



**Request for Quotations  
(RFQ)**

***Blue Box Waste Study Program 2016***

***Single-Family and Multi-Family Study  
&  
Material Recovery Facilities (MRF) Study***

**Quotations Due by 4:00PM CST  
July 27th, 2016**

**Contents**

- 1 Background ..... 4
  - 1.1 Multi-Material Stewardship Manitoba (MMSM) ..... 4
  - 1.2 MMSM 2016 Waste Study Program Plan ..... 4
    - 1.2.1 Study Component 1: Single-Family and Multi-Family Waste Composition ..... 5
    - 1.2.2 Study Component 2: MRF Material Composition ..... 5
  - 1.3 Study Objectives ..... 6
    - 1.3.1 Study Component 1: Single-Family and Multi-Family Waste Composition ..... 6
    - 1.3.2 Study Component 2: MRF Material Composition ..... 6
  - 1.4 Right to Change Scope ..... 6
  - 1.5 Terminology Used in the RFQ ..... 6
- 2 Scope of Work ..... 7
  - 2.1 Purpose ..... 7
    - 2.1.1 Study Component 1: Single-Family and Multi-Family Waste Composition ..... 7
    - 2.1.2 Study Component 2: MRF Material Composition ..... 7
  - 2.2 MMSM Training and Study Planning ..... 7
    - 2.2.1 MMSM Training Session ..... 7
    - 2.2.2 Kickoff Waste Study Planning Meeting ..... 7
  - 2.3 Study Component 1: Single-Family and Multi-Family Waste Composition Study ..... 7
    - 2.3.1 Sampling Design – Sample Areas, Sample Size and Household Selection ..... 7
      - 2.3.1.1 Length of Study and Collection Scheduling ..... 8
      - 2.3.1.2 Study Timing ..... 9
    - 2.3.2 Specifications for Waste Collection ..... 9
    - 2.3.3 Specifications for Waste Sorting ..... 11
    - 2.3.4 Reporting Study Results ..... 12
  - 2.4 Study Component 2: MRF Material Composition Study ..... 13
    - 2.4.1 Study Timing ..... 13
    - 2.4.2 Specification for MRF Sampling ..... 13
      - 2.4.2.1 Tip floor (Pre-sort material) ..... 13
      - 2.4.2.2 Commodity (Post-sort material) ..... 13
    - 2.4.3 Specifications for Sorting MRF Material ..... 14

2.4.4	Specifications for Density Measurements .....	15
2.4.5	Reporting Study Results .....	15
3	General Requirements .....	16
3.1	General Requirements of the Contractor .....	16
3.2	General Requirements of the Host Municipality .....	18
3.3	General Requirements of MMSM .....	18
4	Liability .....	19
5	Price Quotation .....	20
6	Evaluation of Quotations and Award .....	21
7	Payment .....	21
8	Other Information .....	22

## List of Tables

Table 1: MMSM Waste Study Program Plan Components .....	4
Table 2: SF and MF Composition Study - Description of Sample Areas and Sizes .....	8
Table 3: Price Quotation Table .....	20

## Appendices

- Appendix A - Multi-Family Sampling Methodology
- Appendix B - Waste Sort Categories – Single-Family and Multi-Family Study
- Appendix C - Contractor Reference for Residential Waste Studies and MRF Composition Studies
- Appendix D - Equipment and Services Provided by Contractor
- Appendix E - Staff Provided by Contractor
- Appendix F - Subcontractors
- Appendix G – Waste Sort Categories – MRF Material Composition Study

# 1 Background

## 1.1 Multi-Material Stewardship Manitoba (MMSM)

Multi-Material Stewardship Manitoba, a corporation without share capital, was established to respond to a proposed Printed Paper and Packaging (PPP) Regulation that obligates stewards to develop, implement and operate waste diversion programs for printed paper and packaging normally collected in a residential collection system.

## 1.2 MMSM 2016 Waste Study Program Plan

In order to fulfil the objectives of the MMSM Program, information is required on the types and quantities of PPP managed in the residential waste and recycling streams in Manitoba. This information is primarily gathered by sampling single-family and multi-family households that are considered to be representative of the households in the Province.

Additional information is required on the quantity and composition of materials managed at Material Recovery Facilities (MRFs), in order to allocate comingled tonnes reported by municipalities into appropriate PPP categories.

In order to achieve the information requirements above, the 2016 MMSM Waste Composition Study Program consists of two main components as depicted in the Table 1 below.

**Table 1: MMSM Waste Study Program Plan Components**

Study Component	Description	Municipalities/Facilities	Overview
1	Single-Family and Multi-Family Waste Composition Study	<ol style="list-style-type: none"> <li>1. City of Brandon</li> <li>2. Rural Municipality of Springfield</li> </ol>	<p>100 Single-Family homes sampled in each municipality (Garbage and Recycling Streams)</p> <p>Two Multi-Family buildings sampled in each municipality (Garbage and Recycling Streams)</p>
2	a. MRF Sampling: Tip Floor (Pre-Sort Material) Composition and Density Study	<ol style="list-style-type: none"> <li>1. Emterra MRF – Winnipeg</li> </ol>	<p>20 (50kg ±5kg )Tip-Floor Samples</p> <p>20 Density measurements (Container A)</p>
	b. MRF Sampling: Commodity (Post-sort) Composition and Density Study	<ol style="list-style-type: none"> <li>1. Emterra MRF – Winnipeg</li> </ol>	<p>20 (50kg±5kg) Commodity Samples</p> <p>56 Density measurements</p>

### 1.2.1 Study Component 1: Single-Family and Multi-Family Waste Composition

For the 2016 program, MMSM has selected the City of Brandon and the Rural Municipality of Springfield for sampling single-family and multi-family homes.

**City of Brandon** – the City of Brandon is the second largest city in Manitoba with a population of approximately 46,000. Brandon has front and rear lane automated cart collection for garbage and single stream recycling which is collected weekly. Multi-family buildings also use automated cart collection for garbage and single stream recycling. The contractor will be required to collect and sort both the recycling and garbage waste streams.

One hundred single-family homes in ten areas of the city and two multi-family buildings will be sampled over two consecutive weeks in September 2016, representing two full weeks of recycling and garbage generation at each household/apartment.

**Rural Municipality of Springfield** – The RM of Springfield has a population of 14,000 with curbside recycling and garbage services provided on a weekly basis servicing approximately 2,120 households and three multi-family complexes in the Town of Oakbank. Oakbank has front and rear lane automated cart collection for single stream recycling and manual collection for garbage. The contractor will be required to collect and sort both the recycling and garbage waste streams.

One hundred single-family homes in ten areas of the city and two multi-family buildings will be sampled over two consecutive weeks in September 2016, representing two full weeks of recycling and garbage generation at each household/apartment.

### 1.2.2 Study Component 2: MRF Material Composition

For the 2016 program, MMSM has selected the Emterra MRF in Winnipeg to conduct the necessary MRF Material Composition Study. This facility accepts single-stream materials and processes material from the City of Winnipeg and a variety of other sources.

The Contractor will be required to sample both inbound materials from the tip floor and post-sort but pre-bale commodity materials. The following commodities are produced at the facility of which 7 will be selected for further sampling and sorting during this study.

- ONP
- OCC
- Super Mix Paper
- Polycoat/ Aseptic & Gabletop
- Mixed Rigid Plastic
- HDPE Natural
- HDPE Colour
- PET Bottles
- PET Thermoform
- Aluminum UBC
- Steel/Tin

- Glass

### 1.3 Study Objectives

This section outlines the objectives of each of the study components.

#### 1.3.1 Study Component 1: Single-Family and Multi-Family Waste Composition

The primary objectives of the Single-Family and Multi-Family Waste Composition Study are to:

- Provide the estimated annual per capita waste generation rate.
- Provide the generation and composition of both the recycling and garbage streams.
- Calculate the recovery rate of all recyclable materials.
- Compare the data to previous waste audits to measure the change in waste generation, composition and recovery rates.

Secondary objectives include the following:

- To provide the participating municipalities with a measure of the effectiveness of their recycling and other waste reduction initiatives.
- To determine the recycling set-out and participation rates in the sample areas studied.

#### 1.3.2 Study Component 2: MRF Material Composition

The primary objectives of the MRF Material Composition Study are to:

- Determine the composition of material received and tipped at the MRF and the relative proportions of individual Printed Paper and Packaging categories found within.
- Determine the composition of the various commodities that are produced at the MRF after material sorting in order to quantify the relative proportions of individual Printed Paper and Packaging categories present.
- Calculate the densities of commodities and individual Printed Paper and Paper Packaging categories, in order to estimate the volume of materials managed.

### 1.4 Right to Change Scope

MMSM reserves the right to adjust the scope of work in consultation with the selected Contractor. This may include changes in sorting locations, changes in materials to sort, etc. Any increase in scope will involve the appropriate negotiations with the selected contractor to modify current contract pricing.

