

## Proposed Burlington Quarry Expansion

### JART COMMENT SUMMARY TABLE – Progressive and Final Rehabilitation Monitoring Study

Please accept the following as feedback from the Burlington Quarry Joint Agency Review Team (JART). Fully addressing each comment below will help expedite the potential for resolutions of the consolidated JART objections and individual agency objections. **Additional, new comments may be provided once a response has been prepared to the comments raised below and additional information provided.**

	JART Comments (February 2021)	Reference	Source of Comment	Applicant Response (June 2021)	JART Response (June 2023)
<b>Report/Date: Progressive and Final Rehabilitation Monitoring Study, April 2020</b>				<b>Author: MHBC</b>	
1.	Among other impacts, the proposed after-use should address whether the use generates vehicular traffic impacts, demands for additional water and wastewater services, and demands parking on site or nearby.	General	City of Burlington	<p>The proposed Burlington Quarry Extension application only proposes to create a land form as part of the rehabilitation plan for the site. The rehabilitation plan does not permit any after uses, however the site has been designed to be suitable for recreation, conservation and water management after uses.</p> <p>Any future after uses would be determined after the Aggregate Resources Act license is surrendered. The proposed after use would be proposed by the owner of the site following surrender of the license. As required by the Niagara Escarpment Plan, Region of Halton Official Plan and City of Burlington Official Plan future approvals will be required to permit after uses on the site (e.g. NEPA, ROPA, LOPA and NEC DP). As part of these applications any potential impacts will be evaluated as part of that process.</p>	Not resolved.
2.	Both the AIA and the Rehabilitation and Monitoring Study should assess the impact of the future use of the subject lands, once proposed extraction activities have been exhausted. How would compatibility with surrounding agricultural operations and normal farm practices be achieved? How would it impact MDS requirements?	General	City of Burlington	See response to Comment # 1.	Not resolved.
3.	Reliance on ongoing dewatering should be further detailed with respect to the financial and operational impacts of such a plan, as well as costs and other potential risks in the event of system failure.	General	City of Burlington	<p>The Burlington Quarry Extension application does not rely on ongoing dewatering of the site. As JART is aware the existing approved rehabilitation plan for the Burlington Quarry requires dewatering to stop and the site to naturally flood to a lake with no off-site discharge.</p> <p>As part of the Burlington Quarry Extension application, Nelson has agreed to modify the existing quarry rehabilitation plan to maintain off-site pumping to improve conditions for surrounding lands compared to existing approvals and maximize land area for future after uses. The proposed modification to the existing quarry rehabilitation also results in the West extension being maintained in a dewatered state. The proposed South Extension will not be maintained in a dewatered state and will be</p>	Not resolved.

				rehabilitated to a lake.  The operation of the existing quarry and west extension in a dewatered state is straight forward and consistent with current operations. Water is discharged to the north and south of the site at the existing approved discharge points by two pumps. The costs associated with dewatering will be maintained by Nelson until such time as the license is surrendered. Following license surrender the cost of operating two pumps will be the responsibility of the owner at the time. There is no safety risk to off-site properties in the event of a system failure. Due to the topography all water would be maintained on-site if the pumps were to fail.	
4.	While it is understood that it is a requirement to plan for after use of the subject lands, there is no interest by Burlington, at this time, to entertain discussions of future transference of ownership to a public authority.	General	City of Burlington	Comment noted.	Not resolved.
5.	It is noted that a property not currently in agricultural use does not restrict it from such a use in the future, especially if it is located within a prime agricultural area.	General	Niagara Escarpment Commission	Comment noted.	Response acknowledged.
6.	Whether or not the proposed after-uses are appropriate or possible will be predicated on the effectiveness of the progressive rehabilitation program. As the report notes once a quarry license is surrendered it must be re-designated through a subsequent NEPA application. It is at this time that the lands are assessed against the criteria for designation found under Part 1 of the NEP and an appropriate designation applied.	General	Niagara Escarpment Commission	Comment noted. Also see response # 1.	Response acknowledged.
