City of Barrie 2-Season Waste Composition Studies
CIF Project Number #842

Final Report
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Prepared for:
The Continuous Improvement Fund
Barrie, Ontario

Acknowledgement

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Executive Summary

In preparation for transition from weekly to every other week garbage collection, the City of Barrie completed a series of waste composition studies during 2014. This report presents the results of those studies and details the rollout of the new garbage collection program. Financial assistance in completing the waste composition studies was provided in part by the Continuous Improvement Fund (CIF).

The purpose of conducting the 2014 waste composition studies was to help City staff evaluate the efficacy of the existing diversion programs and quantify the remaining divertible material in the waste stream. Further, composition data proved useful for City staff and their waste collection contractor in preparing for transition to every other week garbage collection.

Solid waste was collected from 100 households in the summer (June 16-20) and fall (November 10-14) of 2014 and sorted/weighed into standard audit categories. Set-out and participation information were also recorded to better understand how residents were using the service. The single-family weekly solid waste generation rate established by the studies was 12.5 kg per household.

The garbage stream portion of the study identified approximately 59% of refuse could be diverted away from the garbage stream and into the organics or blue box programs: 43% organics and 14% recyclables. City staff expected both of these amounts to improve with the introduction of every other week garbage collection as residents are encouraged to further participate in diversion activities.

The results of the audits identified high capture rates of printed paper and packaging and glass containers. Plastic and metal containers may provide opportunities for improved diversion. The capture rate of blue box materials in general was estimated at 77%. The average household generated approximately 5.25 kg of blue box material per week. Paper was the largest category in the recycling audit at approximately 69.4% of the recycling stream by weight.

Armed with an clearer picture of solid waste generation, composition, and program participation, the City launched the new every other week garbage collection schedule early in 2015 and executed a comprehensive communication campaign branded “Re-Think Waste” aiming to ensure residents were well aware of the change in schedule and reminded of how to properly sort and set out materials for collection. Additionally, the campaign highlighted the new items in the expanded list of blue box materials collected curbside.

A key learning from the launch was the importance of notifying residents that typical times their materials would be previously collected may change with the new programming. For other municipalities, including this type of messaging with similar program changes may help reduce missed pick-ups, resident complaints, and help smooth out other aspects of the rollout.

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1. Introduction

The City of Barrie had entered into a new waste collection contract in 2014. A highlight of this contract was the expanded list of targeted materials added to the blue box program. The City anticipated a reduction in the amount of waste collected through the garbage stream and an increase in the amount of material collected through the blue box program with the switch to every other week garbage collection planned for 2015. The City completed a baseline 100 household (HH) 2 season audit to gather against which the EOW could be measured.

The City retained the services of The Exp. Services Inc. (exp) for the first audit conducted June 16 – 20, 2014, and Golder Associates Ltd. (in partnership with 2cg Inc.) for the second audit conducted November 10 – 14, 2014.

In addition to the City's use of this information, the collected data, waste generation rates and other program information was provided to Stewardship Ontario as input to the Stewards Pay in Model.

