

Back River Mine – SWRO Desalination Plant

Potable Water System

Firm Proposal QU-2509249.R0

Submitted To: Nahanni Construction

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newterra

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1 Introduction & Overview

About Newterra

Newterra's approach is simple: we are a single point contractor combining process design, engineering, fabrication, and long-term life cycle support services to all our customers. We are a leading provider of modular, prefabricated water treatment technologies with a core focus of treating water for three primary purposes:

- **To drink**
- **To safely return to the environment or be reused**
- **For industries to use to produce goods and services**

Operating as Newterra since 1992, and headquartered in Coraopolis, PA, USA, Newterra is an industry leader in modular treatment solutions. Servicing a variety of customers in diverse end-markets including municipalities, land developers, military, commercial & institutional and a variety of light and heavy industries. Providing treatment solutions from 100 gallons per day up to several million gallons per day is within our wheelhouse and driven by the type of treatment solution targeted. Our cross functional team brings outstanding expertise in engineering, treatment applications, manufacturing, and service, leveraging a broad portfolio of technologies. We have dependable (largely modular) designs for ease of installation and operation. We employ a flexible business model to address your needs from capital equipment to rental units (water as a service) and full lifecycle support. Newterra provides real solutions to the world's most demanding industrial end-users, including Mining, Oil & Gas and food and beverage, as well as potable and wastewater solutions for Private and Commercial Developments, and Municipalities.

With over 200+ employees worldwide, delivering 100's of systems annually Newterra is more than just an equipment and solutions provider. Newterra forms a long-term partnership with all our customers, providing long-term Life Cycle support and site services. We understand operating a water or wastewater treatment system can be challenging. Oftentimes, the purchaser of the system, and even the operator of the system, cannot maintain the same level of expertise as the original system designer. Newterra is dedicated to the ongoing success of all its clients, and so we offer our engineering and technical capabilities as an ongoing service.

What differentiates Newterra from our competition is:

1) Client Relationships – Our fundamental belief is that knowing our clients and understanding their needs, desires and challenges is the only way to foster and maintain long-lasting relationships where both parties reap the benefits.
2) Flexibility – Newterra understands that not all clients or projects are the same and therefore offer the ability to design the level of systems that is appropriate for your specific project needs.
3) Stature – Newterra is a right sized company to provide a hands-on approach to every project. One of Newterra's greatest strengths is the ability to make decisions quickly and effectively. Our clients appreciate the speed of service and our level of attentiveness, especially in moments of crisis or emergency.
4) Streamlined In-House Services and Capabilities – Being an integrated mid-sized equipment and service provider allows Newterra the flexibility to offer a full spectrum of in-house capabilities to best serve and create value for our clients.

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Locations

Newterra is headquartered in Coraopolis, PA, with engineering, fabrication, and field service offices strategically located thought North America to better service our growing client base.



Newterra Corporate Headquarters
1555 Coraopolis Heights Rd. Suite 4100
Coraopolis, PA 15108
USA



Systems Manufacturing
1291 California Ave.
Brockville, ON K6V 5Y6
Canada



Pressure Vessel Manufacturing
250 Bolton Sullivan Dr.
Heber Springs, AR 72543
USA



Surface Aerators & Mixer Manufacturing
1215 Chaska Creek Blvd., Suite 400
Chaska, MN 55318
USA



Systems Manufacturing
1220 Kendall Road
San Luis Obispo, CA 93401
USA

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2 Commercial Section

Pricing

Item	Price
Equipment Purchase Price	$ 1,599,551

Onsite Startup
• Trip #1: RFP: “On-site installation and system integration”
  • Includes three (3) 8-hour days onsite by one (1) factory trained Newterra representative
• Trip #2: RFP: “Commissioning support, including functional testing”
  • Includes five (5) 8-hour days onsite of Site Acceptance Testing by one (1) factory trained Newterra representative
• Trip #3: RFP: “Training and operation support for camp personnel”
  • Includes five (5) 8-hour days of onsite startup/commissioning/training by one (1) factory trained Newterra representative
• Accommodation on-site and meals on-site to be provided by customer
• Additional days on-site to be billed at $1,800.00/day per technician plus expenses for travel, meals and accommodation
• On-site installation is supervision based (not physically installing equipment/media/piping)
• Newterra will be hands on during Site Acceptance Testing, wet test, commissioning, and training
• With the potential “two weeks in, two weeks out” rotational staffing, Newterra expects that training will be received by all on-site staff during one (1) training event
	$ 78,419

Sales Tax on Equipment	Not Included
Total System Price	$ 1,677,970

Freight Pricing

Item	Price
Estimated Equipment Freight to Site • System will be shipped DAP Valleyfield, Quebec, Canada (Incoterms 2020) • Freight costs will be prepaid and added to invoice	$ 9,689

Optional Pricing

Optional Item	Price
Recommended Spare Parts	$ 44,262

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Commercial Notes

- All prices are quoted in Canadian Dollars (CAD).
- Pricing is valid for 10 days (2025-11-28).
- Unless otherwise specified, any sales or value added taxes are not included.
- All freight costs are subject to a 20% administration charge (included above).
- This proposal supersedes all previous proposals and correspondence.
- The pricing provided is contingent upon acceptance of Newterra's payment milestones, Terms & Conditions outlined in this proposal and may be adjusted if other payment terms or T&C's are applied at time of order.
- Unless specified within this proposal, the equipment delivery date, start date, and date of commencement of operations are to be negotiated.
- This proposal and the rates provided herein are subject to Newterra compliance check and financial due diligence by Newterra.
- Newterra's pricing is based on reasonable market variability in our supply chain. In the event of extreme volatility, defined as an increase of greater than 10% of the Industrial Product Price Index (IPPI) in value from the month of the proposal date to the month of submission of engineering documentation for approval, Newterra reserves the right to adjust the project price. IPPI is obtained from Statistics Canada, reference table 18-10-0265-02.

Payments

Payment Terms

All payments are **Net 30** from date of invoice. Late payments may impact delivery schedule or be subject to interest or penalties as per the Contract.

Payment Milestones

- 25% on Notice to Proceed with Engineering
- 25% on Order Acceptance and Approval to Order/Manufacture (not to exceed 1 week from NTP)
- 40% on Notification of Readiness to Ship (partial shipments allowed)
- 10% on Startup/Commissioning or 90 days from Notification of Readiness to Ship, whichever comes first

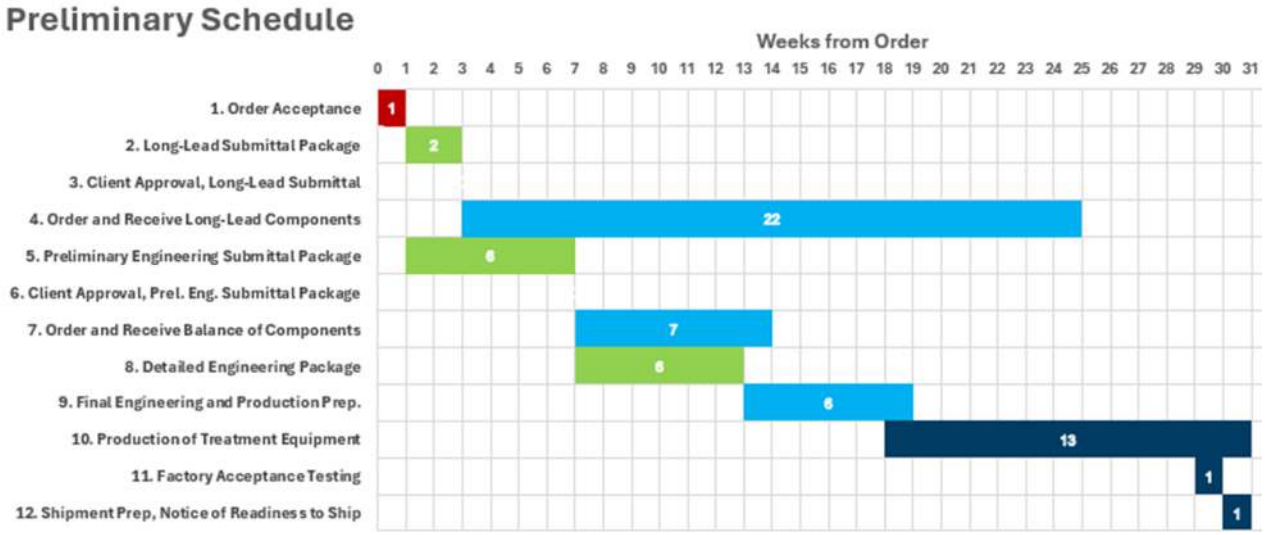
Terms & Conditions

- Newterra's attached Terms and Conditions apply.
- Newterra's attached Standard Warranty applies.

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Schedule and Engineering Scope of Supply

The following section contains a preliminary project schedule, along with a summary of the expected engineering deliverables associated with each step of the project. A more detailed schedule will be issued upon project award. Should our client require a specific delivery date, Newterra can evaluate our ability to meet that date and ensure a mutually agreed upon readiness-to-ship date prior to contract execution.



Alignment of Schedule and Scope

The proposed schedule and engineering scope of supply (outlined below) are in accordance with Newterra's standard and represent the most efficient design and fabrication methods. Newterra can adjust our methods to better align with a client's expectations. To initiate this process, the Client should provide their specific requirement or note specific changes to this proposal before order acceptance to minimize any cost and schedule impacts.

Project Kickoff and Roles Clarification

In order to ensure success and align expectations, Newterra will hold a Project Kickoff meeting shortly after order acceptance. During this meeting the Newterra Project Manager will conduct a comprehensive review of the project schedule, engineering scope of supply, and confirm the readiness-to-ship date based on current engineering and shop loading. The Project Manager will review Newterra's and the client's obligation as it relates to submittals and approval. The Project Manager will also request the Client designate the representatives authorized to approve submittals. This will eliminate ambiguity and prevent administrative delays. Newterra will follow up the Kickoff meeting with regular status update meetings or progress reports depending on the project complexity or client preference.

Client Feedback and Approval

Newterra has included the opportunity for our clients to review the design, provide feedback, and grant approval for the purchase of major component. These tasks are denoted in red above. Newterra has assumed that submittal packages would be approved within the indicated time frame. Newterra will work with our client to expedite reviews where possible to avoid any delays to readiness-to-ship that an extended review period would cause.

Payment Milestones and Shipping Readiness

Maintaining the readiness-to-ship date is contingent upon the Client meeting all payment milestones. Written confirmation of payment receipt by Newterra is required to maintain the project schedule.

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Schedule and Engineering Scope of Supply

Milestone	Scope of Supply
1. Order Acceptance	Order acceptance will occur once all required fully executed order documents have been received (signed purchase order, mutually agreed upon terms and conditions) and acknowledged in writing by Newterra.
2. Long-Lead Submittal Package	Newterra will provide a Long-Lead Submittal for Client review and approval. This submittal will serve as the basis for authorizing the procurement of materials and equipment with long delivery lead times. Newterra chooses to issue this submittal early in the project to streamline and support the proposed schedule. The Long-Lead Submittal will include the following details for each component: • Specifications sheets • Device tags • Device descriptions • Manufacturer/Brand
3. Client approval, of Long-Lead Submittal	Newterra will work collaboratively with the Client to finalize engineering details related to the specified items. This includes supporting the Client's review process by responding to inquiries, providing clarifications, and making necessary adjustments to specifications. This collaborative approach is intended to facilitate a smooth and efficient approval process and allow Newterra to order Long-Lead component as scheduled. This approach will be followed for all submittal review packages.
4. Order and Receive Long-Lead Components	Newterra will procure long-lead components after receipt of client approval. Long-lead items will be received and allocated to ensure they are available and staged for manufacturing.

5. Preliminary Engineering Submittal Package	Prior to the procurement of any equipment, instrumentation, or components within Newterra's Scope of Supply (outside of Long-Lead items), a complete submittal package will be provided to the Client for review and approval. This package will include detailed descriptive information for all items and will be organized by component to ensure clarity and ease of evaluation.
	
	Newterra will provide access to an FTP site containing all submittal documentation, clearly structured and labeled to identify options, models, materials, and other relevant specifications.
	
	Calculations
	Complete design calculations verifying sizing for all components. This may include biological process calculations, and electrical calculations as applicable.
	