7.	The report notes that it is anticipated by the applicant that the lands resulting from the rehabilitation would achieve a mix of land uses designations (ENA, EPA, ERA). It is noted that a number of uses proposed within the after-use plan would not be permitted within these designations. While inclusion within NEPOSS and the submission of a Park Management Plan could be a path to address this, it is noted that NEPOSS lands must be within the public realm necessitating ownership of the lands by a public body. On-going discussions and assessment of the rehabilitation would be required throughout the foreseeable future; the after-uses will be reasonably considered through this work and once the license has been abandoned.	General	Niagara Escarpment Commission	Comment noted. Also see response # 1.	Response acknowledged.
8.	Staff recommends the Progressive and Final Rehabilitation/Monitoring Study be revisited and updated once significant issues with the Level 1 and Level 2 Natural Environment Technical Report, Surface Water Assessment, Phase 1 and 2 Hydrogeological and Hydrological Study, other reports and After Use have been resolved.	General	Conservation Halton	Comment noted. If changes are required to the monitoring program or proposed rehabilitation land form these revisions will be reflected on the ARA Site Plans and the AMP since these documents will ultimately govern monitoring and rehabilitation of the site.	On January 1, 2023, Ontario Regulation 596/22 came into effect. As a result, technical review services for planning and development applications previously provided by Conservation Halton (CH) under Memorandums of Understanding with municipalities (e.g., technical reviews related to natural heritage and select aspects of stormwater management) can no longer be provided.  O. Reg. 596/22 does not affect CH's mandatory programs or services. CH has only reviewed this comment based on natural hazard, and wetland matters, per Ontario Regulation 686/21 and Ontario Regulation 162/06.  CH has no further comment from a regulatory perspective. We defer any remaining natural

					<p>heritage related comments to the other JART members to confirm whether it has been addressed.</p> <p>Halton Region staff have reviewed Nelson's response and provided the following JART response:</p> <p>The original comment still stands as the significant issues remain and the Progressive and Final Rehabilitation/ Monitoring Study should be revisited and updated when these issues are resolved.</p>
9.	<p>Ecological monitoring should be undertaken to ensure that mitigation measures are working as proposed and to ensure that the quarry is not impacting the natural environment. As per the Region's Aggregate Resources Reference Manual, monitoring of the NHS should be included. Current monitoring of ecological features that may be impacted and mitigated for by the proposed development is not included. Recommend that this be incorporated into the report.</p>	General	Conservation Halton	<p>The ecological monitoring is focussed on water based impacts since the adjacent features that have the potential to be impacted are water dependant features. Other ecological features (e.g. woodlands) include the required buffers / setbacks to ensure no negative impact to adjacent features.</p> <p>If there are any monitoring requirements that the agencies would like included please provide the specific monitoring note for Nelson's consideration and the rationale for inclusion. If appropriate, these monitoring requirements can be included on the ARA Site Plan or the AMP since these documents will ultimately govern the monitoring of the site.</p>	<p>On January 1, 2023, Ontario Regulation 596/22 came into effect. As a result, technical review services for planning and development applications previously provided by Conservation Halton (CH) under Memorandums of Understanding with municipalities (e.g., technical reviews related to natural heritage and select aspects of stormwater management) can no longer be provided. As such, we defer this comment to the other JART members to confirm whether it has been addressed.</p> <p>Sarah Mainguy, NSE, has reviewed Nelson's response and provided the following JART response: Amphibian monitoring, for frog and salamander species, should be conducted in the wetlands since the focus is on maintaining this function.</p>
10.	<p>The report identifies Conservation Halton as a potential future landowner for the rehabilitated site. No formal discussion has taken place with Conservation Halton on future land ownership, and consideration for any future CH park land has no bearing on Conservation Halton's review role as a member of the JART team.</p>	General	Conservation Halton	<p>Comment noted. Nelson believes Conservation Halton is an ideal partner for long term ownership of the site for numerous reasons. Nelson understands that any future conveyance of the site to Conservation Halton has no bearing on Conservation Halton's review role as a member of the JART team. Regardless of Conservation Halton's position on the application, if the application is ultimately approved Nelson commits to convey the land to Conservation Halton if Conservation Halton has a long term interest in the site.</p>	Acknowledged.

