



Dewatering Pumping Plan

JOB 25-919 – 424 Churchill Ave. North

Prepared By: Bradley Sheppard

Date: July 8th, 2025

Prepared For:
GSI Properties

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INTRODUCTION

Aquatech Dewatering Company is pleased to provide this dewatering plan to service all the dewatering and water treatment requirements for the above project in Ottawa, ON.

BACKGROUND INFORMATION

The dewatering and groundwater treatment scope of work for this project is to be performed by GSI Properties, with Aquatech Dewatering acting as a subcontractor for the supply of the dewatering and treatment equipment for the site. The development of 424 Churchill Ave and the resulting contaminated water from excavation efforts, is driving the need for an on-site groundwater treatment system. The dewatering system engineered by Aquatech Dewatering was based primarily on the follow files provided by GSI Properties:

- Phase I & II Environmental Site Assessment – 424 Churchill Avenue North, Ottawa, Ontario

SCOPE OF WORK

Hydrogeological Conditions

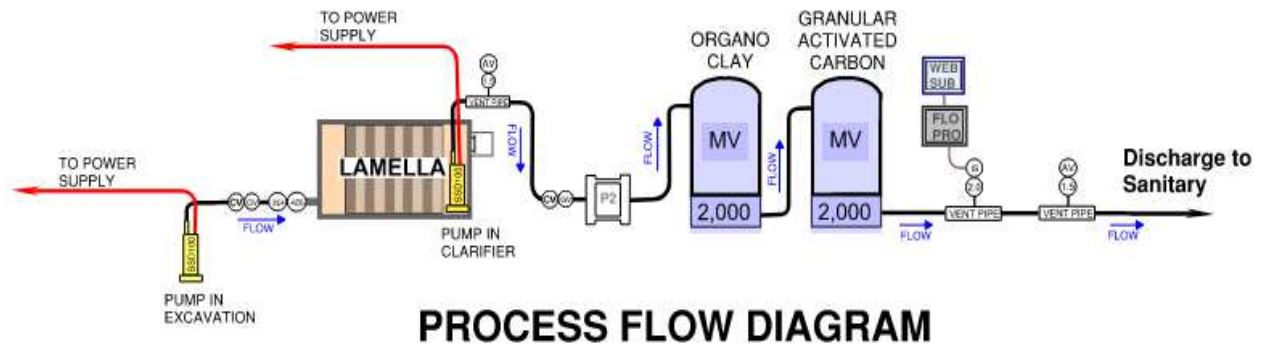
The provided flow rate is 5.83 m³/hr (25.7 USGPM) of water fed to the treatment system from the excavations. The water will be discharged into a live sanitary service line connecting to the existing property or one of the following existing manholes (MHSA27544 or MHSA61069). The full treatment system below was designed for the maximum flow rate of 5.83 m³/hr but can be scaled as needed depending on the flow requirements throughout the project.

WTP Requirements	
Parameters	Details
Flow Rate	5.83 m ³ /hr (25.7 USGPM)
Discharge Distance	~ 50 m
Duration of Work	Estimated at 7 months
Exceedance Handling	PHC, VOC

Excavation Dewatering

The excavation pit will house Aquatech's 2-inch submersible pump which will pump all the construction groundwater to the treatment system on site. The exact location of all sumps and dewatering lines will need to be field fitted and adjusted throughout the project. Below is a schematic of the dewatering /treatment system from the excavation to the discharge location

TREATMENT SYSTEM 25.7 USGPM PROCESS DIAGRAM



Water Treatment System

The on-site treatment system will be based on the above parameters/findings. GSI Properties would like to commence this project with a 25.7 USGPM treatment system. All water discharged from the treatment system will be tested to ensure that it meets the City of Sewer Use Agreement prior to discharging. GSI Properties is responsible for groundwater and discharge testing.

Systems Monitoring & Maintenance

GSI Properties will be completing all general monitoring and basic system maintenance throughout the entirety of the project. Aquatech's flow monitoring equipment is programed to upload flow monitoring reports to the Scada Core. After system commissioning, GSI Properties will receive flow monitoring report via emailed from Aquatech or by accessing the Scada Core dashboard directly on the web. Sampling of the water before it enters the treatment system, and after it leaves the treatment system will be necessary to ensure that the treatment system has effectively removed the contaminants of concern and remaining compliant with the City of Ottawa sewer discharge requirements.

