

Aggregates Section

Section des agrégats

Divisional Delivery Branch
300 Water Street
Peterborough, ON K9J 3C7

Direction de la prestation des services de la Division
300, rue Water
Peterborough (ON) K9J 3C7

E: ARAApprovals@ontario.ca

E : ARAApprovals@ontario.ca

June 5, 2023

Thomas Cavanagh Construction Ltd.
9094 Cavanagh Road
Ashton, Ontario
K0A 1B0

Subject: *Aggregate Resources Act* Application # 626599
Thomas Cavanagh Construction Ltd. – Highland Line Pit
Aggregate Licence for a Pit Below the Ground Water Table
Maximum Annual Tonnage Limit 1,000,000 Tonnes
Lot 5, Concession 10, Geographic Township of Dalhousie
Township of Lanark Highlands, County of Lanark

Dear Phil White,

The Aggregates Section of the Ministry of Natural Resources and Forestry (MNRF) has reviewed your application for an Aggregate Licence for a pit below water under the *Aggregate Resources Act* (ARA) application #626599. As per the ARA process, we are providing the following comments to be addressed:

Natural Environment

The 'Natural Environment Report,' prepared by Golder Associates Ltd., and dated December 2022 has been reviewed in comparison to the Aggregate Resources of Ontario: Technical Reports and Information Standards and in consideration of relevant provincial legislation, policies and associated technical guidance material.

Significant Wildlife Habitat

1. Processes and conclusions regarding the presence or absence of some Significant Wildlife Habitats (SWH) within 120 m of the site is unclear and/or insufficient to prove absence. In general, the report should provide sufficient information on the methods and findings to substantiate conclusions with respect to significant wildlife habitat. Please include a complete assessment of the SWH as per the appropriate Significant Wildlife Habitat Technical Guide and applicable Ecoregion Criteria (i.e., Ecoregion 5E). The ecosites identified and mapped for the proposed licence area suggest the following candidate Significant Wildlife Habitats may be present (at minimum): Bat Maternity Colonies, Turtle Wintering

Areas, Specialized Habitat for Wildlife (Seeps and Springs, Amphibian Breeding Habitat (Woodland)) and Habitat for Special Concern and Rare Wildlife Species. The Level 1 report should provide a conclusion (and rationale) regarding the presence or absence of each wildlife habitat described in the ecoregional criteria.

Further, it is unclear if targeted surveys or reconnaissance for addressed significant wildlife habitats were conducted in support of the application. MNRF would appreciate additional information on any survey methodologies, observations and conclusions related to any occurrences of significant wildlife habitat.

2. As noted in the NER, “the wetland area on the Site north of Barbers Lake extending down to the lakeshore contained numerous seeps...The small pond feature is also associated with groundwater seepage. The small pond feature will be removed during operations. Additional seeps or springs may be present in the Study Area.” However, as noted in SWH Criteria Schedule for Ecoregion 5E, “presence of a site with 2 or more seeps/springs should be considered SWH.”

The ARA recognizes the interim nature of mineral aggregate resource extraction, where progressive and final rehabilitation of sites are required to accommodate compatible land uses. It is the ministry’s understanding that the proposed licence area overlaps with SWH (Seeps and Springs). SWH is protected under the ARA Technical Reports and Information Standards, Section 2.2 (f), whereby negative impacts and any proposed preventative, mitigative or remedial measures must be identified. The ARA under Section 12.1 (a), also requires that mineral aggregate operations minimize impacts to the environment.

In order to issue a licence under the ARA to extract from within SWH, any negative impacts to the natural feature or its ecological function must be addressed through preventative, mitigative or remedial measures. The ministry would be unable to support extraction within the portion of the SWH where no negative impact has been established.

Please provide additional information on survey methodologies, locations and number of seeps identified on site and how proposed operations meet the test of no negative impact. See also Comment #10 below.

3. As noted in the NER, measures to protect the area identified as maternity roost habitat for tri-coloured bat include the area being removed from extraction and delineated as a “Natural Environment Exclusion Area” and demarcated with a fence. As noted above, any negative impacts to the natural feature or its ecological function must be addressed through preventative, mitigative or remedial measures to meet the test of no negative impacts. We are concerned a fence may be insufficient at preventing negative impacts to the maternity roost habitat during operations and rehabilitation. Please provide an analysis on how

the ecological function will be maintained and how all impacts will be mitigated (e.g., dust, noise, vibrations, etc.).

