PINELLAS COUNTY
2007 WASTE COMPOSITION STUDY
FINAL REPORT

December 2007

Prepared for:

Pinellas County Utilities
Solid Waste Operations
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SECTION 1.0
INTRODUCTION

1.1 Purpose and Scope

Pinellas County (County) requested Kessler Consulting, Inc., (KCI) to conduct a two-season Waste Composition Study to estimate the composition of municipal solid waste (MSW) delivered to the County's Bridgeway Acres Facility. Specifically, the study is intended to estimate the composition of residential and commercial MSW delivered in collection vehicles and excludes (1) segregated yard waste loads delivered to the mulching area, (2) segregated construction and demolition (C&D) debris, and (3) waste self-hauled by residents to the County's drop-off area. A two-season approach was used to study the effects of seasonal impacts, such as the growing season, tourism, and transient residents.

The results of this study will provide useful information regarding the types and amounts of MSW currently disposed by defined generator sectors. This information will help the County gauge the effectiveness of waste reduction and recycling programs that were started or modified since the last study in 2001, as well as develop future solid waste programs, such more focused and cost-effective resource management and recycling systems. Additionally, the results will provide the County with accurate data to utilize in preparing annual solid waste reports for the Florida Department of Environmental Protection (FDEP).

1.2 Background

Pinellas County, located on Florida's west coast, had a 2006 population of approximately 924,413,[1] and is Florida's most densely populated county. The County is surrounded by water on three sides, has a large population of retirees and seasonal residents, and is one of the top ten most visited counties in Florida. Pinellas County's main industries are tourism, advanced manufacturing, medical technologies, marine science, and business/financial services.[2] All of these factors have the potential to influence the composition of the County's waste stream.

[1] United States Census Bureau, http://www.census.gov/popest/counties/CO-EST2006-01.html.
[2] Pinellas County Economic Development, *Communities of Pinellas* (2006), 3. (http://www.pced.org/download/document/2007116_162828_20563.pdf)

Pinellas County's recycling programs will also influence the composition of the waste stream. The County operates 13 drop-off recycling centers that currently accept aluminum cans, corrugated cardboard, mixed paper (including magazines and phone books), newspaper, and #1 and #2 plastic bottles. County Government offices and schools also participate in an office paper recycling program. In addition, the County operates a Household Electronics and Chemical Collection Center (HEC_3), associated special waste events, and a yard waste mulching operation.

While most municipalities in the County (21 out of 24) operate or contract for curbside pickup of recyclables; a majority of the population does not have access to curbside recycling. Those jurisdictions without curbside recycling, the cities of St. Petersburg, Madeira Beach and Redington Shores along with the unincorporated county, comprise 57 percent of the County's population. However, it should be noted that solid waste collection in the unincorporated areas of the County is operated under a free market system, and some waste haulers may provide their customers with curbside recycling for an additional fee.

1.3 Acknowledgments

KCI would like to acknowledge and thank the Pinellas County staff members who assisted with this two-season waste composition study: Andy Fairbanks, Rick Clarke, Valerie Lane, Tom Roberts and Joe Haran from Solid Waste, all of the scalehouse personnel, the laborers provided by Veolia Environmental Services, and the operations and maintenance crews. Their cooperation and positive attitude throughout the 2007 study were essential to its success.

KCI would also like to acknowledge and thank the haulers that worked with us to identify and coordinate the loads from which samples were taken: the cities of St. Petersburg, Clearwater, Largo, Gulfport, Dunedin, Safety Harbor, and Treasure Island; Waste Services, Inc.; Waste Management Inc.; Republic Waste Services; and County Sanitation.

SECTION 2.0
METHODOLOGY

2.1 General Considerations

The methodology for this study followed industry-accepted standards for statistical sampling, as outlined in the ASTM *Standard Test Method for Determination of the Composition of Unprocessed Municipal Solid Waste* (D5231-92). As mentioned previously, sorting events were conducted in two seasons to account for seasonal variability.

Some waste composition studies make adjustments for moisture content to compensate for liquids absorbed by waste materials. Laboratory methods for estimating moisture content are available, but are usually expensive and may overestimate moisture by removing naturally occurring moisture. In addition, materials received at disposal facilities or material recovery facilities are generally measured on an "as is" basis. Therefore, KCI did not include analysis of or adjustments for moisture content as part of this study.

2.2 Generator Types and Sample Selection

A total of seven generator types were targeted in this study. The four primary generator types and three commercial sub-generator sectors are as follows:

- Single-Family Residential with Curbside Recycling,
- Single-Family Residential without Curbside Recycling,
- Multi-Family Residential,
- Commercial,
- Office Parks,
- County Schools, and
- County Government Offices.

Sample selection was organized by generator types, with the goal of sorting a sufficient number of samples for each generator type to achieve results within a 90 percent confidence interval.

KCI worked with four private haulers and seven cities that directly provide collection service to identify the specific routes to be sampled. Route information from these eleven haulers, combined with County scalehouse data and demographic information, was used to identify the specific loads that would be sampled for each generator type. Demographic data was used to

ensure a representative number of loads from each city were sampled, as well as waste from a representative cross-section of businesses. To ensure that multi-family and commercial loads contained only one generator type, a combination of front-end loads, roll-offs, and single dumpsters were selected for sampling.

2.3 Material Categories

KCI worked with Pinellas County staff to develop a list of material categories into which solid waste would be sorted. The categories correspond to the FDEP's annual solid waste reporting requirements for counties. Several categories on FDEP's list were divided into subcategories in order to include additional recyclables of interest to the County. Appendix A, *Description of Material Categories*, provides the list of material categories and their descriptions for the spring and fall sorting events.

2.4 Sort Preparation

KCI and Pinellas County staff determined that the most practical sorting location would be at the "hotpad," located just past the scalehouse at the Bridgeway Acres Facility. KCI reviewed all equipment necessary for conducting the sort and provided all equipment not available at the Facility. Pinellas County provided a front-end loader and operator, roll-off containers and truck, additional workers to help with the sorting activities, and sorting tables. The County also assigned several workers from Veolia Environmental Services, currently under contract with the County, to assist in maintaining the sorting site and surrounding areas during both events.

Prior to each sorting event, KCI worked closely with the County to organize a meeting with the participating solid waste haulers, including the municipalities, to request their cooperation during the study. These meetings took place on January 24, 2007 and August 15, 2007, respectively. Several days before the sort, each hauler was given an information packet containing a daily schedule of the routes that were requested for the sort, as well as yellow placards to be placed in each of the selected vehicles. The placards were used to help scalehouse staff identify those trucks, upon entering the Bridgeway Acres Facility, scheduled to participate in each sort.

A site safety plan was developed for this study and provided to County staff for review and approval prior to the sorting event. Each morning of the sorting events, sorters were given thorough safety instructions. No injuries or emergencies occurred during the sorting events.

2.5 Sampling and Sorting Procedures

The two sorting events were conducted on the following dates:

- Spring – March 19-23, and March 26-30, 2007
- Fall – September 10-14, and September 17-21, 2007

Upon arrival at the scalehouse, drivers of targeted vehicles were directed by scalehouse personnel to proceed to the sorting site. Upon entering the site, KCI's Sampling Supervisor interviewed the driver to confirm that the truck contained waste from the appropriate generator type. The load was then tipped and a representative sample of at least 200 pounds was pulled and placed on a tarp. Figure 2.1 depicts a typical sample ready for sorting.

Figure 2.1: Typical Solid Waste Sample

Samples were sorted into the previously defined material categories. Figure 2.2 depicts the sorting activities. After the entire sample was sorted, the Sorting Supervisor weighed and recorded the weights of each container on a data recording form. Tare weights of empty containers, recorded prior to sorting, were subtracted from the weights of the containers after sorting to obtain the net weight of each material category. The Sorting Supervisor also noted any unusual items or large quantities of materials sorted into non-specific categories such as Other Non-recyclable Trash.

Figure 2.2: Waste Sorting Activities

2.6 Analytical Procedures

After each sorting event, KCI calculated the weighted average of each material category for each sample. After reviewing the results, several samples were excluded from further analysis for one of the following reasons: insufficient sample size (samples less than 200 pounds), inconclusive generator type, or outlying sample (sample with a significantly higher percentage of a particular material category indicating a potential anomaly in the waste stream). Samples for each generator type were then combined to obtain weighted material category averages for that generator. Confidence intervals were calculated for each material category using a standard statistical t-test.

To obtain the overall composition of Single-Family Residential waste, data from the "with and without Curbside Recycling" generator types were combined based on the percentage of the population living in jurisdictions that do or do not have curbside recycling. The Single-Family Residential, Multi-Family Residential, and Commercial generator sectors were then combined, based upon the amount of waste each generator type contributes to the waste stream, to determine the overall composition of MSW disposed at the Bridgeway Acres Facility, excluding segregated loads of yard waste, loads of C&D debris, and self-hauled waste.

Finally, the same analytical procedures outlined above were conducted to combine the data for each generator type from the spring and fall sorting events to estimate the average year-round waste composition.

SECTION 3.0
RESULTS AND FINDINGS

This section of the report discusses the results and findings of the 2007 waste composition study for each of the generator types included in the study, as well as for the overall composition of MSW disposed at the Bridgeway Acres Facility. As mentioned previously, the study did not include segregated loads of separated yard waste, loads of C&D debris, or waste self-hauled by individuals. Most tables and figures that are referenced are provided at the end of the section.

3.1 Summary of Results by Generator Type

Table 3.1 (below) presents a summary of the combined results of the spring and fall sorting events for the Single-Family Residential, Multi-Family Residential, and Commercial generator sectors, as well as for the County overall.

Table 3.1: Composition of MSW Disposed at Bridgeway Acres Facility (% by weight)*

	Material Categories	Single-Family Residential	Multi-Family Residential	Commercial	Countywide
1	Newspaper	6.5%	7.5%	4.1%	5.4%
2	Corrugated Cardboard	3.1%	4.7%	8.7%	6.2%
3	Office Paper	2.1%	1.9%	5.7%	3.9%
4	Other Recyclable Paper	11.2%	12.2%	9.2%	10.3%
5	Other Non-recyclable Paper	6.1%	7.2%	8.6%	7.5%
6	HDPE Containers	1.0%	1.6%	0.6%	0.9%
7	PET Containers	1.7%	2.5%	1.3%	1.6%
8	Other Recyclable Plastic Cont.	0.6%	1.0%	0.5%	0.6%
9	All Other Plastics	9.5%	10.3%	12.0%	10.9%
10	Tin/Steel Cans	1.8%	1.6%	1.1%	1.4%
11	Other Ferrous	1.6%	0.9%	1.7%	1.5%
12	Aluminum Cans	0.9%	1.2%	0.7%	0.9%
13	Other Non-ferrous	0.6%	0.5%	0.9%	0.8%
14	Glass Containers	5.3%	9.8%	5.9%	6.3%
15	Other Glass	0.8%	1.4%	0.5%	0.7%
16	Textiles	4.3%	8.1%	2.7%	4.1%
17	Household Hazardous Waste	0.6%	0.4%	2.1%	1.3%
18	Electronics	2.9%	3.4%	2.3%	2.7%
19	C&D Debris	8.4%	3.4%	10.6%	8.8%
20	Yard Waste	13.9%	0.8%	3.6%	6.7%
21	Food Waste	10.7%	11.5%	13.4%	12.2%
22	Other Non-recyclable Trash	6.5%	8.0%	4.0%	5.4%
	Percent of Waste Stream	34.0%	15.0%	51.0%	100.0%

* Excludes segregated yard waste, C&D debris, and materials self-hauled by individuals.

The "Percentage of Waste Stream" figures in the bottom line of the table indicate the assumptions used to combine the three generator types to estimate the overall waste composition. These percentages were based on the County's most recent annual report to FDEP.

Table 3.2 presents the results of the combined spring and fall sorting events for each of the seven generator types. The table includes the weighted average of each material category, as well as the lower and upper bounds of the 90 percent confidence interval. The confidence interval indicates that, with a 90 percent level of confidence, the actual arithmetic mean (the arithmetic mean obtained if an infinite number samples were sorted) is within the upper and lower limits shown. This provides an understanding of how much variation occurred in the quantity of that material category found in the samples sorted. Generally, the more homogeneous the waste stream and the greater the number of samples sorted, the higher the level of accuracy achieved and the narrower the margin between the upper and lower bounds of the confidence interval.

3.2 Comparison with 2001 Waste Composition Study Results

Throughout this section, the results of the 2007 waste composition study will be compared with the results of a similar study conducted in 2001. To assist with this comparison, Table 3.3 provides a side by side comparison of the two studies for the three main generator types and the countywide waste composition.

The material categories included in the 2007 study were slightly different from those used in the 2001 study. Material category adjustments were made in 2007 to provide information of particular interest or use to the County or to combine categories of minimal interest or with low anticipated waste quantities. Despite these minor differences between the two studies, useful comparisons can be and are made in this section.

3.3 Composition of Overall MSW

Table 3.4 presents the overall composition of the majority of MSW disposed at the Bridgeway Acres Facility based on the results of the March sorting event, the September sorting event, and the combined results of the two events. Figure 3.1 graphically depicts the latter. Provided below is a summary of the study findings regarding the composition of this waste stream:

- **Seasonal Variations:** The most noticeable difference between the two sorting events was a drop in yard waste from an average of 8.2 percent in March to 5.1 percent in September.

This is likely a result of the quiet hurricane season and, to some extent, seasonal residents. There was also a drop in ferrous and nonferrous metals from March to September.

- **Recyclable Paper:** Recyclable grades of paper constitute approximately **26 percent** of the MSW. This includes Corrugated Cardboard (6.2 percent of MSW), Newspaper (5.4 percent), Office Paper (3.9 percent), and Other Recyclable Paper (10.3 percent). When compared with the 2001 study, Newspaper appears to have dropped slightly from 6.6 percent, although this is not statistically significant given the confidence intervals for this material category. Some decrease in newspaper was anticipated because of the downsizing of the St. Petersburg Times, the newspaper having the largest local distribution. On the other hand, Corrugated Cardboard has experienced a slight increase from 4.0 percent.

- **Recyclable Containers:** Recyclable containers comprise approximately **12 percent** of the MSW. Glass containers make up the largest component (6.3 percent of MSW), which is not surprising since it is the heaviest type of container and because the County, City of Clearwater, and other jurisdictions serviced by Clearwater have stopped accepting glass containers in their recycling programs. Also included in recyclable containers, in order of abundance, are PET Containers (1.6 percent), Tin/Steel Cans (1.4 percent), Aluminum Cans (0.9 percent), HPDE Containers (0.9 percent), and Other Plastic Containers (0.6 percent). No significant changes were noted from the 2001 study, with the exception of Glass Containers, which increased from 4.2 percent to 6.3 percent. As noted above, the increase in Glass Containers is likely a result of the exclusion of this material from several recycling programs since the 2001 study.

- **Organics:** Organic wastes comprise about **19 percent** of the MSW. This includes Food Waste (12.2 percent) and Yard Waste (6.7 percent). Food Waste increased from 7.4 percent in the 2001 study; however, this may be due in part to the sorting protocol used in 2007. At the County's request, a greater level of effort was expended on sorting the fine waste particles at the bottom of each sample to minimize what had been classified as "Other Miscellaneous" and "Grit" categories in the 2001 study.

- **Other Material Categories:** Of the other material categories that could potentially be recovered, C&D Debris (8.8 percent) makes up the largest percentage. This category included any structural wood, building materials, or associated items such as carpeting found in the waste stream, some of which might not be feasible to recover.

3.4 Composition of Single-Family Residential MSW

Tables 3.5 and 3.6 present the March 2007, September 2007, and combined study results for Single-Family Residential MSW in areas with curbside recycling and in areas without curbside recycling, respectively. The study results for the two Single-Family Residential generator types were combined based on the percentage of the population living in jurisdictions with curbside recycling (43 percent) and in jurisdictions without recycling (57 percent). Table 3.7 provides and Figure 3.2 depicts the combined results of the two Single-Family Residential generator types. Individual sample results for these generator types are provided in Appendices B and C, respectively.

- **Seasonal Variations:** Comparison of the material category confidence intervals between the spring and fall sorting events reveals several trends that are consistent with both Single-Family Residential generator sectors. The percentage of Other Ferrous and Other Non-Ferrous metals decreased in September when compared with March. As expected, both categories demonstrated a high level of variability in the waste stream, but the confidence intervals of each of these materials have little if any overlap between the two sorting events. The percentage of yard waste also decreased in September. The largest percentage increases were seen in Glass Containers, Other Recyclable Paper, and Food Waste.

- **Recyclable Paper:** Recyclable grades of paper comprise approximately **23 percent** of Single-Family Residential MSW. The difference between jurisdictions that offer curbside recycling (23.7 percent) and those that do not (22.2 percent) is not significant. Figure 3.3 compares the paper categories from the 2001 and 2007 studies. Newspaper, the type of paper most commonly included in residential recycling programs, decreased from 8.7 percent in 2001 to 6.5 percent in 2007. Office Paper also decreased, whereas Corrugated Cardboard slightly increased.

- **Recyclable Containers:** Commingled containers comprise approximately **11 percent** of Single-Family Residential MSW. The difference between jurisdictions that offer curbside recycling (11.1 percent) and those that do not (11.5 percent) is not significant. Glass containers (5.3 percent) make up nearly half of these containers. Figure 3.4 compares the container category results from the 2001 and 2007 studies. PET and Glass Containers experienced increases since 2001. Aluminum and Tin/Steel Cans and HDPE Containers experienced minimal change when comparing confidence intervals.

- **Organics:** Organic wastes constitute nearly **25 percent** of Single-Family Residential MSW. This includes Yard Waste (13.9 percent of MSW) and Food Waste (10.7 percent). The difference in the amount of Yard Waste found in jurisdictions that offer curbside recycling (11.7 percent) compared with jurisdictions that do not have curbside recycling (15.6 percent) is fairly significant since there is little overlap in the confidence intervals for this material between the two generator types. Some of the jurisdictions that offer curbside recycling also offer separate collection of yard waste. Little change in Yard Waste occurred since the 2001 study.

3.5 Composition of Multi-Family Residential MSW

Table 3.8 presents the March 2007, September 2007, and combined study results for Multi-Family Residential MSW, and Figure 3.5 illustrates the combined results. Individual sample results for this generator sector are provided in Appendix D.

- **Seasonal Variations:** Some minor seasonal variations were noted. Newspaper represented a smaller percentage of Multi-Family Residential MSW in September than in March, which may be affected by seasonal residents that cancel newspaper subscriptions while out of town. The Other Recyclable Plastic Container category also decreased in percentage in September, while Food Waste increased.

- **Recyclable Paper:** Recyclable paper constitutes approximately **26 percent** of Multi-Family Residential MSW. Other Recyclable Paper (12.2 percent of MSW) was the largest constituent, followed by Newspaper (7.5 percent), Corrugated Cardboard (4.7 percent), and Office Paper (1.9 percent). Figure 3.6 compares the 2001 and 2007 study results. The percentage of Newspaper decreased (from 11.1 percent to 7.5 percent), but the other recyclable paper categories experienced little change.

- **Recyclable Containers:** Commingled containers comprise nearly **18 percent** of Multi-Family Residential MSW. Glass Containers (9.8 percent of MSW) make up the largest component, which is an even larger percentage than in Single-Family Residential waste (5.3 percent). Figure 3.7 compares the container category percentages from the 2001 and 2007 studies. The most notable increases were in Glass Containers (from 4.6 percent to 9.8 percent) and PET Containers (from 1.0 percent to 2.5 percent). The percentage of Aluminum Cans also increased slightly, but all other container categories remained nearly the same.

- **Organics:** Organic wastes comprise **12 percent** of Multi-Family Residential waste. As expected, the bulk of this is Food Waste (11.5 percent) and Yard Waste is negligible (0.8 percent).

3.6 Composition of Commercial MSW

Table 3.9 presents the study results for the two seasonal sorts, as well as combined data, for Commercial MSW. Figure 3.8 depicts the combined results. Individual sample results for this generator sector are provided in Appendix E.

- **Seasonal Variations:** Some seasonal variations were noted. Most notable are percentage decreases in Tin/Steel Cans, Other Ferrous, and Yard Waste, with increases in the Other Glass and Food Waste categories.

- **Recyclable Paper:** Recyclable grades of paper comprise nearly **28 percent** of Commercial MSW. The largest categories are Other Recyclable Paper (9.2 percent) and Corrugated Cardboard (8.7 percent), followed by Office Paper (5.7 percent) and Newspaper (4.1 percent). Figure 3.9 compares the 2001 and 2007 study results. Notable increases occurred in Corrugated Cardboard (from 5.0 percent to 8.7 percent) and Office Paper (from 2.3 percent to 5.7 percent).

- **Recyclable Containers:** Recyclable containers make up **10 percent** of the Commercial waste stream. Glass Containers (5.9 percent) constitutes the largest component. Figure 3.10 compares the 2001 and 2007 study results for the container categories. Glass Containers experienced the most significant increase (from 4.0 percent), HDPE Containers decreased (from 1.1 percent to 0.6 percent), and all other container categories experienced little change.

- **Organics:** Organic wastes comprise **17 percent** of Commercial MSW. As expected, this is made up primarily of Food Waste (13.4 percent) with relatively little Yard Waste (3.6 percent).

- **Other Material Categories:** Several other material categories are worth noting because of their potential for recovery from the Commercial waste stream – All Other Plastics (12.0 percent) and C&D Debris (10.6 percent).

3.7 Composition of Office Park Waste

Table 3.10 presents the study results for the two seasonal sorts, as well as combined data, for Office Park waste, and Figure 3.11 depicts the combined results. The compositions of individual samples in this generator sector are provided in Appendix F.

- **Study Event Variations:** The most notable variations between the March and September study events are an increase in Glass Containers (from 2.1 percent to 9.8 percent) and decrease in Other Ferrous (from 1.8 percent to 0.1 percent).

- **Recyclable Paper:** Recyclable paper grades comprised approximately **38 percent** of the Office Park waste disposed. Office Paper (14.6 percent) was the largest component, followed by Other Recyclable Paper (11.1 percent), Corrugated Cardboard (8.1 percent), and Newspaper (4.4 percent).

- **Recyclable Containers:** Recyclable containers constituted nearly **11 percent** of the Office Park waste sampled. The largest components were Glass Containers (6.3 percent) and PET Containers (2.3 percent).

- **Organics:** Organic wastes represented another **11 percent** of the Office Park waste. This was primarily attributed to Food Waste (9.9 percent).

3.8 Composition of County School Waste

Table 3.11 presents the study results for the two seasonal sorts, as well as combined data, for County School waste, and Figure 3.12 depicts the combined results. Individual sample results for this generator type are provided in Appendix G.

- **Study Event Variations:** As can be seen in Table 3.11, some fairly significant differences occurred in the results from the two sorting events, which is likely due to differences between schools included in the two events rather than seasonal variations. Because of difficulties in obtaining waste loads consisting of solely school waste, only six samples were sorted in March and seven in September. Therefore, the waste composition of each individual school impacts the study results to a greater degree than if more loads had been sampled. Perhaps the most notable difference between the two studies is the increase in Newspaper from 3.9 percent in March to 16.7 percent in September.

- **Recyclable Paper:** Recyclable paper grades comprise over **36 percent** of the County School waste. The largest component is Newspaper (11.8 percent), followed by Other Recyclable Paper (9.6 percent), Office Paper (9.0 percent), and Corrugated Cardboard (5.9 percent).

- **Recyclable Containers:** Recyclable containers constitute **10 percent** of the County School waste stream. PET Containers (5.9 percent) represent over half of these containers, whereas Glass Containers (1.3 percent) are negligible.

- **Organics:** Organic wastes comprise **15 percent** of County School waste, the vast majority of which is Food Waste (13.2 percent).