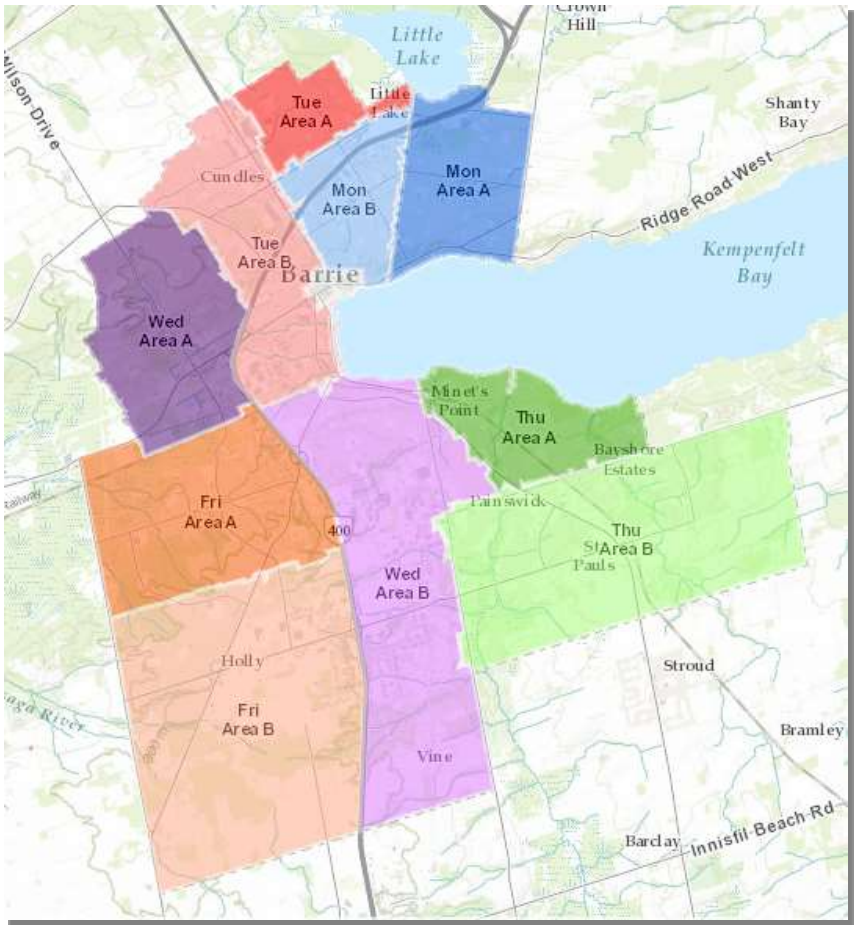

Figure 1: City of Barrie service areas

2. Background

2.1 Community Profile

The City of Barrie has an approximate population of 146,000, comprised of 58,662 residences serviced by the curbside blue box program. Waste management services within the City include waste collection, disposal, and diversion programs (composting, dual-stream recycling, and re-use programs). Currently, blue box materials are collected and processed by the City's waste collection contractor at their Material Recovery Facility in Bracebridge, Ontario. Barrie is a medium sized urban community and has a current diversion rate of 47%. In 2014, the City collected a total of 12,158.48 tonnes of blue box materials curbside.

2.2 Waste Management System

The City provides residents with the following waste management services:

- Single-Family Recycling (SF): Weekly collection of blue box materials using a dual stream blue box collection program
- Multi-Residential Recycling (MR): Weekly collection of blue box materials using a dual stream cart collection program
- EOW Garbage collection for SF and weekly MR (collection and disposal)
- Organics diversion system for SF and MR (collection and processing)

The waste management system can be summarized in *Table 2: Waste Management System Overview for Barrie City, 2015*, shown below.

2.3 Current Waste Management Performance

In 2014, blue box tonnes were approximately 12, 158 MT or 207 kg/HH and garbage disposal accounted for 19,978 MT or 340 kg/HH. Each year the City conducts a two week recycling participation study using households from previous years to allow for a continuation of data. Streets are selected from each collection area and are tracked based on participation in each of the City's waste and recycling streams. In 2014, the City reported a blue box participation rate of 76%. In 2015, blue box participation rose to 77%.

The performance information can be summarized in a table format shown below.

Table 1: Waste Management System Overview for Barrie City, 2015

		Blue Box Recycling		Total Waste Diversion		Disposal		Generation (Total)	
	Units	Rate	% of total	Rate	% of total	Rate	% of total	Rate	%
GAP Reported	tonnes	610.3	1.06%	28911.7	50.04%	28857.11	49.9%	57768.81	100%
	Kg/hh	11.4	1.06%	538.01	50.04%	538.01	49.9%	1075.01	100%

2.4 Program Challenges

The City of Barrie had entered into a new waste collection contract in 2014. A highlight of this contract is the new materials added to the blue box program. The City anticipated a reduction in the amount of waste collected through the garbage stream and an increase in the amount of material collected through the blue box program.

The City of Barrie has entered into a new waste collection contract in 2015. A highlight of this contract is the transition from weekly collection of garbage to every-other-week (EOW) collection. The City anticipated a reduction in the amount of waste collected through the garbage stream and an increase in the amount of material collected through the blue box program. To assist in assessing the impact of the programming change to EOW garbage collection, City staff planned a 2 season audit for June and November, 2014.

3. Approach

3.1 Purpose

The 2014 City of Barrie Residential Curbside Waste Study included collecting, sorting and classifying single-family residential wastes. The study took place in selected areas throughout the City.

