NOVA SCOTIA
Environment

Comment Index

Gold Bond Gypsum Mine Expansion Project

Publication Date: 6 September 2024

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Health Canada Santé Canada

Human Health Considerations in Impact Assessment

Health Canada (HC) provides the following generic considerations for evaluating human health impacts in environmental/impact assessment (EA/IA). Please note that this is not an exhaustive list of human health concerns that may result from projects, and that issues will vary based on project specifics. Please also note that HC does not approve or issue licenses, permits, or authorizations in relation to the IA. HC's role in Impact Assessment is founded in statutory obligations under the Canadian Impact Assessment Act, and its knowledge and expertise can be called upon by reviewing bodies (e.g., Impact Assessment Agency of Canada, review panels, Indigenous groups and/or other jurisdictions). In the absence of such a request from one of the above noted groups, HC is unable to carry out a comprehensive review of the project. However, HC is able to accommodate specific requests for human health advice and guidance related to provincial environmental assessments within a reasonable timeframe.

HC currently possesses expertise in the following areas related to human health: air quality, recreational and drinking water quality, traditional foods (country foods), noise, and methodological expertise in conducting human health risk assessment. Based on Health Canada's "*Guidance for Evaluating Human Health Impacts in Environmental Assessment*", please consider the following information on these topics to assist in your review.

	Consideration	**Reference Document**
Receptor Location(s)		
Please ensure the registration document clearly identifies the locations of all receptors that may be impacted by the proposed project, including any receptors located along the transportation route, if applicable.	• It is important to clearly describe the location and distance from the proposed site(s) to all potential human receptors (permanent, seasonal or temporary), taking into consideration the different types of land uses (e.g. residential, recreational, industrial, etc.), and identifying all vulnerable populations (e.g. in schools, hospitals, retirement or assisted living communities). Note that the types of residents and visitors in a particular area will depend on land use, and may include members of the general public and/or members of specific population subgroups (Indigenous peoples, campers, hunters, etc.)	*Health Canada. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: Human Health Risk Assessment. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.* *https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-6-2023-eng.pdf*
	• If there is the potential that project-related activities could affect human receptors, impacts to human health should be considered.	

Atmospheric Environment		
Project impacts to the atmospheric environment include changes to air quality and noise, and can occur in both the construction, operation and decommissioning phases of the project. Project impacts to air quality are commonly caused by emissions from equipment or vehicles as well as by dust. Noise impacts are commonly caused by equipment as well as by activities such as blasting.	• If there are receptors that could be affected by project-related activities, impacts to the atmospheric environment should be considered. Changes to the atmospheric environment that may impact human health include: ○ impacts to air quality (dust or fumes including $PM_{2.5}$, NO_x, SO_x, PAHs) ○ increased noise from construction or operations	*Health Canada. 2023. Guidance for Evaluating Human Health Impacts in Impact Assessment: Noise. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario* https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-3-2023-eng.pdf *Health Canada. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: Air Quality. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.* https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-1-2023-eng.pdf
	• If there are receptors who could be impacted by project-related noise, it may be necessary to inform receptors prior to loud activities, such as blasting.	
	• If there is the potential for impacts to human receptors from noise and/or air quality changes from the project, the proponent should consider establishing mitigation measures. If complaints are received additional mitigation measures may be required.	
Recreational and Drinking Water Quality		
The proponent should consider whether any nearby waterbodies are used for recreational (i.e. swimming, boating, or fishing) or drinking water purposes, as well as whether there are any drinking water wells in the area potentially impacted by the project. Nearby drinking and/or recreational water quality may be impacted by	• If there is the potential for impacts to drinking and/or recreational water quality from the project site, the proponent should consider establishing mitigation measures. If complaints are received additional mitigation measures may be required.	*Health Canada. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: Drinking and Recreational Water Quality. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.* https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-2-2023-eng.pdf

accidents or malfunctions, such as a fuel spill; by dust and increased sediment runoff; and by other chemical discharges to the environment. Additionally, wells in the area potentially impacted by the project may be impacted by activities such as blasting.	• The proponent should consider preparing a response plan in the event of an accident or malfunction with the potential to impact drinking and/or recreational water quality. Response plans should include a spill response kit, adequate spill response training, and a communication plan to notify all recreational and drinking water users in the impacted area as well as all relevant authorities. • In some cases, for projects that are likely to have an impact on drinking and/or recreational water quality, the proponent should consider conducting water monitoring prior to the start of the project (to establish a baseline). Monitoring would continue throughout the construction, operation and decommissioning phases of the project (as applicable) to monitor for any changes in water quality or quantity.	
Country Foods		
If there are plants or animals present in the area potentially impacted by the project that are consumed by humans, there may be potential for impacts to country foods. The proponent should consider all country foods that are hunted, harvested or fished from the area potentially impacted by the project. Impacts to country foods may occur from the release of contaminants into soil or water (including from an accident or spill) or from deposition of air borne contaminants.	• If there is the potential for impacts to country foods from the proposed project, the proponent should consider establishing mitigation measures. If complaints are received additional mitigation measures may be required. • The proponent should consider preparing a response plan in the event of an accident or malfunction with the potential to impact country foods. Response plans should include a spill response kit, adequate spill response training, and a communication plan to notify all potential consumers of country foods in the impacted area as well as all relevant authorities.	*Health Canada. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: Country Foods. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.* *https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-5-2023-eng.pdf*

For more information on HC's guidelines for evaluating human health impacts in environmental assessments, please see:

*Health Canada. 2023. Guidance for Evaluating Human Health Impacts in Impact Assessment: **Noise**. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario*
https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-3-2023-eng.pdf

Appendix B of this guidance document provides a checklist that may be beneficial in verifying that the main components of a noise environmental assessment are completed.

*Health Canada. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: **Air Quality**. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.*
https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-1-2023-eng.pdf

Appendix A of this guidance document provides a checklist that may be beneficial in verifying that the main components of an air quality environmental assessment are completed.

*Health Canada. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: **Drinking and Recreational Water Quality**. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.*
https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-2-2023-eng.pdf

Appendix A of this guidance document provides a checklist that may be beneficial in verifying that the main components of a water quality environmental assessment are completed.

*Health Canada. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: **Country Foods**. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.*
https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-5-2023-eng.pdf

Appendix A of this guidance document provides a checklist that may be beneficial in verifying that the main components of a country foods environmental assessment are completed.

*Health Canada. 2023. Guidance for Evaluating Human Health Effects in Impact Assessment: **Human Health Risk Assessment**. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.*
https://publications.gc.ca/collections/collection_2024/sc-hc/H129-54-6-2023-eng.pdf

Appendix B of this guidance document provides a checklist that may be beneficial in verifying that the main components of a human health risk assessment are completed.

Impact Assessment Agency of Canada | Agence d'évaluation d'impact du Canada

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July 22, 2024

Jeremy Higgins
EA Officer
Nova Scotia Environment and Climate Change
Jeremy.higgins@novascotia.ca

SUBJECT : Gold Bond Mine Expansion

Dear Jeremy Higgins:

Thank you for the opportunity to review the registration document for the Gold Bond Mine Expansion Project (the Project), received on July 16, 2024.

The federal environmental assessment process is set out in the *Impact Assessment Act* (IAA). The *Physical Activities Regulations* (the Regulations) set out a list of physical activities considered to be "designated projects" under the IAA.

While it is the responsibility of proponents to determine whether their proposed project includes physical activities described in the Regulations of the IAA, based on the information submitted to the Province of Nova Scotia on the proposed Project, the Impact Assessment Agency of Canada (IAAC) is of the opinion that, as proposed, the project does not appear to be described in the Regulations. As such, the proponent would not be expected to submit an Initial Project Description of a Designated Project. If the project changes from what has been described in its provincial registration, the proponent is advised to contact IAAC if, in their view, any proposed project activities may be described in the Regulations.

The proponent is advised that under section 9(1) of the IAA, the Minister may, on request or on the Minister's own initiative, by order, designate a physical activity that is not prescribed by regulations made under the Regulations if, in the Minister's opinion, the carrying out of that physical activity may cause adverse effects within federal jurisdiction or direct or incidental adverse effects. Should IAAC receive a request for a project to be designated, IAAC would contact the proponent with further information.

Please note that for physical activities not described in the Regulations, should the Project be carried out in whole or in part on federal lands, section 82 of the IAA would apply if any federal authority is required to exercise a power, duty or function under an Act other than IAA in order for the Project to proceed, or if a federal authority is providing financial assistance for the purpose of enabling the Project to be carried out. In that case, that federal authority must ensure that any Project assessment requirements under the applicable sections of the IAA are satisfied.

We also note that in proceeding with the Project, the proponent may still be required to obtain or seek amendment to other federal regulatory permits, authorizations and/or licences.

The proponent is encouraged to contact IAAC at (902) 426-0564 if it has additional information that may be relevant to IAAC or if it has any questions or concerns related to the above matters.

Diane Kettle
(she/her|elle)
Environmental Assessment Officer
Impact Assessment Agency of Canada / Government of Canada
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NOVA SCOTIA
Municipal Affairs and Housing
Municipal Affairs

Floor 8 North, Maritime Centre
1505 Barrington Street
PO Box 216
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novascotia.ca

DATE: July 29, 2024

TO: Jeremy Higgins, Environmental Assessment Officer

FROM: Christina Lovitt, Director of Planning

SUBJECT: **GOLD BOND GYPSUM MINE EXPANSION, HALIFAX REGIONAL MUNICIPALITY**

Scope of Review:
This review focuses on the following mandates: the Statements of Provincial Interest and engagement with municipalities.

Document Reviewed:
Registration Document

Details of Technical Review:
The current land use zoning in the Municipality is appropriate to accommodate this development. The proponents have not indicated whether they have discussed their plans with the Municipality, as no structures are proposed and municipal permits are not required.

Statements of Provincial Interest:

- Drinking Water: No anticipated impact. BoMont water supply is the closest municipal water supply, but it is not within the study area.
- Agricultural Land: The study area appears to have Class 3 agricultural soil. The proponents stated that topsoil will be stored and used during reclamation.
- Flood Risk: No anticipated impact. There are no Flood Risk Areas under the Canada-Nova Scotia Flood Damage Reduction Program in the study area. There is a watercourse setback of 20m in this plan area.
- Infrastructure: No anticipated impact. Only the community of Middle Musquodoboit has central sewer and/or water services in this plan area, and they are located outside of the study area.
- Housing: No anticipated impact. The project site is zoned for mixed uses which enables residential development. Under the *Environment Act*, the NS Environment Pit and Quarry Guidelines require a minimum setback of 800m from buildings located off-site.

Key Considerations *(provide in non-technical language):*
The Department of Agriculture has an opportunity to review the reclamation approach during the EA process to determine potential impact to agricultural land. All other components considered under DMAH's areas of mandate have been adequately addressed.

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NOVA SCOTIA
Fisheries and Aquaculture

Date: August 8, 2024

To: Jeremy Higgins, Environmental Assessment Officer

From: Lesley O'Brien-Latham, Executive Director, Policy and Strategic Advisory Services

Subject: Gold Bond Gypsum Mine Expansion

Scope of review:

The scope of this review follows the Department of Fisheries and Aquaculture's legislated mandate to develop, promote and support fishing, aquaculture, seafood processing and sportfishing in Nova Scotia.

List of Documents Reviewed:

Stantec EA Registration Document

Details of Technical Review:

Risks to Nova Scotia's sportfishery are expected to be minimal as the proponent indicated there are no fish habitats located within the proposed mine expansion footprint of the project.

There are two licensed marine commercial fisheries buyers/processors located within Hants County. As the proponent identified in their submission that activities are not planned near aquatic environments inhabited by fish, and the marine terminal that will be utilized in Port of Halifax adheres to environmental policies and guidelines, negative impacts to the operations of these activities are expected to be minimal.

The project is adjacent to Lobster Fishing Area (LFA) 35 waters where commercial fishing takes place from October 14th to December 31st, opening again from the last day in February until July 31st. As the project is land-based with no proposed marine activities, it is not expected to pose negative impacts to lobster and other commercial marine fisheries adjacent to the project area.

There is communal-commercial, livelihood, and Food, Social, and Ceremonial (FSC) and livelihood fishing conducted in LFA 35 and in the waters adjacent to the proposed sites. Sipekne'katik First Nation and Millbrook First Nation possess these licenses. As the project is land-based with no proposed marine activities, it is not expected to pose

negative impacts to the lobster and other commercial marine fisheries (harvested by Sipekne'katik First Nation and Millbrook First Nation) adjacent to the proposed site.

The proponent should be made aware of the Fisheries and Coastal Resources Act, Provincial Aquaculture License and Lease Regulations, Provincial Aquaculture Management Regulations, and the Nova Scotia Rock Weed Harvesting Regulations. In addition, the proponent should be directed to the Site Mapping Tool - Government of Nova Scotia, Canada for information on aquaculture operations within the area.

Key Considerations: (provide in non-technical language)

- The Department does not anticipate risks to commercial fishing or marine activities within the Department's mandate based on the activities proposed and with adherence to the environmental policies and guidelines.
- The Department does not anticipate any risks to Nova Scotia's sportfishery, aquaculture and rockweed harvesting.

Fisheries and Oceans Canada | Pêches et Océans Canada

PO Box 1006, P500
Dartmouth, NS
B2Y 4A2

August 7, 2024

Our file *Notre référence*
24-HMAR-00484

Jeremy Higgins
Environmental Assessment Officer
Nova Scotia Environment and Climate Change
1903 Barrington Street, Suite 2085
Halifax, NS
B3J 2P8

Subject: DFO comments on the Environmental Assessment Registration Document (EARD) – Gold Bond Gypsum Mine Expansion

Dear Jeremy Higgins:

The Fish and Fish Habitat Protection Program (the Program) of Fisheries and Oceans Canada (DFO) received your request to review the Environmental Assessment Registration Document (EARD) for the proposed Gypsum Mine Expansion on July 16, 2024. We understand that the proponent is proposing the following:

- The expansion of an active gypsum mine site to incorporate a small adjacent parcel of land, approximately 14 h, directly north of the existing mine that continues along the current deposit.

- The size of the mine will expand from 445 ha to 459 ha. The expansion will maintain a 30 m buffer to the adjacent property to the north.

- The anticipated average production rate for the expanded facility will be at the 20-year average of 3.1 million tonnes of product per year, depending on market demand. The current operating schedule is 16 hours/day, five days per week, 52 weeks/year.

- The project is situated on the boundary of two secondary watersheds of the Shubenacadie River, the McLennan Brook and the Big Pond Brook watersheds. Prior to the mid-1990s, Big Pond Brook flowed through the mine property (south to north) east of the active pit area (Stantec 2015). In its original arrangement, the brook conveyed surface runoff collected from south (upstream) of the Gold Bond Mine to the Shubenacadie River. In the mid-1990s, Gold Bond redirected a portion of Big Pond Brook to the east (under permit from NSECC) to prevent flow from entering the pit and a remnant of the Big Pond Brook remains on the

Canada

east side of the Project Area (Figure 6-1). This channel maintains the size and shape of the of Big Pond Brook prior to its alteration in the 1990s; however, it no longer has the same drainage area nor are there continuous flows within the channel.

DFO has reviewed the EARD and offers the following comments for consideration:

Section 6.3.2.1 Surface Water Existing Environment

- The downstream reaches of the unnamed brook have been described as having connectivity with McLennan Brook, suggesting the potential for fish habitat in the downstream reach. McLennan Brook is a tributary to the Shubenacadie which is habitat for inner Bay of Fundy (iBoF) Atlantic Salmon, which are listed as Endangered under the *Species at Risk Act* (SARA). WL2 is situated within the proposed expansion area and is within the headwaters of the unnamed brook. A large portion of WL2 will be lost due to the expansion. The proponent should assess how the loss of this wetland will affect flows within the unnamed brook and McLennan Brook. The assessment of flow changes should be based on the guidelines in DFO's Framework for Assessing the Ecological Flow Requirements to Support Fisheries in Canada.

