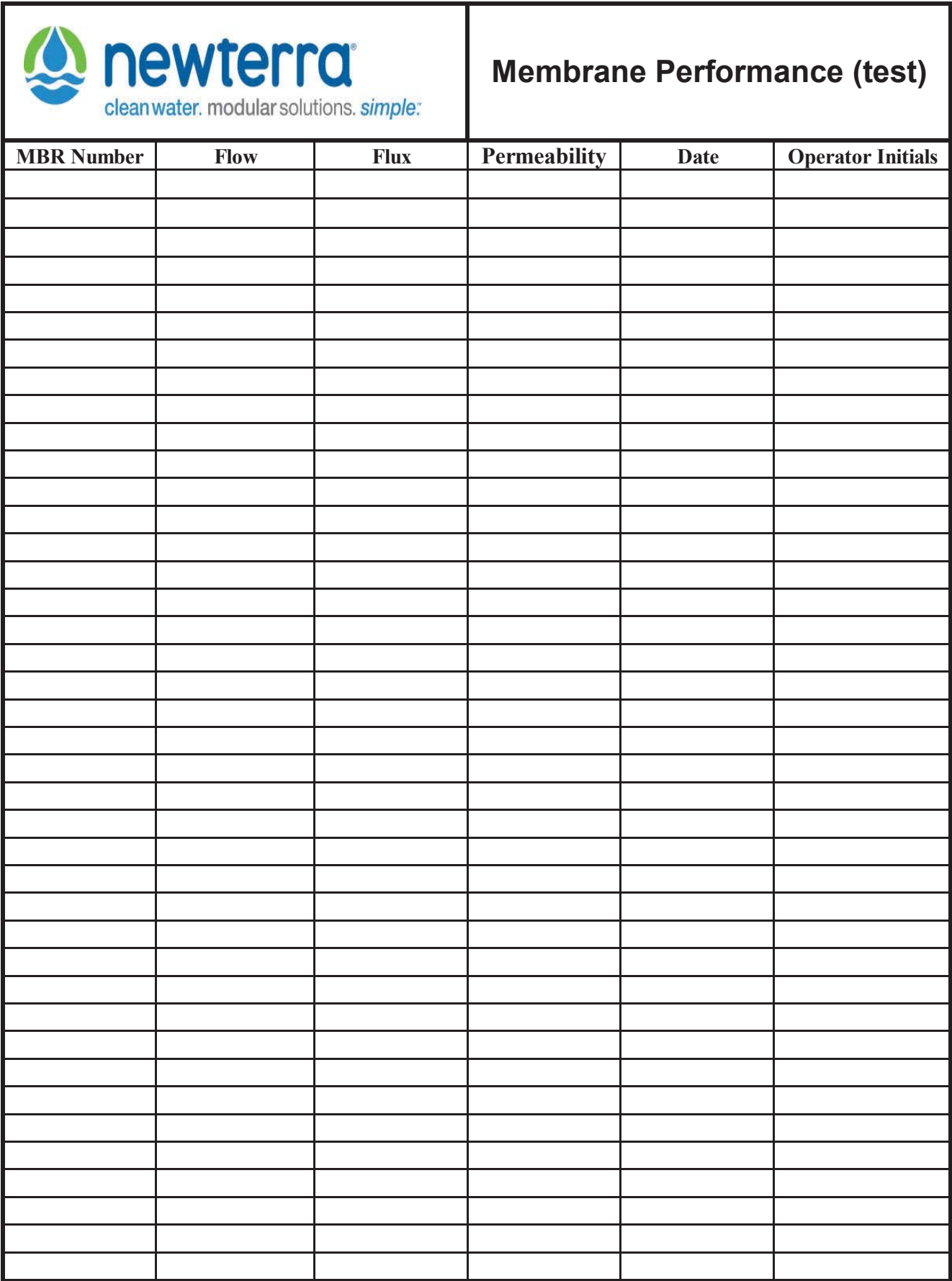
Commissioning Checklist			
	Has Acceptance Criteria Been Met (Yes/No)	Details	Initial/Date
 Turn on the air blower(s) for the equalization tank(s) and blower(s) for aeration tank(s), and check for: - o Buoyancy of air diffusers and if this occurs, empty the tank and fix; - o Air leakages: if this occurs, tighten up the fittings;			
Manually check water temperature and DO (dissolved oxygen): with a hand-held DO meter and adjust air flow to keep it up to 0.5 – 1 mg/L for equalization tank(s) and 2 - 3 mg/L for aeration tank(s); check the DO readings on the touch screen.			
DO Control System: check automatic ON/OFF of Aeration Tank air blowers at low and high settings of DO without the return of aerated water from the membrane tanks to aeration tanks (i.e. turn off transfer pump(s) from aeration tank(s) to membrane tank(s) and turn of recirculation pump(s) from membrane tank(s) to aeration tank(s), if included), and record blower ON/OFF duration.			
Fill membrane Tank, check for leaks. Confirm operation of P-601/701/702/801/6101/6102. Perform manual backwash to confirm operation. Check for - o Buoyancy of air diffusers and if this occurs, empty the tank and fix; - o Air leakages: if this occurs, tighten up the fittings;			C-16

Commissioning Checklist			
	Has Acceptance Criteria Been Met (Yes/No)	Details	Initial/Date
Confirm operation of all container fan and heaters.			
Fill sludge holding tank with water. Confirm diffuser operation and level switch operation. Confirm P-901 operation.			
Introduce seed sludge from customer thru the influent and process. See Section 6 of the manual for the procedure. If seed sludge is unavailable, then use dry bacteria.			

Membrane Inspection (Clean Water)			
	Has Acceptance Criteria Been Met (Yes/No)	Details	Initial/Date
Inspect membrane module that all bolts are secure			
Ensure all hose clamps are secure			
Fill tank until membranes are completely submerged, re-check bubble pattern			
Enable membrane operation from the PLC screen			
Start the transfer pump(s) from the Post Anox tank(s) to the membrane tank(s) and fill the membrane tank(s) with potable water.			
Start the air blowers for the membrane tank(s) and check for an even distribution of air across the membrane filter area and air bubble uniformity above the membrane module/cassette.			
Check hydraulic flow pattern through the membranes and between membrane module/cassette and tank wall.			
Make a clean copy of the Clean Water Testing Sheet presented in Appendix K of this O&M Manual.			
Record all checked parameters in the Clean Water Testing Sheet:			
Pre-prime the permeate pumps according to manufacturer's mfg instructions			
Start the permeate (vacuum) pumps.			

