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Item No. 11.1.6
Halifax Regional Council
December 1, 2020

TO:	Mayor Savage and Members of Halifax Regional Council
SUBMITTED BY:	Original Signed by Jacques Dubé, Chief Administrative Officer
DATE:	November 24, 2020
SUBJECT:	**Award Report RFP-19-060: Organic Management Infrastructure and Long-Term Operating Contract**

ORIGIN

On July 31, 2018 Regional Council approved the following recommendations:

1. Direct staff to issue an Organics Management RFP to prequalified vendors in accordance with the RFP Key Terms (Attachment A) and Scoring Matrix (Attachment B) described in this report; and
4. Direct staff to return to Halifax Regional Council to award the Organics Management and Processing RFP.

LEGISLATIVE AUTHORITY

1. Halifax Regional Municipality Charter

The Municipality may spend money for municipal purposes in accordance with section 79A of the *HRM Charter* which states:

79A (1) Subject to subsections (2) to (4), the Municipality may only spend money for municipal purposes if
(a) the expenditure is included in the Municipality's operating budget or capital budget or is otherwise authorized by the Municipality;
(b) the expenditure is in respect of an emergency under the *Emergency Management Act*; or
(c) the expenditure is legally required to be paid.

The municipal purposes are set forth in section 7A of the *HRM Charter*:

7A The purposes of the Municipality are to
(a) provide good government;
(b) provide services, facilities and other things that, in the opinion of the Council, are necessary or desirable for all or part of the Municipality; and
(c) develop and maintain safe and viable communities.

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2. Administrative Order 2020-004-ADM, the *Procurement Administrative Order*.

   The recommended contract award complies with all the pre-requisites for awarding contracts as set out in section 26 of the *Procurement Administrative Order.*

   Table 28(1) in section 28 provides that Halifax Regional Council is the approval authority for contract awards of any amount that result from a competitive procurement.

   Table 29(2) in section 29 provides that the CAO is the signing authority for contract awards of any amount.

RECOMMENDATION

It is recommended that Halifax Regional Council:

1. Award RFP 19-060, consisting of interim operations of the Municipality's existing composting operations at the Dartmouth and Ragged Lake Facilities and a 25-year design-build-own-operate-transfer project delivery model for a new composting facility to be located at the Ragged Lake Facility (61 Evergreen Place, Goodwood) to Harbour City Resources as outlined in the Financial Implications section of the report.

2. Direct staff to finalize the project agreement with Harbour City Resources and the CAO to execute the completed project agreement.

3. Direct staff not to release details about HCR's proposal, or the project agreement to be finalized, until execution of the project agreement by the parties.

EXECUTIVE SUMMARY

Since 2014, Halifax Regional Municipality (HRM) has been working towards developing a new organics management facility to process residential green cart materials (e.g., food waste) and commercial organics. As part of the planning steps, the condition of the existing two composting facilities was assessed, a Business Case for a new facility was developed, and comprehensive public engagement was completed with the findings incorporated into the requirements for the development of a new facility.

On April 25, 2017, Regional Council approved an Organics Management Strategy and directed staff to initiate a two-stage procurement process. A key aspect of the strategy was that the Municipality took a technology neutral approach to the procurement process, therefore allowing composting and anerobic digestion technologies to compete against each other. An overview of composting and anaerobic digestion is provided in Attachment A.

The first step in the procurement process for the new organics management facility was to issue a Request for Qualification (RFQ) to prequalify proponent teams and technologies. Four proponents and six technical solutions were pre-qualified[1]. The second step of the procurement process was to issue a Request for Proposal (RFP) to the pre-qualified proponents. On July 31, 2018, Regional Council approved the RFP Key Terms and Scoring Matrix and directed staff to proceed with the RFP. The RFP scope of work included taking over interim operations of the two existing composting facilities on April 1, 2021 followed by the development of a new organics management facility and operation for 25 years. A draft project agreement was issued as part of the RFP and follows a design, build, own, operate and transfer (DBOOT) model of procurement.

[1] Given that HRM took a technology neutral approach, proponents were allowed to submit up to one composting solution and one anaerobic digestion solution.

Four proposals were received from the pre-qualified proponents in response to the RFP. All four proposals were evaluated against the Scoring Matrix approved by Regional Council. As part of the financial submission, proponents were required to provide HRM with the Net Present Value (NPV) of the financial component of their proposal. The NPV represents a proponent's price to HRM, in current dollars, for the proponent to undertake all of the required work from interim operations of the two existing composting facilities to the operation of the new organics management facility over the 25 year term.

The highest ranking proponent, and the proponent recommended for Regional Council's approval as the preferred proponent is Harbour City Resources (HCR). HCR's solution is based on developing a new composting facility and the NPV associated with its proposal is $288,686,000. The HCR team is composed of the following companies:

- Owner – Maple Reinders PPP and AIM Group Capital
- Constructor – Maple Reinders Construction
- Designer – CBCL Limited
- Technology Provider – Waste Treatment Technologies
- Operator – AIM HCR

The location of the new facility will be on the same site of the existing composting facility (Ragged Lake Facility) located at 61 Evergreen Place in Goodwood.

HCR's team has designed, built, and currently operates composting facilities in Hamilton (2006), Guelph (2011), and Calgary (2017). HCR's design for the Halifax composting facility builds on an already established technology and design. Modern features for the proposed facility include:

- Compost Quality – the compost being produced at the new facility will meet the 2010 NS Environment Composting Facility Guidelines. In particular, the facility will incorporate advanced screening equipment that will ensure contamination such as plastic, glass, and foils are effectively removed from the produced compost.

- Odour Control – the proposed facility design incorporates significant measures to mitigate odours from migrating to surrounding communities, including the use of an enclosed odour treatment system that discharges treated air to a 30-metre stack and the use of air lock doors[2] which means that odours from the facility cannot migrate through overhead doors used for collection vehicles.

- Energy Efficiency – the proposed facility includes LED lighting, high efficiency variable frequency drive motors, waste heat reuse taking advantage of the heat generated from the compost process, and rooftop rainwater collection.

- Water Negative Process – Unlike the existing composting facilities, this proposed facility is water negative and won't produce a leachate that will need to be treated off-site. The water intake will consist of utilizing water from the rooftop and stormwater collection systems and only supplemented by other water as-needed in drier months.

- New Use of By-products – Ammonium sulphate, generated from the odour control system, can be marketed as a CFIA[3] fertilizer product for the agriculture industry.

This report highlights the financial components of HCR's proposal and how the payments that HRM will be required to pay over the lifetime of the project compare to what HRM is currently paying at the existing

[2] The airlock design of the proposed facility consists of a negative-pressure corridor with interlocked doors at each end that cannot open until the other door is closed. A collection vehicle will pull into the corridor and the outer door behind the truck will close. After 2 fresh air changes the inner door will open, and the collection vehicle can proceed into the facility. This airlock functions the same whether the truck is entering or exiting the facility.
[3] Canadian Food Inspection Agency

facilities. Details of the project agreement, including key technical and operational terms, the Municipality's risk mitigation measures and the environmental implications of this project are all reviewed in this report.

BACKGROUND

Organics Management Strategy

In 2014, HRM completed a review of its Integrated Solid-Waste Resource Management Strategy. As part of the review[4] , it was identified that while HRM achieved significant success with the implementation of a source-separated organics program in the late 1990s, there was a need to review the adequacy of the two existing aging composting facilities: the Ragged Lake Facility located at 61 Evergreen Place in Goodwood and the Dartmouth Facility located at 80 Gloria McCluskey Avenue in Dartmouth. Existing challenges included the capacity of the existing facilities, compatibility of the existing facilities to process wet commercial organics, and overall ability to meet more modern compost facility guidelines required by the 2010 NS Environment Composting Facility Guidelines. Ultimately Regional Council directed staff to develop a Business Case to explore options to overcome these challenges, including the option to employ an anaerobic digestion technology[5]. An overview of composting and anaerobic digestion is provided in Attachment A.

In 2014/2015, Solid Waste Resources (SWR) staff undertook a detailed assessment of the Municipality's needs with respect to the management and processing of organic waste. It was identified that the Ragged Lake Facility would not meet the Municipality's future needs due to its inability to meet the modern composting facility guidelines without requiring significant investment. It was determined the Dartmouth Facility could possibly be part of a future solution, however, it would require investment as the facility had aged due to the corrosive nature of the composting process. A Business Case was prepared which contemplated several different options including: (i) building a new composting facility;(ii) building a new anaerobic digestion facility; and, (iii) other options involving combinations of development alternatives including continuing to use the existing Dartmouth Facility while developing a new composting or anaerobic digestion facility.

Each proposed solution in the Business Case had advantages and disadvantages. HRM ultimately decided to move forward with a competitive bid process that was technology neutral to allow composting and anaerobic digestion bids to compete against each other, while being able to take advantage of existing infrastructure at both composting facilities. In addition, a two-stage procurement process was proposed - a Request for Qualification (RFQ) to pre-qualify teams and technologies followed by a Request for Proposal (RFP) for the submission of a full, long term solution. On February 23, 2016, Regional Council agreed with the proposed approach, however, requested staff complete public engagement and that the findings be incorporated into the RFQ/RFP requirements.

SWR staff conducted a number of public consultations in 2016 with residents and public and private organizations. In-person presentations, on-line surveys and written feedback were all tools used to ensure the public provided HRM with insight on their values and aspirations for the future of the organics management program. The consultation process provided the opportunity for stakeholder groups and community members to clearly express their positions for the future direction of the organics management program. Key findings from the public consultation included:

1. Only commercially proven organics management and composting technologies[6] will be considered for the new organics management facility.

[4] The review included a number of stakeholder consultations, including meetings with various public groups.
[5] Anerobic digestion involves treating organic waste in the absence of oxygen with the output called digestate. The digestate is typically further processed to produce a soil amendment or fertilizer. A by-product of anaerobic digestion is biogas, which can be refined to produce renewable energy such as electricity or renewable natural gas (RNG).
[6] Which includes both anaerobic digestion and composting facilities.

2. Only companies with a proven track record in operating commercial waste management solutions will be considered as bidders for the procurement.

3. Compost and/or fertilizer and/or soil amendment will be the end product of the organics management process. Captured biogas can be a by-product of the process.

4. New organics management facilities in HRM will only be developed at existing sites and existing infrastructure can be utilized.

5. The chosen option will not (necessarily) be the lowest-cost solution that meets all regulatory requirements.

6. Grass will not be reintroduced into the organics management process (i.e. residents will not be permitted to put grass clippings into their green bins).

7. The acceptance of compostable/biodegradable bags will not be considered (i.e. resident cannot use these types of bags inside their green bins, to use as containers for organics, or to simply place in the green bins).

8. The acceptance of pet waste will not be considered for processing as organic waste.

9. Facilities built in HRM will be designed for only HRM material. This however does not prohibit future regional partnerships.

SWR staff then commenced the development of a procurement for a new organics management facility which incorporated the above points for consideration and was guided by the following objectives:

a) Minimizes capital and operating costs, including reducing current processing costs;

b) Minimizes impact to the community (odours, noise etc.);

c) Meets the 2010 NS Environment Guidelines for compost post 2019 (and as applicable to anaerobic digestion technologies); and,

d) Increases organics processing capacity from the existing 50,000 tonnes to 60,000 tonnes per year, with the option to increase to 75,000 tonnes per year in the future.

On April 25, 2017 Regional Council approved what was framed as the Organics Management Strategy and directed staff to initiate the two-stage procurement process.

Request for Qualification (RFQ)

Regional Council approved a number of Key Terms to be incorporated into the RFQ. The RFQ, incorporating these Key Terms, was released on November 17, 2017. Potential proponents were advised that in addition to the design, construction and operation of a new organics management facility, the successful proponent would be required to operate the existing organics management facilities until the new facility was ready to commence operations.

On July 31, 2018 Regional Council was presented the findings of the RFQ process: four proponents and six technical solutions were pre-qualified[7].

[7] Given that HRM took a technology neutral approach, proponents were allowed to submit up to one composting solution and one anaerobic digestion solution.

Request for Proposal (RFP)

On July 31, 2018, Regional Council approved the Key Terms and Scoring Matrix and directed HRM Staff to proceed with the RFP. Attachment B to this report is a staff report (dated June 12, 2018) that presented Regional Council with key terms and a Scoring Matrix[8] to be incorporated into the RFP.

The RFP was released on July 31, 2019 to the four pre-qualified proponents and included a detailed project agreement that incorporated the Key Terms and the Scoring Matrix and a number of technical and financial appendices. The scope of work of the RFP was to deliver a new organics management facility and to operate the facility for 25 years, in addition to operating the existing facilities until the new facility became operational.

After the release of the RFP, HRM staff, as well as outside consultants, conducted technical and financial meetings with proponents and negotiated a final, draft project agreement. The project agreement includes a 25-year operating term with an opportunity for two, five-year extension terms and was modelled on similar procurement documents that have been used for procuring other waste management facilities in Canada. Specifically, the project agreement follows a design, build, own, operate and transfer (DBOOT) model of procurement.

RFP Key Terms

The final, draft project agreement meets all of the Key Terms except for the following deviations:

1. Key Terms 8(a), (b) and (c) address the financial security for the project and specifically set forth amounts for performance bonds and letters of credit that the successful proponent would need to obtain. These Key Terms were initially developed with the understanding that HRM would be the immediate beneficiary of the security should issues arise.

   Given the DBOOT model of procurement for this project, while the forms of security will be similar (e.g. performance bonds, labour and material bonds) the amounts will vary from those set forth in the Key Terms as those amounts will be negotiated between the successful proponent and its lenders. Furthermore, the lenders wish to protect their investments in the project and ensure the project operates as set forth in the project agreement. To this end, the lenders will be the immediate beneficiary of any financial security and HRM will be secondary to the lenders. This is a common form of financially securing a project of this size using this model of procurement.

