REQUEST FOR EXPRESSIONS OF INTEREST

GARBAGE CART MANAGEMENT SOLUTION

RFEOI No. PS20200442

Issue Date: April 15, 2020

Issued by: City of Vancouver (the "City")

REQUEST FOR EXPRESSIONS OF INTEREST NO. PS20200442 (the "RFEOI")
GARBAGE CART MANAGEMENT SOLUTION

EXPRESSIONS OF INTEREST WILL NOT BE PUBLICLY OPENED.

NOTES:

1. An Expression of Interest should be submitted by email, and **received by the City prior to 3:00pm on May 14, 2020 (the "Closing Time")** in accordance with the following:

    - Subject of the file to be: **PS20200442** - Garbage Cart Management Solution - *Vendor name.*

    - Document format for submissions:
        - Schedule 1-5 in PDF format, - 1 combined PDF file, and;
        - Any additional attachments if required.

    - Zip the files to reduce the size or email separately if needed.

    - Send your submissions to Bids@vancouver.ca; do not deliver a physical copy to the City of Vancouver. **DO NOT email the Contact Person.**

    - If you did not receive an automated email within few minutes, check your junk folder first, and then contact Purchasing@vancouver.ca.

    - Submitting the files via Drop box, FTP, or similar programs, is **NOT** acceptable.

2. Each Expression of Interest must be marked with the vendor's name and the RFEOI title and number.

3. "Vancouver Time" will be conclusively deemed to be time in the City of Vancouver, as indicated in the electronic timestamp the Proposal receives upon delivery to the email address specified herein, which is in turn synchronized to Network Time Protocol (NTP) provided by the National Research Council of Canada adjusted to local Pacific Time Zone.

4. DO **NOT** SUBMIT EXPRESSIONS OF INTEREST BY FAX.

5. All queries related to this RFEOI should be submitted in writing to the attention of:

Diana Chan, Contracting Specialist
Email: diana.chan@vancouver.ca

(the "**Contact Person**")

SECTION 1   GENERAL INFORMATION

1.1   Introduction

The City of Vancouver (the "**City**") is seeking expressions of interest ("**Expressions of Interest**") from vendors with expertise in Garbage Cart Management Solutions.

1.2   Background

Refer to Schedule 1 – Description of Requirements.

1.3   Scope of Work

Refer to Schedule 1 – Description of Requirements.

1.4   Sustainability

1.4.1   The City's Procurement Policy, Ethical Purchasing Policy and related Supplier Code of Conduct found at http://vancouver.ca/doing-business/selling-to-and-buying-from-the-city.aspx align the City's approach to procurement with its corporate social, environmental and economic sustainability values and goals. They evidence the City's commitment to maximize benefits to the environment through product and service selection, and to ensure safe and healthy workplaces, where human and civil rights are respected. Each City vendor is expected to adhere to the supplier performance standards set forth in the Supplier Code of Conduct. The Ethical Purchasing Policy shall be referred to in the evaluation of Expressions of Interest, to the extent applicable.

1.4.2   Vendors are to provide environmentally sensitive products or services wherever possible. Where there is a requirement that a vendor supply materials, and where such materials may cause adverse environmental effects, the vendor should indicate the nature of the hazard(s) in its Expression of Interest. Furthermore, each vendor is asked to advise the City of any known alternatives or substitutes for such materials that would mitigate such adverse effects.

1.5   RFEOI Process

1.5.1   Interested parties ("**Respondents**") are required to respond to this RFEOI in accordance with the instructions set forth in this RFEOI.

1.5.2   Expressions of Interest are being requested in order to afford the City of Vancouver the opportunity to gauge such responses and evaluate Respondents' expertise, so that the City may inform its garbage cart management strategy, which may or may not lead to the City conducting a more formal procurement process, based on the requirements stated in Schedule 1 — Description of Requirements or alternative requirements that result from the findings of this RFEOI.

1.5.3   Notwithstanding the foregoing, the City may, as a result of the RFEOI, decide to proceed directly to negotiate a contract with an outstanding Respondent (or the sole qualified Respondent, if there is only one).

1.5.4   The RFEOI process is aimed at encouraging businesses with the required level of expertise to participate. Respondents should ensure that their Expressions of Interest demonstrate expertise in garbage cart management solutions.

1.6   **RFEOI Documents**

1.6.1   This RFEOI consists of:

(a)   the cover page hereof and sections 1 through 6 hereof; and

(b)   schedules as follows:

(i)   Schedule 1 — Description of Requirements;

(ii)   Schedule 2 — Letter of Expression of Interest;

(iii)   Schedule 3 — Format for Expressions of Interest; and

(iv)   Schedule 4 — Certificate of Existing Insurance

(v)   Schedule 5 — Declaration of Supplier Code of Conduct Compliance

(collectively, the "**RFEOI Documents**")

1.6.2   If the City of Vancouver issues any amendments or addenda to the RFEOI Documents, such amendments or addenda will form part of the RFEOI Documents. It is the sole responsibility of all Proponents to check the City's website at: http://www.vancouver.ca/fs/bid/bidopp/openbid.htm regularly for amendments or addenda to the RFEOI Documents, including questions and answers posted by the City in relation to this RFEOI.

SECTION 2   QUALIFICATION CRITERIA – intentionally deleted

SECTION 3   COMMUNICATIONS

Respondents may not communicate with the City about the RFEOI except by email to the Contact Person at diana.chan@vancouver.ca .

SECTION 4   SUBMISSION OF EXPRESSIONS OF INTEREST

4.1   **Delivery**

Each Respondent should submit a single electronic copy of its entire Expression of Interest by email to bid@vancouver.ca. It is each Respondent's sole responsibility to ensure the City **receives** its Expression of Interest on or before the Closing Time. All submissions should be made at the Respondent's sole cost and expense. **DO NOT email submissions to the Contact Person**.

4.2   **Late Expressions of Interest**

The City of Vancouver may, in its discretion, accept, or reject and return, any Expression of Interest received after the Closing Time.

4.3   **Form of Expression of Interest**

Each Expression of Interest must consist of a letter in the form set forth in Schedule 2 together with a Statement of Qualifications in the format set forth in Schedule 3, an insurance certificate in the form set forth as Schedule 4 and declaration of Supplier Code of Conduct compliance in the form of Schedule 5.

