

### Waste Services Risk Overview

The following table identifies the top risks for the Waste Services Branch. Risks are scored in accordance with the City of Edmonton Enterprise Risk Management Risk Ratings Guide. Risk Score Adjusted For Mitigation is scored based on a Likelihood indicator and an Impact indicator, with Likelihood ranging from a score of 1: Rare to 5: Almost Certain and Impact ranging from 1: Minor to 5: Worst Case.

RISK CATEGORY	RISK DESCRIPTION	MITIGATIONS	RISK SCORE ADJUSTED FOR MITIGATION
<b>Financial</b>	Uncertainty around the long-term financial sustainability and profitability of the non-regulated business lines makes funding the outstanding non-reg. loan balance challenging and uncertain.	<ul style="list-style-type: none"> <li>Operations management and financial management on the non-regulated lines of business.</li> <li>Recent Program &amp; Service Review and 25 year strategy informed changes to this line of business.</li> </ul>	12 - Medium
<b>Financial</b>	<p>The EWMC facilities are integral to processing of the waste collected from residents. Some of the processing equipment and systems are near the end of their service life.</p> <p>Waste Services also relies heavily on mobile equipment to collect waste, manage waste on site and to transfer landfill destined material.</p> <p>The state of buried utilities infrastructure is unknown. Inadequate resource and asset management planning can lead to disruption of services thus impacting the diversion and service rate.</p>	<ul style="list-style-type: none"> <li>Proper asset management planning taking place.</li> <li>Timely maintenance schedule and asset condition reports are being developed for leadership review.</li> <li>Timely management of funds for repair and renewal.</li> <li>Process equipment remains a concern.</li> <li>Replacement mobile equipment being purchased to improve availability and reduce the workload on Fleet Services maintenance.</li> </ul>	9 - Medium
<b>Information</b>	<p>Many Waste related projects are high in cost, require multi years to complete, and depend on industry trends and assumptions at the start of the project to inform the direction.</p> <p>Any information or assumptions related to the business case, analysis, RFP etc related to each project that are incorrect will cause a long term burden on the Utility.</p>	<ul style="list-style-type: none"> <li>High level strategy is developed for each program to help inform the general direction and decisions to be made.</li> <li>Detailed business cases are required for all projects to ensure the most accurate information is available. This includes environmental scanning with other municipalities or businesses in Waste.</li> <li>An ongoing assessment of information risks is used to inform program and service design and delivery, with an aim to prioritize solutions that are most appropriate for iteration and continuous improvement as information improves.</li> </ul>	9 - Medium

<p><b>Natural Disasters</b></p>	<p>Fire is a persistent risk as most waste is highly combustible.</p> <p>Process interruptions, additional costs (clean up) and public health concerns (air quality) can all be affected.</p> <p>Natural disaster, industrial accident or human error at IPTF or MRF shuts down disposal points.</p> <p>Collection service may be impacted due to prolonged extreme weather, leading to collection vehicles unable to complete assigned routes.</p>	<ul style="list-style-type: none"> <li>• Development of asset management plans that recognize the importance of maintaining fire detection and suppression systems.</li> <li>• Emergency preparedness plans are being updated. Business Continuity plans are being written</li> <li>• Inventory monitoring and stockpile management programs are in place.</li> </ul>	<p>9 - Medium</p>
<p><b>Environmental</b></p>	<p>Environmental regulatory non-compliance due to accidental spills or other incidents which cause an adverse effect to the environment and residents. This can lead to fines and revocation of licenses by Alberta Environment Park Services and compromising Branch's legal and regulatory obligations.</p>	<ul style="list-style-type: none"> <li>• Processes in place to proactively identify environmental releases and minimize them if/when they occur, including:</li> <li>• Enviso system in place (environmental audits, internal and external). Regular (at least once a year) review environmental policies. New Materials safety data sheets. New training.</li> <li>• Chemical monitoring, spill kits, different treatment measures for spill.</li> <li>• Proactive relationship and reporting with Alberta Environment.</li> <li>• Invest in building environmental mitigation facilities such as groundwater diversion etc.</li> </ul>	<p>9 - Medium</p>
<p><b>Technology/ Equipment</b></p>	<p>Many waste equipment is aging and requires upgrading or replacement, especially for waste processing. New Cutting edge technology for this is usually connected with high financial and operational risks</p>	<ul style="list-style-type: none"> <li>• Develop a comprehensive asset management program</li> <li>• Conduct annual facility condition assessments and updates</li> <li>• Implement a rigorous preventative maintenance program</li> </ul>	<p>9 - Medium</p>
<p><b>Corporate Governance</b></p>	<p>Due to economic impacts related to the COVID-19 pandemic, proposed rate increases to maintain existing service levels may not be well received by residents. This would result in reduced service that may not meet the needs of Citizens.</p>	<ul style="list-style-type: none"> <li>• Review of existing and future waste service demands occurs during business plan and budget preparation every year to identify areas of shortfall and prepare project SCBA's reports for Council's approval as needed.</li> </ul>	<p>9 - Medium</p>
<p><b>Professional / Service Liability</b></p>	<p>Contractual/legal risk if City fails to provide Refuse Derived Fuel to Enerkem for their use in production of alternate fuels</p>	<ul style="list-style-type: none"> <li>• Optimize the facility to ensure the efficient production of feedstock</li> <li>• Work with Enerkem to declare the appropriate minimum feedstock amounts.</li> </ul>	<p>9 - Medium</p>

