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Welshtown Quarry Expansion Project

Publication Date: December 23, 2020

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MEMORANDUM

DATE: November 18, 2020

TO: Jeremy Higgins

FROM: Neil Morehouse Manager of Protected Areas and Ecosystems

SUBJECT: Welshtown Quarry Expansion Environmental Assessment

The Protected Areas and Ecosystems Branch have reviewed the Environmental Assessment Application for the Welshtown Quarry Expansion

Protected Areas and Ecosystem Comments:

As there are no protected areas in the vicinity of this Quarry, no impacts to protected areas are anticipated.

Fisheries and Aquaculture

Date: December 3, 2020

To: Jeremy Higgins, Nova Scotia Environment

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

Subject: Welshtown Quarry Expansion Project - Environmental Assessment

Thank you for the opportunity to review the Welshtown Quarry Expansion Project documents.

The Nova Scotia Department of Fisheries and Aquaculture has identified no concern with the Welshtown Quarry Expansion Project proposal given that:

- Based on the location and the fact that there is an existing quarry on this site, there are no anticipated impacts to commercial fishing operations from this project, either to the resource itself or the fish plants near Shelburne Harbour. The site of the quarry is sufficient distance from Shelburne Harbour as not to present any risk of sediment runoff.
- Although there are six finfish aquaculture leases within a 25km radius of the proposed operation, no impacts due to the quarry have been identified to date.
- No fish habitat was identified within the proposed expansion site of the quarry in the document.

Agriculture

Date: December 3, 2020

To: Jeremy Higgins, Nova Scotia Environment

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

Subject: Welshtown Quarry Expansion Project – Environmental Assessment

Thank you for the opportunity to review the Welshtown Quarry Expansion Project documents.

Review of the Project has identified that:

- The closest identified agriculture land is 1.3km away.
- No dairy or beef operations were identified within 5km of the proposed location.
- There is a Bee/Berry farm located approximately 5.7km from the proposed project.
- The land/soil at the location of the proposed is Class 7 and therefore not suitable for agriculture.

The Nova Scotia Department of Agriculture has no concerns at this time respecting the proposal.

Date: November 26, 2020
To: Department of Environment
From: Department of Municipal Affairs & Housing
Subject: **WELSHTOWN QUARRY EXPANSION**

As requested, the Department of Municipal Affairs and Housing has reviewed the Registration Document for the Environmental Assessment of the Welshtown Quarry Expansion.

Consultation with municipalities is one of the Department's areas of mandate. We would like to ensure that the proponent continues consultation with the Municipality of the District of Shelburne to confirm conditions for compliance with municipal planning policies and by-law provisions.

Thank you for the opportunity to review the Registration Documents for the above-noted project. Should you require additional information, please contact the Department.

c: Daniel Bryce, Senior Planner, DMAH

Energy & Mines

Date: December 1, 2020
To: Jeremy W. Higgins, Nova Scotia Environment
From: Scott Hearn, Manager, Mineral Development and Policy
Subject: Welshtown Quarry Expansion Project

Energy and Mines has reviewed the file for the Welshtown Quarry Expansion Project EA registration.

We have no comments to make on this review.

Date: November 23, 2020
To: Nova Scotia Environment
From: The Department of Business
Subject: Welshtown Quarry Expansion

The mandate of the Department of Business (DOB) is to lead and align provincial government efforts behind a common agenda for inclusive economic growth. This mandate focuses on strategic priorities and opportunities that encourage Nova Scotia's innovation, competitiveness, entrepreneurship, and export orientation.

Fulfilling this mandate involves working collaboratively with our Crown corporations (Develop Nova Scotia, Halifax Convention Centre Corporation (Events East Group), Innovacorp, Invest Nova Scotia, Nova Scotia Business Inc. and Tourism Nova Scotia), key partners in other levels of government, entrepreneurs, large businesses, post-secondary institutions, venture capital investors and Nova Scotians.

After reviewing the Welshtown Quarry Expansion Environmental Assessment Registration Document, the proposed project was deemed to be consistent with the mandate of the Department of Business.



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Bureau 200
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Date: December 1, 2020

To: Jeremy Higgins, Environmental Assessment Officer, Nova Scotia Environment

From: Emily Gregus, Environmental Assessment Officer, Impact Assessment Agency of Canada

Subject: Welshtown Quarry Expansion Project

The federal environmental assessment process is set out in the [Impact Assessment Act](#) (IAA). The [Physical Activities Regulations](#) (the Regulations) under IAA set out a list of physical activities considered to be “designated projects.” For designated projects listed in the Regulations, the proponent must provide the Agency with an Initial Description of a Designated Project that includes information prescribed by applicable regulations ([Information and Management of Time Limits Regulations](#)).

The relevant entry in the Regulations for this type of project is:

19. The expansion of an existing mine, mill, quarry or sand or gravel pit in one of the following circumstances...
 - (f)) in the case of an existing stone quarry or sand or gravel pit if the expansion would result in an increase in the area of mining operations of 50% or more and the total production capacity would be 3 500 000 t/year or more after the expansion.

Based on the information submitted to the Province of Nova Scotia on the proposed Welshtown Quarry Expansion Project, it does not appear to be described in the Regulations. Under such circumstances the proponent would not be required to submit an Initial Description of a Designated Project to the Agency. However, the proponent is advised to review the Regulations and contact the Agency if, in its view, the Regulations may apply to the proposed project.

The proponent is advised that under section 9(1) of the IAA, the Minister may, on request or on his or her own initiative, by order, designate a physical activity that is not prescribed by regulations made under paragraph 109(b) if, in his or her opinion, either the carrying out of that physical activity may cause adverse effects within federal jurisdiction or adverse direct or incidental effects, or public concerns related to those effects warrant the designation. Should the Agency receive a request for a project to be designated, the Agency would contact the proponent with further information.

The proposed project may be subject to sections 82-91 of IAA. Section 82 requires that, for any project occurring on federal lands, the federal authority responsible for administering those

lands or for exercising any power to enable the project to proceed must make a determination regarding the significance of environmental effects of the project. The Agency is not involved in this process; it is the responsibility of the federal authority to make and document this determination.

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

Thank you,

Emily Gregus
Environmental Assessment Officer, Atlantic Regional Office
Impact Assessment Agency of Canada / Government of Canada
Emily.Gregus@canada.ca / Tel: 902-229-7825

Agente d'évaluation environnementale, région de l'Atlantique
Agence d'évaluation d'impact du Canada / Gouvernement du Canada
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1672 Granville Street
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Environmental Services

NS Environment

December 2, 2020

Attn: Jeremy Higgins, Environmental Assessment Officer
Nova Scotia Environment
Suite 2085 1903 Barrington St
Halifax, NS

RE: NSTIR Comments on the Welshtown Quarry Expansion Project Environmental Assessment (EA)

TIR staff have reviewed the Environmental Assessment for the Dexter Construction Company Limited, Welshtown Quarry Expansion Project and prepared the following:

The proponent is proposing to expand an existing quarry and to use the new production to replace the existing production. No increase in truck volumes is expected, nor are there any changes to accesses that will be required. Routing of trucks through the existing highway system is not expected to change either.

With that in mind, the following comments are offered.

Section 7.0 Environmental Impacts, Significance, and Mitigation, 7.3.7 Transportation:

1. The proponent has referenced that “signage for truck and equipment operations, as well as the surrounding communities will be placed to help avoid dangerous situations at the quarry entrance.” If any new and/or additional signage is erected on any provincially owned road, this must have the approval of the local Traffic Authority and the local Nova Scotia Transportation and Infrastructure Renewal (NSTIR) office. Any information pertaining to the history of “dangerous situations” for this site should be provided to support the requirement of additional signage.

2. The proponent also states in this section that “warning signs and speed limits can be placed in areas leading to the quarry, in particular when the quarry is operating, to improve safety.” As previously mentioned, any new and/or additional signage cannot be erected without the approval of the Traffic Authority and the local NSTIR office.

Sincerely,

Environmental Services
Nova Scotia Transportation and Infrastructure Renewal



Date: December 2, 2020

To: Jeremy Higgins, Environmental Assessment Officer

From: Lynsey Crowell, Regulatory Review Biologist, Fish and Fish Habitat Protection Program, Ecosystem Management

Subject: Welshtown Quarry Expansion Project

Dear Jeremy Higgins:

Fisheries and Oceans Canada (DFO), Fish and Fish Habitat Protection Program (FFHPP) received the Nova Scotia Environmental Assessment registration document submitted for the Welshtown Quarry Expansion Project in Shelburne County. The project is to expand on an existing quarry that is currently under 4ha to a maximum of 35.3 ha area over a 40 year period. Proposed expansion is expected to begin in 2021 with quarry operations remaining consistent with current practices.

The study area is located on a watershed divide between the Birchtown Brook and Roseway River Watersheds. The westside of the site drains into Birchtown Brook with the eastern side draining into the Roseway River. Overall drainage is to the south into a unnamed watercourse that discharges into the lower reaches of the Roseway River. The unnamed watercourse is sub terrain in nature with a hung culvert located at Upper Clyde Road. Small intermitted streams and flowages are located throughout the site, but do not appear to be connected to a defined watercourse. There are no plans to excavate below the water table with the quarry floor elevation remaining at current elevation.

DFO-FFHPP is responsible for administrating the fisheries protection provisions of the *Fisheries Act* (FA) and the *Species at Risk Act* (SARA) for aquatic species at risk. The fisheries protection provisions of the FA includes section 35 which prohibits the harmful alteration, disruption, or destruction (HADD) of fish habitat and section 34.4 which prohibits the death of fish by means other than fishing. SARA prohibits the killing, harming, harassment, possession, capturing or taking of a species listed as extirpated, endangered or threatened; the damage or destruction of a residence or the destruction of any part of the critical habitat of such a listed species, unless authorized by the minister.

Below you will find the comments from DFO - FFHPP regarding the above mentioned project:

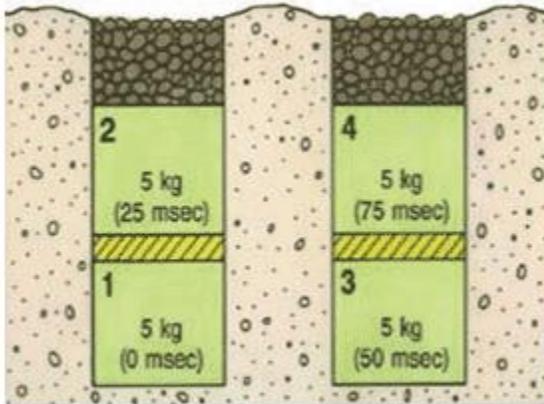
- Limited fish habitat located adjacent to or within the site boundaries.
- With the exception of potentially W12, the wetlands identified within the study area do not appear to be connect to a watercourse. Potential alterations to W12 should be evaluated for impacts on fish and fish habitat.
- A water balance was not completed to determine the potential impacts of the quarry activity may have on nearby fish habitat. Any indirect impacts associated with the quarry expansion that may result in either the reduction or increase in surface water flow could result in the requirement for a FA authorization from DFO.
- A water management plan for the site was not provided. At a minimum pre and post development drainage areas should be evaluated to determine potential impacts on fish and fish habitat as a result of site activities.
- The proponent should ensure that sufficient erosion and sedimentation controls are in place to prevent migration of sediment into nearby receiving waterbodies.

BLASTING

- Avoid using explosives in or near water. Use of explosives in or near water produces shock waves that can damage a fish swim bladder and rupture internal organs. Blasting vibrations may also kill or damage fish eggs or larvae.
- If explosives are required as part of a project (e.g., removal of structures such as piers, pilings, footings; removal of obstructions such as beaver dams; or preparation of a river or lake bottom for installation of a structure such as a dam or water intake), the potential for impacts to fish and fish habitat should be minimized by implementing the following measures:
 - Time in-water work requiring the use of explosives to prevent disruption of vulnerable fish life stages, including eggs and larvae, by adhering to appropriate fisheries [timing windows](#).
 - Isolate the work site to exclude fish from within the blast area by using, for example, bubble/air curtains (i.e., a column of bubbled water extending from the substrate to the water surface as generated by forcing large volumes of air through a perforated pipe/hose), cofferdams or aquadams.
 - Remove any fish trapped within the isolated area and release unharmed beyond the blast area prior to initiating blasting
 - Minimize blast charge weights used and subdivide each charge into a series of smaller charges in blast holes (i.e., decking) with a minimum 25 millisecond (1/1000 seconds) delay between charge detonations (see Figure 1).
 - Back-fill blast holes (stemmed) with sand or gravel to grade or to streambed/water interface to confine the blast.

- Place blasting mats over top of holes to minimize scattering of blast debris around the area.
- Do not use ammonium nitrate based explosives in or near water due to the production of toxic by-products.
- Remove all blasting debris and other associated equipment/products from the blast area.

Figure 1: sample blasting arrangement



Per Fig. 1: 20 kg total weight of charge; 25 msecs delay between charges and blast holes; and decking of charges within holes.

Date: Dec 2, 2020

To: Jeremy Higgins
Environmental Assessment Officer

Cc: Manager, Water Resources Management Unit

From: Senior Hydrogeologist, Sustainability and Applied Science Division

Subject: Welshtown Quarry Expansion Project

Environmental Assessment (EA) reviews from the NSE Sustainability and Applied Science Division Senior Hydrogeologist focus primarily on groundwater resources. This includes the potential for the proposed undertaking/project to adversely affect groundwater resources, including general groundwater quality, quantity, municipal groundwater supplies, local water supply wells and groundwater contributions to stream baseflow, groundwater recharge and wetlands. The review is conducted of materials provided by the proponent during the EA registration process, as well as with Departmental resources. Any recommendations made are based on the review of this currently available data.

Reviewed Documents

The following document was the basis for this EA review:

November 2020, Dexter Construction Company Limited, Welshtown Quarry Expansions, Welshtown, Shelburne County, Nova Scotia, Registration Document for a Class 1 Undertaking

Background

Dexter Construction Company Limited (Dexter) has registered the Welshtown Quarry Expansion Project as an undertaking for Environmental Assessment.

The purpose of the proposed undertaking as proposed “*is to expand its existing Welshtown quarry for the production of aggregate, primarily used in the local highway and construction industry. The proposed undertaking involves the expansion of an existing Nova Scotia Environment approved quarry from a less than four hectare permit area to a 35.3 hectare permit area.*”

The project is located on a combination of company owned (PID# 80106925) and private land

(PID#'s 80106875; 80106867; 80106826) leased to Dexter on the Upper Clyde Road in Welshtown, Shelburne County, Nova Scotia.

As reported by Dexter (p. 4) , *“the existing quarry has been operating under a NSE Industrial Approval (2016-095706) for a less than four hectare quarry for approximately 5 years. The existing active area includes on-site related facilities including a scale house as well as a staging area for a portable asphalt plant, portable crushing spread, and stockpiling areas. During past operations, Dexter has extracted an average of approximately 25,000 to 50,000 tonnes of aggregate per year from the quarry during years in which the quarry was active. It is expected that the upper volume extraction rate of 50,000 tonnes per year will continue into the future.”*

“Blasting, crushing and trucking of aggregate products have occurred on an as-required basis, with blasting occurring on an average of one to two times per year for years in which the site is active. As the quarry expands, surface water controls will be maintained and associated surface water monitoring will be implemented to ensure that surface water leaving the site meets all applicable water quality guidelines.” (p. 9) ... for future needs there will *“provisions for both production and operational working areas, storage (stockpiles) areas, aggregate reserves, and provisions for surface water control.”* Dexter does not anticipate intersection of the water table and no groundwater dewatering is proposed.

Comments

The Welshtown Quarry Expansion EA registration document states that the quarry will maintain current production levels. The main request is to allow an expansion of the operating footprint area for the quarry activities.