11.	Recommended rehabilitation option RHB1, as shown on the Site Plan, requires perpetual pumping to maintain artificially low groundwater levels. An alternative (RHB2) has been proposed with resulting fish habitat impact concerns. No cost benefit analysis of impacts of the alternative rehabilitation scenario has been provided. The overall impact of the two rehabilitation scenarios on the subwatershed does not appear to have been considered in this analysis nor has the cumulative impact of the existing quarry been considered.	General	Norbert M. Woerns	Disagree. The overall impact of the two rehabilitation scenarios on the watershed have been considered. Based on this impact analysis RHB1 has been recommended to maintain discharge off-site since the existing approved rehabilitation plan discontinues off-site discharge.  As part of the Burlington Quarry Extension application, Nelson has agreed to modify the existing quarry rehabilitation plan to maintain off-site pumping to improve conditions for surrounding lands compared to existing approvals.	The comparative impact analysis of the two rehabilitation scenarios is not complete. The cumulative impact of the existing quarry has not been considered in this analysis. RHB1 relies upon an unproven infiltration pond whose function has not been demonstrated nor have water quality impacts on down gradient wells been addressed.
12.	No discussion on the need to integrate the rehabilitation and closure plan of the proposed expansion with that of the existing quarry. The Progressive and Final Rehabilitation Monitoring Study provides detailed information on the rehabilitation of the proposed extension. Information is lacking on the relationship of the proposed extensions to the approved rehabilitation plan for the existing quarry.	General	Norbert M. Woerns	As noted in the application an amendment to the existing quarry rehabilitation plan will be required to integrate the proposed extension. Nelson has now submitted this application to MNRF. Attached is a copy of the revised rehabilitation plan that has been submitted to MNRF.	The proposed Rehabilitation Plan requires a change to the approved existing quarry rehabilitation plan. There is no discussion of the conformity between the two rehabilitation plans and the justification for changing the approved rehabilitation plan.
13.	There is no discussion of the maintenance requirements of the proposed land use for the preferred recommended rehabilitation option and the potential affects on surface water and groundwater quality.	General	Norbert M. Woerns	See response to Comment # 1.	The maintenance requirements of the rehabilitation scenario and resulting water quality impacts on surface water and groundwater have not been discussed.
14.	The rehabilitation plan does not explain how the West Extension area will be integrated with the existing quarry to achieve the preferred rehabilitation Scenario 1 (RHB1).	General	Norbert M. Woerns	See response to Comment # 12. A revised rehabilitation plan for the existing quarry has been submitted to MNRF to achieve the preferred rehabilitation scenario.	Since the proposed rehabilitation plan RHB1 for the proposed quarry extensions relies upon modifying the approved rehabilitation plan for the existing quarry, the integrated rehabilitation plan for both the existing quarry and the proposed expansion should be shown on the rehabilitation plan.
15.	The rehabilitation monitoring plan includes only monitoring of surface and ground water – no terrestrial monitoring of habitat or monitoring of wildlife to determine if the rehabilitated wildlife habitat features are functioning according to their specified purposes. Monitoring of biota should be included.	General	North-South Environmental Inc.	Monitoring of the site will be completed in accordance with the AMP until rehabilitation is complete and the license is surrendered. The license cannot be surrendered until MNRF is satisfied that the proposed land form as shown on the ARA Site Plans have been created which includes the required terrestrial habitat.  The monitoring being referenced by North-South Environmental Inc. is not typically required for rehabilitated aggregate sites. If there are any monitoring requirements that the agencies would like included please provide the specific monitoring note for Nelson's consideration and an example where it has been included on other sites. If appropriate, these monitoring requirements can be included on the ARA Site Plan and / or the AMP since these documents will ultimately govern the monitoring of the site.	The focus of the report is the maintenance of the amphibian breeding function of the ponds. Therefore, amphibian monitoring is required to ensure mitigation can be directed to this function.