The main objectives of the single-family waste study were to:

- Collect accurate single-family waste generation and composition data;
- Estimate waste generation rates (kg/household/week) for single-family households by material category; and
- Estimate typical recovery rates for recyclable blue box waste.

The following companies: exp. Services Inc. and Golder were contracted to complete the waste studies.

3.2 Monitoring and Measurement Methodology

The audit consisted of two one-week periods from June 16 – 20, 2014 and November 10-14, 2016. The recyclables consisted of materials from the City's blue box and grey box program. The general sorting categories were provided by the City of Barrie and included materials such as paper, plastic, metal, and glass. Detailed material types for each category can be found in *Appendix A: Waste Composition Studies – Material Categories*.

Golder Associates Ltd. (Golder) in partnership with 2cg Inc., exp. Services Inc. (exp) and two City of Barrie employees completed the recycling audit. Progressive Waste Solutions Ltd. collected materials from 20 different households every morning for a total of 100 households. Materials were collected from the five different neighbourhoods, within the City of Barrie. The five neighbourhoods represent different demographic areas of the City. Materials from commercial or industrial establishments were not included in this audit. The materials were then delivered to an indoor area at the City of Barrie's Environmental Centre by the contractor. The materials were sorted by hand, separated by material categories and placed into an appropriate bin for weighing. Once sorted, the weights of each bin were collected and manually recorded on a data sheet.

3.2.1 Sampling Period

The sampling period will consist of two single-week long studies with one study taking place during the summer and fall seasons in the specified sampling locations. The 2014 composition study dates for the two seasons are listed below.

- Summer: June 16 – 20, 2014
- Fall: November 10 – 14, 2014

3.2.2 Sampling Locations

Sampling locations consisted of 100 households (10 houses in a row in 10 sample areas) that were specifically selected from various municipalities to be representative of the City's demographic and the City's single-family waste generation/recovery behaviour. The sample households are located within the five areas (1 to 5) of the City of Barrie.

Table 2: Study areas and collection dates

Area	Street
Area 1 – Monday	Strabane Avenue
Area 2 – Tuesday	Player Drive & Palmer Dr
Area 3 –Wednesday	McConkey Place & Little Ave
Area 4 – Thursday	Country Lane & Nathan Cr
Area 5 – Friday	Athabaska Rd & Rundles Cres

3.2.3 Sorting Methodology

The contractor was responsible for collecting all garbage, containers recycling and paper fibres recycling set out at the curb by each sample household daily during each of the two week sampling periods.

Material was collected from the specified areas listed above and taken to an indoor area at the City of Barrie's Environmental Centre for sorting. Material was then sorted into the waste composition sorting categories – listed in *Appendix A: Waste Composition Studies-Material Categories*. Materials were weighed to 0.01 kg (the nearest gram). A collection log, sort log, and raw data results were provided by the contractor to City staff following each study for analysis.

3.2.4 Data Analysis

City staff analyzed the raw data provided by the study contractor to identify trends in waste generation, composition and diversion amongst the garbage, recycling, and organics waste streams. Participation (set-out) in the recycling and organics program over the study period was also assessed by staff.

3.3 Monitoring Challenges, Limitations and Solutions

Residents in Barrie are required to have their items placed curbside by 7:00am to ensure collection occurs. However some residents place their items after 7:00am because they know that their collection typically does not occur until later. The audit was conducted starting at 7:00am so those residents that placed their items out later were not included in the audit.

4. Project Results and Analysis

4.1 Project Results

The key results from analysis of the waste composition studies are presented in the following four sections. The raw data provided by the waste composition study contractor has been consolidated for each of the studies to be representative of the City's single-family waste generation.

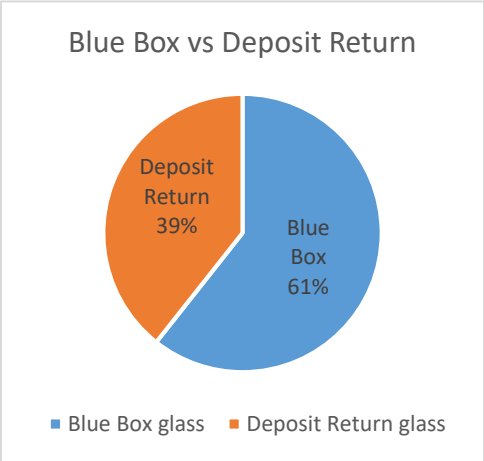

Figure 2: Comparison of non-alcoholic vs alcoholic glass bottles in 2014 City of Barrie waste composition study

4.1.1 Composition of Blue Box Waste Stream

The single-family weekly solid waste collected through the blue box program established by the 2014 waste composition studies is 5.25 kg per household.

