Market Sounding for The Management of The City's Organic Waste

City of Winnipeg

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→ The Power of Commitment



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1. Introduction

In February 2024, the City of Winnipeg retained GHD Limited to conduct a Market Sounding for the management of the City's Organic Waste. This process was intended to gather marketplace information from known project developers, process and technology providers, and merchant capacity providers to aid in the determination of future service agreements for processing organic waste collected through the City's upcoming Green Cart program. The information obtained will be used developing a Request for Qualifications (RFQ) and Request for Proposal (RFP) document, which will be publicly issued as the next step in the City's process to establish a service agreement for processing Green Cart program materials. The information presented in this report is not attributed to specific respondents and is only intended to present opinions and suggestions in aggregate from the conversations that took place during this Market Sounding.

1.1 Background and Purpose of Project

The Comprehensive Integrated Waste Management Strategy (CIWMS), approved by City Council on October 19, 2011, aimed to increase Winnipeg's waste diversion rate to over 50 percent. However, a review of CIWMS in June 2019 concluded that the target could not be achieved without a residential food waste (RFW) collection program and other investments in Winnipeg's waste management system. In December 2019, the Council directed the Public Service to deliver a two-year pilot for the curbside collection of Residential Food Waste (RFW) from single-family dwellings to mainly measure interest and satisfaction of participants in the program. The Pilot Project ran from October 2020 to September 2022 and although participation was voluntary, it received strong support from both pilot participants and city-wide survey respondents, providing valuable information for the City to continue planning their waste management program.

The City is currently reviewing options on the collection methods for Leaf and Yard Waste (LYW) and Residential Food Waste (RFW) in Green Carts and is seeking input from the marketplace to determine the best approach to collection and processing of these materials. The City may also extend the scope of the Green Cart program to include multi-unit dwellings after launching the Green Cart program. After the Market Sounding Process, the City intends to execute a two-phase evaluation process (RFQ and RFP) to retain the services of an organic waste processor (Merchant). This strategy is generally oriented around diversion of waste from the City's landfill, and achieving the City's "Net Zero by 2050" goals.

Based on initial guidance from the City, a high-level schedule for the Project is as follows:

– RFQ issued by end of 2024
– RFP issued by mid 2026

Obtaining overall market input from various participants in these types of infrastructure projects has been found to be of significant value based on GHD project experience. This feedback is crucial as it ensures that the market feels heard and that their concerns and ideas are taken seriously, which helps them take this Project seriously earlier in the project development cycle and minimizes individual outreach to the City during the procurement process. Through GHD's first-hand experience in other jurisdictions such as the City of Toronto, Region of Peel, Region of Durham, Region of York, and County of Simcoe in Ontario, it is known what procurement and project delivery models will be more appealing to potential bidders, and which ones will discourage market participation. Receiving market input directly at this stage of the Project may help to narrow down the alternative options for Project delivery and develop a course of action specifically tailored to the City's objectives for waste processing, preferences for Project scope, procurement processes, and risk tolerance. Through two-way conversations, the market can be updated on the Project, outlining conceptual Project details including approximate size/scope, general timelines, and the City's general approach to the Project.

1.2 Scope and Limitations

This report: has been prepared by GHD for City of Winnipeg and may only be used and relied on by City of Winnipeg for the purpose agreed between GHD and City of Winnipeg as set out in section 1 of this report.

GHD otherwise disclaims responsibility to any person other than City of Winnipeg arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer section(s) 1.3 of this report). GHD disclaims liability arising from any of the assumptions being incorrect.

Accessibility of documents

If this report is required to be accessible in any other format, this can be provided by GHD upon request and at an additional cost if necessary.

1.3 Assumptions

The following assumptions were made during the Market Sounding process and the preparation of this report:

– The City's projections for waste (SSO and LYW) are reasonable estimates for consideration by Market Sounding respondents
– The opinions, commentary and responses received from all respondents during the interviews were factually correct at the time of the interview

1.4 Abbreviations and Acronyms

AD	Anaerobic Digestion
BMP	Biomethane Potential
CFIA	Canadian Food Inspection Agency
ESG	Environmental, Social and Governance
GHG	Greenhouse Gas
HSAD	High Solids Anaerobic Digestion
ICI	Industrial, Commercial and Institutional
kPa	Kilopascal
LYW	Leaf and Yard Waste
MFD	Multi-Family/Multiple Unit Dwellings
MRF	Materials Recycling Facility
MSW	Municipal Solid Waste
MW	Megawatt
OPF	Organics Processing Facility
RNG	Renewable Natural Gas
RFI	Request for Information

RFP	Request for Proposal
RFQ	Request for Qualifications
SFH	Single Family Homes
SSO	Source Separated Organics
TPY	Tonnes Per Year

2. Methodology

The methodology for this Project was systematically designed and executed in a series of steps to ensure a comprehensive understanding of the market and to facilitate effective communication with potential contractors.

A list of firms was developed, based on GHD knowledge of potentially interested parties from previous Organics Processing Facility (OPF) procurements in Canada, parties with experience in alternative project delivery models, and the City's previous discussions with other firms about their upcoming Green Cart program. The list of firms was developed with the understanding that these firms to be engaged on this Market Sounding were either project developers or service providers, as the City indicated they were interested in project developers or merchant capacity providers that would provide a local turn-key solution, and not planning on developing a design and construction RFP (e.g., design-build-operate).

The list was reviewed and confirmed with the City prior to approaching potential respondents to the Market Sounding process. A summary of the 11 firms that were contacted to participate in the Market Sounding process is summarized in Table 1.