PROPOSED WATER TREATMENT SYSTEM BREAKDOWN

Design Parameters	
Parameters	Details
Design Flow Rate	25.7 USGPM
Suction Lift	~4m
Discharge Distance	~50m
Duration of Work	Estimated 7 months
Exceedances	PHCs , VOCs
Discharging to	Sanitary
Power Requirements	115V / 240V Single Phase

25.7 USGPM Water Treatment System

- (two) 2" Submersible Pumps
- Suction hose to the treatment system
- (one) Lamella 60AQLC filtration tank
- (one) P2 Duplex Bag Filtration Unit (5 micron)
- (two) 2000 lb. Media Vessels
 - o Media: Organo Clay – 4000lbs for one vessel
 - o Media GAC: - 2000lbs for one vessel
- Aquaflo Flow monitoring System with Web Subscription
- Multiple Check and Gate Valves for throttling
- Multiple 45 & 90-Degree Elbows
- Sewage Air/Vac Relief & Drains

Construction Dewatering Plan Details

The water treatment system will process all groundwater incoming flows, which will be set up to process at a maximum of 30 USGPM. If new contaminants are present or if discharge criteria aren't being achieved, then further modifications to the treatment system may be required. All dewatering equipment must be winterized prior to freezing temperatures. The layout and description of the system is as follows:

1. GSI Properties is to install a sump pit in a strategic location as work progresses. The active sump pit will direct groundwater directly the treatment system.
2. Any electric submersible pump in the excavation will be controlled to the desired flow rate using gate valves.
3. Each sump is to be constructed with a clear stone base and a sleeve to accommodate the pumps.
4. One electric submersible pump will be installed in the last section of the Lamella tank (elevated from the bottom), to move the water on through the rest of the treatment system. The pump will operate using floats controls that will turn on and off the pumps as required.
5. The water will then pass through one P2 bag filtration unit which will filter out suspended particles down to 5 micron. Filter bags will be changed out by GSI Properties daily (or as needed)
6. The water will then be further advanced through two 2000 lb media vessels in series. The first vessel will contain Organo Clay media, and the second vessel will contain GAC Carbon media. Both media are highly effective in eliminating the reported organic contaminants.
7. Once the water has been treated, it will pass through a Flopro Monitoring System that will monitor the discharge following flow rate and publish data.
8. GSI will sample the water as needed to satisfy the City of Ottawa Sewer Use Agreement requirements.

**** All filtrate or settlement in the lamella tanks will be disposed of via a vac truck. Bag filters will be disposed of to a waste management bin supplied by GSI Properties. GSI Properties will dispose of waste accordingly. ****

SPILL RESPONSE, PREVENTION, CONTROL, AND CLEANUP

A spill is defined in the Ontario Environmental Protection Act as a discharge "into the natural environment, from or out of a structure, vehicle or other container, that is abnormal in quality or quantity in light of all the circumstances of the discharge". During this project, it is our intent to prevent all spills of hazardous and non-hazardous substances through policies and procedures that will control risk factors that would lead to a spill. Preventative measures are the best means to avoid accidental release to air, land or water. If an unpreventable spill does occur, the Ministry of the Environment and Climate Change (MOECC) Spills Action Centre at 1-800-268-6060 will be notified by the designated reporting person, as well as the facility representative as soon as the spill becomes known.

Spill response materials should be available wherever hazardous materials are used or stored. These spill response materials should be suitable in type and quantity to the type and quantity of hazardous materials being used at that location. Upon detection of a release or spill of a hazardous substance, take the following steps as soon as possible to prevent risk to people or the environment.

Secure the area – Establish a hazard zone that will keep non-emergency personnel away from danger. If necessary, arrange for a worker to patrol the zone to keep observers at a safe distance.

Assess the situation – The condition should be assessed for potential fire; danger to humans, property and the environment; determine if evacuation or spill containment is required; determine what equipment and materials are required and what immediate action can be taken to contain the situation.

Identify Product(s) – Refer to the Material Safety Data Sheets for detailed clean-up procedures, health hazards and personal protective equipment to be used. Labels and symbols on containers can be used to identify the products involved. Also shipping documents can be used to identify products.

Response – Establish a command post and establish lines of communication. Rescue casualties where possible and evacuate if necessary. Maintain control of the site. If additional information is required, contact CANUTEC, this agency provides an advisory service and is staffed by professionals trained in interpreting information and providing emergency response advice.

Reporting – Report the situation to E.O.R., MOE Spill Action Line and any other involved parties. The Supervisor is to prepare a written report, to include the cause of spill; location, size and characteristics of area affected; actions taken in sequence; time sequence from detection to cleanup; follow-up monitoring and reclamation needs (if any); Consultant report (if any).

Clean-up Contractors – The following is a list of licensed clean-up contractors.

- Tomlinson Environmental Services - 1(844) 992-1069 ex. 5

INSPECTION PROGRAM

The treatment system is designed to operate automatically; however, it does require frequent inspections to ensure consistent performance. Aquatech will train the customer's staff on proper operating procedures of the system so they can correct any minor deficiencies. The customer will be operating the system daily, however, Aquatech can perform a "system check" by a qualified technician upon request. Any minor deficiencies spotted during the system check, will be dealt with during visit. As a part of the inspection program, the system operator (GSI Properties), will be responsible for water quality sampling to verify the effectiveness of the system to treat the groundwater, and to monitor the contaminants that are present. The samples will be taken at both the system inlet and system outlet so that contamination levels after treatment can be compared.

