



Staff Report

Report To: Council Meeting
From: Lee Gosnell, Manager of Operations & Community Services
Date: 2025-02-13
Subject: West Elgin Landfill Capacity

Recommendation:

That West Elgin Council hereby receives the report from Lee Gosnell, Manager of Operations & Community Services for information purposes; And

That West Elgin Council hereby approves the elimination of commercial waste being received at the West Elgin Landfill, effective March 31, 2025; And

That West Elgin Council hereby directs staff to prepare options for additional waste diversion measures which will extend the remaining life expectancy of the West Elgin landfill; And

That West Elgin Council hereby directs staff to further explore landfill closure preparation including, but not limited to, items listed under Option A in the attached BluMetric report.

Purpose:

The purpose of this report is to provide West Elgin Council with an update on municipal landfill capacity, implement measures which will maximize remaining useful life, and discuss the next steps with respect to closure.

Background:

The municipal landfill located at 20385 Downie Line has been accepting waste from the community for over 5 decades. The original Environmental Compliance Approval (ECA) was first issued in 1971 and then reissued to the Village of Rodney in 1980. Since that time, amendments to the original ECA have been issued in 2005, 2012, 2015, and 2017. Over the years, waste from the former Township of Aldborough, the Village of Rodney, and the Town of West Lorne has been placed at the Downie Line site. In 1984, MECP estimated the landfill capacity at 100,000 m³

For many years, the landfill was operated by a local contractor who also managed recycling plastic, glass, cans and paper. In-coming quantities of waste were not tracked, and no formal design was followed with respect to landfilling operations. The 2005 ECA amendment brought many changes. As the landfill owner, West Elgin was required to provide the Ministry with a formal Design & Operation report, as well as plans for environmental monitoring and annual reporting. The

municipality retained the help of Water and Earth Science Associates Ltd (WESA) to establish and implement these new requirements. Now known as BluMetric Environmental Inc, they have completed additional amendments to the ECA, plus all environmental monitoring and reporting requirements for the landfill since 2006. During that initial design phase, survey work estimated the remaining landfill capacity at 24,000 m³ (approximately ¼ of the original amount).

As a result of deteriorating conditions, a Request for Proposal was issued in 2015 for landfill operations. Although there were several interested parties initially, the current contractor at that time was the only one to submit a proposal, which included a large increase over the previous annual charge. With no other option, West Elgin Council chose to bring landfill operations in-house and assigned operations to the public works department. Over the next year, staff worked to clean the site and bring landfill operations into compliance. A transfer site was created where new garbage/recycling bins could be located and additional recycling strategies such as scrap steel, appliances, tires and brush could be handled.

Due to a combination of better record keeping and the addition of West Lorne's waste coming to the site, the recording of yearly tonnage rates increased significantly post 2015. An aerial survey was completed in 2016 which showed a slight increase in available space due to waste being placed outside the approved boundary by the previous contractor. However, the survey data provided in 2016 also failed to account for landfill final cover, therefore falsely increasing remaining capacity. All waste collected in Rodney and West Lorne through curbside pickup was weighed before dumping. However, with no scales at the landfill, waste accepted at the site was calculated using the number of vehicles multiplied by an approximate weight. These weights were based on a 2007 waste audit study completed by WESA at the West Elgin landfill.

As staff worked to correct design deficiencies, and waste boundaries were clearly defined, it became apparent the landfill was filling quickly. After reviewing municipal waste and recycling from a fiscal and service level perspective, the decision was made to implement a curbside collection program for all West Elgin residents. Material collected would be transported directly to Green Lane Landfill in Southwold, thus reducing the amount landfilled locally. This program was implemented in July 2020 and created a consistent level of service between urban and rural households.

In the spring of 2022, an updated aerial survey was conducted and, although it accurately showed a reduction in landfill capacity, the survey data still didn't account for final cap material. Coupled with a lower input rate due to curbside collection and approximated quantities of waste still received at the landfill, the number of remaining years increased. West Elgin Staff questioned this increase because what operators were seeing on site did not match the information contained in the report. Staff were concerned that boundary stakes and elevation markers at the landfill may have been inaccurate, which would account for the differences. It was determined through these discussions that the final cap had not been accounted for in previous surveys, and capacity was adjusted accordingly. While this adjustment did reduce the landfill lifespan, staff were still concerned that there was a discrepancy between the remaining years listed in the annual report and what was practical. For this reason, BluMetric was asked to complete another aerial survey in 2024.