	Mechanical Process and Instrumentation Diagram
	• Process Flow Diagram
	• Symbol legend
	• Schematic diagram describing Newterra's mechanical equipment scope of work including:
	  • Equipment modules
	  • Pump and blowers' curves
	  • Piping types and sizes
	  • Manual valves
	  • Automated valves
	  • Gauges
	  • Switches
	  • Transmitters
	  • Motors
	  • HVAC (if required)
	• Newterra's standard tagging system

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	General Arrangement Drawings (2D)
	• Overall system dimensions
	• Modular buildings, skids, or shipped loose equipment arrangement
	• Depiction of equipment placement in the Modular Buildings or skids
	Control Narrative
	• List of inputs and outputs
	• Functional description of system control
	• Description of system alarms
	Electrical Single Line Diagram
	• Schematic diagram describing Newterra's electrical equipment scope of work including:
	  • Motors
	  • Primary disconnect
	  • Control valves
	  • Heaters, vent fans
	System Electrical Load List
	• Full load amperage for the system
	• Total kVA for the system
	• List of electrical loads for each voltage and phase
	Client IT Network Information
	• For system integration to Customer's network
	Bill of Materials
	• List of components to be included in the project
	• Data sheets for components
	• Performance curves
	Appendices
	• Equipment specifications

6. Client Approval of Preliminary Engineering Submittal Package	Approval of the Preliminary Engineering Submittal will serve as authorization to proceed with the procurement of components and manufacturing activities. Newterra will also confirm the anticipated readiness-to-ship date with current shop loading and material lead times.
7. Order and Receive Balance of Components	Upon Client approval of the first engineering submittal package, Newterra will proceed with the release of the specified items for procurement. Newterra will receive and assign all procured items to the project. Once sufficient materials are received Newterra will start Final Production.

8. Detailed Engineering Package	This package is issued for reference only to the client and allows shop fabrication to start. If the client wants to review and provide comments to these documents, Newterra can evaluate this request before order acceptance to minimize any cost and schedule impacts.
	General Arrangement Drawings (3D)
	• Overall system footprint size
	• Modular Buildings, skids or shipped loose equipment arrangement
	• Depiction of equipment placement in the Modular Buildings or skids
	  • Equipment modules
	  • Piping routes

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	Electrical & Controls Design • Single line diagram • Network communication • PLC IO distribution • Enclosures' layout • Control Narrative • FAT Procedure
9. Final Engineering and Production Preparation	Newterra will develop and assemble shop aids utilizing the detailed drawings produced as part of the detailed engineering submittal package. These aids will serve as reference materials during system fabrication and will include standardized quality checklists to ensuring consistency and adherence to project specifications. Newterra will also secure minor components from inventory or commodity distributors.
10. Production of Treatment Equipment	Production activities will commence once all required shop aids have been received, and sufficient materials are available to support efficient and uninterrupted manufacturing.
11. Factory Acceptance Testing (FAT)	As part of the Factory Acceptance Testing (FAT), each element of the control narrative will be systematically verified to ensure compliance with design specifications. Should the Client wish to witness the FAT, arrangements can be made upon request.
12. Shipment Preparation, Notice of Readiness to Ship	Upon completion of the Factory Acceptance Testing (FAT), the system will be drained, winterized as necessary, and thoroughly cleaned. Select components may be temporarily removed to facilitate safe and efficient shipping. The Newterra Project Manager will contact the Client to coordinate the logistics and provide notice of Readiness-to-Ship.

Please note:

1) *Upon receipt of the purchase order, Newterra will proceed to order all equipment immediately, without the need for further customer approval, to prevent delays and ensure adherence to the 31-weeks lead time.*

Lifecycle Services

The Newterra technical support teams are here to support, maintain and optimize your water, wastewater, and remediation systems to maximize your ROI, whether we're needed on an ad-hoc basis, or you enjoy the benefits of one of our service contract offerings.

Ad-Hoc Service and Support

If we cannot solve your technology challenges remotely, our experts can be at your site to support your solution, wherever you are. We can perform emergency maintenance required to keep your system operational in a pinch.

Service Contracts

Operating a water or wastewater treatment system can be challenging. Oftentimes, the purchaser of the system, and even the operator of the system, cannot maintain the same level of expertise as the original system designer. Newterra is dedicated to the ongoing success of all of its clients, and so we offer our engineering and technical capabilities as an ongoing service.

For a more detailed listing of Newterra's life cycle services please see the detailed listing found in the appendix of this proposal.

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3 Technical Section

Design Basis

Design Parameters

PARAMETER	DESIGN VALUE	UNIT
Source water	Arctic Ocean seawater	---
Inlet water flow required (by others)	68	GPM
Inlet water pressure required (by others)	50	PSI
Required treated water flowrate (RO permeate flow)	100	m^3/day
Expansion capacity	150	m^3/day
Number of MMF treatment trains required	3x50%	---
Number of RO treatment trains required	2x100%	---
Permeate water pressure from RO	10-20	PSIG
Site power	Three-phase, 480V, 60Hz Maximum Available Fault Current: 10,000 Symmetrical RMS Amps (Newterra's default design standard)	
System area classification	Non-hazardous location	
Project Location	Back River, Nunavut, Canada	
Ambient temperatures	-40 to 20	°C
Elevation	10	m
Design Water temperature	1 to 10	°C
System installation location	Climate Controlled Indoor Location	---

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Inlet Water Quality from BRP-40 Desal Intake Data Spreadsheet

Parameter	Units	Design Value
Alkalinity	mg/L (Total as CaCO3)	120
Aluminum Total (assumed)	mg/L	0.05
Bicarbonate (HCO3)	mg/L	150
Boron, Dissolved	mg/L	2.9
Calcium, Dissolved	mg/L	297
Carbon, Dissolved Organic	mg/L	2.94
Chloride, Dissolved	mg/L	14,000
Coliforms, Total	mg/L	27.9
Conductivity	µS/cm	40,000
Cyanide	mg/L	0.003
Fluoride, Dissolved	mg/L	0.74
Hardness Total (CaCO3)	mg/L	4,520
Iron, Dissolved (See Note 3)	mg/L	0.25
Lithium, Total (See Note 4)	mg/L	0.105
Magnesium, Dissolved	mg/L	886
Nitrate, Dissolved	mg/L	0.33
Organic Carbon, Total (assumed) (See Note 5)	mg/L	<5
pH	---	7.67
Phosphorus, Total	mg/L	0.024
Potassium, Total	mg/L	274
Silica (assumed) SiO2	mg/L	12
Sodium (adjusted)	mg/L	14,000
Strontium, Total	mg/L	5.84
Sulphate, Dissolved	mg/L	2,000
TDS	mg/L	38,200
TSS	mg/L	22
Turbidity	NTU	6.7

Please note:

1) *The data from the RFP document were considered, in addition to a spreadsheet provided by the customer that provided additional data. Newterra has considered maximum concentrations of the parameters for the design. The parameters of concern are mentioned in the Inlet Water Quality from BRP-40 Desal Intake Data Spreadsheet table (above) and all other parameters that could scale or foul the elements are below the limit. Any other parameters not listed are considered absent.*
2) *Water chemistry is adjusted or is balanced by adding sodium or chloride in Newterra's design.*
3) *Newterra assumes Iron at 0.25 mg/L in the feed water is an outlier because this is the lowest detection limit. If this is not the case, then please notify Newterra because this could potentially foul the membranes.*
4) *Newterra assumes Lithium at 0.105 mg/L in the feed water is an outlier. Customer to confirm.*
5) *Since TOC detection limit is 5 mg/L, Newterra assumes that TOC is less than 5 mg/L.*

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Product Water Quality

Parameter	Units	Design Value
TDS	mg/L	≤ 500
Chloride	mg/L	≤ 250
Sulphate	mg/L	≤ 500

Please note:

1) The parameters listed here follow the Canadian Drinking Water Guidelines.

Chemical Consumption

CHEMICAL	CONCENTRATION	FUNCTION	DESIGN VALUE	UNIT
Antiscalant	100% Solution	Prevent membrane fouling	387	L/year
Sodium Hypochlorite	12% Solution	Effluent chlorination	1,202	L/day
Soda Ash	15% Solution	pH Correction / Alkalinity addition	1,338	L/day

Please note:

1) Chemical consumption values are estimated based on the system operating at 150 m3/day production rate and average loading will vary based on actual operational conditions.

2) Chemicals are to be provided by and handled by others.

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Results of Chemical Analyses of Water Per Customer RFP

RESULTS OF CHEMICAL ANALYSES OF WATER

Bureau Veritas ID		DUC446		DUC447		
Sampling Date		2025/09/30 07:15		2025/09/30 07:30		
COC Number		1OF1		1OF1		
	UNITS	**BRP-40**	**QC Batch**	**BRP-41**	**RDL**	**QC Batch**
Calculated Parameters						
Salinity	N/A	19	C109774	20	2.0	C109774
Field Parameters						
Field pH	pH	7.66	ONSITE	7.75	N/A	ONSITE
Field Redox Potential	mV	263.70	ONSITE	247.70	N/A	ONSITE
Field Temperature (Fd)	deg. C	7.7	ONSITE	7.7	N/A	ONSITE
Misc. Inorganics						
Conductivity	uS/cm	31000	C116031	33000	2.0	C116031
pH	pH	7.58	C113406	7.67	N/A	C113406
Total Dissolved Solids	mg/L	17000 (1)	C112003	19000 (1)	17	C112003
Total Suspended Solids	mg/L	8.7	C109867	6.9	1.0	C109867
Anions						
Alkalinity (PP as CaCO3)	mg/L	<1.0	C113397	<1.0	1.0	C113397
Alkalinity (Total as CaCO3)	mg/L	70	C113397	75	1.0	C113397
Bicarbonate (HCO3)	mg/L	85	C113397	92	1.0	C113397
Carbonate (CO3)	mg/L	<1.0	C113397	<1.0	1.0	C113397
Fluoride (F)	mg/L	0.41	C113522	0.56	0.050	C113127
Hydroxide (OH)	mg/L	<1.0	C113397	<1.0	1.0	C113397
Chloride (Cl)	mg/L	12000	C114091	12000	50	C111745
Sulphate (SO4)	mg/L	1500	C114091	1600	13	C111745
Physical Properties						
Turbidity	NTU	4.5	C109872	5.4	0.10	C109872

RDL = Reportable Detection Limit
N/A = Not Applicable
(1) Detection limit raised based on sample volume used for analysis.

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Quality Assurance Report Per Customer RFP

Bureau Veritas Job #: C583052
Report Date: 2025/10/10

QUALITY ASSURANCE REPORT

B2Gold Back River Corp.
Client Project #: B2GOLD NUNAVUT
Site Location: BACK RIVER MINE
Your P.O. #: 17964
Sampler Initials: JW

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
C109867	Total Suspended Solids	2025/10/03	93	80 - 120	98	80 - 120	<1.0	mg/L	7.2	20
C109872	Turbidity	2025/10/03			100	80 - 120	<0.10	NTU	2.4	20
C111745	Chloride (Cl)	2025/10/04	100	80 - 120	102	80 - 120	<0.50	mg/L	2.0	20
C111745	Sulphate (SO4)	2025/10/04	83	80 - 120	98	80 - 120	<0.50	mg/L	2.6	20
C112003	Total Dissolved Solids	2025/10/06	NC	80 - 120	94	80 - 120	<10	mg/L	15	20
C113127	Dissolved Fluoride (F)	2025/10/06	114	80 - 120	98	80 - 120	<0.050	mg/L		
C113127	Fluoride (F)	2025/10/06							NC	20
C113397	Alkalinity (PP as CaCO3)	2025/10/06					<1.0	mg/L	NC	20
C113397	Alkalinity (Total as CaCO3)	2025/10/06			94	80 - 120	<1.0	mg/L	2.3	20
C113397	Bicarbonate (HCO3)	2025/10/06					<1.0	mg/L	2.3	20
C113397	Carbonate (CO3)	2025/10/06					<1.0	mg/L	NC	20
C113397	Hydroxide (OH)	2025/10/06					<1.0	mg/L	NC	20
C113406	pH	2025/10/06			100	97 - 103			0.83	N/A
C113522	Dissolved Fluoride (F)	2025/10/07			95	80 - 120	<0.050	mg/L		
C114091	Chloride (Cl)	2025/10/07	NC	80 - 120	100	80 - 120	<0.50	mg/L	6.0	20
C114091	Sulphate (SO4)	2025/10/07	NC	80 - 120	97	80 - 120	<0.50	mg/L	2.1	20
C116031	Conductivity	2025/10/08			101	90 - 110	<2.0	uS/cm	0.55	10

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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Process Description

Multi-media Filters

The feed water from the Arctic Ocean to the multimedia filters will enter the top of the filter vessels and be distributed evenly throughout the vessels. The water flows through different layers of filtration media and is then collected at the bottom of the filter through a collection lateral system. Suspended solids are entrained within the filtration media and are thus removed from the water.