2. Key Term 14 indicates that the term of the project agreement will be 25 years and HRM will have the sole authority to extend the contract for one or two additional 5-year terms.

   As part of its negotiations with proponents, HRM has agreed to make the decision to extend the term of the project agreement a mutual decision between both HRM and the successful proponent. This is beneficial to HRM as HRM would not want to continue the project with an unwilling contractor and HRM has other means of addressing the potential for extending the life of the facility (e.g. hiring a new contractor or HRM operating the facility for a short period.)

3. Key Term 15, in part, addresses HRM's ability to pay down the capital cost of the project in lump sum payments through the life of the agreement.

   Rather than the ability for HRM to make lump sum payments, HRM has negotiated a monthly capital payment that commences only once the new organics management facility commences operations (i.e., HRM does not pay any amounts for the new facility until it is operational). Furthermore, there is no requirement for HRM to pay the successful proponent upon substantial completion of the facility.

[8] Attachment B consists of the staff report presented to council on July 31, 2018; the RFP Key Terms and Scoring Matrix are included in the staff report as Attachment A and B, respectively.

The ability to pay the capital aspect of the project over time provides HRM with immediate and short-term budget flexibility.

RFP Scoring Matrix

As approved by Regional Council on July 31, 2018 the Scoring Matrix has the following major categories:

- Community Impact – 20 points
- Technical – 40 Points
- Financial – 40 Points
- Total – 100 Points

The RFP Scoring Matrix used by the evaluators of the proposals (Attachment C) generally matches the version approved by Regional Council on July 31, 2018 (included as part of Attachment 2). The main difference between the two matrices is that the financial scoring was altered to allow for an adjustment downward, by up to 6 points, based on the evaluators' review of the quality and completeness of a proponent's financial submission.

Proposals needed to pass individual criteria that were further defined in each major category. As well, the technical component of the proposal was evaluated first, and each technical proposal needed to achieve a minimum score of 42 out 60 points (70 percent) when combining Community Impact and Technical categories in order for that proponent's submission to move forward to the financial evaluation.

As part of the financial submission, proponents were required to provide HRM with the Net Present Value (NPV) of the financial component of their proposal. The NPV represents a proponent's price to HRM to undertake all of the required work - from interim operations of the two existing composting facilities to the operation of the new organics management facility over the 25 year term - in current dollars. Out of all proponents, the proponent with the lowest NPV result would receive the highest score for the financial submission.

Once the final scores for the Community Impact, Technical and Financial components of the submissions were determined, the scores were added together to arrive at the recommended preferred proponent.

Once the preferred proponent is confirmed by Regional Council, HRM staff will notify the successful proponent and the remaining proponents. The successful proponent will then have 5 days to submit to the Municipality a Preferred Proponent Security Deposit in the amount of $1 million. This security helps ensure that the Municipality and the successful proponent work effectively and efficiently to finalize the project agreement. The RFP terms and conditions state that the Municipality will not engage the successful proponent in significant negotiations at that stage of the procurement – these negotiations have already occurred over the past year. Once the successful proponent has provided the Preferred Proponent Security Deposit, the successful proponent and the Municipality will have significant responsibilities to address in a relatively short period of time with respect to finalizing documentation and executing various sub-agreements.

DISCUSSION

Proposals Received

As summarized in Table 1, four proposals were received in response to RFP 19-060.

Table 1 – Summary of Proposals Received

Team Name	Technology[9]	Team Composition
Harbour City Resources	In-vessel composting	Owner – Maple Reinders PPP and AIM Group Capital Constructor – Maple Reinders Construction Designer – CBCL Limited Technology Provider – Waste Treatment Technologies Operator – AIM HCR
SCM Organics	High solid anaerobic digestion	Owner – Municipal Enterprises Constructor – Dexter Construction Designer – Dillon Consulting Limited Technology Provider – Eisenman, Suez, Entsorga Operator – SCM Operations
SCM Organics Solutions	In-vessel composting	Owner – Municipal Enterprises Constructor – Dexter Construction Designer – Dillon Consulting Limited Technology Provider – Sorain Cecchini (SCT) Operator – SCM Operations
Citadel Organics	High solid anaerobic digestion	Owner - StormFisher Constructor – Ellis Don Designer – East Point Engineering Technology Provider – RRT Evergreen Solutions, HZI, and Cesaro Mac Operator - StormFisher

Highest Ranking Submission

All four proposals were evaluated against the Scoring Matrix presented in Attachment C.

The highest ranking proponent, and the proponent recommended for Regional Council's approval as the preferred proponent is Harbour City Resources (HCR). The NPV associated with HCR's proposal is $288,686,000.

Key highlights of HCR's submission include:

State of the Art Facility:

HCR's team has designed, built, and currently operates composting facilities in Hamilton (2006), Guelph (2011), and Calgary (2017). HCR's design for the Halifax composting facility builds on an already established technology and design. Modern features for the proposed facility include:

- Compost Quality – the compost being produced at the new facility will meet the 2010 NS Environment Composting Facility Guidelines. In particular, the facility will incorporate advanced screening equipment that will ensure contamination such as plastic, glass, and foils are effectively removed from the produced compost.

- Odour Control – the proposed facility design incorporates significant measures to mitigate odours from surrounding communities, including the use of an enclosed odour treatment system that discharges treated air to a 30-metre stack; and the use of air lock doors[10] which means that odours from the facility

[9] See Attachment A for an overview of composting and anaerobic digestion technologies.

[10] The airlock design of the proposed facility consists of a negative-pressure corridor with interlocked doors at each end that cannot open until the other door is closed. A collection vehicle will pull into the corridor and the outer door behind the truck will close. After 2 fresh air changes the inner door will open, and the collection vehicle can proceed into the facility. This airlock functions the same whether the truck is entering or exiting the facility.

cannot migrate through overhead doors used for collection vehicles.

- Energy Efficiency – the proposed facility includes LED lighting, high efficiency variable frequency drive motors, waste heat reuse taking advantage of the heat generated from the compost process, and rooftop rainwater collection.

- Water Negative Process – Unlike HRM's existing facilities, this proposed facility is water negative and won't produce a leachate that will need to be treated off-site. The water intake will consist of utilizing water from the rooftop and stormwater collection systems and only supplemented by other water as needed in drier months.

- New Use of By-products – Ammonium sulphate, generated from the odour control system, can be marketed as a CFIA[11] fertilizer product for the agriculture industry.

Location:

The location of the new facility will be on the same site of the Ragged Lake Facility, located at 61 Evergreen Place in Goodwood. On March 27, 2018, Council approved the zoning amendment and land expansion for the Ragged Lake site, thereby allowing space for a new organics facility to be constructed if selected by the successful proponent.

Process:

HCR has proposed a proven composting solution that utilizes in-vessel tunnel composting, as is used in other cities in Canada such as Calgary and Guelph (HCR), as well as London and Ottawa (Orgaworld). Organic material is brought into the composting facility through the receiving area airlocks by waste collection vehicles. Once unloaded, the material is shredded and then placed in composting tunnels, or vessels, which are sealed concrete structures with forced air blowing into the compost. As this process is water negative (i.e. the process requires more water than it produces), leachate is collected and recirculated into the process, thereby resulting in no wastewater discharge from the facility.

After the material is treated in-vessel over a period of time, it undergoes 3 phases in order to meet the requirements for Category "A" compost product as per the 2010 NS Environment Composting Facility Guidelines:

- Phase 1 – The material is transferred to the screening plant where the material undergoes contaminant removal (e.g., metal, plastic, and foils) and is then screened based on particle size. The finer material continues to Phase 2 while the coarser materials return to the start of the process to assist in aeration of organic material.

- Phase 2 – The material is transferred into a maturation vessel where it remains for a period of time before being transferred for contaminant removal and screening based on particle size. The finer material is transferred to Phase 3, while the coarser material is used as an amendment material in in either the composting or maturation processes.

- Phase 3 – The material is transferred to the screening plant for the final phase of contaminant removal. The final contaminant removal includes removal of foils and small sharp objects, such as plastic, metals, stones, and glass. From the screening plant the material is transferred to a curing hall where the final product is passively matured remains before being shipped out to market as Category "A" compost.

[11] Canadian Food Inspection Agency

Proven Reference Facilities:

In the RFQ preceding this RFP, Proponents were required to submit 3 reference facilities with at least 5 years of operating experience in processing organics similar to HRM's with a minimum capacity of 15,000 tonnes per year for every processing train. HCR's consortium submitted the following 4 compliant references:

Table 2 – Harbour City Resources (HCR) Reference Facilities

Reference Facility	Technology	Details*	Start of Operation
Hamilton Central Composting Facility (CCF)	In-vessel static aerated pile composting	70,000 tpy 16 vessels	2006
Guelph Organic Waste Processing Facility (OWPF)	In-vessel static aerated pile composting	30,000 tpy 7 vessels	2011
Frankfurt, Germany	In-vessel static aerated pile composting	58,000 tpy 18 composting vessels 7 AD vessels	Phase 1 - 1998 Phase 2 - 2009
ARN-Nijmegen (Netherlands)	In-vessel static aerated pile composting	68,000 tpy 5 vessels	2012

**tpy = tonnes per year*

HCR is responsible for Calgary's composting facility, which is another in-vessel aerated facility that contains 18 vessels and has a design capacity of 140,000 tonnes per year. As this facility did not meet the requirement of 5 years of operating experience for the RFQ and RFP, it could not be included in the table above.

Interim Operations:

HCR will be required to operate the existing Dartmouth and Ragged Lake facilities until the new facility is ready to operate. AIM Group (member of HCR team) currently operates the Ragged Lake Facility, which minimizes the transitional impact.

Financial Bid Results

A summary of the costs which the Municipality anticipates incurring through the life of HCR's project is provided in Table 3 below. The amounts represent the costs associated with interim operations from April 2021 until October 2023 and the capital costs of designing and constructing the new facility and the costs associated with operating the new facility from November 2023 until October 2048 (i.e. 25 years). Nominal costs represent the total costs over the duration of the project; while the net present value (NPV) represents the total project costs in 2021 dollars.

Table 3 – Cost Summary[1]

Bid Components	Amount (nominal)	Amount (net present value, $2021[2])
Interim Operating Costs	***$23,733,000***	***$21,879,000***
Total New Facility Costs	***$433,370,000***	***$266,807,000***
Total Costs	***$457,103,000***	***$288,686,000***

[1]Net HST not included (4.286%)
[2]The net present value was calculated in 2021 dollars using a discount rate of 3% and inflation rate of 2%

Prior to execution of the project agreement, the nominal costs and NPV are only subject to changes in market interest rates materializing since the time of financial bid submissions. The RFP has set out a clear and transparent interest rate setting process for adjustments to the bid at the time of agreement execution based solely on market movements – the result of which could increase or decrease nominal costs and NPV. A sensitivity analysis conducted shows that, starting in 2024/25 and for the remainder of the project, the upward or downward fluctuation of the nominal costs would be approximately $200,000 annually per 0.25 percent change in the market interest rate.

As part of the development of the Organics Management Strategy, HRM commissioned a Business Case that was completed in 2016[12]. Escalating the cost estimates from the Business Case to 2021 dollars results in an updated NPV of $205 million (base estimate) with an upper limit of $308 million (+50%) recognizing that these cost estimates were order of magnitude and were based on similar facilities with no engineering design completed due to the technology neutral procurement approach to allow for market competition**. For comparison, HCR's NPV, excluding Interim Operating Period Payments (NPV of $21,879,027), is $266,807,472, which is within the accuracy of the Business Case cost estimate (approximately 30% higher than the base estimate).**

Though within the accuracy range set out within the Business Plan, HCR's higher bid costs than the base estimate can be attributed to several key factors:

- **Increased Requirements** - Based on subsequent public engagement and Regional Council direction post preparation of the Business Case, technical considerations such as secondary containment, stack discharge of treated air, and air locks (to mitigate odours) were made requirements of the project agreement.
- **COVID-19 Construction Costs** - In a recent market review conducted by Ernst and Young (EY)[13] unrelated to this project, market participants indicated COVID-19 has had an impact on planned construction schedules, resulting in extension of time and causing greater than anticipated construction delays. The market indicated there would generally be additional costs related to delays and disruptions such as work stoppages or closures, unforeseen costs related to requirements for additional protective measures and personal protective equipment on construction sites, and also loss of productivity or inefficiencies resulting from closures, delays and new working arrangements on construction sites.
- **COVID-19 Supply Chain Costs** – Through the market review, EY also noted there is some uncertainty related to supply chains, including availability of resources, materials and labour. Specific to Atlantic Canada's supply of materials, there were supply issues with steel from Quebec/Ontario, general construction materials from the United States and even Canadian lumber. All these factors can lead to escalated construction, operating and maintenance costs.

[12] Staff Report, Dated February 4, 2016 presented at the February 23 , 2016 Regional Council Meeting: Organics Processing and Management: http://legacycontent.halifax.ca/council/agendasc/documents/160223ca1431.pdf
[13] HRM Financial Advisor

- **Financing Costs** – This project uses long-term debt financing leveraged against equity contributions by HCR. The financing markets have experienced significant volatility over the last 8 months, generally causing underlying base rates to decrease but credit spreads to increase. Overall, this could result in higher total financing costs.

FINANCIAL IMPLICATIONS

Table 4 below summarizes HRM's annual total cost changes (increases and decreases as compared to the previous year) to operate the existing facilities for the last two years and presents HRM's annual total cost changes (increases and decreases as compared to the previous year) anticipated for the interim operations of the two existing composting facilities and for the operations of the new facility for the first 5 years. All total cost changes presented include both capital and operating costs, which are based on 1% annual tonnage growth (which is slightly higher than the average increase for the last five years) and includes net HST. As noted in the Discussion Section, final annual total cost changes are subject to change based on the interest rate setting process in accordance with the RFP. In addition, final annual total cost changes can vary slightly based on some of the variable inputs such as tonnage, electricity rates, and inflation.