16.	The Plan relies heavily on pumping of water from the quarry to replace any surface water deficits that may affect wetlands in the future. This is discussed in the Adaptive Management Plan comments.	General	North-South Environmental Inc.	Comment noted. The AMP is the appropriate document to address any comments since the AMP includes the mitigation and monitoring requirements to prevent negative impacts to surrounding wetlands.	This comment still stands.
17.	<p>Unclear on why the revision of the current rehabilitation plan is contingent on the approval of the extension- further details regarding this connection would be appreciated.</p> <p>Neither the current nor the proposed rehabilitation plans include any agricultural lands- please provide an explanation. For example, there are 162.0 hectares of grasslands proposed- why isn't this proposed for agricultural use?</p> <p>A number of the uses proposed in the after-use vision in Figures 6 to 9 are active, not passive, recreational uses (i.e. soccer/baseball fields, amphitheatre, volleyball courts, skate park etc.) and would not be considered compatible with the City's land use objectives for the Rural Area. For example, subsection 2.1.2 e) of the Burlington Official Plan, 1997: To allow only passive recreational uses that are compatible with rural land uses and the preservation of natural features and prime agricultural areas.</p>	Page 4 Section 2.0. Overview of the Burlington Quarry Extension, Last 2 Paragraphs	City of Burlington	<p>The existing approved quarry has an approved rehabilitation plan (e.g. lake with no off-site discharge). If the Burlington Quarry Extension is not approved Nelson will be completing rehabilitation in accordance with the approved rehabilitation plan.</p> <p>As per our recent meeting with JART, Nelson is exploring the possibility of restoring a portion of the existing quarry to agricultural with the agricultural soils from the proposed South Quarry Extension. This will be confirmed as part of Nelson's response to JART's agricultural comments.</p> <p>Regarding potential after uses please see response to Comment # 1.</p>	Not resolved.
18.	<p>The report notes that the 4.0 hectares proposed for an off-site ecological enhancement plan are currently in active agricultural production. Are these lands within a prime agricultural area? If they are to be permanently taken out of production through the creation of habitat for endangered species, these lands should be included within the Agricultural Impact Assessment.</p> <p>Given the lack of proposed agricultural uses within the rehabilitation plan, why are there no proposed off-site agricultural enhancements to mitigate the adverse impacts to the Agricultural System?</p>	Page 17 Section 4.0. Rehabilitation and After Use Policy Analysis, 2 <sup>nd</sup> Bullet	City of Burlington	<p>Map 1 of the Region of Halton Official Plan designates the 4.0 ha area as part of the Regional Natural Heritage System and the area is also mapped by MNRF as habitat for Jefferson Salamander. While the area is also considered a prime agricultural area, the lands have a planned function to provide for natural heritage uses. In addition the ecological restoration does not remove the agricultural soils within this area and there are numerous areas mapped as prime agricultural area that also contain key natural heritage features.</p> <p>As per our recent meeting with JART, Nelson is exploring the possibility of restoring a portion of the existing quarry to agricultural with the agricultural soils from the proposed South Quarry Extension. This will be confirmed as part of Nelson's response to JART's agricultural comments.</p>	Not resolved.

