Comment Index

Waste Oil Recycling and Water Treatment Facility

February 19, 2022

Government

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Mi'Kmaq of Nova Scotia

Number	Source	Date Received
	None	

Public		
Number	**Source**	**Date Received**
1	Halifax Regional Municipality	20-Jan-22

Fisheries and Oceans Canada | Pêches et Océans Canada

PO Box 1006, P500
Dartmouth, NS B2Y 4A2

December 15, 2021

Your file *Votre référence*
19-1742-1000

Our file *Notre référence*
21-HMAR-00146

Candace Quinn
Environmental Assessment Officer
Nova Scotia Environment
1903 Barrington Street, Suite 2085
Halifax, NS B3J 2P8

Subject: Environmental Assessment Registration Document (EARD) – Envirosoil Limited- Waste Oil Recycling and Water Treatment Facility - Dartmouth

Dear Candace Quinn:

The Fish and Fish Habitat Protection Program (the Program) of Fisheries and Oceans Canada (DFO) received your request to review the Additional Information Addendum for the proposed Envirosoil Limited- Waste Oil Recycling and Water Treatment Facility – Dartmouth, Nova Scotia Project on December 15, 2021.

DFO's role is to provide advice for the physical works, undertaking and activities under habitat provisions of the *Fisheries Act* and the *Species at Risk Act.* Matters related to the deposit of a deleterious substance into waters frequented by fish (e.g. Halifax Harbour) come under the mandate of Environment and Climate Change Canada. As with all land based activities the proponent should follow standard measures to protect fish and fish habitat, which can be found on the DFO projects near water website at the following link: https://dfo-mpo.gc.ca/pnw-ppe/measures-mesures-eng.html

In particular, measures should be implemented to maintain riparian vegetation, carry out all aspects of the project on land, ensure proper sediment control, and prevent entry of deleterious substances in water. Any future work, undertaking or activities below the ordinary high water mark (e.g. shoreline stabilization or infilling) in fish habitat should be sent to the Program for review under the *Fisheries Act*.

If you have any questions with the content of this letter, please contact Colleen Smith at our Dartmouth office at (902) 293-7834 or by email at Colleen.Smith@dfo-mpo.gc.ca. Please refer to the file number referenced above when corresponding with the Program.

Yours sincerely,

Colleen Smith
A/ Marine Development Section Head
Ecosystems Management
Maritimes Region

Canada

Quinn, Candace M

From: Peverill, Derrick J
Sent: January 24, 2022 8:14 AM
To: Quinn, Candace M
Subject: RE: Envirosoil Waste Oil Recycling and Water Treatment Project - Additional Information Addendum EA Review

Follow Up Flag: Follow up
Flag Status: Completed

Hi Candice,

As per our phone meeting I have no further comments on this submission. My concerns may be addressed at the Industrial approval stage.

Thank You

Derrick

Quinn, Candace M

From: Check, Gordon G
Sent: January 25, 2022 9:58 AM
To: Quinn, Candace M
Cc: Rocard, Jennifer Marie
Subject: RE: Envirosoil Waste Oil Recycling and Water Treatment Project - Additional Information Addendum EA Review

Hi Candace,

I have no additional comments to make on the Additional Information Addendum for this EA Project.

Note that there were no significant groundwater issues in the initial EA review raised by myself, or in the Minister's initial decision letter (May 2021). The additional Addendum information provided also does not identify any further groundwater concerns (other than potential for spills on site which is addressed by standard operational mitigation measures in the report).

Regards,

Gordon

NOVA SCOTIA
Environment and Climate Change

1894 Barrington St.
PO Box 442
Halifax, NS B3J 2P8

Gordon Check, MASc, PGeo. (he/him)
Senior Hydrogeologist
Water Resources Management

Sustainability and Applied Science Division

☎ **(902) 497-4853**
Gordon.Check@novascotia.ca

NOVA SCOTIA

Agriculture

60 Research Drive
Suite A
Bible Hill, Nova Scotia
B6L 2R2

Date: January 27th, 2022

To: Candace Quinn, Nova Scotia Environment and Climate Change

From: Executive Director, Policy and Corporate Services,
Nova Scotia Department of Agriculture

Subject: Waste Oil Recycling and Water Treatment Facility Additional Information Addendum – Environmental Assessment

Thank you for the opportunity to review the Waste Oil Recycling and Water Treatment Facility Additional Information Addendum documents.

Given that there is no active agriculture production within 5 km of the proposed site, the Department of Agriculture has no concerns with the proposal.

NOVA SCOTIA
Environment and Climate Change

Barrington Place
1903 Barrington Street
Suite 2085
Halifax, Nova Scotia
Canada B3J 2P8

Date: 27 January 2022

To: Candace Quinn, Environmental Assessment Officer

From: Brent Baxter, P.Eng.,
Senior Environmental Engineer, Resources Unit

Subject: Envirosoil Waste Oil Recycling and Water Treatment Facility, Dartmouth

I have reviewed the Additional Information Addendum provided by Envirosoil (the proponent) for their proposed waste oil recycling and water treatment facility at 750 Pleasant Street in Dartmouth, Nova Scotia. This additional information was submitted by Envirosoil to address perceived missing or insufficient information in the original environmental assessment application.

In my opinion, there are still significant gaps in some critical areas of this proposal. In particular, Envirosoil proposes to accept wastewater from undefined sources and gives design parameters in Table 3.3 of Appendix B, “Wastewater Management Plan”. In s.2.3.2 of the Addendum, the proponent notes that their proposed equipment system and processes can treat “metals” but it provides no information on what “metals” these may be, in what concentrations they may be present in the influent or effluent or even if a particular process will specifically treat or remove these “metals”. Since I assume that the proponent is referring to inorganic substances such as compounds including, but not limited to, elements such as cadmium, chromium, vanadium, copper and zinc, it is unclear how processes that the proponent proposes that rely mainly on filtration or absorption will treat many of these inorganic substances that may be highly soluble in water at levels above that acceptable to discharge to marine waters. Since metallic compounds and other inorganic substances such as arsenic and halides other than chlorides may be found in industrial wastewaters as well as risks associated with elevated or depressed pH, in my opinion there does not appear to be a proposed system to identify, monitor or treat these substances. Without a coherent program, any removal would likely be incidental to the main process of settling and filtration and hoping that the inorganic materials of concern dropped out with the less soluble particles. This gap could result in a risk of harm to the environment since many of these substances can impact marine water and life and can accumulate or biomagnify.

Please let me know if you require additional information or clarification on these comments.

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Halifax, Nova Scotia
B3J 3C4

NOVA SCOTIA

Fisheries and Aquaculture

Date: January 27, 2022

To: Candace Owen, Nova Scotia Environment and Climate Change

From: Executive Director, Policy and Corporate Services
Nova Scotia Department of Fisheries and Aquaculture

Subject: Waste Oil Recycling and Water Treatment Facility Additional Information Addendum – Environmental Assessment

Thank you for the opportunity to review the Waste Oil Recycling and Water Treatment Facility Additional Information Addendum documents.

The Department of Fisheries and Aquaculture has the following comments:

- There is no indication if the Harbour Authority of Eastern Passage was consulted directly or indirectly. Lobster holding pounds, a seafood processing facility and docking space for many commercial fishing vessels are located within this Harbour Authority.

- It appears that the company is taking all the necessary formal mitigation measures to ensure minimal risk to commercial fisheries as well as clearly defining emergency response and contingency measures in place in the event of an accident.

- There are three marine rockweed leases, one experimental shellfish site lease, and one licensed land-based facility within a 25 km radius of the proposed project.

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NOVA SCOTIA

Environment and Climate Change

Date: January 28, 2022

To: Candace Quinn, Environmental Assessment Officer

From: Environmental Health

Subject: Waste Oil Recycling and Water Treatment Facility

Scope of review:

The focus of this Environmental Assessment review from the NSECC Sustainability and Applied Science Division's Environmental Health Consultant is potential impacts on human health. In general, the scope of this review includes the assessment of the potential for the proposed undertaking/project to adversely affect human health in all phases of the project. Any recommendations provided below are meant to supplement the actions that are outlined in the EA submission documents.

Documents reviewed:

The documents outlined below formed the basis for this EA review,

ENVIROSOIL LIMITED
Environmental Assessment Registration Document - Addendum
Waste Oil Recycling and Water Treatment Facility, Dartmouth, Nova Scotia

There are no additional comments beyond those previously made with regard to this project, and specifically regarding the Addendum as indicated above.

