



NWB Tools

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## ECCC Eureka HAWS Regulatory Project - Planned site activities for the Landfarm project this fiscal year (8BC-EUR2131)

Richard Dwyer &lt;richard.dwyer@nwb-oen.ca&gt;

Mon, Nov 27, 2023 at 1:04 PM

Draft To: Karén Kharatyan &lt;karen.kharatyan@nwb-oen.ca&gt;

On Fri, Nov 24, 2023 at 12:20 PM Cloutier-Dussault, Jean-Philippe (ECCC) <Jean-Philippe.Cloutier-Dussault@ec.gc.ca> wrote:

Good day Karén,

Please see below the answer to your questions. Have a good weekend. Best regards,

**1. a) At which stage we are with the construction of Landfarm stated in your email above?**

The construction of the new landfarm has not yet commenced. The activities as described in the email were not initiated as anticipated. Equipment and materials have been sealifted to site, and construction is expected to begin in June 2024.

**b) Whether this will be a Landfarm to replace the existing/previous landfarm or an additional Landfarm?**

To clarify, this is regarding a new landfarm (not yet constructed), which is in addition to an existing, no longer active, landfarm. The new landfarm will be used to treat impacted soils that will be removed from the existing landfarm as result of constructing the new raw water reservoir within a portion of its footprint.

**c) I am trying to understand the Landfarm situation generally at site as the document "Eureka Sampling Procedure Standard Operating Procedure Water and Sewage Sampling" that was part of amendment application also states for Effluent discharge from Landfarm: "Collection of sample not performed due to construction of the New Water Lagoon at this location".**

This statement from the Standard Operating Procedure (SOP) regarding sample collection is incorrect and will be updated in the SOP and the 2024 Annual Report. This statement should read that ECCC maintains and monitors all of the Monitoring Program Stations listed in Part I, Item 1 of the Water Licence and conducts sampling during periods of observed flow. However, there have been no runoff events (precipitation or snow melt events) during the construction seasons at EUR-4 to date. Summers at Eureka are generally very dry.

Further context / description of the landfarm / impacted soils generally at the site

A new landfarm with a total capacity of 10,000m<sup>3</sup> is scheduled to be constructed in 2024 and 2025 to treat hydrocarbon impacted soils that have been identified in various locations throughout the Eureka High Arctic Weather Station Project Site.

One of the areas containing impacted soils is the existing landfarm, which was originally permitted over 10 years ago, and is no longer active (i.e., it is no longer used for treating impacted soils). Therefore, it is more accurate at this time to refer to the existing landfarm as an 'area containing impacted soils', rather than a landfarm.

The new raw water reservoir footprint overlaps with this area, thereby necessitating that material excavated from this area as part of the raw water reservoir construction be treated or disposed of appropriately. In our case, we intend to treat this material in the new landfarm once constructed.

In order to allow reservoir construction to proceed ahead of the completion of the landfarm construction, two 'temporary contaminated soils storage areas' were permitted and constructed to temporarily store this material that was excavated from the reservoir footprint. Once the new landfarm is constructed, the material from these temporary storage areas will be moved to the new landfarm for treatment.

There will be some impacted material within/surrounding the existing landfarm that will be left in place (until site closure or other), which includes soil below or immediately adjacent to the fuel pipeline that goes along the east side of the existing landfarm (access and safety issue), as well as some soil below trailers north of the existing landfarm (access issue). There is also impacted soil at depth within the existing landfarm that will not be excavated, as we are trying to remove as much impacted soil as we can but not impact the permafrost - degradation of the permafrost would have adverse effects on the new reservoir berms. This is all aligned with the Remedial Action Plan submitted to the Board.

Although the Licence currently only has one monitoring station defined for a singular landfarm, ECCC understands that they are required to monitor the existing landfarm (and the new landfarm once constructed) for runoff, and sample as needed.

**2. What is the "New Water Lagoon" stated above and being constructed at the landfarm location?**

This refers to the raw water reservoir that is being constructed. The landfarm being referred to in this case is the existing landfarm that is no longer active (See description of general landfarm / contaminated soils situation above)

**3. Whether the "Soil Treatment Facility Area" (SFTA) stated in your email and the "Temporary Contaminated Soil Storage" stated throughout the amendment application are the same things?**

The "Soil Treatment Facility" refers to the new landfarm to be constructed in 2024, and the "Temporary Contaminated Soil Storage" refers to the area which soils are currently stored prior to landfarm construction / operations of the new landfarm. These are two separate areas.