Table 1 Summary of Firms Contacted to Participate in Market Sounding

Name of Firm	Description	Location of Firm or Processing Site	Local Presence	Website
Veolia North America	Processing Equipment Provider, Operations and Maintenance	North American Headquarters: Boston, MA Canadian Headquarters: Montreal, QC Also have presence at City's WWTP (30 year operations contract)	Yes, via WWTP	**https://www.veolia.ca**
Convertus Group	Processing Service Provider, Equipment/Tech representative (WTT)	London, ON	No	**https://convertusgroup.com/**
Miller Waste Systems	Collections and Processing Service Provider	Markham, ON	No	**https://millerwaste.ca/**
GFL	Collections and Processing Service Provider	HQ: Toronto, ON Also have a MRF in Winnipeg	Yes	**https://gflenv.com/**
Walker Environmental	Processing Service Provider (multiple sectors including organics processing)	Niagara Falls, ON	No	**https://walkerind.com/**

Name of Firm	Description	Location of Firm or Processing Site	Local Presence	Website
AIM Environmental	Processing Service Provider	Stoney Creek, ON	No	**https://aimgroup.ca/**
Evergen Infrastructure Inc.	Project Developer (focused on biogas through waste processing)	Vancouver, BC	No	**https://www.evergeninfra.com/**
Catapult Environmental (formerly Overton Environmental)	Processing Service Provider (composting)	Existing 70,000 tpy compost facility in Portage La Prairie	Yes, including land/space avail.	**https://www.catapultenv.com/**
Waste Connections of Canada	Collections and Processing Service Provider	HQ: Woodbridge, ON Also operate out of Winnipeg landfill	Yes, including land/space avail.	**https://www.wasteconnectionscanada.com/**
Skyline Energy (formerly Bio-En Power Inc.)	Project Developer (focused on biogas through waste processing)	Guelph, ON	No	**https://www.skylineenergy.ca/**
Evergreen	Project Developer, Local Equipment Representative (BTA)	Oshawa, ON	No	**https://egreens.ca/**

A Project Brief was developed with the City to outline the primary details and background of the Project, including:

– Background and purpose of the Project
– City's waste projections (SSO and Leaf and Yard Waste)
– Planned roll-out of Green Cart collections program (SFH first, and then the City may extend scope to include multi-unit dwellings)
– The expectation that Project delivery would follow a merchant capacity model
– Estimated timeline for Project scope development and procurement process.

The Project Brief was designed to provide respondents with essential information about the Project, so that they will come to each interview prepared to discuss their available services and how best to apply them to the City's requirements. Alongside the Project Brief, a questionnaire was developed for contractors to respond to, to facilitate a structured dialogue between the City and potential contractors. The questionnaire was based on GHD experience and questions the City had developed. The Project Brief and Questionnaire package is provided in Appendix A.

Prior to setting up interview times, firms were initially contacted to confirm their interest in the Market Sounding process. Once interest was confirmed, they were provided with the Project Brief in advance with Microsoft Teams meeting invitation to help them prepare for the interview. The meetings were structured to be one hour long, with the questions and Project Brief serving as a guide for the discussion, rather than a strict agenda.

The key outcomes expected from the Market Sounding process were as follows:

– A clear understanding of market interest in the Project, including contractors, technology vendors, and potential merchant capacity
– Feedback from contacted firms that may impact and inform the City's proposed collections, transfer and logistics programs for organic waste
– General level of interest from the market in taking the City's organics waste stream

– General level of interest from the market in bidding and executing projects of this type
– An overview of the preferred procurement process based on the feedback from the Market Sounding

3. Results of Market Sounding

3.1 Confirmed Respondents

Of the 11 firms contacted, ten responded with intent to participate in the market sounding. Interviews for each respondent[1] were conducted between February 26 and March 26th, 2024, and each was one hour in duration. The participants of the Market Sounding and the dates of the interviews are summarized in Table 2.

Detailed corporate information for the firms that confirmed their participation in the Market Sounding interview process are summarized in Appendix B.

Table 2 Summary of Respondents that Participated and Date of Interview

Name of Firm	Date of Interview
Catapult Environmental (formerly Overton Environmental)	26-Feb-24
Evergreen	29-Feb-24
Miller Waste Systems	4-Mar-24
Convertus Group	5-Mar-24
Skyline Energy (formerly Bio-En Power Inc.)	6-Mar-24
AIM Environmental	19-Mar-24
Evergen Infrastructure Inc.	20-Mar-24
Walker Environmental	25-Mar-24
Waste Connections of Canada	25-Mar-24
Veolia North America	26-Mar-24

3.2 Summary of Key Responses

At the start of all interviews, the following statements were made to encourage feedback:

– The interview would not be evaluated or scored in any way
– The interview would not prevent respondents from participating in any project, activity, procurement process, etc. resulting from this Market Sounding
– The intent of the conversation was market feedback: honesty, open-ness, frankness is appreciated
– The questions in the Project Brief are only to be used as a guide, and will not be used “line by line” to steer the discussion
– The interview should be used as an opportunity to help shape the next steps for the City, so that they may develop a flexible and welcoming bidding process
– The intent for the City is that the Project will be a merchant model, not design-build-operate or a construction and engineering procurement contract managed by the City.

[1] For the purposes of discussion in this report “respondent” means participants in the Market Sounding process.

A summary of key points brought up by each responding firm that we believe to be critical success factors for participation in the procurement process and the Project itself are summarized in the sections below.

3.2.1 City's Expectations and Measures of Project Success

One of the main comments in each interview was the lack of specificity around the City's success factors in the Project Brief, other than "diversion of organic waste from landfill". The City has completed a two-year pilot program to collect data to base waste projections on, which is included in the Project Brief in Appendix A.

This is the only visible criteria governing the organics management process. As a result, simple "low tech" type solutions will be both faster and cheaper to implement, instead of a solution that grows with the City and its solid waste program, to meet both near term and long-term requirements. Respondents discussed an interest in providing a solution that would meet more comprehensive goals, such as flexibility for future capacity expansion, energy production, and addressing climate change through greenhouse gas emission reductions.

