2018 Waste Characterization Study
Golden Refuse Disposal Site



PRESENTED TO

Columbia Shuswap Regional District

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EXECUTIVE SUMMARY

The Columbia Shuswap Regional District (CSRD) retained Tetra Tech Canada Inc. (Tetra Tech) to conduct a Waste Characterization Study at four refuse disposal sites (RDS) located in Golden, Revelstoke, Sicamous, and Salmon Arm, BC. The CSRD is responsible for solid waste management throughout the region and provides services to a total population of 51,366. The aim of the Waste Characterization Study is to better understand the materials discarded in both municipal and rural waste within the CSRD, as well as offer a comparison to the Waste Characterization Study completed in 2013. Data collection for the Waste Characterization Study took place from July 9 to 26, 2018.

This report summarizes the results from the Golden RDS. The Golden RDS services a population of approximately 7,000 residents in the town and surrounding area. The waste sampling and sorting at the Golden RDS was conducted from July 24 to 26, 2018. A total of 14 samples (approximately 100 kg each) were collected and sorted from residential-curbside, residential self-haul, and industrial, commercial and institutional (ICI) sources. Waste samples were sorted into 12 primary categories, and a total of 60 material subcategories. Weighted average compositions were calculated along with standard deviations. Data was also compared with the 2013 Waste Characterization Study results at the primary material category level.

The overall average waste composition for Golden RDS is presented in Figure E-1. The largest component of waste was compostable organics (36.2%), followed by paper (20.9%), plastic (20.1%), and household hygiene (6.5%). Compostable organics was predominantly food waste (33.9%), 18.1% of which was considered edible and 15.8% inedible. Paper comprised compostable paper (10.2%), other non-recyclable paper (3.7%), and boxboard (2.5%). Plastic was mostly composed of film (8.6%), rigid containers (4.2%), other rigid plastics (2.9%), and textiles (2.7%)[1]. Pet waste (3.6%) and diapers (2.9%) were the components of household hygiene.

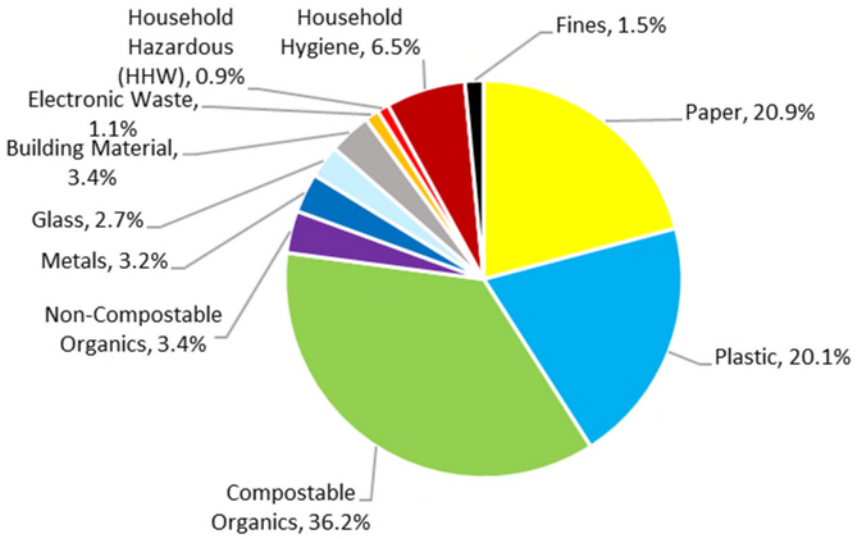

Figure E-1: Overall Waste Composition

[1] Textiles are categorized as plastic but many items contained natural fibres.

Photos of prevalent categories found in the waste composition study are briefly highlighted below to provide context for the material categories. More category photos can be found in Appendix C.

Paper – Boxboard (2.5%)

Paper – Tissue/Paper Towels, Other Paper – Compostable (10.2%)

Plastic – Film (8.6%)

Compostable Organics – Food Waste – Edible Parts (18.1%)

Figure E-2: Photos of Prevalent Material Categories

The results from this study were comparable to the 2013 Waste Characterization Study; there did not appear to be significant differences in the composition of waste in each sector for the largest components of waste (e.g., compostable organics, paper, plastic). Some differences were observed for electronic waste and

non-compostable organics. However, these types of items are observed infrequently. A comparison between the 2013 and 2018 studies is provided in Section 3.1.1.

A concurrent characterization of extended producer responsibility (EPR) items was conducted in partnership with the Stewardship Agencies of British Columbia (SABC). EPR items make up approximately 13.9% to 17.2% of the waste stream. The highest amount of EPR items were found in residential-curbside and ICI samples. Packaging (6.6% to 11.9%) was the largest category of EPR items, followed by beverage containers (returnable to Encorp) (2.6% to 3.0%). Small appliances and power tools was also a category of note for the residential-curbside sector (3.3%).

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ACRONYMS & ABBREVIATIONS

Acronyms/Abbreviations	Definition
CSRD	Columbia Shuswap Regional District
EPR	Extended producer responsibility
ICI	Institutional, commercial, and industrial waste
MSW	Municipal solid waste
RDS	Refuse disposal site
RES	Residential self-haul – loads self-hauled by residents to the refuse disposal sites
SABC	Stewardship Agencies of British Columbia
SF	Residential-curbside – trucks that conduct curbside collection for single family homes
TS	Transfer station – trucks bringing roll-off bins from outlying transfer stations

Terminology	Definition
Hauler	Vehicle delivering the waste
Load	Amount of waste contained in a hauler truck
Sector	Load source and origin of a specific hauler truck
Sample	Portion of the load that was sorted and weighed

LIMITATIONS OF REPORT

This report and its contents are intended for the sole use of the Columbia Shuswap Regional District and their agents. Tetra Tech Canada Inc. (Tetra Tech) does not accept any responsibility for the accuracy of any of the data, the analysis, or the recommendations contained or referenced in the report when the report is used or relied upon by any Party other than the Columbia Shuswap Regional District, or for any Project other than the proposed development at the subject site. Any such unauthorized use of this report is at the sole risk of the user. Use of this document is subject to the Limitations on the Use of this Document attached in the Appendix or Contractual Terms and Conditions executed by both parties.

1.0 INTRODUCTION

Tetra Tech Canada Inc. (Tetra Tech) was retained by the Columbia Shuswap Regional District (CSRD) to conduct a Waste Characterization Study at four refuse disposal sites (RDS). The waste sampling and sorting at the Golden RDS was conducted from July 24 to 26, 2018. This report summarizes the methodology and provides a summary of the results and analysis from the field work at the Golden RDS broken down by each sector, and for all results combined.

1.1 Background

The CSRD has four municipalities including Golden, Revelstoke, Sicamous, and Salmon Arm and six Electoral areas, providing services to a total population of 51,366. The CSRD is responsible for solid waste management throughout the region and manages four RDS, two scaled transfer stations, and six unscaled transfer stations. The Town of Golden lies on the eastern side of the regional district and has a population of 3,708.

The Golden RDS services a population of approximately 7,000 residents in the town and surrounding area, which fluctuates throughout the year with tourism. The Golden RDS services Electoral Area A, as well as receiving waste from the Parson Transfer Station. This study serves to update the previous 2006 and 2013 Solid Waste Characterization Studies conducted at the Golden RDS by TRI Consulting.

1.2 Scope of Work

The scope of work for the study included sorting municipal solid waste (MSW) that arrived at Golden RDS from the following waste-generating sectors:

- Residential-Curbside (SF): Single-family residential waste from curbside collection;
- Residential Self-Haul (RES): Small loads of waste dropped off by residents either on the active face or into the RDS' roll-off bins; and
- Industrial, commercial, and institutional (ICI): Waste collected from businesses, institutions, and multi-family residential buildings.

The aim of the study is to better understand the materials discarded in both municipal and rural waste within the CSRD, as well as offer a comparison to the Waste Characterization Study completed in 2013. Garbage samples were sorted into 12 primary categories, and a total of 60 material subcategories. A full categories list is provided in Appendix B.

2.0 METHODOLOGY

This section reviews the components of the study, provides an overview of how waste was collected and sampled, and outlines other key factors and considerations for the study. Tetra Tech's sampling methodology is based on the Canadian Council of Ministers of the Environment's *Recommended Waste Characterization Methodology for Direct Waste Analysis Studies in Canada*.

The Waste Characterization Study was performed by a supervisor and three environmental technicians who were trained on safety and material sorting procedures prior to the fieldwork. Personal protective equipment was used by staff according to the specifications of Tetra Tech's Health and Safety Plan, which factored in special

requirements for working at the Golden RDS. Safety meetings were conducted daily to emphasize key concerns including how to handle material hazards such as sharps or hazardous materials, safe lifting of garbage bags, working around vehicles, and weather conditions.

2.1 Sampling Plan

Tetra Tech prepared a sampling framework and protocol customized for this study based on the estimated proportion of waste from each sector, expected variability by sector, and expected number of loads that would enter the Golden RDS during the waste characterization period. The amount of waste arriving from each sector was estimated using available data for the incoming transfer station loads. Tonnage data from the Golden RDS was available from January to December 2017.

Table 2-1: Samples Completed by Sector

Sector	Number of Samples Sorted	Total Sorted Mass (kg)	Waste Received at Golden RDS from January to December 2017 (tonnes)
SF	3	303	801
RES	7	709	616
ICI	4	404	3,163
Total	**14**	**1,416**	**4,580**
Total Buried Waste (tonnes)			**5,019**
Percent of Total Buried Waste from Sectors Represented in Study			**91%**

2.2 Load Identification and Sample Selection

The Tetra Tech supervisor worked closely with Golden RDS staff to coordinate identification and selection of the loads to be sampled as they arrived with minimal interruption of daily operations. The Tetra Tech supervisor confirmed the source of each incoming load identified for sampling with both the truck driver and the scale operator. Select sample photographs can be found in Appendix C.

2.3 Sample Sorting

Loads were tipped onto the active face. At the Golden RDS, after the load was tipped, the loader operator brought a loader bucket of material (200 kg to 300 kg) to the sorting area. Tetra Tech staff collected a sample of 100 kg ± 5 kg. Each sample was then hand sorted into 60 categories. After sorting, each bin was weighed. Data entry was completed directly on a laptop computer. After weighing, bins were emptied back into the loader, which was left near the sorting area to be cleared prior to the next sample being collected.

