SCS ENGINEERS

Waste Characterization Study 2014
Final Report

Prepared for:

Sonoma County Waste Management Agency
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September 10, 2014
File No. 01214049.00

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Acknowledgements

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1 INTRODUCTION

The Sonoma County Waste Management Agency (Agency) contracted with SCS Engineers (SCS) to conduct a two-season waste characterization study of waste generated and disposed of in Sonoma County. Waste sampling, which included hand-sorting of waste samples from residential and commercial sources and visual characterization of self-hauled waste, was conducted at the Central Landfill during both the "wet" season from March 17-24, 2014 and the "dry" season from July 21-25, 2014. Visual characterizations were also conducted at the Sonoma and Healdsburg Transfer Stations during both seasons.

The primary objectives of the study were to:

1. Compare the waste compositions derived in this study to those derived in a similar study conducted in 2006/07. This will allow the Agency to monitor and measure recycling and waste disposal trends.

2. Identify specific generator types or specific residential collection routes that are contributing substantial quantities of recyclable/compostable materials to the waste stream.

3. Define and measure household hazardous waste disposed into the County waste stream.

2 METHODS

WASTE SAMPLING PLAN

Since the County's last waste characterization study in 2007, a number of factors have changed the composition of the waste stream, including a 30 percent decrease in the quantity of material disposed. To facilitate comparisons to previous waste characterization studies conducted in 1995/96 and 2006/07, SCS defined the following waste sectors consistent with previous studies:

- **Residential Waste -** Waste collected by a waste hauling company from single-family residences (including townhouses or buildings with up to four residential units). It typically arrives at the solid waste facility in side-loading packer trucks.

- **Commercial Waste -** Waste collected by a waste hauling company from businesses, institutions, public venues, and multi-family buildings such as apartments and condominiums with more than four residential units. It typically arrives at the solid waste facility in packer trucks, roll-off containers, or compactor units.

- **Self-Hauled Waste -** Waste that is brought to solid waste facilities by the resident or business that generated it. This sector also includes contractors such as landscaping companies and renovators that deliver waste generated during their business operations.

SCS coordinated waste sampling with The Ratto Group, the franchised waste hauler for the majority of Sonoma County. Waste loads that were targeted for sampling were directed to the Central Landfill. Waste from Petaluma was reloaded into the waste collection vehicle after sampling to be disposed at the Redwood Landfill.

Residential and Commercial Waste

SCS worked with The Ratto Group to identify residential routes per geographic area and commercial customers by type. Based on recent collected waste tonnage, approximately 40 percent of the waste is residential (from single-family homes) and 60 percent is commercial (multi-family properties, businesses, and institutions). To be consistent with the 2006/07 study, SCS collected 250 waste samples: 100 from single-family homes and 150 from commercial sources as specified below:

Waste Type and Origin	Percent of Total Weekly Waste Capacity	Number of Samples
Residential	40%	100
Commercial	60%	150
Total	100%	250

Waste sampling was conducted over two seasonal sampling events in March and July of 2014. The number of samples was split equally between the two sampling events.

Residential Samples

Based on information about residential routes from The Ratto Group, SCS collected residential waste samples in proportion to the number of routes as detailed below.

Residential Waste Origin	Number of Weekly Routes	Percent of Total Weekly Waste Capacity	Number of Samples
Cloverdale	5	2%	2
Healdsburg	5	2%	2
Petaluma	25	10%	10
Rohnert Park	17	7%	6
Santa Rosa	86	34%	34
Sebastopol	5	2%	2
Windsor	20	8%	8
Cotati	3	1%	2
Unincorporated	87	34%	34
Total	**253**	**100%**	**100**

Commercial Samples

The Ratto Group provided to SCS a listing of 3,666 commercial customers by geographic area with corresponding collection service. From this information, SCS was able to estimate the volume of waste generated each week from each commercial customer.

SCS was able to categorize 2,661 (73 percent) of the businesses by generator type according to the name of the business. This corresponded to a weekly volume of 17,284 cubic yards of waste. There were 1,005 businesses representing 5,815 cubic yards that could not be categorized by generator type. These businesses were referred to as "Unclassified Commercial".
The table below identifies the weekly volume of waste generated by business type as well as the number of samples that were collected. The number of samples per business type corresponds to the volume of waste generated per week.

Commercial Generator Type	Weekly Waste Capacity (CY)	Percent of Total Weekly Waste Capacity	Number of Samples
Apartments	2,365	10%	16
Wholesale/Retail/Warehouse	3,766	16%	24
Grocery/Markets/Catering	866	4%	6
Office/Government/Business Service	1,962	8%	12
Education	2,003	9%	14
Healthcare	681	3%	4
Restaurant/Golf/Pool/Health Club	2,063	9%	14
Lodging	4,91	2%	6
Unclassified	8,618	37%	54
Total	**23,099**	**100%**	**150**

The Ratto Group ran special waste collection routes to collect waste from single commercial generator types defined above. Multiple samples were gathered from these special loads that contained waste solely from apartments, retail establishments, etc.

Self-Hauled Waste Loads

SCS visually characterized a total of 302 self-hauled waste loads at the Central Landfill, Sonoma Transfer Station, and Healdsburg Transfer Stations.

MATERIAL CATEGORIES

Similar to the last waste characterization study conducted in 2006/07, the waste samples were hand sorted into the same material categories for this study with one exception. Food waste was further sorted into vegetative waste and non-vegetative waste. There were 86 distinct waste material categories (see **Appendix A** for definitions).

WASTE SAMPLING AND SORTING

Waste characterization activities were conducted inside the Tipping Building at the Central Landfill during two seasonal sampling events: the "wet" season during March 17-24, 2014 and the "dry" season during July 21-25, 2014. For each seasonal sampling event, 125 waste samples were hand-sorted and 150 self-hauled waste loads were visually characterized.

The SCS site manager worked closely with The Ratto Group's operations manager at the Central Landfill to target waste loads according to the sampling plan. The SCS site manager recorded information on each sample, including the geographic origin of the waste, waste generator type, date/time sampled, and vehicle type. Once the waste load was discharged, a loader was used to randomly obtain a sample of waste weighing approximately 225 pounds. The sample was then placed into carts for until hand sorting activities could be performed.

The basic procedures and objectives for sorting were identical for each sample and every day of the field work. Sorting was performed as follows:

- The work crew transferred the waste sample from the carts onto a sorting platform until it was full. The sorting platform consisted of a large wooden panel that was mounted on saw horses to make it easier for hand sorting of the materials. Surrounding the platform were 50 to 60 bins where the waste materials were segregated and placed.

- The work crew hand- sorted the materials into the material categories defined in **Appendix A**. Large, heavy, or bulky waste items were placed directly into the appropriate container for subsequent weighing.

- Plastic bags of trash were opened and work crew members manually segregated each item of waste and until all the identifiable components were placed into the proper container. The remaining material was swept off the platform and placed in a separate container for "mixed residue".

- Upon completion of sorting each sample, the containers of segregated materials were moved to the scale where the SCS site manager weighed each category and recorded the net weight on the waste sample record. A separate waste sample record was maintained for each of the 250 samples. Measurements were made to the nearest 0.1 pound.

- After the weight of each waste material had been recorded, the materials were placed into recycling or disposal areas.

This five-step process was repeated until all of the samples were characterized. Waste samples were maintained in as-disposed conditions or as close to this as possible until the actual sorting began.

DIVERTIBILITY ANALYSIS

Each of the 86 material categories was classified into one of four divertibility groups:

- **Divertible Materials -** This includes materials for which source reduction programs or methods, collection programs, and/or recycling infrastructure exist.

- **Compostable Materials -** This includes organic materials that are appropriate for municipal composting programs.

- **Potentially Divertible -** This includes materials for which methods and/or technology exist for recycling, reuse, or other beneficial uses, although programs to collect and process the materials are rare or nonexistent in the Sonoma area.

- **Other Materials -** This includes materials that do not fit any of the definitions above and that are not easily diverted from disposal.

Exhibit 1 shows the material types grouped according to these divertibility categories.

Exhibit 1. Material Divertibility Classifications

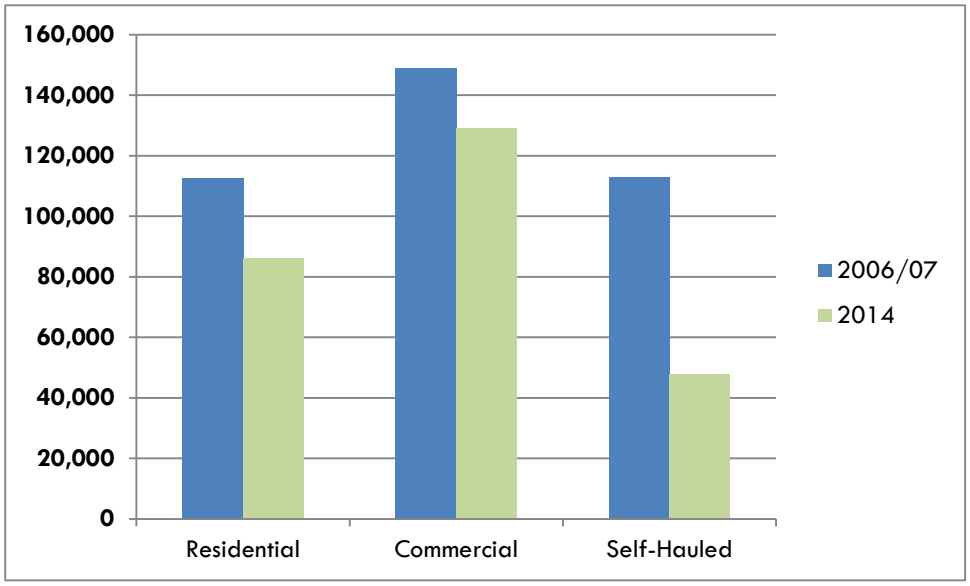
Divertible	Compostable
Colored Ledger	Agricultural Crop Residues
Computer Paper	Branches & Stumps
Magazines & Catalogs	Food
Newspaper	Leaves & Grass
Other Office Paper	Manures
Paper Bags/Kraft	Other Compostable Paper
Phone Books & Directories	Prunings & Trimmings
Uncoated Corrugated Cardboard	**Potentially Divertible**
White Ledger	Asphalt Roofing
Brown Glass Bottles & Containers – CRV	Carpet
Brown Glass Bottles & Containers – Non-CRV	Carpet Padding
Clear Glass Bottles & Containers – CRV	Clean Gypsum Board
Clear Glass Bottles & Containers – non-CRV	Flat Glass
Green Glass Bottles & Containers – CRV	Fluorescent Tubes
Green Glass Bottles & Containers – Non-CRV	Other Recyclable Paper
Other Colored Glass Bottles & Containers – CRV	Paint
Other Colored Glass Bottles & Containers – Non-CRV	Textiles
#3-#7 Bottles – CRV	Vehicle & Equipment Fluids
#3-#7 Bottles – Non-CRV	**Other**
#3-#7 Other Containers – CRV	Ash
#3-#7 Other Containers – Non-CRV	Bulky Items
HDPE Colored Bottles – CRV	Durable Plastic Items
HDPE Colored Bottles – Non-CRV	Industrial Sludge
HDPE Natural Bottles – CRV	Non-recyclable Film
HDPE Natural Bottles – Non-CRV	Other HHW
Other HDPE Containers – CRV	Remainder/ Composite C&D
Other HDPE Containers – Non-CRV	Remainder/ Composite Glass
Other PETE Containers – CRV	Remainder/ Composite Hazardous & E-waste
Other PETE Containers – Non-CRV	Remainder/ Composite Metal
PETE Bottles – CRV	Remainder/ Composite Mixed Residue
PETE Bottles – Non-CRV	Remainder/ Composite Organics
Recyclable Plastic Film	Remainder/ Composite Paper
Aluminum Cans – CRV	Remainder/ Composite Plastic
Aluminum Cans – Non-CRV	Remainder/ Composite Special Waste
Major Appliances	Sewage Solids
Other Ferrous	Treated Medical Waste
Other Non-Ferrous	Treated Wood Waste
Tin/Steel Cans	
Asphalt Paving	
Clean recyclable wood (non-treated)	
Concrete	
Other Untreated/ Recyclable Wood	
Rock, Soil, & Fines	
Household Batteries	
Small Rechargeable Batteries	
Large Rechargeable Batteries	
Covered Electronic Waste	
Universal Waste	
Used Oil & Oil Filters	
Tires	

3 SUMMARY OF RESULTS

OVERALL WASTE STREAM

Since 2006/07 when the last waste characterization study was conducted, there has been a 30 percent decrease in waste tonnages disposed of in Sonoma County, from 374,000 tons to 262,500 tons. As presented in **Exhibit 2**, the decrease is most evident in self-hauled waste.

Exhibit 2. Annual Waste Quantities – 2006/07 vs 2014



The overall composition of Sonoma County waste includes waste from the three sectors:

- **Residential Waste -** Based on 100 samples: 50 hand sorted in March and 50 hand sorted in July 2014;
- **Commercial Waste -** Based on 150 samples: 75 hand sorted in March and 75 hand sorted in July 2014; and
- **Self-Hauled Waste -** Based on 302 samples: 152 visually characterized in March and 150 visually characterized in July 2014.

A total of 552 waste samples were sorted to characterize the 262,500 tons of waste disposed of in Sonoma County in the study period.

Table 1 presents the detailed waste composition of the County's overall waste stream comprised from residential, commercial, and self-hauled waste.

Table 1. Overall County Waste Composition - 2014

Material Components	Composition	Annual Tonnage
PAPER	**19.8%**	**51,900**
Uncoated Corrugated Cardboard	2.3%	6,100
Paper Bags / Kraft	0.8%	2,100
Newspaper	0.7%	1,900
White Ledger	1.5%	4,100
Colored Ledger	0.2%	500
Computer Paper	<0.1%	<300
Other Office Printouts	0.6%	1,700
Magazines and Catalogs	1.0%	2,500
Phone Books and Directories	0.1%	300
Other Recyclable Paper	4.3%	11,200
Other Compostable Paper	7.9%	20,700
Remainder / Composite Paper	0.4%	900
PLASTIC	**14.8%**	**39,000**
PET (#1) Bottles	1.0%	2,600
Other PETE Containers	0.8%	2,000
HDPE (#2) Natural Bottles	0.3%	700
HDPE (#2) Colored Bottles	0.5%	1,300
Other HDPE Containers	0.2%	500
#3-#7 Plastic Bottles	<0.1%	<300
#3-#7 Containers	1.0%	2,700
Durable Plastic Items	1.9%	5,000
Recyclable Plastic Film	4.6%	12,100
Non-Recyclable Film	2.4%	6,400
Remainder/Composite Plastic	2.1%	5,600
ORGANIC	**30.7%**	**80,600**
Food	17.3%	45,500
Leaves and Grass	2.1%	5,600
Prunings and Trimmings	2.1%	5,600
Branches and Stumps	0.4%	1,200
Agricultural Crop Residues	<0.1%	<300
Manures	<0.1%	<300
Textiles	4.1%	10,800
Remainder/Composite Organics	4.5%	11,800
CONSTRUCTION & DEMOLITION	**19.2%**	**50,400**
Concrete	0.5%	1,300
Asphalt Paving	<0.1%	<300
Asphalt Roofing	0.2%	500
Clean Recyclable Wood	4.2%	11,000
Other Untreated/Recyclable Wood	1.5%	3,900
Treated Wood Waste	1.6%	4,200
Clean Gypsum Board	2.3%	6,000
Rock, Soil, Fines	6.5%	17,200
Carpet	0.6%	1,700
Carpet Padding	0.2%	600
Remainder/Composite C&D	1.6%	4,100

Material Components	Composition	Annual Tonnage
METALS	**3.4%**	**8,900**
Tin/Steel Cans	0.8%	2,100
Other Ferrous	1.1%	3,000
Major Appliances	0.1%	300
Aluminum Cans	0.2%	600
Other Non-Ferrous	0.7%	1,700
Remainder/Composite Metal	0.4%	1,000
GLASS	**3.2%**	**8,400**
Clear	1.5%	3,900
Brown	0.7%	1,800
Green	0.4%	1,000
Other	<0.1%	<300
Flat Glass	0.4%	1,100
Remainder/Composite Glass	0.2%	600
HAZARDOUS	**1.0%**	**2,700**
Paint	<0.1%	<300
Vehicle and Equip Fluids	<0.1%	<300
Used Oil and Oil Filters	<0.1%	<300
Large Rechargeable Batteries	<0.1%	<300
Small Rechargeable Batteries	<0.1%	<300
Household Batteries	<0.1%	<300
Universal Waste	0.3%	900
Covered Electronic Waste	0.5%	1,300
Flourescent Tubes	<0.1%	<300
Other HHW	<0.1%	<300
Remainder/Composite Haz/E-waste	<0.1%	<300
SPECIAL	**1.6%**	**4,200**
Ash	<0.1%	<300
Sewage Solids	<0.1%	<300
Industrial Sludge	<0.1%	<300
Treated Medical Waste	<0.1%	<300
Bulky Items	1.5%	3,900
Tires	<0.1%	<300
Remainder/Composite Special Waste	<0.1%	<300
BAGGED REFUSE	**6.2%**	**16,300**
	Total Tonnage:	**262,500**
	Number of Samples:	552

Exhibit 3. Waste Composition – County Overall 2014

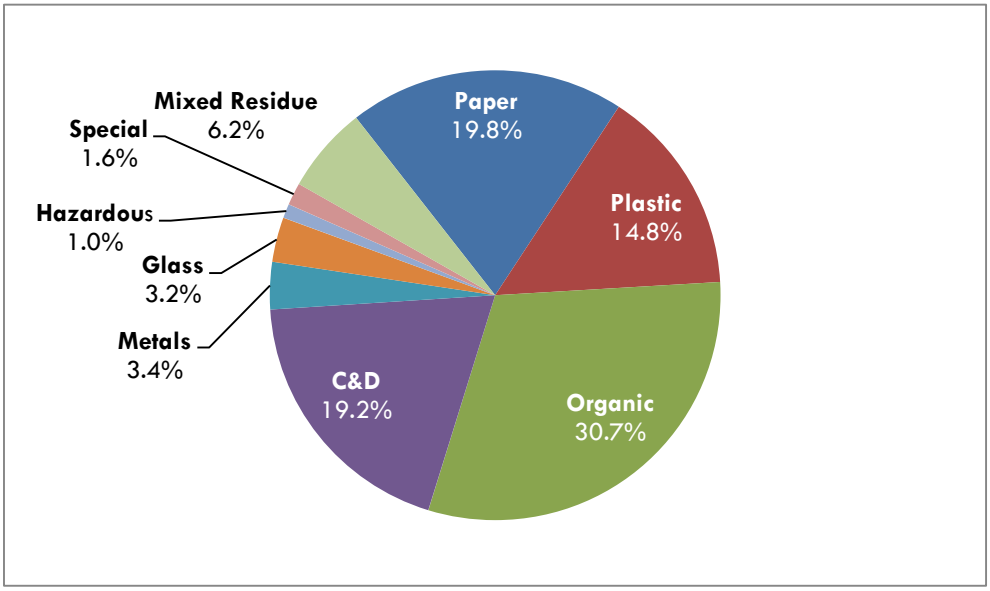
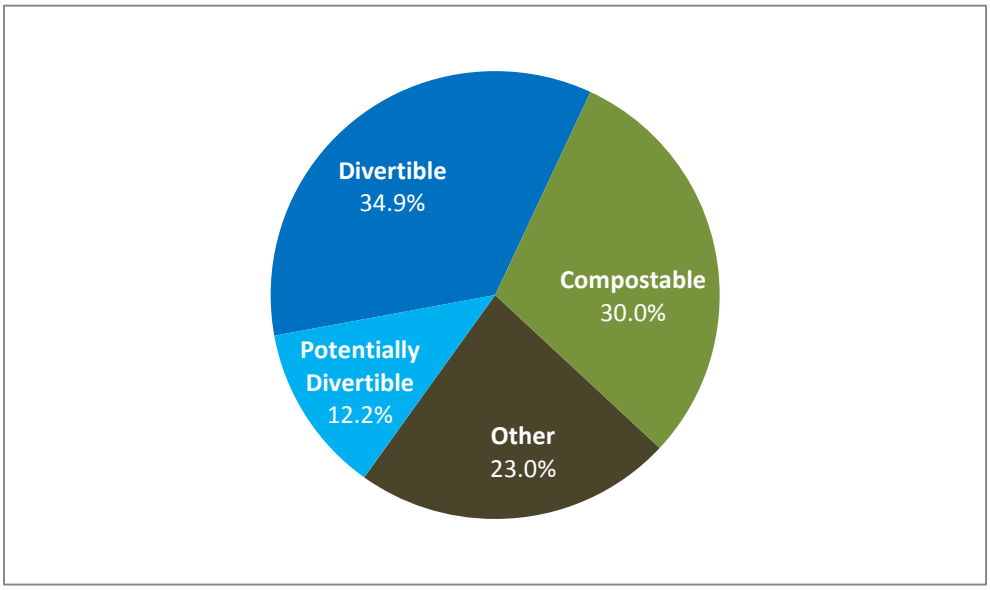


Exhibit 4. Divertibility Assessment – County Overall 2014



As shown in **Table 1** and **Exhibit 3**, Organics, Paper, and Construction and Demolition materials are the three most prevalent material classes found in Sonoma County's overall waste stream. Food and compostable paper are the most common material categories disposed. As shown in **Exhibit 4**, almost two-thirds of the overall Sonoma County waste stream can be classified as divertible, potentially divertible, or compostable.

