

Trimper Aggregate Pit Extension, Torbrook, Annapolis County Concordance Table of Comments on Draft EA Registration

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Comment Number	Comment Issuer	Comment Received	Comment Response
1	Hugh Gillis, NSDNR	Test wells and a monitoring protocol should be established to document any changes that may be incurred by the project to groundwater and surficial flows of water in streams and wetland habitats associated.	The importance of monitoring groundwater and surficial flows is recognized. The location and number of monitoring wells will be established in the Pit Management Plan and through the development of the Industrial Approval, in consultation with NSE and NSDNR.
2	Hugh Gillis, NSDNR	A 100 meter setback (buffer) distance should be established between operational areas and surrounding wetlands, and native vegetation should be left intact.	Through the Industrial Approval process, and in consultation with NSE and NSDNR, the proponent will develop setback distances between operational areas and wetlands, reflecting the ecological significance of the respective wetlands. The provincial recommended setback of 30m from all watercourses and wetlands has been applied to proposed expansion areas.
3	Hugh Gillis, NSDNR	Annual checks, monitoring, and where necessary, controls for invasive plants should be undertaken and a management plan for this should be developed by the proponent to the satisfaction of NSDNR	Procedures for the monitoring and management of invasive alien plants will be described in further detail in the Pit Management Plan. This will be developed in consultation with NSE and NSDNR.
4	Hugh Gillis, NSDNR	The proponent should include a phased, sustainable approach to the project balanced with reclamation, decommissioning and restoration of the site with native vegetation and contouring to minimize hydrological and ecological impacts.	A detailed reclamation, decommissioning and restoration plan for the site will be developed through the Pit Management Plan. This will be developed in consultation with NSE and NSDNR.
5	Hugh Gillis, NSDNR	The proponent should recognize the potential exists for wood turtles to occur on-site and operational plans should accommodate them or other nesting turtles. The plan should also include the immediate advising of NSDNR if any wood turtles are seen or reported within the approved project area, and recognize that additional mitigative measures may be	The potential for wood turtles to occur on the Project site is recognized. The Pit Management Plan will document measures to be taken should Wood turtles be identified on the site. This will include immediate notification of NSDNR. Should the presence of Wood turtles on the site be confirmed, it is acknowledged that additional mitigation

		necessary to protect turtles, their nests and natural habitat as determined by NSDNR.	measures may be required.
6	Hugh Gillis, NSDNR	Staff recommend that forest communities and soils encountered in the project footprint should be classified, named, and described employing the new provincial Forest Ecosystem Classification. FEC units identified during field surveys should be mapped (where practical and applicable) in vegetation, wetland, and habitat figures (e.g., Figure 7). Using this ecological framework improves the comprehensiveness, accuracy, and interpretability of EA reports.	It is recognized that the introduction of the new Forest Ecosystem Classification and associated Soil Classification System requires a transition in field procedures and data reporting. Future biological field activities at the site will seek to integrate the methodologies within these systems, which will be reflected in reporting and documentation concerning the project.
7	Hugh Gillis, NSDNR	There appear to be inconsistencies among the wet natural plant communities described on pages 22-23, the avifauna habitats outlined on page 33, and the wetland types listed on page 44. For example, some of the wet habitat and forest community types are not listed among the wetlands on page 44; the number of different types also varies among the three treatments. These issues must be addressed in EA text, tables, and map documents to facilitate NSDNR's review of ecosystem values and impacts. The current summary is inadequate and confusing.	The text of the registration document has been amended to ensure consistency with respect to habitat names, where-ever possible. It is important to recognize that the habitat types described in Section 6.2 (Terrestrial Flora) represent the broad vegetation communities that exist across the project area. The investigations into avifauna (Section 6.4) report the habitats at specific points where avian species were documented. Avifaunal studies occurred both within and outside the immediate project footprint.
8	Hugh Gillis, NSDNR	Section 6.2 - Terrestrial Flora - pg. 23 - includes this passage: "The Mixed Uplands Woods, Wet Black Spruce Forest and Upland Red Pine Forest will be subject to direct habitat loss associated with site preparation and gravel removal." The proponent should be aware that wet black spruce forest is a type of treed wetland, and the provisions of Nova Scotia's Wetland Conservation Policy apply with respect to the loss of this wetland type.	As a result of a recent revision to the project's property boundaries, the Wet Black Spruce Forest discussed in Section 6.2 lies outside the project footprint and will not be subject to loss or alteration. The text has been revised accordingly.
9	Hugh Gillis, NSDNR	Figure 3 does not include spatial data on the expansion area, as the legend indicates.	Figure 3 has been revised, incorporating this comment.
10	Hugh Gillis, NSDNR	Section 5.1 – Geographic Location – pg. 12 states "The project site is situated on the north-facing slope of the Annapolis Valley's South Mountain, lying at the boundary of	The text of the registration document has been amended, incorporating this comment.