4. We agree a timing restriction on vegetation removal is necessary to protect migratory birds, but it is also necessary to avoid impacts to Significant Wildlife Habitats like Bat Maternity Colonies. Environment Canada has established the migratory bird nesting period for this region to be from early to mid April to late August for forest and wetland habitats. We recommend that tree removal only occurs between October 1st and March 30th to avoid the breeding bird nesting and the active season for bats.

Wetlands

5. Unevaluated wetlands are identified on LIO within the site and adjacent lands (within 120 m information boundary) and have the potential to be impacted from operations. In accordance with the Aggregate Resources Act policy (Policy A.R. 2.01.07), unevaluated wetlands cannot be assumed to be non-significant, unless agreed to by the Ministry. As part of the application, an Ontario Wetland Evaluation System (OWES) evaluation to determine wetland significance by a certified evaluator was not completed. Instead, the ministry understands that the wetlands were assumed significant for planning purposes and the applicant has proposed a 30 m buffer to protect the wetlands. To implement this recommendation, the wetland boundary should be flagged by a qualified professional and a 30 m undisturbed setback established. The setbacks must be applied to the wetland boundary and the boundary must be established following OWES and marked in the field under the direction of a qualified ecologist prior to site development and operations.
6. A minimum 30 m, vegetated buffer is standard for mitigating potential impacts and provide enhancement opportunities by maintaining the wetland form and function, protecting wetland water quality and the vegetation and tree root zone; thereby, regulating associated surface and groundwater regimes and the hydrological and hydrogeological conditions upon which they depend. Buffer recommendations have been developed through the analysis of existing natural heritage features and functions and in consideration of guidance from relevant scientific literature (i.e., Natural Heritage Reference Manual). Further, a minimum buffer is integral for the protection or enhancement of aquatic habitat quality and function and for reducing potential for physical edge effects through the establishment of a more robust dense edge vegetation community. As such, please provide a minimum 30 m buffer along the southern border of the site where it is adjacent to the wetland and indicate on site plans. Please also move any berms outside of the 30 m setback along all wetlands to provide an undisturbed buffer along these sections. Further preventative, mitigative or remedial measures may be required pending Hydrogeological requirements.

7. Please confirm the 30 m setbacks are adequate to ensure no impacts to the water budget/balance, water levels, thermal regime and hydroperiod of wetlands and associated water features.

Fish Habitat

8. There is some discrepancy between the surface water features identified in the NER that must be addressed. The small intermittent watercourse and pond feature in the FOM2-2 forest appear to be more consistent with the information available in Land Information Ontario and what can be observed from satellite imagery than the mapping provided in Figure 1 of the NER. Please clarify the discrepancy and provide additional information to substantiate conclusions regarding presence/absence. We recommend that additional background information review and/or site investigations are completed to verify the presence/absence of these waterbodies and their extent.
9. As noted in the NER, there will be no substantial impacts to fish habitat during operations and rehabilitation that is present in Long Sault Creek (a sensitive, coldwater fishery dependant on groundwater to support life cycle functions of coldwater species) and Barbers lake (a fishery that contains pike spawning habitat). However, the NER states that there will be a decrease in water balance by 10% and a decrease in the runoff volume to Barbers Lake and Long Sault Creek as a result in catchment loss. Also discussed in the NER, “an outlet to Barbers Lake will be placed at the east edge of the pit to offset the loss in runoff.” The NER then goes on to state that “although the pit will no longer be directing a substantial amount of runoff to either waterbody, the water surplus collected in the pit will also infiltrate and continue downgradient to these two waterbodies as shallow groundwater flow.”

Please provide a rationale how these changes in runoff pattern meet the test of no negative impact to fish habitat as well as wetlands. Please also provide analysis on how these changes in runoff pattern may change the temperature regime or groundwater seepage to these two waterbodies. If impacts to fish habitat are expected, we recommend that the applicant circulate the Department of Fisheries and Oceans Canada (DFO), confirming that Fisheries Act obligations, if any, have been met.

