



# Staff Report

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## Operations – Sustainability & Solid Waste

**Report To:** COW-Operations, Planning and Development Services  
**Meeting Date:** January 31, 2023  
**Report Number:** CSOPS.23.004  
**Title:** Closed Thornbury Landfill – Environmental Site Assessment Findings  
**Prepared by:** Jeffery Fletcher, Manager of Sustainability & Solid Waste

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### A. Recommendations

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THAT Council receive Staff Report CSOPS.23.004, entitled “Closed Thornbury Landfill – Environmental Site Assessment Findings”;

AND THAT Council direct staff to proceed with further investigation of the Site to assist in determining the cost of removal of contaminants and full site remediation;

AND THAT Council direct staff to negotiate directly and extend the Engineering Services Agreement with WSP Golder to complete a two-stage detailed Site investigation with an upset cost of \$105,000, to be funded from Unfinanced.

### B. Overview

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This report is to provide Council with an update on the Closed Thornbury Landfill Property (Site) at 130 King Street West and consideration of next steps with the benefit of completed Phase One and Two Environmental Site Assessments (ESA).

### C. Background

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In January of 2022, the Town began an Environmental Site Assessment process on the Closed Thornbury Landfill Site (see location on Figure 1). In response to a land purchase inquiry related to the Closed Thornbury Landfill, Council requested that Town Staff report on the land. As a result of that report ([CSOPS.22.035 Thornbury Closed Landfill Property](#)), an April 2022 motion from Council determined that the Thornbury Landfill was not considered surplus to the Town’s needs.

Due to the history (former active landfill) and current uses on and around the Site, the Closed Landfill is considered an area of potential environmental concern (APEC). To address the potential for future use of the Site, a Phase One and Two ESA was completed in accordance with Ontario Regulation 153/04, under the *Environmental Protection Act*.

The Phase One Assessment conducted in early 2022, found 8 potential sources of environmental concern in and adjacent to the Site. Based on these sources and the historical use, several observation wells were installed in key locations. Water and gas sampling was conducted at the wells during the assessment. Soil and surface water samples were taken from other locations as well. Boreholes also helped to delineate areas of concern and observe depths of imported soil berms and waste. The network of boreholes and wells has also determined groundwater flow and general Site hydrogeology and stratigraphy (groundwater flow and subsurface ground layers). A review of the site-specific findings is provided in Attachment 1. Project consultants will provide a review of the findings in a presentation at the January 31, 2023 Committee of the Whole meeting.