RESIDENTIAL WASTE STREAM

The residential sector generated about 86,100 tons of waste for landfill disposal in 2013. Residential waste was characterized by sampling and hand sorting 100 samples.

Table 2. Residential Waste Composition - 2014

Material Components	Average Composition	+/-	Annual Tonnage
PAPER	**18.1%**	**1.1%**	**15,600**
Uncoated Corrugated Cardboard	1.5%	0.3%	1,300
Paper Bags / Kraft	0.9%	0.1%	700
Newspaper	0.9%	0.2%	800
White Ledger	0.8%	0.2%	600
Colored Ledger	<0.1%	0.0%	<100
Computer Paper	<0.1%	0.0%	<100
Other Office Printouts	0.8%	0.4%	700
Magazines and Catalogs	1.1%	0.3%	900
Phone Books and Directories	<0.1%	0.0%	<100
Other Recyclable Paper	3.4%	0.4%	2,900
Other Compostable Paper	8.5%	0.6%	7,300
Remainder / Composite Paper	0.3%	0.2%	300
PLASTIC	**15.2%**	**0.7%**	**13,100**
PET (#1) Bottles - CRV	0.7%	0.1%	600
- Non CRV	0.3%	0.1%	300
Other PETE Containers - CRV	<0.1%	0.0%	<100
- Non CRV	0.9%	0.1%	800
HDPE (#2) Natural Bottles - CRV	<0.1%	0.0%	<100
- Non CRV	0.2%	0.0%	200
HDPE (#2) Colored Bottles - CRV	<0.1%	0.0%	<100
- Non CRV	0.5%	0.1%	400
Other HDPE Containers - CRV	<0.1%	0.0%	<100
- Non CRV	0.2%	0.1%	200
#3-#7 Plastic Bottles - CRV	<0.1%	0.0%	<100
- Non CRV	<0.1%	0.0%	<100
#3-#7 Containers - CRV	<0.1%	0.0%	<100
- Non CRV	1.1%	0.2%	1,000
Durable Plastic Items	1.9%	0.3%	1,600
Recyclable Plastic Film	4.8%	0.4%	4,100
Non-Recyclable Film	2.9%	0.4%	2,500
Remainder/Composite Plastic	1.7%	0.2%	1,400
ORGANIC	**35.5%**	**1.8%**	**30,500**
Food - Vegetative	15.2%	1.5%	13,100
- Non-Vegetative	5.2%	0.9%	4,500
Leaves and Grass	1.9%	0.7%	1,600
Prunings and Trimmings	1.7%	0.5%	1,400
Branches and Stumps	0.2%	0.1%	200
Agricultural Crop Residues	<0.1%	0.0%	<100
Manures	0.2%	0.2%	200
Textiles	3.9%	0.4%	3,400
Remainder/Composite Organics	7.2%	1.0%	6,200

Total Tonnage: 86,100

Number of Samples: 100

Material Components	Average Composition	+/-	Annual Tonnage
CONSTRUCTION & DEMOLITION	**14.2%**	**2.0%**	**12,200**
Concrete	0.4%	0.2%	300
Asphalt Paving	<0.1%	0.0%	<100
Asphalt Roofing	0.5%	0.7%	400
Clean Recyclable Wood	1.3%	0.5%	1,100
Other Untreated/Recyclable Wood	0.5%	0.4%	400
Treated Wood Waste	1.1%	0.5%	1,000
Clean Gypsum Board	0.5%	0.4%	400
Rock, Soil, Fines	8.5%	1.5%	7,300
Carpet	0.5%	0.3%	400
- Padding	0.2%	0.1%	100
Remainder/Composite C&D	0.8%	0.3%	700
METALS	**3.2%**	**0.4%**	**2,800**
Tin/Steel Cans	1.0%	0.1%	900
Other Ferrous	0.8%	0.3%	600
Major Appliances	<0.1%	0.1%	<100
Aluminum Cans - CRV	0.2%	0.0%	200
- Non CRV	<0.1%	0.0%	<100
Other Non-Ferrous	0.8%	0.2%	700
Remainder/Composite Metal	0.4%	0.1%	300
GLASS	**3.5%**	**0.4%**	**3,000**
Clear - CRV	0.7%	0.2%	600
- Non CRV	1.2%	0.2%	1,000
Brown - CRV	0.5%	0.1%	500
- Non CRV	0.2%	0.1%	200
Green - CRV	0.1%	0.1%	100
- Non CRV	0.3%	0.1%	300
Other - CRV	<0.1%	0.0%	<100
- Non CRV	<0.1%	0.0%	<100
Flat Glass	0.1%	0.1%	<100
Remainder/Composite Glass	0.2%	0.1%	200
HAZARDOUS	**0.7%**	**0.3%**	**600**
Paint	<0.1%	0.0%	<100
Vehicle and Equip Fluids	<0.1%	0.0%	<100
Used Oil and Oil Filters	<0.1%	0.0%	<100
Large Rechargeable Batteries	<0.1%	0.1%	<100
Small Rechargeable Batteries	<0.1%	0.0%	<100
Household Batteries	<0.1%	0.0%	<100
Universal Waste	0.3%	0.2%	300
Covered Electronic Waste	0.2%	0.2%	200
Flourescent Tubes	<0.1%	0.0%	<100
Other HHW	<0.1%	0.0%	<100
Remainder/Composite Haz/E-waste	<0.1%	0.0%	<100
SPECIAL	**0.2%**	**0.1%**	**200**
Ash	<0.1%	0.1%	<100
Sewage Solids	<0.1%	0.0%	<100
Industrial Sludge	<0.1%	0.0%	<100
Treated Medical Waste	<0.1%	0.0%	<100
Bulky Items	0.1%	0.1%	<100
Tires	<0.1%	0.0%	<100
Remainder/Composite Special Waste	<0.1%	0.0%	<100
MIXED RESIDUE	**9.4%**	**1.1%**	**8,100**

As shown in **Table 2** and **Exhibit 5**, Organic material, Paper, and Plastic are the most prevalent material classes for the residential waste stream comprising 36, 18, and 15 percent respectively. Disposed food is the single greatest material category with 15 percent vegetative and 5 percent non-vegetative.

As shown in **Exhibit 6**, almost three-quarters (74 percent) of the residential waste stream is divertible, potentially divertible, or compostable.

Exhibit 5. Waste Composition – Residential 2014

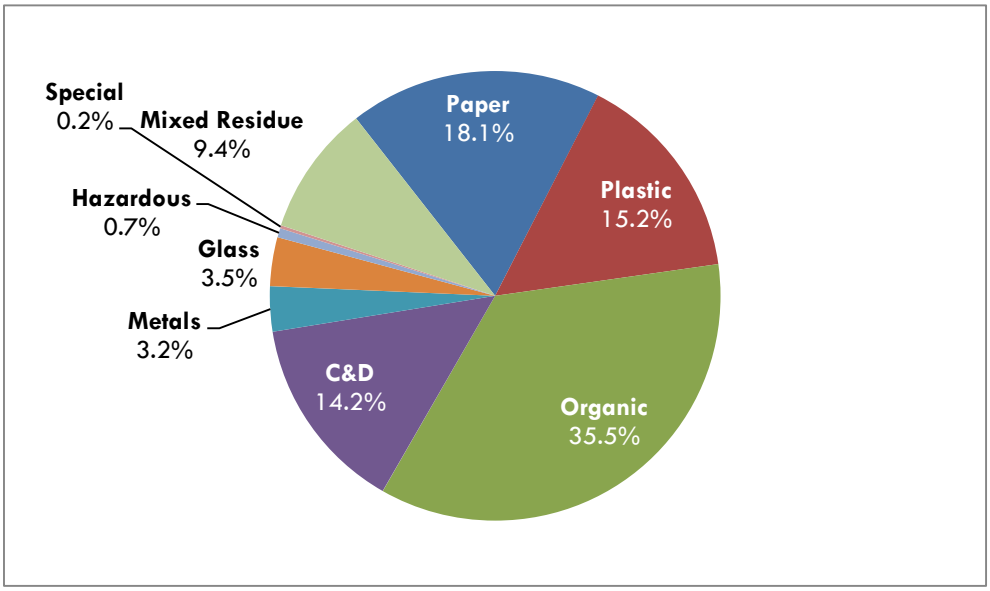
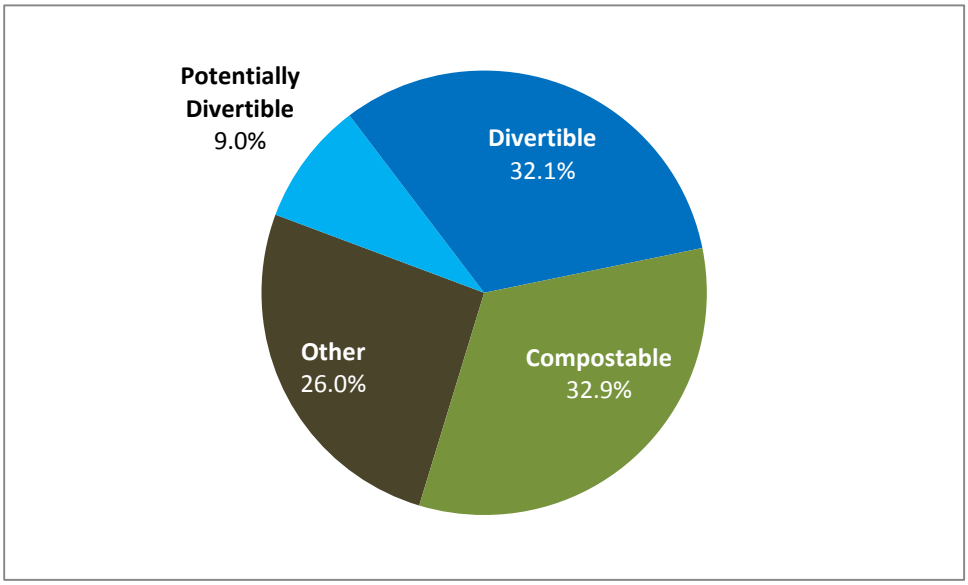


Exhibit 6. Divertibility Assessment – Residential Waste 2014



COMMERCIAL WASTE STREAM

The commercial sector generated about 128,800 tons of waste for landfill disposal in 2013. Commercial waste was characterized by sampling and hand sorting 150 samples.

Table 3. Commercial Waste Composition - 2014

Material Components	Average Composition	+/-	Annual Tonnage
PAPER	**24.0%**	**1.4%**	**30,900**
Uncoated Corrugated Cardboard	3.3%	0.5%	4,300
Paper Bags / Kraft	0.9%	0.2%	1,200
Newspaper	0.8%	0.2%	1,000
White Ledger	2.1%	0.4%	2,700
Colored Ledger	0.4%	0.2%	500
Computer Paper	<0.1%	0.0%	<100
Other Office Printouts	0.7%	0.2%	900
Magazines and Catalogs	1.1%	0.2%	1,400
Phone Books and Directories	0.2%	0.1%	200
Other Recyclable Paper	4.6%	0.6%	5,900
Other Compostable Paper	9.5%	0.9%	12,200
Remainder / Composite Paper	0.5%	0.2%	600
PLASTIC	**18.2%**	**1.0%**	**23,400**
PET (#1) Bottles - CRV	0.9%	0.1%	1,200
- Non CRV	0.3%	0.1%	400
Other PETE Containers - CRV	<0.1%	0.0%	<100
- Non CRV	0.9%	0.1%	1,100
HDPE (#2) Natural Bottles - CRV	<0.1%	0.0%	<100
- Non CRV	0.3%	0.1%	400
HDPE (#2) Colored Bottles- CRV	<0.1%	0.0%	<100
- Non CRV	0.5%	0.1%	700
Other HDPE Containers - CRV	<0.1%	0.0%	<100
- Non CRV	0.2%	0.1%	200
#3-#7 Plastic Bottles - CRV	<0.1%	0.0%	<100
- Non CRV	<0.1%	0.0%	100
#3-#7 Containers - CRV	<0.1%	0.0%	<100
- Non CRV	1.2%	0.2%	1,500
Durable Plastic Items	2.4%	0.5%	3,100
Recyclable Plastic Film	5.7%	0.5%	7,300
Non-Recyclable Film	2.8%	0.4%	3,500
Remainder/Composite Plastic	2.8%	0.6%	3,700
ORGANIC	**31.2%**	**2.2%**	**40,300**
Food - Vegetative	13.6%	1.6%	17,600
- Non-Vegetative	5.8%	1.1%	7,500
Leaves and Grass	2.3%	0.7%	2,900
Prunings and Trimmings	2.1%	0.8%	2,700
Branches and Stumps	0.3%	0.2%	300
Agricultural Crop Residues	<0.1%	0.0%	<100
Manures	<0.1%	0.0%	<100
Textiles	3.8%	0.5%	4,900
Remainder/Composite Organics	3.3%	0.6%	4,300

Total Tonnage: 128,800

Number of Samples: 150

Material Components	Average Composition	+/-	Annual Tonnage
CONSTRUCTION & DEMOLITION	**12.0%**	**1.8%**	**15,500**
Concrete	0.3%	0.2%	400
Asphalt Paving	<0.1%	0.0%	<100
Asphalt Roofing	<0.1%	0.1%	<100
Clean Recyclable Wood	2.7%	1.0%	3,500
Other Untreated/Recyclable Wood	0.2%	0.2%	200
Treated Wood Waste	2.4%	0.8%	3,000
Clean Gypsum Board	0.6%	0.3%	800
Rock, Soil, Fines	4.2%	1.0%	5,400
Carpet	0.2%	0.1%	200
- Padding	<0.1%	0.1%	<100
Remainder/Composite C&D	1.4%	0.6%	1,800
METALS	**3.8%**	**0.5%**	**4,800**
Tin/Steel Cans	0.9%	0.2%	1,100
Other Ferrous	1.3%	0.4%	1,700
Major Appliances	<0.1%	0.1%	<100
Aluminum Cans - CRV	0.2%	0.0%	300
- Non CRV	<0.1%	0.0%	<100
Other Non-Ferrous	0.7%	0.2%	900
Remainder/Composite Metal	0.5%	0.2%	700
GLASS	**3.2%**	**0.4%**	**4,100**
Clear - CRV	0.8%	0.2%	1,000
- Non CRV	0.7%	0.2%	1,000
Brown - CRV	0.7%	0.2%	800
- Non CRV	0.1%	0.1%	200
Green - CRV	0.2%	0.1%	200
- Non CRV	0.2%	0.1%	300
Other - CRV	<0.1%	0.0%	<100
- Non CRV	<0.1%	0.0%	<100
Flat Glass	0.2%	0.1%	200
Remainder/Composite Glass	0.3%	0.2%	400
HAZARDOUS	**1.6%**	**0.8%**	**2,000**
Paint	<0.1%	0.0%	<100
Vehicle and Equip Fluids	<0.1%	0.0%	<100
Used Oil and Oil Filters	<0.1%	0.0%	<100
Large Rechargeable Batteries	<0.1%	0.1%	<100
Small Rechargeable Batteries	<0.1%	0.0%	<100
Household Batteries	<0.1%	0.0%	<100
Universal Waste	0.4%	0.3%	500
Covered Electronic Waste	0.9%	0.7%	1,100
Flourescent Tubes	<0.1%	0.0%	<100
Other HHW	<0.1%	0.0%	<100
Remainder/Composite Haz/E-waste	<0.1%	0.1%	100
SPECIAL	**0.6%**	**0.4%**	**800**
Ash	<0.1%	0.0%	<100
Sewage Solids	<0.1%	0.0%	<100
Industrial Sludge	<0.1%	0.0%	<100
Treated Medical Waste	<0.1%	0.0%	<100
Bulky Items	0.5%	0.4%	700
Tires	<0.1%	0.1%	<100
Remainder/Composite Special Waste	<0.1%	0.0%	<100
MIXED RESIDUE	**5.4%**	**0.6%**	**7,000**

As shown in **Table 3** and **Exhibit 7**, Organic material, Paper, and Plastic are the most prevalent material classes for the residential waste stream comprising 31, 24, and 18 percent respectively. Disposed food is the single greatest material category with 14 percent vegetative and 6 percent non-vegetative.

As shown in **Exhibit 6**, almost three-quarters (73 percent) of the commercial waste stream is divertible, potentially divertible, or compostable.