		the Western and Valley & Central Lowlands Ecological Land Regions (Figure 1)”. The Nova Scotia ecological land classification should be cited here. The units given in section 5.1 are called “ecoregions”, not “ecological land regions”.	
11	Hugh Gillis, NSDNR	Section 5.4 - Operation and Maintenance – pg. 16 states: “As was noted above, the proposed Undertaking will strive to ensure that 30 m setbacks are observed for wetlands and watercourses.” NSDNR staff are concerned about the way this passage is phrased. It implies that the level of commitment for maintaining wetland and watercourse buffers may diminish to accommodate unforeseen logistic constraints arising during pit operation. Changes are recommended to this sentence to demonstrate the proponent’s firm commitment to this mitigative measure.	The EA registration document re-iterates in numerous locations the proponent's desire to maintain 30 m setbacks from wetlands and watercourses. However, aggregate extraction has occurred at this site for over 20 years. Some historic project infrastructure (e.g. access roads) are less than 30 m from wetlands and watercourses, as they were constructed during a period of less stringent environmental requirements. Re-location of this infrastructure would result in added environmental impacts. The proposed Undertaking will ensure that 30 m setbacks are observed for wetlands and watercourses for all proposed expansion areas.
12	Hugh Gillis, NSDNR	Section 5.4 – Operation and Maintenance – pgs. 17/18. NSDNR staff request clarification on the type of “dense vegetation” that may be used for reducing sediment load. Some vegetation types are sensitive or support significant habitat or ecosystem values. Staff requests greater clarity on the location and type of vegetation that may be affected by this activity.	The discussion of using dense vegetation here is within the context of a contingency measure that may rarely, if ever, be required. The use of dense vegetation to control sediment loads is a standard measure employed in alterations to watercourses and recognized by NSE. Sediment laden water is deposited on level to gently sloping ground, with continuous vegetation ground cover (herbaceous, shrub and sapling strata). Sediment control measures will be further described within the Pit Development Plan. The duration would typically be of the order of hours to a day and would be employed very infrequently, if ever.
13	Hugh Gillis, NSDNR	Section 6.2 Terrestrial Flora, pg. 22 - states “Seven natural plant communities within two general habitats were observed on the site. Plant communities are groups of plants that enjoy the same habitat characteristics.” NSDNR staff note that plants from a given community type do not “enjoy” the same habitat characteristics. They are supported by uniform habitat conditions that repeat across the landscape in predictable and quantifiable ways.	The text of the EA registration has been revised to reflect this comment.

