

**CITY OPERATIONS**

**Edmonton**

# **WASTE SERVICES**

**2021/2022 Annual Service Plan**



## INDIGENOUS ACKNOWLEDGEMENT

Waste Services acknowledges that our City operates within the traditional land of Treaty 6 Territory and within the Métis homelands and Métis Nation of Alberta Region 4. We acknowledge this land as the traditional territories of many First Nations such as the Nehiyaw (Cree), Denesuline (Dene), Nakota Sioux (Stoney), Anishinaabe (Saulteaux), and Niitsitapi (Blackfoot). We also acknowledge this as the Métis' homeland and the home of one of the largest communities of Inuit south of the 60th parallel.

The City of Edmonton owes its strength and vibrancy to these lands and the diverse indigenous peoples whose ancestors' footsteps have marked this territory, as well as settlers from around the world who continue to be welcomed here and call Edmonton home.

Together we call upon all our collective honoured traditions and spirits to work in building a great city for today and future generations.

## INDIGENOUS FRAMEWORK



The Indigenous Framework, released in 2020, is a living document that will continue to evolve over time as our relationships with Indigenous Peoples continue to grow. Over the course of 2021, some activities that will take place include: The Seven Commitments will be activated through both Corporate-wide and Department-specific action plans; City employees will have the opportunity to participate in a wide variety of learning opportunities including panel discussions; and City employees will be encouraged to and be given the appropriate supports to apply the four roles within their everyday work for listening, connecting, advocating, and partnering with Indigenous Peoples in Edmonton.

The following are actions that the City Operations Indigenous Framework Action Team have identified as focuses for the whole department for 2022. These actions align with the Seven Commitments of the Framework.

- » Indigenous Framework Communications Plan (started in 2021)
- » Land acknowledgements in documents (started in 2021)
- » Leadership presence at Indigenous events (started in 2021)
- » Review Branch Action Plans (BAPs) and work plans to identify opportunities to connect work to Calls to Action.
- » Establish clear signage at all City Operations facilities confirming commitment to anti-racism and that discrimination will not be tolerated.
- » Place signage with land acknowledgement in buildings/facilities.
- » Provide notice of Indigenous events on facility notice boards, electronic displays, etc.
- » Encourage and provide support (and time, if appropriate) for staff to attend Indigenous events.

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## MESSAGE FROM THE BRANCH MANAGER



**DENIS JUBINVILLE,**  
BRANCH MANAGER

### **Waste Services is progressing toward a more sustainable future that provides Edmontonians with strong economic and environmental benefits while ensuring utility rate increases remain low and consistent.**

With a focus on waste reduction and increased waste diversion, our 2022 actions will be directed at minimization of materials going to landfill. This will enable Waste Services to move towards the 90 per cent diversion goal set by City Council.

The focus in the coming year will be on the development of strategic programs described in the 25-year Waste Strategy that has set the City on a path of transformational change under a broader framework of Zero Waste. Our focus will be on activities that promote waste reduction, item reuse, and improved recycling through the continued development of a circular economy. The aim will be to continuously improve the waste system and expand performance indicators to capture the full social, environmental and operational benefits being achieved. Program and service changes will include optimizing single unit four-stream collection,

establishing three-stream waste separation in the multi-unit sector and developing a strategy for the Industrial, Commercial and Institutional sector.

As we move forward with the Waste Strategy, the commitment is to stay engaged with residents, communities and private industry. Their feedback will be integrated into communication and outreach plans to shape and inform our customer journey. The Waste Strategy primarily impacts Council's strategic goal of Climate Resilience but also supports the goals of Healthy City, Urban Places and Regional Prosperity. Together we will help Edmonton minimize its environmental impact through reducing, reusing and recycling waste. Together we can secure a sustainable future for our community.

## EXECUTIVE SUMMARY

Waste Services is an essential part of The City Plan and key to enhancing sustainability while supporting Climate Resilience through innovation and partnership. The goal of the branch is to demonstrate leadership and encourage residents, businesses and institutions to act as stewards of the environment.

The integrated 25-year Waste Strategy was developed to maximize environmental benefits for Edmontonians while minimizing the cost increases of managing solid waste. In the next several years, the City expects to face many challenges – partially as a result of the COVID-19 pandemic which has prompted a resurgence in single-use products – and has made the task of diverting waste from landfill more challenging. Edmonton's population is also expected to grow at a slower pace than originally expected.

This may result in lower than forecasted revenue from the annual utility rates charged to residents for waste services. Economic pressures may also result in a lower tolerance for increased waste utility rates. To respond to these challenges, Waste Services has realigned its strategic deliverables and objectives.

Waste Services prioritizes prevention and reduction initiatives across all sectors. In May 2021, the Waste Reduction Roadmap was approved as part of the 25-year Waste Strategy. The Roadmap describes programs and activities designed to reduce the quantity of waste that is both generated and disposed of in Edmonton. The goal is to reduce the waste generated per person in Edmonton by 20 per cent over the course of the 25-year Waste Strategy, with a zero per cent growth in residential waste generation per person from 2021 to 2024. The City's focus will be on creating change by:

- » supporting Edmontonians in making the behavioral and operational shifts necessary to reduce waste;
- » removing barriers to zero waste innovation and circular economy initiatives; and
- » increasing awareness of and participation in waste reduction programs.

Maintaining stable and consistent utility rates continues to be a focus for Waste Services during the implementation of the 25-year Waste Strategy.

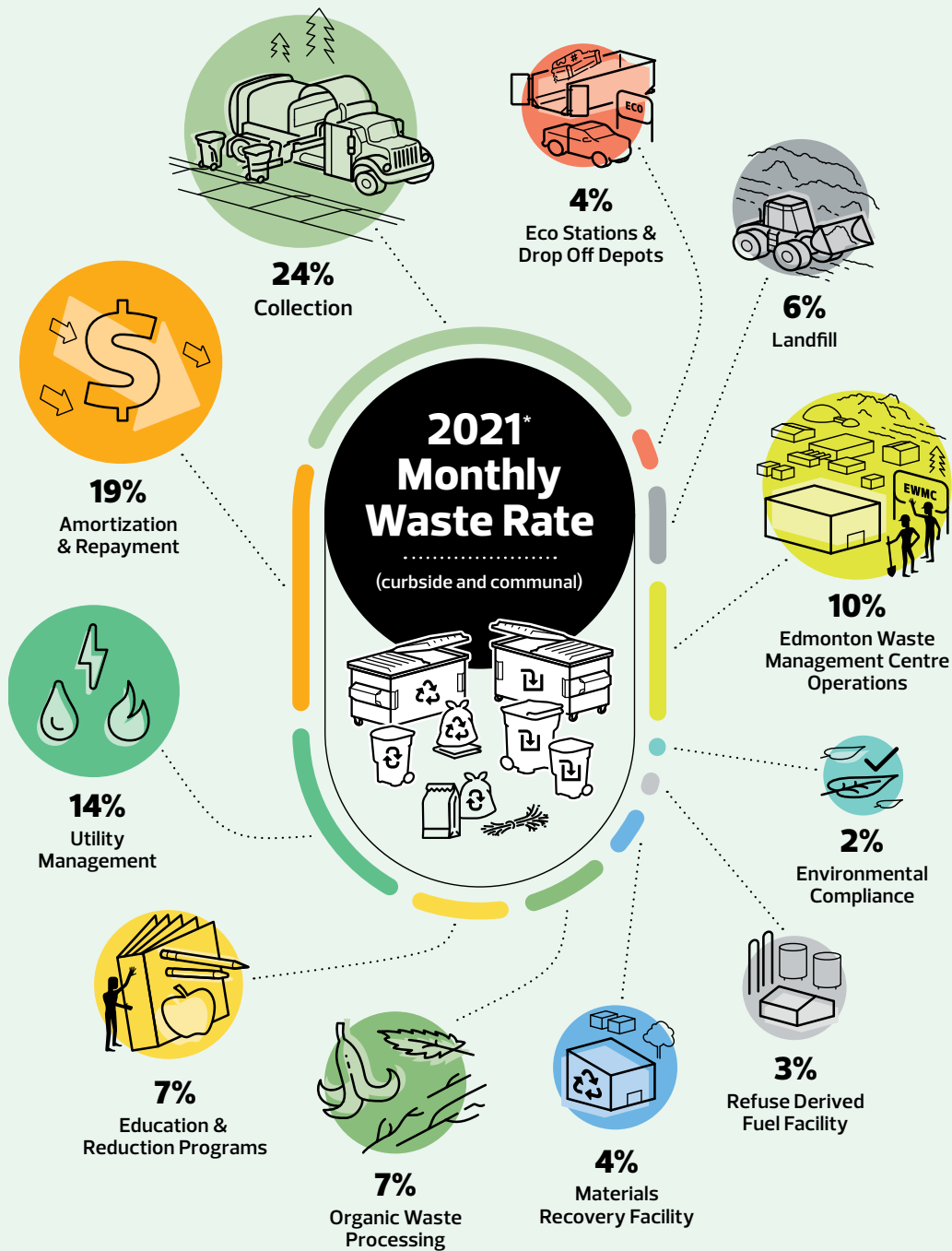
The Waste Services Annual Service Plan highlights the important work and service transformations taking place within the branch. Through the optimization of waste management collection and processing, and the adoption of new technology, Waste Services is continuously innovating the service it provides to all Edmontonians. All of this work relies on the continued support of excellent employees who are committed to the vision Waste Services and the City of Edmonton is trying to achieve.

*“I would not only like to acknowledge the drivers who have been picking up our garbage and the great job that they do but I want to mention an individual who works in a supervisory capacity and he has gone above and beyond in ensuring that we do not get missed and often picks up our bins with a specialized City Of Edmonton smaller truck as the layout of our property does not always permit the arm on the garbage trucks to retrieve our bins properly.”*

**- CHARLES, RESIDENT**

Waste Services is a City owned and operated utility. Residents pay for waste services through a monthly utility rate. These services are not funded by property taxes. The main goal of the utility is to be financially sustainable and to keep rates stable

and consistent. As can be seen in the infographic, the residential waste rate covers a range of services that are part of the waste system and includes much more than just waste collection.



\*Current as of October 2021

## 1.0 INTRODUCTION

The Annual Service Plan provides an overview of service changes, major projects, and infrastructure developments planned for 2022, while recapping some accomplishments from 2021. This plan also provides an annual update on the implementation of the City's Reimagine initiative and transformation projects.

### 1.1 STRATEGIC ALIGNMENT

This plan outlines priority actions that align us to realize the choices in Edmonton's City Plan and ultimately advance the four strategic goals of ConnectEdmonton, Edmonton's Strategic Plan 2019–2028 to achieve our vision of:



We advance these goals through three objectives:

- » **Strategic Objective:** Make transformational impacts in our community.
- » **Public Service Objective:** Deliver excellent services to our community.
- » **Supporting Service Objective:** Manage the corporation for our community.

Waste Services is aligned to the City of Edmonton's broader strategic framework through the implementation of the 25-year Waste Strategy which proposes significant changes to waste programs and services. Using a Zero Waste Framework, the strategy affirms Waste Services' commitment to a 90 per cent diversion of single unit residential waste from landfill. It also brings Edmonton into alignment with internationally-recognized best practices, putting more emphasis on waste prevention and waste reduction, while redesigning services to help all Edmontonians more easily take part in Edmonton's zero waste future.

The 25-year Waste Strategy has several transformative recommendations:

- » Adopt a Zero Waste Framework
- » Lead by example in implementing source-separated organics in City-owned and operated buildings, facilities and attractions
- » Introduce source-separated organics to the residential sector beginning with the citywide Edmonton Cart Rollout in spring 2021
- » Expand source-separated organics to the multi-unit residential sector and the Industrial, Commercial and Institutional sector
- » Cease commercial collections (wind-down in progress)
- » Shift programming to support and inspire community-based waste reduction initiatives, including actions to limit single-use items
- » Participate in efforts to promote Extended Producer Responsibility (EPR) policies



**The focus going forward is on:**

- » Completing and evaluating the new cart-based waste system, which is currently being completed for all single-unit homes and a number of multi-unit homes
- » Waste diversion programs and policies that will improve diversion in the multi-unit and Industrial, Commercial, Institutional (ICI) sectors
- » Waste reduction programs including actions to limit single-use items

**The Waste Services branch consists of five sections:**

**Waste Collection Services** provides resident focused, efficient and effective waste collection and drop-off services to Edmontonians. Residents have access to a number of facilities where large items can be dropped off for recycling, reuse or disposal including the Eco Stations, Community Recycling Depots, Big Bin Events and the Reuse Centre. Waste Services also provides an Assisted Waste Collection program to ensure waste removal is accessible to all residents.