Exhibit 7. Waste Composition – Commercial 2014

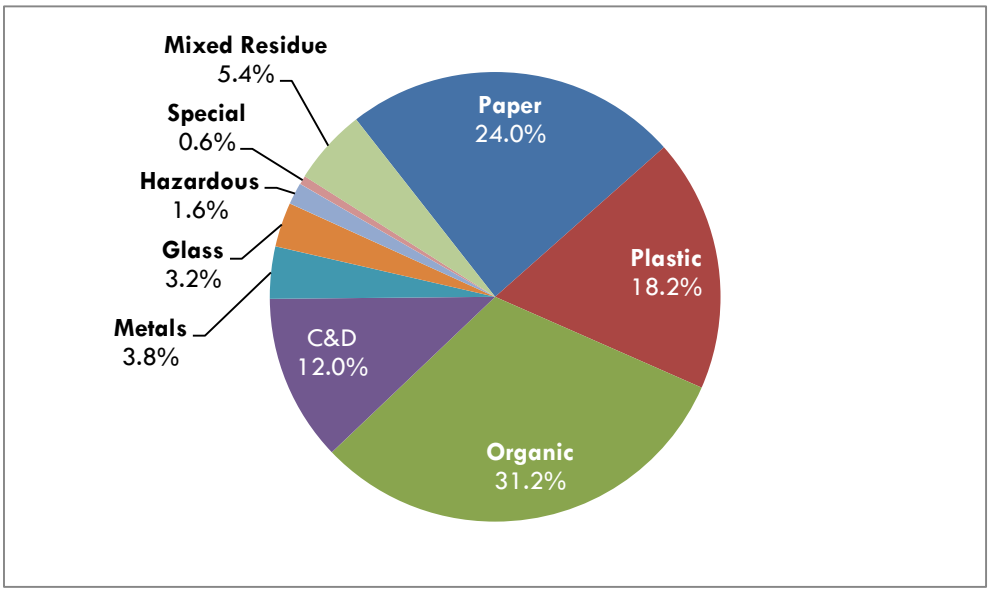
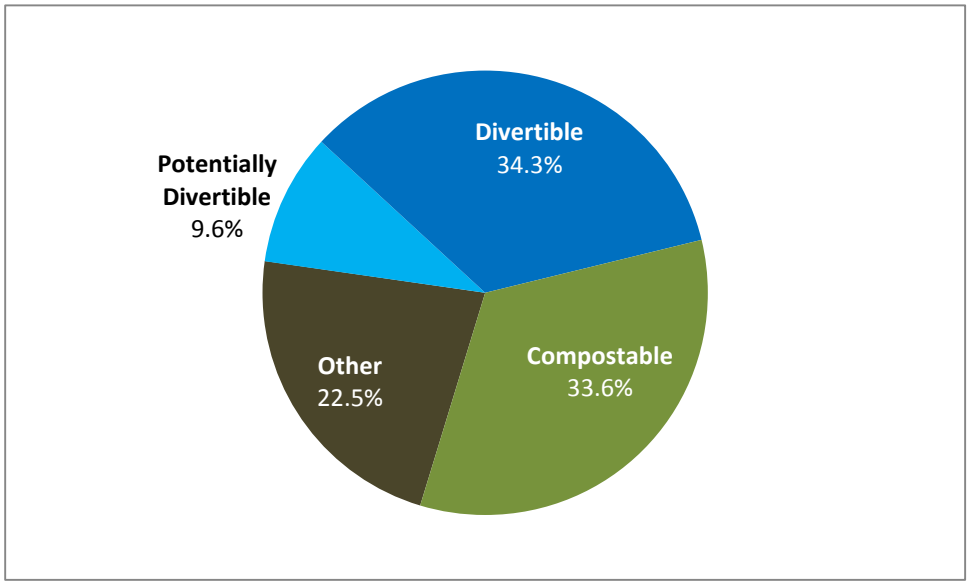


Exhibit 8. Divertibility Assessment – Commercial Waste 2014



SELF-HAULED WASTE STREAM

The self-hauled waste sector generated about 47,600 tons of waste for landfill disposal in 2013. Self-Hauled waste was characterized by visually characterizing 302 waste loads.

Table 4. Self-Hauled Waste Composition - 2014

Material Components	Composition	Annual Tonnage
PAPER	**11.4%**	**5,400**
Uncoated Corrugated Cardboard	1.2%	600
Paper Bags / Kraft	0.4%	200
Newspaper	0.3%	100
White Ledger	1.5%	700
Colored Ledger	<0.1%	<50
Computer Paper	<0.1%	<50
Other Office Printouts	0.2%	100
Magazines and Catalogs	0.3%	100
Phone Books and Directories	<0.1%	<50
Other Recyclable Paper	4.9%	2,300
Other Compostable Paper	2.4%	1,200
Remainder / Composite Paper	<0.1%	<50
PLASTIC	**5.2%**	**2,500**
PET (#1) Bottles	0.3%	100
Other PETE Containers	0.3%	100
HDPE (#2) Natural Bottles	<0.1%	<50
HDPE (#2) Colored Bottles	0.2%	100
Other HDPE Containers	<0.1%	<50
#3-#7 Plastic Bottles	<0.1%	<50
#3-#7 Containers	0.3%	200
Durable Plastic Items	0.6%	300
Recyclable Plastic Film	1.5%	700
Non-Recyclable Film	0.8%	400
Remainder/Composite Plastic	1.0%	500
ORGANIC	**20.6%**	**9,800**
Food	5.86%	2,800
Leaves and Grass	2.0%	1,000
Prunings and Trimmings	3.1%	1,500
Branches and Stumps	1.4%	700
Agricultural Crop Residues	<0.1%	<50
Manures	<0.1%	<50
Textiles	5.3%	2,500
Remainder/Composite Organics	2.8%	1,400
CONSTRUCTION & DEMOLITION	**47.9%**	**22,800**
Concrete	1.2%	600
Asphalt Paving	<0.1%	<50
Asphalt Roofing	0.1%	100
Clean Recyclable Wood	13.5%	6,400
Other Untreated/Recyclable Wood	6.8%	3,200
Treated Wood Waste	0.3%	200
Clean Gypsum Board	10.2%	4,900
Rock, Soil, Fines	9.5%	4,500
Carpet	2.2%	1,000
Carpet Padding	0.7%	400
Remainder/Composite C&D	3.3%	1,600

Material Components	Composition	Annual Tonnage
METALS	**2.6%**	**1,300**
Tin/Steel Cans	0.3%	100
Other Ferrous	1.4%	700
Major Appliances	0.5%	200
Aluminum Cans	0.1%	100
Other Non-Ferrous	0.2%	100
Remainder/Composite Metal	0.1%	<50
GLASS	**2.8%**	**1,300**
Clear	0.7%	300
Brown	0.2%	100
Green	0.1%	100
Other	<0.1%	<50
Flat Glass	1.6%	800
Remainder/Composite Glass	0.0%	<50
HAZARDOUS	**0.2%**	**100**
Paint	<0.1%	<50
Vehicle and Equip Fluids	<0.1%	<50
Used Oil and Oil Filters	<0.1%	<50
Large Rechargeable Batteries	<0.1%	<50
Small Rechargeable Batteries	<0.1%	<50
Household Batteries	<0.1%	<50
Universal Waste	<0.1%	<50
Covered Electronic Waste	<0.1%	<50
Flourescent Tubes	<0.1%	<50
Other HHW	<0.1%	<50
Remainder/Composite Haz/E-waste	<0.1%	<50
SPECIAL	**6.7%**	**3,200**
Ash	<0.1%	<50
Sewage Solids	<0.1%	<50
Industrial Sludge	<0.1%	<50
Treated Medical Waste	<0.1%	<50
Bulky Items	6.7%	3,200
Tires	<0.1%	<50
Remainder/Composite Special Waste	<0.1%	<50
MIXED RESIDUE	**2.7%**	**1,300**
	Total Tonnage:	**47,600**
	Number of Samples:	302

Self-hauled waste contained significant quantities of bagged refuse (28.7 percent). Bagged refuse in self-hauled waste was characterized according to the residential waste composition derived for this study and redistributed among the material categories.

As shown in **Table 4** and **Exhibit 9**, Construction and Demolition material was the most prevalent material class for the self-hauled waste stream comprising 48 percent. Organic materials were the second most prevalent material class at a distant second of 21 percent. The materials representing the largest proportion of self-hauled waste were clean recyclable wood (13.5 percent), clean gypsum board (10.2 percent), and rock/soil/fines (9.5 percent).

As shown in **Exhibit 10**, almost 80 percent of the self-hauled waste stream is divertible, potentially divertible, or compostable.

Exhibit 9. Waste Composition – Self-Hauled 2014

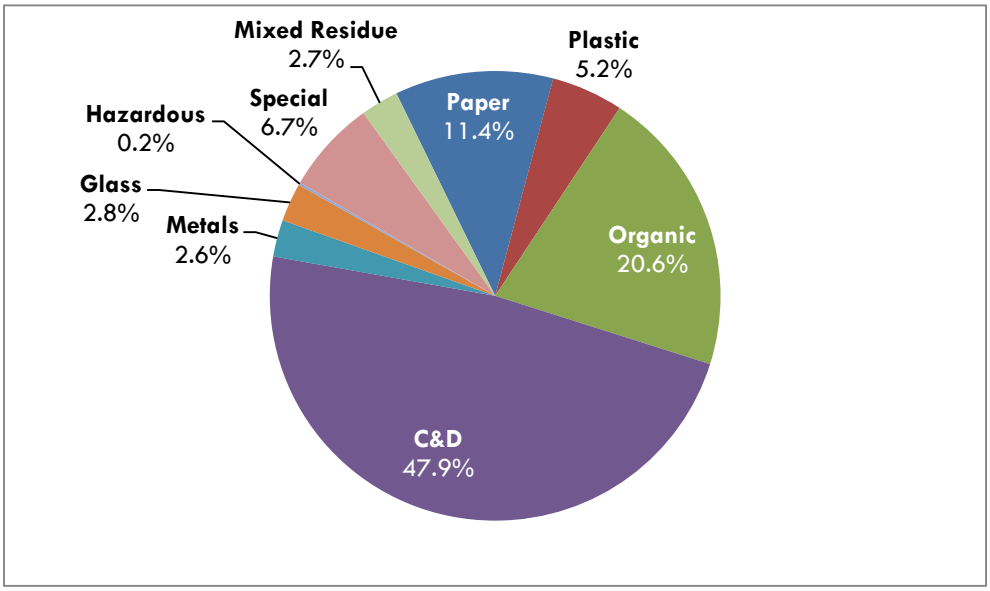
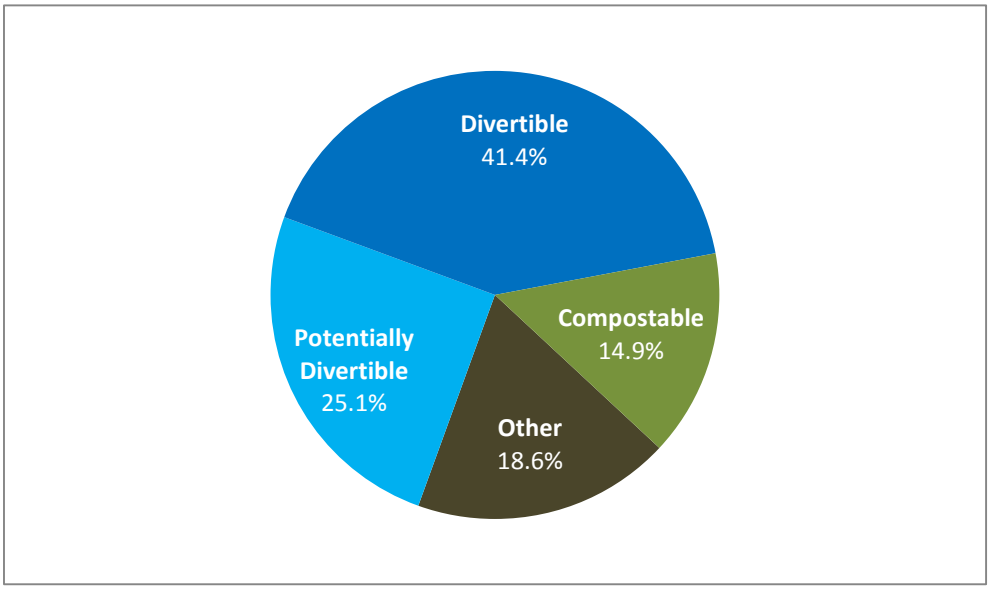


Exhibit 10. Divertibility Assessment – Self-Hauled Waste 2014



4 COMPARISON TO PREVIOUS STUDIES

OVERALL WASTE STREAM

As shown in **Table 5** and **Exhibit 11**, Plastic has increased substantially in relative proportion of the waste stream since 2006/07, almost doubling from 7.4 percent to 14.8 percent. All plastic material categories have increased. Organics have decreased mainly due to a significant decrease in food (from 21.4 percent to 17.3 percent). Most Construction and Demolition materials have decreased with the exception of clean gypsum board and rock/soil/fines.

Table 5. Overall County Waste Composition Comparison 2006/07 vs 2014

Material Components	Average Composition			Annual Tonnage		
	2006/07	2014	Change	2006/07	2014	Change
PAPER	**16.3%**	**19.8%**	**3.5%**	**61,000**	**51,900**	**-9,100**
Uncoated Corrugated Cardboard	2.0%	2.3%	0.3%	7,400	6,100	-1,300
Paper Bags / Kraft	0.4%	0.8%	0.4%	1,400	2,100	700
Newspaper	1.7%	0.7%	-1.0%	6,400	1,900	-4,500
White Ledger	0.6%	1.5%	1.0%	2,100	4,100	2,000
Colored Ledger	<0.1%	0.2%	0.1%	<300	500	200
Computer Paper	<0.1%	<0.1%	-0.1%	<300	<300	0
Other Office Printouts	0.6%	0.6%	0.0%	2,200	1,700	-500
Magazines and Catalogs	0.9%	1.0%	0.0%	3,400	2,500	-900
Phone Books and Directories	<0.1%	0.1%	0.1%	<300	<300	0
Other Recyclable Paper	3.7%	4.3%	0.6%	13,800	11,200	-2,600
Other Compostable Paper	4.4%	7.9%	3.5%	16,400	20,700	4,300
Remainder / Composite Paper	1.9%	0.4%	-1.6%	7,200	900	-6,300
PLASTIC	**7.4%**	**14.8%**	**7.4%**	**27,800**	**39,000**	**11,200**
PET (#1) Bottles	0.4%	1.0%	0.6%	1,500	2,600	1,100
Other PETE Containers	<0.1%	0.8%	0.7%	<300	2,000	1,700
HDPE (#2) Natural Bottles	0.1%	0.3%	0.1%	500	700	200
HDPE (#2) Colored Bottles	0.2%	0.5%	0.3%	600	1,300	700
Other HDPE Containers	0.2%	0.2%	0.0%	600	500	-100
#3-#7 Plastic Bottles	<0.1%	<0.1%	0.0%	<300	<300	0
#3-#7 Containers	0.4%	1.0%	0.7%	1,300	2,700	1,400
Durable Plastic Items	0.3%	1.9%	1.6%	1,100	5,000	3,900
Recyclable Plastic Film	3.0%	4.6%	1.6%	11,400	12,100	700
Non-Recyclable Film	1.2%	2.4%	1.2%	4,700	6,400	1,700
Remainder/Composite Plastic	1.5%	2.1%	0.6%	5,700	5,600	-100
ORGANIC	**34.5%**	**30.7%**	**-3.8%**	**129,100**	**80,600**	**-48,500**
Food	21.44%	17.32%	-4.1%	80,300	45,500	-34,800
Leaves and Grass	4.1%	2.1%	-1.9%	15,200	5,600	-9,600
Prunings and Trimmings	1.8%	2.1%	0.4%	6,600	5,600	-1,000
Branches and Stumps	0.3%	0.4%	0.1%	1,100	1,200	100
Agricultural Crop Residues	<0.1%	<0.1%	0.0%	<300	<300	0
Manures	0.2%	<0.1%	-0.1%	600	<300	-400
Textiles	2.5%	4.1%	1.6%	9,300	10,800	1,500
Remainder/Composite Organics	4.3%	4.5%	0.2%	16,000	11,800	-4,200

Table 5 (continued). Overall County Waste Composition Comparison - 2006/07 vs 2014

Material Components	Average Composition			Annual Tonnage		
	2006/07	2014	Change	2006/07	2014	Change
CONSTRUCTION & DEMOLITION	**29.2%**	**19.2%**	**-10.0%**	**109,300**	**50,400**	**-58,900**
Concrete	1.6%	0.5%	-1.1%	5,900	1,300	-4,600
Asphalt Paving	0.5%	<0.1%	-0.5%	1,700	<300	-1,700
Asphalt Roofing	2.1%	0.2%	-1.9%	7,700	500	-7,200
Clean Recyclable Wood	4.5%	4.2%	-0.3%	16,900	11,000	-5,900
Other Untreated/Recyclable Wood	2.3%	1.5%	-0.8%	8,500	3,900	-4,600
Treated Wood Waste	5.5%	1.6%	-3.9%	20,500	4,200	-16,300
Clean Gypsum Board	1.7%	2.3%	0.6%	6,400	6,000	-400
Rock, Soil, Fines	3.3%	6.5%	3.3%	12,200	17,200	5,000
Carpet	1.4%	0.6%	-0.8%	5,300	1,700	-3,600
Carpet Padding	0.4%	0.2%	-0.2%	1,500	600	-900
Remainder/Composite C&D	6.1%	1.6%	-4.5%	22,600	4,100	-18,500
METALS	**3.9%**	**3.4%**	**-0.5%**	**14,600**	**8,900**	**-5,700**
Tin/Steel Cans	0.5%	0.8%	0.3%	1,900	2,100	200
Other Ferrous	1.9%	1.1%	-0.8%	7,300	3,000	-4,300
Major Appliances	<0.1%	0.1%	0.1%	<300	300	200
Aluminum Cans	0.2%	0.2%	0.1%	600	600	0
Other Non-Ferrous	0.3%	0.7%	0.3%	1,300	1,700	400
Remainder/Composite Metal	0.9%	0.4%	-0.5%	3,500	1,000	-2,500
GLASS	**2.6%**	**3.2%**	**0.6%**	**9,700**	**8,400**	**-1,300**
Clear	0.8%	1.5%	0.7%	2,800	3,900	1,100
Brown	0.3%	0.7%	0.4%	1,000	1,800	800
Green	0.4%	0.4%	-0.1%	1,600	1,000	-600
Other	<0.1%	<0.1%	0.0%	<300	<300	0
Flat Glass	0.2%	0.4%	0.2%	800	1,100	300
Remainder/Composite Glass	0.9%	0.2%	-0.7%	3,400	600	-2,800
HAZARDOUS	**1.4%**	**1.0%**	**-0.3%**	**5,100**	**2,700**	**-2,400**
Paint	0.3%	<0.1%	-0.3%	1,200	<300	-1,100
Vehicle and Equip Fluids	<0.1%	<0.1%	0.0%	<300	<300	0
Used Oil and Oil Filters	<0.1%	<0.1%	0.0%	<300	<300	0
Large Rechargeable Batteries	<0.1%	<0.1%	0.0%	<300	<300	0
Small Rechargeable Batteries	<0.1%	<0.1%	0.0%	<300	<300	0
Household Batteries	<0.1%	<0.1%	0.0%	<300	<300	0
Universal Waste	0.3%	0.3%	0.0%	1,200	900	-300
Covered Electronic Waste	0.3%	0.5%	0.2%	1,100	1,300	200
Flourescent Tubes	<0.1%	<0.1%	0.0%	<300	<300	0
Other HHW	0.2%	<0.1%	-0.2%	900	<300	-800
Remainder/Composite Haz/E-waste	0.1%	<0.1%	-0.1%	400	<300	-100
SPECIAL	**1.7%**	**1.6%**	**-0.1%**	**6,200**	**4,200**	**-2,000**
Ash	<0.1%	<0.1%	0.0%	<300	<300	0
Sewage Solids	<0.1%	<0.1%	0.0%	<300	<300	0
Industrial Sludge	<0.1%	<0.1%	0.0%	<300	<300	0
Treated Medical Waste	<0.1%	<0.1%	0.0%	<300	<300	0
Bulky Items	1.1%	1.5%	0.4%	4,000	3,900	-100
Tires	0.3%	<0.1%	-0.2%	1,000	<300	-900
Remainder/Composite Special Waste	0.3%	<0.1%	-0.3%	1,000	<300	-1,000
MIXED RESIDUE	**3.1%**	**6.2%**	**3.2%**	**11,500**	**16,300**	**4,800**
TOTALS	**100.0%**	**100.0%**		**374,300**	**262,500**	