Membrane Inspection (Clean Water)			
	Has Acceptance Criteria Been Met (Yes/No)	Details	Initial/Date
		Record and set the initial vacuum settings on the system to determine correct TMP of the membranes. This step is required based on the Vacuum transmitter located higher than the water level.	
		Record the vacuum (TMP) on the gauge(s) on the permeate line [for clean water could be 0.05 to 0.07 bar (20" to 29" WC)].	
		Record water temperature and DO with a hand-held DO meter.	
		Gradually increase the permeate flow while recording the vacuum (TMP) on the gauges up to the anticipated peak wastewater flow.	
		Ensure membrane module is securely fastened to membrane tank and no movement is detected. Ensure wheels are chocked to prevent membrane module movement during operation	

Full Automatic System Test			
	Has Acceptance Criteria Been Met (Yes/No)	Details	Initial/
	Record Membrane Performance after 3 min at the design flow for each membrane cassette with clean water record findings in 'MBR Test Performance' data sheet		
	Introduce Waste Activated Sludge (inject slowly through normal waste water inlet, always pre-screen)	Sludge Obtained From: MLSS:	
	Record Membrane Performance after 3 min at the design flow for each membrane cassette in 'MBR Performance' data sheet		



Influent-Effluent

1 Confirm Influent/Effluent parameters - below are the design parameters.

Parameters	Unit	Influent*	Effluent
pH	s.u.	6 - 9	6.5 – 8.5
Fat, Oil, Grease (FOG)	mg/L	< 30	< 5
Biological Oxygen Demand (BOD)	mg/L	907.5	< 25
Total Suspended Solids (TSS)	mg/L	262.5	< 25
Total Kjeldahl Nitrogen (TKN)	mgN/L	130	-
Unionized Ammonia Nitrogen (NH ₃ -N)	mgN/L	-	< 1.25
Nitrate Nitrogen (NO ₃ -N)	mgN/L	-	< 5
Total Phosphorus (TP)	mgP/L	12	< 0.5
Fecal Coliform	CFU/100mL	-	< 200**
Total Residual Chlorine	mg/L	-	< 0.02
Alkalinity (assumed)	mg/L as CaCO ₃	471	-
Total Dissolved Solids(TDS)	mg/L	< 1,200	-



newterra[®]
clean water. modular solutions. *simple.*

Influent-Effluent

2 Record here the actual influent and effluent values from lab testing

Device Verification Checklist

Device Tag	Device Type	Operation Verified	Notes	Train 1	Train 2
FIT-201	Flow Transmitter				
FIT-202	Flow Transmitter				
SCR-201	rotary brush screen				
SCR-202	rotary brush screen				
LSHH-201	Level Switch				
LSHH-202	Level Switch				
LSHH-101	Level Switch				
LSHH-102	Level Switch				
LSHH-103	Level Switch				
LSHH-203	Level Switch				
LSH-203	Level Switch				
LSL-203	Level Switch				
P-201	Pump				
P-202	Pump				
H-7911	Container heaters				
H-7912	Container heaters				
TSL-7911	Temperature low level				
LSHH-7911	Level Switch				
B-7911 and PDS-7911	Blower				
EQ Tank diffuser Grid	diffusers				
B-302/301 and PSL-301	Blower				
LSHH-301	Level Switch				
LSLL-301	Level Switch				
LT-301	Level Transmitter				
TSLL-301	Temperature sensor				
H-301 and H-302	Tank heater				
P-301/302	Pump				
Pre-Anox Educator					
H-7941 and TSLL-7901	Container heater				
P-401 and P-402					
H-401 and H-402	Tank heaters				
LSHH-401	Level Switch				
LSLL-401	Level Switch				
TSL-401	Temperature Sensor				
B-7941	Blower				
Aeration Tank diffuser grid	diffusers - TNK-501				
H-501/502	Tank heater				
LSLL-501	level switch				
TSL-501	temperature sensor				
LSHH-501	level switch				
LT-501	level transmitter				
DO-501	DO sensor				
PH-501	PH sensor				
P-501	pump				
P-502	pump				
P-503	pump				

Device Tag	Device Type	Operation Verified	Notes	Train 1	Train 2
B-501/502 and PSL-501	blower				
P-6101	Soda Ash/Caustic dosing pump				
P-6102	Alum dosing pump				
Aeration Tank diffuser grid	diffusers - TNK-502				
H-503/504	Tank heater				
LSLL-502	level switch				
TSL-501	temperature sensor				
LSHH-502	level switch				
Educators	Post-Anox Educators TNK-551				
P-553/554	Pumps				
P-551/552	Pumps				
P-6103	MicroC dosing				
B-601 and PSL-601	MBR Blower				
LSHH-601	Level Switch				
LSH-601	Level Switch				
MBR tank diffuser grid	diffusers - TNK-601				
P-701	permeate pump				
VT-701	Vacuum transmitter				
MV-701	Soleniod valve				
FIT-701	flow transmitter				
B-602 and PSL-602	MBR Blower				
LSHH-602	Level Switch				
LSH-602	Level Switch				
MBR tank diffuser grid	diffusers - TNK-602				
P-702	permeate pump				
VT-702	Vacuum transmitter				
MV-702	Motorized valve				
FIT-702	flow transmitter				
SV-801	Backwash valve				
P-801	backwash pump				
LSH-801	Level Switch				
LSL-801	Level Switch				
SV-801	Soleniod valve				
H-7961	container heaters				
H-7962	container heaters				
H-7963	container heaters				
TSL-7961	Temperature sensor				
F-7961	Container fan				
LSHH-7961	Level Switch				
LSHH-7962	Level Switch				
LSHH-901	level switch				
sludge inlet tank diffuser grid	diffusers - TNK-901				



Commissioning Acceptance Sign-Off Form

1704432 - Amaruq Mine WWTP

Newterra is pleased to announce that the Commissioning phase of 1704432 - Amaruq Mine WWTP, has successfully been completed. In order to move to the Training phase, a visual inspection and walkthrough of the plant will be required, followed by signoff of this document. Commissioning signoff will be conditional on the completion of items listed in the Punchlist created during this walkthrough.

Installation Signoff		Customer Acceptance	
Name:		Name:	
Company:		Company:	
Date:		Date:	
Signature:		Signature:	

Customer Training Checklist			
 newterra smart technology. sustainable solutions.™	Has Acceptance Criteria Been Met (Yes/No)	Details	Initial/Date
Review the operating manual with the customer explaining the various components of the manual and sources of information.			
Review the startup and shutdown procedure with operator.			
Review operation of treatment system and describe the maintenance required for each piece of equipment.			
Describe operation of panel and panel components.			
Run through complete logic and alarm sequence with customer			
Train customer to troubleshoot alarms based on input conditions to the PLC or relays in the panel.			
Discuss the operating logic with the customer so they understand how the system is configured to work.			
Have customer/operator sign training sheet			
Note name of individual and company with whom logic was reviewed:			



Training Completion Sign-Off Form

1704432 - Amaruq Mine WWTP

Newterra is pleased to announce that the training of the following operator(s) has been successfully completed:

Installation Signoff

Name: _____
Company: _____
Date: _____
Signature: _____

Customer Acceptance

Name: _____
Company: _____
Date: _____
Signature: _____

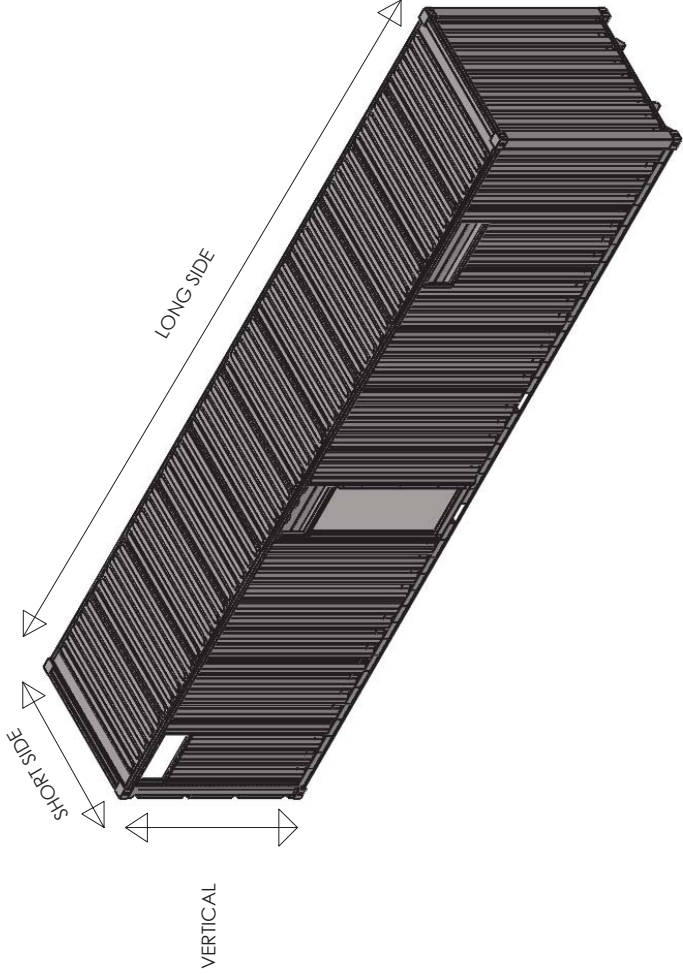
COMPONENT	LONG SIDE (40') QTY.	SHORT SIDE (8') QTY.	VERTICAL (9' 6") QTY.
LIQUID RUBBER (37795)	2 (7.0L)	1 (1.40L)	1 (1.70L)
TAPE (37797)	1 (40')	1 (8')	1 (9' 6")
POLYURETHANE SEALANT (37796)	2 (1.0L)	1 (0.40L)	-
7/8" BACKER ROD (29551)	-	1 (8')	-
3/8" BACKER ROD (37794)	2 (40')	-	1 (9' 6")
SPRAY FOAM (22772)	-	1 (1.33 ft^3)	-

NOTE:

QUANTITIES OF COMPONENTS LISTED ARE FOR A SINGLE SEAL IN THE DIRECTION SPECIFIED.

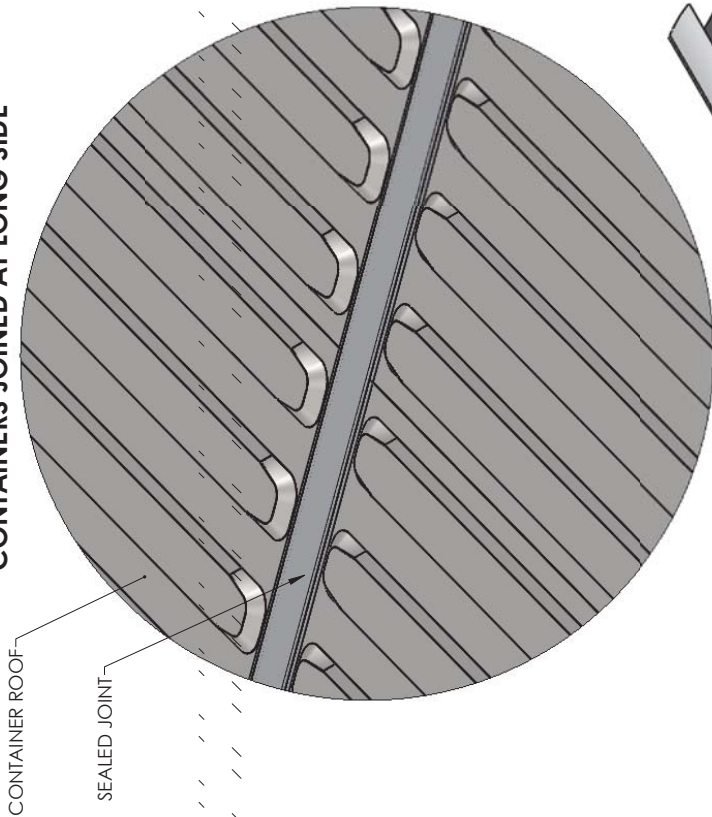
A COMPLETE SEAL OF A MULTI-CONTAINER SYSTEM MAY REQUIRE THE SUMMATION OF MULTIPLE SEALS IN MULTIPLE DIRECTIONS.

THIS TABLE IS TO GIVE ROUGH ESTIMATES ON THE QUANTITIES REQUIRED.



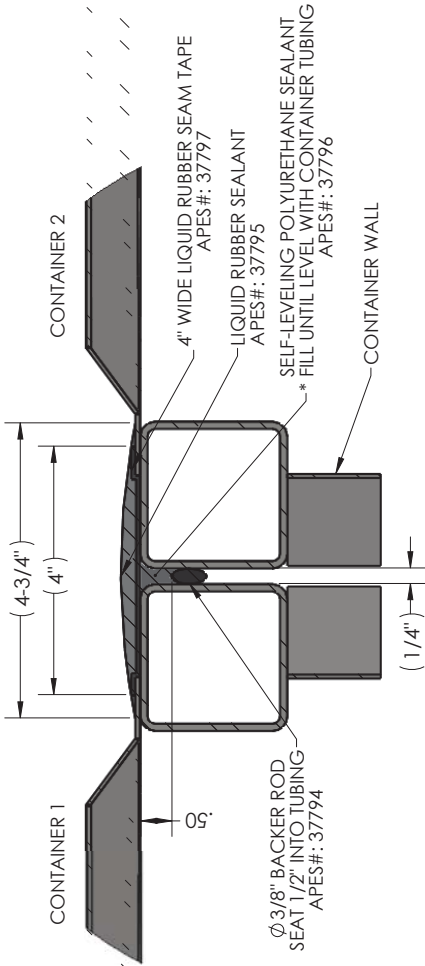
GENERAL TOLERANCES XXX ± 1/8" XX ± 1/16" UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		DWG. NO:		PROJECT NUMBER:
THIS INFORMATION IS THE PROPERTY OF newterra AND CANNOT BE REUSED OR REPRODUCED WITHOUT WRITTEN CONSENT.		B1 27/02/17 GH FOR PRODUCTION - REVISED SEALING METHOD		TITLE: LIQUID RUBBER CONTAINER SEAL
		B 11 Nov 2015 OM FOR PRODUCTION		CUSTOMER: newterra
		A1 26 Aug 2015 OM FOR REVIEW		DATE: 22 July 2015
		A 22 July 2015 OM FOR REVIEW		BY: C-28
		LEVEL DATE BY REVISION		1 OF 7

CONTAINERS JOINED AT LONG SIDE



CONTAINER ROOF

SEALED JOINT



SECTION A-A
CONTAINERS JOINED ALONG LONG SIDE
SCALE 1:2

TYPICAL STEPS FOR SEALING LONG SIDE OF CONTAINER JOINTS

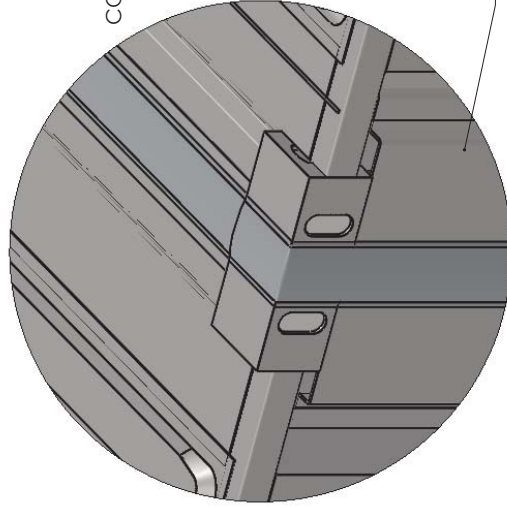
1. PUSH BACKER ROD INTO GAP BETWEEN CONTAINER TUBING; 1/2" DOWN.
2. APPLY SELF LEVELING POLYURETHANE SEALANT ON TOP OF BACKER ROD UNTIL LEVEL WITH TUBING.
3. APPLY LIQUID RUBBER TAPE CENTERED OVER GAP, 4" WIDE. ENSURE SMOOTH TIGHT TO SURFACE SEAL.
4. APPLY LIQUID RUBBER SEALANT WITH A MINIMUM CENTERED WIDTH OVER THE GAP OF 4 3/4". ENSURE NONE OF THE TAPE IS VISIBLE AFTER THIS APPLICATION.