4.4   **Lack of Information**

Following receipt of an Expression of Interest, the City of Vancouver may, in its sole discretion and without having any duty or obligation to do so, request that the Respondent provide the City of Vancouver with additional information to clarify or substantiate the information provided by the Respondent. If a Respondent fails to provide information required for the City's evaluation of the Respondent's qualifications, or fails to provide timely clarification or substantiation of the information supplied, that failure may result in no further consideration being given to the Expression of Interest.

SECTION 5   REVIEW OF EXPRESSIONS OF INTEREST

5.1   **Evaluation by the City of Vancouver**

The City will review the Expressions of Interest submitted to determine whether, in the City's opinion, each Respondent has demonstrated that it has the required experience and qualifications in order for it to advance in the City's procurement process.

5.2   **Inquiries**

The City, in its sole discretion and without having any duty or obligation to do so, may conduct any inquiries or investigations, including but not limited to contacting references, to verify the statements, documents, and information submitted in connection with an Expression of Interest and may seek clarification from a Respondent's bankers and clients regarding any financial and experience issues.

5.3   **Non-Conforming Expressions of Interest**

Expressions of Interest which fail to conform to the format requirements set forth in Schedule 3 hereto or which fail to conform to any other requirement of these RFEOI Documents may be rejected by the City of Vancouver, in its discretion. Notwithstanding the foregoing or any other provision of these RFEOI Documents, the City may at its sole discretion elect to retain for consideration Expressions of Interest which deviate either materially or non-materially from the format requirements set out in Schedule 3 hereto or which otherwise fail to conform to any other requirement of these RFEOI Documents.

SECTION 6   NOTIFICATION

6.1   **Notification**

Following the Closing Time, the City of Vancouver will only notify those Respondents which are selected to advance in the procurement process. The City of Vancouver thanks all other Respondents for their interest.

6.2   **The City of Vancouver Rights**

6.2.1   The City may, without liability to any Respondent:

(a)   amend the scope and description of the goods and services described in the RFEOI;

(b)   reject or accept any or all Expressions of Interest;

(c)   cancel the RFEOI process and reject all Expressions of Interest;

(d)   cancel the RFEOI process and commence a new process with the same or an amended set of documents, information or requirements;

(e)   request that any Respondent provide additional information, clarifications or goods samples or demonstrations, without requesting the same from all Respondents; or

(f)   terminate the RFEOI process and enter into direct negotiations with any party whether or not a Respondent.

6.2.2   By submitting an Expression of Interest, a Respondent acknowledges and agrees that these RFEOI Documents are, in no way whatsoever, an offer to enter into an agreement (except on the limited terms and conditions expressly stated in Schedule 2), and that submission of an Expression of Interest by a Respondent does not in any way whatsoever create any obligation on the part of the City to treat the Respondent's or any other Respondent's Expression of Interest in any particular manner or undertake the City's RFEOI process in any particular manner (except as expressly stated in Schedule 2 with respect to confidentiality).

6.2.3   The form of letter set forth in Schedule 2 also contains a release of the City's liability and other important terms and conditions that should be reviewed carefully by each Respondent, and each Respondent should obtain the advice of independent legal counsel in connection therewith.

6.3   Information Disclaimer

6.3.1   The City makes no representation, warranty or undertaking with respect to these RFEOI Documents and the City and its directors, officers, employees, agents, consultants and advisors will not be liable or responsible for the accuracy or completeness of the information in these RFEOI Documents or for any other written or oral information made available to any interested person or its advisors, and any similar such liability however arising, is expressly disclaimed by the City.

6.3.2   Each Respondent should conduct its own independent investigations of all relevant matters and must not rely on the City in such regard. The information contained in the RFEOI Documents is provisional.

SECTION 7   CONFLICTS/COLLUSION/LOBBYING

7.1   Conflicts of Interest Generally

Each Respondent must disclose whether any officer, director, shareholder, partner, employee or contractor of the Respondent or of any of its proposed subcontractors, or any other person related to the Respondent's or any proposed subcontractor's organization (a "person having an interest") or any spouse, business associate, friend or relative of a person having an interest is:

(a)   an elected official or employee of the City; or

(b)   related to or has any business or family relationship with an elected official or employee of the City,

in each case such that there could be any conflict of interest or an appearance of a conflict of interest in the evaluation or consideration of the Respondent's Expression of Interest by the City. The City will evaluate each matter disclosed to determine whether and to what extent the Respondent can be given consideration in the RFEOI in light of the particular matter.

7.2   **Former City Employees**

Each Respondent must disclose whether any person having an interest (as defined above) is a former official, former employee or former contractor of the City who has non-public information relevant to the RFEOI obtained during his or her employment or engagement by the City. The City will evaluate each matter disclosed to determine whether and to what extent the Respondent can be given consideration in the RFEOI in light of the particular matter.

7.3   **Other Clients**

Each Respondent must disclose whether the Respondent or any of its proposed subcontractors is currently engaged in supplying (or is proposing to supply) goods or services to a third party such that entering into an agreement with the City in relation to the subject matter of the RFEOI would create a conflict of interest or the appearance of a conflict of interest between the Respondent's duties to the City and the Respondent's or its subcontractors' duties to such third party. The City will evaluate each matter disclosed to determine whether and to what extent the Respondent can be given consideration in the RFEOI in light of the particular matter.

7.4   **Collusion**

Each Respondent is required to disclose whether the Respondent is competing for purposes of the RFEOI with any entity with which it is legally or financially associated or affiliated. Each Respondent must also disclose whether it is cooperating in any manner in relation to the RFEOI with any other Respondent responding to the RFEOI. The City will evaluate each matter disclosed to determine whether and to what extent the Respondent can be given consideration in the RFEOI in light of the particular matter.

7.5   **Lobbying**

Each Respondent is required to disclose whether it or any officer, director, shareholder, partner, employee or agent of the Respondent or any of its proposed subcontractors: (1) is registered as a lobbyist under any lobbyist legislation in any jurisdiction in Canada or in the United States of America; or (2) has engaged in any form of political or other lobbying whatsoever with respect to the RFEOI or sought, other than through the submission of its Expression of Interest, to influence the outcome of the RFEOI process. The City will evaluate each matter disclosed to determine whether and to what extent the Respondent can be given consideration in the RFEOI in light of the particular matter.

SCHEDULE 1 — DESCRIPTION OF REQUIREMENTS

GARBAGE CART MANAGEMENT SOLUTION

SECTION 1 INTRODUCTION

The City seeks a Garbage Cart* Management Solution that will enable the City to manage information, requests, and activities to solid waste collection.