- The location of the undertaking is not within a municipal drinking water Source Water Protection zone, drinking water Watershed or Wellfield Protection Area (WHPA) or a regulated Protected Water Area. The nearest Protected Water Areas are the Liverpool Town Lake PWA (53 km) and the Yarmouth Lake George Watershed PWA (60 km). The Town of Shelburne Municipal Drinking Water system is from Rodney Lake (7 km from the site), however it is reported that only about 10% of residential homes use this supply. The other residents of Shelburne source groundwater from individual wells for drinking water supply
- The active quarry area is located upgradient about 1 km west of the Roseway River and within about 750 m of Highway 103.
- The nearest Public Registered Drinking Water Supply is located about 1.5 km east of the project site and across the Roseway River, at the Tim Horton's, Ohio Road, Shelburne.
- The Nova Scotia Environment Well Logs Database (WLB) (as accessed through the Natural Resources Nova Scotia Groundwater Atlas interactive map) locates 28 water wells (3 dug wells and 25 drilled well) within about a 2 km radius from the approximate

centre of the project area. Of reported static water levels (i.e water table), the average depth to water is about 7 metres. There may potentially exist unrecorded water wells and field truthing to determine properties with water wells is essential.

It has been noted previously that the Well Logs Database Records and any mapping based on these records need to be considered in terms of locational errors/accuracy of the original data. In addition, the Well Logs Database does not contain a complete listing of every water supply well in the province and some areas may contain water supply wells not reported. Field truthing and field surveys for actual water supply well locations would be needed for verification.

- The proponent reports some additional dug wells (p. 52) *“Two homes on groundwater wells, are located within 1 km of the study area; however neither are within 800 m of the quarry. Of homes outside 1km, dug wells are used at 10761, 10721 and 10712 Upper Clyde Road, and a drilled well at 44 Powerdam Road.”*
- No baseline water survey for residential water supply wells has been proposed.
- It is reported (p. 10) that *“It is important to note that aggregate excavation will not take place below the current quarry floor elevation and therefore will not intercept the deep bedrock water table. In addition, there will be no pumping of groundwater and therefore no dewatering of the associated bedrock aquifer.”* And on (p. 20) that *“the actual depth of the bedrock water table at the quarry site is not known, but it has not been encountered during previous quarry operations, and it is not anticipated that the quarry expansion will reach the bedrock water table.”*
- For potential effects other than to wells, Dexter states (p. 67) *“Activities associated with the project including forest clearing, grubbing and removal of overburden, and blasting, influence groundwater flow locally in the vicinity of the quarry, but are not expected to influence groundwater aquifers over a broader area. The amount of recharge area involved in project activities is moderate in relation to the overall size of the aquifers in the general vicinity; however the quarry floor will continue to add recharge in approximately the same amount as at present.”*
- The need for on-going groundwater monitoring is recognized as an important component by Dexter (p. 67) *“A contingency plan is expected to be established to manage any spill or release occurrences potentially impacting groundwater in the area. A groundwater monitoring program will be established to determine baseline groundwater quality and provide on-going monitoring to ensure that any possible effects of the quarry are identified.”* In addition, a monitoring commitment is made on p. 70 *“Dexter will implement surface and groundwater monitoring programs to monitor hydrological conditions as well as water quality.”*
- The potential for Acid Rock Drainage (ARD) from the quarry was evaluated by the proponent with 1 bedrock sample. They found that *“With respect to the characteristics of the quarry bedrock, Dexter arranged for the collection and analysis of a rock sample for sulphur content to determine if the material was sulphide bearing. The results of this analysis yielded a sulphur concentration of 0.028 % (0.87 kg H₂SO₄/tonne), which is*

well below the maximum (0.4 % S; 12.51 kg H₂SO₄/tonne) defined by NSE as sulphide bearing material and is therefore not acid producing.” (p.9).

Summary

The proponent has noted groundwater current and expected conditions related to the quarry expansion activities. Their basic premise is that they will not excavate into the water table and that any surface effects to drainage or infiltration will not substantially affect groundwater. These assumptions may be correct, but only conditional upon a number of site variables that have not been fully explored. Of main concern is the lack of knowledge of the precise elevation of the water table at the site. While it is stated that the quarry is above the water table, this cannot be verified without proper measurement. No elevation data is provided for the current or projected quarry floor elevations, or the water table.

Groundwater is a key source of drinking water for the majority of residents of the Town and County of Shelburne, and is used 100% for those surrounding the quarry area. Due to expansion, the assumption is that the quarry could operate for many years into the future. An initial baseline assessment of nearby drinking water supply wells is an important precautionary measure for the protection of residents. In addition, on-going monitoring of on-site groundwater conditions is already proposed and it is expected that this could be at minimal levels (baseline water levels and water quality with less frequent on-going sampling)

Recommendations

The following recommendations are suggested based on the proposed Welshtown Quarry Expansion groundwater effects environmental assessment review. The main concern are the unknowns associated with the location of the quarry activities in relation to the water table and the reliance of groundwater for drinking water supply by residents in the area. Other concerns would be with respect the possible effects to water levels affecting wetlands and groundwater-surface interactions. Contingency plans, mitigation measures and groundwater monitoring will help resolve the primary concerns.

Registration Issues of Significant Importance

None identified

Operational Issues/Other Permitting Processes

- 1) It is recommended that the proponent be required to conduct groundwater monitoring at the site. For this, an industry-standard permanent monitoring well network (minimum 3 monitoring wells) should be established for the site as designed, installed and assessed by a professional hydrogeologist (P.Geol or P.Eng) licensed to practice in Nova Scotia. This should be established on the site prior to further quarry development, if approved, to assess the water table location, horizontal hydraulic gradients, hydraulic conductivities, groundwater flow directions, as well as baseline water quality conditions. An on-going monitoring component for water levels and groundwater quality should be included. The groundwater monitoring plan for this would be submitted to the Department for review and acceptance as part of the

proponent's potential Part V Industrial Approval.

- 2) It is recommended that a baseline water supply survey be required to be undertaken for water wells located within 1 km of the project boundaries. The baseline water supply survey plan for this would be submitted to the Department for review and acceptance as part of the proponent's potential Part V Industrial Approval.
- 3) It is recommended that standard precautionary statements be provided in any approval terms and conditions that state, to the effect, that "the Proponent should replace or repair any drinking water supply found to be adversely affected by the quarry operation to the satisfaction of the drinking water supply owner".

Environment

Date: December 2, 2020
To: Jeremy Higgins, Environmental Assessment Officer
From: Environmental Health Consultant, NSE-EHFS
Subject: Welshtown Quarry Expansion Project

Scope of review:

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

Documents reviewed:

The documents outlined below formed the basis for this EA review, and is referred to as the 'EA submission' through the rest of this memorandum:

- Environmental Assessment Registration Document – Welshtown Quarry Expansion Project, including Appendices A-F. Report Prepared by Dexter Construction Company Ltd. Registered on Nov 3, 2020, and accessed from <https://www.novascotia.ca/nse/ea/Welshtown-Quarry-Expansion-Project/>

Noise

Section 3.0 states "*Other than an increase in the total operating footprint of the site, site activities are not expected to increase in scope or frequency from past use.*" It is indicated that is not anticipated that the scope of activity will expand, however the expansion of the footprint will bring the quarry boundaries and therefore noise generating activities closer to residential properties. As such, it is recommended that noise monitoring should be implemented at commencement of the project as a condition of approval of this submission.

This should include data for all activities such as crushing, vehicular activities, blasting, etc. These original monitoring results should be used to determine if levels are within acceptable ranges or if additional mitigation measure must be taken to protect human health. It is recommended that a condition of approval would require the development and implementation of a plan to monitor noise levels. This plan should include, but not be limited to, sampling locations, parameters, monitoring methods, protocols and frequency.

- Health Canada's- *Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise* uses the change in percentage of highly annoyed (%HA) as an appropriate indicator of noise-induced human health effects from exposure to project operational noise and to long-term construction noise exposure. Health Canada prefers that the increase in %HA per representative receptor (i.e. a group of residences in similar geographic proximity to the noise source) be evaluated and not the average increase in %HA for all receptors—which could underestimate the project-related impact on community annoyance. Noise mitigation measures should be considered when a change in the calculated %HA at any given receptor location exceeds 6.5%. – Health Canada

Determination of Percent Highly annoyed (%HA) in *Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise*. Any noise monitoring should require the appropriate %HA (project construction or project operation) be reported and mitigation required when %HA exceeds 6.5%. Additionally, Health Canada recommends that mitigation of project noise be applied if it exceeds a day-night sound level (Ldn) of 75 dBA, even if the change in %HA does not exceed 6.5%.

Risk to human health is determined using criteria from trusted authorities in health risk assessment such as Health Canada. While reference to the Pit and Quarry Guidelines and Nova Scotia Guidelines for Environmental Noise Measurement and Assessment are important from a regulatory point of view regarding noise, they do not represent the most up to date or preferred methodology for assessing risk to human health. The purpose of the EA is to evaluate impact on valued components, as human health is a valued component the most up to date and relevant resources should be utilized by the proponent regarding risk assessment for it to be considered protective. Further to this point the proponent should use Appendix B: Noise Impacts in EA Checklist of *Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise* as a guide for what should be included in an EA submission in relation to noise.

Water

Section 6.3.3 states *“Both drilled and dug wells are used as drinking water sources in the Welshtown and Shelburne area. Two homes on groundwater wells, are located within 1 km of the study area; however neither are within 800 m of the quarry. Of homes outside 1km, dug wells are used at 10761, 10721 and 10712 Upper Clyde Road, and a drilled well at 44 Powerdam Road.”*

Section 7.3.10 states *“Best management practices surrounding blasting will be followed, established operational procedures for fueling will be followed, and a contingency plan will be maintained to mitigate reasonable impacts on aquifers at the site.”*

Given that these wells may fall outside the required distance for pre-blast surveys and considering the size and duration of the project it would be recommended that baseline water quality and quantity assessments been considered for these private wells. It is noted that there is minimal potential for change to water quality or quantity however as this project is occurring in a potential recharge area for the groundwater table, the likelihood of impact increases. Due to this fact baseline information should be required as a condition of the approval of this submission, and baseline information would be considered an asset in the protection of health.

Section 7.4.5 states *“Wetlands around the fringes of the study area have been intentionally avoided in determining the proposed expansion area. Any wetland removal will be negotiated with Nova Scotia Environment following the normal wetland alteration approval process and all wetlands which are removed or altered will be compensated for as development proceeds.”*

Wetlands are a known source of methyl mercury and alteration of such systems may increase methyl mercury concentrations within the food levels which may pose a health hazards to

humans. See Canadian Journal of Fisheries & Aquatic Sciences

<http://www.nrcresearchpress.com/doi/abs/10.1139/f94-106>.

Baseline data for methyl mercury concentrations in surface water, fish and wildlife are not included. Projected impacts, modelling and comment regarding project impacts on methyl mercury concentrations in fish and wildlife not included.

Methyl mercury is a concern as mercury bioaccumulates in the food chain and has an adverse impact on human health. Concentrations above specific limits would require a consumption limit and do not consume advisories. Vulnerable populations including children and pregnant women are more at risk.

Additional exposure of mercury laden soil and sediment (crushing increases surface area to volume ratio and dust) can cause leaching of additional mercury into the environment. Mercury is methylated by natural processes in the environment to create methyl mercury. Baseline information on methyl mercury concentrations for surface water and fish tissue should be required for approval of this submission if wetland alteration is to be pursued.

Routine monitoring for mercury and other heavy metals known to bioaccumulate in fish and wildlife should be considered for effluent/discharge water if wetland alteration is to be pursued. An increase in baseline amount of any of these metals should trigger the requirement for on-going routine monitoring of mercury concentrations in fish tissue.

Air

Section 7.4.1 states “*various project activities have the potential to generate dust, combustion emissions, noise, and light*”. Section 6.3.5 states “*Lands in the vicinity of the Welshtown quarry site support many of the common game and furbearing species characteristic of Nova Scotia in general.*”

Sediment and dust deposition on lands impacted by the expanded quarry footprint and trucking activities may increase the level of contaminants in plants and animals used as food sources. Dust may deposit on vegetation and be consumed directly or may be taken up by the plant and enter the food chain, as some contaminants have the ability to bioaccumulate (i.e. metals). Collection and analysis of local vegetation used as food sources in the area surrounding the quarry and the transportation route should be considered as condition of approval of this submission. Routine and complaint-based monitoring of sediment and dust deposition on plants should be established and employed throughout the life of the project. Further information for the proponent on this topic is available in Health Canada’s Document “Guidance for Evaluating Human Health Impacts in Environmental Assessment: Country Foods” http://publications.gc.ca/collections/collection_2018/sc-hc/H129-54-5-2018-eng.pdf



Environmental Health Program
Regulatory Operations and Regions Branch
1505 Barrington Street, Suite 1817
Halifax, NS B3J 3Y6

December 3, 2020

Jeremy Higgins
Policy, Planning and Environmental Assessment
Nova Scotia Environment
1903 Barrington St. Suite 2085
Halifax, NS, B3J 2P8

Subject: Health Canada's Response – Review of the Welshtown Quarry Expansion
Environmental Assessment Registration Document¹

Dear Mr. Higgins,

Thank you for your e-mail dated October 27, 2020 requesting Health Canada's review of the above-mentioned Environmental Assessment (EA) Registration document¹ with respect to issues of relevance to human health. Health Canada has reviewed the document and is providing the following information with respect to receptor location(s), noise, water quality, and country foods.

Receptor Location(s):

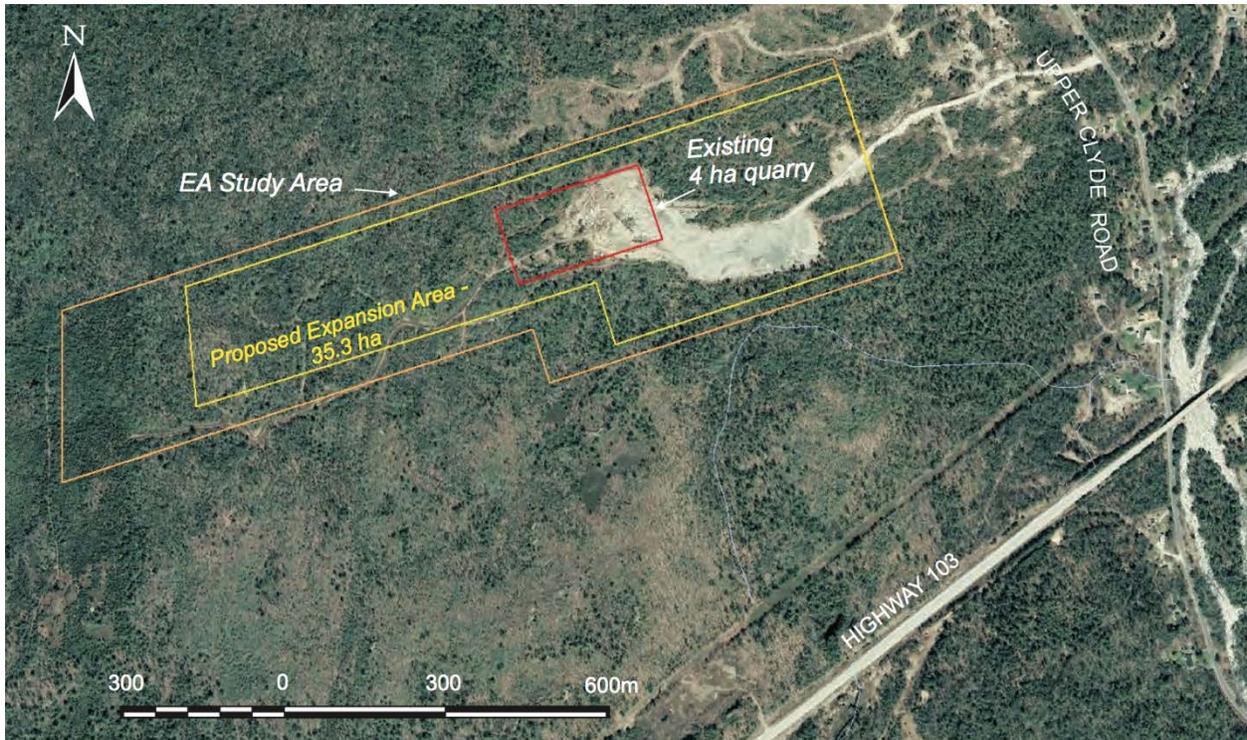
The registration document did not clearly identify the locations of the nearest receptors that may be impacted by the proposed project. The registration document states:

“Land in the vicinity of the quarry is predominantly wilderness and undeveloped forest land, with rural residential use concentrated along the Upper Clyde Road and in the coastal community of Shelburne (Appendix D, Map A-2). Two residences are located along Powerdam Road, a side street 150 m southeast of the entrance to the quarry site.”