**4. What was the outcome of discussions regarding amending the current licence term D16 to replace the CCME Guidelines for treated soil by Site-Specific Target Levels as outlined in Remedial Action Plan?**

Discussions are currently ongoing, and a resolution has not been made. ECCC has not yet formally initiated this amendment request with NWB.

**5. The current licence includes a definition for a Fuel Storage and Transfer Area, however, for some reasons we did not previously include a Monitoring Station and criteria list for the Effluent discharged from the tankfarm. I am wondering on what ECCC is doing with water/runoff from tankfarm containment?**

There have been no water/runoff events to date. Regardless, ECCC understands that they are required to monitor the Fuel Storage and Transfer Area for runoff and sample as needed. As mentioned above, Eureka is very dry during the construction season.

**6. From my understanding, upon completion of the new Wastewater Treatment Plant (WWTP) the sewage lagoon will become a "Wastewater Retention Pond" for treated sewage discharge from WWTP, correct or not? If this is the case, will the Final Discharge Point be after the Wastewater Retention Pond" or ECCC planning to discharge treated sewage directly from WWTP as well?**

Correct. Treated sewage or effluent from the new wastewater treatment plant will be piped to the retention pond, which is then discharged into the Slidre Fjord (i.e., the final discharge point is from the retention pond into the Slidre Fjord). When discharging from the retention pond into the ocean, two methods will be applied:

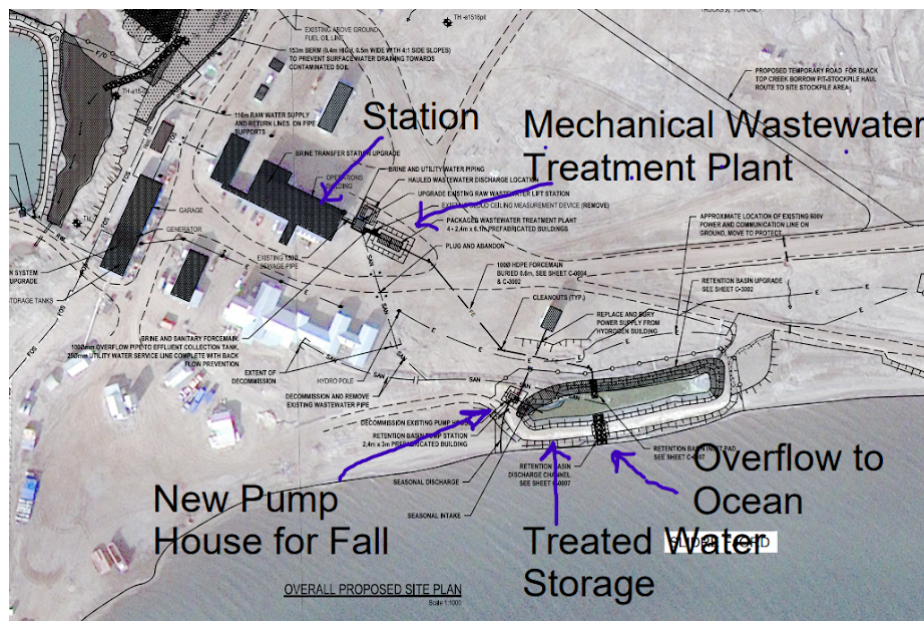
- In the summer: Retention pond will be discharge via an open channel roughly 10 metres long between the retention pond and the ocean. This is effectively an overflow channel.
- In the Fall: Retention pond is discharged using a 25 metre long, 75 mm diameter hose and pump which runs from the retention pond pumphouse to the ocean

**Further Context / Description of the New Waste Water Treatment System**

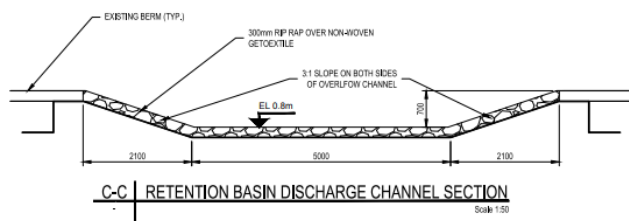
By 2025, all wastewater will be collected and treated in a moving bed bioreactor (MBBR) mechanical treatment plant adjacent to the weather station. This treatment facility will meet current Wastewater Systems Effluent