Environment and Climate Change Canada | Environnement et Changement climatique Canada

Environmental Protection Branch
16th Floor Queen Square
45 Alderney Drive
Dartmouth, NS B2Y 2N6

January 28, 2022

Candace Quinn
Environmental Assessment Officer
Nova Scotia Environment
1903 Barrington Street, Suite 2085
Halifax, NS B3J 2P8

Dear Candace Quinn:

RE: Waste Oil Recycling and Water Treatment Facility Project, Dartmouth, Nova Scotia **21-NS-010**

Environment and Climate Change Canada (ECCC) has reviewed the Additional Information Addendum for Envirosoil Limited's Waste Oil Recycling and Water Treatment Facility project in Nova Scotia and offers the following comments:

Water Quality

- Table 1 (page 3) lists additional information the proponent was requested to provide. Part (d) of this table requests "*Discharge volumes, frequencies, sampling and analysis programs, and applicable criteria to be met prior to discharge (i.e., compare with Sewer Discharge Bylaw criteria, CCME marine water quality guidelines for the protection of aquatic life and the Nova Scotia Environment Contaminated Sites Regulations, Tier I EQS for surface water). This should take into consideration effluent quality, quantities, and the municipal treatment system technologies*." This information is not clearly provided.

- Section 1.4 (page 5) states "*Under this discharge scenario, the facility will be required to meet federal (CCME) discharge limits*." Please note that there are no federal discharge limits for such an operation. While CCME provides national environmental quality guidelines, these guideline were not developed as discharge criteria.

- Figure 3-2 (Appendix B, page 7) illustrates both the basic water treatment and the optional advanced treatment process (also outlined in Tables 3-1 and 3-2). It is not clear under what conditions or how this advanced treatment system is triggered.

- Section 4.0 (Appendix B, page 14) states "*Federal guidelines are considered applicable for discharge to a marine environment, and specifically the Halifax Harbour. The applicable bylaws, regulations and acts are: CCME Water Quality Guidelines for the Protection of Marine Aquatic Life*." Please note that CCME is not a bylaw, regulation or act. The Addendum makes no mention of the *Fisheries Act* (FA) and how it is implicated in this project (although

recommended it be considered in comments provided as part of the initial EA review in May 2021).

Subsection 36(3) of the FA prohibits the deposit of any deleterious substance in water frequented by fish unless authorized by regulations. When there are no regulations managing a deposit, it is subject to this prohibition. Deleterious substances include any substance, regardless of the quantity being deposited, that would degrade, alter, or form part of a process of degradation or alteration of the quality of water so that it is harmful to fish or fish habitat or for human consumption of any fish from that water. Although CCME Guidelines are tools that are used to help protect the environment, they are not an authorization to release deleterious substances to water frequented by fish under the FA. Given the proposed direct discharge to the harbour in this revised proposal, this legislation must be considered. Here is a link to more information on the FA, Frequently asked questions: Fisheries Act pollution prevention provisions - Canada.ca that may be helpful in terms of determining the acceptability of this proposed activity.

- Section 5.1.2 (Appendix B, page 16) refers to the USEPA methods and Ontario *Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater (v2.0),* but its not clear what specific contaminants will be analyzed in the incoming waste water and the resulting effluent; related to Bullet 1 above (i.e., sampling and analysis plan).

- Section 5.1.3 (Appendix B, page 18) states "*These in-line computerized systems, combined with the on-site laboratory and testing equipment can provide Envirosoil with all the required testing and instrumentation to ensure Envirosoil meets and/or exceeds all relevant permit conditions and legislative requirements for treatment and product discharge. If the treated wastewater test results identify that the effluent is in exceedance of the quality requirements, the PLC will automatically divert the water to the beginning of the process, shut down the system and sound an alarm*." Please clarify whether these conditions and legislative requirements have been established yet.

- Section 6.0 (page 23) refers to the CCME marine guidelines as follows "*By meeting CCME marine water quality guidelines for the protection of aquatic life, in all discharge from the facility it is also unlikely that death to fish or any other marine life would occur as a result of project activities*." Please refer to Bullet 4 above in terms of meeting the general provisions of the FA.

I trust the above comments will be of assistance. Please feel free to contact me at if you have any questions or concerns.

Yours truly,

Maryam Fazeli
Environmental Assessment
Environmental Protection Operations Directorate – Atlantic

NOVA SCOTIA

Environment

Barrington Place
1903 Barrington Street
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Halifax, Nova Scotia
Canada B3J 2P8

Date: January 28,2022

To: Candace Quinn, Environmental Assessment Officer
Environmental Assessment Review, Nova Scotia Environment and Climate Change

From: Nova Scotia Environment and Climate Change
Inspection, Enforcement and Compliance
Central Region

Subject: EA Registration – Envirosoil Limited Addendum -
Waste Oil Recycling and Wastewater Treatment Facility
750 Pleasant Street, Dartmouth, N.S.

In response to an additional information letter sent from the Minister dated May 28, 2021, Envirosoil Limited has proposed positive steps to support the Environmental Assessment Registration in the Environmental Assessment Registration Addendum Document dated December 14, 2021, prepared by Dillon Consulting.

A key aspect to support the registration is the clarification of the consultation with the HRWC and the commitment to direct liquid effluent, originating from the wastewater treatment plant, away from the municipal sanitary sewer system. The additional positive aspect to the commitment is to have process liquid effluent from the plant be adequately treated to comply with CCME water quality guidelines for protection of the marine environment, prior to discharge to the Halifax Harbor. The company should clarify if there are other potential contaminants in the wastewater, that could adversely impact the marine environment but, which may not be addressed by application of the CCME Guidelines.

Section 2.2 of the submission only identifies the wastewater sources which include bilge water, hydrocarbon-based wastewater (used oil) and wastewater originating from contaminated sites cleanup. Consideration for EA Approval should limit the wastewater streams to those identified in the registration.

It was unclear in the submission, what management systems will be proposed to collect and treat wastewater and runoff in the immediate vicinity that surrounds the loading/unloading racks and liquid transfer points that lie outside the catchment of the tank lot secondary containment. Consideration of the *Petroleum Management Regulations and the Nova Scotia Construction, Installation and Operation Standards for Petroleum Storage Tanks Systems* should be included in preparing design plans to drain

to an oil/water separator, sump, or equivalent control systems.

It has been indicated that portions of wastewater will be discharged to the municipal storm sewer including tank lot water. It is recommended that if these streams cannot be recycled within the facility treatment system, they be required to meet the same effluent quality discharge limits as process wastewater, since this stream will also be expected to discharge to the Halifax Harbour.

The document indicates there may be some expected limitations on the removal efficiency of chlorides prior to discharge and that the company is expecting to release chloride wastewater possibly with limited treatment. If so, the registration should demonstrate that elevated chlorides in discharge will not adversely impact the marine environment.

Description around the Advanced Treatment Train, pg. 14, indicates that liquid wastes generated during operation will be passed through the treatment process again or removed from the site…" Mention is also made of a 48-hour treated wastewater holding capability". Can the internal lab proposed for the facility turnaround water quality results in a timeframe to retreat wastewater before discharge? The on-line analytical capabilities with a quicker turnaround on results, including TPH, COD, BOD and TSS will not represent all potential contaminants and, as result, turnaround on lab results may not be adequate to prevent a release of non-compliant effluent.

A plant commissioning which demonstrates treatment efficiency for specific contaminants of concern, including but not limited to, chlorides and metals is recommended prior to the start of operation.

If the project is recommended to proceed to the next stages of development, Approval(s) pursuant to Part V of the Environment Act will be required prior to the commencement of construction and operation. Approval(s) would be required in accordance with the *Activities Designation Regulations*, including the following sections:

10(1) (aa) *a waste dangerous goods facility, if the facility treats, processes, packages, re-processes, recycles, disposes of or stores dangerous goods listed in Column I of Schedule A that have become waste dangerous goods in quantities that exceed the quantities listed in Column II of Schedule A for those goods*;

17(2)(h) a used oil collection facility capable of pickup and storage capacity in excess of 1000 L of used oil including the necessary trucks or storage facilities;

21(2) The treatment or processing of wastewater and wastewater sludges is designated as an activity.