However, the document does not indicate the exact distance to all nearby receptors, including any temporary and seasonal receptors. Additionally, the registration document states:

¹ Dexter Construction Company Limited, Welshtown Quarry Expansion, Welshtown, Shelburne County Nova Scotia. 2020. November.

“The quarry highwall would advance in a westerly direction from the existing face, away from residents located on Upper Clyde Road...” However, as shown below, it appears the quarry expansion will also advance to the East, towards Upper Clyde Road.



Drawing #1. Site details and proposed expansion area (Appendix B)

- It is important to clearly describe the location and distance from the proposed expansion 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.)

Noise:

The registration document states:

“During crushing activities the site may be operated 24 hours per day, possibly 7 days per week. Following crushing activities, aggregate products would be loaded and hauled from the quarry for several weeks, or as required by the project. During load and haul activities the site is typically operated during daylight hours (approx. 12 hours per year), possibly 7 days per week.”

The document also states:

“The operator should ensure that heavy equipment does not exceed the noise limits specified in the Nova Scotia Pit and Quarry Guidelines. Blasting is expected to occur infrequently (1-2 times per year). All blasting events will be monitored for concussion and ground vibrations. Noise monitoring will be conducted at the request of NSE.”

HC acknowledges that the *Nova Scotia Pit and Quarry Guidelines* will be followed. HC notes that there are some distinctions between these guidelines and HCs guidance on noise. For your reference, we have included these here.

- HC recommends the use of Percent Highly Annoyed (%HA), a widely accepted indicator of the human health effects of long-term noise exposure.
- For night time noise associated with a project, HC recommends following the World Health Organization’s (WHO) guidelines regarding sleep disturbance. The recommended annual average night-time noise level from the WHO is 40 dBA Ln outdoors. HC also recommends adjustments to these guidelines if there are sensitive receptors, such as nursing homes, located in the vicinity of the proposed project.
- HC recommends additional noise guidelines on interference with speech comprehension if there are receptors such as schools located in the vicinity of the proposed project.

For more information on HC’s guidelines relating to project noise and the use of these guidelines, please see:

Health Canada. 2017. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.

Drinking/ Recreational Water Quality:

The registration document identifies both drinking and recreational water uses of both surface and ground water in the vicinity of the proposed quarry expansion. The document states:

“Two homes on groundwater wells, are located within 1 km of the study area; however neither are within 800 m of the quarry.”

“Recreational use and nature appreciation of the environment in the vicinity of the site consists principally of water-based recreation along the Roseway River, tourist cottages, walking/hiking, camping, hunting, fishing, and home-based recreation (e.g. gardening).”

The document states that monitoring will be conducted for both surface and ground water:

“As the quarry expands, surface water controls will be maintained and associated surface water monitoring will be implemented to ensure that surface water leaving the site meets all applicable water quality guidelines.”

“A groundwater monitoring program for water supplies will be implemented to establish baseline groundwater quality and provide on-going monitoring to ensure that any possible effects of the quarry are identified.”

- The registration document does not detail the type of water quality monitoring that will be conducted. Monitoring should include both chemical and biological water quality, including of baseline conditions.

Additionally, the registration document notes the potential for an accident or spill to impact water resources and steps to be taken to avoid this:

“Safe use of the road and avoidance of accidents is essential, both for human impacts and the potential impacts of vehicle accidents and spills on the local watercourses and environments.”

“A contingency plan is expected to be established to manage any spill or release occurrences potentially impacting groundwater in the area.”

“Possible release of other contaminants such as oils and lubricants from operating equipment is expected to be mitigated by normal precautions on equipment operations and fuelling locations.”

- In addition to the mitigation measures and contingency plan outlined in the document, the proponent should establish a communication plan to inform recreational and drinking water users in the event of contamination.

Country Foods:

The registration document identifies the consumption of country foods through hunting and fishing occurring in the area:

“Hunting, trapping and commercial fishing based in Shelburne are important local activities.”

However, while the document identifies a wide variety of plants present in the study area, it does not discuss the potential harvesting and consumption of vegetation as country food.

- While the risk of deposition of contaminants on country foods may be low due to the low-contaminant characteristics of the bedrock, any harvesting of vegetation as country food that occurs in the region should still be identified in the document. For additional information, please review Health Canada’s guidance on country foods.

Health Canada. 2017. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Country Foods. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.

If you have any comments/questions, please contact the undersigned at your convenience.

Sincerely,

A handwritten signature in cursive script that reads "Ellen Chappell".

Ellen Chappell, BSc., MES
Physical Sciences Officer
Health Canada, Atlantic Region
email: ellen.chappell@canada.ca

cc: Rick O'Leary, Manager, Environmental Health Program, Health Canada, Atlantic Region

Environment

Date: December 3rd, 2020
To: Jeremy Higgins, Nova Scotia Environment
From: Air Quality Unit
Subject: Welshtown Quarry Expansion Project

Further to your request, the Air Quality Unit provides the following comments regarding air quality and noise on the Environmental Registration Document for the Welshtown Quarry Expansion:

It is noted that the proposal constitutes an expanded area of operation of a quarry that is already operational, and that the proposed level of extraction is expected to remain at the current level.

Section 5.2 describes the operation as moving westwards, which would result in rock extraction processes moving further away from residents who live on Upper Clyde Road. This would reduce the impact of air pollution and noise on those receptors. However, the site boundary is proposed to move in a north easterly direction towards Upper Clyde Road. There are no details provided on what operations may occur in this area. Operations occurring in this area would be closer to residents on Upper Clyde Road, and the north west of Shelburne, and may result in greater impacts from air emissions and noise being experienced by those residents.

In addition, Section 5.2 states that crushing activities may be operated for 24 hours per day, up to seven days per week at times during the construction season. Load and haul may occur for 12 hours per day (during daylight hours) for up to seven days per week. Depending on the noise level and the wind direction, this could have significant loss of amenity and wellbeing impacts on local residents.

Section 6.1.3 details the potential sources of air pollution and noise. These are reported to include air emissions from vehicles and operations (particles, largely dust with some PM₁₀), and noise from vehicles, motors, generators, blasting and crushing. It should be noted that while dust is likely to be the primary air pollutant associated with this project, impacts on air quality are not limited to dust.

Dust and noise mitigation measures are presented in Section 7.4.1. Dust suppression includes:

‘...use of water spray and covering working and laydown areas with blasted rock,

dust suppression systems on crusher equipment, and reducing equipment and vehicles speeds.'

Emissions from vehicles will be minimized by:

'Vehicles and heavy equipment are expected to follow efficient operating procedures such as not idling unnecessarily when not in use.'

These are reasonable, if limited, methods of minimizing air emissions from sources such as quarrying and associated machinery/vehicles. A proactive approach to controlling dust emissions should be employed to limit future dust/TSP impacts on local residents.

For noise, mitigation measures include:

'...maintaining appropriate operational buffers, maintaining vehicles and heavy equipment in proper working order, and giving attention to traffic patterns around the site to reduce the need for heavy equipment to back up (thus reducing the frequency of backup beepers). The operator should ensure that heavy equipment does not exceed the noise limits specified in the Nova Scotia Pit and Quarry Guidelines.'

These are reasonable noise mitigation measures. Blasting is expected to occur on one to two occasions each year. It is recommended that nearby residents are given prior warning of such activities. The impacts of operations on local residents should be central when considering the location and timing of activities. A proactive approach to mitigation measures, and communication with local residents, should be used to limit noise complaints.

Date: December 3, 2020

To: Jeremy Higgins, Nova Scotia Environment

From: Coordinator Special Places, Culture and Heritage Development

Subject: Welshtown Quarry Expansion

Staff of the Department of Communities, Culture and Heritage has reviewed the Welshtown Quarry Expansion EA documents and have provided the following comments:

Archaeology

Staff reviewed the sections of the EA document pertaining to archaeology. The EA document supports the findings of the approved ARIA report by CRM Group, however, the text in the report should be clearer. On page 64, Section 7.3.5, it states regarding archaeology:

If an archaeological feature of significance is encountered during quarry activities, particularly evidence of Mi'kmaq occupation, the effects will be reduced by halting operations and consulting with experts in the field to ensure the artifact or feature is not disturbed and is adequately documented and preserved.

It should be added that artifacts and/or human remains as well as features are encountered, work will be halted. It should be also stated that the Special Places Office and Coordinator, Special Places will be contacted immediately.

Botany

Staff reviewed the sections of the EA document pertaining to botany and provided the following comments:

It is difficult to understand spatial relationships of species locations to the study area and buffer footprint (scale on figure 38 does not seem to be consistent between x and y axes), so it was assumed that the lines are correct and the scale bar is incorrect. Note that this interpretation could change if the scale bar is accurate on both axes.

In the summary of impacts (Table 10, Appendix D), there is no mention of the lichen species at risk or rare plants that were detected, or of mitigation measures that specifically protect them.

The proposed impacts are deemed “negligible” for both groups under the “terrestrial flora” category, and “not significant” after mitigation, which includes a 30 m buffer around the proposed development. The most noteworthy omissions are *Pectenium plumbeum* (Special Concern under SARA) and *Fuscopannaria leucosticta* (considered Threatened by COSEWIC since 2019, and under review by EC for SARA schedule status), which are not mentioned specifically in the table. The rare plant *Juncus subcaudatus* is also within the expansion footprint of the quarry, and there is no proposed mitigation measure for this.

It is also worth noting that *Pectenium plumbeum* is listed as a Table 2 species on the provincial special management practices for crown lands, and as such, a 100 m radius buffer (from logging, mining & quarrying, and other industrial activities) is recommended for its protection; this recommendation is supported by recent empirical research (Haughian and Harper 2018). Two occurrences of *Pectenium plumbeum* appear to be within the footprint of the proposed expansion, and at least one other occurrence is within the 30 m buffer.

Similarly, *Neottia bifolia* (S3 in Nova Scotia) appears to be within the 30 m buffer, but has been shown to decline due to adjacent industrial land use at distances of up to 100 m from cut edges (Hill et al. 2018).

To be consistent with evidence-based recommendations from the scientific literature and best practices from the Province of Nova Scotia, these occurrences of rare species should be maintained *in-situ* and protected with a 100 m buffer.

If it is determined that protection *in-situ* is not possible, the plants and lichens should be (a) collected and donated to the herbarium at the Nova Scotia Museum for long-term preservation and teaching purposes, or (b) studied to improve our knowledge of the conservation and management of rare species. If studied, approaches could include (i) monitoring to refine our understanding of the sensitivity of these species to edge influence, (ii) translocation trials, or (iii) investigating the genetic structure of subpopulations. All options that do not involve protection *in-situ* should be decided in consultation with the Nova Scotia Department of Lands and Forestry’s Wildlife Division.

Note that the Canadian Botanical Association and other authoritative sources recommend using translocation only as a last resort (Ellis 2017).

Literature Cited

- Ellis, C.J. 2017. When is translocation required for the population recovery of old-growth epiphytes in a reforested landscape? *Restor. Ecol.* **25**(6): 922–932. doi:10.1111/rec.12517.
- Haughian, S.R., and Harper, K.A. 2018. Clearcut edge influence on epiphytic cyanolichens in old, wet, mixedwood forests of Nova Scotia: Year 1 of the L-ACER field study. *In* Proceedings of the 9th bi-annual Eastern Canada-USA Forest Science Conference: Balancing forest production and conservation. *Edited by* Maclean, David A and N. Hay. Fundy Model Forest, Fredericton, NB. p. 12. Available from https://www.fundymodelforest.net/images/agenda_v1_abstractgs.pdf.
- Hill, N.M., Crowell, M., Lapaix, R., and Hicks, S. 2018. The Rare Southern Twayblade (*Neottia bifolia*): Sentinel of Ecosystem Integrity For Sphagnum Swamps . *Rhodora* **120**(982): 117–142. doi:10.3119/17-11.

Palaeontology

Staff have reviewed the sections of the EA document pertaining to palaeontology and geology. The site marked as the Study Area contains bedrock geology including Goldenville Formation (Cambrian to Ordovician turbidite slates) in the middle of the parcel (red box) of Site Map, surrounded by Middle to Late Ordovician monzogranites. Rare fossils are possible within the Goldenville, but significant specimens are not likely and therefore concerns in terms of palaeontology are not anticipated.

Zoology

No CCH staff were available to review the sections relating to zoology.

Environment

Date: December 3, 2020

To: Jeremy Higgins, Nova Scotia Environment - EA Branch

From: Wetland & Water Resources Specialist, Water Resources Management Unit

Subject: Welshtown Quarry Expansion Project: Environmental Assessment Registration
- Wetlands

Scope of Review:

The following review of the Welshtown Quarry Expansion Project Environmental Assessment Registration Document (EARD) (Dexter Construction Company Limited, November 2020) is specific to the mandate of the NSE Wetlands Program within the Sustainability and Applied Sciences (SAS) Division. The review considers whether the environmental concerns associated with wetlands and the proposed mitigation measures to be applied have been adequately addressed within the Environmental Assessment. The recommendations provided below are meant to supplement the actions outlined in the EA submission documents.

Reviewed Documents:

- Dexter Construction Company Limited. 2020. *Registration Document for a Class 1 Undertaking Under Section 9 (1) of the Nova Scotia Environment Assessment Regulations – Welshtown Quarry Expansion Project: Welshtown, Shelburne County, Nova Scotia.*

General Comments:

Summary of Wetland Findings:

- Field studies identified 12 wetlands intersecting the study area, comprising ~3.01 ha of total wetland area within the expansion area, and 2.55 ha beyond the expansion area.

Wetland Identification:

- No indication was provided as to the methodology used for in-field wetland delineation, and whether these methodologies are acceptable to NSE. It is unclear from the information provided in the EA whether boundaries were actually delineated on the ground or not.
- There was no summary provided of delineation findings documented in the field. For example, delineation data forms, or a summary table of key vegetation/soils/hydrology indicators.

- No functional assessment results (WESP-AC or NovaWET) were indicated in the EARD as being conducted.
- NSE's review of LiDAR mapping of the site suggests the presence of additional undocumented wetlands on the Project site; particularly around the observations of Blue Felt Lichen (*Pectenیا plumbea*) located in the western portion of the site.

Wetlands of Special Significance:

- It is unclear whether the southernmost observation of Blue Felt Lichen is located within W1 or not, based upon Figure 36 the EARD. No species observation data or habitat description was provided to support this determination. If this species is located within the wetland, it would accordingly be considered to be a 'Wetland of Special Significance' pursuant to the NS *Wetland Conservation Policy*, and should be avoided by all Project activities.
- The three northern-most observations of Blue Felt Lichen noted in Figure 36 of the EARD are suggestive of the presence of additional wetlands in the vicinity of these observations. If additional wetlands are present in this area and if they contain this species, they would also be considered *Wetlands of Special Significance*, and should be avoided by all Project activities.

Wetland Impacts:

- *Direct Impacts:* It is indicated on Figure 30 of the EARD that W2, W5, W6 & W11 will be removed in their entirety, and that W1 and W12 will be partially altered during the Project development. No area figures were provided in the EARD for anticipated partial alterations to W1 and W12
- *Indirect Impacts:* It is anticipated that W7 will also experience indirect hydrological impacts as a result of the Project development. It is presumed that W6 was fragmented from W7 through the construction of the woods road, and that a hydrological connection between these two wetlands still exists.

Mitigation and Monitoring:

- *Mitigation:* The EARD does not provide sufficient details on proposed on-site mitigation measures and design elements that are specific to the protection of remaining portions of directly impacted wetlands (i.e., W1, W12) and potentially indirectly impacted wetlands (i.e., W7, W4, W10).
- *Monitoring:* The EARD does not provide details on the proposed monitoring approaches that could be used in order to determine the magnitude of both direct and indirect impacts within remaining portions of wetlands that will be altered during quarry development.

Conclusions & Recommendations:

Beyond the estimates of wetland area removal, there is insufficient information provided in the EARD to predict whether adverse environmental effects on wetland function will occur. A series of recommendations are provided below.

Planning/Design Issues:

- The proponent should conduct supplemental field studies to verify whether the wetland inventory in the western portion of the expansion area is complete; particularly in the vicinity of the observations of Blue Felt Lichen, which is highly indicative of wetland presence.