**Sustainable Waste Processing** receives and sorts residential and non-residential waste at the Edmonton Waste Management Centre (EWMC). EWMC is a collection of transfer, advanced processing, and research facilities. This integrated site is designed to receive, transfer, and process more than 500,000 tonnes of waste per year. Facilities and operations are either owned and operated by the City or run on a contract basis. The focus of these facilities is to recover valuable resources and to minimize the amount of waste going to landfill.

**Technical Services** is dedicated to the engineering, technical support, innovation, capital program management, asset management, and environmental compliance of waste processing and collection operations. The area provides oversight for capital projects and large operational investments to ensure waste operations are compliant, effective and efficient. It also manages regulatory compliance and the Clover Bar Landfill post-closure operations.

## 1.2 BRANCH STRUCTURE





**Business Integration** is responsible for defining Branch strategy, business case development, facilitating operational direction, resource allocation, financial governance and Branch-wide alignment to corporate directives. Key areas of focus include performance management, monitoring and reporting, contract management, workforce development, utility rate filing and billing. This area is also responsible for the Branch's communications, education, outreach and volunteer programs that keep residents engaged in sustainable waste practices and waste reduction efforts.

**Waste Strategy** ensures coordinated delivery of the 25-year Waste Strategy. It leads research, public engagement, program and service design, project management and change management in coordination with all other sections to guide the transformation of Edmonton's waste system to a Zero Waste Framework.



### 1.3 IMPACTS FROM COVID-19

The COVID-19 pandemic had some significant impacts on Waste Services during 2021, mainly affecting the delivery of the 25-year Waste Strategy programs. The implementation of the Cart Rollout was delayed by one year due to supply challenges with the cart manufacturer and, as a result, utility rates for residents were reduced. There were also delays in the delivery of the Multi-unit Strategy and the Corporate Waste Transformation program.

The Reuse Centre and Reuse Areas at Eco Stations remained closed due to the pandemic and these services were not available to residents during 2021. Both programs were evaluated during the closure and a new direction was approved in November 2021. The Reuse Centre is scheduled to reopen on January 12,

2022 with improved operations focused on supporting a circular economy and the Zero Waste Framework. Reuse Areas at Eco Stations will not reopen and residents will be asked to bring donations directly to the Reuse Centre.

Even with those impacts, essential waste services continued to be delivered to residents throughout the year, in a manner that ensured the safety of Edmontonians and City staff.

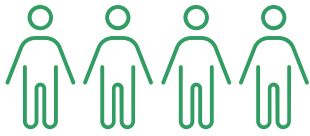
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*“Kudos to all the collectors in my area. They are all fantastic and do such an amazing job!”*

**- KRISTY, RESIDENT**

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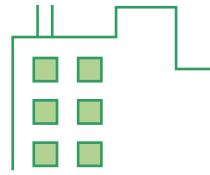
**BRANCH BY THE NUMBERS**



**500+ EMPLOYEES**



**250,000**  
SINGLE UNIT  
HOUSEHOLDS  
SERVICED



**167,000**  
MULTI-UNIT  
HOUSEHOLDS  
SERVICED

**15** recycling  
depots

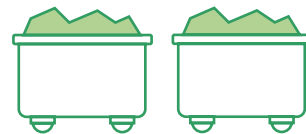


**1**  
REUSE  
CENTRE



**4** Eco  
Stations

**9 ANNUAL + 2 FREE**  
BIG BIN EVENTS



ECO STATION WEEKENDS

## 2021 YEAR IN REVIEW

### Customer Experience



**200 CART ROLLOUT PRESENTATIONS**  
DELIVERED TO 4,500 ATTENDEES

**3,500+**

People toured through EWMC on virtual school programs



**2.5 million**  
WasteWise app views

**462,000**

unique visits to [edmonton.ca/waste](https://edmonton.ca/waste)



**1,400**  
tonnes of compost given away

**28,000**  
residents reached through MCR program



**95,900 RESIDENT INQUIRIES**  
ANSWERED BY CUSTOMER SUPPORT TEAM

**145,000**  
residents signed up for collection day reminders



**1,000**  
RESIDENTS RECEIVED ASSISTED WASTE COLLECTION

**UTILITY RATE HELD AT 0% FOR TWO YEARS**

### Service Delivery and Transformation



**250,000**  
single unit homes converted to cart collection

**Over 10,000**  
multi-unit homes converted to new billing system

**9,750**  
LARGE CARTS SWAPPED FOR SMALL CARTS



**758,000**  
WASTE PICK-UPS PER WEEK



**12,000**  
CUSTOMERS SERVED AT TWO FREE ECO STATION WEEKENDS



**155,000 tonnes**  
of recycled 63 mm aggregate sold



Three-stream waste separation implemented at 220 City facilities



**386,000**  
Eco station visits

### Environmental Impact



**WASTE REDUCTION ROADMAP APPROVED**



**436,000 TONNES**  
OF WASTE RECEIVED AT EWMC

**32%**  
of single unit residential waste diverted



**LESS THAN 20**  
ENVIRONMENTAL INCIDENTS



**Charles Labatiuk Environmental Award**  
won for 25-year Waste Strategy

### Safety & Engagement



**3**  
employee check-in surveys



**NEW WASTE ENGAGEMENT TEAM CREATED**

**202**



appreciation cards sent

**65%**  
decrease in employee injuries requiring medical aid



**57%**  
DECREASE IN EMPLOYEE LOST TIME INJURIES

**518**  
supervisors completed safety inspections



## 1.4 HIGHLIGHTS FROM 2021

In 2021, Waste Services achieved a number of milestones that contributed to its goal of a 90 per cent diversion rate; the biggest being the implementation of the Curbside Cart Program. In addition, different programs and initiatives below demonstrated Waste Services' commitment to innovation, financial sustainability and the environment while addressing Edmonton's growing population base. Waste Services takes pride in the culture of safety it has created for the services it delivers and the connections it has established to the community. This success is the result of the hard work and dedication of the Waste Services staff and its partners.



### 1.4.1 Curbside Cart Program

By fall 2021, approximately 250,000 single unit residential households started sorting waste into four streams as part of an effort to divert more waste from landfill. This includes source separation of organics, garbage, recycling and seasonal yard waste collection.

Prior to the rollout, a course was developed for collectors in the Kennedale yard to train and practice the proper way of collecting carts using the automated arms and grippers. Supervisors in the Curbside Collection group ensured that at least 10 to 12 collectors were trained on the equipment before the start of cart collection.

Outreach and education activities played an important role in supporting residents adjusting to the new cart system. The Waste Education and Outreach team facilitated 133 workshops for 3,348 residents teaching them how to sort their waste and set out their new carts. One of these programs was directed solely towards English language learners, which was well received by the participants. Residents were also helped by the Cart Outreach Team, who worked in the field tagging and correcting improper set-outs.

Waste Services also continues to find ways to improve efficiency and effectiveness in the waste collection. In addition to automated collection, RFID and cameras were added to collection trucks starting November 2021 to streamline operations and help improve customer service. The RFID readers scan the carts while tipping them in the truck to keep track of the scheduled collection services. The cameras record locations where carts are not set out for collection or where the set-out does not comply with the Waste Services Bylaw. The use of this type of technology has become an increasing trend in the industry.

The Curbside Cart Program was led by the Project Management Office with contributions from all the sections within Waste Services.



@CityofEdmonton We are a family of 5, 2 adults and 3 kids under the age of 10. We recently received our new garbage and food scraps bins, and I feel like we have already diverted so much away from "garbage" into "food scraps"! I'm so happy, thank you for this!

— @martacaufield



### 1.4.2 Commercial Collections Wind Down

Waste Services continued winding down its commercial collection in 2021. Existing commercial collection customers were notified of this transition and no new commercial customers were accepted. Approximately 1,100 bins were brought back from the field and some were sold to the new service providers. As part of the transition and commitment, Waste Services has continued collection services to a handful of commercial customers whose terms have yet to expire. This program is expected to be completely wound down by the end of 2021.

### 1.4.3 Zero Increase for Utility Rate

As a rate regulated public utility, Waste Services prepares an annual rate file that forms the basis for the Utility's operating and capital budget. This rate file aligns with Waste Services Utility Fiscal Policy C558B, and, as such, sets customer rates that allow the Utility to meet its operational and capital requirements. In the 2021 Annual Rate File, a customer cost model was developed that designed utility rates allowing Waste Services to meet its operational and capital requirements, comply with its fiscal policy, and deliver major program changes while ensuring a zero percent rate increase in 2021. The model also introduced variable cart rates based on cart size providing a financial incentive to residents to reduce waste at the household level. These rates came into effect in October 2021.



### 1.4.4 Eco Stations

Eco Stations are drop-off facilities operated by the City which accept household hazardous waste, electronics, recyclables, yard waste and large bulky items. In addition to waste drop-off, residents are also able to pick up free compost at the Ambleside and Kennedale Eco Stations. The four Eco Stations (Ambleside, Coronation, Kennedale, and Strathcona) held two free drop-off weekends in 2021, giving over 12,300 visitors the opportunity to drop off items at no charge. These initiatives increased public awareness and participation in waste reuse, reduction and recycling programs. By year end, the four Eco Stations have served 386,307 customers. Throughout the pandemic, the Reuse Areas at the Eco Stations have remained closed while Waste Services staff explored the most effective and efficient way to help residents share and reuse the materials.

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*“ Thank you to the Eco Stations for handing out masks, this was a welcome surprise. I have older parents and thought this was one of the most awesome ideas!”*

**- TASHA, RESIDENT**

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#### 1.4.5 Assisted Waste Collection

Assisted Waste Collection was initiated to support seniors and others with mobility restrictions. Waste attendants pick up garbage and recyclables from the front or back door of the home at no additional charge. With the cart roll-out, the program was expanded to incorporate the carts and the new style of collection by having the attendants transport bags from residents' houses, place them into carts and wheel the carts out for collection. Under the current program, the waste attendants wheel the cart out the day prior to scheduled collection and then return the cart after collection. Although not required to do so, waste attendants also help by transporting items to the Eco Stations for these residents. The staff take great pride in assisting this vulnerable portion of residents. As of 2021 year end over 1,000 residents are receiving the service.



#### 1.4.6 Big Bin Events

In 2021, Waste Services hosted nine Big Bin Events throughout Edmonton. A total of 1,159 tonnes of household items, many too large and not suitable for regular collection, were received for recycling or disposal. Waste Services staff found ways to accommodate COVID-19 safety requirements while improving the resident and employee experience. Compared to previous years, event layouts were adjusted and the number of disposal locations were increased, improving both efficiencies and service quality. In all, 10,650 visits by residents were made to the nine events each of which brought, on average, 109 kgs of material.



### 1.4.7 Recycling Depots

Edmonton's Community Recycling Depots are located across the City providing a convenient and cost effective way to dispose of household recyclables. Depots provide residents with areas to drop off their recycling and allow Waste Services to collect a large amount of materials from a few locations. There are 15 unstaffed recycling depots strategically located throughout the City, most of which are open 24/7. At these locations, clearly labelled bins are available for various items such as cardboard, paper and plastic bags. Throughout 2021 3,007 tonnes of recyclable material was collected.

### 1.4.8 City Corporation Waste Transformation

As part of the Waste Strategy implementation, the City has implemented a three-stream waste separation program at over 200 City-owned-and-operated facilities and sites. This includes all City-owned recreation centres, libraries, office buildings and others. This is part of the City's plan to lead by example in waste diversion in the Industrial, Commercial and Institutional sector.

The three-stream waste program enables over 4,000 office-based City staff and millions of visitors to the City's community and recreation facilities to sort and divert waste as they would at home. The



project provided end-to-end project management support, including planning and procurement of "front-of-the-house" or user-facing waste sorting infrastructure like public sorting stations, transition of collection services to three streams, realignment of eight custodial contracts, and education and outreach for users, custodial staff and facility supervisors.