Note: Composition for 2006/07 based on 555 samples. Composition for 2014 based on 552 samples

Exhibit 11. Overall County Waste Composition Comparison

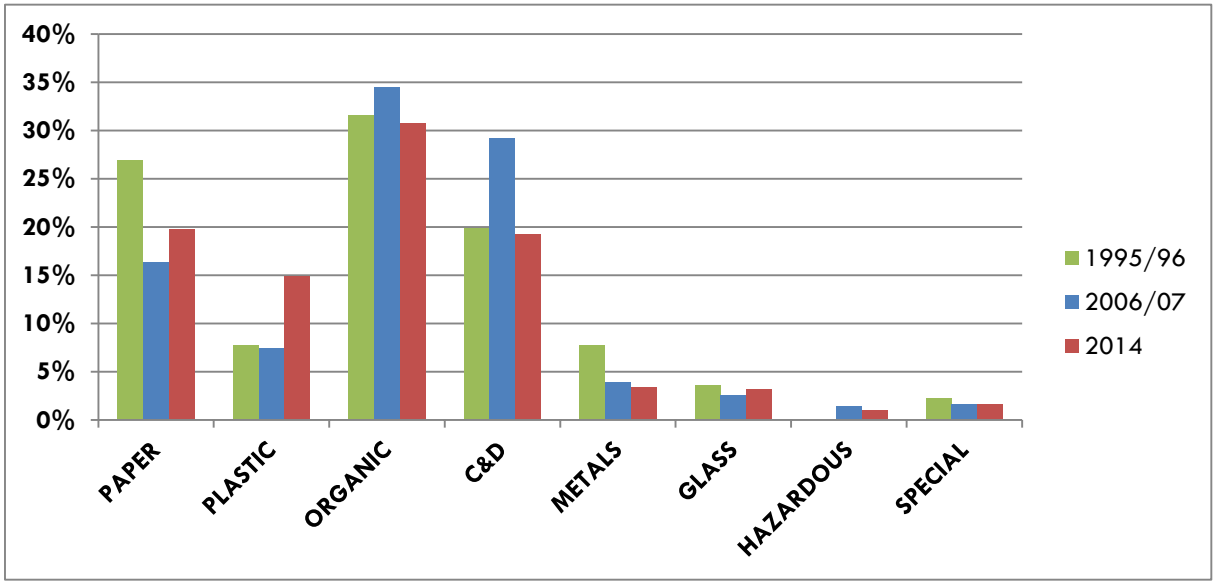
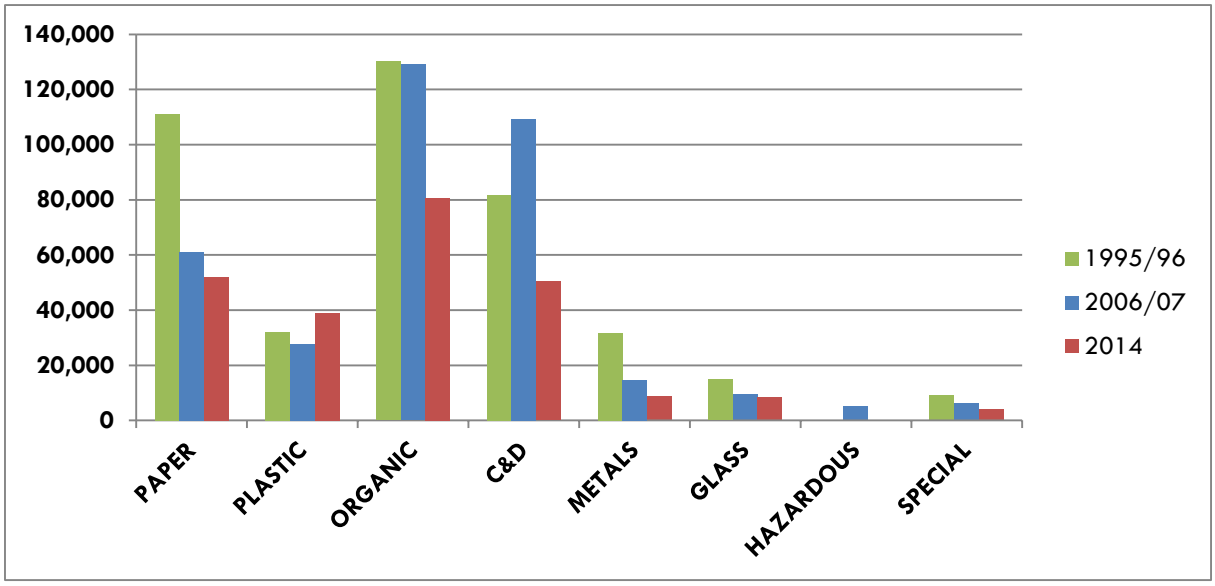


Exhibit 12. Overall County Waste Tonnage Comparison



RESIDENTIAL WASTE STREAM

As shown in **Table 6** and **Exhibit 13**, Plastic has increased substantially in relative proportion of the waste stream since 2006/07, from 8.5 percent to 15.2 percent. All plastic material categories have increased with the exception of non-recyclable film. Organics have decreased substantially mainly due to a significant decrease in food from 35.5 percent to 20.4 percent (15.2 percent vegetative and 5.2 percent non-vegetative). Construction and Demolition materials have increased mostly due to a substantial increase in rock/soil/fines (from 2.1 percent to 8.5 percent).

Table 6. Residential Waste Composition Comparison 2006/07 vs 2014

Material Components	Average Composition			Annual Tonnage		
	2006/07	2014	Change	2006/07	2014	Change
PAPER	**19.0%**	**18.1%**	**-0.9%**	**21,400**	**15,600**	**-5,800**
Uncoated Corrugated Cardboard	1.6%	1.5%	-0.1%	1,800	1,300	-500
Paper Bags / Kraft	0.7%	0.9%	0.2%	700	700	0
Newspaper	2.1%	0.9%	-1.2%	2,400	800	-1,600
White Ledger	0.7%	0.8%	0.1%	800	600	-200
Colored Ledger	<0.1%	<0.1%	0.0%	<100	<100	0
Computer Paper	<0.1%	<0.1%	0.0%	<100	<100	0
Other Office Printouts	0.7%	0.8%	0.1%	800	700	-100
Magazines and Catalogs	1.4%	1.1%	-0.3%	1,600	900	-700
Phone Books and Directories	<0.1%	<0.1%	0.0%	<100	<100	0
Other Recyclable Paper	4.6%	3.4%	-1.2%	5,100	2,900	-2,200
Other Compostable Paper	6.4%	8.5%	2.1%	7,200	7,300	100
Remainder / Composite Paper	1.0%	0.3%	-0.7%	1,100	300	-800
PLASTIC	**8.5%**	**15.2%**	**6.7%**	**9,600**	**13,100**	**3,500**
PET (#1) Bottles - CRV	0.4%	0.7%	0.3%	400	600	200
- Non CRV	0.2%	0.3%	0.1%	300	300	0
Other PETE Containers - CRV	<0.1%	<0.1%	0.0%	<100	<100	0
- Non CRV	0.2%	0.9%	0.7%	200	800	600
HDPE (#2) Natural Bottles - CRV	<0.1%	<0.1%	0.0%	<100	<100	0
- Non CRV	0.1%	0.2%	0.0%	100	200	100
HDPE (#2) Colored Bottles- CRV	<0.1%	<0.1%	0.0%	<100	<100	0
- Non CRV	0.2%	0.5%	0.3%	300	400	100
Other HDPE Containers - CRV	<0.1%	<0.1%	0.0%	<100	<100	0
- Non CRV	0.1%	0.2%	0.1%	100	200	100
#3-#7 Plastic Bottles - CRV	<0.1%	<0.1%	0.0%	<100	<100	0
- Non CRV	<0.1%	<0.1%	0.0%	<100	<100	0
#3-#7 Containers - CRV	<0.1%	<0.1%	0.0%	<100	<100	0
- Non CRV	0.4%	1.1%	0.7%	500	1,000	500
Durable Plastic Items	0.8%	1.9%	1.1%	900	1,600	700
Recyclable Plastic Film	0.3%	4.8%	4.5%	300	4,100	3,800
Non-Recyclable Film	4.1%	2.9%	-1.3%	4,700	2,500	-2,200
Remainder/Composite Plastic	1.5%	1.7%	0.2%	1,700	1,400	-300
ORGANIC	**50.2%**	**35.5%**	**-14.7%**	**56,500**	**30,500**	**-26,000**
Food - Vegetative - Non-Vegetative	35.47%	20.44%	-15.0%	39,900	13,100	-26,800
Leaves and Grass	3.2%	1.9%	-1.3%	3,600	1,600	-2,000
Prunings and Trimmings	0.4%	1.7%	1.3%	400	1,400	1,000
Branches and Stumps	0.2%	0.2%	0.0%	200	200	0
Agricultural Crop Residues	<0.1%	<0.1%	0.0%	<100	<100	0
Manures	0.2%	0.2%	0.0%	200	200	0
Textiles	3.7%	3.9%	0.2%	4,200	3,400	-800
Remainder/Composite Organics	7.1%	7.2%	0.1%	8,000	6,200	-1,800

Table 6 (continued). Residential Waste Composition Comparison 2006/07 vs 2014

Material Components	Average Composition 2006/07	2014	Change	Annual Tonnage 2006/07	2014	Change
CONSTRUCTION & DEMOLITION	**8.6%**	**14.2%**	**5.6%**	**9,700**	**12,200**	**2,500**
Concrete	0.5%	0.4%	-0.1%	500	300	-200
Asphalt Paving	0.1%	<0.1%	-0.1%	100	<100	0
Asphalt Roofing	<0.1%	0.5%	0.4%	100	400	300
Clean Recyclable Wood	0.6%	1.3%	0.7%	600	1,100	500
Other Untreated/Recyclable Wood	0.4%	0.5%	0.1%	400	400	0
Treated Wood Waste	1.3%	1.1%	-0.1%	1,400	1,000	-400
Clean Gypsum Board	0.6%	0.5%	-0.1%	700	400	-300
Rock, Soil, Fines	2.1%	8.5%	6.4%	2,400	7,300	4,900
Carpet	1.0%	0.5%	-0.6%	1,100	400	-700
- Padding	<0.1%	0.2%	0.2%	<100	100	0
Remainder/Composite C&D	2.0%	0.8%	-1.2%	2,300	700	-1,600
METALS	**3.5%**	**3.2%**	**-0.3%**	**4,000**	**2,800**	**-1,200**
Tin/Steel Cans	0.6%	1.0%	0.4%	700	900	200
Other Ferrous	1.5%	0.8%	-0.7%	1,700	600	-1,100
Major Appliances	<0.1%	<0.1%	0.0%	<100	<100	0
Aluminum Cans - CRV	0.2%	0.2%	0.1%	200	200	0
- Non CRV	<0.1%	<0.1%	0.0%	<100	<100	0
Other Non-Ferrous	0.3%	0.8%	0.5%	300	700	400
Remainder/Composite Metal	1.0%	0.4%	-0.6%	1,100	300	-800
GLASS	**2.1%**	**3.5%**	**1.4%**	**2,300**	**3,000**	**700**
Clear - CRV	0.5%	0.7%	0.2%	500	600	100
- Non CRV	0.4%	1.2%	0.8%	400	1,000	600
Brown - CRV	0.3%	0.5%	0.3%	300	500	200
- Non CRV	<0.1%	0.2%	0.2%	<100	200	200
Green - CRV	0.4%	0.1%	-0.3%	500	100	-400
- Non CRV	0.3%	0.3%	0.1%	300	300	0
Other - CRV	<0.1%	<0.1%	0.0%	<100	<100	0
- Non CRV	<0.1%	<0.1%	0.0%	<100	<100	0
Flat Glass	<0.1%	0.1%	0.1%	<100	<100	0
Remainder/Composite Glass	0.2%	0.2%	0.0%	200	200	0
HAZARDOUS	**1.7%**	**0.7%**	**-1.0%**	**1,900**	**600**	**-1,300**
Paint	0.1%	<0.1%	-0.1%	100	<100	-100
Vehicle and Equip Fluids	<0.1%	<0.1%	0.0%	<100	<100	0
Used Oil and Oil Filters	<0.1%	<0.1%	0.0%	<100	<100	0
Large Rechargeable Batteries	<0.1%	<0.1%	0.0%	<100	<100	0
Small Rechargeable Batteries	<0.1%	<0.1%	0.0%	<100	<100	0
Household Batteries	<0.1%	<0.1%	0.0%	<100	<100	0
Universal Waste	0.5%	0.3%	-0.2%	600	300	-300
Covered Electronic Waste	0.6%	0.2%	-0.4%	600	200	-400
Flourescent Tubes	<0.1%	<0.1%	0.0%	<100	<100	0
Other HHW	0.1%	<0.1%	-0.1%	100	<100	-100
Remainder/Composite Haz/E-waste	0.2%	<0.1%	-0.2%	300	<100	-300
SPECIAL	**0.3%**	**0.2%**	**-0.1%**	**400**	**200**	**-200**
Ash	<0.1%	<0.1%	0.0%	100	<100	0
Sewage Solids	<0.1%	<0.1%	0.0%	<100	<100	0
Industrial Sludge	<0.1%	<0.1%	0.0%	<100	<100	0
Treated Medical Waste	<0.1%	<0.1%	0.0%	<100	<100	0
Bulky Items	0.1%	0.1%	0.0%	100	<100	0
Tires	0.1%	<0.1%	-0.1%	100	<100	-100
Remainder/Composite Special Waste	<0.1%	<0.1%	0.0%	<100	<100	0
MIXED RESIDUE	**6.1%**	**9.4%**	**3.3%**	**6,800**	**8,100**	**1,300**
TOTALS	**100.0%**	**100.0%**		**112,511**	**86,100**	

Note: Composition for both studies based on 100 samples each

Exhibit 13. Residential Waste Composition Comparison

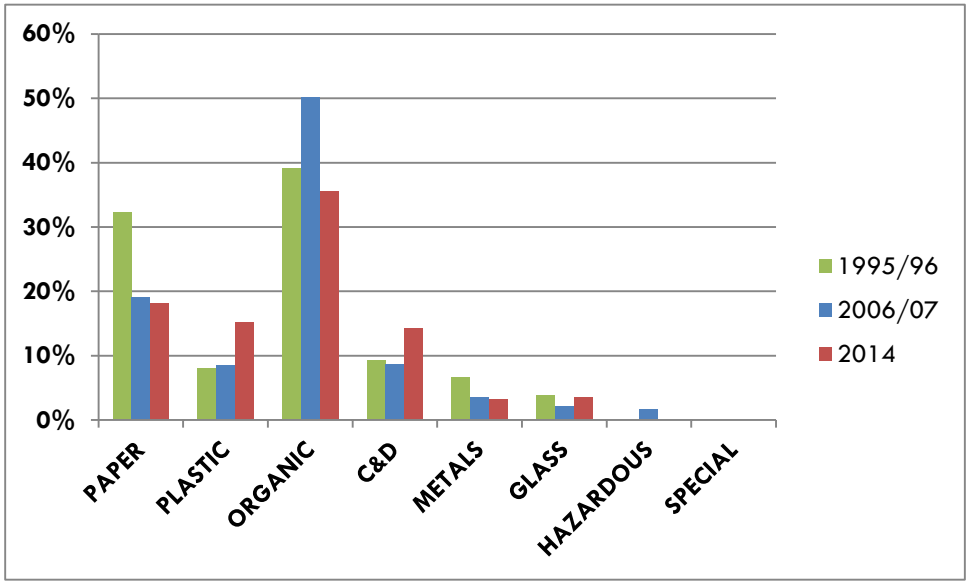
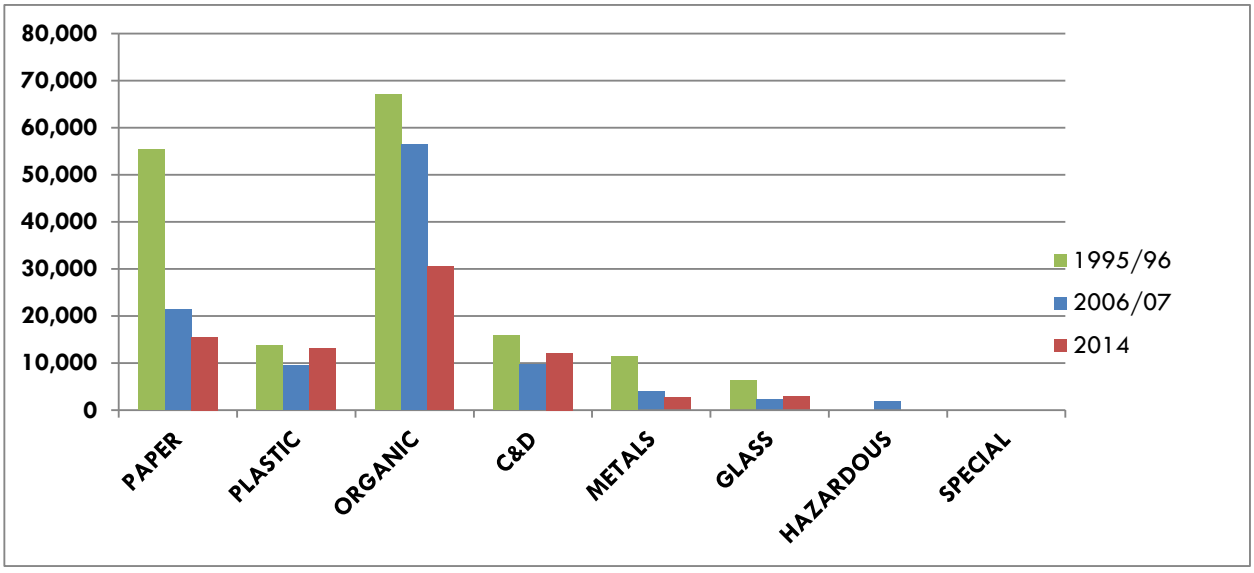


Exhibit 14. Residential Waste Tonnage Comparison



COMMERCIAL WASTE STREAM

As shown in **Table 7** and **Exhibit 15**, Plastic has increased substantially in relative proportion of the waste stream since 2006/07, from 10.5 percent to 18.2 percent. All plastic material categories have increased with the exception of non-recyclable film. Organics have decreased substantially mainly due to a significant decrease in food from 26.6 percent to 19.4 percent (13.6 percent vegetative and 5.8 percent non-vegetative). Paper has increased by 3.1 percent mainly due to slight increases in all paper types except newspaper, computer paper, and other office printouts.