Eventually the solids holding capacity of the media filters is exhausted and a backwash operation must be performed to remove the entrained solids from the filter. During backwash, feed water will enter the bottom of the vessel and be discharged through the top. The water fluidizes the media as it enters the vessel which allows entrained solids to be released and conveyed out of the filter with the backwash water to waste. After the backwash, the media settles back to the bottom of the filter. Due to the varying densities of the media the finer media settles below the lighter media.

The filter media is said to stratify into different layers. The upper layers provide solids holding capacity while the lower layers are used to provide fine filtration. Filtered water from the multi-media filtration units will then be sent through the downstream system as needed.

Three (3) vertical filters are provided with 3 X 50% configuration. The backwash water for one MMF is provided by the other two, so when one filter goes into backwash mode, the system will stop producing potable water until the backwash sequence is finished. Due to high TSS, expect frequent backwashing sequences.

Reverse Osmosis Unit

Filtered feed after the media filters will then be sent through a pre-treatment cartridge filter which act as a safeguard to remove any residual suspended solids. The water is then re-pressurized and sent through the RO unit. Eventually the solids holding capacity of the cartridge filter elements will be exceeded at which point the elements must be manually replaced. Antiscalant will be dosed as required upstream of a cartridge filter. The Antiscalant is to reduce the fouling potential of the water due to scaling.

Reverse Osmosis (RO) uses semi-permeable membranes with very small pores, smaller than 0.001 µm. Water can diffuse across the membrane much more readily than dissolved solutes (salts). High feed water pressure is used to counteract the natural osmotic pressure enabling the passage of water from the side of high concentration (feed) of the membrane to the side of low concentration (permeate). A percentage of the water fed to the RO is discarded, as it will contain the salts rejected by the RO membrane.

RO membranes experience fouling over time. As such, they require periodic cleaning using a clean-in-place system. The clean-in-place system is used to prepare a warm chemical cleaning solution which is circulated through the RO system. This removes accumulated solids or other foulants on the membrane. The proposed CIP system consists of a solution tank, cartridge filter, electric heater, pump, and associated piping and instruments. The cleaning operation is a semi-automated process. Cleaning chemicals (acid or caustic) are added via chemical dosing pumps to the CIP tank along with permeate water via the RO permeate forwarding pumps. Once the water is added, the tank is mixed by pump, and heated (using an in-tank electric heater). The heater is moved out of service once the targeted temperature has been reached indicating that the cleaning procedure can begin. The operator will then proceed with the CIP as detailed in the operating manual.

When trended differential pressure, flow and conductivity measurements indicate that a cleaning is required the operator will take the RO unit out of service to perform a cleaning operation. The cleaning operation is a

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semi-automated process. The operator manually adds the necessary cleaning chemicals to the CIP tank and clean or permeate water. Then the water is mixed by pump then the cleaning procedure can begin.

Two (2x100%) RO units are included, each designed to produce 29 GPM of clean permeate with a total RO recovery of 43%.

Potable Water Distribution Unit

Water from the potable water storage tank will be pressurized by duty/standby (sometimes both working) potable water distribution pumps. The pumps will be controlled by VFD to ramp up and down as needed.

Finally, a small flow of water will continuously circulate back from the pump outlet upstream of the disinfection processes (UV and sodium hypochlorite) so that during long periods of no water usage the disinfectant concentration can be maintained, and the UV unit can be prevented from over-heating as they are on continuously even when system is not producing any water.

Control System

The water treatment system will be controlled by one PLC and HMI located in the main control panel. The PLC will have an Ethernet port to connect to the plant control system.

Newterra's control and automation system combines a high level of instrumentation, an advanced PLC, and in-house custom programming to deliver a system that offers tremendous optimization capabilities yet requires minimal operator intervention for day-to-day operation. The user interface can be accessed on-site from control panel mounted touchscreen (HMI) or remotely from a computer over the internet with purchase of a telemetry package. Also with the telemetry package, alarm messages can be transmitted by email or text message to alert operators to issues, even when the operators are not on site.

All important information is logged so trends can be monitored to ensure the long-term successful operation of the Newterra system.

Modular Building

With over 25 years of experience containerizing equipment Newterra has developed a modular building system that includes insulation, HVAC, interior and exterior lighting, spill containment and sumps, access doors, and other features facilitating operations.

All equipment installation, wiring, and piping internal to a container is done in the ideal conditions of our climate-controlled, manufacturing facility with full access to proper tools, equipment, and engineering support.

The full system will be assembled and undergo comprehensive Factory Acceptance Testing (FAT) before it leaves our facility. This rigorous testing prior to shipping helps eliminate downtime when the system arrives on site.

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Scope of Supply

Multimedia (MMF) Filters Module

- Three (3) FRP vessel with Ø30", non-ASME, rated for 150PSI (Pentair or equal), with:
  - PVC internals
  - Filtration media (anthracite, sand, garnet, gravel)
- On/Off electrically actuated ball valves (Praher or equal), lug, PVC, solenoid valve (ASCO or equal), without limit switches:
  - One (1) service inlet
  - One (1) service outlet
  - One (1) backwash inlet
  - One (1) backwash outlet
  - One (1) rinse outlet
- Manual isolation valves for each vessel (PMP or equal)
- PVC manual flow control valve for common backwash line
- Double door, wafer type check valve with DI body for service out and backwash out lines (PMP or equal)
- Sample, vent and drain valves
- Inlet and outlet pressure gauges for each vessel (Ashcroft or equal)
- Inlet and outlet pressure transmitters for common feed and common outlet lines (Rosemount, E+H, or equal)
- One (1) Mag flow meter for feed of each vessel (E+H or equal)
- Sch 80 PVC face piping

Please note:

1) *The backwash water for one MMF is provided by the other two, so when one filter goes into backwash mode, the system will stop producing potable water for about 10 minutes per MMF until the backwash sequence is finished.*

Antiscalant Addition Module

2 Trains, each train to include:

- One (1) diaphragm type chemical dosing pump (Grundfos or equal) with fittings and multifunction valve
- Plastic tubing
- Chemical supply and chemical daily tote by others

RO Cartridge Filter Module

2 Trains, each train to include:

- One (1) vertical orientation cartridge filter with FRP filter housing, 150 PSIG design, non-ASME, complete with:
  - 5-micron high flow cartridge filter element
  - Isolation valves
  - Vent and drain valves
  - Inlet/outlet pressure gauges (Ashcroft or equal)
- Sch 80 PVC piping

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One (1) Pass – Three (3) Stage Seawater Reverse Osmosis (SWRO) Module

2 Trains, each train to include:

- One (1) high-pressure centrifugal pump super duplex SS 2205 (Danfoss or equal), 25 HP 3P 230/460V, complete with:
  - NEMA 4X VFD (Danfoss or equal)
  - Discharge duplex check valve (see Note)
  - Discharge pressure gauge
  - Suction and discharge pressure transmitter (Rosemount, E+H, or equal)
  - Suction temperature transmitter (Rosemount, E+H, or equal)
  - Discharge pressure gauge (Ashcroft or equal)
  - Fittings
- One (1) energy recovery device (Danfoss iSave or equal), SS duplex 2205, 10 HP 3P 230/460V, complete with:
  - Mag flowmeter for energy recovery device line (E+H or equal)
- Three stage configuration with a 2x2 → 2x2 → 2x2 array (RO housings x RO membranes)
- Six (6) FRP based RO membrane housings (Codeline, Protec or equal) at 1200 PSI design to house two (2) RO membranes each, non-code
- Twelve (12) 8” diameter x 40” long, seawater membranes (Hydranautics or equal)
- Mag flowmeter for feed and concentrate lines (E+H or equal)
- Conductivity analyzer for feed and permeate lines (Rosemount, E+H, or equal)
- On/Off electrically actuated ball valve (Pratt Industries or equal), Rilsan coated, SS 416 stem, without limit switches for:
  - One (1) permeate flush
- On/Off electrically actuated ball valve, duplex SS 2205, without limit switches for:
  - One (1) feed
- Manual CIP valves for each stage cleaning
- Check valve for feed line
- Manual flow control valve on energy recovery line
- Manual isolation valves
- RO vessel permeate sample valves and check valves
- PVC Sch 80 process piping for low pressure lines and duplex SS 2205 piping for high pressure lines

Please note:

1) *In order to meet the schedule requirements and considering the long lead time of duplex valves, Newterra will install 316SS valves initially, provide the duplex valves (loose), and at a later date, the valves can be swapped by others.*

CIP Module

- One (1) 155 US gallon flat bottom cylindrical polyethylene tank complete with:
  - Level switches
- One (1) In-Tank electric heater (Heat up solution in 2 hrs)
- One (1) centrifugal, vertical CIP pump (Goulds or equal), 316 SS, 7.5 HP 3P 460V, complete with:
  - Motor starter
  - Discharge pressure gauge (Ashcroft or equal)
  - PVC check valve and isolation valves

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- One (1) vertical orientation cartridge filter with FRP filter housing, 150 PSIG design, complete with:
  - 5-micron cartridge filter element
  - Isolation valves
  - Vent and drain valves
  - Inlet/outlet pressure gauges (Ashcroft or equal)
- One (1) Mag flowmeter (E+H or equal)
- PVC Process and isolation valves
- PVC Eductor assembly
- PVC, Sch 80 process piping

Please note:

1) Chemical addition/handling by others.

UV Disinfection Unit

- Three (3) Disinfection UV reaction chambers, 2 duty 1 standby, complete with control panel and reactors, Minimum dosage of 40 mJ/cm2
- Manual isolation valves
- Inlet/outlet pressure gauges
- PVC Sch 80 piping

Soda Ash Addition Module

- Two (2) diaphragm type chemical dosing pumps (Grundfos or equal), 1 duty 1 standby, with fittings and multifunction valve
- Plastic tubing
- Chemical supply and chemical daily tote by others
- One (1) pH transmitter (Rosemount, E+H, or equal)

NaOCl Addition Module

- Two (2) diaphragm type chemical dosing pumps (Grundfos or equal), 1 duty 1 standby, with fittings and multifunction valve
- Plastic tubing
- One (1) static mixer
- Chemical supply and chemical daily tote by others

RO Concentrate Tank Module

- One (1) 720 US gallon, 48” diameter, closed top, flat bottom, cylindrical HDPE tank complete with:
  - Level switches
  - Fittings
- One (1) centrifugal pump, AISI 904L, (Grundfos or equal), 4 HP 3P 460V, complete with:
  - VFD
  - Discharge pressure gauge (Ashcroft or equal)
  - PVC check valve and isolation valves
- Line to include a tee with a port for seawater intake as needed (pump by others)
- PVC Sch 80 process piping

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Distribution Pumps Module

- One (1) centrifugal pump, AISI 904L, (Grundfos or equal), 15 HP 3P 230/460V, complete with:
  - VFD
  - Discharge pressure gauge (Ashcroft or equal)
  - PVC check valve and isolation valves

System Enclosure Module

- Two (2) 40’ high cube modified shipping containers cMET certified, built to CEC standards with all wiring complete and all equipment pre-piped factory tested and mounted in enclosure.
  - Spray foam insulation for walls and ceilings
  - Spray foam insulation for floor
  - Exterior paint
  - Hatches to lead media to the vessels
  - Lifting eyes on upper corners
  - Coated plywood wall and ceiling
  - Coated gator guard floor
  - Sump basins with level switch
  - Welded steel single man door(s) with safety window and push/crash bar lever
  - Barn-style double doors
  - Lighting
  - Ventilation fans
  - Passive vent louvers with hoods
  - Heater with thermostat
  - Emergency lighting

