

Performance Audit Report of Landfill Management

Presented To:	Audit Committee
Meeting Date:	September 19, 2023
Type:	Managers' Reports
Prepared by:	Ron Foster Auditor General
Recommended by:	Auditor General

Report Summary

This report provides a recommendation regarding the results of the Auditor General's performance Audit of Landfill Management Processes.

Resolution

THAT the City of Greater Sudbury approves the recommendations as outlined in the report entitled "Performance Audit Report of Landfill Management" from the Auditor General, presented to the Audit Committee on September 19, 2023.

Relationship to the Strategic Plan, Health Impact Assessment and Community Energy & Emissions Plan (CEEP)

This report supports the strategic goal of asset management and service excellence by managing its services in ways that demonstrate good stewardship and encouraging action today in the interests of tomorrow to create a healthier community as well as supporting initiatives of optimizing asset service life through innovation and cost-effective delivery.

Financial Implications

No immediate financial implications.

Resources Cited

Performance Audit of Waste Collection Services
[Performance Audit of Waste Collection Services.docx.docx \(escribemeetings.com\)](#)

Performance Audit of
Landfill Management
Processes

September 15, 2023

Final Report



OBJECTIVE

To assess the extent of regard for economy, efficiency and effectiveness within landfill management processes provided by the Environmental Services Division.

BACKGROUND

The Environmental Services Division oversees the planning (legislated requirements, asset management and master plans), design, approvals, monitoring and operation of solid waste programs and facilities. The services can be divided into 4 components:

- 1) Solid waste and litter collection services;
- 2) Processing and handling of waste;
- 3) Garbage disposal; and
- 4) Customer and educational support services.

A Solid Waste Management Master Plan is used to guide the division's planning initiatives with the objective of achieving environmental sustainability goals, promoting waste diversion and advancing the goals outlined in the City's Community Energy and Emission Plan (CEEP) while sustaining the current landfill assets.

In 2022, we completed an audit of waste collection services. This audit deals with the disposal, processing and handling of waste in the City's three landfills in Sudbury, Azilda and Hanmer as well as the waste transfer station in Walden.

The division employs one manager and one coordinator who oversee contractors responsible for landfill operations and related services for the City's landfills and waste transfer station. Other staff provide administrative support to this service as well as the diversion and collection services.

Table 1 – Waste Disposal and Household Hazardous Waste - Revenues and Expenses (\$ Millions)

REVENUES: B=Budget A=Actual	2018		2019		2020		2021		2022		2023
	B	A	B	A	B	A	B	A	B	A	B
User Fees	5.1	5.1	5.1	5.6	5.2	5.4	5.4	5.7	6.0	6.4	6.9
Licensing & Le ase	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.3	0.4	0.2	0.4
Other Revenues	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2
Total Revenues	5.8	5.8	5.7	6.1	5.8	6.0	6.0	6.3	6.6	6.8	7.5
EXPENSES:											
Purchased Services	5.0	5.3	6.1	6.0	6.5	6.1	7.2	6.8	7.0	7.3	7.5
Materials Expense	1.4	1.4	1.5	1.4	1.4	1.3	1.5	1.3	1.6	1.4	1.7
Internal Recoveries	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
Other Costs	-	-	-	-	-	0.1	-	0.1	0.1	0.1	0.1
Total Expenses ¹	6.5	6.8	7.7	7.5	8.0	7.6	8.8	8.3	8.9	9.0	9.5
NET COSTS	0.7	1.0	2.0	1.4	2.2	1.6	2.8	2.0	2.3	2.2	2.0

¹ Total Expenses exclude salaries and benefits for the Solid Waste Manager and Solid Waste Coordinator and a portion of the salaries and benefits for other divisional staff that provide support to this program.

METHODOLOGY & SCOPE

This audit examined management processes for the City's three landfill sites and household hazardous wastes. The audit methodology included staff interviews, site visits, analysis of processes and reports and tests of controls for the period January 1, 2018 to June 30, 2023.

EXECUTIVE SUMMARY

This audit identified opportunities for improvements to performance reporting and performance management. In the last section of this report, several accomplishments are listed which extend the useful lives of the City's landfills and help to achieve the City's CEEP goals.

AUDIT STANDARDS

We conducted our audit in accordance with Generally Accepted Government Auditing Standards which require that we adequately plan audits; properly supervise staff; obtain sufficient, appropriate evidence to provide a reasonable basis for audit findings and conclusions; and document audits. For further information regarding this report, please contact Ron Foster at the City of Greater Sudbury at 705-674-4455 extension 4402 or via email at ron.foster@greatersudbury.ca

OBSERVATIONS AND ACTION PLANS

A. Performance Reporting and Performance Management

No key performance indicators (KPIs) are reported to Council for the landfill management function in Annual Budget Reports for Council. The City's total cost of residential solid waste disposal which is reported below and in the annual MBNCan study indicates that the disposal cost per tonne for all streams of waste (residential and non-residential) increased from 2018 to 2021 until landfill liability costs were updated in 2022.