### 1.5 Terminology Used in the RFQ

**Contractor:** Company or companies retained to provide single-family and multi-family and MRF material composition sampling and sorting services under this RFQ.

**Host Municipality:** A municipality that has agreed to participate in MMSM's Waste Study Program.

**Sample Area:** One of a number of sampling locations identified by the MMSM Project Manager in conjunction with the host municipality, from which the Contractor will collect material for sorting.

## **2 Scope of Work**

### **2.1 Purpose**

The purpose of this RFQ is outlined for each of the study components below.

#### **2.1.1 Study Component 1: Single-Family and Multi-Family Waste Composition**

MMSM is requesting quotations for a Contractor to conduct one single-family residential waste study and one multi-family waste study within the City of Brandon from September 12 to September 23 and to conduct one single-family residential waste study and one multi-family waste study within the RM of Springfield from September 26 to October 7. Both studies will take place in September of 2016 and are not required to take place concurrently.

#### **2.1.2 Study Component 2: MRF Material Composition**

MMSM is requesting quotations for a Contractor to collect primary data on the composition of tip-floor and post-sort blue box material received and processed at the Emterra material recycling facility (MRF) in Manitoba (see Table 1). Density measurements of the ready-to-be-baled commodities, tip-floor material and individual sorted material categories (commodity material only) will also be collected. The data will be collected and sorted over a two to three day period from October 11 to October 14, 2016.

## **2.2 MMSM Training and Study Planning**

### **2.2.1 MMSM Training Session**

Depending on familiarity and experience with MMSM's sampling and sorting methods, the successful Contractor may be required to attend a half-day MMSM waste study training session on sampling and sorting methods, material categories and data reporting requirements. MMSM requires all contractors to use the same methods and be familiar with MMSM's printed paper and packaging sort categories.

### **2.2.2 Kickoff Waste Study Planning Meeting**

The Contractor must attend a pre-study planning meeting with representatives of the host municipalities and representatives from MMSM. The purpose of the meeting is to meet one another, sort out any insurance issues, and discuss collection logistics, the sorting location, the management of post-sorting materials and how to handle questions from residents (Single-Family and Multi-Family Study Component only).

## **2.3 Study Component 1: Single-Family and Multi-Family Waste Composition Study**

### **2.3.1 Sampling Design – Sample Areas, Sample Size and Household Selection**

The MMSM Project Manager, in conjunction with the host municipality, will identify the sample areas and the specific households to sample. The host municipality will provide to the Contractor and to MMSM a list of street addresses in each sample area and a collection schedule for the study.

The sample material for the single-family study shall come from 100 single-family homes within the municipality. The material will be sourced from 10 homes in a row in 10 sample areas that together are as representative as possible of the municipality's single-family housing as a whole.

The sample material from the multi-family buildings will come from two multi-family buildings depending on the Town or City and will be collected from these buildings by either commercial haulers, by the municipality or the contractor.

For the purposes of this study the term “multi-family complex”, or “complex”, refers to apartment buildings, condominiums and townhouse complexes where waste and recyclable materials are collected at a central location. Townhouses receiving door to door curbside collection or apartment buildings with fewer than six units are not considered to be “multi-family”.

**Table 2: SF and MF Composition Study - Description of Sample Areas and Sizes**

	No. of sample areas	No. of households per sample area	Collection Frequency	Total No. of Households
RM of Springfield Single Family Residential	10	10	weekly	100
RM of Springfield Multi-Family Residential	2 buildings	ideally all garbage and recycling from each building	weekly	tbd in final selection by host municipality
City of Brandon Single Family Residential	10	10	weekly	100
City of Brandon Multi-Family Residential	2 buildings	ideally all garbage and recycling from each building	weekly	tbd in final selection by host municipality

**2.3.1.1 Length of Study and Collection Scheduling**

Each Single-Family and Multi-Family Study shall be two weeks long (two consecutive weeks) and representative of two weeks of generation of both recyclables and garbage at those households/buildings sampled.

**City of Brandon and RM of Springfield**

In the City of Brandon and RM of Springfield garbage and recyclables are collected on a weekly basis. The Contractor(s) is responsible for collecting all waste (recycling and garbage) set out at the curb by each sample household over the two-week sampling period even if the wastes are set out on different days of the week. The 100 households sampled in the first week shall be sampled again in the second week.

While MMSM recommends that the Contractor collect and sort sample material from 20 or 30 households per day, we recognize that this may not always be possible due to timing issues/collection schedules. Therefore, there is an allowance for sampling from up to 60 households per day if necessary.

The two multi-family buildings in each of the City of Brandon and the RM of Springfield sampled in the first week shall be sampled again in the second week.



MMSM will be responsible together with the municipality to ensure the material is collected from each of the buildings and the delivery to the sorting site.

### **2.3.1.2 Study Timing**

The single family and multi-family studies will be completed over a two-week period in September 2016 for the City of Brandon and RM of Springfield.

MMSM will coordinate the exact sampling dates at City of Brandon and the RM of Springfield with the host municipality and the Contractor.

### **2.3.2 Specifications for Waste Collection**

- A. Each study shall be two weeks long (two consecutive weeks).
- B. For the multi-family studies the Contractor is not responsible for the collection of the material. All of the garbage and recyclables generated over a two-week period will be collected from each of the buildings.

The Contractor may be responsible for the collection of the material. A separate quote should be attached to show the added cost for the collection of the garbage and the recyclables.

- C. The sample material for the single-family studies shall come from 10 homes in a row in 10 different sample areas (streets) within the municipality (i.e. a total of 100 homes).
- D. While MMSM recommends that the Contractor collect and sort sample material from 20 or 30 households per day, we recognize that this may not always be possible due to timing issues/collection schedules. Therefore, there is an allowance for sampling from up to 60 households per day if necessary.
- E. The 100 households sampled in the first week shall be sampled again in the second week.
- F. If a household does not set out material; the Contractor shall note this on the Waste Study Collection Log. The Contractor shall not collect substitute material from another home if the sample home does not set out material.
- G. All recycling and residual waste (garbage) set out by the sample households are to be collected (see below for information on yard waste, source separated organics, bulky waste and white goods).
- H. Due to the high variability of yard waste, any yard waste (leaves, grass, branches, etc.) that is outside of the regular garbage containers will not be collected.
- I. Bulky items (large items over 34 kg or 5 feet in any direction such as furniture, carpeting, sofas, mattresses, barbecues and television sets) are collected by special collection only and are not included in this waste audit. The Contractor should document any such items left at the curb (e.g. "one large couch at address number 123") on the Waste Study Collection Log.
- J. White goods (large metal bases appliances such as refrigerators, freezers, clothes washers, dishwashers, clothes dryers, ranges, stoves, air conditioners, hot water tanks) shall not be collected.

- K. Source separated organics shall not be collected.
- L. The Contractor and host municipality are to decide how to handle waste set outs that do not meet municipal waste set out requirements. The Contractor shall collect all materials at the curb (except white goods and very heavy or exceptionally large bulky items) unless the host municipality instructs otherwise. The host municipality must provide "material rejection" tags/stickers for the Contractor to use if the host municipality wants the Contractor to reject unacceptable materials.
- M. Waste collection cannot begin before the time specified by the municipality's waste collection by-laws (typically not before 7:00 a.m.) Contractor shall drive by the sample homes a second time at the end of the first run to look for and collect any late set outs. The intent is to make sure all waste set out is collected.
- N. The Contractor shall complete a record in the Waste Study Collection Log provided by MMSM. The contractor shall record the number of bags/containers per stream at each house.
- O. Weather conditions are to be documented on the Waste Study Collection Log. The Contractor shall note if the material at the curb (particularly the recyclable paper) is wet or not and whether they believe participation could have been hampered due to inclement weather.
- P. A representative from the host municipality will be available by phone to answer questions concerning collection. Questions from residents shall be directed to the representative from the host municipality.
- Q. The Contractor is to notify the representative from the host municipality immediately if any problems are encountered during collection, particularly if regular waste collection crews are seen in the sample areas.
- R. The Contractor's fieldwork manager/supervisor must have a cell phone.
- S. The Contractor shall provide collection staff with personal protective equipment including heavy-duty gloves, safety foot ware, traffic vests, protective coveralls, safety masks and safety eyewear.
- T. The Contractor shall provide a marked 16-foot cube van or similar vehicle for waste collection purposes.
- U. The Contractor shall provide bags or containers for collecting loose material or material set out in bins.
- V. Sample material from each sample area shall be kept separate and the data kept separate.
- W. The individual waste streams (recyclables, source separated organics, yard wastes and residual wastes) shall be managed separately and the data recorded separately.
- X. The Contractor shall transport the collected material to the sorting site, a predetermined location provided by the host municipality.