Results of the 2024 survey indicated the landfill was much closer to capacity than originally thought. This can be attributed to the inclusion of final cap material but also points to a significant shift in the type of material being received at the landfill. Although counting vehicles (users) is an accepted form of calculating input for landfills without scales, the type and amount of waste can vary greatly. While regular household waste users decreased in 2020 with the introduction of curbside collection, survey data shows the amount of waste landfilled is significantly higher than anticipated. This suggests the nature of the incoming waste has changed (i.e. increase in large bulky items) and/or the waste audit data from 2006/2007 was out of date.

We believe both factors contributed to the change in remaining capacity.

During COVID, when people were encouraged to stay home, many residents took the opportunity to clean basements, garages and barns. Most of this material would consist of bulky items that could not be placed curbside, thus ending up in the municipal landfill. Large item collection days in the spring were moved from curbside collection to landfill drop off, and West Elgin experienced significant flood events in 2021 and 2023, all of which may have changed the nature of items being accepted. Landfill capacity is ultimately determined by volume, which can vary greatly from the 2006/2007 audit data depending on material type.

Through data review and discussion with BluMetric, West Elgin staff propose the following measures to maximize the remaining useful life of the landfill.

1. Eliminate commercial waste including building/renovation/demolition material and any other waste which cannot be placed (by hand) in garbage bins located within the transfer site. Notice of the pending change, including a list of alternative sites, shall be posted to the municipal website and displayed at the West Elgin Landfill beginning February 19, 2025.
2. Review options to further reduce the amount of waste being placed in the West Elgin landfill. This includes transporting waste collected at the transfer site to Green Lane landfill by means of loose and/or compacted bins. Cost, functionality, and revision of landfill fees & charges will all need to be considered as part of the review process.

Although the measures listed above will extend the remaining years, thought must also be given to future operations at the site. Staff have discussed the following two options with BluMetric, which can be considered.

1. Prepare for landfill closure and operate the site as a waste transfer station (WTS) only once the landfill is full. This would require preparation of a closure plan for MECP approval, ECA amendment, and landfill closure activities (cap).
2. Apply for a landfill expansion of less than 40,000 m³ and continue to operate as a landfill and waste transfer station (WTS). This would require preparation of expansion design for MECP approval, preparation of a new design and operations report, updated hydrogeology reporting, and ECA amendment. There are no guarantees that an expansion application would be approved

by MECP. If it were, expansion plans may also trigger new requirements for leachate and storm water control.

Based on the information contained in BluMetric Proposal PR02880 (attached to this report), staff feel option 1 is the preferred route. The cost of expansion would be significant, and although it would increase capacity and extend the life of the asset, all costs associated with closure (Option 1) would still be required in the future. For a municipality the size of West Elgin, which has curbside collection for all residents, the cost of expansion and continued operation cannot be justified. Users of the landfill are accustomed to paying a fee for disposal of garbage, and this will continue as operations shift to a waste transfer site only. While disposal costs will increase due to diversion of waste to Green Lane, this will be partially offset by a reduction in operational costs at the West Elgin landfill.

Financial Implications:

Project costs for landfill closure vs. expansion are included in the BluMetric proposal.

1. Closure – including MECP consultation, plan preparation, ECA amendment and application fee \$22,640.00
2. Expansion – including MECP consultation, D&O report, plan preparation, ECA amendment and application fee \$60,700.00

The above figures represent initial costs only, and future operational costs, tipping fees, and environmental monitoring (pre- and post-closing) all need to be factored in for long-term planning.

Policies/Legislation:

Alignment with Strategic Priorities:

Infrastructure Improvement	Recreation	Economic Development	Community Engagement
<input checked="" type="checkbox"/> To improve West Elgin's infrastructure to support long-term growth.	<input type="checkbox"/> To provide recreation and leisure activities to attract and retain residents.	<input type="checkbox"/> To ensure a strong economy that supports growth and maintains a lower cost of living.	<input checked="" type="checkbox"/> To enhance communication with residents.

Respectfully submitted by,

Report Approval Details

Document Title:	West Elgin Landfill Capacity - 2024-31-Operations Community Services.docx
Attachments:	
Final Approval Date:	Feb 7, 2025

This report and all of its attachments were approved and signed as outlined below:

Robin Greenall