GENERAL TOLERANCES .XX ± .00" XXX ± .00" UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		DWG. NO:	PROJECT NUMBER:
B1	27/02/17	GH	FOR PRODUCTION - REVISED SEALING METHOD
B	11 Nov 2015	OM	FOR PRODUCTION
A1	26 Aug 2015	OM	FOR REVIEW
A	22 July 2015	OM	FOR REVIEW
LEVEL DATE		BY	REVISION
THIS INFORMATION IS THE PROPERTY OF newterra AND CANNOT BE REUSED OR REPRODUCED WITHOUT WRITTEN CONSENT.		TITLE: LIQUID RUBBER CONTAINER SEAL	
		CUSTOMER: newterra	
		DATE: 22 July 2015	
		DRAWING: OM	
		C-36	
		2 OF 7	

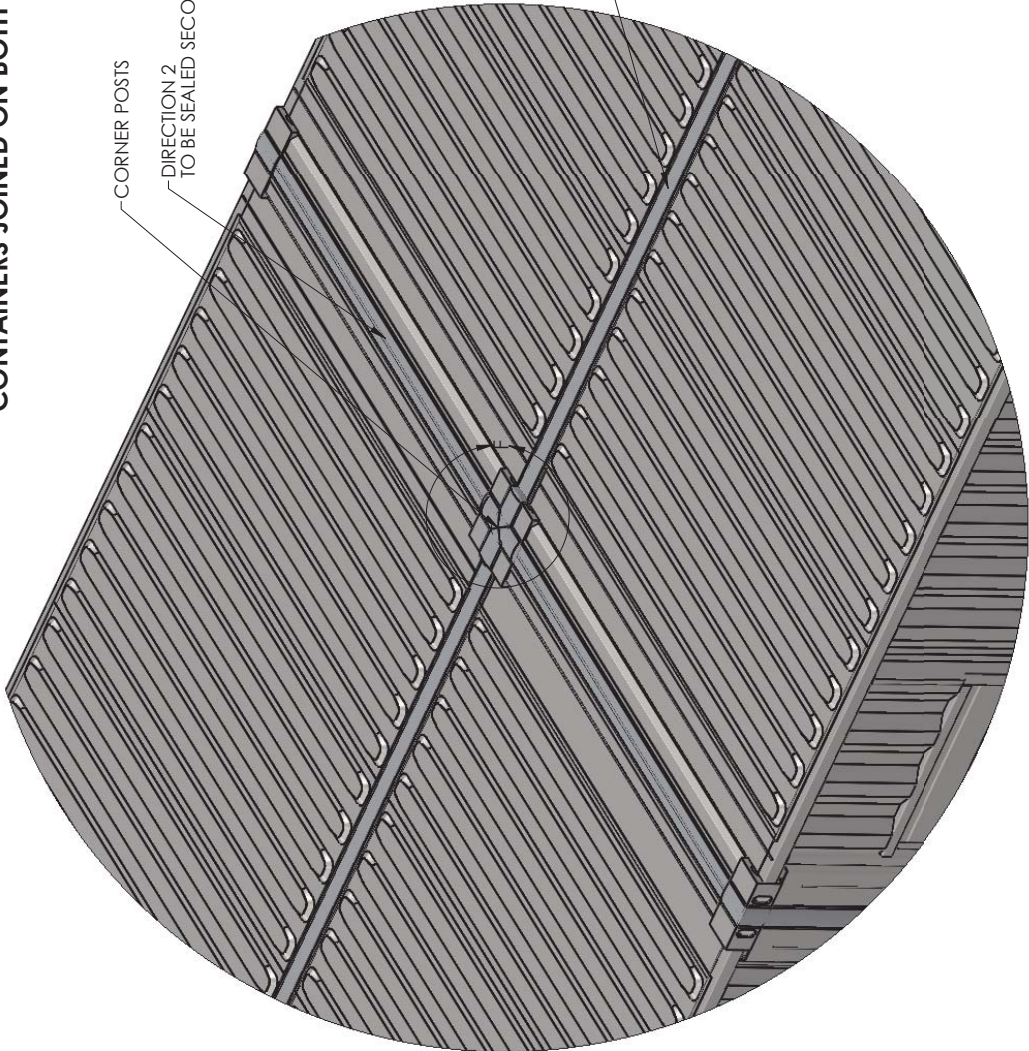
This technical drawing shows a cross-section of a joint between two containers, labeled "CONTAINER 1" and "CONTAINER 2". The joint is reinforced with a green hatched area representing "SPRAY FOAM" (APES #: 22772). A "7/8\" BACKER ROD" (APES #: 29551) is seated at a 1/2" angle into the foam. The joint is sealed with "LIQUID RUBBER SEALANT" (APES #: 37795) and "4\" WIDE LIQUID RUBBER SEAM TAPE" (APES #: 37797). A "SELF-LEVELING POLYURETHANE SEALANT" (APES #: 37796) is applied to the exterior, with a note to "* FILL UNTIL LEVEL WITH ANGLE". Dimensions include a total width of (4-3/4") and a central gap of (4"). A 1/8" dimension is shown at the top left corner. The drawing is titled "SECTION B-B" and "CONTAINERS JOINED ALONG SHORT SIDE - BARN DOOR END TO BARN DOOR END" with a "SCALE 1 : 2.5".

1. PERFORM STEPS 1-4 OF TYPICAL SEALING OUTLINED ON PAGE 1 ON TOP OF CONTAINERS.
2. FILL UNDERSIDE AS SHOWN WITH SPRAY FOAM WHEN POLYURETHANE LEVELING SEALANT HAS SET.
3. FOLLOW STEPS 3 & 4 AND ADD SPRAY FOAM TO BARN DOOR END VERTICAL SEALS.



 newterra UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES THIS INFORMATION IS THE PROPERTY OF NEWTERRA AND IS NOT TO BE REPRODUCED OR REPRODUCED WITHOUT WRITTEN CONSENT	GENERAL TOLERANCES				DWG. NO:				
	XX ± 1/8"								
	XXX ± 1/16"								
	B1 27/02/17								
	B 11 Nov 2015								
A1 26 Aug 2015									
A 22 July 2015									
LEVEL DATE BY REVISION									
TITLE: LIQUID RUBBER CONTAINER SEAL									
CUSTOMER: newterra									
DATE: 22 July 2015									
DRAWN BY: OM									
CHECKED BY: C. JEFF									
3 of 7									

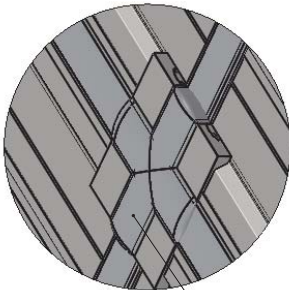
CONTAINERS JOINED ON BOTH LONG AND SHORT SIDES



STEPS FOR SEALING ABOVE CONTAINERS JOINED IN BOTH DIRECTIONS:

1. CLEAN AND PRIME AREA
2. PERFORM STEPS 1 TO 4 OF TYPICAL SEALING ORDER OUTLINED ON PAGE 1 IN DIRECTION 1 - ALONG LONG SIDE FIRST WITH $\phi 3/8"$ BACKER ROD.
3. PERFORM STEPS 1 TO 4 OF TYPICAL SEALING ORDER OUTLINED ON PAGE 1 IN DIRECTION 2 - ALONG THE SHORT SIDE WITH $\phi 7/8"$ BACKER ROD.
4. PERFORM STEPS 3 & 4 WHEN SEALING CORNER POST JOINTS. (TAPE AND LIQUID RUBBER).