Our analysis of data contained in annual statistical reports for the Division which are summarized in Appendix 2 indicates that the volume of residential waste disposed in the City's three landfills and land transfer station in Walden has consistently been decreasing in the last five years.

Table 2 – Comparative Performance

Municipality	# Landfills	2018	2019	2020	2021	2022	Trend
<i>Total Cost of Solid Waste Disposal per Tonne (All Streams) per MBNCan Report</i>							
London*	1	\$29	\$31	\$40	\$49	Not Available	Increasing
Hamilton	1	NA	\$88	\$87	\$92		Increasing
Windsor*	1	\$83	\$151	\$112	\$63 ²		Declining
Thunder Bay*	1	\$38	\$42	\$53	Not Avail.		Increasing
Sudbury	3	\$71	\$82	\$101	\$107	\$84 ³	Varying
<i>Tonnes of Waste Landfilled in the City's 3 Landfills</i>							
Sudbury	3	101,122	98,650	98,120	93,237	91,774	Decreasing

*Windsor, London and Thunder Bay do not provide organics programs.

Our analysis of costs and annual usage of the City's three landfill operational costs is shown below.

Table 3 – Performance of the City's Operating Landfills⁴

Location	Activity	2018	2019	2020	2021	2022	Trend
Azilda	Annual Cost	\$1.3 M	\$1.3 M	\$1.3 M	\$1.3 M	\$1.3 M	Stable
	Number of Trips	26,103	44,883	40,096	59,110	56,415	Varying
Hanmer	Annual Cost	\$1.3 M	\$1.3 M	\$1.4 M	\$1.3 M	\$1.3 M	Stable
	Number of Trips	35,886	55,370	51,689	75,795	68,353	Varying
Sudbury	Annual Cost	\$1.2M	\$1.6 M	\$1.8 M	\$2.5 M	\$3.0 M	Increasing
	Number of Trips	90,811	145,265	122,420	164,421	149,625	Varying

² Decrease due to significant change in landfill post closure liability costs

³ Significant reduction in landfill liability costs in 2022

⁴ Excludes costs for the Walden transfer station

The City's 311 function provides annual information on inquiries and complaints about the City's landfills which are provided to Council within the Annual Statistical Reports for the Division.

Recommendations

1. The total cost of solid waste disposal should be included in the Annual Budget Report for Council.
2. Add the quantity of waste landfilled annually to the KPI section of the Annual Budget Report for Council.
3. Differentiate between complaints and inquiries within the Annual Statistical Report for the Division.
4. Provide separate statistics for the Walden Transfer Station in Annual Statistical Reports.
5. Prior to issuing the next tender for landfill services, perform a program review of the landfill operations in Hanmer and Azilda to identify opportunities for cost savings.

Management Responses and Action Plans

Agreed. KPIs for the cost of solid waste disposal and quantity of waste landfilled will be added to the Annual Budget Report. The separation of complaints and inquiries can be more accurately reflected with some changes in the Customer Relationship Management system. The Annual Statistics Report for the Division would benefit from dedicated statistics related to the use of the Walden Small Vehicle Transfer Station. If opportunities for cost savings at the Azilda and Hanmer Landfills are identified in the Solid Waste Management Master Plan update or other initiatives, they will be included in the next landfill tender.

B. Contract Amendments

In January 2023, the Division approved a request from the contractor for a cost of living increase for the operation of the City's landfill and waste transfer sites for June 1, 2022 to May 31, 2023 as it met the criteria for contract amendments that is set out within section 35(1) of the Purchasing By-law. The contractor's request in 2023 for a cost of living increase for the year commencing June 1, 2023 was initially rejected by the Division and is subject to a review of financial statements from the contractor to ensure the request provides value to the City. Our office supports this detailed approach to assessing change requests so is providing no recommendation.

