

# CAPITAL PROFILE REPORT

PROFILE NAME:	<b>WASTE SERVICES IIS INFRASTRUCTURE DELIVERY</b>	<b>FUNDED</b>
PROFILE NUMBER:	<b>CM-81-2045</b>	<b>PROFILE STAGE: Approved</b>
DEPARTMENT:	<b>Integrated Infrastructure Services</b>	<b>PROFILE TYPE: Composite</b>
LEAD BRANCH:	<b>Infrastructure Planning and Design</b>	LEAD MANAGER: <b>Pascale Ladouceur</b>
PROGRAM NAME:		PARTNER MANAGER: <b>Denis Jubenville</b>
PARTNER:	<b>Waste Services</b>	ESTIMATED START: <b>January, 2023</b>
BUDGET CYCLE:	<b>2023-2026</b>	ESTIMATED COMPLETION: <b>December, 2026</b>

<b>Service Category:</b>	<b>Utilities</b>	<b>Major Initiative:</b>
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<b>GROWTH</b>	<b>RENEWAL</b>	<b>PREVIOUSLY APPROVED:</b>	<b>37,760</b>
<b>50</b>	<b>50</b>	<b>BUDGET REQUEST:</b>	<b>-</b>
		<b>TOTAL PROFILE BUDGET:</b>	<b>37,760</b>

## PROFILE DESCRIPTION

The composite profile CM-81-2045 provides a level of funding for Waste Services capital projects that are intended to be delivered by Integrated Infrastructure Services - Infrastructure Delivery Branch in the 2019 - 2022 capital budget cycle. The approach is consistent with Administration's implementation of the Project Development & Delivery Model (PDDM) as well as the Capital Project Governance Policy C591 that was adopted by Council in April 2017.

Adherence to both the PDDM process and Policy C591 will ensure that sufficient information is prepared in advance of the capital budget process to support informed investment decisions, provide adequate resources for planning and design to ensure appropriate level of planning and design is incorporated into budget submissions and provide an overall framework to guide the management of Waste Services' capital projects.

As PDDM has previously been adopted by Council, this capital funding request establishes funding prioritization for Waste Services projects anticipated to enter the project delivery stage within a checkpoint system with strategic controls on budget and schedule. The PDDM approach is a gated process for capital projects to ensure that projects are properly developed before they are funded for delivery.

While approval for funding in this profile is required to establish the initial 2023-2026 capital budget and projected utility rate increases over the 4 year period, approved funding for this profile does not indicate final budget or funding for any specific capital project.

This capital funding request provides information at a concept level that pertains to the budget for projects that are anticipated to be delivered during the 2023-2026 budget cycle. Details of the individual projects listed in this profile, including budget and scheduling will be further disclosed once the project has reached checkpoint 3 and a detailed business case has been developed for approval from Utility Committee and Council.

This profile requires funding for Waste Services capital projects that are intended to be delivered by Integrated Infrastructure Services - Infrastructure Delivery Branch in the 2023-2026 capital budget cycle. The four year capital projection for this profile is approximately \$96 million. A high level list of projects and estimated budget allocations is listed in Appendix A.

## PROFILE BACKGROUND

The PDDM is a framework to manage all capital infrastructure projects and represents the best practices in project management from the industry and comparable municipalities. It aims to achieve the following outcomes:

- (1) Better information to make capital investment decisions
- (2) Improved project schedule and budget estimates through increased level of design to ensure realistic expectations are set prior to project tendering and construction
- (3) Systematic evaluation of projects against the initial project business case and scope.

This profile sets the 2023-2026 budget for Waste Services for projects that are anticipated to reach checkpoint 3 in the PDDM process. Once a project reaches this stage, a detailed standalone business case will be developed and brought to Utility Committee and Council for approval.

This approval will result in a capital budget adjustment that transfers budget from this profile to the newly created standalone profile. Until this transaction occurs, no funds are authorized to be spent on the delivery of a capital project.

## PROFILE JUSTIFICATION

### Urgency of Need

The need to effectively deliver capital projects is essential for Waste Services to achieve its commitment to deliver quality sustainable waste management services to the City of Edmonton as well as effectively meet the changing needs of its customers. Projects that are anticipated to reach the third checkpoint in the PDDM process within this budget cycle have been identified and prioritized based on strategic criteria such as environmental impact, health and safety and alignment with Branch and Corporate goals. Delivery of these concept level projects within this profile will be fundamental to Branch operations and will help to ensure continued delivery of sustainable waste collection and processing services.

As Waste Services capital budget is supported by the utility rate, business cases for both planning and delivery phases of approved capital projects within the PDDM approach are required in order to have funds allocated to the composite profile and determine the utility rates required to support the capital budget. While approval for funding in this profile is necessary to determine capital budget and utility rates, approved funding for this profile does not indicate final budget or funding for any specific capital project.

### Anticipated Outcomes

In alignment with the PDDM approach, Waste Services will realize the achievement of branch goals through working with Integrated Infrastructure Services to effectively manage the delivery of capital projects. Effective asset management will ensure that Waste Services has the resources to achieve its objectives by aligning its vision, mission and strategic plan with daily activities to achieve its goals. Waste Services envisions the following outcomes:

Better information to make capital investment decisions: Through a structured and integrated process, administration will ensure that projects identified as priorities by Waste Services receive robust evaluation of alternatives and scope identification. Through the PDDM process, project maturity is regularly assessed to ensure that projects are ready to advance to the next stage of development.  
Improved project schedule and budget estimates: Following industry best practices, a control budget and schedule is established on the basis of a completed design to ensure realistic expectations are set with IIS prior to tendering and construction.  
Reliable facilities and infrastructure that enable sustainable waste management in a cost effective manner.  
High levels of customer service delivered in both an efficient and effective way through leading-edge waste processing facilities that use current and emergent technology to enable high rates of diversion of waste from landfill.  
Facilities that can be operated in a safe manner, protecting employees, customers and contractors.  
Capitalize on opportunities to reduce cost to operate and process waste in an environmentally and fiscally responsible way.