14	Hugh Gillis, NSDNR	Section 6.3 - Terrestrial Fauna - pg. 26. The proponent states wood turtles occur in 31 watersheds in Nova Scotia. To be accurate wood turtles have been reported, but not confirmed in 31 watersheds, however only 18 have known and confirmed historical documentation of occupancy. The remaining watersheds with sightings are likely the result of translocations by people.	The text of the EA registration has been revised to reflect this comment.
15	Hugh Gillis, NSDNR	Section 6.3 -Terrestrial Fauna - pg. 26. Staff suggest the conclusion of the proponent regarding the appropriateness of timing for the wood turtle survey based upon surveys disjunct from the project area is erroneous. The seasonality of habitat occupation may vary by days or weeks among streams. Ecological drivers of habitat suitability may be independent of local weather conditions.	It is recognized that the timing of habitat occupation can vary across the province and be subject to factors independent of local weather conditions. A member of ECA's field survey team has participated in Wood turtle searches in the Kingston area on the Annapolis River and Zekes Brook (7 km from the project site). Wood turtles were located in the Kingston area during similar seasonal periods as the Trimper surveys were conducted. Given that the Trimper surveys were conducted under comparable climatic to the successful Sackville surveys, and during similar seasonal periods to the successful Kingston surveys, it is certainly possible that they had a good potential to identify Wood turtles within the study area.
16	Hugh Gillis, NSDNR	Figure 6 lists bird and “vegetation” species of conservation concern, but the map includes symbols for bird and plant species. This legend should be modified. Vegetation is the summation of communities in a given area or may be used as a synonym for an individual plant community; vegetation is not a synonym for a plant species.	Figure 6 has been revised, incorporating this comment.
17	Hugh Gillis, NSDNR	Section 6.5 – Surface Water Resources – pg. 42 the proponent states: “To aid in the characterization of the Bald Hill Brook, Table 8 also presents metric values which would be expected for un-impacted old growth watercourses in Nova Scotia's Bay of Fundy region (East Coast Aquatics, 2006 (full report available at www.eastcoastaquatics.ca). From this comparison, it is evident that the midsection of the brook passing through the project footprint is not consistent with metrics expected for an old growth watercourse. The results	The quoted study made use of the Significant and Old Growth Forests provincial map layer to identify 170 candidate stream reaches. Following prioritization, 29 sites were visited and their inclusion in the study assessed. A total of 15 sites on 10 rivers around the Bay of Fundy that met the study criteria received a complete quantitative stream habitat assessment. Four of the sites receiving full surveys occurred in the Annapolis Valley, within the catchments of the Nictaux, Cornwallis, South Annapolis and Gasperau Rivers.

		are most consistent though with streams that have experience some level of alteration in the past, most likely through logging activities.” Staff suggest that this comparison is not appropriate. Old growth watercourses in Nova Scotia’s Bay of Fundy region occur in a different meso-climate and run through different bedrock and surficial deposits. Drainage is rarely as rapid as it is in the project area. Therefore, metric values between these two areas should not be considered for this kind of comparison.	The climatic and geological features of the Trimper pit site are consistent with the locations used to develop metrics for un-impacted watercourses within Nova Scotia's Bay of funding region. It is therefore felt that comparison with these metrics is appropriate.
18	Hugh Gillis, NSDNR	Section 6.7 – Wetlands – pg. 43 states: “Three wetlands were identified and mapped within the footprint of the proposed Undertaking, as were a number of smaller wet areas (Figure 6).” It appears as though wetlands are being categorized and, to some extent, discriminated on the basis of size. All wet areas meeting the definitional criteria outlined in Nova Scotia’s Wetland Conservation Policy are wetlands. EA documents should document and map all wetlands equally (including wetlands less than 100 square meters (the size threshold for triggering a wetland alteration permit)). Delineated wetlands will be provided as digital shape files to the Nova Scotia Department of Natural Resources (Wildlife Division)	Field surveys undertaken for the preparation of the EA registration by trained wetland delineators identified both wetlands and wet areas. At the time of the survey, the wet areas did not satisfy all the criteria necessary to be classified as wetlands. Specifically, preliminary assessments indicated they did not possess all three of the required plant community, soils and hydrology indicators. The locations of wet areas were documented though to aid the proponent in the layout and development of the pit. The documentation of wet areas was thus to assist in operational planning, alerting the Proponent of areas that may be desirable to avoid, or where drainage management structures may be necessary. As progressive development occurs over the pit's 30 year lifespan, it will be the proponent's responsibility to ensure that wet areas are assessed and confirmed not to be wetlands based on the definition of the day.
19	Hugh Gillis, NSDNR	Appendix 3 is titled “Species At Risk in the Vicinity of the Project Site”. This is actually a list of species of conservation concern; only some taxa in the compilation are legally listed. Future lists of this type (based on AC CDC data exports in a 100 km radius) should exclude species that don’t occur in Nova Scotia (but may be present within 100 kms of a search radius centered in NS).	The text of the EA registration has been revised to reflect this comment.
20	Darrell Taylor, NSE	4. Three groundwater supply wells were noted within 800 meters of the project area according to the DNR, 2011 Groundwater Maps and Database, however locations were	The NSE hydrogeologist for the region (L. Barnes) has been consulted and concurs with ECA that the wells are unlikely to occur as shown on the Groundwater Maps and Database.