*Please note that for the purpose of this document, *Garbage Cart* refers to a waste container that is designated for one of several waste types collected by the City.

SCHEDULE 1 — DESCRIPTION OF REQUIREMENTS

1. Introduction

1.1.   Objective

The City is seeking a systems solution to manage information, assets, requests, and activities related to the collection of solid waste, inclusive of:

1. Distribution & Management of containers (carts, totes, or street-side containers) for:
   a. Garbage
   b. Green waste
   c. Multiple streams of recycling
2. Provision of service details (location, contacts, building, container)
3. Provision of billing details: e.g. through utilities billing, by-event billing, or cost-center billing – which affects billing calculation & collection method
4. Provision of capability:
   a. For City staff to view service locations, allocations, containers, and requests (mandatory)
   b. For City staff to manage attribution & (key) association of collection entities (mandatory)
   c. For City staff to manage garbage collection-related requests
   d. For City staff to manage garbage cart management-related requests
   e. For City staff to manage associations between entities (mandatory)
      i. Container-to-service location
      ii. Request-to-service location
      iii. Request-to-container
      iv. Service location-to-billing method
   f. For City staff to view entity histories (mandatory)
   g. For City staff to view container & service location information (mandatory)
   h. To leverage City's addressing model (mandatory)
   i. For City staff to generate routes based on collection data to guide collection and to support related activities such as distributing/retrieving carts (desirable)
   j. For Drivers to see requests on a map and to see & update the status of a request (desirable)
   k. For Customers to enter a Web-based portal to see service details, submit requests, and see request status (desirable)

The proposed solution sought:
1. will enable City staff to maintain collection details for a mix of service locations, and to manage related requests
2. will enable City staff to manage garbage carts and related requests

3. will work seamlessly with other City systems to display information in a variety of formats, to manage requests coming to *Hansen (Infor)* system & *Lagan (Kana)* call centre, and to facilitate billing through *Tempest* and *SAP*, and integrate with *Geotab GSP* solution
4. will interact with *GIS*
5. will interact with the City's future systems:
    a. GPS-enabled display (note: City may consider using a vendor-supplied solution)
    b. Routing solution (note: City may consider using a vendor-supplied solution)
    c. Public-facing Web portal (note: City may consider a vendor-supplied solution)

Applicants should refer to Appendices A [Details of Existing Systems], B [Additional Business Background], and C [Determining Service Locations] for more details of the City's requirements.

In responding to this RFEOI, Applicants shall provide responses to the following questions, for evaluation by the City:
- 3.1-3.15 [Service Locations]
- 4.1-4.2 [Allocations and Containers]
- 5.1-5.2 [Billing]
- 6.1-6.2 [Service Requests]
- 7.1-7.5 [Mobile Display]
- 8.1-8.2 [Routing]
- 9.1-9.2 [Customer Portal]
- 10.1-10.3 [Reporting]
- 11.1-11.4 [APIs and Integration]
- 12.1-12.3 [Other Constraints & Considerations]

The proposed solution must work seamlessly with other City systems in order to display information in a variety of formats, to manage requests, and to facilitate billing:

- Requests are dispatched through our Hansen (Infor) system and this is the primary repository as requests are updated. The majority of requests come to Hansen via integration to the call centre solution, Lagan (Kana).
- Our standard billing is performed annually through the property tax solution, Tempest, based on historical and current service information.

The solution must also <u>interact</u> with the following emerging/upcoming systems unless equivalent functionality is provided within the solution:
- The City fleet is outfitted with the Geotab GPS solution and any vendor solution must be capable of interfacing to this cloud platform.
- We are developing a GPS-enabled display for drivers to receive and update Hansen based service requests.
- The city has a separate RFP currently open for a routing solution and any vendor solution must be capable of interacting or offering a comparable solution.
- We require a public-facing Web portal that will allow residents to submit and manage requests for changes or new carts/services.

REFER TO APPENDIX A – DETAILS OF EXISTING SYSTEMS

1.2.   Background

The City collects garbage and green waste (compostable organics) from properties throughout Vancouver along with a small number of locations outside of the City boundary.   The City collects a different mix of waste types, including various recycling streams, from City facilities and from certain street-side enclosures.   The City collects waste (mostly garbage) from street-side litter containers, park containers, and containers provided to special events.   For qualifying special events, containers are distributed before the event, then retrieved after the event is completed.

In summary, collection is from:
- Residential Properties (single family residences, duplexes, and certain multi-family locations and businesses)
- Small service areas outside of the City boundary
- City Facilities
- Street-side and Parks
- Certain special events

Note: different container types are used according to the type of collection.

REFER TO APPENDIX B - ADDITIONAL BUSINESS BACKGROUND

2. High-Level Requirements

2.1. Overview

Key Capabilities of the proposed solution:
- Provide the capability to manage: service locations, containers, and requests related to collection
- Provide service locations and service details to other City systems (e.g. Tempest (for billing))
- Provide staff with the capability to:
    1. Manage the attribution of entities (such as service locations, containers, and requests)
    2. Manage the associations between entities
    3. View entity histories

Supplementary Capabilities to be included within the proposed solution (or facilitated through integration):
- Generate collection data to enable route planning to guide collection and to support related activities such as distributing/retrieving carts.
- Provide capabilities for drivers to see requests on a map and to indicate the status of a request
- Provide a Web-based portal for customers to see service details, submit requests, and see request status

Key Constraints of the proposed solution:
1. Must incorporate the City's addressing model (both civic- and block-based)
2. Must leverage the City's request systems (Hansen for dispatch/resolution, and Lagan for initiation of service requests)
3. Must leverage Tempest and SAP for billing.

2.2.   Minimum Scope

The proposed solution is expected to perform the following functions:
1. Manage service details such as:
   o Service type
     ▪ *Residential Collection, City Facility Collection, Street-Side Collection, Parks Collection, Special Event Collection*
   o Waste type
     ▪ *Garbage, Green Waste, Paper, Containers*, etc.
   o Service location details (including contacts and building details)
   o Service/container information, including status and history
2. Maintain appropriate associations between related entities:
   o Containers <-> Service Locations
   o Requests <-> Service Locations
   o Requests <-> Containers (when the association is available)

Note: Requests arriving from Hansen are initially associated to a service location rather than to a container. However, the proposed solution and the online portal are required to allow requests directly against a container.