3.9 Composition of County Government Office Waste

Table 3.12 presents the March 2007, September 2007, and combined study results for County Government Office waste, and Figure 3.13 illustrates the combined results. Individual sample results for this generator type are provided in Appendix H.

- **Study Event Variations:** As with County Schools, the number of samples sorted was limited by the ability to obtain segregated waste loads for this generator type. Therefore, the differences in study results between the two sorting events are more likely attributable to variations in the waste streams of the County Government Offices sampled during each event than to seasonal effects.

- **Recyclable Paper:** Recyclable paper grades comprise nearly **28 percent** of the County Government Office waste. The largest component is Other Recyclable Paper (10.1 percent), followed by Office Paper (6.7 percent), Corrugated Cardboard (5.7 percent), and Newspaper (5.2 percent).

- **Recyclable Containers:** Commingled Containers comprise nearly **10 percent** of County Government Office waste. The largest components are Glass Containers (3.5 percent) and PET Containers (2.6 percent).

- **Organics:** Organic wastes also make up nearly **10 percent** of County Government Office waste. This includes about three times as much Food Waste (7.3 percent) as Yard Waste (2.4 percent).

- **Other Material Categories:** Other recyclable material categories that represented a significant amount of County Government Office waste and that potentially include recoverable materials are All Other Plastics (10.1 percent) and C&D Debris (7.5 percent).

Table 3.2: Study Results with 90 Percent Confidence Interval (% by weight)

		Single Family Residential with Curbside Recycling			Single Family Residential without Curbside Recycling			Multi-Family Residential			Commercial Sector		
		Weighted	90% Confidence		Weighted	90% Confidence		Weighted	90% Confidence		Weighted	90% Confidence	
	Material Categories	Average	Lower	Upper	Average	Lower	Upper	Average	Lower	Upper	Average	Lower	Upper
1	Newspaper	6.1%	5.3%	6.9%	6.8%	5.8%	7.7%	7.5%	6.1%	8.9%	4.1%	2.9%	5.3%
2	Corrugated Cardboard	3.4%	2.7%	4.2%	2.8%	2.0%	3.5%	4.7%	3.9%	5.5%	8.7%	5.9%	11.4%
3	Office Paper	2.7%	1.8%	3.6%	1.6%	1.2%	1.9%	1.9%	1.3%	2.4%	5.7%	3.3%	8.2%
4	Other Recyclable Paper	11.5%	10.2%	12.7%	11.0%	9.9%	12.1%	12.2%	10.9%	13.4%	9.2%	7.9%	10.5%
5	Other Non-recyclable Paper	6.0%	5.3%	6.7%	6.1%	5.6%	6.7%	7.2%	6.5%	7.9%	8.6%	6.9%	10.3%
6	HDPE Containers	1.0%	0.9%	1.2%	1.0%	0.8%	1.2%	1.6%	1.4%	1.8%	0.6%	0.5%	0.7%
7	PET Containers	1.5%	1.3%	1.7%	1.8%	1.6%	2.0%	2.5%	2.2%	2.9%	1.3%	1.0%	1.6%
8	Other Recyclable Plastic Cont.	0.7%	0.4%	1.0%	0.6%	0.5%	0.7%	1.0%	0.0%	2.4%	0.5%	0.3%	0.6%
9	All Other Plastics	10.1%	9.3%	10.8%	9.1%	8.4%	9.8%	10.3%	9.3%	11.3%	12.0%	9.4%	14.5%
10	Tin/Steel Cans	1.8%	1.4%	2.2%	1.7%	1.5%	2.0%	1.6%	1.4%	1.9%	1.1%	0.9%	1.3%
11	Other Ferrous	2.2%	1.0%	3.4%	1.2%	0.6%	1.7%	0.9%	0.5%	1.4%	1.7%	0.9%	2.4%
12	Aluminum Cans	1.0%	0.8%	1.2%	0.9%	0.7%	1.0%	1.2%	1.0%	1.5%	0.7%	0.5%	0.9%
13	Other Non-ferrous	0.6%	0.3%	0.8%	0.7%	0.4%	0.9%	0.5%	0.4%	0.7%	0.9%	0.6%	1.3%
14	Glass Containers	5.1%	3.8%	6.3%	5.5%	4.8%	6.2%	9.8%	8.5%	11.2%	5.9%	4.2%	7.5%
15	Other Glass	0.9%	0.6%	1.2%	0.7%	0.4%	0.9%	1.4%	0.8%	2.0%	0.5%	0.2%	0.8%
16	Textiles	4.8%	3.9%	5.7%	4.0%	3.2%	4.9%	8.1%	5.4%	10.9%	2.7%	2.1%	3.4%
17	Household Hazardous Waste	0.6%	0.4%	0.9%	0.5%	0.1%	0.9%	0.4%	0.3%	0.6%	2.1%	0.8%	3.3%
18	Electronics	3.0%	1.5%	4.5%	2.9%	1.5%	4.2%	3.4%	1.2%	5.5%	2.3%	1.1%	3.4%
19	C&D Debris	7.6%	5.4%	9.7%	9.0%	6.4%	11.6%	3.4%	1.7%	5.0%	10.6%	7.1%	14.1%
20	Yard Waste	11.6%	8.4%	14.8%	15.6%	12.6%	18.6%	0.8%	0.4%	1.1%	3.6%	2.4%	4.8%
21	Food Waste	11.7%	10.1%	13.4%	9.9%	8.8%	11.0%	11.5%	9.6%	13.3%	13.4%	10.5%	16.4%
22	Other Non-recyclable Trash	6.1%	5.2%	7.0%	6.8%	5.8%	7.7%	8.0%	6.8%	9.3%	4.0%	3.1%	4.8%
	TOTALS	100.0%			100.0%			100.0%			100.0%		

Table 3.2 (continued): Study Results with 90 Percent Confidence Interval (% by weight)

		County Schools			County Offices			Office Parks		
	Material Categories	Weighted Average	90% Confidence		Weighted Average	90% Confidence		Weighted Average	90% Confidence	
			Lower	Upper		Lower	Upper		Lower	Upper
1	Newspaper	11.8%	6.8%	16.8%	5.2%	2.4%	7.9%	4.4%	3.3%	5.5%
2	Corrugated Cardboard	5.9%	3.8%	7.9%	5.7%	3.8%	7.5%	8.1%	4.9%	11.2%
3	Office Paper	9.0%	5.9%	12.2%	6.7%	0.7%	12.7%	14.6%	6.8%	22.4%
4	Other Recyclable Paper	9.6%	5.6%	13.6%	10.1%	7.8%	12.5%	11.1%	8.5%	13.7%
5	Other Non-recyclable Paper	12.1%	9.5%	14.6%	18.1%	12.6%	23.7%	13.6%	7.5%	19.8%
6	HDPE Containers	0.3%	0.2%	0.4%	1.0%	0.7%	1.4%	0.4%	0.3%	0.5%
7	PET Containers	5.9%	4.2%	7.5%	2.6%	1.9%	3.2%	2.3%	1.6%	3.0%
8	Other Recyclable Plastic Cont.	0.4%	0.2%	0.6%	1.0%	0.0%	2.0%	0.5%	0.2%	0.8%
9	All Other Plastics	13.3%	10.8%	15.9%	10.1%	7.9%	12.3%	11.9%	7.3%	16.6%
10	Tin/Steel Cans	1.3%	0.6%	1.9%	1.0%	0.6%	1.3%	0.6%	0.4%	0.7%
11	Other Ferrous	0.1%	0.1%	0.2%	0.5%	0.3%	0.6%	0.9%	0.0%	3.0%
12	Aluminum Cans	1.1%	0.8%	1.4%	0.7%	0.5%	0.9%	0.9%	0.6%	1.1%
13	Other Non-ferrous	0.4%	0.2%	0.6%	0.4%	0.0%	0.9%	0.1%	0.0%	0.2%
14	Glass Containers	1.3%	0.6%	1.9%	3.5%	1.7%	5.3%	6.3%	2.3%	10.2%
15	Other Glass	0.1%	0.0%	0.1%	0.5%	0.3%	0.8%	0.1%	0.0%	0.1%
16	Textiles	0.5%	0.3%	0.8%	4.8%	2.6%	7.0%	0.3%	0.1%	0.6%
17	Household Hazardous Waste	0.1%	0.0%	0.2%	0.3%	0.2%	0.4%	4.1%	1.0%	7.1%
18	Electronics	0.2%	0.0%	0.5%	5.1%	3.3%	6.9%	0.5%	0.0%	1.9%
19	C&D Debris	4.4%	1.8%	7.0%	7.5%	0.0%	16.6%	4.5%	2.0%	7.1%
20	Yard Waste	2.3%	0.0%	5.5%	2.4%	0.7%	4.1%	1.1%	0.0%	2.3%
21	Food Waste	13.2%	6.4%	19.9%	7.3%	4.7%	9.9%	9.9%	5.4%	14.5%
22	Other Non-recyclable Trash	6.8%	4.9%	8.6%	5.6%	3.0%	8.2%	3.9%	2.0%	5.8%
	TOTALS	100.0%			100.0%			100.0%		

Table 3.3: Comparison of 2001 and 2007 Pinellas County Waste Composition Studies (% by weight)

	Single-Family Residential		Multi-Family Residential		Commercial		Countywide	
Material Categories	2001	2007	2001	2007	2001	2007	2001	2007
Newspaper	8.7%	6.5%	11.1%	7.5%	4.3%	4.1%	6.6%	5.4%
Corrugated Cardboard	2.6%	3.1%	4.8%	4.7%	5.0%	8.7%	4.0%	6.2%
Office Paper	4.0%	2.1%	2.9%	1.9%	2.3%	5.7%	3.3%	3.9%
Other Paper[1]	18.9%	17.3%	22.1%	19.3%	19.8%	17.8%	18.1%	17.9%
HDPE Containers	1.1%	1.0%	1.6%	1.6%	1.1%	0.6%	1.3%	0.9%
PET Containers	0.9%	1.7%	1.0%	2.5%	1.2%	1.3%	1.2%	1.6%
Other Plastics[2]	7.2%	10.1%	16.0%	11.4%	9.7%	12.4%	10.5%	11.5%
Tin/Steel Cans	1.4%	1.8%	1.6%	1.6%	0.8%	1.1%	1.3%	1.4%
Other Ferrous	1.2%	1.6%	1.1%	0.9%	2.6%	1.7%	2.1%	1.5%
Aluminum Cans	0.8%	0.9%	0.8%	1.2%	0.6%	0.7%	0.8%	0.9%
Other Non-ferrous	0.4%	0.6%	0.6%	0.5%	0.3%	0.9%	0.4%	0.8%
Glass Containers[3]	3.2%	5.3%	4.6%	9.8%	4.0%	5.9%	4.2%	6.3%
Other Glass	0.2%	0.8%	0.2%	1.4%	0.3%	0.5%	0.3%	0.7%
Textiles	2.7%	4.3%	3.1%	8.1%	1.9%	2.7%	2.4%	4.1%
HHW/Electronics[4]	2.1%	3.5%	0.6%	3.8%	4.0%	4.3%	3.3%	4.0%
C&D Debris[5]	4.7%	8.4%	2.7%	3.4%	11.7%	10.6%	9.0%	8.8%
Yard Waste	14.8%	13.9%	1.4%	0.8%	4.1%	3.6%	7.1%	6.7%
Food Waste	7.5%	10.7%	9.2%	11.5%	10.4%	13.4%	7.4%	12.2%
Other Non-recyclable Trash[6]	17.6%	6.5%	14.6%	8.0%	15.9%	4.0%	16.8%	5.4%
Totals	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

[1] Other Paper = 2001 Categories: Magazines/Glossy Paper and Other Paper & 2007 Categories: Other Recyclable Paper and Other Non-recyclable Paper

[2] Other Plastics = 2007 Categories: Other Recyclable Plastic Containers and All Other Plastics

[3] Glass Containers = 2001 Categories: Green, Brown, and Clear glass combined

[4] HHW/Electronics = 2007 Categories: Household Hazardous Waste and Electronics

[5] C&D Debris = 2001 Categories: C&D Debris and Carpet

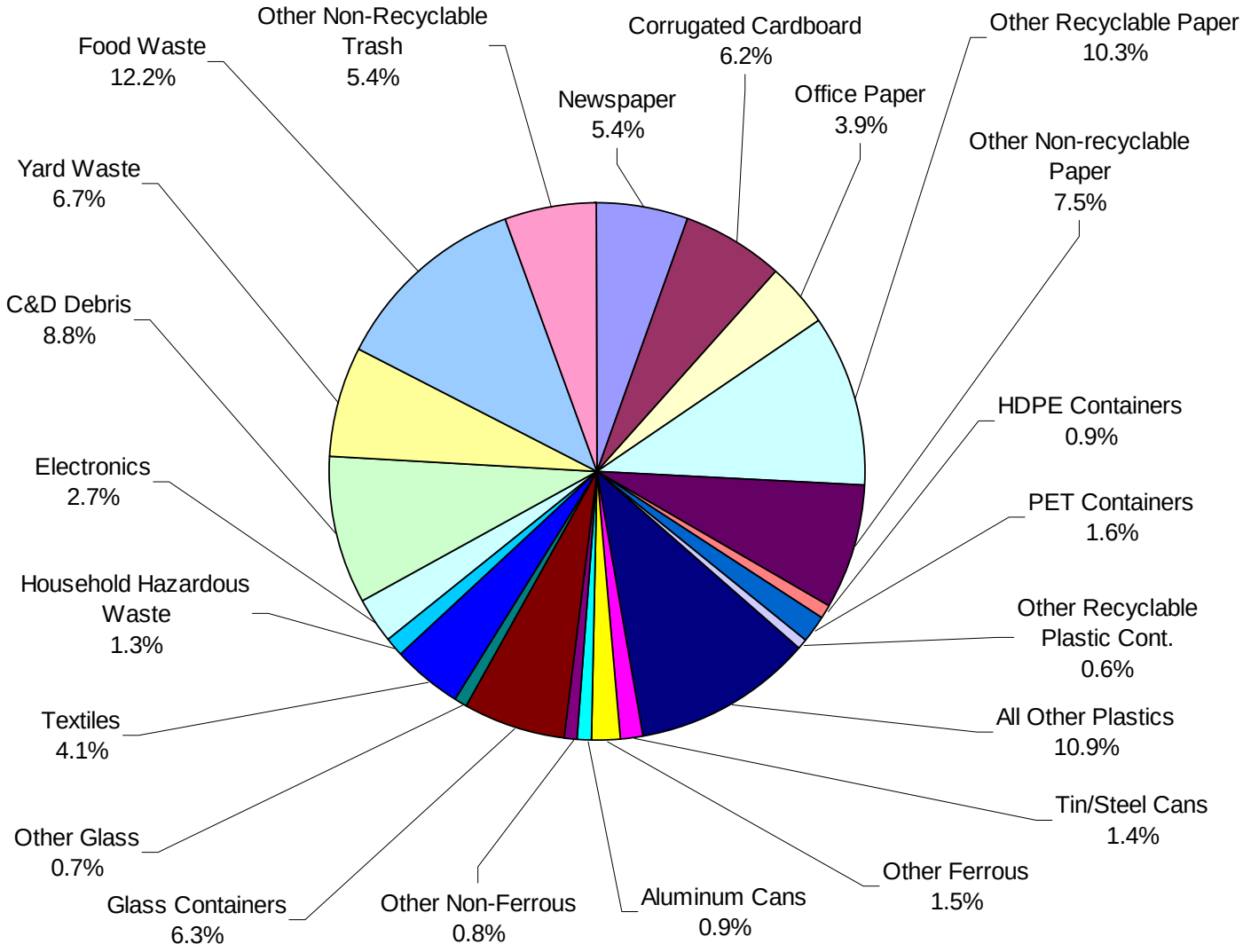
[6] Other Non-recyclable Trash = 2001 Categories: Other Miscellaneous, Diapers, Grit, and Tires

Table 3.4: Composition of MSW Disposed at Bridgeway Acres Facility, by Sorting Event (% by weight)*

	Material Categories	Study Results March 2007	Study Results September 2007	Study Results Combined
1	Newspaper	5.4%	5.4%	5.4%
2	Corrugated Cardboard	5.9%	6.5%	6.2%
3	Office Paper	4.1%	3.7%	3.9%
4	Other Recyclable Paper	10.0%	10.7%	10.3%
5	Other Non-recyclable Paper	7.5%	7.6%	7.5%
6	HDPE Containers	0.9%	0.9%	0.9%
7	PET Containers	1.6%	1.6%	1.6%
8	Other Recyclable Plastic Cont.	0.8%	0.4%	0.6%
9	All Other Plastics	10.7%	11.0%	10.9%
10	Tin/Steel Cans	1.6%	1.1%	1.4%
11	Other Ferrous	2.2%	0.8%	1.5%
12	Aluminum Cans	0.9%	0.8%	0.9%
13	Other Non-ferrous	1.1%	0.4%	0.8%
14	Glass Containers	6.4%	6.1%	6.3%
15	Other Glass	0.6%	0.9%	0.7%
16	Textiles	4.6%	3.6%	4.1%
17	Household Hazardous Waste	1.6%	1.0%	1.3%
18	Electronics	1.4%	4.0%	2.7%
19	C&D Debris	9.4%	8.1%	8.8%
20	Yard Waste	8.2%	5.1%	6.7%
21	Food Waste	10.1%	14.4%	12.2%
22	Other Non-recyclable Trash	4.8%	6.0%	5.4%
	TOTALS	100.0%	100.0%	100.0%

* Excludes segregated yard waste, C&D debris, and materials self-hauled by individuals.

Figure 3.1: Composition of MSW Disposed at Bridgeway Acres Facility (% by weight)*



* Excludes segregated yard waste, C&D debris, and materials self-hauled by individuals.

Table 3.5: Composition of Single-Family Residential MSW in Areas with Curbside Recycling (% by weight)

		Single-Family with Curbside Recycling - March 2007			Single-Family with Curbside Recycling - September 2007			Single-Family with Curbside Recycling - 2007 Combined		
	Material Categories	Weighted Average	90 % Confidence		Weighted Average	90 % Confidence		Weighted Average	90 % Confidence	
			Lower	Upper		Lower	Upper		Lower	Upper
1	Newspaper	5.6%	4.2%	7.1%	6.5%	5.5%	7.6%	6.1%	5.3%	6.9%
2	Corrugated Cardboard	3.6%	2.6%	4.7%	3.3%	2.0%	4.5%	3.4%	2.7%	4.2%
3	Office Paper	2.9%	1.5%	4.2%	2.6%	1.4%	3.9%	2.7%	1.8%	3.6%
4	Other Recyclable Paper	10.1%	8.0%	12.2%	12.8%	11.3%	14.2%	11.5%	10.2%	12.7%
5	Other Non-recyclable Paper	5.1%	4.1%	6.1%	6.8%	5.9%	7.7%	6.0%	5.3%	6.7%
6	HDPE Containers	1.1%	0.9%	1.4%	0.9%	0.7%	1.1%	1.0%	0.9%	1.2%
7	PET Containers	1.5%	1.2%	1.8%	1.5%	1.3%	1.8%	1.5%	1.3%	1.7%
8	Other Recyclable Plastic Cont.	1.0%	0.4%	1.6%	0.4%	0.2%	0.5%	0.7%	0.4%	1.0%
9	All Other Plastics	9.1%	7.7%	10.4%	11.0%	10.1%	11.8%	10.1%	9.3%	10.8%
10	Tin/Steel Cans	1.9%	1.3%	2.4%	1.7%	1.3%	2.2%	1.8%	1.4%	2.2%
11	Other Ferrous	3.1%	0.5%	5.8%	1.4%	0.6%	2.1%	2.2%	1.0%	3.4%
12	Aluminum Cans	1.2%	0.8%	1.5%	0.9%	0.7%	1.1%	1.0%	0.8%	1.2%
13	Other Non-ferrous	0.9%	0.4%	1.4%	0.3%	0.2%	0.4%	0.6%	0.3%	0.8%
14	Glass Containers	4.5%	2.5%	6.5%	5.6%	3.9%	7.3%	5.1%	3.8%	6.3%
15	Other Glass	0.9%	0.2%	1.6%	0.9%	0.6%	1.2%	0.9%	0.6%	1.2%
16	Textiles	5.6%	4.5%	6.8%	4.0%	2.5%	5.4%	4.8%	3.9%	5.7%
17	Household Hazardous Waste	0.7%	0.3%	1.0%	0.6%	0.2%	1.0%	0.6%	0.4%	0.9%
18	Electronics	4.2%	1.2%	7.2%	1.9%	1.0%	2.8%	3.0%	1.5%	4.5%
19	C&D Debris	8.3%	4.0%	12.6%	6.9%	4.9%	8.8%	7.6%	5.4%	9.7%
20	Yard Waste	12.6%	6.2%	19.0%	10.7%	7.8%	13.7%	11.6%	8.4%	14.8%
21	Food Waste	10.7%	7.9%	13.4%	12.7%	10.6%	14.8%	11.7%	10.1%	13.4%
22	Other Non-recyclable Trash	5.4%	4.2%	6.5%	6.8%	5.5%	8.1%	6.1%	5.2%	7.0%
	TOTALS	100.0%			100.0%			100.0%		

Table 3.6: Composition of Single-Family Residential MSW in Areas without Curbside Recycling (% by weight)

		Single-Family without Curbside Recycling - March 2007			Single-Family without Curbside Recycling - September 2007			Single-Family without Curbside Recycling - 2007 Combined		
	Material Categories	Weighted Average	90 % Confidence		Weighted Average	90 % Confidence		Weighted Average	90 % Confidence	
			Lower	Upper		Lower	Upper		Lower	Upper
1	Newspaper	6.9%	5.5%	8.2%	6.7%	5.2%	8.2%	6.8%	5.8%	7.7%
2	Corrugated Cardboard	2.4%	1.6%	3.3%	3.1%	1.9%	4.4%	2.8%	2.0%	3.5%
3	Office Paper	1.6%	1.0%	2.2%	1.5%	1.0%	2.0%	1.6%	1.2%	1.9%
4	Other Recyclable Paper	9.9%	8.5%	11.4%	12.1%	10.4%	13.7%	11.0%	9.9%	12.1%
5	Other Non-recyclable Paper	6.1%	5.3%	7.0%	6.1%	5.4%	6.9%	6.1%	5.6%	6.7%
6	HDPE Containers	1.0%	0.7%	1.3%	1.0%	0.7%	1.2%	1.0%	0.8%	1.2%
7	PET Containers	1.8%	1.6%	2.1%	1.7%	1.4%	2.0%	1.8%	1.6%	2.0%
8	Other Recyclable Plastic Cont.	0.7%	0.6%	0.9%	0.4%	0.3%	0.5%	0.6%	0.5%	0.7%
9	All Other Plastics	9.3%	8.3%	10.3%	8.9%	7.7%	10.1%	9.1%	8.4%	9.8%
10	Tin/Steel Cans	2.0%	1.7%	2.2%	1.5%	1.2%	1.8%	1.7%	1.5%	2.0%
11	Other Ferrous	1.8%	0.7%	2.9%	0.5%	0.3%	0.7%	1.2%	0.6%	1.7%
12	Aluminum Cans	0.9%	0.6%	1.1%	0.9%	0.7%	1.0%	0.9%	0.7%	1.0%
13	Other Non-ferrous	0.9%	0.4%	1.5%	0.4%	0.2%	0.5%	0.7%	0.4%	0.9%
14	Glass Containers	4.6%	3.7%	5.5%	6.5%	5.6%	7.4%	5.5%	4.8%	6.2%
15	Other Glass	1.0%	0.5%	1.5%	0.4%	0.2%	0.5%	0.7%	0.4%	0.9%
16	Textiles	4.2%	3.0%	5.4%	3.8%	2.4%	5.2%	4.0%	3.2%	4.9%
17	Household Hazardous Waste	0.5%	0.0%	1.3%	0.5%	0.1%	1.0%	0.5%	0.1%	0.9%
18	Electronics	1.7%	0.5%	2.9%	4.1%	1.6%	6.5%	2.9%	1.5%	4.2%
19	C&D Debris	9.3%	5.2%	13.3%	8.7%	5.0%	12.4%	9.0%	6.4%	11.6%
20	Yard Waste	19.3%	14.5%	24.2%	11.8%	9.0%	14.6%	15.6%	12.6%	18.6%
21	Food Waste	8.0%	6.9%	9.0%	11.9%	10.1%	13.7%	9.9%	8.8%	11.0%
22	Other Non-recyclable Trash	6.0%	4.8%	7.1%	7.6%	6.0%	9.1%	6.8%	5.8%	7.7%
	TOTALS	100.0%			100.0%			100.0%		