### Scope

The scope of this business case includes the detailed design, construction and project closeout stages, which subsumes work after completing Checkpoint 3 through Checkpoint 4 (Authorization for Construction expenditure) and Checkpoint 5 (Authorization for closeout) for all authorized Capital projects being led by IIS on behalf of Waste Services.

Checkpoint 4: Final check before the project goes to tender, to verify the project is ready to be tendered and develop a refined control budget. This will include an assessment of readiness and a final scope review. If the project is within the approved scope, schedule, and budget, an Internal Control Budget, Control Schedule and Authorization for Expenditure will result. If it is not, it will either be forwarded for a Change Request or will be sent back for revision. Approved projects are authorized to spend up to their control budget levels.

Checkpoint 5: This checkpoint is to verify that the project is ready for the final closeout within Integrated Infrastructure Services. Closeout will ensure that the scope has been met satisfactorily and that all closeout activities have been completed.

### Out of Scope

Project planning and design phase of the PDDM approach is out of scope for this business case. (This includes Checkpoint 1 (Project initiation), Checkpoint 2 (Authorization for Design Expenditure) and Checkpoint 3 (Approval for Capital Budget) of the PDDM approach.

### Critical Success Factors

Critical success factors include:

Efficient, consistent and accurate communication between Waste Services and IIS  
Regular check-ins with the Waste Services Branch Leadership team to align with the strategic direction and branch goals  
Accurate and sufficient data and cost analyses to support high level budget estimate and informed decision makings for the projects  
On time, on budget delivery of capital projects within the PDDM approach.

## STRATEGIC ALIGNMENT

Projects following the PDDM approach for Waste Services align with the following strategic goals of City of Edmonton:

Healthy City/Urban Places/Regional Prosperity/Climate Resilience

City of Edmonton's Waste Management Policy C527 and Waste Management Utility Fiscal Policy C558A as well as the Capital Project Governance Policy C591. This profile also aligns with Waste Services integrated 25-year strategic outlook that will help to ensure Edmontonians receive maximum economic and environmental benefits while minimizing the cost increases of managing solid waste.

## ALTERNATIVES CONSIDERED

This is a capital funding request and does not present any alternatives for consideration. In this process, multiple checkpoints occur prior to the budget approval for the delivery of a single project, including a detailed business case, ensuring that budget and schedule adjustments may be made prior to the tender process.

## **COST BENEFITS**

Tangible: Improved efficiency in project management Increased adherence to budget and schedule estimates Improved ability to forecast capital expenditure thus allowing for more certainty in utility rates Intangible: Structured process to evaluate readiness, scope and prioritization Increased project accountability Increased project awareness and controls Closer integration of City departments More efficient and consistent procurement process.

## **KEY RISKS & MITIGATING STRATEGY**

RISK- PDDM is a gated process and the additional steps required in this new process may increase timelines or compromise scheduled completion dates

MITIGATION- Waste Services will work closely on the project team with IIS and other parties to ensure project planning process is started in advance, timely review and approval is occurring and schedules are adhered to.

RISK-Emerging priorities may cause delay

MITIGATION-The conceptual project list can be changed. Regular project team meetings will ensure integration & implementation of planned projects & respond to emergent projects.

## **RESOURCES**

Projects will be managed by the Infrastructure Delivery Branch. Where outside resources are required the tender process will be managed by IIS. Subject matter expertise will be contributed by Waste Services from current staff complement. There will be no addition to the current approved FTE required.

## **CONCLUSIONS AND RECOMMENDATIONS**

The capital funding request outlines the overall budget requirement for projects anticipated to move into the Project Delivery phase for the 2023-2026 budget cycle for a total of approximately \$20,502,237. Projects moving into the delivery phase will have detailed business cases and budget adjustment will be requested from Utility Committee and Council. Waste Services recommends continuing to follow the PDDM approach and release funds for project delivery phase for all capital projects handled by IIS. This will lead to higher control on the scope, schedule, budget and delivery.

# CAPITAL PROFILE REPORT

PROFILE NAME: **Waste Services IIS Infrastructure Delivery**  
 PROFILE NUMBER: **CM-81-2045**  
 BRANCH: **Infrastructure Planning and Design**

**FUNDED**  
 PROFILE TYPE: **Composite**

## CAPITAL BUDGET AND FUNDING SOURCES (000's)

	Prior Years	2024	2025	2026	2027	2028	2029	2030	2031	2032	Beyond 2032	Total
<b>APPROVED BUDGET</b>												
Approved Budget												
Original Budget Approved	96,029	-	-	-	-	-	-	-	-	-	-	96,029
2019 Cap Administrative	1,292	-	-	-	-	-	-	-	-	-	-	1,292
2019 Cap Council	-57,794	-	-	-	-	-	-	-	-	-	-	-57,794
2019 Cap Carry Forward	-	-	-	-	-	-	-	-	-	-	-	-
2020 Cap Council	-23,747	-	-	-	-	-	-	-	-	-	-	-23,747
2020 Cap Carry Forward	-	-	-	-	-	-	-	-	-	-	-	-
2021 Cap Council	2,620	-	-	-	-	-	-	-	-	-	-	2,620
2021 Cap Carry Forward	-	-	-	-	-	-	-	-	-	-	-	-
2021 Cap Release to Corp Pool	-1,141	-	-	-	-	-	-	-	-	-	-	-1,141
2022 Cap Budget Request for Next Cycle	1,950	7,123	6,326	5,103	-	-	-	-	-	-	-	20,502
2022 Cap Carry Forward	-	-	-	-	-	-	-	-	-	-	-	-
2023 Cap Carry Forward	-2,219	2,219	-	-	-	-	-	-	-	-	-	-
<b>Current Approved Budget</b>	<b>16,990</b>	<b>9,342</b>	<b>6,326</b>	<b>5,103</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>37,760</b>
Approved Funding Sources												
Self-Liquidating Debentures	7,576	15,606	6,326	5,103	-	-	-	-	-	-	-	34,610
Waste Mgt Retained Earnings	9,414	-6,264	-	-	-	-	-	-	-	-	-	3,150
<b>Current Approved Funding Sources</b>	<b>16,990</b>	<b>9,342</b>	<b>6,326</b>	<b>5,103</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>37,760</b>