4.1.1.1 Composition of Printed Paper

Printed paper constitutes the largest proportion of blue box material generated by single-family households in the City. The largest proportion of this material being newsprint. Capture rates for the majority of materials are excellent (93%), with the exception of Office and Household Paper and Books (approximately 65% and 44%).

4.1.1.2 Composition of Paper Packaging

Paper packaging constitutes the second largest proportion of blue box material generated by single-family households in the City. The largest proportion of this material being old corrugated cardboard (OCC) and box board (OBB). The capture of OCC materials in the blue box waste is excellent.

4.1.1.3 Composition of Plastics

Plastic packaging constitutes the third largest proportion of blue box material generated by single-family households in the City. The largest proportion of this material being PET container. The capture of PET and HDPE materials in the Blue Box waste is very good.

4.1.1.4 Composition of Metals

Metal containers and packaging constitutes the smallest proportion of blue box material generated by single-family households in the City. The majority of which is aluminum and steel containers. The capture of both these materials is very good to excellent.

4.1.1.5 Composition of Glass

Glass bottles constitute the second smallest proportion of Blue Box material generated by single-family households in the City. The majority of which are blue box glass bottle which constitutes 6% of all blue box material.

There is also a significant amount of deposit return glass (3%) collected in the blue box waste stream; approximately 1,490 tonnes. In fact, 4 of every 10 glass bottles collected through the blue box program look to be alcoholic glass (deposit return program). Generation of non-alcoholic glass bottles is approximately 0.30 kilograms per household or 2,300 tonnes annually. Coloured glass was not sorted separately from clear.

4.1.1.6 Composition of Contamination

Contamination represents a significant issue for municipal collection programs. For the City of Barrie, the organics and compostable paper packaging not accepted in the blue box program are the major culprits. There is also a significant amount of other materials (garbage) that ends up in blue boxes as well.

4.1.1.7 Capture

The capture rate of blue box materials is estimated at 77%, as broken down in the following table:

Table 3: Blue Box Material Generated + Contamination

Blue Box Material Generated	Weekly Household (kg / hh)	Capture (%)
Printed Paper	1.96	93%
Paper Packaging	1.82	93%
Plastics	1.47	49%
Metals	0.39	79%
Glass	0.50	96%
Blue Box	**6.14**	**77%**

Paper products and glass have excellent capture rates, while plastics and metals represent areas where opportunities for improvement may be achieved.

4.2 Analysis of Results

When analysing the results it can be seen that 77% of blue box material generated is being captured. Compared to 2012 garbage participation increased by 1.82% at 77.8% households participating. In 2012, organics, container and fiber participation decreased at -6.06%, -3.08% and -1.45% respectively. Approximately 13.9% of the garbage stream consisted of material that could be recycled. The recyclable items were observed in small amounts (less than 1% of the total garbage stream), which indicates that capturing these small, incremental amounts may be difficult. Within the garbage stream, organics represents the largest potential for increasing the City's overall diversion rate. Organics materials made up 41.2% of the garbage stream.

We cannot compare the audit results with our datacall numbers because we have other opportunities for residents to recycle that were not included in this audit. It is difficult to compare previous audits because they were conducted by the collection contractor and the methodology and level of accuracy was not the same as with the audits done under this project.

4.3 EOW Garbage Program Roll-out

The City of Barrie and Progressive Waste Solutions met weekly prior to the commencement of every other week garbage collection to ensure a smooth rollout. This program started on January 12, 2015 well after the post-holiday season waste volumes. The comprehensive communication campaign was instrumental in ensuring that residents were well aware of the change in schedule. Our City Council members were also committed and supportive and were prepared for the onslaught of calls and emails.

