Ontario

Ministry of Energy, Northern Development and Mines

Ministère de L'Énergie, du Développement du Nord et des Mines

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Subject: City of Kingston, Battersea Road/Unity Road property - Official Plan Amendment, Zoning By-law Amendment

Jason,

The comments below are provided by the Southern Ontario Regional Land Use Geologist for the Ministry of Energy, Northern Development and Mines regarding mineral values in the area of the the OPA & ZBA submission for 2285 Battersea Road, City of Kingston.

1. Mineral Occurrences: The Ontario Geological Survey's Mineral Deposits Inventory (MDI) database was checked. There is one mineral occurrence, the Fairmount Quarry #2, MDI point #MDI31C08SW00019, a limestone quarry located in the southern half of the proposed project area as shown in Figure 1. The location may not be accurate, as the MDI point plots in the farm field, with no visual evidence of an abandoned quarry. However, the MDI record indicates the quarry location as lot 33, concession 6, Kingston Township (Ontario Geological Survey, 2018).
2. Bedrock Geology: The project area is underlain by Paleozoic (Ordovician age) limestone of the Gull River Formation, Simcoe Group (Armstrong and Dodge, 2007).
3. Aggregate Potential: Aggregate resource mapping of the area (Aggregate Resources Inventory of the County of Frontenac – ARIP187) indicates low potential for sand and gravel resources. However, two licenced aggregate pits are located within 400 to 600 metres west of the property boundary within an

area of tertiary significance for sand and gravel potential (Marich 2012). The property lies within a large area with good potential for bedrock aggregate, in which Gull River Formation limestone is overlain by less than 1 metre of overburden (Figure 2).

4. Mining Lands Status: There is no Crown Land within 1 km of the project area and no history of mineral exploration or development other than the previously-mentioned limestone quarry.
5. Mineral Potential: The property does not lie within an area of Provincially Significant Mineral Potential.
6. Karst: Groundwater Study 5, Karst of Southern Ontario and Manitoulin Island (Brunton and Dodge 2008) indicates that the property lies within an area of "inferred karst" in bedrock, surrounded by areas of "potential karst" (Figure 3).
7. Abandoned Mines Hazards: The Abandoned Mines Hazard status of the former Fairmount Quarry #2 is not available in the ENDM Abandoned Mines Information System (AMIS) database.

To summarize, ENDM has no concerns regarding mineral occurrences and mineral potential in the project area. However, the area lies within an area of good potential for bedrock aggregate resources and within an area of inferred and potential karst development in bedrock. Concerns regarding active sand and gravel extraction west of the site, bedrock aggregate potential and condition of the abandoned limestone quarry at the site should be addressed by the Ministry of Natural Resources and Forestry.

Best regards,

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References:

Armstrong, D.K. and Dodge, J.E.P. 2007. Paleozoic geology of southern Ontario; Ontario Geological Survey, Miscellaneous Release--Data 219 (May 2017 update). http://www.mndm.gov.on.ca/en/mines-and-minerals/applications/ogsearth/paleozoic-geology

Brunton, F.R. and Dodge, J.E.P. 2008. Karst of southern Ontario and Manitoulin Island; Ontario Geological Survey, Groundwater Resources Study 5 (May 2017 update). http://www.mndm.gov.on.ca/en/mines-and-minerals/applications/ogsearth/karst
Marich, A.S. 2012. Aggregate resources inventory of the County of Frontenac, southern Ontario; Ontario Geological Survey, Aggregate Resources Inventory Paper 187, 50p.

Ontario Geological Survey 2018. Mineral Deposit Inventory; Ontario Geological Survey, Mineral Deposit Inventory, online database (April 2, 2019 update). http://www.mndm.gov.on.ca/en/mines-and-minerals/applications/ogsearth/mineral-deposits-mdi

Figure 1. Mineral Deposit Inventory image, Battersea Road at Unity Road, showing outline of the project area in red.

