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To: **Committee of the Whole**

Agenda Section: Corporate Services  
Division: Engineering, Planning and Environment  
Department: Solid Waste Management

Item Number: **CCW - 2024-055**

Meeting Date: February 27, 2024

Subject: **Organics Management**

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### **Recommendation**

That Item CCW 2024-055, dated February 27, 2024, regarding Organics Management, be received; and

That Council discontinue development of the Environmental Resource Recovery Centre (ERRC) at this time; and

That staff proceed with the award of both short-term (3 years) and long-term (20 years) organics processing contracts subject to the satisfaction of legal, procurement and solid waste management staff; and

That committed reserve funds related to the ERRC be transitioned to a commitment within the Waste Management Contingency Reserve to fund capital projects required as a result of discontinuing the development of the ERRC, as generally outlined within this Item.

### **Executive Summary**

Since 2012, the County of Simcoe (the County) has made progress on the Environmental Resource Recovery Centre (ERRC). This facility's original scope included a Materials Management Facility (MMF) for the transfer of garbage and recycling, Material Recovery Facility (MRF) for the processing of recycling, administrative centre, educational centre, truck servicing facility and Organics Processing Facility (OPF).

Throughout 2023 staff worked with our technical engineering consulting firm GHD and financial consultants Ernst & Young Orenda Corporate Finance Inc. (EY) to update the technical (GHD) and financial (EY) aspects of the ERRC. The updates were mainly to reflect the change of scope, including the removal of the recycling transfer and truck

servicing components of the facility. Ultimately, these significant changes have modified the scope of the ERRC to an OPF, an MMF for the transfer of garbage only, an administrative facility and an educational centre. In addition, while historically the ERRC remained technology neutral, it was determined that wet anaerobic digestion (wet AD) be the preferred processing technology utilized at the site.

GHD and EY reflected these scope changes within the technical and financial reports, and incorporated updated building and processing costs that reflect the current markets. These reports are included in Schedule 1 and shall be referred to as further information to the details included in this Item.

A 20-year cost analysis was completed by EY, that compared the estimated capital and operating costs and revenues of the ERRC, to the current model of externally contracting organics processing (business as usual (BAU)). The results show that the ERRC would come at an average cost to the County of \$378.5 million, approximately \$111.6 million more than if the County were to proceed with the BAU scenario. The BAU costs were found to be grossly exaggerated as a recent competitive procurement released by the County has resulted in costing to be much lower than is currently paid for these services, so much so that the average cost of the ERRC (\$378.5 million) would be approximately \$221 million more than the BAU that reflects the new contract pricing. This is further detailed in Confidential Schedule 2 and the Financial and Resource Implications section of this Item.

The ERRC was initially pursued due to the significant benefit it would bring to the County, including the assurance that the County become self-sufficient and gain control of future organic management costs. Unfortunately, the current reality, as determined through the updated EY financial analysis, is that the significantly increased capital and borrowing costs exacerbated by decreasing outside processing costs (potentially temporary in nature) of a County-owned and operated facility are not justifiable at this time.

Therefore, staff do not recommend proceeding with the ERRC at this juncture. Staff remain committed to finding cost effective and environmentally responsible methods for managing the County's wastes and ahead of bringing this Item to Council engaged in a competitive procurement for external organics processing capacity. The RFP process identified both short- and long-term vendors that will provide significantly reduced costs for organics processing and organics hauling. For this, and the many other reasons outlined in this Item, staff recommend Council approve not proceeding with the ERRC at this time, and that staff proceed with the execution of both short- and long-term organics processing contracts, that will secure the County's needs for the next twenty-three (23) years.

In addition, if the recommendations in this Item are supported by Council, staff will commence work on each of the following action items:

- recommend a location for a waste management truck servicing facility and a cart and bulky facility, and subsequently construct and operate such facilities,
- determine the best long-term organics transfer process and construct such a facility,

- review options for the ERRC site, located at 2976 Horseshoe Valley Road West, Springwater, and
- review the impacts of increasing the organics acceptance criteria to include plastic bags, diapers and/or sanitary products in future years.