As part of an application for approval the applicant must submit to the Central Regional Office for review and approval, site plans and engineered drawings with specifications for the containment features and environmental controls for all tankage and piping to

demonstrate consistency with *The Petroleum Management Regulations and the Nova Scotia Construction, Installation and Operation Standards for Petroleum Storage Tanks Systems.* It is recommended that waste oil and wastewater handling systems comply with Regulations and Standard.

All environmental control systems proposed for the facility should be supplied with the applications for Part V Approval and include the design and specifications which are stamped by an engineer licensed to practice in the Province of Nova Scotia. This should include, but not be limited to, storage tank systems, secondary containment, the DAF/oil/water separators, air emission controls, wastewater treatment and surface water treatment systems.

It will be important for the company to prepare sound Standard Operating Procedures (SOP) for maintenance and operation including aspects for monitoring, process control, internal/external lab analysis to ensure that mishaps are prevented, that source contaminant loading does not exceed the capabilities/efficiency of the treatment systems and that compliance is maintained with liquid effluent discharge limits. An SOP or monitoring plan should be included for balancing of make up water, process used oil and wastewater volumes for the facility.

The proponent should be required to demonstrate that the proposed TIGG air emission control systems have 95% VOC removal efficiency during the plant startup commissioning period.

A storage layout for the management of dangerous and waste dangerous goods should be included with all applicable applications for Part V Approvals. Substance characterization would include, but not be limited to, all tankage liquids, treatment reagents and sludges.

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NOVA SCOTIA

Environment

Barrington Place
1903 Barrington Street
Suite 2085
Halifax, Nova Scotia
Canada, B3J 2P8

Date: 2022-01-25

To: EA, Nova Scotia Environment

From: Engineer, Climate Change Unit

Subject: Waste Oil Recycling and Water Treatment Facility

Greenhouse Gas Mitigation

The proponent indicates that GHG emissions from the project will mostly occur during operations from fossil fuel combustion in trucks, boilers, and other mobile equipment. Existing operations before the expansion are not anticipated to change in a substantive way with the addition of the proposed waste oil recycling and water treatment activities. Based on the scope and quantity of emissions expected from similar operations and the addition of one or two trucks, the suggested mitigation in the form of proper maintenance of all emission control equipment and ensuring equipment operate to the specifications and recommendations of the manufacturer are sufficient.

NOVA SCOTIA
Environment and Climate Change

Barrington Place
1903 Barrington Street
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Date: January 28, 2022

To: Candace Quinn, Environmental Assessment Officer

From: Surface Water Quality Specialist, Water Resources Management Unit

Subject: Envirosoil Waste Oil Recycling and Water Treatment Facility Project - Addendum

Scope of Review:

The review leading to these comments was focused on the Additional Information Addendum, and focused on the provision of additional information explicitly identified in the Minister's Decision on the original Environmental Registration Document, dated May 28, 2021. It includes Items 1 (Facility Operations), 2 (Surface Water Management), and 5 (Marine Environment), and excludes Items 3 (Air Emissions) and 4 (Odour Control).

The review considers whether the concerns associated with water quality, including water treatment and disposal, surface water management, erosion and sediment control, and the proposed mitigation measures have been adequately addressed in the Addendum. Recommendations provided below are meant to supplement the actions outlined in the Addendum.

Documents Reviewed:

1. Dillon Consulting. 2021. *Environmental Assessment Registration Document - Addendum, Waste Oil Recycling and Water Treatment Facility, Dartmouth, Nova Scotia*. Envirosoil Ltd.

2. Minister's Decision, Environmental Assessment – Envirosoil Limited – Waste Oil Recycling and Water Treatment Facility – Dartmouth, Nova Scotia. May 28, 2021.

3. Dillon Consulting. 2021. *Environmental Assessment Registration Document, Waste Oil Recycling and Water Treatment Facility, Dartmouth, Nova Scotia*. Envirosoil Ltd.

Comments / Recommendations

Section 1: Facility Operations

A & B) Waste Oil / Wastewater Sources & Acceptance

- Envirosoil proposes to accept and treat three primary product streams: bilge waters, surface water oil spills, and used oil. It also proposes to treat additional products at its discretion if the treatment effluent meets discharge regulatory requirements.
- The primary – and first - means of determining the acceptability of proposed products for treatment at the facility is pre-delivery product analysis.
- A secondary means of confirming the acceptability of proposed products is "confirmatory sampling", to be performed on loads delivered by a "random number of trucks".
- The nature and scope of confirmatory sampling is not disclosed, and the basis for a pass or fail of this sampling procedure is not identified.

- The procedure for selecting trucks for confirmatory sampling (such as fixed number / proportion, frequency (e.g., daily, weekly, monthly), product type, or otherwise) is not identified.
- The proponent indicates that, if the materials received are determined to be "off-spec" – that is, not meeting requirements for acceptance at the facility – then they will i) not be treated and ii) be returned to the shipper within 72h of receipt. The proposal does not specify, in the Addendum, how it will determine if the materials meet, or do not meet, its requirements.
- The addendum indicates that material testing (analysis) will be performed at the facility to determine treatment requirements. The results of this activity could be used to support material acceptability, but the proponent made no such connection.
- The proponent identified that dedicated, trained personnel would operate the on-site laboratory. The addendum did not indicate if personnel would be certified or accredited for the laboratory operations, or identify additional relevant quality assurance / control measures, such as lab accreditation, instrument calibration
- The scope of material analysis required of shippers or proposed for either confirmatory sampling or treatment selection purposes is not disclosed. In the absence of this information, scription, it is not possible to determine if these steps are capable of identifying and excluding material from treatments that contain contaminants that are unanticipated and untreatable by the facility, and which may cause negative impacts to the receiving environment.
- The proponent indicated that it is not possible to identify all contaminants of concern across all waste streams at this time in the project planning process, but did identify preliminary design parameters (hydrocarbons in three forms plus five others), as well as elevated chloride levels from bilge waters.
- The proponent identified that "facility processes and equipment will meet applicable standards and codes", but identified none of these standards or codes, and gave no information to indicate how it would meet applicable requirements.
- The addendum indicates that wastewater will be held in batches within storage tanks, and that it will be analyzed prior to treatment. It did not indicate if these batches are discrete (limited to individual truckloads or multiple truckloads of the same material from a single shipper), or if they may be combined with other shipments, under any circumstances.
- The proponent indicates that facility operations may proceed in either "batch" or "continuous" mode, depending on the truck hauler delivery schedule. Facility operations are described in a manner that implies batch style operations, and do not indicate any changes in practice between the two modes. Continuous operations imply no temporal separation between the analysis and treatment of batches of different materials, which may have different treatment requirements.
- The addendum does not identify the risk of possible cross-contamination between product types and treatment steps, or any mitigations to this risk that may be taken in either batch or continuous operations.

C) Waste Oil / Wastewater Treatment

- Envirosoil identified two treatment trains (Basic and Advanced), and all components applicable to each train (14 and 5, respectively).
- The design capabilities for these treatment trains and individual components were not identified.
- The proponent identified that the operating limits of all potential treatment equipment are not available at this stage of the project planning process.
- The proponent identified the standard ranges of contaminants that it expects to treat for its primary materials, and indicated that the planned treatment capacity exceeded the standard range identified here.

- Envirosoil indicated that there are no known requirements for make-up water at this stage of the project planning process. It identified the proposed sources for this material, if required, as i) recycled effluent or ii) municipal (i.e., potable) water.
- The proposed waste oil treatment process may include the application of demulsifiers to separate the components of these materials. No demulsification products are identified in the addendum.
- Two demulsification agents listed in the original Registration Document: 1) EZ-DMULSE and 2) Bunker Breaker II. Hazardous ingredients listed in the MSDS for these products include alkyl benzenesulfonic acid, methyl alcohol, sulfuric acid, and kerosene.
- No treatment process is identified to remove these products from the effluent / final product prior to its discharge.
- The proponent described the demulsification agents as "biodegradable and safe for use and discharge to sanitary and storm sewers and ocean environment", implying its intent to leave the agent in its effluent, to be discharged as part of a liquid waste stream from the facility.
- Envirosoil identifies treatment and maintenance processes that generate liquid and solid waste streams for off-site disposal at approved facilities
- Solid waste stream products include general non-hazardous materials (recyclable and non-recyclable), activated carbon, used organo-clay and used carbon filters (i.e., "bag filters"), and solid effluent generated from the use of the screw press unit.
- Liquid waste stream products include i) wastewater that meets effluent discharge criteria – for discharge to the marine environment (see section 5, below), ii) wastewater not meeting effluent discharge criteria, and iii) lube oil for pumps and mechanical equipment.
- Wastewater effluent not meeting effluent discharge criteria may be redirected to start of treatment process for re-treatment or removed from the site, via barrels or vacuum truck for delivery to an approved disposal facility.
- The proponent indicated that used lube oil will be incorporated into recovered oil or removed from site for disposal at an approved recycling or disposal facility.