Control System Module

Main Power distribution - We will be expecting a 480V power drop to each motor requiring this voltage

PLC based control panels with the following standard features:

- Control panels are certified to CSA C22.2 No. 14 by cMET
- NEMA 4 panel enclosure
- Primary circuit protection
- Main power block
- Branch circuit protection with circuit breakers for motors
- Motor starters with overload protection
- Variable frequency drives where stated above
- Branch circuit protection with circuit breakers for powered devices
- Two (2) power panels
- Two (2) control panels including Allen Bradley Compact Logix PLC controller and Red Lion HMI
- NEMA 3R transformer for 120V
- Ethernet/IP Communication protocol between PLC and client’s DCS
- UPS
- Dry contacts to allow interlock with system inlet pumps
- Wired and installed

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- Factory tested prior to shipping

Outside cover of panel to contain the following:

- System ready light
- Red alarm indicator light
- 10” Programmable touch screen with:
    - Color P&ID display
    - Display of measurements recorded from any transmitters present in system
    - System on/off control
    - Safety control over all valves and motors with timed delay when in Hand position
    - Timers for solenoid valves and motors present in system
    - Alarm indicators with reset function
    - Run indicators for system components
    - Alarm reset button
- Emergency stop button

Operation and Maintenance Manual

- Operating instructions for all treatment system components
- Copy of operating manual for each piece of equipment (Digital copy only)
- Summary of system components
- Summary of system operation principles
- Summary of operation controls and fail safes
- Summary of maintenance requirements for each piece of equipment
- All documentation provided in English

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Optional Scope of Supply

Recommended Spare Parts and Consumables

- 1 Set of spare parts for RO Booster Pump
- 1 Set of spare parts for iSave Energy Recovery Pump
- 4 Cartridge filters
- 4 Pressure gauges
- 2 Sets of SWRO membranes (12 total)
- 3 Fuses

Services Scope

Site Acceptance Testing (SAT)

Typical SAT includes the following:

- Assembly/Installation verification
    - Includes electrical & mechanical check
- SAT summary & deviation report/list of corrective actions

NOTES:

1. Newterra SAT does not relieve another party from warranty issues arising from their scope of work.
2. Newterra will not begin formal start-up until SAT is complete and signed off by all parties.

System Startup/Commissioning

Typical System Startup/Commissioning includes the following:

- Equipment check
- Electrical, mechanical, and controls
- Functional test
- Equipment and control system
- Hydraulic test

Training

On-site operator training including the following topics:

- General system theory & process
- Specific system instruction
    - Components
    - Controls and operating philosophy
    - Alarms and alarm troubleshooting
    - Maintenance
    - Troubleshooting

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Customer's Scope of Supply

Clearly defining and coordinating responsibilities with our equipment is Newterra's goal and is essential for ensuring a well-structured and timely completion, effective collaboration and strong communication with our valued customers. To ensure seamless execution with Newterra the following points are to be included in the customer's scope of work (as required) and are excluded from Newterra's responsibilities:

- Offloading or storing system components at site
- System components placement at site including leveling, anchoring, erection, installation with the use of heavy equipment such as cranes, forklifts, man-lifts, trucks or similar
- Installation of loose shipped tanks, vessels, media, membranes, assemblies and accessories supplied by Newterra
- Utilities supply and connection to system (ie: power, compressed air, water, gas, etc)
- Design, supply and installation of piping and wiring to interconnect Newterra equipment and electrical panels with all relevant onsite infrastructure, systems, and utilities
- Installation of Newterra supplied interconnecting piping and wiring between modular buildings
- Design, supply and installation of all interconnecting piping and wiring between Newterra supplied modular buildings and loose equipment, including wall penetrations
- Design, supply and installation of all interconnecting piping and wiring between Newterra supplied skids and loose equipment
- Freeze protection including heat tracing, piping insulation, and equipment insulation
- Sunshades, canopies, or enclosures for skidded or ship loose equipment
- Supply and installation of all walkways, ladders, stairs, pipe and conduit supports, etc. which are not described in Newterra's scope of supply
- All onsite civil work, including design, required for system installation and functionality
- All chemical supply, addition, handling, and storage compliant with site specific safety requirements. Newterra can provide pricing for specific safety requirements upon request.
- All other consumables not included in Newterra's scope of supply that are required for the system to operate (ie: filter elements, media, seed sludge, etc.)
- Obtaining all local, state/provincial or federal permits and approvals as required for system installation and operation
- Influent and discharge water analytical or laboratory sampling and testing
- Disposal or neutralization of treated discharge and waste products (ie: brine, screenings, sludge, etc.)
- Qualified operators
- Anything not mentioned in "Scope of Supply" above

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Newterra Digital Service

Remote Data Collection and Analysis Technology



Welcome to Newterra Digital Service!

Newterra Digital Service™ is an advanced cloud-based data acquisition and customer portal for monitoring the operation of Newterra Systems and equipment in real-time. Accessible from any device with internet access, you can monitor all aspects of your systems, keep your team connected, and optimize performance with ease.

Services Offered	Access	Access & Control
Remote Software Updates	✔	✔
Unlimited Users	✔	✔
Historical Data Logging	✔	✔
Email Alarm Notifications – First Tier	✔	✔
Email Daily Reporting	✔	✔
System Documentation Access *(Manual, P&ID, Electrical)*	✔	✔
Newterra Experts Upon Request	✔	✔
Control System Remotely – Full Control of HMI		✔

Key Features and Benefits

- Real-time visibility to system performance
- Real-time system control
- Alarm notifications
- Mobile app
- Current operational data and historical trends for data analysis
- Security with multi-level user access
- Maintenance logs
- Direct connection to Newterra's Technical Service team

Why Choose Newterra Digital Service™?

Investing in Newterra Digital Service™ offers numerous benefits that enhance the efficiency and longevity of your water treatment systems. Here's why you should consider incorporating this advanced service into your operations:

1. **Reduced System Downtime**: With real-time monitoring and alerts, potential issues can be identified and addressed promptly, minimizing system downtime and ensuring continuous operation.
2. **Reduced Operator Visits**: Remote access to system performance data means fewer on-site visits are necessary, saving time and reducing operational costs.
3. **Better System Performance**: Access to current and historical operational data allows for detailed analysis and optimization, resulting in improved system performance and efficiency.
4. **Increased Equipment Lifespan**: Proactive maintenance and timely interventions help extend the life of your equipment, protecting your investment and reducing long-term costs.
5. **Enhanced Security**: Multi-level user access ensures that only authorized personnel can access critical system data, maintaining the integrity and security of your operations.
6. **Comprehensive Support**: Direct connection to Newterra's Technical Service team provides expert support and guidance, ensuring your systems operate at their best.
7. **Convenient Access**: The cloud-based portal is accessible from any device with internet connectivity, giving you the flexibility to monitor your systems from anywhere, at any time.

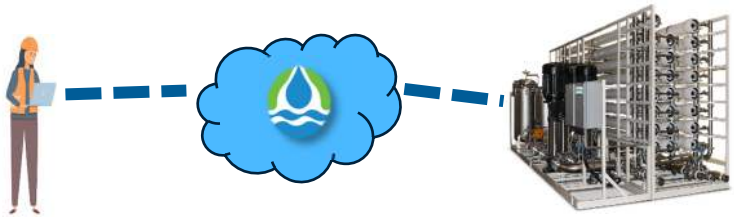
By choosing Newterra Digital Service™, you are not just opting for a monitoring solution; you are empowering your team, optimizing your operations, and securing the future of your water treatment systems.

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Elevate Your Operations with Newterra Digital Service™

Good news! Your system will be built with the hardware for Newterra Digital Service™ included giving you the opportunity to elevate your operations, empower your team, and ensure the longevity of your systems with our state-of-the-art digital solution. It's easy, during startup Newterra will set up your free 1-year subscription of Control and Access services.

For added peace of mind, you have the flexibility to use the built-in VPN security switch on the device to disable outside-in connections, ensuring that the Newterra Digital Service™ can be tailored to meet your site's specific security requirements.



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4 Customer Document Reference

List of Technical Documents

The following technical documents provided to Newterra have been considered for use in the preparation of this proposal.

- Request for Proposal (RFP) – Desalination Plant Supply for Back River Mine, Nunavut
- BRP-40 Desal Intake Data spreadsheet

Clarifications

The following is a list of technical and commercial clarifications by Newterra to the customer specifications in the design of the system detailed in this proposal.

Item	Document	Section	Newterra Clarification
1	RFP	7.1	In the proposal, Newterra provides PFD and Layout drawings. During the project phase, the P&ID, structural and electrical schematics will be established.
2	RFP	7.2	Seawater intake by others and Newterra's scope starts at the pretreatment.
3	RFP	5 and 7.4	Newterra provides spare parts, but not consumables.
4	RFP	Chemical Dosing	Based on local regulations, additional safety equipment may be required to store and handle chemicals on site which have not been included as part of this proposal. This may include but not be limited to: eye wash stations, safety showers, spill containment, secondary containment, isolation curtains, isolated ventilated bulk storage buildings, personal protective equipment, constant ventilation systems, vapor suppression equipment, and spill containment equipment. Newterra can provide pricing for these options upon request.
5	RFP and BRP-40 Desal Intake Data spreadsheet	Spreadsheet	In the RFP, there were data tables provided; however, Newterra based the design from the BRP-40 Desal Intake Data in order to consider the worst-case scenario to size the equipment to meet the production capacity.
6	Proposal	Reverse Osmosis	To meet the schedule requirements, Newterra will install the system with 316SS valves, and the Duplex valves will be provided loose for replacement (by others).
7	RFP	9	Upon receipt of the purchase order, Newterra will proceed to order all equipment immediately, without the need for further customer approval, to prevent delays and ensure adherence to the 31-weeks lead time.

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5 Terms, Conditions, Warranties, and Guarantees

Terms and Conditions

1. PURCHASE ORDER:
   Newterra ("Seller") will initiate work upon written acceptance of a complete order from a purchasing party ("Buyer"). A complete order includes a signed purchase order which includes the overall price of system and scope of supply, purchase order number, payment terms, billing and shipping addresses, Tax Identification Number.

2. APPLICABILITY / SCOPE:
   All goods and services provided shall be governed by the terms and conditions set forth herein. Any modifications to these terms or to the scope of any purchase order or project hereunder, shall be mutually agreed upon and set forth in writing executed by both parties. Such writing shall clearly set forth the nature and extent of the change, and, if applicable, any adjustment in price associated with such change.

3. SCHEDULE:
   The Seller's estimated delivery schedule is included in the proposal and may be affected by manufacturing loading at the time of order unless the proposal is based on a firm schedule as noted. If the approval to proceed with ordering material is not given within twenty-one (21) days of execution of this order, Seller reserves the right to adjust the sell price of this Purchase Order based on actual increases incurred from its Suppliers due to the delay in the project schedule.

   Upon receipt of Purchase Order, unless the proposal is based on a firm schedule as noted, Seller and Buyer shall agree to a schedule and timeline for provision of engineering documentation, unless otherwise agreed to in writing.
   In the event of Buyer caused delay, Seller shall be entitled to readjustment of schedule based on the impacts due to the delay. Seller shall advise Buyer, in writing, of the revised schedule. Seller shall be entitled to compensation from all costs associated with Buyer caused delay.

4. CREDIT APPROVAL:
   All new purchase orders are subject to mandatory credit approval for first time Buyer and discretionary credit approval for repeat Buyer (credit approval form available from Seller upon request). Should Seller learn of any information that causes Seller concern about Buyer's ability to perform any of its obligations owing to Seller under a Purchase Order, Seller has the right to request Buyer to provide Seller adequate assurance of due performance on such terms as are deemed reasonable by Seller when acting in good faith, including the right to demand full or partial payment from Buyer as demanded by Seller, or the right to adequate surety.

5. TELEMETRY SERVICES AGREEMENT:
   A Telemetry Services Agreement must be completed for all system orders that include a Seller Remote Telemetry and Communication Package. The Telemetry Services Agreement is required to activate the services listed in the proposal (Telemetry Service Agreement available from Seller upon request).