INSPECTION, REPAIR, AND MAINTENANCE PROGRAM

The treatment system is expected to be deployed for an estimated 7-month period. During this time the system operator will be responsible for routine repair and maintenance as required. Should one of the pumps fail, Aquatech can supply a replacement pump upon request.

Based on a 25.7 USGPM system, the following daily maintenance could be required based on contamination and turbidity within the influent water.

- Daily bag filter change outs (45 mins at a minimum depending on influent TSS)
- Daily system check (1 hr)
- As needed treatment vessel backwashing of 2,000 lb media vessels (2 hrs)

Typically, a qualified technician would complete these tasks on a specified schedule throughout the duration of the project. Aquatech can train the onsite personnel to complete these tasks as required.

CONTINGENCY PLANS AND PROCEDURES

The treatment system is designed to treat contaminants of concern; however, an upset condition can occur due to the nature of filtration & treatment systems.

Immediate Response

1. **Safety First:** Ensure the safety of personnel and the surrounding environment. If there is an immediate threat to health or safety, initiate emergency response procedures, including evacuation if necessary.
2. **Isolate the System:** Identify and isolate the affected part of the water treatment system to prevent further contamination or adverse impacts. Shut off valves, divert flow, or take other appropriate measures to contain the issue.
3. **Notification:** Notify the project manager and relevant stakeholders about the situation.
4. **Confirm:** Collect a confirmatory sample for rush analysis to verify the initial finding.

Assess and Investigate

1. **Documentation:** Document details of the adverse impact, including the time, date, affected area, and any observed symptoms or anomalies.
2. **Root Cause Analysis:** Initiate an investigation to determine the root cause of the adverse impact. Evaluate equipment logs, operational records, and any available data to identify the source of the issue.
3. **Sampling and Analysis:** Conduct sampling and laboratory analysis to assess the extent of the impact and identify the contaminants or parameters that caused the problem.
4. **Risk Assessment:** Assess the potential risks to the environment, including soil, groundwater, and air quality. Consult with environmental experts, regulatory agencies, and relevant stakeholders to determine the severity and immediate actions required.

Communication and Notification

1. Internal Communication: Notify all relevant personnel, including operators, management, and environmental remediation experts, about the adverse impact. Clearly communicate their roles and responsibilities in addressing the situation.
2. External Communication, if applicable: Prepare a communication strategy to inform the public, nearby communities, regulatory agencies, and stakeholders about the adverse impact. Develop clear and concise messages that address the situation, potential risks, and the steps being taken to mitigate the issue.
3. Regulatory Reporting: Comply with all regulatory reporting requirements. Notify the appropriate regulatory agencies about the adverse impact, providing all necessary information and updates as required.

Mitigation and Remediation

1. Containment and Control: Implement measures to prevent further adverse impacts to the environment. This may include implementing additional treatment equipment systems, temporary storage, or hauling to waste.
2. Remediation Plan: Develop a detailed plan to remediate the adverse impact and restore the water treatment system to normal operation. This may involve equipment repairs, replacement, or modifications as necessary.
3. Monitoring and Sampling: Increase the frequency of monitoring and sampling to assess the progress of remediation efforts and ensure compliance with environmental standards and regulations.
4. Environmental Restoration: Collaborate with environmental experts and regulatory agencies to develop a plan for restoring the affected environment, including soil and groundwater remediation, habitat restoration, and other necessary measures, if required.

Evaluation and Prevention

1. Lessons Learned: Conduct a thorough evaluation of the adverse impact incident, including the response actions, effectiveness of the contingency plan, and areas for improvement.
2. Plan Updates: Revise the contingency plan based on lessons learned and recommendations from the incident evaluation. Ensure that the plan addresses the identified weaknesses and includes updated contact information, procedures, and response protocols.
3. Training and Preparedness: Provide additional training to personnel based on the lessons learned. Regularly conduct drills and exercises to test the revised plan and enhance preparedness for future incidents.

COMPLAINT PROCEDURES

Aquatech is a 24/7 emergency response company. Should Aquatech receive any public complaints they will be handled through our daily operations/service staff or our on-call operations/service staff for any afterhours concerns or complaints.