Table 3.7: Composition of Single-Family Residential MSW (% by weight)

	Material Categories	Single-Family with Curbside Recycling	Single-Family without Curbside Recycling	Single-Family Combined
1	Newspaper	6.1%	6.8%	**6.5%**
2	Corrugated Cardboard	3.4%	2.8%	**3.1%**
3	Office Paper	2.7%	1.6%	**2.1%**
4	Other Recyclable Paper	11.5%	11.0%	**11.2%**
5	Other Non-recyclable Paper	6.0%	6.1%	**6.1%**
6	HDPE Containers	1.0%	1.0%	**1.0%**
7	PET Containers	1.5%	1.8%	**1.7%**
8	Other Recyclable Plastic Cont.	0.7%	0.6%	**0.6%**
9	All Other Plastics	10.1%	9.1%	**9.5%**
10	Tin/Steel Cans	1.8%	1.7%	**1.8%**
11	Other Ferrous	2.2%	1.2%	**1.6%**
12	Aluminum Cans	1.0%	0.9%	**0.9%**
13	Other Non-ferrous	0.6%	0.7%	**0.6%**
14	Glass Containers	5.1%	5.5%	**5.3%**
15	Other Glass	0.9%	0.7%	**0.8%**
16	Textiles	4.8%	4.0%	**4.3%**
17	Household Hazardous Waste	0.6%	0.5%	**0.6%**
18	Electronics	3.0%	2.9%	**2.9%**
19	C&D Debris	7.6%	9.0%	**8.4%**
20	Yard Waste	11.6%	15.6%	**13.9%**
21	Food Waste	11.7%	9.9%	**10.7%**
22	Other Non-recyclable Trash	6.1%	6.8%	**6.5%**
Percent of Population		**43.0%**	**57.0%**	**100.0%**

Figure 3.2: Composition of Single-Family Residential MSW (% by weight)

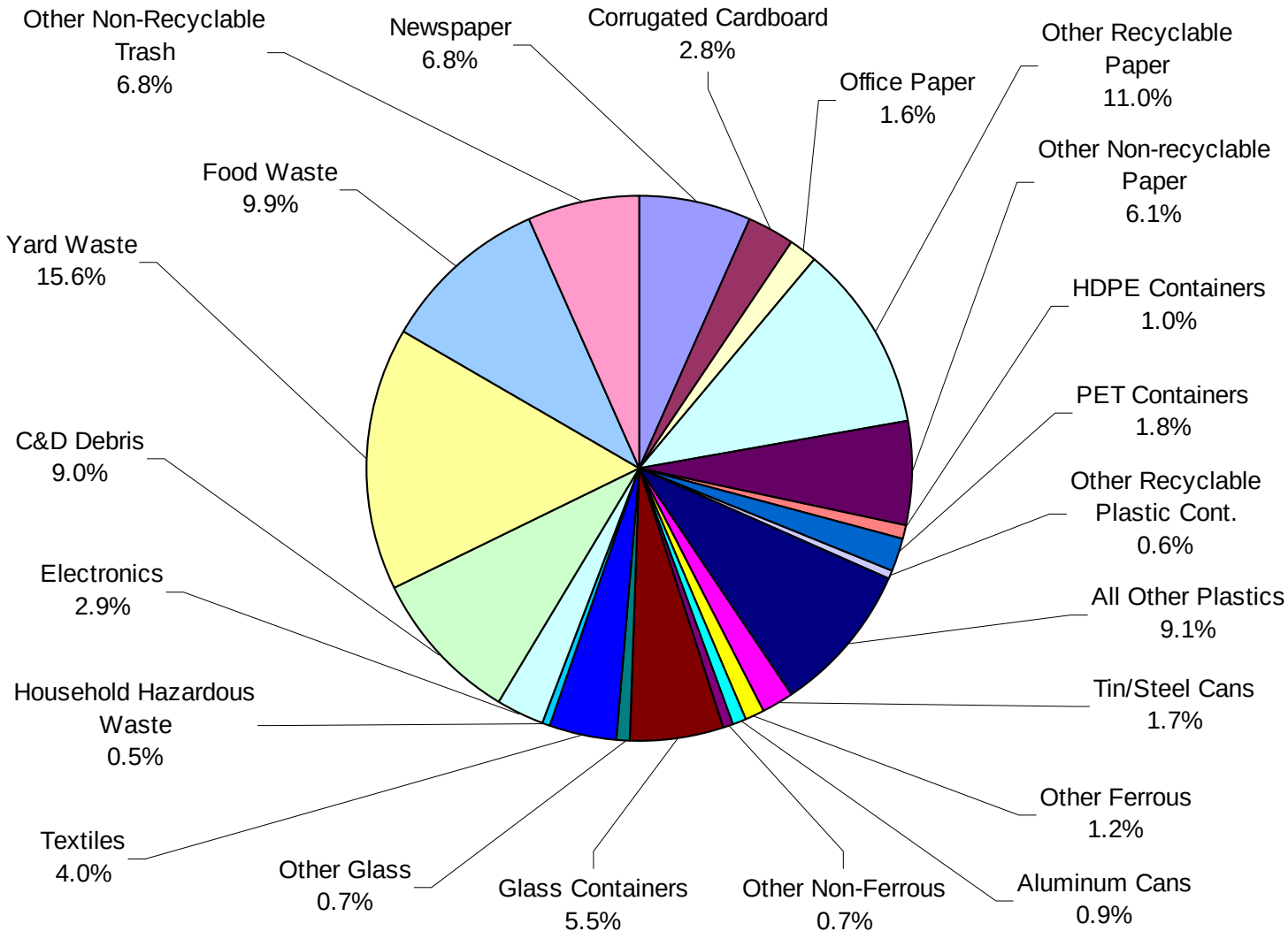
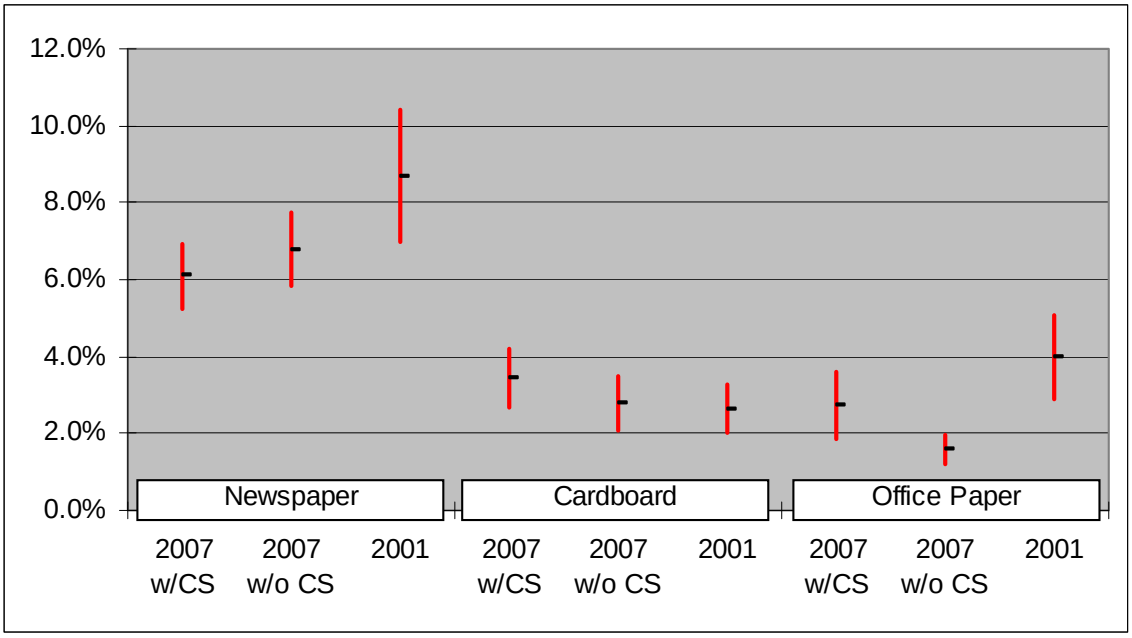
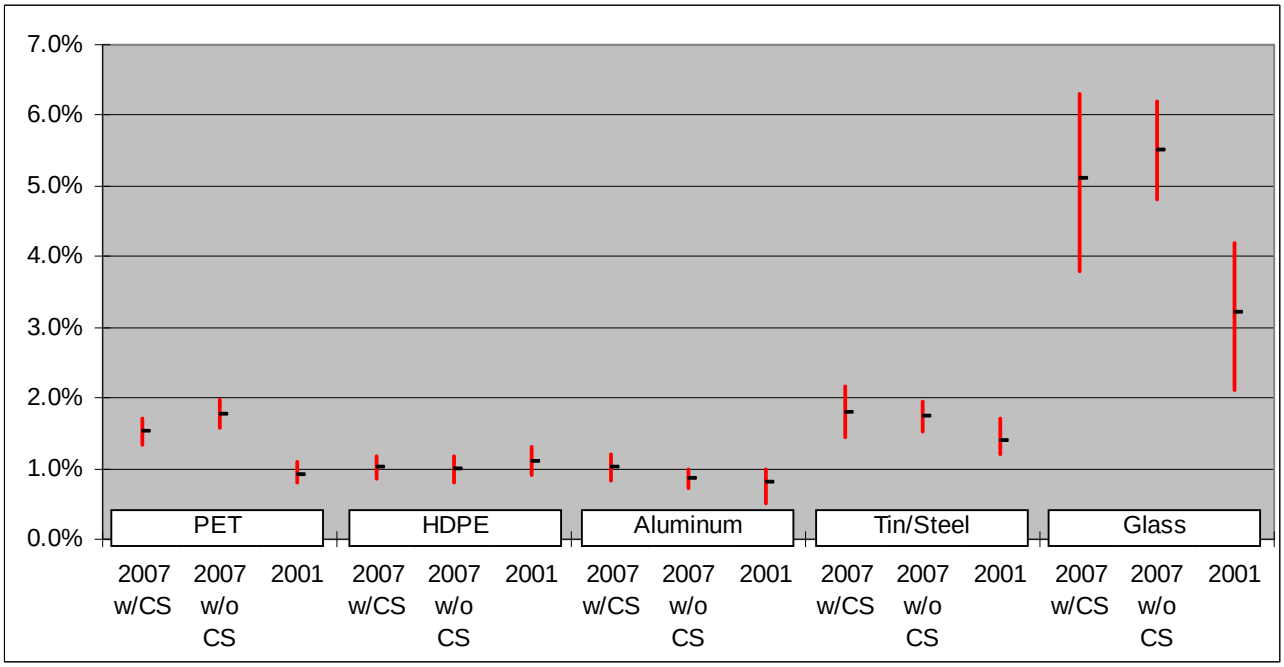


Figure 3.3: Single-Family Residential – Confidence Intervals for Paper Categories (% by weight)



w/CS = with curbside recycling; w/o CS = without curbside recycling

Figure 3.4: Single-Family Residential – Confidence Intervals for Container Categories (% by weight)



w/CS = with curbside recycling; w/o CS = without curbside recycling

Table 3.8: Composition of Multi-Family Residential MSW (% by weight)

		Multi-Family Residential March 2007			Multi-Family Residential September 2007			Multi-Family Residential 2007 Combined		
		Weighted	90 % Confidence		Weighted	90 % Confidence		Weighted	90 % Confidence	
	Material Categories	Average	Lower	Upper	Average	Lower	Upper	Average	Lower	Upper
1	Newspaper	8.5%	6.2%	10.8%	6.5%	4.7%	8.3%	7.5%	6.1%	8.9%
2	Corrugated Cardboard	5.2%	4.1%	6.3%	4.2%	3.0%	5.5%	4.7%	3.9%	5.5%
3	Office Paper	2.0%	1.1%	3.0%	1.7%	1.1%	2.3%	1.9%	1.3%	2.4%
4	Other Recyclable Paper	12.6%	10.3%	14.9%	11.7%	10.2%	13.1%	12.2%	10.9%	13.4%
5	Other Non-recyclable Paper	7.9%	6.8%	9.0%	6.4%	5.5%	7.4%	7.2%	6.5%	7.9%
6	HDPE Containers	1.6%	1.2%	2.0%	1.6%	1.3%	1.8%	1.6%	1.4%	1.8%
7	PET Containers	2.4%	1.8%	3.1%	2.6%	2.2%	3.0%	2.5%	2.2%	2.9%
8	Other Recyclable Plastic Cont.	1.7%	0.0%	4.5%	0.3%	0.2%	0.4%	1.0%	0.0%	2.4%
9	All Other Plastics	9.5%	7.8%	11.1%	11.2%	10.0%	12.4%	10.3%	9.3%	11.3%
10	Tin/Steel Cans	1.7%	1.3%	2.1%	1.6%	1.3%	1.8%	1.6%	1.4%	1.9%
11	Other Ferrous	1.3%	0.5%	2.0%	0.6%	0.3%	1.0%	0.9%	0.5%	1.4%
12	Aluminum Cans	1.1%	0.9%	1.4%	1.3%	0.9%	1.7%	1.2%	1.0%	1.5%
13	Other Non-ferrous	0.7%	0.5%	0.9%	0.3%	0.2%	0.5%	0.5%	0.4%	0.7%
14	Glass Containers	9.7%	7.5%	11.8%	10.0%	8.0%	12.0%	9.8%	8.5%	11.2%
15	Other Glass	1.2%	0.6%	1.8%	1.5%	0.5%	2.6%	1.4%	0.8%	2.0%
16	Textiles	10.3%	5.2%	15.4%	5.9%	3.5%	8.3%	8.1%	5.4%	10.9%
17	Household Hazardous Waste	0.4%	0.2%	0.7%	0.4%	0.2%	0.6%	0.4%	0.3%	0.6%
18	Electronics	2.0%	0.0%	5.7%	4.8%	2.2%	7.4%	3.4%	1.2%	5.5%
19	C&D Debris	2.8%	0.9%	4.6%	4.0%	1.1%	7.0%	3.4%	1.7%	5.0%
20	Yard Waste	1.0%	0.4%	1.5%	0.5%	0.1%	1.0%	0.8%	0.4%	1.1%
21	Food Waste	9.7%	7.1%	12.3%	13.2%	10.7%	15.8%	11.5%	9.6%	13.3%
22	Other Non-recyclable Trash	6.5%	4.7%	8.3%	9.6%	7.8%	11.4%	8.0%	6.8%	9.3%
	TOTALS	100.0%			100.0%			100.0%		

Figure 3.5: Composition of Multi-Family Residential MSW (% by weight)

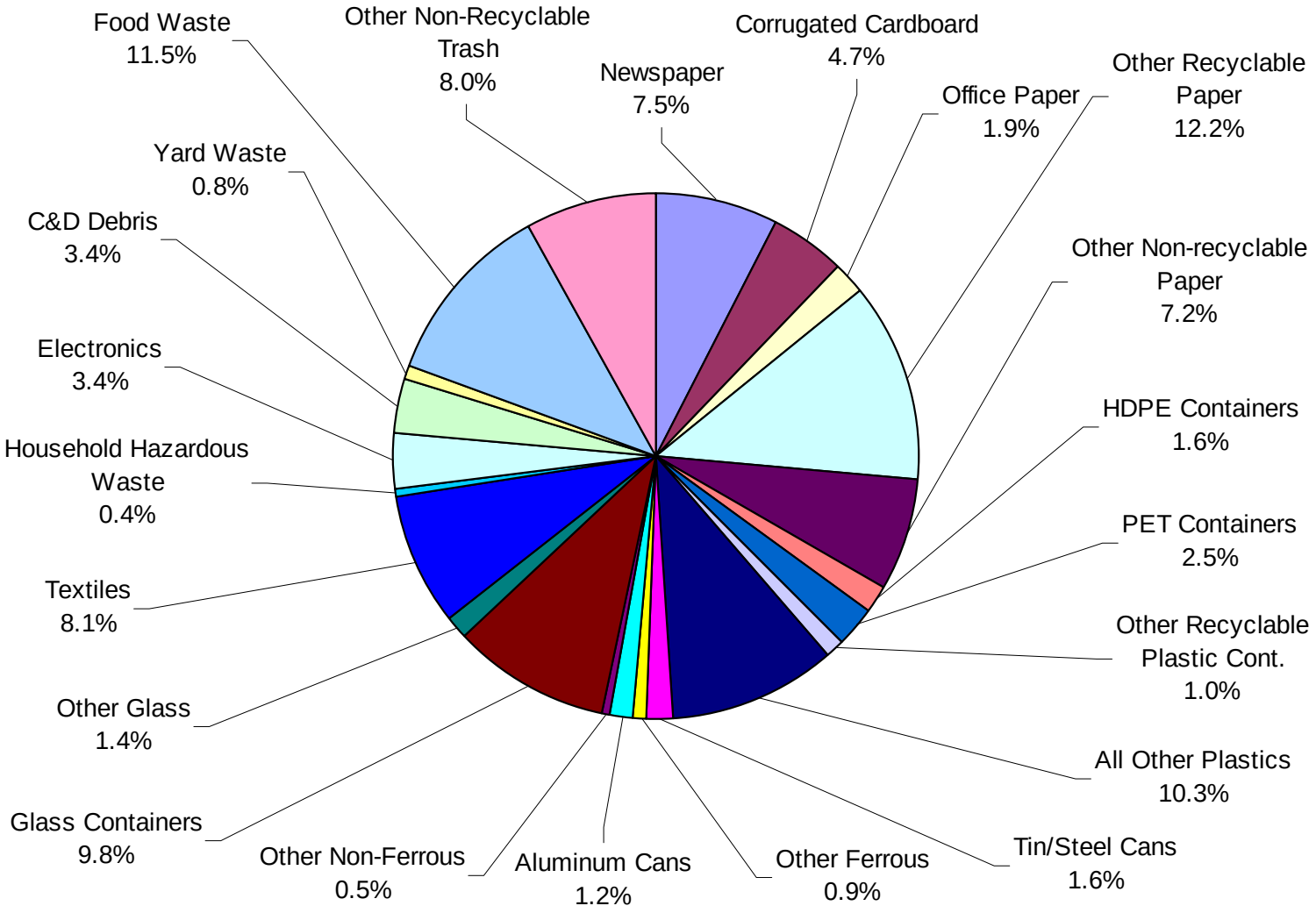


Figure 3.6: Multi-Family Residential – Confidence Intervals for Paper Categories (% by weight)

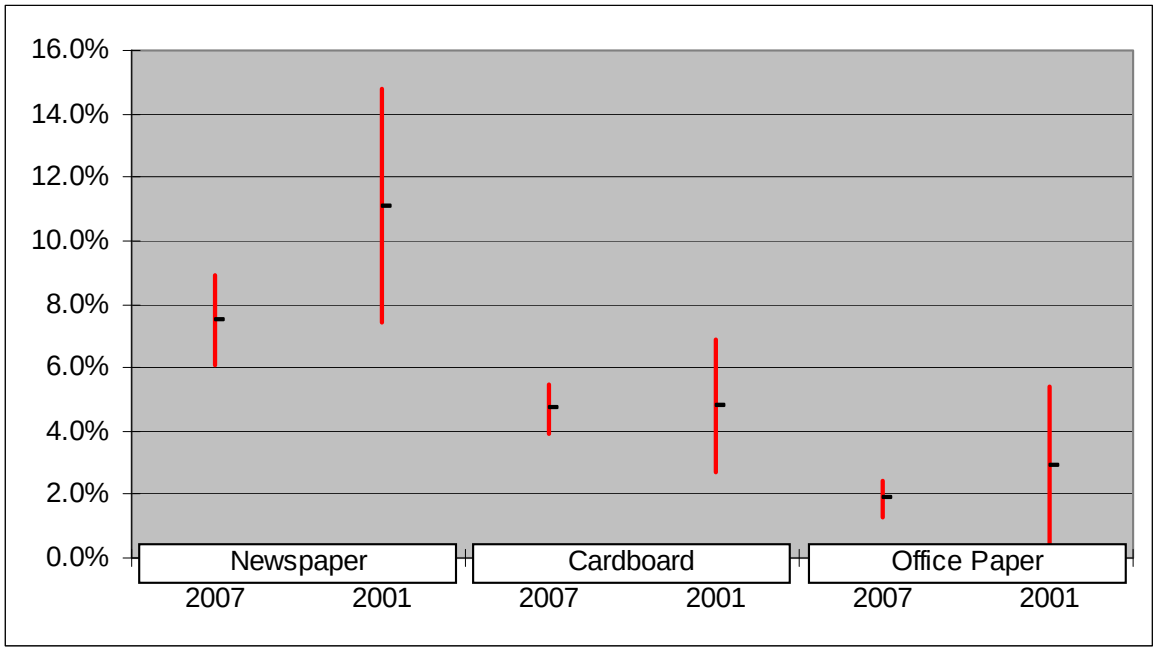


Figure 3.7: Multi-Family Residential – Confidence Intervals for Container Categories (% by weight)

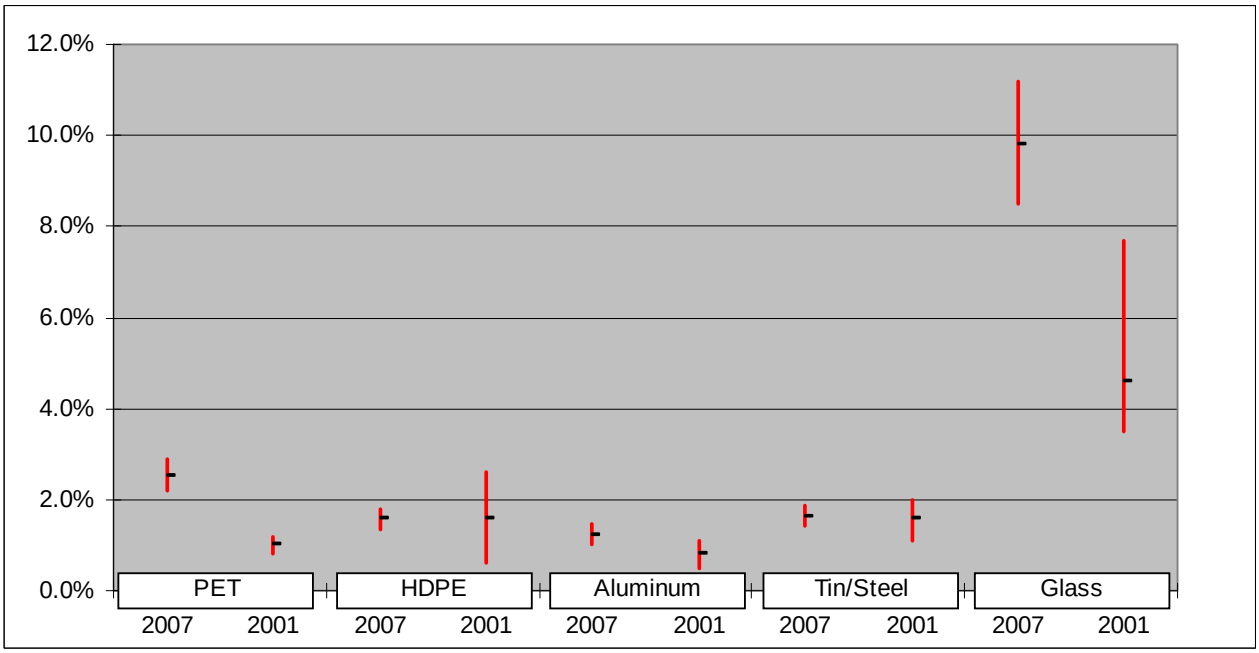


Table 3.9: Composition of Commercial MSW (% by weight)