6. PRICING/TAXES:
   The price to be paid by Buyer shall be mutually agreed upon by the parties and set forth in writing. Unless otherwise agreed to, prices quoted do not include any State, Provincial or local sales or use tax, special fees, duties, tariffs or custom fees, freight and handling charges, or export crating costs that may be added to the price at invoicing. The Buyer agrees to make payments as described herein. If Seller is subjected to any such fees in connection with this sale or the delivery; the same shall be added to the purchase price and Buyer shall be responsible for paying that tax or reimbursing Seller therefore within 30 days. If Buyer is Tax Exempt, valid documentation in the form of an applicable tax-exempt certificate or direct pay permit must be provided at time of Purchase Order to be considered.

7. PAYMENT CONDITIONS:
   All orders require payment in advance unless credit has been established. Payment shall be made in the currency quoted without discount. Minimum billing amount is $100. Shipments outside of the U.S.A. and Canada shall be prepaid or drawn from an irrevocable Letter of Credit.

   Processing fees may be assessed for additional costs incurred for credit card charges, returned checks, Letters of Credit, or other bank charges. Wire transfers should be initiated with all bank charges paid from the account of the Buyer. Seller reserves the right to specify the method and/or timing of payment (including prior to shipment).

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The Seller will be entitled to a late penalty calculated at a rate of 1.5% per month (18% per annum) or if lower, at the maximum rate permitted by law, for any payment not made by the date due. If legal proceedings are instituted for collection of overdue accounts unpaid after 30 days, the Buyer will be liable for all costs adjudged by the court, including court costs and reasonable attorney fees.

If the Buyer disputes any portion of an invoice, they shall notify Seller in writing with specific details and pay the undisputed portion as per the executed purchase order. Buyer shall reimburse all costs incurred in collection of past due amounts including but not limited to attorney's fees, court costs and collection fees incurred by Seller.

At Seller's option, Letters of Credit will be accepted by Seller when compliant with the following: The Letter of Credit must (a) Be IRREVOCABLE and CONFIRMED by a U.S.A. or Canadian bank; (b) Be in favor of Seller; (c) State payment is by site draft payable; (d) State that ALL bank charges, including those outside the country of origin, are to be applied to BUYER'S account; (e) Must state Ex-Works, point as factory unless terms of Pro Forma Invoice specify otherwise, (f) Be advised through a class A bank and show Buyer as applicant for the Letter of Credit.

8. SHIPPING & DELIVERY TERMS:
Unless otherwise specified in the Seller Proposal, Incoterms® 2020 are:

(a) EXW Seller Facility.

(b) DAP <delivery location> (if freight is included as specified in Seller Proposal)

9. ACCEPTANCE:

(a) Buyer shall inspect all shipments of equipment or other goods within 10 days of receipt and shall promptly notify Seller of any specific defects or non-conforming goods. The parties acknowledge that acceptance of any goods supplied hereunder shall be deemed to have occurred if Buyer fails to notify Seller of any such defects or non-conforming goods within 10 days of the date of receipt. The parties acknowledge that acceptance of any services provided hereunder shall be deemed to have occurred if Buyer fails to notify Seller of any defects or non-conformance in such services within 10 days of the date the services were completed;

(b) For any order hereunder which requires Seller's involvement in the installation, start-up, check-out and/or commissioning of any Seller equipment or system, the parties acknowledge that system acceptance shall be deemed to have occurred upon completion of the startup and checkout of the system, or upon beneficial use of the system by Buyer, whichever occurs first.

10. OPERATIONAL AND MAINTENANCE PROCEDURES:
Buyer acknowledges that any improper use, maintenance, or modification of the equipment provided hereunder, or use of unqualified maintenance or service technicians will severely impair the operational effectiveness of the entire system. Buyer hereby agrees to indemnify, defend and hold harmless Seller from and against any and all third-party claims arising, in any manner, out of: (a) Buyer's neglect of the equipment; (b) Buyer's use of technicians not authorized by Seller to service the equipment; or (c) Buyer's improper use or modification of the equipment or failure to follow the operational and maintenance procedures provided with the equipment.

11. SYSTEM STORAGE AFTER COMPLETION:
If Buyer is unable to accept equipment at the time of readiness, or at the Buyer's request, storage of completed systems may be provided. If Seller has space at its facility, storage will be charged at a rate of 0.5% per month accruing after the initial 30 days. If off-site storage is required, the per month rate will be the greater of 0.5% or actual warehouse and transportation costs, +20% administration fee.

The warranty period will start upon the original date of notice of readiness to ship. Any invoices due for payment that are subject to the shipment of the system will be initiated and subject to payment based on the date of notice of readiness to ship.

If the system is stored, transfer of title will occur immediately to Buyer upon entry into storage. Risk of Loss will transfer as per Incoterms® of the original contract.

12. CHANGE OF LAW OR REGULATIONS
Any change of laws, regulations, or another governmental requirement that causes an increase in the cost of producing or delivering the Products or which occurs after Seller accepts an order is not in the price. Any new or additional tariffs, duties, or surcharges are not included in the price of the goods and/or services and are the responsibility of the Buyer. Seller reserves the right to require that the Buyer pays for any new or increased tariff, duty, or surcharge prior to the delivery of the goods and/or services. Buyer assumes the risk of changes in the law, regulation, or other governmental requirements; Seller does not assume the risk of new or higher tariffs, duties, or surcharges.

13. TECHNICAL ASSUMPTIONS:

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This proposal and pricing are based on Seller's interpretation of the sections of any RFP or specification that have been made available to Seller. Exceptions have been noted wherever possible. In the event of a conflict between the language in the specification or the proposal, Buyer agrees that the language in the proposal takes precedence and is the basis of the proposed pricing and scope.

14. HEALTH & SAFETY:
Any health and safety requirements, training or certification needs for entering a project site must be communicated at the time of Order. It is the Buyer/Owner's responsibility to ensure that field technicians operating on live panels are informed and equipped with the appropriate PPE.

15. APROVALS, PERMITS & INSPECTIONS:
Obtaining any required site permits (i.e. building) is the responsibility of the Buyer/Owner; the Seller is not responsible for any such items unless otherwise specified in the proposal.

All required site inspections including, but not limited to electrical, building and fire are the responsibility of the Buyer/Owner; the Seller is not responsible for any such items.

16. WARRANTY:
Refer to separate warranty document(s) attached hereto and incorporated herein as if set forth in full.

17. CONFIDENTIAL & PROPRIETARY INFORMATION:
Buyer acknowledges that the information and processes utilized by Seller in the design, manufacture, and supply of its products and systems are confidential and proprietary to Seller. Buyer agrees to treat as confidential and proprietary any such information or processes, including, but not limited to, design information or data, proposals, software, schematics, drawings, operational and maintenance manuals, testing procedures or other similar technical information ("Confidential Information") provided by Seller in connection with the supply or installation of products or systems hereunder, and will, at a minimum, protect any such confidential Information in a manner commensurate with the measures taken to protect Buyer's own confidential or proprietary information. Seller retains all rights, titles and interests in all such Confidential Information and Buyer shall not use or otherwise disclose to any third party any such Confidential Information except to the extent authorized by Seller in writing.

18. INTELLECTUAL PROPERTY RIGHTS:
Excepting for the benefit of air and/or water treatment as contemplated by the design of the equipment, all rights, benefits from any value received as a result of the use of intellectual property, equipment, information or advice provided by Seller remain the sole property of Seller, specifically, including, but not limited to, as it may relate to carbon or water credits, etc.

The Seller retains any and all intellectual property rights in and to the equipment, services, and/or information supplied hereunder (including, but not limited to, patents, copyrights, trademarks and trade secrets) ("Intellectual Property").

Buyer is not granted any interest, right, or license with respect to any such Intellectual Property, except to use the equipment, services and/or information for the purposes for which it is specifically provided to Buyer in accordance with the terms and conditions hereof.

Seller shall indemnify and hold Buyer harmless from and against all third-party claims of infringement or alleged infringement arising out of Buyer's use of any equipment, services, or information supplied by Seller hereunder. Provided, however, that Seller's indemnity obligation hereunder shall not apply to, and Seller shall not be responsible for, any claims to the extent arising out of Buyer's modification of Seller's equipment, services or information, or use of such equipment, services or information: (a) in combination with equipment, services or information not supplied by Seller, or (b) in the operation of any process or in any other manner inconsistent with the purpose for which Seller's equipment, services or information were intended.

Unless specified, programming for Seller's custom equipment and systems is proprietary and will remain the property of Seller and is not available for distribution to Buyer or others at any time.

19. INSURANCE:
Each party shall provide and maintain at its own expense, such policies of insurance in such amounts as are appropriate and commercially reasonable for parties engaging in the type of activities contemplated by the projects entered into hereunder. Upon request, each party shall furnish the other with certificates evidencing the required insurance coverage.

20. BUYER INDEMNIFICATION:
To the fullest extent permitted by law, Buyer hereby agrees to protect, defend, indemnify and hold harmless Seller and its affiliates, managers, shareholders, directors, officers and employees from and against all losses and damages incurred and all liability to others and all claims, causes of action and suits, for personal injury, including death or property damage arising out of the acts or omissions of Buyer

or Buyer Parties. Buyer agrees to pay all costs and expenses paid or incurred by Seller in enforcing its rights hereunder, including without limitation, attorney's fees, and court costs.

21. SELLER INDEMNIFICATION:
To the fullest extent permitted by law, Seller hereby agrees to protect, defend, indemnify and hold harmless Buyer and its affiliates, managers, shareholders, directors, officers and employees from and against all losses and damages incurred and all liability to others and all claims, causes of action and suits, for personal injury, including death or property damage to the extent such is caused by the negligent acts or omissions of Seller or Seller Parties. Seller agrees to pay all costs and expenses paid or incurred by Buyer in enforcing its rights hereunder, including without limitation, attorney's fees, and court costs.

22. LIENS:
Seller shall promptly pay for all materials, supplies and labor employed by it in providing the goods and/or services hereunder, such that any equipment or system supplied to Buyer remains free of materialmen's, warehousemen's, mechanics', and any other similar liens. Seller reserves all rights hereunder to file notice and execute liens in the event Buyer breaches it obligations in the proposal, Purchase Order, or as set forth herein. Any executed lien waiver, release claim, or payment application executed and submitted by Seller shall not serve to waive Seller's right to pursue a lien claim for previously noticed, reserved, or filed claims.

Seller reserves all rights hereunder to file notice and execute liens in the event Buyer breaches it obligations in the proposal, purchase order, or as set forth herein. Any executed lien waiver, release claim, or payment application executed and submitted by Seller shall not serve to waive Seller's right to pursue a lien claim for previously noticed, reserved, or filed claims.

23. NON-WAIVER:
The parties' failure to demand strict performance or to otherwise enforce any rights hereunder shall not constitute a waiver of any rights hereunder. No claim arising out of a breach hereof may be discharged in whole or in part by a waiver of the claim unless supported by consideration and set forth in a writing signed by the waiving party. Any such waiver shall apply to the specifically identified claim only and shall in no way constitute a waiver or discharge of any other prior or subsequent claim.

24. BREACH/DEFAULT:
In addition to any failure to comply with any other term or condition as set forth herein, the occurrence of any of the following events shall constitute a breach/default on the part of Buyer: (a) If Buyer shall become insolvent or make a general assignment for the benefit of creditors; (b) If a petition for Bankruptcy is filed by or against Buyer; (c) If, at any time Buyer fails to fulfill its obligations under the terms and conditions hereof, or acts in such a manner as to endanger performance of such obligations; (d) If Seller shall reasonably believe that Buyer will not timely fulfill its obligations, including payment or otherwise perform hereunder, and Buyer is unable to provide reasonable assurances that such timely performance will occur.

Upon breach/default by Buyer, Seller may terminate the contract or agreement by giving notice to the Buyer. Such termination may be effective immediately at the sole choice and discretion of Seller. In the event of a breach and contract termination, Buyer is still responsible for all costs incurred by Seller.