Most recent data shows six tonnes of food scraps have been collected on a monthly basis from corporate facilities. The amount of food scraps collected is expected to be higher after the full post-COVID return to the workplace.

Litter container service consolidation was completed in January 2021. The work was recommended by the 2018 Program and Service Review Report and involved the transition of approximately 1,700 waste serviced on-street litter containers located in Business Improvement Areas (BIAs) to contracted service. This consolidates the servicing of all on-street litter containers at bus stops and BIAs under one contractor and is expected to achieve \$800,000 in savings per year.



### 1.4.9 Waste Reduction Roadmap

Waste reduction efforts are an integral part of the Zero Waste Framework. In May 2021, the City's first Waste Reduction Roadmap (Roadmap '24) was approved by City Council. It identifies programs, services and regulations that will result in less waste being produced by both the residential and non-residential sectors (City Operations report CO00390). Ten waste reduction actions have been identified to further advance the City's three focus areas:

- » removing barriers to zero waste innovation and circular economy initiatives
- » supporting Edmontonians in making the behavioral and operational shifts necessary to reduce waste; and
- » increasing awareness of and participation in waste reduction programs.

With a goal of reducing the quantity of waste generated per person in Edmonton, the progress of the Waste Reduction Roadmap implementation, including results for the key performance indicators, will be reported annually. Measures for actions will be monitored to support ongoing performance management, with a summary report to be prepared at the end of 2024 as part of the City's next Waste Reduction Roadmap.



### 1.4.10 Education and Outreach Programs

At the onset of the COVID-19 pandemic, all waste and outreach education programs, tours, and information programs pivoted to virtual delivery.

Live online tours at the EWMC were produced in-house, allowing participants to "visit" the EWMC site and communicate interactively with the tour facilitators in real time. Our talented educators also developed and released Waste Warriors Academy, a five-unit e-Learning course for Grade 4 students, that was fully subscribed within a week of its release. As of October 2021, the Academy had 1,969 users. The team also achieved 100 per cent customer satisfaction on all tours, waste presentation and group program evaluations.

The Master Composter Recyclers (MCRs), supported by the Compost Education team, continued to influence their friends and neighbours with tips on how to use Edmonton's waste system and reduce waste. In 2021, MCRs connected with over 15,000 Edmontonians and volunteered more than 1,000 times.

Virtual sessions on Food Waste Reduction and Waste Reduction Basics programming were also launched in partnership with the Edmonton Public Library.

Waste Services has engaged the public with media appearances and one-on-one education (including carside, phone, email, and social media) on topics ranging from home composting for multi-unit residents to sorting waste for the residential cart rollout.





#### 1.4.11 RDF Enhancement

The approval, design and construction of the Refuse Derived Fuel (RDF) Enhancement began in 2020. This project aims to increase the reliability of the RDF facility by providing an alternative to the vecobelt for delivery of feedstock and providing flexibility to deliver materials to alternative destinations. The new building was constructed in spring 2021 and, since that time all of the conveyors, diversion gates and associated electrical and instrumentation have been installed. It is expected that the project will be in operation by the end of 2021.

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*"I too had a noteworthy experience at a south Edmonton Eco Station just yesterday. The crew was well-organized, efficient, and pleasant to deal with. Kudos to the City of Edmonton and CUPE Local 30 for negotiating a collective agreement that provides a living wage, appropriate training and opportunities for advancement. Let's hope our new city council will recognize the value in managing these jobs and others internally."*

**- RAY, RESIDENT**

EDMONTON JOURNAL (PRINT EDITION), OCTOBER 8

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#### 1.4.12 Organic Waste Processing

A long-term strategy for organic waste processing is being implemented with considerations for the current infrastructure, equipment and curbside collection demands. Organic waste is being processed by the Anaerobic Digestion Facility (ADF) and the Cure Site at the EWMC, with additional processing capacity provided by regional organic waste processors. This strategy is helping close the gap between the current diversion performance and the overall goal of 90 per cent diversion from landfill. Additionally, Waste Services is increasing capacity, reducing the average cost per tonne for processing, and changing collection practices to ensure a much cleaner and more divertable organics product.

2021 highlights include the full rollout of the source separated organics (green cart) program, as well as full seasonal yard waste collection; the completion of ADF commissioning; successfully amending the contract of the ADF contractor; negotiation and execution of several regional organic waste processing contracts; and the successful composting of yard waste from demonstration phase residents at the Cure Site. Additionally, the ADF started hot commissioning activities in May 2021 after several months of being out of service. The hot commissioning activities were conducted to verify the operability, safety and reliability of the facility.



#### 1.4.13 Advanced Customer Tracking (Q – Track System)

Wait times at Edmonton's waste drop-off locations and processing facilities vary due to a variety of factors. As a way of communicating wait times to customers, a tracking system is being introduced that will ping cell phone frequencies from signaling devices placed at multiple locations at the EWMC and Eco Stations. The information can be filtered to capture customers' wait times and input into a live chart that can be shared on different platforms, providing a live capture of the sites' activities. It shows the sites' historical busy and slow times so customers can plan their visit accordingly. This initiative, expected to be fully implemented by the end of 2021, aligns with the business strategy of providing the customer a great and convenient experience.

#### 1.4.14 Residential Utility Billing

EPCOR has provided utility billing and customer care services for Waste Services since its conversion to a utility in 2009. The services provided by EPCOR, collectively referred to as utility billing and customer care services, include customer service, customer account management, revenue management, receivables management, financial management, consulting and special services and information services. EPCOR implemented a new customer billing system in Q4 2020 aimed at improving productivity, billing accuracy and the customer billing experience. Waste Services continued to optimize billing processes with the new system in 2021.

As well, with the implementation of the Edmonton Cart Rollout, Waste Services changed its billing system from a per household basis to a per cart basis. This project included implementing system processes, creating complex data exchanges between multiple systems, negotiating with multiple vendors and automating processes. The conversion of approximately 230,000 customer accounts took effect on October 1, 2021.



#### 1.4.15 Customer Support Centre Operational Efficiencies

The Waste Services Customer Support Centre was created in 1992 to handle residents' inquiries and collection complaints. Evolving technology and the launch of the Edmonton Cart Rollout presented an opportunity to further improve operations. The goal of these improvements was to increase efficiency in inquiry management and response times. In 2020, the team had six full-time Customer Service Representatives. In 2021, the team grew to 15 representatives to temporarily handle the influx of cart rollout questions.

A number of changes were made to help the area manage these new initiatives, including extended hours of operation, an enhanced hiring process, a live dashboard for automated reporting and access to data, customized virtual training modules and an interactive voice response system that tracks call types and directs them to a representative. These new tools identified gaps and helped facilitate information for decision making on items such as technological advances, hiring and operating decisions. These changes also allowed the representatives to answer residents' questions in a more timely manner.



#### 1.4.16 Compost Giveaways for Residents

In fall 2020, the Waste Services Leadership Team proposed that the City should make the compost it produces available to residents at no cost. A plan for compost distribution was developed and implemented in 2021 with the goal to distribute the compost to residents in a way that aligns with the 25-year Waste Strategy goal of 90 per cent diversion, as well as the Zero Waste Framework.

Compost was given away from May 15 to October 16, 2021. Over 1,400 tonnes of compost was delivered and more than 107,000 residents picked up compost at the Ambleside and Kennedale Eco Stations.

The compost is graded as Category A and can be used in any application including horticultural use, landscaping, gardening, tree and shrub planting and top dressing.

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*"Please pass my compliments on to the Waste Hotline Team. They are amazing!!!!  
Such a tough job. Such an important job!"*

**- SARAH, CITY EMPLOYEE**

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### 1.4.17 Affiliated Transaction Report

Working with a third-party consultant, Waste Services recently completed a benchmarking review of affiliated transactions for the Waste Services utility. Affiliated transactions are services (and costs) provided to Waste Services by other branches in the City. This work was completed at the request of the Utility Advisor during the annual rate filing process, through which Waste Services was asked to initiate a review focused on the reasonableness of affiliate service charges.

The final report compared six affiliated services across four municipality-owned-and-operated utilities and four municipalities from the Municipal Benchmarking Network. The following six services were evaluated: Information Technology, Human Resources, Financial Services, Communications Services, Legal Services and Procurement.

The review, which included data from 2018 to 2020, reported that the service charges were in line with the benchmark.

### 1.4.18 Waste Fee Schedules Design and Update

In 2021, Waste Services improved fee consistency for residents using the services at Eco Stations and the Residential Transfer Station at the EWMC.

The fee schedule was streamlined to provide uniform information across all the waste drop-off facilities. The fee charts were modified to reflect consistent and clear information throughout all channels – including on-site signage, website, 311 and Customer Support Centre scripts.

The initiative made it simple and easy for residents to sort and dispose of waste, supporting the 25-year Waste Strategy and helping Waste Services improve its customer service experience and further its goal of becoming a customer-centric branch.

# Eco Station



## Free Drop-Off (Residential Only)

### Household Garbage

- up to 2 clear garbage bags
- waste in non-clear bags will be subject to fees
- must not contain food scraps, yard waste or recycling



### Appliances

- lawnmowers • power tools
- stoves • washing machines



### Electronics (Items with a cord or battery)

- computer items • TVs • cell phones
- phones • fax machines • answering machines
- power tools • vacuum cleaners • floor polishers



### Recyclable Materials

- newspaper • metal cans • plastic bags
- items must be clean and segregated



### Scrap Metal

- BBQs • bicycles • rebar
- items must be clean and segregated



### Tires

- only tires managed under the Provincial Tire Recycling Program



### Yard Waste (residential and non-residential)

- bark • grass clippings
- fallen tree fruits • houseplants
- leaves • mulch • woodchips
- pine cones and needles
- yard and garden trimmings
- branches • sticks • twigs
- stumps • roots • trimmings • trunks
- items must be loose or paper bagged, clean and segregated



## Household Hazardous Waste

### Batteries

- all kinds (except commercial and industrial grade batteries)



### Oil and Engine products

- oil • oil filters • antifreeze
- gas • diesel • rust remover



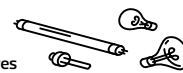
### Chemicals and Cleaners

- bleach • drain and toilet cleaners • oven cleaners
- spot removers • herbicide • pesticide
- fertilizer • photo chemicals • glues



### Lighting

- all light bulbs
- fluorescent tubes/ballasts • lighting fixtures



### Paint and Stains

- max container size 20 litres (including aerosols – full or empty)



### Other

- aerosol cans • propane tanks or bottles
- fire extinguishers • smoke detectors
- needles and syringes • caulking • cement powder





#### 1.4.19 Changes to the Hauling Operation

Instead of a routine haul to Claystone Waste's Landfill in Ryley, drivers are now doing more on-site hauling to and from the Anaerobic Digestion Facility, as well as hauling pre-processed green cart materials to various regional organics processors. The largest regional processor is Future Fuels, located in Hairy Hill near Vegreville. The dedicated pickups of grass, leaf and yard waste had a large impact on hauling during spring and fall, and created additional hauling requirements for the compost created from these materials. The increase in the number of materials and delivery destinations has added more variety to the job of managing operations, with drivers enjoying the change of pace.



#### 1.4.20 Transfer Operations Enhancement

Long haul tractors and trailers can travel over 150,000 km a year. Despite this significant demand, the Transfer Operations team, through effective utilization and strong collaboration with Fleet Services, boasts over 80 per cent unit availability. A critical aspect of a successful transfer operation is being able to provide the necessary resources to carry out the mission. Waste Services has identified an asset management best practice for mobile equipment funding guidelines. In 2021, the team replaced three long haul tractors and five walking floor trailers. The team also acquired a complement of four end dump trailers, in which units are lined with ultra high molecular weight (UHMW) polyethylene to prevent material freezing against the box. This will significantly enhance the efficiency of the operation and extend the life cycle of the units. The team is also excited to explore the concept of lining walking floor trailers with UHMW.