Based on the interviews completed, the City should develop clear expectations and measures of success prior to writing the contract documents for the Project. The following are some proposed focus areas:

- **Requirements for Finished product**
  - What are expectations around the quality of the finished product (e.g., compost, digestate, etc.)?
  - Are there any known takers of this material locally, or has interest been shown by local takers? Would the responsibility for marketing this material be the responsibility of the bidders?
  - What happens if the finished product does not meet specifications due to incoming contamination? Will there be a destination for this material? (note that contamination of feedstock is covered in Section 3.2.4)
- **Renewable energy**
  - There is no indication that renewable energy is a driver of this Project, but respondents to the Market Sounding expressed interest in developing a solution that would produce biogas
  - There is also interest in synergy between landfill gas generated at the Brady Road Resource Management Facility (BRRMF), and a potential new biogas generating process co-located at this facility.
- **City's Goals to address Climate Change**
  - The City has a goal of "Net Zero by 2050", but only broad policies outlined in OurWinnipeg 2045 and Community Energy Investment Roadmap; a more specific goal or target to achieve with this project will help guide the solutions proposed by bidders and provide the best value to the City.

3.2.2 Land Availability and Site Requirements

In the project brief, the City did not indicate land has been made available for development, and the assumption by respondents was that they would be responsible for acquiring the land, including all associated permitting.

Asking bidders to acquire land adds significant technical, financial and schedule risk to overall project. It will be a significant investment for any firm to find suitable land on their own, especially if they are not local, and poses risk to success of the Project if permitting cannot be secured within the proposed project schedule. Based on other organics processing projects, this site permitting can take two years minimum. Furthermore, the "best" plots of land will come at a premium once a Project is formally announced and may be difficult for some bidders to justify from a financial perspective.

Most respondents inquired about the availability of space at the existing BRRMF, given the limited infrastructure and partial servicing on site that could potentially be enhanced to serve a new facility (for example, access roads, weigh scales, away from residential areas). Respondents indicated it could make the permitting process and public acceptance of the Project manageable given the existing permitting for the existing site. Utilizing the existing BRRMF site (or any City-proposed site) reduces the Project risk for bidders, that would normally be associated with the acquisition of a new parcel of land.

3.2.3 City's Projected Tonnages

Respondents indicated that the City's projected tonnages of 30,000 – 40,000 wet tonnes per year of SSO[2] were more conducive to simpler technologies like composting, as opposed to wet anaerobic digestion (AD) that would also provide an energy generation component. When looking for merchant capacity (existing or new), on a dollars per tonne processing cost the "low tech" solutions will always win. Furthermore, due to the local weather in Winnipeg, respondents indicated that relying on LYW to make up tonnages is not advisable as these will not be available during the winter months.

Some respondents suggested that the City's organics processing Project would be more appealing for large scale or advanced technologies (like AD) or for project developers that do not currently have a presence in the Winnipeg or Manitoba market, if the City investigated and gathered interest from local waste supply partnerships. This could include the industrial and agricultural sectors, such as food producers and manufacturers. As of the writing of this report, there is no legislation or policy in Manitoba requiring organics diversion from the Industrial, Commercial and Institutional (ICI) sector, which would force these producers to look at outlets for this material. However, there may be some food producers that would be interested in contributing to fulfill their voluntary corporate Environmental, Social and Governance (ESG) goals.

The City would not be responsible for securing or guaranteeing any additional tonnages, but rather to indicate in any bid documents that there was some level of interest from waste producers that may contribute to larger tonnages beyond what was indicated in the Project Brief.

In summary, acceptable "Minimum guaranteed tonnages" would have to be provided and committed to by the City based on their own generated material as a baseline, for bidders to be able to make the initial investments to pursue this Project and provide financial justification for the execution phase on more complicated and costly processing solutions.

3.2.4 Feedstock Quality Requirements

Although the City clearly indicated it is not settled on their approach for the organics collection program and there is still time to modify it, respondents indicated that they are happy to accept both food waste (SSO) and LYW streams, but they must remain separate. This will allow more operational flexibility on the receiving end, including process technology selection. Since Winnipeg is also located in a generally cooler climate, that also decreases dependency on LYW to make up overall tonnages as noted Section 3.2.3.

Collection trucks, bins, curbside set-out practices, and delivery/logistics are also critical to the success of the processing contract, as this is an important mitigating factor for contamination coming to the facility. Collection methods and practices should be clearly defined and finalized prior to the procurement process and included in the bid documents. Public education is also an important factor at the feedstock stage and will be discussed as a separate item below.

The City's RFW Pilot Program did not give any indication on levels of contamination in the collected food waste, and so this information could not be shared with the respondents.

Accordingly, there also needs to be language in the bid documents and any subsequent contracts to account for contamination of the incoming feedstock, including allowance for increases over the base tonnage processing fees. Neither the City nor bidders should assume that contaminated or out of specification material will be allowed in a landfill as a "backup". Efforts towards a cleaner incoming product will result in cleaner finished product and be beneficial to all parties.

[2] The projected tonnages of both food waste (SSO) and leaf and yard waste based on the City's residential food waste collection pilot program are included for reference in the Project Brief in Appendix A.

3.2.5 Public Education and Outreach

To manage contamination in the incoming Green Cart waste material, public education and outreach is an important factor in the success of the program. Respondents expressed concern over whether the City is prepared to invest in public education and outreach in advance of the Green Cart program starting, to encourage participation, ensure compliance with acceptable curbside waste guidelines, and therefore minimize contamination of the incoming waste material.

Details of this public outreach will be beneficial in the RFQ phase of the Project, to properly contextualize the program that bidders will be participating in. Furthermore, if the City requires assistance from bidders with these educational efforts, this should be clearly indicated in bid documents as well, as most bidders do not have the expertise in this field and would be relying on subcontractors and sub-consultants. The City may therefore wish to engage this support separately from this Project.

3.2.6 Technology

In general, respondents did not express strong opinions on preferred technology. However, for those respondents without an existing presence in the City and Province, “low tech” solutions were less appealing as they would be at a disadvantage competing with local service providers that already offer these types of solutions, and do not require the same upfront investment to pursue the project.

It was suggested by respondents that the City not recommend or suggest a technology in any tender documents and allow bidders to provide a solution that they have experience with and be able to provide the associated processing guarantees. This will potentially give the best value to the City on both ends of the process (acceptance of material and finished output product).