Complaint Procedure

1. Acknowledge the complaint:
 - Upon receiving a public complaint, promptly acknowledge it to let the individual know that their concerns have been received.
 - Thank them for bringing the issue to your attention and assure them that their complaint will be addressed.
2. Gather relevant information:
 - Request the necessary details from the complainant, such as their contact information, the nature of the complaint, any supporting evidence, and the date and location of the incident.
 - Ensure that you have all the relevant facts to investigate the complaint thoroughly.
3. Assign responsibility:
 - Determine the appropriate department or individual responsible for handling the specific complaint.
 - Assign the complaint to the relevant person to ensure a prompt and effective response.
4. Conduct a thorough investigation:
 - Review the information provided by the complainant and gather any additional relevant data or evidence.

- Interview any witnesses or parties involved in the incident, if applicable.
- Maintain accurate records of the investigation process, including dates, times, and actions taken.
- 5. Provide a timely response:
 - Respond to the complainant within a reasonable timeframe, usually within a specific number of business days.
 - Address the complaint professionally, acknowledging the issues raised and providing a clear and concise explanation of the findings.
 - If necessary, offer an apology for any mistakes or inconveniences caused.
- 6. Offer solutions or remedies:
 - Based on the investigation, propose appropriate solutions or remedies to address the complainant's concerns.
 - If feasible, provide options to resolve the issue and ensure that the complainant's needs are met to the best extent possible.
- 7. Follow up and close the loop:
 - Monitor the progress of implementing the proposed solutions or remedies.
 - Communicate with the complainant to ensure their satisfaction with the resolution or address any further questions or concerns they may have.
 - Keep a record of the resolution and document the closure of the complaint.
- 8. Evaluate and learn from the complaint:
 - Analyze the complaint and its underlying causes to identify potential areas for improvement in processes, policies, or training.
 - Share insights and recommendations with relevant stakeholders to prevent similar complaints in the future.
- 9. Maintain confidentiality and professionalism:
 - Ensure the privacy and confidentiality of the complainant's personal information throughout the process.
 - Always treat the complainant with respect and professionalism, regardless of the outcome.
- 10. Continuous improvement:
 - Regularly review and update the complaint handling procedure to incorporate feedback, address any identified gaps, and improve the overall complaint management process.
 - Provide training and resources to staff members involved in complaint handling to enhance their skills and effectiveness.

Remember, each complaint is an opportunity to improve and enhance the public's trust and satisfaction. By following this procedure, you can demonstrate a commitment to addressing concerns and fostering positive relationships with the public.

COMPANY PERSONNEL ACKNOWLEDGEMENT

I, Bradley Sheppard, have completed and reviewed this dewatering pumping plan in its entirety, for the Block 2 Major Utilities Relocation, Ottawa ON. All drawings and equipment specifications have been completed and attached below in the appendices.

A handwritten signature in black ink, appearing to read 'BSheppard', is written over a horizontal line.

Bradley Sheppard | BASc. (Eng) | Project Manager

Aquatech Dewatering Company

APPENDIX A – EQUIPMENT SPECIFICATIONS

AQCL125 TANKS

AQCL125

LAMELLA CLARIFIER

Effective sediment filtration solution with 80% more efficiency than conventional 70,000 gallon weir tanks

TECHNICAL SPECIFICATIONS



80%
MORE SPACE
EFFICIENT THAN
18,000 GAL TANKS

<5 NTU
WITH CHEMICAL
DOSING, 50 NTU
WITHOUT DOSING

SPECIFICATIONS

Flow Capacity	125 USGPM 30m ³ /h
Filtration Efficiency	<50 NTU without dosing <5 NTU with chemical/ polymer dosing
Dimensions (LxWxH)	13.2 x 6 x 7 Ft 4 x 1.8 x 2.1 m
Additional Sizes	AQCL250, AQCL60

FEATURES

- Removal of sediment and associated contaminants
- Units can be used in parallel and/or in series
- 2x more settling area than a 18,000 gal weir tank
- Easy cleaning and maintenance with removable coalescing media and sludge hopper
- Compatible with SCADA and 24/7 remote monitoring systems for remote chemical dosing control and water quality compliance monitoring
- Easy to transport and minimal set-up required



SPACE EFFICIENCY
VS 18,000 GAL
TANK



info@aquosis.ca | aquosis.ca



2" SSD100 – Submersible Pump

	TECHNICAL DATA			AVENGER SERIES	SSD-100
	Dwg:	DS-A13-005	Rev: 2	Date: 01/16	

MOTOR SPECIFICATIONS

Motor Design	Induction
Motor Type	Enclosed submersible
Insulation Class	Class B
Motor Protection	Bi-metallic Thermal Switch
Bi-Metallic Temp Trip	120° C ± 5° C
Service Factor	1.3
Voltage Tolerance	± 10% from nominal