19.	<p>The rehabilitation plan notes that rehabilitation back to an agricultural use is not required based on the applicable policies, but does not speak to the following Niagara Escarpment Plan policy: in prime agricultural areas, where rehabilitation to the conditions set out in (g) and (h) above is not possible or feasible due to the depth of planned extraction or due to the presence of a substantial deposit of high quality mineral aggregate resources below the water table warranting extraction, agricultural rehabilitation in the remaining areas will be maximized as a first priority.</p> <p>The report only quotes the amount of prime agricultural land in production (12.7 hectares). The policy framework for the protection of prime agricultural lands is not contingent on whether the lands are in active production. In the absence of a refinement to the Provincial and Regional prime agricultural area mapping, the City continues to consider the golf course lands in the Western Extension as prime agricultural, regardless of their current use. Further, it has not been established that the golf course lands are beyond rehabilitation to an agricultural use in future. The full amount of prime agricultural lands being removed should also be referenced here, for complete context.</p>	Page 17 Section 4.0. Rehabilitation and After Use Policy Analysis, 1 <sup>st</sup> Paragraph (after bullets)	City of Burlington	<p>As per our recent meeting with JART, the agencies do not dispute that rehabilitation to agricultural in the West Extension and South Extension is not feasible based on the policies of the Niagara Escarpment Plan. The agencies determined that rehabilitation in the “remaining areas” refers to rehabilitation to agricultural in the existing quarry since the rehabilitated land form is proposed to change from a lake to also include areas of terrestrial habitat.</p> <p>As per our recent meeting with JART, Nelson is exploring the possibility of restoring a portion of the existing quarry to agricultural with the agricultural soils from the proposed South Quarry Extension. This will be confirmed as part of Nelson’s response to JART’s agricultural comments.</p> <p>Regarding the West Extension it is Nelson position that the West Extension does not contain prime agricultural land and therefore that portion of the application does not remove prime agricultural land.</p>	Not resolved.
20.	<p>This section indicates that during operations and until surrendering the licence, the licensee is required to operate in accordance with the Adaptive Management Plan, prepared by EarthFX Inc., Savanta and Tatham Engineering, dated April 2020, as may be amended from the time to time with approval from MNRF, in consultation with NEC, Region of Halton, City of Burlington and Conservation Halton.</p> <p>It is being noted that all JART comments related to natural environment, surface water, hydrologic, hydrogeologic and related assessments, and all respective comments concerning adaptive management plan (AMP) and site plan would need to be addressed first. As such, tables included in Section 6 of this report are considered preliminary/incomplete [refer to some comments/examples below].</p>	Page 22 Section 5.1.6. Adaptive Management Plan	Halton Region	Comment noted. If changes are required to the monitoring program or proposed rehabilitation land form these revisions will be reflected on the ARA Site Plans and the AMP since these documents will ultimately govern monitoring and rehabilitation of the site.	Please see JART response to Comment #8. The Progressive and Final Rehabilitation/ Monitoring Study should be revisited and updated when these issues are resolved.
21.	There is no discussion on how the applicant will provide ‘confirmation that any long-term monitoring, pumping or mitigation will not result in a financial liability to the public.’ This appears to be a requirement of surrendering the ARA Aggregate Licence. Given uncertainties of the effectiveness of proposed mitigation measures this should be demonstrated prior to approval of the licence application for quarry expansion.	Page 22 Section 5.2. Final Rehabilitation, Point 8	Norbert M. Woerns	See response to Comment # 3.	The financial implication of maintaining, in perpetuity, the proposed quarry Western Extension dewatering, the existing quarry dewatering, infiltration pond system and associated pumping system to maintain wetlands, as well as seepage management beneath Side Road No.2 between the proposed South Extension and the existing quarry have not been addressed. In addition, possible future well complaints may need to be addressed and a cost assigned to this possibility. Ongoing responsibilities to supply water to impacted residences will need to be accounted for.

22.	The groundwater monitoring (Table 2) corresponds to Table 10: On-Site Groundwater Monitoring and Evaluation Program in Section 7.1 of the AMP (April 2020); both tables itemize proposed monitoring locations for the proposed South and West Extension areas. Any comments related to groundwater monitoring program in the assessment studies, AMP, and site plan should be addressed and applied accordingly to respective tables and text in this study.	Page 26 Section 6.1 Groundwater Monitoring Program, Table 2	Halton Region	Comment noted. If changes are required to the monitoring program or proposed rehabilitation land form these revisions will be reflected on the ARA Site Plans and / or the AMP since these documents will ultimately govern monitoring and rehabilitation of the site.	Please see JART response to Comment #8. The Progressive and Final Rehabilitation/ Monitoring Study should be revisited and updated when these issues are resolved.