### **Background/Analysis/Options**

As County landfills near capacity, waste tonnages continue to increase due to population growth. The cost to transport and process waste also continues to increase, therefore it has been imperative for the County to invest in the diversion and processing of organics. As such, the County identified the need to pursue organics processing and waste transfer capacity in 2012. Since that time, the County has consistently made progress towards the development of an Environmental Resource Recovery Centre (ERRC) which included the Organics Processing Facility (OPF) as a major function of the project, in addition to the Materials Management Facility (MMF) for the long-term transfer of garbage. The ERRC's intent being to process organics locally and to convert the County's organics into usable end product(s) and provide local transfer capacity for other waste streams through the MMF.

While the County's organics program has been successful under this model since its implementation in 2008, pursuit of the ERRC was continued as a beneficial solution for long-term organics management for the County. The following provides a brief timeline of the ERRC including the rationale that was provided at that time:

- 2010: Solid Waste Management Strategy introduced the concept of a County owned OPF and recommended a comparison be made against the external processing of organics. It also introduced the need to secure long-term recycling and garbage transfer capacity (MMF).
- 2012: An initial report was completed that determined the ERRC was a viable project for both the processing of organics (OPF) and the transfer of recycling and garbage (MMF). Benefits included gaining control of future organics operations and costing, reducing hauling distances, and benefiting the local economy through the construction and operation of the facility, and the production of beneficial end product(s). The OPF's required capacity was determined as 30,000 tonnes per year, and it was estimated that an anaerobic digestion (AD) facility would cost \$35 million in capital costs. The siting for the ERRC commenced.
- 2014: An initial financial analysis was completed and found the ERRC was financially viable and a County owned facility would have a payback period of six (6) years. The funding available through the Continuous Improvement Fund (CIF) for the recycling portions (i.e. the MMF) of the facility were also presented.
- 2015: Staff reviewed over 500 sites and presented a short list of potential sites ERRC sites to Council and to the public, that had undergone a detailed review and ranking.
- 2016: Council approved 2976 Horseshoe Valley Road West in Springwater Township as the site for the ERRC, following a detailed analysis of short-listed sites.
- 2017: Ernst & Young Orenda Corporate Finance Inc. (EY) completed their original business case for the ERRC, reviewing multiple options for the site. This found

comparable costing between a Business As Usual (BAU) scenario (\$130.3 million) and the development of a County owned MMF and OPF utilizing wet anaerobic digestion (AD) technology (\$137.9 million), as further outlined in the Financial and Resource Implications section.

After 2017, technical studies for the ERRC site were completed and finalized, and planning amendment applications were submitted including County Official Plan amendments, local Official Plan and Zoning By-Law Amendments. While the Province approved the Official Plan amendment, significant delays were encountered when three appeals were submitted. In late 2022, official approval was received, and the project was allowed to proceed.

Since 2017, there have been a number of changes that have caused the OPF portion of the ERRC to not be the most favourable option at this time. This includes the following:

1. Increased Provincial Organics Processing Capacity

The Provincial government has not provided any further updates on their Food and Organic Waste Framework and Policy Statement, published in 2018, and therefore it is unknown if these prescribed targets will be enforced for municipalities, Industrial, Commercial and Institutional (IC&I) properties or multi-residential properties. Therefore, it is unknown if there will be additional pressures placed on organics processing capacity in future years.

It is further noted in GHD's report (Schedule 1) that there have been significant increases in merchant capacity, both planned and in-development and "this situation is fluid and has evolved significantly in the last four years." Specifically, in a review of recently approved AD facility's organic processing capacity within Ontario, it is estimated there is over 500,000 additional tonnes of annual processing capacity that will come online in coming years, through newly constructed facilities and expansion of existing facilities.