### 1.4.21 Advanced Energy Research Facility (AERF)

The AERF offers plug-and-play capability for numerous sustainable technologies in the research or demonstration/pilot phase of development, accelerating the commercialization of such technologies in Alberta. Waste Services has arranged a license and partnership agreement with a major industrial partner for the AERF. Over the next five years, the AERF will continue to drive innovation in bioenergy and renewable resource areas with the objective of fully recovering costs and generating additional revenue for the City. The industrial partner intends to invest \$6 million in 2021 to upgrade the facility and about \$50 million over the next five years to operate the facility.



### 1.4.22 Alberta Clean Energy Technology Accelerator (ACETA)

ACETA is a leading renewable fuels technology accelerator that offers technology developers turnkey access to infrastructure, waste gases, fuels (liquid and solid) and residual materials through a unique R&D partnership of academic and government research institutions. ACETA has the ability to test and prove emerging technologies.

It is funded through a partnership between the University of Alberta, InnoTech Alberta, CanmetENERGY-Devon and the City of Edmonton, with partial funding from Alberta Innovates. Each of the Accelerator's partners brings unique capabilities, expertise and experiences into a virtual hub. The collaboration model allows lab-scale research, piloting, and technology demonstrations. The virtual hub will help innovators, from academia to entrepreneurs in the private sector, to accelerate technology development through scale-up, and position Alberta for success in clean energy technology and renewable fuels innovation.

ACETA will contribute to clean energy technology development, the energy transition strategies of Canada, Alberta and Edmonton, and the achievement of the international climate targets by facilitating the development of an industry-led renewable and recycled gas sector in the region.

ACETA has completed the following major infrastructure development at the EWMC to facilitate the incubation and demonstration of innovative clean energy technologies: 10,000 square feet of classified work space in the small dome; a newly upgraded Class 2 biological laboratory in the R&D building (Site 310); a state-of-the-art waste gas sampling, transport and storage system; and a two ton/hour pilot RDF densification plant. In addition, ACETA is facilitating the demonstration of two waste to biojet fuel projects at the EWMC.

### 1.4.23 Materials Recovery Facility (MRF) Balers

In 2019, the approved strategic business case identified end-of-life replacements to occur under a phased retrofit approach. This included the replacement of two balers at the MRF. Previously completed condition assessments had identified the



balers as end-of-life, causing unplanned downtime and maintenance as well as unnecessary process bottlenecks. Recyclable commodities that are processed and separated at the MRF are baled in order to be sent to market, which makes material baling a critical plant operation. By replacing these balers, it is anticipated that the MRF will benefit from reduced downtime and improved baling operations through the elimination of bottlenecks. In collaboration with Technical Services and Sustainable Waste Processing, Integrated Infrastructure Services managed the project delivery of this replacement, installing two new balers at the MRF. Construction was completed in Q3 2021.

### 1.4.24 Edmonton Waste Management Centre (EWMC) Site Improvement

Various site improvements were done at the EWMC in 2021 to improve customer service and enhance operational efficiencies.

#### **EWMC Dome Repurposing**

The dome at the EWMC was idle for some time but had potential to be repurposed. As a result, the Asset Management group saw an opportunity to refurbish the area to benefit the trucking group that transfers materials to the landfill outside the City. The large dome was converted into a parking garage for all the highway tractors and a large parking lot outside the dome that accommodates most of the fleet and long haul trailers. Aside from the parking area, the newly refurbished dome has a lunch room, complete with a kitchenette, and locker rooms. It also has office and meeting spaces as well as a recreational exercise room complete with surplus equipment. The initiative has resulted in a significant morale improvement amongst truck drivers and will help trucks start more easily during winter.



### **Site Security Project**

As a result of continued growth, the EWMC is undergoing a major renovation of its security systems. This included a look at all security cameras in multiple facilities and site perimeter entry and exit points, signage, fencing, and site and facility access cards. In collaboration with corporate security, Integrated Infrastructure Services, facility maintenance, IT, and other stakeholders, various projects are underway to replace and upgrade all camera systems, fencing, card access and add some extra safeguards. This project should be completed by the end of 2021.



### **Site Paving**

Paving work at the EWMC will be completed by the end of 2021. This work addresses the safety concerns raised by the drivers and staff and will improve the roads for operational, engineering and environmental purposes. Areas that are being paved and improved include those coming in and out of the scale house. This will help improve access and road maneuvering within the site to make snow clearing, bin hauling and other work easier. Identifying and addressing issues is a continuous improvement initiative to enhance the EWMC's operation, safety and efficiency.



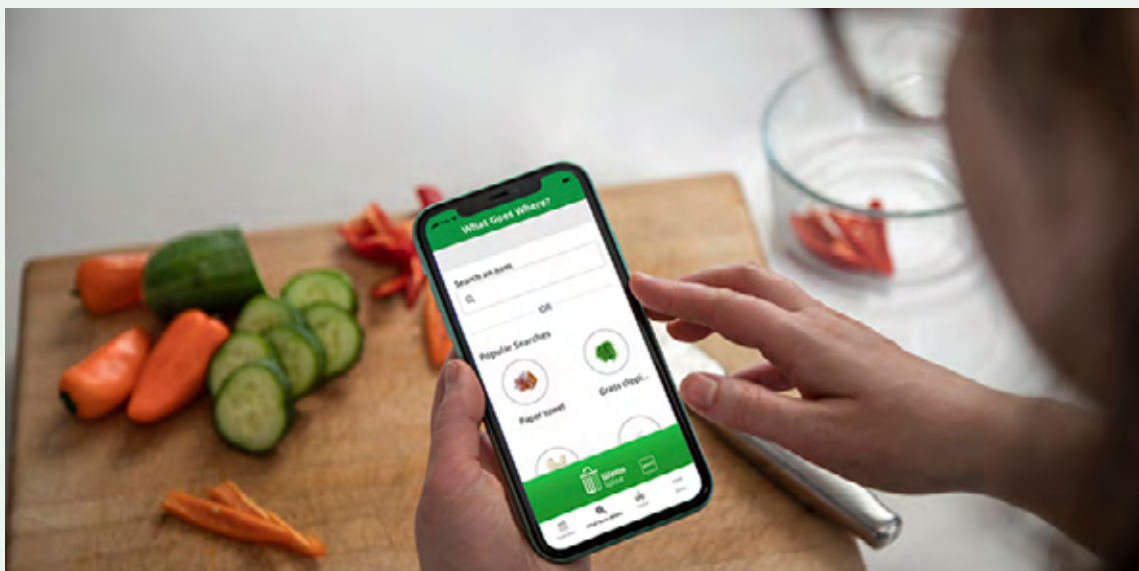
### **Digital Board at the Scale House**

A plan to improve the signage at the EWMC was developed due to the need to update tip fees and hours of operations, or to let customers know of on-site activities or safety initiatives. A digital sign was procured and installed at the front of the scale house in February 2021. This will enable staff to quickly change the display message and save the need to make new signage. The digital board is clearly visible as customers approach the scale house.

### **Fire Protection Enhancement**

Waste facilities have an inherent fire risk due to the nature of processing large volumes of combustible solid waste. The goal of Waste Services is to prevent fires from occurring to the greatest extent possible. The Integrated Processing and Transfer Facility is particularly vulnerable to this fire risk. To mitigate this, a detailed engineering review of the existing fire protection systems within the facility was completed and recommendations for modifications, expansions and additions were provided. The study focused on processing areas historically prone to fire events. This analysis is now being used to proceed with priority recommendations. In addition to fire protection enhancement, Waste Services is also developing holistic strategies to prevent fire risks caused by improperly disposed of lithium ion batteries in waste streams.





### 1.4.25 Data and Technology Transformation

In alignment with the 25-year Waste Strategy, Waste Services is in the process of innovating its operations through technology implementation. Since the approval of the 25-year Waste Strategy, Waste Services has:

- » Implemented a digital assistant on Waste Services webpages to facilitate quicker and more convenient information sharing with residents;
- » Implemented asset management software for waste carts that allows for real time asset tracking and planning;
- » Installed RFID tags in waste carts as well as RFID readers in collection vehicles, advancing operational reporting on the status of collections;
- » Installed, through a pilot project, bin fill sensors in multiple waste bins that report on bin capacity, contamination and inform just-in-time collection;
- » Initiated a pilot project to determine real time visitor counts at Waste Services drop-off locations, through the implementation of third party vendor software, with the goal of improving customer service through proactive wait time reporting;
- » Streamlined customer counting at Big Bin Events by utilizing a third party to automate and report on customer visits, enabling more accurate and real time reporting.

Waste Services continues to explore innovative technology solutions to enhance operations, reduce costs or to improve customer service. Maximum value is extracted from these solutions through real time reporting and visualizations.

### 1.4.26 12-year Billing Contract Negotiation and Award

Waste Services successfully negotiated a long-term contract with EPCOR to continue to provide billing service. This long-term contract provides continuity of service for customers and staff, certainty of continued service (the agreement is up to 10 years), and financial transparency and oversight (the cost of service is tied to EPCOR's non-energy rate file).

### 1.4.27 Occupational Health and Safety (OHS)

The safety of employees is a primary concern in Waste Services operations. The lost time injury statistics have shown a 50 per cent reduction in 2021 due to a joint effort in injury management, early intervention through the City's LifeMark Program, quick access to Occupational Injury Service, and modified duties. The following initiatives and projects were also implemented in 2021 to improve the conditions and better protect staff:



### **Audit Readiness**

With the support of the City's OHS Audit Readiness team, Waste Services OHS team members completed monthly audit pulse checks using the Alberta Municipal Health & Safety Association (AMHSA) Audit tool. Standard pulse check tools were used across the branch. Areas and sample size were chosen and rotated throughout the months while findings were consolidated and reported back to the Waste Leadership Team and operations groups. The initiative will help Waste Services prepare for the 2022 audit.

### **Incident Investigations**

OHS provided support to area leaders through investigation reviews to ensure key safety elements were followed, including freezing the scene, question and answer with involved parties, gathering witness statements, pictures and completing the Incident Data Collection (IDC) form. A set of criteria for root cause analysis that must be completed for lost time injuries and serious incidents was also established.

### **Inspections**

A review of the City Inspection Standard was conducted to identify the responsibilities and the number of inspections to be completed by supervisors and front line leaders. Review of the types of inspection templates available, such as Building and Vehicle Activity based, were completed by the Joint Work Site Health and Safety Committee along with a variety of templates. OHS also introduced new inspection checklists such as the COVID-19 area inspection.

### **Collection Hygiene Inspection**

A Collection Hygiene Inspection initiative was conducted to reassess the exposure of the employees to silica dust and determine if Collections staff should be required to wear respirators. The initiative was jointly conducted by Waste Collection Services, Waste Services-OHS team and a contractor. The result of the initiative revealed that the Waste Collection employees do not need respirators.

### **Post Incident Field Observation**

The Post Incident Field Observation initiative was created as an added layer of safety accountability between supervisors and frontline employees. The goal is for incident prevention through engagement, actionable behavior changes, field observations and feedback. This is also a follow up and follow-through initiative for any operator or collector involved in a preventable or at fault incident. The supervisor documents all the interactions, feedback, lessons learned, counselling and coaching efforts to ensure that safe behaviours are recognized and unsafe behaviours are properly addressed.

### **2022 Certificate of Recognition (COR) Audit**

The COR audit is a systematic evaluation of the organization's health and safety program for the assurance of meeting a minimum standard. In 2022, the City of Edmonton will undergo an external audit of its occupational health and safety system in order to maintain its COR. This audit is conducted by an external third-party auditing team, and recommendations specific to the Waste Services branch can be expected in the summer of 2022.

Upon receiving the audit recommendations, the Workforce Safety and Employee Health (WSEH) branch will work with Waste Services to transition the recommendations into branch action items for the completion of Waste Services safety program improvements in 2023.

### **ISNetworld: Ensuring the City's Contractors are Safe**

The City of Edmonton utilizes contractors to carry out significant amounts of work to support the services provided to citizens. In order to ensure contractors work in compliance with the required legislation and are competent in doing that work in a safe and healthy manner, a system has been procured to prequalify contractors based on the evaluation of their safety

program. ISNetworld, the prequalification system, will be rolled out to City Operations, including Waste Services, for all high- and medium-risk contracts by the end of 2022. The implementation and adoption of the new prequalification system for contractors will ensure that the contractors hired by the City of Edmonton, and within Waste Services, comply with Occupational Health and Safety Standards.