- It is recommended that the proponent prepare and submit a *Wetland Management and Monitoring Plan* for NSE's review and acceptance. This plan should be developed in consultation with the NSE Wetland Specialist. This document should include:
 - Details and designs for proposed on-site mitigation measures specific to the protection of remaining wetlands or portions of wetlands, including measures for sediment and erosion control, maintenance of groundwater hydrology, vegetation management, stormwater management, and water quality management.
 - A detailed ecological and hydrological monitoring plan for:
 - The remaining portion of the partially altered wetlands (W1, W12).
 - The wetlands immediately adjacent of the Project development (W4, W7, W10), in order to ascertain whether indirect impacts are occurring.
 - Any additional wetlands which may be detected during the supplemental field work.
 - An Adaptive Management framework related to wetlands.
 - An outline of the measures to be implemented for rare species protection within remaining wetlands, consistent with any NSDLF management plan requirements that may be requested.

Operational Issues/Other Permitting Processes:

- Should the Project be approved, the proposed activities will be subject to the NSE Wetland Alteration Approvals process prior to any wetland impacts. The NSE-approved *Wetland Management and Monitoring Plan* will be a key piece of supporting information for this approval application.
- WESP-AC functional assessment of any wetlands to be altered should be conducted, and results submitted as a component of the NSE Wetland Alteration Approvals process.

Date: December 2, 2020
To: Jeremy Higgins, Nova Scotia Environment
From: Nova Scotia Office of Aboriginal Affairs
Subject: Welshtown Quarry Expansion Project

The Nova Scotia Office of Aboriginal Affairs (OAA) has reviewed the Environmental Assessment Registration Document for the proposed Welshtown Quarry Expansion Project, submitted by Dexter Construction Company Ltd. on November 3, 2020. The following review considers whether the information provided will assist the Province in assessing the potential of the proposed project to adversely impact established and/or asserted Mi'kmaw Aboriginal and Treaty rights.

At this time, OAA has no comments on the proposed Welshtown Quarry Expansion Project. OAA will however, continue to work with the EA Branch to address any comments submitted by the Mi'kmaq of Nova Scotia through the Environmental Assessment process.

Environment

Date: December 3, 2020

To: Jeremy Higgins, Nova Scotia Environment

From: Surface Water Quality Specialist, Water Resources Management Unit

Subject: Welshtown Quarry Expansion Project

Scope of Review

As Surface Water Quality Specialist with the Nova Scotia Environment (NSE) Sustainability and Applied Science Division, the following Welshtown Quarry Expansion Project Environmental Assessment (EA) review focuses on the following subjects:

- Surface water quality & its management
- General surface and groundwater resources, and fish and fish habitat & their management

The following review considers whether the environmental concerns associated with the above subjects and the proposed mitigation measures have been adequately addressed in the Environmental Assessment. The recommendations provided below are meant to supplement the actions outlined in the EA submission documents.

While general comments on fish and fish habitat, wetlands, surface water quantity, and groundwater quality and quantity may be included below, applicable technical specialists should be consulted for specific review and comment.

Reviewed Documents

The following documents formed the basis for this EA review:

1. Dexter Construction Company Limited. 2020. *Welshtown Quarry Expansion, Welshtown Quarry, Welshtown, Shelburne County, Nova Scotia*. Registration Document for a Class 1 Undertaking Under Section 9(1) of the Nova Scotia Environmental Assessment Regulations. Dexter Construction Company Limited.
2. Appendices A-F of the Registration Document.
3. GIS layers of i) the proposed permit area and ii) the wetlands overview

Comments

General

- The EA registration document does not identify the precise boundary of the secondary watersheds occupied by the proposed expanded project area
- No information is provided regarding pre- and post-construction water flows in the affected watersheds, or water management within the site during construction or operations.
- No information is provided about whether aggregate washing is proposed to take place at the site. This type of activity would typically require a water withdrawal approval application and consideration in the design of the surface water runoff management infrastructure to receive and treat the process wastewater.
- Dust management is proposed to reduce dust emissions from the Project activities, including the wetting of working areas. The EA Registration Document does not identify where this water will be potentially sourced, where it is sourced for the existing quarry activities and what would be the expected application volumes/rates. No discussion is provided of potential runoff routing, impacts and mitigation measures with respect to dust management measures and interaction with surface water resources. Depending on the expected application volume, frequency and source of the water to be used for dust control the activity may trigger the requirement for a water withdrawal approval application and consideration in surface water runoff management infrastructure design.

Surface Water Resources

- No field delineation to identify potential additional watercourses or wetlands was conducted in support of the EA Registration Document.
- No municipal or private registered water supplies are located adjacent to or downstream of the Project area.
- Private water supplies (wells) are located downstream of the Project area, at a minimum of 800m from the Project.

Surface Water Quality

- Water quality monitoring occurred at five sites in support of the EA registration document: an intermittent stream at the west end of the study area (WS1), a ditch on the east end (WS2), in surface water in an artificial depression (WS3), in an unnamed tributary to the Roseway River south of the study area (WS4), and down gradient from the site, but with potential impact from the adjacent Upper Clyde River, by EnviroSphere.

Water quality measurements consisted of field measurements using a multi-parameter probe and collecting water samples for pH and total suspended solids (TSS) laboratory analysis. The laboratory analysis was conducted by EnviroSphere. No sites were indicated as representing baseline or reference sites for TSS or colour measurement comparison purposes. Water quality results in comparison to the Canadian Council of Ministers of the Environment for Protection of Aquatic Life were within acceptable ranges to support aquatic life at WS2 for pH and dissolved oxygen. Sites WS1, WS3, and WS4 had pH and DO

results below the minimum guideline levels, whereas WS5 had results exceeding the maximum guidance level for both parameters.

- The EA Registration Document states that samples were collected on July 8. Climate data for the nearby Environment and Climate Change Canada operated Shelburne Sandy Point meteorological station indicates 9.6 mm of precipitation was measured on July 8 with no preceding precipitation on July 5-7. Although the amount 9.6 mm, is sufficient to generate surface water runoff to occur, the timing of this precipitation is unknown in comparison to the sample collection periods (between 11-12am and 6-7pm), so there may have been relatively little runoff prior to the sample collection periods.
- General chemistry and metals laboratory analysis were not conducted on the collected water quality samples. Metals can be potentially absorbed to sediment particles from quarry activities and transported via surface water runoff. This information would have been useful to characterize baseline conditions with respect to these potential Project contaminants of concern.
- One quarry rock sample was collected and submitted for acid generating rock analysis. The result indicates low Sulphur concentrations and is predicted to have negative potential for generating acid (Section 5.1; Appendix C). No rationale is provided for why only one quarry rock sample was collected and analysed for this rock characterization and assessment.
- Section 6.1.4 identifies the existing quarry site surface water runoff from the quarry floor drains first east and then towards the south, exiting at the southeast corner via ditches. This site drainage description is contradicted by the directional arrows presented in Figure 11, the results of modeled surface water flow direction. Which show the water draining predominantly to the north and north west in the eastern region of the site, and to the south and southeast in the western region of the site.
- Section 7.4.3 indicates expansion area is split between the watersheds of the Roseway River on the east and Birchtown Brook on the west.
- Section 7.4.3 indicates the Applicant will maintain the existing drainage management system at the Project site. The only proposed design change provided is that earthen berms will be used around active quarry activities to divert surface water runoff away from the quarry site. No information is provided on whether the existing drainage management system is adequately sized to manage predicted surface water runoff from the quarry expansion area, or to which watershed runoff will be directed, or whether it will be directed to both watersheds, or whether drainage direction may be dynamically adjusted. Information on this activity, including proposed mitigation measures and conceptual designs would indicate how surface water runoff management within the expanded quarry site will maintain the predicted non-significant effect to surface water resources.
- Project area flows are stated as being continued to be managed in a natural way and to minimize damage to the local landscape. No explanation is provided on what is referred to by the term 'natural' or what mitigation measures will be implemented to achieve this type of flow regime.
- Surface water monitoring is proposed to be implemented to ensure surface water leaving the site meets applicable water quality guidelines. No details are provided on potential monitoring site locations, sampling frequency or parameters.

- The wetlands adjacent to the unnamed tributary within the Project area were not assessed with respect to their potential to provide fish habitat. There is potential that these wetlands could provide habitat to fish during different life stages.

Surface Water Quantity

- The existing quarry site is indicated as having most of the precipitation being transported off-site as surface water runoff via the quarry drainage system with an unquantified small amount being transported into the groundwater system via infiltration. No analysis or rationale is provided to support this statement in the EA Registration Document.
- The EA registration document identifies the Proponent's anticipation that surface water will leave the quarry through a mix of surface runoff and infiltration through the quarry floor (cracks and spaces) and overall cause a non-significant change to watercourse flow. No quantitative analysis is provided in the Registration Document to indicate the unnamed tributaries receive groundwater inputs as part of their flow regimes. The depth of the bedrock water table at the quarry site is not known and should be determined to help prevent any accidental encounters during the quarry expansion.

Groundwater Quantity & Quality

- No groundwater table elevations are provided in the EA Registration Document indicating the separation distance between the existing and proposed quarry floor and table elevations and to date the groundwater table has not been intercepted by the existing quarry operations (Section 7.4.2).
- The EA registration document claims that the quarry floor will continue to add recharge in approximately the same amount as present (Section 7.4.2) No information is provided to support this statement. There is no information provided to indicate the current proportion of precipitation runoff conveyance (i.e., proportion via surface water vs. infiltration), or whether this is expected to change as a result of the proposed expansion.
- The Project is not expected to influence the groundwater aquifer levels substantially in the Regional area, where existing residential water supply wells are a minimum distance 800 m from the site.

Recommendations

Operational Issues/Other Permitting Processes

Surface Water Quality

- No aggregate washing activities should occur at the Site without permission from NSE.
- Submission of proposed dust control activities to NSE staff for review as part of the Industrial Approval application, including the proposed source of water, expected withdrawal volumes, and associated mitigation measures to reduce impacts. If water withdrawal volumes trigger requirements for a water withdrawal application, this should be prepared and submitted prior to the start of quarry construction and operation activities.
- An erosion and sediment control plan developed by a qualified professional should be submitted for NSE review and approval prior to the start of

- construction and operation activities, including clearing, grubbing and stripping.
- New surface water management infrastructure (e.g., settling ponds, ditches) and existing infrastructure enhancements should be designed by a qualified professional to reduce sediment loading from the quarry site. This infrastructure should include proposed clean water diversion berms and other drainage systems to convey non-site impacted water away from the Project area. Pre- and post-development surface water runoff rates should be considered in the design with the objective of a zero increase in peak discharge from the project development area. Pond design should consider potential scour impacts to the receiving water environment. Appropriate mitigation measures should be implemented to support surface water management through all phases of project phases, including incorporating seasonality (e.g., winter site management). Final infrastructure design criteria, storm event sizing, and effluent discharge concentration and monitoring requirements should be developed and submitted to NSE staff for review and approval prior to the start of quarry construction.
 - A surface water quality monitoring program is proposed and should be developed to monitor discharge from the proposed surface water runoff management infrastructure, and potential effects on watercourses impacted by the project development (e.g., sites WS 4 and WS 5, at minimum). Baseline monitoring sites should be established on both branches of the unnamed tributary, including periodic monitoring for an expanded list of parameters such as metals which would be potentially transported with sediment from the quarry activities. This plan should be submitted to NSE staff for review and approval prior to the start of quarry construction.
 - A site-specific contingency plan should be developed that includes prevention and response methods for spills and inadvertent releases. This plan should be submitted to NSE staff for review and approval prior to the start of quarry construction.

Groundwater Quality and Quantity

- The groundwater quality and quantity monitoring program proposed within the EA submission should be developed and implemented, including a monitoring interval to represent baseline monitoring conditions. This program should be developed in consultation with and reviewed and approved by NSE staff prior to the start of quarry construction.

Environment

Date: December 3, 2020

To: Jeremy Higgins, Nova Scotia Environment

From: Surface Water Quantity staff, Water Resources Management Unit

Subject: Welshtown Quarry Expansion Project

Scope of review:

This review from the Water Resources Management Unit Surface Water Quantity staff with the Nova Scotia Environment (NSE), Sustainability and Applied Science Division for the following Welshtown Quarry Expansion Project Environmental Assessment focuses on the following subjects:

- Hydrology and surface water quantity
- Potential adverse effects any proposed mitigations with respect to surface water quantity and management.

The recommendations provided below are meant to supplement the actions outlined in the EA submission documents.

Documents reviewed:

- Dexter Construction Company Limited. *Welshtown Quarry Expansion, Welshtown, Shelburne County, Nova Scotia*. Registration Document for a Class 1 Undertaking Under Section 9(1) of the Nova Scotia Environmental Assessment Regulations. November 2020.

Comments

General

- There are two Appendix E within the EA Registration package. One is APPENDIX E LABORATORY RESULTS (TSS & pH) attached at the end of the document 'Appendix D'; the other is APPENDIX E CULTURAL RESOURCE MANAGEMENT REPORT included in the document 'Appendix E-F'.
- The existing quarry has been operated under a NSE Industrial Approval for a less than four hectare quarry for approximately 5 years (an estimation of the disturbed area of the existing quarry site from Google Earth is 5.1 ha, dates May 10th, 2020). The scope identified in the EA Registration Document is for expansion of the existing quarry to a 35.3 hectare permit area. No increase in site activities is expected other than an increase in the total operating footprint of the site. However, no information

is provided respect to the expected quarry life; limited information is provided on whether the expansion will be staged with reclamation, or the whole 35.3 hectare will be exposed until the end of quarry life. Accordingly, limited information is provided for reclamation plans, and site management for rain season, winter, extreme weather conditions and non-operating period.

- No information is provided on whether aggregate washing takes place at the site. This type of activity typically requires surface water runoff management measures to contain and treat the process wastewater. Subsequently, a water withdrawal approval application may be triggered depending on the volume of water to be used. Or a closed-circuit water wash system is to be used as per the Pit and Quarry Guidelines.
- Water spray is proposed as one of the dust control measures. No information is provided on the potential source of the spray water, and the estimated volumes/rates and frequency of application. A water withdrawal approval application may be triggered depending on the volume of water to be used. No discussion is provided for potential surface water runoff management of the spray water, impacts of the dust control measures to surface water resources and corresponding mitigation measures.
- The EA Registration Document mentioned that all activities will conform to the Nova Scotia Erosion and Sediment Control Handbook (NSE 1988) and the Nova Scotia Pit & Quarry Guidelines (NSE 1999). The Nova Scotia Erosion and Sediment Control Handbook (NSE 1988) provides good references for erosion and sediment control plan design and implementation. The handbook should be used as a guidance document instead of guidelines to be complied, i.e., site specific considerations must be included when using the handbook.
- It is noted that Table 9 in the Appendix D BIOPHYSICAL ASSESSMENT REPORT (Environsphere Consultants Limited, 2020) of the EA Registration Document provided a list the potential impacts to the surrounding environment (including hydrology and water quality) from the Project and proposed mitigation measures. However, no discussion is provided respect to whether these mitigation measures will be adopted and how they will be implemented through the Project.

Surface Water Resources

- The EA Registration Document (Appendix D, Map A-4) and the Provincial NTS mapping identify that the proposed Project is located near a first order unnamed stream tributary to the Roseway River. The stream is approximately 100 m to the south of the EA study area.
- Intermittent streams and flowage were identified in the study area (Appendix D, Map A-4). Two intermittent streams connecting different wetlands in the study area are discussed in the EA Registration Document. Field observations conducted indicated disorganized drainage. However, no further information is provided for the possible drainage pattern or direction of other intermittent streams and flowages shown in the document (Appendix D, Map A-4).
- A wetland (W12, Appendix D, Map A-4) was identified in between the existing quarry site and the unnamed stream. The wetland is immediately south to the existing quarry site and immediately north to the unnamed stream which is tributary to the Roseway River. A ditch exists at the south end of the existing quarry site next to the wetland. No information is provided on whether the ditch drains into the wetland, and whether there is drainage from the wetland into the unnamed stream, which

eventually drains into the Roseway River.

- Wetland areas were identified within/near the Project area, including the predominant sphagnum slope swamps, small and large sphagnum basin swamps, and spring pools or ponds. Wetlands within (W1, W2, W3, W4, W5, W6, W8, W9, and W11, Appendix D, Map A-4) or partly within (W7, W10, and W12, Appendix D, Map A-4) the study area were identified. No information is provided on the expected alteration or impacts to the wetlands from the expansion.