		Commercial March 2007			Commercial September 2007			Commercial 2007 Combined		
	Material Categories	Weighted Average	90 % Confidence		Weighted Average	90 % Confidence		Weighted Average	90 % Confidence	
			Lower	Upper		Lower	Upper		Lower	Upper
1	Newspaper	3.9%	2.5%	5.3%	4.3%	2.3%	6.3%	4.1%	2.9%	5.3%
2	Corrugated Cardboard	8.0%	5.6%	10.4%	9.4%	4.2%	14.5%	8.7%	5.9%	11.4%
3	Office Paper	6.0%	1.8%	10.2%	5.5%	2.3%	8.7%	5.7%	3.3%	8.2%
4	Other Recyclable Paper	9.2%	7.0%	11.4%	9.2%	7.5%	10.9%	9.2%	7.9%	10.5%
5	Other Non-recyclable Paper	8.5%	7.1%	9.9%	8.7%	5.5%	11.9%	8.6%	6.9%	10.3%
6	HDPE Containers	0.6%	0.4%	0.8%	0.6%	0.4%	0.8%	0.6%	0.5%	0.7%
7	PET Containers	1.3%	0.9%	1.7%	1.3%	0.8%	1.7%	1.3%	1.0%	1.6%
8	Other Recyclable Plastic Cont.	0.6%	0.4%	0.7%	0.4%	0.1%	0.7%	0.5%	0.3%	0.6%
9	All Other Plastics	12.1%	7.2%	17.0%	11.8%	9.3%	14.3%	12.0%	9.4%	14.5%
10	Tin/Steel Cans	1.4%	1.0%	1.8%	0.7%	0.5%	0.8%	1.1%	0.9%	1.3%
11	Other Ferrous	2.5%	0.9%	4.0%	0.8%	0.3%	1.3%	1.7%	0.9%	2.4%
12	Aluminum Cans	0.8%	0.6%	1.0%	0.6%	0.3%	1.0%	0.7%	0.5%	0.9%
13	Other Non-ferrous	1.3%	0.6%	1.9%	0.5%	0.1%	0.9%	0.9%	0.6%	1.3%
14	Glass Containers	6.6%	3.9%	9.4%	5.0%	3.0%	7.0%	5.9%	4.2%	7.5%
15	Other Glass	0.2%	0.0%	0.4%	0.9%	0.3%	1.5%	0.5%	0.2%	0.8%
16	Textiles	2.8%	1.6%	3.9%	2.7%	1.9%	3.6%	2.7%	2.1%	3.4%
17	Household Hazardous Waste	2.6%	0.2%	5.0%	1.5%	0.5%	2.5%	2.1%	0.8%	3.3%
18	Electronics	0.4%	0.0%	1.0%	4.3%	2.0%	6.6%	2.3%	1.1%	3.4%
19	C&D Debris	11.8%	5.4%	18.2%	9.3%	5.5%	13.1%	10.6%	7.1%	14.1%
20	Yard Waste	4.7%	2.5%	7.0%	2.3%	1.2%	3.4%	3.6%	2.4%	4.8%
21	Food Waste	10.9%	7.0%	14.8%	16.1%	11.4%	20.8%	13.4%	10.5%	16.4%
22	Other Non-recyclable Trash	3.8%	2.6%	5.0%	4.2%	2.9%	5.4%	4.0%	3.1%	4.8%
	TOTALS	100.0%			100.0%			100.0%		

Figure 3.8: Composition of Commercial MSW (% by weight)

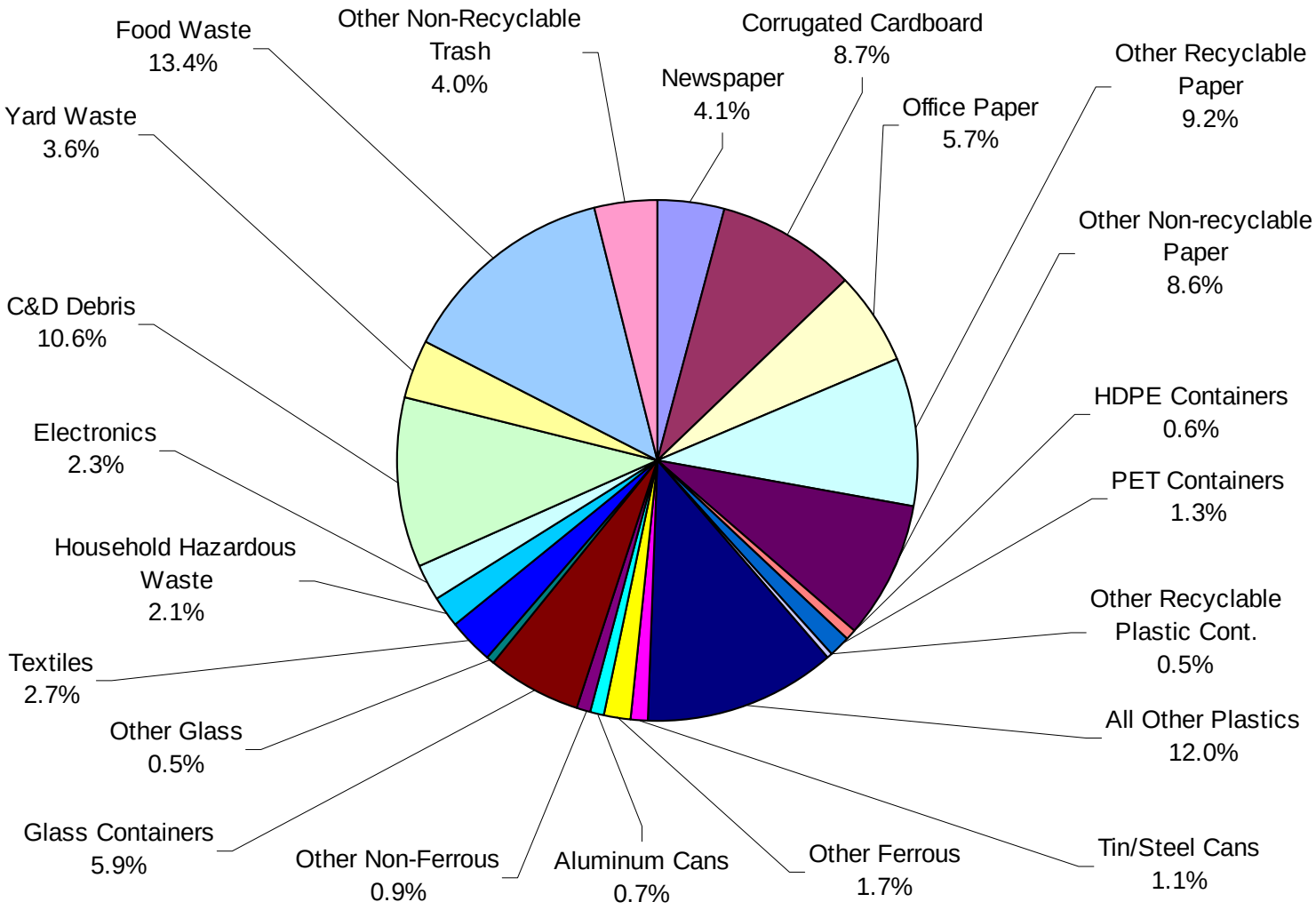


Figure 3.9: Commercial – Confidence Intervals for Paper Categories (% by weight)

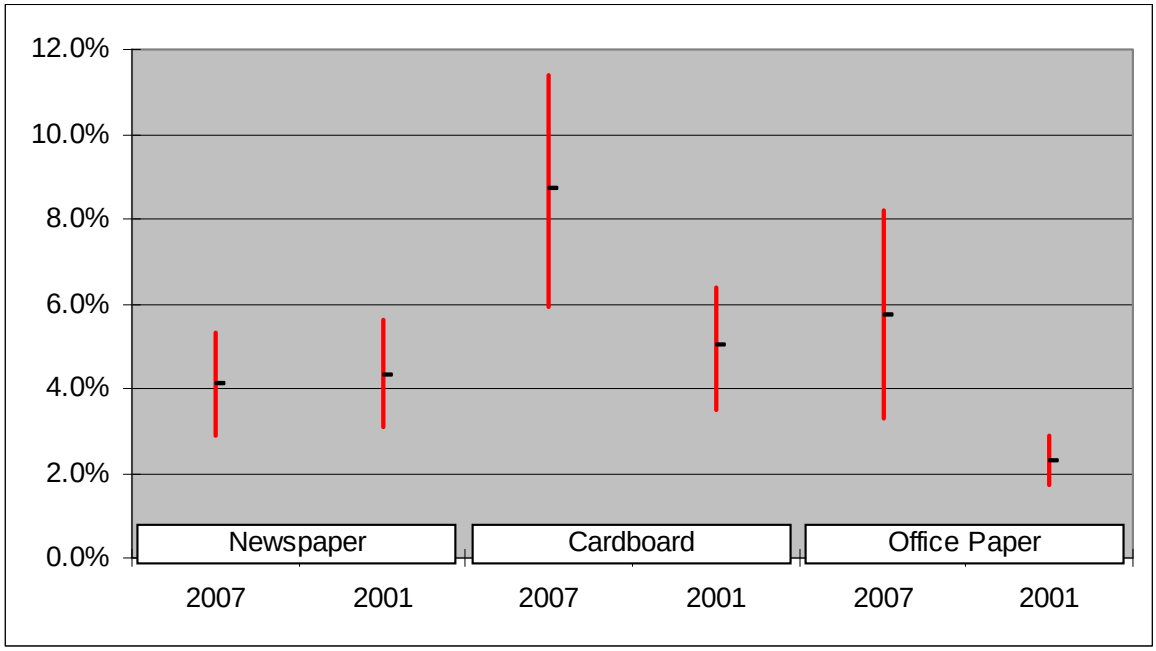


Figure 3.10: Commercial – Confidence Intervals for Container Categories (% by weight)

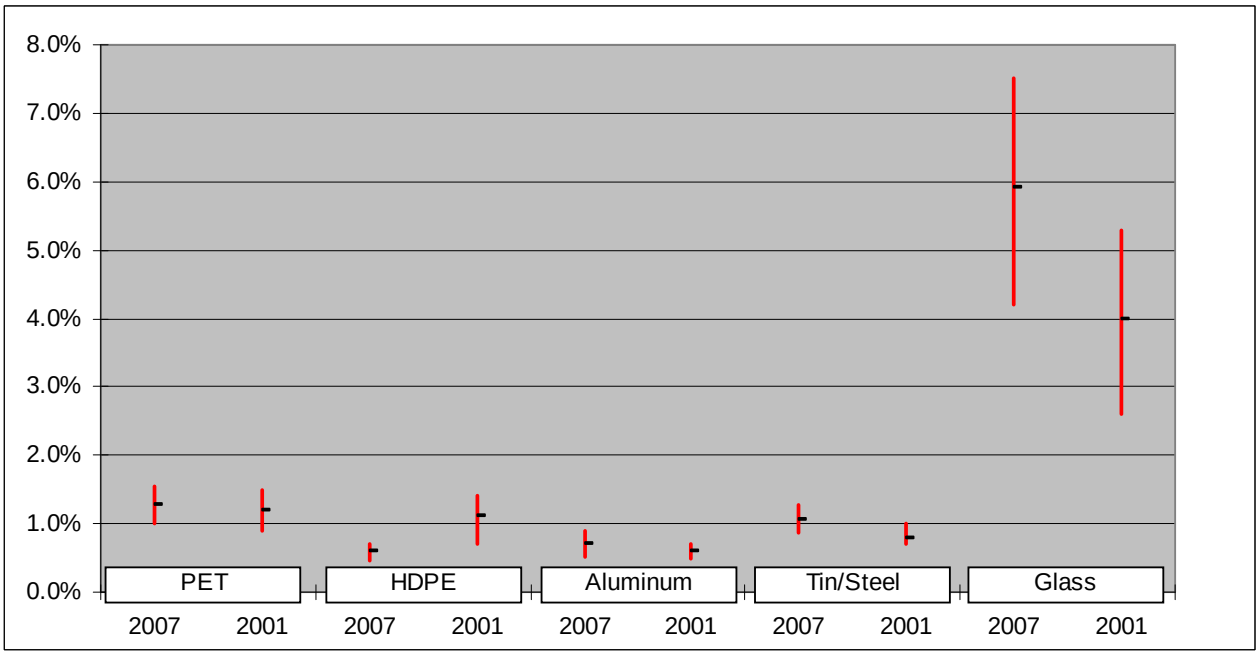


Table 3.10: Composition of Office Park Waste (% by weight)

		Office Parks March 2007			Office Parks September 2007			Office Parks 2007 Combined		
	Material Categories	Weighted Average	90 % Confidence		Weighted Average	90 % Confidence		Weighted Average	90 % Confidence	
			Lower	Upper		Lower	Upper		Lower	Upper
1	Newspaper	3.9%	1.9%	5.9%	4.8%	3.1%	6.6%	4.4%	3.3%	5.5%
2	Corrugated Cardboard	9.5%	2.3%	16.6%	6.9%	3.2%	10.5%	8.1%	4.9%	11.2%
3	Office Paper	15.9%	0.0%	32.5%	13.6%	5.2%	21.9%	14.6%	6.8%	22.4%
4	Other Recyclable Paper	12.8%	7.2%	18.3%	9.7%	7.7%	11.7%	11.1%	8.5%	13.7%
5	Other Non-recyclable Paper	10.3%	6.6%	14.0%	16.5%	5.5%	27.5%	13.6%	7.5%	19.8%
6	HDPE Containers	0.2%	0.1%	0.4%	0.5%	0.4%	0.7%	0.4%	0.3%	0.5%
7	PET Containers	2.4%	1.1%	3.7%	2.1%	1.1%	3.2%	2.3%	1.6%	3.0%
8	Other Recyclable Plastic Cont.	0.6%	0.3%	1.0%	0.4%	0.0%	1.0%	0.5%	0.2%	0.8%
9	All Other Plastics	11.3%	7.4%	15.2%	12.5%	3.7%	21.2%	11.9%	7.3%	16.6%
10	Tin/Steel Cans	0.4%	0.2%	0.6%	0.7%	0.5%	0.9%	0.6%	0.4%	0.7%
11	Other Ferrous	1.8%	0.0%	7.1%	0.1%	0.0%	0.2%	0.9%	0.0%	3.0%
12	Aluminum Cans	0.8%	0.5%	1.0%	0.9%	0.6%	1.3%	0.9%	0.6%	1.1%
13	Other Non-ferrous	0.2%	0.0%	0.3%	0.1%	0.0%	0.2%	0.1%	0.0%	0.2%
14	Glass Containers	2.1%	1.0%	3.2%	9.8%	1.5%	18.0%	6.3%	2.3%	10.2%
15	Other Glass	0.1%	0.0%	0.1%	0.0%	0.0%	0.2%	0.1%	0.0%	0.1%
16	Textiles	0.6%	0.2%	1.0%	0.1%	0.0%	0.6%	0.3%	0.1%	0.6%
17	Household Hazardous Waste	6.2%	0.0%	13.6%	2.2%	0.3%	4.1%	4.1%	1.0%	7.1%
18	Electronics	0.2%	0.0%	0.8%	0.8%	0.0%	3.5%	0.5%	0.0%	1.9%
19	C&D Debris	4.5%	0.0%	8.9%	4.6%	0.5%	8.6%	4.5%	2.0%	7.1%
20	Yard Waste	0.8%	0.0%	3.5%	1.4%	0.1%	2.6%	1.1%	0.0%	2.3%
21	Food Waste	9.7%	4.7%	14.7%	10.1%	2.1%	18.1%	9.9%	5.4%	14.5%
22	Other Non-recyclable Trash	5.8%	1.4%	10.2%	2.2%	1.2%	3.2%	3.9%	2.0%	5.8%
	TOTALS	100.0%			100.0%			100.0%		

Figure 3.11: Composition of Office Park Waste (% by weight)

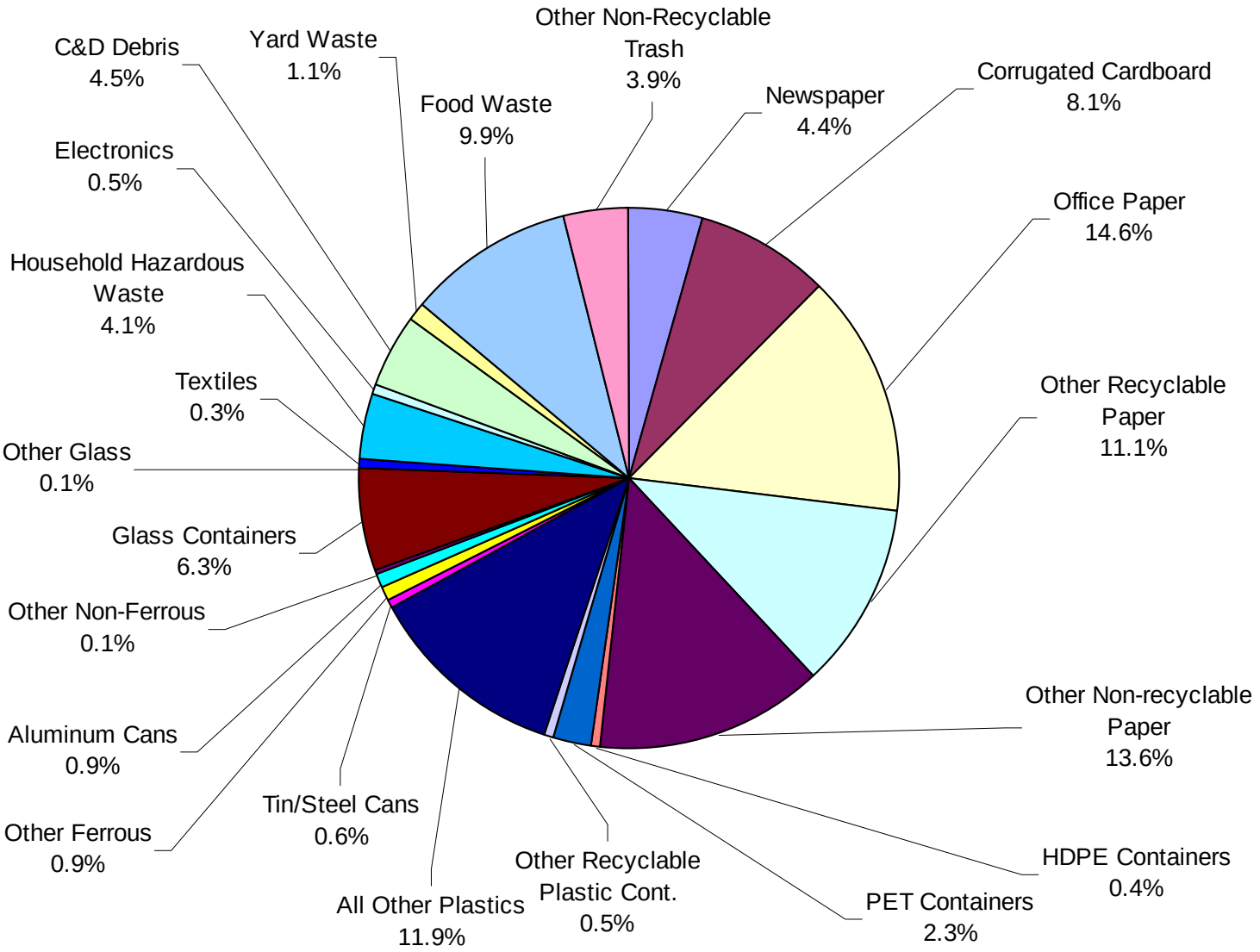


Table 3.11: Composition of County School Waste (% by weight)

		County Schools March 2007			County Schools September 2007			County Schools 2007 Combined		
		Weighted	90 % Confidence		Weighted	90 % Confidence		Weighted	90 % Confidence	
	Material Categories	Average	Lower	Upper	Average	Lower	Upper	Average	Lower	Upper
1	Newspaper	3.9%	1.7%	6.1%	16.7%	7.6%	25.8%	11.8%	6.8%	16.8%
2	Corrugated Cardboard	8.5%	3.3%	13.7%	4.3%	2.9%	5.6%	5.9%	3.8%	7.9%
3	Office Paper	6.0%	2.8%	9.2%	10.9%	5.5%	16.3%	9.0%	5.9%	12.2%
4	Other Recyclable Paper	10.7%	7.2%	14.2%	8.9%	1.1%	16.8%	9.6%	5.6%	13.6%
5	Other Non-recyclable Paper	10.7%	6.3%	15.1%	13.0%	9.3%	16.6%	12.1%	9.5%	14.6%
6	HDPE Containers	0.3%	0.1%	0.5%	0.3%	0.1%	0.4%	0.3%	0.2%	0.4%
7	PET Containers	4.7%	1.9%	7.4%	6.6%	4.6%	8.7%	5.9%	4.2%	7.5%
8	Other Recyclable Plastic Cont.	0.6%	0.2%	1.0%	0.2%	0.0%	0.4%	0.4%	0.2%	0.6%
9	All Other Plastics	17.5%	16.2%	18.7%	10.8%	9.1%	12.4%	13.3%	10.8%	15.9%
10	Tin/Steel Cans	2.1%	0.9%	3.3%	0.7%	0.2%	1.3%	1.3%	0.6%	1.9%
11	Other Ferrous	0.2%	0.1%	0.3%	0.1%	0.0%	0.2%	0.1%	0.1%	0.2%
12	Aluminum Cans	0.9%	0.3%	1.6%	1.2%	0.7%	1.6%	1.1%	0.8%	1.4%
13	Other Non-ferrous	0.3%	0.0%	0.7%	0.4%	0.2%	0.7%	0.4%	0.2%	0.6%
14	Glass Containers	1.2%	0.2%	2.2%	1.3%	0.2%	2.4%	1.3%	0.6%	1.9%
15	Other Glass	0.0%	0.0%	0.1%	0.1%	0.0%	0.2%	0.1%	0.0%	0.1%
16	Textiles	0.9%	0.5%	1.3%	0.3%	0.0%	0.6%	0.5%	0.3%	0.8%
17	Household Hazardous Waste	0.1%	0.0%	0.1%	0.1%	0.0%	0.4%	0.1%	0.0%	0.2%
18	Electronics	0.0%	0.0%	0.0%	0.3%	0.0%	0.9%	0.2%	0.0%	0.5%
19	C&D Debris	0.2%	0.0%	2.6%	7.0%	3.0%	11.0%	4.4%	1.8%	7.0%
20	Yard Waste	6.0%	0.0%	13.1%	0.0%	0.0%	0.1%	2.3%	0.0%	5.5%
21	Food Waste	16.1%	5.4%	26.8%	11.3%	7.1%	15.5%	13.2%	6.4%	19.9%
22	Other Non-recyclable Trash	9.0%	5.6%	12.5%	5.4%	3.5%	7.3%	6.8%	4.9%	8.6%
	TOTALS	100.0%			100.0%			100.0%		

Figure 3.12: Composition of County School Waste (% by weight)