### 2.3.3 Specifications for Waste Sorting

- A. The Contractor shall provide the following pieces of equipment:
- Heavy-duty gloves, safety footwear, traffic vests, safety glasses, coveralls and ear plugs for the sort staff.
  - First aid kit.
  - Work tables on which to sort the sample material.
  - Leak proof containers of sufficient volume and in sufficient number such that the sample materials can sorted and weighed.
  - Other items necessary to complete the sort (e.g. broom, dustpan, knives to open the bags, etc.).
- B. The host municipality shall provide the following:
- An area for waste sorting, ideally a covered, heated building.
  - Bins for recycling or disposal of the post-sorted and weighed wastes. The host municipality shall empty and return the bins as required. The host municipality shall cover all costs associated with these bins including the hauling and disposal of the post-sorted wastes.
- C. The Contractor must ensure that their collection and sorting staff are familiar with MMSM's material categories and sampling and sorting methods. At the discretion of MMSM, the Contractor's staff may be required to attend a half-day MMSM Waste Study Training Session (see Section 2.2).

*For detailed information on sub-samples from multi-family dwellings, please see **Appendix A – Multi-Family Sub-Sampling Methodology**.*

- D. The Contractor should recommend to each member of the waste sorting crew that they have a tetanus shot if they have not had one in the last 10 years.
- E. The Contractor shall provide a suitable electronic weigh scale capable of measuring to 0.01 kg and to at least 60 kg, of sufficient accuracy to provide weight measurements within  $\pm 1\%$  of true weight.
- F. All weight measurements will be expressed in metric units (i.e. kilograms) to two decimal places. MMSM recommends that light materials/items be placed directly on the scale for weighing and not in a bin.
- G. The tare weight of all weigh containers shall be determined prior to any sorting and shall be checked periodically during the sorting process.
- H. The sample material shall be sorted by stream and by sample area into the categories shown in Appendix B.
- I. The Contractor shall make best efforts to separate food wastes and residual liquid from their packaging before weighing. This can be achieved by opening all packaging and shaking out the contents.
- J. Bags/containers found to contain hypodermic needles or other hazardous wastes shall be set aside, weighed, and described on the Waste Sort Worksheet provided by MMSM. They will then be

disposed of in a dedicated container provided by the host municipality.

- K. The Contractor will make note of and weigh separately items that dramatically affects the total weight measured for any one waste category (e.g. someone throwing out a collection of magazines).
- L. The Contractor shall sort and weigh 100% of the material collected (see exceptions for multi-family buildings). The Contractor is not required to weigh the sample material before it is sorted.
- M. The Contractor shall record the weights of the separated materials by waste stream and by sample area. To ensure accurate weight measurements, MMSM recommends that very light materials/items be placed directly on the scale for weighing and not in a bin.
- N. The following approach will be used for managing “fines” (items <1 cm across):
  - Estimate the composition of the fines by weight (i.e. 10% kitty litter, 30% food waste, 20% mixed fine paper, 30% clear glass and 10% coloured glass).
  - Split the mix accordingly.
  - Add material to the appropriate bins prior to weighing.
- O. Residual waste and organic wastes must be sorted and disposed of on the day they are collected. If necessary, recyclables and other dry materials can be held over and sorted on another day (space permitting).
- P. The Contractor shall keep the sorting area in a reasonably clean state and will wash/wipe/sweep off the sorting bins, floors, sorting tables and other surfaces in contact with the waste at the end of each day.
- Q. Upon completion of the waste audit, the Contractor shall promptly remove all of the Contractor’s equipment and supplies and return the sorting area to state in which it was found at the beginning of the audit.
- R. The Contractor shall count the Polyethylene PE Retail and Carry-out Bags/Sacks as per:
  - Reused as a waste receptacle for garbage or recyclables (HDPE or LDPE).
  - Empty was not used as a waste receptacle for garbage or recyclables (HDPE or LDPE).

#### **2.3.4 Reporting Study Results**

- A. Only the data collection forms and electronic spreadsheets provided by MMSM are to be used for reporting.
- B. Reporting for each two-week audit is to be completed and provided to MMSM no later than one week after the final waste collection day.
- C. All data must be checked for accuracy/errors and approved by the Contractor’s project supervisor before being submitted to MMSM.
- D. Data collected on the worksheets and logs is to be entered into the electronic spreadsheets

provided by MMSM.

- E. The Contractor shall email the completed electronic spreadsheets to Martin Racicot at MMSM ([mracicot@stewardshipmanitoba.org](mailto:mracicot@stewardshipmanitoba.org)).

## 2.4 Study Component 2: MRF Material Composition Study

### 2.4.1 Study Timing

The timing of the MRF Material Composition Study should coincide with the Single-Family and Multi-Family studies either prior to or after the completion of the two-week study. It is expected that the Contractor will require approximately 2-3 days to complete the work, depending on the number of sorters used.

### 2.4.2 Specification for MRF Sampling

#### 2.4.2.1 Tip floor (Pre-sort material)

The tip floor commodities will be obtained in an unbiased way from the tipping floor during various times during the day. The Contractor will be responsible for extracting the tip floor samples, with the assistance of the MRF staff.

The Contractor is to sort twenty (20) 50 kg ( $\pm 5$  kg) samples of tip floor material at the Emterra Winnipeg MRF. The Contractor is therefore required to sort approximately 1000 kg of tip floor materials during this study.

#### 2.4.2.2 Commodity (Post-sort material)

The commodity samples will be obtained in an unbiased way from storage bunkers and/or cages and/or baler in-feed belt by hand using shovels and bins or with the assistance of a MRF staff loader operator. In some cases where access to loose material is restricted, it may be necessary to get the samples from bales that have been opened (this would only be done if the de-baled material could be sorted relatively easily, i.e. the containers are not too stuck together).

The Contractor is to sort between two (2) and four (4) 50 kg ( $\pm 5$  kg) samples of each of the targeted commodities that are available at the time of the audit (assume 7 target commodities will be available at the MRF). The Contractor is required to sort approximately 1,000 kg of post-sort materials during this study

Before gathering and sorting a sample, the Contractor is required to consult with MRF staff and confirm that the sample material meets the requirements of the study. If the Contractor is aware that the material does not meet the requirements of the study, is unsure, or feel they cannot get sufficient material for between two (2) to four (4) 50 kg samples, they are to contact Martin Racicot at MMSM [mracicot@stewardshipmanitoba.org](mailto:mracicot@stewardshipmanitoba.org) for further direction.

### Selection of Commodities

Prior to beginning the field work, the Contractor must ensure their staff and subcontractors have received suitable and appropriate training for the current work environment (i.e. WHMIS) and are familiar with the sampling methods outlined in this document. In addition, staff and subcontractors must understand the nature of the work and the risks presented, and are familiar with techniques to minimize the risk of personal injury.

The post-sort samples will come from post-processed blue box materials that are either ready-to-be-baled or ready-to-be-shipped loose. In the event that only baled material is available, the contractor will confer with MMSM to determine if sorting baled material is the best course of action at the time.

Commodities to sample will include:

- ONP
- OCC
- Super Mix Paper
- Polycoat/Tetrapak
- Mixed Rigid Plastic
- Steel/Tin
- Aluminum UBC

### **2.4.3 Specifications for Sorting MRF Material**

The partner MRF is required to provide appropriate space in their MRF for the sorting, ideally a 20' x 20' area in an out of the way area with low traffic flow and adequate lighting and ventilation. An electrical outlet will be required in the vicinity to power the weigh scale. The partner MRF will also be called on to provide assistance obtaining sample material from the tip floor and bunkers and/or cages.

The contractor will provide the following equipment for waste sorting:

- Heavy-duty puncture resistant gloves, safety footwear, reflective safety vests, protective coveralls, ear plugs and air-filter safety masks.
- Work tables on which to sort the waste.
- Leak-proof containers for sorting and weighing the blue box material.
- An electronic weigh scale capable of measuring from 0.005 kg to at least 120 kg, of sufficient accuracy to provide weight measurements within  $\pm 1\%$  of true weight.
- A first aid kit.
- Any other items necessary to complete the sort (e.g. broom, dustpan, etc.).

Each 50 kg ( $\pm 5$  kg) sample (both post-sort commodity and tip floor samples (pre-sort)) will be sorted separately into MMSM's material categories. Refer to Appendix G for a summary of the required material categories.

All material will be processed using MMSM's standard methods for sorting residential waste. Best efforts will be made to empty all food and beverage containers before weighing. Any item that

substantially skews the overall weight of a particular category should be weighed separately and the weight noted on the datasheet using the Excel comment function.

All weight measurements will be expressed in kilograms to two decimal places and will be recorded in the Excel workbook provided.

On completion of the sampling, the contractor will promptly remove their equipment and supplies and leave the site as it was prior to the sampling exercise.

#### **2.4.4 Specifications for Density Measurements**

Density measurements are required to be taken for 1) targeted commodity and tip floor samples prior to the consultant sorting into the MMSM material categories, and 2) individual material categories after sorting by the Consultant (from commodity samples only) as required in Section 2.4.3. above.