Section 6.3.2.2 Surface Water Effects Assessment

- The EARD states "*The unnamed brook on the west side of the Project is not within the Project Area and is within the currently approved quarry boundaries. The upper reaches of this watercourse are not expected to be suitable to fish habitat as it is overland drainage and ephemeral, with no defined bed or banks."* The proponent should use caution when using the ephemeral nature of a watercourse as justification to classify it as non fish bearing. Ephemeral watercourses can be used by a variety of fish species to carryout life history processes, including American Eel.

Section 10.0 Other Approvals

- The EARD lists several relevant plans previously submitted to NSECC for review, however, these plans were not included as appendices within the EARD to be further reviewed for the proposed mine expansion.

If you have any questions with the content of this letter, please contact Montana Mclean-Gregoire at our Dartmouth office at 902-943-3508 or by email at montana.mclean-gregoire@dfo-mpo.gc.ca. Please refer to the file number referenced above when corresponding with the Program.

Yours sincerely,

Montana Mclean-Gregoire
A/Senior Biologist
Ecosystems Management-Regulatory Reviews
Maritimes Region

NOVA SCOTIA
Environment and Climate Change

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

Date: Climate Change Division

To: Jeremy Higgins, Environmental Assessment Officer

From: Climate Change Division – Anthony Weatherby (Acting Executive Director)

Subject: Gold Bond Gypsum Mine Expansion (Gold Bond Canada, Ltd), Milford, Halifax County

Scope of review:
This review focuses on the following mandate: Climate Change Adaptation and Mitigation

List of Documents Reviewed:
- Gold Bond Gypsum Mine Expansion Project EA Registration Document
- Appendix D

Details of Technical Review:

Adaptation:

- The proponent includes a description of local climate and precipitation (rainfall/snow) under section 6.2.1.1 of the EA Registration document. Using a 30-year time frame (1981-2010) for historic normal meets the recommended practice to describe local climate i.e., Milford Station. However, an overview of historical extreme precipitation/rainfall/snowfall and wind data in the same section may be meaningful to inform infrastructure design and is consistent with recommended practice.
- At the beginning of section 9 of the EA registration document, the proponents acknowledge that changes in climate and meteorological conditions may affect the overall project. In the analysis, the proponents mention that extreme precipitation might cause potential impacts on the project and anticipate that the monitoring mechanism adopted in their project will minimize the risk, and thus, the project will not be impacted to a significant degree. However, the document doesn't detail the evidence used to support this conclusion. For example, the EA registration document does not include climate change projections and extremes relative to climate normals to provide a rationale for why the proposed monitoring is sufficient.

Mitigation:
- According to the proponent, GHG emissions for the Project will be limited to earthworks and associated heavy equipment during construction.

- With respect to GHG emissions from operations, no substantial change in the level of emissions is expected compared to the current mine operation as emissions would be within the current operational range.
- This assertion of negligible change in emissions from operations and construction is justifiable
- The proposed mitigation steps to reduce exhaust emissions from equipment and vehicles will be to maintain vehicles in good working order and implement a no-idling policy, where feasible. This is satisfactory

Key Considerations: (provide in non-technical language)

Adaptation:

- To adequately assess the climate variability and characterize the local climate, we recommend the proponent review historical extreme precipitation and wind data in addition to the data included in section 6.2.1.1 under EA registration document.
- We suggest the proponent consider using the latest climate change projections for the site and adopt the risk management framework recommended in the “Guide to Considering Climate Change in Project Development in Nova Scotia” to assess which impacts may present the highest risks to throughout the different phases of project and to assist in the determination of priorities for implementing adaptation measures, where applicable. The updated IDF curves (3.30 version) and the latest climate projection data are available at climatedata.ca.

Mitigation:

- No further recommendation. The information provided covers the degree of detail usually required for projects of this level of impact.

NOVA SCOTIA
Environment and Climate Change

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Date: August 14th, 2024

To: Jeremy Higgins, Environmental Assessment Officer

From: Tanya Farrell, Inspection, Compliance, and Enforcement-Central Director

Subject: Gold Bond Gypsum Mine Expansion (Gold Bond Canada, Ltd), Milford, Halifax County

List of Documents Reviewed:

Stantec. 2024. Gold Bond Gypsum Mine Expansion Project, EA Registration Document

Details of Technical Review:

The Gold Bond Gypsum Mine currently operates under Industrial Approval 2015-093939-02.

The proponent has identified and delineated two wetlands in the project area, WL-1 and WL-2. Alteration of a wetland is designated an Activity in the Activities Designation Regulations, and therefore requires an Approval from NSECC.

The proponent has identified an unnamed watercourse the is present within the existing boundary of the approved quarry. The watercourse is not proposed to be altered but effects on the watercourse have been considered in the report due to its proximity to the project area. Flow in this watercourse is reportedly intermittent and is not considered fish bearing.

Key Considerations: (provide in non-technical language)

Potential Environmental Effects	Mitigations
Fugitive Dust	Dust generation is mitigated by the use of water spray in dust prone areas. Approval holders must comply with guidelines.
Excessive Noise	Noise emissions to be managed under the standard mitigation measures already in place at the mine.
Effects to groundwater used in the surrounding area	The proposed expansion area is located on a high topo (~51m asl). Removing this high topo will most likely impact the local baseflow (this will also affect the runoff and by the same way affect flow in Big Pond Brook/MacLennan Brook). A model based on water balance should estimate these changes, this was not provided in the EA application.

	Current pit is estimated (from the topo map-2013) at ~41.1m below sea level. If they intend to work at 60m below msl, then they will most likely encounter the water table as based on the annual report water elevation in Monitoring Wells is located between14 to 35 masl. The proposed expansion area was not hydro-geologically assessed and there is no Monitoring Wells in that area. In order to determine that there will be no work under the water table baseflow needs to be defined in that area. Spills to be managed under the current Spill Contingency Plan. Continued adherence to the Pit and Quarry Guidelines
Effects to surface water	Surface runoff to be directed to on-site settling ponds, sumps and main pit. Water to be discharged to the Shubenacadie River. Monitoring of this discharge proposed to be completed as per the Terms and Conditions of the current Industrial Approval.
Alterations to wetlands	Wetland loss is proposed to be managed through the NSECC's Wetland Compensation Guidance Documents. Wetlands of Special Significance have not been identified in the project area.

NOVA SCOTIA
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Date: August 8th, 2024

To: Jeremy Higgins, Environmental Assessment Officer

From: Water Branch, Sustainability and Applied Science Division, Environment and Climate Change

Subject: Gold Bond Gypsum Mine Expansion (Gold Bond Canada, Ltd), Milford, Halifax County

Scope of review:
This review focuses on the following mandate: surface water quality and quantity, groundwater quality and quantity, and wetlands.

List of Documents Reviewed:
Environmental Assessment Registration Document (EARD) Submission, including Appendices.

Details of Technical Review:

Surface Water

While the EARD concludes that Project-related residual effects on surface water resources are expected to be insignificant the submission did not include information to support a full understanding of the potential impacts of the Project or an assessment of the effectiveness of proposed mitigations. Specifically;

- An unnamed watercourse was identified to the west of the Project area, which supports WL2. The EARD states that the portion of the Project Area that overlaps with the unnamed watercourse watershed is small, and therefore unlikely to contribute to surface water quantity effects downstream of the unnamed brook. However a watershed delineation was not completed to support this conclusion. As the unnamed watercourse has a small drainage area (3 ha), the impact on surface water quantity to this watercourse due to the mentioned overlap of the Project is important to inform necessary mitigations.

- The EARD mentions that drainage originating as direct precipitation and runoff during expansion will be directed to one of the three main sumps in the existing site. Diversion of runoff could impact the hydrology of the two secondary watersheds of the Shubenacadie River, McLennan Brook and Big Pond Brook,, as the Project site is situated on the boundary of this two watersheds. Watershed delineation and a quantitative assessment of the amount of water diverted should

be completed to assess the magnitude of impacts, if any, to the above noted watercourses are anticipated.

- A field-based water sampling program was completed on August 23, However, total suspended solids (TSS) were not measured as important parameter to assess potential impacts from sedimentation in surrounding water resources of this type of activity.

- The measured total dissolved solids at W3 and W4 in the remnant channel of Big Pond Brook and W5 in the Unnamed Watercourse are high. There was no additional analysis provided to understand whether they are naturally high or are associated with existing mining activities. This information is important to infer the correct approach in designing a water quality monitoring program and mitigation measures.

- THE EARD mentions that a decision was made by NSECC that the remnant channel of the Big Pond Brook is not considered a watercourse. Figure 6-1 shows a portion of the remnant channel is within the Project area. There is no information provided on whether the Project Area will contribute to the intermittent flow in the remnant channel and eventually to the Big Pond Brook, or whether this will be considered in the proposed stormwater management plan and site draining and ditching.

The proponent commits to updating their existing Stormwater Management Plan as well as providing additional perimeter drains and ditching. As this information was not submitted with the EARD, the effectiveness of these plans and associated mitigations measures cannot be assessed at this time.

The EARD mentions that at lower benches in the mine, equipment may be refueled next to ponds, and in the unlikely event of a spill, pumping would cease and affected water would be contained and cleaned up per provincial regulations and Gold Bond's Spill Contingency Plan. As water collected in the ponds will eventually be pumped into the Shubenacadie River, a refueling station away from the ponds may be a better alternative in preventing possible contamination of watercourses.

Groundwater

Gold Bond Canada Ltd. proposed a 14-hectare (ha) expansion of their existing approved gypsum mine in Milford, Nova Scotia. Project activities will be consistent with the current IA, except that the mine footprint will progressively expand to the north/northeast. Excavation will be carried out using standard drill and blast techniques. The proponent provided information in the EARD to assess the level of risk to groundwater and private water wells.

- According to the EARD, mining will be maintained above the groundwater table; however, they state that "*Although the Project is expected to extend to depths of 60 m below mean sea level to extract buried gypsum and underlying anhydrite deposits, mining will be maintained above the groundwater table*." (p.8). These statements appear to be contradictory as excavation at the depths stated will be

well below the natural water table. The Department typically defines work above the groundwater table as work conducted a minimum of 1 m above the annual high-water table level, as measured in a permanent monitoring well network. However, no supporting measurements were provided to indicate water table elevations. It is also not clearly stated in the EARD whether or not the current mine discharge water includes a component of groundwater, or how much volume is discharged.

- Details were not provided regarding the method(s) used to establish groundwater elevation relative to the elevation of the base of the excavation. The availability of monitoring wells or monitoring well data was not mentioned. The location of the groundwater table is typically determined through the installation of groundwater monitoring wells. For expansion of the site, additional monitoring well locations may be considered in consultation with the Department.

- Residences in the area are serviced by private wells. According to the EARD, a desktop review was completed to identify groundwater users added to the area since the previous (2015) EA. The desktop review identified no new potable water users since 2015 within 500 m of the project boundary and four new wells beyond 500 m of the project boundary. Based on information presented, only wells constructed since 2015 were considered in the EARD. It is unclear whether pre-2015 wells were reassessed in consideration of the expanded project area.

- The EARD recognizes potential effects to local groundwater quality including contamination of groundwater from accidental releases or a temporary increase in turbidity due to blasting vibrations. A Spill Contingency Plan and an Emergency Response Plan have been developed for current operations and will be implemented, as required, in response to any accidental spills or releases. According to the EARD, the risk to private water supply wells from blasting is expected to be minimal beyond about 200 m, whereas the working face of the mine is required to remain 800 m from structures unless permitted by the property owner. The EARD did not identify the location or number of wells within 200 m and 800 m of the expansion area. Private wells within 1 km of the expansion area should be identified and a well survey completed prior to expanding the mine. No statements were made in the EARD about the presence or absence of complaints from residential water well users since 2015, or if any mitigations were used.

Wetlands

The Environmental Assessment Report Document (EARD) provides an incomplete picture of wetland impacts, making it challenging to accurately assess both direct and indirect effects on wetlands.

Wetland Ecosystem Services Protocol - Atlantic Canada (WESP-AC) assessments were not conducted on any wetlands anticipated to be affected by the project. Consequently, it remains uncertain whether Wetlands of Special Significance (WSS) are proposed to be altered. The presence of a WSS could necessitate changes to project infrastructure if the project is not considered a Necessary Public Function (NPF).

Additionally, it is unclear whether the project will operate below the water table. If this is the case, wetlands outside the Proposed Expansion Area could be indirectly impacted by groundwater drawdown.

The Proponent has stated they will reduce impacts to wetlands by establishing a 30 m buffer where practicable, and to compensate proposed altered wetlands. The proponent does not discuss potential wetland monitoring outside the Proposed Expansion Area (Wetland 1).

Key Considerations: (provide in non-technical language)

Surface Water

As no quantitative assessment were completed to support assessment of impacts in surrounding watercourses, ongoing monitoring of surface water quantity (e.g., water level) in the channelized sections (e.g., downstream reach) of the unnamed watercourse to the west of the Project area should be included in the proposed water quantity monitoring plan. Monitoring of surface water quantity in the McLennan Brook and the Big Pond Brook should also be considered.

The proponent should develop a surface water quality monitoring program. The program should include monitoring locations to assess background conditions, water quality monitoring at the unnamed watercourse, McLennan Brook and Big Pond Brook if it receives drainage from the Site. Sampling frequencies should adequately assess impacts. Monitoring parameters and appropriate water quality guidelines should be selected for assessment and include total suspended solids (TSS).

The capacity of the existing surface water management system and infrastructures should be assessed to inform updates to the existing stormwater management plan including the placement of perimeter drains and ditching. Climate change should be considered as part of the assessment, based on the life of the Project.

A dedicated refueling area away from the ponds and any water features should be considered to prevent spills from entering watercourses.

Groundwater

The EARD concludes that Gold Bond does not intend to excavate or blast below the water table and that no changes to groundwater quantity recharge/discharge functions and groundwater flow paths are predicted. However, based on our review of the information submitted, it appears that current and future excavations are likely to occur well below the water table. The following additional information would help evaluate whether the mine expansion can operate in an environmentally sustainable manner, with respect to groundwater:

- Supporting hydrogeological information is needed that provides a rationale for the assumption made that the expanded mine operations will not adversely affect

surrounding groundwater conditions. This would include an evaluation and reporting of:

a. water levels from the current groundwater monitoring network in place (as per the active IA),
b. the predicted drawdown zone of influence and magnitude surrounding the mine excavation current area and expansion area (including potential effects of drawdown on wetlands and private wells), and
c. the current and predicted mine discharge volumes, with estimates of both surface runoff and groundwater seepage inputs.

A private water well survey and field verification of all water supply wells within 1 km should be completed to identify wells that could be impacted by Site activities.

Impacts to groundwater quality associated with potential spills or releases are likely to be negligible, provided the proponent implements an adequate emergency response plan in the event of any spills or releases on the site.

Wetlands

It is unclear if the Proponent will be operating above the water table. An assessment of the drawdown zone of influence, as noted above, would help assess whether direct or indirect impacts to wetlands are anticipated.

The information provided in the EARD is insufficient in identifying the potential environmental impacts on wetlands. Wetland delineations and WESP-AC functional assessments should be completed for all wetlands that could be altered directly or indirectly.

The proponent should complete delineations and WESP-AC functional assessments for all wetlands within the EA study area and confirm which ones are considered wetlands of special significance. The proponent should also submit a Wetland Alteration Approval Application for review and approval for any wetlands proposed to be directly or indirectly altered and complete any necessary compensation and monitoring. The proponent should utilize Nova Scotia's Wetland Alteration Application's Guided Template for the permit applications.