3. Interact with GIS
   o The proposed solution must be able to interact with GIS to set/access spatial and non-spatial attributes related to:
     ▪ the collection service
     ▪ the location and associated details (for example: location of collection, special instructions, collection frequency, etc.)
4. Provide service details to Tempest for billing
   o The proposed solution must provide collection details with appropriate property identifiers to the Tempest tax billing system

5. Provide data to other City systems
   o The proposed solution must be able to provide container and location information to other City systems, specifically:
     ▪ Property Identifier: *Roll Number, Strata Plan Number*
     ▪ Container or Allocation Details: *Waste Type, Size, Collection Frequency*

3. Properties, Addresses, and Service Locations

3.1. Properties
- The information that defines each property will not be maintained within the proposed solution: however, that information must be displayed and leveraged. This information can be made available to the proposed solution through a database view or API (and/or some other means).
- Key property identifiers include *Roll Number* (or *Folio*) and the *Strata Plan Number.*
    o For properties that have been stratified into multiple units ("strata properties"), the Roll Number for each unit will differ only in the last 4 digits.

3.2. Addresses
- The proposed solution must leverage the City's addressing model, not a third party addressing model (i.e. google maps).
- Larger and higher-density properties often include multiple street addresses. So, for example:
    o A property may have multiple street addresses, but one address is designated to be the primary address.
    o Multi-unit properties often share one or more street addresses amongst the units.
        ▪ For some multi-unit properties, the address of some or all units may be further supplemented by a *Unit Number.*
- When properties undergo redevelopment, it can change the distribution of addresses between properties.
- Addresses are deactivated and reactivated on an ongoing basis.

3.3 Service Locations
- A property may have multiple service locations and multiple addresses.
- Typically there is only one service location for a particular address.
    o For large parcels, it will sometimes be useful to have multiple service locations assigned to the same address. Alternatively, a service location might not be given an address at all. .
- Service locations must always be assigned a geospatial location.

Typical Structure*:

```
                         PROPERTY
              /              |              \
            /                |      ...        \
    Primary Address       Address          Address
          |                                     |
    Service Location                      Service Location
```

When an address changes within the City's addressing database, the change for the corresponding service location must be reflected by the proposed solution.

REFER TO APPENDIX C – SERVICE LOCATIONS & BILLING

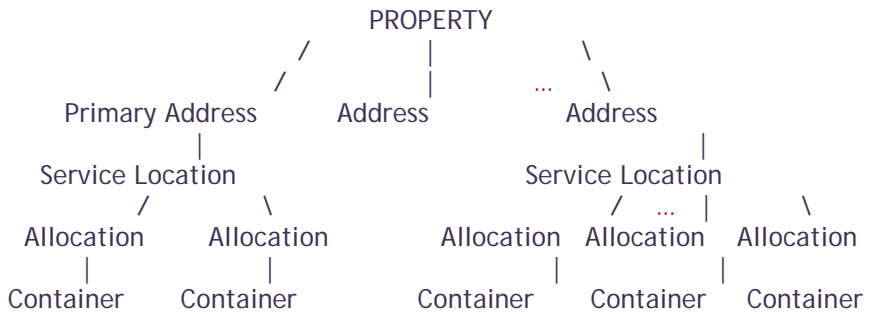|	Criteria for consideration:
3.1	What capabilities exist to create custom attributes for service locations, ability for City staff to customize fields, screens etc., as well as any limitations.
3.2	How proposed solution represents service locations, relationships between addresses, service

	locations, and containers, cities where proposed solution has implemented this type of model.
3.3	If a service location can be assigned a geospatial location, with or without an address. (e.g. a park location may not have a specific address)
3.4	Cities where proposed solution has supported an external, dynamic addressing source.
3.5	Functionality available in proposed solution to support changes in addresses (for the same service location) such that the history of the services is maintained.

4. Allocations and Containers

Although it is not strictly required in the new solution, the City has historically employed the notion of an *Allocation* independent of a *Container*. These allocations are used to quantify the service that is received at a given service location. For example: *360L of garbage, collected bi-weekly.* A typical residential property has one or more allocations of garbage and one or more allocations of green waste. City Facilities have additional allocations for recycling.

```
                            PROPERTY
                     /         |         \
                    /          |    ...    \
          Primary Address    Address      Address
                 |                           |
          Service Location            Service Location
             /         \               /   ...  |        \
       Allocation   Allocation   Allocation Allocation Allocation
           |            |            |          |          |
       Container    Container    Container  Container  Container
```

Each allocation has an associated container. Although the two entity types are very similar, the container more directly represents the corresponding object in the field. The two entities share many of the same attributes (e.g. *size*, *waste type*, and *collection frequency*) but the container also has other attributes (e.g. *container type*, *serial number*, *condition*, and *RFID tag ID)*.

The City maintains a history of the allocations at a service location. Each allocation has an effective date and an expiry date, as well as other attributes.

The City maintains a history of locations for each container (because containers can be physically moved from place to place). When a container is associated to a special event, the City records that assignment whether or not the City defines a service location for the event.

The notion of an allocation independent of a container helps to ensure that service details are properly reflected regardless of the state of the container data. However, it may be sufficient to track containers, as long as the City is able to consistently track details of the subscribed service.

Key entities and attributes:
1. Service Locations
   a. Geospatial location
   b. *Address (if associated to an address)*
   c. Property information (such as Roll Number and Plan Number)
   d. High-level details about each waste stream that will receive non-City service (private haulers) or that will rely on alternatives to collection (sharing with a neighbour, composting, etc.)
2. Allocations
   a. *Waste Type, Size, Collection Frequency, Effective Date, Expiry Date*
3. Containers
   a. *Waste Type, Size, Make, Model, Serial Number, Warranty Period, Commission Date*
   b. Support for RFID (for example: an RFID tag ID)
4. Requests

      a. Address, Request Type, Subtype, Details, etc.

Key associations between entities:
1. Container -> Allocation -> Service Location -> Property
2. Request -> Location
3. Request -> Container *(if the request is generated within the solution or received via the Customer Portal)*

Entity histories:
1. History of Allocations at a Location
2. History of the Locations of a Container (including unauthorized locations)
3. History of Requests against a Container
4. History of Requests against a Location

	Criteria for consideration:
4.1	How proposed application handles the concept of service locations, allocations (if modelled) and containers, description of relationships and associations.
4.2	Capabilities to track the histories of services, carts or and entity relationships. How proposed solution could be used to track the unauthorized movement of containers (RFID, other) (e.g. when a neighbor takes the wrong cart).

