



PLANNING, DEVELOPMENT  
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File: C14-60/6/19011  
February 7, 2020

Andrew Martin  
Manager of Planning / EDO  
Township of Wilmot  
60 Snyder's Road West  
Baden, ON N3A 1A1  
(sent via email: andrew.martin@wilmot.ca)

Dear Mr. Martin:

**Re: Zone Change Application 11/19 – Preliminary Comments from  
Hydrogeology and Source Water Protection  
Jackson Harvest Farms Ltd. (Hallman Pit)  
1894-1922 Witmer Road  
Township of Wilmot**

The Region's Hydrogeology and Source Water Protection (HSW) staff have reviewed the above-captioned zone change application submitted on behalf of Jackson Harvest Farms Ltd. for a proposed above-water table aggregate operation at municipal addresses 1894 to 1922 Witmer Road in the Township of Wilmot. The application is intended to support the applicant's application to the Ministry of Natural Resources and Forestry (MNRF) for a Category 3, Class 'A' License to Excavate Aggregate from Above-Water Table Pit.

HSW staff reviewed the technical reports that were submitted in support of the proposed aggregate pit. The following relevant technical reports were reviewed by HSW staff:

- 1) Phase I Environmental Site Assessment (CVD, 2017a)
- 2) Phase II Environmental Site Assessment (CVD, 2017b)
- 3) Hydrogeological Assessment, Level 1 and 2 (Harden, 2019)

HSW staff reviewed the submission and assessed the technical reports with a focus on potential impacts to drinking water sources from the proposed aggregate pit as well as to ensure consistency of the technical work with the Region's draft *Guidelines for Hydrogeological Assessments for Proposed Mineral Aggregate Resource Extraction Projects*.

The hydrogeologic field investigation completed at the subject property is insufficient to assess potential impacts to surrounding municipal and private groundwater users within the study area. Further, the data collected and technical assessment does not meet the minimum requirements as set out in the Region's aggregate guidelines, which were provided to the proponent ahead of this submission. Given the above, HSW staff has outstanding concerns and does not support the proposed zone change application at this time. Additional investigations and reporting will be required prior to approval of the zone change application. Specific concerns identified below by HSW will need to be addressed prior to zone change approval.

### **Potential On-Site Contamination**

The Phase I and II Environmental Site Assessment (ESA) reports identified contaminated soil at the subject property relating to historical fuel and oil storage. Based on this new information that identifies historical BTEX/PHC contamination identified in soil at the property, HSW requests that a Record of Site Condition (RSC) be filed for the subject property. The implementing zoning by-law should include a Holding zone until such time as an RSC is filed with the Ministry of the Environment, Conservation and Parks and to the satisfaction of Regional staff.

### **Site Water Balance**

Additional details and supporting rationale need to be provided for the site water balance calculations presented in the Hydrogeological Assessment report. There were also some discrepancies noted between different sections of the report related to the water balance. Further, the assessment of the during-operations water balance used only one scenario, where multiple should have been evaluated.

### **High Water Table Delineation**

An inadequate number of groundwater monitoring locations were installed across the site to delineate the on-site high water table and groundwater flow direction. None of the monitoring wells were installed within the proposed extraction area, especially near the topographic divide at the centre of the property and towards the west of the property in the vicinity of the headwaters of Hunsberger Creek.

Further, the report did not consider potential changes to regional and on-site groundwater elevations related to climate change. Nearby shallow aquifer groundwater elevations have varied by over 2 metres throughout the monitoring period and exhibit an overall increasing elevation trend over time. The report should evaluate high water table elevations in comparison to the historical high groundwater elevations demonstrated below and consider potential increases in the high water table as a result of climate change.

### **Potential Impacts to Nearby Municipal and Private Drinking Water Sources**

The presence and thickness of the protective aquitard ATB2 referenced in the report cannot be confirmed/refuted at the site because groundwater monitoring wells were not advanced to sufficient depths. Due to the lack of information about the connectivity between the unconfined aquifer and the municipal supply aquifer, and the lack of analyses

regarding impacts from shallow groundwater pumping for the wash ponds, not enough information has been collected and analysed to determine whether there may be an impact to private and/or municipal supply wells in the vicinity of the proposed pit.

The report did not provide sufficient evidence or rationale to confirm that there would be no impacts to private wells in terms of water quantity and/or water quality as a result of the operation of the aggregate pit and associated recycling activities proposed at the subject property.

Surface elevation contours suggest there is a component of on-site runoff that flows to the west towards Hunsberger Creek; however, the report did not discuss potential impacts to the headwaters of Hunsberger Creek as a result of altering drainage flowpaths across the subject property.

The report did not adequately characterize historical groundwater quality in nearby municipal and private wells. In addition, the report did not adequately assess the potential impacts to future groundwater quality concentrations (particularly nitrate) as a result of operations at the proposed aggregate pit.

### **Groundwater Monitoring Program**

Additional groundwater monitoring will be required at additional locations, including groundwater monitoring in a deep multi-level with one of the screens installed within the municipal aquifer.

Further, the proposed groundwater monitoring program is insufficient to adequately assess potential impacts to nearby private wells and nearby municipal wells. The report did not include any trigger levels or contingency plans for groundwater quality and/or quantity in on-site monitoring wells and, potentially, off-site private and municipal wells.

### **Spill Contingency Plan**

Additional details should be added to the spill contingency plan to ensure that the plan identifies and designates key individuals and responsibilities for implementing the plan, identifies chemical storage areas, and provides information regarding spill prevention measurements of chemical storage vessels and storage areas.

### **Summary**

Based on the technical information provided, Regional staff do not support the proposed Jackson Harvest Farms Ltd. aggregate pit at 1894 and 1922 Witmer Road at this time. Additional investigations and updated reporting as described above is required to address outstanding concerns. The proponent should contact Regional Hydrogeology and Source Water staff regarding questions about the scope of the above-noted required technical studies and information and to arrange discussions on more detailed technical matters.

Yours truly,

A handwritten signature in blue ink that reads "Dave Welwood". The signature is fluid and cursive, with the first name "Dave" and last name "Welwood" clearly distinguishable.

David Welwood, MCIP, RPP

Principal Planner

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