NOVA SCOTIA
Environment and Climate Change

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

Date: August 8, 2024

To: Jeremy Higgins, Environmental Assessment Officer

From: Air Quality Unit

Subject: Gold Bond Gypsum Mine Expansion (Gold Bond Canada, Ltd), Milford, Halifax County

Scope of review:
This review focuses on the following mandate: Air Quality

List of Documents Reviewed:
Gold Bond Gypsum Mine Expansion EA Registration Document

Details of Technical Review:
Gold Bond Canada Ltd. has owned and operated the gypsum mine in Milford, Nova Scotia since 1954, producing over 134 million tonnes of gypsum since initial development. The current mine operation is approximately 445 ha and the proponent proposes to expand the active mine site to incorporate an adjacent 14 ha, directly north of the existing mine. The mine currently supplies gypsum rock for several wallboard plants in Canada and the eastern United States (US). If approved, operational activities at the mine are expected to stay the same or similar to current operations.

Impacts on air quality from this project are most likely to occur during clearing/grubbing, blasting/crushing activities, operation of heavy equipment, loading/unloading of materials, and onsite routine operations. These activities are most likely to contribute to increases in concentrations of total suspended particles (TSP), while vehicle emissions are likely to contribute to increases in fine particles ($PM_{2.5}$) and nitrogen oxides.

The proponent states that dust mitigation measures will include the use of water sprays, reducing vehicle speeds on unpaved roads, proper material loading/unloading, and any other methods determined to be necessary. The proponent states that adverse air emissions can be managed with standard mitigation measures already in place for the existing mine.

Mine expansion activities are not expected to decrease air quality compared to current baseline conditions. No ambient air quality monitoring is included in the EA registration document, however the proponent states that ambient air quality monitoring will be conducted at the request of NSECC, in accordance with the terms and conditions of the Industrial Approval.

Key Considerations: (provide in non-technical language)
The Air Quality Unit notes the following key considerations:

- The use of dust management methods, along with best operating practices e.g., no idling, would minimize air quality impacts.
- It is unclear how dust will be mitigated and managed without an effective Dust Management Plan, including clear chains of responsibility for actions, including timely complaint resolution.

NOVA SCOTIA
Environment and Climate Change

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

Date: July 28, 2024

To: Jeremy Higgins, Environmental Assessment Officer

From: Air Quality Unit

Subject: Gold Bond Gypsum Mine Expansion (Gold Bond Canada, Ltd), Milford, Halifax County

Scope of review:
This review focuses on the following mandate: Noise

List of Documents Reviewed:
Gold Bond Gypsum Mine Expansion EA Registration Document

Details of Technical Review:
Gold Bond Canada Ltd. has owned and operated the gypsum mine in Milford, Nova Scotia since 1954, producing over 134 million tonnes of gypsum since initial development. The current mine operation is approximately 445 ha and the proponent proposes to expand the active mine site to incorporate an adjacent 14 ha, directly north of the existing mine. The mine currently supplies gypsum rock for several wallboard plants in Canada and the eastern United States (US). If approved, operational activities at the mine are expected to stay the same or similar to current operations.

The proponent has not included any baseline noise monitoring/modelling at the site but has provided expected sound levels produced by equipment/operations at the site. The nearest receptor is approximately 800 m from the site. The proponent cites permissible sound levels in the Nova Scotia Pit and Quarry Guidelines and states that noise impacts can be mitigated with measures already in place at the current site. However, if approved, the site would be required to comply with the permissible sound levels outlined in the NSECC Guidelines for Environmental Noise Measurement and Assessment (GENMA) (2023) for a rural environment.

The proponent states that the operations schedule is 16 hours per day, 5 days per week weather permitting, and that the plant can operate 24/7 if needed to meet production targets. Current noise mitigation measures include the use of mufflers on engines and vehicles, adherence to established maintenance policies and the scheduling of noisy activities during daytime hours.

Noise from the proposed expansion of the quarry is expected to be similar to that already produced at the site, since there is no anticipated change in the operational scope of quarry activities.

Key Considerations: (provide in non-technical language)
The Air Quality Unit notes the following key considerations:

- It is unclear if the proposed expansion has the potential to exceed the appropriate GENMA permissible sound levels at the nearest receptor (rural classification).
- It is unclear how effective noise management and mitigation will be in the absence of a Noise Management Plan with a clear chain of responsibility for actions, including timely complaint resolution.

NOVA SCOTIA
Environment and Climate Change

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

Date: July 24, 2024

To: Jeremy Higgins, Environmental Assessment Officer

From: Environmental Health Consultant, Environmental Health and Food Safety Branch, Sustainability and Applied Science Division.

Subject: **Gold Bond Gypsum Mine Expansion (Gold Bond Canada, Ltd), Milford, Halifax County**

Scope of review:
This review focuses on the following mandate: Environmental Health

List of Documents Reviewed:
Gold Bond Gypsum Mine Expansion Project - EA Registration Document

Details of Technical Review:

The purpose of the proposed undertaking is to allow Gold Bond Canada, Ltd. to expand the mine footprint at its existing approved gypsum mine site that has been in operation since 1954 and is located near Milford Station, Nova Scotia. The project will expand the area of the gypsum mine from 445 hectares (ha) to 459 ha and allow for continued gypsum production. The Project will use existing rail loading and transport, as well as marine loading facilities in the Bedford Basin.

Based upon the review to the documents, there are no additional Environmental Health Concerns that lie outside of the current assessment of impact, or the standard terms and conditions which would be incorporated into the operating approval.

Key Considerations: (provide in non-technical language)

Environmental Health Concerns are either addressed within the provided documents, or within the terms and conditions of the operating approval to be issued. There are no additional considerations based upon the expansion.

NOVA SCOTIA
Natural Resources and Renewables

1701 Hollis St.
PO Box 698
Halifax, NS B3J 2T9

Date: August 8, 2024

To: Jeremy Higgins, Environmental Assessment Officer

From: Department of Natural Resources and Renewables

Subject: Gold Bond Gypsum Mine Expansion (Gold Bond Canada, Ltd), Milford, Halifax County

Scope of review:
This review focuses on the following mandate: Authorities and approvals required from the Land Services Branch, Forestry, Subsurface Energy, biodiversity, species at risk status and recovery, wildlife species, and wildlife habitat, geoscience health and safety, mineral exploration, mineral development, critical minerals, abandoned mines.

List of Documents Reviewed:

Forestry and Wildlife Branch, Wildlife Division:
Gold Bond Gypsum Mine Expansion Project – Environmental Assessment Registration Document and Appendices

Geoscience and Mines Branch:
Gold Bond Gypsum Mine Expansion E.A. Document

Land Services Branch:
Environmental Assessment Registration Document
Appendices A-F
GIS shapefiles

Details of Technical Review:

Forestry and Wildlife Branch, Wildlife Division:

1. Section 6.4 Vegetation and Wetlands
    - Dates of when wetland surveys were conducted, pictures of each wetland assessed, and details related to the functional assessment are not provided.

2. Section 6.5 Wildlife and Wildlife Habitat
    - No surveys were conducted for owls, crepuscular birds or other specific birds as it is stated habitat was not suitable. Based on the information provided; it appears habitat is present, and surveys should be conducted for these species.
    - Peregrine falcon occurrences were identified through incidental surveys. Table 6-8 identifies 2 birds observed in suitable nesting habitat. No location or pictures of a nest were provided. Nests are protected under the Wildlife Act and require a buffer around them where no-work is to occur. If a nest was found, including the identification of breeding evidence, provide details to the Regional Biologist. If no nest was found and suitable habitat is present, directed surveys should be performed.
    - Data suggest the proposed expansion area may be within 5km of a bat hibernaculum, but there is no critical habitat in the expansion area, and no bats were found. Habitat for bat maternity roosts was identified by the proponent and justifies the need for additional surveys. Bat monitoring equipment should be installed to confirm the presence or absence of bat species in the project area and data submitted to the Regional Biologist.
    - The following statement is confusing as it relates to bats in the project area: "The proximity of the Project Area to the active mining operations, and the frequency of blasts from the adjacent mine, likely precludes the area from having the required low noise levels." In the Wildlife Management Plan, please clarify and address noise levels in relation to bats.
    - Under the direction of NRR, mainland moose surveys were not required. During all phases of the project, report any observations of mainland moose and/or any Species at Risk (SAR) to the Regional Biologist as soon as possible, providing location of observation, details and photos if possible.

Land Services Branch:

The Project is located on private land. The Project does not include Crown lands and does not border Crown lands. No authorities or approvals are required from the Land Services Branch unless the scope of the project changes to include Crown lands.

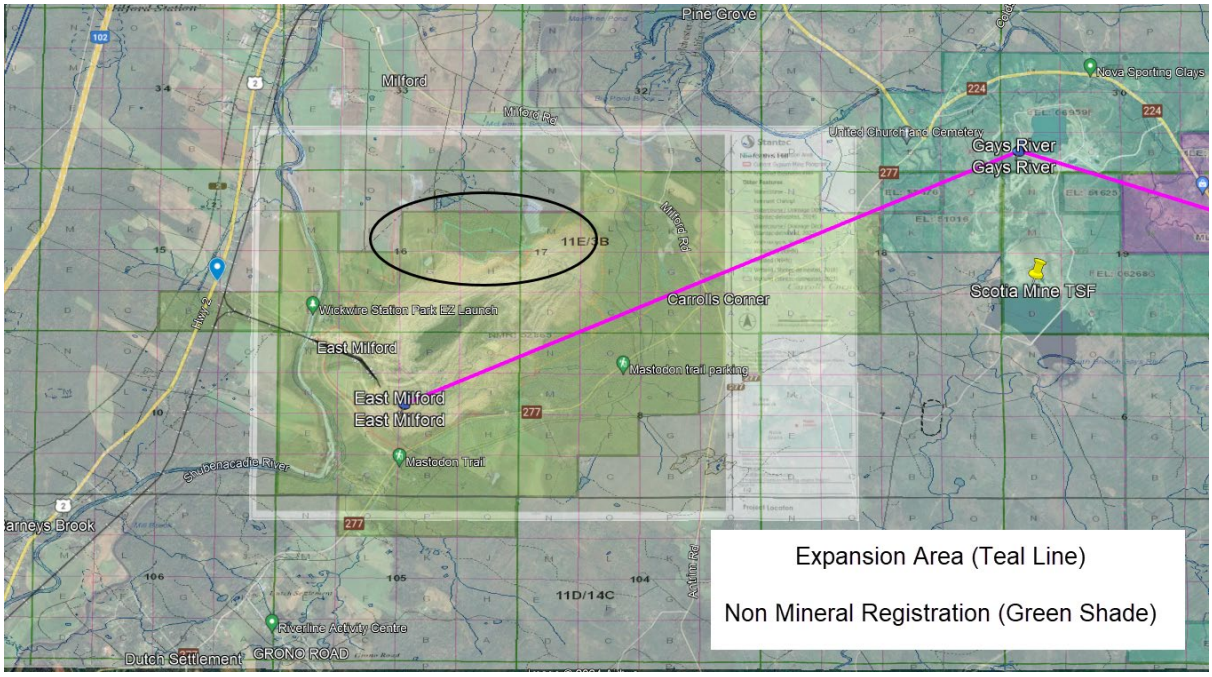
Geoscience and Mines Branch:

Geology and host rock are briefly mentioned, with no geological maps. Proposed area is smaller than currently approved expansion area.

Proponent should continue to monitor rock quality as the development progresses north, particularly at the extreme north extremity of the proposed development as the geology transitions from Carroll's Corner Formation to MacDonald Road Formation. (Both within the Windsor Group containing Gypsum).

The expansion area will have to be accounted for in an updated reclamation plan and cost estimate for the site. The Proponent is aware of this condition and explains further approval requirements in Section 10.0 of the registration document.

The proponent already holds the gypsum rights over the project area through a Non-Mineral Registration. The registration is currently in good standing. See image below.



Key Considerations: (provide in non-technical language)

Forestry and Wildlife Branch, Wildlife Division:

The Gold Bond Gypsum Mine Expansion Project Environmental Assessment Registration Document was prepared by Stantec Consulting Ltd. for Gold Bond Canada Ltd. Based upon a review of the information provided, the following recommendations are provided:

1. Regulatory Considerations:
   - Obtain all necessary permits to undertake the project as required under legislation related to wildlife, Species at Risk, and habitat alterations.
   - It is illegal to disturb, harm or destroy any threatened or endangered species, their dwellings, or habitually occupied habitats.

2. Baseline Surveys
   - Provide a map showing entire map area and include the currently approved mine, proposed expansion, and any future planning areas. Map area should also show proposed project footprints and larger surveyed areas.
   - Provide digital waypoints and/or shapefiles for all flora and fauna surveys, including for Species at Risk and Species of Conservation Concern to NRR (those species listed and/or assessed as at risk under the *Species at Risk Act*, *Endangered Species Act*, COSEWIC, as well as all S1, S2 and S3 species). Data should adhere to the format prescribed in the NRR Template for Species Submissions for EAs and is to be provided within two (2) months of collection.
   - The following surveys are recommended:
     - Surveys for owls and crepuscular birds
     - Surveys for Peregrine Falcon
     - Bat maternity roost surveys

3. Wildlife Management Plan

Develop a Wildlife Management Plan (WMP) in consultation with NRR and ECCC which should include:

- Communication protocol with regulatory agencies.
- General wildlife concerns (e.g., human-wildlife conflict avoidance).
- Education sessions and materials for project personnel on important biodiversity features they may encounter on-site and how to appropriately respond to those encounters.
- Noise, dust, lighting, blasting mitigations.
- Emergency response plans for accidental spills, pollution, chemical exposure, and fire.
- A blasting plan with a completed pre-blast survey, a blast monitoring plan, and a blast damage response.
- Mitigation measures for bank swallows to ensure any stockpiles or banks have a slope of less than 70 degrees to deter bank swallow nesting in high disturbance areas.
- Revegetate cleared areas using native vegetation or seed sources following consultation with NRR.
- Measures to protect and mitigate against adverse effects to migratory birds during construction and operation. The incidental take of breeding birds, as well as their nests and/or eggs, is not permitted under the *Migratory Birds Convention Act* and the *NS Wildlife Act*. Mitigations include avoidance of certain activities (such as vegetation clearing) during the regional nesting period for most birds, buffer zones around discovered nests, limiting activities during the breeding season around active nests, and other best management practices.
- Mitigation measures consistent with recovery documents (federal and/or provincial recovery and management plans, COSEWIC status reports) to avoid and/or protect Species at Risk/Species of Conservation Concern and associated habitats discovered through survey work or have the potential to be found in the Study Area.
- It is recommended that the proponent ensures standard practices are established during development, construction, and operation of the site to prevent wildlife interactions that may result in entanglement, entrapment, or injury. As part of daily operations, staff should be trained to survey the site, identify issues, and consult as appropriate for solutions when wildlife is found to be utilizing artificial or existing habitat conditions during the operation of the site.
- Develop a plan to prevent the spread of invasive species both on and off site. Implementation of the plan can only occur following approval from NRR. The plan should include monitoring, reporting, and adaptive management components.
- Provide a decommissioning and site reclamation plan and reclaim site to the satisfaction of NRR at the end of project, including details on monitoring and inspections to assess compliance with the WMP.
- Describe the impacts of the project on landscape-level connectivity for wildlife and habitat (e.g., habitat fragmentation, loss of intact forested habitat, increased road density). An assessment of the cumulative effects of the project on landscape-

level connectivity and habitat loss, and the measures proposed to mitigate those effects, must be provided.

Forestry and Wildlife Branch, Forestry Division:
No comments

Subsurface Energy Branch:
No comments

Geoscience and Mines Branch:
No further comments.

NOVA SCOTIA
Communities, Culture, Tourism and Heritage
Special Places Protection

1747 Summer Street, 2nd Floor
Halifax, Nova Scotia, Canada B3H 3A6
902-424-6450 T
SPP@novascotia.ca E

Date: August 8, 2024

To: Jeremy W. Higgins, Environmental Assessment Officer

From: Beth Lewis, Director of Special Places Protection

Subject: Gold Bond Gypsum Mine Expansion - Environmental Assessment Registration

Scope of review:
This review focuses on the following mandate: ***Archaeology***

List of Documents Reviewed:
EA Document

Details of Technical Review (Archaeology):

The EA document has been reviewed and found to align with the results and recommendations of the archaeological assessment completed for the project area in 2023 (HRP A2023NS142). There are no concerns at this time.