D) Waste Oil / Wastewater Discharge

- Envirosoil presented a Wastewater Management Plan that addresses discharge volumes, frequencies, sampling and analysis.
- The proposed average annual discharge volume is 16,000 m^3, with a possible maximum of 20,000 m^3, averaging 40-50m^3 daily.
- Analytical processes proposed for the influent and effluent steps imply batch operations, not continuous operations. No indication is given that analytical procedures will vary between these two modes of facility operations.
- The Addendum introduced a major change from the Registration Document by proposing effluent discharge directly to the marine environment via an on-site discharge pipe instead of to the Halifax Water wastewater system.
- The applicant identified applicable Canadian Environmental Quality Guidelines (CEQGs) for the protection of aquatic life in the marine environment, but did not identify
    - Either of i) NS Contaminated Site Regulations or ii) the Federal Fisheries Act (s. 36) as relevant legislation / regulations or
    - Any guideline values applicable to materials it proposes to treat, or planned effluent contaminants, based on the NS Tier 1 EQS for surface water or the requirements of the Fisheries Act (s.36).

  More information about the quality of the wastewater effluent that the proponent intends to discharge is required to assess the potential impacts to the receiving environment. This information should be required of the proponent before the environmental assessment of this project is approved.

- No information was given to describe now wastewater discharges will be managed during pressure testing and equipment maintenance / cleaning processes. These processes (wastewater and cleaning maintenance) were both addressed, but only independently, without any consideration of their interaction as requested by the Minister's letter.
- No new emergency protocols were identified to address how the proponent would respond to a system upset or release of untreated water to Halifax Water. All information provided was identical to the content of the original Registration document.

Section 2: Surface Water Management

- The proponent provided a Stormwater Management Plan and an Erosion and Sediment Control Plan prepared by a qualified engineer.
- All system features identified in the Minister's letter were suitably described in the Addendum text and associated engineered drawings.
- The Surface Water Monitoring Program proposes the use of a single downstream sampling location, immediately prior to the discharge point to the Halifax Harbour, due to the lack of suitable upgradient sampling locations within the site.
- By contrast, however, the Surface Water Management Plan and Details (Drawing A-1, Water Quality Monitoring Notes text) indicates the presence of an alternate surface water quality sampling location, "GLCPS-SW2", from which representative background samples may be collected. This The location of this alternate sampling location is not identified in any engineered drawing or referenced elsewhere throughout the Addendum. Further information regarding the identity, location, and suitability of this station for surface water quality monitoring should be provided to the Department and, if suitable, incorporated into the surface water monitoring program.
- TSS monitoring proposed in the Addendum references the maximum increase of fixed concentrations above background levels. However, the site only presents a single monitoring point for stormwater discharge and there are no further on-site locations suitable for monitoring background (reference) TSS concentrations. Therefore an alternate approach for TSS monitoring is required. Options include the use of a suitable off-site reference location, such as GLCPS-SW2 identified above, or the stipulation of a fixed maximum TSS value.
- The Erosion and Sediment Control Plan indicates two disposal pathways for stormwater falling on the site. Stormwater landing Stormwater landing within the containment dyke surrounding the proposed collection of six exterior tanks will be directed to the 15,000 L oil-water separator then released to the Halifax Water storm system. Stormwater falling outside of this containment area will be directed, via French drain & soil berm, to a stormwater separator before discharge through 200 mm pipe to marine environment.
- Proposed stormwater sampling is primarily equipment-driven measurement of pH, temperature, turbidity, and conductivity, supplemented with monthly grab sampling for TSS testing at an accredited facility, from a single point immediately prior to marine discharge.
- Additional sampling for TPH and BTEX is proposed if an oily sheen is detected on the property surface.
- The proponent identified material management and spill controls for liquid transfer points and storage areas including loading / unloading racks, transfer piping and tanks. Controls include measurement and alarm systems, a containment pad for truck parking and connection to an isolated pad for the collection of oily drips, a containment are for the external storage tank farm with capacity in excess of the sum of all storage tanks, as well as regular system inspections and preventative maintenance and a fence boom for spills in the marine environment.
- The addendum stated that "post-development site runoff is not expected to have an impact on the receiving body." This statement does not reference or report any assessment of the potential impacts to aquatic habitat or associated mitigation measures, associated with the

site's stormwater drainage to the marine environment.

- The addendum did not address snow management / disposal within the context of the surface water management plan. Because snow attracts and retains pollutants on the surfaces where it lands, it has the potential for accumulating oily wastes from drips, spills, leaks, and other factors on the site. Site management should address the collection and disposal of snow on the property, and should avoid the discharge of snow removed from paved surfaces to the harbour.

Section 5: Marine Environment

- No assessment was provided of the potential impacts of discharging treated effluent to the marine environment.

- It is recommended that more information about the quality of the wastewater effluent, and an assessment of the impacts of this effluent on the receiving environment, is required. This information should be required of the proponent before the environmental assessment is approved. It is recommended that the assessment considers, at minimum:
    - All planned source materials intended for treatment
    - Upper limits for contaminant concentrations in source materials
    - Typical and maximum treatment capacities of basic and advanced treatment trains
    - Treatment performance efficacy
    - CCME CEQGs for the Marine Environment
    - NS EQS Tier One for surface water
    - Federal Fisheries Act Subsection 36(3) pollution prevention provisions
    - Substances listed on Schedule 1 of the Canadian Environmental Protection Act ("List of Toxic Substances".

Recommendations

- Deficiencies noted in these comments and those of other commenters should be addressed by requirements of the Department, should the proposal be cleared to apply for an Industrial Approval.

NOVA SCOTIA
Environment and Climate Change

Barrington Place
1903 Barrington Street
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Halifax, Nova Scotia
Canada B3J 2P8

Date: January 28, 2022

To: Candace Quinn, Environmental Assessment Officer

From: Surface Water Quality Specialist, Water Resources Management Unit

Subject: Envirosoil Waste Oil Recycling and Water Treatment Facility Project - Addendum

Scope of Review:

The review leading to these comments was focused on the Additional Information Addendum, and focused on the provision of additional information explicitly identified in the Minister's Decision on the original Environmental Registration Document, dated May 28, 2021. It includes Items 1 (Facility Operations), 2 (Surface Water Management), and 5 (Marine Environment), and excludes Items 3 (Air Emissions) and 4 (Odour Control).

The review considers whether the concerns associated with water quality, including water treatment and disposal, surface water management, erosion and sediment control, and the proposed mitigation measures have been adequately addressed in the Addendum. Recommendations provided below are meant to supplement the actions outlined in the Addendum.

Documents Reviewed:

1. Dillon Consulting. 2021. *Environmental Assessment Registration Document - Addendum, Waste Oil Recycling and Water Treatment Facility, Dartmouth, Nova Scotia*. Envirosoil Ltd.

2. Minister's Decision, Environmental Assessment – Envirosoil Limited – Waste Oil Recycling and Water Treatment Facility – Dartmouth, Nova Scotia. May 28, 2021.

3. Dillon Consulting. 2021. *Environmental Assessment Registration Document, Waste Oil Recycling and Water Treatment Facility, Dartmouth, Nova Scotia*. Envirosoil Ltd.

Comments / Recommendations

Section 1: Facility Operations

A & B) Waste Oil / Wastewater Sources & Acceptance

- Envirosoil proposes to accept and treat three primary product streams: bilge waters, surface water oil spills, and used oil. It also proposes to treat additional products at its discretion if the treatment effluent meets discharge regulatory requirements.
- The primary – and first - means of determining the acceptability of proposed products for treatment at the facility is pre-delivery product analysis.
- A secondary means of confirming the acceptability of proposed products is "confirmatory sampling", to be performed on loads delivered by a "random number of trucks".
- The nature and scope of confirmatory sampling is not disclosed, and the basis for a pass or fail of this sampling procedure is not identified.