For those respondents that were interested in a long term positive business case, having a renewable energy component would help with the project financial feasibility for bidders, particularly with the increasing value of carbon credits in existing voluntary markets, and new Federally-regulated carbon offset markets. For example, making greenhouse gas (GHG) reduction and renewable energy Project drivers, bidders may elect to provide a facility with a more complex processing solution, such as wet (SSO only) or dry (SSO plus LYW) anaerobic digester to generate biogas as a way to offset initial capital costs over long-term operation. Typically, at organics processing facilities, biogas is upgraded and used on site through a combined heat and power system (CHP) to potentially save on electricity costs or sold as renewable natural gas to generate revenue. This will discourage bidders from competing with less expensive, “low tech” solutions that do not meet these objectives. Ultimately it will be up to the bidder to decide what works best within their proposed operating approach and budget within a given operating period.

3.2.7 Tendering, Procurement Process and Evaluation of Bidders

Most of the respondents have experience delivering OPF projects in Canada and have learned important and valuable lessons during the procurement process for these facilities, that they shared during the interview process. There is a significant “at risk” investment during the start of a procurement process, and a large amount of effort is required to produce a comprehensive bid to meet typical municipal contract requirements. Respondents to the bidding process would want a positive outcome for the City’s organics management program and any associated projects. The following points were offered by respondents as guidance for the development of the City’s contract documents. These should be considered a guide for the City for their internal discussion in development of the Project scope, prequalification and bid packages:

– Do not include any requirements or deliverables for land acquisition and land permitting as this will just extend schedule for bid preparation and overall bid price (refer to Section 3.2.2 above)
– Depending on level of complexity of the requested response to a Tender, consider the inclusion of an honorarium/stipend for submission of a complete Tender package to City in response to the RFP; this will encourage bidders to stick with the process until the end, and make initial investment to pursue the Project.

- Flexibility is important to the process: the City cannot be too prescriptive, and allow for some sharing of risk (like incoming tonnages, levels of contamination, etc.)
- Evaluation, weighting, and scoring needs to be developed to fairly consider proponent experience, technical solution, and overall value to the City, to avoid “low price wins” scenarios.
- “Innovation” cannot be a throwaway statement; the requirements for this criteria must be clearly outlined in the bid documents as it will impact Project approach and pricing from bidders; for example, a more complex and multi-faceted approach that provides multiple environmental benefits (like renewable energy, greenhouse gas reduction, water recycling) will be more expensive to implement.
- Further to previous point, the City could require the total service offering evaluation to include considerations for the sale of environmental attributes, carbon credits, and GHG reductions through the generated process byproducts (like biogas)
- The RFQ scoring and evaluation requirements may have to be more stringent to exclude some bidders to ensure fairness at RFP stage, including clearly outlining Project objectives beyond simply diverting organic waste from landfill.

Respondents also offered some guidance on the procurement process schedule assuming land had been purchased and/or made available by the City ahead of time:

- For response to RFQ, allow for at least three months depending on the level of detail required.
- For response to RFP, allow for six (6) to 12 months to develop a comprehensive proposal, and will depend on level of detail requested in RFP response, City’s objectives for the Project, and the proposed technology solution.

3.2.8 Commercial and Financial Considerations

Selection of the processing technology can have a large impact on the execution of the Project. The ability to recoup costs through the sale of output materials such as compost, digestate, and biogas would make a long-term contract feasible from a financial perspective. These projects are front-loaded and a high-risk investment for proponents due to costs incurred for responses to Request for Information (RFI), RFQs and the RFP. The City needs to ensure they have budget approved by Council including any contingencies to proceed with the Project from start to finish.

Overall, feedback from respondents was that a service contract would have to be a minimum of 10 years, and up to 20 years for more complex technical solutions (such as wet AD).

The service contract should be written such that there is flexibility for revisiting O&M costs partway through contract, to ensure things are “on track” and remain fair for all parties. Flexibility for contract extensions should also be worked into the contract language.

As noted in Section 3.2.7, the respondents want to provide the best value for the City, but this may not necessarily come at a low price. In budgeting for this Project, the City must have flexibility for unknowns to ensure that they can follow through with the Project, which may include setting aside a specific contingency for the Project as noted above.

Based on experience on other bids in Canada, there is also concern by respondents over risk transference. In developing the contract documents, it was suggested that there should be flexibility for some shared responsibility to ensure all parties are protected.

Lastly, the current cost of borrowing (i.e., interest rates) in Canada changes the risk profile of every construction project. To pursue this Project, bidders would be required to invest capital up-front and take on the associated debt. Respondents want assurances that the Project will eventually materialize.

3.2.9 Project Schedule and Timeline

Discussion around Project schedule and timeline with respondents focused on three main areas that would impact the City's Project schedule:

1. Land acquisition and permitting for organics processing facility site
2. Procurement and Contract negotiations
3. Technology implementation

With regard to land acquisition, it was recommended by multiple respondents that if the City were to acquire the land prior to issuance of the RFQ document, that it would shorten the overall procurement and delivery process by at least two years.

For procurement and contract negotiations, respondents indicated from previous public sector experience that they tend to be a long and drawn-out process adds unnecessary time to the overall Project schedule. The City indicated during these interviews that a complete draft contract would be issued with the RFP for bidders to review, question and comment on, which will help with contract negotiations during the procurement process by setting clear expectations in advance, and respondents seemed satisfied with this approach.

Lastly, for technology implementation, respondents indicated that simpler technologies are easier to implement, but other benefits are not necessarily realized. This would include providing a long-term and flexible solution for increased future tonnage requirements, or a technology that generates renewable energy, such as anaerobic digestion.

Overall estimates for a Project execution schedule, including land acquisition, were expected to range from four to six years upon signing an agreement with the City.

3.3 Overall Sentiment of Respondents

3.3.1 Discussion

For respondents that were interviewed during this Market Sounding process, the City of Winnipeg and the Province of Manitoba has been identified as a region for expansion and new project development, as a large-scale waste processing solution would provide valuable opportunities and services in the waste processing sector. General sentiment towards the proposed Project by the respondents was positive, but cautious given their recent experience in the Ontario market.

Some challenges were brought to the forefront of the conversations with the respondents, and some were identified as potential risks to the Project. They are described in the following section.

3.3.2 Risks Identified Through Market Sounding Process

Table 3 summarizes the main risks identified during the course of the Market Sounding process.