Table 7. Commercial Waste Composition Comparison 2006/07 vs 2014

Material Components	Average Composition			Annual Tonnage		
	2006/07	2014	Change	2006/07	2014	Change
PAPER	**20.9%**	**24.0%**	**3.1%**	**31,100**	**30,900**	**-200**
Uncoated Corrugated Cardboard	3.0%	3.3%	0.3%	4,400	4,300	-100
Paper Bags / Kraft	0.3%	0.9%	0.6%	500	1,200	700
Newspaper	2.3%	0.8%	-1.5%	3,400	1,000	-2,400
White Ledger	0.9%	2.1%	1.2%	1,300	2,700	1,400
Colored Ledger	0.1%	0.4%	0.3%	100	500	400
Computer Paper	0.2%	<0.1%	-0.1%	300	<100	-200
Other Office Printouts	1.0%	0.7%	-0.3%	1,400	900	-500
Magazines and Catalogs	0.9%	1.1%	0.2%	1,300	1,400	100
Phone Books and Directories	<0.1%	0.2%	0.1%	<100	200	100
Other Recyclable Paper	4.1%	4.6%	0.5%	6,100	5,900	-200
Other Compostable Paper	5.7%	9.5%	3.7%	8,500	12,200	3,700
Remainder / Composite Paper	2.4%	0.5%	-1.9%	3,500	600	-2,900
PLASTIC	**10.5%**	**18.2%**	**7.6%**	**15,700**	**23,400**	**7,700**
PET (#1) Bottles - CRV	0.3%	0.9%	0.6%	500	1,200	700
- Non CRV	0.1%	0.3%	0.2%	200	400	200
Other PETE Containers - CRV	<0.1%	<0.1%	0.0%	<100	<100	0
- Non CRV	<0.1%	0.9%	0.8%	100	1,100	1,000
HDPE (#2) Natural Bottles - CRV	<0.1%	<0.1%	0.0%	100	<100	0
- Non CRV	0.1%	0.3%	0.2%	200	400	200
HDPE (#2) Colored Bottles- CRV	<0.1%	<0.1%	0.0%	<100	<100	0
- Non CRV	0.2%	0.5%	0.3%	300	700	400
Other HDPE Containers - CRV	<0.1%	<0.1%	0.0%	<100	<100	0
- Non CRV	0.2%	0.2%	0.0%	200	200	0
#3-#7 Plastic Bottles - CRV	<0.1%	<0.1%	0.0%	<100	<100	0
- Non CRV	<0.1%	<0.1%	0.0%	<100	100	0
#3-#7 Containers - CRV	<0.1%	<0.1%	0.0%	<100	<100	0
- Non CRV	0.3%	1.2%	0.8%	500	1,500	1,000
Durable Plastic Items	1.8%	2.4%	0.6%	2,700	3,100	400
Recyclable Plastic Film	0.5%	5.7%	5.1%	800	7,300	6,500
Non-Recyclable Film	4.4%	2.8%	-1.6%	6,500	3,500	-3,000
Remainder/Composite Plastic	2.4%	2.8%	0.5%	3,500	3,700	200
ORGANIC	**40.5%**	**31.2%**	**-9.3%**	**60,300**	**40,300**	**-20,000**
Food - Vegetative - Non-Vegetative	26.61%	19.47%	-7.1%	39,600	17,600	-22,000
Leaves and Grass	4.8%	2.3%	-2.5%	7,100	2,900	-4,200
Prunings and Trimmings	1.9%	2.1%	0.2%	2,800	2,700	-100
Branches and Stumps	0.2%	0.3%	0.0%	400	300	-100
Agricultural Crop Residues	<0.1%	<0.1%	0.0%	<100	<100	0
Manures	<0.1%	<0.1%	-0.1%	100	<100	-100
Textiles	2.1%	3.8%	1.7%	3,200	4,900	1,700
Remainder/Composite Organics	4.8%	3.3%	-1.4%	7,100	4,300	-2,800

Table 7 (continued). Commercial Waste Composition Comparison 2006/07 vs 2014

Material Components	Average Composition 2006/07	2014	Change	Annual Tonnage 2006/07	2014	Change
CONSTRUCTION & DEMOLITION	**16.2%**	**12.0%**	**-4.2%**	**24,100**	**15,500**	**-8,600**
Concrete	0.9%	0.3%	-0.6%	1,300	400	-900
Asphalt Paving	0.8%	<0.1%	-0.8%	1,200	<100	-1,200
Asphalt Roofing	1.0%	<0.1%	-0.9%	1,400	<100	-1,400
Clean Recyclable Wood	2.7%	2.7%	0.0%	4,000	3,500	-500
Other Untreated/Recyclable Wood	0.7%	0.2%	-0.5%	1,100	200	-900
Treated Wood Waste	2.0%	2.4%	0.4%	2,900	3,000	100
Clean Gypsum Board	0.2%	0.6%	0.4%	300	800	500
Rock, Soil, Fines	4.0%	4.2%	0.1%	6,000	5,400	-600
Carpet	0.9%	0.2%	-0.7%	1,300	200	-1,100
- Padding	0.6%	<0.1%	-0.6%	900	<100	-800
Remainder/Composite C&D	2.6%	1.4%	-1.2%	3,800	1,800	-2,000
METALS	**4.6%**	**3.8%**	**-0.8%**	**6,800**	**4,800**	**-2,000**
Tin/Steel Cans	0.6%	0.9%	0.3%	900	1,100	200
Other Ferrous	2.4%	1.3%	-1.1%	3,600	1,700	-1,900
Major Appliances	<0.1%	<0.1%	0.0%	<100	<100	0
Aluminum Cans - CRV	0.2%	0.2%	0.1%	200	300	100
- Non CRV	<0.1%	<0.1%	0.0%	<100	<100	0
Other Non-Ferrous	0.2%	0.7%	0.5%	300	900	600
Remainder/Composite Metal	1.2%	0.5%	-0.7%	1,800	700	-1,100
GLASS	**2.7%**	**3.2%**	**0.5%**	**4,000**	**4,100**	**100**
Clear - CRV	0.6%	0.8%	0.2%	900	1,000	100
- Non CRV	0.4%	0.7%	0.3%	600	1,000	400
Brown - CRV	0.2%	0.7%	0.4%	400	800	400
- Non CRV	<0.1%	0.1%	0.1%	<100	200	-100
Green - CRV	<0.1%	0.2%	0.1%	100	200	100
- Non CRV	0.3%	0.2%	-0.1%	500	300	-200
Other - CRV	<0.1%	<0.1%	0.0%	<100	<100	0
- Non CRV	<0.1%	<0.1%	0.0%	<100	<100	0
Flat Glass	0.3%	0.2%	-0.1%	500	200	-300
Remainder/Composite Glass	0.7%	0.3%	-0.3%	1,000	400	-600
HAZARDOUS	**1.7%**	**1.6%**	**-0.2%**	**2,600**	**2,000**	**-600**
Paint	0.6%	<0.1%	-0.6%	900	<100	-800
Vehicle and Equip Fluids	<0.1%	<0.1%	0.0%	<100	<100	0
Used Oil and Oil Filters	<0.1%	<0.1%	0.0%	<100	<100	0
Large Rechargeable Batteries	<0.1%	<0.1%	0.1%	<100	<100	0
Small Rechargeable Batteries	<0.1%	<0.1%	0.0%	<100	<100	0
Household Batteries	<0.1%	<0.1%	0.0%	<100	<100	0
Universal Waste	0.3%	0.4%	0.1%	500	500	0
Covered Electronic Waste	0.2%	0.9%	0.7%	300	1,100	800
Flourescent Tubes	<0.1%	<0.1%	0.0%	<100	<100	0
Other HHW	0.5%	<0.1%	-0.5%	700	<100	-700
Remainder/Composite Haz/E-waste	0.1%	<0.1%	0.0%	100	100	0
SPECIAL	**2.9%**	**0.6%**	**-2.3%**	**2,400**	**800**	**-1,600**
Ash	<0.1%	<0.1%	0.0%	<100	<100	0
Sewage Solids	<0.1%	<0.1%	0.0%	<100	<100	0
Industrial Sludge	<0.1%	<0.1%	0.0%	<100	<100	0
Treated Medical Waste	<0.1%	<0.1%	0.0%	<100	<100	0
Bulky Items	0.4%	0.5%	0.1%	700	700	0
Tires	0.4%	<0.1%	-0.4%	600	<100	-500
Remainder/Composite Special Waste	0.7%	<0.1%	-0.7%	1,000	<100	-1,000
MIXED RESIDUE	**1.3%**	**5.4%**	**4.1%**	**2,000**	**7,000**	**5,000**
TOTALS	**100.0%**	**100.0%**		**148,888**	**128,800**	

Note: Composition for 2006/07 based on 138 samples, composition for 2014 based on 150 samples

Exhibit 15. Commercial Waste Composition Comparison

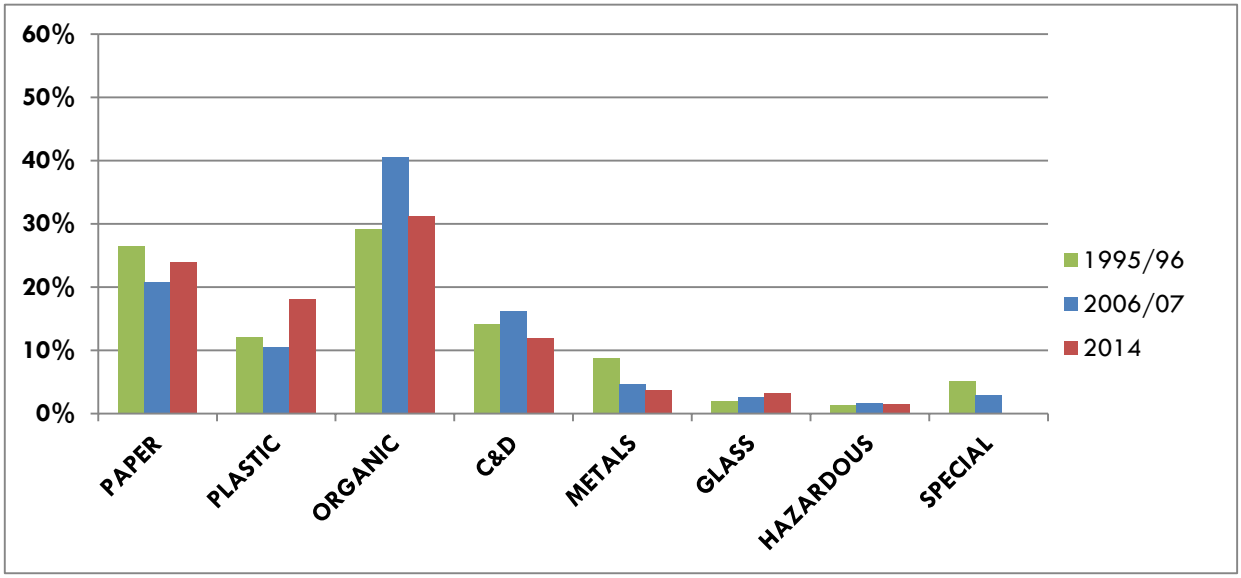
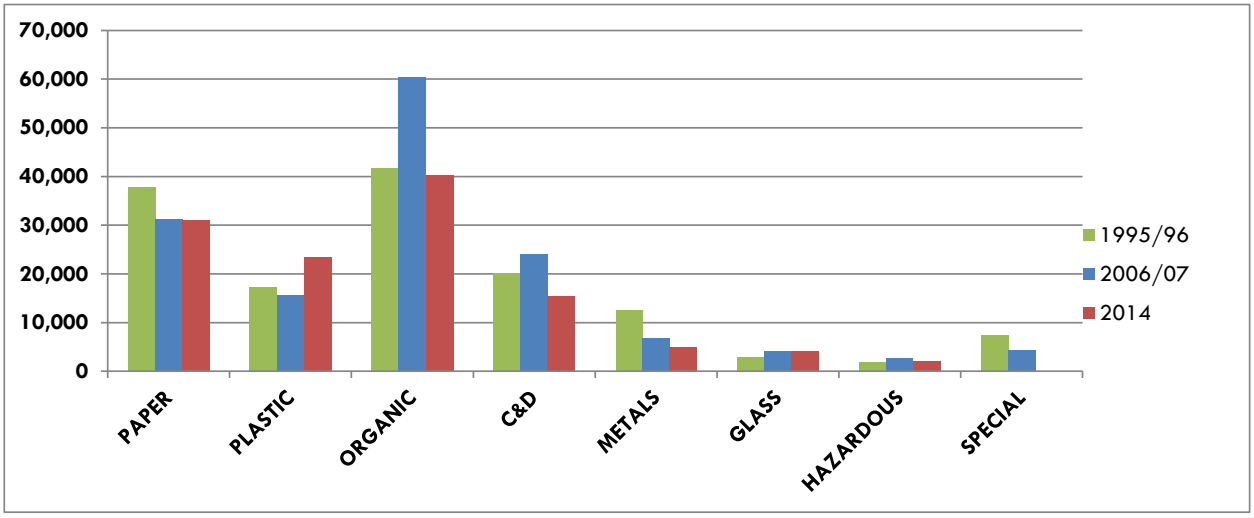


Exhibit 16. Commercial Waste Tonnage Comparison



5 WASTE COMPOSITION BY GENERATOR TYPE

As described in Section 2 of this report, waste samples were gathered by individual waste generator types. The number of samples from individual waste generator types was proportional to their contribution to the overall County waste stream. **Exhibit 14** through **Exhibit 19** presents the composition of relative material categories according to the following waste generator types:

- Single Family Residential
- Multi-Family Residential
- Commercial (all commercial waste generator types excluding multi-family residential)
- Wholesale/Retail/Warehouse
- Grocery/Market/Catering
- Office/Business/Government Services
- Education (schools)
- Healthcare (hospitals, clinics, and doctor offices)
- Restaurant/Golf/Pool/Healthclub
- Lodging

The following useful observations on waste composition by waste generator type are as follows:

Paper

Office/business/government services and Healthcare businesses have the highest proportion of paper in their waste stream at 43 and 39 percent, respectively.

- Uncoated corrugated cardboard comprises a higher proportion of waste from wholesale/retail/warehouse and grocery/markets/catering businesses than other waste generator types.

- White ledger is comprises the highest proportion of office/business/government services than other waste generator types.

Plastic

Healthcare facilities and Wholesale/retail/warehouse businesses have the highest proportion of plastic in their waste stream at 25 and 23 percent respectively. Education facilities have the lowest proportion of plastic in their waste stream at 12 percent.

- PET Bottles (CRV) comprises a higher proportion of waste from multi-family households than other waste generator types.

- Durable Items comprises a higher proportion of waste from wholesale/retail/warehouse, office/business/government, and healthcare businesses than other waste generator types.

- Non-Recyclable film comprises a higher proportion of waste from grocery/market/catering, office/business/government, and healthcare businesses than other waste generator types.

- Recyclable film grocery/market/catering businesses than other waste generator types.

Organic

Restaurant/golf/pool/healthclub establishments and Education facilities have the highest proportion of organics in their waste stream at 47 and 43 percent respectively. Office/business/government services have the lowest proportion of organics in their waste stream at 14 percent.

- Vegetative and non-vegetative food and leaves/grass and prunings comprise a higher proportion of waste from restaurant/golf/pool/healthclub and lodging businesses than other waste generator types.

- Textiles comprise a higher proportion of waste from healthcare facilities and lodging than other waste generator types.

Construction and Demolition

Wholesale/retail/warehouse establishments and Education facilities have the highest proportion of C&D in their waste stream at 20 and 18 percent respectively. Lodging establishments have the lowest proportion of C&D in their waste stream at 0.9 percent.

- Clean recyclable wood comprises a higher proportion of waste from wholesale/retail/warehouse and education facilities than other waste generator types.

- Treated wood comprises a higher proportion of waste from education facilities than other waste generator types.

- Rock/soil/fines comprise a higher proportion of waste from single family households and wholesale/retail/warehouse businesses than other waste generator types.

Metal

Grocery/markets/catering establishments and Office/business/government services have the highest proportion of metal in their waste stream at six percent each. Healthcare facilities have the lowest proportion of metal in their waste stream at 1.3 percent.

- Tin/steel cans comprise a higher proportion of waste from grocery/market/catering businesses than other waste generator types.

- Other ferrous metal comprises a higher proportion of office/business/government services than other waste generator types.

Glass

Lodging establishments have the highest proportion of glass in their waste stream at 10 percent. Education facilities have the lowest proportion of glass in their waste stream at 0.9 percent.