<b>BUDGET REQUEST</b>	Budget Request	-	-	-	-	-	-	-	-	-	-	-
	Revised Funding Sources (if approved)											
	Self-Liquidating Debentures	-	-6,264	-	-	-	-	-	-	-	-	-6,264
	Waste Mgt Retained Earnings	-	6,264	-	-	-	-	-	-	-	-	6,264
	Requested Funding Source	-	-	-	-	-	-	-	-	-	-	-

<b>REVISED BUDGET (IF APPROVED)</b>	Revised Budget (if Approved)	16,990	9,342	6,326	5,103	-	-	-	-	-	-	37,760
	Requested Funding Source											
	Self-Liquidating Debentures	7,576	9,342	6,326	5,103	-	-	-	-	-	-	28,346
	Waste Mgt Retained Earnings	9,414	-	-	-	-	-	-	-	-	-	9,414
	Requested Funding Source	16,990	9,342	6,326	5,103	-	-	-	-	-	-	37,760

## CAPITAL BUDGET BY ACTIVITY TYPE (000's)

	Activity Type	Prior Years	2024	2025	2026	2027	2028	2029	2030	2031	2032	Beyond 2032	Total
<b>REVISED BUDGET (IF APPROVED)</b>													
	Construction	13,840	9,342	6,326	5,103	-	-	-	-	-	-	-	34,610
	Other Costs	3,150	-	-	-	-	-	-	-	-	-	-	3,150
	<b>Total</b>	<b>16,990</b>	<b>9,342</b>	<b>6,326</b>	<b>5,103</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>37,760</b>

## OPERATING IMPACT OF CAPITAL

Type of Impact:

Branch:													
	Rev	Exp	Net	FTE	Rev	Exp	Net	FTE	Rev	Exp	Net	FTE	
<b>Total Operating Impact</b>	-	-	-	-	-	-	-	-	-	-	-	-	-

# CAPITAL PROFILE REPORT

PROFILE NAME: <b>WASTE CONTAINERS</b>	<b>FUNDED</b>
PROFILE NUMBER: <b>CM-81-2005</b>	<b>PROFILE STAGE: Approved</b>
DEPARTMENT: <b>Utilities</b>	<b>PROFILE TYPE: Composite</b>
LEAD BRANCH: <b>Waste Services</b>	LEAD MANAGER: <b>Denis Jubinville</b>
PROGRAM NAME:	PARTNER MANAGER:
PARTNER:	ESTIMATED START: <b>January, 2023</b>
BUDGET CYCLE: <b>2023-2026</b>	ESTIMATED COMPLETION: <b>December, 2026</b>

<b>Service Category: Utilities</b>	<b>Major Initiative:</b>
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<b>GROWTH</b>	<b>RENEWAL</b>	<b>PREVIOUSLY APPROVED:</b>	<b>19,009</b>
<b>40</b>	<b>60</b>	<b>BUDGET REQUEST:</b>	<b>-</b>
		<b>TOTAL PROFILE BUDGET:</b>	<b>19,009</b>

## PROFILE DESCRIPTION

The Waste Services Waste Container Capital Profile CM-81-2005 recommends funding for the purchase of steel bins (front load, side load, and roll-off waste containers), litter baskets, plastic bins, curbside carts, and associated accessories used in Waste Services' waste collection and drop-off programs. The purchase of waste containers supports Edmonton's urban growth as well as the replacement of waste containers that have reached the end of their service life or are beyond economically feasible repair. This profile will also support the growth of the curbside Source Separated Organics (SSO) program (i.e. curbside carts).

The four-year total capital projection is approximately \$16.1 million.

Containers are purchased each year to ensure an even expenditure pattern and maintain the desired service level of containers. The expected outcome is to continue to provide efficient collection service to Edmontonians in a safe, environmentally and economically sustainable manner.

The \$16.1 million requested in this profile considers forecasted demand for replacement and planned urban growth, including impacts related to global supply chain issues and resulting increases in commodity pricing. It also includes approximately \$4.6 million of curbside containers that were previously included under the Source Separated Organics standalone profile in 2019-2022.

## PROFILE BACKGROUND

Waste Services has an inventory of over 500,000 waste containers each with an average service life of fifteen years, that require replacement at the end of their service life. New containers are required to meet growth demands for various waste collection and drop-off programs across the City. Waste containers for both replacement and growth need to be purchased on a regular basis to maintain an adequate inventory and availability of stock to meet demand. As Waste Services plans for future growth and replacement of older or damaged waste containers, there is an opportunity to adopt a proactive, long-term purchase planning approach to mitigate external risk factors, including global supply chain risks, uncertainty in the price of raw materials (steel, plastics, etc.) to build containers, and potential for changes to existing international trade agreements. Access to the required capital through the capital planning horizon enables mitigation of these risks and a level of certainty in the planning and purchase of waste containers.

## PROFILE JUSTIFICATION

Waste Services retains a limited quantity of new containers in stock to meet urgent demands and ensure uninterrupted operation, however, this capital funding profile is used to purchase the required inventory to account for forecasted growth and lifecycle replacement of container assets.