Hydrology

- Water flow patterns were briefly discussed in the EA Registration Document. The quarry is located on the divide between the both 1EC-3 and 1EC-4 secondary watersheds that drain into the Roseway River on the east and Birchtown Brook to the west, respectively, and then into the Atlantic Ocean. The west side of the Welshtown Quarry property drains into Birchtown Brook watershed while the eastern side drains into the Roseway River watershed. No (quantitative) water balance analysis is provided on the estimated amount of drainage from the existing quarry site into the two watersheds. No discussion is provided respect to water balance analysis for the expected impact or change to the drainage pattern to both watersheds due to the expansion. Water balance analysis is crucial for assessing the impacts to the drainage in the watersheds from the proposed quarry expansion.
- Possible water flow movement patterns in the EA study area were discussed, including surface water flow, surface water accumulation and subsequent overflow, and percolation into groundwater. However, no further information is provided to assess impacts on these existing different flow movement patterns related to the proposed development. No water balance analysis and related discussion are provided regarding the impact or change to these flow patterns in the study area, due to the proposed quarry expansion.
- A digital elevation model (DEM) was developed to analyze site surface flow pattern. The model results were stated as supporting the observed flow pattern in the field. However, the resolution of provided DEM results (Figure 11) is insufficient at the central part of the study area, and discrepancies are found between the DEM results (Figure 11) and the provided discussion. DEM results show a northeastwards to northwards flow pattern at the east portion of the study area, where the discussion states 'The active quarry site drains predominantly east along the prevailing downgradient. Surface runoff from the quarry floor first drains east and then transitions toward the south, exiting at the southeast corner via ditches, eventually flowing into the woods off the property and disappearing subsurface'. Another observation from the DEM results shows a northwards to northeastwards flow pattern at the south side of the study area, where the discussion states 'Drainage down the south slope from the quarry enters a level plateau and disorganized drainage which supports an unnamed permanent watercourse that is a tributary to the Roseway River'. No further information is provided regarding the modeled situations for site surface flow pattern.
- The EA Registration Document states 'Some runoff also originates from precipitation reaching the outer slopes of berms and grubbing piles which surround the quarry and accumulates at the toe of slope, and also surface flow accumulates in ditches'. No further information is provided regarding the estimated volume of these water accumulations and the potential drainage patterns.

- Impact of the proposed Project is discussed in the EA Registration Document as the expansion of the quarry will modify the existing hydrology at the site, resulting in an artificial though managed regime of surface water movement and runoff at the site. However, no further information is provided respect to the existing and planned surface runoff management systems in the quarry. Accordingly, no information is provided for the approaches to maintain the effectiveness of the surface water runoff management systems for the expansion.
- The EA Registration Document states that the precipitation and groundwater intercepted by the quarry could be potentially channelled by quarry drainage systems to either watershed, and to the south, and consequently supply to surface waters in the vicinity is not expected to be disrupted significantly. However, no discussion is provided on the amount of water flows into the abovementioned watershed/surface water systems and the extent of the disruption to the surrounding water resources.
- The EA Registration Document states 'Surface water runoff from the quarry is inherently intermittent however this will be buffered by the drainage system and associated wetlands and is not expected to affect overall flow characteristics. However, no further information is provided for how the surface water runoff will be buffered by the drainage system and associated wetlands, or the estimated amount to be buffered. No information is provided on the capacity of the current drainage system and the associated wetlands to buffer the increased surface water runoff from the expanded quarry area, or whether the drainage system will be modified to cope with the increased surface water runoff. Accordingly, no information is provided respect to the impacts to the wetlands receiving the increased surface water runoff.
- The EA Registration Document states 'Dexter Construction will maintain the drainage management system which is currently in place and continue to manage the flow in a natural way and minimize damage to the local landscape. No further information is provided on whether the drainage system is to be modified to accommodate the expanded quarry site. If so, how the modification to the drainage system will impact the watercourse and wetland in vicinity; if not, whether if the existing drainage system can satisfy the need for site drainage, as the proposed expansion is approximately 9 times of the existing quarry area, a significantly increased surface water runoff is expected.
- The EA Registration Document states 'Quantities of runoff arising from the site in future from the outer slopes of berms and grubblings piles will be approximately the same as at present and will remain in the same watershed. The quarry is unlikely to generate significant quantities of contaminants or suspended sediments that could impact any freshwater habitat. There is no information provided regarding whether the outer slopes of the expanded quarry will be changed with the expansion, and how the amount of runoff arised from the outer slopes of berms and grubblings piles from the site will be maintained at the current level in future. With an expansion from existing quarry area (less than 4 ha) to 35.3 ha, the boundary and location of outer slope are highly possible to be changed accordingly.

Water Quality

- Water quality measurements were conducted on July 8th, 2020 at five locations (Figure 29): WS1 in an intermittent stream at the west end of the study area, WS2 in a ditch on the east end, WS3 in a surface water in an artificial depression in the study area, WS4 in an unnamed tributary to the Roseway River south of the study

area, and WS5 at a site represents water quality down gradient from the site. The discussion provided in the EA Registration Document indicates the overall water quality is good, with in WS1 and WS4 were typical of relatively undisturbed natural environments in upper watershed areas of southwestern Nova Scotia, WS2 and WS3 represent water quality in disturbed parts of the quarry site, and WS5 represent water quality down gradient from the site but with the potential impact from the adjacent Upper Clyde Road. However, no information is provided for the water quality in typical undisturbed natural environments in upper watershed areas of southwestern Nova Scotia. No background water quality is provided as comparison for the measured results to assess the impact of the existing quarry to the watercourses, nor to assess the impact from the future expanded quarry as the disturbed area will be approximately 9 times greater, which is highly possible to increase the sediment loading levels in surrounding watercourses and wetlands without proper controls.

- Appendix E LABORATORY RESULTS TSS&pH of the EA Registration Document includes a TSS report for water quality measurements received on July 9th, 2020. The report shows significantly elevated Total Suspended Solid (TSS) measurements compared to the July 8th results, with 212.0 mg/L, 34.5 mg/L, 16.0 mg/L, 14.0 mg/L and 14.0 mg/L in several sites (CRM, Site 2 - outflow from culvert under main quarry access road, Site 3 - quarry pond, Site 3 (second sample) - quarry pond, West Headwater Stream - Headwater stream on western portion of quarry property). No discussion is provided regarding these measurements, and their relation to the measurements conducted on July 8th.
- Water quality measurements were conducted in July which in average has the second least monthly precipitation in a year (Figure 3). The precipitation data obtained from the weather station in vicinity (SHELBURNE SANDY POINT, 43°42'00.000" 65°19'00.000" W, operated by Environment and Climate Change Canada) show a total precipitation of 38.4 mm in June 2020 and 43.3 mm in July 2020, which are approximately half of the typical precipitation in such months, indicating a drier weather condition than average. The recorded precipitation is zero from July 1st to July 5th, 0.4 mm on July 6th, 9.6 mm on July 8th, and zero on July 9th. Therefore, water flow patterns in such a drier weather in a month with the second least precipitation of a year would be abnormal than average and accordingly the water quality measurements conducted during this period would not be convincing to represent the average water quality in the watercourses.

Recommendations

It is my opinion that the information that has currently been provided in the submission is insufficient for predicting adverse environmental effects resulting from the proposed works. The potential impacts associated with the works is currently unclear based on the current level of information provided, and as such it is difficult to assess the appropriateness of the mitigations currently proposed. Please see below for a summary of issues and recommendations:

Planning/Design Issues:

- It is unclear in the submission what site water management will look like through the various phases of the proposed project, and as a result the potential long-term impacts of the proposed works.
 - It is recommended that further details and assessment surrounding water management for the various phases of quarry development (including reclamation case) be submitted with consideration for the comments provided in the memo above.

Operational Issues/Other Permitting Processes

- A detailed site surface water management plan should be developed by a qualified professional engineer with the intent of minimizing impacts and alterations to nearby surface water resources. The plan should include considerations for surface water management during rain season, winter, extreme weather conditions and the times of shutdown. The plan may consider delineating the expanded quarry area and application of extra surface water management measures to cope with increased surface water runoff and maintain the existing site drainage pattern. Approaches to maintain the effectiveness of surface water control measures should also be included. It is recommended to consider climate change factors into the site surface water management plan.
- A detailed surface water monitoring program should be developed and submitted to NSE for review and approval prior to construction activities, including clearing, grubbing, and stripping, take place. The program will be important for assessing the quarry footprints and minimizing changes to contributing drainage areas for the surrounding surface water resources. It will be particularly important for wetland W12 as it may receive site drainage through the ditch nearby and then drain into the unnamed watercourse tributary to the Roseway River. The monitoring program should include considerations to collect information for baseline conditions and appropriate monitoring timing window and frequencies to support on-going evaluation of the mitigations in place for the proposed works from a water quantity perspective and to validate conclusions provided in the submission surrounding insignificant impacts to water quantity in the surrounding watercourses.
- Details related to final settling pond designs (by a qualified professional engineer) is required as part of any industrial approval application for the works, including a plan to monitor compliance during the different operational phases of the year, including times of shut-down. Designs must at minimum include considerations for appropriate remove of TSS and minimizing impacts to surrounding water resources.
- A detailed erosion and sediment control plan is to be developed by a qualified professional and is required to be submitted as part of any industrial approval application for NSE review and approval prior to construction activities, including clearing, grubbing, and stripping, take place. The plan should include application of appropriate erosion and sediment control measures and the approaches to maintain effectiveness of these measures.
- It is recommended that the water use for the purpose of dust suppression be evaluated to understand whether any additional approvals are necessary to support this specific activity.

Environment

Date: Dec 3, 2020
To: Higgins, Jeremy, Nova Scotia Environment
From: Climate Change Unit
Subject: Welshtown Quarry expansion Project

Greenhouse Gas Mitigation

There were no estimates for potential CO₂, N₂O and CH₄ emission from the operation of onsite trucking, mobile equipment, and utility vehicles. The proponent correctly indicated that greenhouse emissions from operation of vehicles and heavy equipment will be minimal. It is expected that these emissions will be captured by the reports of fuel supplier emitters under the Nova Scotia Greenhouse Gas Quantification Reporting Verification regulations.

The proponent intends to reduce greenhouse gas emissions by following efficient operating procedures such as not idling unnecessarily.

Adaptation to the Impacts of Climate Change

The project considers current and historical climate conditions but not future climate projections, including projected extreme events (ie. High winds, extreme precipitation) as recommended in our EA Climate Change Guide (2011). It is encouraged that the proponent work with Environment and Climate Change Canada to determine best projections for assessing impact of climate change on the project and potential risks associated (i.e water contamination) and to use projections provided by: climatedata.ca. It is also encouraged the proponent review the Climate Change Guide (2011) and answer the questions posed in the climate adaptation sections.



Lands and Forestry

MEMORANDUM

TO: Jeremy W. Higgins, NS Department of Environment
FROM: Department of Lands and Forestry
DATE: December 3, 2020
RE: Welshtown Quarry Expansion Project EA Comments

The Department of Lands and Forestry (herein the Department) provides the following comments on the above project:

Crown Lands:

This project would not require approvals/permits/authorities from the Land Administration Division.

Wildlife, Wildlife Habitat and Species-at-Risk:

The Department has the following concerns:

Endangered Bats

The EA identifies (pg. 44) the possibility that the large rock outcrops on site could be used as hibernacula by the three endangered species of bats in Nova Scotia (Little Brown Myotis *Myotis lucifugus*, Northern myotis *Myotis septentrionalis*, and Tri-colored bat *Perimyotis subflavus*) and that high quality bat feeding habitat occurs on site. Two of these species have been recorded within 3 km of the site. Yet bat surveys were not completed and the location of these rock outcrops on the site have not been provided.

The Nova Scotia *Endangered Species Act* (s.13) states:

13 (1) No person shall

(a) kill, injure, possess, disturb, take or interfere with or attempt to kill, injure, possess, disturb, take or interfere with an endangered or threatened species or any part or product thereof;...

(c) destroy, disturb or interfere with or attempt to destroy, disturb or interfere with the specific dwelling place or area occupied or habitually occupied by one or more individuals or populations of an endangered or threatened species, including the nest, nest shelter, hibernaculum or den of an endangered or threatened species.

The proponent is responsible for demonstrating that bat dwellings, including hibernacula, maternity roosts, and summer roost sites, are not present within 100 m of any area that is to be removed, blasted or otherwise disturbed. If dwellings are confirmed within 100 m of planned activity, no work can proceed unless approved by the Department's Wildlife Division. The proponent will need to avoid these locations in development of the quarry.

For additional information on these bat species refer to:

- “Nova Scotia Department of Lands and Forestry. 2020. Recovery Plan for Tri-colored bat (*Perimyotis subflavus*) in Nova Scotia [Final]. Nova Scotia Endangered Species Act Recovery Plan Series” available here:
https://novascotia.ca/natr/wildlife/biodiversity/pdf/recoveryplans/RECOVERY_PLAN_Tri_colored_Bat_27Sept20.pdf
- “Recovery Plan for Northern Myotis (*Myotis Septentrionalis*) in Nova Scotia” available here:
https://novascotia.ca/natr/wildlife/biodiversity/pdf/recoveryplans/RECOVERY_PLAN_Northern_Myotis_27Sept20.pdf
- “Recovery Plan for Little Brown Myotis (*Myotis Lucifugus*) in Nova Scotia” available here:
https://novascotia.ca/natr/wildlife/biodiversity/pdf/recoveryplans/RECOVERY_PLAN_Little_Brown_Myotis_27Sept20.pdf

It is recommended that the proponent undertake surveys to rule out bat dwellings. The work is to be completed by or in consultation with an experienced bat biologist who can conduct valid surveys (visual surveys, comprehensive bat detection) to assess the use of the rock outcrops as dwellings for bats.

Blue Felt Lichen

Blue Felt Lichen Four (4) occurrences of Blue Felt Lichen (*Pectenaria plumbia*) were recorded within the site footprint. This species was mis-identified as an S3 SOCC species in the EA. Blue Felt Lichen is listed as Vulnerable under the *Nova Scotia Endangered Species Act* and is subject to conditions described in the *At-Risk Lichens Special Management Practices* https://novascotia.ca/natr/wildlife/habitats/terrestrial/pdf/SMP_BFL_At-Risk-Lichens.pdf. A 100 meter radius buffer must be applied around each occurrence of Blue Felt Lichen. No roads, trails, clearing or other disturbance shall occur within this 100 m buffer.

The Department offers the following recommendations for consideration as conditions for project approval:

- 1) A 100 m no-disturbance buffer must be applied to the four occurrences of Blue Felt Lichen identified on site and any other occurrences that may be found at any stage of project development or operation. No roads, trails, clearing or other disturbance shall occur within this 100 m buffer.
- 2) Digital waypoint locations and shapefiles showing the precise locations of the Blue Felt Lichen and the 100 m buffer radius must be provided to the Department of Lands and Forestry prior to the start of the project. The data provided to the Department of Lands and Forestry must include date observed, observer name, host tree species, number of thalli

and surrounding habitat descriptions for Blue Felt Lichen and other lichen Species of Special Concern observed on site.

- 3) The approval holder shall clear vegetation outside of the breeding season for most bird species (April 15 to August 30), unless otherwise authorized in writing by the Department. Vegetation clearing shall be recorded in a daily log that shall be available for review by the Department indicating the date and time of the clearing operation and the contractor.
- 4) Should a raptor nest be observed on-site, the Department's, Wildlife Division should be contacted to determine a suitable no-disturbance buffer until the nest becomes inactive. Raptors and owls breed and nest from February to August and are protected under the *Nova Scotia Wildlife Act*.
- 5) **Prior to commencement of the Project**, the approval holder shall provide Nova Scotia Department of Lands and Forestry, Wildlife Division with:
 - a) digital way points and shapefiles showing the precise locations of the large rock outcrops indicated to provide suitable dwelling sites for endangered bats. Prior to the start of works, visual and acoustic surveys must be undertaken by an experienced bat biologist to assess the use of the rock outcrops as dwellings for bats. A report must be provided to the Department of Lands and Forestry confirming absence of bats or proposing mitigation measures. Approval from Lands and Forestry must be received prior to disturbance of these rock outcrops.
 - b) digital way points and shape files showing precise locations for wetlands, large rock outcrops, and species listed under the *Species at Risk Act and/or Endangered Species Act* as well as all S1, S2 and S3 listed species under the Atlantic Canada Conservation Data Center, identified during field work within the area of the Project. The data provided to the Department must include date, species, observer name and habitat description. Written confirmation from the Department of Lands and Forestry is required indicating all GIS data has been provided in an appropriate format.
- 6) **Prior to commencement of the Project**, the approval holder shall have a qualified botanist provide Nova Scotia Department of Lands and Forestry with a report and mapping of a baseline vegetation survey indicating the location of any noxious weeds (*Agricultural Weed Control Act*) or invasive alien plant species within the operational areas approved for this project. Digital waypoints and shapefiles of the locations of noxious and invasive plants must be provided to the Department in the approved format. The proponent shall complete follow-up surveys of the approved area **every three years** during spring/early summer to identify any new non-native plants within the project footprint (i.e. not reported in the baseline vegetation survey). This report shall be provided to the Department of Lands and Forestry by 1 August during survey years for review and consultation to determine if any corrective actions are required.