C. Accomplishments

1. The City recently initiated an update of the solid waste management master plan to guide decision-making including capital planning for waste collection, diversion and management programs for 2025 to 2035.
2. The City has successfully promoted residential diversion which extends the useful lives of the City's landfills. Annual volumes of waste landfilled have declined since 2018.
3. In 2021, the City commissioned a new construction and demolition site at the Sudbury Landfill to encourage ICI diversion and prepare for future diversion of additional items.
4. Between 2017 and 2019, the City built and commissioned waste diversion transfer areas within the Azilda and Hanmer Landfill site. With all 3 landfills now having similar user-friendly diversion transfer areas, the amount of waste diverted by citizens has generally increased.
5. In 2021, a reuse area was opened within the Azilda and Hanmer landfill sites where residents are able to purchase items with remaining useful life that would have otherwise been landfilled. These areas as well as the Reuse Store in the Sudbury Landfill site contribute to increasing diversion of waste.
6. In 2022/2023, the landfill gas collection system in Sudbury was expanded. Not only does this contribute to the City's revenue stream, but it also reduces methane emissions that contribute to global climate change. This initiative contributes to achieving the City's CEEP goals.
7. The Division has consistently complied with Ministry of Environment requirements.

Table 4 – Summary of Significant Risks

Risk	No. of Risks	Risks (Before Controls)			Residual Risks (After Controls)		
		High (15 to 25)	Med (9 to 14.99)	Low (1 to 8.99)	High (15 to 25)	Med (9 to 14.99)	Low (1 to 8.99)
Reputation (R)	1	1	0	0	0	0	1
Operational (O)	7	7	0	0	0	2	5
Financial (F)	7	7	0	0	0	2	5
Legal (L)	1	1	0	0	0	0	1
TOTAL	16	16	0	0	0	4	12

Table 5 – Significant Risks

Type of Risk	Description of Risk	Risk Before Controls	Residual Risk*
F1/O1	Landfill management processes may not align with the goals of Corporate Strategic Plan.	20	8
F2/O2	Landfill management processes may not align with Enterprise Risk Management or Asset Management policies.	18	8
F3/O3	Landfill management processes may not be delivered with due regard for economy.	22.5	12
F4/O4	Landfill management processes may not be delivered with due regard for efficiency.	18	8
F5/O5	Landfill management processes may not be delivered with due regard for effectiveness.	22.5	8
F6/O6	Staff performance may not be managed effectively.	20	8
F7/O7	The performance of contractors may not be managed effectively.	22.5	10
L1/R1	Legal and regulatory obligations may not be managed effectively.	18	6

**Note that it is not cost-effective to eliminate all residual risks*

Appendix 1 – Risk Assessment Criteria

Impact	Services	Technology	People	Strategic	Legal/Reputational	Financial
Very Minor (1)	<ul style="list-style-type: none"> • Less than 90% of service objectives achieved. 	<ul style="list-style-type: none"> • Minor disruptions of secondary systems or data loss or corruption. 	<ul style="list-style-type: none"> • Minor reportable employee injury. • Increase in number of union grievances. 	<ul style="list-style-type: none"> • Minor instances of actions that are at odds with strategic priorities. 	<ul style="list-style-type: none"> • Very minor non-compliance with regulations/legislation • Small amount of negative media coverage or complaints to City. • Non-lasting damage or no reputational damage • Theft or Fraud under \$1,000. 	<ul style="list-style-type: none"> • Uninsured loss, cost overruns or fines < \$10K • Insured loss < \$100K • Loss of replaceable asset.
Minor (2)	<ul style="list-style-type: none"> • Less than 75% of service objectives achieved. • Unable to perform non-essential service. 	<ul style="list-style-type: none"> • Disruptions of systems or data loss or corruption • Disclosure of non-confidential but embarrassing information. 	<ul style="list-style-type: none"> • Reportable employee injury. • Loss of key staff but able to recruit competent replacements • Significant increase (>10%) in number of union grievances. 	<ul style="list-style-type: none"> • Instances of actions at odds with strategic priorities. 	<ul style="list-style-type: none"> • Minor non-compliance with regulations/legislation • Complaints elevated to the Director level. • Short-term repairable damage to City's reputation • Public outcry for discipline of employee. • Moderate amount of negative media coverage • Theft or Fraud of \$1,000 to \$10,000. 	<ul style="list-style-type: none"> • Uninsured loss, cost overruns or fines of \$10K to \$100K • Insured loss < \$100K - \$1M • Inefficient processes • City's actions result in reduced economic development.
Moderate (3)	<ul style="list-style-type: none"> • Less than 60% of service objectives achieved. • Unable to perform essential service but alternatives exist. 	<ul style="list-style-type: none"> • Disruptions of significant systems or data loss or corruption • Recoverable loss from important system. 	<ul style="list-style-type: none"> • Multiple employee injuries or long-term disability from one incident. • Inability to retain or attract competent staff. • Increase in stress leave, sick leave or WCB claims. • Work-to-rule union disagreement or short-term strike. 	<ul style="list-style-type: none"> • Numerous actions are at odds with strategic priorities. 	<ul style="list-style-type: none"> • Non-compliance with regulations/legislation with moderate penalties • Public/media outcry for removal of management • Long-term damage to City's reputation • Citizen satisfaction survey indicates unacceptable performance. • Complaints elevated to Council level. • Results inconsistent with commitments made to citizens • Theft or Fraud under \$100,000. 	<ul style="list-style-type: none"> • Uninsured loss, cost overruns or fines of >\$100K to \$1M • Insured loss >\$1M to \$10M • Having to delay payments to contractors/suppliers. • City's actions results in lost revenue for significant number of City businesses.