##### 1). Commodity-level and Tip floor Density Measurements of Samples

For the identified commodities to study at the MRF, the Consultant will ensure that two (2) completely full 'Container A' (see Section 3.3 point F. below) samples are weighed and density recorded as per the provided worksheets. For commodities with greater densities (ONP, OCC), a full Container A will have a weight greater than the 50 kg samples that are to be collected and sorted into material categories as required. In these cases, the two full 'Container A' samples can be used to create the two (2), 50 kg samples to be sorted as per Section 3.2. A total of 20 commodity-level density measurements will be required for this study.

A density measurement for each of the 20 tip floor material samples will be taken using a completely full Container A.

##### 2). Material-Specific Density Measurements (from commodity samples only)

Density measurements are required for sorted materials for each of the identified individual material sorting categories. The objective for the study is to obtain, at minimum, between two (2) and four (4) density measurements for each specified material category, for a total of 56 samples is expected.

Sorted materials from the same category can be combined from multiple 50 kg samples so that a full Container A or B can be measured. . Where it is not possible to obtain two (2) full containers for certain material categories, the Contractor shall notify MMSM to request suitable substitutes.

For both commodity-level and material-specific density measurements, during the sorting process and prior to weighing, the contractor will gently shake the container for approximately five to ten seconds periodically to assist the material to settle and level out. Material should not be compressed by hand or stood upon by the contractor.

#### **2.4.5 Reporting Study Results**

The Contractor is required to enter the weight data from the MRF Material Composition and Density Study into the electronic spreadsheets provided by MMSM. The file contains the following worksheets:

**Study Description:** The Contractor is required to enter general information about the conditions at the MRF at the time of sampling (i.e. weather conditions, etc.) into this sheet and submit it to MMSM at the end of the study.

**Material Categories:** The Contractor should print this sheet and make it available for reference during the waste sort.

**MRF Commodity/Tip-Floor Sort Results:** The Contractor is required to enter the weight measurements into this sheet and submit to MMSM at the end of the study. Instructions for entering the data are provided on the worksheet.

**Density – Commodity-level/Tip-Floor Results:** The Contractor is required to enter weight measurements into this sheet and submit to MMSM at the end of the study. Instructions for entering data are provided on the worksheet.

**Density – Material-Specific Results:** The Contractor is required to enter weight measurements into this sheet and submit to MMSM at the end of the study. Instructions for entering data are provided on the worksheet.

**Photo documentation** – The Contractor is required to take a pre-sort photo of each sample and a post-sort sample of the materials. The Contractor shall also take a photo of each container when recording the density of commodity-level and material-specific sample measurements.

All data and information must be checked for accuracy and errors and be approved by the Contractor’s project supervisor before it is submitted to MMSM.

The Contractor will email the completed electronic spreadsheets to Martin Racicot at MMSM [mracicot@stewardshipmanitoba.org](mailto:mracicot@stewardshipmanitoba.org).

Upon conclusion of each series of this project, MMSM will provide the project partners with the results from the study conducted at their facility.

## 3 General Requirements

### 3.1 General Requirements of the Contractor

- A. The Contractor must have the appropriate qualifications and experience to complete the tasks outlined above and must ensure that the lead person on site has such experience and qualifications.
- B. The Contractor must provide appropriate supporting documentation detailing the qualifications and experience of the people who will be carrying out the work. Please limit qualifications and experience to those relevant to this work.
- C. On the form provided in Appendix D, the Contractor must provide a reference for residential waste studies and a contact for MRF study experience.



- D. MMSM will require the Contractor to enter into a confidentiality agreement that protects all information provided to the Contractor by MMSM or by any municipality or MRF operator or other party contacted by the respondent in order to complete this contract.
- E. The recommended Contractor(s) must provide the necessary certificates of insurance to the host municipality and MMSM prior to award of the contract. MMSM's insurance requirements are given in Section 4. MMSM will make the insurance requirements of the host municipalities available to the recommended Contractor(s) prior to awarding the contract.
- F. On the form provided in Appendix E, the Contractor must list all equipment including collection vehicle, materials, supplies and services they will provide in order to successfully complete the studies in accordance with the specifications of this RFQ.
- G. On the form provided in Appendix F, the contractor must specify the number and roles of persons supplied to complete each waste study and must identify by name the Contractor's project supervisor.
- H. The Contractor must complete Appendix G if they plan to use subcontractors. (MMSM reserves the right to approve or not approve subcontractors suggested by the Bidder for the purpose of a Purchase Order(s) for the work).
- I. The Contractor must complete all studies within the time frames specified in Sections 2.3.1.1 and 2.3.1.2. and Section 2.4.1.
- J. The Contractor's fieldwork waste audit supervisor/manager must attend a half day MMSM Waste Training Session on sampling and sorting methods, material categories and data reporting requirements. The training session is necessary because MMSM requires that all Contractors use the same methods and are familiar with MMSM's printed paper and packaging sort categories.
- K. The Contractor must attend a pre audit planning meeting with each host municipality.
- L. The Contractor shall ensure that all persons participating in the studies have received suitable training prior to commencement and are familiar with MMSM's material categories.
- M. The Contractor shall provide weekly informal progress updates to MMSM.
- N. The Contractor shall ensure that all of their staff understands the nature of the work and the risks presented and are familiar with techniques to minimize the risk of personal injury.
- O. The Contractor shall report all injuries to MMSM and the host municipality.

- P. The Contractor shall take digital pictures of the multi-family complexes chosen and pictures of any anomalies, e.g. unusual items in the waste or recycling streams during the audit period.

### 3.2 General Requirements of the Host Municipality

- A. The host municipality shall identify the sample areas in conjunction with MMSM.
- B. The host municipality shall provide a suitable sorting location with proper facility (i.e. water, washroom).
- C. The host municipality shall manage the post-sorted material. The host municipality will provide disposal and recycling bins with easy access to the contractor and cover all costs associated with the bins themselves and the hauling and disposal of the material.
- D. A representative from the municipality will meet with the Contractor prior to the study commencing.
- E. The host municipality shall provide a liaison person to deal with questions from residents, staff and councillors and to coordinate with municipal collection services.
- F. The host municipality will provide the contractor with a letter stating the contractor is authorized by the host municipality to collect the garbage and the recyclables for the purpose of the study.

### 3.3 General Requirements of MMSM

- A. MMSM shall make payments to the Contractor for work originating from this RFQ according to the terms outlined in Section 6.
- B. MMSM shall run a waste training session for the Contractor.
- C. MMSM shall provide the Contractor with all the necessary worksheets and logs for data collection and reporting purposes for both study components.
- D. MMSM shall provide a liaison person to deal with questions related to collection and sorting methods and results reporting.
- E. MMSM will analyze the data and will give a copy of the results to the host municipality.
- F. For Study Component 2, MMSM will provide the Contractor with two different container types with known volumes ( $m^3$ ) to be used for the purpose of measuring material densities of selected commodities and individual sorted material categories.

**Container A:** A Gaylord Box with the dimension of 48" x 38.125" x 38.75" (approx. 122 cm x 97 cm x 98 cm) and a known volume of 41 ft<sup>3</sup> or 1.162 m<sup>3</sup>. This container shall be used for the measurement

of the density of the commodities and for measuring the density of individual material sort categories such as corrugated cardboard (OCC), boxboard (OBB) and other materials considered too bulky to use 'Container B'.



**Container A**

**Container B:** A large Blue Box with a volume of 23.5 US Gallons or 0.0890 m<sup>3</sup>. This container shall be used for the measurement of less bulky materials including containers used for beverages, food and consumer products, LDPE Film, etc.



**Container B**

## 4 Liability

A. The Contractor will purchase and maintain in force, at their own expense (including the payment of all deductibles) for the duration of the period the services are to be provided under this Request for Quotations, the following policies of insurance:

a) Comprehensive General Liability, provided that the policy:

I. Is in the amount of not less than one million dollars (\$1,000,000).

II. Adds MMSM, the partner municipality and any sub-contractors of the contractor as additional insured.

III. Has provisions for cross-liability and severability of interests as between the contractor and any such additional insured.

IV. Provides thirty days prior notice to MMSM and the partner municipality of any cancellation, termination or expiry of, or amendment or change (in a material respect) to the policy.

b) Standard Automobile Liability provided that the policy is in the amount of at least one million dollars (\$1,000,000) for each occurrence.

B. The Contractor shall from time to time, and at all times hereafter, well and truly save, keep

harmless and fully indemnify MMSM and any of its officers, employees, agents, representatives, invitees, members, volunteers, successors and assigns from and against any and all manner of claims, demands, losses, costs, charges, actions and other proceedings whatsoever which may be brought against or made upon any of them and against all loss, liability, judgments, costs, demands or expenses which any of them may sustain, suffer or be put to in respect of any loss, damage or injury to any person or property directly or indirectly arising out of, resulting from or sustained as a result of the work done by or on behalf of the Contractor or by reason of, or on account of, or resulting from the provision of the services to be provided under this Request for Quotation. The Contractor shall defend, indemnify and hold harmless MMSM, its officers, employees, subcontractors, agents and representatives from any losses that arise or are related to the Contractor’s performance or non-performance of its obligation, including payment obligations, under this Agreement. Upon assuming the defense of any action covered under this section the Contractor shall keep MMSM reasonably informed of the status of the matter, and the Contractor shall make no admission of liability or fault on MMSM’s part without MMSM’s written permission.