Table 3 Project Risks Identified during the Market Sounding Process

Description of Risk	Impacts to Bid or Project Overall	Severity (High, Medium, Low)	Proposed Mitigating Factors
No land currently earmarked for use	– Will add to cost and Schedule risk – Risk that permits may not be granted	High	– City selects or provides land, starts permitting process so that it is complete prior to Project start.
Guaranteed tonnages from City and potential for supplementary inputs	– Current projections are on the "low" side to allow for wide range of technology solutions – May limit competitiveness of bids if large tonnages cannot be secured in the region, to justify investment into more complex processes (such as anaerobic digestion)	High	City may wish to reach out to local suppliers of material (agricultural, food waste producers) to determine if they have available supply. This can be listed in the contract documents for bidders to pursue.
Guarantees on level of contamination in incoming material	– Although City has performed pilot program for Green Cart waste, still no "guarantees" around contamination as City does not know how full scale program will perform – This risk will increase cost per tonne for bidders, as they have to account for unknown contamination percentages – Rejecting contaminated material at the gate does not help anyone – need to divert away from landfill	High	– City may wish to invest into Public Education and Outreach programs in advance of the Green Cart program launching to ensure compliance and participation – The City may get more clarity on potential for contamination and co-mingling of SSO and LYW through the City's ongoing collection program study – In the contract documents, describe the work that has been done to encourage compliance – Allow flexibility on processing rates based on promised contamination rates; e.g. if 10% was spec, and 15% delivered, allow for a processing cost differential to ensure loads are processed by vendor – goal is to create a usable product
Overly prescriptive contract documents	– This will increase cost and complexity of Project, and likely increase schedule risk because bidder may have to implement something unique per City's specifications, instead of what they have done before	Medium	In drafting contract documents, allow bidders the flexibility to provide solution that leverages their own experience, and provides best value for everyone (and maintain financial feasibility)
Lack of definition around acceptable technology ("Low tech" vs "high tech"	– In light of previous point, the lack of specifics around technology will allow for "low cost" solutions to prevail on a dollar per tonne basis	High	Define City's success factors for the Project around something more than just "diversion form landfill"; if it is energy generation then that will lead bidders to more innovative and "future proofed" solutions
Upfront capital and cost of borrowing	– Current financial conditions are prohibitive for complex, high cost, and lengthy capital projects – Financial risks will be priced into the processing cost	High	– City needs to secure funding plus contingency for Project, to allow flexibility when Tender closes – Need to ensure Project is able to be executed; need "guaranteed Project" for successful bidder – Introduce honorarium/stipend to bidders who close the proposal/procurement process
Offloading 100% of project risk to Bidders (e.g. financial risk on interest rates/cost escalation, process risk)	This will result in a higher overall cost per tonne for the service, as bidders will have to price in this risk.	High	Include flexibility of language to allow open conversations around process performance, changes in operational costs, and potentially cost of materials during construction.

4. Summary and Conclusions

From the ten respondents that participated in the Market Sounding process, some key areas of interest were identified that will help with the City's approach to their proposed organics management program. These include:

- **City's Expectations and Measures of Project Success.** It was suggested that the City revisit their main drivers for the Project, and potentially expand beyond simply "organic waste diversion from landfill" and find ways to integrate this Project with the City's broader environmental goals and policy, such as City's climate change targets.
- **Land Availability and Site Requirements.** Asking bidders to acquire land adds significant technical, financial and schedule risk to overall Project. It will be a significant investment for any firm to find suitable land on their own, and based on other organics processing projects, site permitting can take two years minimum. It was recommended that the City propose a location for the facility before an RFQ is issued.
- **City's Projected Tonnages.** The City's projected SSO tonnages of 30,000 - 40,000 wet tonnes per year are more conducive to technologies like composting, as opposed to an anaerobic digestion system which can be expensive but provide other benefits like renewable energy generation. Respondent firms stressed the importance of feedstock security and tonnage guarantees for the financial feasibility of the Project. Improving feedstock quantities or security may include identifying interest from local industrial or agricultural waste producers within the RFQ and RFP documents.
- **Feedstock Quality Requirements.** Respondents encouraged the separate collection of SSO and LYW, so that they could be managed more efficiently by their proposed process technology and minimize contamination. Collection trucks, bins, curbside set-out practices, and delivery/logistics should also be clearly defined prior to the procurement process. There also needs to be language in the bid documents and any subsequent contracts to account for contamination of the incoming feedstock, including allowances for contamination increases over base tonnage fees, and unexpected contamination of bulkier materials that may be collected.
- **Public Education and Outreach.** Further to the previous point, respondents indicated that a useful strategy for managing contamination is a concerted effort to educate the public as to what is acceptable in the new Green Cart collection program to encourage participation and ensure compliance with acceptable curbside waste guidelines.
- **Technology.** In general, respondents did not express strong opinions on preferred technology, but did indicate that it should not be heavily prescribed in any Tender documents. This would allow bidders to provide a solution that they have experience with and be able to provide the associated processing guarantees, and potentially give the best value to the City on both ends of the process (acceptance of incoming material and finished output product).
- **Tendering, Procurement Process and Evaluation of Bidders.** Most of the respondents to the Market Sounding process have experience delivering OPF projects in Canada and have learned important and valuable lessons during the procurement process for these facilities. Key suggestions for improving the procurement and evaluations included being flexible on the contract terms and procurement documents. That is, the City cannot be too prescriptive for technology selection or project approach, and avoid evaluations heavily weighted on cost. It was also recommended that an honorarium for submitted bids should be provided, and an openness to risk sharing between the City and the bidder should be considered when developing the contract documents.
- **Commercial and Financial Considerations.** Respondents want to provide the best value for the City, but this may not necessarily come at a low price. In budgeting for this Project, the City must have flexibility for unknowns to ensure that they can follow through with the Project. Based on experience on other bids in Canada, there is also concern by respondents over risk transference. The current cost of borrowing in Canada also changes the risk profile of every construction project in Canada and requires bidders to take on a significant amount of debt to finance the Project at the early stages.