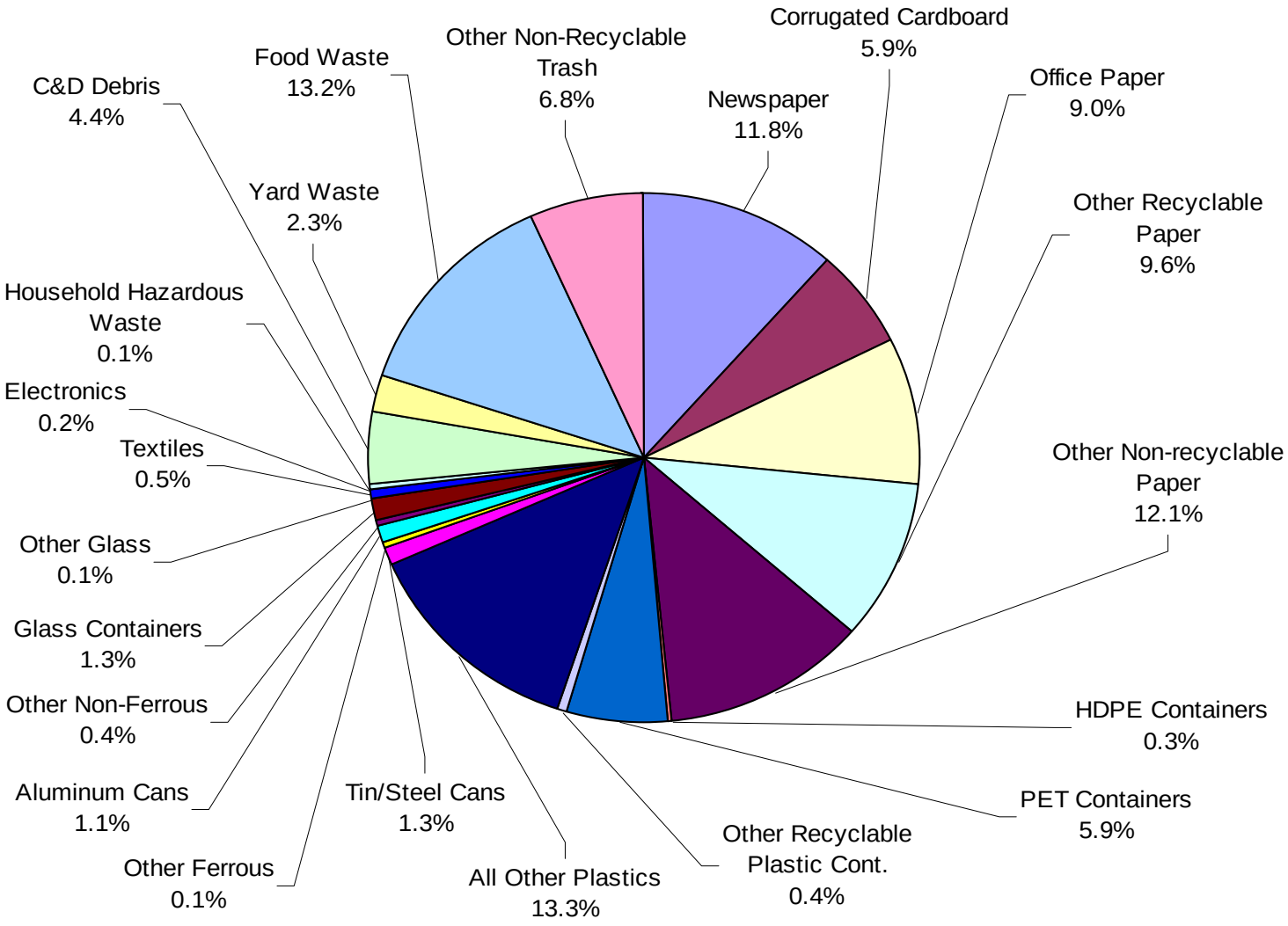
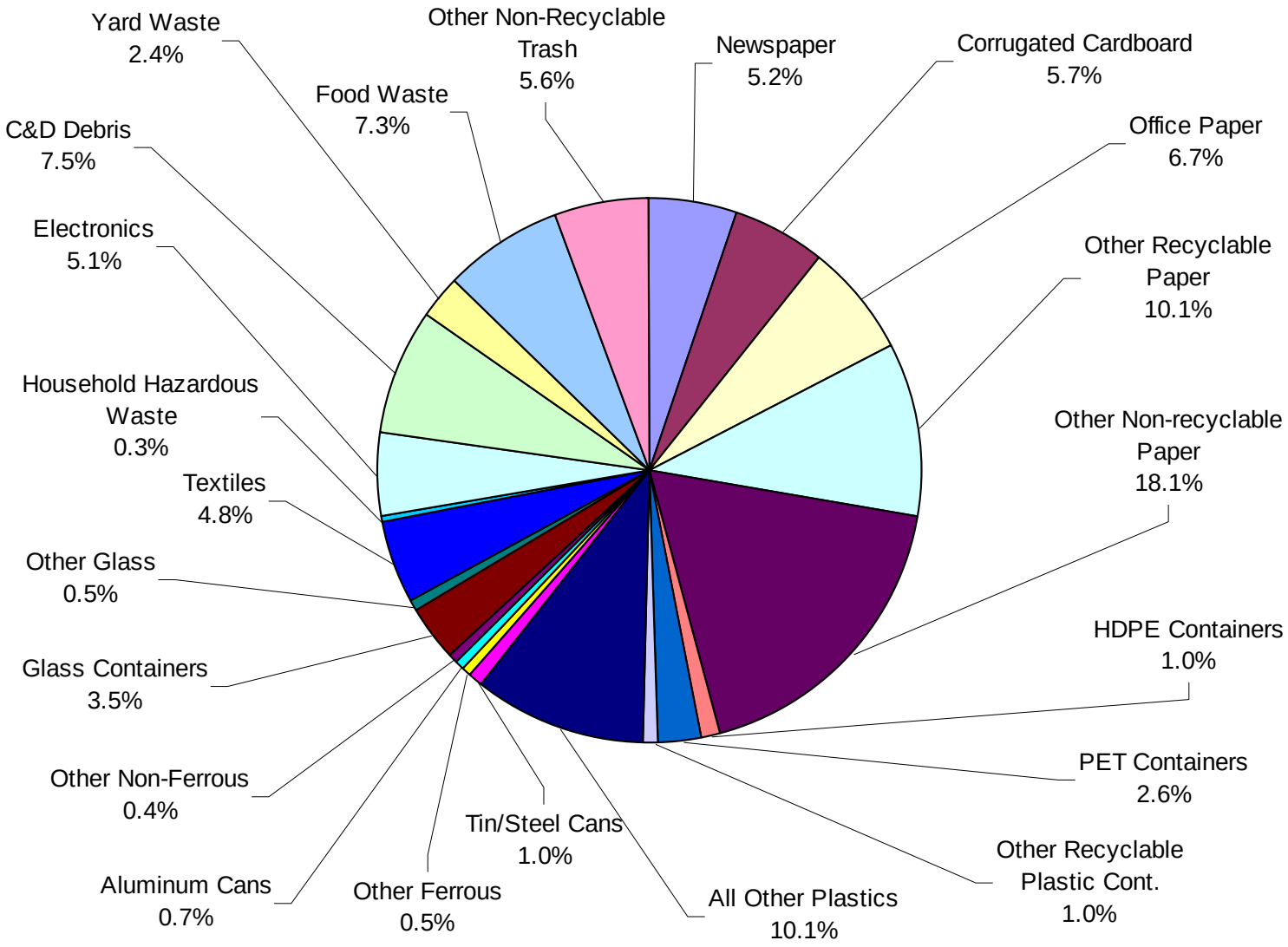


Table 3.12: Composition of County Government Office Waste (% by weight)

		County Offices March 2007			County Offices September 2007			County Offices 2007 Combined		
	Material Categories	Weighted Average	90 % Confidence		Weighted Average	90 % Confidence		Weighted Average	90 % Confidence	
			Lower	Upper		Lower	Upper		Lower	Upper
1	Newspaper	6.6%	0.9%	12.2%	3.4%	0.7%	6.2%	5.2%	2.4%	7.9%
2	Corrugated Cardboard	6.0%	2.6%	9.4%	5.3%	2.3%	8.2%	5.7%	3.8%	7.5%
3	Office Paper	5.1%	0.0%	12.2%	8.7%	0.0%	20.1%	6.7%	0.7%	12.7%
4	Other Recyclable Paper	7.7%	3.0%	12.4%	13.1%	10.0%	16.2%	10.1%	7.8%	12.5%
5	Other Non-recyclable Paper	26.7%	17.0%	36.5%	7.5%	0.0%	16.6%	18.1%	12.6%	23.7%
6	HDPE Containers	1.0%	0.6%	1.4%	1.1%	0.4%	1.8%	1.0%	0.7%	1.4%
7	PET Containers	2.3%	1.5%	3.0%	2.9%	1.7%	4.0%	2.6%	1.9%	3.2%
8	Other Recyclable Plastic Cont.	0.5%	0.3%	0.7%	1.6%	0.0%	3.9%	1.0%	0.0%	2.0%
9	All Other Plastics	10.8%	5.6%	15.9%	9.3%	8.0%	10.5%	10.1%	7.9%	12.3%
10	Tin/Steel Cans	0.6%	0.4%	0.8%	1.4%	0.8%	2.1%	1.0%	0.6%	1.3%
11	Other Ferrous	0.6%	0.3%	0.8%	0.3%	0.1%	0.5%	0.5%	0.3%	0.6%
12	Aluminum Cans	0.7%	0.4%	1.1%	0.7%	0.3%	1.1%	0.7%	0.5%	0.9%
13	Other Non-ferrous	0.0%	0.0%	0.3%	0.8%	0.0%	2.0%	0.4%	0.0%	0.9%
14	Glass Containers	1.3%	0.0%	4.2%	6.2%	2.8%	9.6%	3.5%	1.7%	5.3%
15	Other Glass	0.2%	0.0%	0.5%	0.9%	0.4%	1.5%	0.5%	0.3%	0.8%
16	Textiles	1.4%	0.0%	2.9%	8.9%	4.2%	13.6%	4.8%	2.6%	7.0%
17	Household Hazardous Waste	0.2%	0.1%	0.4%	0.4%	0.1%	0.6%	0.3%	0.2%	0.4%
18	Electronics	7.6%	4.2%	11.0%	2.0%	0.0%	4.8%	5.1%	3.3%	6.9%
19	C&D Debris	10.6%	0.0%	31.0%	3.6%	0.0%	9.6%	7.5%	0.0%	16.6%
20	Yard Waste	2.3%	1.2%	3.4%	2.6%	0.0%	6.4%	2.4%	0.7%	4.1%
21	Food Waste	6.6%	1.2%	12.0%	8.2%	4.8%	11.7%	7.3%	4.7%	9.9%
22	Other Non-recyclable Trash	1.2%	0.0%	3.7%	11.0%	6.0%	16.1%	5.6%	3.0%	8.2%
	TOTALS	100.0%			100.0%			100.0%		

Figure 3.13: Composition of County Government Office Waste (% by weight)



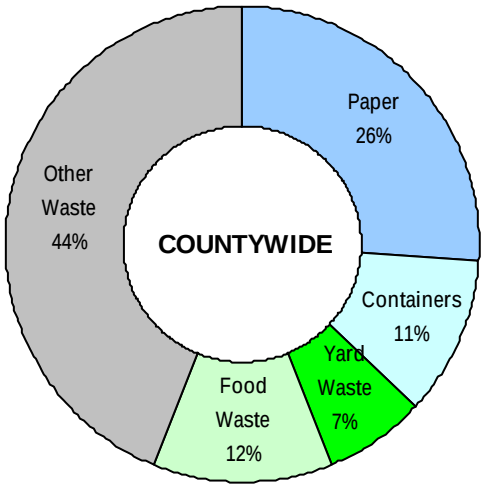
SECTION 4.0
CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

To evaluate the composition of MSW disposed at Pinellas County's Bridgeway Acres Facility, KCI conducted a two-season waste composition study in March and September 2007. The study estimates the composition of the majority of waste disposed at the facility, but does not include segregated loads of yard waste, loads of C&D debris, or materials self-hauled by individuals.

The study results will assist the County in analyzing its existing solid waste management programs and planning for future program improvements, as well as assist in annual reporting to FDEP. When using this data for state reporting, the County should bear in mind that the study results do not include the excluded materials outlined in the above paragraph, materials diverted for recycling or composting, or waste materials processed or disposed of at other facilities. These other materials will need to be incorporated into the results of this study to determine the overall composition of waste that is generated.

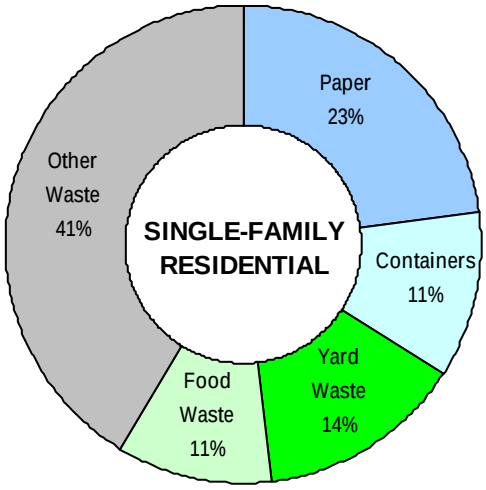
The 2007 study results and findings are presented in Section 3.0 of this report and are summarized below.



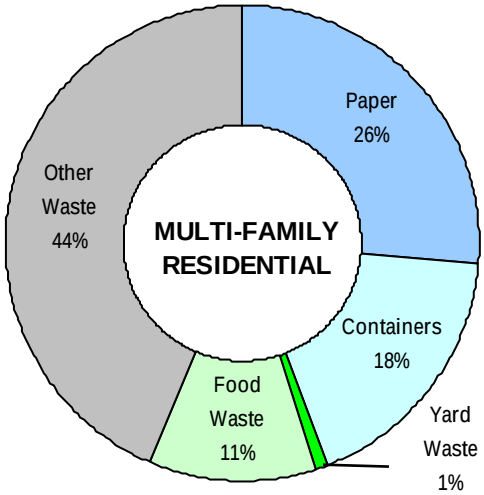
- The study indicates that approximately 37 percent of the MSW consists of recyclable paper and containers and 19 percent consists of organic waste. In many parts of Florida, the commercial sector is considered the primary untapped resource when it comes to recycling, but in Pinellas County, residential waste offers as much opportunity. According to the study results, both commercial MSW and residential MSW (single-family and multi-family combined) are comprised of approximately 37 percent recyclable paper and containers. And based on County data, nearly as much residential waste is generated as commercial.

- **Single-Family Residential:** The study results indicate that approximately 34 percent of single-family residential MSW is comprised of recyclable paper and containers. The

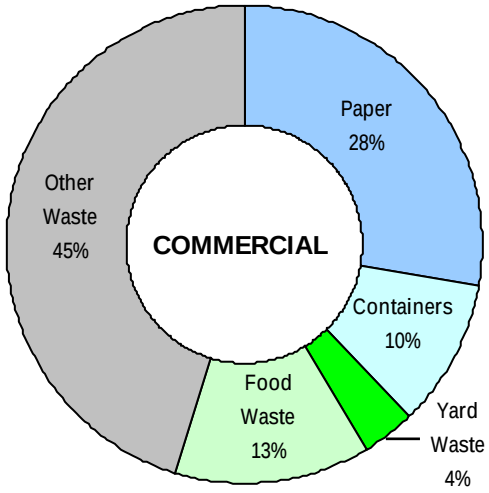
percentage of newspaper in the waste stream decreased since the 2001 study, suggesting higher recovery rates, downsizing of newspaper dimensions or weight, or lower distribution rates. A call to the St. Petersburg Times, the area's most popular newspaper, confirmed that (1) the paper's size was reduced in October 2006 and (2) fewer papers are currently sold in the County than in 2001. Glass containers increased since the 2001 study, possibly a result of this material being dropped from several recycling programs throughout the County. An additional 25 percent of single-family residential MSW is organic waste.



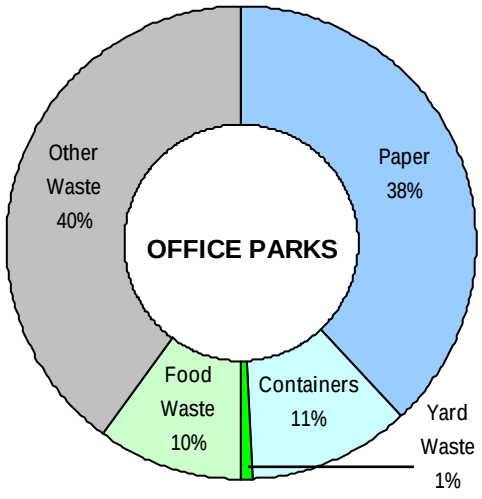
- **Multi-Family Residential:** Based on the study results, recyclable paper and containers comprise approximately 44 percent of multi-family residential MSW. An additional 12 percent is organic waste. As with single-family residential, the multi-family sector also experienced a decrease in the percentage of newspaper in the waste stream and an increase in glass containers. Although fewer overall tons of waste are generated by the multi-family residential sector, on a percentage basis this sector presents an additional opportunity to increase waste diversion.



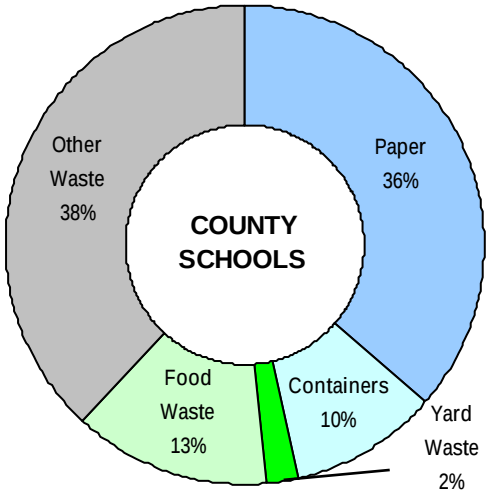
- **Commercial:** Recyclable paper and containers comprise approximately 38 percent of the commercial waste stream. An additional 17 percent is comprised of organic waste. Since the 2001 study, notable increases (more than 3 percent) occurred in the percentage of corrugated cardboard and office paper.



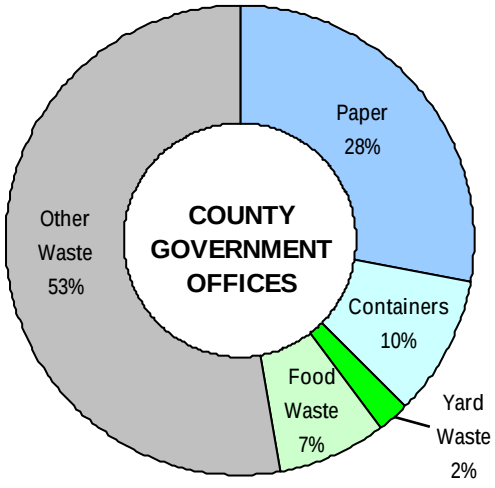
- **Office Parks:** Office parks are a subset of commercial generators, and are therefore included in the commercial generator calculations. They represent a large untapped source of recyclable paper, which comprises approximately 38 percent of the waste stream. In addition, recyclable containers represented about 11 percent of office park waste. To ensure the study samples were obtained from office parks, samples were pulled primarily from roll-off containers used at office complexes. The individual sample results presented in Appendix F can be used as a starting point to identify businesses with the largest percentage of paper in their waste streams that, therefore, offer the greatest recycling opportunities.



- **County Schools:** The County initiated an office paper recycling program at the schools; however, only white paper and newspaper are collected at some of the schools. Based on the study results, approximately 36 percent of the school waste stream is still comprised of recyclable paper. An additional 10 percent consists of recyclable containers. It should be noted that the study results are based on six schools sampled during the March sort and seven during the September sort. A high degree of variability was noted between samples, indicating that participation in the recycling program varies from school to school.



- **County Government Offices:** The County also has a mixed paper recycling program for



County Government offices. The waste composition study revealed that 28 percent of County office waste still consists of recyclable paper, and an additional 10 percent of recyclable containers. As with the County schools, because of the difficulty in obtaining discrete loads of waste from this generator type, only five offices were sampled in March and another five in September. A high degree of variability was also noted between these samples, which may be attributed to functional differences between offices as well as the level of participation in recycling.

In summary, the 2007 waste composition study provides valuable information for future solid waste management planning in Pinellas County. Some progress appears to have been made since 2001, especially in the recovery of newspaper, but large quantities of potentially recyclable materials remain in the waste stream. Opportunities exist to capture materials that are not only feasible to recover from the waste stream, but that also have high value in today's commodity market. The following recommendations provide insight into the County's opportunities to increase waste diversion.

4.2 Recommendations

Based on the results of this study, KCI offers the following recommendations to maximize waste diversion and increase the effectiveness of the County's recycling and waste reduction programs.

- **Curbside Residential Recycling:** The County should strive to work with the municipalities to implement an effective countywide curbside residential recycling program in order to increase residential waste diversion. Of the nearly 1 million tons of MSW received at Bridgeway Acres annually, an estimated 340,000 tons is attributed to the single-family residential sector. Based on the results of this study, 34 percent (nearly 116,000 tons) of that waste is comprised of curbside recyclables. Assuming 60 percent of that material is recoverable and a participation rate of 75 percent, at least 50,000 additional tons of waste could be diverted each year.

  An advantage of a countywide curbside program would be consistency in the types of recyclables collected throughout the County, thus allowing a unified outreach and education campaign. Based on a comparison of the study results for single-family residential with and without curbside recycling, it seems that access to curbside recycling alone is not sufficient. Public education and outreach is necessary to ensure participation and increase waste diversion. To maximize diversion, the program should include residential mixed paper, glass containers, aluminum and steel cans, and plastic containers. At a minimum, #1 and #2

plastic containers should be included, but an "all plastic" container (#1-7) program would be preferable. Inclusion of poly-coated cartons should also be considered.

- **Multi-Family Residential Recycling:** Pinellas County contains a relatively large number of multi-family complexes and, based on County estimates, this sector generates 15 percent of the waste in Pinellas County. Multi-family recycling presents unique challenges, such as space limitations and material handling issues. The County should research other communities that have successfully tackled these challenges to develop a clear plan for including them in the residential recycling program.

- **Commercial Recycling:** The County should continue its efforts to promote commercial recycling, focusing initially on the ten largest businesses in the County. KCI assisted the County in developing a commercial waste reduction plan several years ago, which should be reviewed and updated. Although time consuming, waste audits and direct technical assistance often bring the best results. During this study, waste samples were pulled from several of the larger office parks in the County (see Appendix F). These businesses would be prime targets for waste audits and technical assistance. During waste audits, County staff should look for the specific waste types that comprise the largest percentage of the business's waste stream and assist them in finding an outlet for these materials.

- **Processing Infrastructure:** The County should evaluate opportunities to strengthen the local recyclables processing infrastructure, both by working with the private sector and considering an effective role the County might play. Lack of local processing capacity limits the availability of cost-effective options for residential and commercial recycling. The County recently received an innovative grant from FDEP to conduct such an evaluation. Various types of processing technologies should be considered, especially those with the potential to divert large quantities of waste, such as processing mixed loads of commercial waste.

- **County School Paper Recycling:** The County should strive to convert the entire school recycling program to a mixed paper program. As resources allow, the County should also expand outreach and education efforts, conduct waste audits at individual schools, and provide technical assistance to schools with low recycling participation. As noted in Appendix G, several of the schools sampled during this study had waste streams consisting of 40 percent or more recyclable paper.

- **Other County School Recyclables:** The County should also consider expanding the school recycling program to capture other recyclable materials, such as commingled containers, which constituted about 10 percent of the school waste stream. If initiated, the program should include poly-coated cartons, which were categorized as "Other Recyclable Paper" in this study, since a significant quantity was present in the waste stream. The "Other Plastic" material category was nearly 14 percent of the school waste stream, most of which could be attributed to polystyrene trays. The County could also evaluate options for reducing this waste stream, such as converting to reusable trays or researching potential recycling markets.

- **County Government Office Recycling Program:** As resources permit, the County should increase outreach efforts to County offices, conduct onsite waste audits, and provide direct technical assistance. As noted in Appendix H, several of the offices sampled during this study had waste streams consisting of 50 percent recyclable paper. The County should continue trying to add commingled containers to the County Office Recycling Program.

