

Long Term Organics Processing Options

ISSUE

As part of its long-term waste diversion strategy, the City of Saskatoon (City) launched the Curbside Organics Program (Program) in May 2023. To process the material, Green Prairie Environmental Ltd. (GPE) was awarded a contract in 2020; however, GPE was unable to meet the contract terms. The City also uses the West Compost Depot (Depot) for public yard waste drop off. Given the City's future land development in the area, the Depot will need to be relocated. As a result, the City requires a comprehensive long-term approach for processing curbside organics. What approaches can the City take to support its waste diversion strategy and more specifically, to process organic waste materials?

BACKGROUND

History

At the November 2023 Environment, Utilities and Corporate Services (EUCS) Committee meeting, Administration presented the report titled "Curbside Organics Processing Contract Update" where City Council was notified that GPE was unable to fulfill their obligations of the curbside organics processing contract. Two resolutions resulted from this report:

1. *That when the permanent planning decision reporting comes forward, it include reporting on the engagement plan for impacted stakeholders;*
2. *That Administration report on appropriate separation distance between waste management facilities and residential land uses in the City of Saskatoon;*

At the January 2024 EUCS meeting, Administration presented the approval report titled "Long Term Organics Processing Options - Low Carbon Economy Challenge Application" detailing a potential funding source for a City-owned organics facility. The following resolution resulted from the report:

City Council, at its Regular Business Meeting held on January 31, 2024, considered the above-noted matter, and resolved that the Administration be directed to include a City-owned Organics Processing Facility for submission to the Low Carbon Economy Challenge Fund.

More detail on the history of the organics program can be found in Appendix 1.

Current Status

Since May 1, 2023, Loraas Disposal North (Loraas) has processed over 18,000 tonnes of organic materials from the Program. Once the Program was fully operational, the Solid Waste Reduction and Diversion Plan projected that the annual diversion would be between 15,000 and 22,000 tonnes per year. As of March 1, 2024, the lower range of the estimated diversion rate has been exceeded. The Program is funded fully by utility revenues.

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The Depot is well used by residents, commercial haulers, and City operations. Although the implementation of the Program has reduced the overall traffic to the site, there were nearly 24,000 visits to the site for material drop off in 2023. Additionally, nearly 8,200 customers used the “Dig-Your-Own” compost and mulch program. In the Spring 2023 Waste and Recycling Survey, 19% of residents with green carts reported that they will continue to use compost depots for yard waste, and 82% of respondents using the compost depots were “very or somewhat satisfied” in the overall quality of service received. The Depot site is in the footprint of the Blairmore Development Plan, and it will need to be relocated as the new neighbourhood encroaches on the Depot. The Depot was not intended to be a permanent site and has been included in this report, as a long-term strategy is required to process the materials dropped off by the public. Moving the Depot to a new location could take several years, as establishing a new site would require funding, as well as engineering design and construction of the facility. The existing site would need to be decommissioned prior to any nearby land development.

The Depot is funded through a combination of Multi-Material Stewardship Western (MMSW) funding, user fees, and non-utility funding. Funding for depots will be referred to as non-utility funding throughout this report and the relevant appendices. More information on the Depot is included in Appendix 1.

Public Engagement

In the City’s Fall Residential Waste and Recycling Survey (fall survey), Saskatoon residents stated that they are motivated to participate in the Program due to its environmental benefits, and the majority did not identify concerns with current organics processing as a barrier to participation. The primary reasons given by respondents for participating in the Program is because it is good for the environment by reducing greenhouse gas emissions and soil/water pollution (46%), and it helps divert waste from the landfill and prolong landfill life (39%).

The fall survey found that 15% of respondents stated that they were discouraged from using the green cart due to “lost trust/loss of faith in the system/believing items go to the landfill”. This compares favourably to the 22% of respondents that provided the same rationale as a barrier to participating in the blue cart recycling program from the spring survey.

City of Saskatoon’s Current Approach

The City has implemented an interim plan to ensure that organic materials collected through the Program are successfully processed. In addition to continuing to haul curbside organics material to Loraas for processing, Administration is pursuing options to temporarily process a portion of the material at the Saskatoon Regional Waste Management Center and Depot. Reducing the tonnage of organic material delivered to Loraas will assist in reducing the financial pressures on the utility rates in the short term. Despite GPE’s inability to perform its contractual obligations, there have been no disruptions to the Program.

Organic materials collected at the Depot are processed through a contractor-based operation with limited City staffing or equipment involved.

Approaches in Other Jurisdictions

Appendix 2 contains a summary of approaches in other jurisdictions, including technologies used and operating scenarios. The research indicates that municipalities across Canada use a variety of organics processing scenarios, including City-owned and operated, City-owned and contractor operated, and fully contractor operated based on their unique situation. Different technologies are also used depending on the specific requirements of each municipality, which are explained in Appendix 3.