NOTE: WHEN SEALING DIRECTION 1 & 2 CONTINUE WRAP OF TAPE AND RUBBER ACROSS THE CORNER POSTS.

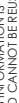


NOTE: CONTINUOUS WRAP OF SEAM TAPE AND LIQUID RUBBER

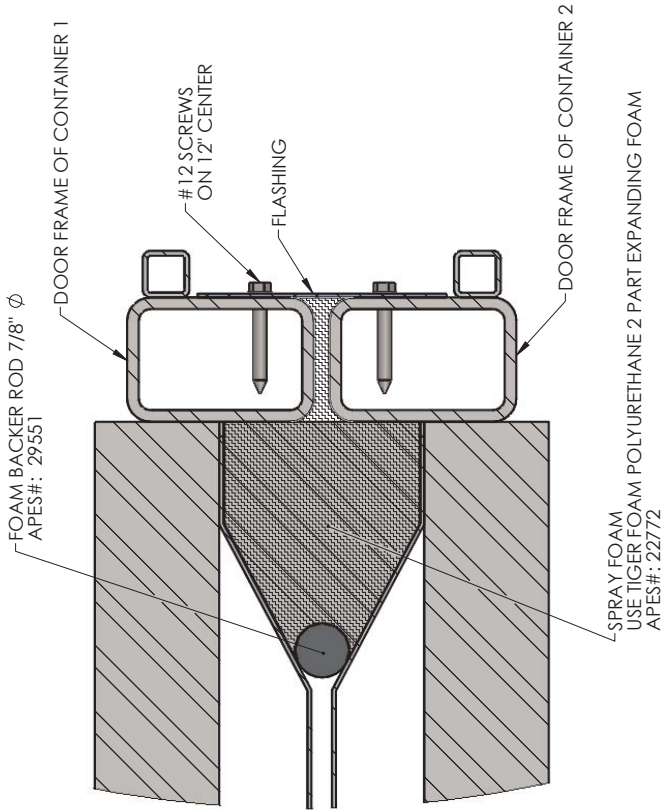
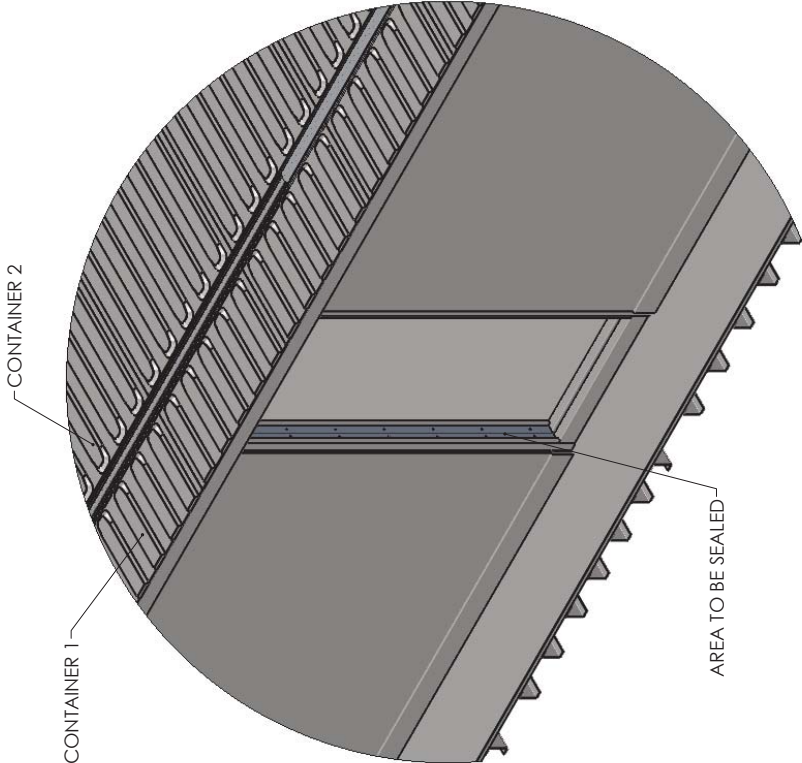
DETAIL F
CORNER POST JOINTS
SCALE 1 : 10

GENERAL TOLERANCES XXX ± 1/16" XX ± 1/8" UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		DWG. NO:		PROJECT NUMBER:	
THIS INFORMATION IS THE PROPERTY OF newterra AND CANNOT BE REUSED OR REPRODUCED WITHOUT WRITTEN CONSENT.		B1 27/02/17 GH FOR PRODUCTION - REVISED SEALING METHOD		TITLE: LIQUID RUBBER CONTAINER SEAL	
		B 11 Nov 2015 OM FOR PRODUCTION		CUSTOMER: newterra	
		A1 26 Aug 2015 OM FOR REVIEW		DATE: 22 July 2015	
		A 22 July 2015 OM FOR REVIEW		DRAWN: OM	
		LEVEL DATE BY REVISION		C-391	
				SHEET 4 OF 7	

-

 GENERAL TOLERANCES .XX ± .¹/₁₆" UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES FOR CUTTING, DRILLING AND FINISHING SHALL BE AS SHOWN OR REPRODUCED WITHOUT WRITTEN CONSENT	B1	27/02/17	GH	FOR PRODUCTION - REVISED SEALING METHOD	DWG. NO:	PROJECT NUMBER:
	B	11 Nov. 2015	OM	FOR PRODUCTION	TITLE: LIQUID RUBBER CONTAINER SEAL	
	A1	26 Aug 2015	OM	FOR REVIEW	CUSTOMER: newterra	ISSUED BY: OM
	A	22 July 2015	OM	FOR REVIEW	DATE: 22 July 2015	BY: C-305
		LEVEL DATE	BY	REVISION	DATE: 22 July 2015	BY: C-305

INSIDE SEALING OF WALKWAYS



DETAIL D
DOORWAYS SEALING
SCALE 1:2

 **newterra**
GENERAL TOLERANCES
XXX ± 1/16"
UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
THIS INFORMATION IS THE PROPERTY OF newterra
AND CANNOT BE REUSED OR REPRODUCED WITHOUT
WRITTEN CONSENT.