- **Yard Waste Diversion:** The County should consider initiating or encouraging separate collection of yard waste. This material accounts for approximately 14 percent of single-family residential MSW being disposed. Yard waste is banned from disposal in Class I landfills, but is not banned from disposal in waste-to-energy plants. Therefore, separate yard waste collection is not as common in Pinellas County as it is in many other Florida communities. According to County staff, minimal interest exists from private sector vendors to process the County's yard waste because of the relatively small quantities of segregated yard waste delivered to the Bridgeway Acres Facility. If the County were able to attract sufficient quantities of segregated yard waste, a yard waste processing contract could be established that would provide an incentive for the processor to market or utilize the material for a beneficial end use.

- **Electronics and Household Hazardous Waste:** These wastes comprise approximately 4 percent of the waste stream. The County has an excellent Household Electronics and Chemical Collection Center and program, which it should continue to actively promote to minimize the amount of these materials entering the waste stream.

- **C&D Debris:** Although C&D debris accounts for nearly 9 percent of the MSW evaluated in this study, much of it was not material that could easily be recycled or reused. The County does, however, receive segregated loads of C&D debris at the Bridgeway Acres Facility for

disposal. The County should continue to promote the use of private C&D processing and recycling companies.

- **Food Waste:** Food waste comprises an estimated 12 percent of the waste stream evaluated. Recovery of food waste is limited because of the collection infrastructure needed to capture it, and composting this waste is hampered by stringent state regulations. However, the County should keep abreast of any technology and/or regulatory developments that might make recovery of food waste a viable solid waste management option.

Many of the recommendations outlined above have already been discussed with County staff. The waste composition study results serve to confirm and better quantify the need for and value of the recommended program improvements and activities. As the County's population and waste generation continue to grow, these actions can help limit or reduce the amount of waste disposed, conserve valuable resources, and preserve precious disposal capacity.

APPENDIX A

DESCRIPTION OF MATERIAL CATEGORIES PINELLAS COUNTY 2007 WASTE COMPOSITION STUDY		
#	**Material Categories**	**Description of Categories**
1	Newspaper	Newspaper (loose, tied or shredded) including other paper normally distributed inside newspaper such as ads, flyers, etc.
2	Corrugated Cardboard (OCC)	Uncoated brown "cardboard" boxes with a wavy core (no plastic liners, waxy coatings).
3	Office Paper	Computer paper, white or colored paper, and envelopes.
4	Other Recyclable Paper	All magazines, catalogs, paperboard, chipboard, gable top containers and other printed material on glossy and non-glossy paper.
5	Other Non-recyclable Paper	All remaining paper not categorized in other paper categories, including waxed cardboard and contaminated paper (i.e. napkins, paper towels, etc.).
6	HDPE Containers	Clear/natural and pigmented bottles or containers coded HDPE #2 such as milk jugs, detergent bottles, etc.
7	PET Containers	Clear and colored bottles or containers coded PET #1 such as soda bottles, water bottles, etc.
8	Other Recyclable Containers	Plastics containers coded 3 through 7, including both narrow-neck and non-narrow neck containers, such as margarine tubs, etc.
9	All Other Plastics	All non-container plastics, including film, plastic toys, styrofoam coffee cups, plastic utensils, CD jackets, etc.
10	Tin/Steel Cans	Tin-plated steel cans, usually food containers, and aerosol cans.
11	Other Ferrous	Steel, clothes hangers, sheet metal products, pipes, miscellaneous metal scraps, and other magnetic metal items.

DESCRIPTION OF MATERIAL CATEGORIES PINELLAS COUNTY 2007 WASTE COMPOSITION STUDY		
#	**Material Categories**	**Description of Categories**
12	Aluminum Cans	Aluminum soft drink, beer, and some food cans.
13	Other Non-ferrous	Scrap aluminum, aluminum foil, and other non-magnetic metal, copper wiring and tubing, brass fixtures.
14	Glass Containers	Clear, Brown, and Green glass bottles and containers.
15	Other Glass	Window panes, mirrors, ceramics, and drinking glasses.
16	Textiles	Clothing apparel, rags, blankets, curtains, shoes, wallets, purses, belts, scrap leather.
17	Household Hazardous Waste	Cleaners, chemicals, fluorescent lights, etc. that are considered household hazardous waste.
18	Electronics	Electronic devices such as hairdryers, televisions, toasters, computers, etc.
19	C&D Debris	Construction and demolition debris that includes concrete, carpet, drywall, furniture, insulation, and treated and untreated lumber, including pallets.
20	Yard Waste	Shrub and brush prunings, household bedding plants, weeds, leaves, grass clippings, and other landscaping and gardening wastes.
21	Food Waste	Meat and vegetable waste (includes coffee grinds and tea bags).
22	Other Non-recyclable Trash	All other wastes not included in the above categories, including products that contain combinations of materials such as frozen juice cans, binders, etc. and indistinguishable items less than 1-inch square that are organic or inorganic including kitty litter, sweepings, and hair.

APPENDIX B
INDIVIDUAL SAMPLE RESULTS
SINGLE-FAMILY RESIDENTIAL WITH CURBSIDE RECYCLING
(% by weight)

	Sample Number*	1-10	1-12	1-19	1-20	1-49	1-50	1-53	1-54	1-62	1-72	1-75	1-77	1-78	1-80
	Material Categories	WMI Pinellas Park	WMI Tarpon Springs	Gulfport	WMI Pinellas Park	Largo	Largo	Largo	WSI St. Pete Beach	Treasure Island	Republic Oldsmar	Clearwater	Clearwater	Safety Harbor	Clearwater
1	NEWSPAPER	8.62%	9.83%	1.13%	7.97%	5.47%	6.99%	9.20%	7.17%	6.44%	1.70%	0.00%	3.85%	4.81%	3.87%
2	CORRUGATED CARDBOARD	5.49%	2.51%	5.64%	7.01%	0.24%	2.37%	1.79%	2.92%	4.22%	6.37%	1.29%	2.00%	1.30%	5.64%
3	OFFICE PAPER	1.27%	9.87%	6.09%	7.38%	0.88%	2.67%	0.40%	2.76%	3.01%	1.51%	0.28%	0.87%	1.14%	0.93%
4	OTHER RECYCLABLE PAPER	16.02%	17.60%	7.74%	7.26%	12.05%	12.68%	11.13%	4.96%	13.94%	6.44%	1.66%	10.37%	11.60%	7.68%
5	OTHER NON-RECYCLABLE PAPER	6.15%	0.94%	3.89%	5.25%	6.72%	4.82%	7.09%	6.26%	6.38%	6.36%	1.12%	7.28%	2.27%	6.09%
6	HDPE CONTAINERS	1.81%	1.67%	0.79%	0.69%	0.70%	1.04%	0.76%	1.81%	0.73%	1.56%	0.00%	1.18%	0.89%	1.65%
7	PET CONTAINERS	3.37%	1.85%	1.01%	1.10%	2.43%	1.13%	1.03%	1.86%	1.56%	1.16%	1.25%	1.25%	0.46%	1.23%
8	OTHER RECYCLABLE PLASTIC CONT.	0.05%	0.82%	5.27%	0.80%	0.97%	0.47%	1.26%	0.79%	0.25%	0.88%	0.00%	0.75%	1.02%	0.43%
9	ALL OTHER PLASTICS	8.76%	9.79%	9.96%	9.88%	12.89%	11.24%	8.53%	12.13%	9.28%	7.91%	3.35%	11.49%	4.68%	5.68%
10	TIN/STEEL CANS	1.66%	2.07%	5.17%	1.81%	2.47%	1.42%	2.43%	2.64%	1.18%	0.70%	0.00%	1.52%	1.23%	0.88%
11	OTHER FERROUS	0.10%	0.86%	16.86%	0.46%	0.36%	14.85%	0.22%	1.28%	0.40%	2.17%	0.00%	1.95%	0.00%	0.12%
12	ALUMINUM CANS	0.61%	1.06%	1.43%	0.50%	1.51%	1.04%	0.45%	3.22%	0.47%	1.98%	0.76%	1.09%	0.70%	0.74%
13	OTHER NON-FERROUS	0.24%	1.49%	0.54%	4.63%	0.46%	0.75%	0.13%	0.12%	0.63%	0.51%	1.01%	0.65%	1.13%	0.23%
14	GLASS CONTAINERS	5.47%	2.57%	3.45%	5.55%	8.47%	1.74%	3.12%	12.02%	14.00%	1.28%	0.13%	4.75%	0.21%	4.40%
15	OTHER GLASS	0.02%	0.00%	0.34%	4.63%	0.44%	0.00%	0.40%	4.09%	0.09%	0.74%	0.00%	0.41%	0.52%	0.23%
16	TEXTILES	7.86%	6.71%	6.90%	3.07%	5.93%	3.01%	1.55%	4.24%	4.62%	4.67%	10.65%	6.63%	7.70%	6.91%
17	HOUSEHOLD HAZARDOUS WASTE	0.00%	0.00%	0.99%	0.89%	0.54%	0.05%	0.02%	2.76%	0.44%	1.16%	1.05%	0.10%	1.34%	0.02%
18	ELECTRONICS	0.76%	0.00%	0.00%	6.12%	0.93%	2.46%	1.51%	0.09%	15.54%	16.23%	1.95%	0.41%	1.25%	15.78%
19	C&D DEBRIS	1.68%	6.63%	6.11%	6.23%	4.75%	3.46%	14.66%	4.04%	3.66%	15.35%	36.07%	13.23%	4.02%	2.14%
20	YARD WASTE	15.92%	3.07%	4.07%	7.45%	13.19%	5.86%	19.35%	6.26%	0.73%	8.47%	36.81%	5.54%	47.21%	5.47%
21	FOOD WASTE	7.03%	15.65%	8.21%	8.39%	14.00%	13.36%	8.35%	14.02%	7.96%	4.66%	2.36%	17.28%	4.95%	23.60%
22	OTHER NON-RECYCLABLE TRASH	7.10%	5.00%	4.41%	2.93%	4.61%	8.59%	6.65%	4.57%	4.48%	8.21%	0.24%	7.40%	1.54%	6.28%
	TOTALS	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

*Sample Number - The first digit indicates 1st (March) or 2nd (September) sorting event and the second digit is the actual sample number from that event.

APPENDIX B
INDIVIDUAL SAMPLE RESULTS
SINGLE-FAMILY RESIDENTIAL WITH CURBSIDE RECYCLING
(% by weight)

	Sample Number*	2-8	2-9	2-16	2-17	2-33	2-34	2-35	2-36	2-47	2-53	2-58	2-61	2-63	2-64	2-81	2-91	
	Material Categories	Gulfport	Republic Oldsmar	WMI Tarpon Springs	WMI Pinellas Park	Clearwater	Clearwater	Clearwater	Clearwater	WMI Pinellas Park	WSI St. Pete Beach	Largo	Largo	Largo	WSI Kenneth City	Treasure Island	Safety Harbor	**Weighted Average**
1	NEWSPAPER	4.32%	4.15%	11.63%	5.46%	6.13%	3.31%	4.09%	7.07%	7.36%	9.19%	6.09%	10.71%	7.48%	5.68%	7.66%	5.46%	6.10%
2	CORRUGATED CARDBOARD	11.67%	2.08%	3.73%	2.11%	0.60%	1.40%	3.22%	1.28%	4.64%	3.35%	1.07%	2.06%	4.33%	5.82%	0.53%	1.13%	3.45%
3	OFFICE PAPER	1.61%	0.50%	0.91%	3.89%	1.09%	0.99%	1.43%	1.12%	1.82%	3.28%	1.24%	10.55%	0.29%	1.33%	6.27%	6.97%	2.73%
4	OTHER RECYCLABLE PAPER	13.07%	12.48%	10.36%	18.56%	16.28%	8.89%	7.84%	11.43%	10.00%	13.47%	13.90%	10.99%	11.36%	15.20%	11.81%	20.54%	11.48%
5	OTHER NON-RECYCLABLE PAPER	3.52%	4.31%	11.10%	10.50%	6.66%	6.55%	6.42%	8.32%	6.49%	6.37%	7.68%	5.68%	8.08%	4.91%	5.54%	8.03%	5.98%
6	HDPE CONTAINERS	0.80%	1.07%	2.00%	1.19%	0.62%	1.05%	0.65%	0.58%	0.53%	0.71%	0.36%	1.22%	1.46%	0.21%	0.53%	1.28%	1.02%
7	PET CONTAINERS	0.92%	1.17%	1.72%	0.85%	1.48%	2.74%	1.28%	2.13%	1.31%	1.53%	1.37%	1.59%	2.14%	2.25%	1.16%	0.91%	1.52%
8	OTHER RECYCLABLE PLASTIC CONT.	0.00%	0.12%	0.26%	0.20%	0.24%	0.40%	0.07%	0.13%	0.80%	0.42%	0.36%	0.52%	0.25%	0.69%	1.07%	0.38%	0.68%
9	ALL OTHER PLASTICS	11.48%	8.06%	11.63%	11.66%	10.01%	13.75%	12.17%	9.19%	9.48%	9.50%	12.49%	10.56%	12.43%	14.25%	8.56%	7.70%	10.07%
10	TIN/STEEL CANS	1.80%	1.65%	1.98%	1.21%	0.77%	2.93%	1.71%	1.30%	1.54%	1.02%	1.05%	1.75%	1.30%	5.16%	0.61%	0.64%	1.80%
11	OTHER FERROUS	0.59%	0.12%	0.00%	0.37%	5.10%	5.63%	0.45%	0.33%	0.32%	0.25%	1.68%	1.95%	2.35%	0.67%	1.73%	0.22%	2.21%
12	ALUMINUM CANS	0.80%	0.73%	1.32%	0.44%	0.68%	0.98%	0.36%	2.24%	0.58%	1.11%	0.80%	0.71%	1.36%	1.56%	0.42%	0.49%	1.02%
13	OTHER NON-FERROUS	0.25%	0.04%	0.13%	0.00%	0.53%	0.90%	0.04%	0.27%	0.16%	0.15%	0.17%	0.34%	0.99%	0.15%	0.23%	0.33%	0.58%
14	GLASS CONTAINERS	3.81%	2.98%	6.00%	0.23%	8.78%	9.20%	4.30%	12.97%	4.95%	8.59%	13.75%	4.31%	5.13%	0.54%	6.40%	3.61%	5.06%
15	OTHER GLASS	0.57%	0.54%	1.53%	1.30%	0.53%	1.03%	0.00%	0.33%	0.81%	1.46%	1.68%	1.55%	1.38%	0.12%	1.28%	0.00%	0.91%
16	TEXTILES	2.70%	10.20%	3.55%	0.98%	0.64%	2.36%	4.19%	2.95%	10.86%	4.11%	9.20%	2.56%	2.72%	4.49%	0.21%	1.52%	4.78%
17	HOUSEHOLD HAZARDOUS WASTE	0.19%	0.65%	0.16%	1.81%	0.00%	3.33%	0.04%	0.00%	0.16%	0.00%	0.32%	1.30%	0.00%	0.12%	0.80%	0.00%	0.64%
18	ELECTRONICS	0.19%	1.53%	0.00%	0.00%	0.51%	1.45%	6.03%	0.00%	1.34%	4.80%	0.34%	0.59%	3.96%	5.05%	1.26%	0.00%	2.99%
19	C&D DEBRIS	15.92%	8.02%	9.86%	1.28%	14.34%	5.14%	10.78%	5.73%	4.25%	4.80%	1.32%	4.49%	6.51%	1.08%	10.46%	4.34%	7.57%
20	YARD WASTE	11.35%	14.43%	2.44%	17.97%	3.62%	3.63%	25.43%	5.08%	9.31%	16.02%	6.51%	4.27%	3.17%	16.93%	7.96%	15.13%	11.61%
21	FOOD WASTE	9.74%	19.35%	10.28%	13.48%	14.25%	16.66%	6.30%	19.25%	8.49%	6.19%	12.39%	13.55%	19.06%	7.97%	19.57%	10.37%	11.73%
22	OTHER NON-RECYCLABLE TRASH	4.69%	5.81%	9.40%	6.53%	7.16%	7.68%	3.19%	8.29%	14.79%	3.69%	6.21%	8.76%	4.25%	5.82%	5.93%	10.93%	6.09%
	TOTALS	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

*Sample Number - The first digit indicates 1st ı(March) or 2nd (September) sorting event and the second digit is the actual sample number from that event.

APPENDIX C
INDIVIDUAL SAMPLE RESULTS
SINGLE-FAMILY RESIDENTIAL WITHOUT CURBSIDE RECYCLING
(% by weight)

	Sample Number*	1-6	1-17	1-47	1-48	1-51	1-52	1-57	1-58	1-59	1-60	1-76	1-79	1-82	1-86	1-87
	Material Categories	WMI Uninc. County (Clearwater)	County San. Lealman	St. Petersburg	St. Petersburg	St. Petersburg	St. Petersburg	St. Petersburg	St. Petersburg	St. Petersburg	St. Petersburg	WSI Uninc. County (Largo/Clwtr)	County San. Lealman	WSI Uninc. County (Palm Harbor)	WSI Uninc. County (Palm Harbor)	WSI Uninc. County (Largo/Clwtr)
1	NEWSPAPER	3.11%	8.75%	9.95%	9.02%	4.43%	6.50%	2.40%	8.87%	7.32%	2.54%	11.67%	5.87%	6.14%	5.01%	9.49%
2	CORRUGATED CARDBOARD	3.57%	5.38%	1.83%	1.44%	0.51%	0.46%	0.87%	0.70%	2.07%	1.44%	4.36%	2.41%	4.61%	6.43%	1.61%
3	OFFICE PAPER	0.00%	0.39%	1.06%	2.65%	0.85%	3.10%	0.67%	0.11%	3.74%	2.17%	0.26%	1.42%	3.84%	2.19%	1.68%
4	OTHER RECYCLABLE PAPER	7.28%	3.52%	13.54%	12.28%	12.20%	13.37%	8.67%	7.89%	10.38%	12.84%	7.29%	10.81%	6.46%	13.90%	12.16%
5	OTHER NON-RECYCLABLE PAPER	4.72%	10.05%	6.33%	6.51%	8.35%	4.75%	3.25%	6.52%	6.13%	7.22%	6.66%	3.50%	4.53%	5.61%	6.08%
6	HDPE CONTAINERS	0.50%	1.95%	0.68%	0.71%	0.49%	0.57%	0.29%	2.07%	0.96%	0.76%	1.16%	1.99%	1.59%	0.10%	1.34%
7	PET CONTAINERS	1.08%	2.43%	2.83%	1.54%	2.24%	1.41%	1.27%	2.03%	1.53%	1.94%	1.61%	2.31%	2.70%	1.32%	0.95%
8	OTHER RECYCLABLE PLASTIC CONT.	1.20%	0.63%	0.51%	0.73%	0.89%	0.42%	0.38%	0.55%	1.19%	0.87%	0.94%	1.18%	0.67%	0.50%	0.56%
9	ALL OTHER PLASTICS	8.38%	10.29%	9.99%	11.23%	11.52%	7.61%	7.31%	14.39%	9.27%	8.85%	7.43%	5.81%	8.65%	9.22%	7.51%
10	TIN/STEEL CANS	1.51%	2.19%	2.29%	2.37%	3.25%	1.90%	0.73%	2.52%	1.46%	1.75%	2.46%	1.42%	2.02%	1.55%	1.59%
11	OTHER FERROUS	1.46%	5.45%	1.66%	8.76%	0.28%	1.24%	0.78%	0.36%	0.15%	0.31%	0.14%	0.77%	2.58%	0.39%	0.00%
12	ALUMINUM CANS	1.32%	0.07%	1.98%	0.61%	0.79%	0.48%	0.38%	0.55%	0.63%	1.20%	0.83%	1.35%	0.81%	0.91%	1.65%
13	OTHER NON-FERROUS	0.29%	4.92%	1.23%	0.75%	0.69%	0.61%	0.15%	0.60%	0.46%	0.23%	0.57%	0.78%	0.64%	1.13%	0.35%
14	GLASS CONTAINERS	1.34%	6.15%	5.50%	2.95%	6.52%	5.21%	3.78%	5.91%	7.43%	7.78%	3.22%	3.32%	1.89%	3.30%	2.48%
15	OTHER GLASS	0.00%	2.92%	1.60%	0.36%	0.35%	0.93%	0.04%	1.41%	0.75%	0.04%	0.00%	0.84%	3.67%	0.19%	0.00%
16	TEXTILES	3.33%	5.06%	3.94%	3.80%	3.35%	9.47%	1.33%	8.40%	6.67%	4.33%	1.26%	1.53%	1.59%	6.00%	1.74%
17	HOUSEHOLD HAZARDOUS WASTE	6.80%	0.00%	0.05%	0.12%	0.00%	0.00%	0.00%	0.11%	0.00%	0.00%	0.08%	0.98%	0.00%	0.16%	0.06%
18	ELECTRONICS	0.00%	0.00%	0.09%	0.38%	1.00%	6.31%	2.07%	8.98%	1.36%	2.54%	0.00%	0.00%	0.47%	1.15%	0.02%
19	C&D DEBRIS	6.82%	11.60%	14.05%	8.74%	6.63%	7.51%	38.71%	6.55%	3.77%	8.46%	0.00%	3.88%	3.18%	6.08%	8.05%
20	YARD WASTE	37.91%	9.26%	6.37%	12.91%	19.27%	13.86%	15.56%	7.29%	23.33%	13.62%	30.20%	39.20%	32.39%	17.41%	25.58%
21	FOOD WASTE	5.31%	6.24%	8.96%	7.32%	12.28%	7.47%	6.14%	6.95%	7.76%	9.41%	10.53%	8.00%	4.40%	9.65%	12.02%
22	OTHER NON-RECYCLABLE TRASH	4.09%	2.75%	5.55%	4.81%	4.11%	6.81%	5.22%	7.25%	3.64%	11.68%	9.33%	2.62%	7.17%	7.80%	5.09%
	TOTALS	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

*Sample Number - The first digit indicates 1st (March) or 2nd (September) sorting event and the second digit is the actual sample number from that event.