Regulation (WSER) federal guidelines and will be located well over a 31m from the high water mark. This will be high quality effluent that will be stored in the old lagoon prior to discharge. The treated water will be stored during winter rather than being released on or beneath the ocean ice. The storage cell will be the old lagoon after it is cleaned out and expanded, at which time it will be a retention pond. During the summer, the retention pond will overflow to the ocean through a channel lined with rip rap (see second drawing below). In the fall, the treated water will be pumped out of the retention pond to make space for the winter storage. Both the pumping and the overflow will be adjacent to the ocean, however they will be releasing stored treated wastewater. This outfall will not be farther than 31m from the high-water mark of the ocean but it will be discharging treated water meeting the WSER limits.

A figure showing the relative location for the treatment plant and the storage cell are show below.



A figure showing a cross section of the overflow channel showing rip rap and geotextile is given below:



## 7. Whether sludge removal activities are planned before the lagoon becomes a " Wastewater Retention Pond" (if my understanding was correct)?

Correct, the sludge removal is planned to occur prior to converting the wastewater lagoon to a retention pond.

**8. Greywater Exfiltration Trench is stated throughout the amendment application for collection of greywater until the commissioning of WWTP? Whether or not any discharge may be happening from this exfiltration trench.**

The greywater exfiltration trench is the system for the treatment of greywater. Greywater is discharged into the exfiltration trench, and seeps into the ground with no surface runoff. No discharge comes 'from' the exfiltration trench. Ongoing use of the trench is planned for the summer of 2024 and 2025 and until the Wastewater Treatment Plant is commissioned.

Jean-Philippe Cloutier-Dussault

Gestionnaire immobilier, Directions des actifs, des biens immobiliers et de la sécurité

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**From:** Karén Kharatyan <[karen.kharatyan@nwb-oen.ca](mailto:karen.kharatyan@nwb-oen.ca)>

**Sent:** Sunday, November 19, 2023 6:51 PM

**To:** Cloutier-Dussault, Jean-Philippe (ECCC) <[Jean-Philippe.Cloutier-Dussault@ec.gc.ca](mailto:Jean-Philippe.Cloutier-Dussault@ec.gc.ca)>

**Subject:** Re: ECCC Eureka HAWS Regulatory Project - Planned site activities for the Landfarm project this fiscal year (8BC-EUR2131)

Hi Jean-Pierre,

As Assol is not anymore with the NWB I am trying to catch up with some of her files. Hopefully, you could help me with the following questions:

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6. Whether sludge removal activities are planned before the lagoon becomes a " Wastewater Retention Pond" (if my undersanding was correct)?

6. Greywater Exfiltration Trench is stated throughout the amendment application for collection of greywater until the commissioning of WWTP? Whether or not any discharge may be happening from this exfiltration trench.

Your answers will be very appreciated

Regards,



Karén Kharatyan, Ph. D- ԵՂԶ ԵՏՈՂԶ

Director Technical Services - Directeur des services technique ກຸງຈັນທະບູລີ

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 Merci de penser à l'environnement avant d'imprimer ce courriel / Thank you for thinking of the environment before printing this email

On Fri, Aug 18, 2023 at 1:29 PM Cloutier-Dussault, Jean-Philippe (ECCC) <Jean-Philippe.Cloutier-Dussault@ec.gc.ca> wrote:

Hello Richard, Assol, and Karén,

Landfarm construction is anticipated to begin September 4, 2023 or upon approval of the IFC drawings. In preparation for landfarm construction, ECCC is seeking authorization to proceed with the following early works (prior to September 4th) as per licence condition 20:

- Removing boulders in the Soil Treatment Facility Area (SFTA)
- Produce Type 2 borrow material and store at West Remus Quarry until Q3 2024 when it will then be hauled to the SFTA.
- Initiate construction of the new access road and culverts to the STFA.

**Rationale for request:** The construction season is limited due to the extreme weather experienced in the Arctic. Beginning these activities early on allows for these severe conditions to be avoided, maximizes daylight hours, and provides sufficient time to secure the site before winter arrives and construction ceases. In addition, site work needs to be set up like an assembly line, with one project's activities immediately following the other, especially given that we are engaging the same contractor for multiple projects. With such a short construction season, we try to find efficiencies where possible.

Please advise.

Jean-Philippe Cloutier-Dussault

Gestionnaire immobilier, Directions des actifs, des biens immobiliers et de la sécurité

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