MOTOR DATA, 60Hz

Model	Phase	Output Power BHP	Volts	Full Load Amps	Locked Rotor Amps	NEMA Code Letter	Power Factor 100% Load	Motor Efficiency 100% Load	Pole/Speed (rpm)
SSD-100	1	1.0	115	12	60	H	0.99	0.695	2/3450
	1	1.0	208	6.6	33	H	0.98	0.694	2/3450
	1	1.0	230	6	30	H	0.98	0.694	2/3450
	3	1.0	208	3.7	18.5	H	0.84	0.724	2/3450
	3	1.0	230	3.4	17	H	0.84	0.724	2/3450
	3	1.0	460	2	10	J	0.88	0.742	2/3450
	3	1.0	575	1.5	7.5	J	0.81	0.726	2/3450

MATERIALS OF CONSTRUCTION

Discharge Connection	Cast Iron (FC 15)
Motor Housing	AISI 304 Stainless Steel
Oil Chamber	Aluminum (ADC 12)
Volute	Cast Iron (FC 20)
External Hardware	AISI 304 Stainless Steel
O-Rings	NBR
Motor Shaft	Stainless Steel(410)
Upper Bearing	Single row, doubled sealed
Lower Bearing(s)	Single row, doubled sealed
Upper Shaft Seal	CA/CE (carbon/ceramic)
Lower Shaft Seal	SiC/SiC (silicon carbide/silicon carbide)
Impeller	Hytrek (steel coated with thermoplastic polyester elastomer)

DIMENSIONS, WEIGHT, AND MISC.

Pump weight single phase	33lbs (15kg)
Pump weight three phase	33lbs (15kg)
Maximum submergence	33 feet (10m)
Discharge size, standard	2 inch NPT female vertical
Maximum temp. of pumped fluid	104°F (40°C)
Inlet Opening	6mm

CABLE SPECIFICATIONS

MODEL	PHASE/VOLTAGE	POWER CABLE	LENGTH	OUTER JACKET
SSD-100	1Ø-115V	SJTW 14/3	50feet (15m)	NBR
	1Ø-208V	SJTW 16/3	50feet (15m)	NBR
	1Ø-230V	SJTW 16/3	50feet (15m)	NBR
	3Ø-208V	STOW 16/4	50feet (15m)	NBR
	3Ø-230V	STOW 16/4	50feet (15m)	NBR
	3Ø-460V	STOW 16/4	50feet (15m)	NBR
	3Ø-575V	STOW 16/4	50feet (15m)	NBR

Power cable suitable for all standard voltages listed in "MOTOR DATA" section.


Specifications subject to change without notice.

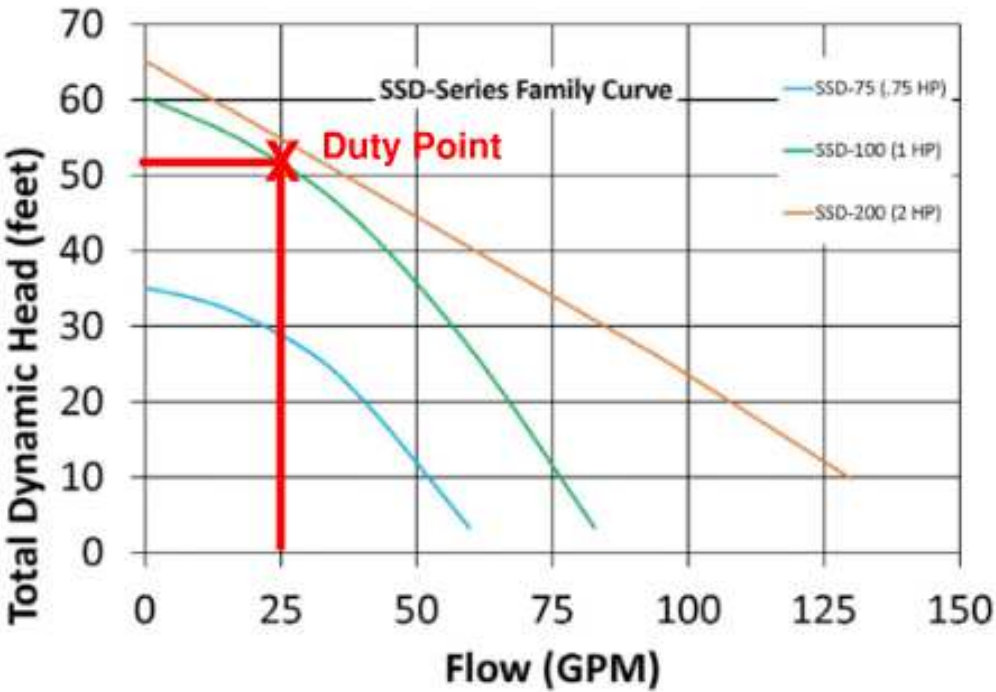
Stancor, Inc. 515 Fan Hill Road, Monroe, CT 06468

