

Waste Plan Regina - 2020 Update

Date	April 21, 2021
To	Operations and Community Services Committee
From	Citizen Services
Service Area	Water, Waste & Environment
Item No.	OCS21-14

RECOMMENDATION

That the Operations and Community Services Committee receive and file this report.

ISSUE

Waste Plan Regina (WPR) provides direction for the City of Regina's (City) solid waste management programs and services for both residential and non-residential sectors.

In 2015, after City Council received an annual update on WPR, it was resolved that every year, the Public Works & Infrastructure Committee, now the Operations & Community Services Committee, would receive a report on WPR's annual results and future initiatives.

This report summarizes the City's accomplishments in 2020 and provides a look at what is on the horizon. The WPR-2020 Update is included as Appendix A.

IMPACTS

Environmental Impact

The City's waste diversion programs are part of an integrated solid waste management plan for the collection and disposal of waste, which ensures protection of the natural environment by following provincial regulations and best practices.

The landfill generates approximately 79,000 tonnes of CO₂ equivalent per year (greenhouse gas emissions). This number includes the approximate 16,000 tonne CO₂ equivalent reduction via the Landfill Gas to Energy Facility and flare. The expansion of the landfill gas collection system and flare facility replacement is estimated to further reduce greenhouse

gas emissions by up to 37,720 tonnes. Landfill operations and waste collection generate approximately 1,650 tonnes CO₂ equivalent per year.

In 2020, the City's waste diversion programs eliminated 775 tonnes of CO₂ equivalent from the landfill. An additional 8,000 tonnes of CO₂ equivalent per year is expected to be eliminated from the landfill with the implementation of the city-wide curbside food and yard waste collection service. Implementation of the program is expected in 2023.

Up to 15,000 tonnes of CO₂ equivalent is estimated to be eliminated with the implementation of waste management policies for institutions, commercial businesses and industries (IC&I) and the construction and demolition (C&D) sector. Implementation of waste management policies for non-residential sectors is expected by 2024.

Policy/Strategic Impact

WPR aligns with *Design Regina: The Official Community Plan Bylaw No. 2013-48 (OCP)*.

The continued implementation of WPR directly contributes to the OCP priorities, specifically:

- Section D4, Goal 4 – Conservation and Environment, “Design infrastructure that conserves resources and minimizes impacts on the environment”.

Continued implementation of WPR contributes to achieving the OCP's Community Priorities and alignment with other municipalities by encouraging the City to embrace leading practices for waste management.

OTHER OPTIONS

Not Applicable.

COMMUNICATIONS

Public awareness and education campaigns focused on the City's solid waste management programs and services will continue in 2021. The City will focus education efforts on reduction and reuse messaging and will continue to educate residents on proper use of City waste services. The WPR-2020 Update will be posted on Regina.ca.

DISCUSSION

In 2009, WPR was developed to address the growing demands of Regina's solid waste management system. WPR provides direction for the City's solid waste management programs and services for both residential and non-residential sectors. In addition to programs, WPR looks at other support tactics to encourage waste reduction over disposal through promotion and education, user-pay for garbage and customer reward programs.

What is Residential Waste?

Residential waste is waste that is generated by households. Approximately 30 per cent of what goes to the landfill is generated by the residential sector. In January 2011, City Council adopted WPR's Enhanced Residential Service Option and set a target to divert 65 per cent of residential waste by 2020.

What is Non-Residential Waste?

Non-residential waste is waste that is generated by institutions, commercial businesses (including multi-family properties) and industries known as the IC&I sector and the C&D sector. Collectively, these two sectors produce approximately 70 per cent of landfilled waste.

City Council adopted the Extended Services Level for the non-residential sectors. Details about the adopted service levels can be found in WPR at Regina.ca/waste.

The City conducted an audit of the incoming landfill loads in the summer of 2020 and found that loads from the IC&I sector contain 20 per cent recyclable material and 22 per cent compostable material. C&D loads contain high quantities of divertible material such as tires and untreated wood.

Waste Management Hierarchy

The Waste Management Hierarchy has guided development of Regina's long-term waste management plans and other municipal plans across the country.

The waste hierarchy ranks actions from most to least environmentally preferred, based on use of natural resources and energy, production of pollution and potential toxicity.

The hierarchy emphasizes source reduction and reuse, followed by recycling and composting and finally energy recovery from waste, treatment, and disposal (landfilling).

Government Roles in Waste Management

Waste is a shared responsibility between all levels of government. Federal and provincial governments focus on regulation or stewardship programs. Municipalities are responsible for waste collection and disposal activities.

- Federal Government – The primary role of the federal government is control of interprovincial and international movement of hazardous waste and recyclable material through regulation.
- Provincial Government – In Saskatchewan, the Ministry of Environment (MOE) regulates solid management through approvals, licensing of facilities, monitoring operations and mandating recycling of certain products through stewardship regulations.