2. Reduced Organics Processing Contract Costs

There have been recent municipal organics processing contracts awarded that exhibit both longer term contract lengths, as well as a reduction in the cost per tonne for the processing of such materials. This prompted staff to include long-term organics processing options within our planned short-term organics processing RFP. The RFP process validated the reduction in processing rates, as further discussed in this Item.

3. Increase in the County's Organics Tonnages

The County has been extremely successful in the diversion of organics from landfill, with over 200,000 tonnes of organics having been collected through the curbside organics program, and the annual quantity of organics captured has more than doubled since 2017. This has demanded that a larger facility be considered.

#### 4. Significant Increase in Construction and Borrowing Costs

Inflation has been notable throughout all sectors, but specifically non-residential construction projects have risen significantly since 2017 (40%-50%) and there have been notable premiums attached to recent developments of municipally owned organics processing facilities. In addition, borrowing costs have increased significantly, and over the 20-year period it is estimated the County would pay between \$44 and \$68 million in interest payments alone. This is further explored in the Financial and Resource Implications section of this Item.

All of these factors have led to an altered approach to the ERRC, as well as a significant increase in the expected cost. To ensure the County pursued the best option for long-term management of organics, GHD was retained to provide an updated technical report with information and recommendations on how best to proceed with the ERRC, and EY used such information to compile an updated financial model and business case. For reference, GHD's report is included as Schedule 1 and EY's report is included as Appendix D to Schedule 1.

#### **Updated Technical and Financial Reports**

As part of our progressive work on the ERRC project staff have been working with our consultant GHD to identify the preferred organics processing technology, the overall facility sizing (OPF and MMF), and the pre-design of the ERRC with these details reflected. Due to many changes including recent costing witnessed by other municipalities, and the increased sizing requirements of the facility due to doubling of organics tonnages since 2017, the County employed EY to update the financial model and business case for the ERRC (combined OPF and MMF). To conduct a fulsome costing comparison, there were specific factors reviewed within GHD's report and therefore specifically represented within EY's financial model. The following outlines each of these factors:

##### 1. Wet Anaerobic Digestion (AD) as the Organics Processing Facility (OPF) Technology

The proposed processing method for the OPF has historically been technology-neutral, allowing for composting or anaerobic digestion (AD) technologies. Composting being a natural process that degrades organic matter in the presence of oxygen, with compost produced. While AD is a natural process that degrades organic matter in the absence of oxygen, with biogas and soil amendments (i.e. fertilizer) produced.

Composting was not considered as a recommended approach due to the processing limitations and the increased potential for offsite impacts. AD technologies rely on contained processes with no air movement through the organics, limiting the potential for odours. Composting uses active aeration that creates odours through the introduction of significant quantities of process air. Such odours can be contained but it is typically more difficult to do so given the large amount of air and therefore the potential for odours to be produced is increased. As odours are a large concern for neighbouring properties at any organics processing site including the ERRC, utilizing a technology with less potential for offsite odour migration is essential. In addition,

composting does not have the ability to produce biogas, meaning it would be limited in the potential for revenue generation. Anaerobic digestion is considered a net negative technology when biogas is beneficially utilized, while composting is a net emitter of greenhouse gases.

Wet AD is also the trending processing technology in Ontario providing the most potential environmental benefits to the County when compared to other AD and composting systems. Wet AD has the ability to accept more materials, generate renewable natural gas (RNG), reduce greenhouse gas emissions, reduce potential for odours and create potential revenue streams for the County through the sale of RNG and useable end products (i.e. liquid fertilizer/soil amendment).

Through GHD's technical review, it was determined that anaerobic digestion, specifically wet anaerobic digestion, be the preferred technology type for the ERRC and was therefore the focus of the updated financial model.