- The procedure for selecting trucks for confirmatory sampling (such as fixed number / proportion, frequency (e.g., daily, weekly, monthly), product type, or otherwise) is not identified.
- The proponent indicates that, if the materials received are determined to be "off-spec" – that is, not meeting requirements for acceptance at the facility – then they will i) not be treated and ii) be returned to the shipper within 72h of receipt. The proposal does not specify, in the Addendum, how it will determine if the materials meet, or do not meet, its requirements.
- The addendum indicates that material testing (analysis) will be performed at the facility to determine treatment requirements. The results of this activity could be used to support material acceptability, but the proponent made no such connection.
- The proponent identified that dedicated, trained personnel would operate the on-site laboratory. The addendum did not indicate if personnel would be certified or accredited for the laboratory operations, or identify additional relevant quality assurance / control measures, such as lab accreditation, instrument calibration
- The scope of material analysis required of shippers or proposed for either confirmatory sampling or treatment selection purposes is not disclosed. In the absence of this information, scription, it is not possible to determine if these steps are capable of identifying and excluding material from treatments that contain contaminants that are unanticipated and untreatable by the facility, and which may cause negative impacts to the receiving environment.
- The proponent indicated that it is not possible to identify all contaminants of concern across all waste streams at this time in the project planning process, but did identify preliminary design parameters (hydrocarbons in three forms plus five others), as well as elevated chloride levels from bilge waters.
- The proponent identified that "facility processes and equipment will meet applicable standards and codes", but identified none of these standards or codes, and gave no information to indicate how it would meet applicable requirements.
- The addendum indicates that wastewater will be held in batches within storage tanks, and that it will be analyzed prior to treatment. It did not indicate if these batches are discrete (limited to individual truckloads or multiple truckloads of the same material from a single shipper), or if they may be combined with other shipments, under any circumstances.
- The proponent indicates that facility operations may proceed in either "batch" or "continuous" mode, depending on the truck hauler delivery schedule. Facility operations are described in a manner that implies batch style operations, and do not indicate any changes in practice between the two modes. Continuous operations imply no temporal separation between the analysis and treatment of batches of different materials, which may have different treatment requirements.
- The addendum does not identify the risk of possible cross-contamination between product types and treatment steps, or any mitigations to this risk that may be taken in either batch or continuous operations.

C) Waste Oil / Wastewater Treatment

- Envirosoil identified two treatment trains (Basic and Advanced), and all components applicable to each train (14 and 5, respectively).
- The design capabilities for these treatment trains and individual components were not identified.
- The proponent identified that the operating limits of all potential treatment equipment are not available at this stage of the project planning process.
- The proponent identified the standard ranges of contaminants that it expects to treat for its primary materials, and indicated that the planned treatment capacity exceeded the standard range identified here.

- Envirosoil indicated that there are no known requirements for make-up water at this stage of the project planning process. It identified the proposed sources for this material, if required, as i) recycled effluent or ii) municipal (i.e., potable) water.
- The proposed waste oil treatment process may include the application of demulsifiers to separate the components of these materials. No demulsification products are identified in the addendum.
- Two demulsification agents listed in the original Registration Document: 1) EZ-DMULSE and 2) Bunker Breaker II. Hazardous ingredients listed in the MSDS for these products include alkyl benzenesulfonic acid, methyl alcohol, sulfuric acid, and kerosene.
- No treatment process is identified to remove these products from the effluent / final product prior to its discharge.
- The proponent described the demulsification agents as "biodegradable and safe for use and discharge to sanitary and storm sewers and ocean environment", implying its intent to leave the agent in its effluent, to be discharged as part of a liquid waste stream from the facility.
- Envirosoil identifies treatment and maintenance processes that generate liquid and solid waste streams for off-site disposal at approved facilities
- Solid waste stream products include general non-hazardous materials (recyclable and non-recyclable), activated carbon, used organo-clay and used carbon filters (i.e., "bag filters"), and solid effluent generated from the use of the screw press unit.
- Liquid waste stream products include i) wastewater that meets effluent discharge criteria – for discharge to the marine environment (see section 5, below), ii) wastewater not meeting effluent discharge criteria, and iii) lube oil for pumps and mechanical equipment.
- Wastewater effluent not meeting effluent discharge criteria may be redirected to start of treatment process for re-treatment or removed from the site, via barrels or vacuum truck for delivery to an approved disposal facility.
- The proponent indicated that used lube oil will be incorporated into recovered oil or removed from site for disposal at an approved recycling or disposal facility.

D) Waste Oil / Wastewater Discharge

- Envirosoil presented a Wastewater Management Plan that addresses discharge volumes, frequencies, sampling and analysis.
- The proposed average annual discharge volume is 16,000 m^3, with a possible maximum of 20,000 m^3, averaging 40-50m^3 daily.
- Analytical processes proposed for the influent and effluent steps imply batch operations, not continuous operations. No indication is given that analytical procedures will vary between these two modes of facility operations.
- The Addendum introduced a major change from the Registration Document by proposing effluent discharge directly to the marine environment via an on-site discharge pipe instead of to the Halifax Water wastewater system.
- The applicant identified applicable Canadian Environmental Quality Guidelines (CEQGs) for the protection of aquatic life in the marine environment, but did not identify
    - Either of i) NS Contaminated Site Regulations or ii) the Federal Fisheries Act (s. 36) as relevant legislation / regulations or
    - Any guideline values applicable to materials it proposes to treat, or planned effluent contaminants, based on the NS Tier 1 EQS for surface water or the requirements of the Fisheries Act (s.36).

  More information about the quality of the wastewater effluent that the proponent intends to discharge is required to assess the potential impacts to the receiving environment. This information should be required of the proponent before the environmental assessment of this project is approved.

- No information was given to describe now wastewater discharges will be managed during pressure testing and equipment maintenance / cleaning processes. These processes (wastewater and cleaning maintenance) were both addressed, but only independently, without any consideration of their interaction as requested by the Minister's letter.
- No new emergency protocols were identified to address how the proponent would respond to a system upset or release of untreated water to Halifax Water. All information provided was identical to the content of the original Registration document.

Section 2: Surface Water Management

- The proponent provided a Stormwater Management Plan and an Erosion and Sediment Control Plan prepared by a qualified engineer.
- All system features identified in the Minister's letter were suitably described in the Addendum text and associated engineered drawings.
- The Surface Water Monitoring Program proposes the use of a single downstream sampling location, immediately prior to the discharge point to the Halifax Harbour, due to the lack of suitable upgradient sampling locations within the site.
- By contrast, however, the Surface Water Management Plan and Details (Drawing A-1, Water Quality Monitoring Notes text) indicates the presence of an alternate surface water quality sampling location, "GLCPS-SW2", from which representative background samples may be collected. This The location of this alternate sampling location is not identified in any engineered drawing or referenced elsewhere throughout the Addendum. Further information regarding the identity, location, and suitability of this station for surface water quality monitoring should be provided to the Department and, if suitable, incorporated into the surface water monitoring program.
- TSS monitoring proposed in the Addendum references the maximum increase of fixed concentrations above background levels. However, the site only presents a single monitoring point for stormwater discharge and there are no further on-site locations suitable for monitoring background (reference) TSS concentrations. Therefore an alternate approach for TSS monitoring is required. Options include the use of a suitable off-site reference location, such as GLCPS-SW2 identified above, or the stipulation of a fixed maximum TSS value.
- The Erosion and Sediment Control Plan indicates two disposal pathways for stormwater falling on the site. Stormwater landing Stormwater landing within the containment dyke surrounding the proposed collection of six exterior tanks will be directed to the 15,000 L oil-water separator then released to the Halifax Water storm system. Stormwater falling outside of this containment area will be directed, via French drain & soil berm, to a stormwater separator before discharge through 200 mm pipe to marine environment.
- Proposed stormwater sampling is primarily equipment-driven measurement of pH, temperature, turbidity, and conductivity, supplemented with monthly grab sampling for TSS testing at an accredited facility, from a single point immediately prior to marine discharge.
- Additional sampling for TPH and BTEX is proposed if an oily sheen is detected on the property surface.
- The proponent identified material management and spill controls for liquid transfer points and storage areas including loading / unloading racks, transfer piping and tanks. Controls include measurement and alarm systems, a containment pad for truck parking and connection to an isolated pad for the collection of oily drips, a containment are for the external storage tank farm with capacity in excess of the sum of all storage tanks, as well as regular system inspections and preventative maintenance and a fence boom for spills in the marine environment.
- The addendum stated that "post-development site runoff is not expected to have an impact on the receiving body." This statement does not reference or report any assessment of the potential impacts to aquatic habitat or associated mitigation measures, associated with the

site's stormwater drainage to the marine environment.