10. As noted in the NER, a small intermittent watercourse is present in the northeastern portion of the site. The watercourse appears to “originate from two seepage/spring areas then flows through a cedar swamp into a small inlet of Barbers Lake.” Further, within the FOM2-2 Forest, there is a “small wetland inclusion/pond” that had “shallow water throughout most of the spring and summer and was vegetated with emergent and floating plants.”

Processes and conclusions regarding the absence of fish habitat in this area is unclear and/or has not been well substantiated. Please provide additional information on any survey methodologies, observations and conclusions related

to any occurrences of fish habitat. Please also provide a rationale why these features are not considered headwater drainage features.

Habitat of Endangered and Threatened Species

11. As per ARA Technical Reports and Information Standards, Section 2.2 (e), endangered and threatened species and their habitat need to be assessed for negative impacts, including inventory, habitat assessments and any proposed preventative, mitigative or remedial measures must be identified. As endangered and threatened species and their habitat are regulated by the Ministry of Environment, Conservation and Parks (MECP), we recommend that the applicant circulate the MECP so that the proposed development, including the proposed rehabilitation, is in accordance with the Endangered Species Act.

Site Plans

The Site Plans (pages 1 to 5 of 5), prepared by prepared by Brian Henderson and dated December 13, 2022 has been reviewed in comparison to the Aggregate Resources of Ontario: Site Plan Standards, the Aggregate Resources of Ontario: Technical Reports and Information Standards and in consideration of relevant provincial legislation and policies and associated technical guidance material.

Where applicable, comments are organized by reference to the relevant site plan standard (SPS), as listed in the 'Aggregate Resources of Ontario: Site Plan Standards' (Aug.2020).

General

12. Licence conditions must be concise and free from ambiguity. Licence conditions and site plan notes must apply exclusively to the licensee and must be practical and legally enforceable by MNRF.
13. SPS 2: Please include Geographic Township of Dalhousie on the drawing.
14. 'Archeological Exclusion Zone' – A Stage 2 archaeological assessment report is outstanding for the area identified on page 3 of the site plan as the 'archeological exclusion zone'. This is necessary before the site plan is finalized to ensure appropriate setbacks have been applied to archaeological resources until further investigation, as needed, has been completed. Based on the results of the Stage 2 assessment a letter from Ministry of Citizenship and Multiculturalism (MCM) must be obtained and if applicable, confirm temporary avoidance and protection for this site. If MCM supports the temporary avoidance and protection as it is proposed, we have provided comments on the draft site plan intended to address our interests under the ARA. We encourage the applicant to share these comments with MCM for their consideration.

Existing Features

15. Land Use/Zoning Section - Once all municipal approvals have been completed, please update these notes and corresponding symbols on the drawing prior to issuance.
16. As per ARA Site Plan Standard #20, all significant natural features on and within 120 m of the site shall be depicted on the Existing Features page. Please include all significant natural features confirmed in the NER on the site plan.
17. The Ministry recommends removing operational information from Existing Features page. If the need for an amendment arises in the future, this will reduce the changes necessary to the site plan. Operational information would include: extraction area, setbacks and monitoring buffers.

Operations

18. Variation to excavation of setbacks – The rationale for this variation states that the purpose is to provide a clearer line of sight of the highway at the entrances and exits. Please provide further details if the intention of this variation is to excavate along the entire length of Highland Line Road or only in the locations of the entrances/exits. Please include details on the distance from the entrances/exits to be excavated as well as a maximum depth of extraction in the disturbed areas of the setback.
19. SPS 37 – O. Reg. 244/97 'Control and Operation of a Pit or Quarry' rule s. 0.13(1)(13i) states that a building or structure will not be located within 30m of the licenced boundary. The drawing on page 3 indicates that the scale house, scales, and fuel storage will be located during the beginning of site operations within 30m of the licence boundary. Please revise for consistency with the site plan notes or add a site plan variance for the location of these structures.
20. SPS 37 – O. Reg. 244/97 'Control and Operation of a Pit or Quarry' rule s. 0.13(1)(25) states that scrap will not be stored within 30m of a water body, please revise to include this information. Please also provide additional details of how scrap will be managed once the area shown on the drawing is within below water extraction to satisfy this section of the regulation.
21. SPS 39 – As per Recycling Policy A.R. 5.00.15 once the aggregate on site has been depleted there will be no further importation of recyclable materials permitted. In addition to not being stored within 30m horizontally, recycled asphalt shall also not be stockpiled within 2m of the established water table. Please revise this note to include these additional requirements and details of how recycled materials will be managed or relocated once the area identified on the drawing is within the below water extraction area.