DATE	BY	REVISION	LEVEL	DATE	BY	REVISION	LEVEL
27/02/17	GH	FOR PRODUCTION	REVIS	27/02/17	GH	FOR PRODUCTION	REVIS
11 Nov 2015	OM	FOR PRODUCTION	REVIS	11 Nov 2015	OM	FOR PRODUCTION	REVIS
26 Aug 2015	OM	FOR REVIEW	REVIS	26 Aug 2015	OM	FOR REVIEW	REVIS
22 JUN 2015	OM	FOR REVIEW	REVIS	22 JUN 2015	OM	FOR REVIEW	REVIS
TITLE: LIQUID RUBBER CONTAINER SEAL				DWG. NO:			
CUSTOMER: newterra				PROJECT NUMBER:			
DATE: 22 July 15				DRAWN: OM			
C-34				C-34			

APPENDIX D

Recommended Spare parts List

1704432 - AGNICO EAGLE MINE - A1

Qty	Category	Spare/ Maintenance	newterra#	Description
1	Electrical	Spare	10270	Breaker, SQD QOU115 1240V 15A 1P DIN Mount, 10k SCCR
1	Electrical	Spare	11482	Breaker Lock for 1 pole QOU breakers
3	Electrical	Spare	12404	Fuse, GLD AJT250250A 600V Time Delay, Class J
1	Electrical	Spare	12475	4Ch Discrete, Transistor Output, Intrinsically Safe Barrier
1	Electrical	Spare	12547	Contactor (TeSys D) Non-Reversing, 9A(AC3) 125A(AC1), 3-Pole (3 NO)
1	Electrical	Spare	17158	Combination Starter, Busbar Top Mount
1	Electrical	Spare	18396	190-480V, 3PH Power/Phase Monitor
4	Electrical	Spare	18642	100W Incandescent, Medium Base, CL1Div2
5	Electrical	Spare	19029	Breaker, SQD QOB115 120V 15A Bolt On, 10k SCCR
1	Electrical	Spare	19264	Combination Starter, 12A Power Base, 3/7.5/10HP
1	Electrical	Spare	19269	Combination Starter, 1NO Ready, 1NO Fault Aux. Contact Module
1	Electrical	Spare	19503	Combination Starter, TeSysU Standard Control Unit 0.35-1.4A, 24VDC coil
5	Electrical	Spare	20369	Fuse, GLD GSB1/10100mA 250V Fast Acting, Miniature 5x20mm
1	Electrical	Spare	21191	Combination Starter, TeSysU Standard Control Unit 1.25-5.0A, 24V/60mA DC coil
1	Electrical	Spare	21887	Relay, SQT RXM4AB1F7, Miniature Relay, 4PDT, 120VAC, 6A contacts
1	Electrical	Spare	21888	Relay, SQT RXM4AB1BD, Miniature Relay, 4PDT, 24 VDC, 6A contacts
1	Electrical	Spare	21889	Relay, SQT RXZE2S114M, Base/Socket for RXM4 4P Relays
2	Electrical	Spare	22324	Relay, SQT RXM2AB1BD, Miniature Relay 2PDT 24 VDC
2	Electrical	Spare	22326	Relay, SQT RXZE2S108M, Base/Socket for RXM2 2P Relays
1	Electrical	Spare	22546	Busbar 4 TeSysU Starters, #6AWG 63A MAX
1	Electrical	Spare	22706	Combination Starter, TeSysU Standard Control Unit 3-12A, 24V/60mA DC coil
1	Electrical	Spare	23504	4Ch Power Supply, 15V - 20mA
4	Electrical	Spare	23751	Relay, SPDT, 24VDC Coil
1	Electrical	Spare	26829	8GB Micro USB Key
1	Electrical	Spare	28484	M251 Controller, Dual Ethernet
1	Electrical	Spare	29140	eWON Cosy 131 LAN/Cell Router, 24VDC Power
2	Electrical	Spare	35707	24VDC Power Supply, 120W, 5A
1	Electrical	Spare	36087	TM3 16DI Expansion Module
1	Electrical	Spare	36088	TM3 16DO Expansion Module
1	Electrical	Spare	36089	TM3 4-channel AI Expansion Module
1	Electrical	Spare	36090	TM3 8-channel AI Expansion Module
1	Electrical	Spare	36126	Touchscreen, 10.4" TOUCH SMART DISPLAY
1	Electrical	Spare	36316	OTB RIO Adapter, Ethernet
1	Electrical	Spare	36317	TM2 8 point DI Expansion Module

Qty	Category	Spare/ Maintenance	newterra#	Description
1	Electrical	Spare	36543	TM3 4-channel AO Expansion Module
1	Electrical	Spare	36555	Fuse, 160mA 250V Fast Acting, Miniature 5x20mm
1	Electrical	Spare	36557	TME Bus Transmitter Module
1	Electrical	Spare	36558	TME Bus Receiver Module
1	Electrical	Spare	37596	TM2 16 point DI Expansion Module
1	Electrical	Spare	37906	48" x 36" x 12" NEMA4 Steel Enclosure
1	Electrical	Spare	38069	Breaker, Multi9 480/277V 15 AMP 3P C Trip Curve, 10k SCCR
1	Electrical	Spare	38070	Breaker, Multi9 480/277V 20 AMP 3P C Trip Curve, 10k SCCR
1	Electrical	Spare	38071	Breaker, Multi9 480/277V 30 AMP 3P C Trip Curve, 10k SCCR
1	Electrical	Spare	38092	Breaker, Multi9, 480/277V 15 AMP 2P C Trip Curve, 10k SCCR
1	Electrical	Spare	38093	Variable Frequency Drive, Danfoss FC202 P1K5, VFD 480V 2HP, 3.4A 3PH, IP55, w/ Line Side Fusible Disc
1	Electrical	Spare	38094	Variable Frequency Drive, Danfoss FC202 P11K, VFD 480V 15HP, 21A 3PH, IP55, w/ Line Side Fusible Disc
2	Electrical	Spare	38136	Breaker, 240V 1 AMP 1P C
2	Electrical	Spare	38137	Breaker, 240V 2 AMP 1P C
2	Electrical	Spare	38138	Breaker, 240V 3 AMP 1P C
2	Electrical	Spare	38139	Breaker, 240V 4 AMP 1P C
2	Electrical	Spare	38204	Wall Pack, 24W LED c/w PhotoEye
1	Electrical	Spare	38209	TM2 16RO Expansion Module
1	Mechanical	Spare	9999	Pump, Metering, Prominent, Rebuild Kit, BT4B0708PVT2000UD010A01, Flow: 1.88GPH / 7.10L/H, Pressure: 102PSI / 07BAR
1	Mechanical	Spare	11518	Blower, Sutorbilt, Model 4L-RHC
1	Mechanical	Maintenance	11529	Filter, Element, Solberg, 30P, Paper element, for newterra PN M1096
1	Mechanical	Spare	11772	Blower, Part, Belt drive, 15hp
1	Mechanical	Maintenance	11792	Filter, Element, Solberg, 230P, Paper element for newterra PN M1489
1	Mechanical	Maintenance	12014	Filter, Element, Solberg, 18P, Paper element, for newterra PN M1406
1	Mechanical	Spare	12026	Motor, Teco, 1hp, 1800rpm, 143T
1	Mechanical	Maintenance	12930	Oil, Blower, Aeon PD blower oil
1	Mechanical	Spare	15185	Motor, Teco, 15hp, 3600rpm, 254T
1	Mechanical	Spare	16196	Gauge, Pressure, 0-15psi, Indumart, P16T2-FG-15
5	Mechanical	Spare	16202	Gauge, Pressure, 0-30psi, Indumart, P16T2-FG-30
4	Mechanical	Spare	19279	Switch, Level, Mech Float, Narrow Angle, N.C., YEL
2	Mechanical	Spare	21552	Switch, Level, Tether Weight
10	Mechanical	Spare	21828	Anode, Magnesium, mounted on wire with washer
1	Mechanical	Spare	23439	Transmitter, Pressure, KPSI 750 series 0-10ft H2O
1	Mechanical	Spare	24163	Heater, Immersion, Caloritech 6KW 460V 3ph
1	Mechanical	Spare	25747	Blower, Cincinnati LM-4, 4.3" X 2.9" Width Alum wheel
1	Mechanical	Spare	27810	Transmitter, Pressure/ Vacuum, IFM efector
1	Mechanical	Spare	28469	Pump, Centrifugal, Price Pumps Type 26 EPR Seal 0542
1	Mechanical	Spare	28617	Pump, Centrifugal, Price Pump 1/4hp 460V 3ph 1800RPM