Table 4 – Annual Total Cost Changes for Existing Facility and New Facility

Fiscal Year	Facility Status	Total Organics (Tonnes)	Total Annual Cost Change [Increase/(Decrease)][1]	% Increase (From Previous Year)
2019-2020 (Actual)	Existing Facilities	51,413	$370,163	4.4%
2020-2021 (Projected)	Existing Facilities	51,434	$1,636,036	18.5%
2021-2022[2]	Existing Facilities	51,948	$2,255,093	21.5%
2022-2023	Existing Facilities	52,468	($1,029,853)	-8.1%
2023-2024[3]	Existing Facilities/New Facility	52,993	$836,587	7.1%
2024-2025	New Facility	53,522	$2,210,616	17.6%
2025-2026	New Facility	54,058	$170,562	1.2%
2026-2027	New Facility	54,598	$382,022	2.6%
2027-2028	New Facility	55,144	($27,784)	-0.2%

[1]Increases and decreases as compared to the previous year
[2]HCR will take over operations of the existing facilities (interim operations) on April 1, 2021 as part of the new agreement
[3]The target service commencement date for the new facility is October 24, 2023; as such it has been assumed that for fiscal year 2023-2024 the two existing composting facilities will be operated for 7 months; while the new facility will be operated for 5 months.

As is shown in Table 4, total costs to process HRM organics will increase. Part of this is related to capital costs to maintain the existing facilities and to pay for the new facility. Overall organics processing costs increases are attributed to:

- **New Facility** – The new facility built by HCR will last at least twenty-five (25) years and will be handed back to HRM in good condition compared to the existing facilities with poor asset quality that would require a large amount of capital investment. In addition, the new facility will be a new "State of the Art" facility in terms of proven process design, compost quality, odour control, and water management.
- **Expanded Capacity** - The new facility will be able to meet the growing capacity need for HRM, with up to 60,000 tonnes/year of processing capacity with the ability to increase to 75,000 tonnes/year if necessary. The capacity of the two existing facilities is approximately 50,000 tonnes (acknowledging that HRM will continue to outsource 3rd party processing capacity during the interim operating period).

- **Higher Environmental Standard** - The new facility will meet the 2010 NS Environment Composting Guidelines.
- **Risk Transfer** – The design, build, own, operate, and transfer (DBOOT) delivery model (see Risk Consideration section below) transfers extensive risk to HCR, however, this comes with increased premiums.
- **Private Financing –** Under the DBOOT delivery model, HCR will use a combination of long-term debt and equity financing to fund the project.
- **Higher Operational Standard** – The performance standards as set out in the project agreement ensure that the facility operates at a high standard, otherwise HCR is subject to deductions from monthly service payments.

During the interim operations period (i.e. the operation of the Dartmouth and Ragged Lake facilities), HRM will pay to HCR a monthly operating fee based on the volume of organics delivered to each facility. These costs will be brought forward in the proposed 2021/22 Operating Budget for Cost Centres R324 (Compost Facility Burnside) and R325 (Compost Facility Ragged Lake).

Any capital upgrades that are needed to continue operating the two existing facilities during the interim operations period will be paid for by HRM. These costs will be brought forward in the proposed 2021/22 Capital Budget for Project Accounts CW190005 (Burnside Composting) and CW000009 (New Era Recapitalization).

As shown in Table 4, HRM's annual total cost changes for the first full year of interim operations in 2021/2022 will result in a 21.5% ($2,255,093) increase in costs as compared to this year (2020/2021).

The expected costs associated with the new facility, starting in November 2023, will be included in the proposed Operating and Capital budgets for 2023/24. As shown in Table 4, with the development of a new facility, annual total cost changes for the first full year of operations in 2024/2025 will result in a 17.6% ($2,210,615) increase in costs as compared to the previous year.

RISK CONSIDERATION

The risks associated with awarding the RFP to HCR, both from a contractual and a technical point of view, have been considered by staff throughout the development of the RFP and the project agreement. The project agreement was negotiated in detail with all proponents and, while the Municipality retains certain, specified risks during the each of the interim services, construction and operation phases of the project, HCR will incur, and have to manage, significant design, construction, financing and operational risks. The procurement model chosen by HRM staff is key to the reasonable allocation of risks between the Municipality and HCR.

Design, Build, Own, Operate and Transfer (DBOOT) Procurement Model

The Design, Build, Own, Operate and Transfer ("DBOOT") model for procurement was selected in order to best address the risks associated with the project. The DBOOT model is similar to the model used to develop the two existing composting facilities. Briefly, a DBOOT procurement means the private sector partner, in this case HCR, will design, build, operate and own the facility. During the course of the project, it is HCR's responsibility to operate the facility in accordance with the terms and conditions of the agreement, which include all applicable laws such as provincial laws and regulations with respect to operating a facility of this nature. Lastly, at the end of the project, HCR must transfer ownership of the facility back to the Municipality in an acceptable operable condition as required by the project agreement. In addition, HCR will be required to provide security (letter of credit or bond) to the Municipality, to ensure the handback occurs in accordance with the project agreement.

The DBOOT model of procurement shifts risk to the private sector partner, however, the Municipality retains some risk associated with the project. HRM staff believe they have negotiated an agreement that reflects a fair apportionment of risk for both parties given the pre-determined Key Terms, the financial and technical magnitude of the project and the current market conditions for projects and agreements of this nature.

HCR Security Deposit

As a result of the significant negotiations already held between the Municipality and all proponents, and the RFP which specifically obligates the successful proponent to negotiate only a limited amount of outstanding terms and conditions, it is anticipated that final negotiations, delivering of closing documents and execution of the project agreement will occur without significant disruption. However, if there are issues with HCR as the successful proponent and the finalization and execution of the project agreement, the RFP terms and conditions obligate HCR, as successful proponent, to provide the Municipality with a Preferred Proponent Security Deposit in the amount of $1 million. This deposit will be provided to the Municipality within 5 days of HCR being advised it is the successful proponent and will be retained by the Municipality if HCR fails to reasonably negotiate the final terms of the project agreement and then execute the project agreement.

Key Risks and the Municipality's Risk Mitigation Measures

The project agreement details the specific risks incurred by each party. It also sets forth details of how HRM can use financial measures such as liquidated damages (i.e., for construction delays) and deductions (e.g. for not meeting performance requirements such as odour emissions) from its payments to HCR in order to ensure HCR constructs and operates the facility in accordance with the timelines and the technical requirements of the project agreement.

Examples of keys risks incurred by HCR and the Municipality, as well as a discussion of how the Municipality intends to mitigate its risks, is set forth in Attachment D.

COMMUNITY ENGAGEMENT

SWR staff conducted public consultation from September to December 2016 to ensure the public provided HRM with insight on their values and aspirations for the future of the organics management program. The consultation process provided the opportunity for stakeholder groups and community members to clearly express their positions for the future direction of the organics management program.

Public consultation included:

- 4 public engagement sessions in person, open to the general public, with 72 residents in attendance (total)
- 1099 online surveys were completed through Shape Your City Community Engagement Hub website
- 444 comments were provided by the public
- 17 stakeholder groups were consulted (e.g., Dalhousie University, Restaurant Association of NS, Local Business's Surrounding Ragged Lake/Goodwood Facility, Clean Foundation)

Key findings from the public consultation[14] included:

1. Only commercially proven organics management and composting technologies[15] will be considered for the new organics management facility.

[14] Staff Report, Dated March 2, 2017 presented at the April 25, 2017 Regional Council Meeting: Organics Management Consultation and Strategy: https://www.halifax.ca/sites/default/files/documents/city-hall/regional-council/170425rc14111.pdf

[15] Which includes both anaerobic digestion and composting facilities.

2. Only companies with a proven track record in operating commercial waste management solutions will be considered as bidders for the procurement.

3. Compost and/or fertilizer and/or soil amendment will be the end product of the organics management process. Captured biogas can be a by-product of the process.

4. New organics management facilities in HRM will only be developed at existing sites and existing infrastructure can be utilized.

5. The chosen option will not (necessarily) be the lowest-cost solution that meets all regulatory requirements.

6. Grass will not be reintroduced into the organics management process (i.e. residents will not be permitted to put grass clippings into their green bins).

7. The acceptance of compostable/biodegradable bags will not be considered (i.e. resident cannot use these types of bags inside their green bins, to use as containers for organics, or to simply place in the green bins).
8. The acceptance of pet waste will not be considered for processing as organic waste.

9. Facilities built in HRM will be designed for only HRM material. This however does not prohibit future regional partnerships.

As part of the obtaining the provincial operating permit, HCR will likely be required to complete some form of public consultation in relation to the proposed facility design, however, the exact requirements will be defined by NS Environment. HRM intends to support HCR in public consultation initiatives.

HRM will develop a communication plan for the proposed facility to keep the public informed during construction and operations and ensure that there are clear lines of communication for the public to learn about to the project and to report any complaints.

As part of amendments to the Regional Municipal Planning Strategy (MPS), the Halifax MPS and the Halifax Mainland Land Use By-Law (LUB) to expand the property at 61 Evergreen Place to allow for the development of a new facility, Regional Council approved on April 25, 2017 the establishment of a community integration fund and included an allocation of $350,000 for the development of the Western Common Wilderness Common, $325,000 in funding allocated towards the Prospect Community Centre and $325,000 in funding allocated to projects identified through community consultation. For the latter initiative, HRM staff plan to initiate the community consultation in fiscal year 2021/2022 to determine how to allocate the funding.

ENVIRONMENTAL IMPLICATIONS

Diversion and Greenhouse Gases

Compostable organic waste has been banned from landfills in Nova Scotia since June 1, 1997 under Section 102 of the Environment Act. Diverting organic waste from landfill disposal is also beneficial to HRM in reducing its carbon footprint due to the methane generating potential of food wastes. In fiscal year 2019/2020, HRM diverted approximately 51,450 tonnes of organics out of the landfill. Using the Greenhouse Gas (GHG) Calculator for Waste Management provided by Environment and Climate Change Canada (ECCC), it is estimated that this diversion reduced approximately 23,845 tonnes of carbon dioxide equivalent (CO_2e) from the landfill footprint, even taking into consideration that landfill gas is flared at the Otter Lake Landfill (which is a further carbon mitigation step). This is equivalent to removing 5,299 passenger cars from the road for 1 year. Increasing diversion has been a constant goal of SWR and is one of the goals for reducing GHG emissions under HalifACT.

As this proposed facility has a capacity to process 60,000 tonnes of organics per year, expandable to 75,000 tonnes per year, it will provide HRM with the capacity to continue diverting organics from landfill disposal and mitigating GHG emissions.

Facility Design

HCR's solution contains features that will help minimize the carbon footprint of the construction and operation of the proposed facility:

- Water:
  - The proposed facility requires approximately 13,000 tonnes of water annually, while only producing 3,500 tonnes, which is reused. The proposed facility will not require a municipal water connection and will instead feature rainwater and stormwater collection to be used in the composting process.
  - As the proposed facility is water negative, it will not require leachate transportation and treatment as is the case with HRM's existing facilities. Therefore, the carbon footprint currently associated with leachate transportation and treatment would be eliminated.
  - Two water wells will supply non-potable water for showers and other water use. HCR does not anticipate requiring water from these wells for the composting process except during extremely dry weather conditions.

- Energy:
  - Significantly lower electricity consumption as a result of integrating modern plant and technology designs in comparison to equivalent facilities.
  - Efficient and long-lasting lighting and fixtures.
  - >30 kW fans will have high-efficiency motors and variable frequency drives.
  - Energy efficient variable frequency drives on the decks of the star screeners.
  - Control systems will monitor electricity and resource usage so that efficiencies may be found.
  - The facility is designed such that the significant heat generated from the composting process will heat fresh intake air (waste heat utilization) for the processing area of the facility, reducing heating requirements.
  - Heat pumps for the admin building, lockers, and other non-processing common areas.

- Marketable Products:
  - The ammonium sulphate, typically a waste product, can instead be marketed as a fertilizer, eliminating its disposal. The two marketable products, compost and ammonium sulphate, would displace the use of commercial fertilizers in the market, potentially at a measurably reduced net carbon impact.

- Building Materials:
  - Consisting primarily of concrete and steel materials.
  - Selective glazing to minimize heat loss, while strategically bringing in natural light.
  - Minimal finishes – low VOC, if possible.
  - Maximizing acoustic performance.
  - An average of 66% recycled content used in building materials, including recycled steel, asphalt, cladding, and trim.
  - Construction waste reduction measures.

Odour Management

Proponents' solutions were required to include an enclosed odour treatment system that is dispersed through a stack as well as airlock doors to mitigate odours. HCR's solution includes numerous airlock doors. For odour control, all processing building air is first treated through acid scrubbers and biofilters before being discharged through the 30 metre stack. Nova Scotia currently has no measurable guidelines for odour from composting facilities. Based on advice from HRM's technical consultant GHD, proponents are required

to meet Ontario Regulation 419/05 in Guidelines A-11 Air Dispersion Modeling Guidelines for Ontario which outlines maximum odour amounts. As part of their technical submissions, proponents also submitted air dispersion models to show that their solutions will meet this regulation.

ALTERNATIVES

1. Regional Council could decide not to award this RFP as recommended in this report.

Should Regional Council decide not to proceed with an award at this time, or cancel the RFP altogether, HRM staff would require direction from Regional Council (provided in camera) with respect to next steps in the process. Re-starting the RFP process will incur significant time and financial commitment for the Municipality.