Without support for this composite profile, container availability would be severely undersupplied leading to negative impacts on the environment and Waste Services programs and targets. The Utility would also experience higher risk of failure and maintenance costs of existing containers beyond their useful lives, leading to inefficiencies in waste collection services and potential safety issues. It is critical that this profile is approved to ensure continuity of container and accessory replacement and availability of stock.

The anticipated outcomes of the purchase of new waste containers include asset integrity, system reliability, efficiency, and enhanced safety: maintain high levels of customer service and realize process efficiencies through the use of sector-appropriate waste containers; maintain an adequate inventory of waste containers to meet the service demands for growth and replacement of containers at or near the end of their life cycle; and capitalize on opportunities to reduce operational costs.

## STRATEGIC ALIGNMENT

Waste Services is committed to advancing Council's vision and goals. This capital funding request contributes to the overall strategic direction of City council and the goals and policies of the corporate strategic documents listed below. This contribution is made by demonstrating leadership in waste management and waste collection standards, and by increasing the diversion of residential and non-residential waste from landfill.

City of Edmonton Environmental Policy C512, Connect Edmonton: Vision 2050, Waste Services Business Plan 2022-2025, 25 Year Waste Strategy

## ALTERNATIVES CONSIDERED

This is a capital funding request and does not present any alternatives for consideration. This profile is taking a status quo approach (purchasing new containers as required) as this was already determined to be the best alternative in the 2019-2022 budget cycle business case.

## COST BENEFITS

The following tangible benefits are anticipated:

Adequate waste container stock to meet service demands of growth  
Adequate waste container stock to replace containers at or near end of service life  
Predictable purchase pattern

The following intangible benefits are anticipated:

Mitigated purchase risks through ability to plan for purchases of waste containers and a predictable purchase pattern  
Better inventory management practices in place to enhance business area's accountability

## KEY RISKS & MITIGATING STRATEGY

RISK: Escalation in container pricing MITIGATION: Open and transparent competitive tendering process to attain lowest feasible cost for replacement

RISK: Limited numbers of manufacturing companies to provide containers MITIGATION: Work with Corporate Procurement and Supply Services to optimize tendering strategies to ensure specifications and timelines are managed

RISK: Delay in issuing tender and getting contract signed MITIGATION: Work with Corporate Procurement and Supply Services to optimize tendering strategies to ensure specifications and timelines are managed

## RESOURCES

Corporate procurement methods will be used to purchase required waste containers and associated accessories.

## CONCLUSIONS AND RECOMMENDATIONS

This profile will provide capital funding to purchase new and replacement waste containers and associated accessories to ensure Waste Services has an adequate supply through 2023-2026. This funding will ensure waste containers are available to support growth and replace waste containers that have reached the end of their service life.

It is recommended that this profile with funding of \$16.1 million be approved to assist Waste Services in delivering integrated and sustainable waste management services.

Project Sponsor is the Branch Manager of Waste Services. The overall capital program is managed by the Director of Technical Services, in collaboration with Sustainable Waste Processing Services, Collection Services, Business Integration and Waste Strategy, and Financial Services.

# CAPITAL PROFILE REPORT

PROFILE NAME: **Waste Containers**  
 PROFILE NUMBER: **CM-81-2005**  
 BRANCH: **Waste Services**

**FUNDED**  
 PROFILE TYPE: **Composite**

## CAPITAL BUDGET AND FUNDING SOURCES (000's)

	Prior Years	2024	2025	2026	2027	2028	2029	2030	2031	2032	Beyond 2032	Total
<b>APPROVED BUDGET</b>												
Approved Budget												
Original Budget Approved	9,072	-	-	-	-	-	-	-	-	-	-	9,072
2019 Cap Council	-3,925	-	-	-	-	-	-	-	-	-	-	-3,925
2019 Cap Carry Forward	-	-	-	-	-	-	-	-	-	-	-	-
2020 Cap Carry Forward	-	-	-	-	-	-	-	-	-	-	-	-
2021 Cap Carry Forward	-	-	-	-	-	-	-	-	-	-	-	-
2021 Cap Release to Corp Pool	-2,269	-	-	-	-	-	-	-	-	-	-	-2,269
2022 Cap Budget Request for Next Cycle	3,383	4,016	4,232	4,501	-	-	-	-	-	-	-	16,131
2022 Cap Carry Forward	-	-	-	-	-	-	-	-	-	-	-	-
2023 Cap Carry Forward	-1,883	1,883	-	-	-	-	-	-	-	-	-	-
<b>Current Approved Budget</b>	<b>4,378</b>	<b>5,899</b>	<b>4,232</b>	<b>4,501</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>19,009</b>
<b>Approved Funding Sources</b>												
Self-Liquidating Debentures	1,549	8,727	4,232	4,501	-	-	-	-	-	-	-	19,009
Waste Mgt Retained Earnings	2,829	-2,829	-	-	-	-	-	-	-	-	-	-
<b>Current Approved Funding Sources</b>	<b>4,378</b>	<b>5,899</b>	<b>4,232</b>	<b>4,501</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>19,009</b>

<b>BUDGET REQUEST</b>	Budget Request	-	-	-	-	-	-	-	-	-	-	-
	Revised Funding Sources (if approved)											
	Self-Liquidating Debentures	-	-2,829	-	-	-	-	-	-	-	-	-2,829
	Waste Mgt Retained Earnings	-	2,829	-	-	-	-	-	-	-	-	2,829
	<b>Requested Funding Source</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