Garbage samples were sorted into 12 primary categories, and a total of 60 material subcategories. The primary categories were paper, plastic, compostable organics, non-compostable organics, metal, glass, building material, electronic waste, household hazardous, household hygiene, bulky objects, and fines. A complete list of the categories along with their descriptions can be found in Appendix B. Appendix C contains select photographs of commonly used categories.

A concurrent characterization of extended producer responsibility (EPR) items was conducted in partnership with the Stewardship Agencies of British Columbia (SABC). Waste materials were re-sorted into an additional 169 categories following sorting of waste materials into the CSRD's categories. A summary of the results from the EPR characterization study is summarized in Section 3.5.

2.4 Data Analysis

Data analysis was performed using Tetra Tech's adaptation of the British Columbia Ministry of Environment and Climate Change Strategy's *Waste Characterization Spreadsheet Tool*. Data was compiled into primary, secondary, and tertiary categories by weight. The weighted average composition for each sector was calculated for each material category along with its associated standard deviation. The overall composition was calculated by extrapolating the weighted average composition by sector to estimated tonnages of waste by sector.

Data was also compared with the 2013 Waste Characterization Study results at the primary material category level.

2.5 Health and Safety

A Health and Safety Plan was developed for this project to identify potential hazards in advance of the Waste Characterization Study. Tetra Tech staff conducting field work for this study were required to have up-to-date safety certifications and training for waste sorting activities. Upon arrival at each landfill site, Tetra Tech staff conducted a site orientation with the operator to identify site-specific hazards and controls. A safe working location was selected and clearly demarcated. A safety meeting was conducted each day to debrief hazards from the previous day and identify new hazards and/or controls as applicable.

2.5.1 Weather Considerations

Air temperatures ranged from 25 °C to 35 °C throughout the waste characterization period. Due to the prolonged heat and sun exposure, several actions were taken to reduce the risk of heat-related safety issues:

- Whenever possible, the field team started working on-site before the Golden RDS opened (7:00 a.m.) to complete as much work as possible before temperatures rose;
- Staff used lighter personal protective equipment (e.g. hospital gowns instead of Tyvek coveralls) to reduce overheating while still offering protection from hazards; and
- Staff members were monitored closely for signs of heat-related illnesses and took regular water breaks in hot temperatures to manage hydration and body temperature levels.

3.0 WASTE CHARACTERIZATION RESULTS

Waste characterization results are reported as average percentages by primary material category in the following sections. A summary of the results for all 60 material categories is included in Table A at the end of the report. Select photographs are included in Appendix C.

3.1 Overall Waste Characterization Results

The overall average for all materials are presented in Figure 3-1. Figure 3-2 presents all results by sector, and Table 3-1 summarizes the results by sector along with the overall weighted average for all MSW that arrives at the Golden RDS.

For the overall results, the largest component of waste was compostable organics (36.2%), followed by paper (20.9%), plastic (20.1%), and household hygiene (6.5%). Compostable organics was predominantly food waste (33.9%), 18.1% of which was considered edible and 15.8% inedible. Paper comprised compostable paper (10.2%), other non-recyclable paper (3.7%), and boxboard (2.5%). Plastic was mostly composed of film (8.6%), rigid

containers (4.2%), other rigid plastics (2.9%), and textiles (2.7%). While textiles were classified in the plastic category, many of the items contained natural fibres. Pet waste (3.6%) and diapers (2.9%) were the components of household hygiene.

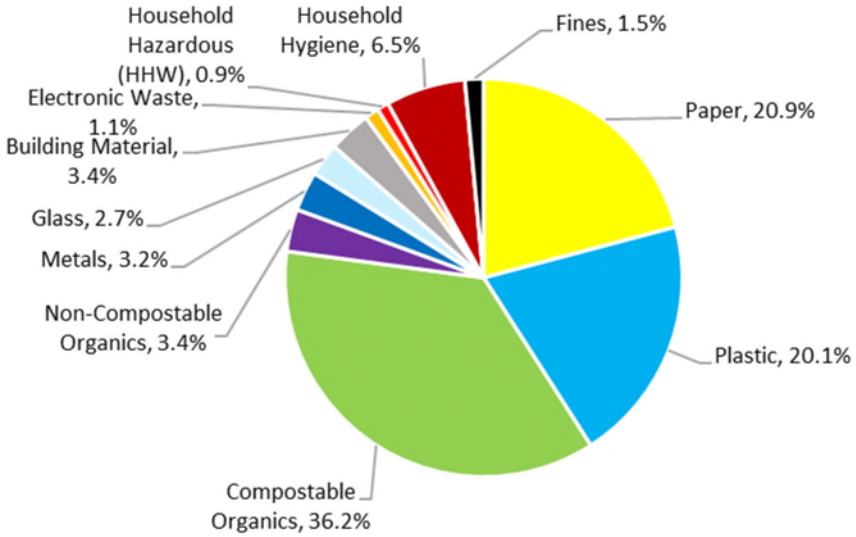

Figure 3-1: Overall Waste Composition

Figure 3-2 highlights the differences in composition between the waste sectors sampled. For example, compostable organics and paper were more prevalent in ICI loads and household hygiene was found in greater quantities in residential-curbside and residential self-haul samples. It also shows the few similarities in the prevalence of other materials where only household hazardous waste and fines were consistent across sectors. Table 3-1 summarizes the waste composition of each sector and compares it to the overall waste composition of the Golden RDS landfill stream.

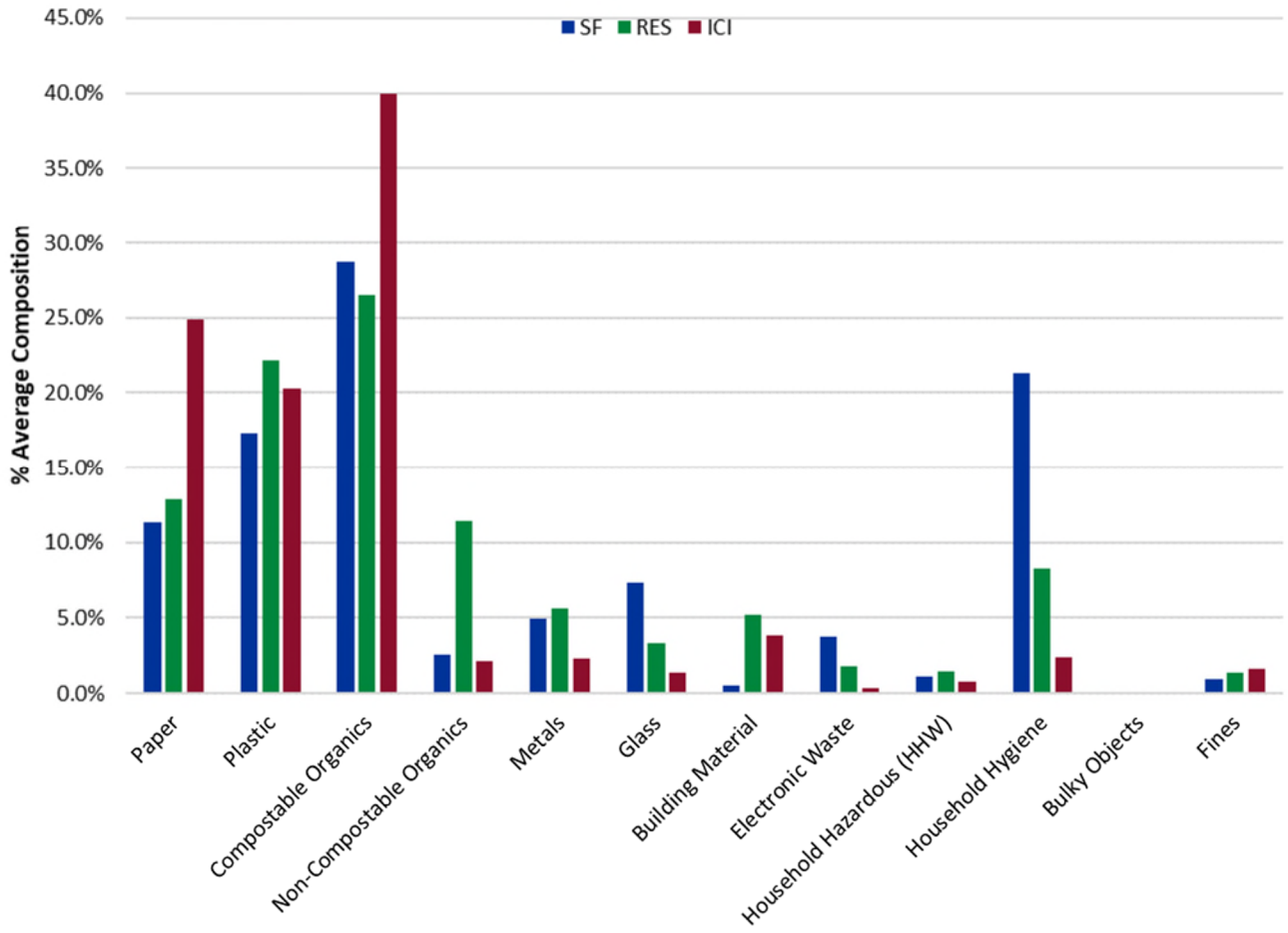

Figure 3-2: Comparison of Waste Composition Between Sectors

Table 3-1: Waste Composition by Sector

Primary Category	SF (N=3)	RES (N=7)	ICI (N=4)	Total
Paper	11.3%	12.9%	24.9%	20.9%
Plastic	17.3%	22.2%	20.3%	20.1%
Compostable Organics	28.7%	26.5%	40.0%	36.2%
Non-Compostable Organics	2.6%	11.4%	2.1%	3.4%
Metals	5.0%	5.7%	2.3%	3.2%
Glass	7.3%	3.3%	1.4%	2.7%
Building Material	0.6%	5.2%	3.8%	3.4%
Electronic Waste	3.8%	1.8%	0.4%	1.1%
Household Hazardous (HHW)	1.2%	1.5%	0.8%	0.9%
Household Hygiene	21.3%	8.3%	2.4%	6.5%
Bulky Objects	0.0%	0.0%	0.0%	0.0%
Fines	1.0%	1.3%	1.7%	1.5%

[1]N = number of samples completed for the sector

3.1.1 Comparison with 2013 Results

The composition by primary category is compared with the 2013 Waste Characterization Study by sector in Figure 3-3. Almost all primary categories fell within or very close to the range of the standard deviations between 2013 and 2018, indicating that the waste composition did not change greatly within this five-year time-period. The only exceptions were for electronic waste in the ICI sector (7.0±4.6% in 2013, 0.4±0.5% in 2018) and non-compostable organics in the residential self-haul sector (2.4±2.0% in 2013, 11.4±4.8% in 2018). However, both categories are items that tend to be observed infrequently so one large item (e.g., a computer or monitor, large piece of treated wood), could contribute a large percentage to the average even though little to no items are seen in other samples. A comparison table for all primary categories is included as Table B.