- C. MMSM contractors are required to remain in good standing with the Worker’s Compensation Board of Manitoba (WCB) during the duration of the project.

## 5 Price Quotation

MMSM prefers that a single contractor conduct both study components outlined in this RFQ.

The Contractor will enter their price quotations for each study in the Price Quotation table below. The price quotes will include all expenses (e.g. supplies, travel, accommodation, etc.). The Contractor’s prices will be in effect for a period of 90 days from the date of closing the RFQ.

**Table 3: Price Quotation Table**

Study Component	Description	Municipalities/Facilities	Price not including GST
1	Brandon Single-Family Study	Brandon	
	Brandon Multi-Family Study	Brandon	
	RM of Springfield Single Family Study	RM of Springfield	
	RM of Springfield Multi-Family Study	RM of Springfield	
2	MRF Sampling: Tip Floor (Pre-Sort Material) Composition	Emterra MRF – Winnipeg	

	and Density Study		
	MRF Sampling: Commodity (Post-sort) Composition and Density Study	Emterra MRF – Winnipeg	

### 6 Evaluation of Quotations and Award

The Request for Quotations will be reviewed and evaluated by MMSM staff regarding short listing and interviewing respondents as necessary to identify the recommended Contractor. Any decision to accept a submitted quotation, or to proceed with more detailed negotiations with one or more of the bidders, rests with MMSM’s Waste Study Subcommittee.

It is the intent of MMSM to contract with the Contractor with the overall best value to meet MMSM’s current and future needs. Cost will be considered but is not necessarily the sole determining factor for an award.

MMSM may revoke the award for this Request for Quotations if the recommended Contractor does not declare to MMSM within 5 business days after notification of award that they agree to provide the services outlined in this RFQ.

### 7 Payment

The Contractor will be paid upon completion of each two-week study. The Contractor shall submit an invoice for payment upon completion of each two-week study. The invoice shall reference the study name for MMSM’s Waste Study Program and shall show the amount of GST separately.

The Contractor shall document all costs and provide receipts to MMSM for all expenses associated with the work.

Invoices shall be sent to:

Multi-Material Stewardship Manitoba  
 200-283 Bannatyne Ave.  
 Winnipeg, MB  
 R3B 3B2

Invoices shall be paid by MMSM within thirty (30) days of receipt of the invoice provided that such invoices are proper, accurate and not in dispute.

## **8 Other Information**

MMSM may cancel or modify this Request for Quotation at any time prior to an award. MMSM may reject submissions for this Request for Quotation at any time prior to awarding the contract. MMSM may at its sole discretion choose to award all or part of the waste studies.

## Appendix A – Multi-Family Sampling Methodology

### I. Multi-Family Sampling requirements

#### Garbage:

- A. If a complex generates less than 400 kg of garbage per week, the audit team is required to sort all garbage generated by that complex
- B. If the complex generates more than 400 kg of garbage per week, the contractor can either:
  - 1) Sort it all as one sample (two samples if garbage is collected two times per week).
  - 2) Extract and sort sub-samples (See Section II below).

#### Recycling:

- C. If a complex generates less than 200 kg of recycling per week, the audit team is required to sort all recycling generated by that complex.
- D. If the complex generates more than 200 kg of recycling per week, the contractor can either:
  - 1) Sort it all as one sample (containers and fibres will be sorted separately if they are streamed separately for collection).
  - 2) Extract and sort sub-samples.

### II. Extracting sub-samples

Please skip this section if you are sorting the whole load.

- A. Each sub-sample will be at approximately 100 kg and will be sorted separately.
- B. The Contractor will use the “cone and quarter” sampling method for extracting sub-samples from the recycling and garbage loads collected from the complexes.  
Cone and quartering is done as follows:
  - 1. The hauler unloads the material collected from a complex onto the tipping floor at the sort site.
  - 2. The material is mixed by mechanical shovel, or by hand using rakes or shovels, into a uniform, homogeneous pile approximately 0.8 metres high.
  - 3. The pile is divided into four by running a straight line through the centre of the pile and a second line roughly perpendicular to the first.
  - 4. Opposite quarters are removed and set aside (but not discarded), leaving half the original sample.
  - 5. Steps three through six are repeated until all that remains is the required sub-sample weighing approximately 100 kg. The sub-sample will be set aside for sorting.
  - 6. Steps three to seven will be repeated until the contractor has the required number of 100 kg sub-samples.
- C. Sub-sampling requirements for complexes with **bi-weekly garbage or recycling collection**:

Waste Stream	Sub-Samples	Sub- Sample to be Sorted (kg)
Garbage Pick Up #1	#1	~100
	#2	~100
	#3	~100
	#4	~100
Total garbage sorted per complex →		<b>~400</b>
Recycle Pick Up #1	#1	~100
	#2	~100
Total recycling sorted per complex →		<b>~200</b>
Total waste sorted per complex →		<b>~600</b>

D. Sub-sampling requirement for programs with weekly recycling collection and **more than one garbage pick-up per week.**

Waste Stream	Sub-Samples	Sub- Sample to be Sorted (kg)
Garbage Pick Up #1	#1	~100
	#2	~100
Garbage Pick Up #2	#3	~100
	#4	~100
Total garbage sorted per complex →		<b>~400</b>
Recycle Pick Up #1	#1	~100
	#2	~100
Total recycling sorted per complex →		<b>~200</b>
Total waste sorted per complex →		<b>~600</b>



## Appendix B – Waste Sort Categories – Single-Family and Multi-Family Study

<b>Material Category</b>	<b>Description / Examples</b>
<b>PAPER</b>	
<b>Newspaper – Dailies and Weeklies</b>	Daily and weekly newspapers published by the Canadian Newspaper Association (CNA) and the Manitoba Community Newspapers Association (MCNA); Winnipeg Free Press, Brandon Sun, Winnipeg Sun, Globe and Mail, National Post, community newspapers. No inserts, flyers and magazines from newspapers.
<b>Newspaper - Other</b>	Non MCNA/CNA publications (e.g. TV guides, Auto Trader, Real Estate News) plus inserts and flyers from MCNA/CNA newspapers. Includes glossy flyers and advertising distributed with newspapers.
<b>Telephone Books / Directories</b>	Telephone books and other directories such as the Yellow Pages
<b>Magazines &amp; Catalogues</b>	Glossy magazines, catalogues, calendars, annual reports (must be bound, i.e. stapled or glued).
<b>Other Printed Paper (Obligated)</b>	Mixed fine paper, bills and statements, ad mail, etc. Includes non-newsprint flyers and advertising, promotional calendars
<b>Other Printed Paper (Non-Obligated)</b>	Writing paper, office paper, soft or hard covered books, paper envelopes (blank), gift cards, purchased calendars, gift wrap, construction paper, photographs
<b>PAPER PACKAGING</b>	
<b>Corrugated wine bag-in-box</b>	Corrugated box from bag in box wine containers. No plastic liners.
<b>Corrugated cardboard</b>	Includes micro-flute corrugated containers, pizza boxes, waxed corrugated containers, etc.
<b>Kraft paper</b>	Kraft paper bags and wrap, grocery or retail bags, potato bags, some pet food bags, etc. Includes brown, white, and coloured kraft paper and bags. No bags with bonded plastic or foil liners/layers/coatings. Includes bags with a light grease coating.
<b>Boxboard/cores</b>	Boxboard, paperboard, cereal box, shoe box, frozen food box, cores from toilet paper/ toweling/gift wrap, etc. Includes wet-strength boxboard, fast food cartons such as fry/onion ring boxes and paper plates
<b>Molded pulp</b>	Egg cartons, drink trays, other trays, molded pulp flower pots/trays, etc.
<b>Paper cups and paper ice-cream containers</b>	Includes paper based cups with a plastic lining/layer such as coffee cups, soup cups, french-fry cups. Does not include containers that are plastic or plastic based.
<b>Laminated paper packaging</b>	Paper based packaging (at least 85% paper) with foil or plastic liners/layers/coatings, pouches, cookie bags, microwave popcorn bags, fast food sandwich wraps, gift bags, paper based trays, etc.
<b>Composite cans</b>	Spiral wound cans with paper walls and plastic or metal tops