APPENDIX C
INDIVIDUAL SAMPLE RESULTS
SINGLE-FAMILY RESIDENTIAL WITHOUT CURBSIDE RECYCLING
(% by weight)

	Sample Number*	2-31	2-44	2-48	2-49	2-51	2-52	2-54	2-60	2-62	2-75	2-76	2-79	2-80	2-82	2-88	
	Material Categories	County San. Lealman	St. Petersburg	St. Petersburg	WSI Palm Harbor	St. Petersburg	WSI Palm Harbor Area	WMI Cleawater /Largo Area	WSI East Lake Area	WSI High Pointe	St. Petersburg	St. Petersburg	St. Petersburg	St. Petersburg	St. Petersburg	St. Petersburg	**Weighted Average**
1	NEWSPAPER	5.91%	9.65%	4.65%	2.75%	8.83%	9.38%	10.29%	0.91%	6.25%	9.12%	6.81%	1.91%	5.72%	3.10%	11.58%	6.77%
2	CORRUGATED CARDBOARD	2.21%	3.73%	3.39%	0.33%	0.71%	3.77%	2.12%	3.91%	4.90%	11.49%	1.99%	1.60%	2.23%	5.98%	1.74%	2.77%
3	OFFICE PAPER	0.74%	1.19%	1.71%	0.33%	1.83%	0.41%	0.64%	0.71%	0.12%	2.44%	3.71%	1.89%	2.79%	1.69%	2.88%	1.58%
4	OTHER RECYCLABLE PAPER	12.04%	12.00%	13.46%	10.97%	17.64%	17.14%	16.74%	11.36%	11.61%	6.50%	9.79%	7.09%	10.70%	15.35%	7.05%	10.99%
5	OTHER NON-RECYCLABLE PAPER	5.95%	6.55%	5.74%	7.02%	9.04%	5.78%	5.41%	7.69%	6.91%	6.77%	7.80%	4.40%	2.07%	7.07%	5.39%	6.14%
6	HDPE CONTAINERS	1.45%	1.35%	1.20%	0.41%	0.52%	1.51%	0.53%	0.69%	2.07%	0.73%	1.56%	0.30%	0.21%	1.17%	0.70%	0.99%
7	PET CONTAINERS	2.21%	1.17%	3.03%	0.92%	1.58%	0.70%	2.07%	0.58%	2.43%	1.59%	2.23%	1.45%	1.12%	2.34%	1.36%	1.77%
8	OTHER RECYCLABLE PLASTIC CONT.	0.22%	0.16%	0.46%	0.31%	1.12%	0.52%	0.17%	0.06%	0.10%	0.50%	0.45%	0.34%	0.45%	0.42%	0.42%	0.57%
9	ALL OTHER PLASTICS	10.87%	6.10%	10.21%	6.27%	8.93%	10.68%	11.03%	15.14%	10.89%	10.01%	6.68%	7.64%	5.75%	7.55%	7.11%	9.09%
10	TIN/STEEL CANS	1.61%	2.52%	1.22%	1.01%	2.24%	1.72%	1.71%	0.87%	1.37%	3.14%	1.22%	1.13%	0.61%	1.27%	0.94%	1.74%
11	OTHER FERROUS	0.04%	0.16%	0.08%	0.09%	0.62%	1.20%	1.15%	1.02%	0.40%	0.28%	0.51%	0.19%	0.51%	1.29%	0.56%	1.17%
12	ALUMINUM CANS	1.39%	0.79%	1.77%	0.46%	0.60%	1.20%	1.03%	0.30%	0.66%	0.79%	0.60%	0.55%	0.58%	0.73%	0.94%	0.86%
13	OTHER NON-FERROUS	0.31%	0.14%	0.62%	0.09%	0.10%	0.20%	0.38%	0.82%	0.36%	1.42%	0.45%	0.36%	0.07%	0.24%	0.10%	0.65%
14	GLASS CONTAINERS	6.38%	6.89%	10.43%	8.06%	8.81%	3.82%	5.05%	5.26%	4.40%	2.92%	7.86%	5.53%	7.46%	7.25%	5.21%	5.52%
15	OTHER GLASS	0.00%	0.00%	1.02%	0.57%	0.23%	0.48%	0.38%	0.77%	0.76%	0.00%	0.26%	0.51%	0.59%	0.14%	0.00%	0.68%
16	TEXTILES	2.60%	6.12%	10.03%	4.88%	1.81%	10.14%	1.69%	0.33%	2.15%	2.82%	4.78%	2.77%	1.12%	4.31%	1.70%	4.01%
17	HOUSEHOLD HAZARDOUS WASTE	0.09%	0.16%	0.00%	0.00%	0.15%	0.04%	0.21%	0.46%	0.00%	0.45%	0.26%	0.28%	3.63%	1.19%	1.06%	0.51%
18	ELECTRONICS	2.22%	4.48%	3.59%	6.99%	0.33%	0.00%	0.06%	9.17%	0.00%	6.07%	15.55%	15.81%	0.00%	0.28%	1.38%	2.88%
19	C&D DEBRIS	8.92%	8.93%	1.38%	19.37%	1.89%	0.27%	5.48%	3.69%	7.23%	0.31%	7.48%	17.17%	11.03%	7.19%	30.18%	9.00%
20	YARD WASTE	8.57%	11.79%	4.11%	9.99%	18.36%	12.22%	12.34%	19.07%	5.00%	13.34%	4.86%	9.70%	27.58%	11.64%	9.15%	15.60%
21	FOOD WASTE	19.26%	7.04%	15.19%	16.79%	8.39%	7.75%	11.48%	11.29%	17.48%	12.93%	10.77%	11.98%	9.73%	8.20%	7.99%	9.93%
22	OTHER NON-RECYCLABLE TRASH	7.02%	9.09%	6.68%	2.38%	6.27%	11.07%	10.07%	5.91%	14.93%	6.39%	4.37%	7.40%	6.07%	11.62%	2.54%	6.76%
	TOTALS	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

*Sample Number - The first digit indicates 1st (March) or 2nd (September) sorting event and the second digit is the actual sample number from that event.

APPENDIX D
INDIVIDUAL SAMPLE RESULTS
MULTI-FAMILY RESIDENTIAL
(% by weight)

	Sample Number*	1-3	1-23	1-30	1-36	1-44	1-56	1-64	1-71	1-73	1-81	1-88	1-89	1-90
	Material Categories	St. Petersburg Windward Point Apts.	Gulfport Townshores	Clearwater Baycove Apts.	WMI Stonegate Apts.	St. Petersburg Calais Apts.	Treasure Island Multiple	WMI Bay Park Apts.	Largo Winding Lanes Apts.	WMI Five Towns	WSI The Vinings	WSI Bay Bridge Apts.	WMI Centergate Apts.	WSI Sabal Palms Apts.
1	NEWSPAPER	10.38%	2.75%	5.53%	8.27%	5.18%	12.91%	11.72%	2.06%	0.87%	4.91%	11.16%	15.71%	4.30%
2	CORRUGATED CARDBOARD	6.10%	4.23%	0.73%	5.10%	4.58%	7.45%	8.00%	2.74%	1.30%	2.70%	4.49%	7.13%	4.77%
3	OFFICE PAPER	8.16%	0.81%	1.52%	1.69%	0.81%	0.72%	0.80%	2.90%	0.82%	1.56%	1.45%	1.39%	2.86%
4	OTHER RECYCLABLE PAPER	16.89%	16.64%	9.83%	10.93%	13.67%	10.24%	8.57%	21.64%	3.13%	12.14%	10.18%	13.21%	15.64%
5	OTHER NON-RECYCLABLE PAPER	6.78%	9.18%	6.11%	9.76%	7.80%	10.22%	7.03%	6.99%	1.71%	5.27%	8.21%	7.43%	9.42%
6	HDPE CONTAINERS	1.69%	1.80%	1.89%	3.81%	1.79%	1.00%	0.76%	1.20%	0.80%	1.81%	1.83%	1.24%	1.63%
7	PET CONTAINERS	2.32%	0.69%	2.58%	3.80%	5.20%	2.63%	3.96%	2.21%	0.78%	2.59%	2.54%	1.91%	1.77%
8	OTHER RECYCLABLE PLASTIC CONT.	0.80%	2.53%	20.89%	1.39%	1.43%	0.64%	0.68%	1.20%	0.86%	1.08%	0.73%	0.51%	0.82%
9	ALL OTHER PLASTICS	8.18%	10.64%	1.10%	9.81%	11.23%	11.04%	9.07%	10.13%	2.94%	9.36%	11.04%	12.95%	8.76%
10	TIN/STEEL CANS	1.38%	3.13%	1.27%	2.24%	2.49%	1.08%	2.49%	1.19%	0.00%	1.83%	1.43%	2.21%	1.68%
11	OTHER FERROUS	0.41%	1.20%	0.37%	6.48%	1.03%	0.86%	0.49%	1.33%	1.28%	0.93%	0.73%	0.54%	1.16%
12	ALUMINUM CANS	1.77%	0.45%	0.35%	0.67%	1.14%	1.83%	1.52%	0.82%	0.78%	1.60%	1.10%	0.69%	1.30%
13	OTHER NON-FERROUS	0.94%	1.27%	0.12%	1.49%	0.95%	0.14%	1.15%	0.53%	0.93%	0.95%	0.83%	0.24%	0.47%
14	GLASS CONTAINERS	10.02%	16.71%	8.13%	9.13%	7.10%	12.63%	11.62%	5.95%	1.11%	16.53%	8.75%	11.75%	5.83%
15	OTHER GLASS	0.97%	1.50%	3.91%	0.14%	2.77%	1.20%	0.54%	0.40%	0.02%	0.00%	2.16%	0.21%	2.53%
16	TEXTILES	0.90%	2.44%	7.96%	5.02%	7.09%	1.37%	18.28%	15.58%	37.52%	1.26%	11.53%	4.07%	17.12%
17	HOUSEHOLD HAZARDOUS WASTE	0.48%	0.17%	0.00%	0.98%	0.00%	0.46%	0.19%	0.20%	0.00%	1.31%	0.08%	0.00%	1.34%
18	ELECTRONICS	1.50%	0.00%	0.19%	0.00%	0.25%	0.00%	1.61%	2.15%	27.87%	0.00%	0.00%	2.25%	0.40%
19	C&D DEBRIS	1.45%	0.88%	4.10%	4.36%	3.68%	4.12%	1.32%	2.08%	14.85%	2.17%	0.00%	4.32%	1.14%
20	YARD WASTE	0.00%	3.52%	0.00%	0.92%	1.44%	1.20%	1.30%	0.00%	0.00%	3.22%	1.58%	0.19%	0.45%
21	FOOD WASTE	12.29%	17.48%	9.83%	11.27%	10.39%	13.11%	3.67%	8.74%	1.15%	21.25%	12.29%	7.32%	6.69%
22	OTHER NON-RECYCLABLE TRASH	6.58%	1.97%	13.59%	2.72%	9.97%	5.14%	5.23%	9.95%	1.28%	7.53%	7.90%	4.73%	9.92%
	TOTALS	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

*Sample Number - The first digit indicates 1st (March) or 2nd (September) sorting event and the second digit is the actual sample number from that event.

APPENDIX D
INDIVIDUAL SAMPLE RESULTS
MULTI-FAMILY RESIDENTIAL
(% by weight)

	Sample Number*	2-2	2-3	2-15	2-23	2-32	2-39	2-41	2-42	2-43	2-55	2-59	2-67	2-73	
	Material Categories	St. Petersburg Sabal Pointe Apartments	St. Petersburg Brandywine Apartments	St. Petersburg Bermuda Bay Apartments	Gulfport Townshores	Clearwater Avalon Apartments	Clearwater Wellington Apartments	WSI Bayridge Apartments	Clearwater Starcrest Apartments	Republic ICX Apartments	WSI Bayshore Palms Apts.	Safety Harbor FEL - Several Apartments	Largo Melrose on the Bay Apts.	WMI Stonegate Apartments	**Weighted Average**
1	NEWSPAPER	3.67%	5.48%	11.63%	3.95%	7.57%	6.37%	2.20%	1.24%	9.25%	9.16%	9.14%	4.24%	13.22%	7.51%
2	CORRUGATED CARDBOARD	4.21%	4.98%	1.74%	7.42%	2.08%	2.85%	10.61%	5.30%	3.73%	2.73%	3.07%	3.68%	1.27%	4.73%
3	OFFICE PAPER	4.28%	3.08%	1.45%	1.44%	0.90%	2.33%	0.87%	1.49%	1.11%	0.32%	3.00%	1.23%	3.49%	1.86%
4	OTHER RECYCLABLE PAPER	16.20%	14.33%	8.56%	13.88%	7.94%	14.87%	8.81%	7.57%	13.23%	13.53%	12.53%	9.80%	12.31%	12.15%
5	OTHER NON-RECYCLABLE PAPER	5.76%	5.48%	8.40%	4.74%	2.99%	5.80%	7.68%	8.33%	5.69%	6.87%	5.43%	5.62%	10.29%	7.16%
6	HDPE CONTAINERS	1.90%	2.24%	1.32%	0.90%	1.21%	1.27%	2.02%	1.05%	0.94%	1.93%	2.18%	1.44%	2.31%	1.57%
7	PET CONTAINERS	3.05%	2.16%	1.67%	1.17%	2.11%	2.62%	2.63%	3.06%	3.52%	2.90%	1.57%	2.70%	4.04%	2.54%
8	OTHER RECYCLABLE PLASTIC CONT.	0.26%	0.26%	0.53%	0.29%	0.15%	0.14%	0.24%	0.22%	0.12%	0.52%	0.41%	0.66%	0.51%	1.03%
9	ALL OTHER PLASTICS	14.48%	12.48%	8.78%	6.93%	8.46%	12.86%	13.77%	12.23%	7.55%	12.13%	10.43%	11.09%	10.22%	10.33%
10	TIN/STEEL CANS	1.48%	2.53%	1.18%	1.67%	1.10%	1.56%	0.78%	1.85%	1.71%	1.20%	1.57%	2.16%	2.27%	1.64%
11	OTHER FERROUS	0.05%	0.11%	0.80%	1.62%	0.31%	0.76%	0.00%	0.55%	0.09%	0.63%	2.48%	0.93%	0.95%	0.94%
12	ALUMINUM CANS	1.39%	2.42%	1.58%	0.90%	3.53%	0.78%	0.72%	1.40%	1.03%	0.72%	1.64%	1.53%	0.80%	1.23%
13	OTHER NON-FERROUS	0.61%	0.53%	0.11%	0.00%	0.11%	0.00%	0.15%	0.21%	0.09%	0.31%	0.77%	0.93%	0.62%	0.52%
14	GLASS CONTAINERS	9.85%	7.20%	10.03%	6.70%	16.06%	2.33%	12.37%	5.25%	9.67%	15.59%	14.03%	10.28%	11.47%	9.83%
15	OTHER GLASS	0.42%	0.00%	3.81%	0.90%	0.00%	1.37%	0.15%	3.99%	1.18%	1.55%	7.30%	0.48%	0.42%	1.38%
16	TEXTILES	6.75%	2.51%	11.96%	3.18%	2.15%	0.76%	11.51%	1.11%	10.25%	5.65%	0.39%	13.41%	0.95%	8.13%
17	HOUSEHOLD HAZARDOUS WASTE	0.17%	0.00%	0.04%	0.34%	0.00%	0.72%	0.07%	0.00%	0.17%	1.41%	0.00%	0.46%	0.05%	0.40%
18	ELECTRONICS	0.16%	0.11%	10.00%	0.34%	0.00%	14.18%	4.50%	13.61%	1.16%	3.47%	0.77%	1.54%	0.64%	3.37%
19	C&D DEBRIS	0.00%	0.11%	0.67%	8.62%	20.80%	0.18%	0.94%	10.85%	5.45%	0.25%	2.77%	2.88%	3.87%	3.40%
20	YARD WASTE	0.00%	1.06%	1.58%	0.32%	0.00%	0.00%	2.80%	0.00%	0.26%	0.00%	1.00%	0.00%	0.00%	0.76%
21	FOOD WASTE	20.66%	16.27%	9.71%	27.30%	11.83%	15.60%	8.00%	15.39%	12.27%	9.81%	12.55%	11.94%	12.57%	11.45%
22	OTHER NON-RECYCLABLE TRASH	4.65%	16.67%	4.45%	7.38%	10.73%	12.66%	9.18%	5.30%	11.54%	9.35%	6.98%	13.00%	7.73%	8.04%
	TOTALS	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

*Sample Number - The first digit indicates 1st (March) or 2nd (September) sorting event and the second digit is the actual sample number from that event.

APPENDIX E
INDIVIDUAL SAMPLE RESULTS
COMMERCIAL SECTOR

	Sample Number*	1-1	1-2	1-5	1-7	1-11	1-15	1-18	1-21	1-24	1-29	1-31	1-32	1-38	1-42	1-43	1-45	1-46	1-65
	Material Categories	St. Petersburg Equifax	Republic Neilson	Gulfport Mixed FEL	Largo Mixed FEL	Republic Mixed FEL	Safety Harbor Mixed FEL	Dunedin Mixed FEL	St. Petersburg Franklin Templeton	St. Petersburg Strip Mall	Clearwater Mixed FEL	Clearwater Mixed FEL	Clearwater Mixed FEL	Republic Lakefront Office Park	St. Petersburg Home Depot	St. Petersburg Bert Smith Automall	WSI Raymond James	WMI Publix	Largo Target
1	NEWSPAPER	4.36%	1.70%	0.61%	1.98%	0.56%	2.79%	9.61%	1.84%	6.87%	2.67%	2.26%	0.77%	1.66%	0.44%	2.45%	6.42%	0.54%	1.67%
2	CORRUGATED CARDBOARD	1.21%	3.76%	10.47%	8.08%	4.41%	3.47%	3.94%	3.00%	15.64%	2.66%	16.83%	3.93%	16.86%	10.12%	13.76%	15.53%	1.20%	21.81%
3	OFFICE PAPER	40.95%	16.19%	0.00%	2.68%	1.71%	0.27%	5.91%	37.40%	0.00%	0.46%	2.20%	33.24%	6.95%	1.50%	7.06%	2.95%	2.30%	3.62%
4	OTHER RECYCLABLE PAPER	18.10%	13.76%	5.04%	5.15%	2.34%	1.12%	12.76%	20.92%	1.99%	3.74%	5.99%	17.45%	6.80%	15.82%	4.46%	9.58%	5.25%	10.93%
5	OTHER NON-RECYCLABLE PAPER	5.55%	15.08%	7.57%	9.33%	2.29%	3.01%	9.49%	6.17%	12.44%	3.95%	6.63%	16.53%	8.20%	1.40%	9.04%	10.94%	11.94%	9.91%
6	HDPE CONTAINERS	0.23%	0.17%	0.57%	0.00%	0.00%	0.00%	0.43%	0.27%	0.64%	0.57%	2.42%	0.63%	0.48%	0.43%	2.11%	0.19%	0.00%	0.87%
7	PET CONTAINERS	1.54%	4.04%	0.29%	0.80%	1.88%	0.29%	0.47%	3.48%	0.66%	1.10%	0.81%	0.96%	0.77%	0.89%	1.98%	1.93%	0.37%	1.07%
8	OTHER RECYCLABLE PLASTIC CONT.	0.10%	0.83%	0.91%	1.28%	0.19%	0.00%	0.57%	0.99%	1.00%	0.90%	0.42%	0.17%	0.61%	0.02%	1.44%	0.63%	0.49%	0.42%
9	ALL OTHER PLASTICS	8.11%	16.93%	18.87%	10.57%	5.54%	1.37%	8.35%	9.41%	10.04%	18.96%	8.24%	7.72%	6.14%	4.11%	13.89%	11.22%	19.92%	17.73%
10	TIN/STEEL CANS	0.21%	0.42%	3.86%	3.92%	1.02%	0.00%	2.89%	0.15%	1.06%	1.00%	0.26%	0.91%	0.21%	0.12%	1.12%	0.67%	0.26%	0.22%
11	OTHER FERROUS	0.08%	0.13%	0.07%	0.05%	6.23%	4.57%	0.64%	1.57%	1.40%	2.76%	14.36%	0.03%	12.73%	3.77%	13.22%	0.00%	0.06%	0.33%
12	ALUMINUM CANS	0.48%	1.11%	1.25%	0.51%	0.17%	0.05%	0.62%	0.82%	0.89%	0.49%	0.48%	1.73%	0.53%	0.19%	1.55%	0.67%	0.17%	0.33%
13	OTHER NON-FERROUS	0.29%	0.35%	8.18%	0.15%	0.02%	0.00%	4.89%	0.10%	0.95%	0.13%	0.50%	1.08%	0.07%	0.02%	1.44%	0.04%	0.37%	0.33%
14	GLASS CONTAINERS	1.13%	3.98%	7.94%	34.60%	0.39%	0.00%	0.12%	2.37%	10.98%	4.33%	0.61%	1.15%	2.26%	0.19%	1.59%	1.16%	0.47%	0.74%
15	OTHER GLASS	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.26%	0.07%	0.00%	0.00%	0.32%	0.02%	0.00%	0.00%	0.00%	0.16%	-1.40%	0.25%
16	TEXTILES	0.02%	1.09%	0.47%	0.63%	0.80%	0.00%	2.09%	0.31%	6.74%	14.78%	0.30%	3.69%	0.91%	0.02%	1.44%	0.44%	6.76%	1.10%
17	HOUSEHOLD HAZARDOUS WASTE	0.00%	0.00%	0.00%	0.00%	29.18%	0.00%	0.26%	0.00%	0.00%	0.00%	0.00%	0.00%	16.43%	0.00%	2.71%	10.97%	0.00%	0.00%
18	ELECTRONICS	0.00%	0.17%	0.00%	0.00%	0.00%	0.00%	0.00%	1.33%	0.00%	0.00%	0.00%	1.05%	0.00%	0.00%	4.84%	0.00%	0.00%	6.86%
19	C&D DEBRIS	0.76%	0.00%	0.00%	8.68%	31.95%	69.21%	12.38%	0.36%	4.24%	1.61%	27.60%	0.00%	9.66%	59.85%	9.99%	8.14%	0.00%	0.50%
20	YARD WASTE	0.00%	0.00%	2.04%	0.00%	8.18%	13.65%	5.41%	0.02%	0.00%	29.21%	4.81%	0.00%	6.44%	0.00%	0.86%	0.04%	0.97%	8.57%
21	FOOD WASTE	5.87%	9.53%	26.14%	9.53%	2.77%	0.00%	10.15%	5.18%	24.22%	7.40%	3.20%	6.80%	1.33%	0.00%	2.73%	15.26%	48.32%	5.51%
22	OTHER NON-RECYCLABLE TRASH	11.02%	10.75%	5.72%	2.08%	0.37%	0.20%	7.78%	4.23%	0.25%	3.28%	1.75%	2.13%	0.97%	1.14%	2.30%	3.06%	2.02%	7.20%
	TOTALS	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

* Sample Number - The first digit indicates 1st (March) or 2nd (September) sorting event and the second digit is the actual sample number from that event.

