



ENVIRONMENTAL SERVICES DEPARTMENT MEMORANDUM

TO: MAYOR J. LEHMAN AND MEMBERS OF COUNCIL

FROM: J. THOMPSON, P. ENG., CMM III IP, PMP
DIRECTOR OF ENVIRONMENTAL SERVICES

NOTED: A. MILLER, RPP
GENERAL MANAGER OF INFRASTRUCTURE & GROWTH MANAGEMENT

M. PROWSE, CHIEF ADMINISTRATIVE OFFICER

RE: CONSTRUCTION OF A HISTORIC WASTE SITE BARRIER WALL AND PASSIVE VENTING SYSTEM

DATE: SEPTEMBER 9, 2019

The purpose of this Memorandum is to provide members of Council with a status update regarding on-going mitigation efforts associated with the Historic Waste Sites in the City of Barrie.

The 2017 study that assessed the risk of landfill gas migration to adjacent private properties in the John Street and Frederick Street area recommended that, although the probability of landfill gas migration is low, preventative measures be taken as a precaution to limit the City's risk of impacting off-site properties. A Barrier Wall and Passive Venting System was selected as the most feasible option. These issues were highlighted to area residents at a well-attended Public Information Meeting in 2017.

The Barrier Wall and Passive Venting System will be installed starting in mid-September, 2019. The Barrier Wall and Passive Ventilation System includes an underground vertical barrier wall (approximately 200 metres long and approximately 2.5 metres below grade) that will be installed along the north and east border of the inactive landfill to stop the movement of gas to residential properties on Frederick Street and John Street. A venting system will be installed to collect and vent the gas (methane) that gathers along the inactive landfill side of the barrier wall using three vent stacks. See Appendix A for the location of the wall, the vent stacks and the historical landfill site lines.

Once built, the wall and venting system will prevent any potential movement of landfill gas onto neighbouring properties. It will operate, passively, 24 hours a day, 365 days a year. The barrier wall will block potential gas movement and the three vent stacks will exhaust the gas passively. There will be minimal noise associated with the operation of the vent stacks. There may possibly be a slight odour from the stacks, but it's expected to be significantly below emission guidelines as demonstrated through emissions modelling conducted for Ministry of the Environment, Conservation and Parks (MECP) approval.

Some tree clearing will be required on the northwest and northeast areas of the inactive landfill to allow for construction of the wall and venting system. Replacement trees will be planted after the construction is completed. An increase in noise levels, construction traffic, heavy machinery and dust will occur during construction. All work will follow the City's Noise By-law and efforts will be made to minimize noise, dust and odour as much as possible.

Construction will take approximately nine weeks starting in September and continue through to November 2019. Crews are scheduled to work from 8:30 a.m. to 6:00 p.m., Monday to Friday.



ENVIRONMENTAL SERVICES DEPARTMENT MEMORANDUM

In addition to letters of information being provided to the affected residents prior to construction, door to door visits conducted by City staff prior to and after the project will assist in ensuring the affected residents are well informed. There will also be opportunities for resident to voice their concerns both during the construction and operation of the system. A copy of the letter is attached, as Appendix B, for your information.

Post installation, Environmental Operations staff will continue to monitor the existing gas probes, as part of the operations and maintenance plan associated with the system's Environmental Compliance Approval issued by the MECP.

The Barrier Wall and Passive Venting System has been approved by the MECP and both the MECP and the Simcoe-Muskoka District Health Unit have endorsed the communication measures planned.