The terms and conditions of the RFP allow for HRM to cancel the RFP or not award the RFP at this time. However, if the award is not made or postponed, the Municipality will be required to maintain operations at its existing organics management facilities for an unknown period of time past the current expiration date of April 1, 2021. It is anticipated that continuing to operate these aged facilities will increase the Municipality's costs and expenses in the short and long term.

In order to operate these facilities past April 1, 2021, the Municipality will be required to sole source and enter into extension agreements with the current operators for an unknown period of time. As set forth in the financial section of this report, it is expected that under a contract extension scenario, the Municipality's costs to operate the two existing facilities will increase.

As set forth in the background section of this report, the Municipality's two organics management facilities are aging and will require significant capital upgrades. In addition, though NS Environment currently permits the existing facilities to operate under older guidelines, the Municipality risks becoming non-compliant with the 2010 NS Environment Composting Facility Guidelines should NS Environment begin to enforce the current guidelines.

If such postponement or cancellation of the RFP occurs, the terms and conditions of the RFP do not obligate the Municipality to pay the proponents for their time spent to date in developing and submitting the proposals. However, there may be associated procurement risk as the proponents may attempt to bring an action, or at least make public complaints about the procurement process, should they believe the RFP should be awarded without delays.

Overall, by not awarding the RFP as recommended in this report, the Municipality would incur increased financial responsibilities and risks associated with the operation for the existing facilities while also incurring the risk the facilities become non-compliant with NS Environment.

HRM staff do not recommend this alternative.

2. Regional Council could decide to award the RFP to one of the other two remaining proponents

As set forth in this report, HRM staff have invested significantly in the evaluation of the proponents and have determined HCR to be the highest ranked proponent. A deviation from standard procurement practices to award the RFP to one of the other proponents increases the Municipality's legal and financial risk.

While the terms and conditions of the RFP do provide the Municipality with the latitude to not choose the highest ranked proposal as the successful proponent, choosing to proceed with another proponent significantly increases the procurement risk, and the subsequent legal and financial risks, that the Municipality may face if such a decision is made. The Municipality may face legal actions from both the highest ranked proponent as well as the remaining proponent. Given the complexities of procurement law and awards made to proponents who have brought similar actions against public

sector entities, the Municipality could incur significant costs in both defending such an action as well as significant pay-outs to proponents should they be successful.

HRM staff do not recommend this alternative.

3. Seek a cost reduction proposal from HCR

HRM staff could work with HCR to determine if there are cost reductions that can be made to the overall cost of HCR's proposal. Any reduction in HCR's proposed costs would benefit the Municipality's overall future financial picture for this project as set forth in the financial section of this report.

However, there are concerns with proceeding with this alternative. HRM staff would require direction from Regional Council (provided in camera) regarding this alternative in areas such as the amount of cost reductions that are needed to make this alternative financially viable for Regional Council and what aspects of the RFP are negotiable to achieve cost reductions. For example, Regional Council may wish to ensure that the RFP Key Terms, as described above in this report, must remain as part of the agreement.

If the cost reduction alternative is chosen, HRM staff recommend that cost reductions only be sought from HCR in the areas associated with the technical aspects of the proposal rather than the commercial aspects. HRM staff believe the allocation of commercial risk that has already been negotiated for the project agreement would necessarily need to undergo significant evaluation and negotiation with HCR. If commercial aspects were allowed to be included as cost reduction items, there is a likelihood that while the Municipality would pay less in the short term for removing these commercial risks, the Municipality would inherit these risks, which are difficult to quantify, and which may cost the Municipality significantly over the long term.

By removing the commercial aspects from the cost reduction measures, the technical components of the project remain. While, potentially, it may be easier to quantify the costs associated with the technical aspects of the proposal (e.g., address items such as air exchangers within the facility, redundancy requirements, equipment shrouding requirements), HRM staff and HCR will need to negotiate the details of what items can be removed while maintaining the integrity of the facility and its operating components.

These negotiations for costs reductions are expected to take time as there will be a need to determine appropriate areas for reductions, review and negotiate with HCR and then redraft parts of the agreement to each party's satisfaction. As a result, it is anticipated that similar risks to those set forth in Alternative 1 above also are present in this cost reduction alternative, including risks with respect to the additional time and expense for HRM staff and its consultants and the need to extend operating agreements at the current organics management facilities.

Though HRM staff believe the risk to the Municipality is lower in this alternative than Alternative 2, there remains the potential for procurement risk when a public sector entity engages in cost reduction measures with the successful proponent. While the terms and conditions of the RFP allow for the Municipality to engage in these types of negotiations with HCR, there is a risk that the unsuccessful proponents may challenge this alternative if they believe the scope of the RFP and the project have changed significantly as a result of the cost reductions to which HCR and the Municipality agree and that the unsuccessful proponents should have the same opportunity to negotiate cost reductions to their proposals.

As a result of the above, together with the points raised in the financial implication section of this report, HRM staff do not recommend this alternative.

ATTACHMENTS

Attachment A – Overview of Composting and Anaerobic Digestion
Attachment B – Staff Report dated June 12, 2018: Organics Management RFP and Facility Operation Contract Extension. Presented to Regional Council on July 31, 2018.
Attachment C – RFP Scoring Matrix
Attachment D – Risk Considerations

A copy of this report can be obtained online at halifax.ca or by contacting the Office of the Municipal Clerk at 902.490.4210.

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Attachment A - Overview of Composting and Anaerobic Digestion

Overview of Composting and Anaerobic Digestion

Composting is an aerobic (with air) process that is used in our two current facilities. Simply put, nitrogen-rich food waste and carbon-rich yard waste are mixed along with oxygen and moisture (as needed). These controlled conditions encourage micro-organisms to break down the organic material. Heat is generated during this process, which kills bacteria and pathogens. The end product is compost. There are various types of composting, including:

- **Open windrow composting** - an outdoor process where material is piled in rows and turned by machines.
- **In-vessel composting** – composting that takes place within aerated containers, or an enclosed building, such as at the Ragged Lake Composting Facility (containers and building) and the Dartmouth Composting Facility (building). In-vessel can include agitated and tunnel composters.

The important aspect of composting is that the process requires oxygen to be introduced into the waste, whether through forced aeration or agitation of the materials.

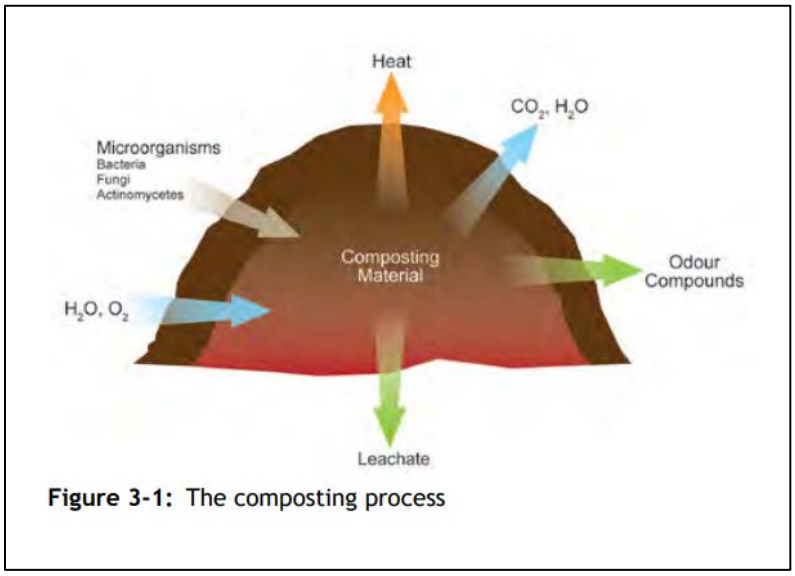

Figure 1 - Compost processing infographic extracted from Environment and Climate Change Canada's Technical Document on Municipal Solid Waste Organics Processing.

Figure 2 - Process flow infographic of Calgary's composting facility, accessed from https://www.calgary.ca/uep/wrs/recyclinginformation/residential-services/green-cart/green-cart-organics-composting-facility.html.

Anaerobic digestion is the breakdown of organic material (i.e. food waste, yard waste) in an anoxic (without oxygen) environment. Anaerobic processes can typically handle wetter organic material. The active microorganisms in this process create a combustible gas that is typically a mixture of 50-60% methane and 40-50% carbon dioxide, known as biogas.

Figure 4-1 is a schematic of a typical MSW organics processing AD facility.

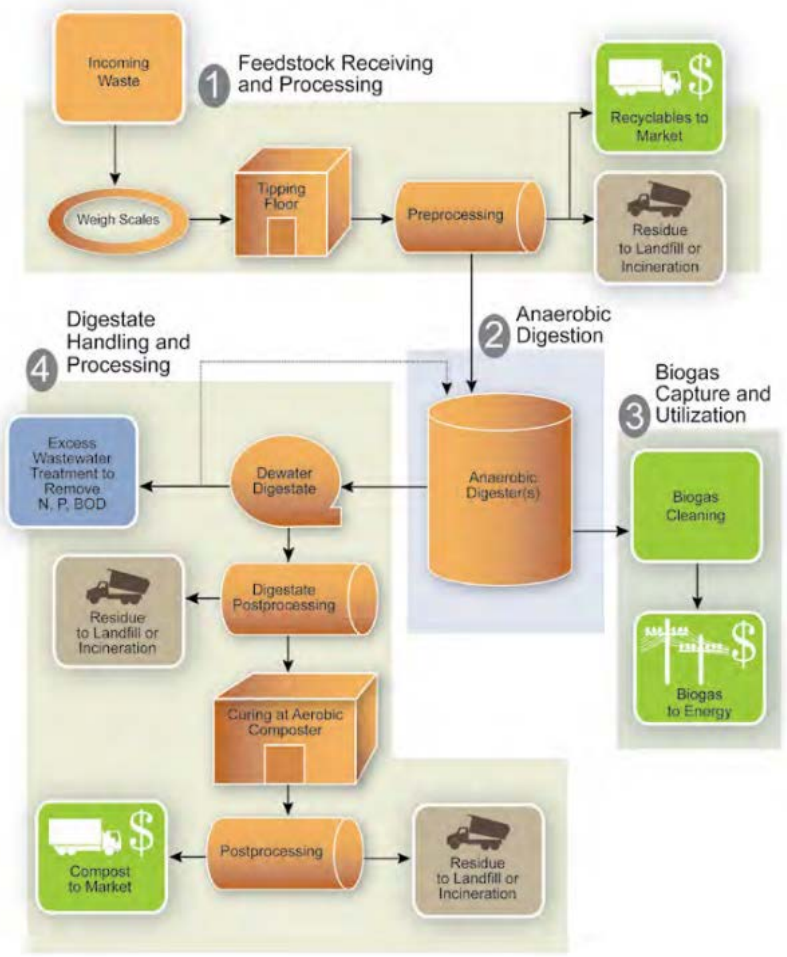

Figure 4-1: Typical anaerobic digestion facility schematic
Notes:
BOD—biochemical oxygen demand
N—nitrogen
P—phosphorus

Figure 3 - Anaerobic digestion processing facility infographic extracted from Environment and Climate Change Canada's Technical Document on Municipal Solid Waste Organics Processing.

Biogas can be an energy source when captured and combusted to generate electricity or upgraded into a renewable natural gas (RNG) by removing the inert gases such as carbon dioxide and hydrogen sulfide. Anaerobic digesters optimize conditions and can help reduce odours. The end product (digestate) can be composted and used as a fertilizer.

High solids digestion, also called "**dry**" digestion, operates with a high solids content as opposed to wet digestions in which materials are suspended or dissolved in water, and was the only digestion type to be bid for this RFP. Anaerobic digestion can take place within three temperature ranges:

- Thermophilic (high-temperature) operates at a temperature greater than 45 °C
- Mesophilic (mid-temperature) operations at temperatures between 20 - 45°C
- Psychrophilic (low-temperature) operates at temperatures below 20°C

For more information regarding composting and anaerobic digestion, please refer to the Federal Government document titled "Technical Document on Municipal Solid Waste Organics Processing"[1] that gives a more in-depth exploration of these processing methods.

[1] https://www.ec.gc.ca/gdd-mw/3E8CF6C7-F214-4BA2-A1A3-163978EE9D6E/13-047-ID-458-PDF_accessible_ANG_R2-reduced%20size.pdf

Attachment B - Staff Report dated June 12, 2018: Organics Management RFP and Facility Operation

HALIFAX

P.O. Box 1749
Halifax, Nova Scotia
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Item No. 14.1.8
Halifax Regional Council
July 31, 2018

TO: Mayor Savage and Members of Halifax Regional Council

SUBMITTED BY: Original Signed by
Jacques Dubé, Chief Administrative Officer

DATE: June 12, 2018

SUBJECT: **Organics Management RFP and Facility Operation Contract Extension**

ORIGIN

February 23, 2016 – Halifax Regional Council directed staff to initiate the process to identify a service provider for organics management and processing as per the scope of work and requirements included as Attachment A to the report dated January 6, 2016. Halifax Regional Council further directed staff to:

1. Consult with stakeholders to receive input in the development of the Request for Qualification and the Request for Proposal;
2. Return to Council with a recommended RFQ for input and approval prior to its issuance along with consultation feedback;
3. Return to Council with an update on the RFQ and a recommended RFP for input and approval prior to its issuance; and
4. Return to Halifax Regional Council to award the organics management and processing contract.

October 6, 2016 – Report and presentation to ESSC on the Organics Management and Processing Stakeholder Engagement process.