## 2. Organics Processing Facility (OPF) Capacity

Based on the County's population projections for the next 30 years, and the targeted increase in capture of organics from the waste stream, it was GHD's recommendation that the OPF be constructed to accommodate 60,000 tonnes of organics per year, this is up from the previous facility sizing of 30,000 tonnes per year. This would allow the County to meet its organic processing needs through 2053 accounting for both anticipated population growth and increased capture of organics. The current organic capture rate is 63%, and through 2042 the organics capture rate is targeted to grow to 75%. The County's targeted capture rate of 75% is intended to be accomplished through the implementation of various Solid Waste Management Strategy initiatives, which will be brought forward to Council in coming years.

During the years where the facility would have additional capacity available (as in the initial commissioning of the facility), it was assumed that the additional capacity would be sold to neighbouring municipalities or Industrial, Commercial and Institutional (IC&I) locations.

## 3. Adjusted Scope of Work

Originally, the ERRC was meant to not only house an OPF but also a Material Management Facility (MMF) for the transfer of garbage and recycling, a Material Recovery Facility (MRF) for recycling processing, a truck servicing facility, an administration centre and an educational centre.

Now, over ten years later, the scope of work had to be adjusted to accommodate the current state of waste management. Through the progression of Individual Producer Responsibility (IPR) in Ontario, and the transition of the Blue Box program to this framework, the recycling components of the facility were no longer required as these operations will be the responsibility of producers at the projected time of

commissioning the ERRC. The plan for the temporary waste transfer station at the Oro waste site (which would no longer be required for that purpose with the development of the ERRC) was to convert this infrastructure to a facility for truck and fleet servicing, and bulky collection / cart repair. Therefore, the updated financial model only included costs for the following ERRC components:

- Organics Processing Facility (OPF) for the processing of organics
- Materials Management Facility (MMF) for the temporary storage and consolidation of curbside garbage materials
- Educational and Administration Centre for the ability to host internal and external groups at the facility, and for offices for the internal operational staff

#### 4. Project Financing

Previously, a Design, Build, Operate (DBO) model was the intended approach for the ERRC, in which an external company would be responsible for financing the capital costs required for the ERRC.

In recent years, the County has had much success funding large-scale projects internally and following a Design-Construction procurement approach. In both scenarios (County-funded and externally funded) there is risk for the County, but in a County-funded model the risks to the project partners are significantly reduced, and the project becomes more appealing to companies bidding on the work. The intent of following this method would be to generate more interest from contractors, and ultimately more competitive bid submissions. In addition, under the Design-Construction approach the County would assume operations of the facility once fully commissioned.

The updated financial model followed a County-financed Design-Construction procurement approach for the ERRC.

#### 5. Business as Usual (BAU)

The financial model includes a BAU cost, which represents the anticipated operational and capital costs that the County could expect to incur if the ERRC were not to proceed. This represents the current scenario in which the County would continue to consolidate organics at a County transfer station and haul those materials to an external company for processing (as determined through a formal procurement process).

As the ERRC was to become the sole location that would receive organics and curbside garbage, this scenario has operational and capital impacts that extend beyond just the transfer, haulage and processing of organics. The following outlines the assumptions that were made within the BAU:

- The Oro transfer facility would continue to serve as the location for garbage transfer (as recycling transfer is no longer the responsibility of the County as of January 1<sup>st</sup>, 2024), and in the long-term will provide sufficient capacity for temporary garbage storage while awaiting transfer.

- The County would be required to build additional organics transfer capacity as the Oro transfer station would not be sufficient to manage the growth anticipated over the next 20 years and the current operation has the potential to cause offsite odour impacts.
- As the Oro transfer facility would be maintained as a transfer facility, it would no longer be available to house an area for cart servicing and bulky operations, as well as the truck servicing facility. Therefore, the County would be required to relocate those operations, and subsequently construct a new facility.

This model also assumed the growth in organics and the increase in organics processing rates and hauling rates. The baseline for the organics processing rates were taken from our current external organics processing contract. However, the County's recent RFP that was released for organics processing has proven a significant downturn trend in the cost per tonne for organics processing, which is currently not accounted for in the BAU costs used in the financial model. This is further detailed in Confidential Schedule 2 and in the Financial and Resource Implications section of this Item.