Key Considerations:

NOVA SCOTIA

Agriculture

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

Date: August 12, 2024

To: Jeremy Higgins, Environmental Assessment Officer

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

Subject: Gold Bond Gypsum Mine Expansion
Milford Station, East Hants, Nova Scotia

Thank you for the opportunity to review the documents for the above-noted project.

Departmental review of the project documents has identified the following:

- The proposed expansion area is on class 3 land, which has a restricted range of potential crops or requires special agricultural conservation practices.
- There are seven registered farms within a 2 km radius of the proposed expansion area, with three of these registered farms located between 780 m and 1,500 m away.
- There is approximately 1,300 ha of active agricultural land within a 2 km radius of the proposed expansion area.
- Additional potential impact raised include:
    - flooding risks should the watercourse that currently runs through the mine property be altered, or if drainage systems are not adequately maintained; and
    - soil stability issues if mining activities continue to expand to the edge of the farm fields, which would lead to loss of productive agricultural land.

The Department wishes to note that the protection of Agriculture land is a key priority for the industry and is reflected in the Nova Scotia Statement of Provincial Interest for Agriculture.

From:	Wade,Suzanne (ECCC)
To:	Higgins, Jeremy W
Cc:	Hingston,Michael (il | he, him) (ECCC); Wade,Suzanne (ECCC); Gautreau,Rachel (elle | she, her) (ECCC); Mailhiot,Joshua (il | he, him) (ECCC)
Subject:	FW: Gold Bond Gypsum Mine Expansion - EA Registration - comment due Aug 8, 2024 (EAS# 24-NS-012)
Date:	August 12, 2024 10:15:04 AM
Attachments:	image001.png image002.png Survey Protocol for SAR bats within Treed Habitats_Ontario_2017 (003).pdf

Hi Jeremy,

Environment and Climate Change Canada's (ECCC) has reviewed the EIA registration document for the proposed Gold Bond Quarry Expansion Project in Milford Station, Nova Scotia, and we have the following comments:

WILDLIFE COMMENTS

Species at Risk and Critical Habitat

For projects undergoing environmental assessment, the Canadian Wildlife Service (CWS) recommends that adverse effects of the project on SAR and CH are identified, and, if the project is carried out, that mitigation measures are taken to avoid or lessen those effects. We recommend that mitigation measures:

- be consistent with best available information including any Recovery Strategy, Action Plan or Management Plan in a final or proposed version; and
- respect the terms and conditions of the *Species at Risk Act* (SARA) regarding protection of individuals, residences, and critical habitat of Extirpated, Endangered, or Threatened species.

We also recommend follow-up monitoring to verify impact predictions, and adequacy of mitigation measures, and adaptive management in the event that species at risk or their critical habitat are adversely affected by the project.

Furthermore, additional information should be provided as described below:

- Eastern Wood-Pewee

Eastern Wood-Pewees were detected in the expansion area during point counts and incidentally. Eastern Wood-Pewee is listed as Special Concern on Schedule 1 of the *Species at Risk Act.*

CWS generally recommends buffers for this landbird SAR as follows during the breeding season:

- Low disturbance activities – 50 m
- Medium disturbance activities – 150 m
- High disturbance activities – 300 m

Mitigation measures to avoid both direct and indirect impacts on individuals and habitat should be described, and a monitoring plan to verify EA predictions and adequacy of mitigation measures should be proposed.

As a measure to compensate for the lost habitat function for passerine SAR in instances where such habitat cannot be avoided, we recommend the use of conservation allowances as the preferred form of the compensation step in the mitigation hierarchy of avoidance, minimization, and compensation.

- Nightjar SAR

The Proponent should conduct a nightjar survey. CWS recommends Birds Canada guidance (available at Canadian Nightjar Survey - Birds Canada | Oiseaux Canada). The timing for nightjar surveys is tied to the lunar cycle, and survey windows for Eastern Whip-poor-will change annually. The Proponent should therefore refer to Birds Canada guidance for appropriate dates for the survey year.

In the event that nightjar are detected, mitigation measures to avoid both direct and indirect impacts on individuals should be described, and a monitoring plan to verify EA predictions and adequacy of mitigation measures should be proposed.

- Bat SAR

The proposed project is located in a grid square that contain critical habitat for Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*) and/or Tri-colored Bat (*Perimyotis subflavus*) in Nova Scotia (see Figure 5E in Little Brown Myotis (Myotis lucifugus), Northern Myotis (Myotis septentrionalis), Tri-colored Bat (Perimyotis subflavus) (ec.gc.ca)). Little Brown Myotis, Northern Myotis, and Tri-colored Bat are small, insectivorous bats listed as Endangered on Schedule 1 of the SARA. The Hoary Bay, the Eastern Red Bat, and the Silver-haired Bat have been assessed as Endangered by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). CWS recommends considering these Species of Conservation Concern as though they are at risk, in the event that they become listed during the lifetime of the Project. Bat SAR are terrestrial SAR not protected under the MBCA; therefore, we recommend that provincial SAR biologists be consulted for species-specific technical information regarding these species.

CWS is of the opinion that any additive mortality of the SARA listed bat species in White-nose Syndrome (WNS) affected areas has the potential to be biologically important. The mortality of even a small number of remaining individuals, particularly breeding adults, or disturbance to maternity roosts or hibernacula, has the potential to negatively impact the survival of local populations, their recovery, and potentially, the development of resistance to the fungus that causes WNS.

Based on the information provided, we agree that it is likely that bat hibernacula characteristics are not present in the Project Area which has no underground or subterranean features. Our records show that there are hibernacula located ~ 2km, ~ 4km, and ~8km (2 sites) from the current quarry. It should be noted that the closest site was occupied post-1995. Furthermore, according to Figure 1-3, there appears to be mature/overmature mixedwood in the Project Area, although the colours in Figure 1-3 are difficult to discern.

Therefore, the Proponent should provide the characteristics (age, height, size/dbh of trees) of the habitat proposed to be removed, as well as a map with the forest cover types (including age and height) of the area being potentially removed in order to provide a better understanding of potential impacts. We recommend the attached *Survey Protocol for Bats in Treed Habitats* (maternity roosts) (ON, 2017) for habitat monitoring, including its use to assess the suitability of the habitat for maternity roosting. Please note that, since bats are known to roost in anthropogenic structures and live in urban areas, we do not agree that the presence of the current quarry would make it unlikely that maternity roosting would occur in the Project Area.

In the event that bats or maternity roosts are detected, mitigation measures to avoid both direct and indirect impacts on individuals and habitat (e.g. maternity roosts) should be described, and a monitoring plan to verify EA predictions and adequacy of mitigation measures should be proposed.

- Black Ash

There are Black Ash records within a 100 metres of the expansion area (in the wetland between the expansion area and the road) which seem to correspond with the Province of Nova Scotia's core habitat for the species. They Proponent mentions the species being present on page 39 but it does not appear that they were not given the exact location or the core habitat layer. We recommend that provincial SAR biologists be consulted for species-specific technical information regarding this species, and for verification of whether this falls within core habitat for this species.

Avoidance of Incidental Take of Active Nests of Migratory Birds

In Section 6.5.2 of the EIA Registration Document, the Proponent only commits to clearing outside the breeding season "when feasible", and states that "If vegetation removal is required within the primary nesting period, avian use and nest search surveys will be completed prior to the initiation of Project activities to mitigate the risk to avifauna by identifying and avoiding active nests."

Active nest searches in complex habitat are not recommended by CWS as they are unlikely to be successful, and incidental take would still be likely to occur. Rather, CWS recommends that activities that may result in incidental take of nests or eggs, such as tree or shrub removal, occur outside the migratory bird nesting period.

Nests in complex habitat are difficult to locate and adult birds avoid approaching their nests in a manner that would attract predators to their eggs or young. Except when the nests searched are known to be easy to locate without disturbing them, active nest searches are

generally not recommended by CWS; there is a low probability of locating all nests, and searches are likely to cause disturbance to nesting birds. In many circumstances, incidental take is likely to still occur during industrial or other activities even when active nest searches are conducted prior to these activities. Therefore, except for very specific circumstances (e.g. surveys for Pileated Woodpecker nesting cavities protected under Schedule 1 of the *Migratory Birds Regulations*), CWS does not recommend nest searches in vegetation.

The Proponent should also consider that some species of migratory birds, including the Killdeer and the threatened Common Nighthawk, may be attracted to cleared areas for nesting. In such a case, nest surveys may be carried out successfully by skilled and experienced observers using appropriate methodology. It should be noted that species such as Killdeer have highly mobile chicks. Should any nests or unfledged chicks be discovered, it is expected that these would be protected by an appropriate-sized buffer. Monitoring from a distance should be conducted to verify that the size of the buffer zone is adequate. While buffers to protect nests from disturbance may be flagged, nests should never be approached and marked using flagging tape, spray paint, or other similar material, as this increases the risk of nest predation.

Pileated Woodpecker

The Migratory Birds Regulations have been modernized, and the new *Migratory Birds Regulations, 2022* came into force on July 30, 2022.

Previously, the *Migratory Birds Regulations* (MBR) provided year round protection for nests from being disturbed, destroyed or taken, anywhere in Canada where they were found, for as long the nest existed, for all 395 migratory bird species that are included in the *Migratory Birds Convention Act*. The *Migratory Birds Regulations, 2022* (MBR 2022) change protection from all nests of migratory birds always being protected to most nests being protected only when they contain a live bird or viable egg. This supports conservation benefits, as the nests of most migratory birds only have conservation value when they are active (contain a bird or viable egg), and also provides flexibility and predictability for stakeholders to manage their compliance requirements as they undertake activities on the landscape that may affect migratory bird nests.

For 18 species of migratory birds identified on Schedule 1 of the MBR, 2022, including the Pileated Woodpecker, the amended regulations provide year-round nest protection until they can be deemed abandoned. If the nest of a Schedule 1 species has not been occupied by a migratory bird for the entirety of the waiting time indicated in the MBR 2022, it is considered to be abandoned, and to no longer have high conservation value for migratory birds.

Should there be a need to clear vegetation in nesting habitat for this species, the Proponent should conduct a survey for Pileated Woodpecker nesting cavities. Since the Pileated Woodpecker is one of the species listed on Schedule 1 of MBR, 2022, the nesting cavities of this species are protected year-round, including when they are not occupied by a migratory bird or viable eggs.

In the event that a Pileated Woodpecker nesting cavity is ultimately abandoned, and a proponent wishes to destroy this unoccupied nest, they must submit a notification through the Abandoned Nest Registry, and if the nest remains unoccupied by Pileated

Woodpeckers and other migratory bird species for 36 months, it may at that point be destroyed by cutting down the tree.

A Pileated Woodpecker Cavity Identification Guide is available for reference at: Pileated Woodpecker Cavity Identification Guide .

Further information on the *Migratory Bird Regulations, 2022* is available at:

Migratory Birds Regulations, 2022 (justice.gc.ca)
New Migratory Birds Regulations, 2022 - Canada.ca
Continued evolution of the Migratory Birds Regulations, 2022 - Canada.ca
Notice: Abandoned Nest Registry - Canada.ca
Fact sheet: Nest Protection under the Migratory Birds Regulations, 2022 - Canada.ca
Frequently Asked Questions: Migratory Birds Regulations, 2022 - Canada.ca
Service standards and performance: permits for Migratory Birds Regulations

Additional Comments

- Lighting for the safety of the employees should be shielded to shine down and only to where it is needed, without compromising safety.

- Street and parking lot lighting should also be shielded so that little escapes into the sky and it is directed where required. LED lighting fixtures are generally less prone to light trespass and should be considered.

- Since even small spills of oil can have serious effects on migratory birds, every effort should be taken to ensure that no oil spills occur. The Proponent should ensure that all precautions are taken by staff to prevent fuel leaks from equipment, and contingency plans in case of oil spills should be prepared.

- On page 10 of the EIA Registration document, the Proponent states that “At lower benches in the mine, equipment may be refueled next to ponds…” Since Appendix B show that such areas are used by migratory birds, we recommend that refuelling not take place within a 100 m buffer from ponds, similar to what is proposed for other waterbodies and wetlands.

- CWS recommends that a variety of species of plants native to the general project area be used in revegetation efforts. Should seed mixes for herbaceous native species for the area not be available, it should be ensured that plants used in revegetation efforts are not known to be invasive.

  CWS also recommends that measures to diminish the risk of introducing invasive species be developed and implemented. These measures could include:

  - cleaning and inspecting construction equipment prior to transport from elsewhere (not limited to out of province equipment) to ensure that no plant matter is attached to the machinery (e.g. use of pressure water hose to clean vehicles prior

to transport); and

- regularly inspecting equipment prior to, during and immediately following construction in wetland areas and in areas found to support Purple Loosestrife to ensure that plant matter is not transported from one construction area to another.

- Certain species of migratory birds (e.g. Bank Swallows) may nest in large piles of soil left unattended/unvegetated during the most critical period of breeding season (April 15th through August 15th). To discourage this, the proponent should consider measures to cover or to deter birds from these large piles of unattended soil during the breeding season. If migratory birds take up occupancy of these piles, any industrial activities (including hydroseeding) will cause disturbance to these migratory birds and inadvertently cause the destruction of nests and eggs. Alternate measures will then need to be taken to reduce potential erosion, and to ensure that nests are protected until chicks have fledged and left the area. For a species such as Bank Swallow, the period when the nests would be considered active would include not only the time when birds are incubating eggs or taking care of flightless chicks, but also a period of time after chicks have learned to fly, because Bank Swallows return to their colony to roost.

  See also for example the following guidance concerning beneficial management practices that should be considered for implementation when designing mitigation measures for Bank Swallows, provided at Bank Swallow (Riparia riparia): in sandpits and quarries - Canada.ca

- Certain species of migratory birds may nest on the sides of buildings, bridges or other pieces of infrastructure. Additionally, some species may nest on equipment, if they are left unattended/idle for long periods of time.

  CWS recommends the following beneficial management practices:

  - The proponent should ensure that project staff are aware of the potential of migratory bird bests on infrastructure, buildings, and bridges, if applicable.
  - If a nest is discovered, the proponent should conduct no activities around the nest that may cause the nest to be abandoned or destroyed. Activities should be suspended until the chicks have fledged and left the area.
  - If the proponent anticipates that birds may nest on infrastructure, the proponent should install anti-perching and nesting exclusion devices (e.g. snow fencing, chicken wire fencing, etc.) before any nest attempts are made.

- If there is ultimately a need to decommission a building or structure used for nesting by migratory birds, CWS should be consulted in a timely manner in advance of any proposed decommissioning activities for species-specific considerations.

- Beaver dam removal could impact migratory birds using the associated ponds. If waterfowl and/or waterbirds are using ponds created by beaver dams for nesting or

raising chicks, the proponent should not alter beaver dams until waterfowl and/or waterbirds have raised their young.

- CWS recommends that project effects on wetlands be avoided. Where they cannot be avoided they should be minimized, and for residual impacts there should be compensation to mitigate the effects. CWS recommends the development of a Wetland Compensation Plan that fully describes the mitigation hierarchy, including:

  - Identification of wetlands potentially affected by the project,
  - A detailed description of potential effects, and the reasons why avoidance and minimization of impacts were determined to be not possible, and
  - Identification and justification of proposed offset ratios.