5. Billing

The City's Tempest tax system is used to bill for standard, residential collection.   Charges are added to the resident's annual tax bill or annual utility bill based on service allocations. Allocation data *(waste type, size, collection frequency, and start/stop dates)* must be exposed or exported to Tempest along with property identifiers such *Roll Number* and *Strata Plan Number*. Container data could be used for this if the proposed solution does not manage allocations independent of containers.
Other types of billing are handled through SAP. Currently, these processes are largely manual but there is potential for additional integration. Current examples include billing by tip (for City Facilities) and billing for special events. There is future potential to bill by weight.

	Criteria for consideration:
5.1	Applicant's experience with cities that bill citizens on the tax bill rather than through an invoice-based system.
5.2	Other types of billing methods supported – e.g. integration with a financial system such as SAP (for billing by tip, billing by weight, billing of special events, billing of residential collection outside of City's addressing model).

6. Service Requests

The City receives requests from customers and staff to start/end service, replace lost containers, repair containers, remove unauthorized containers, and change container sizes. A change in container size means picking up an existing container and depositing a new one.

The City uses Lagan (Kana) and Hansen to receive and process requests. Hansen is the primary system of record for updated requests. However, requests that are received through the City's 311 call centre, or through the City's app, are generated first within Lagan and then pushed to Hansen through integration. When Hansen requests are updated, certain elements are also updated in Lagan via integration. Requests in Lagan and Hansen relate to an address rather than to a specific container; however, within the proposed solution and the customer portal, we want to be able to associate requests directly to corresponding containers.

The City intends to continue to use Hansen and Lagan as the underlying request systems. The proposed solution may display and update requests from Hansen via API, or the customer portal may offer an end-to-end solution that does not leverage the current systems.

	Criteria for consideration:
6.1	Proposed solution's capabilities for a holistic solution around the receipt and fulfillment of public service requests (missed collection calls, changes in cart sizes, special pick-up etc.) in terms of: Scheduling and dispatch by City staff Self service requests Reminders, communications to citizens Business rule validation
6.2	Implementations and cities where Applicant has continued to leverage the existing city request systems, and what extent the solution could interact with Hansen or Lagan, any similar implementations with a CRM.

7. Mobile Display

We have an emerging GPS/Display system for drivers (a "Driver Display") that will be rolled out to an increasing number of services over time. This system is capable of displaying Hansen requests on a map and accepts small updates. Key features include the following:

- Driver can open requests in the custom app that are pulled from Hansen via API
- Driver can close requests and log new ones via the API
- The system leverages Geotab for GPS

The solution should provide an interface that will show drivers the specific information that they require, and allow for easy data entry.

The City may consider any functionality that could replace or supplement the City's emerging Driver Display: however, the City is also interested in evaluating the ability of solution to interact with the emerging Driver Display via API.

The City requires a tablet-based user interface, for inspectors who may operate outside their vehicles.

	Criteria for consideration:
7.1	If proposed solution includes an optimized display for drivers, in use in cities using the in-cab implementation. If proposed solution has been integrated with Infor/Hansen or an equivalent CRM system.
7.2	If proposed solution is a native app - what mobile platforms are supported.
7.3	If an optimized driver display is included in the proposed solution – how compatible it is with Geotab's vehicle GPS & telematics.
7.4	If the proposed solution provides any means of displaying which service locations have been completed (i.e. have received collection) for the current cycle, and if it supports driver input from the application to the back end.
7.5	If the same optimized interface can be used for mobile workers operating away from a vehicle, and what capabilities would be available to them.

8. Routing

The City has plans for a routing system that will generate driveable routes for the GPS/Display system and respond to traffic considerations. Expect to generate:

- **Static Routes** – routes based on static data values (historic or forecasted data)
- **Dynamic Routes** – routes based on current conditions
- **Real-Time Routes** –routes that are consistently updated and re-optimized based on evolving conditions

The routing system will be used to support a range of activities including:
- Solid waste collection (as described within the document)
- Street sweeping
- Ploughing snow from streets
- Treating streets and lanes with salt and brine

	Criteria for consideration:
8.1	What, if any, capabilities the proposed solution provides to determine collection routes for drivers, and what routing capabilities, if any, the proposed solution provides for other City services such as street sweeping, snow ploughing, salting, etc.
8.2	Existing implementations where routing has been implemented, and what activities have been supported.

9. **Customer Portal**

The City has plans for a Public-facing Web portal to allow residents to submit and manage requests. We will also require this portal, or a very similar portal, to be used by 311 call centre staff as they respond to customer calls.

The portal would allow residents and 311 staff to:
1. Display container and collection details
2. Display the cost of services provided
3. Submit requests and check the status of requests
   - Change cart types & sizes
   - Request cart repairs, replacements, additions, removals
   - Request for "pack out" service
   - Report missed pickup
   - Report a missing or stolen cart
   - Report compliment / complaint
   - Request collection schedule and "how to" brochures
4. Manage scheduling of certain requests

	Criteria for consideration:
9.1	What solution can be provided for a Public-facing Web portal or app.
9.2	If the Applicant's portal can interact with the City's existing Hansen/Lagan systems, or if Applicant can propose a complete solution, what the Applicant's expected approach would be, what similar implementations the Applicant has done successfully (i.e. where Applicant has leveraged existing systems or provided an end-to-end solution).

10. Reporting

	Criteria for consideration:
10.1	Out-of-the-box reports provided.
10.2	What technology the reports are written in.
10.3	The options to create new reports or the capabilities to customize those reports.

11. APIs and Integration

The solution must be able to:

1. Accept requests from a CRM (i.e. Hansen or Lagan/Kana) and provide updates back into the CRM.
2. Read and update esri ArcGIS.
3. Provide service details to a Billing system such as Tempest:
   a. *Waste Type, Size, Collection Frequency, Dates of Service*
   b. *Property/Location identifiers*
4. Provide service details, including geospatial locations, to other systems (such as Routing and the GPS/Display).
5. Support RFID (via Geotab for readers on the trucks).
6. Support other APIs (for example, to perform visual processing).

Customer Portal:

- The Customer Portal must be able to interact with a CRM to allow the creation of requests as well as the display and update.
- If the Customer Portal is not included, the solution must export/expose service details to the portal.

Driver Display (Map/GPS Display):

- If the solution provides a driver interface, it must work with Geotab GPS/Telematics (for example: to visualize vehicle travel and to register that carts have been lifted).
- If the solution will rely on our emerging Driver Display system, it must provide service locations and details to that display.