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<b>Occupational Health &amp; Safety</b>	<p>In-person service increases the risk of exposure to COVID-19 through person to person transmission and contact with contaminated surfaces</p>	<ul style="list-style-type: none"> <li>• Social distancing is in effect at all Eco-Stations limiting the number of residents can be inside at once. In addition, there is no staff-to-resident interaction as part of social distancing protocol.</li> </ul>	<p>9 - Medium</p>
<b>Occupational Health &amp; Safety</b>	<p>Injuries or other safety issues of staff or contractors occurring at a Waste Management site could result in lost time, financial liability and negative reputational impacts.</p>	<ul style="list-style-type: none"> <li>• Site security capital project underway, site integration meetings occurring, project notification sheets being developed, and training on principle contractor designation being planned.</li> <li>• Operator Training and Awareness process in place</li> </ul>	<p>8 - Medium</p>
<b>Commercial</b>	<p>Contractors fail to execute work as planned, resulting in schedule delays, increased costs, and lack of service to residents.</p> <p>May arise due to escalation in the contract cost in the future, may arise due to failed sole source of contract, and additional time and resources required for re-tendering process and can lead to service disruption</p>	<ul style="list-style-type: none"> <li>• Utilize a competitive bidding process.</li> <li>• Engage multiple outside service providers, enhanced knowledge of contracts and contract management.</li> <li>• Dedicated contract managers and contract specialists are embedded within the Branch.</li> <li>• Support from BPCE, CPSS and utilizing existing agreements with other departments.</li> </ul>	<p>8 - Medium</p>
<b>Project Management</b>	<p>Projects that fail to deliver on time and on budget will result in negative impact on operations and potential increase in rate funding. Most projects are large scale multi year projects with complex scope. With higher potential for issues to arise.</p> <p>The implementation of the Curbside Cart Roll Out project has been delayed to 2021 due to the COVID-19 pandemic.</p> <p>The completion date of the project has not been moved, only the start date of implementation. This decreases the time available for WS to follow up to new citizen concerns with the rollout, increasing the potential impact to the customer's experience.</p>	<ul style="list-style-type: none"> <li>• Diligent project control and manage - newly developed and implemented program management process</li> <li>• Establish corporate governance &amp; closely follow City policies</li> <li>• To hire a third party consultant to conduct technology performance guarantee</li> <li>• Conduct separate risk management for high risk projects</li> <li>• Carefully select project delivery method for future key projects</li> </ul>	<p>8 - Medium</p>
<b>Public Liability</b>	<p>Injuries or other safety issues of customers occurring at a Waste Management site could result in financial liability and negative reputational impacts.</p>	<ul style="list-style-type: none"> <li>• Operator Training and Awareness process in place</li> <li>• SOP to check for people in or adjacent to multifamily/commercial/depot bins, Increased public outreach and education programs with the</li> </ul>	<p>8 - Medium</p>