<b>Material Category</b>	<b>Description / Examples</b>
	or bottoms; frozen juice, Pringles, raisins, etc.
<b>Gable top - beverage only (excl. flavoured &amp; unflavoured dairy milk) 0 - 500mL</b>	Polycoat beverage containers with a gable shaped top 0 - 500mL; juice, milk substitutes (soy, almond, etc.),but exclude flavoured and unflavoured dairy milk
<b>Gable top - beverage only (excl. flavoured &amp; unflavoured dairy milk) 501mL - 1L</b>	Polycoat beverage containers with a gable shaped top 501mL - 1L; juice, milk substitutes (soy, almond, etc.),but exclude flavoured and unflavoured dairy milk
<b>Gable top - beverage only (excl. flavoured &amp; unflavoured dairy milk) &gt;1L</b>	Polycoat beverage containers with a gable shaped top >1L; juice, milk substitutes (soy, almond, etc.),but exclude flavoured and unflavoured dairy milk
<b>Gable top - flavoured dairy milk only 0 - 500mL</b>	Polycoat milk containers with a gable shaped top 0 - 500mL; flavoured milk (chocolate, strawberry, etc.)
<b>Gable top - flavoured dairy milk only 501mL - 1L</b>	Polycoat milk containers with a gable shaped top 501mL - 1L; flavoured milk (chocolate, strawberry, etc.)
<b>Gable top - flavoured dairy milk only &gt;1L</b>	Polycoat milk containers with a gable shaped top >1L; flavoured milk (chocolate, strawberry, etc.)
<b>Gable top - unflavoured dairy milk only 0 - 500mL</b>	Polycoat milk containers with a gable shaped top 0 - 500mL; unflavoured cow & goat milk
<b>Gable top - unflavoured dairy milk only 501mL - 1L</b>	Polycoat milk containers with a gable shaped top 501mL - 1L; unflavoured cow & goat milk
<b>Gable top - unflavoured dairy milk only &gt;1L</b>	Polycoat milk containers with a gable shaped top >1L; unflavoured cow & goat milk
<b>Gable top carton - non-beverage only</b>	Polycoat non-beverage containers with a gable shaped top; sugar, molasses, cream, some food products, etc.
<b>Aseptic alcohol containers</b>	Tetra pak type polycoat packaging for alcoholic beverages.
<b>Aseptic containers - beverage only (excl. flavoured &amp; unflavoured dairy milk) 0 - 500mL</b>	Tetra pak type polycoat packaging 0 - 500mL; juice, milk substitutes (soy, almond, etc.), but exclude flavoured & unflavoured dairy milk
<b>Aseptic containers - beverage only (excl. flavoured &amp; unflavoured dairy milk) 501mL - 1L</b>	Tetra pak type polycoat packaging 501mL - 1L; juice, milk substitutes (soy, almond, etc.), but exclude flavoured & unflavoured dairy milk
<b>Aseptic containers - beverage only (excl. flavoured &amp; unflavoured dairy milk) &gt;1L</b>	Tetra pak type polycoat packaging >1L; juice, milk substitutes (soy, almond, etc.), but exclude flavoured & unflavoured dairy milk
<b>Aseptic containers - flavoured dairy milk only 0 - 500mL</b>	Tetra pak type polycoat packaging 0 - 500mL; flavoured milk (chocolate, strawberry, etc.)
<b>Aseptic containers - flavoured dairy milk only 501mL - 1L</b>	Tetra pak type polycoat packaging 501mL - 1L; flavoured milk (chocolate, strawberry, etc.)
<b>Aseptic containers - flavoured dairy milk only &gt;1L</b>	Tetra pak type polycoat packaging >1L; flavoured milk (chocolate, strawberry, etc.)
<b>Aseptic containers - unflavoured dairy milk only 0 - 500mL</b>	Tetra pak type polycoat packaging 0 - 500mL; unflavoured cow & goat milk
<b>Aseptic containers - unflavoured dairy milk only 501mL - 1L</b>	Tetra pak type polycoat packaging 501mL - 1L; unflavoured cow & goat milk
<b>Aseptic containers - unflavoured dairy milk</b>	Tetra pak type polycoat packaging >1L; unflavoured cow &

<b>Material Category</b>	<b>Description / Examples</b>
only >1L	goat milk
Aseptic non- beverage containers	Tetra pak type polycoat packaging, soup, broth, etc.
Tissue/Towelling	Tissues, napkins, paper towels (includes wet/damp items)
Other Paper Packaging (Non-Obligated)	Corrugated moving boxes that can be clearly identified as branded products, paper compost & leaf and yard bags
<b>PLASTICS</b>	
PET beer bottles	#1 clear and coloured beer any size.
PET alcohol bottles	#1 clear and coloured liquor and spirits bottles any size.
PET bottles - beverage only 0 - 500mL	#1 beverage bottles 0 - 500mL; soft drink, water, juice, etc.
PET bottles - beverage only 501mL - 1L	#1 beverage bottles 501mL - 1L; soft drink, water, juice, etc.
PET bottles - beverage only >1L	#1 beverage bottles >1L; soft drink, water, juice, etc.
PET non-beverage bottles and jars	#1 food and non-beverage bottles and jars, cooking oil, peanut butter, dish soap, etc.
#1 PET Thermoform - Clear	#1 clamshells, #1 egg cartons, #1 trays, #1 blister packaging, etc.
#1 PET Thermoform - Coloured	#1 coloured PET microwaveable trays, etc.
HDPE - beverage only (excl. flavoured & unflavoured dairy milk & alcoholic beverages) 0 - 500mL	#2 beverage bottles and jugs 0 - 500mL, juice, milk substitutes (soy, almond, etc.), but exclude flavoured & unflavoured dairy milk
HDPE - beverage only (excl. flavoured & unflavoured dairy milk and alcoholic beverages) 501mL - 1L	#2 beverage bottles and jugs 501mL - 1L, juice, milk substitutes (soy, almond, etc.), but exclude flavoured & unflavoured dairy milk
HDPE - beverage only (excl. flavoured & unflavoured dairy milk and alcoholic beverages) >1L	#2 beverage bottles >1L and jugs, juice, milk substitutes (soy, almond, etc.), but exclude flavoured & unflavoured dairy milk
#2 HDPE Bottles (alcoholic beverage containers)	#2 plastic bottles used to contain alcoholic beverages
HDPE - flavoured dairy milk only 0 - 500mL	#2 milk jugs 0 - 500mL; flavoured milk (chocolate, strawberry, etc.)
HDPE - flavoured dairy milk only 501mL - 1L	#2 milk jugs 501 - 1L; flavoured milk (chocolate, strawberry, etc.)
HDPE - flavoured dairy milk only >1L	#2 milk jugs >1L; flavoured milk (chocolate, strawberry, etc.)
HDPE - unflavoured dairy milk only 0 - 500mL	#2 milk jugs 0 - 500mL; unflavoured cow & goat milk
HDPE - unflavoured dairy milk only 501mL - 1L	#2 milk jugs 501 - 1L; unflavoured cow & goat milk
HDPE - unflavoured dairy milk only >1L	#2 milk jugs >1L; unflavoured cow & goat milk
#2 HDPE Bottles and Jugs (Natural) (Non-Beverage)	Natural #2 plastic bottles and jugs (non-beverage) including windshield wiper fluid
#2 HDPE Bottles and Jugs (Coloured) (Non-Beverage)	Coloured #2 plastic bottles and jugs, , laundry soap, shampoo, etc.

<b>Material Category</b>	<b>Description / Examples</b>
<b>#2 HDPE Bottles and Jugs ≥ 5 L (Non-Beverage)</b>	#2 plastic bottles and jugs equal to or greater than 5 L
<b>PVC bottles and jars</b>	#3 bottles and jars only, lotions, soaps, bug repellants, shampoos, etc. (PVC blister/bubble packs go into “Other Rigid Plastic Packaging”)
<b>Other plastic alcohol containers</b>	Other plastic alcoholic containers; specialty bottles, etc.
<b>Other bottles, jars &amp; jugs - non-beverage only</b>	#4 LDPE, #5 PP, & #7 mixed resin, excl. HHW
<b>Other rigid plastic packaging - beverage only 0 - 500mL</b>	other plastic beverage bottles and jugs 0 - 500mL, juice, milk substitutes (soy, almond, etc.), flavoured milk (chocolate milk, strawberry milk, etc.) but exclude unflavoured milk
<b>Other rigid plastic packaging - beverage only 501mL - 1L</b>	other plastic beverage bottles and jugs 501mL - 1L, juice, milk substitutes (soy, almond, etc.), flavoured milk (chocolate milk, strawberry milk, etc.) but exclude unflavoured milk
<b>Other rigid plastic packaging - beverage only &gt;1L</b>	other plastic beverage bottles and jugs >1L, juice, milk substitutes (soy, almond, etc.), flavoured milk (chocolate milk, strawberry milk, etc.) but exclude unflavoured milk
<b>Other rigid plastic packaging - non-beverage</b>	Blister packaging, tubes for pharmaceutical & health care/cosmetic products, plant pots, unmarked/coded packaging, etc.
<b>Other plastic bottles &amp; jugs - empty HHW &amp; paint cans</b>	Empty plastic packaging with flammable, combustible, or toxic warning signs; Turpentine, automotive anti-freeze, motor oil, pesticides, paint, etc.
<b>#6 PS - Expanded Polystyrene</b>	# 6 Foam take-out containers such as drink cups, large, white or coloured packaging foam, meat trays, etc.
<b>#6 PS - Expanded Polystyrene (Black)</b>	Black # 6 Foam take-out containers such as drink cups, large, black packaging foam, meat trays, etc.
<b>#6 PS - Non-expanded Polystyrene</b>	#6 Polystyrene clear clamshell containers such as berry and muffin containers, opaque clamshell containers such as food take-out containers, yogurt containers, rigid trays, small milk or cream containers for hot beverages, cold drink cups.
<b>#6 PS - Non-expanded Polystyrene (Black)</b>	#6 Polystyrene black rigid trays or any other black containers.
<b>Wide mouth tubs &amp; lids</b>	# 2 HDPE, #4 LDPE & #5 PP tubs and lids, dairy products, etc.
<b>Large HDPE &amp; PP pails and lids</b>	>4litres and < 25 litres HDPE & PP pails, food, kitty litter, etc. excludes items with corrosive, danger or flammable warning signs
<b>Polyethylene PE Retail and Carry-out Bags/Sacks</b>	HDPE & LDPE retail and carry-out bags/sacks
<b>Polyethylene PE Plastic Bags &amp; Film - Other Packaging</b>	HDPE & LDPE dry cleaning bags, bread bags, frozen food bags, milk bags, toilet paper and toweling, over-wrap, lawn seed, soil, peat moss, etc.
<b>Polyethylene Plastic Bags &amp; Film - Non-Packaging</b>	HDPE & LDPE garbage bags, kitchen catchers, blue or clear bags for recyclables, sandwich and freezer bags, etc.