- To promote wetland conservation, ECCC-CWS recommends the following general beneficial management practices:

  - Developments on wetlands should be avoided.
  - Where development does occur in the vicinity of wetlands, a minimum vegetation buffer zone of 30 metres should be maintained around existing wetland areas.
  - Hydrological function of the wetland should be maintained.
  - Runoff from development should be directed away from wetlands.
  - The use of a 30-metre buffer from the high water mark of any water body (1:100 Flood Zone) in order to maintain movement corridors for migratory birds. Please see https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/reduce-risk-migratory-birds.html for further information concerning buffer zones.

- The Proponent should ensure that provisions for wildlife response are identified in emergency prevention & response plans. The following information should be included:

  - Mitigation measures to deter migratory birds from coming into contact with polluting substance (e.g. oil);
  - Mitigation measures to be undertaken if migratory birds and/or sensitive habitat becomes contaminated;
  - The type and extent of monitoring that would be conducted in relation to various spill events.

  ECCC-CWS "*Guidelines for Effective Wildlife Response Plans"* (available at https://publications.gc.ca/collections/collection_2023/eccc/cw66/CW66-771-2021-eng.pdf) are recommended as a reference in the development of emergency prevention and response.

Applicable Legislation

- ***Migratory Birds Convention Act***

The *Migratory Birds Convention Act* (MBCA) protects most bird species in Canada however, some families of birds are excluded. A list of species under MBCA protection can

be found at https://www.canada.ca/en/environment-climate-change/services/migratory-birds-legal-protection/list.html .

The federal Migratory Birds Convention Act, 1994 (justice.gc.ca) and its regulations protect migratory birds and their eggs and prohibit the disturbance, damage, destruction or removal of migratory bird nests that contain a live bird or a viable egg. Migratory birds are protected at all times; all migratory bird nests are protected when they contain a live bird or viable egg; and the nests of 18 species listed in Schedule 1 of the MBR 2022 are protected year-round. These general prohibitions apply to all lands and waters in Canada, regardless of ownership. For more information, please visit: Avoiding harm to migratory birds - Canada.ca.

For migratory birds that are listed as Endangered, Threatened or Extirpated on Schedule 1 of the *Species at Risk Act* S.32 (protection of individuals) and S.33 (protection of residences) apply to all land tenure types in Canada. For some migratory bird species listed under the *Species at Risk Act* (SARA), the residence prohibition will protect nests that are not active but are re-used in subsequent years (please note that the residence of a migratory bird may not necessarily be limited to their nest).

Section 5.1 of the MBCA describes prohibitions related to depositing substances harmful to migratory birds:

> "5.1 (1) No person or vessel shall deposit a substance that is harmful to migratory birds, or permit such a substance to be deposited, in waters or an area frequented by migratory birds or in a place from which the substance may enter such waters or such an area.
>
> (2) No person or vessel shall deposit a substance to be deposited in any place if the substance, in combination with one or more substances, result in a substance – in waters or an area frequented by migratory birds or in a place from which it may enter such waters or such an area – that is harmful to migratory birds."

It is the responsibility of the proponent to ensure that activities comply with the MBCA and regulations. In fulfilling its responsibility for MBCA compliance, the proponent should take the following points into consideration:

- Information regarding regional nesting periods can be found at https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods.html. Some species protected under the MBCA may nest outside these timeframes.

- Most migratory bird species construct nests in trees (sometimes in tree cavities) and shrubs, but several species nest at ground level (e.g., Common Nighthawk, Killdeer, sandpipers), in hay fields, pastures or in burrows. Some bird species may nest on cliffs or in stockpiles of overburden material from mines or the banks of quarries. Some migratory birds (including certain waterfowl species) may nest in head ponds created by beaver dams. Some migratory birds (e.g., Barn Swallow, Cliff Swallow, Eastern Phoebe) may build their nests on structures such as bridges, ledges or gutters.

- One method frequently used to minimize the risk of destroying bird nests consists of

avoiding certain activities, such as clearing, during the regional nesting period for migratory birds.

- The risk of impacting active nests or birds caring for pre-fledged chicks, discovered during project activities outside the regional nesting period, can be minimized by measures such as the establishment of vegetated buffer zones around nests, and minimization of activities in the immediate area until nesting is complete and chicks have naturally migrated from the area. It is incumbent on the proponent to identify the best approach, based on the circumstances, to complying with the MBCA.

Further information can be found at https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds.html

- ***Species at Risk Act***

The *Species at Risk Act* (SARA) "General prohibitions" apply to this project. In applying the general prohibitions, the proponent, staff and contractors, should be aware that no person shall:

- kill, harm, harass, capture or take an individual;
- possess, collect, buy, sell or trade an individual, or any part or derivative;
- damage or destroy the *residence* of one or more individuals.

General prohibitions only apply automatically:

- on all federal lands in a province,
- to aquatic species anywhere they occur,
- to migratory birds protected under the *Migratory Birds Convention Act* (MBCA) 1994 anywhere they occur.

Section 33 of SARA prohibits damaging or destroying the residence of a listed threatened, endangered, or extirpated species. For migratory birds species at risk (SAR), this prohibition immediately applies on all lands or waters (federal, provincial, territorial and private) in which the species occurs.

For project assessments, SARA requires that:

> 79 (1) Every person who is required by or under an Act of Parliament to ensure that an assessment of the environmental effects of a project is conducted, and every authority who makes a determination under paragraph 82(a) or (b) of the *Impact Assessment Act* in relation to a project, must, without delay, notify the competent minister or ministers in writing of the project if it is likely to affect a listed wildlife species or its critical habitat.
>
> (2) The person must identify the adverse effects of the project on the listed wildlife species and its critical habitat and, if the project is carried out, must ensure that measures are taken to avoid or lessen those effects and to monitor them. The measures must be taken in a way that is consistent with any applicable recovery strategy and action plans.

For species which are not yet listed under SARA, but are listed under provincial legislation

only or that have been assessed and designated by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), it is best practice to consider these species in EA as though they were listed under SARA.

For species-specific technical information for terrestrial SAR not protected under the *Migratory Birds Convention Act* (MBCA), ECCC recommends that the Province of Nova Scotia be consulted.

WATER QUALITY

Pollution prevention and control provisions of the *Fisheries Act* are administered and enforced by ECCC. Subsection 36(3) of the *Fisheries Act* prohibits "anyone from depositing or permitting the deposit of a deleterious substance of any type in water frequented by fish, or in any place under any conditions where the deleterious substance, or any other deleterious substance that results from the deposit of the deleterious substance, may enter such water".

It is the responsibility of the proponent to ensure that activities are managed so as to prevent the release of substances deleterious to fish. In general, compliance is determined at the last point of control of the substance before it enters waters frequented by fish, or, in any place under any conditions where a substance may enter such waters. Additional information on what constitutes a deposit under the *Fisheries Act* can be found here: https://www.canada.ca/en/environment-climate-change/services/managing-pollution/effluent-regulations-fisheries-act/frequently-asked-questions.html

ACCIDENTS AND MALFUNCTIONS

Hazardous materials (e.g. fuels, lubricants, hydraulic oil) and wastes (e.g. waste oil) should be managed so as to minimize the risk of chronic and/or accidental releases. For example, the proponent should encourage contractors and staff to undertake refueling and maintenance activities on level terrain, at a suitable distance from environmentally sensitive areas including watercourses, and on a prepared impermeable surface with a collection system.

The proponent is encouraged to prepare contingency plans that reflect a consideration of potential accidents and malfunctions and that take into account site-specific conditions and sensitivities. The Canadian Standards Association publication, *Emergency Preparedness and Response,* CAN/CSA-Z731-03, reaffirmed 2014), is a useful reference.

All spills or leaks, such as those from machinery or storage tanks, should be promptly contained and cleaned up (sorbents and booms should be available for quick containment and recovery), and reported to the 24-hour environmental emergencies reporting system (Maritime Provinces 1-800-565-1633)

If you have any questions, please direct any further correspondence to ECCC's environmental assessment window for coordination at: FCR_Tracker@ec.gc.ca.

Suzanne Wade

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From: Higgins, Jeremy W <Jeremy.Higgins@novascotia.ca>
Sent: Tuesday, July 16, 2024 2:09 PM
To: Eyitayo-Oyesode, Oladiwura <Oladiwura.Eyitayo-Oyesode@novascotia.ca>; Alward, Emily <Emily.Alward@novascotia.ca>; Mitchell, David A <David.Mitchell@novascotia.ca>; Mosher, Elaine <Elaine.Mosher@novascotia.ca>; Hurlburt, Donna D <Donna.Hurlburt@novascotia.ca>; Wildlife EA <WildlifeEA@novascotia.ca>; Crewe, Tara <Tara.Crewe@novascotia.ca>; White, Shannon C <Shannon.White@novascotia.ca>; Drake, Carrie L <Carrie.Drake@novascotia.ca>; McMorris, Meghan <Meghan.McMorris@novascotia.ca>; Blackburn, Lori M <Lori.Blackburn@novascotia.ca>; Boudreau, Susan M <Susan.Boudreau@novascotia.ca>; Steele, Cynthia <Cynthia.Steele@novascotia.ca>; McPherson, Robyn <Robyn.McPherson@novascotia.ca>; MacPherson, George E <George.MacPherson@novascotia.ca>; Hearn, Scott <Scott.Hearn@novascotia.ca>; Webber, Diane E <Diane.Webber@novascotia.ca>; Dickie, John <John.Dickie@novascotia.ca>; Balch, Toby <Toby.Balch@novascotia.ca>; Wickson, Mark <Mark.Wickson@novascotia.ca>; Creamer, Amber <Amber.Creamer@novascotia.ca>; MacDonald, Brent A <Brent.MacDonald@novascotia.ca>; MacQuarrie, Rebecca M <Rebecca.MacQuarrie@novascotia.ca>; Cormier, John <John.Cormier@novascotia.ca>; Lewis, Beth J <Beth.Lewis@novascotia.ca>; Hernould, Alexandra S <Alexandra.Hernould@novascotia.ca>; DesRoche, Gillian <Gillian.DesRoche@novascotia.ca>; Poirier, Colin <Colin.Poirier@novascotia.ca>; Lahey, Rodney <Rodney.Lahey@novascotia.ca>; David,Ashley (NS) <Ashley.David@novascotia.ca>; Ramen, Satya <Satya.Ramen@novascotia.ca>; NSE-SAS-Division <NSE-SAS-Division@novascotia.ca>; Farrell, Tanya M <Tanya.Farrell@novascotia.ca>; Bennett, Norma J <Norma.Bennett@novascotia.ca>; Gaudet, Jonathan M <Jonathan.Gaudet@novascotia.ca>; Brander, Ted <Ted.Brander@novascotia.ca>; Lovitt, Christina <Christina.Lovitt@novascotia.ca>; projects-projets@iaac-aeic.gc.ca; Ramos-Casey, Beverly (HC/SC) <beverly.ramos-casey@hc-sc.gc.ca>; ia-atl-ei-atl@hc-sc.gc.ca; RCF Surveiller / FCR Tracker (ECCC) <FCR_Tracker@EC.GC.CA>; 'ReferralsMaritimes@dfo-mpo.gc.ca' <ReferralsMaritimes@dfo-mpo.gc.ca>; FPP.MAR / PPP.MAR (DFO/MPO) <dfo.fppmar-pppmar.mpo@dfo-mpo.gc.ca>
Cc: Zanth, Kathy M <Kathy.Zanth@novascotia.ca>
Subject: Gold Bond Gypsum Mine Expansion - EA Registration - comment due Aug 8, 2024

Good Afternoon,

This is to advise that on Thursday, July 18, 2024, **Gold Bond Canada, Ltd.** will register the **Gold Bond Gypsum Mine Expansion** for environmental assessment, in accordance with Part IV of the Environment Act.

PROJECT DESCRIPTION:

The purpose of the proposed undertaking is to allow Gold Bond Canada, Ltd. to expand the mine footprint at its existing approved gypsum mine site that has been in operation since 1954 and is located near Milford Station, Nova Scotia (Parcel Identification Number 40829681). The project will expand the area of the gypsum mine from 445 hectares (ha) to 459 ha and allow for continued gypsum production (i.e., blasting, crushing, and stockpiling). The Project will use existing rail loading and transport, as well as marine loading facilities in the Bedford Basin. The approximately 14 ha expansion area maintains a 30 m buffer to the adjacent property to the north; work could start in this area within one year of approval and extractable reserves in the project area are estimated to be fully mined within 10 years at the current average annual rate of production, which is expected to remain consistent. The anticipated average production rate for the expanded mine facility will be at the 20-year average of 3.1 million tonnes of product per year, depending on market demand. Other than the increased size, the mine will continue to operate as it has been. The expansion will require an amendment to the existing Industrial Approval.

DEADLINES:

Please note that **all comments must be provided by August 8, 2024**, to be considered in this environmental assessment. We understand this a slight change from the usual 30-day comment period. It is necessary to ensure adequate time to support analysis and decision-making processes under the legislative timeframe. Reviewers will still have 25 days to consider the document and we are hopeful that our efforts over the past year to streamline and standardize review process will help with an efficient review. Please provide comments via email if possible. If there are no comments, please also reply indicating so.

On or before **September 6, 2024**, the Minister of Environment and Climate Change will decide if the project can be granted conditional environmental assessment approval. On the decision day, all submissions received will be posted on the Department's website for public viewing.

The Registration document and supporting information provided, including GIS data, is available at the following link: Gold Bond EARD and Supporting Material

Note: Permission to access may be required, please send me an email indicating who at your Department/Branch/Unit and their email address to obtain access. Note that GIS data regarding project location and environmental feature shapefile data can also be downloaded from the above-mentioned site. **The GIS data must not be distributed outside of the government and should be used only for this review**.

On July 18, 2024, the Registration Documents (except the GIS data) will also be available on our website at http://www.novascotia.ca/nse/ea/.

-

RESPONSE TEMPLATE:

Ensuring a clear, consistent and predictable review of EA projects is key to clarifying and streamlining the EA process. We have developed a template and guidance to support you, in your role as reviewer, to help achieve this goal. This template requests sign off by Managers/Directors (for provincial departments) prior to submission of final comments to the EA Branch. Therefore, please consider the attached 3 documents to provide your comments:

1. EA Reviewer Template (this is a suggested format for comments, not a requirement).
2. EA Reviewer Guidance **(this should not be included back as part of comments to the EA Branch)**
3. DRAFT Generic EA Mitigations – Pits and Quarries – Noting that these standards are similar to mining projects. Depending on the type of mine, additional T&Cs may be required.

If you have difficulties accessing the documents or any questions on this registration, please contact me at any time.

Kind regards,
Jeremy

NOVA SCOTIA
Environment and Climate Change

1903 Barrington St.
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Halifax, NS, B3J 2P8

Jeremy W. Higgins
Environmental Assessment Officer

Policy, Planning and Environmental Assessment

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Survey Protocol for Species at Risk Bats within Treed Habitats

Little Brown Myotis, Northern Myotis & Tri-Colored Bat

April 2017

Ontario Ministry of Natural Resources and Forestry

Guelph District

Ontario

Introduction

This document describes Guelph District's recommended protocol for confirming presence/absence of Little Brown Myotis, Northern Myotis and Tri-colored Bat, where it is determined that suitable habitat for the establishment of maternity roosts is present.

This document replaces any previous versions of the survey protocol, and may be updated periodically as new information becomes available.

Note that those undertaking projects that may impact anthropogenic structures and isolated trees considered suitable habitat for bats should refer to Guelph District's *Survey Methodology for the Use of Buildings and Isolated Trees by Species at Risk (SAR) Bats*.

Little Brown Myotis (*Myotis lucifugus)*, Northern Myotis (*Myotis septentrionalis*) and Tri-colored Bat (*Perimyotis subflavus*) are listed as provincially endangered and receive species and general habitat protection under the *Endangered Species Act, 2007* (ESA).

Where the habitat of an endangered or threatened species is not prescribed by regulation, the ESA defines habitat as an area on which a species depends on, directly or indirectly, to carry out its life processes. Such processes include reproduction, rearing, hibernation, migration or feeding, as well as places being used by members of the species.