Exhibit 17. Waste Composition by Generator Types

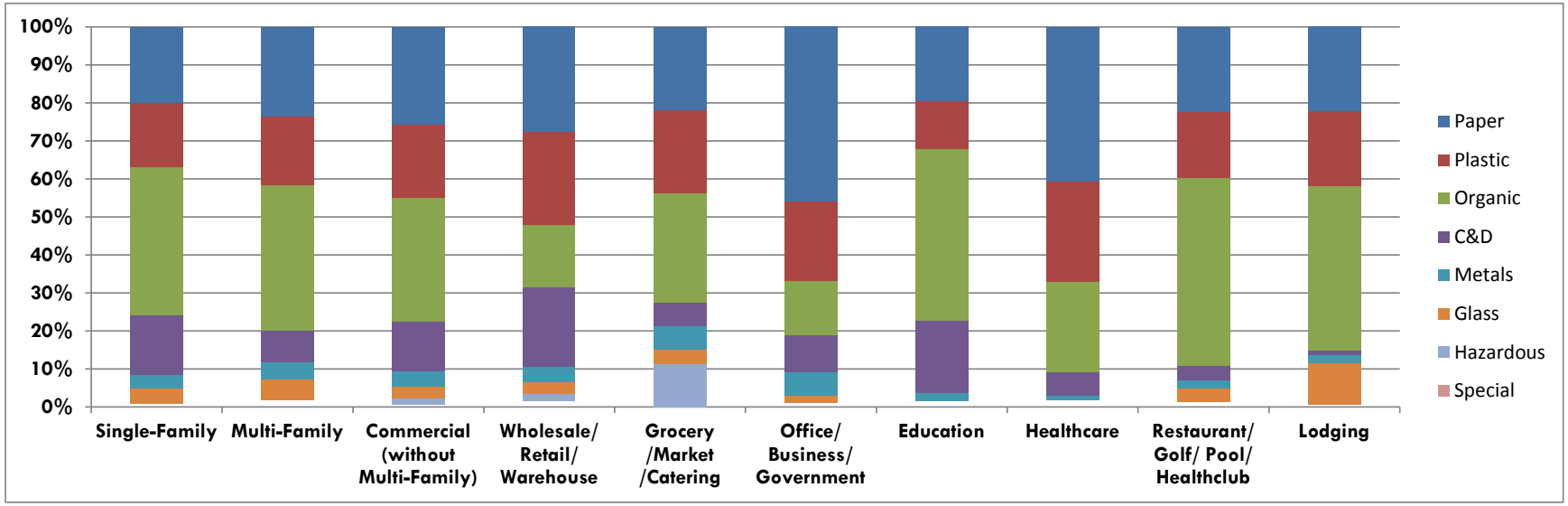


Table 8. Waste Composition by Waste Generator Type

Material Components		Single Family Residential	Multi-Family Residential	All Commercial	Wholesale/ Retail/ Warehouse	Grocery Market	Office/ Business/ Government	Education	Healthcare	Restaurant/ Golf/Pool/ Health Club	Lodging	Unclassified Commercial
PAPER		**18.1%**	**21.9%**	**24.3%**	**26.2%**	**20.7%**	**43.4%**	**18.6%**	**38.5%**	**21.1%**	**20.8%**	**21.1%**
Uncoated Corrugated Cardboard		1.5%	1.7%	3.5%	6.0%	5.4%	1.6%	3.4%	2.9%	1.1%	2.2%	3.5%
Paper Bags / Kraft		0.9%	0.8%	0.9%	1.3%	0.8%	0.5%	0.9%	0.1%	0.7%	1.0%	0.9%
Newspaper		0.9%	0.7%	0.8%	0.4%	0.7%	0.9%	0.4%	0.5%	0.9%	1.2%	0.9%
White Ledger		0.8%	1.5%	2.2%	2.6%	0.6%	7.6%	2.2%	2.8%	1.1%	1.1%	1.3%
Colored Ledger		0.0%	0.0%	0.4%	0.2%	0.3%	0.7%	2.1%	0.9%	0.0%	0.0%	0.1%
Computer Paper		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	0.0%	0.0%	0.0%
Other Office Printouts		0.8%	0.6%	0.7%	0.7%	0.2%	1.8%	0.6%	2.0%	0.7%	0.5%	0.5%
Magazines and Catalogs		1.1%	1.4%	1.1%	0.6%	1.3%	2.3%	1.6%	1.9%	1.1%	0.7%	0.8%
Phone Books and Directories		0.0%	0.9%	0.1%	0.2%	0.0%	0.0%	0.1%	0.6%	0.0%	0.2%	0.0%
Other Recyclable Paper		3.4%	7.0%	4.3%	4.8%	5.0%	6.6%	1.4%	7.3%	2.6%	4.5%	4.5%
Other Compostable Paper		8.5%	6.2%	9.9%	9.0%	5.8%	21.5%	5.3%	17.9%	12.8%	9.4%	8.0%
Remainder / Composite Paper		0.3%	0.9%	0.4%	0.4%	0.4%	0.1%	0.6%	1.2%	0.1%	0.0%	0.6%
PLASTIC		**15.2%**	**17.0%**	**18.3%**	**23.2%**	**21.0%**	**19.8%**	**11.8%**	**25.2%**	**16.6%**	**18.4%**	**17.1%**
PET (#1) Bottles	- CRV	0.7%	1.7%	0.9%	0.6%	1.1%	1.0%	0.6%	0.6%	1.2%	1.2%	0.9%
	- Non CRV	0.3%	0.5%	0.3%	0.2%	0.0%	0.2%	0.1%	0.2%	0.3%	0.3%	0.5%
Other PETE Containers	- CRV	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
	- Non CRV	0.9%	0.9%	0.8%	0.6%	0.9%	0.7%	1.1%	0.7%	0.9%	0.4%	1.0%
HDPE (#2) Natural Bottles	- CRV	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%
	- Non CRV	0.2%	0.3%	0.3%	0.3%	0.4%	0.3%	0.3%	0.4%	0.4%	0.6%	0.3%
HDPE (#2) Colored Bottles	- CRV	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%
	- Non CRV	0.5%	0.8%	0.5%	0.8%	0.6%	0.8%	0.2%	0.4%	0.3%	0.7%	0.3%
Other HDPE Containers	- CRV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	- Non CRV	0.2%	0.2%	0.2%	0.6%	0.1%	0.2%	0.1%	0.0%	0.2%	0.0%	0.1%
#3-#7 Plastic Bottles	- CRV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	- Non CRV	0.0%	0.3%	0.1%	0.1%	0.0%	0.0%	0.2%	0.0%	0.0%	0.1%	0.0%
#3-#7 Containers	- CRV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
	- Non CRV	1.1%	1.2%	1.2%	0.9%	0.8%	2.0%	0.4%	1.2%	1.3%	2.8%	1.1%
Durable Items		1.9%	1.7%	2.5%	4.0%	2.0%	3.3%	2.0%	4.6%	0.8%	1.2%	2.3%
Recyclable Film		4.8%	3.5%	5.9%	6.2%	9.3%	7.3%	2.4%	8.7%	6.3%	6.1%	5.6%
Non-Recyclable Film		2.9%	3.3%	2.7%	2.5%	4.6%	1.9%	1.4%	3.1%	2.8%	3.4%	2.9%
Remainder/Composite		1.7%	2.5%	2.9%	6.3%	1.2%	2.0%	2.7%	5.2%	1.9%	1.4%	2.0%

Table 8 (continued). Waste Composition by Waste Generator Type

Material Components	Single Family Residential	Multi-Family Residential	All Commercial	Wholesale/ Retail/ Warehouse	Grocery Market	Office/ Business/ Government	Education	Healthcare	Restaurant/ Golf/Pool/ Health Club	Lodging	Unclassified Commercial
ORGANIC	**35.5%**	**35.7%**	**30.7%**	**15.6%**	**27.3%**	**13.5%**	**42.9%**	**22.4%**	**46.7%**	**40.7%**	**33.8%**
Food - Vegetative	15.2%	13.9%	13.6%	6.6%	14.8%	7.1%	9.9%	3.1%	22.1%	28.1%	15.9%
- Non-Vegetative	5.2%	5.5%	5.9%	2.9%	8.2%	0.9%	11.1%	1.4%	11.6%	3.6%	5.8%
Leaves and Grass	1.9%	0.8%	2.5%	1.3%	0.6%	1.0%	8.6%	0.3%	5.4%	0.0%	1.6%
Prunings and Trimmings	1.7%	2.0%	2.1%	0.1%	0.1%	0.6%	8.5%	0.1%	2.4%	0.6%	2.1%
Branches and Stumps	0.2%	0.0%	0.3%	0.0%	0.0%	0.0%	0.8%	0.0%	0.0%	0.0%	0.5%
Agricultural Crop Residues	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Manures	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Textiles	3.9%	5.3%	3.7%	2.9%	2.0%	3.5%	3.3%	8.7%	3.8%	6.4%	3.6%
Remainder/Composite Organics	7.2%	8.1%	2.8%	1.8%	1.7%	0.5%	0.7%	8.8%	1.4%	2.0%	4.3%
CONSTRUCTION & DEMOLITION	**14.2%**	**7.6%**	**12.5%**	**19.8%**	**5.9%**	**9.2%**	**17.9%**	**5.8%**	**3.6%**	**0.9%**	**13.4%**
Concrete	0.4%	0.0%	0.3%	0.5%	0.0%	0.4%	1.5%	0.0%	0.0%	0.0%	0.1%
Asphalt Paving	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Asphalt Roofing	0.5%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Clean Recyclable Wood	1.3%	1.2%	2.9%	5.9%	1.8%	1.7%	5.6%	0.1%	0.2%	0.0%	2.4%
Other Untreated/ Recyclable Wood	0.5%	0.5%	0.1%	0.6%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Treated Wood Waste	1.1%	0.7%	2.6%	2.0%	1.3%	0.6%	3.3%	2.0%	0.2%	0.0%	4.1%
Clean Gypsum Board	0.5%	0.1%	0.7%	1.5%	0.0%	1.5%	0.0%	0.0%	1.0%	0.0%	0.4%
Rock, Soil, Fines	8.5%	2.8%	4.3%	6.4%	0.0%	4.2%	2.4%	3.8%	2.0%	0.0%	5.5%
Carpet	0.5%	0.0%	0.2%	0.1%	0.0%	0.2%	0.5%	0.0%	0.0%	0.0%	0.3%
Carpet Padding	0.2%	0.0%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Remainder/Composite C&D	0.8%	2.2%	1.3%	2.4%	2.8%	0.6%	4.4%	0.0%	0.1%	0.9%	0.4%
METALS	**3.2%**	**4.3%**	**3.7%**	**3.8%**	**5.9%**	**5.9%**	**2.1%**	**1.3%**	**2.0%**	**2.1%**	**4.1%**
Tin/Steel Cans	1.0%	1.3%	0.8%	0.4%	3.0%	0.5%	0.2%	0.4%	0.7%	0.8%	1.1%
Other Ferrous	0.8%	0.7%	1.4%	1.4%	0.1%	3.5%	1.0%	0.1%	0.1%	0.1%	1.6%
Major Appliances	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Aluminum Cans - CRV	0.2%	0.3%	0.2%	0.2%	0.2%	0.3%	0.1%	0.2%	0.2%	0.2%	0.2%
- Non CRV	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%
Other Non-Ferrous	0.8%	0.6%	0.7%	1.0%	1.1%	0.3%	0.5%	0.1%	0.7%	1.0%	0.7%
Remainder/Composite Metal	0.4%	1.2%	0.4%	0.7%	1.5%	1.3%	0.3%	0.3%	0.1%	0.0%	0.2%

Table 8 (continued). Waste Composition by Waste Generator Type

Material Components		Single Family Residential	Multi-Family Residential	All Commercial	Wholesale/ Retail/ Warehouse	Grocery Market	Office/ Business/ Government	Education	Healthcare	Restaurant/ Golf/Pool/ Health Club	Lodging	Unclassified Commercial
GLASS		**3.5%**	**5.1%**	**3.0%**	**3.0%**	**3.8%**	**1.7%**	**0.9%**	**1.2%**	**3.5%**	**10.1%**	**2.9%**
Clear	- CRV	0.7%	1.0%	0.8%	0.4%	0.8%	0.6%	0.3%	0.3%	0.9%	3.7%	0.7%
	- Non CRV	1.2%	1.7%	0.6%	0.3%	0.9%	0.4%	0.2%	0.4%	1.1%	0.9%	0.8%
Brown	- CRV	0.5%	1.2%	0.6%	0.4%	0.7%	0.4%	0.2%	0.0%	0.8%	3.3%	0.5%
	- Non CRV	0.2%	0.5%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.5%	0.1%
Green	- CRV	0.1%	0.4%	0.1%	0.1%	0.2%	0.1%	0.1%	0.0%	0.0%	1.2%	0.1%
	- Non CRV	0.3%	0.2%	0.2%	0.1%	0.7%	0.2%	0.0%	0.1%	0.4%	0.5%	0.2%
Other	- CRV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	- Non CRV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Flat Glass		0.1%	0.3%	0.2%	0.5%	0.4%	0.0%	0.0%	0.2%	0.0%	0.0%	0.1%
Remainder/Composite Glass		0.2%	0.0%	0.4%	1.2%	0.0%	0.0%	0.1%	0.3%	0.1%	0.0%	0.3%
HAZARDOUS		**0.7%**	**1.1%**	**1.6%**	**1.8%**	**10.6%**	**1.1%**	**0.4%**	**0.4%**	**0.0%**	**0.7%**	**1.6%**
Paint		0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%
Vehicle and Equip Fluids		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Used Oil and Oil Filters		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Large Rechargeable Batteries		0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Small Rechargeable Batteries		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Household Batteries		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%
Universal Waste		0.3%	0.1%	0.5%	1.6%	0.0%	0.0%	0.1%	0.4%	0.0%	0.6%	0.3%
Covered Electronic Waste		0.2%	0.8%	0.9%	0.0%	10.6%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%
Flourescent Tubes		0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other HHW		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Remainder/Composite Haz/E-waste		0.0%	0.0%	0.1%	0.0%	0.0%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%
SPECIAL		**0.2%**	**0.6%**	**0.6%**	**1.5%**	**0.0%**	**0.0%**	**0.2%**	**0.0%**	**1.2%**	**0.0%**	**0.5%**
Ash		0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sewage Solids		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Industrial Sludge		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Treated Medical Waste		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Bulky Items		0.1%	0.5%	0.5%	1.0%	0.0%	0.0%	0.2%	0.0%	1.2%	0.0%	0.5%
Tires		0.0%	0.0%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Remainder/Composite Special Waste		0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
MIXED RESIDUE		**9.4%**	**6.7%**	**5.3%**	**5.1%**	**4.7%**	**5.3%**	**5.1%**	**5.1%**	**5.4%**	**6.2%**	**5.4%**
TOTALS		**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Number of Samples		100	16	134	24	6	12	14	4	14	6	54