Regina Waste Trends

Saskatchewan produces the second highest amount of waste in Canada per capita. Each person in the province generates, on average, 60 regular household bags of garbage per year. Approximately 201,000 tonnes of waste was landfilled at the City's regional landfill in 2020. To reduce the amount of waste going to the landfill and achieve our waste diversion goals, implementing further residential diversion programs, educating residents to reduce waste and developing waste management policies for the IC&I and C&D sectors is essential.

Residential Waste Diversion

The percentage of residential waste diverted from the landfill in 2020 is 20 per cent. The residential waste diversion calculation considers curbside garbage, recycling and food and yard waste collection, household glass returned to SARCAN, the Big Blue Bin Depots, Yard Waste Depot, Household Hazardous Waste Days, Treecycle and waste disposed and diverted at the landfill transfer station.

Due to Covid-19, residents spent much more time in their homes. An increase in garbage collected at the curb and disposed at the landfill transfer station reflects this. An increase in waste diverted through the drop-off depots offset the increase in residential garbage. Approximately 52,341 tonnes of garbage was collected at the curb in 2020.

Residential Curbside Collection Services

On average, brown carts were set out for collection 73 per cent of the time. Historically, the volume of residential garbage decreases in the winter months. From November to March, garbage is collected biweekly, with return to a weekly schedule for a two-week period over the holiday season. On average, garbage carts are 77 per cent full on collection day during weekly and biweekly garbage collection. This data shows that the curbside garbage collection is operating at a capacity that serves most residents.

Residents that cannot manage their garbage within the weekly or biweekly garbage collection schedule can add a supplementary brown cart for a fee.

On average, blue carts were set out for collection 74 per cent of the time (19 out of 26 collection days per year) and were 72 per cent full. This data shows that curbside recycling collection is operating at a capacity that serves most residents.

In September, the City launched the Curbside Food and Yard Waste Collection Pilot (Pilot) to approximately 2,800 households. The Pilot is being used to seek feedback from residents and identify any challenges prior to city-wide implementation in approximately 2023.

The Pilot includes participants from all ten wards, with a mix of front street and back alley collection, various yard sizes, and neighborhoods with different volumes of waste. Each property was provided either a 120L, 240L or 360L green cart. The service is 'scrape the plate', meaning that all food scraps including meat, bones and dairy are accepted. For Pilot participants, garbage is collected biweekly throughout the year and food and yard waste is collected weekly. Food and yard waste collected from the Pilot is processed at the City's compost site located at the landfill.

In the first three months of the Pilot, participants diverted 172 tonnes of food and yard waste from the landfill.

Residential Drop-off Depots

In 2020, the City's drop-off depots diverted a total of 5,233 tonnes of yard waste, household hazardous waste, Christmas trees, glass, and household packaging from the landfill, compared to 3,602 tonnes in 2019.

Non-Residential Waste

The City is getting ready to bring forward a recommendation to Council to set regulations that will require the IC&I sector to divert waste from the landfill. The City is establishing itself as a leader in IC&I waste management practices and gathering information about the impact regulations could have on the landfill.

The Green Routine

The City's internal waste diversion pilot wrapped up in the spring. The Green Routine gave the City the opportunity to lead by example by providing compost and recycling opportunities at 12 City-owned facilities. Upon completion of the pilot, the average diversion rate for the pilot facilities was 47 per cent, up from 10 per cent prior to the pilot.

Green Procurement

The City is developing Community Benefit & Sustainability criteria that will be included in procurement documents. Bidders that can provide social, environmental, and economic value now and in the future will score higher than those who cannot. Environmental value includes concepts like protecting the environment and reducing our environmental footprint.

Landfill Operations

In addition to diverting waste from the landfill, the City implements best practices in landfilling to ensure efficient use of the space. In 2020, continued operational efficiencies such as soil usage tracking, new equipment and GPS saved, approximately, an additional 100,000 cubic metres of space, which is consistent with the savings we saw in 2019.

The City is extending the life of the active cells by directing primarily C&D waste to the unlined section of the landfill, resulting in approximately 32 per cent of waste being diverted from the landfill's lined areas.

Landfill Gas to Energy Facility

The City's Landfill Gas to Energy Facility captures methane gas produced at the landfill and turns it into electricity. The City has been selling electricity to SaskPower since January of 2017.

In 2020, a landfill gas pre-treatment system was installed to improve operational efficiency of the Landfill Gas to Energy Facility. The pre-treatment system removes a portion of the gas called siloxanes which, when untreated, can damage various parts of the landfill gas to energy engine. This damage to the engine can lead to increased downtime, which results in less methane being destroyed and less electricity being produced.

Public Outreach and Education

Public outreach and education are important to ensure Regina residents are using City waste services correctly and to increase knowledge of proper waste, recycling and reduction practices.

Public outreach has shown to be effective in decreasing contamination. Contamination at the City's recycling processing facility has steadily decreased over the past few years, from 16 per cent in 2018, to 9.5 per cent in 2020. When contamination decreases, processing fees paid to the recycling processor also decrease.

The best approach to waste management is to not create the waste in the first place. Over the last few years, education efforts have shifted to focus more on reduction and reuse messaging.