### **Safeguarding**

In 2019, the City pled guilty to section 310(2)(h) of the OHS Code for a failure to provide safeguards if a worker may come into contact with a hazard. This was the outcome of an incident where a drainage tunnel foreman was fatally injured while working for the City of Edmonton. A safeguarding project was started to prevent subsequent incidents and focuses on the identification, evaluation and correction of any potential safeguarding gaps in the City's safety program. The assessment portion of the project has been completed and a new safeguarding standard will be developed. WSEH will be supporting Waste Services in the implementation of the safeguarding standard into branch business processes for managing and reducing equipment and machinery, safeguarding risks and liabilities.

### **Hazardous Work Locations**

The Workforce Safety and Employee Health (WSEH) branch is working to address organizational safety program gaps through the revision and creation of new safety standards such as Confined Space Entry, Ground Disturbance and Safe Work at Heights. WSEH will be supporting Waste Services in the promotion and implementation of at least two of these safety standards within the branch for injury and risk reduction related to applicable work.

## **1.4.28 Employee Engagement**

Waste Services is committed to ensuring a safe, respectful, diverse and inclusive workplace for everyone.

### **2021 Engagement Activities**

Based on feedback from staff via quarterly GLINT surveys, and in partnership with the Branch Engagement Action Team (BEAT), the following initiatives were launched or continued in 2021:

- » The **Talk With Me Program** is aimed at encouraging the supervisors to make time for meaningful discussion with staff, and provides a framework for employees to introduce and structure important conversations they would like to have with their supervisors.
- » The **DICE (Digital Intelligence Community of Excellence) Portal** was created as part of the "Include me" program, aimed at sharing information on key results and operational performance with staff.
- » **Branch Manager Town Halls** were reintroduced in 2021 after pausing in-person gatherings due to the ongoing pandemic. Town Halls were reintroduced as virtual sessions to provide updates to staff and allow staff the opportunity to ask questions and receive direct follow-up.
- » **Skip Meetings / Extended Team Meetings** were introduced as a way to increase communication and build relationships between the Branch Manager, Directors and General Supervisors and staff that report to their direct reports.
- » The **Idea Generator** gave staff across the corporation the opportunity to provide innovative ideas to help the City address any challenges. Among the ideas Waste Services received, several have been actioned, including updates to the litter bin program and procuring a contract that provides a cost efficient way to dispose of the organization's hazardous waste. Waste has also included a plan in the Waste Reduction Roadmap (Roadmap '24) to look into partnering with charitable organizations to accept items for reuse at Big Bin events.

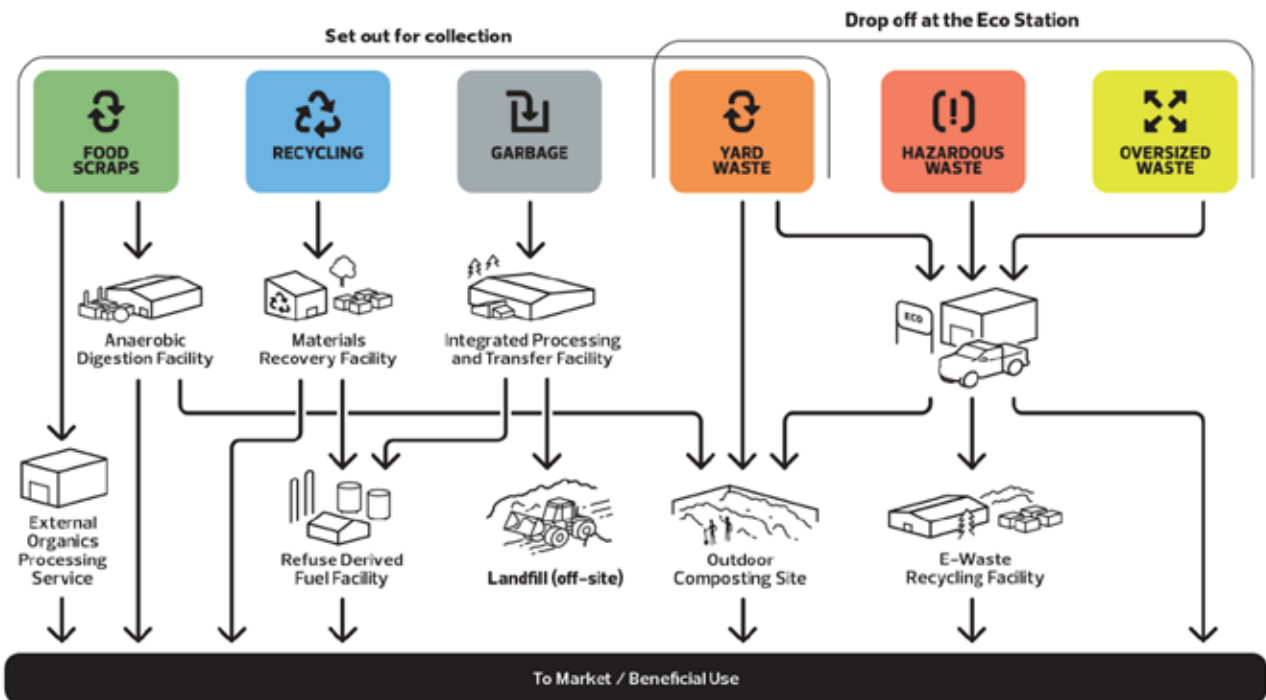
### **The Future of Engagement**

In the fourth quarter of 2021, a new Branch Engagement Team was established and will continue to grow and form as a team into 2022. The team will provide the Branch Manager and Leadership Team with insight into how teams are doing in their work areas, and inform the planning and implementation of new employee engagement actions.

## 2.0 SERVICE PLAN

Waste Services provides waste collection and sustainable waste management for Edmontonians. Looking forward to 2022, and in the spirit of continuous improvement, Waste Services has a number of important changes to its service that will directly impact waste collection and waste management in the Edmonton region. These changes are in alignment with the 25-year Waste Strategy.

The following is a summary of those service changes.



### 2.1 WASTE COLLECTION

#### 2.1.1 Communal Collection

The Communal Collection Program aims to transition all residences using communal bins in the multi-unit sector from two-stream collection to mandatory three-stream collection. This will see residents sort their waste into three streams: food scraps, recycling and garbage.

The program is anticipated to decrease the amount of garbage set out by residents, create consistent expectations across residential sectors and provide a cleaner feedstock for processing at the EWMC.

The program, once approved, will impact the collection frequency, container sizes and types, and contamination levels in each stream. A comprehensive education and outreach program will be required to implement and continuously improve the results, which are intended to increase diversion of waste from landfill and contribute to the target goal of 90 per cent diversion.

The program also includes the communal collections route optimization project, which will leverage the GIS routing expertise to optimize the routes through sequencing and improving efficiency. Tablets will be used to view maps and routes, reducing the manual printing and dispatching of maps to collectors and drivers. This project will also provide opportunities for digitized dispatching to enable the dispatcher, supervisors and managers to view and track work progress on live dashboards designed to report real time collection data.

### 2.1.2 Waste Drop-off Facilities Visual Identity Refresh

Waste drop-off facilities play a key role in positioning Edmonton as a leader in effective and integrated urban waste management by increasing diversion and protecting the environment. Improving the customer experience at the waste drop-off facilities is essential to increasing the residents' use, which will contribute to an improved diversion rate. The look and feel of several waste drop-off facilities will be updated to align with the current Waste Services identity. This new look will clearly identify Eco Stations, Big Bin Events, the Reuse Centre, and Recycling Depots as part of the City of Edmonton's Waste Services.

### 2.1.3 Residential Utility Rate Transition Program

Work is being done to seamlessly transition approximately 22,000 multi-unit residences that were classified incorrectly for the service they were receiving. These residences are in the process of transitioning from paying a communal rate to the curbside rate to ensure they are paying for the service they are receiving. The rate will be adjusted over five years to ease the transition of the affected residents.

### 2.1.4 Waste Education and Outreach

Education and outreach activities are designed to inform and enable residents to properly use the waste system to support diversion of 90 per cent of waste from landfill. A clear vision for the reuse programs has been developed to better align with the 25-year Waste Strategy. This vision will be implemented to support the reopening of the Reuse Centre in January 2022 by expanding educational offerings.

### 2.1.5 Customer Relationship Management (CRM)

The adoption of a new streamlined customer relationship management tool is underway. This tool will help Customer Support Centre staff record and search residents' waste information and enable them to manage inquiries more efficiently. The current process does not allow Waste Services to see all waste-related inquiries that were submitted by a resident in one place, or search all of their past communications with representatives through different channels such as calls, email and customer relationship management tickets. This tool will help improve and enhance the customer experience and support the customer-centric approach. It will also align with the 25-year Waste Strategy to provide faster, effective and more efficient assistance to residents to support the transition to source separated organics.

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*"The collector always does a super job and should be handed a Thank You Very Much plaque or card."*

**- HARLE, RESIDENT**

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## 2.2 SUSTAINABLE WASTE MANAGEMENT

### 2.2.1 Source Separated Organics Program

The 2021 capital budget includes funding for purchasing carts and associated accessories, automated collection and crew maintenance vehicles, a storage yard, and processing equipment required for changes to the current waste collection program and the way single unit residents set out their waste for collection.

### 2.2.2 Anaerobic Digestion Facility (ADF)

Multiple projects will support the facility's resilience and robustness to ensure consistent, reliable operation for the next eight to ten years. The facility will be fully integrated with existing facilities and operations at the Edmonton Waste Management Centre.

As 2022 will be the first complete calendar year for both the Edmonton Cart Rollout and regular operation at the ADF, new models will be used to predict seasonal organic waste flows and will be adjusted as new data is collected. Seasonal fluctuations in the volume of green cart material and the process expectations of the ADF will be further standardized. Specifically, additional feedstock characterizations will allow for a more stable process and better understanding of the waste's biomethane potential. That in turn will allow for the development of expected electricity cogeneration key performance indicators.

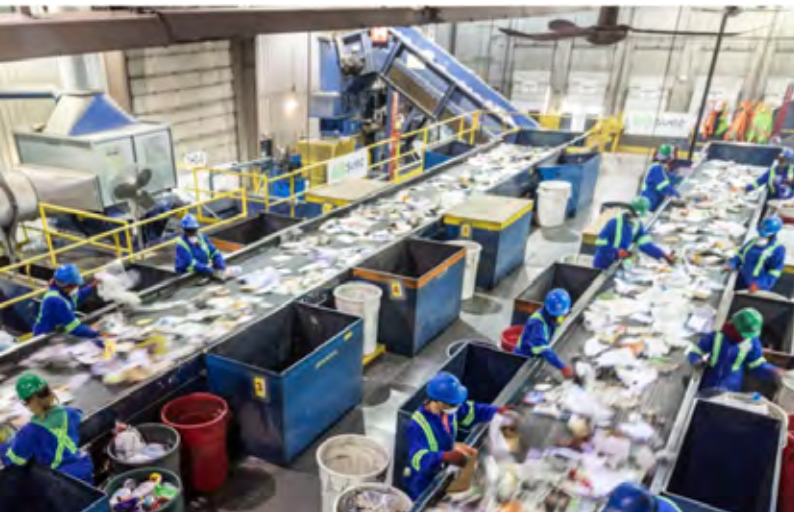
### 2.2.3 Organics Processing Infrastructure Renewal

Waste Services completed a strategic review of the organics processing strategy for the next 25 years and work is well underway to align infrastructure renewal with that strategy. In 2022, the focus for organics processing renewal will be at the Cure Site. Integrated Infrastructure Services continues to lead a study into the drainage systems upstream of the creek that runs directly south of the Cure Site, and occasionally overflows into the east pond. By the end of 2022, the root causes for the seasonal flooding will be well understood and a long-term plan will be developed to align with the obligations and needs of all relevant stakeholders including Strathcona County, Alberta Infrastructure and land owners.