Throughout eastern North America, a disease known as white-nose syndrome (WNS), which is caused by the fungus *Pseudogmnoascus destructans*, is the primary cause of the decline of Little Brown Myotis, Northern Myotis and Tri-colored Bat populations. Where population numbers have significantly decreased due to WNS, the relative magnitude of other threats (e.g., habitat destruction) may increase. This is because the mortality or displacement of a small number of the remaining individuals can have a major impact on the survival of local populations and their recovery.

Many bat species are known to have high fidelity to their hibernacula and maternity roost sites. It is not uncommon for bats to return to the same roost tree or group of trees in successive years. Some bats switch roost trees periodically within the same treed area over the summer, likely to avoid predators or parasites or in search of a warmer or cooler roost.

Of the SAR bats species noted in this protocol, Little Brown Myotis is the most frequently encountered species in treed communities due to higher population numbers relative to other SAR bat species. Little Brown Myotis establishes maternity roosts within tree cavities and under loose or exfoliating bark, especially in wooded areas located near water. Foraging habitat includes over water and in open areas between water and forest. Favoured prey consists of aquatic insects (e.g., mayflies, midges, mosquitos and caddisflies). In agricultural environments, Little Brown Myotis tend to follow linear wooded features, such as hedgerows, for commuting and foraging.

Northern Myotis is less frequently encountered relative to Little Brown Myotis but selects similar maternity roost space. Northern Myotis roosts within tree crevices, hollows and under the bark of live and dead trees, particularly when trees are located within a forest gap. Northern Myotis switch roost trees more frequently compared to other SAR bat species (i.e., every 1-5 days) and are relatively

slow flyers. Northern Myotis is adapted to hunting in cluttered environments, such as within the forest along edges, where it gleans and hawks its prey (primarily moths).

Tri-coloured Bat establishes maternity roosts within live and dead foliage within or below the canopy. Oak is the preferred roost tree species, likely because oaks retain their leaves longer than other trees. Maples are also thought to be important for roosting, although maples are selected far less often compared to oaks. Some studies have shown that Tri-colored Bat prefers dead leaves over live leaves, especially if the dead leaves are situated on a live tree i.e., along a broken branch. Other documented roost sites include dogwood leaves, within accumulations of pine needles, in squirrel nests and in tree cavities. Within a forest, the location of maternity roost trees varies from dense woods to more open areas, although roosts are rarely found in deep woods. Although Tri-colored Bat switches roosts over the summer, this species has very high site fidelity to particular leaf clusters within a season. Foraging occurs along forested riparian corridors, over water (e.g., ponds and rivers) and within gaps in forest canopies. This species is an insect generalist, feeding on species such as leafhoppers, ground beetles, flies, moths and flying ants. The Tri-colored Bat is less frequently encountered compared to Little Brown Myotis and Northern Myotis. Unlike other SAR bats, Tri-colored Bat rarely roosts in buildings, and therefore relies heavily on treed areas for rearing its young.

Note: Confirmation of individual maternity roost trees is extremely challenging. Exit surveys are not always reliable, since SAR bats are known to periodically switch roost trees within a treed area over the summer. In addition, techniques used to confirm maternity roost trees, such as mist netting, are quite invasive and therefore not recommended.

The survey protocol that follows focuses on confirming presence/absence of Little Brown Myotis, Northern Myotis and Tri-colored Bat within treed habitats considered suitable for the establishment of maternity roosts, which is sufficient information to apply species and habitat protection under the ESA.

If an Ecological Land Classification (ELC) ecosite is determined to be suitable for the establishment of maternity roosts, trees with suitable attributes are present, and SAR bats are detected during the maternity roost season (June), it can be concluded with a high degree of certainty that the ELC ecosite represents the habitat most in use during the breeding season for roosting, feeding, rearing of young and resting.

Phase I: Bat Habitat Suitability Assessment

Little Brown Myotis, Northern Myotis and Tri-colored Bat establish maternity roosts in treed areas consisting of deciduous, coniferous or mixed tree species. For bats that roost under bark or within cracks, hollows or crevices, tree species is important only as it relates to its structural attributes. For example, trees that retain bark for longer periods or are more susceptible to fungal infections/attract cavity excavators are more likely to provide appropriate roosting space.

Following the completion of ELC mapping of a study area, any coniferous, deciduous or mixed wooded ecosite, including treed swamps, that includes trees at least 10cm diameter-at-breast height

(dbh) should be considered suitable maternity roost habitat. For cultural treed areas, such as plantations, consultation with the Ministry of Natural Resource and Forestry (MNRF) is recommended to determine if these habitats may be suitable for the species.

If suitable habitat is to be impacted by a proposed activity, project proponents should proceed to Phase II. It is recommended that the proponent contact the MNRF to discuss the need for additional work with respect to SAR bats.

Phase II: Identification of Suitable Maternity Roost Trees

As previously described, Tri-colored Bat primarily roosts in tree foliage (mainly oak), while Little Brown Myotis and Northern Myotis select loose bark, cracks and cavities. Because of these differences, two separate field data sheets should be completed by the proponent to identify and map suitable roost trees for Tri-colored Bat (Appendix A) and Little Brown Myotis/Northern Myotis (Appendix B). The data collected in Phase II will help inform the positioning of acoustic monitoring stations in Phase III.

The timing of field visits is important in order for an observer to be able to clearly identify tree attributes that are suitable for the establishment of maternity roosts:

- **Tri-colored Bat**: field visits should take place during the leaf-on season the same year that acoustic monitoring is to be conducted so that foliage characteristic (i.e., dead/dying leaves along a dead branch) can be observed.

- **Little Brown Myotis/Northern Myotis**: field visits should occur during the leaf-off period so that the view of tree attributes (hollows, cracks etc.) is not obscured by foliage.

Note that for large ecosites (e.g., >10 ha) where a thorough walk-through may not be possible or practical, the proponent should discuss the study design for Phase II with the MNRF prior to undertaking field work.

i) Tri-colored Bat

Leaf roosts are shaped like umbrellas with a “roof” and a hollow core where bats rest. Studies have shown that oak leaves are the preferred roost site. Maple leaves are also selected, although less commonly. It is thought that Tri-colored Bat may prefer roost trees in open woodlands, as opposed to deep woods.

Within each ecosite identified as suitable maternity roost habitat in Phase I, the following trees should be documented on the field data sheet (Appendix A)

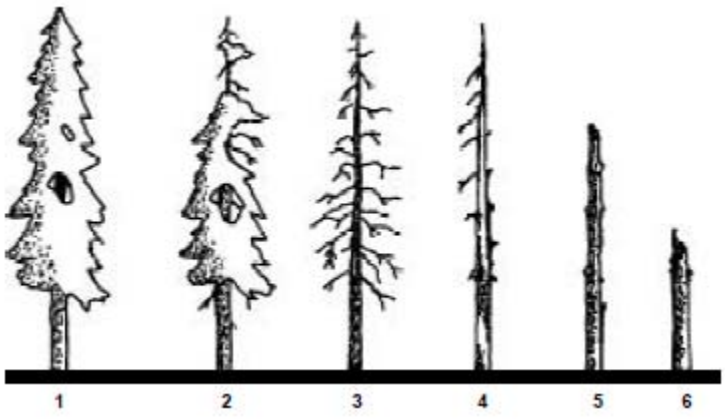
- any oak tree ≥10cm dbh
- any maple tree ≥10cm dbh IF the tree includes dead/dying leaf clusters
- any maple tree ≥25cm dbh

ii) Little Brown Myotis and Northern Myotis

Within each ecosite identified as suitable maternity roost habitat in Phase I, all “snags” should be identified and relevant information recorded on the field data sheet provided in Appendix B.

For purposes of this exercise, a "snag" is any standing live or dead tree ≥10cm dbh with cracks, crevices, hollows, cavities, and/or loose or naturally exfoliating bark.

During the field visit, the Decay Class should be noted for each snag (see Figure 1). Snags in an early stage of decay (which also includes healthy, live trees) may be preferred by Little Brown Myotis and Northern Myotis if suitable attributes for roost space are present. However, since SAR bats will also roost in snags outside of Class 1-3, any snag >10cm dbh with suitable roost features should be documented. For trees with cavities, the entrance can be high or low ("chimney-like") on the tree.



1. Healthy, live tree
2. Declining live tree, part of canopy lost
3. Very recently dead, no canopy, bark intact, branches intact
4. Recently dead, bark peeling, only large branches intact
5. Older dead tree, 90 percent of bark lost, few branch stubs, broken top
6. Very old dead tree, advanced decay, no branches, parts of the stem have rotted away

Figure 1: Snag classification (Decay Class 1-3 is considered an early decay stage)[1]

In addition, proponents should be aware that some tree species, such as shagbark hickory, silver maple and yellow birch, have naturally exfoliating bark that may be suitable for establishing maternity roosts. Trees ≥10cm dbh exhibiting these characteristics should be considered "snags" as per the definition above and included on the field data sheet provided in Appendix B.

Note: For efficiency (especially for larger ecosites e.g., >10 ha), a proponent may choose to undertake snag density surveys while conducting the work required in Phase II. For a detailed methodology, refer to Phase IV of this protocol.

[1] Watt, Robert and Caceres, M. 1999. Managing snags in the Boreal Forests of Northeastern Ontario. OMNR, Northeast Science & Technology. TN-016. 20p.

Phase III: Acoustic Surveys

Within each ELC ecosite determined to be suitable maternity roost habitat in Phase I, acoustic surveys are recommended to confirm presence/absence of Little Brown Myotis, Northern Myotis and Tri-colored Bat. As described below, acoustic detectors should be placed in the best possible locations in order to maximize the probability of detecting all three SAR bats species. The data collected in Phase II should be used to select optimal locations for monitoring. The trees to be targeted for acoustic monitoring will typically be a subset of the trees documented in Phase II.

Density and Optimal Location of Acoustic Monitoring Stations:

Multiple stations may be required to cover an ecosite adequately (see example in Figure 2). Based on the microphone range of most broadband acoustic detectors (20-30m), **4 stations/hectare** is needed for full coverage of an ELC ecosite.

Strategic placement of acoustic detectors is critical for the successful isolation of high-quality bat calls. Recommended positioning is to locate acoustic detectors **within 10m of the best potential maternity roost trees**. To increase the probability of detecting all three SAR bat species, detectors should be divided proportionally to target suitable roost trees (if present) for Tri-colored Bat and Little Brown Myotis/Northern Myotis.

Prior to undertaking acoustic surveys, it is recommended that the proponent discuss the proposed location of acoustic monitoring stations with the MNRF.

(i) Tri-colored Bat

Although Tri-colored Bat will roost within both live and dead foliage, it appears that reproductive females may prefer clusters of dead leaves, especially if they are situated on a live tree. Using the information collected on the field data sheet (Appendix A), the best suitable maternity roost trees for Tri-colored Bat should be selected according to the following criteria (in order of importance):

If oaks are present:

- Live oak with dead/dying leaf clusters
- Dead oak with retained dead leaf clusters
- Live oak (no dead leaf clusters) with the largest dbh (>25cm)
- Oak within a forest gap

If oaks are absent:

- Live maple with dead/dying leaf clusters
- Dead maple with retained dead leaf clusters
- Live maple (no dead leaf clusters) with the largest dbh (>25cm)
- Maple within a forest gap

Note that if a cluster of tree species with attributes preferred by Tri-colored Bat is present, this may be a good area to target acoustic monitoring.

(ii) Little Brown Myotis and Northern Myotis

Bats that roost under tree bark or within crevices or cavities frequently select the tallest and largest diameter snags, which often extend above the forest canopy. This is because larger snags better retain solar heat, which benefits the pups. Tall trees within a forest gap or along an edge may also have a less obstructed flight approach for bats.

Using the information collected on the field data sheet completed in Phase II, the best suitable maternity roost trees for Little Brown Myotis/Northern Myotis should be selected using the following criteria (in order of importance):

- Tallest snag
- Snag exhibits cavities/crevices often originating as cracks, scars, knot holes or woodpecker cavities
- Snag has the largest dbh (>25 cm)
- Snag is within the highest density of snags (e.g., cluster of snags)
- Snag has a large amount of loose, peeling bark (naturally occurring or due to decay)
- Cavity or crevice is high on the tree (>10 m) or is “chimney like” with a low entrance
- Tree is a species known to be rot resistant (e.g., black cherry, black locust)
- Tree species provides good cavity habitat (e.g., white pine, maple, aspen, ash, oak)
- Snag is located within an area where the canopy is more open
- Snag exhibits early stages of decay (Decay Class 1-3)

Note: The sole purpose of the above-listed criteria is to determine the best placement of acoustic monitors in order to maximize the probability of detecting Little Brown Myotis and Northern Myotis. The listed criteria are NOT intended for any type of snag “ranking”. Snags that do not include any of the above characteristics may still be used as a maternity roost site. For example, the absence of snags >25 cm dbh by no means indicates that there is no potential maternity roost habitat present on a site.

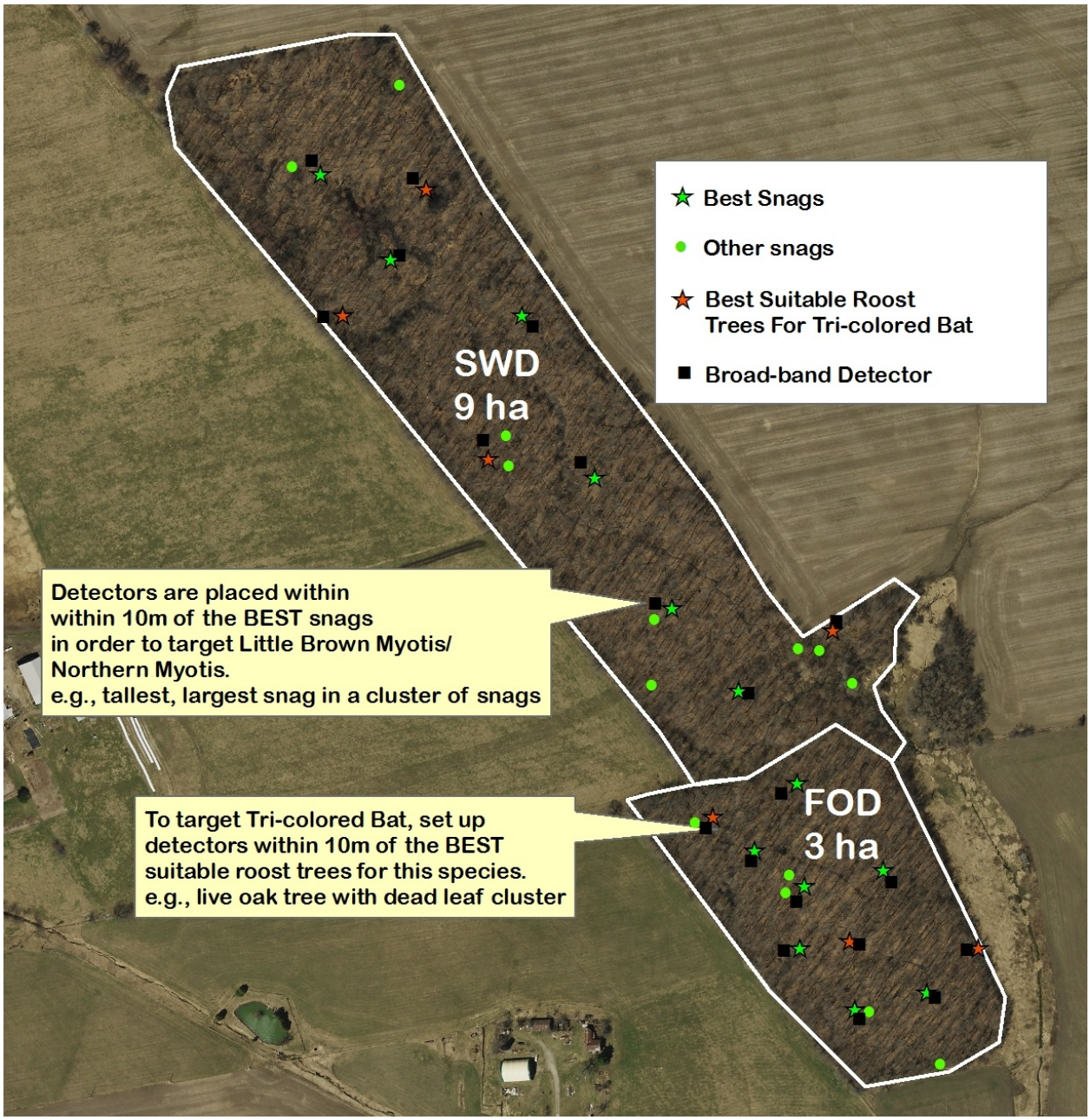


Figure 2: Hypothetical example illustrating the location and density of acoustic detectors i.e., 4/ha to a maximum of 10 per ELC ecosite.