The collection contractor recorded areas that had materials out on the off week so for the first two weeks of the program the materials were collected and a notice left. The biggest issue experienced was that we had not anticipated that there would be a substantial change in collection times and this caused a majority of the complaints and calls. Residents who typically had a mid-day collection did not have their waste at the curb on time for collection. Having numerous garbage trucks in a smaller area resulted in a significant change in routing times. Specifically there were numerous complaints in one collection area where a high number of residents placed their materials out after the truck went by which generated numerous complaints. As a result a 7am reminder campaign was developed. This campaign still runs frequently.

Anticipating the drastic change in collection times for garbage and organics resulting from the every other week schedule, implementing the 7am campaign prior to the "every other week garbage collection", could have prevented many of the complaints and calls. It was also apparent and understandable that residents were less tolerant of a missed collection when their next collection wouldn't occur for a full 2 weeks. Another unanticipated challenge was that the businesses and multi residential properties outside the BIA (downtown business area) that used the curbside collection program, weren't aware that they would be affected by the every other week collection schedule. Many were caught off guard expecting to maintain their weekly collection schedules.

4.4 Cost Breakdown for EOW Roll-out Steps

The City of Barrie employed a comprehensive approach to promoting the transition to every other week garbage collection The breakdown of campaign expenditures is detailed in the Table below:

Table 4: Re-Think Waste Campaign budget

PROMOTION & EDUCATION	
Video Production	$8,475
Print Ads	$12,000
Driver & Mail Drops	$10,500
Signs (transit signs and shelters, etc), billboards, collection vehicle signage, etc)	$26,500
Promotional Giveaways	$6,000
Radio	$6,500
Calendar	$46,000
Displays	$1,470
Apps	$1,000
TOTAL	**$118,445**

4.5 Promotion & Education

In 2014, Promotion & Education (P&E) costs increased by 28% as a result of the "Rethink Waste" campaign being implemented in 2015. The "Rethink Waste" campaign prepared City of Barrie residents for every other week garbage collection (EOW), added new materials to the blue box program and changed the waste reduction calendar delivery methods, which resulted in increased costs.

In 2014, a new collection contract was started with new materials being added to the blue box program. An ad campaign was developed and delivered to residents to notify them of the new materials being accepted in the blue box program. The following materials were added: film plastic (i.e. grocery bags), aerosol/spray cans and dried out paint cans.

A new waste reduction calendar was created, with 36 pages plus an 8 page equivalent fold out map, which was delivered via Canada Post to reduce distribution complaints.

During the "Rethink Waste" campaign promotional materials such as sorting guide stickers, "Rethink Waste" video and presentations were created to promote EOW garbage collection, organic bin use and the addition of new materials to the blue bin program.

The EOW garbage collection campaign informed residents of the January 2015 change through the use of billboards, radio ads, newspaper ads, City of Barrie website, new collection search tool and the continuation of the "Rethink Waste" campaign. Samples of Promotion and Education Material are included in appendix B of this report.

4.5.1 Lessons Learned

During the waste audit it was noted that the City of Barrie sorts blue box, grey box and organics differently compared to Stewardship Ontario. The blue box program accepts plastics and containers. Spiral wound, aseptic, ice cream and gable containers are placed in the blue box instead of the grey box at the collection contractor's request. In the organics program items such as polycoat beverage cups and popcorn bags are accepted in the green bin instead of in the grey box. Therefore, the City of Barrie sorting of blue box, grey box and organics contradicts some of the guidelines laid out by Stewardship Ontario.

The time of year must also be considered when completing a waste audit. The City of Barrie's waste audit took place over two weeks during the Summer: June 16 – 20, 2014 and Fall: November 10 – 14, 2014. During the Summer audit the audit may not be accurate as it is likely that many residents are on vacation and may not be around to put their refuse out or they are putting all refuse out every other week.

Another issue during the waste audit was residents not having refuse out by 7am due to collectors picking up refuse later in the day. Due to this issue it would be best to choose audit locations based on where the collectors start picking up.

5. Project Budget

The project budget for the waste composition studies is presented below. There was no variance between project budget and actual costs. Two seasons of waste composition studies were completed with contractors invoicing the City for both the recycling and garbage sort portions of each study.