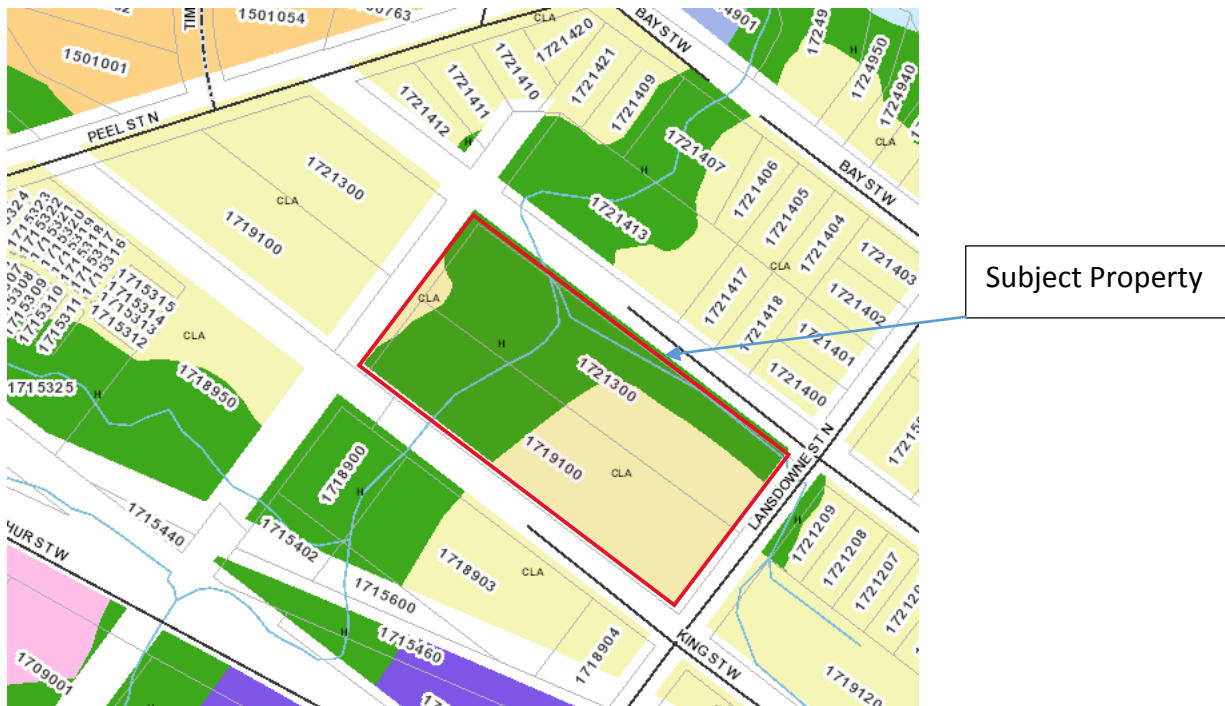


Figure 1: Land Use map in and around Closed Thornbury Landfill Site

## D. Analysis

As a result of water and soil sampling it was determined that APEC 1 (former landfill), 2 (aggregate and snow storage) and 7 (imported fill berms) are sources of contamination and potential impacts to the Site and adjacent lands. Sampling was conducted using a protocol for analytical methods for property assessments under the *Environmental Protection Act*. Based on the potential source of contamination, parameters were investigated at several locations.

Contamination was found above applicable standards for specific parameters in some of the areas on the berms and in the waste filling area. However, the berm soils have a level of contamination that could permit the reuse of the soil within the Site or at a soil reuse site within the Excess Soil Regulations.

The presence of landfill related gas was also observed. A number of samples did indicate the presence of landfill gas over the potential explosive limit (PEL). However, without buildings to contain the gas, combined with the coarse texture cap, it is expected to dissipate and not create an immediate danger of landfill gas build up.

The buried waste at the Site generates the potential for off-Site underground gas migration to adjacent properties and structures. Additional investigations at the property boundaries will be required to assess the potential for gas migration.

## **Liabilities**

The ESA has confirmed potential liabilities associated with this Site. These include: potential off-Site migration of landfill gas (and potential on-Site impacts); and potential off-Site migration of contaminants from waste, snow storage and imported fill berms. The contamination from the sources on this Site also have the potential to impact the adjacent Little Beaver River. Although no contamination was observed in the surface water samples, this river is within the designated intake protection zone as it flows towards the municipal drinking water inlet.

### **Options to Limit Site-Related Liabilities**

#### **1) Removal of Contaminants and Full Site Remediation**

These liabilities can be managed and the Site has the potential to be remediated. Some additional observations (soil testing, test pits and Site perimeter well installation) will determine with a higher degree of understanding the extent of the waste and if off-Site gas and contaminate migration is occurring.

Excavating and removing the main source of contamination (waste and delineated berm soil) would remediate the land and provide a Record of Site Condition that would remove any development hold on the Site. Test pits will provide a better determination of the volume of waste in the Site, an early estimate is 7,500 cubic metres.

Relocation of this waste to the Town's active landfill would consume a space equal to approximately 1.25 years of filling. That volume of waste represents approximately 6,000 tonnes. The Town's active landfill has the capacity to receive the waste from the closed Site. Effectively, the Town can absorb the disposal cost, understanding that this re-landfilling of waste will take up capacity. Using the current Town residential waste tipping fee, the landfilling value is represented by \$1.08 million. Conversely, remediation would create an overall benefit by eliminating the liabilities and eliminating any development constraints on the Site.

Removal of contaminants also eliminates potential impacts to adjacent lands. Once the contaminated load is removed, it is anticipated that any existing groundwater or gas impacts will dissipate. This will also provide ideal protection for the adjacent source water.

## 2) On-Site Protection Measures

As an alternative to digging and removing waste, engineering controls and monitoring could be installed that could potentially allow for development of the land and future buildings. However, that method would not remove the potential for continued source water impairment and contamination of adjacent lands.

There would also be an on-going risk of landfill gas to a future building. A long-term program would need to ensure that abatement and monitoring devices are operational.

This method would also require an Environmental Risk Assessment that is estimated to involve 2 to 3 years of study and investigation. As identified under Option 1, remediation of the land and removal of the waste would not require any approvals and could be completed in a matter of months.

## 3) Sale of Land

Another alternative would be sale of the property before completing a Record of Site Condition. In some cases, sale of contaminated properties includes conditions that the seller continues to be responsible for the contamination and the liability. In any case, if this property was sold and the buyer for whatever reason fell in default – the Town would continue to be responsible for the contamination.

Completing the Record of Site Condition and remediating the property will provide the best value and unconstrained use of the land.

## Items to Consider

### 1) Excess Soil

Removal of Contaminants also potentially creates a beneficial use location for excess soils from other Town infrastructure projects. Currently, the Town is facing the potential for high costs associated with soil disposal from Town capital projects. These disposal costs can range from \$10 to \$50 per tonne depending on the project. Excavation of the waste mound from the Closed Thornbury Landfill will create a void that will require fill. Directing clean fill to the Closed Thornbury Landfill from other Town projects will provide a viable local beneficial use solution and would help off-set the cost of removal of the contaminants and full site remediation as described under (1) above.

### 2) Depot Operations

Removal of the waste and contaminated soil from the Site will also require the relocation of snow storage, boat trailer/crib storage, plow truck storage and aggregate staging. It is anticipated that other municipal lands can be developed or operated for these uses.