April 25, 2017 – Halifax Regional Council gave direction to:

1. Approve the Organics Management Strategy;
2. Approve the Request for Qualifications Key Terms;
3. Direct staff to issue a Request for Qualifications and return to Council with the recommended Request for Proposals Key Terms for input and approval prior to its issuance;
4. Direct staff to make application for subdivision approval to expand the Northern and Eastern lot boundaries of 61 Evergreen Place by 200 meters North and 100 meters East;
5. Initiate a process to consider amendments to the Regional Municipal Planning Strategy, Halifax Municipal Planning Strategy and Halifax Land Use By-law to enable the expansion of HRM's Goodwood composting facility located at 61 Evergreen Place;
6. Follow the public participation program for municipal planning strategy amendments as approved by Regional Council on February 27, 1997; and
7. Approve in principle a community integration fund be established in the amount of $1 million for the expansion of 61 Evergreen Place with $350,000 in funding allocated toward the development of the Western Common Wilderness Common, $325,000 in funding allocated toward infrastructure at

the Prospect Road Community Center and $325,000 in funding allocated to projects identified through a community consultation.

September 27 and October 25, 2017 – Staff met with the Western Commons Advisory Committee to discuss the proposed expansion and rezoning of the 61 Evergreen Place property.

February 20, 2018 – Case 21209: Amendments to the Regional MPS, Halifax MPS and Halifax Mainland LUB for 61 Evergreen Place, Ragged Lake Compost Facility was approved by Halifax and West Community Council to move to Halifax Regional Council for first reading.

March 6, 2018 – Halifax Regional Council approved first reading of Case 21209.

March 27, 2018 – After a public hearing and second reading, Halifax Regional Council approved Case 21209: Amendments to the Regional MPS, Halifax MPS and Halifax Mainland LUB for 61 Evergreen Place, Ragged Lake Compost Facility.

LEGISLATIVE AUTHORITY

Clause 79(1)(an) of the *Halifax Regional Municipality Charter* provides that "Council may expend money required by the Municipality for … solid-waste management facilities".

RECOMMENDATION

It is recommended that Halifax Regional Council;

1. Direct staff to issue an Organics Management RFP to prequalified vendors in accordance with the RFP Key Terms (Attachment A) and Scoring Matrix (Attachment B) described in this report; and
2. Approve an up to two-year extension for the operations of the Halifax Ragged Lake Source Separated Composting Facility by AIM Environmental as provided for within RFP No. 16-043;
3. Direct the CAO to negotiate and enter into a Fourth Renewal Agreement with the Miller Compost Corporation as per the key terms and conditions as outlined in this report;
4. Direct staff to return to Halifax Regional Council to award the Organics Management and Processing RFP.

BACKGROUND

Halifax Regional Council has endorsed the following goals/objectives to help guide the procurement process for the organics management program:

A. Minimizes capital and operating costs, including reducing current processing costs;
B. Minimizes impact to the community (odours, noise, etc.);
C. Meets the 2010 NSE Guidelines for compost post 2019; and,
D. Increases organics processing capacity from 50,000 tonnes to 60,000 tonnes per year, with the option to increase to 75,000 tonnes per year in the future.

To assist and guide staff in the development of a Request for Qualifications (RFQ) and Request for Proposals (RFP), Solid Waste consulted with stakeholder groups and the public. From September 2016 to December 2016, staff conducted stakeholder and community engagements. The intent of the consultation process was for stakeholder groups and citizens to provide staff with insights on their values and aspirations for the future of the organics management program. The consultation process provided the opportunity for stakeholder groups and community members to clearly express their positions for the future direction of the organics management program.

The information from the consultation process was consolidated, reviewed and presented to Regional Council in a report on April 25, 2017. Within this report, the RFQ Key Terms for Council's consideration

were outlined as well as the overall direction for the Municipality's Organics Management Strategy. Regional Council unanimously approved the Strategy and the RFQ Key Terms.

On March 27, 2018, Case 21209: Amendments to the Regional MPS, Halifax MPS and Halifax Mainland LUB for 61 Evergreen Place, Ragged Lake Compost Facility was approved by Halifax Regional Council. The approval of Case 21209 allocates additional land and grants the required zoning at the Ragged Lake site for the expansion of the organics management facility. This approval provides proponents certainty that the additional land is available at this site for facility development when submitting their RFP proposal.

DISCUSSION

Request for Qualification (RFQ)

The RFQ for Organics Management Infrastructure and Long Term Operating Contract was issued September 28, 2017 and closed January 9, 2018. The RFQ had submissions from six (6) proponent firms. The RFQ allowed firms to submit two (2) proposals for review and evaluation. The Municipality received nine (9) submissions in total.

The proposals received included both anaerobic digestion (AD) and aerobic composting (AC) technologies. Some proposals provided for both technologies to be used in tandem while others focused solely on an AD or AC system. After review and scoring of the RFQ, six (6) proposals submitted by four (4) firms passed. These vendors will be invited to participate in the RFP process.

- Consortium of Forum Investment and Development, Maple Reinders PPP Ltd, AIM Group Holdings Inc. x 1 proposal
- Halifax Organics Management Group (Miller Waste Systems & Bird Construction) x 2 proposal
- SCM Organics Solutions Ltd. (Municipal Group & Suez Canada Waste Services) x 2 proposal
- Storm Fisher Ltd. (Storm Fisher & Hitachi Zosen Inova USA & Ellis Don) x 1 proposal

The pre-qualified organics management proposals included:

- Two Anaerobic digestion
- Two Aerobic composting
- Two Combination of anaerobic digestion / aerobic composting

Pre-RFP Consultations

Consultations with shortlisted vendors took place in April 2018. The intent was to provide vendors an opportunity to discuss potential RFP key terms with staff. Staff took this step to understand if aspects of the contemplated RFP were consistent with each vendor's assumptions. Consultations allowed staff to become more aware of perceived risks and potential constraints vendors had with the project. It also provided staff the ability to review and align potential key terms to general market expectations. Overall this step allowed staff to improve the RFP based on comments from prospective vendors.

The main suggestions brought forward from the vendors during the consultations are outlined below and have been addressed within this report:

1. Creating a mutually beneficial partnership;
2. Risk of delay in achieving all legal entitlements (permits / approvals);
3. The ability to have a shared risk / reward structure for utilities / commodities;
4. Having a market tested project agreement model/structure as well as an independent financial advisor;
5. Commercially confidential meetings during the open phase of the RFP;
6. An honorarium for unsuccessful bidders;
7. Process for community consultations.

Request for Proposals (RFP)

Scoring Matrix

The RFP evaluation matrix is intended to achieve the project solution that best meets the goals and objectives of the Municipality. In the development of the scoring criteria, staff initiated a jurisdiction scan of other regions to review their evaluation matrixes. This research identified that Canadian municipalities who completed an RFQ for design, build and operation of an organics management facility prior to issuing an RFP had between 40% - 100% of the total score for the RFP based on price. These regions however, typically specified the technology process and did not have to consider the overall balance of methods (AD vs AC vs both) within their scoring as is the case for Halifax. For the RFP evaluation matrix, there is a balance that needs to be struck within each criterion and their associated scoring weights to provide for the three systems to be proposed. With the technology/cost balance in mind and guided by Council goals/objectives, staff have proposed an evaluation matrix which has been included as Attachment B.

The following table describes how the proposed RFP and scoring matrix addresses each of Council's approved goals/objectives:

Councils goals / objectives are to:	**RFP Evaluation Methodology**
A. Minimizes capital and operating costs, including reducing current processing costs	Financial scoring weight is recommended to be 40%. This will help to provide a balance between the technology solutions and overall cost with the intent of attracting quality proposals for both anaerobic digestion and aerobic composting technologies.
B. Minimizes impact to the community (odours, noise, leachate management etc.),	There are defined minimum criteria outlined within the RFP Key Terms. These criteria include an enclosed odour treatment system(s) with an exhaust stack, incoming and outgoing airlock system(s), and concrete floor/pad liner(s) for material process areas. These criteria must be met or the submission will fail. There are specifications as well as other technical and operational processes / attributes which can contribute to enhanced odour management, noise containment, leachate management and overall environmental impact. Community Impact will be scored with a weighting of 20%.
C. Meets the 2010 NSE Guidelines for compost post 2019,	The vendor must confirm and demonstrate how their process / technology is able meet the 2010 NSE Guidelines when they become operational (likely in 2021-23). This includes their process design, process control, the time that the material is kept within the stages of the process, how the proponent's system has worked reliably and achieved similar results elsewhere.
D. Increase organics processing capacity from 50,000 tonnes to 60,000 tonnes per year, with the option to increase to 75,000 tonnes per year in the future.	The vendor must confirm and demonstrate how they are able to process the required annual tonnage and scale the operation in the future by providing their approach to increasing capacity. This will be based on the design and size of the facility and its ability to handle the daily, weekly and annual tonnage specified within the RFP.

In addition to the above approved goals/objectives, on April 25, 2017, Regional Council approved the Organics Management Strategy (the Strategy) and RFQ Key Terms. Based on the information provided by vendors in their RFQ submissions, they are able to meet the requirements identified within the Strategy and the RFQ Key Terms. Although firms have provided information for, and passed the RFQ stage, there are aspects from the RFQ which must be reviewed in greater detail within the RFP. The request for enhanced level of information is required to further evaluate some details related to design, process, etc. and will be evaluated to provide an increased level of due diligence.

Along with the review of detailed operational, technical and engineering information, staff intend to complete site visits for numerous reference facilities provided by vendors through the procurement process. It is anticipated that site visits will include meetings with local representatives and tours/inspections of facilities to view and understand the technology and facility operations, and ensure information provided for in the RFQ/RFP responses can be substantiated. Staff will also review facility and process design; engineered drawings; permitting, consultation process, site and facility development, construction, commissioning and operations plans; risk mitigation approaches to evolving organics management standards and the addition of new materials, as well as other technical and operational criteria. The technical criteria will be weighted at 40% of total score.

Summary of RFP Evaluation Components

- 20% (20 points) - Community Impact (Noise, leachate and odour control / mitigation / treatment, overall environmental impact)
- 40% (40 points) - Technical
- 40% (40 points) - Financial

Vendors must achieve a minimum score of 60% for the Technical (24 points) and Community Impact (12 points) components and an overall combined score of 70% (42 points) for both categories to move to the Financial review of their proposal. (There are minimum scoring requirements established for each specific criterion in order to ensure these areas are adequately addressed by proponents. Additional detail provided in Attachment B.)

Proposed Project Agreement

Qualified proponents discussed with staff their preference for a “market tested” project agreement within the RFP and an independent financial advisor. The vendors request for using a market tested agreement centered around project financing requirements and reducing perceived risk as terms and conditions could be similar to other jurisdictions. HRM understands these concerns. Staff have reviewed agreements for organics management solutions developed in other regions of Canada and existing contracts for services in HRM. Legal Services will draft the agreement in concert with Solid Waste and external service providers in order to create an agreement which best fits the unique needs of the Municipality. Terms and conditions within the agreement are subject to change based on feedback from vendors during the RFP process. Solid Waste has contracted Ernst & Young as the Municipal accounting and financial advisor for this project.

Contract Term

Staff are proposing a 25-year contract with options to extend at HRM’s sole discretion for 2 additional 5-year terms. With HRM having the sole discretion to extend the contract, it provides an increased level of assurance regarding facility maintenance and repairs on the asset. The ongoing upkeep of the asset is critical for the vendor if HRM elects for an additional 5 or 10 years of operations. HRM will also require scheduled facility reviews and independent condition assessments throughout the life of the contract in order to provide baseline information and trends on facility condition for eventual asset transfer. These reviews are anticipated to take place in 5 year intervals and increase in frequency near the end of the term. Asset condition and handover requirements will be outlined within the RFP.

It is intended that the contract will provide that if/when a capacity expansion is required, the proponent and HRM will enter into discussions and negotiations on the proposed expansion/management methodology. Proponents must provide a robust facility expansion and process plan within their RFP submission, however, as the system evolves over time the identified approach may be modified. The expansion and method to process material will depend on previous and estimated annual volumes and the duration remaining in the contract. For example, if annual volumes are estimated to exceed 60,000 tonnes with only 5 years remaining on the contract, it may be more financially prudent to transfer the material to another NSE approved AD or AC facility. On the other hand, if there are 10-15 years remaining on the contract it may be more practical to expand. By locking a vendor and HRM into a definitive price and technology for the possible expansion at the outset of this contract, it removes a level of flexibility in terms of future operations and technology advances. To be clear HRM is not bound to expand to the processing capacity with the successful vendor. HRM may elect to issue an RFP for system expansion if this approach is in the best interest of the municipality. These decisions will be at the discretion and direction of Council.

Fee Structure

For the operating fee, staff are proposing a put-or-pay (minimum tonnage) amount of 45,000 tonnes annually. The operating fee structure may be subject to tonnage band increments whereby additional volume processed at the facility would provide for an amended net cost. It is proposed that the operating fee will only increase by Nova Scotia CPI for the duration of the contract. Tonnage bands could relate to the additional risk/reward mechanisms which may be established to provide cost/revenue sharing between HRM and the vendor. These would typically be for commodity and utility volumes/prices resulting from consumption or production at the facility. Bands could also be established for other scenarios such as defined annually processing volumes.

With the vendor responsible for all utility costs within their bid there is a risk that, with the unknown nature of long term energy and commodity prices, the cost per tonne charged to HRM would be inflated to cover this potential long-term risk. As a result, this risk premium would be paid by HRM over the length of the contract. The counter argument is that there is also a risk to HRM of not locking in a per tonne fee inclusive of utility prices. If a per tonne fee was set inclusive of all utility costs, HRM would be better able to provide long-term cost certainty and predictability; nevertheless, this predictability comes at a cost.

In general, risks should be allocated to the entity best able to manage that risk. The control of utility and commodity prices is generally outside of both HRM's and the vendors ability to set; however, the vendor does have the ability to predict and control usage/production at the facility. Therefore, HRM will seek to share risk/reward on both the unit price and usage within the contract. This risk/reward model is also true for energy production.

