Subject: Strada Proposed Quarry - Bottom Line Items
From: Garry Hunter <ghunter@hunter-gis.com>
Date: 2024-09-20, 5:08 p.m.
To: Grant Horan <ghoran@strada-aggregates.com>, Carl Cosack <cosack@zing-net.ca>, Natalie Kotyck <nkotyck@gmail.com>
CC: Alicia Kimberley <akimberley@tathameng.com>, Dirk Kassenaar <dirk@earthfx.com>, James Newlands <jnewlands@mhbcplan.com>, Kevin Powers <kevinp@campbellstrategies.com>

Grant,

We enclose some key bottom line and site plan issues for your consideration:

1. In Situ Material Volumes

Fig H.24.1 enclosed provides a visualization of the full Quarry excavation.

Enclosed Table H.3 provides a summary of this Peer Review independent estimated material volumes by proposed Pit / Quarry Lifts. The Total Material Volume is about 39 million m3 after allowance for 5 % fines generation at about 2 million m3.

There is only about 9,800 m3 of high quality high value Gasport including the IRM, and after deducting about say 4 million m3 of commercial sand and gravel in the Prince Pit, the Gasport is under about 24 million m3 of lower quality materials.

The Site Plan issue becomes, if sandy silty and / or finer textured glacial till and soft Guelph are not marketable, does Strada intend to stockpile and / or double handle these waste materials and if so where to? Will waste materials be disposed in the quarry excavation (hydrogeology impacts). If not, will extraction be curtailed until there is a market for the overlying lower quality materials.

2. Underground Stream through Proposed Quarry to Pine River Headwaters

Fig H.24.1 enclosed shows this Peer Review interpreted location of a 3D underground stream through the full Quarry excavation footprint. This location is based on this Peer Reviewer (circa 2010) airphoto interpretation of karstic underground streams, the Strada groundwater modellers introduction of an inferred virtual zone of higher conductivity (flow) towards Hornings Mills (Fig H.23.1 and H.23.2 enclosed) and this Peer Review previously provided Fig H.1

and H.2 one m contour water level plots. These plots were based on screens classified by Model Layers 4 and 6 and further Spatial Analysis (GIS) of the single point Strada hydrogeologist downhole water level database. Legacy synthetic water level data from inactive monitors was introduced to patch the data gaps as available.

The underground stream based on other similar Pine River local headwater bedrock features is estimated to be about 50 m width more or less. This feature is hinted at in Strada's monitoring network and in the Melancthon Pit No 1 Site Plan floor elevations.

Not withstanding Strada's hydrogeologist many contrary statements, the current groundwater monitoring network and modelling is not sufficient to define this 3D underground stream location within the proposed Quarry footprint.

This underground stream is a critical component for source feeding Hornings Mills Lake and Village Wells and the Pine River - River Road tributary east of Main Street to the Mill Pond and beyond. Strada must maintain the quantity and quality of this underground stream for the life of the proposed quarry and in perpetuity after quarry abandonment.

Detailed location of this underground stream feature is required to incorporate efficient avoidance and /or mitigation measures into the Quarry Site Plans. Ignoring this feature may result in sudden uncontrolled groundwater inflow onto this deep quarry floor, flooding of equipment and abrupt partial loss of groundwater flow to the Pine River Horning's Mills headwaters.

This Peer Reviewer would recommend avoidance of this feature especially in early Quarry phases to minimize water pumped.

3. Collateral Letter

For your information, I enclose a collateral letter acknowledging this Peer Reviewers work in obtaining a Licence and Permitting, without a Hearing, for a Quarry in Region of Ottawa now owned by Lafarge.

Yours truly,

Garry T. Hunter M.A.Sc. P.Eng.
President

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-------- Forwarded Message --------

Subject: Strada: Two Figures

Date: Fri, 20 Sep 2024 14:09:26 -0400

From: Rachel Li <rli@hunter-gis.com>

To:'Garry Hunter' <ghunter@hunter-gis.com>

Hello Garry,

The attached two figures are

1. the 3D view of the extraction and
2. Memo of Extraction Volume Calculations

For the forest width I measured on 2023 orthophoto, one place is between 54 to 56m, another place is between 45m to 52m.

Thank you and have a good weekend,

Rachel

Attachments:

Fig H.24.1 3DModelExcavation.pdf	8.2 MB
Fig H.23.pdf	1.5 MB
Table H.3-In Situ Material Volumes - Strada Proposed Quarry Footprint (Modified).pdf	130 KB
Fig H.24.2 Volumes_20240920.pdf	945 KB
Collateral Letter-Dibblee Osgoode Quarry Site.pdf	23.4 KB