### **Procurement of External Organics Processing**

In 2023 staff issued a planned RFP for short-term (3 years) organics processing that would be required with or without the ERRC. To inform Council's decision on the ERRC, the RFP also allowed submission of pricing for long-term (20 years) organics processing.

Through the competitive procurement process 10 proposals were received from 6 different companies: 5 short-term and 5 long-term. All were evaluated based on detailed criteria including company profile, experience, references, the proponent's facility, staffing, process, contamination, contingency plans, communication plan, environmental impact (emissions and beneficial end use) and the financial proposal.

All proposals received provided pricing that was significantly lower than current per tonne rates for organics processing. This is further outlined in the Financial and Resource Implications section of this Item.

### **Conclusion and Next Steps**

Based on the outcome of the updated financial model, as outlined in the Financial and Resource Implications section of this Item, and the other rationale as stated above, staff do not recommend proceeding with the ERRC at this juncture. This means that should Council agree with the recommendations of this Item, that the County will continue with current operations (business as usual (BAU)). Specifically, the County would continue to consolidate organics at the Oro transfer station and haul those materials to an external contractor for processing. Based on the recommendations contained within this Item and the results of the organics processing RFP, by approving this Item and the recommendations contained herein, County staff will execute both short- and long-term



organics processing contracts, providing the County with twenty-three (23) years of organics processing capacity.

Council's approval of this Item will require further directions. Staff have and will remain committed to finding cost effective and environmentally responsible methods for managing the County's organics, and will therefore commence work on each of the following action items:

1. Recommend a Location for a Waste Management Truck Servicing Facility and a Cart and Bulky Facility, and Subsequently Construct and Operate such Facilities

As the Oro transfer station will need to remain as a facility for the temporary storage of garbage, it will no longer be available to convert to a truck servicing and cart and bulky facility. Therefore, the County will be required to construct new facilities for these purposes.

Staff will report back to Council on the preferred option on how to proceed, and the steps that will be followed.

2. Determine the Best Long-Term Organics Transfer Process and Subsequently Construct and Operate Such Facility

The Oro organics transfer station is only just meeting the current tonnage demands and will suffice in the interim. However, increased tonnages from population growth and additional capture of organics through the implementation of Solid Waste Management Strategy initiatives will demand additional storage capacity for organics.

Staff will investigate the costing and timing for such construction and will seek approvals through Council for the costs required to construct the necessary infrastructure. Of note, the new organics transfer capacity should also be designed and operated to reduce the potential for offsite odour impacts.

3. Review Options for the ERRC Site Located at 2976 Horseshoe Valley Road West, Springwater

As the ERRC would not proceed with construction at the selected site at this time, staff will bring back a report to Council in 2024, which will recommend how the site shall be managed in future years.

4. Review the Impacts of Increasing the Organics Acceptance Criteria to Include Plastic Bags, Diapers and/or Sanitary Products in Future

Both successful vendors have the ability to expand the County's current organics acceptance criteria to introduce plastic bags, diapers and/or sanitary products. Staff will review the impacts and report back to Council before any changes are reflected in the current programming.

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### Alternatives Considered

Alternatively, Council could decide to proceed with the Environmental Resource Recovery Centre (ERRC), as outlined within this report. If this option was selected by Council, the following approvals would be required:

- select wet anaerobic digestion (AD) as the preferred technology for the OPF;
- approve an OPF sizing of 60,000 tonnes per year;
- approve the ERRC construction and commissioning be procured through a County-funded approach as this would limit the risk for project partners bidding on the work, to create a more appealing procurement;
- approve the revised scope of work and the subsequent combination of the internal purchase orders (OPF and MMF) into one combined ERRC project;
- Approve that the County fully own and operate the facility and would therefore assume full responsibility for the facility and the products that are produced.