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		City's homeless organizations.	
<b>Corporate Governance</b>	Reliance on other departments/branches with their own priorities may affect the timeline of projects/ services to be delivered by Waste Services	<ul style="list-style-type: none"> <li>Have a corporate governance structure in place for Waste Service program changes. Includes Governance committee oversight along with direct reporting to ELT.</li> </ul>	8 - Medium
<b>Corporate Governance</b>	Waste reduction efforts negatively impacted due to increased need for single use plastics related to COVID-19	<ul style="list-style-type: none"> <li>Creation of a Waste Reduction Roadmap to advance other more contextually-sensitive waste reduction activities that deliver similar outcomes (in terms of GHG and/or waste volume reductions) to the introduction of a Single-Use bylaw.</li> </ul>	8 - Medium
<b>Human</b>	<p>Disruption in services due to strike or Pandemic.</p> <p>Depending on the duration of the labour disruption or pandemic, services to the public will be impacted. This may result in public health concerns if waste collection service is not provided over an extended period.</p>	<ul style="list-style-type: none"> <li>Develop contingency plans for essential services like waste collection, utilize contractors to provide service to 50% of the City. Implementation of pandemic prevention actions, use of redeployments to support operations.</li> </ul>	6 - Low
<b>Customers / Citizen</b>	Public non compliance with waste setout requirements causing an increased in contamination, resulting in a lower than forecast diversion rate	<ul style="list-style-type: none"> <li>Public education and outreach</li> <li>Bylaw enforcement. Collector training program, PPE for Collectors.</li> </ul>	6 - Low
<b>Employees</b>	Decreased staffing, or increased staff turnover affecting succession planning leading to unmotivated employees and affecting employee morale and productivity	<ul style="list-style-type: none"> <li>Collaborate with HR develop enhanced hiring strategies, Increase Employee and Performance management</li> </ul>	6 - Low
<b>Economic</b>	WS's vulnerability to international and local markets for recyclable and compost materials can impact pricing of goods and services acquired and sold.	<p>Recycleables:</p> <ul style="list-style-type: none"> <li>Plan to fix bailers to preserve professional appearance of materials to avoid inspections.</li> <li>Use a broker to handle the sales MRF materials.</li> <li>MRF residuals and non-marketable MRF materials to be used in RDF.</li> </ul> <p>Compost:</p>	6 - Low

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		<ul style="list-style-type: none"> <li>• Implement SSO to improve feedstock that will ultimately improve compost quality.</li> <li>• Increase compost marketing locally.</li> </ul>	
<b>Financial</b>	Social distancing requirements reduce or change service demand resulting in reduced revenue or profitability	<ul style="list-style-type: none"> <li>• Eco-Station underwent a review of the customer flow process and improvements were made to increase throughput of residents while meeting all requirements. Some of these improvements include:</li> <li>• Re-arrangement of bins and type of material for easier and faster disposal</li> <li>• Updated signage to help residents go to the right station without directing from staff</li> </ul>	5 - Low
<b>Fraud</b>	Failure to follow financial controls results in fraud, financial loss, and loss of reputation. Fraudulent billing by contractors results in financial loss.	<ul style="list-style-type: none"> <li>• Maintain controls as required by Corporate Services</li> <li>• Supervisor and external compliance review</li> </ul>	4 - Low
<b>Property Damage</b>	Industrial accident or human error can lead to property damage for WS assets or customers	<ul style="list-style-type: none"> <li>• Review site design and identify appropriate risks</li> <li>• Develop site disruption response plan</li> <li>• Communicate the plan to potentially impacted employees</li> </ul>	4 - Low
<b>Public Perception</b>	Poor public perception of branch services and brand name due to unmet customer expectations as a result of low waste diversion rate.	<ul style="list-style-type: none"> <li>• Leadership team collaborates on solutions involving support from Communications, business partners</li> <li>• Manage messages (e.g., low waste diversion)</li> <li>• Enhanced citizen engagement, outreach and education seek customer input</li> <li>• Customer recovery strategy and tactics</li> </ul>	4 - Low

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<p><b>Security</b></p>	<p>Inadequate security at Waste Service (of site, facilities and assets) could lead to theft and vandalism of the assets and compromise staff and contractor's safety.</p>	<ul style="list-style-type: none"> <li>• Site security projects being implemented as a result of Security Audit conducted by CS (Spring 2017), for example:</li> <li>• Key card access implemented in facilities (where possible).</li> <li>• Tool sign outs are required.</li> <li>• Annual inventory of equipment (small tools) being taken.</li> <li>• Ongoing discussions and investigations occurring with Corporate Security.</li> <li>• All traffic is directed through scalehouse.</li> <li>• Improvements being made to site fencing.</li> </ul>	<p>4 - Low</p>
<p><b>Occupational Health &amp; Safety</b></p>	<p>COVID-19 related stress and anxiety may be experienced by employees. This increased stress places employees' mental health at risk subsequently creating safety risks in the work environment.</p>	<ul style="list-style-type: none"> <li>• Regular communicate with staff on updates relating to the pandemic</li> <li>• Work with staff on identifying key points of stress and managing with optimal solutions</li> </ul>	<p>4 - Low</p>