OPTIONS

Three long-term organics processing approaches were analyzed, ranging from the status quo (as described in the Current Approach section above) to a fully contracted, third-party approach.

Option 1 is very similar to the interim approach that the City has implemented to manage organic waste. All curbside organic materials would be collected and taken to a third-party organics processor. Yard waste materials would continue to be accepted and processed at the West Compost Depot and the operation would remain unchanged. The difference between the current operation and this option is that the City would enter a long-term contract for processing all Program materials with no material storage or processing at the Saskatoon Regional Waste Management Center and Depot. The procurement process would be similar to the 2019 Request for Proposal (RFP) process that awarded the original organics processing contract to GPE in 2020.

Option 2 would continue to use a third-party organics processor for Program materials. Like Option 1, the City would issue an RFP and enter a long-term contract for organics processing. The RFP would require that the service provider process both Depot and Curbside materials. The current Depot operation would cease. Materials would instead be received at the Material Recovery Center, stockpiled, shredded, and trucked to a third-party processor. Tipping fees would be charged to commercial haulers, replacing the current hauler permit system at the Depot. Compost would be purchased from the Contractor and available for public pickup at the Material Recovery Center.

Option 3 would build a City-owned and operated facility to process Program and Depot material. Operations at the existing Depot would cease and all material would be received at the Material Recovery Centre. Compost and mulch would be available for free public pickup, and bulk sales of these materials would also be available. Tipping fees would be charged to commercial haulers, replacing the current hauler permit system at the Depot. The capital funding required to construct a City-owned facility is estimated to be \$22.1 million, funded through a loan repaid by utility fees. The facility could be operational in 2026.

Administration also considered a hybrid model where a portion of Program materials would be processed by a third-party processor, and a smaller City-owned facility would be constructed to manage the remaining tonnes including Depot materials. Tonnes sent to the contractor would be dependent on proximity to the facility. Routes closer to the City-owned facility would receive Program materials for processing. Administration reviewed routing and concluded that limited neighbourhoods would be sent to the third-party processor. The hybrid option was determined to be the most operationally

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complex option requiring building a facility, changes to the Material Recovery Centre operation and procurement of an organics processing contract. Based on these factors, the hybrid option was excluded from further analysis.

All options assume the same service level for residents as currently offered at the Depot. Residents will be able to drop off yard waste for processing and “Dig Your Own” compost and mulch will be available for pickup. The funding requirement to decommission the existing Depot has been excluded as it is a common requirement among all the options.

There are no significant differences in the environmental and social implications of each option, unless indicated in the advantages and disadvantages in Appendix 4. The main assumptions for the analysis are as follows:

1. The processing technology is expected to be similar whether City-owned or contracted, resulting in similar acceptable materials, similar environmental measures to mitigate impacts, and similar GHG emission reductions.
2. The transportation-related emissions for green cart collections will be comparable, whether a City-owned facility co-located at the landfill or contracted processing that will be required to be within a certain distance from City boundaries.

The details of each option can be found in Appendix 4, including a cost breakdown for 2026, and a 5-year projection on the effects to the utility and non-utility finances for the options.

RECOMMENDATION

That the Environment, Utilities, and Corporate Services Committee recommend to City Council that the Administration pursue Option 3 – Build a City-owned Organics Processing Facility.

RATIONALE

The financial impact of the three options is shown in the table below.

Table 1: Expected 2026 Processing Costs

	Option 1- Status Quo	Option 2 – Third-Party	Option 3 – In-house
Total Annual Organics Processing Costs for Depot and Program Operations including Debt Repayments	\$4,566,000	\$4,685,000	\$3,110,000
Utility Program Processing Cost Per Cart/Month	\$3.57	\$3.57	\$2.69

**Note: capital costs for Option 3 have been amortized over the term of the loan*

The primary justification for recommending Option 3 is the expected financial benefit of this option. When comparing the total required funding for processing organic waste, Table 1 shows that Option 3 has savings of \$1.5 to \$1.6 million per year when compared to the contracting options. Option 3 has the lowest cost per cart per month for the processing component of the organics utility. Compared to the projected 2026

rate of \$2.15 per cart per month under the original contract for processing, Option 3 requires a 25% increase to \$2.69 per cart per month for the processing component of the monthly utility cost. This is a 7% increase to the total monthly per-cart cost which is projected to be \$8.32 in 2026 under this option. Options 1 and 2 would require a 66% increase to \$3.57 per cart per month for processing when compared to the original contract for processing. Options 1 and 2 project a total monthly per-cart cost of \$9.20 in 2026, which represents an increase of 18%.

In addition to the financial comparisons, evaluation of other considerations for each option has been undertaken, including cost escalation, effort to implement, operational risks and opportunities for additional diversion. The advantages and disadvantages of each option are outlined in Appendix 4.