If a proponent who advances an AD system is successful in the procurement, HRM would want to benefit from escalating volume/prices for energy production in the future. As a result, benefits of additional production volumes and/or increased prices would be shared between the vendor and HRM. Revenue sharing risk is important to mitigate considering the unknown price on carbon and the associated potential revenue from renewable energy. The financial benefits generated from renewable energy can in some cases be more uncertain than the standard energy market fluctuations. This is attributed to evolving government policy both federally and provincially on carbon pricing and carbon credit trading. HRM could seek to include all estimated revenue within the net cost per tonne proposed in the vendors submission. This would ensure HRM would receive a specific volume and rate per kilowatt hour or gigajoule of energy to offset the operating costs. By including all the energy revenue within the per tonne fee, HRM risks losing an opportunity to benefit from increased revenue for energy production over time. Overall a cost/revenue share model is anticipated to reduce the risk on Halifax taxpayers, attract more competitive bids and secure a fair long-term price for both the operator and the Municipality.

With regards to the capital cost of the facility, it is intended that the capital fee payment will commence after substantial completion and commissioning of the facility. Equal monthly capital payments will be made for the remaining duration of the contract. This will ensure the vendor's investment is paid back over the life of the contract and that taxpayers only pay for the capital investment once. The Municipality will also reserve the right to pay down the capital cost of the project in lump sum payments through the life of the agreement.

As an example, capital paydowns may occur if Solid Waste is successful in receiving financial support for this project through federal and provincial funding programs, or if HRM is able to borrow at a more favorable rate taking into account risk/reward of the transaction(s). Lifecycle rehabilitation costs may be built into the initial operating cost per tonne, or segregated and paid through separate schedules. Financial and operational information must be made available to HRM to review if/when needed.

Although the contract will be for 25 years commencing no later than April 1, 2021, it is anticipated that the new infrastructure will not be operational for this date. The selected proponent will however, be responsible to manage the Municipality's organics on the effective date using existing infrastructure and then transition to their new operation. It is intended that the selected proponent will be responsible for processing costs and there will be no amendments to the cost per tonne for the transition period other than Nova Scotia CPI. HRM intends to complete a capital deficiency review with the proponent and advance upgrades at the facilities prior to the contract start date in order to ensure each facility is capable of continued operations during the transition period. Once the transition period operation has ended the new facility operations fee will commence. There will be no amendments to the new facility operations cost per tonne other than Nova Scotia CPI.

Other Vendor Suggestions

Staff understand the vendors concerns with possible delays receiving the appropriate legal entitlements (permits/approvals) to build and operate a proposed facility. The Solid Waste team have reached out to senior staff within Nova Scotia Environment and will continue to do so in order to keep the department up to date with the project. Staff will work with the vendor to achieve all permits and approvals, however, the overall responsibility rests with the vendor. Community consultations are required as part of receiving permits/approvals and are therefore the obligation of the vendor. Solid Waste will assist the vendor in public engagement and consultations throughout the permitting process. In the unlikely event that appropriate legal entitlements cannot be obtained by the proponent within reasonable time frames, the vendor may be required to operate the existing facility(s) through a contingency plan which will be included within the RFP/project agreement.

Another area of discussion centered around Commercially Confidential Meetings (CCM's) or sometimes referred to as Collaborative Meetings. These meetings have their benefits and challenges. The main benefits for these meetings are that staff can hear and understand (and possibly address) a proponent's concerns with respect to the RFP and contract terms to ensure that the procurement process is successful in achieving competitive bids and help ensure that vendors are on track with their proposal and they understand the municipality's needs. These meetings also sometimes provide a venue where questions can be answered more efficiently than issuing addenda. Having CCM's while the RFP is in market could however be a perceived fairness issue. Legal and Procurement staff believe that having all questions addressed through the standard procurement practice of issuing addenda to all proponents is the most transparent and fair approach and reduces the risk of potential litigation.

An honorarium could entice a company to allocate resources to the project where they otherwise may not. Vendors also discussed that stipends may provide for a better bid package submission to the Municipality. Although a stipend may reduce the overall financial burden to an unsuccessful bidder, staff do not support providing a stipend. Based on consultations the amount of a stipend in general is not seen as a major impediment to procuring this project. The stipend amount proposed by vendors ranged from $0 - $500,000. HRM does not typically provide this type of funding to unsuccessful bidders.

Existing Operation Contract Extension

On August 2, 2016, Halifax Regional Council awarded RFP No. 16-043, Operation of Halifax Ragged Lake Source-Separated Composting Facility to AIM Environmental. Within this RFP, the Municipality has the right to extend the facility operations contract for two additional one-year terms. The management operating fee for the previous period ($39,800 per month) is subject to increase by CPI to account for inflation for extension years.

On January 16, 2018, Halifax Regional Council approved the Third Renewal Agreement for the operations of the Dartmouth Composting Facility with the Miller Composting Corporation. The Third Renewal provides the Municipality the right to extend the contract under defined conditions. The operating cost per tonne for the previous operating period is subject to increase by CPI to account for inflation. Although there was an ability for both parties to extend the operations contract, there were no contracted parameters (duration, notice and cost) agreed to from previous renewal agreements. The extension parameters for the Dartmouth Facility were negotiated after the Organics RFQ was issued and provides for additional risk mitigation for the municipality on this project.

On May 8, 2018 Solid Waste received a letter from Miller Waste requesting permission to install infrastructure at the Dartmouth Composting Facility and offered to extend the operations contract for the site an additional year on an as needed basis. Solid Waste believes this is a mutually beneficial proposal as the installation of the new infrastructure is a way to reduce the leachate costs at the Dartmouth Composting Facility and it could also benefit leachate management costs for the Ragged Lake Composting Facility. In addition, it provides another year in which to secure a proponent and the required legal entitlements for the project. As such, staff is seeking Council's support and direction to negotiate a Fourth Renewal as per the below terms and conditions.

The terms and conditions for the Fourth Renewal Agreement are;

- HRM will exercise its right to extend the operations contract as per the Third Renewal Agreement from April 1, 2019 – March 31, 2020,
- Miller Compost Corporation and HRM agree to extend the Dartmouth Composting Facility contract for an additional year from April 1, 2020 – March 31, 2021,
- HRM will have the right to terminate the contract during the extension year with 90 days notice,
- The cost per tonne for the extension year is subject to a CPI adjustment consistent with the Third Renewal Agreement,
- A mechanism to review potential capital replacement expenditures related to the existing facility will be outlined,
- HRM will consent to the Miller Compost Corporation's proposal to install and subsequently remove at their sole cost and expense a slurry unit to stabilize leachate costs.

Extending the current processing agreements at the existing two composting facilities by up to two years provides several strategic benefits for the Municipality and reduces the overall risk of the project. The original vision and direction was that the vendor awarded the Organics Management and Processing RFP would take over the operations of the facility(s) while the new facility is being constructed. This objective remains unchanged. The vendor will still be responsible to manage organic materials while they are constructing the new operation. There is however a risk that the vendor is awarded the contract, takes over operations of the existing facilities, and is subsequently unable to secure all necessary permits and approvals from Nova Scotia Environment, Halifax Regional Municipality and other approval bodies for their proposal. Although this situation could be mitigated within a contract with off ramps for not receiving all legal entitlements by milestone dates, whereby the vendor is required to operate the existing facility(s) until a new vendor is selected, this increases the risk to the program, facilities, and service delivery.

By extending the current contracts to expire no later than March 31, 2021 it provides a firm date by which the new vendor must assume the responsibility for processing the Municipality's organics but with a more realistic timeline for the RFP process and facility final design, permitting, approvals phase to occur. It provides the Municipality an improved ability to mitigate transition risks and be certain all contract condition precedents such as the vendor achieving permits by a certain date have been met prior to transitioning facilities. This extension was supported by the vendors during the consultation process as it assists to mitigate their risks as well as the Municipality's.

FINANCIAL IMPLICATIONS

Ernst & Young is the financial advisor for the project. They will confidentially review each proponent's financials in order to provide HRM the assurance that the vendor has the financial capacity to undertake the project. Ernst & Young will also assist in reviewing and drafting terms for the RFP, project agreement, and financial model. Funding is available through project account CW000004 – Composting / Anaerobic Digestion Plant.

GHD are the owners engineering firm for Solid Waste. They have been tasked to assist staff in drafting the RFP, completing site work and studies to support the RFP, assess specifics of the technical feasibility of the proposals as well as providing advice to staff throughout the procurement process. Funding is available through project account CW000004 – Composting / Anaerobic Digestion Plant.

COMMUNITY ENGAGEMENT

Community engagement was conducted at the beginning of this project and helped shape the overall Strategy and actions by staff to date. This was the subject of an October 2016 ESSC report as noted above in the Origin section of this report.

ALTERNATIVES

Council could modify the RFP Key Terms and / or the Scoring Matrix proposed in this report.

RISK ASSESSMENT

The overall risk to HRM with the recommended action is low to medium. Based on the RFP Key Terms and the Scoring Matrix staff are hopeful it will provide the framework for multiple bids from multiple vendors.

ATTACHMENTS

Attachment A - Request For Proposal Key Terms
Attachment B - Request For Proposal Scoring Matrix

A copy of this report can be obtained online at http://www.halifax.ca/commcoun/index.php then choose the appropriate Community Council and meeting date, or by contacting the Office of the Municipal Clerk at 902.490.4210, or Fax 902.490.4208.

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Attachment A
Request For Proposal Key Terms

1. The key technology proposed and overall processing method must align with the RFQ submission. Proponents may select either of the existing sites (61 Evergreen Place or 80 Gloria McCluskey Ave.), regardless of the site(s) put forward in the RFQ submission. Understanding there are variables with regards to site attributes (e.g. COMFIT, distance to sewer / water / natural gas lines, lot size, available buffer distances, etc.), details of site(s) and configuration(s) proposed in the RFQ may be amended in the RFP to provide flexibility with infrastructure tie-ins, operations, approvals and cost mitigation, while maintaining the key technology(s) and overall processing method(s) pre-qualified.

2. The proponent must provide evidence they have the technology rights for their proposal, a detailed description of process technology including methods of meeting CCME 2010 guidelines, methods of pasteurization (where applicable), process flow schematics, technical reliability, process narrative, description of the process monitoring and control systems and attributes of their solution including the proposed processing operations, the output(s), product(s), by-product(s), and information on mass, energy, building and process air and water balances. The residue(s) and wastewater(s) generation points in the process, collection methods, amounts and proposed methods of disposal/treatment are to be included. The proponent must provide site plan(s), layout drawings for major equipment and areas, 3-D rendering of the facility(s) and site(s) including roads and landscaping, and surface water management and secondary containment strategy and layout.

3. The proponent must provide copies of letters of commitment and/or contracts (where applicable) with service providers who accept organic slurry, compost, fertilizer, soil amendments, digestate, biogas, power or other end material(s) or by-product(s) where their acceptance is integral both operationally and financially to the proposal. If during the review of the RFP submissions, HRM deems an end market integral the proponents will be required to enter into a long-term contract(s) and provide a copy to HRM. The overall project agreement will include step-in rights for HRM to ensure that organics processing can continue if the operator is unable to do so unexpectedly.

4. Only under extraordinary circumstances (bankruptcy, sale, merger) subject to HRM discretion, the business entity for the Project Lead, Constructor, Designer, Key Technology Provider, and Operator may be amended within the RFP from the RFQ submission. If a substitution is requested, the entity must possess equivalent or better experience and qualifications than the entity identified within the RFQ as determined by HRM.

5. Only under extraordinary circumstances, subject to HRM discretion, the lead staff member for the assigned Project Lead, Constructor, Designer, Key Technology Provider, and Operator may be amended within the RFP from the RFQ submission. If a substitution is requested, the new staff lead must possess equivalent or better experience and qualifications than the staff lead identified within the RFQ as determined by HRM.

6. HRM will deal with only one vendor and have only one contract for the entirety of this project (design, build, own, operate, finance). Any partnerships developed between companies to deliver this project must create a new legal entity which is guaranteed and secured by the parent companies. The development of a legal entity and registration with Nova Scotia Joint Stocks is a requirement.

7. Proponents must provide evidence of sufficient financial strength to satisfy their obligations over the full contract period including if available: financial statements, current credit ratings reports, or other financial documents to support the financial analysis. The approach to financing structure, including proposed structure and parties, must be clearly outlined with contingency plans should there be a gap in the financing, supported by financial statements and letters of support from

funding sources. Letters of reference from a bank or other licensed financial institution will also be required.

8. Vendors must be able to provide confirmation that they are able to obtain from an insurance or surety company with a rating of at least A- with S&P and AM Best (or equivalent rating agency) a minimum of:

    a. A construction performance (material / labour) bond with a minimum amount being that of the total capital cost as identified by the proponent within their financial summary submission for the facility and related facility equipment.
    b. $ 2,500,000 operating letter of credit.
    c. $ 7,500,000 operating performance bond.
    d. $10,000,000 commercial general liability insurance (including products and completed operations, tenant's legal liability).
    e. $10,000,000 environmental impairment liability insurance.
    f. $10,000,000 all risks property insurance.
    g. $ 5,000,000 automobile insurance.
    h. $ 5,000,000 Builder's risk and wrap up liability insurance for the facility and related facility equipment which is to include designer/architect errors and omissions coverage.

9. All submissions must meet at a minimum the 2010 NSE Compost Guidelines and all applicable Municipal, Provincial, and Federal regulations, by-laws etc. Proponents must confirm they can meet pasteurization or equivalent requirements as determined by NSE. Technical/operational submissions other than for community impact (i.e. noise, odour and leachate management) will be evaluated on their ability to meet the 2010 NS Composting Guidelines.