Exhibit 18. Paper Components by Waste Generator Type

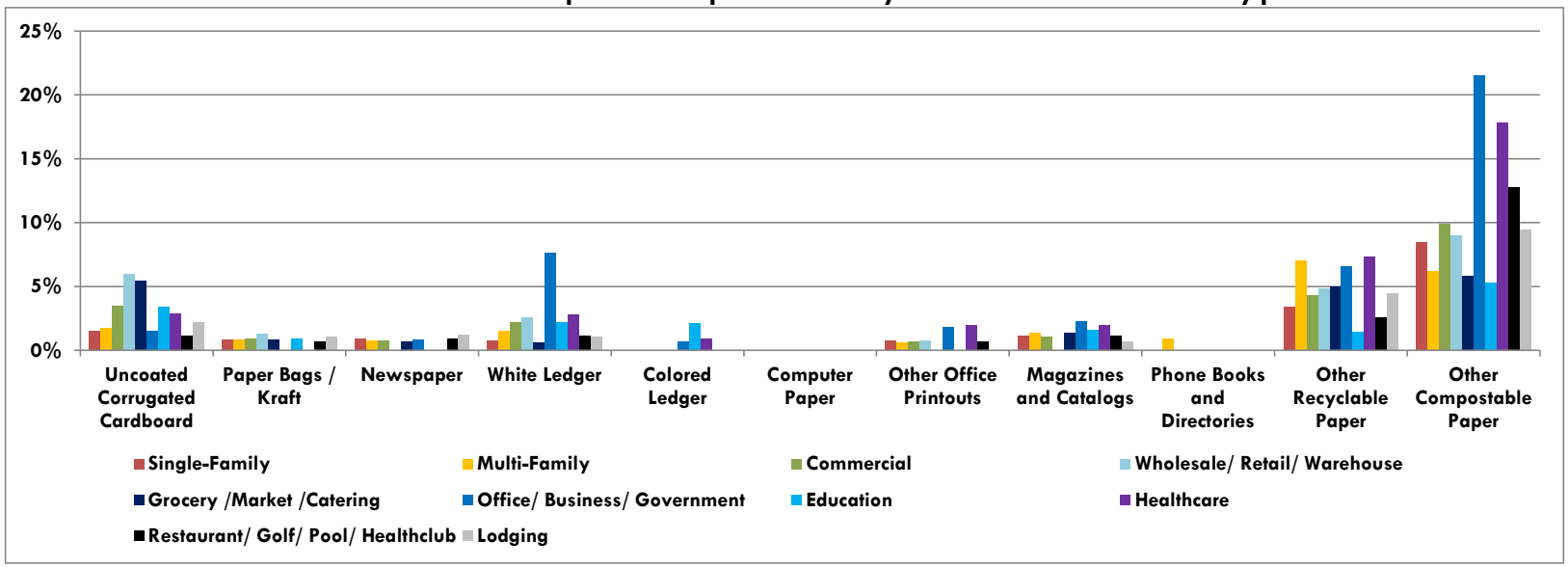


Exhibit 19. Organic Components by Waste Generator Type

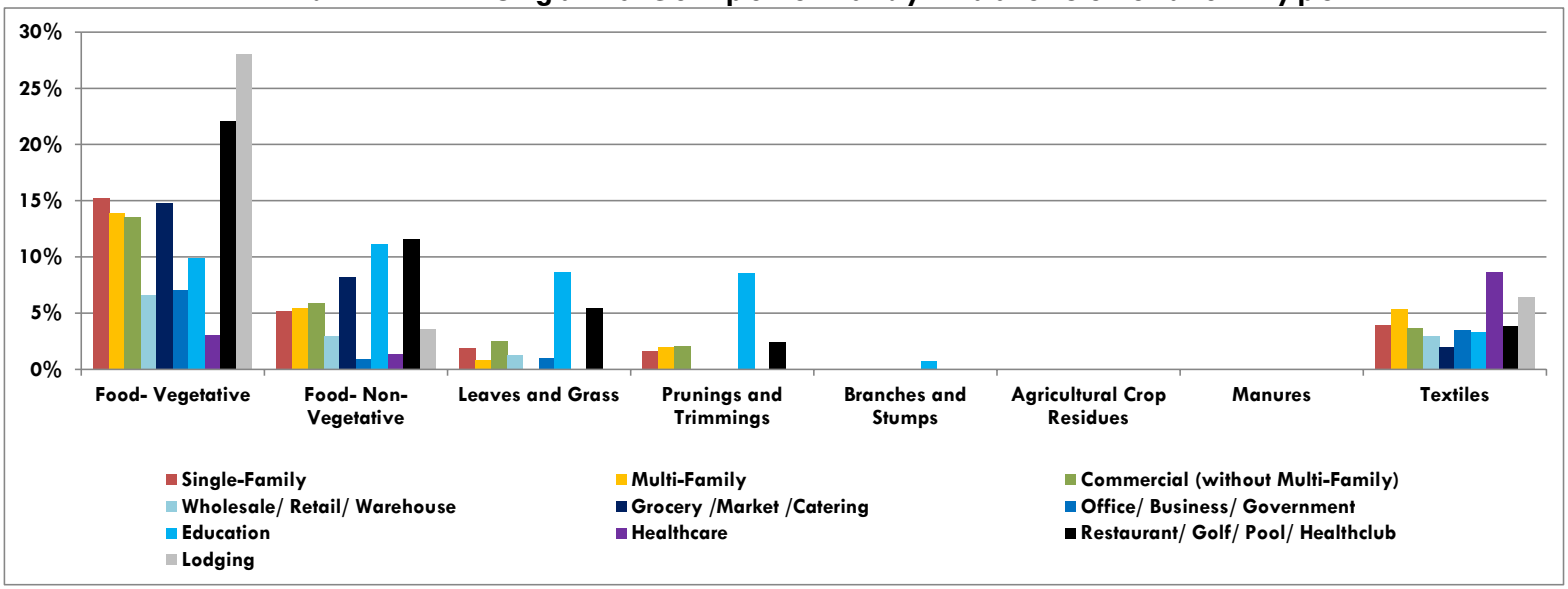


Exhibit 20. Plastic Components by Waste Generator Type

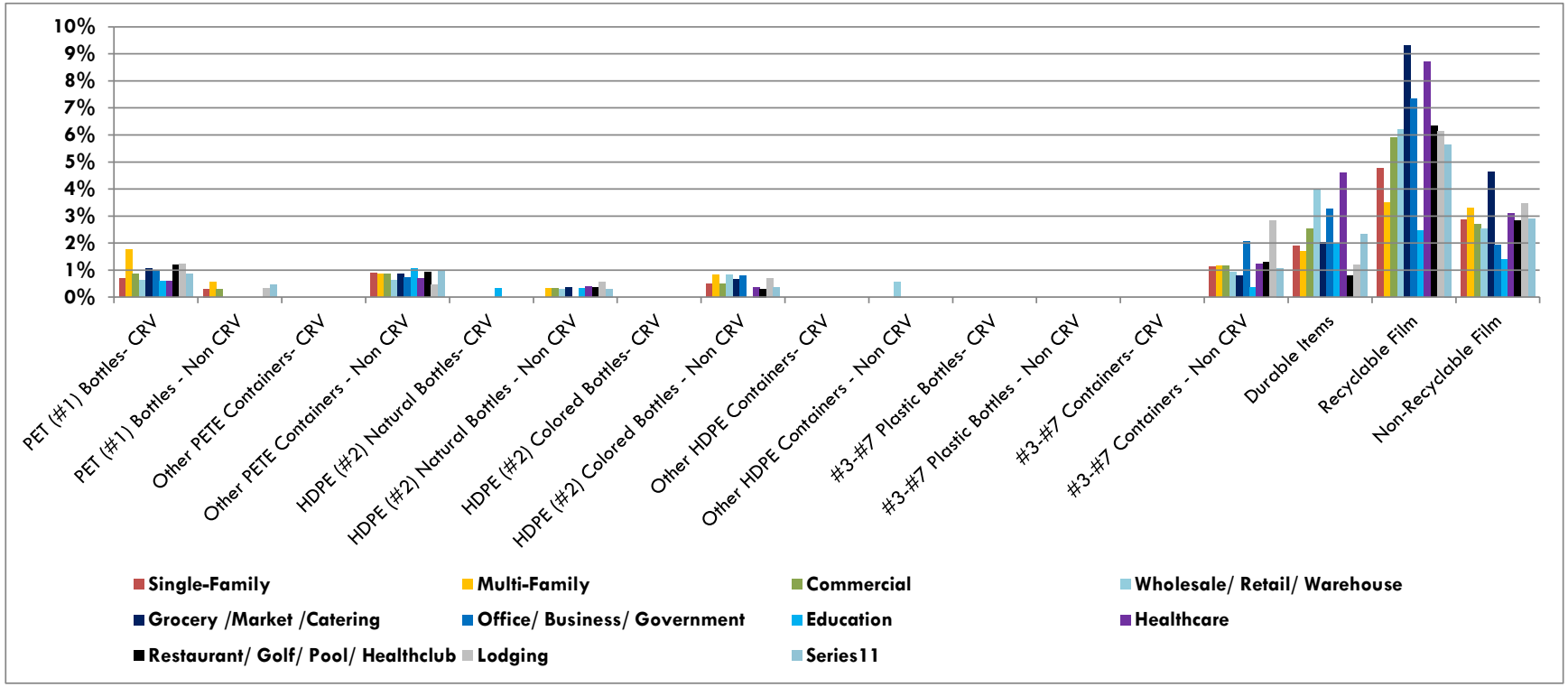


Exhibit 21. Construction & Demolition Components by Waste Generator Type

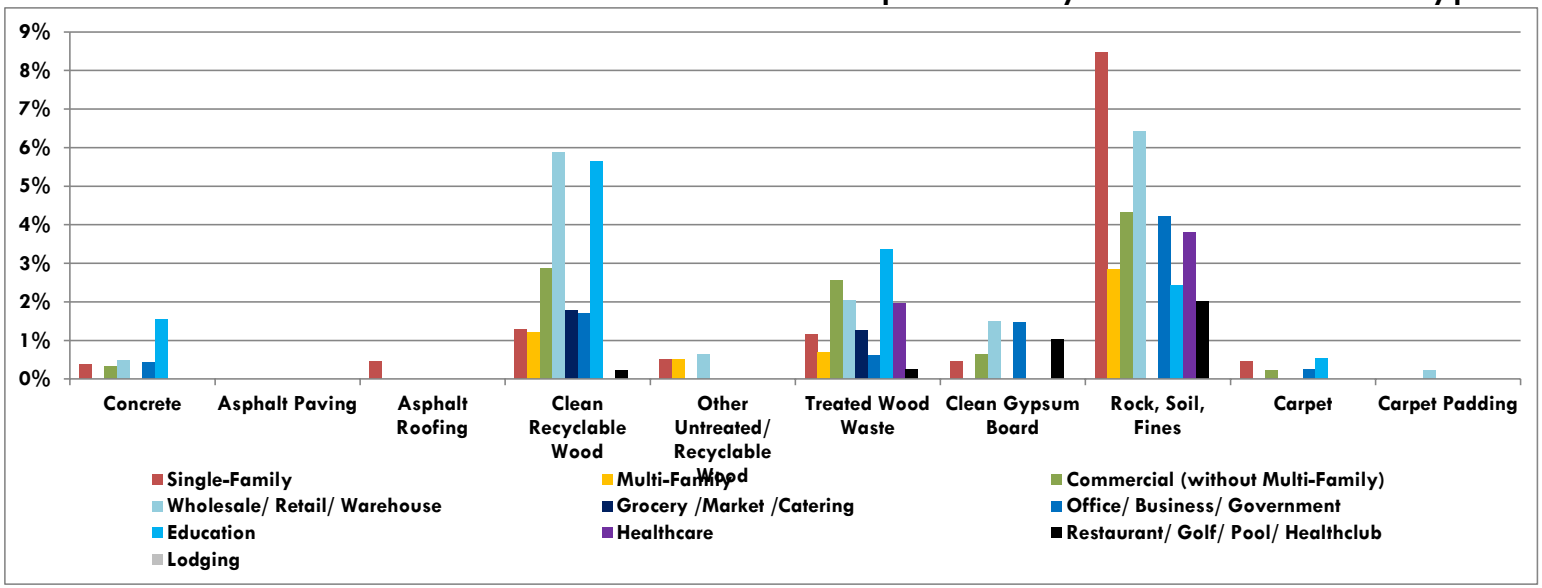


Exhibit 22. Metal Components by Waste Generator Type

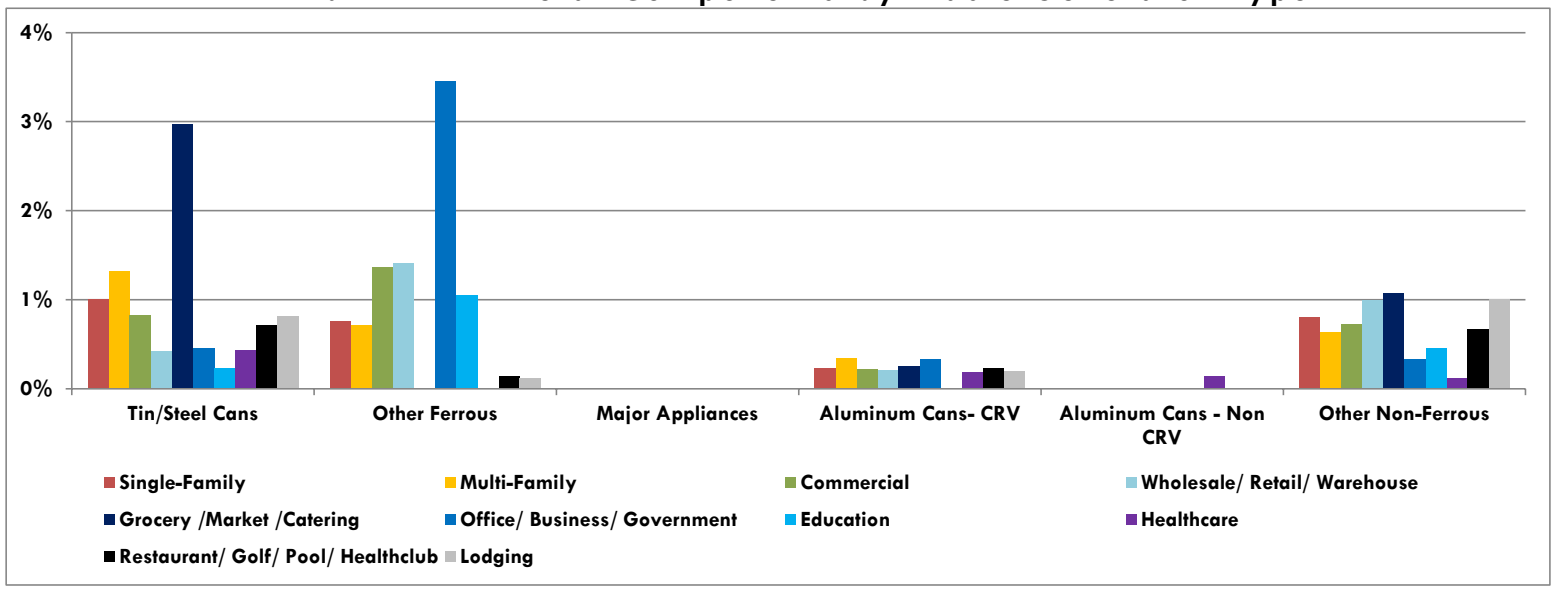
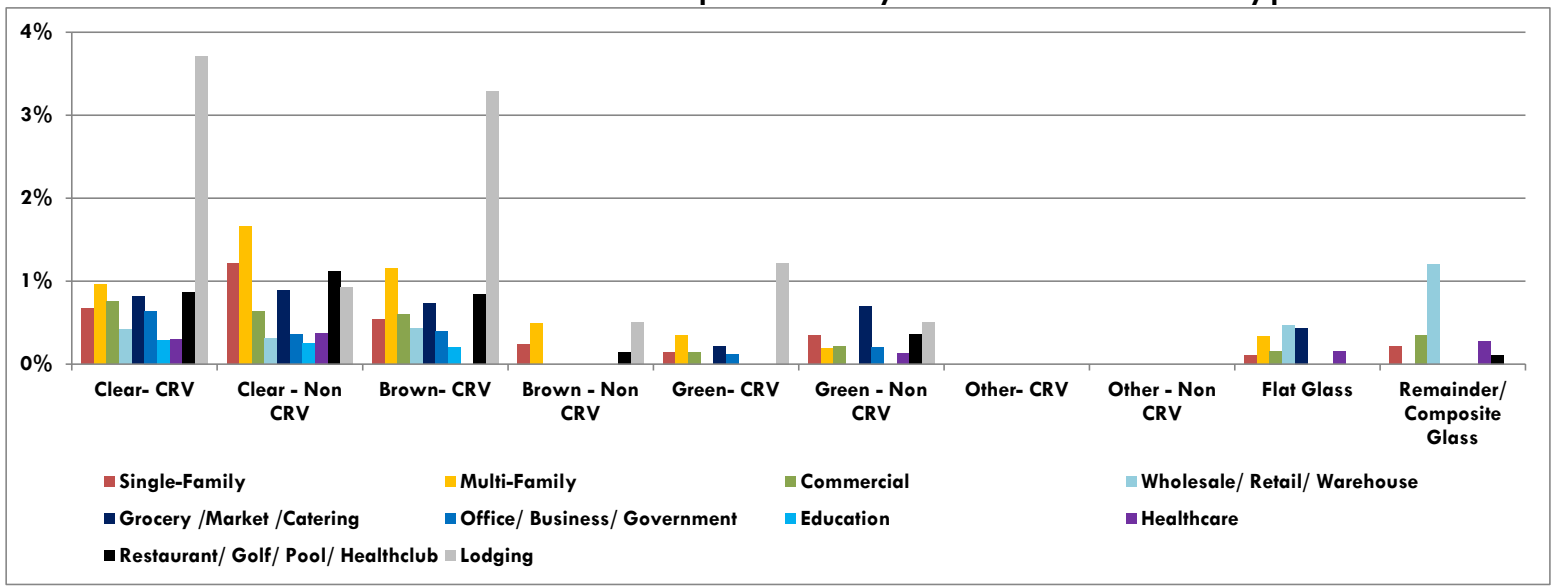


Exhibit 23. Glass Components by Waste Generator Type



APPENDIX A – MATERIAL CATEGORIES

PAPER		
Material ID & Name		**Material Type Definition**
1	**Uncoated Corrugated Cardboard**	**Uncoated Corrugated Cardboard** usually has three layers. The center wavy layer is sandwiched between the two outer layers. It does not have any wax coating on the inside or outside. Examples include entire cardboard containers, such as shipping and moving boxes, computer packaging cartons, and sheets and pieces of boxes and cartons. This type does not include chipboard.
2	**Paper Bags/Kraft**	**Paper Bags** means bags and sheets made from Kraft paper. Examples include paper grocery bags, fast food bags, department store bags, and heavyweight sheets of Kraft packing paper.
3	**Newspaper**	**Newspaper** means paper used in newspapers. Examples include newspaper and glossy inserts, and all items made from newsprint, such as free advertising guides, election guides, plain news packing paper, stapled college schedules of classes, and tax instruction booklets.
4	**White Ledger**	**White Ledger** means uncolored bond, rag, or stationary grade paper. It may have colored ink on it. When the paper is torn, the fibers are white. Examples include white photocopy, white laser print, and letter paper.
5	**Colored Ledger**	**Colored Ledger** means colored bond, rag, or stationery grade paper. When the paper is torn, the fibers are colored throughout. Examples include colored photocopy and letter paper. This type does not include fluorescent dyed paper or deep-tone dyed paper such as goldenrod colored paper.
6	**Computer Paper**	**Computer Paper** means paper used for computer printouts. This type usually has a strip of form feed holes along two edges. If there are no holes, then the edges show tear marks. This type can be white or striped. Examples include computer paper and printouts from continuous feed printers. This type does not include "white ledger" used in laser or impact printers, nor computer paper containing groundwood.
7	**Other Office Paper**	**Other Office Paper** means other kinds of paper used in offices. Examples include manila folders, manila envelopes, index cards, white envelopes, white window envelopes, white or colored notebook paper, carbonless forms, and junk mail. This type does not include "white ledger," "colored ledger," or "computer paper."
8	**Magazines and Catalogs**	**Magazines and Catalogs** means items made of glossy coated paper. This paper is usually slick, smooth to the touch, and reflects light. Examples include glossy magazines, catalogs, brochures, and pamphlets.
9	**Phone Books and Directories**	**Phone Books and Directories** means thin paper between coated covers. These items are bound along the spine with glue. Examples include whole or damaged telephone books, "yellow pages," real estate listings, and some non-glossy mail order catalogs.

PAPER (continued)		
Material ID & Name		**Material Type Definition**
10	**Other Recyclable Paper**	**Other Recyclable Paper** means items made mostly of paper that do not fit into any of the above types. Paper may be combined with minor amounts of other materials such as wax or glues. This type includes items made of chipboard, groundwood paper, and deep-toned or fluorescent dyed paper. Examples include cereal and cracker boxes, unused paper plates and cups, goldenrod colored paper, school construction paper/butcher paper, milk cartons, ice cream cartons and other frozen food boxes, unopened junk mail, colored envelopes for greeting cards, pulp paper egg cartons, unused pulp paper plant pots, and hardcover and softcover books.
11	**Other Compostable Paper**	**Other Compostable Paper** means items that were soiled with food or water during use. This type includes paper towels, paper plates, waxed paper, tissues, waxed corrugated cardboard, fast food wrappers, waxed paper, and other papers (e.g., pizza boxes and pizza box inserts).
12	**Remainder/ Composite Paper**	**Remainder/Composite Paper** means items made mostly of paper but combined with large amounts of other materials such as wax, plastic, glues, foil, food, and moisture. Examples include aseptic packages, blueprints, sepia, onion skin, carbon paper, self-adhesive notes, and photographs.
GLASS		
Material ID & Name		**Material Type Definition**
13	**Clear Glass Bottles and Containers – CRV**	**Clear Glass Bottles and Containers – CRV** means clear glass beverage and food containers with a California Redemption Value (CRV) label. Examples include whole or broken clear soda and beer bottles, fruit juice bottles.
14	**Clear Glass Bottles and Containers – Non-CRV**	**Clear Glass Bottles and Containers – Non-CRV** means clear glass containers that do not have a CRV label.
15	**Green Glass Bottles and Containers – CRV**	**Green Glass Bottles and Containers – CRV** means green-colored glass containers with a CRV label. Examples include whole or broken green soda and beer bottles, and whole or broken green wine bottles.
16	**Green Glass Bottles and Containers – Non-CRV**	**Green Glass Bottles and Containers – Non-CRV** means green-colored glass containers that do not have a CRV label.

GLASS (continued)		
Material ID & Name		**Material Type Definition**
17	**Brown Glass Bottles and Containers – CRV**	**Brown Glass Bottles and Containers – CRV** means brown-colored glass containers with a CRV label. Examples include whole or broken brown soda and beer bottles, and whole or broken brown wine bottles.
18	**Brown Glass Bottles and Containers – Non-CRV**	**Brown Glass Bottles and Containers – Non-CRV** means brown-colored glass containers that do not have a CRV label.
19	**Other Colored Glass Bottles and Containers – CRV**	**Other Colored Glass Bottles and Containers – CRV** means colored glass containers and bottles other than green or brown with a CRV label. Examples include whole or broken blue or other colored bottles and containers.
20	**Other Colored Glass Bottles and Containers – Non-CRV**	**Other Colored Glass Bottles and Containers – Non-CRV** means colored glass containers other than green or brown that do not have a CRV label.
21	**Flat Glass**	**Flat Glass** means clear or tinted glass that is flat. Examples include glass windowpanes, doors, and tabletops, flat automotive window glass (side windows), safety glass, and architectural glass. This type does not include windshields, laminated glass, or any curved glass.
22	**Remainder/ Composite Glass**	**Remainder/Composite Glass** means glass that cannot be put in any other type. It includes items made mostly of glass but combined with other materials. Examples include Pyrex, Corningware, crystal and other glass tableware, mirrors, non-fluorescent light bulbs, and auto windshields.
METAL		
Material ID & Name		**Material Type Definition**
23	**Tin/Steel Cans**	**Tin/Steel Cans** means rigid containers made mainly of steel. These items will stick to a magnet and may be tin-coated. This type is used to store food, beverages, paint, and a variety of other household and consumer products. Examples include canned food and beverage containers, empty metal paint cans, empty spray paint and other aerosol containers, and bimetal containers with steel sides and aluminum ends.
24	**Major Appliances**	**Major Appliances** means discarded major appliances of any color. These items are often enamel-coated. Examples include washing machines, clothes dryers, hot water heaters, stoves, and refrigerators. This type does not include electronics, such as televisions and stereos.
25	**Other Ferrous**	**Other Ferrous** means any iron or steel that is magnetic or any stainless steel item. This type does not include "tin/steel cans." Examples include structural steel beams, metal clothes hangers, metal pipes, stainless steel cookware, security bars, used oil filters, and scrap ferrous items.