ADDITIONAL IMPLICATIONS/CONSIDERATIONS

The decision to tender work, or undertake work in-house, is a decision that is made in an ongoing way for many civic programs. For example, the City uses a combination of civic forces and contractors for a variety of work. Mowing, winter road grading and snow removal, line painting, road and sidewalk repair, and building maintenance are examples of services provided with both in-house and third-party resources. Other work is completed either exclusively in-house or by a third-party. For example, the City's recycling program as well as land development construction is provided by a third-party, while transit service is exclusively provided in-house.

Risk Mitigation

There are risks for all work undertaken, and this situation is not unique. City Council and the Administration would make every effort to ensure accountability regardless if the service is provided in-house or through a third-party.

Option 3 proposes a City-owned processing facility, and the design is not complete and has not been tendered. Actual costs for facility construction are not known precisely, but the estimate is in line with actual costs for similarly sized facilities in other municipalities. The Administration has used a conservative estimate for construction, meaning we are very confident the cost will not exceed the estimate.

The operational risks associated with organics processing would be the responsibility of the City. The most significant operational risk for a facility is the potential to generate odors. Preliminary odor modelling has been completed, and it has indicated that impacts are within best management practices for nearby residences and residential neighborhoods. Facility design and active odour management processes would be implemented to minimize impacts.

Obtaining permits for the facility would also be a risk. Two facilities in Saskatchewan have recently not been granted discretionary use permits by the respective rural municipalities where these sites were planned. The site of the proposed City-owned facility is within Saskatoon city limits (as shown in Appendix 5) and has the proper zoning designation, reducing the permitting risk. Construction and operating permits for the facility would need to be obtained from the Saskatchewan Ministry of Environment, and Administration has had previous success with the provincial permitting process.

Other Considerations

By utilizing the Material Recovery Center for public drop off and “Dig-Your-Own” compost and mulch, it will allow residents to drop off nearly all divertible waste in one location. It will also help promote other services at the Material Recovery Center, as it is expected to add an extra 41,000 visits to the facility per year.

The Saskatchewan Ministry of Environment is currently developing a Saskatchewan Environmental Code chapter to provide specific environmental guidelines for compost facilities. In lieu of the specific compost code guidelines, the Ministry of Environment has established a 500-metre setback from domestic residences in The Municipal Solid Waste Regulations, which is primarily focused on landfills. Comparing to other jurisdictions, the province of Alberta has a Code of Practice for Compost Facilities, which has a requirement to list all receptor sites within a 450-metre radius of the facility in the facility’s odour management plan. The nearest residential property to the City’s proposed location for the processing facility is 525 metres, which is in alignment with these best practices.

COMMUNICATION ACTIVITIES

If approved, surrounding stakeholders and community members will be informed of the construction of a City-owned organics processing facility. Stakeholders and community members within a 1,000-metre radius (i.e., twice the provincial setback requirement) of the future location for the facility will be engaged to better understand their concerns and ensure they are mitigated through the design and construction of the facility. Specific stakeholders and community members identified within the Engagement Strategy include surrounding neighbourhoods and their respective Community Associations, First Nations, private landowners, and other impacted groups (i.e., Meewasin, RM of Corman Park, utility providers, etc.). Additional engagement may be required if Federal funding is received.

Table 2: Engagement Strategy

Phase	Participant(s)	Level of Influence	Objective	Engagement Goal	Engagement Activities
1	Impacted Groups Residents Landowners	Inform/ Involve	Inform and consult with surrounding stakeholders and community members.	Inform and Identify Potential Impacts	Correspondence Meetings Survey
2	Impacted Groups Residents Landowners	Inform/ Involve	Validate mitigations and determine community support	Close the Loop	Correspondence Meetings

* Correspondence refers to unsolicited emails, phone calls, and virtual meetings with stakeholders

** The proposed engagement activities are subject to change depending on timelines, budget, and internal considerations

Communications for the existing Program has moved into an operational phase and an annual awareness and education plan has been prepared for 2024. Communication campaigns and education programs will continue to focus on the environmental benefits

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of residents using their green carts, encouraging correct behaviour based on feedback from surveys and audits, and celebrating diversion successes. Due to the interim nature of organics processing to-date, education on what happens to green cart materials has been limited. Once a permanent facility is in place, education on processing will be included in future phases.

NEXT STEPS

If approved, a report to create a capital project and approve borrowing will be brought forward to a future public hearing.

Future reporting on the curbside organics collection program, including statistics from the first year of operation and collection frequency, will occur in Q2 2024.

APPENDICES

1. Additional Background Information
2. Jurisdiction Scan for Organics Processing
3. Compost Processing Technology Information
4. Detailed Options Analysis
5. Proposed Organics Facility Location

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