25. SUSPENSION:
If any project or order, for which Seller is to supply goods and/or services hereunder, is requested to be suspended by Buyer for any reason other than a breach by Seller, Seller shall cooperate with Buyer in rescheduling any planned or ongoing work, and in otherwise complying with the suspension instructions. However, Buyer must provide reasonable written notice to Seller for any requested suspension. Seller shall reserve the right to adjust the scheduling, pricing, and/or billing due to any impact of the approved suspension. Provided, however, that in the event of any such suspension which continues for a period of 90 days, Seller shall be entitled to terminate that order, without any further liability or obligation of Seller thereunder. Seller, may by written notice to Buyer, suspend this order due to any of the following: (i) Buyer fails to perform in accordance with the delivery schedule; (ii) Buyer fails to properly pay Seller for any properly submitted invoices; (iii) Buyer has breached or otherwise failed to comply with any provision of this order that is capable of being cured and Buyer does not cure the same within a period of five (5) calendar days after receipt of written notice from Seller.

26. TERMINATION FOR CAUSE:
Should Buyer be in breach under this project or order, Seller shall have the right, as well as all other rights per the applicable law to request to terminate all or part of any undelivered or unperformed portion of this Purchase Order by reasonable written notice to Seller. Upon receipt of such notice, Seller shall immediately stop delivery or work on the portion of the order terminated or canceled. In the event of such termination, Buyer shall be liable for the value of the work performed, materials received, and any materials not received that cannot be cancelled, prior to the time that notice of termination is given.

27. TERMINATION FOR CONVIENENCE:

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If any project or order, for which Seller is to supply goods and/or services hereunder, is terminated in agreement with the provisions of these terms and conditions, Seller shall be entitled to charge 25% of selling price if canceled prior to incurring related engineering, drafting, and production time. If engineering and/or drafting time has been incurred, 40% of the selling price will be charged to the Buyer. If materials have been received, or materials not received cannot be cancelled, and/or production time has been incurred, 100% of the selling price plus additional costs incurred will be charged to the Buyer who placed the order. Additional costs incurred as a direct result of termination may include, but are not limited to, freight and storage charges, costs of labor, transportation, travel and living expenses for support, overhead and profit, and reasonable attorney fees.

28. FORCE MAJEURE:
Neither party shall be liable for any cost increase, failure or delay in its performance resulting from any cause beyond its reasonable control including, but not limited to, acts of God; acts or omissions of civil or military authority; fires; floods; unusually severe weather; strikes or other labor disputes; embargoes; wars; political strife; riots; epidemic; pandemic; changes in laws, delays in transportation; sabotage; or fuel, power, material or labor shortages.

29. LIMITATION OF LIAIBLITY:
Under no circumstances whatsoever will Seller be responsible for liquidated, indirect, special, incidental or consequential damages including, but not limited to, lost business, overhead, loss of use of property, delay, damages, lost profits or third party claims, whether foreseeable or not, even if Seller has been advised of the possibility of such damages in connection with the delivery, installation, use or performance of the equipment or the provision of maintenance services by Seller regardless of whether such claims are alleged to have arisen out of breach of warranty, breach of contract, stricter absolute liability in tort, or other act, error or omission or any other cause whatsoever, or any combination of the foregoing.

Under no circumstances whatsoever will Seller be responsible for direct damages in excess of 50% of the contract value.

30. ASSIGNMENT:
The rights and responsibilities of the Buyer as set forth herein are personal to the Buyer and may not be assigned or delegated without the prior written consent of Seller.

31. APPLICABLE LAW / DISPUTES:
Buyer acknowledges that the “Terms” from the Contract are deemed to be made in Pennsylvania for transactions in the U.S.A. and in Ontario for transactions in Canada, and that Buyer, in relation to this project, is deemed to be transacting business in Pennsylvania (U.S.A. transactions) and Ontario (Canadian transactions). It is the expectation of the parties that any disputes arising hereunder, whether in contract, tort or otherwise, will be amicably resolved by mutual agreement of the parties.

Any dispute, involving the supply of goods or services within the U.S.A. or Canada, which cannot be amicably resolved by the parties, shall be submitted to binding arbitration in accordance with the applicable rules and regulations of the Canadian Arbitration Association for Canadian contracts or the American Arbitration Association for U.S.A. and all other contracts. The substantive law of Pennsylvania for U.S.A. contracts or Ontario for Canadian contracts shall apply to any such arbitration, which shall be conducted in Pittsburgh, Pennsylvania (U.S.A. contracts) or Ottawa, Ontario (Canadian contracts).

Nothing herein shall be construed as preventing Seller from enforcing any claim or right to a mechanic’s lien or any claim or right against a bond regardless of where such a claim must be filed or enforced.

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Warranty

This Warranty Agreement is between Newterra Corporation, Inc., or Newterra Ltd. (known as Newterra) and the customer (known as the Buyer).

General Warranty Statement

1. Newterra warranties those products of its manufacture against defective workmanship or material for a period of 12 months from startup or 18 months from the date of notice of readiness to ship, whichever comes first.
2. Newterra warranties “Aire-O2 Triton”, “Aire-O2 Standard Aspirator”, and “Aire-O2 Mixer” products of its manufacture against defective workmanship or material for a period of 36 months from the date of notice of readiness to ship.
3. This warranty is expressly and strictly limited to replacing, without charge (see Warranty Exclusions), any part or parts which proven 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.
4. 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.
5. Newterra will also warranty those component parts manufactured by others to the extent of the original manufacturer’s warranty. In any case, specific components warranties will be extended a minimum of one year from date of notice of readiness to ship.
6. Membranes, if used, will be covered under separate warranty statement.
7. This warranty shall not be construed as a fitness of purpose warranty nor a performance warranty.

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
   - Consumable items such as filters and reagents.
   - Replacement of items due to normal wear and tear
   - System parts damaged because of Buyer changes to the system and/or PLC program without the written consent of Newterra.
   - System electrical components or motors damaged by inconsistent power, voltage fluctuations and/or frequent power failures.
2. If the Buyer, or any contractor employed by the Buyer, contracts an outside company, other than Newterra for modification of system equipment, without knowledge of Newterra, the warranty coverage will be denied.
3. If the Buyer, or any installation contractor employed by the Buyer, contracts outside Newterra for installation work or erection of quoted equipment, the Buyer shall assume full responsibility for said contract.
4. The warranty shall not cover normally scheduled preventative maintenance or maintenance services listed in O&M Manual unless specifically contracted with Newterra.
5. If Newterra’s Supplier assesses a part evaluation fee as part of their warranty claim assessment process, then the Buyer will be required to pay this fee. All parts must be returned to Newterra, transportation prepaid, unless other arrangements have been pre-approved by Newterra.

Warranty Validation

1. Newterra requires that the system be commissioned by a Newterra factory trained technician unless specifically authorized by Newterra. Newterra authorization will be dependent on the qualifications of the Buyer’s / contractor technicians.
2. Warranty validation is conditional upon timely receipt of:
   a. Signed Installation Checklist – by authorized Buyer representative, if not Newterra.
   b. As built Site drawings – by authorized Buyer representative, if not Newterra.
   c. Signed Pre-Commissioning Checklist – by authorized Buyer’s representative, if not Newterra.
   d. Signed Commissioning Checklist – by authorized Buyer’s representative, if not Newterra.
3. If the warranty validation requirements are not followed, Newterra reserves the right to deny warranty coverage.

Warranty Conditions

1. The system must be maintained and serviced in accordance with the schedule and procedures listed in the system O&M Manual. Failure to follow Newterra’s recommendations may result in a denial of warranty coverage. Newterra reserves the right to review maintenance records as part of the warranty claim assessment process.

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6 Newterra Lifecycle Solutions

Robust Support and Complete Lifecycle Solutions: Call us at 1-800-420-4056

Newterra Lifecycle offerings are here to assist with maintaining your water treatment equipment every step of the way by offering OEM Spare Parts & Consumables customized to suit your needs, alongside a team of support staff dedicated to providing top level services for the life of your system. Not Just Technologies. Lifecycle Solutions.



Newterra Parts and Consumables Support

Our Newterra Parts Team ensures seamless replacement and maintenance parts support, with a detailed list of OEM critical spares, maintenance, and consumable parts provided in your Operations & Maintenance Manual. We're dedicated to meeting your parts requirements to ensure long-lasting equipment solutions. Whether your system needs regular maintenance or requires consumable parts for optimal performance, we have you covered. Our Customer Experience Team is here to assist you in identifying the right components based on your specific challenges. Let us connect you with one of our specialists to find the perfect solution tailored to your needs.



Technical Service Support

Our dedicated OEM Trained Service Team is here to help support you and your equipment needs. We offer a range of water treatment services including: 1) Operations Consultations, 2) Equipment Audits, 3) On-site Training, 4) 24/7 Digital Monitoring Services, 5) Equipment Maintenance/Repair, 6) Real-time Technical Support and 7) System Upgrades. Our Technical Services Teams are here to ensure your water treatment equipment is operating optimally, maximum uptime is achieved, and costly repairs are avoided. Reach out for expert guidance and a customized solution to your specific technical service needs today.



Newterra Digital Service

Newterra Digital Services offers the integration of 24/7 web-based remote monitoring to help you increase system runtime and track performance. It provides real-time data and notifications to you and our technical support team on how your system is running or if there are any issues. The technology also provides the ability to quickly analyze the root cause and assist in determining a proper solution. Newterra Digital Services web-based remote monitoring can consist of two levels of access; read-only and system control. With control, you can have the ability to restart components from remote locations saving you time and money. The advanced digital services support will help you get the most out of your water treatment equipment and stay ahead of potential problems.



Media & Media Services

Proper media selection is crucial for efficiency, sustainability, and cost-effectiveness. Newterra leads this sector, providing a range of media solutions from bulk supplies to specialized drums, including Granular Activated Carbon (GAC) and Resin media. When your media has lost its ability to reduce contaminants, our trained professionals, backed by Newterra's experience in the design and implementation of liquid and vapor phase treatment systems, provide complete on-site services. Our trained technicians will arrive on-site and safely clean and remove vapor phase and liquid phase media or even the vessels themselves. We embrace the entire lifecycle of your system.



Rentals Solutions

For just about any water problem, Newterra has you covered. If you're looking for medium or short-term water or wastewater treatment solutions, Newterra has a large, in-stock inventory of solutions that are available to rent. From supplemental aeration to remediation systems, pressure vessels, and complete wastewater treatment systems, our temporary ownership and rental solutions can save precious capital while solving a critical need. Newterra offers flexible terms and conditions to suit any customer.

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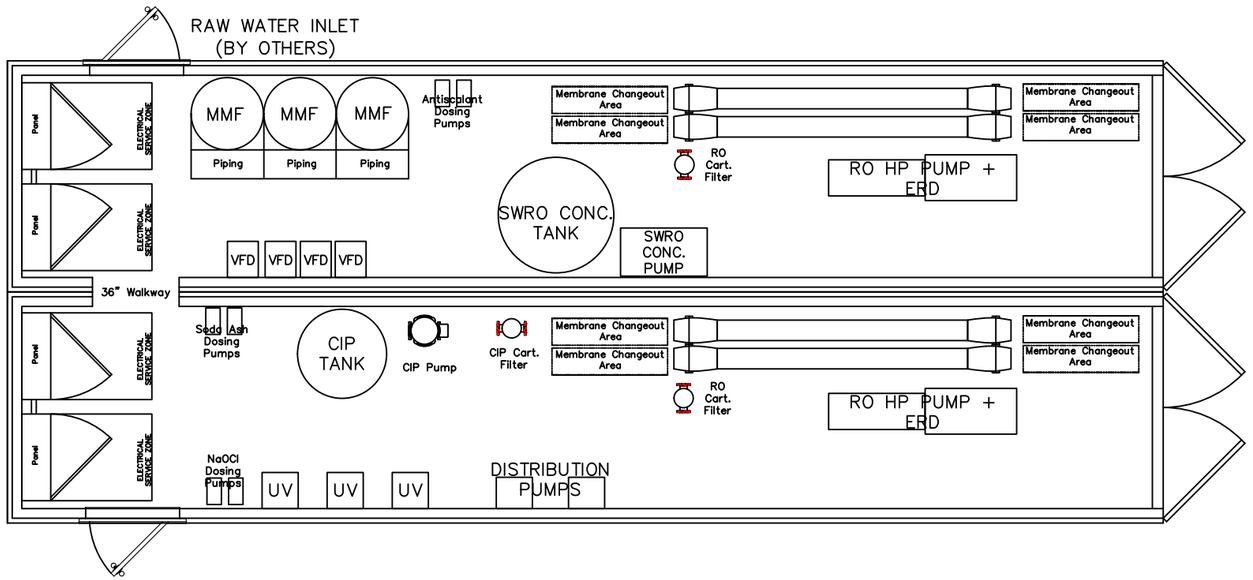
7 Appendices