Timing and Weather Conditions:

Acoustic surveys should take place on **evenings between June 1st and June 30th, commencing after dusk and continuing for 5 hours**.

Surveys should occur on warm/mild nights (i.e., ambient temperature >10°C) with low wind and no precipitation. At least 10 visits on nights that align with the above conditions where no SAR bat activity is detected are required to confirm absence.

Note that project proponents may cease survey work at any point once documentation of all three SAR bats species presence occurs.

Recommended Equipment Guidelines for Best Results:

- Broadband detectors (full spectrum) should be used. These may be automated systems in conjunction with computer software analysis packages or manual devices with condenser microphones.
- Acoustic monitoring systems should allow the observer to determine the signal to noise ratio of the recorded signal (e.g., from oscillograms or time-amplitude displays). These provide information about signal strength and increase quality and accuracy of the data being analysed.
- Microphones should be positioned to maximize bat detection i.e., situated away from nearby obstacles to allow for maximum range of detection and angled slightly away from prevailing wind to minimize wind noise.
- The same brand and/or model acoustic recording system should be used throughout the survey (if multiple devices are required), as the type of system may influence detection range/efficiency. If different systems are used, this variation should be quantified.
- Information on the equipment used should be recorded, including information on all adjustable settings (e.g., gain level), the position of the microphones, and dates and times for each station where recording was conducted.

Analysis:

Analytical software should be used to interpret bat calls and process results. Data should be analysed to the species level (as opposed to the genus level) in order to confirm presence/absence of SAR bats. Note that MNRF may request a copy of the raw acoustic data file when reviewing the results of the work completed in Phase III.

Additional Notes:

Project proponents should be aware that information about the number of bat passes detected in an area does not allow for an estimate of the number of bats present because there is not a 1:1 relationship between the number of passes and the number of bats responsible for those passes. It is not possible to distinguish between several bat passes made by a single bat flying repeatedly through the study area vs. several bats each making a single pass. Therefore, bat passes cannot provide a direct estimate of population densities.

Next Steps:

If Little Brown Myotis and/or Northern Myotis are detected, project proponents should proceed to Phase IV (Snag Density Survey). If only Tri-colored Bat is detected, snag density is not relevant and the proponent can proceed directly to Phase V (Complete an Information Gathering Form).

Phase IV: Snag Density Survey

Snag density information may be useful when the MNRF is considering the potential impact of a proposed activity on Little Brown Myotis and/or Northern Myotis. Snag density for each suitable ELC ecosite should be noted on the field data sheet provided in Appendix B. Surveys should take place during the leaf-off period so that the view of tree cavities, cracks and loose bark etc., is not obscured by foliage.

Snag density is a qualitative assessment of a treed ecosite, not a method of determining presence/absence of maternity roost habitat. There is no minimum threshold in terms of the number of snags/ha for an ELC ecosite to be considered suitable maternity roost habitat. However, an ELC with 10 or more snags/ha may be considered to be high quality potential maternity roost habitat. This information may be relevant when considering overall benefit in cases where a s.17(2)c permit under the ESA is required.

For smaller ecosites (e.g., <10 ha), snag density (# of snags/ha) can be calculated by dividing the number of snags mapped in Phase II by the total area of the ecosite.

Example:

ELC ecosite	Size (ha)	# of snags	Snag Density
WOD-M4	3.1	14	4.5 snags/ha
FOD-M2	0.8	9	11.25 snags/ha

For larger ecosites (e.g., >10 ha), sample plots can be used to estimate snag density within the suitable ELC ecosite, as follows:

- Select random plots across the represented ELC ecosite
- Survey fixed area 12.6m radius plots (equates to 0.05 ha)
- Survey a minimum of 10 plots for sites up to 10 ha, and add another plot for each additional ha up to a maximum of 35 plots
- Measure the number of suitable snags in each plot
- Use the formula πr^2 to calculate the number of snags/ha (where r=12.6m)
- Map the location of each snag density plot and record the UTM location using a GPS
- Calculate snag density for the ELC ecosite (snags/ha)

Example: **ELC Ecosite FOD-M2 (12 ha)**

# of sample plots	Total # of snags in sample plots	# of sample plots x r	Area of plots (πr^2)	Snag Density
12	48	12 x 12.6m = 151.2m	$3.14(151.2m)^{2} =$ $71784.9m^2$ = 7.18 ha	48 snags in 7.18 ha = 6.7 snags/ha

Phase V: Complete an Information Gathering Form

If SAR bats are detected during Phase III, the proponent should complete an Information Gathering Form (IGF) and submit it to the MNRF, Guelph District Office (esa.guelph@ontario.ca) for review. The IGF is available by searching the form repository on the government of Ontario website: http://www.forms.ssb.gov.on.ca/mbs/ssb/forms/ssbforms.nsf.

The MNRF will determine whether an activity is likely to kill, harm or harass a listed species and/or damage or destroy its habitat. The MNRF requires all of the necessary details and results from this survey protocol to be included on the IGF in order to make this determination.

For more information on overall benefit permits, including submission guidelines, process and timelines, please visit: https://www.ontario.ca/page/species-risk-overall-benefit-permits.

Appendix A – Suitable Maternity Roost Trees for Tri-colored Bat

Include all oak trees ≥10cm dbh (if present). If oaks are absent, include maples ≥10cm dbh IF dead/dying leaf clusters are present; and maples >25cm dbh if no dead/dying leaf clusters are present.

Project Name: Survey Date(s):

Site Name: Observer(s):

ELC Ecosite:

Tree#	Tree Species ID	Tree Status (live/dead)	Dbh (cm)	Tree Structural & Locational Attributes (check all that apply)	Easting	Northing	Notes
				☐ dead/dying leaf cluster ☐ cavity ☐ open area/forest gap ☐ forest edge ☐ interior ☐ preferred tree species within 10m?			
				☐ dead/dying leaf cluster ☐ cavity ☐ open area/forest gap ☐ forest edge ☐ interior ☐ preferred tree species within 10m?			
				☐ dead/dying leaf cluster ☐ cavity ☐ open area/forest gap ☐ forest edge ☐ interior ☐ preferred tree species within 10m?			
				☐ dead/dying leaf cluster ☐ cavity ☐ open area/forest gap ☐ forest edge ☐ interior ☐ preferred tree species within 10m?			
				☐ dead/dying leaf cluster ☐ cavity ☐ open area/forest gap ☐ forest edge ☐ interior ☐ preferred tree species within 10m?			
				☐ dead/dying leaf cluster ☐ cavity ☐ open area/forest gap ☐ forest edge ☐ interior ☐ preferred tree species within 10m?			
				☐ dead/dying leaf cluster ☐ cavity ☐ open area/forest gap ☐ forest edge ☐ interior ☐ preferred tree species within 10m?			

Appendix B – Suitable Maternity Roost Trees for Little Brown Myotis/Northern Myotis

Include all <u>live and dead</u> standing trees ≥10cm dbh with loose or naturally exfoliating bark, cavities, hollows or cracks.

Project Name: Survey Date(s):

Site Name: Observers(s):

ELC Ecosite: Snag Density (snags/ha):

Tree #	Tree Species ID	dbh (cm)	Height Class[2]	Snag attributes (check all that apply)	Easting	Northing	Notes
				☐ cavity[3] ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☐ Decay Class 1-3?[4]			
				☐ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☐ Decay Class 1-3?			
				☐ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☐ Decay Class 1-3?			
				☐ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☐ Decay Class 1-3?			
				☐ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☐ Decay Class 1-3?			
				☐ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☐ Decay Class 1-3?			
				☐ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☐ Decay Class 1-3?			
				☐ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☐ Decay Class 1-3?			
				☐ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☐ Decay Class 1-3?			
				☐ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☐ Decay Class 1-3?			

[2] **<u>Height Class</u>**: 1 = Dominant (above canopy); 2 = Co-dominant (canopy height); 3 = Intermediate (just below canopy); 4 = suppressed (well below canopy)

[3] The approx. height of the cavity should be noted. Note that cavities with an entrance near the ground may also be used by bats if they are "chimney-like".

[4] **<u>Decay Class</u>**: 1 = Healthy, live tree; 2 = Declining live tree, part of canopy lost; 3 = Very recently dead, bark intact, branches intact

Fisheries and Oceans Canada | Pêches et Océans Canada

PO Box 1006, P500
Dartmouth, NS
B2Y 4A2

August 7, 2024

Our file *Notre référence*
24-HMAR-00484

Jeremy Higgins
Environmental Assessment Officer
Nova Scotia Environment and Climate Change
1903 Barrington Street, Suite 2085
Halifax, NS
B3J 2P8

Subject: DFO comments on the Environmental Assessment Registration Document (EARD) – Gold Bond Gypsum Mine Expansion

Dear Jeremy Higgins:

The Fish and Fish Habitat Protection Program (the Program) of Fisheries and Oceans Canada (DFO) received your request to review the Environmental Assessment Registration Document (EARD) for the proposed Gypsum Mine Expansion on July 16, 2024. We understand that the proponent is proposing the following:

- The expansion of an active gypsum mine site to incorporate a small adjacent parcel of land, approximately 14 h, directly north of the existing mine that continues along the current deposit.

- The size of the mine will expand from 445 ha to 459 ha. The expansion will maintain a 30 m buffer to the adjacent property to the north.

- The anticipated average production rate for the expanded facility will be at the 20-year average of 3.1 million tonnes of product per year, depending on market demand. The current operating schedule is 16 hours/day, five days per week, 52 weeks/year.

- The project is situated on the boundary of two secondary watersheds of the Shubenacadie River, the McLennan Brook and the Big Pond Brook watersheds. Prior to the mid-1990s, Big Pond Brook flowed through the mine property (south to north) east of the active pit area (Stantec 2015). In its original arrangement, the brook conveyed surface runoff collected from south (upstream) of the Gold Bond Mine to the Shubenacadie River. In the mid-1990s, Gold Bond redirected a portion of Big Pond Brook to the east (under permit from NSECC) to prevent flow from entering the pit and a remnant of the Big Pond Brook remains on the

Canada

east side of the Project Area (Figure 6-1). This channel maintains the size and shape of the of Big Pond Brook prior to its alteration in the 1990s; however, it no longer has the same drainage area nor are there continuous flows within the channel.

DFO has reviewed the EARD and offers the following comments for consideration:

Section 6.3.2.1 Surface Water Existing Environment

- The downstream reaches of the unnamed brook have been described as having connectivity with McLennan Brook, suggesting the potential for fish habitat in the downstream reach. McLennan Brook is a tributary to the Shubenacadie which is habitat for inner Bay of Fundy (iBoF) Atlantic Salmon, which are listed as Endangered under the *Species at Risk Act* (SARA). WL2 is situated within the proposed expansion area and is within the headwaters of the unnamed brook. A large portion of WL2 will be lost due to the expansion. The proponent should assess how the loss of this wetland will affect flows within the unnamed brook and McLennan Brook. The assessment of flow changes should be based on the guidelines in DFO's Framework for Assessing the Ecological Flow Requirements to Support Fisheries in Canada.

Section 6.3.2.2 Surface Water Effects Assessment

- The EARD states "*The unnamed brook on the west side of the Project is not within the Project Area and is within the currently approved quarry boundaries. The upper reaches of this watercourse are not expected to be suitable to fish habitat as it is overland drainage and ephemeral, with no defined bed or banks."* The proponent should use caution when using the ephemeral nature of a watercourse as justification to classify it as non fish bearing. Ephemeral watercourses can be used by a variety of fish species to carryout life history processes, including American Eel.

Section 10.0 Other Approvals

- The EARD lists several relevant plans previously submitted to NSECC for review, however, these plans were not included as appendices within the EARD to be further reviewed for the proposed mine expansion.

If you have any questions with the content of this letter, please contact Montana Mclean-Gregoire at our Dartmouth office at 902-943-3508 or by email at montana.mclean-gregoire@dfo-mpo.gc.ca. Please refer to the file number referenced above when corresponding with the Program.

Yours sincerely,

Montana Mclean-Gregoire
A/Senior Biologist
Ecosystems Management-Regulatory Reviews
Maritimes Region

Kwilmu'kw Maw-klusuaqn Negotiation Office
Mi'kmaq Rights Initiative
Our Rights. Our Future.

75 Treaty Trail
Truro, NS B6L 1W3

Tel (902) 843 3880 **Fax** (902) 843 3882
Toll Free 1 888 803 3880
Email info@mikmaqrights.com
www.mikmaqrights.com

August 15th, 2024

Jeremy Higgins
Environmental Assessment Officer
Environmental Assessment Branch
Nova Scotia Environment and Climate Change
E-mail : jeremy.higgins@novascotia.ca

RE: Consultation with the Mi'kmaq of Nova Scotia on Gold Bond Gypsum Mine Expansion, Milford, Halifax County

Mr. Higgins,

Thank you for your letter dated July 18, 2024 on the above noted. We wish to proceed with Consultation under the *Terms of Reference for a Mi'kmaq-Nova Scotia-Canada Consultation Process* (ToR) on Gold Bond Gypsum Mine Expansion, Milford, Halifax County.

Gypsum has not been identified as a critical mineral in Nova Scotia. Nova Scotia Environment and Climate Change (NS-ECC) must give careful consideration to the projects that are being approved in the limited remaining landscape in Mi'kma'ki (Unceded land of the Mi'kmaq). This proponent has had minimal engagement efforts with The Mi'kmaq of Nova Scotia. More community engagement is needed from this proponent especially with the closest Mi'kmaw Communities. The majority of engagement has taken place for the initial opening of this mine and with minimal discussions about the expansion project. KMK would recommend these efforts focus on engagement with Millbrook and Sipekne'katik First Nations as they are the nearest communities and not represented by KMK.

Although the Proposed Development Area has been assessed as having low archaeological potential and no recommendations for mitigation or testing are being recommended at this time, we can not support clearances without subsurface testing. Mi'kmaw archaeological sites have developed since time immemorial and may not be identified from the surface character of the current landscape, one cannot conclusively eliminate potential for Mi'kmaw archaeological heritage without subsurface testing. We consistently recommend in areas that will undergo impact, that subsurface testing be undertaken to confirm the presence, or lack of presence, of archaeological heritage. This is especially important in landscapes which will undergo significant permanent mechanical alteration associated with mining activities and landscapes that exhibit waterways or wetlands.

Waterways, regardless of size, have continued to be important features in Mi'kmaw cultural landscapes. Whether for navigation, by boat or foot, drinking water, or harvesting areas, these features all are significant in Mi'kmaw cultural landscapes. The Mi'kmaq hunters track animals

near brooks and streams, so the waterways have always been culturally significant as much as the rivers, lakes, bays, and oceans. It is important to keep in mind if any watercourses or low-lying marshy areas are altered, fish and fish habitat may also be disrupted.

Please contact Patrick Butler, Senior Energy & Mines Advisor, at Kwilmu'kw Maw-klusuaqn with any questions.