23.	Table 3 in this study correspond to Table 11 - Groundwater Quality Parameters in the AMP (April 2020). Any comments related to groundwater monitoring program in the assessment studies, AMP, and site plan should be addressed and applied accordingly to respective tables and text in this study.	Page 27 Section 6.1 Table 3	Halton Region	Comment noted. If changes are required to the monitoring program or proposed rehabilitation land form these revisions will be reflected on the ARA Site Plans and / or the AMP since these documents will ultimately govern monitoring and rehabilitation of the site.	Please see JART response to Comment #8. The Progressive and Final Rehabilitation/ Monitoring Study should be revisited and updated when these issues are resolved.
24.	Information contained in Section 6.2 and Tables 4, 5, 6 of this study reflect information in Section 7.2 –Surface Water Monitoring Program and Tables 13, 14, 15 in the AMP (April 2020). Both sets of tables are essentially the same as the AMP's Tables 4, 5, 6 concerning the existing monitoring program. In designing monitoring programs for natural features, there should be close interlinkage between a receptor [specific wetland, stream, creek, spring, vernal pool, etc.] and designated surface water monitoring location. As such, any comments related to surface water monitoring program in the applicable assessment studies, AMP, and site plan should be addressed and applied accordingly to respective text in this study. Ecological/biological-type monitoring is missing in the proposed monitoring plan and is considered a major gap. Any monitoring associated with natural environment should be linked to its features and functions and should include monitoring of efficacy of any potential/acceptable water management system designed to protect or provide support to key natural systems components as per relevant comments concerning the applicable assessment studies, AMP, and site plan.	Pages 27-28 Section 6.2 Surface Water Monitoring Program Tables 4, 5, 6	Halton Region	The ecological monitoring is focussed on water based impacts since the adjacent features that have the potential to be impacted are water dependant features. Other ecological features (e.g. woodlands) include the required buffers / setbacks to ensure no negative impact to adjacent features.  If there are any monitoring requirements that the agencies would like included please provide the specific monitoring note for Nelson's consideration and the rationale for inclusion. If appropriate, these monitoring requirements can be included on the ARA Site Plan or the AMP since these documents will ultimately govern the monitoring of the site.	As noted above, the focus is on maintaining the function of these wetlands as amphibian breeding ponds for Ambystomatid salamanders and frogs. Monitoring of these biota is required.
25.	It is also noted that Streamflow and Water Temperature Thresholds (AMP's Table 7) and Wetland Hydroperiod Thresholds (AMP's Table 8) are not included in AMP's Section 7 - Compliance Monitoring and Assessment or Section 6.2 of this study.	Pages 27-28 Section 6.2 Surface Water Monitoring Program Tables 4, 5, 6	Halton Region	Comment noted. If changes are required to the monitoring program these revisions will be reflected in the AMP since this document will ultimately govern monitoring of the site.	It is appreciated that according to the revised (2022) AMP, streamflow, water temperature and wetland hydroperiod thresholds are to be included, though the actual thresholds are to be determined later.
26.	Information contained in Section 6.3 in this study corresponds to Section 7.3 – Post-Extraction Monitoring Program in the AMP (April 2020). Any comments related to post-extraction monitoring program in the assessment studies, AMP, and site plan should be addressed and applied accordingly to respective text in this study.	Page 29 Section 6.3 Post-Extraction Monitoring Program Page 29	Halton Region	Comment noted. If changes are required to the monitoring program or proposed rehabilitation land form these revisions will be reflected on the ARA Site Plans and / or the AMP since these documents will ultimately govern monitoring and rehabilitation of the site.	There is no mention of post-extraction monitoring in the revised AMP. However, pumping is now proposed in perpetuity throughout the AMP. Monitoring is proposed until 3 years after rehabilitation is complete.