7. Prior to commencement of the Project, the approval holder shall, in consultation with the Department, develop and obtain approval of a **Wildlife Management Plan** to address the following points:

- a) Provide a clear management plan and mitigation measures should individual snapping turtles or wood turtles or their nests be found on site. Turtles are attracted to quarries for nesting and quarry operations pose threats for these species during the nesting season.
- b) Provide a clear procedure to avoid creating nesting habitat for Bank Swallows and an approach for inspecting, and protecting nests, should they be encountered during operations.
- c) Provide a clear procedure for protecting nests for Common Nighthawks should they be encountered during operations.
- d) Provide a plan detailing how the occurrences of Blue Felt Lichen will be protected on site and monitored for health and condition throughout the duration of the project.
- e) Provide details for how plant communities that include Reindeer Lichen and Golden-heather will be identified and managed on site.
- f) Measures to manage non-native (alien invasive) plant species and noxious weeds during all Project phases.
- g) Plans for mitigating light pollution that could attract migratory birds and bats. This may include a reduction in lighting during key spring and fall migration periods.
- h) Detail effective management responses and procedures for what to do when a species at risk is observed within the approved operational area.
- i) Detail a clear approach for providing training and identification information in the form of photos and descriptions of SAR species and sensitive habitat features (e.g. raptor nests) to personnel working on site and the procedures to follow should SOCC or SAR species be encountered on site.
- j) Establish a clear communications procedure for reporting observations of SAR and SOCC species and unexpected observations on site to project managers and to Wildlife Division, Department of Lands and Forestry.
- k) Provide a plan to demonstrate how the proponent will address changes to species-at-risk listings during the operational duration of the quarry. Additional biodiversity and species-at-risk surveys may be required periodically to ensure no impacts to SAR or biodiversity under revised and updated legislation.
- l) Provide a plan for human-wildlife conflict training to avoid bear and coyote interactions and measures to be taken should an encounter occur. The plan should include measures to mitigate attracting nuisance wildlife to the site.

The Wildlife Management Plan must be implemented as approved.



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

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December 3rd, 2020

Jeremy Higgins
Environmental Assessment Officer
Nova Scotia Environment
1894 Barrington Street
Suite 1800, PO Box 442
Halifax, NS B3J 2P8

RE: Environmental Assessment Registration Document Welshtown Quarry Expansion Project, Shelburne, Nova Scotia Offer to Consult with the Assembly of Nova Scotia Mi'kmaw Chiefs

Mr. Higgins,

I am writing you in response to your letter dated November 5, 2020 requesting consultation under the *Terms of Reference for a Mi'kmaq-Nova Scotia-Canada Consultation Process* as ratified on August 31, 2010 on the above noted project. We wish to proceed with consultation.

In your letter you stated, "The Province considered that the proposed project requires an Environmental Assessment (EA) Approval and subsequent approvals, permits, and authorizations such as an Industrial Approval, Wetland Alteration Approvals and potentially a Watercourse Alteration Approval, administered by Nova Scotia Environment (NSE)". When the proposed project receives the status of any approvals, permits and/or authorizations mentioned above, please notify our office so that we can determine and have a better understanding whether any Mi'kmaq treaty rights would be impacted.

Furthermore, it is our expectation that we will be kept informed whether any alterations to water and/or land are required for this project. If a Fisheries Authorization Act is required, please inform our office so that we can determine the potential impact of fish species, fish habitat and/or species at risk.

In addition, we also request the following to be sent to our office:

- Georeferenced data
- Ecological screening report
- Shape files
- Maps to determine potential impact on land

In addition, our Archaeology team noted that the track logs, background research, and photos are acceptable, but no subsurface testing was undertaken, nor was there any discussion of landscape change through time. It is expected that our office will be notified when this information is completed.

When our office receives the information noted above, we can examine further steps to determine whether any, if at all, the Mi'kmaq treaty rights would be impacted by this proposed project

We kindly request that all information and continued correspondence be forwarded to KMKNO to facilitate the flow of the process and communication. I will be the contact person for KMKNO and accordingly I will coordinate further consultation in regard to this project.

Yours in Recognition of the Mi'kmaq Rights and Title

Director of Consultation
Kwilmu'kw Maw-klusuaqn Negotiation Office

c.c.:

_____, Mi'kmaq Energy & Mines Advisor, Kwilmu'kw Maw-klusuaqn Negotiation Office
_____, Consultation Advisor, Nova Scotia Office of Aboriginal Affairs

From: @icloud.com
To: [Environment Assessment Web Account](#)
Subject: Proposed Project Comments
Date: November 11, 2020 2:37:36 PM

**** EXTERNAL EMAIL / COURRIEL EXTERNE ****

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Project: welshtown-quarry-expansion-project Comments: We live at
and are strongly apposed to this Name: Hiltz Email: @icloud.com
Address: Municipality: Shelburne
email_message: Privacy-Statement: agree x: 52 y: 33

From: @hotmail.com
To: [Environment Assessment Web Account](#)
Subject: Proposed Project Comments
Date: November 12, 2020 5:52:49 PM

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Project: welshtown-quarry-expansion-project Comments: I am against this because of the increased amount of noise and air pollutants. We are experiencing an increase of wildlife in our area and town because of destruction of habitat from deforestation...this will take more habitat away from local animal species. Name: Email: r@hotmail.com
Address: Lower Ohio Shelburne Municipality: Shelburne email_message: Privacy-Statement: agree x: 53 y: 27

From: @gmail.com
To: [Environment Assessment Web Account](#)
Subject: Proposed Project Comments
Date: November 12, 2020 6:00:01 PM

**** EXTERNAL EMAIL / COURRIEL EXTERNE ****

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Project: welshtown-quarry-expansion-project Comments: I do not want this ,it is destroying out habitat , our lives ,the noise , the dust , the tar , no life to live less then a km away , The traffic from dusk to dawn ,our health is more important than a \$\$\$. We gave rights .I say no to the destruction of our lively hoods . Our lives are hard enough now with this covid , Now we have to be prisoners in our own homes .no fresh air , no enjoying our summer evening , no family visiting because welshtown is going to be destroyed because of that all mighty \$\$\$, You should be ashamed . Dexters is destroying us one a quarry at a time . Animals are coming out of the woods , they have no life .destroying the forests , polutting our waters . STOP

Name: Email: gmail.com Address: Municipality:
Shelburne co . email_message: Privacy-Statement: agree x: 52 y: 20

From: @hotmail.com
To: [Environment Assessment Web Account](#)
Subject: Proposed Project Comments
Date: November 15, 2020 9:13:45 PM

**** EXTERNAL EMAIL / COURRIEL EXTERNE ****

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Project: welshtown-quarry-expansion-project Comments: I have numerous concerns regarding the planned expansion of the Quarry and am opposed to the requested expansion. During 2019, the quarry was very active and we experienced noise from the quarry from dawn to dusk, blasting, dust, unending truck travel up and down the road, noise and exhaust fumes. We had to close our windows in order to obtain peace and quiet. The lights could be seen from our yard as early as 5 am. All of which we endured

but my health and well being and that of my community are of a higher concern. I've spoken to quite a few people over the last week and none were even aware of the planned expansion. Shouldn't there be a better way to inform the public? An expansion to almost 10 times the size has me really concerned and upset. I have now reviewed the effects of living near a quarry and have major concerns regarding crystalline silica dust and radon gas amongst others. The plans for an asphalt plant further my concerns. The Town of Shelburne is within 5km of the quarry. Should those residents be concerned as well? I worry about our water supply both quality and quantity as our water supply is fed by waters running from the ledge. Will it be affected? Are we responsible to monitor it or will Dexter's provide funds so we can test it semi-annually or annually? The water testing completed in the report was completed in July of 2020 during a drought season. I would think that is not an accurate assessment and the plant was not fully operational like it was in 2019 or will be. We and our neighbours have had an increase of bears in our yard even during the day. I've never seen a bear during the day in our yard but I did this year. An owl was resting in our tree during the day and I have heard it at night too. I have never seen or heard one in our yard in the 25 years I have lived here. Has it been displaced as I see there are areas of owls noted in the report? What about the other birds and wildlife that have been or will be displaced. What about the blasting? In 2019, one blast was so loud it was heard downtown Shelburne. We checked our foundation as it shook the house. Does blasting displace radon gas into the air and water. Will it affect our indoor home air quality, outdoor air quality, water supply? Do we need to be concerned? Why is the application for 24/7? Are we not entitled to some peace and quiet enjoyment of our property at some point. What if everything is fine and in five years things start to turn and air quality is affected, or radon gas is found in more homes, people begin feeling the negative effects? Is this a one-time thing? No further testing or reporting required? Will it just be a grandfathered free for all with no obligation to cease or correct? I have contacted my Municipal Council about my concerns and they have suggested a meeting with themselves and a representative from Dexter's Construction. I am not an environmentalist or scientist. I am only a concerned citizen without knowledge in this field. Is it possible that a representative from the Department of Environment attend any meeting to discuss these issues and provide accurate information about the potential effects on my health and the health of my community and wildlife? As you can see I am very concerned and require answers from non-partial persons with expertise in the field not Dexter Construction or community appointed individuals with no knowledge and

self-serving interests. Name: Email: @hotmail.com Address:
Road Municipality: Shelburne email_message: Privacy-Statement: agree x: 52 y:

21

STUDY AREA

Existing 4 ha
Approval

Proposed
Expansion Area



From: @hotmail.ca
To: [Environment Assessment Web Account](#)
Subject: Dexter's request for expansions/Welshtown quarry
Date: November 17, 2020 11:17:46 AM

**** EXTERNAL EMAIL / COURRIEL EXTERNE ****

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Good morning,

I am concerned citizen that lives in the community where Dexter's has put in a an expansion on a lot that is "within" a couple kilometers of my home.

This is rural community with many homes and cottages,that enjoy the beauty and natural life we have worked very hard to maintain.

Lakes and rivers are the focal point of the beauty here in Welshtown

For the past 10 plus years I've seen many animals while walking most evening within this 5 mile radius that is predicted to be affected red.

Every living creature from deer, owls, coyotes, raccoons,eagles and just way to many to list, turtles etc...they will all be affected ,back in 2019 when Dexter's leased the lot for a project we did notice more wildlife being drivin out in to the yards that they don't normally inhabit.

Not to mention the high amount of traffic on our chip seal roads which with constant wear and tear is breaking the roads making them brittle. The dust, our hear pumps co instantly being filled with quarry dust as truck are constantly in and out of the quarry.

On to mention the noises from daylight and sometimes after dark of the loud machinery,the blasting of rocks which one particular time shook our home and the blast was felt onward into the town of Shelburne which is estimated a little more then 3 km away.this must have some effect on the land ,the ecological system and the many ,many animals that call is property their home.

This is many more concerns but these I have mentioned are just a few. My husband had a radon test kit one time that he requested from the library, our levels were higher then what is normal but at the given time we really weren't educated on how and what this meant..now we are started to look back and see the damage ..again ,this was experience based on a small scale they are now wanting to expand on a much larger scale, operating 24/7 and bringing in an asphalt plant.I'm afraid what this impact will have on our community

Thank you for your time.

Concerned citizens

P.s.

The blue dot in the picture is my home which is on the river.

From: [Environment Assessment Web Account](#)
To: [Higgins, Jeremy W](#)
Subject: FW: Proposed Project Comments
Date: November 18, 2020 8:57:55 AM

From: <[redacted]@gmail.com>
Sent: November 18, 2020 7:57 AM
To: Environment Assessment Web Account <EA@novascotia.ca>
Subject: Proposed Project Comments

**** EXTERNAL EMAIL / COURRIEL EXTERNE ****

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Project: welshtown-quarry-expansion-project Comments: The size of this proposed quarry seems to be problematic to the surrounding residents. Residents will have to endure the noise of the quarry and the smell of an operating asphalt plant. Shouldn't a project of this size be located a little farther from the town of Shelburne and the residents of Welshtown? Name: _____ Email: _____

Address: _____

Municipality: Shelburne email_message: _____

Privacy-Statement: agree x: 71 y: 23

From: [Environment Assessment Web Account](#)
To: [Higgins, Jeremy W](#)
Subject: FW: Proposed Project Comments
Date: November 18, 2020 8:58:03 AM

From: @hotmail.ca1>
Sent: November 18, 2020 8:07 AM
To: Environment Assessment Web Account <EA@novascotia.ca>
Subject: Proposed Project Comments

**** EXTERNAL EMAIL / COURRIEL EXTERNE ****

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Project: welshtown-quarry-expansion-project Comments: I live in this rurL area. Im concerned for my health ,my home,the environment. This is not an appropriate place to but a 24/4 operation with an asphalt plant ...we ...the community was not aware of this until a week ago. We had to deal with the existing quarry and the high level.of traffic and difference in air quality pollution, radon readings..the safety and protection of the wildlife is at risk ,our water,peoples homes,foundations. Our health...we have many concerns. Name: Email: s@hotmail.ca1 Address: Municipality: Shelburne email_message: Privacy-Statement: agree x: 62 y: 26

From: [Environment Assessment Web Account](#)
To: [Higgins, Jeremy W](#)
Subject: FW: Proposed Project Comments
Date: November 18, 2020 8:58:15 AM

From: @gmail.com>
Sent: November 18, 2020 8:33 AM
To: Environment Assessment Web Account <EA@novascotia.ca>
Subject: Proposed Project Comments

**** EXTERNAL EMAIL / COURRIEL EXTERNE ****

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Project: welshtown-quarry-expansion-project Comments: I write to you not as a resident, but in concern for your residents. 3 in particular. My Mom, my sister and her husband. I am very concerned about what impact the expansion of this quarry will have on their health and well being. Quarries can have very serious side effects including cancer. I understand there was environmental testing done this year when the quarry was not running at full capacity and when water levels were very low so the run off is not would it might be in a year that is not so dry. I also understand this could also have a negative impact on the radon that is in the area. I certainly hope this expansion doesn't proceed, but if it does I there needs to be much more in depth research done on how this will impact citizens of the area not only on their immediate health but also the long term. Name:

Email: [@gmail.com](#) Address: : Havre Boucher
email_message: Privacy-Statement: agree x: 55 y: 19

From: @eastlink.ca
To: [Environment Assessment Web Account](#)
Subject: Proposed Project Comments
Date: November 18, 2020 9:54:18 AM

**** EXTERNAL EMAIL / COURRIEL EXTERNE ****

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Project: welshtown-quarry-expansion-project Comments: If this project has air quality ramifications and is environmentally unsafe for residents quality of life then I am totally not in support of this moving forward. Name: Email: @eastlink.ca
Address: Municipality Municipality: Shelburne
email_message: Privacy-Statement: agree x: 43 y: 18

From: @gmail.com
To: [Environment Assessment Web Account](#)
Subject: Proposed Project Comments
Date: November 18, 2020 11:08:33 AM

**** EXTERNAL EMAIL / COURRIEL EXTERNE ****

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Project: welshtown-quarry-expansion-project Comments: We live on the Ohio side of the 103 which is geographically very close to the Welshtown Quarry. I find this project disturbing and extremely unhealthy for all people, not just those of us seniors with breathing problems. God knows there is enough pollution in our world. I hope youre not creating a Shelburne Town Dump scenario Name: Email: @gmail.com Address: Municipality: Shelb. N.S. email_message: Privacy-Statement: agree x: 53
y: 22

From: @gmail.com
To: [Environment Assessment Web Account](#)
Subject: Proposed Project Comments
Date: November 18, 2020 5:37:38 PM

**** EXTERNAL EMAIL / COURRIEL EXTERNE ****

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Project: welshtown-quarry-expansion-project Comments: I live in the Municipality of Shelburne and work in the town of Shelburne. I am very concerned that this project has not been reviewed properly and believe that the residents in the area should be consulted about this proposed project. Thank you. Name: Email: @gmail.com
Address: Municipality: Shelburne email_message:
Privacy-Statement: agree x: 67 y: 27

From:
To: [Environment Assessment Web Account](#); [Mayor, Town of Shelburne](#); [Warden, MDS](#)
Subject: PROPOSED EXPANSION OF WELSH TOWN QUARRY
Date: November 18, 2020 6:00:58 PM

**** EXTERNAL EMAIL / COURRIEL EXTERNE ****

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I have read through the registration document submitted by Dexter Construction Company Limited regarding the proposed expansion of the Welshtown Quarry from four hectares to 35.3 hectares. The potential physical, environmental and psychological hazards of living within proximity of an operating quarry, openly acknowledged and delineated in the document, should be given serious consideration by all departmental personnel who will be involved in the approval process of this submission. Italicized text is quoted directly from the registration document.