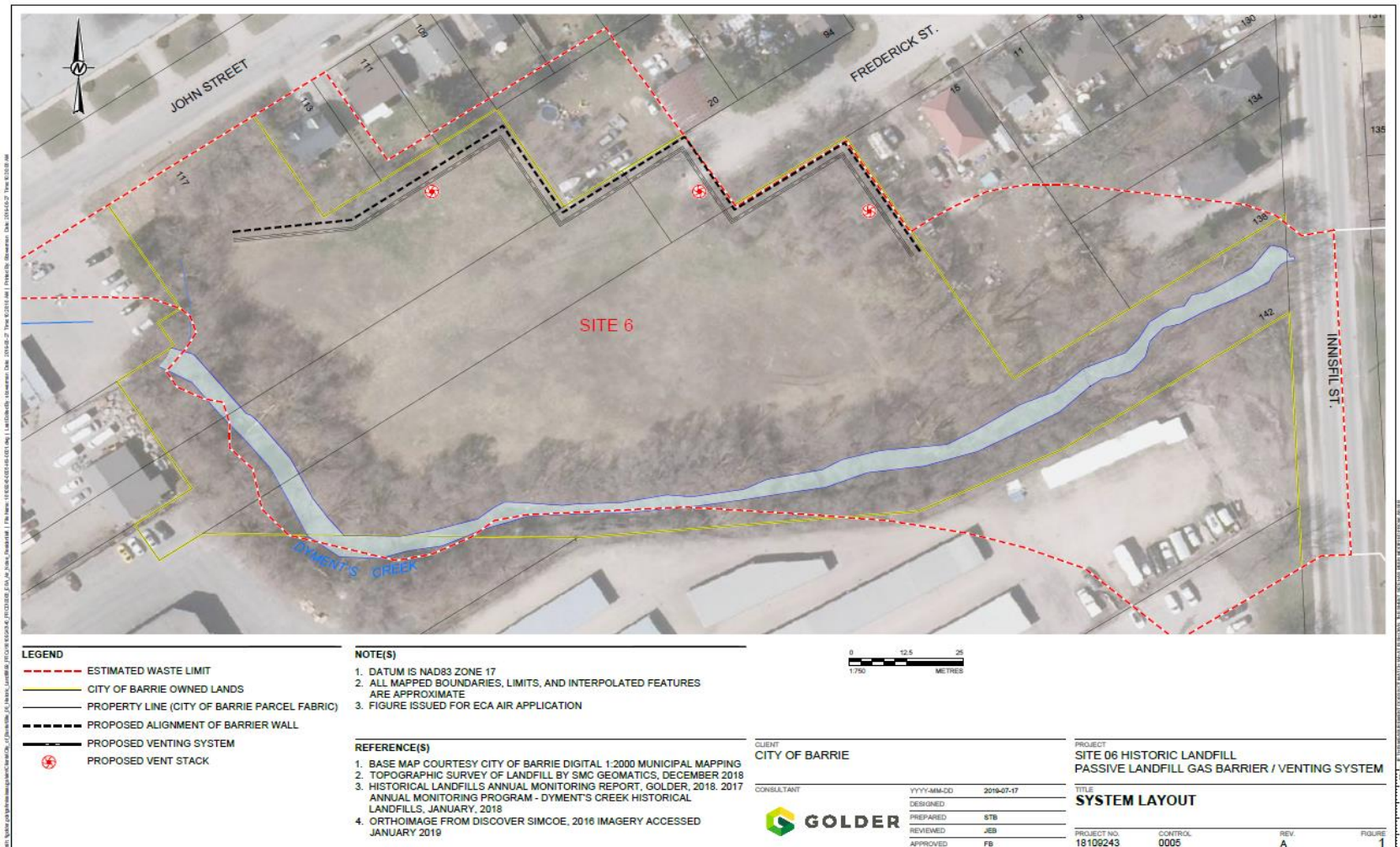
The wall and venting system is a precautionary measure to ensure landfill gas doesn't affect residents or their homes in the future. It is a proactive step to ensure our community meets or exceeds environmental compliance and regulations.

Additional Background

The City of Barrie, like many other older towns and cities, historically deposited waste in non-engineered sites, referred to as "Historic Waste Sites." In Barrie, there are four sites that were used from 1947 to 1965 along/near Bunker's Creek and three that were used from 1960 to 1963 along/near Dymont's Creek.