Impact	Services	Technology	People	Strategic	Legal/Reputational	Financial
Major (4)	<ul style="list-style-type: none"> • Less than 45% of service objectives achieved. • Unable to perform an essential service where no alternative exists. 	<ul style="list-style-type: none"> • Unrecoverable loss or corruption of data from important system • External exposure of important information • Unavailability of significant systems 	<ul style="list-style-type: none"> • Serious injury of one or more employees • Legal judgment against the City in workplace matter. • Turnover of key employees • Sustained strike of staff. 	<ul style="list-style-type: none"> • Numerous actions are significantly at odds with the strategic priorities. 	<ul style="list-style-type: none"> • Non-compliance with regulations/legislation with major penalties • Public/media outcry for change in CAO or Council • Public or senior officials charged or convicted • Legal judgment against the City in a workplace matter • Integrity breach resulting in decreased trust in City Council or Administration. • Theft or Fraud >\$100,000 	<ul style="list-style-type: none"> • Uninsured loss, cost overruns or fines of >\$1M - \$10M • Insured loss of >\$10M - \$100M • Unable to pay employees and contractors on time. • City's actions impair local economic conditions.
Extreme (5)	<ul style="list-style-type: none"> • Less than 30% of service objectives achieved. • Unable to perform several essential services where no alternatives exist. 	<ul style="list-style-type: none"> • Unrecoverable loss or corruption of data from critical system • External exposure of confidential information • Unavailability of critical systems 	<ul style="list-style-type: none"> • Death of an employee • Major legal judgment against the City in workplace matter. • Significant turnover of key employees with ELT • Sustained strike of staff supporting key services 	<ul style="list-style-type: none"> • Many actions are significantly at odds with the strategic priorities. 	<ul style="list-style-type: none"> • Non-compliance with regulations/legislation with very significant penalties • Public/media outcry for change in CAO or Council • Senior officials criminally charged or convicted • Severe legal judgment against the City in a workplace matter • Major integrity breach resulting in complete loss of trust in City Council or Administration. • Theft/Fraud >\$1,000,000 	<ul style="list-style-type: none"> • Uninsured loss, cost overruns or fines >\$10M • Insured loss > \$100M • File for bankruptcy • Failure to maintain financial capacity to support current demands. • City's actions significantly impair local economic conditions.

Likelihood	Unlikely (1)	Possible (2)	Probable (3)	Likely (4)	Very Likely (5)
	Less than 20%	>20% but < 40%	>40% but < 60%	>60% but < 80%	80% or more
	Less frequent than every 10 years	May occur in the next 2 years	Will occur this year or next year at least once	May occur regularly this year	Will occur within months may reoccur often

Appendix 2 - Total Waste Received, Landfilled & Diverted (Tonnes)

	2018			2019			2020			2021			2022		
	Waste Received	Waste Landfilled	Divn %	Waste Received	Waste Landfilled	Divn %	Waste Received	Waste Landfilled	Divn %	Waste Received	Waste Landfilled	Divn %	Waste Received	Waste Landfilled	Divn %
S	82,472	70,157	14.9	87,756	67,809	22.7	87,025	67,417	22.5	84,313	64,549	23.4	78,369	60,668	22.6
H	17,553	14,605	16.8	17,267	13,728	20.5	18,425	14,072	23.6	14,879	13,260	10.9	15,885	12,778	19.6
A	17,674	15,315	13.3	18,875	15,976	15.4	18,827	15,561	17.3	15,857	14,093	11.1	19,518	16,784	14.0
W	2,038	1,045	48.7	2,111	1,137	46.1	2,031	1,070	47.3	2,598	1,335	48.6	1,979	1,543	22.0
T	119,737	101,122	15.5	126,009	98,650	21.7	126,308	98,120	22.3	117,647	93,237	20.7	115,751	91,773	20.7

S – Sudbury Landfill

H – Hanmer Landfill

A – Azilda Landfill

W – Walden Transfer Station⁵

T - Total

⁵ Waste received in Walden is transferred to the Sudbury landfill