- *“... excavation will not take place below the current quarry floor elevation and therefore will not intercept the deep bedrock water table.” “The actual depth of the bedrock water table at the quarry site is not known, but it has not been encountered during previous quarry operations, and it is not anticipated that the quarry expansion will reach the bedrock water table.” “A groundwater monitoring program for water supplies will be implemented to establish baseline groundwater quality and provide on-going monitoring to ensure that any possible effects of the quarry are identified.” “A contingency plan is expected to be established to manage any spill or release occurrences potentially impacting groundwater in the area.”*

Anticipating that the quarry expansion will not reach the bedrock water table and knowing with certainty are two very different things. If the bedrock water table were to be breached, or any spill or release occur, there would be no going back for the residents of the area who have, thus far, enjoyed plentiful and safe water.

- *“The quarry and associated movement of trucks and equipment would continue to provide a minor and periodic source of noise in the area.” “... operation of a portable crusher and heavy equipment may take place periodically and temporarily add to noise levels when the quarry is in operation ...”. “Blasting occurs typically one to two times per year ...”. “Quarry activities are not expected to change from the previous scope of operations, however various project activities have the potential to generate dust, combustion emissions, noise, and light. In particular, operation of heavy equipment (e.g. earth movers, crushers), rock drilling and blasting, as well as onsite routine operations contribute to increased dust and particulate levels.”*

Day-to-day operations in the existing four hectare quarry have already led to diminished enjoyment of their property by the area’s residents. An expansion and commensurate increase in blasting for an additional 40 years will effectively remove any quality of life for the residents who originally settled in the area to enjoy the

peace, quiet and healthy air that rural living offers. Although I live within the Town of Shelburne which is approximately 2 kms away from the existing quarry, I can hear the noise generated by blasting, equipment and the movement of trucks throughout the summer. Residents I have spoken with who live next to the existing quarry speak of constant noise all through the summer, and not being able to open windows or sit outside because of the noise and dust caused by operations at the existing quarry, which is currently only a fraction of the size of the proposed expansion. Blasting causes changes in air pressure, as well as flying dust and debris which can damage buildings, trees, as well as other natural and man-made objects within the blast zone. There have been documented cases of stress waves from blast charges causing damage to the foundations of the homes of nearby residents. Further expansion of the quarry will necessarily entail increased blasting over a greater area, causing potential or further potential damage to residential properties nearby. In addition, various realty studies show that property values for residential properties near asphalt plants can decrease by over 50 percent.

- *“... a portable asphalt plant may operate at the site periodically ...”.*

Asphalt is derived from various grades of crude oil and one of the most common human exposures to asphalt is by inhalation. It has been proven that exposure to asphalt fumes can cause headaches, skin rashes, sensitization, fatigue, reduced appetite, throat and eye irritation, cough and skin cancer. Chronic exposure of inhaled asphalt fumes may lead to lung or stomach cancer. Studies at the US National Institute for Occupational Safety and Health show that products containing asphalt are carcinogenic to laboratory animals and that exposure to humans should be limited. Surveys taken of residents living near asphalt plants report that nearly 50 percent have experienced deteriorating health conditions, including high blood pressure, sinus problems, shortness of breath and headaches. A US Environmental Protection Agency assessment on hot mix asphalt facilities reveals that some plants emit 770 - 2,000 hazardous air pollutants per year. Asphalt processing may be responsible for air pollutants such as hexane, phenol and formaldehyde.

I add my voice to those opposed to the quarry expansion and strongly urge the Minister of Environment to deny conditional environmental assessment approval to Dexter Construction Company Limited to expand the Welshtown Quarry.

Shelburne, NS

From: @nshealth.ca
To: [Environment Assessment Web Account](#)
Subject: Proposed Project Comments
Date: November 18, 2020 6:56:50 PM

Project: welshtown-quarry-expansion-project Comments: I live in the municipality of Shelburne and I am concerned about this project for many reasons. I am concerned about the potential negative environmental and health impacts this project will have. I feel that the municipality did not properly advise the people in this community about this project. More information and notice should have been provided. Name: _____ Email: _____

@nshealth.ca Address: _____ Municipality: _____
Shelburne email_message: Privacy-Statement: agree x: 60 y: 33

From: @hotmail.com
To: [Environment Assessment Web Account](#)
Subject: Proposed Project Comments
Date: November 18, 2020 9:43:25 PM

**** EXTERNAL EMAIL / COURRIEL EXTERNE ****

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Project: welshtown-quarry-expansion-project Comments: I am now concerned that my residence is within metres of the quarry. I do not give my consent Name:

Email: @hotmail.com Address: Municipality: Shelburne

email_message: Privacy-Statement: agree x: 82 y: 33

From:
To: [Environment Assessment Web Account](#)
Subject: Welshtown Quarry Expansion Project
Date: November 19, 2020 7:25:52 AM

**** EXTERNAL EMAIL / COURRIEL EXTERNE ****

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I am a resident of Welshtown and I have concerns about the Welshtown Quarry Expansion Project.

- 1) Air Quality- Silica dust being very harmful and causing health issues.
- 2) Asphalt Fumes- the smell of tar and the effects it has on our health, not being able to open our windows, enjoy the outdoors, sit on our deck, etc...
- 3) Water Quality and Quantity
- 4) Traffic- something we are not used to on this road, I fear our road is too narrow for bigger vehicles. I know when they were here running the quarry, if you met a truck you had to stop in places on the road. Also the noise from the dump truck's boxes banging, blasting etc...
- 5) Wildlife- taking their habitat away from them.
- 6) Decreasing our property values.- Who would want to buy our property with a quarry and asphalt plant in the area??
- 7) Radon!!- The effect of proximity to the Quarry. Can you ensure me that no radon gas will enter my home.

I feel our quality of life is being taken away from us.
This expansion should be in a more isolated area.

From: [Environment Assessment Web Account](#)
To: [Higgins, Jeremy W](#)
Subject: FW: Welshtown Quarry Expansion Project
Date: November 19, 2020 12:25:25 PM

From: @nsc.ca>
Sent: November 19, 2020 9:41 AM
To: Environment Assessment Web Account <EA@novascotia.ca>
Subject: Welshtown Quarry Expansion Project

**** EXTERNAL EMAIL / COURRIEL EXTERNE ****

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To Whom It May Concern:

It has been brought to our attention that Dexter Construction has submitted a proposal to expand a quarry and set up an asphalt plant in the Welshtown,

This being 2020, my husband and I are both acutely aware of the damage this kind of operation can do to our air quality. . Through research, I have discovered that this type of operation produces a silica dust. This dust causes detrimental health issues, including a lung disease caused silicosis. In addition to the dust, extremely sensitive to fumes from the asphalt plant that would cause shortness of breath and distress.

We are also concerned about the affects it will have on the quality of the water supply for all of us who live in this community. We understand that the blasting will be necessary. Blasting, in addition to spreading dust, can cause changes to our water supply. Also, will this blasting cause concern for higher Radon exposure?

We are also worried about the increase of traffic with so many large trucks using the road which is narrow and not designed for such large vehicles. Not to mention, the affect the noise from the traffic will have on our wildlife and family life.

Finally, we are disturbed by the fact that this project will decrease our property values. We are a retired couple and the value of our home is important should we find that we are no longer able to care for ourselves.

We feel that our way of life is being stripped away from us. Will we be able to sit in our yard and enjoy the outdoors without having to protect ourselves by wearing a mask? Will we be able to open our windows and enjoy a fresh breeze without the smell of tar? Will we be able to hang our clothes on the line without them smelling like tar? Will we have to worry about the affects on our health?

Lastly, can your department assure us that this will not affect our health and quality of life? If you can I am all for it, if not, please reconsider locating this project in a more isolated location.

Sincerely

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Native Council of Nova Scotia

The Self-Governing Authority for Mi'kmaq/Aboriginal Peoples residing Off-Reserve in Nova Scotia throughout traditional Mi'kmaq Territory

"Going Forward to a Better Future"

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www.ncns.ca

Aboriginal/Treaty Rights
Negotiations Facilitating
Directorate

NCNS Citizenship
Information Office

Education & Student
Services

Rural & Native
Housing Group

Aboriginal Peoples
Training & Employment
Commission (APTEC)

Netukulimkewe'l
Commission

Wenjikwom Housing
Commission

Social Assistance
Recipient Support for
Employment & Training
(SARSET)

Micmac Language
Program

Native Social
Counselling Agency

Child Help Initiative
Program (CHIP)

E'pit Nuji Ilmuet
Program (Prenatal)

Reaching Home
Indigenous Program

Parenting Journey
Program

Youth Outreach Program

Mi'Kma'ki Environments
Resource Developments
Secretariat (MERDS)

Aboriginal Connections
in Trades & Apprenticeship
(ACITA)

November 19, 2020

Proponent Contact
Dexter Construction Company Limited
P.O Box 48100
Bedford, Nova Scotia,
B4A 3Z2

On behalf of the Maritime Aboriginal Peoples Council Partner, the Native Council of Nova Scotia (NCNS) and Maritime Aboriginal Aquatic Resources Secretariate (MAARS), I would like to thank you for taking my phone call on November 12th, 2020. This letter is in regards to the Environmental Assessment Registration Document for the Welshtown Quarry Expansion, Shelburne County, Nova Scotia, proposed by Dexter Construction Company Limited (Dexter) on November 3rd, 2020, with the Nova Scotia Department of Environment. The phone call included yourself, _____ and the Habitat and Impact Assessment Manager from MAPC/MAARS for the NCNS,

During the phone call, clarification was asked for regarding a few items within the Environmental Assessment Registration Document. Those items, in addition to a few key concerns regarding the project are highlighted bellow. We would like to see these concerns and comments be taken into consideration during the approval process of this project:

1. Dexter's attempts at early engagement with Aboriginals through letters to Chief Deborah Robinson, the Kwilmu'kw Mawklusuaqn Negotiation Office (KMKNO), NCNS, and the office of Aboriginal Affairs are recognized. We hope that any future filing by Dexter will continue this trend of early engagement. We request that future attempts of early engagement will now also include MAPC/MAARS and continue to take note of NCNS. Your main contact will be MAPC's Habitat and Impact Assessment Manager, _____@mapcorg.ca).
2. It is MAPC's understanding that Dexter plans to use the explosive compound ANFO to conduct blasting once or twice a year. Ammonium nitrate being the primary component of ANFO is a dangerous compound to both human and environmental life. There is very little mention of mitigation or attempts to control any runoff that will carry the dangerous

nitrates from the original blasting site further down into the watersheds. Seeing as the quarry sits atop of a hill and occupies two sub-watersheds (Birchtown Brook and Roseway River), we find it a dangerous oversight not to include the current plan or practice being used to prevent flow of nitrates within the Environmental Assessment.

3. In regards to nighttime operations, it is stated within the Environmental Assessment that “measures can be taken to ensure use of directional lighting, which minimizes emanation of light upward and laterally over the horizon,” which will reduce the effect of light pollution on local fauna. While this statement is rather non-committal, () did elaborate that there were no permanent light fixtures on the worksite, and that portable lighting generators were the primary light source for nighttime operation. We would request that a more concrete stance be taken regarding directional light; where the non-committal statement “measures can be taken” be replaced or acknowledged by Dexter that “measures **will** be taken.”
4. Nowhere in the Environmental Assessment is there any mention of preventative measures being taken regarding invasive species or the vectors by which they are introduced. Grubbing that will take place during the expansion of the quarry will be a heavy stressor on the environment and encourage invasive species to establish themselves in the recently disturbed land. The potential for those invasive species to then be transported via vehicle or mobile facilities then increases if no preventative measures are taken. () elaborated that aside from normal vehicle maintenance, vehicles are stored far away from the crushers to avoid collecting dust, and do not undergo regular cleaning before leaving the quarry. We request Dexter develop a practice or a procedure in regards to cleaning their mobile facilities and vehicles to ensure they do not become vectors for invasive species.

On behalf of MAPC/MAARS for the NCNS, thank you for answering our questions. We wish Dexter every good success with this Environmental Assessment Registration to advance the Welshtown Quarry Expansion.

Progress through consultation, accommodation and participatory involvement and partnerships.

Habitat and Impact Assessment Manager

JM: mb

CC: () Chief & President, Native Council of Nova Scotia
() Dexter Construction Company Limited

From: [Environment Assessment Web Account](#)
To: [Higgins, Jeremy W](#)
Subject: FW: Dexter Construction Co. Ltd Welshtown Quarry Expansion - Letter
Date: November 19, 2020 2:53:02 PM
Attachments: [November 19 EA Nova Scotia.pdf](#)

From: @mapcorg.ca>
Sent: November 19, 2020 2:01 PM
To: Environment Assessment Web Account <EA@novascotia.ca>; @dexter.ca;
@ncns.ca; frontdesk@mapcorg.ca; ' @mapcorg.ca>
Subject: Dexter Construction Co. Ltd Welshtown Quarry Expansion - Letter

**** EXTERNAL EMAIL / COURRIEL EXTERNE ****

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Good afternoon,

This letter is made on behalf of the Maritime Aboriginal Peoples Council Partner, the Native Council of Nova Scotia (NCNS) and Maritime Aboriginal Aquatic Resources Secretariate (MAARS) in response to Dexter Construction Company Limited environmental assessment registration in regards to their proposed Welshtown Quarry Expansion project in Shelburne County, Nova Scotia.

Habitat and Impact Assessment Manager
Maritime Aboriginal Aquatic Resources Secretariate
172 Truro Heights Road
Truro Heights, Nova Scotia
B6L 1X1
Canada

Office: 902 895 2982
Fax: 902 895 3844



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www.avast.com

From: @hotmail.com
To: [Environment Assessment Web Account](#)
Subject: Proposed Project Comments
Date: November 22, 2020 3:33:35 PM

**** EXTERNAL EMAIL / COURRIEL EXTERNE ****

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Project: welshtown-quarry-expansion-project Comments: We dont live full time in this area but we do have a cottage near by and the reason we do is to be able to enjoy the fresh air and enjoy the great outdoors. We believe that this quarry will greatly impact the air quality for the surrounding areas. You cant open windows or hang out your laundry because of the dust, smell and noise. We have some breathing problems in our family and I feel that this will make it worse. This will impact property values and air quality if this is allowed to move forward.

We are not in agreement with this expansion. It should not be allowed this close to a neighbourhood. Name:

Email: @hotmail.com

Address:

Municipality: Shelburne email_message:

Privacy-Statement: agree x: 67 y: 25

Points of interest for Welshtown Quarry Expansion

Overall Questions Concerns – What is the Blasting rock impact outside the area of the quarry i.e change of rock formation from the expanding blast wave will this changing the ground water path and quality in the area .

Will blasting influence well water levels and ecosystem in the area. Bottom line the blast wave will expand far out from the site in question.

Blasting and noise levels on the residents and wildlife in the area how will this effect the environment.

How will the fine dust and gas from the blasting be controlled during blasting operation this will have an adverse affect on the area residents and wildlife.

The effect of the blasting this amount of rock removal will not be seen until further down the line after the damage has been done to the wildlife and groundwater.