Yours in Recognition of Mi'kmaw Rights and Title,

Director of Consultation
Kwilmu'kw Maw-klusuaqn Negotiation Office

Cc:
Kwilmu'kw Maw-klusuaqn
Kwilmu'kw Maw'klusuaqn
Gillian DesRoche, Nova Scotia Office of L'nu Affairs
Ted Brander, Nova Scotia Environment and Climate Change
Norma Bennet, Nova Scotia Environment and Climate Change

From:
To: Minister, Env
Cc: Environment Assessment Web Account
Subject: Gold Bond Gypsum Mine Expansion Project
Date: July 19, 2024 10:17:56 AM
Attachments: image001.png
image002.png
image003.png

Minister:

I am writing on behalf of the Mining Association of Nova Scotia to express our strong support for Gold Bond Canada's Gold Bond Gypsum Mine Expansion Project (https://www.novascotia.ca/nse/ea/gold-bond-gypsum-mine-expansion/).

Mining and quarrying are an important part of Nova Scotia's economy, especially in rural areas where most operations are based. The province's industry employs over 3000 Nova Scotians and its average total compensation (wages and benefits) is $102,000 per year. We represent approximately $409 million in gross domestic product per year.

Gold Bond's Milford gypsum quarry has operated since 1954 and continues to be a major employer of Nova Scotians, with approximately 100 direct jobs at the quarry and its Bedford Basin wharf facility. It also provides an essential material to a number of users, most significantly, to Gold Bond's factories which produce wallboard used in many Nova Scotian homes.

The mine expansion is an important project that will help ensure the ongoing viability of the Milford quarry and the direct and indirect jobs associated with it.

Modern mining/quarrying is a sophisticated, science-based activity that takes proper care of the environment. Companies like Gold Bond are committed to the highest environmental standards and the industry is stringently regulated by the provincial and federal governments. We particularly note the excellent progressive reclamation that Gold Bond does at the Milford quarry as part of its regular operations.

There is strong public support for Gold Bond's operation and mining/quarrying in general in Nova Scotia. According to recent polling:

- 67% of Nova Scotians agree that the mining and quarrying sector plays an important role in economic development in rural areas. Only 16% disagree (https://tmans.ca/polling).
- 64% agree that the sector provides well-paying jobs to Nova Scotians. Fifteen percent disagree.
- 62% believe the sector is important to the provincial economy. Twenty percent disagree.

We urge the Department of Environment and Climate Change to approve the Gold Bond Gypsum Mine Expansion Project and support this environmentally-responsible, economically-important project.

Thank you for your consideration.

Executive Director
Mining Association of Nova Scotia

www.tmans.ca
www.NotYourGrandfathersMining.ca

Follow our daily social media posts at:

MacGregor's Custom Machining Ltd.
140 Coalburn MacLellan's Brook Rd., MacLellan's Brook, NS B2H 5C7

Phone (902) 922-2029 – www.macgregors.ca

23 July 2024

Environmental Assessment Branch
Department of Environment and Climate Change
PO Box 442
Halifax, NS, B3J 2P8

Sent via email: ea@novascotia.ca

I am writing in support of Gold Bond Canada's Gold Bond Gypsum Mine Expansion Project.

Nova Scotia's mining and quarrying industry is an important part of the province's economy, and the industry is committed to the highest standards in environmental management. Operations like the Milford gypsum quarry take excellent care of the environment while creating jobs and government revenues that help pay for programs like health and education.

Gold Bond Canada has been creating economic prosperity for hundred of employees, suppliers, subcontractors and their families for more than 60 years. These families live and work in rural Nova Scotia where well paid, long-term career opportunities are in shorter supply than the more urban parts of our Province. In our opinion, Gold Bond provides the perfect balance of environmental performance, economic sustainability, and responsible utilization of a natural resource that as a Province we are fortunate to have.

Our company is a proud supplier of Gold Bond Canada. They are an upstanding corporate citizen and we are in full support of their continued operations.

I urge the Department of Environment and Climate Change to the Gold Bond Gypsum Mine Expansion Project.

Thank you for your consideration.

General Manager
MacGregors Industrial Group
(902) 922-2029 –

From: @gmail.com
To: Environment Assessment Web Account
Subject: Proposed Project Comments
Date: August 2, 2024 12:24:50 PM

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Exercise caution when opening attachments or clicking on links / Faites preuve de prudence si vous ouvrez une pièce jointe ou cliquez sur un lien

Project: gold-bond-gypsum-mine-expansion Comments: The Proponent will require a Mineral Lease to produce anhydrite as it is defined as a mineral under the Mineral Resources Act and Regs 2018 and I do not see that they currently hold this Lease? I do see they hold an NMR but this would only be for gypsum production. Name: Email: @gmail.com Address: Municipality: Dartmouth email_message: Privacy-Statement: agree x: 60 y: 33

McInnis, Mark

From: gmail.com
Sent: August 10, 2024 3:26 PM
To: Environment Assessment Web Account
Subject: Proposed Project Comments

Project: gold-bond-gypsum-mine-expansion Comments: I dont think the expansion to the Gold Bond Gypsum Mine should be approved. I realize gypsum has to come from somewhere, and I realize local jobs are very precious. But this expansion is not necessary, other than for the commercial interests. The area of expansion is too close to peoples houses and too close to Milford Road. I worry that expansions will keep continuing in this area into the future until more green space is swallowed up and peoples homes and lives are affected. It appears that a common justification in the companys materials is that theres already a mine operation going on, so an expansion wont make much of a difference. If this justification is used every time theres an expansion, overall the effects accumulate, and all the expansions do make a huge difference. This area already has so many quarries. This is not a justification for another expansion, as the company claims, its actually a reason to stop expanding. Our good quality of life in this area should be protected, not be encroached upon by expansions of quarries. I hope this expansion is not approved. Name: Email: @gmail.com Address: Municipality: Dutch Settlement email_message: Privacy-Statement: agree x: 70 y: 24

McInnis, Mark

From: @signalgold.com
Sent: August 15, 2024 8:47 AM
To: Environment Assessment Web Account
Subject: Proposed Project Comments

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Project: gold-bond-gypsum-mine-expansion Comments: I support Gold Bond Gypsum Mine expansion. Name: Email: @signalgold.com Address: Municipality: St. Johns email_message: Privacy-Statement: agree x: 53 y: 32

McInnis, Mark

From: s@nova-construction.ca>
Sent: August 15, 2024 10:09 AM
To: Environment Assessment Web Account
Subject: Letter of Support for Gold Bond Gypsum Mine Expansion Project
Attachments: Gold Bond Support Letter.pdf

Please find the attached letter of support for the Gold Bond Gypsum Mine Expansion Project.

Mining Engineer
Nova Construction Co. Ltd.
Antigonish, NS
Office: 902-863-4004

Email: @nova-construction.ca

Environmental Assessment Branch
Department of Environment and Climate Change
PO Box 442
Halifax, NS, B3J 2P8
Sent via email: ea@novascotia.ca

I am writing in support of Gold Bond Canada's Gold Bond Gypsum Mine Expansion Project.

Nova Scotia's mining and quarrying industry is an important part of the province's economy, and the industry is committed to the highest standards in environmental management.

Operations like the Milford gypsum quarry take excellent care of the environment while creating jobs and government revenues that help pay for programs like health and education.

I urge the Department of Environment and Climate Change to the Gold Bond Gypsum Mine Expansion Project.

Thank you for your consideration.

McInnis, Mark

From: @eastlink.ca>
Sent: August 15, 2024 12:41 PM
To: Environment Assessment Web Account
Subject: support letter Gold Bond.

Environmental Assessment Branch
Department of Environment and Climate Change
PO Box 442
Halifax, NS, B3J 2P8
Sent via email: ea@novascotia.ca

I am writing in support of Gold Bond Canada's Gold Bond Gypsum Mine Expansion Project.

I am a geologist in the private sector but formerly worked for NSDNR. My specialty is surficial geology Pleistocene (pre-glacial and glacial) and Holocene (post-glacial deposits). I was involved in the Mastodon discovery at the quarry and co-published a scientific paper on it. Prior to that I had led several field trips to the quarry site hosting numerous geoscientists interested in the karst topography and glacial deposits.

Godfrey-Smith D.I., Grist A.M., and Stea R.R. 2003. Dosimetric and radiocarbon chronology of a pre-Wisconsinan mastodon fossil locality at East Milford, Nova Scotia, Canada. Quaternary Science Reviews, **22**(10–13): 1353–1360.

See also my webpage on the geology of the quarry site:

https://novascotia.ca/natr/meb/fieldtrip/stop3.asp

Recently, under contract with NSDNR I produced a summary report on gypsum resources in central Nova Scotia including the Milford Quarry.

Gypsum deposits in the Carboniferous basins of central Nova Scotia, by Stea, R R, Stea Surficial Geology Services; Graves, R M, Stea Surficial Geology Services; Raymond, David, Stea Surficial Geology Services; Minerals Research Association of Nova Scotia, Open File Report ME 2022-031, 2022, 86 page(s), 9 map(s). ISN: 25200

Nova Scotia's mining and quarrying industry is an important part of the province's economy, and the industry is committed to the highest standards in environmental management. Gypsum has been produced in Nova Scotia since the late 1700's and its gypsum resources are the best in North America in terms of quantity and quality. At its peak in 2005, annual production was about 8.6 million tonnes,

accounting for more than 90% of Canada's total gypsum output. In that year, Canada ranked fourth among gypsum-producing nations of the world. In the last 30 years there have been four main gypsum producers in the province and their product has been almost exclusively used to produce wallboard primarily for sale on the east and gulf coasts of the US and Canada.

It is my view that operations like the Milford gypsum quarry take excellent care of the environment while creating jobs and government revenues that help pay for programs like health and education. The discovery of the Mastodon in the quarry shows that even the act of mining itself can have unanticipated beneficial effects, in this case tourism; drawing folks to the Natural History Museum, Halifax (where the fossils are presented) and a strip mall near the quarry named after the discovery.(Mastodon Ridge)

I urge the Department of Environment and Climate Change to approve the Gold Bond Gypsum Mine Expansion Project. It is my view that the National Gypsum Company operating the Milford Quarry takeexcellentcareoftheenvironmentwhile creating jobs and government revenues that help pay for programs like health and education.

Thank you for your consideration.

McInnis, Mark

From: @shawresources.ca>
Sent: August 15, 2024 12:51 PM
To: Environment Assessment Web Account
Subject: Gold Bond Gypsum Mine Expansion Project
Attachments: Gold Bond Quarry Expansion Letter of Support.pdf

> You don't often get email from swarren@shawresources.ca. Learn why this is important

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Exercise caution when opening attachments or clicking on links / Faites preuve de prudence si vous ouvrez une pièce jointe ou cliquez sur un lien

Land and Quality Manager, Shaw Resources
The Shaw Group

Email: @shawresources.ca

A MEMBER OF THE SHAW GROUP LIMITED

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www.shawresources.ca

August 15, 2024

Environmental Assessment Branch
Department of Environment and Climate Change
PO Box 442
Halifax, NS, B3J 2P8
Sent via email: **ea@novascotia.ca**

RE: Gold Bond Milford Quarry Expansion

I am writing in support of Gold Bond Canada's Gold Bond Gypsum Mine Expansion Project.

Nova Scotia's mining and quarrying industry is an important part of the province's economy, and the industry is committed to the highest standards in environmental management.

Operations like the Milford gypsum quarry take excellent care of the environment while creating jobs and government revenues that help pay for programs like health and education.

I urge the Department of Environment and Climate Change to approve the Gold Bond Gypsum Mine Expansion Project.

Thank you for your consideration.

Land and Quality Manager
Shaw Resources

McInnis, Mark

From: @accesswave.ca>
Sent: August 15, 2024 1:30 PM
To: Environment Assessment Web Account
Subject: Gold Bond Gypsum Project Support Letter

Environmental Assessment Branch
Department of Environment and Climate Change
PO Box 442
Halifax, NS, B3J 2P8
Sent via email: ea@novascotia.ca

I am writing to include my support for the Gold Bond Canada's Gold Bond Gypsum Mine Expansion Project.

I am a retired geologist who spent my entire career working for the province as a Mineral Deposit Geologist first with Mines and Energy then with the Department of Natural Resources when our department merged with Lands and Forests to form NSDNR. My main focus for almost my entire career was supervising and maintaining the DNR Mineral Occurrence Database as well as promotion of our provinces mineral resources to the exploration and mining industries.

As a result of my professional duties I acquired a thorough knowledge of the provinces metallic and industrial mineral resources including gypsum. Without question Nova Scotia is a major global player in the gypsum/wallboard business. This is because the province has some of the largest and highest quality gypsum deposits in the world. In addition, this high quality gypsum endowment is enhanced by the province having close access to tidewater and major shipping corridors.

The gypsum producers of the province, including Gold Bond, have a very good track record as far as operating in a environmentally responsible manner. In my opinion, I see no reason to suspect that Gold Bond would not continue this in their proposed expansion. When one views their proposed expansion document this is obvious.

Our province needs the economic benefits the mining industry provides and gypsum production is foremost. I want to add my support to this mine expansion being approved as it will help the province continue its high rank among in the global gypsum producers.

Thank you for considering my input.

Mineral Deposit Geologist (Retired)
Dartmouth, NS

Email: gorgo@accesswave.ca

Sent from my Galaxy

McInnis, Mark

From: @gmail.com>
Sent: August 16, 2024 9:05 AM
To: Environment Assessment Web Account
Cc:
Subject: Support for Gold Bond Gypsum Mine
Attachments: Letter to DECC re Gold Bond Gypsum Mine (Aug 2024).pdf

Good morning,

Please find attached a letter from in support of the Gold Bond Gypsum Mine Expansion Project.

Kind regards,

Executive Assistant
Heraldry Gold Corporation

Heraldry Gold Corporation

176 Waterloo Row, Fredericton, NB E3B 1Z2 | 506-471-0267 | rhawkes@rogers.com

August 16, 2024

VIA EMAIL: ea@novascotia.ca

Environmental Assessment Branch
Department of Environment and Climate Change
PO Box 442
Halifax, NS B3J 2P8

Greetings,

I am writing in support of the Gold Bond Gypsum Mine Expansion Project and in support of environmentally responsible mining and quarrying in the province in general.

Nova Scotia's mining and quarrying industry is an important part of the province's economy and is committed to the highest standards in environmental management. Operations like Gold Bond Canada's take excellent care of the environment while creating jobs and government revenues that can be channelled into important health and education initiatives.

NS is blessed with an abundance of natural resources and minerals and the Province has not only an opportunity, but also an obligation under the NS Mineral Resources Act s. 2(1)(b), which states as an objective "encouraging and facilitating mineral exploration, development and production", to support responsible developments. Recent polling by the Mining Association of Nova Scotia (MANS) shows that 60-70% of surveyed Nova Scotians strongly support the industry, with positive views highly influenced by economic and employment considerations. The expansion of existing and development of new mines and quarries will inject billions of dollars into the NS economy and create hundreds of jobs for locals as well as enable many highly educated and trained Nova Scotians to return "home" to work and raise their families.

I recommend that the Department of Environment and Climate Change approve the Gold Bond Gypsum Mine Expansion Project, so that Nova Scotia's mining and quarrying industry can continue to grow and employ Nova Scotians in useful and responsible vocations.

Thank you for your consideration.

Regards,

President
Heraldry Gold Corporation

McInnis, Mark

From: @mun.ca
Sent: August 19, 2024 9:25 AM
To: Environment Assessment Web Account
Subject: Proposed Project Comments

Project: gold-bond-gypsum-mine-expansion Comments: I support gold mining projects in Canada, specifically the East Coast. Canada has some of the most stringiest environmental guidelines and follow the stickiest health and safety requirements. If we dont get our gold from here we end up using gold from countries with no standards at all where the environment is ruined and people get hurt. Name:
Email: @mun.ca Address: Municipality: Halifax email_message: Privacy-Statement: agree x: 71 y: 20