– **Project Schedule and Timeline.** Proponents estimate four to six years for Project execution if the proponent is responsible for land acquisition. This schedule could be shortened by about two years if the City provides land or a site ahead of time. To avoid lengthy and time-consuming negotiations, it was suggested that the City provide a complete draft contract in the RFP phase, which will facilitate and potentially shorten the contract closing timeline.

By integrating this information into the City's Project planning process, it will encourage interest in the Project, and a favorable value proposition for the City, that will suit both near term and long-term waste management needs including future capacity expansion, energy production, and addressing climate change through greenhouse gas emission reductions.

Appendices

Appendix A

Project Brief and Questionnaire issued to Respondents

City of Winnipeg – Market Sounding for the Management of the City's Organic Waste

This Market Sounding is being undertaken by the City of Winnipeg (the "City") to gather information about the marketplace to assist in the determination of future service agreement(s) to process organic waste collected through the City's green cart program. This information will be used to develop a Request for Qualifications (RFI or RFQ) document that the City will issue publicly as a next step in their process to develop a service agreement to process green cart program materials.

This document contains two parts:

- PART A – Project Brief (to provide background on the project)
- PART B – List of Interview Questions

PART A – PROJECT BRIEF

About Winnipeg

Winnipeg is the capital of Manitoba and the sixth largest city in Canada with a population of 783,096 (Source: Statistics Canada, 2022). Winnipeg is located in the south-central area of the province at the confluence of the Red and Assiniboine Rivers, and covers an area of 461.8 square kilometers.

The City currently provides curbside garbage and recycling collection services to over 210,000 single-unit dwellings and communal collection services to over 80,000 multi-unit dwellings. It also provides seasonal bi-weekly curbside collection of leaf and yard waste (LYW) from single unit dwellings.

The City owns and operates the Brady Road Resource Management Facility (BRRMF) and three staffed recycling depots (4R Depots), which provide waste disposal and diversion services. The City also processes curbside-collected (in Kraft paper bags) and self-hauled LYW in a passive windrow composting system at the BRRMF.

Background

On October 19, 2011, Council approved the Comprehensive Integrated Waste Management Strategy (CIWMS) with an overall goal to increase Winnipeg's diversion rate to greater than 50 percent.

On June 20, 2019, a review of CIWMS was presented to Council, which concluded that the waste diversion rate target of 50 percent could not be achieved without a residential food waste (RFW) collection program and other investments in Winnipeg's waste management system.

In December 2019, Council directed the public service to deliver a two-year pilot for the curbside collection of Residential Food Waste (RFW) from single family dwellings. The Pilot Project, which ran from October 2020 to September 2022, provided weekly curbside collection of expanded residential food waste (fruits, vegetables, meats, bones, dairy, etc.) to 4,061 households across five areas of the City.

Results from both pilot participant and city-wide surveys indicate strong support for a city-wide RFW program: 89 percent of city-wide survey respondents and 94 percent of pilot participants support RFW collection.

Recommended Green Cart Program

- Every single-unit residential dwelling will receive a 120-litre green cart and a 7-litre kitchen pail to use for transferring food waste from their kitchens to their green carts.
- Acceptable materials for the green carts will include fruits and vegetables (including peelings), meat, bones, and dairy, as well as paper towels, tissues and soiled cardboard boxes (e.g. pizza boxes). The program will not include pet waste or diapers.

- Residents will be permitted to use Biodegradable Products Institute (BPI) certified compostable liner bags in their kitchen pails.

Three stream waste audits conducted during the RFW Pilot Study inform the estimated tonnage required for the organic waste processing facility. Annual tonnages presented below in **Table 1** factor in the City's projected growth rates based on Statistics Canada census data. In addition, the City could make available, separately collected leaf and yard waste (LYW) of approximately 30,000 tonnes annually. Historic tonnages of LYW collected are presented in **Table 2**.

Table 1: Projection of Organics for an SSO Program based on Estimated Capture Rates

Total Organics + Pet Waste (metric tonnes)							
Year	SFD Organic Waste	MFD Organic Waste	Total Organic Waste	MFD Pet Waste	SFD Pet Waste	Total Pet Waste	Total Organics + Pet Waste
2030	25,665	6,079	31,744	900	951	1,850	33,595
2031	25,811	6,199	32,011	917	956	1,873	33,884
2032	25,958	6,321	32,280	935	961	1,897	34,177
2033	26,106	6,446	32,551	954	967	1,921	34,472
2034	26,254	6,572	32,825	972	972	1,945	34,770
2035	26,402	6,700	33,102	991	978	1,969	35,071
2036	26,551	6,830	33,382	1,011	983	1,994	35,376
2037	26,701	6,963	33,664	1,030	989	2,019	35,683
2038	26,851	7,098	33,949	1,050	995	2,045	35,993
2039	27,002	7,234	34,236	1,071	1,000	2,071	36,307
2040	27,153	7,374	34,527	1,091	1,006	2,097	36,623
2041	27,305	7,515	34,820	1,112	1,011	2,123	36,943
2042	27,457	7,659	35,116	1,133	1,017	2,150	37,266
2043	27,610	7,805	35,415	1,155	1,023	2,178	37,592
2044	27,764	7,953	35,717	1,177	1,028	2,205	37,922
2045	27,918	8,104	36,022	1,199	1,034	2,233	38,255
2046	28,072	8,257	36,329	1,222	1,040	2,262	38,591
2047	28,227	8,413	36,640	1,245	1,046	2,290	38,931
2048	28,383	8,571	36,954	1,268	1,051	2,320	39,274
2049	28,539	8,732	37,271	1,292	1,057	2,349	39,620
2050	28,696	8,895	37,591	1,316	1,063	2,379	39,970
2051	28,854	9,060	37,914	1,341	1,069	2,409	40,324
2052	29,012	9,229	38,241	1,366	1,075	2,440	40,681
2053	29,171	9,400	38,570	1,391	1,080	2,471	41,042
2054	29,330	9,574	38,903	1,417	1,086	2,503	41,406
2055	29,490	9,750	39,240	1,443	1,092	2,535	41,775

Table 2: Projection of Separately Collected LYW.