<b>REVISED BUDGET (IF APPROVED)</b>	Revised Budget (if Approved)	4,378	5,899	4,232	4,501	-	-	-	-	-	-	19,009
	Requested Funding Source											
	Self-Liquidating Debentures	1,549	5,899	4,232	4,501	-	-	-	-	-	-	16,181
	Waste Mgt Retained Earnings	2,829	-	-	-	-	-	-	-	-	-	2,829
	<b>Requested Funding Source</b>	<b>4,378</b>	<b>5,899</b>	<b>4,232</b>	<b>4,501</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>19,009</b>

## CAPITAL BUDGET BY ACTIVITY TYPE (000's)

	Activity Type	Prior Years	2024	2025	2026	2027	2028	2029	2030	2031	2032	Beyond 2032	Total
<b>REVISED BUDGET (IF APPROVED)</b>													
	Equip FurnFixt	4,378	5,899	4,232	4,501	-	-	-	-	-	-	-	19,009
	<b>Total</b>	<b>4,378</b>	<b>5,899</b>	<b>4,232</b>	<b>4,501</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>19,009</b>

## OPERATING IMPACT OF CAPITAL

Type of Impact:

Branch:																
	Rev	Exp	Net	FTE	Rev	Exp	Net	FTE	Rev	Exp	Net	FTE	Rev	Exp	Net	FTE
<b>Total Operating Impact</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

# CAPITAL PROFILE REPORT

PROFILE NAME:	<b>WASTE SERVICES FACILITIES, INFRASTRUCTURE AND PROCESS EQUIPMENT</b>	<b>FUNDED</b>
PROFILE NUMBER:	<b>CM-81-2047</b>	<b>PROFILE STAGE: Approved</b>
DEPARTMENT:	<b>Utilities</b>	<b>PROFILE TYPE: Composite</b>
LEAD BRANCH:	<b>Waste Services</b>	LEAD MANAGER: <b>Denis Jubinville</b>
PROGRAM NAME:		PARTNER MANAGER:
PARTNER:		ESTIMATED START: <b>January, 2023</b>
BUDGET CYCLE:	<b>2023-2026</b>	ESTIMATED COMPLETION: <b>December, 2026</b>

<b>Service Category:</b>	<b>Utilities</b>	<b>Major Initiative:</b>
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<b>GROWTH</b>	<b>RENEWAL</b>	<b>PREVIOUSLY APPROVED:</b>	<b>35,688</b>
<b>50</b>	<b>50</b>	<b>BUDGET REQUEST:</b>	<b>-</b>
		<b>TOTAL PROFILE BUDGET:</b>	<b>35,688</b>

## PROFILE DESCRIPTION

Composite Profile CM-81-2047 provides capital funding for capital renewal, upgrade, and improvement projects for Waste Services valued at less than \$5 million. Waste Services assets include a number of facilities such as Eco Stations, employee workspaces, equipment facilities, administration buildings, waste processing facilities, and research and development facilities. These facilities contain heating, cooling, ventilation, fire protection systems, plumbing, electrical distribution, and other building systems. In addition to these systems, Waste Services owns and operates a series of specialized waste processing equipment required to meet the branch mandate of efficient and environmentally sound waste management operations. Waste Services also manages a variety of infrastructure including roads, drainage, and buried utilities for operating industrial processes at the Edmonton Waste Management Centre (EWMC) and other locations in the city.

To deliver sustainable waste management services, maintain optimal service levels, and have a sustainable and efficient asset management program, capital funds are required to carry out capital renewal, growth, modifications, improvements, and upgrades of Waste Services assets. This will result in safer and more reliable assets while maintaining high levels of customer service. Without this funding in place, facilities, process equipment, and infrastructure will be at increased risk of failure as the waste collection and processing systems age. Emergency situations caused by unforeseen failures can result in expensive unplanned repairs, safety issues for staff and public, and interruption to operations.

Waste Services manages these renewal and growth projects in collaboration with its partners such as Integrated Infrastructure Services (IIS), Fleet and Facility Services, and operation and maintenance contractors. This profile contains projects that have high integration with plant operations, are specific to waste processing, or are smaller than the IIS project thresholds, and therefore can be managed effectively by Waste Services. This requires funding of approximately \$19.4 million between 2023 and 2026.

To ensure adequate levels of funding are available for this capital profile, Waste Services has adopted a planning and prioritization approach that builds on understanding project drivers (need) and criticality (risk), which is closely aligned with the City's Corporate Risk-based Infrastructure Management System (RIMS) and Capital Budgeting Framework. This approach informs overall required capital investment in the improvement, renewal, and upgrade of the aforementioned assets, and is combined with the implementation of formalized asset condition assessment, preventative maintenance programs, safety and environmental improvements, and process improvement needs.

## PROFILE BACKGROUND

Waste Services has an extensive infrastructure inventory which include facilities such as Eco Stations, employee workspaces, equipment facilities, administration buildings, waste processing facilities, and research and development facilities. These facilities contain mechanical, electrical, fire protection, other building systems, and specialized equipment. Infrastructure includes the Edmonton Waste Management Centre and Kennedale site utilities, roadways, drainage, communications, transaction data collection hardware and software, and specialized systems. As of December 2021, the replacement value of Waste Services assets, captured through the Annual Infrastructure Inventory, is about \$369 million. These assets require regular maintenance, upgrade, renewal, or modification for various reasons such as environmental compliance, safety enhancement, asset renewal/upgrade, process improvement, and strategic and business needs. Waste Services will continue to assess asset conditions and criticality, and will implement capital projects to maintain the integrity and efficiency of the system.

## PROFILE JUSTIFICATION

This initiative will provide funding for maintenance, renewal, upgrades, and efficiency improvements for Waste Services facilities and infrastructure. The main factors are the age of the infrastructure and facilities, existing safety issues, increasing demand and needed improvements to increase operational efficiency and effectiveness.