Online Schedules:

- The solution must be able to provide service and request information to support the display of online schedules and related reminders.

	Criteria for consideration:
11.1	APIs supported, any implementations of Restful APIs into the proposed solution platform, client-side visibility of APIs for custom enhancements of the solution.
11.2	Applicant's experience with implementations that leverage esri ArcGIS.
11.3	Types of RFID technology supported, capability to leverage information from an RFID reader through Geotab, how RFID can be leveraged to show completion, support auditing, and/or to monitor the unauthorized movement of carts.
11.4	If the proposed solution offer a Software Development Kit (SDK).

12. Other Constraints and Considerations

	Criteria for consideration:

12.1	Applicant's past or current implementations similar to City of Vancouver – e.g. other Canadian cities.
12.2	If hosted solution is hosted in Canada, and what Canadian-based services are currently offered.
12.3	Estimated costs for: 　(a) Licensing/support; 　(b) Training; 　(c) Implementation; and 　(d) Integrations. and what service level would be included. If a cloud-based solution is proposed, what the prescribed up-time, RTO (recovery time objective) and RPO (recovery point objective) would be.

APPENDIX A - Details of Existing Systems

COMPONENT	Current State/ Near-Term	Version	Will existing system be replaced by the solution?	FUTURE STATE
Customer portal to manage collection services	(TBD)	-	Optional*	PLANNED
Requests from the Public going into the 311 Call Centre or equivalent apps	Lagan / Kana		No	The customer portal will become a second avenue for customers but existing interfaces to the Public will remain.
Enterprise Request Management	Infor Hansen	11.1	No	The new system will be the primary interface into the Hansen request system for clerical and operational staff – but will not replace it. Similarly, the customer portal will need to interact with Hansen (or, as a less desirable option) with Lagan/Kana.
Collections System (managing locations, containers, and requests related to service)	Custom	-	YES	-
Billing for Standard Residential Collection	Tempest		No	Service details must be passed to Tempest.
Other Billings related to Collection	SAP		No	Largely manual but would ideally be more integrated.
Routing	(RFP Issued)	-	Optional*	PLANNED
Driver Display	Custom	-	Optional*	EMERGING

GIS	esri ArcGIS Pro esri ArcGIS Map	2.1.2 10.2	No	ArcGIS is our emerging standard for GIS.
GPS & Telematics	Geotab		No	If a module requires interaction GPS, it must leverage our Geotab implementation.

Where optional functionality is not provided within the new solution, it must be able to export/expose the relevant data to a third-party module.

APPENDIX B - Additional Business Background

Containers Deployed
- Most properties are provided 'carts' (also called 'totes')
- A small number of downtown locations are equipped with 'cans'
- Within parks, carts are also used
- Carts may be used temporarily as street-side containers
- Street-side litter containers are robust, fixed-in-place, containers that come in a variety of different models
- Street-side 'enclosures' actually contain carts (generally three) that are removed from the enclosure during collection.

Collection Scenarios (Details)

Residential/Commercial Properties:
- Containers are provided by the City and remain the property of the City. City staff repair and replace these containers as needed.
- Property owners are billed on an annual basis through the City's Tempest billing system. Charges are applied to either the Tax Bill or Utility Bill based on key attributes of each container assigned to the property (ex. the waste type, size, and collection frequency of each container).
  - Within certain limits, property owners can request changes to the number and size of carts assigned to their property. In response to these requests, City staff pick up carts and drop off carts as required.

Key areas Outside of the City Boundary:
- Addresses that are located outside of the City Boundary may or may not be available within our addressing model.
- These areas will usually be handled by a separate, non-standard, billing process that is specific to that area.
  - Billing is currently through SAP for addresses that are not defined by the City.

Special Events:
- The City provides containers to special events on a temporary basis. City staff deliver and pick up the containers.
- Billing for special events is based on the containers associated to the event.

City Facilities:
- Collection is similar to that for Residential/Commercial properties but with additional streams and different schedules.
- Billing is 'per tip' so charges are based on each time a container was emptied.

APPENDIX C - Determining Service Locations

Currently:

1. Service locations are set up to reflect how collection occurs in the field, and billing accounts are linked to a service location (not to individual containers or allocations). (Note: the City may consider other methods of linking service details to the Tempest billing accounts.)

2. A multi-unit complex is set up with a single bill for the entire complex whether all containers are at a single location (i.e. centralized collection) or the containers are distributed among units (i.e. multiple service locations).

SCHEDULE 2 — LETTER OF EXPRESSION OF INTEREST

*[Letterhead paper of the Respondent or participant responsible for
a joint venture, including full postal address, telephone and facsimile.]*

Date: *[Insert]*

TO: **THE CITY OF VANCOUVER** (the "**City**")

RE: **EXPRESSION OF INTERST -- REQUEST FOR EXPRESSIONS OF INTEREST NO. PS20200442 (the "RFEOI") IN RESPECT OF GARBAGE CART MANAGEMENT SOLUTION**

1.   Being duly authorized to represent and act on behalf of [Insert full corporate name and if a joint venture, then state "on behalf of…" and list the full corporate names of the companies forming the joint venture], the undersigned hereby submits the attached Statement of Qualifications and supporting materials on behalf thereof.

2.   Herein, the term "Respondent" refers to *[insert full corporate name and if a joint venture, then state "…refers to each of" and list the full corporate names of the companies forming the joint venture].*

3.   The City and its representatives are hereby authorized to conduct any inquiries or investigations to verify the statements, documents, and information submitted in connection with this Expression of Interest, and to seek clarification from the Respondent's bankers and clients regarding any financial and experience issues, and to do all other things stated in the RFEOI.

4.   Capitalized terms used herein have the definitions ascribed thereto in the RFEOI.

5.   The City its representatives may contact the following persons for further information:

[Insert Applicant's information.]

6.   This Expression of Interest is made with the full understanding and agreement that:

(a)   any information submitted during qualification may be subject to verification by the City of Vancouver, including during evaluation of any subsequent proposal or tender;

(b)   the Respondent will (and does hereby undertake to) submit a bona fide proposal or tender in relation to the subject matter of the RFEOI (and consistent with this Expression of Interest) if the City invites the Respondent to participate in a request for proposals or invitation to tender;

(c)   the City of Vancouver may:

(i)   amend the scope and description of the goods and services described in the RFEOI;

(ii)   reject or accept any or all Expressions of Interest;

(iii)   cancel the RFEOI process and reject all Expressions of Interest;

(iv)   cancel the RFEOI process and commence a new process with the same or an amended set of documents, information or requirements;

(v)   request any respondent to provide additional information or clarification or goods samples or demonstrations without requesting such information from all respondents; or

(vi)   terminate the RFEOI process and enter into direct negotiations with any party whether or not a respondent; and

(d)   the City of Vancouver will not be liable in any way whatsoever for any actions described under 4(c) of this letter.