Year	LYW Tonnes Composted
2022	33,133
2021	29,784
2020	36,993
2019	31,630
2018	33,041
2017	28,528
2016	34,123
2015	33,474
2014	29,754
2013	23,223

It has been assumed that LYW would be collected and processed separately. The City is reviewing the option of collecting co-mingled LYW and RFW in green carts. The City currently processes this material at BRRMF at a lower cost than would be expected at an organics processing facility. Some municipalities co-collect/co-mingle RFW and LYW to support collection cost savings, while others collect these materials separately, to support processing cost savings. Many municipalities provide additional seasonal LYW collection to manage larger quantities of LYW that may or may not be allowed in green carts. Ultimately the City is looking for input from the marketplace to determine the best approach to collections and comingling of this material.

The City could also offer chipped wood from their LYW as a bulking agent. This gives the City flexibility in how this material stream may be collected and processed. Further assessment of collection versus processing costs for co-collecting LYW with RFW has been initiated.

The launch of a City green cart from program would initially be available to single-unit residential dwellings only. The City plans to extend the scope of this program to multi-unit dwellings, and potentially ICI customers, within three years of the program launch. The City is interested in hearing from potential proponents about different solutions for organic waste processing and partnership options and opportunities, including whether the potential proponents have/intend to competitively secure ICI wastes such that the project is large enough to benefit from economics of scale.

After the Market Sounding Process, the City intends to execute a two-phase evaluation process (RFQ and RFP) to retain the services of an organic waste processor (Merchant). The scope of the OWPS RFP would only include processing and not collections. A collector would deliver the materials to the Merchant and the City would pay the Merchant to process the materials in a way that meets or exceeds the City's minimum specifications.

Service Agreement Timetable

The following service agreement schedule is based on currently available information and will govern the process unless amended by the City:

- Issue Date of RFI M
- Submission Deadline February 5, 2024
- Issue Date of RFQ December 2024
- Issue Date of RFP June 2026

The timetable above is tentative. It may be changed by the City at any time.

PART B – LIST OF INTERVIEW QUESTIONS

1) Provide Full Company Information (incl. addresses of HQ, local offices, overall size and structure of organization)
   a) Canadian Corporation
   b) Local Address
   c) Local offices
   d) Company size (number of employees):
      i) Canadian
      ii) North American:
      iii) Global
   e) Years of Operation
   f) Average annual revenue (North America)

2) Company Experience
   a) Discuss past involvement in similar projects and in what capacity (i.e. development, design, construction, equipment supply, operations, maintenance, financing)
   b) Would you be able to provide the full scope of work outlined in Part A – Project Brief or would it require a Joint Venture (JV) from your end?
   c) Discuss any lessons learned with similar projects and opportunities your firm may have pursued.

3) Existing Facilities and Capacity
   a) Number, types and location of organic waste processing facilities currently in operation, including average annual tonnage processing
   b) Technology or process used at existing facilities, including relevant auxiliary processes (for example biogas upgrading, and odour control)
   c) Is a facility located near the City of Winnipeg? (provide distance, as applicable)
   d) Can existing facility be expanded? What kind of redundancies are employed at each facility to ensure throughput can be maintained?
   e) What are end/marketable products of your process?
   f) If compost is an end product, can it be certified Grade A or Organic Material Recovery Institute (OMRI) Certified?
   g) If compost is an end product, is there an option to allocate a quantity for City public works, or residents?
   h) If biogas is an end product how do you intend to use it or market it?

4) Feedstock Requirements
   a) If an existing facility, what volume and/or tonnage of waste can be accepted at your facility?
      i) What portion of built capacity is available for use to process the City's tonnages?
   b) If an existing facility, what waste items are acceptable in an organics-based feedstock?
   c) How would your facility handle seasonal variations in feedstock? (i.e. large volumes of yard waste in summer and low volumes in the winter)
   d) Would your facility accept organic materials from different generators, such as multi-unit and IC&I sectors?
   e) What specifications do you expect to see in the contract regarding product quality/contamination and recovery rates?

5) Project Scope
   a) Are there scope areas that you believe would improve the value for money of the Project?
   b) Based on your understanding of the Project's scope and location (Winnipeg, MB), are there any issues you foresee in finding and/or working with partners for the Project?
   c) What are the key risk and cost factors that should be considered? Is there anything notable that would increase the risk or cost priced higher than one would typically expect or that is more complicated than the industry normally undertakes?
   d) The Project may have points of integration with other infrastructure, do you have any concerns about how the risk for in scope activities versus existing or out of scope activities would be allocated?

6) Project Site Requirements
   a) How much space is required for your facility?
   b) What is the water demand for your facility?
   c) What are the energy/utility requirements for your facility?
   d) Describe the indoor and outdoor components and processing stages (timing and duration) of your technology/facility?
   e) If not existing, do you own land on which you intend to construct a facility? (address, and distance from City, if applicable)
   f) Do you have property identified as a potential site to purchase and construct a facility? (address, and distance from City, if applicable)
   g) Would you have a preference towards building on private land or City property (e.g. Brady Road Resource Management Facility)?

7) Project and Facility Performance Targets
   a) Do you have experience working in service contracts that have performance targets, such as tonnes diverted from landfill, Potable water usage, biogas and RNG generation, GHG reduction, etc. tied to compensation?
   b) Please describe a preferred approach towards performance with respect to organics recovery or diversion guarantees. Please also provide insight into preferred testing methodology to confirm Substantial Performance.
   c) Discussion on some challenges for meeting processing targets? Would there be opportunities for incentives around waste processing or minimization of downtime?
   d) Please describe a preferred approach towards odour management at your facility, from receiving feedstock, to final processing and removal of the end product (e.g. compost, biogas) from the site.
   e) Do you have examples of innovations on projects that you believe should be considered? Are there opportunities related to overall Project carbon intensity?
   f) Would you have any concerns related to interactions between private-sector employees, the City's staff or other City contractors? Could you provide recommendations on how best to address these concerns?