10. Enhanced odour management and control processes as well as details on the planned investments and technology to reduce / contain odour and noise and leachate must be demonstrated for facilities located at 61 Evergreen Place and 80 Gloria McCluskey Ave. This will include a minimum of:

    a. Demonstrated odour management performance (e.g. modelling) of proposed odour treatment system.
    b. Receiving, processing and storage of materials are all fully enclosed in building(s) maintained under negative pressure. No coverall or fabric style covered buildings are permitted.
    c. Enclosed odour treatment system with an exhaust stack.
    d. External overhead rollup doors in the receiving / shipping area(s) will be interlocked with an internal receiving / shipping area(s) door such that only one overhead door in the area(s) may be opened at a time creating an air lock prior to entering or exiting the facility.
    e. Concrete floor/pad liner(s) to be used for material process areas (except for pre-existing construction subject to HRM's determination of suitability).

11. As part of a contingency / future state plan and in order to mitigate risks of evolving standards, vendors will be required to provide approaches on how they will address potential compost guideline, by-law and legislative changes including how they will meet more stringent regulatory requirements such as the Ontario Compost Quality Standards, and what changes to process would be required to accept pet waste, accept compostable / biodegradable plastics and grass.

12. Operations shall be designed to manage 60,000 tonnes annually with the ability to expand as required to up to 75,000 tonnes or greater.

13. The proponent will be required to provide organics management services to HRM no later than April 1, 2021. The proponent may use the existing facilities and infrastructure to accept and process materials during the development of their process. The proponent may also export the material to other NSE approved composting facilities during the transition. The proponent will be responsible

for transitioning to the new organics management system and must provide a detailed transition plan.

14. The term of the project agreement will be 25 years and Halifax will have the sole authority to extend the contract for 2 additional 5-year terms.

15. The cost per tonne will be established whereby the capital costs will be based on and paid in equal monthly payments prorated after successful commissioning of the facility. The Municipality also reserves the right to paydown the capital cost of the project in lump sum payments through the life of the agreement. Operational costs will be paid in a per tonne fee. Lifecycle rehabilitation costs may be built into the initial operating cost per tonne or segregated and paid through separate schedules. Additional risk/reward mechanisms can be established to provide cost/revenue sharing between HRM and the vendor for energy/commodity volumes/prices resulting from consumption or production at the facility. HRM shall have the right to audit and review financial statements, facility inputs and outputs, site operations; as well, HRM will be provided monthly and annual reports for site.

16. HRM will not be responsible for the marketing or management of facility products/by-products. The proponent shall have sole responsibility for these materials and is responsible for all costs associated with the marketing and management of the product(s)/by-product(s). HRM shall have the right to audit and inspect how products and by-products are managed and marketed.

17. A minimum guaranteed annual tonnage payment of 45,000 tonnes (the put amount) will be provided to the vendor and annual tonnage band(s) may be established.

18. The successful proponent will not be permitted to accept or process material not supplied through HRM without HRM's consent. HRM will have the option to supply organic materials from outside jurisdictions that are consistent with the definition of organic materials in the contract. The successful proponent may not unreasonably refuse to accept and process organic materials that are consistent with the definitions in the contract, however the contractor will have the ability to screen and reject materials that will result in the facility not being able to meet contractual performance or regulatory obligations. The Municipality sets the tip fees and has authority for all tip fees charged to designated users. The project agreement will clearly require the vendor to divert recovered organic materials to a beneficial end use. Landfilling will not be an option for recovered organics.

19. The successful proponent will be responsible to obtain all legal entitlements for the project.

20. No stipends will be provided to unsuccessful bidders.

The Key Terms are meant to provide the strategic direction for the RFP development. The Key Terms are not intended to provide the exact language that will be included within the RFP. The RFP will contain other terms and conditions that are not outlined above which are more of an operational nature and less strategic.

Attachment B
Request For Proposal Scoring Matrix

COMMUNITY IMPACT – 20 Points

Pass/Fail Criteria

- Enclosed odour treatment system (e.g. biofilter) with an air emissions stack
- Incoming and outgoing truck air lock
- Concrete floor/pad liner(s) for material process areas (except for pre-existing construction subject to HRM's determination of suitability)

Scored Criteria

Criteria	**Points 20**	**Minimum Required to Pass**
Air Emissions Control, Management and Treatment Systems/Processes	10	6
Process water and Stormwater Control, Management and Treatment Systems/Processes	5	3
Overall Environmental Impact (e.g., Noise and Nuisance Control Systems / Processes, Energy Efficiency, GHG reduction, Building Materials)	5	Not specified
Total Points	**20**	**12**

In order to pass the Community Impact assessment, proponents must meet or exceed the above minimum score for each criterion as identified and have an overall score of 12 out of 20 points.

TECHNICAL – 40 Points

Pass/Fail Criteria

- Confirmation Vendor can meet NSE Compost Guidelines (and pasteurization or equivalent requirements for AD)
- Ability of the operator to meet organics operations capacity (initial 60,000 tonnes annually) and provide an overview of their expansion plan (minimum 75,000 tonnes annually)
- Letters of commitment or contracts with integral business partners for product(s) receipt
- Business entities for project lead, constructor, designer, key technology provider, and operator the same as submitted within the RFQ (as defined in this RFP)

Scored Criteria

Criteria	**Points 40**	**Minimum Required to Pass**
Quality & Demonstrated Reliability of Buildings, Equipment, Systems, Components and Processes to Meet Finished Product(s) Requirements, Meet Expansion Requirements, References and Site Visits	10	6
Project Team Members, Including Facility Staffing, Suitability for Roles/Functions	2	Not Specified

Suitability and Functionality of the Facility Design & Adaptability to Future Regulations	4	Not Specified
Project Plans & Schedules – Design, Consultation, Permitting, Construction, Commissioning, Acceptance Testing, Transition, etc.	8	4
Operating Plan (including Controls, Monitoring, Data Management, Reporting), Maintenance, Rehabilitation & Contingency Plan	8	4
Product(s) Marketing Strategy & Plan for Handling Residue(s) and By-products	8	4
Total Points	**40**	**24**

In order to pass the Technical assessment, proponents must meet or exceed the above minimum score for each criterion as identified and have an overall score of 24 out of 40 points.

In order for the proposal to proceed to the Financial assessment stage both the Community Impact and Technical assessment sections must pass as per the above minimums and together must have a combined overall score of 42 out of 60 points (70 percent).

FINANCIAL – 40 Points

Pass/Fail Criteria

Vendors must be able to provide confirmation that they are able to obtain from an insurance or surety company with a rating of at least A- with S&P and AM Best (or equivalent rating agency) a minimum of:

a. A construction performance (material / labour) bond with a minimum amount being that of the total capital cost as identified by the proponent within their financial summary submission for the facility and related facility equipment.
b. $ 2,500,000 operating letter of credit
c. $ 7,500,000 operating performance bond
d. $10,000,000 commercial general liability insurance (including products and completed operations, tenant's legal liability)
e. $10,000,000 environmental impairment liability insurance
f. $10,000,000 all risks property insurance
g. $ 5,000,000 automobile insurance
h. $ 5,000,000 Builder's risk and wrap up liability insurance for the facility and related facility equipment which is to include designer/architect errors and omissions coverage.

Scored Criteria

The proposal with the lowest net present value (NPV) cost over the full 25-year contract term shall receive the maximum points allocated for cost. All other proposals will be prorated against the lowest cost proposal using the following formula:

Max Available Pts. – [Max Available Pts. X (total cost – lowest total cost) / lowest total cost]

Note: If the result is a negative number, the score assigned will be 0.
Example: Two technically compliant bids are received and the maximum available points for cost equal 30:

Bid 1: $100,000
Bid 2: $130,000
Bid 1 being the lowest, would achieve a score of 40 points
Bid 2 would achieve a score of 28 points, calculated as follows:
40 – [40 X ($130,000 – $100,000) / $100,000] = 28

Attachment C - RFP Scoring Matrix

APPENDIX A: EVALUATION OF PROPOSALS

Introduction

The Evaluation Committee will evaluate Proposals in the manner set out in this Appendix A. The Evaluation Committee will not evaluate a Proposal if it has been rejected, or if the applicable Proponent has been disqualified, in accordance with this RFP.

In general, proposals will be scored using a combination of pass/fail criteria and scored components. The total scoring of a Proponent's submission will be out of a total of 100 points as follows:

	Total Allocated Points Per Overall Criteria
TECHNICAL SUBMISSION	
Community Impact Criteria	20
Technical Criteria	40
FINANCIAL SUBMISSION	
Financial Criteria	40
Total Points Available for Submission	**100**

Further details regarding the scoring of a Proponent's submission are set forth in this Appendix A.

A Proponent's Technical submission will be evaluated first and then, if the Technical submission merits, the Financial submission shall be evaluated.

Proponents are reminded that in addition to passing all criteria that are scored as pass or fail, and scoring at least the minimum on individual criterion, Proponents must achieve a minimum score of 60% for the Technical component (i.e 24 points or more out of 40 points) and Community Impact component (i.e. 12 points or more out of 20 points) as well as an overall combined minimum score of 70% (i.e. 42 points or more out of 60 points) for both the Technical component and the Community Impact component in order for the proposal to proceed to the Financial evaluation.

1. TECHNICAL EVALUATION

The Evaluation Committee will review all Technical Submissions to ensure compliance with the Proposal Requirements for Technical Submissions set out in Appendix B.

The Evaluation Committee will then evaluate compliant Technical Submissions against the Community Impact and Technical criteria as noted below. In order for a Proposal to proceed to the Financial Evaluation stage, the following requirements must be met:

(a) Community Impact Evaluation: All minimum scores required to pass each criterion must be achieved and the overall score must achieve a minimum of 12 out of 20 points;

(b) Technical Evaluation: All minimum scores required to pass each criterion must be achieved and the overall score must achieve a minimum of 24 out of 40 points; and

(c) Overall Evaluation: Both the Community Impact and Technical Evaluations must meet the minimum thresholds (as noted above) and have a combined overall minimum score of 42 out of 60 points.

COMMUNITY IMPACT CRITERIA – 20 POINTS			
Criteria		**Points 20**	**Minimum Required to Pass**
A	All process and building air must be collected and managed through an enclosed odour treatment system(s) that shall be enclosed such there is a point of discharge through a stack(s) (i.e., open-top biofilters are not permitted)	N/A	Pass/Fail
B	Air locks / double doors: all HRM Organic Waste will be processed and stored in sealed tanks or containers/bunkers or behind double doors for incoming and outgoing materials (interlocked such that only one door may be opened at a time)	N/A	Pass/Fail
C	Concrete floor/pad liner(s) (i.e., secondary containment) for material process areas (except for pre-existing construction subject to HRM's determination of suitability)	N/A	Pass/Fail
D	Air Emissions Control, Management and Treatment Systems/Processes	10	6
E	Wastewater and Stormwater Control, Management and Treatment Systems/Processes	5	3
F	Overall Environmental Impact (e.g., Noise and Nuisance Control Systems / Processes, Energy Efficiency, Building Materials)	3	Not Specified
G	Net Carbon Impact	2	Not Specified
Total Points		**20**	**12**

TECHNICAL CRITERIA – 40 POINTS			
Criteria		**Points 40**	**Minimum Required to Pass**
H	Proponents' design solution meets NSE Composting Facility Guidelines (as applicable for Anaerobic Digestion) and equivalent requirements for Anaerobic Digestion (including pasteurization requirements). The Proponent's design solution results in the Beneficial Use of HRM Organic Waste.	N/A	Pass/Fail
I	Ability of the operator to meet operations capacity (initial 60,000 tonnes annually of HRM Organic Waste) and provide an overview of their expansion plan (minimum 75,000 tonnes annually of HRM Organic Waste)	N/A	Pass/Fail
J	Letters of commitment or contracts with integral business partners for product(s) receipt	N/A	Pass/Fail

TECHNICAL CRITERIA – 40 POINTS			
Criteria		**Points 40**	**Minimum Required to Pass**
K	Business entities for project lead, constructor, designer, key technology provider, and operator the same as submitted within the RFQ (except as provided for in this RFP)	N/A	Pass/Fail
L	Quality & Demonstrated Reliability of Buildings, Equipment, Systems, Components and Processes to Meet Finished Product(s) Requirements, Meet Expansion Requirements, References and Reference Facility Site Visits	10	6
M	Project Team Members, Including Facility Staffing, Suitability for Roles/Functions	2	Not Specified
N	Suitability and Functionality of the Facility Design & Adaptability to Future Regulations	4	Not Specified
O	Project Plans & Schedules	8	4
P	Operating Plan (including Controls, Monitoring, Data Management, Reporting), Maintenance, Life Cycle Plan & Contingency Plan	8	4
Q	Product(s) Marketing Strategy & Plan for Handling Residue(s) and By-products	8	4
Total Points		**40**	**24**

2. FINANCIAL EVALUATION

The Evaluation Committee will review Financial Submissions for Proposals that meet or exceed the minimum thresholds for Technical Submissions set out above to ensure compliance with the Proposal Requirements for Financial Submissions set out in Appendix B.

The Financial Evaluation will consist of both a Pass/Fail Criteria and a Scored Criteria as follows:

Pass/Fail Criteria

2.1 Proponents must provide confirmation, in a form reasonably acceptable to HRM, that they:

(a) have obtained, and will maintain throughout the Term of the Project Agreement, each and every Performance Security requirement as set forth in Section 6.10 of the Project Agreement; and,

(b) have obtained, and will maintain throughout the Term of the Project Agreement, each and every insurance requirement as set forth in Section 7 of the Project Agreement and Schedule 5 of the Project Agreement.

2.2 Proponents must submit financial statements as set out in Section 6.41 of Table 2 of Appendix B and as described under Satisfaction of Financial Capacity below.