22. SPS 48 – The berms identified in the noise barrier table on page 3 only refer to noise attenuation berms. Please include the minimum height of all storage berms.
23. 'Archeological Exclusion Zone' – If temporary avoidance and protection is confirmed by MCM, please revise the site plan drawing to clearly delineate the archaeological sites that will be avoided and protected, including protective buffers and monitoring zones, if required. Please include conditions that describe how the archaeological sites will be avoided and protected and details of the circumstances of when and how the protections may be lifted.

Progressive and Final Rehabilitation

24. SPS 60 – Progressive Rehabilitation was enforceable. Please add progressive rehabilitation including clear and measurable triggers for progressive and final rehabilitation. For example, the use of a maximum disturbed area for this site or the use of operational phases which relate the progressive rehabilitation to the completion of operational sequences (for example, completion of 50% side sloping and planting of Extraction Area 1 before starting Extraction Area 2).
25. SPS 62 – Please provide soil calculations or rationale to MNRF on how the 4.1M m³ of excess soil requirement was determined for rehabilitation.
26. SPS 62 – Importation of Soil, Topsoil or Fill Material – The MNRF has 6 standard site plan conditions for the importation of excess soil. Please remove the conditions and replace with the following:
- 1) Excess soil, as defined in Ontario Regulation 244/97 may be imported to this site to facilitate the following rehabilitation:
 - a) Creation of 3:1 slopes (or sloping ratio otherwise described on the final rehabilitation page)
 - b) Top dressing to establish vegetation
 - 2) Liquid soil, as defined in Ontario Regulation 406/19 under the *Environmental Protection Act*, is not authorized for importation to the site.
 - 3) The quality of excess soil imported to the site for final placement must be equivalent to or more stringent than the applicable excess soil quality standards as determined in accordance with Ontario Regulation 244/97 as amended from time to time and must be consistent with the site conditions and the end use identified in the approved rehabilitation plan.
 - 4) Where a qualified person is retained or required to be retained in accordance with Ontario Regulation 244/97, the quality, storage, and

final placement of excess soils shall be done according to the advice of the qualified person.

- 5) Excess soil imported to facilitate rehabilitation as described on this site plan shall be undertaken in accordance with Ontario Regulation 244/97 under the *Aggregate Resources Act*, as amended from time to time.
- 6) The cumulative total amount of excess soil that may be imported to this site for rehabilitation purposes is **xx** m³

27. Editorial – Page 5, note 63 – Please revise Ministry of Northern Development Natural Resources and Forestry to Ministry of Natural Resources and Forestry.

28. 'Archeological Exclusion Zone' – Please revise to address aspects of the final rehabilitation plan that are contingent on future approvals from MCM. Areas subject to temporary and avoidance and protection need to be illustrated on the final rehab plan and indicate how rehab will proceed if, ultimately, approvals to excavate cannot be obtained.

29. As Eastern Wood Pewee habitat was identified during targeted surveys as “territory singing in Southern edge forest”, the woodland may be candidate habitat for this species. By including a diverse wildflower and shrub mix to the rehabilitation planting plan, it promotes insect diversity and better foraging habitat for Eastern Wood Pewee to further mitigate impacts of the proposed forest removal on this species.

30. Please provide a minimum planting density for trees, shrubs and clumps of plants.

31. Please include criteria for successful establishment of self-sustaining vegetation and requirements for monitoring, tending and re-planting (as needed) to ensure success and healthy functionality following final rehabilitation.

32. Mitigation - We recommend all setbacks from natural heritage features be clearly marked under the direction of a qualified Ecologist and prior to the start of operations.

Cross Sections

33. SPS 70: The site plan standard states that appropriate horizontal and vertical scales must be clearly marked on all cross sections. Please incorporate a horizontal scale into the cross-section schematic.