APPENDIX E
INDIVIDUAL SAMPLE RESULTS
COMMERCIAL SECTOR

	Sample Number*	1-66	1-68	1-69	1-83	1-84	1-85	2-1	2-5	2-6	2-7	2-11	2-13	2-14	2-18	2-19	2-21	2-24	2-25
	Material Categories	WSI Sun Microstamping	WSI Sirata Beach Resort	Dunedin Mixed FEL	WSI Countryside Mall	WSI Clearwater Hilton	Treasure Island Mixed FEL	St. Petersburg Home Shopping Net.	Gulfport Mixed FEL	Republic United Health Care	Republic Target	St. Petersburg Jabil Circuits	St. Petersburg Baywalk	Republic Flea Market	St. Petersburg Coger Executive Park	St. Petersburg Franklin Templeton	Clearwater Mixed FEL	Clearwater Mixed FEL	Clearwater Mixed FEL
1	NEWSPAPER	0.37%	16.71%	5.73%	1.10%	10.71%	1.43%	8.00%	6.83%	6.72%	0.30%	1.19%	2.33%	1.10%	4.80%	2.31%	2.25%	2.73%	3.98%
2	CORRUGATED CARDBOARD	2.35%	9.99%	3.82%	25.62%	3.62%	11.85%	1.94%	4.35%	0.56%	10.53%	12.96%	14.94%	17.68%	6.16%	9.78%	6.50%	3.03%	7.10%
3	OFFICE PAPER	1.78%	0.91%	3.40%	4.67%	5.50%	0.88%	12.29%	5.40%	3.35%	1.27%	5.30%	0.42%	0.06%	29.53%	5.42%	4.15%	0.79%	2.37%
4	OTHER RECYCLABLE PAPER	4.86%	6.74%	24.59%	8.49%	9.49%	6.01%	8.54%	12.13%	5.03%	16.32%	10.03%	1.77%	2.22%	8.98%	7.09%	9.28%	11.81%	10.11%
5	OTHER NON-RECYCLABLE PAPER	2.84%	7.83%	8.04%	10.31%	9.35%	13.30%	19.44%	3.70%	43.31%	2.99%	4.73%	7.36%	2.78%	15.27%	19.06%	11.46%	7.20%	11.82%
6	HDPE CONTAINERS	0.32%	0.53%	1.12%	0.57%	0.94%	0.29%	0.47%	2.47%	0.69%	0.75%	0.72%	0.06%	0.04%	0.49%	0.22%	0.29%	0.61%	0.73%
7	PET CONTAINERS	2.07%	3.56%	1.42%	0.45%	2.49%	0.91%	3.10%	1.75%	4.04%	0.51%	2.50%	0.39%	0.54%	1.50%	4.52%	0.94%	1.31%	1.46%
8	OTHER RECYCLABLE PLASTIC CONT.	0.47%	0.47%	0.60%	0.00%	0.45%	0.00%	0.00%	0.00%	0.21%	0.04%	1.78%	0.00%	0.08%	0.45%	0.08%	0.15%	0.57%	0.20%
9	ALL OTHER PLASTICS	75.13%	14.70%	12.78%	17.20%	14.71%	12.97%	23.81%	9.04%	14.11%	12.40%	37.20%	7.55%	5.22%	11.66%	14.58%	10.01%	11.47%	9.38%
10	TIN/STEEL CANS	0.64%	0.53%	2.15%	0.14%	0.86%	0.65%	1.02%	0.91%	0.49%	0.00%	0.70%	0.17%	0.00%	0.91%	1.06%	0.63%	0.88%	1.25%
11	OTHER FERROUS	0.96%	0.30%	2.00%	0.59%	0.64%	0.00%	0.06%	1.36%	0.17%	0.00%	0.00%	0.00%	0.44%	0.31%	0.00%	3.27%	0.63%	0.32%
12	ALUMINUM CANS	0.47%	2.16%	0.76%	0.18%	0.71%	1.40%	1.74%	0.82%	0.60%	0.04%	1.01%	0.08%	0.22%	0.93%	0.94%	0.53%	0.25%	1.14%
13	OTHER NON-FERROUS	0.97%	0.53%	0.84%	0.95%	0.71%	1.72%	0.10%	0.35%	0.06%	1.19%	0.00%	0.00%	0.00%	0.04%	0.28%	0.48%	0.07%	0.18%
14	GLASS CONTAINERS	0.34%	9.84%	0.00%	0.00%	7.84%	19.50%	1.72%	6.34%	0.99%	0.00%	0.00%	10.11%	0.32%	1.11%	0.46%	0.87%	3.30%	11.00%
15	OTHER GLASS	0.00%	1.02%	0.00%	0.83%	0.71%	1.03%	0.00%	0.00%	0.00%	0.48%	0.00%	0.39%	1.18%	0.00%	0.46%	0.89%	0.04%	0.00%
16	TEXTILES	0.79%	2.61%	3.97%	1.04%	3.53%	0.59%	0.65%	2.38%	0.00%	0.53%	1.31%	0.64%	4.08%	0.04%	0.00%	4.32%	1.36%	8.95%
17	HOUSEHOLD HAZARDOUS WASTE	0.00%	0.00%	0.26%	0.00%	0.23%	0.00%	0.00%	0.80%	0.06%	0.85%	1.44%	0.00%	0.64%	5.75%	0.10%	13.70%	0.00%	0.14%
18	ELECTRONICS	1.34%	0.00%	1.12%	0.24%	0.09%	0.29%	0.00%	0.60%	0.15%	0.22%	8.30%	0.00%	0.72%	0.35%	0.04%	0.09%	19.19%	0.00%
19	C&D DEBRIS	1.48%	0.72%	11.10%	4.20%	6.70%	4.53%	0.51%	7.57%	0.00%	2.59%	0.00%	0.00%	44.85%	0.43%	0.00%	14.83%	5.75%	3.03%
20	YARD WASTE	0.00%	1.65%	2.67%	0.00%	3.79%	0.33%	0.31%	10.21%	0.00%	0.00%	0.00%	9.78%	1.54%	0.00%	0.00%	1.06%	0.41%	2.91%
21	FOOD WASTE	1.21%	13.83%	4.09%	17.95%	14.82%	21.68%	8.21%	15.48%	16.86%	41.17%	5.91%	43.38%	5.53%	9.33%	31.04%	12.00%	20.54%	20.62%
22	OTHER NON-RECYCLABLE TRASH	1.61%	5.37%	9.55%	5.46%	2.10%	0.64%	8.09%	7.50%	2.58%	7.82%	4.91%	0.62%	10.74%	1.94%	2.57%	2.33%	8.04%	3.30%
	TOTALS	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

* Sample Number - The first digit indicates 1 st (March) or 2nd (September) sorting event and the second digit is the actual sample number from that event.

APPENDIX E
INDIVIDUAL SAMPLE RESULTS
COMMERCIAL SECTOR

	Sample Number*	2-27	2-29	2-40	2-46	2-56	2-70	2-71	2-74	2-84	2-85	2-87	2-89	2-90	
	Material Categories	St. Petersburg St. Pete Times	Republic General Transportation	St. Petersburg Hilton Hotel	Safety Harbor Mixed FEL	Dunedin Mixed FEL	Dunedin Mixed FEL	WSI Mixed FEL	WSI Raymond James	Largo BIC Graphics	Treasure Island Mixed FEL	Largo Pineview Asst. Living Facility	WSI Sandpiper Hotel	Clearwater Park Place Office Park	**Weighted Average**
1	NEWSPAPER	5.41%	0.00%	9.37%	0.11%	3.74%	3.12%	2.20%	5.07%	0.00%	0.31%	29.17%	8.17%	5.76%	4.10%
2	CORRUGATED CARDBOARD	6.95%	79.13%	6.09%	13.27%	7.94%	2.66%	19.21%	3.30%	13.33%	6.56%	5.92%	2.66%	7.52%	8.67%
3	OFFICE PAPER	16.06%	0.00%	4.39%	1.26%	2.11%	6.47%	2.01%	13.53%	38.40%	1.10%	3.12%	0.37%	4.11%	5.75%
4	OTHER RECYCLABLE PAPER	23.34%	0.00%	9.71%	4.87%	6.99%	8.14%	11.32%	9.98%	8.02%	12.52%	7.02%	2.37%	11.91%	9.22%
5	OTHER NON-RECYCLABLE PAPER	10.73%	0.00%	2.12%	11.78%	4.05%	7.42%	10.76%	25.75%	0.00%	4.97%	11.60%	6.14%	12.14%	8.59%
6	HDPE CONTAINERS	0.67%	0.93%	0.53%	0.13%	0.05%	0.17%	0.94%	0.32%	0.00%	0.40%	0.45%	0.61%	0.53%	0.59%
7	PET CONTAINERS	3.60%	0.00%	0.60%	1.29%	0.22%	1.07%	2.20%	2.64%	0.00%	0.55%	0.47%	2.66%	1.65%	1.28%
8	OTHER RECYCLABLE PLASTIC CONT.	0.06%	0.00%	3.78%	0.28%	0.02%	0.68%	0.66%	1.07%	0.00%	0.15%	0.35%	0.76%	0.09%	0.49%
9	ALL OTHER PLASTICS	14.07%	9.10%	7.02%	15.97%	7.67%	9.91%	17.89%	14.22%	28.58%	14.81%	10.53%	11.79%	6.70%	11.96%
10	TIN/STEEL CANS	0.08%	0.00%	0.88%	0.43%	0.65%	0.85%	0.66%	0.90%	0.00%	0.27%	1.85%	0.76%	0.43%	1.06%
11	OTHER FERROUS	3.54%	5.94%	0.04%	0.06%	2.23%	0.02%	0.00%	0.00%	0.00%	0.82%	0.45%	0.37%	0.00%	1.65%
12	ALUMINUM CANS	0.30%	0.00%	0.35%	0.37%	0.20%	0.50%	0.71%	2.00%	0.00%	0.86%	0.53%	4.81%	0.91%	0.71%
13	OTHER NON-FERROUS	0.00%	0.00%	0.00%	5.85%	0.07%	0.16%	0.12%	0.17%	0.00%	1.08%	0.24%	0.27%	0.07%	0.91%
14	GLASS CONTAINERS	0.77%	0.00%	7.35%	2.55%	0.91%	2.31%	2.28%	2.07%	0.00%	12.44%	2.21%	6.37%	25.43%	5.85%
15	OTHER GLASS	0.00%	0.00%	0.26%	1.14%	8.70%	0.78%	0.19%	0.00%	0.00%	0.00%	0.20%	0.00%	0.00%	0.53%
16	TEXTILES	3.68%	0.00%	1.01%	2.27%	8.38%	1.76%	0.10%	0.34%	0.00%	3.83%	1.28%	2.21%	0.00%	2.74%
17	HOUSEHOLD HAZARDOUS WASTE	0.00%	0.00%	0.09%	0.00%	0.35%	0.37%	0.66%	0.13%	0.00%	0.09%	0.00%	0.53%	0.16%	2.06%
18	ELECTRONICS	3.94%	0.00%	0.00%	7.57%	27.31%	0.00%	0.93%	1.00%	7.92%	0.00%	0.00%	0.78%	0.00%	2.26%
19	C&D DEBRIS	0.57%	4.03%	10.81%	16.85%	12.66%	33.42%	0.06%	0.09%	3.75%	1.85%	0.10%	1.39%	12.23%	10.60%
20	YARD WASTE	0.00%	0.00%	0.00%	9.09%	0.15%	0.19%	0.21%	0.75%	0.00%	3.30%	0.00%	2.27%	3.66%	3.57%
21	FOOD WASTE	4.43%	0.00%	32.56%	2.40%	4.96%	14.42%	23.99%	14.79%	0.00%	32.16%	8.93%	43.45%	4.93%	13.43%
22	OTHER NON-RECYCLABLE TRASH	1.79%	0.85%	3.05%	2.47%	0.64%	5.58%	2.93%	1.87%	0.00%	1.92%	15.58%	1.27%	1.76%	3.97%
	TOTALS	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

* Sample Number - The first digit indicates 1 st (March) or 2nd (September) sorting event and the second digit is the actual sample number from that event.

APPENDIX F
INDIVIDUAL SAMPLE RESULTS
OFFICE PARKS

	Sample Number*	1-1	1-2	1-21	1-38	1-45	2-6	2-11	2-18	2-19	2-74	2-90	
	Material Categories	St. Petersburg Equifax	Republic Neilson	St. Petersburg Franklin Templeton	Republic Lakefront Office Park	WSI Raymond James	Republic United Health Care	St. Petersburg Jabil Circuits	St. Petersburg Coger Executive Park	St. Petersburg Franklin Templeton	WSI Raymond James	Clearwater Park Place Office Park	**Weighted Average**
1	NEWSPAPER	4.36%	1.70%	1.84%	1.66%	6.42%	6.72%	1.19%	4.80%	2.31%	5.07%	5.76%	4.40%
2	CORRUGATED CARDBOARD	1.21%	3.76%	3.00%	16.86%	15.53%	0.56%	12.96%	6.16%	9.78%	3.30%	7.52%	8.06%
3	OFFICE PAPER	40.95%	16.19%	37.40%	6.95%	2.95%	3.35%	5.30%	29.53%	5.42%	13.53%	4.11%	14.62%
4	OTHER RECYCLABLE PAPER	18.10%	13.76%	20.92%	6.80%	9.58%	5.03%	10.03%	8.98%	7.09%	9.98%	11.91%	11.10%
5	OTHER NON-RECYCLABLE PAPER	5.55%	15.08%	6.17%	8.20%	10.94%	43.31%	4.73%	15.27%	19.06%	25.75%	12.14%	13.63%
6	HDPE CONTAINERS	0.23%	0.17%	0.27%	0.48%	0.19%	0.69%	0.72%	0.49%	0.22%	0.32%	0.53%	0.39%
7	PET CONTAINERS	1.54%	4.04%	3.48%	0.77%	1.93%	4.04%	2.50%	1.50%	4.52%	2.64%	1.65%	2.28%
8	OTHER RECYCLABLE PLASTIC CONT.	0.10%	0.83%	0.99%	0.61%	0.63%	0.21%	1.78%	0.45%	0.08%	1.07%	0.09%	0.52%
9	ALL OTHER PLASTICS	8.11%	16.93%	9.41%	6.14%	11.22%	14.11%	37.20%	11.66%	14.58%	14.22%	6.70%	11.93%
10	TIN/STEEL CANS	0.21%	0.42%	0.15%	0.21%	0.67%	0.49%	0.70%	0.91%	1.06%	0.90%	0.43%	0.57%
11	OTHER FERROUS	0.08%	0.13%	1.57%	12.73%	0.00%	0.17%	0.00%	0.31%	0.00%	0.00%	0.00%	0.89%
12	ALUMINUM CANS	0.48%	1.11%	0.82%	0.53%	0.67%	0.60%	1.01%	0.93%	0.94%	2.00%	0.91%	0.86%
13	OTHER NON-FERROUS	0.29%	0.35%	0.10%	0.07%	0.04%	0.06%	0.00%	0.04%	0.28%	0.17%	0.07%	0.11%
14	GLASS CONTAINERS	1.13%	3.98%	2.37%	2.26%	1.16%	0.99%	0.00%	1.11%	0.46%	2.07%	25.43%	6.25%
15	OTHER GLASS	0.00%	0.00%	0.07%	0.00%	0.16%	0.00%	0.00%	0.00%	0.46%	0.00%	0.00%	0.05%
16	TEXTILES	0.02%	1.09%	0.31%	0.91%	0.44%	0.00%	1.31%	0.04%	0.00%	0.34%	0.00%	0.34%
17	HOUSEHOLD HAZARDOUS WASTE	0.00%	0.00%	0.00%	16.43%	10.97%	0.06%	1.44%	5.75%	0.10%	0.13%	0.16%	4.05%
18	ELECTRONICS	0.00%	0.17%	1.33%	0.00%	0.00%	0.15%	8.30%	0.35%	0.04%	1.00%	0.00%	0.55%
19	C&D DEBRIS	0.76%	0.00%	0.36%	9.66%	8.14%	0.00%	0.00%	0.43%	0.00%	0.09%	12.23%	4.52%
20	YARD WASTE	0.00%	0.00%	0.02%	6.44%	0.04%	0.00%	0.00%	0.00%	0.00%	0.75%	3.66%	1.10%
21	FOOD WASTE	5.87%	9.53%	5.18%	1.33%	15.26%	16.86%	5.91%	9.33%	31.04%	14.79%	4.93%	9.92%
22	OTHER NON-RECYCLABLE TRASH	11.02%	10.75%	4.23%	0.97%	3.06%	2.58%	4.91%	1.94%	2.57%	1.87%	1.76%	3.87%
	TOTALS	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

* Sample Number - The first digit indicates 1st (March) or 2nd (September) sorting event and the second digit is the actual sample number from that event.

APPENDIX G
INDIVIDUAL SAMPLE RESULTS
COUNTY SCHOOLS

	Sample Number*	1-13	1-22	1-26	1-27	1-28	1-41	2-20	2-38	2-45	2-57	2-66	2-69	2-86	
	Material Categories	St. Petersburg Clearview Elementary	Safety Harbor FEL Several Schools	WSI Osceola Middle (Dumpster)	WSI Osceola High (Dumpster)	Clearwater Countryside High	Largo FEL Several Schools	St. Petersburg Mt. Vernon Elementary	Clearwater Countryside High	Clearwater Clearwater High	Safety Harbor Safety Harbor Elementary	WSI Seminole High	WSI Osceola High	Largo FEL - Several Schools	**Weighted Average**
1	NEWSPAPER	2.75%	2.40%	0.00%	1.72%	6.79%	0.69%	0.00%	31.96%	24.34%	6.53%	5.91%	2.45%	4.30%	11.79%
2	CORRUGATED CARDBOARD	5.35%	14.95%	0.00%	0.24%	9.06%	5.09%	7.36%	4.46%	3.12%	5.37%	6.57%	1.24%	4.65%	5.88%
3	OFFICE PAPER	4.87%	0.43%	1.07%	1.48%	9.88%	3.80%	3.60%	5.00%	9.02%	3.03%	13.95%	4.33%	22.09%	9.03%
4	OTHER RECYCLABLE PAPER	4.08%	6.25%	7.70%	8.63%	8.45%	16.97%	6.34%	10.22%	9.74%	6.06%	18.88%	33.51%	5.66%	9.60%
5	OTHER NON-RECYCLABLE PAPER	16.50%	8.22%	10.29%	21.69%	10.17%	11.99%	4.87%	9.34%	7.14%	12.29%	13.73%	11.67%	21.67%	12.09%
6	HDPE CONTAINERS	5.60%	0.50%	0.37%	0.63%	0.12%	0.09%	0.14%	0.16%	0.14%	0.64%	0.00%	0.28%	0.28%	0.28%
7	PET CONTAINERS	2.50%	0.88%	6.11%	3.32%	8.54%	1.09%	0.95%	8.68%	9.17%	3.69%	9.68%	4.30%	4.50%	5.88%
8	OTHER RECYCLABLE PLASTIC CONT.	2.66%	0.32%	0.27%	1.18%	0.21%	1.15%	0.05%	0.02%	0.02%	0.06%	0.44%	0.00%	0.67%	0.37%
9	ALL OTHER PLASTICS	11.19%	16.28%	19.22%	20.30%	18.00%	17.59%	24.67%	8.14%	8.72%	13.68%	10.88%	9.25%	12.90%	13.33%
10	TIN/STEEL CANS	4.26%	3.35%	3.71%	0.03%	1.60%	2.10%	0.07%	2.02%	0.11%	0.11%	0.36%	0.15%	0.47%	1.26%
11	OTHER FERROUS	4.74%	0.16%	0.00%	0.03%	0.17%	0.00%	0.00%	0.02%	0.25%	0.17%	0.04%	0.23%	0.00%	0.14%
12	ALUMINUM CANS	3.79%	1.02%	2.05%	2.26%	1.17%	0.27%	0.71%	0.47%	1.33%	0.62%	1.11%	1.85%	1.87%	1.08%
13	OTHER NON-FERROUS	6.10%	0.20%	0.37%	1.27%	0.23%	0.17%	0.00%	0.25%	0.00%	0.60%	0.80%	0.28%	0.89%	0.40%
14	GLASS CONTAINERS	0.00%	0.00%	0.00%	1.54%	0.57%	2.90%	0.00%	1.27%	0.52%	4.25%	0.00%	1.29%	0.71%	1.27%
15	OTHER GLASS	0.00%	0.14%	0.00%	0.00%	0.02%	0.00%	0.00%	0.21%	0.00%	0.41%	0.00%	0.21%	0.00%	0.08%
16	TEXTILES	3.25%	0.23%	0.00%	0.75%	1.17%	0.74%	0.07%	0.41%	0.72%	0.00%	1.02%	0.05%	0.08%	0.54%
17	HOUSEHOLD HAZARDOUS WASTE	0.00%	0.00%	0.00%	0.00%	0.03%	0.14%	0.07%	0.41%	0.00%	0.00%	0.93%	0.00%	0.00%	0.10%
18	ELECTRONICS	0.00%	0.00%	0.00%	0.00%	0.00%	0.06%	0.00%	0.23%	0.00%	1.98%	0.00%	0.00%	0.00%	0.21%
19	C&D DEBRIS	0.00%	0.29%	0.00%	6.55%	0.19%	0.06%	0.00%	8.55%	9.88%	12.18%	1.16%	13.39%	0.85%	4.42%
20	YARD WASTE	5.08%	20.20%	0.00%	12.07%	5.09%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.12%	2.32%
21	FOOD WASTE	16.39%	19.90%	35.14%	7.75%	5.44%	29.21%	48.39%	4.07%	7.55%	19.48%	10.40%	7.83%	15.70%	13.15%
22	OTHER NON-RECYCLABLE TRASH	0.92%	4.28%	13.70%	8.57%	13.10%	5.90%	2.72%	4.11%	8.23%	8.85%	4.13%	7.70%	2.59%	6.79%
	TOTALS	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

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APPENDIX H
INDIVIDUAL SAMPLE RESULTS
COUNTY GOVERNMENT OFFICES

	Sample Number*	1-34	1-37	1-39	1-40	1-67	2-4	2-12	2-30	2-37	2-65	
	Material Categories	St. Petersburg Courthouse (Dumpster)	St. Petersburg County Building (Dumpster)	DSWO Scalehouse & Admin Building	St. Petersburg Weedon Island Preserve	Clearwater Various County Offices	Clearwater FEL - Several County Offices	St. Petersburg BOCC (dumpster)	St. Petersburg Traffic Court (dumpster)	St. Petersburg Health Department (dumpster)	WMI Fleet Center	**Weighted Average**
1	NEWSPAPER	15.11%	11.85%	1.73%	2.02%	6.56%	1.32%	6.75%	8.00%	3.54%	2.25%	5.16%
2	CORRUGATED CARDBOARD	3.82%	10.17%	1.51%	2.00%	6.24%	7.44%	2.35%	6.35%	0.35%	6.28%	5.66%
3	OFFICE PAPER	19.22%	9.93%	3.07%	0.26%	4.94%	34.78%	7.14%	15.00%	18.86%	4.85%	6.70%
4	OTHER RECYCLABLE PAPER	11.66%	19.79%	12.52%	8.11%	7.33%	9.83%	11.24%	5.68%	11.14%	14.72%	10.13%
5	OTHER NON-RECYCLABLE PAPER	13.74%	16.95%	29.90%	5.80%	28.54%	8.64%	12.12%	29.14%	16.36%	4.40%	18.14%
6	HDPE CONTAINERS	0.76%	0.00%	0.17%	0.61%	1.03%	0.48%	0.61%	1.71%	0.00%	1.47%	1.05%
7	PET CONTAINERS	1.89%	2.54%	0.67%	2.52%	2.28%	2.25%	1.56%	4.67%	2.59%	3.48%	2.55%
8	OTHER RECYCLABLE PLASTIC CONT.	0.07%	0.49%	0.22%	0.57%	0.54%	0.16%	5.66%	1.12%	0.00%	0.20%	0.99%
9	ALL OTHER PLASTICS	14.59%	6.87%	18.84%	5.80%	11.00%	8.29%	8.77%	11.36%	10.83%	9.49%	10.09%
10	TIN/STEEL CANS	0.92%	0.64%	0.73%	0.33%	0.63%	2.41%	1.26%	0.59%	0.82%	1.41%	0.98%
11	OTHER FERROUS	0.00%	0.40%	0.00%	0.09%	0.61%	0.16%	0.00%	0.25%	0.04%	0.52%	0.46%
12	ALUMINUM CANS	1.30%	0.86%	0.39%	0.48%	0.73%	0.45%	0.88%	1.54%	0.69%	0.58%	0.70%
13	OTHER NON-FERROUS	0.66%	0.24%	0.17%	0.07%	0.02%	0.00%	2.84%	0.08%	0.09%	0.16%	0.38%
14	GLASS CONTAINERS	3.07%	0.00%	0.78%	7.44%	0.92%	2.28%	0.93%	1.76%	0.60%	9.29%	3.50%
15	OTHER GLASS	0.50%	0.00%	0.17%	0.83%	0.19%	0.00%	1.07%	0.00%	0.00%	1.09%	0.55%
16	TEXTILES	0.00%	0.00%	1.73%	3.76%	1.36%	0.21%	5.26%	2.99%	0.26%	12.25%	4.78%
17	HOUSEHOLD HAZARDOUS WASTE	0.00%	0.00%	0.00%	0.44%	0.25%	0.21%	0.00%	0.00%	0.00%	0.56%	0.30%
18	ELECTRONICS	1.44%	0.12%	0.28%	0.19%	8.42%	6.12%	4.89%	0.00%	0.00%	0.38%	5.10%
19	C&D DEBRIS	0.00%	11.79%	3.69%	52.62%	8.21%	1.27%	5.77%	0.62%	15.84%	2.67%	7.49%
20	YARD WASTE	0.12%	2.57%	0.17%	1.15%	2.41%	9.30%	0.00%	0.00%	0.00%	2.80%	2.41%
21	FOOD WASTE	7.44%	3.70%	15.93%	0.94%	6.91%	2.20%	6.82%	6.44%	11.74%	9.59%	7.31%
22	OTHER NON-RECYCLABLE TRASH	3.71%	1.10%	7.32%	3.96%	0.90%	2.20%	14.08%	2.69%	6.26%	11.58%	5.58%
	TOTALS	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

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