Upon receipt of the aforementioned approvals under this section (Alternatives Considered), staff would proceed to the next stage of the ERRC, to commence the procurement process. This would include but not be limited to, Request for Proposal (RFP) development, issuance and proposal submission evaluation, and the subsequent return to Council for approval.

### Financial and Resource Implications

Ernst & Young Orenda Corporate Finance Inc. (EY) was retained to update the detailed financial analysis that was completed in 2017, for the Environmental Resource Recovery Centre (ERRC), to incorporate updated building and processing costs based on current markets. Within this analysis, they compared current organics management costs, to a County-owned wet anaerobic digestion (AD) facility (the ERRC).

The County's current organics management costs are referred to as Business as Usual (BAU) and assumes that there is no change in the existing operations for the County. Meaning all collected green cart organics would continue to be consolidated at a transfer station and hauled to an external facility for processing. The BAU calculation accounts for many factors including, but not limited to, increased organics tonnages due to increased capture and population growth, Consumer Price index (CPI) increases and required capital costs. Capital costs include construction of a new transfer station for organics, and the construction of a new truck, cart and bulky servicing facility (as the Oro transfer station would no longer be available for use). These capital costs are required without the ERRC. As an important note, the BAU does not include the new contract pricing that was received from the recent RFP.

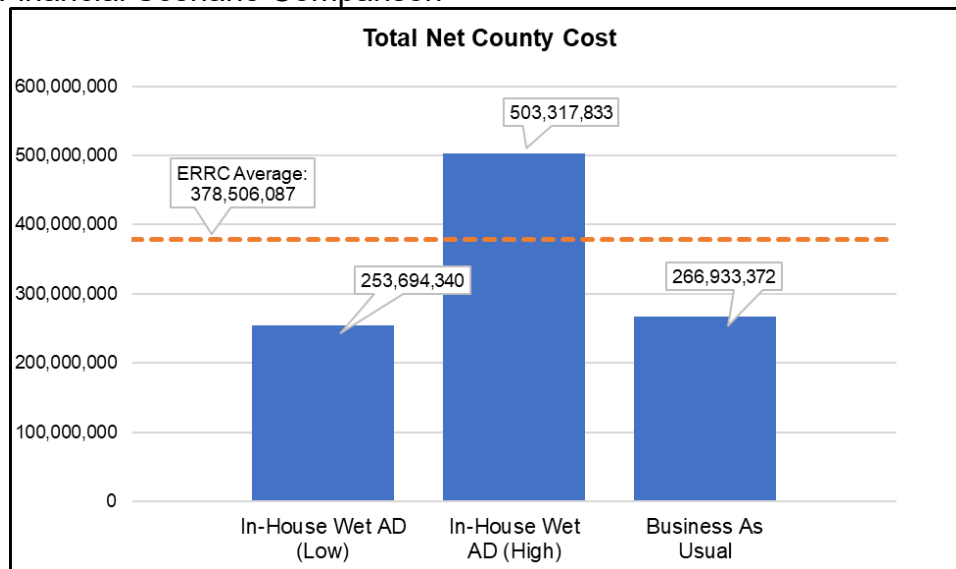
The County-owned facility was represented in both low end and high end costing, to provide a realistic range in which actual costs are expected to fall. The following provides a more detailed explanation on these two scenarios:

- In-house wet AD (low) represents the best possible scenario in which the lowest capital costs and the highest expected revenues are assumed.
- In-house wet AD (high) represents the worst possible scenario in which the highest capital costs and the lowest expected revenues are assumed.

All three scenarios (BAU, in-house wet AD low, in-house wet AD high) were analyzed over a 20-year period for overall costs to the County (both capital and operational). As BAU costs would continue to be incurred during the construction and commissioning periods of the ERRC, the 20-year period commences in 2029, when full scale operations would be expected to commence. It is important to note that all costs are preliminary estimations.