34. Editorial – Please remove the word “proposed” from the cross-section schematics.

Technical Recommendations

35. Editorial – Where bullets without numbering are used, please change them to be alphanumeric (a. b. c. or i, ii, iii, etc.) so they can be easily referenced.
36. Wash plant section, fourth bullet point – This condition indicates that there may be a requirement for an enclosure or additional noise mitigation to ensure the generator noise does not exceed 108.5 decibels. The current wording of this condition is not enforceable and contains ambiguous language such as “will likely need to be”. Please revise to include further details on how the noise limits will be identified and how mitigation will be managed for this location if required. If an enclosure is required, please indicate this on the site plan.
37. Editorial – Please revise to show portable construction equipment section as a new heading and not as a bullet point under the highway trucks section.
38. New Process section – This condition contains ambiguous language making it difficult to enforce. Please revise so it is clear how and when it will be determined that the new processes will be implemented and will meet the guidelines (i.e. additional noise testing or assessments) and whether a site plan amendment or formal authorization from the Ministry will be required at a later date.
39. Editorial – Symbol for wash plant and mobile crushing plant is missing from the legend. Please revise.
40. Editorial – Page 3, Noise Barrier Table - For consistency and to avoid confusion please revise the barrier names so they are the same on the noise barrier table as they are on the drawing.

Hydrogeology

The documents, titled “Maximum Predicted Water Table Report,” prepared by WSP Golder, and dated December 12, 2022, as well as the “Level 1 & 2 Water Report,” prepared by WSP Golder, and dated December 2022, have been reviewed in comparison to the Aggregate Resources of Ontario: Technical Reports and Information Standards and in consideration of relevant provincial legislation and policies and associated technical guidance material.

41. Please update the water level map presented to accurately represent the maximum water table elevation. It is unlikely that there is a hydraulic sink present at the location of MW20-3. It is also unlikely that equipotential lines meet the drainage features such as wetlands and lake at the perpendicular angle.
42. Please update the analysis of the water levelling effect. Because of the overall groundwater gradient of approximately 10 meters, it is possible that the creation of the ponds may result in drawdown in groundwater level by approximately 5

meters at the southwestern part of the pit and water table rise of approximately 5 meters at the northeastern part.

43. Please provide impact analysis as to how the groundwater decline of approximately 5 meters upstream and water level rise of approximately 5 m downstream will impact the near-by wetlands, water levels in the cold streams, and seeps. Please consider both hydraulic and temperature change effect with potential change in chemistry.
44. Because the monitoring wells are not completed to the depth of the anticipated depth of extraction, please use the range of hydraulic conductivities including literature values for sand and gravel in the calculations of potential impacts as a result of the water levelling effect to ensure that the worst case scenario is considered. While calculating impacts please use different methodologies to evaluate the extent of the groundwater level drawdown because each of the analytical methods has its limitations.
45. Please provide information as to how drawdown because of water levelling effect would impact the Natural Environment Exclusion Zone.
46. Please provide information as to how the expected change water balance as a result of the change of runoff pattern will impact the near-by natural heritage features.
47. Please provide information as to how the potential water level rise of +5 m will be managed operationally.
48. Please propose additional monitoring locations to ensure no impacts to the Natural Heritage features (wetlands, natural environment exclusion zone, cold streams and seeps) and propose increase frequency of monitoring.
49. Please update the site plans with the updated water level information and monitoring details.
50. I note that additional hydrogeology related comments may arise as a result of the Proponent response to MNRF comments.

Summary Statement

The 'Summary Statement,' prepared by MHBC, and dated December 2022 has been reviewed in comparison to the Aggregate Resources of Ontario: Technical Reports and Information Standards and in consideration of relevant provincial legislation and policies and associated technical guidance material.

51. Written confirmation from the Lanark County and the Township of Lanark Highlands for any necessary Official Plan and Zoning Amendments is required prior to issuance of a licence.

Additional comments maybe provided pending the additional information provided to the above-mentioned points. Additionally, further reviews for conformity with the *Aggregate Resources Act*, 1990, site plan standards, policies and procedures will be undertaken as further edits to the site plan are made.

Following receipt of this letter, in order to expedite Aggregates Section reviews of any follow-up submissions please clearly highlight any and all changes to the site plan or reports. Additionally, in the submission related correspondence please provide a statement for the record confirming that all changes have been highlighted.

We are open to having discussions with you to discuss the items outlined in this letter. If you have any questions, or require additional information, please contact Melanie Teitler at melanie.teitler@ontario.ca.

Sincerely,



Carla Riche

A/ Aggregate Resources Planner
Aggregates Section

c. Neal DeRuyter, MHBC