Table 5: Project budget CIF #842 – 2014 Barrie 2-Season Waste Composition Study

Vendor	Date	Item	Subtotal
The exp.	02-Sep-14	Recycling curbside material composition study	$ 8,865
The exp.	02-Sep-14	Garbage curbside material composition study	9,135
Golder	27-Apr-15	Garbage curbside material composition study	10,550
Golder	27-Apr-15	Recycling curbside material composition study	4,150
Total subtotal costs			$ 32,700
HST @ 1.76%			575
Total eligible project costs			$ 33,276
CIF funding rate			60%
CIF Funding total (maximum $16,978 inc. taxes)			**$ 16,978**

6. Conclusions

Based on the waste audit results, the greatest potential for increasing the City of Barrie's waste potential diversion is to increase its diversion of food waste as organics constituted approximately 54% of the stream weight. The City could also divert additional blue and grey box materials as this made up approximately 13.6% of the waste stream. The food waste, blue box and grey box materials represent opportunities to divert further materials from the landfill to increase the City of Barrie's diversion rate.

Comparing the results of the two audits, City staff noted contamination levels decreased with the new program. Contamination was addressed by the City of Barrie's promotion and education program. Further the contractor for the new program is required to leave non-acceptable materials behind with a tag identifying the material as non-recyclable.

APPENDIX A

Waste Composition Studies - Material Categories	
Material Category	**Description / Examples**
PRINTED PAPER	
Newsprint - Daily and weekly	Daily and weekly newspapers published by the Canadian Newspaper Association (CNA) and the Ontario Community Newspapers Association (OCNA); Globe and Mail, Toronto Star, Hamilton Spectator, community newspapers. Consult Stewardship Ontario and The Continuous Improvement Fund's list of OCNA/CNA publications. No inserts, flyers and magazines from newspapers.
Other Newsprint - Other	Non OCNA/CNA publications (e.g. TV guides, Auto Trader, Real Estate News) plus inserts and flyers from OCNA/CNA newspapers. Consult Stewardship Ontario and The Continuous Improvement Fund's list of OCNA/CNA publications. Includes glossy flyers and advertising distributed with newspapers.
Magazines and Catalogues	Glossy magazines, catalogues, calendars, annual reports and product manuals (must be bound, i.e. stapled or glued).
Directories / Telephone books	Telephone books and other directories such as the Yellow Pages
Other Printed Paper (Obligated)	Mixed fine paper, bills and statements, 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, paper envelopes (blank), gift cards, purchased calendars, gift wrap, construction paper, photographs
PAPER PACKAGING	
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 (excluding alcoholic beverages)	Polycoat fibre and foil containers (e.g. Tetra Pak) for soy, almond and rice milk, juice boxes, water, soup, sauces etc.
Aseptic Containers - alcoholic beverages 630 ml and under	Polycoat fibre and foil containers (e.g. Tetra Pak) for wine and other spirits
Aseptic Containers - alcoholic beverages over 630 ml	Polycoat fibre and foil containers (e.g. Tetra Pak) for wine and other spirits
Polycoat Beverage Cups	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.
Spiral Wound Containers	Polycoat or paper containers with steel bottoms include 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.
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.
Corrugated Wine Box	Corrugated box from bag in box wine containers. No plastic liners.
PLASTICS	
#1 PET Bottles and Jars (excluding alcoholic beverages)	#1 plastic bottles and jars including pop, juice, cooking oil, honey, dish soap, etc.
#1 PET Bottles and Jars ≥ 5 L (excluding alcoholic beverages)	#1 plastic bottles and jars including pop, juice, cooking oil, honey, dish soap, etc.
#1 PET Beer Bottles over 630 ml	#1 clear and coloured beer bottles over 630 ml
#1 PET Beer Bottles 630 ml and under	#1 clear and coloured beer bottles less than or equal to 630 ml
#1 PET Other Alcohol Bottles over 630 ml	#1 clear and coloured wine and liquor bottles over 630 ml
#1 PET Other Alcohol Bottles over 100 ml and Less Than or Equal to 630 ml	#1 clear and coloured wine and liquor bottles over 100 ml and less than or equal to 630 ml
#1 PET Other Alcohol Bottles 100 ml and Under	#1 clear and coloured wine and liquor bottles 100 ml or less
#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.
#2 HDPE Bottles and Jugs (excluding alcoholic beverages)	#2 plastic bottles and jugs, juice, milk, laundry soap, shampoo, windshield washer fluid, etc.
#2 HDPE Bottles and Jugs ≥ 5 L (excluding alcoholic beverage)	#2 plastic bottles and jugs equal to or greater than 5 L
#2 HDPE Bottles (alcoholic beverage containers)	#2 plastic bottles used to contain alcoholic beverages
#2 Other HDPE Containers	Other #2 containers such as margarine and yogurt containers made from HDPE
Flexible Film Plastic – LDPE & HDPE	HDPE & 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 Non-packaging HDPE & LDPE film (e.g. kitchen catchers, sandwich and freezer bags, etc.) goes in LDPE/HDPE Film - Products (non-packaging)
LDPE/HDPE Film - Products (non-packaging)	garbage bags, kitchen catchers, zip lock bags, leaf bags
#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
#6 PS - Expanded Polystyrene	# 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, yogurt containers, rigid trays, small milk or cream containers for hot beverages, cold drink cups.
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, etc.
Other Rigid Plastic Packaging	Other rigid containers (#3, #4 & #7), non-PET blister packaging, unmarked/coded packaging, plant pots and trays, pails etc.
Large HDPE & PP Pails & Lids	Equal to or greater than 5 litres and less than 25 litres