Additionally, pad resurfacing efforts (specifically on Pad C) will continue in 2022 to ensure that the Cure Site pads remain safe to work on and effective in draining leachate from the compost piles. Finally, the last outstanding renewal items for the GORE covered aeration system will be completed. This pad is usually the first destination for raw food waste arriving at the Cure Site because it is covered by semi-permeable membranes that reduce odour and allow the direct injection of oxygen-rich air into the composting piles, speeding up the composting process.

### 2.2.4 Materials Recovery Facility Rehabilitation

In 2018, the Government of China introduced the Chinese National Sword policy which bans the import of many recyclable materials. At the time, China was the global leader of imported recyclable material and the new policy caused an aggressive shift in the supply chain. This resulted in a substantial increase in the quality (purity) requirement of marketed materials. Many recycling programs struggled to adapt, sending large amounts of material to landfill or, in some cases, reducing the scope of accepted materials. The City of Edmonton and its facility contractor responded to this change by reducing the processing throughput in order to achieve an adequate quality for marketed materials, as well as to stop marketing a portion of the paper which could not meet market specifications without capital investment.



In October 2020, City Council approved the Material Recovery Facility Business Case which recommended advancing planned capital upgrades for the facility to 2022. These upgrades would be delivered in conjunction with the facility operation contract. The project is expected to increase processing efficiency, providing adequate capacity for the program's demands, operational cost savings, and an increased diversion rate of blue bag recyclable material of greater than 70 per cent. Design work is scheduled to begin in Q1 2022 with construction expected to occur in late 2022 and early 2023.

### 2.2.5 Grizzly 1 and 2 Replacement

On the Integrated Processing Transfer Facility (IPTF) Tip Floor, two stationary grapple units (Grizzly 1 and Grizzly 2) are used to load waste into long haul trailers through the floor pits. These major pieces of equipment were installed in 2009. In 2021, a condition assessment of the IPTF was conducted to determine the physical state of the process equipment and building elements, and to assess the maintenance needs of the facility and equipment. It was determined that Grizzly 1 and Grizzly 2 require replacement as they have exceeded their Expected Asset Life of 10 years. As a result, the two Grizzlies will be replaced by more robust units in 2022.



### 2.2.6 Refuse Derived Fuel (RDF) Dust Collection System Improvements

The original dust collection system in the RDF, which consists of a baghouse and ducting to the conveying equipment, was designed and installed in 2012. Two additional baghouses and ducting were installed during the RDF dryer project in 2018.

In 2020, a thorough dust collection system audit was conducted. Results showed inadequate dust collection as dust was frequently observed coming out from the conveyors in several spots and at transfer points. The airborne dust creates air quality issues, impacts operational efficiency within the RDF, and creates an environment that does not fully comply with National Fire Protection Association (NFPA) requirements.

A project has been initiated to complete further testing of the dust collection system and implement the audit recommendations to ensure the following are met: safety requirements (air quality, dust explosion hazards, etc), industrial code compliance standards and improved effectiveness of the system.



### 2.2.7 Sales and Marketing Plan for Aggregate and Compost Products

A challenge of producing new materials is that they require a beneficial reuse and an end-use market. To aid diversion efforts, compost products and recycled aggregate products created by Sustainable Waste Processing need to be marketed with a focused intent of inventory turnover, cost recovery and profitability. There is a continuous need to manage inventory against space constrictions at these sites.

These plans outline tactics and tools to support waste diversion, revenue growth and enhanced brand awareness that will help position Edmonton as a leader in environmental stewardship. This outline supports inventory management needs and focuses on securing long-term project-based customers. These efforts aim to recover cost and strive for profitability.

The continuous marketing efforts will secure consistent sales and beneficial reuse of the products created from recycled waste materials.

### 2.2.8 Mass Balance Model

Waste Services maintains a living model of residential waste generation that provides robust forecasts for waste separation. This model is continually updated to address changing environmental circumstances and program changes. The model is integral to business planning, the 10-year capital plan and aims to inform appropriate waste processing capacity in response to waste generation.

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*“Big thanks to our whole Waste Management Team working both on the roads to and from the office. Very happy about the new Cart Rollout Program that the City has brought forward in order to reduce the Waste from landfills that would help our environment overall.”*

**– DAVID, RESIDENT**

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## 3.0 PROJECTS AND INFRASTRUCTURE FOR 2022

Each year Waste Services takes on a range of projects that support the operations and the services it provides. Many of these projects and infrastructure improvements are not public-facing, but are necessary for Waste Services to continue to innovate and strengthen the collection and processing of waste in Edmonton. The following is a summary of some of these projects.



### 3.1 WASTE CONTAINERS

Waste Services has an inventory of approximately 13,400 containers, each with an average life cycle of 15 years, that require replacement at the end of their useful life. New containers are also required to match growing demands in residential and non-residential services due to an increase in construction of new condos and multi-unit apartment buildings, new community commercial program partners and in the number of litter container locations across the City. Waste containers for both replacement and growth need to be purchased on a regular basis in order to maintain inventory levels and the availability of stock to meet demand.



### 3.2 WASTE SERVICES VEHICLE AND EQUIPMENT ACQUISITION

Waste Services has a fleet of over 400 units including vehicles and equipment used in the collection of waste and recyclables and processing of these materials at the Edmonton Waste Management Centre. Some of the equipment is considered specialty equipment, including shredders, compost turners and tub grinders, while other equipment includes heavy duty vehicles such as waste collection vehicles, highway tractors and trailers. Replacing the vehicles and equipment, as scheduled, not only improves the availability of fleet assets, but also results in lower fleet average operating costs, which is calculated on a per kilometre basis. Replacement can occur by purchasing new units or, where possible, by refurbishment and rehabilitation.

### 3.3 FEMALE LOCKER ROOM EXPANSION IN SINGLE UNIT COLLECTION BUILDING

The expansion of the female locker room in the Single Unit collections building was completed to improve the employee experience. The move to automated collections for garbage and food scraps collection has increased diversity within the team and Waste Services anticipates an increase in employee diversity in the near future. The locker room expansion will also make provisions for future sectional needs. To deliver this project, Waste Collection Services and Technical Services will collaborate with other departments and stakeholders to ensure key deliverables are achieved.

### 3.4 BOMA BEST CERTIFICATION

Work is underway to further align the ongoing corporate waste program with the new Climate Resilience Policy which requires relevant City buildings to undergo BOMA BEST certification. The certification process requires waste audits every third year and for audit findings to be translated into a building waste reduction plan.

Technical steering and support is required from Waste in establishing program governance, funding approaches and procedures on the BOMA BEST waste audit and reduction plan development process.

Waste steering and support will enable corporate facilities to lead by example in waste reduction and diversion, and to ensure alignment and appropriate integration between Waste and Climate Resilience & Environment's work.

### 3.5 SUPERVISORY CONTROL AND DATA ACQUISITION (SCADA) SYSTEM

The EWMC now has an integrated SCADA system that provides visible operational and production asset data for effective, safe and efficient daily operation. All data is stored in a secure database. The SCADA system shares real-time data from the "plan-floor" that can be accessed and monitored from anywhere in the City network and allows individuals to make data-driven decisions about EWMC plant processes. The EWMC can also share the information with other areas of the branch for well-informed business decisions.

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*"Waste Services responded promptly. Within 7 days new Bins were delivered, chained up so they won't be removed and all the mess cleaned up."*

**- ROB, RESIDENT**

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Photo courtesy of Kory deGroot, Waste Services employee



### 3.6 ENVIRONMENTAL COMPLIANCE AND LANDFILL MANAGEMENT

It is important to meet the branch's regulatory mandates and ensure that environmental liabilities are managed. This is done by identifying, planning and implementing environmental compliance and improvement projects to protect the North Saskatchewan River. A robust environmental monitoring and reporting program is in place to meet regulatory requirements. The following projects are the main focus for 2022.

#### 3.6.1 Groundwater Diversion System

The original Edmonton Waste Management Center groundwater diversion system was rebuilt in 2019. At times, the effluent from this system does not meet the surface water quality guidelines and cannot be discharged into the North Saskatchewan River. In order to overcome this problem, a pump station and additional piping is planned to carry this effluent to the Goldbar Wastewater Treatment Plant. Design of the project is planned for 2022 and construction is expected to be completed in 2023.

#### 3.6.2 Landfill Capping

The Clover Bar Landfill (Class 2 - municipal waste) project includes work on upgrades to leachate and landfill gas management systems, in addition to geotechnical and environmental monitoring instrumentation, and post-closure monitoring and reporting for 25 years. Waste Services has completed the design and is currently working on preparation of site conditions which includes reducing the existing leachate head and landfill gas pressure at the landfill to allow the capping activities. Waste Services will engage in post-closure monitoring and reporting over the next 25 years and will monitor any changes in environmental regulations.



### 3.6.3 Landfill Gas to Renewable Natural Gas Facility

Waste Services secured a \$10 million grant from Emissions Reductions Alberta to develop the Landfill Gas to Renewable Natural Gas project. The scope of the project includes upgrading the collection system, and construction of a new flare and a landfill gas to renewable natural gas conversion plant. The total project cost is estimated at \$23 million. The project is expected to be operational in 2023, and to produce approximately 325,000 GJ of marketable renewable natural gas annually, with associated total emissions reductions averaging 149,000 tonnes of carbon dioxide equivalent per year. By 2040, the project is expected to result in emission reductions of approximately 2,540,500 tonnes of carbon dioxide equivalent.

## 3.7 ASSET MANAGEMENT

An Asset Management team was created with specific responsibility for life cycle management of waste processing facilities, infrastructure assets and fleet assets. The team is developing life cycle delivery strategies for each of these three portfolios to ensure systemic renewal and maintenance programs for maximizing asset service life and minimizing life cycle cost and value realization. The team will ensure that all activities align with the City's approved 10-year Capital Investment Outlook. Some of the initiatives are listed below.

### 3.7.1 Asset Life Cycle Programming Framework

Waste Services assets (facilities and processing equipment) are subjected to substantial and inevitable wear and tear. It is important to develop a thorough asset management strategy, based on the level of importance and criticality factors identified or reported, to determine the capital renewal funding priorities. This information is gathered through the execution of condition assessments, inspections, maintenance activities, operational knowledge and engineering recommendations. Having an effective Asset Management Plan can reduce maintenance and

breakdown costs while increasing the life expectancy of existing facility and equipment assets.

A reduction in reactive and unplanned costs will allow Waste Services to allocate more capital funding to expanding and upgrading assets, providing a higher level of service to residents and businesses. Waste Services operations require reliable facilities and equipment with minimal disruptions or unplanned shutdowns. A Decision Support System (DSS) is in development to gather, sort, assess and manage all components of the branch's assets for long-term planning and management to reduce and eliminate the potential risks associated with ageing and premature deterioration. Additionally, the DSS will improve reliability, reduce cost and provide a clear asset management strategy for the Technical Services Asset Management group.

### 3.7.2 Engineering Document and Management Control

The goal of this project is to leverage the Engineering Document Management System (EDMS), currently being used as the standard for the City of Edmonton, and create a more centralized service for storing engineer documentation for processing assets. Working with Integrated Infrastructure Services and Facility Engineering, the EDMS platform will be configured to Waste Services needs and functional requirements. Technical Services will then begin the migration of existing engineering documents and leverage the embedded management tools to ensure an accurate and complete database moving forward. This will enable efficient and effective engineering design processes and a foundation for success in asset safety management.

### 3.7.3 EWMC Site Master Plan Development

Over the next business planning cycle, Technical Services will develop a site master plan for the EWMC. This multi-year project will identify the expected development of new facilities, major expansions of existing facilities and associated

upgrades to supporting infrastructure such as roads and utilities. This conceptual planning document will guide sustainable site development and provide a guide for capital programming and budgeting while maintaining alignment with business objectives and planning.

### **3.8 QA/QC FRAMEWORK INITIATIVE**

The goal of the QA/QC Framework Initiative is to develop quality assurance guidelines specific to the projects being managed by the EWMC. The document will cover the procedures, responsibilities and requirements throughout project design and delivery. This includes the project design review process, field verification/inspection process, and commissioning and project handover process. Eventually, the QA/QC Framework will be used by EWMC's project managers and project engineers to properly fulfill QA/QC requirements.