<b>Material Category</b>	<b>Description / Examples</b>
<b>Laminated Pouches &amp; Bag in Box Liners for Alcoholic Beverages</b>	Laminated plastic pouches and plastic bag-in-box liners for wine and other alcoholic beverages.
<b>Laminated/Other Plastic Film and Bags</b>	Plastic film and bags that are at least 85% (by weight) plastic with up to 15% (by weight) other closely bonded or impregnated materials. This includes meat, poultry and fish wrap; vacuum sealed bacon bag; luncheon meat and cheese wrap; cereal liners; chip bags and other snack food bags; candy wraps; pasta bags; boil in a bag; plastic based food pouches; bubble wrap; cling wrap; some cookie bags, etc. No alcohol pouches / bag in box liners.
<b>Drink Pouches (any size)</b>	Squeeze pouches for certain juice and water products
<b>Durable Plastic Products</b>	Non-packaging such as VCR tapes, CDs, toys, games, Tupperware, etc. Include multi-material items that are mainly plastic – e.g. a plastic toy truck with metal axles. Plastic shoes, gloves, clothing go in Textiles.
<b>METALS</b>	
<b>Aluminum beer cans</b>	Aluminum alcoholic beer any size
<b>Aluminum alcohol cans</b>	Aluminum alcoholic beverages, coolers, ciders, excl. beer
<b>Aluminum beverage cans</b>	Soft drinks, soda, juice excluded alcohol
<b>Aluminum food cans</b>	Certain brands of sardines , tuna and cat food cans
<b>Aluminum foil and trays</b>	Aluminum foil wrap, pie plates, baking trays, etc.
<b>Other aluminum containers</b>	Aluminum aerosol containers, hair products, tubes, etc.
<b>Steel beer cans</b>	Steel beer cans, Sapporo, etc.
<b>Steel alcohol cans</b>	Steel spirit containers, coolers, mixed drinks, etc.
<b>Steel cans - beverage only 0 - 500mL</b>	Steel beverage containers 0 - 500mL; apple/tomato juice; no alcohol containers
<b>Steel cans - beverage only 501mL - 1L</b>	Steel beverage containers 501mL - 1L; apple/tomato juice; no alcohol containers
<b>Steel cans - beverage only &gt;1L</b>	Steel beverage containers >1L; apple juice/tomato; no alcohol containers
<b>Steel food cans</b>	Soup, pasta sauce, canned vegetables, canned fruit etc.
<b>Steel aerosol containers (excl. paint aerosols)</b>	Steel cans for cooking oil, whipped cream, etc. excluding spray paint aerosols (paint aerosols should be included under steel paint cans & aerosols)
<b>Steel paint cans &amp; aerosols (empty)</b>	Empty paint cans and aerosols
<b>Other Metals</b>	Scrap metal, copper pipe, hardware, etc. Includes multi-material items that are mainly metal. Includes empty propane tanks.

<b>Material Category</b>	<b>Description / Examples</b>
<b>GLASS</b>	
<b>Clear glass beer containers</b>	Clear beer bottles any size
<b>Clear glass wine and spirit containers</b>	Clear liquor or spirits bottles (any size)
<b>Clear glass bottles - beverage only 0 - 500mL</b>	Clear glass beverage bottles 0 - 500mL; pop, carbonated water, etc. excluding alcohol
<b>Clear glass bottles - beverage only 501mL - 1L</b>	Clear glass beverage bottles 501 - 1L; pop, carbonated water, etc. excluding alcohol
<b>Clear glass bottles - beverage only &gt;1L</b>	Clear glass beverage bottles >1L; pop, carbonated water, etc. excluding alcohol
<b>Non-beverage clear glass food containers</b>	Clear glass non-beverage containers, all sizes
<b>Coloured glass beer containers</b>	Coloured beer bottles any size
<b>Coloured glass wine and spirit containers</b>	Coloured liquor or spirits bottles (any size)
<b>Coloured glass bottles - beverage only 0 - 500mL</b>	Coloured glass beverage bottles 0 - 500mL; pop, carbonated water, etc. excluding alcohol
<b>Coloured glass bottles - beverage only 501mL - 1L</b>	Coloured glass beverage bottles 501 - 1L; pop, carbonated water, etc. excluding alcohol
<b>Coloured glass bottles - beverage only &gt;1L</b>	Coloured glass beverage bottles >1L; pop, carbonated water, etc. excluding alcohol
<b>Non-beverage coloured glass food containers</b>	Coloured glass non-beverage containers, all sizes
<b>Other unrecognizable or broken glass</b>	Window glass, plates and glasses, light bulbs, broken glass shards, etc.
<b>HOUSEHOLD SPECIAL WASTE</b>	
<b>Batteries</b>	All types
<b>Paint &amp; Stain (still containing product)</b>	Cans / tubs still containing product, oil and latex paint, wood stain, varnish, etc.
<b>Motor Oil (still containing product)</b>	Oil filters and jugs or cans still containing oil
<b>Other HSW liquids (still containing product)</b>	Solvents, antifreeze, acids, pool chemicals, weed killer, gasoline, brake fluid, glues, adhesives, cleaners, nail polish remover, etc. Look for signal words such as "Poison", "Danger", "Warning", "Caution", and "Precautionary Statements".
<b>Other HSW (still containing product)</b>	Sharps, drug products, medicine, medical waste, fluorescent tubes, ionized smoke detectors, etc. Look for signal words such as "Poison", "Danger", "Warning", "Caution", and "Precautionary Statements".
<b>ORGANICS</b>	
<b>Food Waste</b>	Vegetable and fruit peelings, meats, fish, fats, oils, bones, etc
<b>Yard Waste</b>	Brush, branches, wood chips, grass, leaves, soil, plant material, ashes
<b>Pet waste</b>	Animal feces, bedding, kitty litter

<b>Material Category</b>	<b>Description / Examples</b>
<b>OTHER MATERIALS</b>	
<b>Diapers and Sanitary Products</b>	Diapers, sanitary napkins, hygiene products, etc.
<b>Textiles</b>	Clothing, shoes, mats, drapes, sheets, etc. Plastic rice sacks go in Other Rigid Plastic Packaging
<b>Carpeting</b>	Carpeting, underlay, mats
<b>Construction &amp; Renovation</b>	Lumber, wood cut off, drywall, ceramic tiles, plaster, etc.
<b>Computer / IT Equipment</b>	PCs, notebooks, CRT and LCD monitors, scanners, printers, mouse, cables
<b>Telecom Equipment</b>	Phones, pagers, Blackberry, mobile phones, etc.
<b>TV &amp; Audio Equipment</b>	Televisions, DVD, radio, VCR, etc
<b>Small Kitchen Appliances</b>	Blenders, coffee machine, etc.
<b>Other Electronics</b>	Electronic games, clocks, gadgets, anything with a plug or battery
<b>Tires and Other Rubber</b>	Rubber tires and tubes, other rubber items such as hoses
<b>Ceramics</b>	Ceramic plates, cups, plant pots, etc.
<b>Furniture</b>	Chairs, cabinets, tables, garden furniture
<b>Mattresses</b>	Mattresses and box springs, futons, foam mattresses
<b>Other Large Bulky Items</b>	Other large items not classified elsewhere
<b>Other Waste</b>	Materials not classified elsewhere, wooden fruit basket, vacuum bags, wax candles, furnace filters, etc.

Note: There may be a few changes made to the beverage container categories but these will not increase the total number of categories.