- The addendum did not address snow management / disposal within the context of the surface water management plan. Because snow attracts and retains pollutants on the surfaces where it lands, it has the potential for accumulating oily wastes from drips, spills, leaks, and other factors on the site. Site management should address the collection and disposal of snow on the property, and should avoid the discharge of snow removed from paved surfaces to the harbour.

Section 5: Marine Environment

- No assessment was provided of the potential impacts of discharging treated effluent to the marine environment.

- It is recommended that more information about the quality of the wastewater effluent, and an assessment of the impacts of this effluent on the receiving environment, is required. This information should be required of the proponent before the environmental assessment is approved. It is recommended that the assessment considers, at minimum:
    - All planned source materials intended for treatment
    - Upper limits for contaminant concentrations in source materials
    - Typical and maximum treatment capacities of basic and advanced treatment trains
    - Treatment performance efficacy
    - CCME CEQGs for the Marine Environment
    - NS EQS Tier One for surface water
    - Federal Fisheries Act Subsection 36(3) pollution prevention provisions
    - Substances listed on Schedule 1 of the Canadian Environmental Protection Act ("List of Toxic Substances".

Recommendations

- Deficiencies noted in these comments and those of other commenters should be addressed by requirements of the Department, should the proposal be cleared to apply for an Industrial Approval.

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Environment and Climate Change

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Date: January 28th, 2022

To: Candace Quinn, Environmental Assessment Officer

From: Surface Water Quantity staff, Water Resources Management Unit

Subject: **Envirosoil Waste Oil Recycling and Water Treatment Project – Additional Information Addendum EA**

Scope of review:

This review from the Water Resources Management Unit Surface Water Quantity staff with Nova Scotia Environment and Climate Change (NSECC), Sustainability and Applied Science Division focuses on surface water quantity and management. While comments may also include considerations for impacts on general surface water quality, appropriate technical specialists for these areas should be consulted for specific review and comment.

The recommendations provided below are meant to supplement the actions outlined in the EA Registration Document – Addendum (EARD Addendum) and EA Registration Documents (EARD).

Documents reviewed:

- ENVIROSOIL LIMITED – Environmental Assessment Registration Document – Addendum – Waste Oil Recycling and Water Treatment Facility, Dartmouth, Nova Scotia (December 14, 2021, 2021-19-1742)

- ENVIROSOIL LIMITED – Environmental Assessment Registration Document – Waste Oil Recycling and Water Treatment Facility, Dartmouth, Nova Scotia (April 2021-19-1742)

Comments

General

- The Wastewater Management Plan (Appendix B) of the EARD Addendum states the facility is to accept an average of 16,000 m^3/year of incoming waste oil and have a maximum of 20,000 m^3/year of treatment capacity for wastewater. The proposed receiving and treatment capacity are twice of the original proposed maximum capacity, which were 8,000 m^3/year of waste oil and 10,000 m^3/year of wastewater as indicated in the EARD.

- The EARD Addendum states any requirements for detailed make-up water requirements are not known at early stage of design. Any make-up water requirements would be sourced by either recycled effluent or municipal water from Pleasant Street.

Surface Water

- The EARD Addendum revises to discharge treated effluent into Halifax Harbour instead of into Halifax Water sanitary sewer. However, no assessment is provided on the potential impacts to marine environment from the treated effluent. In addition, the EARD Addendum states the new discharge line will be 150-200 mm (6''-8'') discharge pipeline. The new discharge pipeline and location were shown in Drawing Sheet 1-1 in the EARD Addendum. However, the new discharge pipeline was noted as 200mm in Sheet 1-1 of the EARD Addendum while the same discharge pipeline was stated as 150mm in the Wastewater Management Plan (Appendix B of the EARD Addendum). In addition, Drawing Sheet 1, 2 and 3 in the Wastewater Management Plan were not updated to reflect the revised plan of treatment effluent discharge into Halifax Harbour.

- The EARD Addendum provided a photo (date: September 2021) showing the proposed treated water discharge location adjacent to the on-site stormwater outfall, which is at a certain elevation near the top of armour stones. It is also indicated in the EARD Addendum both discharge of the on-site stormwater system and the treated effluent will occur several metres above the ordinary high water mark. No discussion is provided on whether the discharge from both the stormwater outfall and the proposed treated effluent will cause scour and/or erosion to the shoreline, nor whether the existing extent (width along the stormwater outfall pipe) of armour stones will provide sufficient protection to the shoreline from potential scour and/or caused by the discharge.

- No information is provided in the Surface Water Management Plan (Appendix C of the EARD Addendum) on whether there will be snow accumulation on the site during winter. Accordingly, no information is provided on how the snow will be addressed and disposed of.

- Sheet 5 of the Wastewater Management Plan (Appendix B of the EARD Addendum) indicates the dike capacity of the exterior pad area for the six new exterior multi-use storage tanks was calculated as per National Fire Code of Canada (NFC), which considers containing accidental spillage from the tanks within the pad area. NFC also requires no liquids, debris and precipitation accumulation in the pad and any liquid being removed from the pad area (Section 4.3.7.8 of NFC (2015)). Therefore, additional capacity for the pad area to contain precipitation is not included in NFC. No information is provided in the EARD nor in the EARD Addendum regarding the potential amount of water accumulation in the pad area during possible storm events. Accordingly, limited information is provided on whether the draining capacity of the Liner and Catch Basin systems and Underground Oil Water Separator are sufficient to drain the accumulated water during corresponding storm events. No information is provided on whether there will be snow accumulation in the pad area during winter; and if so, whether the accumulated snow will likely to be contaminated

and how the snow will be removed and disposed of.

- Hydrological and hydraulic analysis were provided in the Surface Water Management Plan (Appendix C of the EARD Addendum). The 100-year return period storm event with 24-hour duration was used in modeling for the site to design surface water management system. However, the amount of rainfall by the developed 1:100 year return period storm event is not mentioned in the analysis. Instead, the amount of rainfall for 1:2 year return period precipitation event with 24-hour duration was included and used to estimate the impacts of climate change to precipitation. Modeling results projected a 4L/s (3.6%) increase in peak flow and was determined as not expected to have impacts on the receiving water body (Halifax Harbour) nor will cause adverse stormwater effects to adjacent properties.

- The EARD and EARD Addendum states the loading and unloading area consist of existing impermeable collection areas that drain to the existing stormwater system. The connection from the loading and unloading area to the storm water system will be closed during loading and unloading activities. Any leakage and/or spill occurs during loading and unloading activities will be cleaned up before connection to the stormwater system is opened again to allow water flowing into the drainage system. The EARD states primary and secondary containment areas inside the facility and as part of the loading/unloading apron would contain spill to a minimum 10% of the total storage volume. However, no further information is provided on the containing capacity of the loading/unloading area (apron). Although the EARD states leakage and/or spill during loading/unloading is an unlikely event and any leakage and/or spill will be managed through Contingency and Emergency Response Plan, limited information is provided on whether the water collected during storm events in the loading/unloading area will be contaminated due to leakage and/or spill. The EARD and EARD Addendum indicates a First-Defense storm separator placed at the end point of the stormwater system also provides separation of oil and hydrocarbon before discharging. No information is provided on whether the stormwater system and the First-Defense storm separator can treat contaminated water from the loading and unloading area, if there is any, to meet applicable water quality guidelines and will not cause pollution to marine environment. In addition, no information is provided on whether there will be snow accumulation in the loading and unloading area during winter and if so, how the snow will be addressed and disposed of.

- The Surface Water Monitoring Program included in the Surface Water Management Plan (Appendix C of the EARD Addendum) states one primary downstream sampling location (GLCPS-SW1) is proposed at the First Defense system, due to site configuration. The location of GLCPS-SW1 is shown in drawing Sheet A-1, B-1, and C-1 of the Surface Water Management Plan. Sheet A-1 noted another surface water sampling location as GLCPS-SW2 to be sampled from a representative background location off-site. However, this location is not identified in provided drawings, nor any information provided on it in the EARD Addendum.