### Urgency of Need:

During the initial planning process, a robust prioritization methodology was developed by Waste Services that aligns with corporate prioritization methods. The projects identified as critical or very important that cannot be deferred are included in this budget cycle. The risk of deferring these projects include potential asset and system failure, greater fire and safety risks, environmental noncompliance and inability to meet corporate and branch goals (such as diversion).

### Anticipated Outcome:

Better information to make capital investment decisions: Through a structured and integrated process, administration will ensure that projects identified as priorities by Waste Services receive robust evaluation of alternatives and scope identification. This will ensure stable utility rates.

Improved project schedule and budget estimates: Following City and industry best practices, a control budget and schedule is established on the basis of a completed design to ensure realistic expectations that are aligned with the Waste Services Project Management Framework prior to tendering and construction. The Waste Services Project Management Framework aligns with the IIS processes to ensure projects provide value-for-money and demonstrate sound stewardship.

Reliable facilities and infrastructure that enable sustainable waste management in a cost-effective manner.

High levels of customer service are delivered in both efficient and effective ways through leading-edge waste processing facilities that use current and emergent technology to enable high rates of diversion of waste from landfill.

## STRATEGIC ALIGNMENT

This capital funding request contributes to the overall strategic direction of City Council and goals of policies and corporate strategic documents listed in the table below. This contribution is made by demonstrating leadership in waste management and processing standards, and by increasing diversion of waste from landfill.

City of Edmonton Environmental Policy C512  
ConnectEdmonton: Vision 2050  
Waste Services Business Plan 2022-2025  
25 Year Waste Strategy  
Waste Services Utility Fiscal Policy C558B  
Capital Project Governance Policy C591

## ALTERNATIVES CONSIDERED

This is a capital funding request and does not present any alternatives for consideration. This profile is taking a status quo approach (funding capital renewal/upgrade work as required) continuing from the 2019-2022 budget cycle business case.

## COST BENEFITS

### Tangible:

Improved operational efficiency of facilities, infrastructure and process equipment.  
Reduction in safety-related incidents.  
Long term savings due to reduction in repair costs.  
Improved productivity due to better access to facilities and equipment, and increased availability due to reduced down time.

### Intangible:

Increased employee morale due to better working conditions.  
Safer working environment for staff and customers.  
Increased or maintained customer satisfaction.

## KEY RISKS & MITIGATING STRATEGY

Risk: Global supply chain issue for specialized equipment.

Mitigating Strategy: Use locally available materials and equipment to specification if possible. Allow sufficient time for equipment supply lead time.

Risk: Health and safety issues if numerous small value projects are not implemented on time.

Mitigating Strategy: Prioritize projects and ensure timely implementation.

Risk: Changes in processing equipment brought about by future waste initiatives to increase diversion rate.

Mitigating Strategy: Develop asset management strategic plan incorporating required process equipment to address future waste initiatives.

## RESOURCES

The projects within this profile will be led by Waste Services Project Managers. They will coordinate with General Supervisors of the respective facilities and infrastructure, operating and maintenance groups, Occupational Health and Safety coordinators, and other stakeholders.

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## CONCLUSIONS AND RECOMMENDATIONS

### Conclusion:

This profile will provide capital funding for capital renewal, upgrade, and improvement projects for Waste Services valued at less than \$5 million. This funding will ensure assets provide overall improvement in operating efficiency, effectiveness, safe working conditions and meet environmental compliance. The total funding requested for 2023-2026 is approximately \$19.4 million.

### Recommendation:

It is recommended this profile be approved to assist Waste Services to meet its commitment to deliver integrated and sustainable waste management services. This will ensure capital renewal and upgrade of assets due to new or increased waste streams, safety concerns, and design improvements that increase efficiency of Waste Services' operations.

## CHANGES TO APPROVED PROFILE

2022 Fall SCBA (#22-31, CFO.35): Change in source of funding by using excess cash to finance the capital program instead of borrowings, in order to save interest expenses. The adjustments result in no overall impact on the budget within the program.

# CAPITAL PROFILE REPORT

PROFILE NAME: **Waste Services Facilities, Infrastructure and Process Equipment**

**FUNDED**

PROFILE NUMBER: **CM-81-2047**

PROFILE TYPE: **Composite**

BRANCH: **Waste Services**

## CAPITAL BUDGET AND FUNDING SOURCES (000's)

	Prior Years	2024	2025	2026	2027	2028	2029	2030	2031	2032	Beyond 2032	Total	
APPROVED BUDGET	Approved Budget												
	Original Budget Approved	18,446	-	-	-	-	-	-	-	-	-	18,446	
	2019 Cap Administrative	-790	-	-	-	-	-	-	-	-	-	-790	
	2019 Cap Carry Forward	-	-	-	-	-	-	-	-	-	-	-	
	2020 Cap Council	-1,292	-	-	-	-	-	-	-	-	-	-1,292	
	2020 Cap Carry Forward	-	-	-	-	-	-	-	-	-	-	-	
	2021 Cap Carry Forward	-	-	-	-	-	-	-	-	-	-	-	
	2021 Cap Release to Corp Pool	-86	-	-	-	-	-	-	-	-	-	-	-86
	2022 Cap Administrative	-	-	-	-	-	-	-	-	-	-	-	-
	2022 Cap Budget Request for Next Cycle	4,235	6,788	5,275	3,111	-	-	-	-	-	-	-	19,409
	2022 Cap Carry Forward	-	-	-	-	-	-	-	-	-	-	-	-
	2023 Cap Carry Forward	-261	261	-	-	-	-	-	-	-	-	-	-
<b>Current Approved Budget</b>	<b>20,253</b>	<b>7,049</b>	<b>5,275</b>	<b>3,111</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>35,688</b>	
Approved Funding Sources													
Self-Liquidating Debentures	7,950	14,404	5,275	3,111	-	-	-	-	-	-	-	30,739	
Waste Mgt Retained Earnings	12,303	-7,355	-	-	-	-	-	-	-	-	-	4,948	
<b>Current Approved Funding Sources</b>	<b>20,253</b>	<b>7,049</b>	<b>5,275</b>	<b>3,111</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>35,688</b>	