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Preliminary Layout/General Arrangement Drawing

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PRELIMINARY



DISTRIBUTION TANK
(BY OTHERS)

NOTES

DRY LOAD ESTIMATE FOR PTW SYSTEM: 20,000–25,000 LBS. PER CONTAINER
OPERATIONAL LOAD ESTIMATE FOR PTW SYSTEM: 38,350–43,350 LBS. PER CONTAINER

newterra

PHONE:
(800) 420-4056

www.newterra.com

LEVEL	REVISION	DATE (mm/dd/yy)	BY

PROJECT NUMBER: 2509249.R0

TITLE AND LOCATION: B2GOLD BACK RIVER MINE NUNAVUT

CUSTOMER: NAHANNI CONSTRUCTION

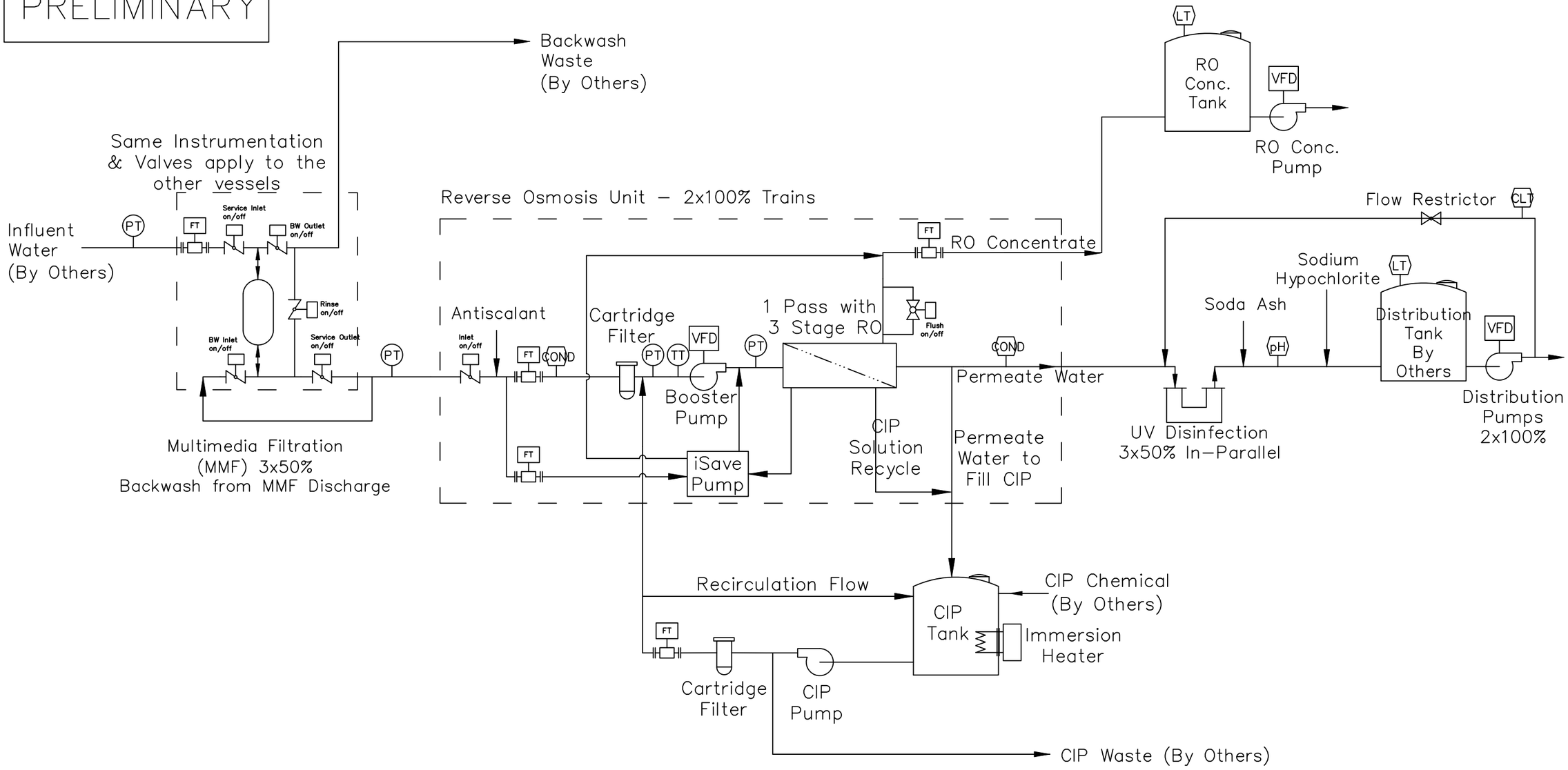
DRAWN BY	DATE	SHEET	SHEETS
VC	11/4/25	1	1

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Process Flow Diagram

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PRELIMINARY



NOTES

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LEVEL	REVISION	DATE (mm/dd/yy)	BY

PROJECT NUMBER: 2509249.R0

TITLE AND LOCATION: B2GOLD NUNAVUT

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DRAWN BY	DATE	SHEET	SHEETS
VC	11/4/25	1	1

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References for Similar Arctic or Remote Installations

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Reference Project #1

Project Name and Owner

Amaruq Mine Potable Water Treatment System

Agnico Eagle Mines Limited

Owner Representative Name, Location, and Contact Information (phone and email)

Thomas Genty

Rouyn-Noranda, QC, Canada

thomas.genty@agnicoeagle.com, 819.759.3700, 4105915

Brief Description & Configuration (type of treatment process, process description, main treatment process, types of related processes, chemical systems, pumps, etc.)

Ground water source and effluent quality to meet Canadian water drinking standards

Complete turnkey packaged modular containerized drinking water system, consisting of two (2) 40'x8'x9.5' (L'xW'xH') and one (1) 20'x8'x9.5' (L'xW'xH'). Containerized modular buildings designed for R20 insulation on walls, ceiling and floors and full HVAC.

Along with the PWTS, a WWTS (MBR) consisting of six (6) containerized modular buildings was provided.

The system was ready to ship in 12 weeks from PO.

Process Description:

The water is pumped by others to the potable water treatment plant. The first step in the treatment process is cartridge filtration. Cartridge filters remove sediment, silt, and turbidity in the water.

The next step in the treatment process is the ultraviolet lights. This is used for disinfection of the water for killing and inactivating harmful pathogens from the water. Sodium hypochlorite is dosed into the UV treated water before it flows into a downstream potable water storage tank. The sodium hypochlorite is dosed into water that has already undergone primary disinfection by the previous UV disinfection step. The dosing of sodium hypochlorite after the UV unit ensure that the potable water has a residual free-chlorine content so that the water remains disinfected at the final point of use in accordance with applicable guidelines.





System Technical Information

Two (2) 7.9m3 HDPE Raw Water Storage Tanks, including inlet actuated valve, level alarm switches and level transmitter.

Two (2) Raw Water Pumps (duty/standby), including isolating valves, check valves, pressure gauges and sample ports.

valves and sample ports.

Two (2) parallel Trains, each including one (1) NSF rated UV reactors, including inlet solenoid valve, isolation valves and check valves.

Three (3) 7.9m3 HDPE Potable Water Storage Tanks, including level alarm switches and level transmitter.

Three (3) potable water distribution pumps (2 duty/1 standby), including VFDs, isolation valves, check valves, pressure gauges and sample ports.

One (1) discharge instrumentation package, including pressure transmitter, flow transmitter and chlorine analyzer.

Two (2) chlorine dosing pumps (duty/shelf spare)

Two (2) 4.5m3 calcium raw water storage tanks, including inlet modulating valve and level control switches.

Two (2) calcium raw water distribution pumps, including isolation valves, check valves and pressure gauges.

One (1) discharge flow transmitter.

Date of Substantial Completion:	5/21/2018	Approximate Contract Value: $	260,000 CAD
Capacity (m^3/d):	144 m3/d PWTS - Mine camp for 300 people		

Describe performance; describe Startup or operational issues

Newterra's field service personnel arrived to site on May 11th, 2018. They performed a site acceptance testing, followed by a mechanical and a functional test. One all the test were completed, on May 14th, 2018, the system was partially filled with water and allowed to run in automatic mode, recirculating to achieve the proper chlorine level at the effluent. Once achieve, the next day, the system was fully filled with water and recirculated to disinfect the tanks and piping. The system was kept in recirculation mode for four days, prior to allowing for distribution to the camp. Training was performed during that time.

The system was shipped in August 2017 but only started up in May 2018. This caused some issues with a few parts that got damaged during storage, these were replaced, either during start up or shortly after.

Reference Project #2

Project Name and Owner

Amaruq Mine Potable Water Treatment System

Agnico Eagle Mines Limited

Owner Representative Name, Location, and Contact Information (phone and email)

Thomas Genty

Rouyn-Noranda, QC, Canada

thomas.genty@agnicoeagle.com, 819.759.3700, 4105915

Brief Description & Configuration (type of treatment process, process description, main treatment process, types of related processes, chemical systems, pumps, etc.)

PWTS expansion.

Complete turnkey packaged modular containerized drinking water system expansion, consisting of one (1) 20'x8'x9.5' Containerized modular building designed for R20 insulation on walls, ceiling and floors and full HVAC.

The system was ready to ship in 8 weeks from PO.





System Technical Information

Two (2) 7.9m3 HDPE Potable Water Storage Tanks, including level alarm switches and level transmitter.

One (1) potable water distribution pump, including VFD, isolation valves, check valve, pressure gauge and sample port. Pump installed on a skid and shipped loose to be installed inside the existing system.

Date of Substantial Completion:	Jun-20	Approximate Contract Value: $	120,000 CAD
Capacity (m^3/d):	96 m3/d		

Describe performance; describe Startup or operational issues

The system was integrated to the existing PWTS.

Reference Project #3

Project Name and Owner

Molecule Inc. Water Treatment Plant

Molecule Inc.

Owner Representative Name, Location, and Contact Information (phone and email)

Kyle Hollisworth

Lansdowne, ON

kyle@molecule.ca, 613-449-2727

Brief Description & Configuration (type of treatment process, process description, main treatment process, types of related processes, chemical systems, pumps, etc.)

Potable water distribution and process water treatment for three (3) different streams.

Complete turnkey packaged modular containerized system, consisting of two (2) 40'x8'x9.5' (L'xW'xH'). Containerized modular buildings designed for R20 insulation on walls, ceiling and floors and full HVAC.

The system was ready to ship in 36 weeks from PO.

Process Description:

Molecule Inc. required a new water treatment plant for their new facility in Lansdowne Ontario. The water for the treatment plant is supplied from a nearby community and delivered to the system via truck. The system includes a storage tank to receive the trucked in potable water. Distribution pumps deliver the water to the facility for domestic use, equipment cleaning and process water. The process water is treated using cartridge filtration, activated carbon and UV.



System Technical Information

One (1) 69 m3 containerized SS potable water storage tank, including immersion heaters, leak detection, level alarm switches and level transmitter.

Three (3) transfer pumps (lead/lag/standby), including VFDs, pressure transmitter, isolation valves, check valves, pressure gauges and sample ports.

Two (2) parallel trains, each including one (1) 1 micron cartridge filter, with inlet/outlet pressure gauges, isolation valves and discharge pressure transmitter.

One (1) process water stream consisting of, one (1) liquid phase carbon FRP vessel complete with actuated valves, pressure gauges, isolation valves, sample ports, effluent pressure transmitter and one (1) UV reactor.

One (1) process water stream consisting of, one (1) liquid phase carbon FRP vessel complete with actuated valves, pressure gauges, isolation valves, sample ports, effluent pressure transmitter, expansion tank and three (3) tankless heaters to raise the temperature to 60 deg C.

One (1) process water stream consisting of, one (1) liquid phase carbon FRP vessel complete with actuated valves, pressure gauges, isolation valves, sample ports, effluent pressure transmitter, expansion tank and three (3) tankless heaters followed by two (2) additional tankless heaters to raise the temperature to 85 deg C. .