Public outreach initiatives in 2020:

- CartSmart - curbside education program to educate households on proper waste sorting practices and to recognize residents who are sorting their waste correctly.
- Plastic Education Campaign – social media campaign that highlighted unacceptable plastics that are being placed in the blue cart and the impacts to the Curbside Recycling Collection Program.
- Waste Reduction Campaign - campaign that encouraged residents to reduce the use of common single-use items such as coffee cups, plastic bags and plastic water bottles.

What's on the Horizon?

Upcoming Service Changes

Household Hazardous Waste – 2022 - 2023

The Government of Saskatchewan is developing a province-wide household hazardous waste stewardship program. As part of this new program, the Province launched a recycling program for consumer batteries beginning of January 2021. An environmental handling fee will be charged at the point of purchase and the fees will be used for the collection, transport and recycling of the batteries.

The City's current Household Hazardous Waste Days will continue in 2021. Decisions about the future of the program will be made once the Province releases further details about the HHW stewardship program. The City has expressed interest in becoming a permanent collection point for residents to drop off household hazardous waste.

City-wide Implementation of Curbside Food & Yard Waste Service – 2023 - 2024

The Curbside Food and Yard Waste Collection Pilot (Pilot) will continue into 2021. The City will continue to monitor the Pilot, seek feedback from residents to identify any challenges and continue planning for city-wide implementation in 2023. A recommendation on service details related to collection frequency, cart size combination and processing technology will be brought forward to Council in Q4, 2021.

Diversion at Landfill – 2025 - 2028

There are many items, such as mattresses, untreated wood, etc., that can be diverted from the landfill but do not currently have a drop-off depot. Over the next few years, the City will begin work on a diversion station at the landfill so customers can divert these items.

Education Room - 2021

The Waste Management Centre, located east of the landfill, houses an 800 square foot education room. In 2021, the education room will offer interactive learning for classrooms, community and corporate groups. Groups will learn about waste, water and the importance of engaging in responsible environmental practices.

Community Association Clean-ups - 2021

The Parks, Recreation & Cultural Services department will be bringing forward a report to Council with support for a community clean-up program. The Water, Waste & Environment department will provide supporting data, along with in-kind contributions.

Upcoming Policy Decisions/Changes

Waste Services Funding Policy - 2021

Administration will be bringing forward a report to Council with funding options for solid waste services. Options could consist of user pay for garbage, a full property tax-based system or a combination of both user fees and property tax. A funding system that incentivizes waste diversion supports the City's goal of reaching 65 per cent diversion.

Plastic Checkout Bag Ban Bylaw - 2021

The Plastic Checkout Bag Ban Bylaw is set to come into effect in Q1 of 2022. The effective date has been deferred from August 1, 2021 due to the ongoing pandemic. The City will develop a communication strategy to inform retailers and residents about the new regulations. The bylaw does not mandate checkout bag alternatives or a fee for the alternatives.

IC&I Sector Regulations – 2021 - 2024

The City will use information gathered from the Green Routine pilot and engage with stakeholders to form a recommendation to Council on waste management policies for the IC&I sector. Future IC&I waste management policies could include mandated recycling and composting and/or landfill bans on materials such as paper and cardboard.

C&D Sector Regulations – 2024 - 2026

Future C&D waste management policies could include mandated recycling or landfill bans on material that is divertible.

Operational Changes

Green Routine Expansion to all City Facilities - 2021

The Green Routine pilot successfully increased the City's internal diversion rate. In 2021, the program will be implemented in the remaining 75 City-owned and operate facilities. As part of this expansion, bottle baskets will continue to be added to high-traffic parks, transit stops and pathways.

Landfill Gas Collection System Expansion - 2021

The landfill gas collection system will be expanded with an additional 25 wells, in addition to the replacement of the flare stack and its control system. The new flare's operation will then be integrated with the existing Landfill Gas to Energy Facility to enhance/increase the ongoing destruction of the methane gas produced at the landfill. This will reduce the quantity of greenhouse gases impacting our environment.

The addition of the new wells will allow the Landfill Gas to Energy Facility to run more reliably, producing enough electricity to power approximately 1,000 homes in Regina.

DECISION HISTORY

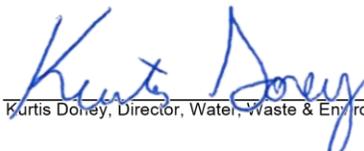
In 2011, City Council approved the WPR Implementation Plan (CR10-147), which recommended implementing the Enhanced Residential Service Level Option for the residential sector. It set a diversion goal of 65 per cent by 2020. City Council also adopted the Extended Services Level for the non-residential sectors.

In 2015, Administration responded to a City Council motion (MN14-3) with a report that included an annual update on WPR initiatives (PWI15-2). It was resolved that, every year, the Public Works and Infrastructure Committee would receive a report on WPR's annual initiatives, results and future plans.

The recommendation in this report is within the delegated authority of the Operations and Community Services Committee.

Respectfully submitted,

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3/31/2021


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4/14/2021

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ATTACHMENTS

Appendix A - Waste Plan Regina - 2020 Update