BUDGET REQUEST	Budget Request	-	-	-	-	-	-	-	-	-	-	-
	Revised Funding Sources (if approved)											
	Self-Liquidating Debentures	-	-7,355	-	-	-	-	-	-	-	-	-7,355
	Waste Mgt Retained Earnings	-	7,355	-	-	-	-	-	-	-	-	7,355
<b>Requested Funding Source</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

REVISED BUDGET (IF APPROVED)	Revised Budget (if Approved)	20,253	7,049	5,275	3,111	-	-	-	-	-	-	35,688
	Requested Funding Source											
	Self-Liquidating Debentures	7,950	7,049	5,275	3,111	-	-	-	-	-	-	23,385
	Waste Mgt Retained Earnings	12,303	-	-	-	-	-	-	-	-	-	12,303
<b>Requested Funding Source</b>	<b>20,253</b>	<b>7,049</b>	<b>5,275</b>	<b>3,111</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>35,688</b>

## CAPITAL BUDGET BY ACTIVITY TYPE (000's)

	Activity Type	Prior Years	2024	2025	2026	2027	2028	2029	2030	2031	2032	Beyond 2032	Total
REVISED BUDGET (IF APPROVED)	Construction	19,837	7,049	5,275	3,111	-	-	-	-	-	-	-	35,271
	Design	416	-	-	-	-	-	-	-	-	-	-	416
	<b>Total</b>	<b>20,253</b>	<b>7,049</b>	<b>5,275</b>	<b>3,111</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>35,688</b>

## OPERATING IMPACT OF CAPITAL

Type of Impact:

Branch:													
	Rev	Exp	Net	FTE	Rev	Exp	Net	FTE	Rev	Exp	Net	FTE	
<b>Total Operating Impact</b>	-	-	-	-	-	-	-	-	-	-	-	-	-

# CAPITAL PROFILE REPORT

PROFILE NAME:	<b>MATERIALS RECOVERY FACILITY (MRF) RENEWAL</b>	<b>FUNDED</b>
PROFILE NUMBER:	<b>20-81-2020</b>	<b>PROFILE STAGE: Approved</b>
DEPARTMENT:	<b>Utilities</b>	<b>PROFILE TYPE: Standalone</b>
LEAD BRANCH:	<b>Waste Services</b>	LEAD MANAGER: <b>Michael Labrecque</b>
PROGRAM NAME:		PARTNER MANAGER: <b>Michael Labrecque</b>
PARTNER:	<b>Infrastructure Planning and Design</b>	ESTIMATED START: <b>November, 2020</b>
BUDGET CYCLE:	<b>2019-2022</b>	ESTIMATED COMPLETION: <b>December, 2022</b>

<b>Service Category:</b>	<b>Utilities</b>	<b>Major Initiative:</b>
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<b>GROWTH</b>	<b>RENEWAL</b>	<b>PREVIOUSLY APPROVED:</b>	<b>15,741</b>
	<b>100</b>	<b>BUDGET REQUEST:</b>	<b>-</b>
		<b>TOTAL PROFILE BUDGET:</b>	<b>15,741</b>

## PROFILE DESCRIPTION

This initiative replaces various process equipment and building components, including upgrades to the paper/cardboard line, that will extend the life, improve efficiencies, and increase the capacity of system processes at the Materials Recovery Facility (MRF). This supports the provision of an effective recycling program for the City of Edmonton and reaching the strategic goal of a diversion rate of 90% residential waste from landfills.

## PROFILE BACKGROUND

In March 2019, City Operations report CR\_6866 was submitted along with the February 26, 2019 strategic business case to the Utility Committee which recommended to execute a phased retrofit to the MRF. The phased retrofit proposes that the City complete a partial upgrade to address the most critical equipment and facility issues by 2021 followed by a complete retrofit in 2027. The MRF Renewal project focuses on the first phase of the MRF retrofit, which is the replacement of end-of-life-cycle equipment and facility issues. In addition to this recommendation, Waste Services requested that the fibre (paper/cardboard) line in the MRF also be included in the planning and design phase. The addition of the paper/cardboard line is meant to address limitations with the existing process which results in the system being above maximum capacity and a landfill diversion rate ranging from 21% to 36% in recent years. Approval of the full scope of work, to be completed in 2021/2022, will achieve operating efficiencies and in turn, a landfill diversion rate greater than 90%.

## PROFILE JUSTIFICATION

This initiative will reduce equipment downtime and unplanned maintenance while improving commodity quality, plant capacity and overall system efficiency.

## STRATEGIC ALIGNMENT

This project aligns with the City's Vision 2050 strategic plan in that by ensuring that recyclable waste is collected, processed responsibly, and the amount landfilled is minimized, Edmonton will be a healthy city, urban places will be clean, regional prosperity is increased by building a circular economy, and a low carbon future is assured.

## ALTERNATIVES CONSIDERED

Alternative 1: Status-quo

This involves no capital investment with operations continuing as is with existing process equipment.

Alternative 2: Full Scope ( Paper/Cardboard (Fibre) Line Optimization and EOL) in 2021/2022

Alternative 2 includes the completion of the fibre (paper/cardboard) line optimization and end-of-life (EOL) equipment replacement in 2021 and 2022 requiring a capital investment of \$15.7 million.

Alternative 3: Phased Renewal Implementation

Alternative 3 has a similar scope of work but with a phased approach in which the fibre line work is completed in 2021/2022 and EOL is completed in 2024/2025.