### **3.9 ENGINEERING ANALYSIS AND IMPROVEMENT**

A wide variety of EWMC projects are Engineering Analysis (EA) and Improvement projects. Mapping and waste collection routing were recently enhanced with the implementation of the four-stream waste system, which includes green carts (food scraps and organics), black carts (garbage), blue bags (recycling) and seasonal yard waste collection.

Engineering Analysis provides technical engineering and data analysis in support of Operational Planning and Project Delivery and the EWMC's operations. This is done by developing trials/testing events in order to quantitatively and qualitatively examine the efficiency of existing waste process facilities (e.g. PPF and RDF) and to assess potential changes that can improve performance. The EA also supported data analysis for multi-unit residential source-separated organics and will start leading upcoming waste characterization audit sessions in support of the project. The EA also develops and manages project/program timesheet and planning dashboards, manages and monitors project delivery via online reporting (Smartsheet) and reports back to leadership.



### **3.10 CUSTOMER EXPERIENCE AND WASTE SERVICES DIGITAL STRATEGY IMPLEMENTATION**

Waste Services is collaborating with the Service Improvement and Performance (SIP) branch to develop a customer experience program that will identify goals, governance, dedicated resources required and processes to create a customer experience strategy and program.

A service delivery model will be developed to allocate resources and streamline processes. This model will be the foundation of the customer experience strategy that will outline a plan to handle customer interactions and provide a consistent customer experience. A digital strategy will be built alongside the customer experience that will facilitate user-friendly platforms and the availability of information.

The framework for actions sets out a shared aspiration for how value will be measured and is reinforced by an understanding of what matters to residents.

### 3.11 2022 BUDGET AND RATE FILING

Waste Services, as a rate regulated public utility, is required to seek approval for the waste utility rates charged to customers from its regulator (City Council). The Waste Services 2022 Rate Filing forms the basis for the utility's 2022 operating and capital budget and allows the opportunity to adjust its operational and capital requirements. The annual Rate Filing sets customer rates and aligns with Waste Services Utility Fiscal Policy C558B's purposes of ensuring that:

- » the Utility is financially sustainable over the long term and remains a self-funded enterprise; and
- » there is a consistent, year-over-year approach for the financial planning, budgeting and rate setting of the City of Edmonton-managed Utility.

### 3.12 ENTERPRISE COMMONS

Enterprise Commons, the new cloud Enterprise Resource Planning (ERP) solution, will be deployed across the City of Edmonton in 2022 and is undertaking three broad areas of work in order to:

- » Simplify how the City works with respect to its core services including finance, human resources and supply chain management;
- » Standardize systems and align processes;
- » Adopt industry leading practices for all human resource, finance, plant maintenance and supply chain functions as well as workflow practices; and
- » Focus on solutions with minimal customization to reduce the costs of upgrading, maintaining and supporting enterprise systems.

Waste Services is continuing the preparations to transition to Enterprise Commons.

### 3.13 WASTE REDUCTION NETWORK

The Waste Reduction Network will provide a way for the City to learn more about current initiatives, ideas or proposals for further reduction, as well as barriers to waste reduction that non-residential waste generators may face. Further research is required to determine the most appropriate and effective role for the City to play in the non-residential sector. A new Waste Reduction Network

for representatives of businesses, institutions and other non-residential organizations will be established. The network is envisioned as a place for representatives to share experiences, ideas, successes and barriers related to waste reduction in the non-residential sector.

This input will help the City and network members understand the actions non-residential organizations are taking to reduce waste, define the needs of non-residential organizations in reducing waste, develop clarity around the role that the City could play in supporting non-residential organizations in reducing waste and contribute to the 2024-27 Waste Reduction Roadmap. This Roadmap will be in development in 2022-23.

### 3.14 SINGLE-USE ITEM STRATEGY AND BYLAW

A single-use item reduction strategy and bylaw are currently under development and are scheduled to be brought to the Utility Committee in the first half of 2022. The strategy will prioritize the elimination of unnecessary single-use items, replacing them with reusable alternatives. Regulatory actions will be introduced to restrict the distribution of single-use items along with supportive education and outreach efforts. The impact of the strategy and bylaw will be measured by the percentage of single-use items in the waste streams (garbage, recycling and food scraps) through waste characterization studies.

The City will continue to stay informed and engaged with the Provincial and Federal governments, both of which are developing legislation and regulations related to single-use items (Extended Producer Responsibility and a ban on specific types of single-use plastics, respectively).

### 3.15 EXTENDED PRODUCER RESPONSIBILITY ADVOCACY AND PLANNING

Local governments in Alberta currently pay the full cost of collecting, processing and marketing recyclable materials. In other provinces, Extended Producer Responsibility (EPR) regulations make the producers and importers of materials responsible for the financial and physical management of those materials at the end of their lifecycle. Product costs are comparable across provinces, meaning that Edmonton consumers are paying when they purchase items, and through their utility rates.



The City will realize significant cost savings when producers are required to manage the collection, processing and marketing of packaging and paper products and household hazardous waste. Provincial regulation will set recovery targets, and there will be greater harmonization of services across the province. Once EPR legislation is passed, the City will need to assess how the transition to EPR will affect existing services and facilities.

### 3.16 INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL (ICI) PROGRAM DEVELOPMENT

This project is part of the 25-year Waste Strategy to develop a business case focusing on the implementation of three-stream waste separation, including waste, recycling and organics, in the ICI sector. This project will require extensive work with Edmonton's business community, particularly with small businesses. The primary deliverable for this project is a business case that will recommend an appropriate path to implementation of three-stream waste separation in the ICI sector.

### 3.17 LONG-TERM PLAN FOR HOME COMPOSTING

Waste Services will continue to assist residents who wish to start composting at home and to support those who already do so. Education and outreach provides information on a range of compost methods for all lifestyles, including compost bins, grasscycling and vermicomposting. A long-term

plan for home composting will be developed, which will include a refresh of the interpretive site, support for community composting and expanded volunteer opportunities.

### 3.18 CITY OF EDMONTON EMPLOYEE TRAINING

The City of Edmonton offers essential training for employees to ensure they have the right knowledge and skills to carry out their roles and responsibilities. The focus for 2022 includes:

- » Enterprise Commons – on-boarding City of Edmonton employees to the new cloud-based Enterprise Resource Planning solution
- » Enabling Conversations Series – a specific training for supervisors to support performance tools that are embedded within Enterprise Commons
- » Anti-racism and GBA+ training – a city wide training to support the City of Edmonton's work around anti-racism and GBA+, and how to integrate these frameworks into city operations

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*“Big thanks to our whole Waste Management Team working both on the roads to and from the office. Very happy about the new Cart Roll-out Program that the City has brought forward in order to reduce the Waste from landfills that would help our environment overall.”*

**– DAVID, RESIDENT**

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### 3.19 SMART BIN SENSOR FOR SELECT CORPORATE FACILITIES

The bin sensor technology and a cloud based analytics platform would allow real-time monitoring and measurements of bin volumes and bin contents to monitor contamination. This pilot will leverage and help to advance Machine Learning (ML) and Artificial Intelligence (AI) as a means to analyze and recognize waste bin contamination.

Participation in this pilot will enable the City of Edmonton to gain a better understanding how site-specific monitoring and data collection can contribute to strategic and operational outcomes. Anticipated benefits include advancing and measuring progress in waste reduction, diversion from landfill and providing waste-related benchmarks.

The data that will be gathered will enhance decision making with routing design and fleet operations, which could contribute to lower fuel consumption, decreased wear and tear on fleet vehicles and reduced GHG emissions.

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*"I would not only like to acknowledge the drivers who have been picking up our garbage and the great job that they do but I want to mention an individual who works in a supervisory capacity and he has gone above and beyond in ensuring that we do not get missed and often picks up our bins with a specialized City Of Edmonton smaller truck as the layout of our property does not always permit the arm on the garbage trucks to retrieve our bins properly."*

**- CHARLES, RESIDENT**

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## 4.0 PERFORMANCE MEASURES

The City of Edmonton continuously monitors and routinely reports on performance through the Enterprise Performance Management (EPM) system. The EPM system aligns performance measurement to strategic goals and service standards to:



- » Make transformational impacts in our community
- » Deliver excellent services to our community
- » Manage the corporation for our community

Waste Services collects both measures of customer behaviour and operational performance. This allows the branch to identify different trends and better understand how changes in operational performance impact customer behaviour, and how Waste Services can better provide service to Edmontonians.





Photo courtesy of Kory deGroot, Waste Services employee

## 4.1 CUSTOMER PERFORMANCE MEASURES

MEASURE	MEASURE DESCRIPTION AND NARRATIVE	TRENDING STATUS
<b>Curbside Organics and Recyclables Collected</b>	<p>This metric focuses on changing customer behaviour and measures the percentage of total organics and recyclables diverted from total curbside residential waste collected.</p> <p>In 2021 the measure has shown steady improvement.</p>	
<b>Curbside kg/unit Waste Generated</b>	<p>This annual metric looks at the monthly average kg/unit of waste generated by the curbside program.</p> <p>In 2021 the annual results remained constant.</p>	

## 4.2 OPERATIONAL PERFORMANCE MEASURES

MEASURE	MEASURE DESCRIPTION AND NARRATIVE	TRENDING STATUS
<b>MRF Cost per Tonne to Process</b>	<p>This metric looks for the total cost to process recyclables per total tonnes processed at the Materials Recovery Facility.</p> <p>In 2021, the cost per tonne has shown an increasing trend as a result of the equipment reaching end of life. With the MRF rehabilitation plan, it is expected that the trend will improve.</p>	
<b>RDF Cost per Tonne to Process</b>	<p>This metric measures the total cost per tonne to process RDF feedstock at the IPTF.</p> <p>In 2021, the cost per tonne has seen an increasing trend. As a result of the RDF enhancement plan, it is expected that the trend will improve.</p>	

## APPENDIX A: FINANCIAL SUMMARY OF WASTE SERVICES

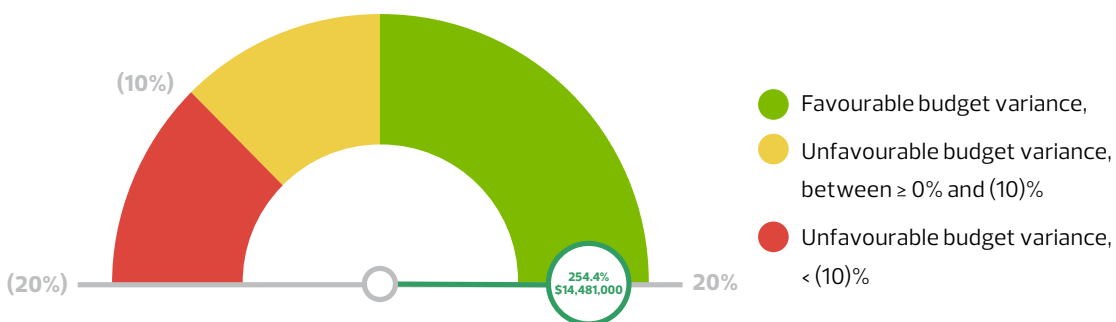
### 2022 BUDGET (000S)

Expenses	\$ 206,177
Revenue and Recoveries	\$ (218,966)
Net (Income)/Loss	\$ (12,789)

SERVICES	EXPENSES	RECOVERY	REVENUE	NET
Waste Collection Services	\$ 83,878	\$ (2,206)	\$ (81,672)	\$ -
Sustainable Waste Management	\$ 129,289	\$ (4,784)	\$ (137,294)	\$ (12,789)
<b>TOTAL (000s)</b>	<b>\$ 213,167</b>	<b>\$ (6,990)</b>	<b>\$ (218,966)</b>	<b>\$ (12,789)</b>

### YEAR END FINANCIALS (2021)

#### Net Position Budget Variance



(000S)	BUDGET	ACTUAL	YEAR END VARIANCE
Expenses	\$ 209,139	\$ 201,513	\$ 7,626
Revenue and Recoveries	\$ (215,040)	\$ (221,895)	\$ 6,855
Net Position	\$ (5,901)	\$ (20,382)	\$ 14,481

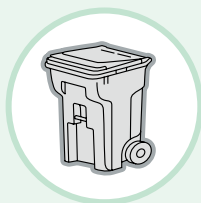
## APPENDIX B: SERVICE STANDARDS

In 2021, the way Edmonton sorts, sets out, and collects waste was changed. All single-unit and some multi-unit homes were provided with a garbage cart, a food scraps cart, and a food scraps pail. The following are the Service Standards set out by Waste Services as part of this program.