- The Erosion and Sediment Control Plan (ESC Plan) included in the Surface Water Management Plan (Appendix C of the EARD Addendum) states erosion and sediment control features must be compliant to the Nova Scotia Environment

Erosion and Sediment Control Handbook for Construction Sites (NSE ESC Handbook, 1988). However, the sediment control fence design included in drawing Sheet A-1 and C-1 of the Surface Water Management Plan was adopted from New Brunswick Department of Transportation and Infrastructure Standard Specifications for Highway Construction (NB Standard Specifications), while this sediment fence design drawing is different from the one recommended in NSE ESC Handbook for Filter Fabric Barrier (Section 2.9, which is the same measure as Sediment Control Fence in the NB Standard Specifications). No information is provided on the rationales or specific considerations for adopting the sediment control fence design from NB Standard Specifications. In more detail, a trench is left behind the sediment control fences facing down slope along the water flow direction as indicated in Sheet A-1 and C1. The information provided in Sheet A-1 and C1 do not provide clear understanding on the intent of the trench setup, nor on whether the trench will be backfilled and compacted to sufficiently stabilize the stakes/posts of sediment control fences.

Recommendations

The following recommendations are presented for consideration in the development of conditions for any approvals that may follow the EA process, if the EA is successful.

- An assessment on the potential impacts to marine environment from the treated effluent of the proposed facility submitted to NSECC for review and acceptance. This assessment should consider including potential impacts to marine environment from stormwater discharge, if stormwater collected on site has the potential to be contaminated by leakage and/or spill. This assessment should also consider the pollution prevention provisions in the Fisheries Act (subsection 36(3)) prohibition. Any necessary measures to mitigate potential impacts and to not cause pollution to marine environment from treated effluent and/or site stormwater discharge should be included in this assessment.

- All final and/or updates drawings, with necessary information and notes submitted to NSECC for review and acceptance, prior to any construction and operation activities.

- A snow management and disposal plan submitted to NSECC for review and acceptance prior to any construction and operation activities. This plan should include,
  - general snow management and disposal plan for the site; and
  - considerations of snow removal with appropriate method of disposal for the proposed pad area for the six exterior multi-use storage tanks, if snow accumulation in the pad area is expected; and
  - considerations of snow removal with appropriate method of disposal in the loading and unloading area, if snow accumulation is expected in the area.

- Prior to any construction and operation activities, provide the following information to NSECC for review and acceptance:
  - assessment on whether the proposed pad area (including the Liner and Catch Basin systems and the Underground Oil Water Separator system) for the six exterior multi-use storage tanks can contain and drain the water collected in the

pad area during possible storm events, in a manner to prevent any overflow from the pad area in the event of the worst scenario accidental spillage (100% of largest storage tank capacity plus 10% of aggregate capacity of all additional storage tanks); and if there is any, updated design of the proposed pad area (including the Liner and Catch Basin systems and the Underground Oil Water Separator system) due to the abovementioned assessment; or

- a risk-based inspection and maintenance approach for the pad area (including the Liner and Catch Basin systems and the Underground Oil Water Separator system), either specifically developed or included in the stated Environmental Management System, to ensure any liquid, debris and precipitation accumulation in the area is removed in a timely manner so that there will be no overflow from the pad area during possible storm events in the case of the worse scenario accidental spillage; and
- considerations of handling overflow from the pad area in the proposed Emergency Response and Contingency Plan, if necessary.

- A specific loading and unloading area inspection and maintenance plan being developed, or included into the stated Environmental Management System. The plan may consider including clean and maintenance measures to ensure the loading and unloading area is free of leakage and/spill, to reduce the potential risk of stormwater contamination during and after storm events.

- An event-based water quantity (or flow rate) monitoring plan at the stormwater outfall being developed or included into the final surface water monitoring program. This plan should collect information to validate modeled stormwater flow rate, and provide information to make necessary updates to site surface water management. This plan may also consider including water quality monitoring to make sure stormwater runoff from the site, and especially stormwater runoff from the loading and unloading area is not contaminated by leakage and/or spill, and/or is sufficiently treated by the stormwater management system and First Defense system to meet applicable water quality guidelines and will not cause pollution to marine environment.

- A detailed erosion and sediment control (ESC) plan developed by a qualified professional is required to be submitted as part of any industrial approval application for NSECC review and approval prior to construction and operation activities. It is recommended to provide the final ESC plan with sufficient details of proposed ESC measures as part of the industrial approval application. The plan should include appropriate design drawings and installation method for proposed ESC measures (including but not limited to sediment control fence) and the approaches to maintain effectiveness of these measures. This plan should also include any additional ESC measures used to prevent potential scour and/or erosion to the shoreline from stormwater and treated water discharge, if there is any. In addition, this plan should include considerations to promote communication between ESC plan designer and site contractor in a manner to make sure ECS plan implementation and ESC measure installation are conducted as per design and will be well-functioning.

References

- National Fire Code of Canada 2015. Issued by the Canadian Commission on

Building and Fire Codes. National Research Council of Canada.

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Date: January 28th, 2022

To: Candace Quinn, Environmental Assessment Officer

From: Surface Water Quantity staff, Water Resources Management Unit

Subject: **Envirosoil Waste Oil Recycling and Water Treatment Project – Additional Information Addendum EA**

Scope of review:

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- Hydrological and hydraulic analysis were provided in the Surface Water Management Plan (Appendix C of the EARD Addendum). The 100-year return period storm event with 24-hour duration was used in modeling for the site to design surface water management system. However, the amount of rainfall by the developed 1:100 year return period storm event is not mentioned in the analysis. Instead, the amount of rainfall for 1:2 year return period precipitation event with 24-hour duration was included and used to estimate the impacts of climate change to precipitation. Modeling results projected a 4L/s (3.6%) increase in peak flow and was determined as not expected to have impacts on the receiving water body (Halifax Harbour) nor will cause adverse stormwater effects to adjacent properties.

- The EARD and EARD Addendum states the loading and unloading area consist of existing impermeable collection areas that drain to the existing stormwater system. The connection from the loading and unloading area to the storm water system will be closed during loading and unloading activities. Any leakage and/or spill occurs during loading and unloading activities will be cleaned up before connection to the stormwater system is opened again to allow water flowing into the drainage system. The EARD states primary and secondary containment areas inside the facility and as part of the loading/unloading apron would contain spill to a minimum 10% of the total storage volume. However, no further information is provided on the containing capacity of the loading/unloading area (apron). Although the EARD states leakage and/or spill during loading/unloading is an unlikely event and any leakage and/or spill will be managed through Contingency and Emergency Response Plan, limited information is provided on whether the water collected during storm events in the loading/unloading area will be contaminated due to leakage and/or spill. The EARD and EARD Addendum indicates a First-Defense storm separator placed at the end point of the stormwater system also provides separation of oil and hydrocarbon before discharging. No information is provided on whether the stormwater system and the First-Defense storm separator can treat contaminated water from the loading and unloading area, if there is any, to meet applicable water quality guidelines and will not cause pollution to marine environment. In addition, no information is provided on whether there will be snow accumulation in the loading and unloading area during winter and if so, how the snow will be addressed and disposed of.

- The Surface Water Monitoring Program included in the Surface Water Management Plan (Appendix C of the EARD Addendum) states one primary downstream sampling location (GLCPS-SW1) is proposed at the First Defense system, due to site configuration. The location of GLCPS-SW1 is shown in drawing Sheet A-1, B-1, and C-1 of the Surface Water Management Plan. Sheet A-1 noted another surface water sampling location as GLCPS-SW2 to be sampled from a representative background location off-site. However, this location is not identified in provided drawings, nor any information provided on it in the EARD Addendum.

- The Erosion and Sediment Control Plan (ESC Plan) included in the Surface Water Management Plan (Appendix C of the EARD Addendum) states erosion and sediment control features must be compliant to the Nova Scotia Environment

Erosion and Sediment Control Handbook for Construction Sites (NSE ESC Handbook, 1988). However, the sediment control fence design included in drawing Sheet A-1 and C-1 of the Surface Water Management Plan was adopted from New Brunswick Department of Transportation and Infrastructure Standard Specifications for Highway Construction (NB Standard Specifications), while this sediment fence design drawing is different from the one recommended in NSE ESC Handbook for Filter Fabric Barrier (Section 2.9, which is the same measure as Sediment Control Fence in the NB Standard Specifications). No information is provided on the rationales or specific considerations for adopting the sediment control fence design from NB Standard Specifications. In more detail, a trench is left behind the sediment control fences facing down slope along the water flow direction as indicated in Sheet A-1 and C1. The information provided in Sheet A-1 and C1 do not provide clear understanding on the intent of the trench setup, nor on whether the trench will be backfilled and compacted to sufficiently stabilize the stakes/posts of sediment control fences.