**Appendix C – Contractor Reference for Residential Waste Studies and MRF Composition Studies**

<b>Name:</b>	
<b>Municipality:</b>	
<b>Phone Number:</b>	
<b>Date Audited Completed:</b>	
<b>Scope of Work:</b>	

<b>Name:</b>	
<b>MRF Operator:</b>	
<b>Phone Number:</b>	
<b>Date Audited Completed:</b>	
<b>Scope of Work:</b>	



**Appendix D – Equipment and Services Provided by Contractor**

<b>Description of Equipment and Services Provided by Contractor:</b>	
<b>Collection Vehicle:</b>	
<b>Materials/Supplies:</b>	
<b>Services:</b>	

**Appendix E – Staff Provided by Contractor**

Specify the number and roles of persons supplied to complete the waste studies.

Role	Number of Persons Provided

Identify the person who will be supervising the project and attach their Curriculum Vitae to the bid document.

**Contractor’s project supervisor:** \_\_\_\_\_

**Appendix F – Subcontractors**

If work will be subcontracted, indicate who it will be contracted to and what services they will provide.

Company Name	Contact Name	Phone Number	Service Provided

## Appendix G – Waste Sort Categories – MRF Material Composition Study

Material Category	Material Sub-Category	Description / Examples
Printed Paper	Newspaper and Inserts	Daily and weekly newspapers, community newspapers, free newspapers and other newsprint publications. E.g. Globe and Mail, Star, Metro, Auto Trader, Condo Living, Real Estate News. Includes flyers and advertising made of newsprint distributed with newspapers.
	Magazines and Catalogues	Glossy magazines, catalogues, annual reports (must be bound, i.e. stapled or glued).
	Telephone Books / Directories	Telephone books and other directories such as the Yellow Pages.
	Other Printed Paper	Mixed fine paper, bills and statements, envelopes with company logos, ad mail, etc. Includes non-newsprint flyers and advertising, promotional calendars.
	Other Printed Paper (Non-Obligated)	Writing paper, office paper, soft or hard covered books, blank paper envelopes, gift cards, purchased calendars
Paper	Corrugated Cardboard	Includes micro-flute corrugated containers, pizza boxes, waxed corrugated containers, electronic product boxes such as television and computer boxes, boxes used to direct mail for residential consumers. Kraft paper bags and wrap, grocery or retail bags, potato bags, some pet food bags, includes brown, white, and coloured kraft paper and bags. No bags with bonded plastic or foil liners/layers/coatings.
	Boxboard / Cores / Molded Pulp	Boxboard, paperboard, cereal box, shoe box, frozen food box, cores from toilet paper / toweling / gift wrap, etc. Includes wet-strength boxboard, fast food, ice cream boxes, cartons such as fry / onion ring boxes and paper plates. Molded pulp packaging such as egg cartons, drink trays, other trays, molded pulp flower pots/trays, etc.
	Gable Top Containers	Polycoat containers with a gable shaped top, milk and milk substitutes like soy, almond and rice milk, juices, some foods, sugar, molasses, etc.
	Aseptic Containers	Polycoat fibre and foil containers (e.g. Tetra Pak) for soy, almond and rice milk, juice boxes, water, wine and other spirits, soup, sauces etc.
	Polycoat Cups	Hot beverage / food containers with polycoat on the inside only, including coffee cups, soup cups / bowls, chili cups etc. (excludes fountain drink cups), and cold beverage / food containers with polycoat on both sides including fountain drinks, take-out ice cream cups.
	Spiral Wound Containers	Polycoat or paper containers with steel bottoms including chip containers, frozen concentrate juices, pre-packaged cookie dough, etc. May also have foil and / or plastic on ends.
	Ice Cream Containers and Other Bleached Long Polycoat Fibre	Polycoated paper ice cream containers, typically with a lid, excluding boxboard folded ice cream boxes. Food containers with white fibre and a rolled or folded rim, includes Michelina's frozen food, KFC tubs.
	Paper Laminate Packaging	Paper with aluminum foil, paper with plastic, multi-layered paper; includes microwave popcorn bags, some cookie bags, dog food bags, paper granola bar wrappers, laminated paper carry out bags, etc.
	Other Paper (non-packaging)	Moving corrugated Boxes, bristol board, paper napkins, tissue (non-packaging only)
	#1 PET Bottles and Jars	Clear and translucent #1 plastic bottles and jars including pop, juice, liquor, cooking oil, honey, dish soap, etc.
	#1 PET Bottles and Jars - Coloured	Solid coloured #1 plastic bottles and jars including pop, juice, liquor, cooking oil, honey, dish soap, etc.
	#1 PET Thermoform - Clear	#1 clamshells, #1 egg cartons, #1 trays, #1 blister packaging, etc.
	#1 PET Thermoform - Coloured	Coloured PET microwaveable trays, etc.
	#2 HDPE Bottles and Jugs -	Natural #2 plastic bottles and jugs, juice, milk, laundry soap, shampoo,

Material Category	Material Sub-Category	Description / Examples
Plastic	Natural	windshield washer fluid, etc.
	#2 HDPE Bottles and Jugs - Coloured	Coloured #2 plastic bottles and jugs, juice, milk, laundry soap, shampoo, windshield washer fluid, etc.
	#2 Other HDPE Containers	Other #2 containers such as margarine and yogurt containers made from HDPE.
	Flexible Film Plastic – LDPE and HDPE	HDPE and LDPE film, dry cleaning bags, bread bags, frozen food bags, milk bags, toilet paper and paper towel over-wrap, lawn seed bags, grocery and retail carry-out bags.
	Flexible Film Plastic – LDPE and HDPE (non-obligated)	Non-packaging HDPE & LDPE film (e.g. kitchen catchers, sandwich and freezer bags, garbage bags, etc.)
	#5 PP Bottles	#5 plastic bottles includes nutritional supplement drinks, shampoos, etc.
	#5 Other PP Containers	#5 containers such as margarine and yogurt containers and other containers made from PP, including tubs and lids with resin codes #5 PP.
	#5 Other PP Containers - Black	Black #5 containers such as margarine and yogurt containers and other containers made from PP, including tubs and lids with resin codes #5 PP.
	#6 PS - Expanded Polystyrene	#6 foam take-out containers such as drink cups, large, white packaging foam, meat trays, etc.
	#6 PS - Expanded Polystyrene - Black	Black #6 foam take-out containers such as drink cups, large, white packaging foam, meat trays, etc.
	#6 PS - Non-expanded Polystyrene	#6 polystyrene clear clamshell containers such as berry and muffin containers, opaque clamshell containers such as food take-out containers, rigid trays, small milk or cream containers for hot beverages, cold drink cups.
	#6 PS - Non-expanded Polystyrene - Black	#6 black , rigid trays, and other black #6 PS packaging
	Plastic Laminates and Other Film Packaging	Laminated plastic film and bags that are at least 85% plastic (by weight). Includes chip bags, vacuum sealed bags, cereal liners, candy wraps, pasta bags, boil in a bag, plastic based food pouches, and other film plastic not made of LDPE/HDPE or PLA, PHA, PHB.
	PLA, PHA, PHB	All other plastic containers and plastic film consisting of bio-plastics made of either PLA (Polylactic acid), PHA (Polyhydroxyalkanoates) and PHB (poly-3-hydroxybutyrate) polymers
	Other Rigid Plastic Packaging	Other rigid containers (#3, #4 & #7), non-PET blister packaging, unmarked / coded packaging, plant pots and trays, pails, etc.
	Other Rigid Plastic Packaging - Black	Other black rigid containers (#3, #4 & #7), non-PET blister packaging, unmarked / coded packaging, plant pots and trays, pails, etc.
Other Plastics - (non-packaging/durable)	Rubbermaid tubs, toys etc.	
Steel	Steel Food and Beverage Cans	Apple juice, soup beans, peaches cans, etc.
	Steel Aerosol Containers	Empty spray paint cans, cooking oil, whipped cream, etc.
	Steel Paint Cans	Empty paint cans. No steel aerosol cans.
	Other steel (non-packaging)	Non-packaging steel products including baking trays, frying pans etc.
Aluminum	Aluminum Food and Beverage Cans	Soft drinks, soda, juice, beer cans, certain brands of sardines and cat food, etc.
	Aluminum Foil and Foil Trays	Aluminum foil wrap, pie plates, baking trays, etc.
	Aluminum Aerosols	Aluminum aerosol containers, hair products, etc.
	Other Aluminum (non-packaging)	Aluminum siding, baking trays etc.
Glass	Glass (Clear and Coloured)	Food and beverage containers such as pickle jars, salsa jars and dairy tubs, glass cosmetic containers for creams, beverage bottles
	Other Glass - (non-packaging, not accepted)	Dishes, ceramics, window glass

<b>Material Category</b>	<b>Material Sub-Category</b>	<b>Description / Examples</b>
Other	Other Material	All other material not listed above and other prohibited material not typically accepted in each program.