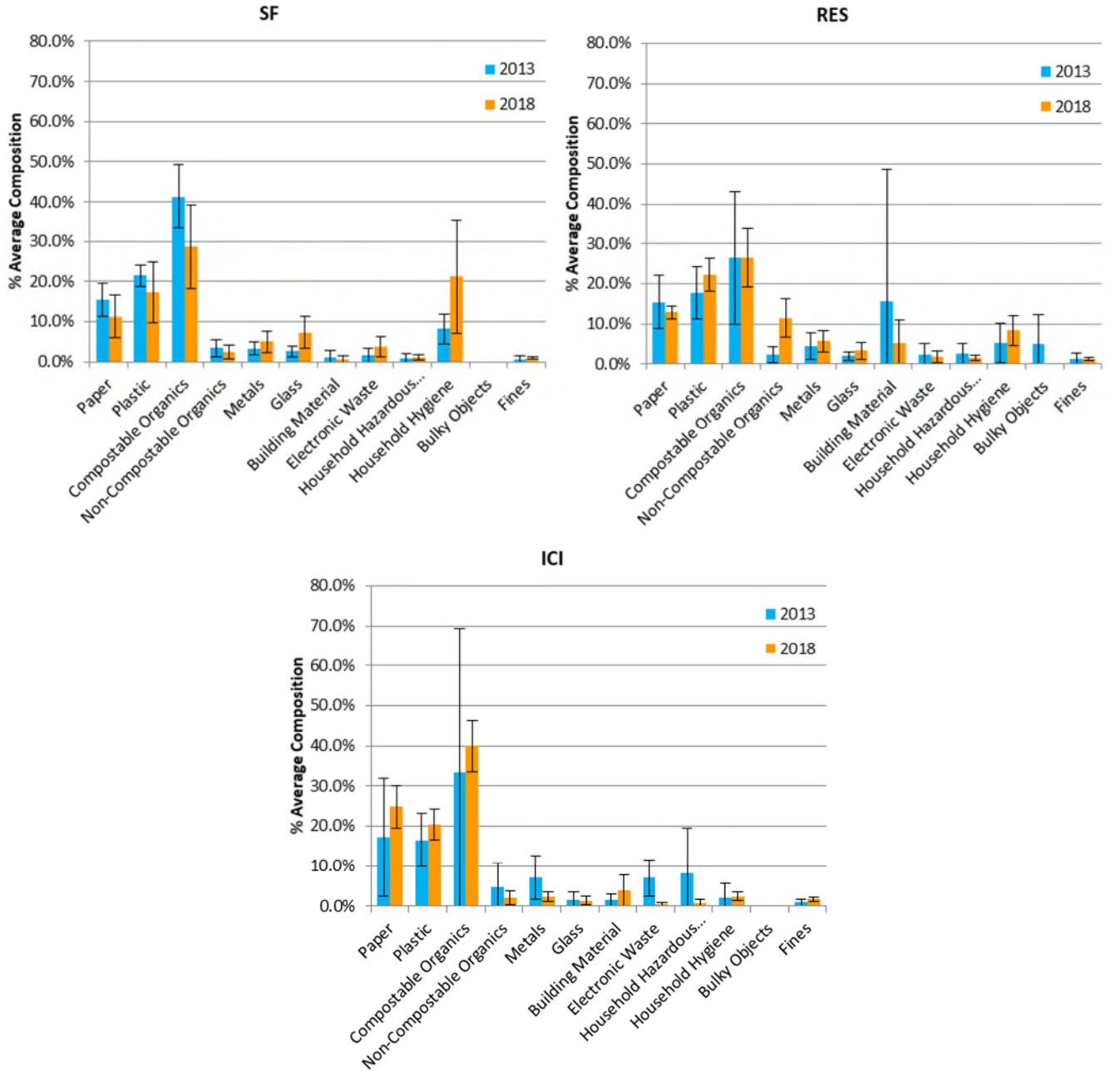

Figure 3-3: Comparison of 2013 and 2018 Waste Characterization Results by Sector

3.2 Residential-Curbside

Figure 3-4 presents the average primary material composition for residential-curbside garbage at the Golden RDS. Percentages and standard deviations are presented in Table 3-2. Table A, following the report, includes detailed data for all material categories.

The largest component was compostable organics (28.7%), followed by household hygiene (21.3%), plastic (17.3%), paper (11.3%), and glass (7.3%). Compostable organics mainly comprised food waste (25.3%), of which 13.3% of food was edible and 12.0% was inedible parts. Household hygiene was split between diapers (7.9%) and pet waste (13.3%). Plastic comprised textiles (6.3%), film (5.6%), and rigid containers (3.1%). Paper was composed of compostable paper (8.2%). Glass was mostly other glass (3.1%), and food containers (2.3%).

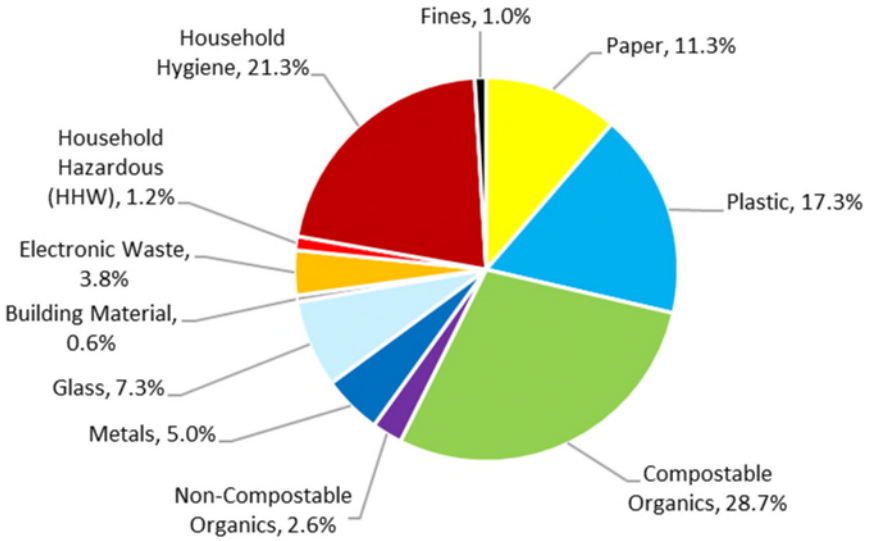

Figure 3-4: Residential-Curbside Waste Composition

Table 3-2: Summary of Residential-Curbside Results

Primary Category		Weighted Average Composition (N=3)[1]	Standard Deviation
	Paper	11.3%	±5.4%
	Plastic	17.3%	±7.6%
	Compostable Organics	28.7%	±10.5%
	Non-Compostable Organics	2.6%	±1.7%
	Metals	5.0%	±2.6%
	Glass	7.3%	±3.9%
	Building Material	0.6%	±1.0%
	Electronic Waste	3.8%	±2.5%
	Household Hazardous (HHW)	1.2%	±0.7%
	Household Hygiene	21.3%	±14.1%
	Bulky Objects	0.0%	±0.0%
	Fines	1.0%	±0.3%

[1]N = number of samples completed for the sector

The standard deviations of the largest primary categories (e.g., compostable organics, household hygiene, plastic) fall within the expected range of variation. Residential-curbside waste is typically more consistent than other sectors. The standard deviation for household hygiene was higher than in 2013; however, the overall proportion of household hygiene materials was also higher.

3.3 Residential Self-Haul

At the Golden RDS, there are two 40-yard roll-off bins for public drop-off of MSW. In total, seven samples were analyzed from the residential self-haul bins.

Figure 3-5 presents the weighted average of primary material categories for residential self-haul garbage. Table 3-3 summarizes the average primary material results, along with the standard deviation for each primary category. Table A, following the report, includes detailed data for all material categories.

The largest component of residential self-haul garbage was compostable organics (26.5%), followed by plastic (22.2%), paper (12.9%), non-compostable organics (11.4%), and household hygiene (8.3%). Compostable organics were mostly food waste (25.3%), with 13.3% edible, and 12.0% inedible. Plastics were composed of other rigid plastics (10.3%), film (5.1%), and textiles (2.8%). The paper mostly comprised compostable paper (6.5%) and waxed non-recyclable cardboard (2.3%). Non-compostable organics was predominantly composed of painted/treated wood (6.8%), and composite materials (4.0%) and household hygiene was split between pet waste (4.8%), and diapers (3.5%).

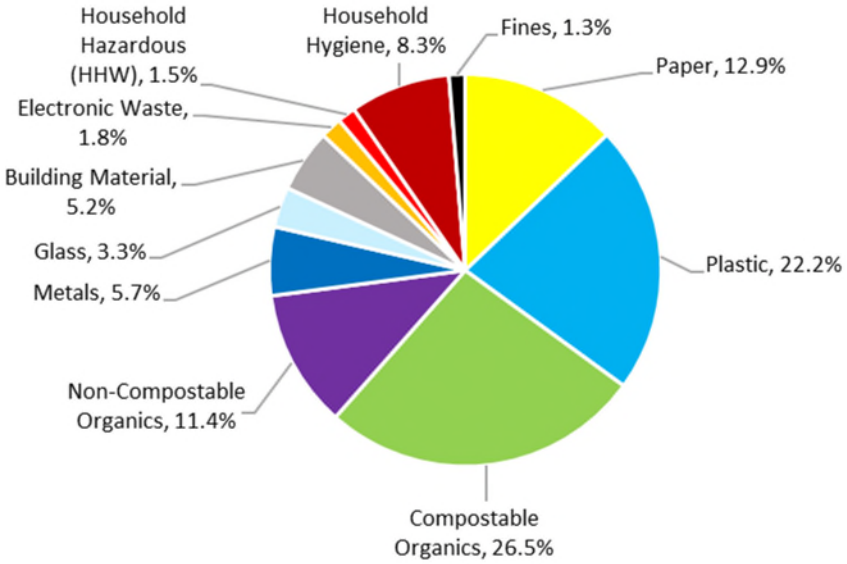

Figure 3-5: Residential Self-Haul Waste Composition

Table 3-3: Summary of Residential Self-Haul Results

Primary Category		Weighted Average Composition (N=7)[1]	Standard Deviation
	Paper	12.9%	±1.6%
	Plastic	22.2%	±4.1%
	Compostable Organics	26.5%	±7.2%
	Non-Compostable Organics	11.4%	±4.8%
	Metals	5.7%	±2.7%
	Glass	3.3%	±2.1%
	Building Material	5.2%	±5.7%
	Electronic Waste	1.8%	±1.4%
	Household Hazardous (HHW)	1.5%	±0.7%
	Household Hygiene	8.3%	±3.8%
	Bulky Objects	0.0%	±0.0%
	Fines	1.3%	±0.4%

[1]N = number of samples completed for the sector

The standard deviations for the largest primary categories (e.g., compostable organics, plastic, paper) are similar to residential-curbside. Normally, the variation is greater since residential self-haul waste loads have greater heterogeneity (e.g., some loads are regular municipal solid waste whereas others are from home renovations). However, since the sample size for residential self-haul was greater (seven samples versus three samples), that could explain the lower standard deviations.