METAL (continued)		
Material ID	**& Name**	**Material Type Definition**
26	**Aluminum Cans – CRV**	**Aluminum Cans – CRV** means any food or beverage container that is made mainly of aluminum and are marked as CRV containers. Examples include most aluminum soda or beer cans. This type does not include bimetal containers with steel sides and aluminum ends.
27	**Aluminum Cans – Non-CRV**	**Aluminum Cans – non-CRV** means any food or beverage container that is made mainly of aluminum and is not marked as CRV containers.
28	**Other Non-Ferrous**	**Other Non-Ferrous** means any metal item, other than aluminum cans, that is not stainless steel and that is not magnetic. These items may be made of aluminum, copper, brass, bronze, lead, zinc, or other metals. Examples include aluminum window frames, aluminum siding, copper wire, shell casings, brass pipe, and aluminum foil.
29	**Remainder/ Composite Metal**	**Remainder/Composite Metal** means metal that cannot be put in any other type. This type includes items made mostly of metal but combined with other materials and items made of both ferrous metals and non-ferrous metal combined. Examples include small non-electronic appliances such as toasters and hair dryers, motors, insulated wire, and finished products that contain a mixture of metals, or metals and other materials, whose weight is derived significantly from the metal portion of its construction.
PLASTIC		
Material ID	**& Name**	**Material Type Definition**
30	**PETE Bottles – CRV**	**PETE Bottles – CRV** means clear or colored PETE (polyethylene terephthalate) bottles that are marked as CRV containers. When marked for identification, they bear the number 1 in the center of the triangular recycling symbol and may also bear the letters PETE or PET. The color is usually clear, transparent green, or amber. A PETE bottle usually has a small dot left from the manufacturing process, not a seam. It does not turn white when bent. Examples of narrow and wide neck bottles include: soft drink, water, beer, and liquor bottles.
31	**PETE Bottles – Non-CRV**	**PETE Bottles – Non-CRV** means clear or colored PETE (polyethylene terephthalate) bottles that are not marked as CRV containers. When marked for identification, they bear the number 1 in the center of the triangular recycling symbol and may also bear the letters PETE or PET. The color is usually clear, transparent green, or amber. A PETE bottle usually has a small dot left from the manufacturing process, not a seam. It does not turn white when bent. Examples of narrow and wide neck bottles include: cooking oil, pastry jars, food jars, and aspirin bottles.
32	**Other PETE Containers – CRV**	**Other PETE Containers – CRV** means PETE (polyethylene terephthalate) containers (other than bottles) that are marked as CRV containers. When marked for identification, they bear the number 1 in the center of the triangular recycling symbol and may also bear the letters PETE or PET. A PETE container usually has a small dot left from the manufacturing process, not a seam.

PLASTIC (continued)		
Material ID & Name		**Material Type Definition**
33	**Other PETE Containers – Non-CRV**	**Other PETE Containers – Non-CRV** means PETE (polyethylene terephthalate) containers (other than bottles) that are not marked as CRV containers. When marked for identification, they bear the number 1 in the center of the triangular recycling symbol and may also bear the letters PETE or PET. A PETE container usually has a small dot left from the manufacturing process, not a seam.
34	**HDPE Natural Bottles – CRV**	**HDPE Natural Bottles – CRV** means natural HDPE (high-density polyethylene) bottles that are marked as CRV containers. This plastic is cloudy white, allowing light to pass through it. When marked for identification, it bears the number 2 in the triangular recycling symbol. Examples include milk jugs, water jugs, and some juice bottles.
35	**HDPE Natural Bottles – Non-CRV**	**HDPE Natural Bottles – Non-CRV** means natural HDPE (high-density polyethylene) bottles that are not marked as CRV containers. This plastic is cloudy white, allowing light to pass through it. When marked for identification, it bears the number 2 in the triangular recycling symbol.
36	**HDPE Colored Bottles – CRV**	**HDPE Colored Bottles – CRV** means colored HDPE (high-density polyethylene) containers that are marked as CRV containers. This plastic is a solid color, preventing light from passing through it. When marked for identification, it bears the number 2 in the triangular recycling symbol. Examples include narrow and wide mouth food containers, such as for coffee and coffee creamer.
37	**HDPE Colored Bottles – Non-CRV**	**HDPE Colored Bottles – Non-CRV** means colored HDPE (high-density polyethylene) containers that are not marked as CRV containers. This plastic is a solid color, preventing light from passing through it. When marked for identification, it bears the number 2 in the triangular recycling symbol. Examples include detergent bottles, some shampoo and hair-care bottles, empty motor oil, empty antifreeze, and other empty vehicle and equipment fluid bottles.
38	**Other HDPE Containers – CRV**	**Other HDPE Containers – CRV** means all types of HDPE (high-density polyethylene) containers not included above that are marked as CRV containers. When marked for identification, it bears the number 2 in the triangular recycling symbol.
39	**Other HDPE Containers – Non-CRV**	**Other HDPE Containers – Non-CRV** means all types of HDPE (high-density polyethylene) containers not included above that are not marked as CRV containers. When marked for identification, it bears the number 2 in the triangular recycling symbol.
40	**#3-#7 Bottles – CRV**	**#3-#7 Bottles – CRV** means plastic bottles made of types of plastic other than HDPE (high-density polyethylene) or PETE (polyethylene terephthalate). Items may be made of PVC (polyvinyl chloride), LDPE (low-density polyethylene), PP (polypropylene), PS (polystyrene), or mixed resins and are marked as CRV containers. When marked for identification, these bottles bear the number 3, 4, 5, 6, or 7 in the triangular recycling symbol. Examples include bottles for some juices.

PLASTIC (continued)		
Material ID & Name		**Material Type Definition**
41	**#3-#7 Bottles – Non-CRV**	**#3-#7 Bottles – Non-CRV** means plastic bottles made of types of plastic other than HDPE (high-density polyethylene) or PETE (polyethylene terephthalate). Items may be made of PVC (polyvinyl chloride), LDPE (low-density polyethylene), PP (polypropylene), PS (polystyrene), or mixed resins and are not marked as CRV containers. When marked for identification, these bottles bear the number 3, 4, 5, 6, or 7 in the triangular recycling symbol. Examples include bottles for shampoo, and vitamins.
42	**#3-#7 Other Containers – CRV**	**#3-#7 Other Containers – CRV** means plastic containers (other than bottles) made of types of plastic other than HDPE (high-density polyethylene) or PETE (polyethylene terephthalate). Items may be made of PVC (polyvinyl chloride), LDPE (low-density polyethylene), PP (polypropylene), PS (polystyrene), or mixed resins and are marked as CRV containers. When marked for identification, these items bear the number 3, 4, 5, 6, or 7 in the triangular recycling symbol.
43	**#3-#7 Other Containers – Non-CRV**	**#3-#7 Other Containers – Non-CRV** means plastic containers (other than bottles) made of types of plastic other than HDPE (high-density polyethylene) or PETE (polyethylene terephthalate). Items may be made of PVC (polyvinyl chloride), LDPE (low-density polyethylene), PP (polypropylene), PS (polystyrene), or mixed resins and are not marked as CRV containers. When marked for identification, these items bear the number 3, 4, 5, 6, or 7 in the triangular recycling symbol.
44	**Recyclable Plastic Film**	**Recyclable Plastic Film** means clean plastic film that can be recycled. Examples include; clean plastic bags sold for use as trash bags for residential and commercial use. It also includes plastic shopping bags used to contain merchandise for transport from the place of purchase and given out by the store with the purchase, such as grocery shopping bags, other merchandise bags, or dry-cleaning plastic bags intended for one-time use. This material also includes non-bag commercial and industrial packaging film such as shrink-wrap, mattress bags, furniture wrap, and film bubble wrap. Examples include agricultural film (films used in various farming and growing applications, such as silage greenhouse films, mulch films, and wrap for hay bales), plastic sheeting used as drop cloths, and building wrap.
45	**Nonrecyclable Film**	**Nonrecyclable Film** means all other plastic film that does not fit into any other type. Examples include other types of plastic bags (sandwich bags, zipper-recloseable bags, newspaper bags, produce bags, frozen vegetable bags, bread bags), food wrappers such as candy-bar wrappers, mailing pouches, bank bags, X-ray film, metallized film (wine containers and balloons), plastic food wrap, and contaminated recyclable plastic film.

PLASTIC (continued)		
Material ID & Name		**Material Type Definition**
46	**Durable Plastic Items**	**Durable Plastic Items** means all other plastic objects other than containers, or film plastic. Examples include mop buckets, plastic outdoor furniture, plastic toys, large paint/food buckets, CD's, plastic stay straps, sporting goods, and plastic house wares such as dishes, cups, and cutlery. This type also includes building materials such as house siding, window sashes and frames, housings for electronics (such as computers, televisions and stereos), fan blades, impact-resistance cases (e.g. tool boxes, first aid boxes, tackle boxes, sewing kits, etc.), and plastic pipes and fittings.
47	**Remainder/ Composite Plastic**	**Remainder/Composite Plastic** means plastic that cannot be put in any other type. They are usually recognized by their optical opacity. This type includes items made mostly of plastic but combined with other materials. Examples include auto parts made of plastic attached to metal, plastic drinking straws, foam drinking cups, produce trays, foam meat and pastry trays, foam packing blocks, packing peanuts, foam plates and bowls, plastic strapping, plastic lids, some kitchen ware, toys, new plastic laminate (e.g., Formica), vinyl, linoleum, plastic lumber, insulating foams, imitation ceramics, handles and knobs, plastic string (such as is used for hay bales), and plastic rigid bubble/foil packaging (as for medications).
ORGANIC		
Material ID & Name		**Material Type Definition**
48	**Food**	**Food** means food material resulting from the processing, storage, preparation, cooking, handling, or consumption of food. This includes material from industrial, commercial, or residential sources. Examples include discarded meat scraps, dairy products, egg shells, fruit or vegetable peels, and other food items from homes, stores, and restaurants. Also includes grape pomace and other processed residues or material from canneries, wineries, or other industrial sources.
49	**Leaves and Grass**	**Leaves and Grass** means plant material, except woody material, from any public or private landscapes. Examples include leaves, grass clippings, sea weed, and plants. This type does not include woody material or material from agricultural sources.
50	**Prunings and Trimmings**	**Prunings and Trimmings** means woody plant material up to 4 inches in diameter from any public or private landscape. Examples include prunings, shrubs, and small branches with branch diameters that do not exceed 4 inches. This type does not include stumps, tree trunks, or branches exceeding 4 inches in diameter. This type does not include material from agricultural sources.

ORGANIC (continued)		
Material ID & Name		**Material Type Definition**
51	**Branches and Stumps**	**Branches and Stumps** means woody plant material, branches, and stumps that exceed four inches in diameter from any public or private landscape.
52	**Agricultural Crop Residues**	**Agricultural Crop Residues** means plant material from agricultural sources. Examples include orchard and vineyard prunings; vegetable by-products from farming,; and residual fruits, vegetables, and other crop remains after usable crop is harvested. This type does not include processed residues from canneries, wineries, or other industrial sources.
53	**Manures**	**Manures** means manure and soiled bedding materials from domestic, farm, or ranch animals. Examples include manure and soiled bedding from animal production operations, racetracks, riding stables, animal hospitals, and other sources.
54	**Textiles**	**Textiles** means items made of thread, yarn, fabric, or cloth. Examples include clothes, fabric trimmings, draperies, and all natural and synthetic cloth fibers. This type does not include cloth-covered furniture, mattresses, leather shoes, leather bags, or leather belts.
55	**Carpet**	**Carpet** means flooring applications consisting of various natural or synthetic fibers bonded to some type of backing material. Does not include carpet padding.
56	**Carpet Padding**	**Carpet Padding** means materials used under carpet to provide insulation and padding. Examples include plastic carpet padding, foam carpet padding, felt carpet padding, and other carpet padding.
57	**Remainder/ Composite Organics**	**Remainder/Composite Organics** means organic material that cannot be put in any other type or subtype. This type includes items made mostly of organic materials but combined with other materials. Examples include leather items, cork, hemp rope, garden hoses, rubber items, hair, cigarette butts, diapers, feminine hygiene products, wood products (popsicle sticks and toothpicks), sawdust, and animal feces.
CONSTRUCTION & DEMOLITION		
Material ID & Name		**Material Type Definition**
58	**Concrete**	**Concrete** means a hard material made from sand, gravel, aggregate, cement mix, and water. Examples include pieces of building foundations, concrete paving, and cinder blocks.
59	**Asphalt Paving**	**Asphalt Paving** means a black or brown, tar-like material mixed with aggregate used as a paving material.
60	**Asphalt Roofing**	**Asphalt Roofing** means composite shingles and other roofing material made with asphalt. Examples include asphalt shingles and attached roofing tar and tar paper.

CONSTRUCTION & DEMOLITION (continued)		
Material ID & Name		**Material Type Definition**
61	**Clean recyclable wood (non-treated)**	**Clean recyclable wood (non-treated)** means non-treated processed wood for building, manufacturing, landscaping, packaging, and non-treated processed wood from demolition. Examples include dimensional lumber, lumber cutoffs, engineered wood such as plywood and particleboard, wood scraps, pallets, crates, wood fencing, wood shake roofing, and wood siding. May contain nails or other trace contaminants.
62	**Other Recyclable Wood**	**Other Recyclable Wood** means unpainted, unstained, or untreated recyclable wood not included in any other category. May be recycled into ethanol, adhesives, or other engineered wood products. Includes plywood, sheet board, wafer board, particle board, oriented strand board, furniture, or cabinets that have not been treated with paint, stain, or other finish, or untreated/unpainted wood roofing or siding.
63	**Treated Wood Waste**	**Treated Wood Waste** means wood that has had an external coating applied or has been pressure treated, chemically treated, or treated with creosote. Includes items such as handrails; finished furniture; pressure treated wood; chemically treated wood (with copper etc.); finished wood flooring (Pergo); or wood treated with creosote such as railroad ties, marine timbers and pilings, landscape timbers, or telephone poles.
64	**Clean Gypsum Board**	**Clean Gypsum Board** means interior wall covering made of a sheet of gypsum sandwiched between paper layers that are not painted. Examples include used or unused, broken or whole sheets of sheetrock, drywall, gypsum board, plasterboard, gypboard, gyproc, and wallboard.
65	**Rock, Soil, and Fines**	**Rock, Soil and Fines** means rock pieces of any size and soil, dirt, and other matter. Examples include rock, stones, and sand, clay, soil, and other fines. This type also includes non-hazardous contaminated soil.
66	**Remainder/ Composite Construction and Demolition**	**Remainder/Composite Construction and Demolition** means construction and demolition material that cannot be put in any other type. This type may include items from different categories combined, which would be very hard to separate. Examples include brick, ceramics, tiles, toilets, sinks, dried paint not attached to other materials, and fiberglass insulation. This type may also include demolition debris that is a mixture of items such as plate glass, wood, tiles, painted gypsum board, and aluminum scrap.
HAZARDOUS & ELECTRONIC WASTE		
Material ID & Name		**Material Type Definition**
67	**Paint**	**Paint** means containers with paint in them. Examples include latex paint, oil based paint, and tubes of pigment or fine art paint. This type does not include dried paint, empty paint cans, or empty aerosol containers.
68	**Vehicle and Equipment Fluids**	**Vehicle and Equipment Fluids** means containers with fluids used in vehicles or engines, except used oil. Examples include used antifreeze and brake fluid. This type does not include empty vehicle and equipment fluid containers.

HAZARDOUS & ELECTRONIC WASTE (continued)		
Material ID & Name		**Material Type Definition**
69	**Used Oil and Oil Filters**	**Used Oil and Oil Filters** means the same as defined in Health and Safety Code section 25250.1(a). Examples include spent lubricating oil such as crankcase and transmission oil, gear oil, and hydraulic oil. Oil filters means metal oil filters used in motor vehicles and other engines, which contain a residue of used oil.
70	**Large Rechargeable Batteries**	**Large Rechargeable Batteries** means large rechargeable or lead acid batteries. Examples include car battery and other vehicle batteries.
71	**Small Rechargeable Batteries**	**Small Rechargeable Batteries** means small rechargeable batteries typically used in consumer devices. Examples include rechargeable flashlight and small appliance batteries.
72	**Household Batteries**	**Household Batteries** means non-rechargeable batteries typically used in consumer devices. Examples include alkaline, carbon/zinc batteries, watch, and hearing aid batteries
73	**Universal Waste**	**Universal Waste** means electronics with large circuitry that is computer-related**.** Examples include processors, mice, keyboards, laptops, disk drives, printers, modems, and fax machines, stereos, VCRs, microwaves, DVD players (screen smaller than 4 inches), radios, audio/visual equipment. Examples include personal digital assistants (PDAs), cell phones, phone systems, phone answering machines, computer games and other electronic toys, portable CD players, camcorders, and digital cameras.
74	**Covered Electronic Waste**	**Covered Electronic Waste** means electronic devices that the Department of Toxic Substances Control has determined to be hazardous when discarded as part of the Electronic Waste Recycling Act, including video display devices. Examples include televisions, computer monitors, and other items containing a cathode ray tube (CRT). Also includes LCD desktop monitors, laptops with LCD displays, LCD televisions, and portable DVD players with screens that are 4 inches or larger (measured diagonally).
75	**Fluorescent Tubes**	**Fluorescent Tubes** means fluorescent light tubes and compact fluorescent bulbs (CFL).
76	**Other HHW**	**Other HHW** means other hazardous wastes not described elsewhere in these definitions. Examples include pesticides, solvents, propane, and pharmaceuticals.
77	**Remainder/ Composite Hazardous and E-waste**	**Remainder/Composite Hazardous & E-Waste** means household hazardous material that cannot be put in any other type. This type also includes household hazardous material that is mixed. Examples include household hazardous waste which if improperly put in the solid waste stream may present handling problems or other hazards, such as pesticides, caustic cleaners, and fluorescent light bulbs.

SPECIAL WASTE		
Material ID & Name		**Material Type Definition**
78	**Ash**	**Ash** means a residue from the combustion of any solid or liquid material. Examples include ash from structure fires, fireplaces, incinerators, biomass facilities, waste-to-energy facilities, and barbecues.
79	**Sewage Solids**	**Sewage Solids** means residual solids and semi-solids from the treatment of domestic waste water or sewage. Examples include biosolids, sludge, grit, screenings, and septage. This type does not include sewage or waste water discharged from the sewage treatment process.
80	**Industrial Sludge**	**Industrial Sludge** means sludge from factories, manufacturing facilities, and refineries. Examples include paper pulp sludge, and water treatment filter cake sludge.
81	**Treated Medical Waste**	**Treated Medical Waste** means medical waste that has been processed in order to change its physical, chemical, or biological character or composition, or to remove or reduce its harmful properties or characteristics, as defined in Section 25123.5 of the California Health and Safety Code.
82	**Bulky Items**	**Bulky Items** means large, hard-to-handle items that are not defined separately, including furniture, mattresses, and other large items. Examples include all sizes and types of furniture, mattresses, box springs, and base components.
83	**Tires**	**Tires** means vehicle tires. Examples include tires from trucks, automobiles, motorcycles, heavy equipments, and bicycles.
84	**Remainder/ Composite Special Waste**	**Remainder/Composite Special Waste** means special waste that cannot be put in any other type. Examples include asbestos-containing materials, such as certain types of pipe insulation and floor tiles, auto fluff, auto-bodies, trucks, trailers, truck cabs, untreated medical waste/pills/hypodermic needles, and artificial fireplace logs.
MIXED RESIDUE		
Material ID & Name		**Material Type Definition**
85	**Mixed Residue**	**Mixed Residue** means material that cannot be put in any other type in the other categories. This type includes mixed residue that cannot be further sorted. Examples include clumping kitty litter and residual material from a materials recovery facility or other sorting process that cannot be put in any of the previous remainder/composite types.