Tel: 203-268-7513

Fax: 203-268-7958

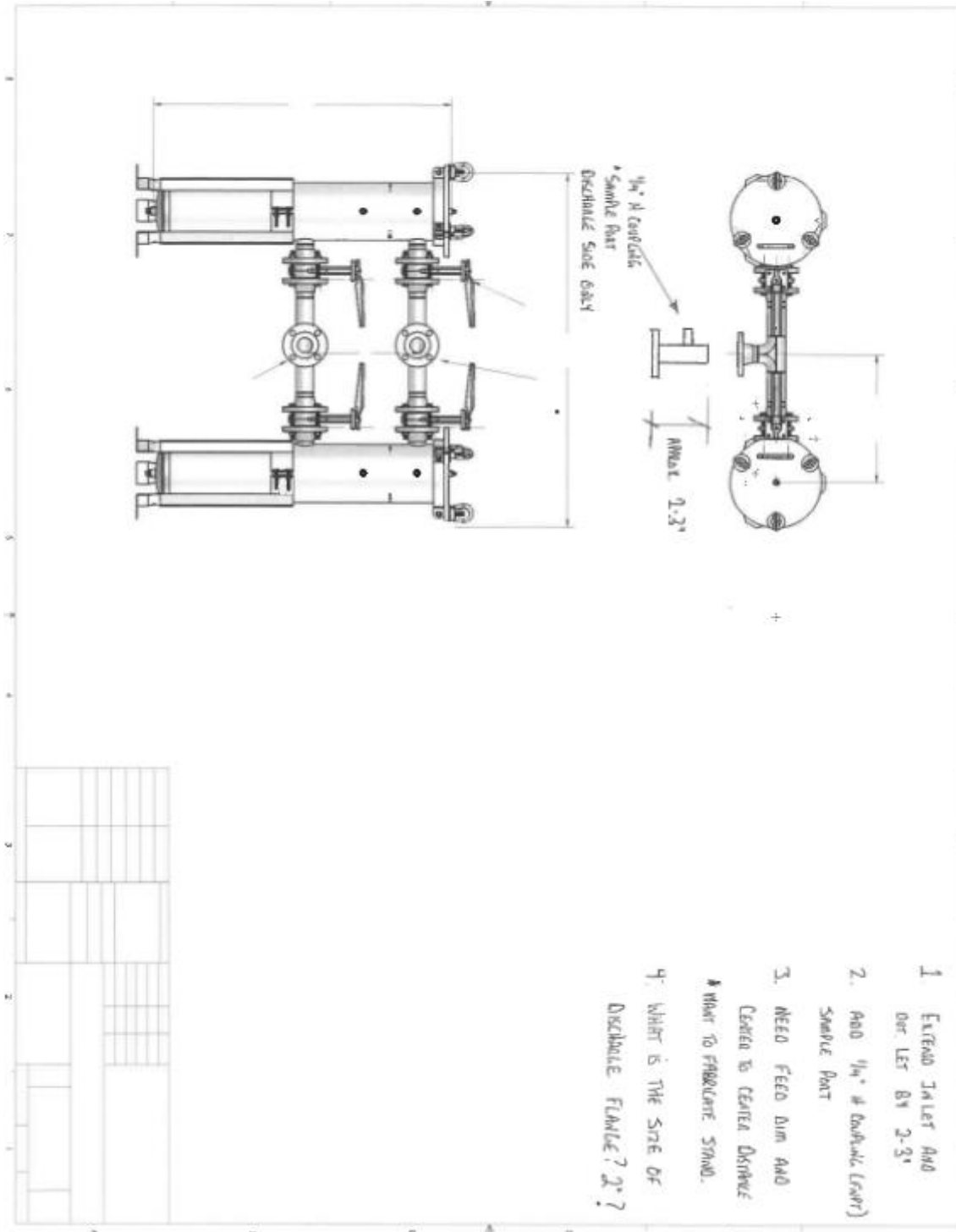
www.stancorpumps.com

	PERFORMANCE CURVE	Avenger Series	SSD Series
SEANCOR	Dwg: DS-A13-013	Rev:	Date: 07/16



Specifications subject to change without notice.
Stancor, L.P. 515 Fan Hill Road, Monroe, CT 06468 Tel: 203-268-7513 Fax: 203-268-7958 www.stancorpumps.com

P2 Duplex Bag Filter Unit



P2 Duplex Bag Filters - 5 Micron



Nova Filtration Technologies

STANDARD FELT LIQUID FILTER BAGS

FEATURES:

- Micron Ratings From 1 To 200
- All Industry Standard & Custom Sizes Available
- Broad Chemical Compatibility
- High Flow/Low Pressure Drop
- Sewn Or Fully-Welded Construction With Handles On All Bags
- Choice Of Steel Or Plastic Flange
- Temperature Ratings: 200°F (PO), 275°F (PE), 425°F (HT) & 500°F (Teflon®)

FELT BAG MATERIALS:

Constructed using 100% synthetic fibers in Polypropylene, Polyester, Nomex® & Teflon®. The proper combinations of fiber diameters, weights and thicknesses result in an economical depth filter media. To reduce fiber migration, Polypropylene bags are treated with a glazed finish, while Polyester & Nomex® bags are singed.