7.   The Respondent acknowledges and agrees that the RFEOI Documents are, in no way whatsoever, an offer to enter into an agreement except on the limited terms and conditions expressly stated in this letter, and submission of this Expression of Interest by the Respondent does not in any way whatsoever create any obligation on the part of the City to treat the Respondent's or any other respondent's Expression of Interest in any particular manner or undertake the City's RFEOI process in any particular manner (except as expressly stated below in this letter with respect to confidentiality).

8.   The Respondent acknowledges and agrees to the information disclaimers and other terms and conditions set forth in the RFEOI.

9.   Except only and to the extent that the City is in breach of Section 10 of this letter, the Respondent now releases the City, its officials, its agents and its employees from all liability for any costs, damages or losses incurred in connection with the RFEOI, including any cost, damages or losses in connection with:

(a)   any alleged (or judicially determined) breach by the City or its officials, agents or employees any obligation or duty under the RFEOI;

(b)   any unintentional tort of the City or its officials or employees occurring in the course of conducting the RFEOI; or

(c)   the manner in which the City: reviews, considers, evaluates or negotiates any Expression of Interest; addresses or fails to address any Expression of Interest; or resolves to enter into any contract or not enter into any contract.

10. Subject to the applicable provisions of the *Freedom of Information and Protection of Privacy Act* (British Columbia) and the City's right to publicly disclose information about or from any Expression of Interest, including without limitation names and prices, in the course of publicly reporting to the Vancouver City Council about the RFEOI, the City will treat the Expression of Interest (and the City's evaluation of it), in confidence in substantially the same manner as it treats its own confidential material and information.

11. The Respondent acknowledges receipt of the following amendments and addenda (if applicable);

Amendment/Addendum No. [Complete]   **Date:**   [Complete]

Amendment/Addendum No. [Complete]   **Date:**   [Complete]

Amendment/Addendum No. [Complete]   **Date:**   [Complete]

12. Any dispute relating to the RFEOI (except to the extent that the City breaches Section 10 above) will be resolved by arbitration in accordance with the *Commercial Arbitration Act* (British Columbia), amended as follows:

(a)   The arbitrator will be selected by the City's Director of Legal Services;

(b)   Section 9 of this letter, and the other provisions hereof, will apply; and

(c)   The Respondent will bear all costs of the arbitration.

13.   The Respondent (a) has read, understands and agrees to the terms and conditions in this letter, (b) has had an opportunity to seek legal counsel and (c) affirms that the statements made in its Expression of Interest are true and correct in every detail.

Respondent Name(s): _____

Signature: _____   Date: _____

Name of Signatory: _____

Title of Signatory: _____

Mailing Address: _____
_____
_____

Cheque Payable/Remit to Address: _____
_____
_____

Telephone No.: _____   Fax No.: _____

Key Contact Person: _____   E-mail: _____

GST Registration No.: _____   Date and Jurisdiction of Incorporation: _____

City of Vancouver Business License No. (or, if available, Metro West Inter-Municipal Business License No.): _____   WorkSafeBC Registration No.: _____

SCHEDULE 3 — FORMAT FOR EXPRESSIONS OF INTEREST

Expressions of Interest submitted by Respondents should consist of:

1.   a completed and duly executed Letter of Expression of Interest (the foregoing Schedule 2);

2.   a completed and duly executed insurance certificate and a completed and duly executed declaration of Supplier Code of Conduct Compliance (the following schedules 4 and 5); and

3.   a Statement of Qualifications, consisting of and arranged as follows:

(a)   **Title Page (1 page)**

The title page should identify the RFEOI number identified on the cover page of this RFEOI, the Closing Time, and the Respondent's name, address, telephone number, fax number and contact person.

(b)   **Table of Contents / Index**

(c)   **Corporate Experience:**

- Describe the type of entity (for example, individual, corporation, partnership, sole proprietorship) and if a joint venture, clearly state this and state who the joint venture parties are and identify who is acting as the lead.

- Describe the company/entity size, depth, and annual sales volumes (in dollars).

- Provide client references, where possible.

- Provide a history of litigation or claims made against the Respondent during the three years immediately prior to the Closing Time.

(d)   **Corporate Capability:**

- Describe the Respondent's capability (financial, experience and workload capacity) to undertake the role of supplier.

- Provide resumes of proposed key personnel.

- Provide a letter from a bonding company confirming the Respondent's bonding capability.

(e)   **Completed and Current Major Projects**

- List three relevant projects, with names of customers, dollar amounts, names of company personnel involved and client/owner references.

- Describe the Respondent's capacity to undertake the project and describe any other projects scheduled during the anticipated time frame.

(f)   **Sustainability**

Describe the Respondent's approach in the following areas:

- Offering products/services that are non-toxic and non-hazardous;

- Provision of solutions for the disposition of obsolete or expired products and equipment, as well as solutions for the environmental impact of local landfills; and

- Offering solutions to reducing carbon emissions resulting from the delivery of products.

(g)   **Applicant's Responses to Schedule 1 – Detailed Requirements:**

- Provide responses to the following questions (refer to Schedule 1 – Detailed Requirements):
  - 3.1-3.5 [Service Locations]
  - 4.1-4.2 [Allocations and Containers]
  - 5.1-5.2 [Billing]
  - 6.1-6.2 [Service Requests]
  - 7.1-7.5 [Mobile Display]
  - 8.1-8.2 [Routing]
  - 9.1-9.2 [Customer Portal]
  - 10.1-10.3 [Reporting]
  - 11.1-11.4 [APIs and Integration]
  - 12.1-12.3 [Other Constraints & Considerations]

	Question
3.1	What capabilities exist to create custom attributes for service locations? Describe any ability for City staff to customize fields, screens etc., as well as any limitations.
	Insert response in this space
3.2	How does your proposed solution represent service locations? How would your proposed solution represent the relationships between addresses, service locations, and containers? Please reference cities where your proposed solution has implemented this type of model.
	Insert response in this space
3.3	Can a service location be assigned a geospatial location, with or without an address? For example, a park location may not have a specific address.
	Insert response in this space
3.4	Please reference cities where your proposed solution has supported an external, dynamic addressing source.
	Insert response in this space
3.5	What functionality is available in your proposed solution to support changes in addresses (for the same service location) such that the history of the services is maintained?
	Insert response in this space

	Question
4.1	Describe how your application handles the concept of service locations, allocations (if modelled) and containers. Please describe relationships and associations. Include diagrams or screenshots where applicable.
	Insert response in this space
4.2	Please describe any capabilities to track the histories of services, carts or and entity relationships. How could your solution be used to track the unauthorized movement of containers (RFID, other)? Example scenario: a neighbor takes the wrong cart.