These Historic Waste Sites and their associated assessment areas were first identified in the City's Official Plan in 1985, but have been known to be in existence well before that date. The Waste Disposal Assessment area boundaries were refined based on recent studies to ensure that future development in the area of the Historic Waste Sites will be managed in keeping with the need to protect public safety and in accordance with the requirements of the Ministry of the Environment, Conservation and Parks (MECP).

Appendix A



Appendix B

THE CORPORATION OF THE CITY OF BARRIE



DATE

Dear Resident,

This letter is to inform you of a construction project that will be happening near your home this fall. This project includes the construction of an underground wall and pipe system to ensure proper venting of potential methane gas from Historical Waste Site 6. This is a precautionary measure only.

Historical Waste Site 6 is an inactive, old landfill site that is located on the north side of Dymont's Creek, at the west end of Frederick Street, between Innisfil Street and John Street. This site was used from 1960 to 1964.

Background information

In 2017, the City of Barrie hired Golder Associates Ltd. to study the risk of landfill gas movement from the Historic Waste Sites to neighbouring private properties. Golder identified that although the probability of landfill gas migration is low, they recommend that preventative measures be taken as a precaution.

Construction

The system that will be constructed this fall includes an underground vertical barrier wall (200 metres long and approximately 2.5 metres below grade) that will be installed along the north and east border of the inactive landfill to stop the movement of gas to residential properties on Frederick Street and John Street. A venting system will be installed to collect and vent the gas (methane) that gathers along the inactive landfill side of the barrier wall using three vent stacks. Figure 1 (attached to this letter) shows the location of the wall, the vent stacks and the historical landfill site lines.

These preventative measures also met the requirement of the Ontario's Ministry of Environment, Conservation and Parks Environmental Compliance Approval. As well, the Ministry of Environment District Office and Simcoe Muskoka District Health Unit concur with the plan.

Timelines

Construction will likely take about nine weeks. It will start on September 30, 2019 and will go until November. Crews are scheduled to work from 8:30 a.m. to 6 p.m., Monday to Friday.

How will this affect me?

Some tree clearing will be required on the northwest and northeast areas of the inactive landfill to allow for construction of the wall and venting system. Additional trees will be planted after the construction is done. An increase in noise levels, construction traffic, heavy machinery and dust will occur during construction. All work will follow the City's Noise By-law and efforts will be made to minimize noise, dust and odour as much as possible.

□



ENVIRONMENTAL SERVICES DEPARTMENT MEMORANDUM

How will this construction help?

Once built, the wall and venting system will prevent any potential movement of landfill gas onto neighbouring properties. It will run 24 hours a day, 365 days a year. The barrier wall will block potential gas movement and the three vent stacks will exhaust the gas passively (no motorized parts will be used to move the gas to the atmosphere). There will be minimal noise associated with the operation of the vent stacks. There may be an odour that comes from the stacks, but it's expected to be significantly below emission guidelines.

The wall and venting system is a precautionary measure to ensure landfill gas doesn't affect residents or their homes in the future. It's a proactive step to ensure our community meets or exceeds environmental compliance and regulations.

How can I learn more or ask questions about this project?

More information and project updates are available on the City's website at www.barrie.ca/HistoricLandfills. If you have any questions, comments or concerns regarding construction activities, please contact Golder by calling Jamie Bonany at 705-790-5886 or Frank Barone at 416-588-2812. All other inquiries can be directed to Sandra Brunet, Manager of Environmental Operations, City of Barrie, at sandra.brunet@barrie.ca or 705-739-4220 ext. 6140.

Sincerely,

Sandra Brunet, BSc.
Manager of Environmental Operations, City of Barrie

John F. Thompson, P.Eng., CMM III IP, PMP
Director of Environmental Services, City of Barrie

Enclosure

cc: **Andrea Miller, RPP**
General Manager of Infrastructure and Growth Management, City of Barrie

ENVIRONMENTAL CENTRE • 272 FERNDAL DRIVE NORTH
P.O. Box 400 BARRIE, ONTARIO L4M 4T5

P (705) 728-4242 • barrie.ca