		deemed suspect since the consultant could not confirm during field surveys. The location of these wells should be confirmed by the DNR database administrator or a NSE hydrogeologist.	
21	Darrell Taylor, NSE	5. The Town of Middleton municipal water supply (wellfield) was identified as being 4.5 km down-gradient from the project site. A source water protection plan for the Town is mentioned with the nearest zone of influence identified as 3.5 km from the project site. The report states that the “likelihood of the proposed pit extension having an impact on the Town of Middleton wellfield is very low” (page 55). It might be prudent for this to be confirmed by a hydrogeologist.	It is important to note that within the terms of the Middleton Well Head Protection Plan, extraction of surficial aggregates is a permitted activity within Zone 4. The Plan was prepared by a team from CBCL Consultants, which included both hydrogeologists and land use planners. The proposed Undertaking is situated 3.5 km outside the boundary of Zone 4. The importance of monitoring groundwater and surficial flows is recognized. The location and number of monitoring wells will be established in the Pit Management Plan and through the development of the Industrial Approval, in consultation with NSE and NSDNR.
22	Darrell Taylor, NSE	9. The report mentions that a liquid discharge or effluent from the on-site settling pond to surface waters is unlikely, but possible with the planned expansion. Sampling at this location should be added to the planned follow up monitoring program in case there is a discharge. Additionally, any discharge must meet the effluent discharge limits set out in the Pit and Quarry Guidelines. These considerations should be clearly noted in the final EA registration document.	The text of the EA registration has been revised to reflect this comment.
23	Darrell Taylor, NSE	10.The potential for accidental spills and contingency plans was briefly mentioned in the report. Such plans should be developed to address protection of water resources, and submitted for NSE approval.	Through the Industrial Approval process, and in consultation with NSE and NSDNR, the Pit Development Plan will describe in greater detail contingency measures for accidental spills.
24	Steve Sandford, NSE	Please ensure that it is clear to the reader that the site is an active pit presently operating under NSE Industrial Approval. Terminology is used within the text that refers to the site as a “quarry” or the “quarrying area”. This terminology may be confusing to reviewers and it should be referred to as a pit for this review unless the proponent intends to use explosives for extraction of rock.	The text of the EA registration has been revised to reflect this comment.

25	Office of Aboriginal Affairs	Please include letters (not a template letter) and attach whatever information was shared with the Mi'kmaq when the letters were sent (in addition to copies of dated letters). If there were any follow-up phone calls or emails, those should also be documented and a list of attempts included in the report. This will provide a clear record of the proponents attempts to contact the Mi'kmaq and provide information.	The text of the EA registration has been revised to reflect this comment.
26	Office of Aboriginal Affairs	Please provide an executive summary that details the present size of the site, ownership and proposed size following expansion. A brief summary of the area (community setting and habitat type) would also assist the reader during the initial review.	The text of the EA registration has been revised to reflect this comment.