	Insert response in this space

	Question
5.1	Please describe your experience with cities that bill citizens on the tax bill rather than through an invoice-based system.
	Insert response in this space
5.2	What other types of billing methods do you support – for example, integration with a financial system such as SAP (for billing by tip, billing by weight, billing of special events, billing of residential collection outside of our addressing model)?
	Insert response in this space

	Question
6.1	Please describe capabilities for a holistic solution around the receipt and fulfillment of public service requests (missed collection calls, changes in cart sizes, special pick-up etc.) in terms of: 1. Scheduling and dispatch by City staff 2. Self service requests 3. Reminders, communications to citizens 4. Business rule validation
	Insert response in this space
6.2	Please describe implementations (and reference cities) where you have continued to leverage the existing city request systems. To what extent could the solution interact with Hansen or Lagan? Please describe any similar implementations with a CRM.
	Insert response in this space

	Question
7.1	Does your solution include an optimized display for drivers? If so, please describe it and provide examples of cities using the in-cab implementation. Have you integrated with Infor/Hansen or an equivalent CRM system?
	Insert response in this space
7.2	Is this solution a native app, and what mobile platforms are supported?
	Insert response in this space
7.3	If an optimized driver display is included, is it compatible with Geotab's vehicle GPS & telematics?
	Insert response in this space
7.4	Does the solution provide any means of displaying which service locations have been completed (have received collection) for the current cycle? Does it support driver input from the application to the back end?
	Insert response in this space
7.5	Would the same optimized interface be used for mobile workers operating away from a vehicle? Please describe what capabilities would be available to them.
	Insert response in this space

	Question
8.1	Describe what capabilities, if any, the solution provides to determine collection routes for drivers. Describe what routing capabilities, if any, the solution provides for other City services such as street sweeping, snow ploughing, salting, etc.
	Insert response in this space
8.2	Please describe existing implementations where routing has been implemented and describe the activities that have been supported.
	Insert response in this space

	Question
9.1	Do you have a solution for a Public-facing Web portal or app? Please describe.
	Insert response in this space
9.2	Would the portal interact with our existing Hansen/Lagan systems, or do you propose a complete solution? Please describe the expected approach, and include examples of similar implementations (i.e. where you have leveraged existing systems or provided an end-to-end solution).
	Insert response in this space

	Question
10.1	List the out-of-the-box reports you provide.
	Insert response in this space
10.2	What technology are the reports written in?
	Insert response in this space
10.3	What are the options to create new reports or the capabilities to customize those reports?
	Insert response in this space

	Question
11.1	Please describe the APIs that you support. Please describe any implementations of Restful APIs into your solution platform. Do you offer client-side visibility of APIs for custom enhancements of the solution?
	Insert response in this space
11.2	Please describe any implementations that leverage esri ArcGIS.
	Insert response in this space
11.3	Please describe the types of RFID technology that you support. What capability would you have to leverage information from an RFID reader through Geotab? How could you leverage RFID to show completion, support auditing, and/or monitor the unauthorized movement of carts?
	Insert response in this space
11.4	Does the solution offer a Software Development Kit (SDK) to clients?

	<mark>Insert response in this space</mark>

	Question
12.1	Please any describe implementations similar to what the City is looking for – e.g. other Canadian cities.
	<mark>Insert response in this space</mark>
12.2	Due to B.C. Privacy Laws, any hosted solution must be hosted in Canada. Do you currently provide Canadian-based services?
	<mark>Insert response in this space</mark>

12.3	Please provide estimated costs for:
	
	  (a) Licensing/support;
	  (b) Training;
	  (c) Implementation; and
	  (d) Integrations.
	
	If a module or component is optional, please indicate it as such and provide a separate estimate
	
	Please describe the service level that is included in the pricing provided.
	
	If this is a cloud-based solution, please indicate the prescribed up-time, RTO (recovery time objective) and
	RPO (recovery point objective) included in the pricing provided.

	<mark>Insert response in this space</mark>

(h)   **Conflicts/Collusion/Lobbying**

       Provide information responsive to Section 7.0 of the RFEOI.

SCHEDULE 4 – CERTIFICATE OF EXISTING INSURANCE

[to be attached by Applicant]

SCHEDULE 5 – DECLARATION OF SUPPLIER CODE OF CONDUCT COMPLIANCE
DECLARATION OF SUPPLIER CODE OF CONDUCT COMPLIANCE

Purpose: All proposed suppliers are to complete and submit this form to certify compliance with the supplier performance standards set out in the Supplier Code of Conduct.

The City of Vancouver expects each supplier of goods and services to the City to comply with the supplier performance standards set out in the City's Supplier Code of Conduct (SCC) <https://policy.vancouver.ca/AF01401P1.pdf>. The SCC defines minimum labour and environmental standards for City suppliers and their subcontractors.

Suppliers are expected to comply with the aforementioned standards upon submitting a tender, proposal, application, expression of interest or quotation to the City, or have a plan in place to comply within a specific period of time. The City reserves the right to determine an appropriate timeframe in which suppliers must come into compliance with these standards. To give effect to these requirements, an authorized signatory of each proposed vendor must complete the following declaration and include this declaration with its submission:

As an authorized signatory of _____*(vendor name)*, I declare that I have reviewed the SCC and to the best of my knowledge, _____*(vendor name)* and its proposed subcontractors have not been and are not currently in violation of the SCC or convicted of an offence under national and other applicable laws referred to in the SCC, other than as noted in the table below *(include all violations/convictions that have occurred in the past three years as well as plans for corrective action).*

Section of SCC / title of law	Date of violation /conviction	Description of violation / conviction	Regulatory / adjudication body and document file number	Corrective action plan

I understand that a false declaration and/or lack of a corrective action plan may result in no further consideration being given to the submission of _____*(vendor name).*

Signature: _____

Name and Title: _____