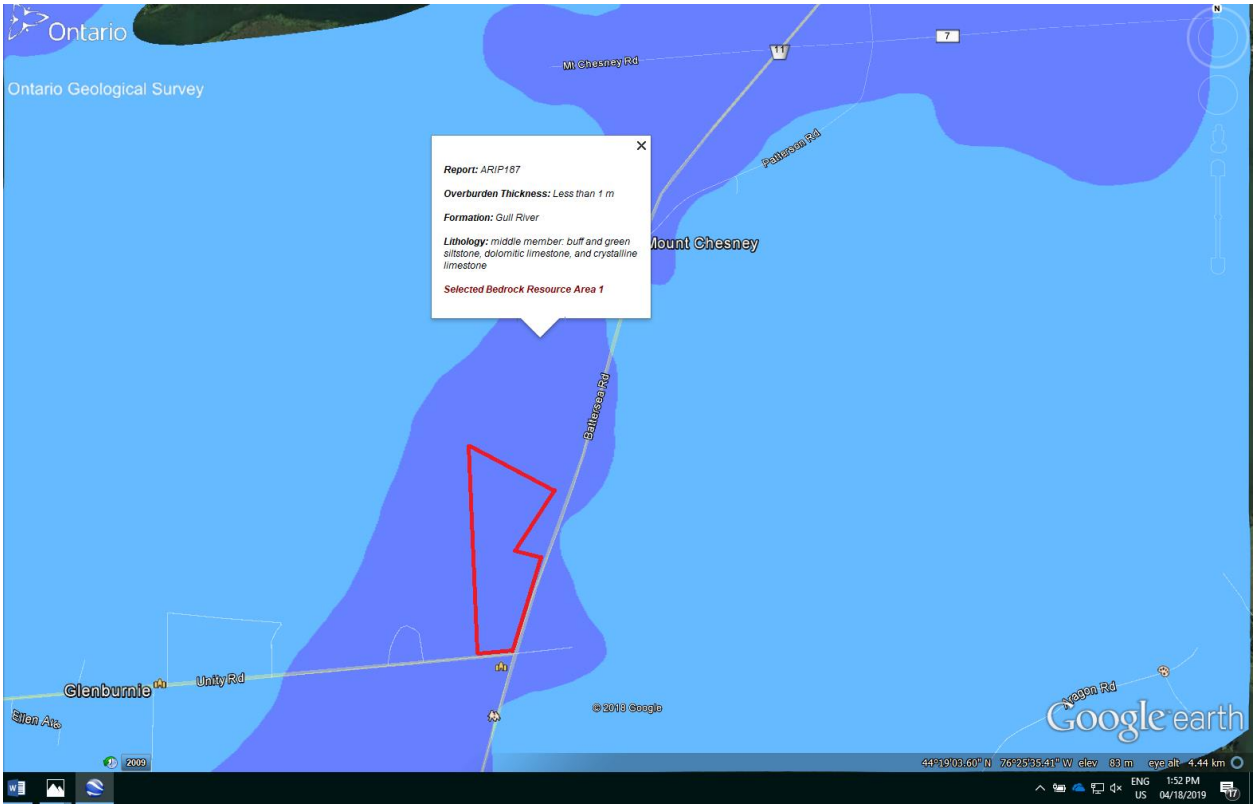

Figure 2. Aggregate Potential (bedrock), Battersea Road at Unity Road, showing areas of Gull River limestone with less than 1 m (dark blue) and 1 to 8 m (light blue) of overburden (from Aggregate Resources of Ontario, Compilation; Ontario Geological Survey, OGS Earth database http://www.mndm.gov.on.ca/en/mines-and-minerals/applications/ogsearth/aggregate-resources-ontario-compilation

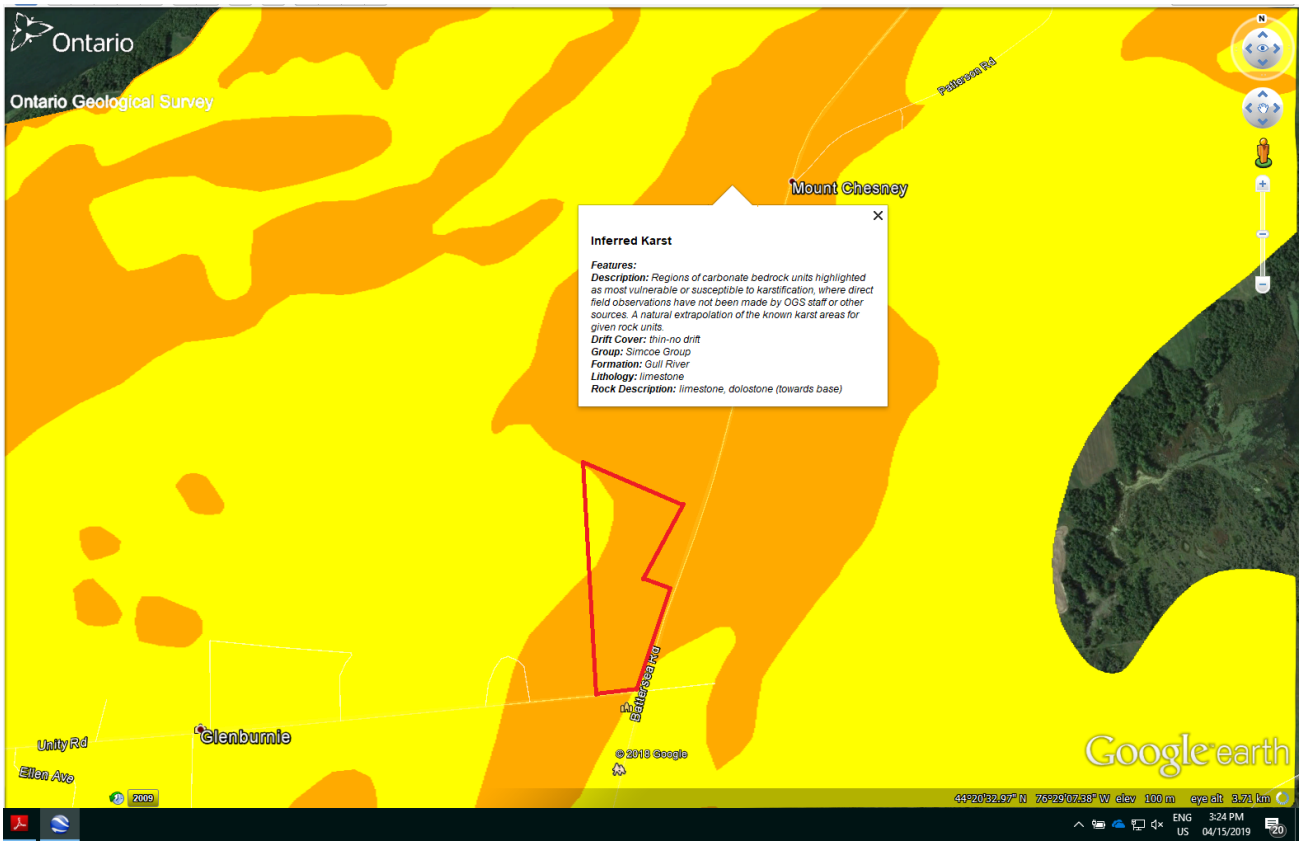

Figure 3. Karst potential, Battersea Road at Unity Road, showing areas of inferred karst (orange) and potential karst (yellow); from Brunton and Dodge 2008; OGS Earth database http://www.mndm.gov.on.ca/en/mines-and-minerals/applications/ogsearth/karst