3.4 Industrial, Commercial, and Institutional

Figure 3-6 presents the overall ICI waste characterization results and Table 3-4 summarizes the average primary material results with standard deviations.

The largest component of ICI waste was compostable organics (40.0%), followed by paper (24.9%), plastic (20.3%), and building material (3.8%). Compostable organics mainly comprised food waste (38.0%), of which 20.2% was edible and 17.8% was inedible. Paper was mostly composed of compostable paper (11.7%), non-compostable/ non-recyclable paper (5.0%) and waxed and other non-recyclable cardboard (2.8%). Plastic comprised film (10.0%), rigid containers (4.8%), and textiles (1.8%). Building material was composed of masonry (2.5%), and rigid asphalt (1.1%).

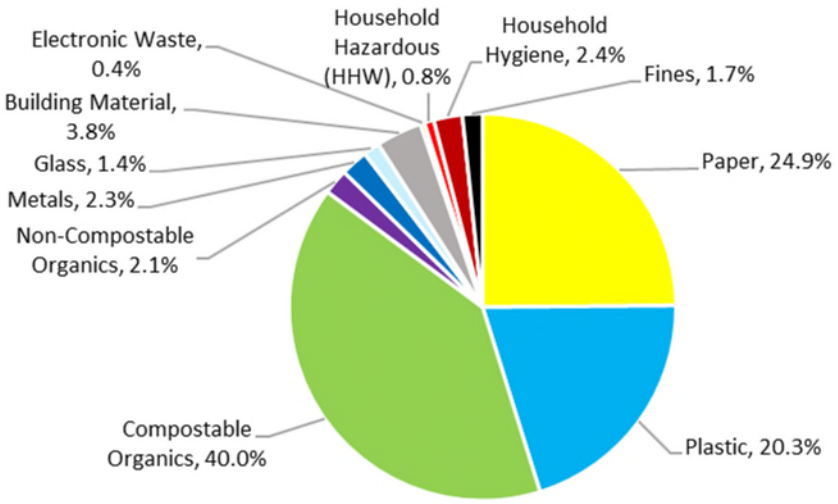

Figure 3-6: Industrial, Commercial, and Institutional Waste Composition

Table 3-4: Summary of Industrial, Commercial, and Institutional Results

Primary Category		Weighted Average Composition (N=4)[1]	Standard Deviation
	Paper	24.9%	±5.3%
	Plastic	20.3%	±3.8%
	Compostable Organics	40.0%	±6.4%
	Non-Compostable Organics	2.1%	±1.8%
	Metals	2.3%	±1.2%
	Glass	1.4%	±1.0%
	Building Material	3.8%	±3.9%
	Electronic Waste	0.4%	±0.5%
	Household Hazardous (HHW)	0.8%	±0.8%
	Household Hygiene	2.4%	±1.1%
	Bulky Objects	0.0%	±0.0%
	Fines	1.7%	±0.6%

[1]N = number of samples completed for the sector

Normally, ICI primary categories have larger standard deviations than other sectors due to the variability in businesses that create different types of waste. However, at the Golden RDS, the standard deviation was comparable to both residential sectors, indicating that the waste from the ICI sector was relatively consistent during the waste characterization period.

3.5 Extended Producer Responsibility

Results by primary category for the concurrent EPR characterization study conducted in partnership with SABC are presented in Table 3-5. Category definitions are included in Appendix D. EPR items make up approximately 13.9% to 17.2% of the waste stream. The highest amount of EPR items were found in residential-curbside and ICI samples. Packaging (6.6% to 11.9%) was the largest category of EPR items, followed by beverage containers (returnable to Encorp) (2.6% to 3.0%). Small appliances and power tools was also a category of note for the residential-curbside sector (3.3%).

Table 3-5: Composition of Extended Producer Responsibility Items by Sector

Primary Category	SF	RES	ICI
BDL Beverage Containers	0.2%	0.3%	<0.1%
BDL Packaging	<0.1%	0.5%	<0.1%
BDL/Encorp Pacific Beverage Containers	0.2%	0.5%	0.1%
Encorp Beverage Containers	3.0%	2.9%	2.6%
Newsprint	0.3%	0.4%	0.2%
Other Printed Paper	0.9%	0.6%	1.8%
RecycleBC Packaging	8.5%	6.6%	11.9%
Tires	<0.1%	<0.1%	<0.1%
Oil and Antifreeze	<0.1%	0.2%	<0.1%
Lead-Acid Batteries	<0.1%	<0.1%	<0.1%
Single Use/Rechargeable < 5 kg	0.1%	<0.1%	<0.1%
Paint/Pesticides/Solvents/Gasoline	<0.1%	0.2%	<0.1%
Lighting Equipment	<0.1%	<0.1%	0.3%
Alarms	<0.1%	<0.1%	<0.1%
Electronics	<0.1%	0.6%	<0.1%
Mobile Devices	<0.1%	<0.1%	<0.1%
Heating/Ventilation/Air Conditioning/Refrigeration/Plumbing Products	<0.1%	<0.1%	<0.1%
Thermostats	<0.1%	<0.1%	<0.1%
Outdoor Power Equipment	<0.1%	<0.1%	<0.1%
Small Appliances and Power Tools	3.3%	1.0%	<0.1%
Major Household Appliances	<0.1%	<0.1%	<0.1%
Medications	0.2%	0.1%	<0.1%
EPR Products Subtotal	**17.1%**	**13.9%**	**17.2%**
Non-EPR Products	82.9%	86.1%	82.8%
Total	**100.0%**	**100.0%**	**100.0%**

3.6 Considerations and Opportunities

Areas of high diversion potential and relevant considerations for each of the waste sectors examined in this study are summarized below. The opportunities presented are meant to provide a broad overview of the most prevalent waste categories in each waste sector along with context from the auditing team as to the materials they were commonly seeing in the garbage. Overall both behavior change programs along with targeted education and training will be required to improve performance and further divert or eliminate more materials from the garbage. Additionally, there were noticeable quantities of EPR materials, such as printed paper and packaging that are currently disposed in the landfill.

Compostable Organics and Paper

- There is high potential to reduce food waste going to the landfill across the SF and ICI sectors through implementation and regulation of organics management programs.
- Education and awareness campaigns on food waste reduction that involve information such as keeping food fresh, buying appropriate quantities, and storing and using leftovers could help lower the amount of edible food currently in the waste stream.
- Building relationships between ICI stakeholders and food rescue organizations could reduce the high amount of edible food going to waste from sources such as grocery stores and restaurants.
- Compostable and food soiled paper represented 10.2% of the total waste stream, comprising 7.4% and 11.7% of the SF and ICI streams respectively. Ensuring composting programs, outreach, and education is inclusive of compostable paper is important to increase diversion.

Recyclables

- EPR recyclables include curbside recyclables, refundable beverage containers, and depot drop-off recyclables (e.g., polystyrene, plastic film packaging, glass containers). These items comprise 15.5% of the overall waste stream in the Golden RDS.
- In the CSRD, EPR recyclables comprise 15.5% of the overall waste stream. Based on currently available data, the average composition of these materials across other regional districts in British Columbia that have participated in EPR waste characterization studies is 16.2%. The amount of EPR recyclables in the Golden RDS is the same as CSRD and slightly lower than the British Columbia average. Opportunities to increase diversion of these items include increased outreach and education, as well as access to more drop-off depots.
- Plastic film comprised 8.6% of the overall waste stream, increased outreach and education to residents and businesses about diversion options for recyclable plastic film (e.g., grocery bags) could increase recycling.

Other Materials

- Textiles represented 2.7% of the overall waste stream, which could be reduced through increased education to residents about clothing re-use and recycling options.
- Pet waste and diapers continue to be heavy items that currently account for 6.5% of landfill waste.

4.0 CLOSURE

We trust this document meets your present requirements. If you have any questions or comments, please contact the undersigned.

Respectfully submitted,
Tetra Tech Canada Inc.