8) Contract Terms
   a) What type of Service Contract would be preferred? (e.g. per tonne processing rate or "put or pay")
   b) Would your firm be interested in discussion of distribution of Environmental attributes, revenue sharing, GHG emission reductions and carbon credits, for example?)

c) What is preferred length of contract? What are expected terms around contract extensions?
d) What is your preferred Tender duration for RFQ, and RFP? (in months)

9) Project Schedule and Timeline
   a) How soon could you start receiving green cart materials from a City collections program (interim or City-wide), at an existing facility?
   b) How long would it take to construct and commission a new facility from Contract Award?
   c) Would your firm be able to accept material at other facilities (e.g. existing in near term, and new long-term?)

10) Financial/Commercial Details
   a) If an existing facility, what is the typical cost per tonne tip fee for your facility?
   b) If new facility, recommendations around an approach to mitigate uncertainty around supply chain/ cost of materials to maintain cost per tonne during length of contract?

11) Other Considerations
   a) Can you offer any insight towards overall and local market capacity and appetite in the waste processing, construction and maintenance sector to ensure sufficient competition for the Project (e.g., prime contractors, sub-contractors)?
   b) Please provide comment on potential labour, material, or equipment shortages in the Winnipeg area that could adversely impact the Project's construction and/or maintenance phase.

Appendix B

Detailed List of Participating Firms

APPENDIX B – LIST OF PARTICIPATING FIRMS
Market Sounding for The Management of The City of Winnipeg's Organic Waste

	Canadian Corporation Name	Local Address	Canadian Office Locations	Company size (number of employees):	Years of Operation	Average annual revenue (North America)
Veolia North America	Veolia Water Canada	555 René-Lévesque Blvd W, Montreal, Quebec H2Z 1B1	Oakville, Guelph, Winnipeg, Vancouver, Montreal (2)	– Canada: 727 (Veolia Canada) – North American: 10,000 plus – Global: 220,000 plus	Veolia has operated in Canada since 1978	$3.6B US
Convertus Group	Convertus Canada Ltd. 307 Commissioners Road West, London, Ontario, N6J 1Y4.		– Surrey and Nanaimo, British Columbia – London and Ottawa, Ontario, – East River, Nova Scotia – Fredericton, Belledune, Clarendon, Memrancook, Miramichi, Riviere-Verte and St. Francois, New Brunswick – Unity, Maine	– Canada: 235 – Global: 300	Formed in 2019 as part of a merger of the assets of Renewi Canada and Waste Treatment Technologies (established in 1996 in the Netherlands)	Undisclosed
Miller Waste Systems	Miller Waste Systems Inc. is a corporation incorporated pursuant to the Ontario Business Corporations Act.		– Ontario – Nova Scotia – New Brunswick – Manitoba	– Employs approx. 2,200 staff and operates approximately 1,000 vehicles – Part-Time Employees: 50 – Full-Time Employees: 2,150	– Founded in 1961 – 63 years in operation – Incorporated February 11, 1994; Articles of Amalgamation issued March 1, 2019	N/A
Walker Environmental	Walker Environmental Group Inc.	2800 Thorold Townline Road, Niagara Falls, Ontario, L2V 3Y8	Multiple locations across Ontario	– Walker Industries: 1243 – Walker Environmental Group: 487	>40 years	Undisclosed – private company
AIM Environmental	AIM Environmental Group Inc.	Head Office: 1100 South Service Road, Suite 419, Stoney Creek, ON, L8E 0C5, Canada	Municipal Facilities under AIM operation (local offices) – Calgary Compost Facility – Hamilton Compost Facility – Lethbridge Compost Facility – Halifax Compost Facility – Guelph Compost Facility	84 Total Employees Canadian: – Hamilton 6 – Guelph - 9 – Calgary – 38 – Lethbridge – 6 – Halifax – 13 – Product Marketing – 2 – Head Office – 13 – North America: 0 – Global: 0	– 35 Years – 50 Cumulative years of Organic Processing Facility operations	>40M
Evergen Infrastructure Inc.	Evergen Infrastructure Corp. 390-1050 Homer St. Vancouver, BC V6B 2W9	390-1050 Homer St. Vancouver, BC V6B 2W9	Closest operating site: Prairie Sky Organics, Regina Location: Regina landfill	– Canada: 46 – No further NA employees	3	$8M

	Canadian Corporation Name	Local Address	Canadian Office Locations	Company size (number of employees):	Years of Operation	Average annual revenue (North America)
Catapult Environmental (formerly Overton Environmental)	Yes, privately owned by ARC Financial (majority), with additional equity investment from Export Development Canada HQ: Catapult Environmental Inc Ste 1620 700 9th Ave SW (South Tower), Calgary AB T2P 3V4 Canada	Simplot Rd, Portage la Prairie, MB R0H	Site office only	– Canadian: 34 – North American: n/a – Global: n/a	10	$12M
Waste Connections of Canada	Waste Connections of Canada Inc.	Prairie Green Integrated Waste Management Facility, 375 Oak Point Highway, Winnipeg, MB R2R 1T9	Waste Connections local transportation/hauling location is 375 Oak Point Hwy, Winnipeg, MB R2R 1T9	– Canadian: > 7,000 – North American: >23,000 – Global: n/a	26	~$8.025 billion
Skyline Energy (formerly Bio-En Power Inc.)	SkyMar Biogas Holdings Limited Ontario Corporation	301-5 Douglas Street, Guelph, ON N1H 2S8	Offices in Guelph, Elmira, and Lethbridge	All Canadian employees: 35+	10+ years of operation at site level	$10-$15M revenue annually.
Evergreen	Evergreen Environmental Inc. Subsidiary: CCI BioEnergy Inc, with the exclusive distributor rights to the BTA technologies in Canada and US	Evergreen Environmental Inc. 162 Cumberland Street, Suite 300 Toronto Ontario M5R 3N	CCI BioEnergy Inc. 3495 Rebecca st, Unit 203 L6L 6X9 Oakville	– Can: 7 – US: 1 – Int: 2 Partner BTA GmbH International	– Evergreen: 4 years – CCI BioEnergy Inc: 33 years – Partner, BTA International GmbH : 19 years – BTA subsidiary Agraferm: 51 years	N/A


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