No matter what type of explosive used, and safeguards put in place there will always be fine dust and debris form the blasting to deal with for the operation.

Ground Blast waves how to control this issue with the expanding waves could cause cracking in house foundation and other structures far from the initial blast site.

With the removal of the topsoil itself what is the environmental factor in the area, land scape and the properties of residents.

Will the installation of the asphalt plant deceases the value of the resident's home in the area.

Rock crushing – Noise level from rock crush this will be a personal tolerance on the residents around the site. At what noise level is acceptable to the resident and wildlife what is the long-term exposer in the area.

Fine dust in the area from the crushing operation will the resident be expected to seal door and window all year around to prevent the ingress of dust in their homes.

What minerals is in this fine dust will with have a long-term health issues down the road for locate residents.

Rock crushing noise and dust level during crushing operation with the fine dust and noise level how will this be controlled and prevent the fine dust from entering residents' homes in the area and breathing this mixture of materials.

Asphalt Plant- How will the fumes from the asphalt Plant be contained.

Is this another case where the local residents have to build up a tolerance to the smell?

One ingredient in asphalt is bitumen this is a hydrocarbon (Oil Product) how will the spillage from any of the material be controlled from entering into the ground water and eventually making its way into the wells and drinking water of the local residents .

What measures are taken in the containment of rain and run off water around the asphalt plant this is another source of ground water pollutant.

Movement of asphalt product

In order to move the product this will be done by heavy truck movement.

There is again a noise factor in this operation

The existing road network maintenance from the damage of heavy trucks will the residents be expected just to tolerate the road conditions will they be expected to pay for the damages in their taxes

From:
To: [Environment Assessment Web Account](#)
Subject: Points of interest for Welshtown Quarry Expansion.docx
Date: November 22, 2020 5:01:18 PM
Attachments: [Points of interest for Welshtown Quarry Expansion.docx](#)

**** EXTERNAL EMAIL / COURRIEL EXTERNE ****

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Sent from my iPhone

From: @gmail.com
To: [Environment Assessment Web Account](#)
Subject: Proposed Project Comments
Date: November 22, 2020 8:48:35 PM

**** EXTERNAL EMAIL / COURRIEL EXTERNE ****

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Project: welshtown-quarry-expansion-project Comments: I have health concerns from the dust that will be generated from such an expansion, I have read that the dust can travel many miles is hard on your lungs!! Name: Email: @gmail.com

Address: Municipality: Shelburne

email_message: Privacy-Statement: agree x: 64 y: 26

From: _____@gmail.com
To: [Environment Assessment Web Account](#)
Subject: Proposed Project Comments
Date: November 24, 2020 2:57:25 PM

**** EXTERNAL EMAIL / COURRIEL EXTERNE ****

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Project: welshtown-quarry-expansion-project Comments: Iâ?Tm concerned that there hasnâ?
Tt been any public consultation and there are many unanswered questions in terms of the
public safety risk. Name: _____ Email: _____@gmail.com Address:
_____, Municipality: Shelburne email_message: Privacy-Statement: agree x: 56
y: 25

From: @adsurveying.ca
To: [Environment Assessment Web Account](#)
Subject: Proposed Project Comments
Date: November 24, 2020 7:36:34 PM

**** EXTERNAL EMAIL / COURRIEL EXTERNE ****

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Project: welshtown-quarry-expansion-project Comments: I have concerns about crusher dust entering the town and creating health problems. My office is on the Ohio Road just inside town limits which will be very near the proposed site. They are also violating an 800 metre buffer rule to homes. Name: Email: @adsurveying.ca Address:
Municipality: Shelburne email_message: Privacy-Statement: agree x: 39 y: 25

From:
To: [Environment Assessment Web Account](#)
Subject: Welsthorn Rock Quarry/Asphalt Plant
Date: November 25, 2020 9:56:11 AM

**** EXTERNAL EMAIL / COURRIEL EXTERNE ****

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To whomever it may concern,

I am a resident in the Welsthorn area who resides less than a kilometer from the proposed 40 year quarry project. I find it concerning that this is more or less identical to the Tantallion situation back in 2016. It was noted that the approval was overturned due to lack of community consultation. Well I can tell you that a Facebook, or Municipal news release is not my idea of community consultation. I understand that Covid-19 impacts the ability to hold an in person town hall, but maybe that is why you are choosing to pursue this now as the focus is on the Pandemic, not potential environmental concerns in a rural area. I have to reiterate the sentiment I read this morning that with the Tantallion project, there is land everywhere in this region, maybe not already carved out like at the Welsthorn Quarry (which I get would be convenient), but this will be 600 metres away, not 3 km like in Tantallion. The residents are concerned, fearful, and certainly not being educated by the Province, nor the Department of Environment as per the pros or cons, of such a project (hence the fear), I am surprised that a company such as Dexter's would not have been more communicative. The Roseway River which would be connected to many underground creek beds for instance is 6-700 metres away from the project. The testing completed in the Summer would have been while we were experiencing one of the worst droughts in our history, so I would assure you would do the same testing at this time of year, while all the creek beds, and the River are in full swing. I found out about this yesterday, so I am understandably researching to see the health effects of particulates in the air in surrounding areas, how far does it carry ? Has evidence based research been provided to all potentially affected residents to assure they are in the know of the potential harms this could bring. Lastly, the impact to the residents in what is now a quiet residential area (not hundreds like in Tantallion, but good people who are concerned nonetheless. This will change the landscape of the area from quiet, to industrial overnight, I am not opposed to this project in general, I am just opposed to ramming through a project without consent from the residents, and with a major lack of consultation. I appreciate the opportunity to share my concerns and am hopeful to see the DOE, The Province, and Dexter's do this the right way.

Thank you,

From: @hotmail.com
To: [Environment Assessment Web Account](#)
Subject: Proposed Project Comments
Date: November 27, 2020 7:38:01 AM

**** EXTERNAL EMAIL / COURRIEL EXTERNE ****

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Project: welshtown-quarry-expansion-project Comments: The pond in our backyard has almost dried up in recent years. We dont hear as many peepers in the Spring. We usually have a blue heron visit the pond periodically and havent seen it this year. Ducks were always present in the Spring and we did not see them this past spring. The pond is fed by water from the hill coming from the quarry. Are these changes directly related to the quarry? Our well water also derives from the same area. I believe Dexters should be responsible to provide funds for full water testing prior to working at the Quarry and after any extensive project to ensure our water supply has not been tampered with. Our concerns regarding radon gas distribution with blasting should also be monitored at the cost of Dexters by supplying radon test to homes in the area. The noise levels need to be monitored along the Upper Clyde Road. The chipseal road increases noise from the trucks and our house location causes the quarry noise in our backyard. The air quality also needs to be monitored on the Upper Clyde Road as we are directly down wind. These last two requests cant be monitored at the homes of the landowners leasing the lands. The quarry does not need to run 24/7 we are entitled to have some peace and quiet and enjoyment of our property. Can the crushing be completed in the Spring Feb March April May or Nov and Dec when it would be expected our windows wont be open leaving us with time to enjoy our backyard? Can this chipseal road handle the huge logging trucks currently running in front of my home? And the same question in regard to the gravel trucks. Name: Email: @hotmail.com Address:

Municipality: Shelburne email_message: Privacy-Statement: agree x: 76 y: 29

From: [Environment Assessment Web Account](#)
To: [Higgins, Jeremy W](#)
Subject: FW: Proposed Project Comments
Date: November 30, 2020 7:31:42 AM

From: hotmail.de>
Sent: November 29, 2020 1:51 PM
To: Environment Assessment Web Account <EA@novascotia.ca>
Subject: Proposed Project Comments

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Project: welshtown-quarry-expansion-project Comments: As a frequent visitor and Homeowner Iâ´m concerned that with the Expansion of the Quarry air quality in and around Shelburne will get worse and people will probably suffer with obstructive lung deseases over the next years. Therefore I hope that this plan will not become reality. Name: Email:

[@hotmail.de](#) Address:

Municipality: Shelburne, N.S.

email_message: Privacy-Statement: agree x: 62 y: 22

From: [Environment Assessment Web Account](#)
To: [Higgins, Jeremy W](#)
Subject: FW: Proposed Project Comments
Date: November 30, 2020 7:32:04 AM

From: @aol.com>
Sent: November 30, 2020 6:51 AM
To: Environment Assessment Web Account <EA@novascotia.ca>
Subject: Proposed Project Comments

**** EXTERNAL EMAIL / COURRIEL EXTERNE ****

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Project: welshtown-quarry-expansion-project Comments: i think its to close to the tobeatic wildlife area it will harm all the nature. i am also concerned about the dust and radon gas for me its a no go !

Name: Email: [@aol.com](#) Address: Municipality:

Shelburne email_message: Privacy-Statement: agree x: 67 y: 20

From: [Environment Assessment Web Account](#)
To: [Higgins, Jeremy W](#)
Subject: FW: Proposed Project Comments
Date: December 1, 2020 7:48:54 AM

From: @freenet.de>
Sent: December 1, 2020 6:23 AM
To: Environment Assessment Web Account <EA@novascotia.ca>
Subject: Proposed Project Comments

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Project: welshtown-quarry-expansion-project Comments: As a homeowner Im concerned about airquality which will get worse. Furthermore there will be released radon gas. Therefore i do not agree with the plan of expansion the Welshtown quarry. Name: Email:
[@freenet.de](#) Address: Municipality: Shelburne,N.S. email_message:
Privacy-Statement: agree x: 81 y: 24



Naturally Yours

136 Hammond Street, PO Box 280 Shelburne, NS BOT 1W0 Phone: (902) 875-3544 - Fax: (902) 875-1278

November 30, 2020

Honorable Gordan Wilson
Minister of Environment
PO Box 442
Halifax, NS
B3J 2P8

Dear Honorable Gordan Wilson,

The Municipality of the District of Shelburne is writing to request that your Department review the current requirements in place regarding public consultation for proposed projects that could have environmental impacts on our communities and in this Province. The Municipality has heard concerns from some residents who have learned about the proposed expansion to the Dexter Construction Company Ltd's quarry in Welshtown, regarding the fact that there is no legislative requirement to consult with the public before such project is approved. The agency that has the authority and power to make these regulatory changes is your Department; therefore, as Minister of Environment, we are sending this request directly to you.

In reviewing the current public consultation requirements, they appear to be quite minimal. Our understanding in speaking with your staff, is that there is a requirement to place a public notification in a provincial and local paper (if one exists) and the public then has 30 days to submit written comments to your Department. What is missing is the mechanism in place to better ensure potentially affected property owners are made aware of these applications. We respectfully request that consideration be given to the following: notifications be directly sent to potentially impacted property owners; place radio ads on local stations; place posters in local public spaces; use social media tools; and host public information sessions. There are also number of virtual platforms that could be used. We feel these recommendations will strengthen the public consultation process which is a vital component of the environmental review process.

We also recommend that the timeframe in which you have in reaching a decision be extended. Making a decision within 20 days of receiving comments from the public does not seem like an adequate amount of time to conduct a review of the comments, especially if a number of them are submitted, to render such a significant and impactful decision.

As noted above, the Department of Environment is the department with the regulatory authority to make decisions on environmental matters. Decisions made by the Province have long lasting impacts on local communities, and therefore, a comprehensive public consultation process should be mandatory and included in the regulations, to ensure sufficient notification and opportunities for participation is provided.

We look forward to hearing from you concerning our recommendations.

Sincerely,

A handwritten signature in black ink, appearing to read "Penny Smith". The signature is fluid and cursive, with the first name "Penny" written in a larger, more prominent script than the last name "Smith".

Penny Smith
Warden

From: [Environment Assessment Web Account](#)
To: [Higgins, Jeremy W](#)
Subject: FW: Proposed Project Comments
Date: December 2, 2020 12:33:36 PM

From: @outlook.com>
Sent: December 2, 2020 10:51 AM
To: Environment Assessment Web Account <EA@novascotia.ca>
Subject: Proposed Project Comments

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Project: welshtown-quarry-expansion-project Comments: I

. The land is forested land which has had silviculture operation in the past on small scale. This land is now used mainly for recreation such as hunting and hiking, with intent to build a cabin there in the future to continue to enjoy this property along with cutting of wood for personal use. With the expansion of this quarry I am afraid it will prevent me and my family from being able to use the land as we would like in the future. Also having the quarry there will certainly negatively affect the value of the property. I have also been told that the existing quarry had encroached on the land on the south side before the company acquired it. How can I be sure this does not happen with my land in the future? For these reasons I am opposed to the expansion of the quarry. I was not informed of this happening next to my land and only by chance just recently found out. Also the unnamed stream that is mentioned in the reports runs mostly through my land, which give me concern about water quality. Name: Email: [@outlook.com](#)

Address: NS Municipality: Shelburne email_message: Privacy-Statement:

agree x: 48 y: 24

From: [Environment Assessment Web Account](#)
To: [Higgins, Jeremy W](#)
Subject: FW: Proposed Project Comments
Date: December 2, 2020 3:06:29 PM

From: @gmail.com>
Sent: December 2, 2020 2:52 PM
To: Environment Assessment Web Account <EA@novascotia.ca>
Subject: Proposed Project Comments

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Project: welshtown-quarry-expansion-project Comments: I want to express my concerns about this expansion with regards to health issues caused by dust and other harmful agents, noise and heavy traffic and the devaluation of my property being less than 5 km from said quarry. Name:

Email: [@gmail.com](#) Address:

Municipality: Shelburne email_message: Privacy-Statement: agree x: 79 y: 16

From: [Environment Assessment Web Account](#)
To: [Higgins, Jeremy W](#)
Subject: FW: Proposed Project Comments
Date: December 3, 2020 7:27:58 AM

From: @gmail.com>
Sent: December 2, 2020 9:56 PM
To: Environment Assessment Web Account <EA@novascotia.ca>
Subject: Proposed Project Comments

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Project: welshtown-quarry-expansion-project Comments: I know that gravel, used to build roads and other infrastructure, is a necessary commodity but I have some serious concerns regarding the proposed expansion of the existing Welshtown Quarry. Quarrying can disrupt surface and ground water and cause damage to aquifers which are irreplaceable. According to the projects Biophysical Assessment the actual depth of the bedrock water table at the site is not known but it is not anticipated that the expansion will reach the bedrock water table. In an area that is already facing extreme challenges with their water supply, dry and contaminated wells are a common issue we can not afford to risk compromising our water supply further by allowing the expansion of a commercial operation that cannot guarantee that it will not have a negative impact on our water supply. Our water supply is far too important to risk. There are also health risks associated with quarrying. Silica is present in granite, sandstone and slate. According to the projects Biophysical Assessment, all of these are part of the bedrock geology at the quarry site. Crystalline silica dust is a by-product of quarrying and a known carcinogen. As noted in the article Silica, it not just dust from the August 24, 2018 edition of Rock to Road, If you crush, cut, grind, saw or drill materials that contain silica, dangerous crystalline silica dust is released into the air. Microscopic particles of this silica can permanently damage your lungs and lead to lung cancer. The amount of dust that could cause harm is very small and once airborne it can be carried from the site and put the people in the community at risk of serious health issues. The daily barrage of noise and dust caused by the quarrying operation and the trucks hauling the gravel would not only be annoying to people living close by it can have serious negative effects on their health as well. We need to do our best to protect the health of our family, friends and neighbors. I know the site is in a small rural community but our lives, health and the peaceful enjoyment of our properties are no less important than anyone elses. Please do not allow this quarry expansion! Name: Email: [s@gmail.com](#) Address: Municipality: Shelburne email_message: Privacy-Statement: agree x: 102 y: 27

From: [Environment Assessment Web Account](#)
To: [Higgins, Jeremy W](#)
Subject: FW: Proposed Project Comments
Date: December 4, 2020 7:29:02 AM

From: @hotmail.com>
Sent: December 3, 2020 12:24 PM
To: Environment Assessment Web Account <EA@novascotia.ca>
Subject: Proposed Project Comments

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Project: welshtown-quarry-expansion-project Comments: After two days of heavy rain the pond behind our house has not flooded or even filled. The land between our house and our neighbours did not flood as it normally would before the existing quarry. Coincidence or has our water supply already been altered? Name: Email: [@hotmail.com](#) Address:

Municipality: Shelburne email_message: Privacy-Statement: agree x: 73 y: 47