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TABLES

Table A: All Category and Sector Composition

Number	Tertiary	SF	RES	ICI	Total
Paper		**15.0%**	**8.6%**	**14.9%**	**20.9%**
001	Fine, Computer, Office	1.2%	0.6%	0.7%	1.8%
002	Clean OCC	0.5%	1.1%	0.9%	1.0%
003	Waxed and other non-recyclable OCC	1.2%	1.5%	2.0%	1.1%
004	Boxboard	0.0%	0.0%	0.0%	2.5%
005	Bound Paper Products (books)	0.2%	0.0%	0.0%	0.0%
006	Dairy or Dairy Substitute Beverage Containers	0.1%	0.1%	0.3%	0.4%
007	Non-Dairy (refundable) Beverage Containers	0.3%	0.2%	0.2%	0.1%
008	Compostable	10.8%	4.6%	8.7%	10.2%
009	Non-Compostable	0.7%	0.6%	2.2%	3.7%
Plastics		**19.8%**	**16.0%**	**15.5%**	**20.1%**
010	Film	8.5%	3.8%	7.7%	8.6%
011	Textiles	6.1%	2.8%	3.8%	2.7%
012	Deposit Rigid Beverage Containers (juice, pop, alcohol)	0.4%	0.3%	0.7%	1.3%
013	Non-Deposit (milk/milk substitute) Rigid Beverage Containers	0.2%	0.2%	0.1%	0.3%
014	Rigid Containers - All others	3.3%	2.0%	2.4%	4.2%
015	Other Plastics	1.4%	7.0%	0.8%	2.9%
Compostable Organics		**47.6%**	**30.3%**	**56.3%**	**36.2%**
016	Yard and Garden	2.1%	14.8%	2.2%	1.0%
017	Edible Food Waste	15.1%	6.3%	25.5%	18.1%
018	Inedible Food Waste	30.1%	8.1%	28.7%	15.8%
019	Clean Wood	0.3%	1.1%	0.0%	1.4%
Non-Compostable Organics		**1.7%**	**8.1%**	**5.4%**	**3.4%**
020	Treated/Painted Wood/Composite	0.4%	7.0%	0.1%	2.1%
021	Rubber	0.4%	0.4%	5.2%	0.4%
022	Multiple / Composite organic materials (footwear, etc.)	0.9%	0.7%	0.1%	0.9%
Metal		**3.6%**	**4.1%**	**2.9%**	**3.2%**
023	Alcoholic Beverage Containers	0.3%	0.1%	0.2%	0.1%
024	Non-alcoholic Beverage Containers	0.3%	0.1%	0.1%	0.4%
025	Food Containers, Trays or Foil Wraps	1.6%	1.1%	2.1%	0.8%
026	Other Metals	1.4%	2.8%	0.6%	1.9%
Glass		**2.3%**	**1.4%**	**0.9%**	**2.7%**
027	Refundable Alcoholic Beverage Containers	0.6%	0.4%	0.5%	0.7%
028	Refundable Non-Alcoholic Beverage Containers	0.1%	0.2%	0.0%	0.3%
029	Non-Refundable Beverage Containers	0.0%	0.0%	0.0%	0.1%
030	Food Containers	1.2%	0.4%	0.4%	0.6%
031	Other Glass	0.3%	0.4%	0.0%	1.0%
Building Materials		**0.3%**	**21.4%**	**0.0%**	**3.4%**
032	Gypsum/drywall plaster	0.0%	17.0%	0.0%	0.6%
033	Masonry (bricks, blocks, concrete, etc.)	0.0%	0.0%	0.0%	1.7%
034	Rock, Sand, Dirt, Ceramic, Porcelain	0.0%	0.0%	0.0%	0.0%
035	Rigid Asphalt Products	0.0%	0.0%	0.0%	0.8%
036	Carpet Waste (and underlay)	0.1%	2.2%	0.0%	0.1%
037	Other Inorganics (linoleum, etc.)	0.1%	2.2%	0.0%	0.3%

Number	Tertiary	SF	RES	ICI	Total
Electronics		**0.6%**	**2.0%**	**0.0%**	**1.1%**
038	Computers and Peripherals	0.2%	0.1%	0.0%	0.0%
039	TV & Audio/Video Equipment	0.0%	0.0%	0.0%	0.0%
040	Telephones & Telecommunications Equipment	0.1%	0.0%	0.0%	0.0%
041	Small Appliances & Floor Care Appliances	0.0%	0.4%	0.0%	0.7%
042	Electronic Or Electrical Tools	0.0%	0.0%	0.0%	0.0%
043	Electronic toys	0.0%	0.0%	0.0%	0.0%
044	Lighting Equipment and Light Bulbs	0.0%	0.9%	0.0%	0.2%
045	Smoke/CO Detectors	0.0%	0.0%	0.0%	0.0%
046	Other e-waste	0.2%	0.6%	0.0%	0.1%
Household Hazardous Waste (HHW)		**1.3%**	**3.1%**	**1.2%**	**0.9%**
047	Batteries	0.1%	0.2%	0.5%	0.2%
048	Paint	0.6%	0.4%	0.0%	0.0%
049	Fertilizers/Pesticides	0.0%	0.0%	0.0%	0.0%
050	Automotive	0.1%	2.0%	0.0%	0.0%
051	Pharmaceuticals	0.0%	0.1%	0.0%	0.1%
052	Solvents	0.1%	0.1%	0.2%	0.4%
053	Cosmetics	0.3%	0.1%	0.2%	0.2%
054	Thermostats and Switches	0.0%	0.0%	0.0%	0.0%
055	Other (old thermometers)	0.0%	0.0%	0.0%	0.0%
056	Other HHW	0.0%	0.3%	0.3%	0.1%
Household Hygiene		**7.0%**	**4.2%**	**1.8%**	**6.5%**
057	Diapers, Feminine Hygiene Products	4.8%	1.9%	1.1%	2.9%
058	Pet Waste (kitty litter, dog waste)	2.3%	2.4%	0.7%	3.6%
059 - Bulky Objects		**0.0%**	**0.0%**	**0.0%**	**0.0%**
060 - Fines		**0.8%**	**0.8%**	**1.0%**	**1.5%**
Total		**100.0%**	**100.0%**	**100.0%**	**100.0%**

Table B: Comparison of 2013 and 2018 Waste Characterization Study Results

Sector	SF				RES			
Year	2013		2018		2013		2018	
Primary Category	AVG	ST DEV	AVG	ST DEV	AVG	ST DEV	AVG	ST DEV
Paper	15.5%	4.0%	11.3%	5.4%	15.3%	6.6%	12.9%	1.6%
Plastic	21.5%	2.7%	17.3%	7.6%	17.8%	6.5%	22.2%	4.1%
Compostable Organics	41.3%	8.0%	28.7%	10.5%	26.4%	16.6%	26.5%	7.2%
Non-Compostable Organics	3.4%	2.2%	2.6%	1.7%	2.4%	2.0%	11.4%	4.8%
Metals	3.3%	1.6%	5.0%	2.6%	4.5%	3.2%	5.7%	2.7%
Glass	2.6%	1.3%	7.3%	3.9%	1.9%	1.1%	3.3%	2.1%
Building Material	1.1%	1.8%	0.6%	1.0%	15.5%	33.0%	5.2%	5.7%
Electronic Waste	1.6%	1.7%	3.8%	2.5%	2.3%	2.7%	1.8%	1.4%
Household Hazardous (HHW)	0.9%	1.0%	1.2%	0.7%	2.6%	2.5%	1.5%	0.7%
Household Hygiene	8.2%	3.7%	21.3%	14.1%	5.1%	4.9%	8.3%	3.8%
Bulky Objects	0.0%	0.0%	0.0%	0.0%	5.0%	7.3%	0.0%	0.0%
Fines	0.6%	0.9%	1.0%	0.3%	1.1%	1.6%	1.3%	0.4%

Sector	ICI			
Year	2013		2018	
Primary Category	AVG	ST DEV	AVG	ST DEV
Paper	17.2%	14.8%	24.9%	5.3%
Plastic	16.5%	6.5%	20.3%	3.8%
Compostable Organics	33.3%	36.1%	40.0%	6.4%
Non-Compostable Organics	4.7%	6.1%	2.1%	1.8%
Metals	7.0%	5.5%	2.3%	1.2%
Glass	1.6%	1.8%	1.4%	1.0%
Building Material	1.6%	1.5%	3.8%	3.9%
Electronic Waste	7.0%	4.6%	0.4%	0.5%
Household Hazardous (HHW)	8.1%	11.4%	0.8%	0.8%
Household Hygiene	2.1%	3.5%	2.4%	1.1%
Bulky Objects	0.0%	0.0%	0.0%	0.0%
Fines	0.9%	0.8%	1.7%	0.6%

APPENDIX A

TETRA TECH'S LIMITATIONS ON THE USE OF THIS DOCUMENT

LIMITATIONS ON USE OF THIS DOCUMENT

GEOENVIRONMENTAL

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Services performed by TETRA TECH for the Professional Document have been conducted in accordance with the Contract, in a manner consistent with the level of skill ordinarily exercised by members of the profession currently practicing under similar conditions in the jurisdiction in which the services are provided. Professional judgment has been applied in developing the conclusions and/or recommendations provided in this Professional Document. No warranty or guarantee, express or implied, is made concerning the test results, comments, recommendations, or any other portion of the Professional Document.

If any error or omission is detected by the Client or an Authorized Party, the error or omission must be immediately brought to the attention of TETRA TECH.

1.4 DISCLOSURE OF INFORMATION BY CLIENT

The Client acknowledges that it has fully cooperated with TETRA TECH with respect to the provision of all available information on the past, present, and proposed conditions on the site, including historical information respecting the use of the site. The Client further acknowledges that in order for TETRA TECH to properly provide the services contracted for in the Contract, TETRA TECH has relied upon the Client with respect to both the full disclosure and accuracy of any such information.

1.5 INFORMATION PROVIDED TO TETRA TECH BY OTHERS

During the performance of the work and the preparation of this Professional Document, TETRA TECH may have relied on information provided by persons other than the Client.

While TETRA TECH endeavours to verify the accuracy of such information, TETRA TECH accepts no responsibility for the accuracy or the reliability of such information even where inaccurate or unreliable information impacts any recommendations, design or other deliverables and causes the Client or an Authorized Party loss or damage.

1.6 GENERAL LIMITATIONS OF DOCUMENT

This Professional Document is based solely on the conditions presented and the data available to TETRA TECH at the time the data were collected in the field or gathered from available databases.

The Client, and any Authorized Party, acknowledges that the Professional Document is based on limited data and that the conclusions, opinions, and recommendations contained in the Professional Document are the result of the application of professional judgment to such limited data.

The Professional Document is not applicable to any other sites, nor should it be relied upon for types of development other than those to which it refers. Any variation from the site conditions present, or variation in assumed conditions which might form the basis of design or recommendations as outlined in this report, at or on the development proposed as of the date of the Professional Document requires a supplementary investigation and assessment.

TETRA TECH is neither qualified to, nor is it making, any recommendations with respect to the purchase, sale, investment or development of the property, the decisions on which are the sole responsibility of the Client.

1.7 NOTIFICATION OF AUTHORITIES

In certain instances, the discovery of hazardous substances or conditions and materials may require that regulatory agencies and other persons be informed and the client agrees that notification to such bodies or persons as required may be done by TETRA TECH in its reasonably exercised discretion.