Date of Substantial Completion:	10/22/2020	Approximate Contract Value: $	290,000 CAD
Capacity (m^3/d):	144 m3/d		

Describe performance; describe Startup or operational issues

A pre-commissioning check was performed in September 2020. Start up was performed in October 2020 for 3 days, followed by 2 days of training.

Reference Project #4

Project Name and Owner

Mount Washington WWTP

Lee T Corrigan LLC.

Owner Representative Name, Location, and Contact Information (phone and email)

Nathaniel Camille

Sargent's Purchase, NH

Nathaniel.B.Camille@dncr.nh.gov, 603.466.3347

Brief Description & Configuration (type of treatment process, process description, main treatment process, types of related processes, chemical systems, pumps, etc.)

Wastewater (membrane bioreactor) treatment system designed for subsurface discharge.

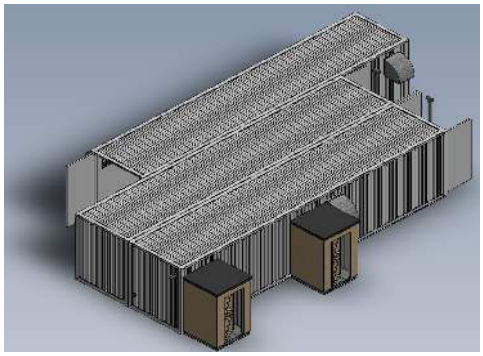
Complete turnkey packaged modular containerized wastewater system, consisting of two (2) 40'x8'x9.5' (L'xW'xH'). Containerized modular buildings designed for R40 insulation on walls, ceiling and floors and full HVAC.

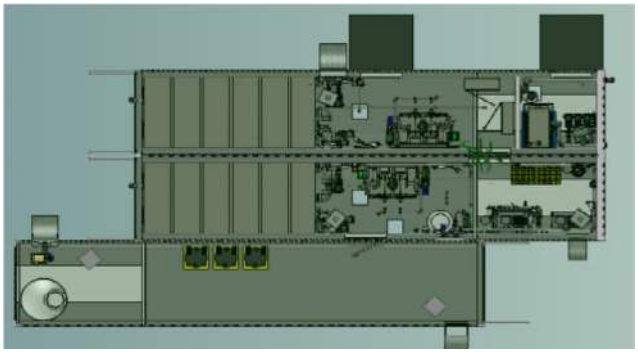
The system was designed to withstand the hardship conditions of Mount Washington's environment.

The system was ready to ship in 41 weeks from PO.

Process Description:

Raw wastewater flows into an in-ground Equalization tank supplied by others and pumped to the fine screen provided within Newterra's system. Screened wastewater is split into two (2) process trains, each providing denitrification and nitrification in their biological stages. Following the biological step, the mixed liquor is transferred into the membrane filtration stage, to provide a solids-liquid separation. For additional disinfection, the treated effluent passes through UV disinfection prior to being discharged.





System Technical Information

One (1) 2 mm perforated plate fine screen, including a discharge tank.

Three (3) screened wastewater distribution pumps, including isolation valves, check valves and pressure gauges.

Two (2) parallel containerized process trains, each consisting of one (1) Pre-Anoxic tank, one (1) Aerobic tank and one (1) Post-Anoxic tank. Each including level instrumentation, immersion heaters, mixing/aeration equipment and transfer pumps.

One (1) instrumentation package, including temperature transmitter, level transmitter, pH transmitter and DO transmitter.

Chemical dosing package, including four (4) Micro C pumps and two (2) Sodium Hydroxide pumps.

Two (2) membrane filtration trains, each including Zeeweed 500S membranes, permeate extraction, backwash trains, and air scouring blowers.

One (1) UV disinfection reactor duty.

Date of Substantial Completion: 05/22/205	Approximate Contract Value: $ 1,500,000 CAD
Capacity (m^3/d): 52 m3/d	

Describe performance; describe Startup or operational issues

Start up was performed in May 2025, consisting of ten (10) days of site acceptance testing, start up, commissioning and training.

Reference Project #5

Project Name and Owner

Last Dollar WWTP

Last Dollar Residential Community

Owner Representative Name, Location, and Contact Information (phone and email)

Adam Sommers

Denver, Colorado

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Brief Description & Configuration (type of treatment process, process description, main treatment process, types of related processes, chemical systems, pumps, etc.)

Wastewater (membrane bioreactor) treatment system designed for subsurface discharge.

Complete turnkey packaged modular containerized wastewater system, consisting of two (2) 40'x8'x9.5' (L'xW'xH'). Containerized modular buildings designed for R20 insulation on walls, ceiling and floors and full HVAC.

The system was designed to withstand the hardship conditions of the Colorado mountains' environment.

The system was ready to ship in 25 weeks from PO.

Process Description:

Raw wastewater flows into an in-ground Equalization tank supplied by others and pumped to the fine screen provided within Newterra's system. Screened wastewater follows into a denitrification and nitrification tanks in their biological stages. Following the biological step, the mixed liquor is transferred into the membrane filtration stage, to provide a solids-liquid separation. For additional disinfection, the treated effluent passes through UV disinfection prior to being discharged.





System Technical Information

One (1) 2 mm perforated plate fine screen, including a discharge tank.

Two (2) screened wastewater distribution pumps, including isolation valves, check valves and pressure gauges.

One (1) process trains, each consisting of one (1) HDPE Pre-Anoxic tank, one (1) HDPE Aerobic tank and one (1) HDPE Post-Anoxic tank. Each including level instrumentation, immersion heaters, mixing/aeration equipment and transfer pumps.

One (1) instrumentation package, including temperature transmitter, level transmitter, pH transmitter and DO transmitter.

Chemical dosing package, including one (1) Micro C pumps and one (1) Sodium Hydroxide pump.

One (1) membrane filtration train, including MicroClear membranes, permeate extraction, backwash trains, and air scouring blowers.

Two (2) UV disinfection reactor (duty/standby).

Date of Substantial Completion:	4/5/2021	Approximate Contract Value: $	340,000
Capacity (m^3/d):	54 m3/d		

Describe performance; describe Startup or operational issues

Start up was performed in May 2021, consisting of ten (10) days of site acceptance testing, start up, commissioning and training. An additional training session was held in April 2025, following the change in operations of the system.

Reference Project #6

Project Name and Owner

Silvertip PWTP

Coeur Mining

Brief Description & Configuration (type of treatment process, process description, main treatment process, types of related processes, chemical systems, pumps, etc.)

Ground water under the influence of surface water source and effluent quality to meet Canadian water drinking standards

Complete turnkey packaged modular containerized drinking water system, consisting of two (2) 40'x8'x9.5' (L'xW'xH'). Containerized modular buildings designed for R20 insulation on walls, ceiling and floors and full HVAC.

The system was ready to ship in 14 weeks from PO.

Process Description:

The water is pulled from the wells and pumped to the new potable water treatment plant (PWTP) where it flows into a raw water tank. The well pumps and associated piping to the system are provided by the client.

The incoming water is directed into greensand filters (GSF). The purpose of the GSFs is to remove the iron and manganese to concentrations within the feed quality guidelines for the downstream Reverse Osmosis (RO) unit. The inclusion of the GSF will greatly reduce the operational and maintenance demands associated with clogging of the RO cartridge pre-filters and the premature fouling of the RO membranes.

Following the GSFs the water goes to the RO system. The flow sent to the RO system is dosed with antiscalant. The antiscalant is required to allow the RO system to achieve reasonable recoveries without the precipitation of scale within the membrane elements.

The water is then directed into cartridge pre-filters, which remove particulate material which would foul the membrane elements. The RO effluent is then sent through UV disinfection.

The treated water is chlorinated with sodium hypochlorite and sent to the potable water storage tank. The free chlorine is measured on the discharge of the distribution pumps and the chlorine dosing system is automatically adjusted to meet the target set point. The water is then split into two (2) streams. The first stream supplies the camp's distribution network, while the second lower flow stream is recirculated upstream of the chlorine dosing point. The recirculation loop allows for the chlorine concentration to be maintained at the target set point, even during extended periods of low demand and it maintains the distribution pressure for the system independent of demand variations. The distribution pumps are on VFDs controlled to maintain a line pressure of 60 psi.





System Technical Information

One (1) 1.5 m3 raw water storage tank, including level alarm switches and level transmitter. Preceded by a flow transmitter and two (2) chlorine pumps (duty/shelf spare).

Two (2) raw water transfer pumps (duty/standby) including VFDs, isolation valves, check valves and pressure gauges.

One (1) raw transfer pumps instrumentation package, including pressure transmitter, flow transmitter and ORP transmitter.

Two (2) parallel trains, each consisting of one (1) greensand filter, including modulating valves, pressure gauges, isolation valves, check valves and sample ports.

One (1) 5 micron cartridge filter, including pressure gauges and isolation valves.

Two (2) antiscalant dosing pumps (duty/shelf spare).

Two (2) sodium bisulphate dosing pumps (duty/shelf spare).

One (1) RO booster pump, including inlet pressure transmitter, VFD, pressure gauge, isolation valves, check valve.

One (1) RO system, consisting of three (3) stages, one of three (3) vessels and two (2) of two (2) vessels. Including high pressure alarm, pressure gauges and isolation valves.

One (1) CPI tank, including immersion heater and level control switches.

One (1) CIP pump, including pressure gauges, isolation valves, check valve and flow transmitter.

One (1) concentrate flow transmitter.

One (1) calcite filter, including actuated valves.

Two (2) parallel trains, each consisting of one (1 UV reactor.

Two (2) sodium hypochlorite dosing pumps (duty/shelf spare).

One (1) containerized 45 m3 potable water storage tank, including immersion heater, level alarm switches, level transmitter and leak detection.

Three (3) distribution pumps (lead/lag/standby), including VFDs, isolation valves, check valves, pressure gauges, sample ports.

One (1) distribution pumps instrumentation package, including pressure transmitter, flow transmitter, chlorine analyzer and turbidity transmitter.

Date of Substantial Completion: 2/20/2019	Approximate Contract Value: $ 350,000 CAD

Capacity (m^3/d):

Describe performance; describe Startup or operational issues

Start up was performed in February 2019, consisting of nine (9) days of site acceptance testing, start up, commissioning and training.

Reference Project #7

Project Name and Owner

Potable Water Control Foster Creek

Cenovus

Brief Description & Configuration (type of treatment process, process description, main treatment process, types of related processes, chemical systems, pumps, etc.)

Ground water under the influence of surface water source and effluent quality to meet Canadian water drinking standards

Complete turnkey packaged modular containerized drinking water system, consisting of two (2) 40'x8'x9.5' (L'xW'xH'). Containerized modular buildings designed for R20 insulation on walls, ceiling and floors and full HVAC.

The system was ready to ship in 23 weeks from PO.

Process Description:

Newterra was selected by Cenovus to deliver a fully modular potable water treatment system for its Foster Creek Silvertip Den facility. The system is designed for remote, high-reliability operation in extreme northern Alberta conditions and needed to comply with Canadian Drinking Water Guidelines while managing high iron, manganese, and turbidity levels. The plant was sized for 275 m^3/day and is structured to minimize operator involvement through automation and redundancy.





System Technical Information

One (1) well pump, including VFD, level alarm switches, level transmitter, flow transmitter and heat tracing.

Two (2) pressure tanks, including pressure transmitter.

Four (4) greensand filters (N+1 redundancy), including a master controller to provide sequential regeneration with potassium permanganate.

Five (5) PVDF, outside-in UF membranes rated for 0.3 micron (N+1 redundancy) ,including automatic valves.

Four (4) NF membranes (N+1 redundancy), including automatic valves.

Two (2) chlorine dosing pumps (duty/shelf spare).

One (1) flow transmitter.

One (1) re-pressurization skid.

One (1) distribution instrumentation package, including flow transmitter and chlorine analyzer.

Date of Substantial Completion:	12/9/2012	Approximate Contract Value: $	850,000 CAD
Capacity (m^3/d):	275 m3/d		

Describe performance; describe Startup or operational issues

Start up was performed in December 2012, consisting of six (6) days of site acceptance testing, start up, commissioning and training.