- Polypropylene & Polyester Materials Meet FDA Regulations For Food Contact Under CFR21, Section 177.1520
- Silicone-Free Construction
- High Dirt Holding Capacity & Low Cost
- Ability To Remove Both Solid & Gelatinous Particles
- Glazed/Singed Finish On Polypropylene & Polyester Reduces Fiber-Shedding



Glazed/Singed Outer Finish

Filtered Fluid

Unfiltered Fluid

Felt Filter Media Traps Contaminants within its Depth

Plain Inner Finish

BAG DIMENSIONS

Size	Diam.	Length
P1	7.06"	16.5"
P2	7.06"	32.0"
P3	4.12"	8.0"
P4	4.12"	14.0"
P5	4.12"	24.0"
P7	5.50"	15.0"
P8	5.50"	21.0"
P9	5.50"	31.0"
PI1	8.50"	16.0"
PI2	8.50"	32.0"
C1	7.31"	16.5"
C2	7.31"	32.5"
RP-1	8.0"	30.0"
RP-2	8.0"	40.0"
PC-1	9.0"	20.0"
PC-2	9.0"	30.0"
X1	4.35"	8.0"
X2	4.35"	14.0"
XO1	6.0"	22.0"

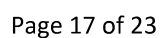
BUILDING A PART NUMBER

Media Type	Micron Rating	Bag Dimensions	Ring/Flange Styles
PE	10	P2	S
Polyester = PE	1	50	See
Polypropylene = PO	3*	75	"Bag Dimensions" Chart
Nomex® = HT	5	100	
Teflon® = PTFE	10	200	
	25		

* 3 Micron not offered in Nomex® & Teflon® ** Custom configurations may be available upon request

1-1367 Osprey Drive, Ancaster ON L9G4V5 PH: (905)-304-8157 Fax: (905)-304-9227 info@novafiltrationtech.com

Visit Nova Filtration Technologies' website for all your filtration needs. www.novafiltrationtech.com



Remote Monitoring

REMOTE MONITORING SYSTEMS FOR BYPASS PUMPING & DEWATERING

ELIMINATE UNNECESSARY RISK AND COSTS



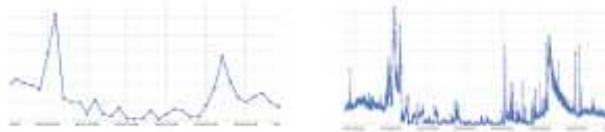
Save Money and Achieve Your End Results with Real-Time Data

- ✓ Anticipate and resolve issues and delays before they happen
- ✓ Manage your risk with full awareness of whats going on on-site
- ✓ Make live adjustments to your system to achieve maximum performance
- ✓ Maintain records of your environmental compliance due diligence

1

CONTINUOUS REMOTE MONITORING

High-resolution data provides the full picture and is reliable



2

CUSTOM ALERTS

Set custom call, text, or email alerts



3

CENTRAL DASHBOARD FOR ALL PARAMETERS & SITES

One central cloud-based platform for monitoring and accessing all your data



Dewatering & Pumping Solutions

AquatechDewatering.com | 1-877-907-7852

DISCHARGE AGREEMENT COMPLIANCE

TAMPER-PROOF, SECURE DATA

Our monitoring platform remotely collects on-site data from multiple instruments in various applications.

Access your data from your smartphone or computer, and receive alerts when user-defined thresholds are exceeded.

- Tamper-Proof, Secure Data
- Non-Resettable
- Remote Monitoring
- Cloud-Based Data



MONITORING DASHBOARD & ALERTS



24/7 REMOTE ACCESS TO DATA

Access anywhere with internet



CUSTOM ALARMS

Custom thresholds and notifications per user



USER PERMISSIONS

Set custom permissions for different viewers



INSTRUMENT TRACKING

Centralized location to track all live instruments on-site










BACKED-UP SECURE DATA

Backed up to two servers



INSTRUMENTATION

Integrated and highly accurate instrumentation, selected for specific application requirements