APPENDIX B

WASTE AUDIT CATEGORIES

Table B-1: Waste Characterization Categories

#	Primary	Secondary	Tertiary	Additional Description
001	Paper	Fine paper		Fine, computer, office, newsprint, receipts
002		OCC	Clean OCC	
003			Waxed and other non-recyclable OCC	
004		Boxboard		
005		Bound paper products (books)		
006		Beverage containers - drink box / aseptic containers (Tetra)	Dairy or dairy substitute	
007			Non-dairy (refundable)	
008		Other	Compostable	Tissue / paper towels, other paper (food contaminated paper, paper plates, etc.)
009			Non-compostable	Laminated paper, composite paper, coffee cups
010	Plastic	Film		Recyclable (grocery bags) and non-recyclable (chip bags) film
011		Textiles		Clothing (natural fibres, blends, polyester, Gore-Tex, fleece, nylon, etc.)
012		Rigid beverage containers	Deposit containers (juice, pop, alcohol)	
013			Non-deposit (milk / milk substitute)	
014		Rigid containers - all others		#1 PETE; #2 HDPE; #3 PVC; #4 LDPE; #5 PP; #6 non-foam/foam; #7 mixed resin plastic
015		Other plastics		Durable products, toys, etc.
016	Compostable Organics	Yard and garden		Small yard waste (leaves branches, grass clippings)
017		Food waste	Edible food	Whole food, cooked leftovers
018			Inedible parts	Scraps from preparation, banana peels, bones, etc.
019		clean wood		
020	Non-Compostable Organics	Treated / painted wood / composite		
021		rubber		
022		Multiple / composite organic materials (footwear, etc.)		
023	Metals	Beverage containers	Alcoholic	
024			Non-alcoholic	
025		Food containers, trays or foil wraps		
026		Other metals		
027	Glass	Beverage containers	Refundable alcoholic	
028			Refundable non-alcoholic	
029			Non-refundable	
030		Food containers		
031		Other glass		

#	Primary	Secondary	Tertiary	Additional Description
032	Building Material	Gypsum / drywall plaster		
033		Masonry (bricks, blocks, concrete, etc.)		
034		Rock, sand, dirt, ceramic, porcelain		
035		Rigid asphalt products		
036		Carpet waste (and underlay)		
037		Other inorganics (linoleum, etc.)		
038	Electronic Waste	Computers and Peripherals		
039		TV & audio / video equipment		
040		Telephones & telecommunications equipment		
041		Small appliances & floor care appliances		
042		Electronic or electrical tools		
043		Electronic toys		
044		Lighting equipment and light bulbs		
045		Smoke / CO detectors		
046		Other e-waste		
047	Household Hazardous (HHW)	Batteries		
048		HHW (product &/or containers)	Paint	
049			Fertilizers / pesticides	
050			Automotive	
051			Pharmaceuticals	
052			Solvents	
053			Cosmetics	
054		Mercury containing items	Thermostats and switches	
055			Other (old thermometers)	
056		Other HHW		
057	Household Hygiene	Diapers, feminine hygiene products		
058		Pet waste (kitty litter, dog waste)		
059	Bulky Objects	Furniture		
060	Fines	Fines		

APPENDIX C

PHOTOGRAPHS

Photo 1: Sorting set-up at Golden RDS

Photo 2: Loader bringing a sample to the sorting area at Golden RDS

Photo 3: Paper – Fine, computer, office

Photo 4: Paper – Clean OCC

Photo 5: Paper – Box board

Photo 6: Paper – Tissue/Paper Towels, other paper - Compostable

Photo 7: Plastic – Film

Photo 8: Plastic - Textiles

Photo 9: Compostable Organics – Food Waste – Edible Parts

Photo 10: Non- Compostable Organics – Painted Wood

Photo 11: Household Hazardous Waste (HHW) – Cosmetics

APPENDIX D

EXTENDED PRODUCER RESPONSIBILITY CATEGORIES

Table D-1: Extended Producer Responsibility Categories

Steward	#	Primary	Primary Shorthand	Secondary	Measure	Description and Instructions
BDL	001	BDL Beverage Containers	BDL Bev		Mass	
BDL	002	BDL Beverage Containers	BDL Bev	Aluminum can	Count	Alcohol only.
BDL	003	BDL Beverage Containers	BDL Bev	Non-aluminum can	Count	Alcohol only.
BDL	004	BDL Packaging	BDL Packaging		Mass	
BDL	005	BDL Packaging	BDL Packaging	Old corrugated cardboard (beer)	Yes/No	Beer/cider packaging only.
BDL	006	BDL Packaging	BDL Packaging	Old boxboard (beer)	Yes/No	Beer/cider packaging only.
BDL/ Encorp	007	BDL/Encorp Pacific Beverage Containers	BDL/Encorp Bev		Mass	
BDL/ Encorp	008	BDL/Encorp Pacific Beverage Containers	BDL/Encorp Bev	Glass 0 to 1 L (beer and cider)	Count	Alcohol only. Do not include non-alcoholic beverages in similar packaging (e.g., sodas). Take one photo of all items in this category per sample for documentation.
Encorp Pacific	009	Encorp Beverage Containers	Encorp Bev		Mass	
Encorp Pacific	010	Encorp Beverage Containers	Encorp Bev	Drink box 0 to 500 mL	Count	Only for beverages. No dairy or dairy substitutes.
Encorp Pacific	011	Encorp Beverage Containers	Encorp Bev	Drink box 501 mL to 1 L	Count	Only for beverages. No dairy or dairy substitutes.
Encorp Pacific	012	Encorp Beverage Containers	Encorp Bev	Gable-top 0 to 500 mL	Count	Only for beverages. No dairy or dairy substitutes.
Encorp Pacific	013	Encorp Beverage Containers	Encorp Bev	Gable-top 501 mL to 1 L	Count	Only for beverages. No dairy or dairy substitutes.
Encorp Pacific	014	Encorp Beverage Containers	Encorp Bev	Gable-top > 1 L	Count	Only for beverages. No dairy or dairy substitutes.
Encorp Pacific	015	Encorp Beverage Containers	Encorp Bev	Drink box (wine)	Count	Wine only.
Encorp Pacific	016	Encorp Beverage Containers	Encorp Bev	Bag in a box (wine)	Count	Wine only.
Encorp Pacific	017	Encorp Beverage Containers	Encorp Bev	Plastic 0 to 1 L (alcohol)	Count	Alcohol only.
Encorp Pacific	018	Encorp Beverage Containers	Encorp Bev	Plastic > 1 L (alcohol)	Count	Alcohol only.
Encorp Pacific	019	Encorp Beverage Containers	Encorp Bev	Plastic drink pouches	Count	Only for beverages. No dairy or dairy substitutes.
Encorp Pacific	020	Encorp Beverage Containers	Encorp Bev	Plastic 0 to 1 L (non-alcohol)	Count	Only for beverages. No dairy or dairy substitutes.
Encorp Pacific	021	Encorp Beverage Containers	Encorp Bev	Plastic > 1 L (non-alcohol)	Count	Only for beverages. No dairy or dairy substitutes.
Encorp Pacific	022	Encorp Beverage Containers	Encorp Bev	Bi-metal 0 to 1 L	Count	Only for beverages. No dairy or dairy substitutes.

Steward	#	Primary	Primary Shorthand	Secondary	Measure	Description and Instructions
Encorp Pacific	023	Encorp Beverage Containers	Encorp Bev	Bi-metal > 1 L	Count	Only for beverages. No dairy or dairy substitutes.
Encorp Pacific	024	Encorp Beverage Containers	Encorp Bev	Glass > 1 L (beer and cider)	Count	Alcohol only. Do not include non-alcoholic beverages in similar packaging (e.g., sodas).
Encorp Pacific	025	Encorp Beverage Containers	Encorp Bev	Glass 0 to L (wine and spirits)	Count	Alcohol only. Do not include non-alcoholic beverages in similar packaging (e.g., sparkling juices).
Encorp Pacific	026	Encorp Beverage Containers	Encorp Bev	Glass > 1 L (wine and spirits)	Count	Alcohol only. Do not include non-alcoholic beverages in similar packaging (e.g., sparkling juices).
Encorp Pacific	027	Encorp Beverage Containers	Encorp Bev	Glass 0 to 1 L (non-alcohol)	Count	Only for beverages. No dairy or dairy substitutes.
Encorp Pacific	028	Encorp Beverage Containers	Encorp Bev	Glass > 1 L (non-alcohol)	Count	Only for beverages. No dairy or dairy substitutes.
RecycleBC	029	Newsprint	Newsprint		Mass	
RecycleBC	030	Newsprint	Newsprint	Newspapers	Yes/No	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.
RecycleBC	031	Newsprint	Newsprint	Newsprint flyers and inserts	Yes/No	Newsprint flyers and advertising distributed to households.
RecycleBC	032	Other Printed Paper	Other PP		Mass	
RecycleBC	033	Other Printed Paper	Other PP	Magazines and catalogues	Yes/No	Glossy magazines, catalogues, calendars, annual reports (i.e. stapled or glued).
RecycleBC	034	Other Printed Paper	Other PP	Directories and telephone books	Yes/No	Telephone books and other directories such as the Yellow Pages.
RecycleBC	035	Other Printed Paper	Other PP	Other printed paper	Yes/No	Writing paper, office paper, paper envelopes, calendars (purchased or promotional), bills and statements, ad mail, non-newsprint flyers and advertising and gift cards, non-foil gift wrap, cash register receipts, lottery tickets, posters, promotional postcards, sketch pads, notebooks. DO NOT INCLUDE: Soft or hard covered books