Alternative 4: Reduced Scope - EOL Only

Alternative 4 only includes end-of-life (EOL) equipment replacement to be completed in 2021/2022 with a capital investment of \$9.5 million.

Alternative 5: Refuse derived fuel (RDF) production

Alternative 5 investigates the option of shifting to RDF processing of the majority of recycling material collected.

## COST BENEFITS

The operating costs for the new assets are mainly associated with electrical power to operate the new equipment and building, and ongoing maintenance costs for the new assets. The new equipment results in a reduction in sort labour and maintenance. The expected increase in diversion of material will also result in a decreased landfill cost.

## KEY RISKS & MITIGATING STRATEGY

A comprehensive risk register was developed for this initiative, in both the Concept stage and the Planning and Design stage. A comprehensive list of risks (prior to the mitigation strategies) and their mitigation strategies can be found in the business case. Some key risks are highlighted below:

- Changes in recyclables composition
- Mass Balance estimates are low, resulting in demand for additional capacity at the MRF
- Site utility connection/disconnect may result in change/delay of schedule as timelines for utility companies' services are unpredictable.
- Cost estimates are low resulting in budget or rate increases that are higher than announced to the Utility Committee and the Public
- Existing equipment available doesn't meet the market's quality standards.

## RESOURCES

WS will manage the process equipment replacement and upgrades portion of the project and provide a lead project manager. The work will be executed by the successful Operations & Maintenance contractor for the MRF based on open competition. Contract management will be led by Waste Services staff.

## CONCLUSIONS AND RECOMMENDATIONS

Accomplishing the Project Goal supports goals outlined in Vision 2050, such as an increased waste diversion rate, and the vision and commitments outlined in The City of Edmonton Waste Services Business Plan 2019-2022.

To deliver this project for the replacement of the end-of-life equipment and building scope of work as well as the paper/cardboard line upgrades, a capital investment of \$15.7M is required. It is recommended by the Project Team that this Business Case is approved and authorized following Alternative 2 for Capital Expenditure (Funding Approval) of \$15.7 million at Checkpoint #3 of the Corporate PDDM within the 2019-2022 budget. The approval of this Business Case will enter the project to the Delivery Phase in 2021/2022.

## CONTINGENCY OF APPROVAL

This Business Case is drafted by the Lead Project Manager in Facility Planning and Design Section with input from Waste Services project representatives (Engineering economic analysis, Business Integration team, Finance team etc.).

This Business Case will be:  
Reviewed by key project team members  
Circulated for Directors review and approval  
Submitted for Waste Services Branch Manager review and approval

A City Council Report will be:  
Presented to Utility Committee for recommendation to the City Council for approval

# CAPITAL PROFILE REPORT

PROFILE NAME: **Materials Recovery Facility (MRF) Renewal**

**FUNDED**

PROFILE NUMBER: **20-81-2020**

PROFILE TYPE: **Standalone**

BRANCH: **Waste Services**

## CAPITAL BUDGET AND FUNDING SOURCES (000's)

	Prior Years	2024	2025	2026	2027	2028	2029	2030	2031	2032	Beyond 2032	Total	
APPROVED BUDGET	Approved Budget												
	Original Budget Approved	-	-	-	-	-	-	-	-	-	-	-	
	2020 Cap Council	15,741	-	-	-	-	-	-	-	-	-	15,741	
	2020 Cap Carry Forward	-	-	-	-	-	-	-	-	-	-	-	
	2021 Cap Carry Forward	-	-	-	-	-	-	-	-	-	-	-	
	2022 Cap Carry Forward	-	-	-	-	-	-	-	-	-	-	-	
	2023 Cap Carry Forward	-3,001	3,001	-	-	-	-	-	-	-	-	-	
	Current Approved Budget	12,740	3,001	-	-	-	-	-	-	-	-	-	15,741
	Approved Funding Sources												
	Self-Liquidating Debentures	-	9,282	-	-	-	-	-	-	-	-	-	9,282
Waste Mgt Retained Earnings	12,740	-6,281	-	-	-	-	-	-	-	-	-	6,459	
Current Approved Funding Sources	12,740	3,001	-	-	-	-	-	-	-	-	-	15,741	

BUDGET REQUEST	Budget Request	-	-	-	-	-	-	-	-	-	-	-
	Revised Funding Sources (if approved)											
	Self-Liquidating Debentures	-	-6,281	-	-	-	-	-	-	-	-	-6,281
	Waste Mgt Retained Earnings	-	6,281	-	-	-	-	-	-	-	-	6,281
Requested Funding Source	-	-	-	-	-	-	-	-	-	-	-	-

REVISED BUDGET (IF APPROVED)	Revised Budget (if Approved)	12,740	3,001	-	-	-	-	-	-	-	-	15,741
	Requested Funding Source											
	Self-Liquidating Debentures	-	3,001	-	-	-	-	-	-	-	-	3,001
	Waste Mgt Retained Earnings	12,740	-	-	-	-	-	-	-	-	-	12,740
Requested Funding Source	12,740	3,001	-	-	-	-	-	-	-	-	-	15,741

## CAPITAL BUDGET BY ACTIVITY TYPE (000's)

	Activity Type	Prior Years	2024	2025	2026	2027	2028	2029	2030	2031	2032	Beyond 2032	Total
REVISED BUDGET (IF APPROVED)	Construction	12,740	3,001	-	-	-	-	-	-	-	-	-	15,741
	Total	12,740	3,001	-	-	-	-	-	-	-	-	-	15,741

## OPERATING IMPACT OF CAPITAL

Type of Impact:

Branch:																
	Rev	Exp	Net	FTE	Rev	Exp	Net	FTE	Rev	Exp	Net	FTE	Rev	Exp	Net	FTE
Total Operating Impact	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-