### 3) Adjacent Town Lands

There are additional Town-owned lands to the west of the subject lands. These lands to the west currently include a tennis court. These blocks of land (the Closed Thornbury Landfill and the lands fronting Peel Street N.) are connected by an unopened road allowance. The land to the west is not part of the ESA study.

There is the potential for relocation of the tennis court and existing budget to support rebuilding the court. The location of courts is being considered in 2023.

### **Recommendation**

The Town's Purchasing Policy (POL.COR.07.05) permits Negotiation when competitive procurement may be found to be impractical. Staff Report FAF.21.171, approved by Council on September 20, 2021, granted permission to utilize negotiation with WSP Golder to complete the property studies for 130 King Street. WSP Golder has been the Town's Solid Waste Division consultant for many years and has a unique knowledge and expertise as it relates to the Town's landfills.

Town staff recommend Council permit staff to negotiate and extend the Engineering Services Agreement with WSP Golder and provide additional dollars to the project to continue Site investigation in a two-stage approach. Additional wells and sampling will assist in defining the extent of the waste mound, contamination migration and delineating contamination within the earthen berms. This additional work will be necessary to determine an estimated cost of completing a Record of Site Condition and full Site remediation of the Closed Thornbury Landfill.

Staff will report back to Council regarding the findings of the proposed two stages of work. Following the two-stage investigation, Staff anticipate a third stage that will use the investigations to develop a cost and Site remediation plan.

## **E. Strategic Priorities**

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### **3. Community**

We will protect and enhance the community feel and the character of the Town, while ensuring the responsible use of resources and restoration of nature.

## **F. Environmental Impacts**

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As anticipated contamination was identified at the Site. There is a viable potential to remediate the Site by excavating and removing the waste material. This will eliminate the source of contamination and once the waste material is removed, any residual contamination would be expected to dissipate in a short period of time. Dissipation will be confirmed through additional well observations.

This Site is not within an Environmentally Sensitive area as designated by Section 41 of Ontario Regulation 153/04. However, the Site is within the municipal drinking water intake protection zone.

Other Site uses, especially snow storage are impacting the Site and would be better suited at an alternative site that conforms to the Provincial Snow Disposal Guidelines.

Excavation and removal of waste and soil will require approximately 600 truck trips. There is a carbon emissions footprint associated with that work and the activity to excavate and recompact the waste at the active Disposal Site.

## **G. Financial Impacts**

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Phase One and Two ESA \$75,000 (\$4,000 unspent) - complete.

Stage 1 Additional Investigation – sampling and test pits \$45,000 – included in this request.

Stage 2 Additional Investigation – additional wells and boreholes \$60,000 – included in this request.

Stage 3 Remediation Plan and Project Costing (to be determined) – to be included in future year budgets.

Site Remediation (initial estimate) \$250,000 - to be included in future year budgets.

Representative tipping fees (initial estimate) \$1,080,000 - to be included in future year budgets.

All costs to remediate this land will be kept in Unfinanced until the sale of the land is completed at which time the sale proceeds will be used to fund these costs. If the Town decides not to sell the land another funding source will need to be used.

## **H. In Consultation With**

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Jim McCannell, Manager of Roads and Drainage

Ryan Gibbons , Director of Community Services

Sam Dinsmore, Deputy Treasurer/Manager of Accounting and Budgets

Serena Wilgress, Manager of Purchasing and Risk Management

## **I. Public Engagement**

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The topic of this Staff Report has not been the subject of a Public Meeting and/or a Public Information Centre as neither a Public Meeting nor a Public Information Centre are required. However, any comments regarding this report should be submitted to Jeffery Fletcher, Manager of Sustainability & Solid Waste [managersolidwaste@thebluemountains.ca](mailto:managersolidwaste@thebluemountains.ca) .

## **J. Attached**

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### 1. Attachment 1 – Review of Findings Phase Two ESA Former Thornbury Landfill Site

Respectfully submitted,

Jeffery Fletcher,  
Manager of Sustainability & Solid Waste

Shawn Carey  
Director Operations

For more information, please contact:  
Jeffery Fletcher, Manager of Sustainability & Solid Waste  
[managersolidwaste@thebluemountains.ca](mailto:managersolidwaste@thebluemountains.ca)  
519-599-3131 extension 238

### Report Approval Details

Document Title:	CSOPS.23.004 Closed Thornbury Landfill - Environmental Site Assessment Findings.docx
Attachments:	- Attachment 1 Review of Findings Phase Two ESA Former Thornbury Landfill Site.pdf
Final Approval Date:	Jan 13, 2023

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

**No Signature - Task assigned to Jeff Fletcher was completed by assistant Tammy Davison**

**Jeff Fletcher - Jan 12, 2023 - 4:32 PM**

**Shawn Carey - Jan 13, 2023 - 12:48 PM**