Scored Criteria

The Financial Submission with the lowest Proposal Net Present Cost (as set out in the Pricing Form) shall receive **40 points**, the maximum points allocated for cost. All other Financial Submissions will be prorated using the following formula:

Max Available Pts. – [Max Available Pts. x (total cost – lowest total cost) / lowest total cost]

Note: If the result is a negative number, the score assigned will be 0.
Example: Two technically compliant Proposals are received and the maximum available points for cost equal 40:

Proposal 1: $1,000,000
Proposal 2: $1,300,000
Proposal 1 being the lowest, would achieve a score of 40 points
Proposal 2 would achieve a score of 28 points, calculated as follows:
40 – [40 X ($1,300,000 – $1,000,000) / $1,000,000] = 28

HRM's Evaluation Committee will have the sole discretion to adjust the points awarded to a Proponent's Financial Submission downward by up to **six (6) points** based on the Evaluation Committee's review of the quality and completeness of the Proponent's Financial Submission as per the information requirements outlined in the Satisfaction of Financial Requirements and the Satisfaction of Financial Capacity.

Satisfaction of Financial Requirements

Subject to the terms of this RFP, including Section 6.1 [Mandatory Requirements] and Section 6.3 [Evaluation of Proposals], the Evaluation Committee will evaluate each of the Financial Submissions to determine whether the Evaluation Committee is satisfied that the Financial Submission substantially meets the following requirements:

(a) the Proponent has arranged sufficient financing for the Project in accordance with the requirements of this Appendix B and the Final Draft Project Agreement;

(b) the Proponent has demonstrated that the Proponent's Financing Plan, including security, bonding, guarantees and insurance elements, is robust and deliverable;

(c) the Proponent has demonstrated that the Proponent's Financing Plan can be executed expediently if the Proponent is selected as Preferred Proponent;

(d) the Proponent has demonstrated that each of the Proponent's Equity Providers continue to have the ability to raise sufficient capital to meet the equity requirements;

(e) the Proponent has demonstrated that the Proponent's financial plan for the Project is viable; and

(f) the provisions of this RFP, including the requirements set out in:

(i) Appendix B of this RFP; and

(ii) the Final Draft Project Agreement.

Satisfaction of Financial Capacity

The Proponent must provide evidence of sufficient financial strength to satisfy the Project Co.'s obligations in respect of the Project. The evaluation will entail reviewing recent financial performance and financial strength relating to all Proponent Team Members, as supported by the mandatory submission of the last three fiscal years of audited financial statements (including any accompanying notes) immediately prior to the closing time, or equivalent; and any other financial documents that will support the financial analysis. A complete mandatory submission of the last three years of audited financial statements refers to providing three separate sets of audited financial statements prepared in three different years. For the financial statements to be considered complete, they must include at a minimum: an income statement, a balance sheet, a statement of cash flows, and accompanying notes. In the event that any piece(s) of the mandatory submission cannot be provided, the Proponent must provide an explanation of what piece(s) was not provided and the reason the piece(s) could not be included.

The Proponent is to provide a Financial Package (Package 2) to address the requirements above and those set out in Table 2 below. Furthermore, if the Evaluation Committee is not satisfied that the Financial Submission substantially satisfies the above requirements and those set out in Table 2 of this Appendix B, the Evaluation Committee may reject the Proposal and not evaluate it further.

3. SELECTION OF PREFERRED PROPONENT

Subject to the terms and conditions of the RFP (including HRM's right to reject all proposals) and approval of Halifax Regional Council, the Proponent with the highest combined score (Community Impact + Technical + Financial) will be selected by HRM as the Preferred Proponent.

Attachment D - Risk Considerations

Risk Considerations

The following are keys risks incurred by HCR, key risks incurred by the Municipality and the risk mitigation measures that the Municipality intends to undertake during the project. A discussion of the risks and risk mitigation during the interim services period is also provided.

Examples of Key Risks

Key Risks Incurred by HCR:

- **Design Build and Operation of the New Facility:**

  HCR is responsible to design, build and operate the new facility. This means that, unless a risk is specifically addressed in the project agreement as being the responsibility of the Municipality, HCR is responsible for all risks that may occur during the design, construction and operation phases. This is significant as while the Municipality has provided the parameters for the design of the facility (e.g. odour reduction measures), HCR is responsible to ensure the design meets the requirements and that the facility can then be built to those specifications. HCR is taking the risk that the facility will be designed and built in such a manner that the ongoing operational needs of the Municipality will be met for the duration of the project

- **Ownership of the New Facility:**

  HCR has agreed that it will own the new facility until the project expires. Ownership is a key risk factor which HRM staff ensured remained in the project agreement. This means, at a practical level, HCR will be responsible to address issues such as responding to an environmental law directive issued by the Province, replacing defective equipment or even working directly with emergency services in case of a fire. HCR will also be responsible, with the Municipality playing a supporting and monitoring role, in instances where residents have questions or complaints about odour or nuisance issues. Traditionally the Municipality has, with significant time, personnel and financial expense, needed to address these practical issues however, these issues, and the associated expenses will now be the responsibility of HCR.

  HCR will not own the land upon which the facility is located. HRM staff have negotiated a lease for the property.

- **Permitting:**

  HCR is responsible to obtain and maintain all permits that are required to design, build and operate the facility. HCR is in the best position to address this risk as it is the entity responsible for designing and building the facility. HCR's responsibility for permits means it may need, during the course of design and construction, to spend more in order to address any concerns of a permitting authority. Further, as HCR owns the facility, it will need to ensure that all operational permits are maintained, at its cost, during the operating term of the facility.

- **Environmental Degradation Caused by HCR:**

  As part of the lease, HCR has agreed that it will be liable for any environmental issues that it causes at the property. The Municipality remains liable for environmental issues that were pre-existing at the property or which the Municipality causes during the term (which is very unlikely to occur).

- **Indemnification:**

The project agreement sets out a general indemnification that HCR has given in favour of the Municipality. There is no corresponding indemnity from the Municipality to HCR. Generally, the indemnity to the Municipality is for financial losses that the Municipality may incur due to personnel or physical losses, HCR's breach of the agreement or its negligence, an HCR breach of a term or condition of a permit and losses caused by HCR's environmental responsibilities. The provisions of this indemnity are reduced if the Municipality contributes to the losses through its own actions.

Key Risks to the Municipality:

- **Pre-Existing Environmental Conditions:**

  In the project agreement, the Municipality has taken on those environmental risks that are not specifically caused by HCR. This means that the Municipality continues to be liable for any pre-existing environmental conditions at the site as well as any environmental issues that the Municipality causes during the operational term. This is a fair apportionment of risk as the Municipality has operated the organics facility at Ragged Lake for over 20 years.

- **Contamination Levels in Organics (e.g., contaminant levels in green carts such as plastic):**

  The Municipality will be responsible for the composition of the organic material that is delivered to the facility. This means that HRM Solid Waste Resources will need to continue to promote education among residents to help ensure only proper organic material is disposed of into green bins and other organics receptacles.

- **Quantity of Organics:**

  The Municipality is required to deliver a minimum of 45,000 tonnes of organics per year from residential and commercial sources. Based on current and projected tonnage projections, the Municipality is confident the supply of organics will exceed 45,000 tonnes per year. The Municipality has the flexibility to deliver up to the 60,000 tonnes per year or organics to meet future needs, acknowledging that over the 25 year project the facility may need to be expanded to accommodate 75,000 tonnes of organics. Terms for an expansion will be negotiated, if needed, in accordance with project agreement protocols.

- **Commercial Risk Through Relief Events:**

  The Municipality will be responsible for certain commercial risks that may occur during the term of the project. These have been termed in the project agreement as relief events and they are commonplace in agreements of this nature. In general, relief events attempt to apportion risk for those events which are smaller in nature or less likely to occur during the course of the project.

  For example, if there is a change in laws that affect the project or HCR, and increase HCR's costs of operations, the Municipality will work with HCR to provide relief for the increase in costs. Other risks for which the Municipality will be responsible include labour strikes, heritage finds on the property during construction, expropriation of the property by government and delays in obtaining permits not caused by HCR.

  It is important to note that in all of the cases of relief events for which the Municipality has retained the risk, HRM staff have negotiated financial and time hurdles which the risk must surpass before the Municipality will be required to pay HCR for the relief event.

Municipality's Risk Mitigation

Securities

The project agreement includes the following requirements for securities to be provided by HCR. As set forth above in the discussion of the deviation from the Key Terms, the following securities construction and operations securities will be for the benefit of HCR's lenders with HRM being the secondary beneficiary.

- **Construction:**

  - Construction guarantees, executed by the parent organizations of the companies performing the construction of the facility, guaranteeing all obligations of the constructing companies.

  - A performance bond, accompanied by any liquidity bonds or security that may be required, with a face amount of the performance component of the bond equal to 100% of the constructing company's contract price securing the performance of the obligations of the constructing companies.

  - A labour and materials payment bond in an amount equal to 50% of the constructing company's contract price (50% of the bond to labour costs and 50% of the bond to materials costs) securing the performance of the obligations of the constructing companies.

- **Operations:**

  - An operating letter of credit, demand bond, performance bond or liquid bond, securing the operator of the facility's obligations of the provision of labour, materials and the performance of the operations

  - A guarantee executed by the parent organizations of the companies performing the operations of the facility guaranteeing all obligations of the operator.

- **Handback:**

  It is necessary for HCR, at the end of the project, to return the facility to the Municipality in accordance with a number of requirements that will be beneficial to the Municipality. For example, the facility must be in a reasonably clean condition and the equipment must be capable of being operated without any defects for the short term. HCR will also be required to provide transition services to the Municipality to help the Municipality move to the next operator (as applicable). HCR is required to provide security (letter of credit or bond) to the Municipality, to ensure the handback occurs in accordance with the project agreement.

Liquidated Damages

HRM staff have negotiated a liquidated damages clause with respect to the construction of the facility. The project agreement requires HCR to commit to a target service commencement date (i.e. the date when the facility will be operational and perform according to the project agreement, currently proposed as October 24, 2023). If HCR does not have the facility operational on this target service commencement date, the Municipality will be in a position to charge HCR $2,000 per day for each day past the target service commencement date that the facility is not operational.

Insurance

HRM staff have also negotiated into the project agreement significant insurance provisions that HCR will be required to obtain and maintain. The project agreement includes the following insurance requirements:

- **Construction**:

  Wrap-Up Liability Insurance – $50 million
  Course of Construction Coverage – amount equal to replacement value of the facility plus 10%
  Environmental Impairment Liability Coverage – $50 million
  Design Errors and Omissions Insurance – $10 million

- **Operations:**

  Commercial General Liability – $30 million
  Environmental Impairment Liability – $50 million
  Property Insurance – amount equal to replacement value of the facility
  Boiler and Machinery – amount equal to replacement value of the facility

Deductions

A key tool that the Municipality has negotiated into the project agreement to reduce its financial risk throughout the term of the project is the concept of service failures and associated deductions to the monthly payments to HCR. HRM staff negotiated a number of deductions into the project agreement that the Municipality will be able to use throughout the duration of HCR's operation of the facility to address HCR's failure to meet certain service standards. The operation of the facility in accordance with the terms and conditions of the agreement is key for the Municipality and the deductions are an important tool that the Municipality can bring to bear on HCR should there be a need for ensuring HCR's behaviours and operations are in alignment with the Municipality's goals and objectives.

Aggregate deduction amounts can be material in the event of poor performance – deductions in any given month may total up to the entire monthly service payment which effectively puts all of HCR's money at risk.

One example of a service failure is HCR's inability to meet an odour test at the exhaust stacks at the facility. If HCR is unable to rectify the level of odour that is escaping the facility through this stack within a certain time frame, the Municipality may make deductions of up to $2,000 per day that the odour test does not meet the requirements of the project agreement. Other examples of the service failures for which deductions may be applied include HCR's inability to process organic material at a given rate, HCR's operations generate a complaint and HCR does not follow the complaint rectification procedure, and the compost resulting from HCR's operations at the facility does not meet certain specifications and requirements.

Interim Operations

HCR will be required to operate the existing Dartmouth and Ragged Lake facilities until the new facility is ready to operate and HRM staff have negotiated an interim services agreement for this purpose. The risks associated with the continuing operation of these facilities are different than those associated with the construction and operation of the new facility (i.e., the interim services agreement is an operations agreement only and not a DBOOT agreement). The Municipality currently owns the Ragged Lake Facility, while ownership of the Dartmouth Facility will be transferred to the Municipality on April 1, 2021.

The interim services agreement contains a $3 million performance bond that the operator must have in place with the Municipality as the beneficiary. As well, the agreement contains service failures that will result in financial deductions should HCR not perform its operations to the standards set forth in the agreement (e.g. failure to process organics at a certain rate, failure to follow odour control plan requirements). HCR is also required to obtain and maintain various insurance policies such as commercial general insurance ($10 million), automobile insurance ($5 million), environmental pollution insurance ($10 million) and general property insurance (25% of the replacement value of the existing facilities).

The interim services agreement has provisions for the Municipality and HCR to work together to determine what capital requirements are needed at the facilities during the interim period. The Municipality will then be responsible for the cost and expense of that capital improvement. While the facilities are old and will require some measure of capital expenditures to extend their operational life to the end of the interim period, the Municipality's control over the capital expenditures at the facilities during this period helps to reduce the risk of unnecessary capital expenditures for the facilities.

A key risk mitigation factor for the interim period is that a partner organization of HCR (AIM Group) has been operating the Ragged Lake Facility since 2016. Having an operator which is very familiar with the operations of one facility, and can bring that operational knowledge to bear on the operations of the Dartmouth Facility, provides for a significant reduction in risks which may occur when transferring operations. The operator of the Dartmouth Facility, Miller Waste is aware of the need to transfer operations at that facility and has signaled its intention to work with the successful proponent and the Municipality to ensure the transition happens as smoothly as possible. Additional risk mitigation measures include the potential for deductions from the payments during the interim period in the event of poor performance.