Steward	#	Primary	Primary Shorthand	Secondary	Measure	Description and Instructions
						and bound periodicals, reference books, literary and text books, and academic journals.
RecycleBC	036	RecycleBC Packaging	RecycleBC Packaging		Mass	
RecycleBC	037	RecycleBC Packaging	RecycleBC Packaging	Gable-top containers	Yes/No	Polycoat containers with a gable shaped top commonly used for milk and milk substitutes like soy, almond and rice milk, some foods, sugar, molasses, etc.
RecycleBC	038	RecycleBC Packaging	RecycleBC Packaging	Aseptic containers	Yes/No	Polycoat fibre and foil containers (e.g. Tetra Pak) commonly used for milk and milk substitutes like soy, almond and rice milk, soup, sauces, etc.
RecycleBC	039	RecycleBC Packaging	RecycleBC Packaging	Polycoat cups	Yes/No	Hot beverage/food containers, with polycoat on inside only, including coffee cups, soup cups/bowls, chili cups etc. Cold beverage/food containers with polycoat on both sides including fountain drinks, take-out ice cream cups.
RecycleBC	040	RecycleBC Packaging	RecycleBC Packaging	Polycoat containers	Yes/No	Polycoat paper ice cream containers, typically with a lid, excluding boxboard folder ice cream boxes. Food containers with white fibre and a rolled or folded rim, such as Michelina's frozen food, KFC tubs.
RecycleBC	041	RecycleBC Packaging	RecycleBC Packaging	Paper laminate packaging and waxed corrugated cardboard	Yes/No	Paper with aluminum foil, paper with plastic, multi-layered paper. Microwave popcorn bags, some cookie bags, dog food bags, paper granola bar wrappers, laminated paper carry out bags, bags with bonded plastic or foil liners/layers/coatings. Waxed corrugated cardboard.
RecycleBC	042	RecycleBC Packaging	RecycleBC Packaging	Old corrugated cardboard (non-beer)	Yes/No	Micro-flute corrugated containers, pizza boxes, electronic product boxes such as television and computer boxes, boxes used to direct mail for

Steward	#	Primary	Primary Shorthand	Secondary	Measure	Description and Instructions
						residential consumers. Kraft paper bags and wrap, grocery or retail bags, potato bags, some pet food bags, including brown, white, and coloured kraft paper and bags.
RecycleBC	043	RecycleBC Packaging	RecycleBC Packaging	Boxboard/cores/molded pulp (non-beer)	Yes/No	Boxboard, paperboard commonly used for cereal boxes, shoe boxes, frozen food boxes, fast food and ice cream boxes, cartons such as fry/onion ring boxes, carrier boxes for soft drink containers. Cores from toilet paper/ paper towels/ gift wrap, etc. Molded pulp packaging commonly used for egg cartons, drink trays, other trays, molded pulp flower pots/trays, etc.
RecycleBC	044	RecycleBC Packaging	RecycleBC Packaging	#1 PET bottles and jars	Yes/No	#1 plastic bottles and jars commonly used for milk and milk substitutes, cooking oil, honey, dish soap, nuts, etc.
RecycleBC	045	RecycleBC Packaging	RecycleBC Packaging	#1 PET thermoform	Yes/No	#1 clamshells commonly used for bakery trays; pre-made fruit and salad packages. #1 egg cartons. #1 trays commonly used for single serve meals; deli and bakery items; house wares and hardware products. #1 cold drink cups.
RecycleBC	046	RecycleBC Packaging	RecycleBC Packaging	#2 HDPE bottles/jugs/containers	Yes/No	#2 plastic bottles and jugs commonly used for juice concentrate, milk and milk substitutes, laundry soap, shampoo, windshield washer fluid, personal care products, pharmaceuticals, vitamin and supplements containers.
RecycleBC	047	RecycleBC Packaging	RecycleBC Packaging	#5 PP bottles/jugs/jars	Yes/No	# 5 plastic bottles includes nutritional supplement drinks, shampoos, etc. NO TUBS

Steward	#	Primary	Primary Shorthand	Secondary	Measure	Description and Instructions
RecycleBC	048	RecycleBC Packaging	RecycleBC Packaging	Other rigid plastic packaging	Yes/No	#7 rigid containers. #2, #3, #4, #5, #6 (non-expanded) trays, pails, tubs and lids not listed in other categories. Rigid containers without SPI resin code.
RecycleBC	049	RecycleBC Packaging	RecycleBC Packaging	#6 PS expanded polystyrene	Yes/No	White and coloured. #6 foam take-out containers such as drink cups, egg cartons, take-out food clamshells, white packaging foam, coloured meat trays, etc.
RecycleBC	050	RecycleBC Packaging	RecycleBC Packaging	Film plastic (LDPE and HDPE packaging)	Yes/No	#2 HDPE & #4 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. DO NOT INCLUDE: Garbage bags, kitchen catchers, Ziploc bags.
RecycleBC	051	RecycleBC Packaging	RecycleBC Packaging	Plastic laminate packaging	Yes/No	Laminated plastic film and bags including chip bags, vacuum sealed bags, cereal liners, candy wraps, pasta bags, boil in a bag, plastic based food pouches. Film plastic other than #2 HDPE and # 4LDPE including PLA, PHA, PHB. Other plastic packaging not listed in other categories. PE foam packaging. Blister packaging. PS foam peanut packaging.
RecycleBC	052	RecycleBC Packaging	RecycleBC Packaging	Steel food containers	Yes/No	Steel food cans commonly used for soups, beans, peaches, etc. Bi-metal and spiral wound cans.
RecycleBC	053	RecycleBC Packaging	RecycleBC Packaging	Steel aerosol containers	Yes/No	Empty food and consumer product spray cans commonly used for cooking oil, whipped cream, etc.
RecycleBC	054	RecycleBC Packaging	RecycleBC Packaging	Aluminum food containers	Yes/No	Aluminum food cans commonly used for sardines and cat food, etc.

Steward	#	Primary	Primary Shorthand	Secondary	Measure	Description and Instructions
RecycleBC	055	RecycleBC Packaging	RecycleBC Packaging	Aluminum foil and foil trays	Yes/No	Aluminum foil wrap, pie plates, baking trays, etc.
RecycleBC	056	RecycleBC Packaging	RecycleBC Packaging	Aluminum aerosol containers	Yes/No	Aluminum aerosol containers commonly used for hair products, etc.
RecycleBC	057	RecycleBC Packaging	RecycleBC Packaging	Glass containers	Yes/No	Clear and coloured. Food containers commonly used for pickles, salsa, cosmetics, cooking oil, vinegar.
TSBC	058	Tires	Tires		Mass	
TSBC	059	Tires	Tires	Passenger and light truck	Count	Report all other tires to TSBC.
TSBC	060	Tires	Tires	Medium truck	Count	Report all other tires to TSBC.
TSBC	061	Tires	Tires	Agricultural	Count	Report all other tires to TSBC.
TSBC	062	Tires	Tires	Logger skidder	Count	Report all other tires to TSBC.
TSBC	063	Tires	Tires	Bicycle tires and tubes	Count	Report all other tires to TSBC.
TSBC	064	Tires	Tires	Other tires	Count	Report all other tires to TSBC.
BCUOMA	065	Oil and Antifreeze	Oil/Antifreeze		Mass	
BCUOMA	066	Oil and Antifreeze	Oil/Antifreeze	Lubricating oil	Count	Containers with product inside.
BCUOMA	067	Oil and Antifreeze	Oil/Antifreeze	Lubricating oil containers	Count	Empty containers only.
BCUOMA	068	Oil and Antifreeze	Oil/Antifreeze	Lubricating oil filters	Count	
BCUOMA	069	Oil and Antifreeze	Oil/Antifreeze	Antifreeze	Count	Containers with product inside.
BCUOMA	070	Oil and Antifreeze	Oil/Antifreeze	Antifreeze containers	Count	Empty containers only.
CBA	071	Lead-Acid Batteries	Lead-Acid Batteries		Mass	
CBA	072	Lead-Acid Batteries	Lead-Acid Batteries	Lead-acid batteries	Count	Photograph all lead-acid batteries and drop at recycling location.
Call2 Recycle	073	Single Use/ Rechargeable < 5 kg	SU/R Batteries		Mass	
Call2 Recycle	074	Single Use/ Rechargeable < 5 kg	SU/R Batteries	Rechargeable batteries < 5 kg	Count	Nickel Cadmium, Lithium-Ion, Nickel Metal Hydride, Nickel Zinc. Return all batteries to Call2Reycle for further analysis.
Call2 Recycle	075	Single Use/ Rechargeable < 5 kg	SU/R Batteries	Primary/single use batteries < 5 kg	Count	Alkaline and Lithium. Return all batteries to Call2Reycle for further analysis.
Product Care	076	Paint/Pesticides/ Solvents/Gasoline	PPGS		Mass	

Steward	#	Primary	Primary Shorthand	Secondary	Measure	Description and Instructions
Product Care	077	Paint/Pesticides/ Solvents/Gasoline	PPGS	Flammable liquids	Count	Must have a flame symbol or phrase similar to "keep away from open spark or flame" on the label, e.g. paint thinners, camping fuel, kerosene etc.
Product Care	078	Paint/Pesticides/ Solvents/Gasoline	PPGS	Gasoline	Count	
Product Care	079	Paint/Pesticides/ Solvents/Gasoline	PPGS	Paint/coatings	Count	Containers with product interior & exterior, latex and oil based, consumer products only, non-industrial.
Product Care	080	Paint/Pesticides/ Solvents/Gasoline	PPGS	Paint containers	Count	Empty containers only.
Product Care	081	Paint/Pesticides/ Solvents/Gasoline	PPGS	Aerosol paint	Count	Containers with product all types including automotive and industrial.
Product Care	082	Paint/Pesticides/ Solvents/Gasoline	PPGS	Aerosol paint containers	Count	Empty containers only - all types including automotive and industrial.
Product Care	083	Paint/Pesticides/ Solvents/Gasoline	PPGS	Domestic pesticides	Count	Consumer pesticides that have both the poisonous (skull & cross bones) symbol and Pest Control Product (PCP) number.
Product Care	084	Lighting Equipment	Lighting		Mass	
Product Care	085	Lighting Equipment	Lighting	Lights and lamps	Count	All bulb and tube technologies. e.g. CFLs, fluorescent tubes, incandescent bulbs, etc.
Product Care	086	Lighting Equipment	Lighting	Lighting fixtures	Count	Examples: Table lamp, chandelier, flashlight, wall fixture, etc.
Product Care	087	Lighting Equipment	Lighting	Lighting ballasts	Count	
Product Care	088	Alarms	Alarms		Mass	
Product Care	089	Alarms	Alarms	Smoke alarms	Count	
Product Care	090	Alarms	Alarms	Carbon monoxide alarms	Count	
EPRA	091	Electronics	Electronics		Mass	
EPRA	092	Electronics	Electronics	Desktop computers and servers	Count	
EPRA	093	Electronics	Electronics	Notebook and laptop computers	Count	Portable computers, excludes handheld devices.