Qty	Category	Spare/ Maintenance	newterra#	Description
1	Mechanical	Spare	28620	Pump, Centrifugal, Price Pump 2hp 460V 3ph 3600RPM
1	Mechanical	Spare	28712	Flow meter, IFM efector, SM9000, Magnetic flow meter
1	Mechanical	Spare	29263	Pump, Centrifugal, Price Pump 3/4hp 460V 3ph 3600RPM
1	Mechanical	Spare	33737	Switch, Level, Ultrasonic, Flowline, LU10-1405
8	Mechanical	Spare	35983	#10 Stainless Back 3" Trim, 16" Length, 0.5 Black Poly Brush
1	Mechanical	Spare	36395	Pump, Sump, Zoeller N72 Non-Automatic Operation
1	Mechanical	Spare	36870	Transmitter, pH, Prominent pH Sensor PHER 112SE
1	Mechanical	Spare	36973	Pump, Centrifugal, Price, Misc
2	Mechanical	Spare	37662	Valve, Ball, PVC, 2", True-Union, FPM O-rings
1	Mechanical	Spare	38186	Pump, Centrifugal, Price Pump 1hp 460V 3ph 3600RPM
1	Mechanical	Spare	38219	Gear Motor, 230/460V 50/60 3P, 60/50hz 1/4hp
1	Mechanical	Spare	38596	Transmitter, Dissolved Oxygen, Optical, RDO PRO-X, Sensor Cap Replacement Kit, 0088720
1	Mechanical	Spare	M1254	Pump, Progressive Cavity, Moyno, 35601
4	Mechanical	Spare	M1343	Switch, Level, Mech Float, Narrow Angle, N.O., Blue

APPENDIX E

Technical Specs and Brochures for Parts and Equipment

TAG	newterra Part Number	Part Description	Extended Part Description	Page
-	21299	Valve, Relief, Back Pressure, Kunkle, 1", Liquid Service	Set @ 50 PSI, 0019-E01-MG0050	E-8
-	M1096	Filter, Silencer, Solberg, FS-30P-200		E-40
-	M1406	Filter, Silencer, Solberg, FS-18P-150	1	E-40
B-301/2	25404	Blower, Elmo, 2BH7420-0AH267 2.4HP	230/460V 3ph	E-45
B-501/2	11518	Blower, Sutorbilt, Model 4L-RHC	Orientation: Horizontal (Flow Down) Driven Shaft Position: RHC (Right Hand Central) Flow Requirement: 487 scfm Altitude: 100' Inlet Pressure: Outlet Pressure:4.4 Inlet Air Temp: 68 Discharge Air Temp: 126 Noise: RPM: 3352 Horsepower Consumed:13.2 Motor Included with Package Blower calculation sheet and blower curve supplied by Engineering	E-73
B-501/2	15185	Motor, Teco, 15hp, 3600rpm, 254T	208-230/460, 3ph, CSA/UR	E-73
B-501/2	38094	VFD, Danfoss 15HP, 380-480Vac, IP55	p/n: FC202P11KT4E55H2XGX3SXSXXXAXB XCXXXXDX	E-159
B-501/2	M1489	Filter, Silencer, Solberg, FS-230P-300	3"	E-249
B601/2	21232	Blower, Elmo G200 2BH-1510-7HH56-Z	230/460V 3P 6.2 HP	E-251
B-7911	25747	Blower, Cincinnati LM-4, 4.3" X 2.9" Width Alum wheel	Arrangement #4, Direct Drive, bottom discharge c/w	E-283
B7914	22618	Blower, Cincinnati, LM-6, Direct drive	- Cast Aluminum Housing -6.3 x 2.5 STEELWheel - Slip fit inlet - Slip fit discharge - Motor base - 1.5hp, 460V, 3ph, 60Hz, 3600 rpm, TEFC, CCW/TH 769CFM @ 2.25	E-283
DO-501	27325	Transmitter, Dissolved Oxygen, Optical	RDO Pro-x (10m cable)	E-298
F-7961	M1072	Fan, Building, 12", 1/4hp, 1750rpm, 120V, 1ph, TEAO	CSA Approved, S12-E1	E-328

TAG	newterra Part Number	Part Description	Extended Part Description	Page
FM 701 702	28712	Flow meter, IFM efector, SM9000, Magnetic flow meter	G2 connection 0 -300 L/min	E-336
FT-102/2	27200	Flow meter, Endress, Promag 10D50 2"	10D50-4LGA1RA0B4AAM1 Compact head	E-381
H	24384	Heater, Forced Air, Ouellet, 4.8kW, OAC04804BL	460V 1ph	E-521
H-301/302 H-401/402 H-501/502 H-503/504	24163	Heater, Immersion, Caloritech 6KW 460V 3ph	3" Flanged Heater with Moisture Resistant Term Box	E-525
H-7911	38187	Heater, Forced Air, Indeeco, 15KW, 233 Series	480V/3ph. EXP, 1/4HP Fan, w thermostat SIZE 2	E-526
H-7912	38188	Heater, Forced Air, Indeeco, 10KW, 233 Series	480V/3ph. EXP, 1/4HP Fan, w thermostat	E-526
HMI	26421	HMI, HMIGTO5310	10.4" TFT Color Touchscreen, Ethernet, USB, Serial	E-534
LS	19279	Switch, Level, Mech Float, Narrow Angle, N.C., YEL	N/C, Yellow float	E-684
LS	M1343	Switch, Level, Mech Float, Narrow Angle, N.O., Blue	Tilt Float Level Switch w 40' cable	E-684
LS-101/2/3	19279	Switch, Level, Mech Float, Narrow Angle, N.C., YEL	N/C, Yellow float	E-684
LSHH	12351	Switch, Level, Almeg, Vertical, ATB3-48B	1/4NPT	E-687
LSHH-101.102/103 LSHH-301 LSHH-401 LSHH-501 LSHH-502 LSHH-601/602	19279	Switch, Level, Mech Float, Narrow Angle, N.C., YEL	N/C, Yellow float	E-684
LSHH-7901	12351	Switch, Level, Almeg, Vertical, ATB3-48B	1/4NPT	E-687
LSLL-301/401/ 501/502	M1108	Switch, Level, Mech Float, Wide Angle, N.O., Red	13A, SPST, N/O, Red	E-684
LT-301/501	23439	Transmitter, Pressure, KPSI 750 series 0-10ft H2O	Part Number 750S14D4A004.334000.000B10015B	E-688
M-701/702	24353	Valve, Actuated Ball Valve 1.5" Brass 2 way	w/ limit switches PMP electric Actuator 120V OM-1	E-722
MCP	28484	PLC, TM251MESE	M251 Controller 2 Ethernet port	E-739
MCP	29140	Modem/Router, EC6133D	eWON Cosy 131 Ethernet plus with GSM 3G+	E-851

