



File: 23-LH-OP; PLHOP-6

March 9, 2023

Amanda Noel
Clerk
Township of Lanark Highlands
75 George Street
Lanark, ON K0G 1K0

Dear Ms. Noel:

**Re: Official Plan & Zoning By-law Amendment – OPA-08 & ZA-2023-02
Dalhousie Con 10, Pt Lot 5, Highland Line, Township of Lanark Highlands, (Dalhousie)
THOMAS CAVANAGH CONSTRUCTION LTD**

The staff of Mississippi Valley Conservation Authority (MVCA) has reviewed the above noted application for concerns related to natural hazards for the subject property and surrounding lands. The details of the proposed operation are provided in a series of supporting documents. MVCA's review has focussed on the Site Plan, Natural Environment Report (NER), Maximum Predicted Water Table Report, and Level 1 and 2 Water Report. These reports have been reviewed in the context of the following mandated responsibilities:

- Section 1.6.6 Stormwater, & 3.1 Natural Hazards of the Provincial Policy Statement under Section 3 of the Planning Act;
- The Conservation Authority ("Development, Interference with Wetlands and Alteration to Shorelines and Watercourses" regulation 153/06 under Section 28 of the Conservation Authorities Act;
- The Mississippi-Rideau Source Protection Plan.

SUMMARY OF PROPOSAL

The proposed planning applications are to permit the opening and expansion of a mineral aggregate pit within the subject property. The applicant is applying for a Class 'A' License to operate a pit below the water table for the extraction of sand and gravel. The license area is approximately 50.6 hectares with two extraction areas totalling 35.1 ha.

The proposed pit depth will be 176 meters above sea level (masl) "which is equivalent to a depth of extraction of 8 to 40 m". "Only unconsolidated materials (sand, gravel) will be removed from the Site. Any bedrock encountered on the Site will remain in place. ... extraction operations below the groundwater table will not involve dewatering of the excavation." The property and the proposed extraction area are bisected by Anderson Road. It is proposed that the excavation area will have a 15 m buffer from property lines and a 30 m buffer from road allowances and wetland features.



SITE CHARACTERISTICS

The subject property is a mix of wetland; deciduous, mixed and coniferous forest; and small patches of active agriculture. Adjacent and nearby land use is residential, farmland and aggregate operations. The topography is hilly, sloping mostly to the southeast. In addition, the following features have been identified, in reference to the *Natural Environment Report* (NER) and MVCA's mapping:

(4) Wetlands

The following unevaluated wetlands exist onsite (Refer to Table 2 and Figures 1 and 2 in the NER, for details):

- a large wetland to the north of Highland Line;
- a large riparian wetland associated with Long Sault Creek to the south west of the site boundary;
- a cedar swamp within the south east corner of the site;
- a lacustrine marsh associated with Barber's Lake, which then outlets to Long Sault Creek.

These wetlands are partially located within the licensed area but outside of the proposed areas of extraction. These wetlands, and their 30 m adjacent lands, are regulated by MVCA.

Waterbodies/Watercourses

- southeast corner of the property has frontage on a small waterbody named Barber Lake;
- several watercourses, that flow off-site, are hydraulically connected to the site, including Long Sault Creek
- "... a small intermittent watercourse in the northeast portion of the Site (Figure 1). This watercourse appears to originate from two seepage/spring areas then flows through a cedar swamp into a small inlet of Barber's Lake. There are several locations where this watercourse flows underground and then resurfaces one to two meters downstream."

Note: While not mentioned in the in the NER, downstream of the Site, Long Sault Creek is known to be a cold to cool water system that supports a sensitive brook trout population. To track natural variation in the water temperature at this sensitive site MVCA established a long-term monitoring station in 2015, with temperature logger data collected in 2015, and from 2017 to 2022. Since 2017 the creek has consistently been classified as cool or cold-cool.

Significant Recharge Area

MVCA mapping and the Mississippi-Rideau Source Protection Plan (revised 2022) identifies areas of Significant Groundwater Recharge within the site. This is typical of areas that are dominated by sand and/or gravel deposits, where surface water can readily seep into the ground and recharge the underlying aquifer.

COMMENTS

As previously indicated, (4) **wetlands** have been identified within, or just outside, the proposed licensed area. These wetlands, as well as their 30 m adjacent lands, are regulated by MVCA under Ontario Regulation 153/06. MVCA's review of wetlands is focused on assessing potential impacts to the hydraulic function of the wetland with respect to flood and erosion hazards. We also consider impacts from a broader water management/water balance perspective, particularly in terms of resilience to climate change impacts. This includes both flood mitigation with respect to the natural storage provided by wetland, as well as drought mitigation, where wetlands augment base flows by discharging stored water during dry periods. Our review does not specifically assess potential ecological impacts.



In the context of the broader **surface and groundwater system**, the site is within the catchment area of, and is hydraulically (small tributary) and hydrologically connected to, Long Sault Creek. We note that impacts to the hydraulic/hydrologic function of the adjacent riparian/lacustrine wetlands from a reduction in surface runoff is not clearly discussed. Clarification and confirmation is required on potential impacts to Long Sault Creek baseflows due to quarry operations. The NER indicates that creek baseflow will be maintained by infiltrating water from the pit. However, it is unclear where this infiltrated water will outlet and what impact there may be from the change in hydrology on the Long Sault Creek system upstream of this point. Potential impacts on seasonal water level fluctuations on the sensitive hydrology and features have also not been clearly discussed.

CONCLUSIONS AND RECOMMENDATIONS

While MVCA accepts the methodology within the NER with respect to review related to natural hazards, and the recommendations in the *Water Report*, we also recommend the following:

- In terms of the cool-cold water function of Long Sault Creek, while MVCA monitors stream temperature, the review/assessment of impacts to thermal hydrologic regime does not fall under our plan review mandate and should be addressed in the consultants reports and captured under the municipalities own natural heritage review.
- Similarly, the consultant's reports should include discussion regarding the **Significant Groundwater Recharge Areas** and whether there are any potential impacts or concerns that the municipality should consider.
- Clarification is required on potential hydraulic/hydrologic impacts to the adjacent wetlands associated with a change to drainage and existing flows.

Thank-you for the opportunity to comment. Should any questions arise please do not hesitate to contact the undersigned.

Yours truly,

A handwritten signature in black ink that reads "Daire Keval".

Environmental Planner (MVCA)