Recommendations

The following recommendations are presented for consideration in the development of conditions for any approvals that may follow the EA process, if the EA is successful.

- An assessment on the potential impacts to marine environment from the treated effluent of the proposed facility submitted to NSECC for review and acceptance. This assessment should consider including potential impacts to marine environment from stormwater discharge, if stormwater collected on site has the potential to be contaminated by leakage and/or spill. This assessment should also consider the pollution prevention provisions in the Fisheries Act (subsection 36(3)) prohibition. Any necessary measures to mitigate potential impacts and to not cause pollution to marine environment from treated effluent and/or site stormwater discharge should be included in this assessment.

- All final and/or updates drawings, with necessary information and notes submitted to NSECC for review and acceptance, prior to any construction and operation activities.

- A snow management and disposal plan submitted to NSECC for review and acceptance prior to any construction and operation activities. This plan should include,
  - general snow management and disposal plan for the site; and
  - considerations of snow removal with appropriate method of disposal for the proposed pad area for the six exterior multi-use storage tanks, if snow accumulation in the pad area is expected; and
  - considerations of snow removal with appropriate method of disposal in the loading and unloading area, if snow accumulation is expected in the area.

- Prior to any construction and operation activities, provide the following information to NSECC for review and acceptance:
  - assessment on whether the proposed pad area (including the Liner and Catch Basin systems and the Underground Oil Water Separator system) for the six exterior multi-use storage tanks can contain and drain the water collected in the

pad area during possible storm events, in a manner to prevent any overflow from the pad area in the event of the worst scenario accidental spillage (100% of largest storage tank capacity plus 10% of aggregate capacity of all additional storage tanks); and if there is any, updated design of the proposed pad area (including the Liner and Catch Basin systems and the Underground Oil Water Separator system) due to the abovementioned assessment; or

- a risk-based inspection and maintenance approach for the pad area (including the Liner and Catch Basin systems and the Underground Oil Water Separator system), either specifically developed or included in the stated Environmental Management System, to ensure any liquid, debris and precipitation accumulation in the area is removed in a timely manner so that there will be no overflow from the pad area during possible storm events in the case of the worse scenario accidental spillage; and
- considerations of handling overflow from the pad area in the proposed Emergency Response and Contingency Plan, if necessary.

- A specific loading and unloading area inspection and maintenance plan being developed, or included into the stated Environmental Management System. The plan may consider including clean and maintenance measures to ensure the loading and unloading area is free of leakage and/spill, to reduce the potential risk of stormwater contamination during and after storm events.

- An event-based water quantity (or flow rate) monitoring plan at the stormwater outfall being developed or included into the final surface water monitoring program. This plan should collect information to validate modeled stormwater flow rate, and provide information to make necessary updates to site surface water management. This plan may also consider including water quality monitoring to make sure stormwater runoff from the site, and especially stormwater runoff from the loading and unloading area is not contaminated by leakage and/or spill, and/or is sufficiently treated by the stormwater management system and First Defense system to meet applicable water quality guidelines and will not cause pollution to marine environment.

- A detailed erosion and sediment control (ESC) plan developed by a qualified professional is required to be submitted as part of any industrial approval application for NSECC review and approval prior to construction and operation activities. It is recommended to provide the final ESC plan with sufficient details of proposed ESC measures as part of the industrial approval application. The plan should include appropriate design drawings and installation method for proposed ESC measures (including but not limited to sediment control fence) and the approaches to maintain effectiveness of these measures. This plan should also include any additional ESC measures used to prevent potential scour and/or erosion to the shoreline from stormwater and treated water discharge, if there is any. In addition, this plan should include considerations to promote communication between ESC plan designer and site contractor in a manner to make sure ECS plan implementation and ESC measure installation are conducted as per design and will be well-functioning.

References

- National Fire Code of Canada 2015. Issued by the Canadian Commission on

Building and Fire Codes. National Research Council of Canada.

NOVA SCOTIA

Environment

Barrington Place
1903 Barrington Street
Suite 2085
Halifax, Nova Scotia
Canada, B3J 2P8

Date: 2022-01-26

To: EA, Nova Scotia Environment

From: Climate Services Specialist, Climate Change Unit

Subject: Waste Oil Recycling and Water Treatment Facility

Climate Adaptation

S. 11: *Significant rainfall events were considered during the development of the surface water infrastructure plan for the existing Liquid Asphalt Storage Facility at the site, and the design of the existing facility includes measures to minimize erosion and control water movement and sedimentation.*

- It would be valuable to know to what extent (if any) climate change projections were considered in the evaluation of significant rainfall events, and whether these design standards are still appropriate for the lifespan of the facility.
- The specific notes about why high temperatures and sea level rise would not be issues were valuable. Though we didn't have a chance to confirm the reasoning.
- Suggest they have a look at data on CLIMAtlantic.ca and reach out there for assistance with data selection and use.

Quinn, Candace M

From: Barnett, Codey
Sent: January 29, 2022 3:03 PM
To: Quinn, Candace M
Subject: RE: Envirosoil Waste Oil Recycling and Water Treatment Project - Additional Information Addendum EA Review

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Candace,

I have no comments to the addendum.

Thanks,

Codey

January 14, 2022

Environmental Assessment Branch
Nova Scotia Environment and Climate Change
P.O. Box 442
Halifax, NS, B3J 2P8

Via Email: EA@gov.ns.ca

Re: Envirosoil Limited - Waste Oil Recycling and Water Treatment Facility Project

On behalf of the administration of Halifax Regional Municipality (HRM), I am writing in response to the Additional Information registered by Envirosoil Limited regarding the proposed Waste Oil Recycling and Water Treatment Facility project currently undergoing environmental assessment, as per Part IV of the Environment Act.

The proposed undertaking involves the installation and operation of a facility at 750 Pleasant Street, Dartmouth, that will be used for receiving, processing and recycling of waste oil and the treatment of wastewaters. The property in question is located along the Halifax Harbour and is a previously disturbed industrial site.

The Environmental Assessment Registration Document (EARD) initially submitted by Envirosoil in April 2021 proposed that the facility's treated liquid waste would be discharged into the municipal wastewater system. The EARD noted that Envirosoil would receive approval from Halifax Water for this discharge prior to operating the facility. Halifax Water is the municipal water, wastewater, and stormwater utility for HRM.

Halifax Water raised a number of concerns in response to the EARD, which related to potential adverse environmental impacts as well as regulatory constrains for wastewater discharge under Part XI of the Halifax Water Regulations. Among the concerns cited included constraints on the discharge of extraneous water, as well as bilge water into the municipal wastewater system. Full EARD comments from Halifax Water available here: https://www.novascotia.ca/nse/ea/waste-oil-recycling-and-water-treatment-facility/REDACTED-Envirosoil-Comments-Combined-May-18-2021.pdf

Following additional consultations with Halifax Water, Envirosoil revised its proposed operational plan to discharge treated effluent directly to Halifax Harbour, rather than the municipal wastewater system. The revised proposal is detailed in the Wastewater Management Plan included in the Additional Information registered by Envirosoil. The Wastewater Management Plan outlines proposed mitigation measures to avoid potential adverse effect on the receiving environment, Halifax Harbour. Among other measures, this includes requiring that liquid waste be treated to meet Federal CCME Water Quality Guidelines for discharge into the Harbour.

The revised operational plan for the discharge of wastewater at the proposed Pleasant Street facility is consistent with the regulatory requirements of Halifax Water and has the support of the Municipality. However, as the revised proposal now calls for treated effluent to be discharged directly to the ocean environment, it will be necessary for the appropriate federal, provincial and Indigenous stakeholders to adequately re-evaluate environmental impacts, as appropriate.

Kind regards, amitiés, wela'lioq,

Jacques Dubé,
Chief Administrative Officer
Halifax Regional Municipality

Tel 902.490.4015
Email dubej@halifax.ca