TAG	newterra Part Number	Part Description	Extended Part Description	Page
Membranes	28424	Membrane, Microclear Cassette, MCXL2 - Type M	surface area is 8 m2	E-881
Membranes	36037	MBR, Air Diffuser, FLEXAIR 91 1105 T SERIES		E-900
MPP	18396	Motor Saver, 460 w/Diagnostic 3ph	Finger Safe, DIN Rail Mountable	E-920
P-201/2	38186	Pump, Centrifugal, Price Pump 1hp 460V 3ph 3600RPM	PN: RC200AI-300-26566-100-36-3X6	E-928
P-301/2	29263	Pump, Centrifugal, Price Pump 3/4hp 460V 3ph 3600RPM	PN: RC200AI-250-26566-75-36-3T7	E-928
P-401/2	36973	Pump, Centrifugal, Price, Misc	RC300AI-4.33-26566-500-36-3T7 200GPM @ 60 FEET PRESSURE 3600RPM 5HP TEFC 460v3P	E-928
P-501/2	28620	Pump, Centrifugal, Price Pump 2hp 460V 3ph 3600RPM	PN: RC200AI-388-26566-200-36-3T6	E-928
P503	28617	Pump, Centrifugal, Price Pump 1/4hp 460V 3ph 1800RPM	PN: RC200AI-388-26566-25-18-3T6	E-928
P-551/2	29263	Pump, Centrifugal, Price Pump 3/4hp 460V 3ph 3600RPM	PN: RC200AI-250-26566-75-36-3T7	E-928
P-553/4	28620	Pump, Centrifugal, Price Pump 2hp 460V 3ph 3600RPM	PN: RC200AI-388-26566-200-36-3T6	E-928
P-6101,2,3	21192	Pump, Metering, Prominent, Misc	BT4B0708PVT2000UD010A01 Flow: 1.88GPH / 7.10L/H Pressure: 102PSI / 07BAR	E-947
P-610x	25823	Pump, Metering, Parts, Multi-function Valve	PVDF, 87PSIG Size 2	E-1063
P-701/2	38093	VFD, Danfoss 2HP, 380-480Vac, IP55	p/n: FC202P1K5T4E55H2XGX3SXSXXXXXAXB XCXXXXDX	E-159
P-701/702	12026	Motor, Teco, 1hp, 1800rpm, 143T	208-230/460V, 3ph, CSA/UR	E-1091
P-701/702	M1254	Pump, Progressive Cavity, Moyno, 35601	15gpm@25psi, 1200rpm, NPSH: 2 feet	E-1125
P-801	36395	Pump, Sump, Zoeller N72 Non-Automatic Operation	All Plastic Construction	E-1129
PH-501	27936	Transmitter, pH, Prominent Dulcometer pH or ORP	4-20mA output, 7781499	E-1145
PI-201/2	16202	Gauge, Pressure, 0-30psi, Indumart, P16T2-FG-30	SS, brass internals, Glyc. Filled, bottom mount	E-1249

TAG	newterra Part Number	Part Description	Extended Part Description	Page
PI-301	16196	Gauge, Pressure, 0-15psi, Indumart, P16T2-FG-15	SS, brass internals, Glyc. Filled, bottom mount	E-1249
PI-301/2	16202	Gauge, Pressure, 0-30psi, Indumart, P16T2-FG-30	SS, brass internals, Glyc. Filled, bottom mount	E-1249
PI-401/2	16202	Gauge, Pressure, 0-30psi, Indumart, P16T2-FG-30	SS, brass internals, Glyc. Filled, bottom mount	E-1249
PI-501/2	16202	Gauge, Pressure, 0-30psi, Indumart, P16T2-FG-30	SS, brass internals, Glyc. Filled, bottom mount	E-1249
PI-551/2	16202	Gauge, Pressure, 0-30psi, Indumart, P16T2-FG-30	SS, brass internals, Glyc. Filled, bottom mount	E-1249
PI-553/554 PI-703/704	16203	Gauge, Pressure, 0-60psi, Indumart, P16T2-FG-60	SS, brass internals, Glyc. Filled, bottom mount	E-1249
PI-601/602	30098	Gauge, Pressure, 0-15psi, Indumart, P16K2-FG-15		E-1249
PSL-301	10218	Switch, Pressure, 1823-2	0.5-2" wc, Dwyer, Nema 1	E-1250
PSL501	10547	Switch, Pressure, 1823-40	5-44" wc, Dwyer, Nema 1	E-1250
PSL-601/2	10547	Switch, Pressure, 1823-40	5-44" wc, Dwyer, Nema 1	E-1250
PSL-7911	10218	Switch, Pressure, 1823-2	0.5-2" wc, Dwyer, Nema 1	E-1250
PSL-7911	12877	Meter, Flow, Pitot Tube, 4"	Multi-Point Averaging	E-1254
SCR-201/2	33737	Switch, Level, Ultrasonic, Flowline, LU10-1405	Long Style	E-1257
SCR-201/2	35907	Filter, Rotary screen, Newterra 17" wide SCR-50	0.5mm Wedge Wire	E-1277
SCR-201/2	38219	Gear Motor, 230/460V 50/60 3P, 60/50hz 1/4hp	SK1SI63/H10-56C-63L/4 FRD DIV2 NSD+ 400:1 Nord Gear, 4.3 RPM, CSA CL1 DIV2	E-1278
TNK-101/2	26009	Tank, Closed Top, Cylindrical, 2100 gal, Norwesco - no drain	87dia 89 tall, 1.9sg, Heavy Walled, blue	E-1348
TNK-103	23980	Tank, closed top, cylindrical, ACO CT-450-DT	450 Imp. Gal., 16" lid with locking strap	E-1364
TNK-201	38224	Tank, Open Top, Rectangular, 192 gal	540 US Gal 72x36x48	E-1365
TNK-401/502	38229	Eductor Mixing, ElmrIDGE ME20P	Poly Pro 3/4" inlet	E-1366

TAG	newterra Part Number	Part Description	Extended Part Description	Page
TNK-801	21203	Tank, Open Top, Cylindrical, 60 Imp gal, OT- 60	Aco Tanks With Lid, 22x44 270Liter	E-1368
TNK-901	26009	Tank, Closed Top, Cylindrical, 2100 gal, Norwesco - no drain	87dia 89 tall, 1.9sg, Heavy Walled, blue	E-1348
TSL-301/401/ 501/502	15653	Switch, Temperature, Probe, A19AAF-12C	25-225 deg F, 10 foot Capillary Tube	E-1369
TSLT/TSH	10515	Switch, Temperature Thermostat, CN TF115- 001	40F to 100F / 5C to 40C dial	E-1371
TSLT7911	10515	Switch, Temperature Thermostat, CN TF115- 001	40F to 100F / 5C to 40C dial	E-1371
TSLT-7941	10515	Switch, Temperature Thermostat, CN TF115- 001	40F to 100F / 5C to 40C dial	E-1371
VT-701 702	27810	Transmitter, Pressure/ Vacuum, IFM efector	PG2409 Scale -14.5- 14.5 PSI 4-20mA	E-1375