Steward	#	Primary	Primary Shorthand	Secondary	Measure	Description and Instructions
EPRA	094	Electronics	Electronics	Computer peripherals	Count	Including but not limited to mouse, keyboard, external hard drives.
EPRA	095	Electronics	Electronics	Computer monitors	Count	
EPRA	096	Electronics	Electronics	Desktop printers/scanners/ copiers/ fax machines	Count	Desktop devices only.
EPRA	097	Electronics	Electronics	Handheld computing devices	Count	Examples: tablets, ebook readers.
EPRA	098	Electronics	Electronics	Floor standing printers/ scanners/copiers	Count	Floor standing devices only.
EPRA	099	Electronics	Electronics	Televisions	Count	
EPRA	100	Electronics	Electronics	Consumer audio/video equipment	Count	Including, without limitation, radio sets, cameras and video recorders designed for non-professional use, projectors, audio players, recorders, headphones, microphones, amplifiers, equalizers and speakers, DVD players, cable boxes. DO NOT INCLUDE PROFESSIONAL EQUIPMENT.
EPRA	101	Electronics	Electronics	Other audio/video equipment	Count	Accessories and cords to audio/video equipment, audio/visual equipment for professional use.
EPRA	102	Electronics	Electronics	Non-cellular telephones/ answering systems	Count	Corded and cordless telephones and answering systems for consumer use.
EPRA	103	Electronics	Electronics	Commercial telephones/ telecommunications equipment	Count	Corded and cordless telephones, answering systems, telecommunications equipment for commercial use such as office phone systems and, teleconferencing systems.
EPRA	104	Electronics	Electronics	Electric typewriters/telex/ computer terminals	Count	Electric typewriters, telex machines, computer terminals or systems. DO NOT INCLUDE DESKTOP COMPUTERS.
EPRA	105	Electronics	Electronics	Pocket and desk calculators	Count	
EPRA	106	Electronics	Electronics	Network and telecommunications equipment	Count	Examples: modems, switches, routers.

Steward	#	Primary	Primary Shorthand	Secondary	Measure	Description and Instructions
EPRA	107	Electronics	Electronics	Storage devices and media	Count	Devices, equipment or media for collecting, storing, processing, presenting or communicating information, including, without limitation, sounds and images.
EPRA	108	Electronics	Electronics	Other electronics	Count	Other electronic or electrical information technology or telecommunication devices, equipment or media not listed in other categories.
EPRA	109	Electronics	Electronics	Electronic musical instruments and equipment	Count	
EPRA	110	Electronics	Electronics	Electronic medical equipment	Count	
EPRA	111	Electronics	Electronics	Monitoring and control instruments	Count	Electronic or electrical monitoring and control instruments, including, alarm systems, devices for measuring, weighing or adjusting, but not including thermostats or smoke detectors.
EPRA	112	Electronics	Electronics	Electric toys (ride on)	Count	
EPRA	113	Electronics	Electronics	Electric toys (non-ride on)	Count	
Recycle My Cell	114	Mobile Devices	Mobile Devices		Mass	
Recycle My Cell	115	Mobile Devices	Mobile Devices	Mobile devices	Count	Mobile devices designed primarily to connect to a cellular or paging network, including, without limitation, mobile phones, smartphones (iPhone, android, blackberry etc.), cellular personal digital assistants and pagers
HRAI	116	Heating/Ventilation / Air Conditioning/ Refrigeration/ Plumbing Products	HVAC/Refrig/Plumb		Mass	
HRAI	117	Heating/Ventilation / Air Conditioning/ Refrigeration/ Plumbing Products	HVAC/Refrig/ Plumb	Heating products	Count	Examples: residential furnaces (all types), commercial furnaces (all types), residential boilers (all types), commercial boilers (all types), unit heaters (all types), heat pumps, direct heating equipment, infrared heaters, commercial-

Steward	#	Primary	Primary Shorthand	Secondary	Measure	Description and Instructions
						industrial forced-air heating equipment
HRAI	118	Heating/Ventilation / Air Conditioning/ Refrigeration/ Plumbing Products	HVAC/Refrig/ Plumb	Cooling products	Count	Examples: residential condenser units, commercial-industrial forced-air heating equipment, HP/AC ductless coils, electrical horizontal single package cooling electrical, gas/electrical single package heat and cool, split system condensing units, geothermal heat pumps, water-source heat pumps, packaged terminal products, automatic commercial ice makers, mobile refrigeration equipment, datacom cooling, chilled beams, humidifiers, dehumidifiers, heat pump pool and spa heaters, thermal storage
HRAI	119	Heating/Ventilation / Air Conditioning/ Refrigeration/ Plumbing Products	HVAC/Refrig/ Plumb	Chillers	Count	
HRAI	120	Heating/Ventilation / Air Conditioning/ Refrigeration/ Plumbing Products	HVAC/Refrig/ Plumb	Commercial refrigeration	Count	Examples: commercial freezers, commercial coolers, commercial refrigerators, display cases, reach-ins, walk-ins
HRAI	121	Heating/Ventilation / Air Conditioning/ Refrigeration/ Plumbing Products	HVAC/Refrig/ Plumb	Plumbing	Count	Examples: Water heaters with a tank, tankless water heaters, fluid pumps, water softeners, UV disinfection systems, hydronic systems and control
HRAI	122	Thermostats	Thermostats		Mass	
HRAI	123	Thermostats	Thermostats	Thermostats (non-mercury containing)	Count	
HRAI	124	Thermostats	Thermostats	Other thermostats	Count	
OPEIC	125	Outdoor Power Equipment	Out Pwr Equip		Mass	
OPEIC	126	Outdoor Power Equipment	Out Pwr Equip	Electric powered	Count	Hand-held, walk-behind and free-standing electric outdoor power equipment, e.g. chain saw, lawn mower, pressure washer, snowblower, etc.

Steward	#	Primary	Primary Shorthand	Secondary	Measure	Description and Instructions
CESA	127	Small Appliances and Power Tools	Sm Appl and PT		Mass	
CESA	128	Small Appliances and Power Tools	Sm Appl and PT	Full size floor and carpet care appliances	Count	
CESA	129	Small Appliances and Power Tools	Sm Appl and PT	Smaller floor/surface cleaning appliances	Count	
CESA	130	Small Appliances and Power Tools	Sm Appl and PT	Garment care appliances	Count	Including, without limitation, irons and garment steamers.
CESA	131	Small Appliances and Power Tools	Sm Appl and PT	Kitchen countertop - motorized appliances	Count	
CESA	132	Small Appliances and Power Tools	Sm Appl and PT	Kitchen countertop - heating appliances (non-coffee/tea)	Count	
CESA	133	Small Appliances and Power Tools	Sm Appl and PT	Kitchen countertop - heating appliances (coffee/tea)	Count	
CESA	134	Small Appliances and Power Tools	Sm Appl and PT	Time measurement and display devices	Count	
CESA	135	Small Appliances and Power Tools	Sm Appl and PT	Personal care appliances	Count	Including, without limitation, hair cutting and drying appliances, tooth care appliances, shavers, and massagers.
CESA	136	Small Appliances and Power Tools	Sm Appl and PT	Weight measurement	Count	
CESA	137	Small Appliances and Power Tools	Sm Appl and PT	Air treatment appliances	Count	
CESA	138	Small Appliances and Power Tools	Sm Appl and PT	Desk and tabletop fans	Count	
CESA	139	Small Appliances and Power Tools	Sm Appl and PT	Microwaves	Count	
CESA	140	Small Appliances and Power Tools	Sm Appl and PT	Test and measurement tools	Count	
CESA	141	Small Appliances and Power Tools	Sm Appl and PT	Handheld power tools	Count	
CESA	142	Small Appliances and Power Tools	Sm Appl and PT	Bench-top/demolition/ free-standing power tools	Count	
CESA	143	Small Appliances and Power Tools	Sm Appl and PT	Sewing/textile machines	Count	
CESA	144	Small Appliances and Power Tools	Sm Appl and PT	Designated very small items	Count	Examples: Stud finder, glue gun, bike speedometer, etc.
CESA	145	Small Appliances and Power Tools	Sm Appl and PT	Exercise machines	Count	Examples: Treadmill, elliptical, cycling machine, vibration machine, etc.
CESA	146	Small Appliances and Power Tools	Sm Appl and PT	Sports/leisure/arts/ crafts/hobby devices	Count	Examples: Inflator (for airbeds), mosquito lantern, laser caddie/sport rangefinder, airbrush, scrapbooking machines, mandrel, etc.

Steward	#	Primary	Primary Shorthand	Secondary	Measure	Description and Instructions
MARR	147	Major Household Appliances	Mj HH Appl		Mass	
MARR	148	Major Household Appliances	Mj HH Appl	Full size refrigerators/wine coolers/beverage centres	Count	
MARR	149	Major Household Appliances	Mj HH Appl	Compact refrigerators/wine coolers/beverage centres	Count	
MARR	150	Major Household Appliances	Mj HH Appl	Freezers	Count	
MARR	151	Major Household Appliances	Mj HH Appl	Room air conditioners	Count	
MARR	152	Major Household Appliances	Mj HH Appl	Portable air conditioners	Count	
MARR	153	Major Household Appliances	Mj HH Appl	Dehumidifiers	Count	
MARR	154	Major Household Appliances	Mj HH Appl	Clothes washers	Count	
MARR	155	Major Household Appliances	Mj HH Appl	Clothes dryers	Count	
MARR	156	Major Household Appliances	Mj HH Appl	Ranges	Count	
MARR	157	Major Household Appliances	Mj HH Appl	Range hoods and downdrafts	Count	
MARR	158	Major Household Appliances	Mj HH Appl	Built-in ovens	Count	
MARR	159	Major Household Appliances	Mj HH Appl	Built-in and over the range microwave ovens	Count	
MARR	160	Major Household Appliances	Mj HH Appl	Surface cooking units	Count	
MARR	161	Major Household Appliances	Mj HH Appl	Dishwashers	Count	
MARR	162	Major Household Appliances	Mj HH Appl	Food waste disposers	Count	
MARR	163	Major Household Appliances	Mj HH Appl	Trash compactors	Count	
MARR	164	Major Household Appliances	Mj HH Appl	Electric water dispensers	Count	
HPSA	165	Medications	Medications		Mass	
HPSA	166	Medications	Medications	Prescription drugs	Count	Product only. Send Medications to HPSA for destruction.
HPSA	167	Medications	Medications	Over-the-counter	Count	Product only. Send Medications to HPSA for destruction.
HPSA	168	Medications	Medications	Natural health products	Count	Product only. Send Medications to HPSA for destruction.
N/A	169	Non-EPR Products	Non-EPR		Not applicable	All other materials.