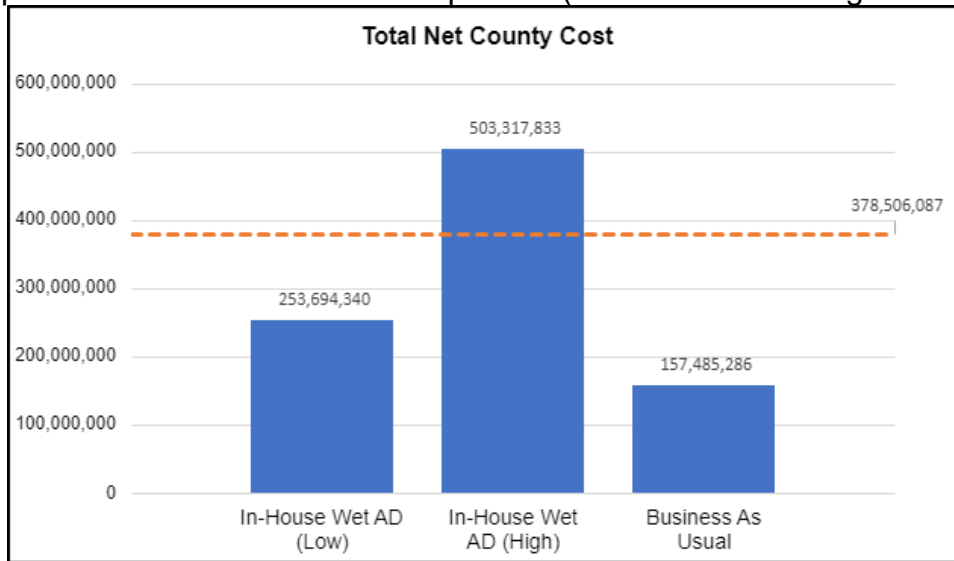
The average cost of the ERRC over the 20-year period is estimated to be \$378.5 million, as illustrated in Graph 1. In comparison to the BAU option of \$266.9 million (based on the current organics processing costs), the average cost of the ERRC is \$111.6 million more.

Graph 1 – Financial Scenario Comparison



This financial model clearly illustrates that at this moment in time, it is best to not proceed with the ERRC. This is due to the significant capital and operating costs, the uncertainties stemming from global inflation and supply chain risks. This case is further proven through the updated pricing received from the recent organics processing RFP. When the long-term processing and hauling per tonne cost is used in place of the current organics processing and hauling cost that was used in the EY financial analysis, the BAU cost significantly decreases, as outlined in Graph 2.

Graph 2 – Updated Financial Scenario Comparison (new contract costing reflected)



The average cost of the ERRC over a 20-year period would be \$378.5 million, as illustrated in Graph 2. In comparison to the updated BAU option (with new contract pricing) of \$157.5 million, the average cost of the ERRC is \$221 million more. The new long-term contract pricing results in over \$100 million dollars in cost reduction, from the current costs reflected in the BAU, and therefore is concrete justification that at this moment in time, it is best to not proceed with the ERRC.

**Relationship to Corporate Strategic Plan**

This Item follows both the direction of Environmental Sustainability, as the County continues to increase the recovery of organics and ensures the diversion of these materials from landfill and decreases hauling distances of organics through the award of two organics processing contracts (short- and long-term).

As well, this Item follows the Long-Term Financial Plan Principles, specifically in ensuring that long-term financial sustainability is maintained through a 20-year organics processing contract.

**Attachments**

Schedule 1 – Environmental Resource Recovery Centre Technology and Project Delivery Method (GHD) and includes EY’s Financial Model as Appendix D.

CONFIDENTIAL Schedule 2

**Prepared By** Nikki Payne, Special Projects Supervisor

**Approvals**

Rob McCullough, Director, Solid Waste Management  
Rob Elliott, General Manager, Engineering, Planning and  
Environment  
Lealand Sibbick, Treasurer  
Mark Aitken, Chief Administrative Officer

**Date**

February 9, 2024  
February 15, 2024  
February 16, 2024  
February 20, 2024