### CURBSIDE COLLECTION SCHEDULE:



**Recyclables (Blue Bag)**  
every week



**Garbage (Black Cart)**  
every two weeks



**Food Scraps (Green Cart)**  
every week, November  
to March every two  
weeks



**Yard Waste  
(seasonal collection)**  
twice in spring and  
twice in fall

### EDMONTON WASTE MANAGEMENT CENTRE HOURS OF OPERATION

#### Administration Hours

Monday to Friday | Closed

#### Recycling and Waste Hour Disposal

Monday to Friday | 7:30 am – 5:30 pm

Saturday and Sunday | 8:00 am – 5:00 pm

Holidays | 8:00 am – 5:00 pm

*Closed Christmas Day, Boxing Day & New Year's Day*

#### Eco Station

Monday and Sunday | Closed

Tuesday to Saturday | 9:00 am – 5:00 pm

*Closed Christmas Day, Boxing Day & New Year's Day*

### RECYCLING DEPOT AVAILABILITY (19 LOCATIONS)

Edmonton's Community Recycling Depots are a convenient way to dispose of recyclables from your home and small business. Most locations are open 7 days per week, 24 hours per day. Each bin has a label on the front to tell what type of product should be placed in it.

### ASSISTED WASTE PROGRAM

The Assisted Waste Program is for residents living in single-family homes or multi-unit buildings, who set out waste at the curb or alley for collection.

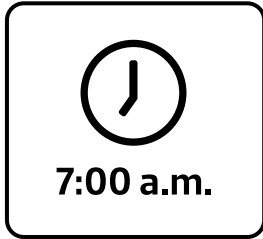
Under the new cart program, residents have two options based on their needs:

1. Residents can put their waste carts out for collection and only needs the city to set out carts at the curb for collection and return to their storage location, or
2. The resident needs the City to take waste from the door, place it in carts, set out carts for collection and return carts to the storage location.

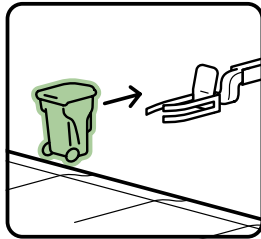
For those that live in multi-unit buildings, such as apartments or condominiums, who put waste into a communal bin for collection, collectors will pick up waste from your door and bring it to the property's collection bin for disposal.

For those utilizing this program, they are asked to ensure the carts are accessible and to set out their waste by 7am on the day before collection day. This ensures that collectors can move the waste to the proper location for your collection day.

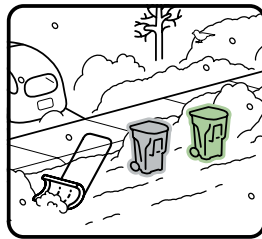
## ON COLLECTION DAY



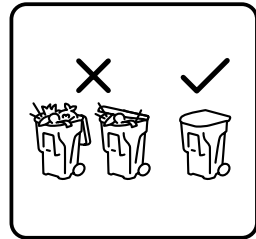
Be sure to set out your carts and blue bags by 7 a.m. on your collection day!



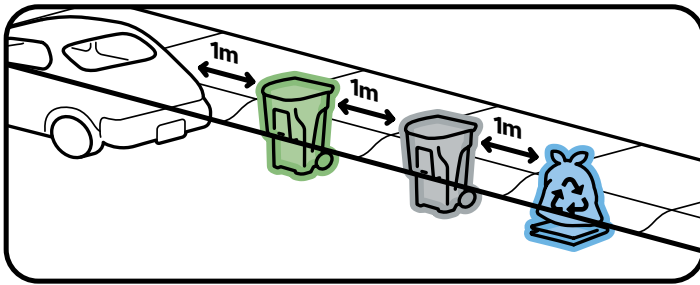
Place carts on level ground, arrows pointing towards the street or alley.



Set out carts in front of snowbanks – not behind or on top.

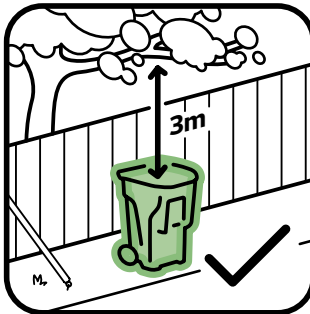
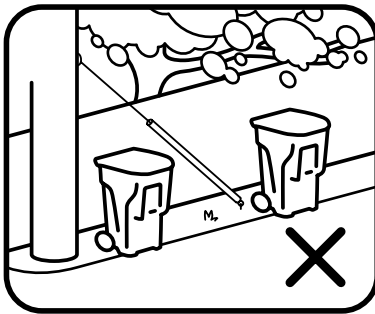


Make sure cart lids are fully closed.



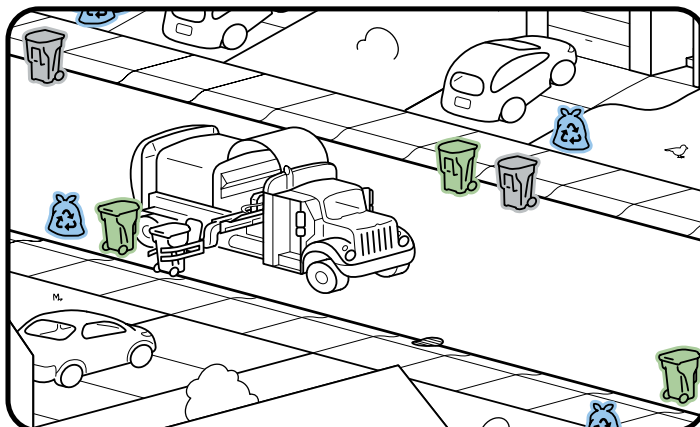
### 1 m (3 ft) clearance beside carts

Be sure to place your cart at least 1 metre away from other carts, cars or other objects.



### 3 m (10 ft) clearance above carts

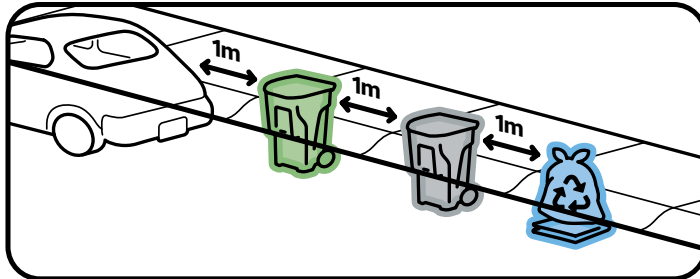
Ensure your carts have 3 metres (10 feet) of clear space above the cart so the arms of the automated trucks can easily grab them.



### Park vehicles off street

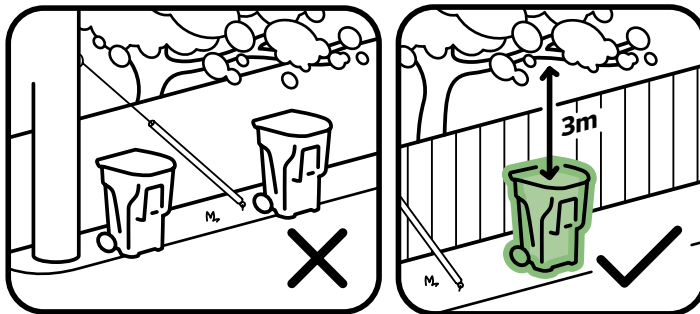
When possible, park vehicles off the street on your collection day. This allows enough room for collection vehicles to reach your carts.

## APPENDIX B: SERVICE STANDARDS



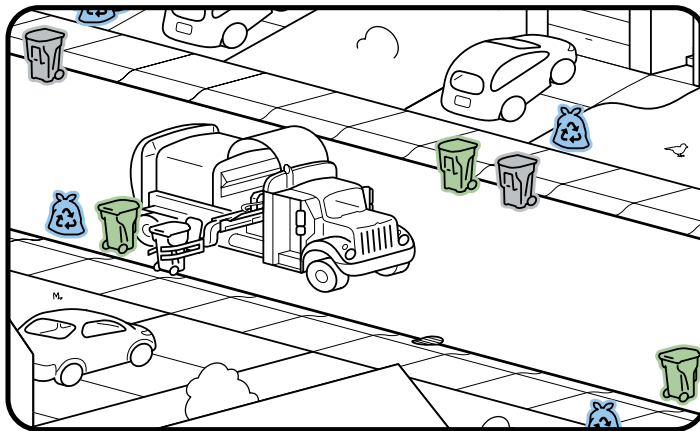
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### 3 m (10 ft) clearance above carts

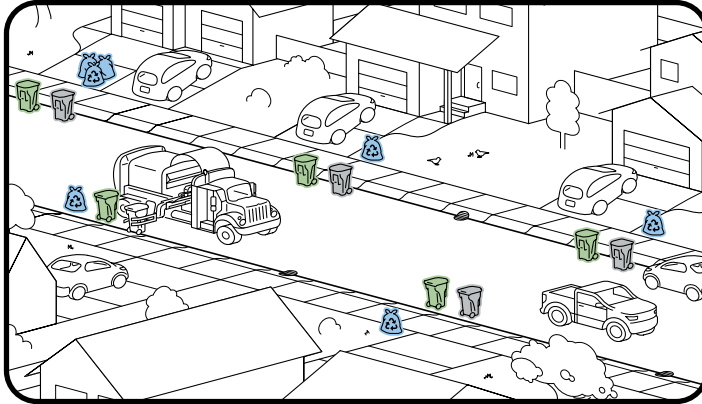
Ensure your carts have 3 metres (10 feet) of clear space above the cart so the arms of the automated trucks can easily grab them.



### Park vehicles off street

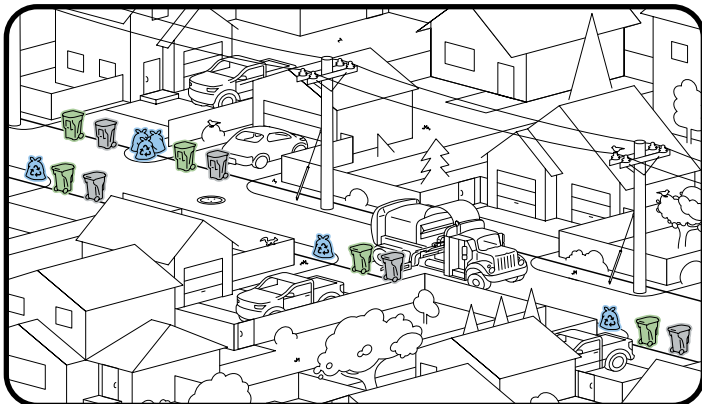
When possible, park vehicles off the street on your collection day. This allows enough room for collection vehicles to reach your carts.

## PROPER BIN SET-OUTS



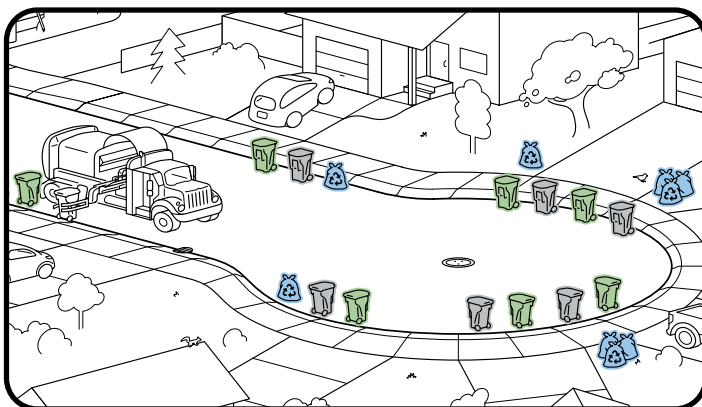
### Front street collection

.....  
Place carts on the street against the curb.



### Alley collection

.....  
Place carts close to the alley or at the end of your driveway so the automated arm can reach them.



### Cul-de-sac collection

.....  
Place carts on the street against the curb.



[edmonton.ca/waste](http://edmonton.ca/waste)