Laminted Pouches and Bag in Box Liners for Alcoholic Beverages	Laminated plastic pouches and bag liners for wine and other alcoholic beverages
Other Plastic Alcohol Containers 100 ml and under	Other plastic alcohol containers less than 100 ml.
Other Plastics - (non-packaging/durable)	Rubbermaid tubs, toys etc.
METALS	
Aluminum- food and beverage Containers (excluding alcoholic beverage containers)	Single-serve juice/soft drink cans, pet food cans, food cans (e.g., sardine cans)
Aluminum alcoholic beverage containers over 1L	Aluminum cans and bottles used to contain alcoholic beverages over 1L
Aluminum alcoholic beverage containers 1L and under	Aluminum cans and bottles used to contain alcoholic beverages
Aluminum Foil & 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.
Steel Food and Beverage Cans	Apple juice, soup beans, peaches cans, etc.
Steel Aerosol Container	Empty spray paint cans, cooking oil, whipped cream, etc.
Steel Alcoholic Beverage Cans 1L and under	Steel alcoholic beverage cans, beer cans, Sapporo, etc. under or at 1L
Steel Alcoholic Beverage Cans over 1L	Steel alcoholic beverage cans, beer cans, Sapporo, etc. over 1L
Other steel (non-packaging)	Non-packaging steel products including baking trays, frying pans etc.
GLASS	
Clear Glass - food and beverage (excluding alcoholic beverage containers)	Food containers such as pickle jars, salsa jars and diary tubs, cosmetic containers for creams, beverage bottles
Clear Glass Beer over 630ml	Clear beer bottles over 630 ml
Clear Glass Beer 630ml and under	Clear beer bottles at 630 ml or under
Clear Glass Other Alcohol over 630ml	Clear wine or liquor bottles over 630 ml
Clear Glass Other Alcohol between 630ml and 100 ml	Clear wine or liquor bottles between 630 ml and 100ml
Clear Glass Other Alcohol under 100 ml	Clear wine or liquor bottles over 630 ml
Coloured Glass - food and beverage (excluding alcoholic beverage containers)	Olive oil bottles, balsamic vinegar
Coloured Glass Beer over 630 ml	coloured glass beer bottles over 630ml
Coloured Glass Beer 630 ml and under	Coloured beer bottles at 630 ml or under
Coloured Glass Other Alcohol over 630ml	Coloured wine or liquor bottles over 630 ml
Coloured Glass Other Alcohol between 630ml and 100 ml	Coloured wine or liquor bottles between 630 ml and 100ml
Coloured Glass Other Alcohol under 100 ml	Coloured wine or liquor bottles over 630 ml
Other Glass - non-Blue Box	Dishes, ceramics, window glass
MUNICIPAL HAZARDOUS OR SPECIAL WASTE	
Pressurized Containers	All pressurized cylinders used for compresses gases including propane, helium, welding/brazing gases, etc.
Batteries (Consumer-Type Portable)	All batteries (primary and secondary)
OTHER MATERIALS	
Other Waste	All other materials not classified elsewhere, wooden fruit basket, vacuum bags, wax candles, furnace filters, tissue and paper towels, organics, etc.

APPENDIX B: Re-Think Waste Campaign Materials