BASE MONITORING PLATFORM		REMOTE DASHBOARD & ALERTS			
	<ul style="list-style-type: none">Collect data from multiple instrumentsNon-resettable dataTelemetry-readyFlexible power optionsRugged build		<ul style="list-style-type: none">Central location for all project dataUnlimited data storageAccess and share data anytimeCustomizable alarms notify you in real-time via sms/email/call		
BYPASS MONITORING PARAMETERS					
WATER & WASTEWATER FLOW		VACUUM & PRESSURE			
	Accurate doppler/ultrasonic sensors for both partially-full and full pipes, and fits multiple pipe diameters		Suction/Header Line Vacuum Discharge Pressure Level		
SURCHARGE/FLUID LEVEL		HIGH & LOW LEVEL			
	Depth for Water, Oil and Wastewater		Trigger for Water/Wastewater Level		
ADDITIONAL MONITORING PARAMETERS					
PUMP OPERATIONS		WATER QUALITY			
	Engine Speed & Temperature, Fuel Level, Oil Pressure, Power		Multi-Parameter Instruments for: Turbidity, TSS, pH, Temperature, DO, ORP, TDS, RDO, Barometric Pressure, Salinity, Conductivity, Chloride, Nitrate, Ammonium, Rhodamine WT, Chlorophyll, Blue Green Algae		
RAIN LEVEL		AIR QUALITY & WEATHER		NOISE & VIBRATION	
	Accumulated Rainfall		Dust, Temperature, Gases, Wind Speed/Direction, Rainfall, Humidity, Sunlight		Noise level, Shock/ Pulsation Level
SERVICES					
SOLUTION PACKAGING		ON-SITE SERVICE		TRAINING & SUPPORT	
	We integrate instruments that best match your unique project		System design, installation, maintenance and troubleshooting		Full technical support and both on-site/in-shop training

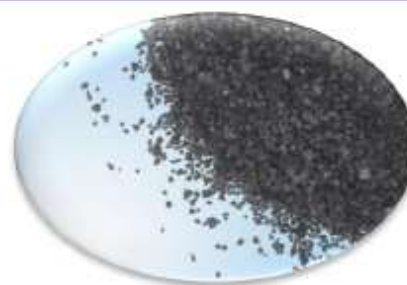
APPENDIX B – CUT SHEET



Carbone Activé & Produits liés
Activated Carbon & Related Products
300 Rue Brosseau
St-Jean-sur-Richelieu (Québec) Canada J3B 2E9
Tél.: (450) 348-1807 • Fax: (450) 348-3311
accarbon@accarbone.com

PRODUCT SPECIFICATION

ACTIVATED CARBON TYPE: BC-830 BITUMINOUS COAL BASED CARBON



TYPICAL PROPERTIES

Iodine Number (ASTM D-4607)	920-980 mg/g
Moisture Content (ASTM D-2887)	5% Maximum (as packed)
Particle Size (ASTM D-2882)	8 x 30 US Mesh, 90% Minimum; 2.38 – 0.595 mm
Water Soluble Ash	< 1%
Hardness (ASTM D-3802)	90-95%
Apparent Density	0.44 - 0.54 g/cc; 28-33 lbs/ft ³
Ash Content	12-15%
Carbon Tetrachloride Activity (ASTM D3467)	60%
Methylene Blue No.	160-200 mg/g

NOTES

- A.C. Carbone is continually improving its products and updating its product specifications. Please contact A.C. Carbone for a detailed review of your application before proceeding.
- Unless otherwise specified, particle size distribution will be 5% maximum on the top screen and 5% maximum through the bottom screen.
- In the event the moisture exceeds our 5% maximum, A.C. Carbone Canada will weight adjust to the 5% limit.
- Dust and fines may be present in product due to the nature of this product. A.C. Carbone controls and minimizes dust content and fines to the best of its ability.
- Generation of dust and fines can be increased from handling and transportation, please review the MSDS.
- ALL INFORMATION IS GIVEN IN GOOD FAITH, WITHOUT GUARANTEE.
- An MSDS is available upon request.



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PRODUCT SPECIFICATION

ORGANOPHILIC CLAY GRADE: MZM-830-P MODIFIED CLAY MEDIA PURE



TYPICAL PROPERTIES

pH stable range	4-10
Moisture Content (ASTM D-2887)	10 - 20% Maximum
Particle Size (ASTM D-2882)	8 x 30 US Mesh
Hardness (ASTM D-3802)	90%
Density	55 - 59 lbs/ft ³
Thermally Stable, °F	33-170
Mohs Scale	4.0
Specific Surface, ft ² /g	431

NOTES

- Modified Zeolite Media (MZM-830-P), also commonly known as organo-clay is composed of 100% organically modified Zeolite.
- MZM-830-P is designed specifically to remove high-molecular-weight hydrocarbons, chlorinated hydrocarbons and heavy metals. Because it absorbs oils and grease outside the basic zeolite particle, it is not subject to pore plugging and has a capacity of up to 70% of its own weight.
- MZM-830-P works well upstream of activated carbon to extend the life of the carbon.
- Non swelling as with conventional clays

- A.C. Carbone is continually improving its products and updating its product specifications. Please contact A.C. Carbone for a detailed review of your application before proceeding.
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