SCS ENGINEERS






Waste Characterization Study

County of Los Angeles
Department of Public Works
900 S. Fremont Ave.
Alhambra, CA 91803

Presented to:

County of Los Angeles

Department of Public Works
Environmental Programs Division
900 S. Fremont Avenue
Alhambra, CA 91803
(626) 458-5100

Presented by:

SCS ENGINEERS
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May 18, 2016
File No. 01215062.00

Offices Nationwide
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May 16, 2016
File No. 01215062.00

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1.0 INTRODUCTION

A waste characterization study (WCS) was conducted at the County of Los Angeles Department of Public Works (DPW) Headquarters on December 11th, 2015. The purpose of the study is to identify opportunities to increase waste reduction, reuse, and recycling of materials generated onsite. Implementation of the recommendations included in the study will assist the County in meeting its diversion goals of 80% by 2025, 90% by 2035, and 90%+ diversion by 2045.

Prior to conducting the waste characterization, representatives from the County Department of Public Works and **SCS Engineers (SCS)** met to discuss the existing waste management practices and to tour the facility. DPW employees provided information on the existing waste and recycling services and programs. The onsite employees generate waste from offices, the cafeteria, and the motor pool. Waste is presently collected using 3-cubic yard (cy) bins located at the Motor Pool, at the ramp, and at the loading dock, and a 6-cy compactor for the trash chutes. These bins are collected by UWS five days per week.

The facility has a paper recycling program in-place, and most employees have a deskside container for collection of paper. Two 3-cy bins of mixed paper, two 3-cy bins of white paper, and one 3-cy bin of cardboard are picked up for recycling each week. Green waste is collected separately for recycling in a 3 cy-bin. The facility has a vermicomposting program where food scraps are fed to worms on a daily basis. The worms are housed in 4 worm bins located next to the ramp area. Approximately 30 pounds per week of food scraps are presently recycled. The facility also has a program for recycling alkaline batteries, fluorescent light tubes, toner cartridges, and pallets. These are picked up on an on-call basis 1 to 2 times per month. The existing waste and recycling generation at the facility is indicated in **Table 1**.

Table 1. Existing Waste Generation

MATERIAL	NUMBER OF BINS	SIZE (CY)	FREQUENCY (PER WEEK)	TOTAL CY	WEEKLY TONS	ANNUAL TONS
DISPOSED						
Waste	5	3	5	75	8.4	438.8
Waste (compactor)	2	3	5	30	7.5	390.0
Food scraps		310 lbs.	1	310 lbs.	0.2	8.1
Sub-Total				**105**	**16.1**	**836.9**
DIVERTED						
Green waste	1	3	1	3	0.5	28.3
Food scraps	1	30 lbs.	1	30 lbs.	0.0	0.8
Mixed paper	2	3	1	6	1.2	60.7
White ledger	2	3	1	6	1.2	60.7
Cardboard	1	3	1	3	0.2	8.2
Sub-Total					**3.1**	**158.8**
				TOTAL	**19.2**	**995.7**

SOURCES: LA County DPW; CalRecycle FacIT Conversion Table.

2.0 METHODOLOGY

2.1 SAMPLING PLAN AND TARGET WASTE STREAMS

Waste from the motor pool, ramp, loading dock and compactor was sampled to represent waste disposed from offices, cafeteria, and the motor pool at the Public Works Headquarters buildings. Typically, hauling services are scheduled for early morning collection Monday through Friday. Hauling service was cancelled the day of the study so that a 24-hour representative sample could be collected.

2.2 MATERIAL CATEGORIES AND TYPES

Each sample was hand sorted into pre-defined material categories and types based on CalRecycle's most recent waste characterization study. The material categories and types are listed in **Table 2**. Detailed definitions of the material categories and types are included in **Appendix A**.

2.3 SORTING ACTIVITIES

Sorting activities were conducted at the Public Works headquarters on December 11, 2015. Samples from the motor pool and offices/cafeteria were hand sorted and placed into designated containers, which were then weighed and recorded. The SCS site manager recorded information for each sample with the basic procedures for sorting being identical for each sample. Sorting was performed as follows:

- For the office stream, the work crew transferred samples from the 3-cy bins and a compactor onto a sorting tarp and separated them into the material categories and types until at least 150 pounds was reached. The sorting tarp contained individual containers to segregate contents by material type.

- For the motor pool, the sample was collected from a 3-cy bin and then separated into the material categories and types.

- Upon completion of sorting each sample, the containers of segregated materials were moved to the scale where the SCS site manager weighed each container according to the material type, and recorded the net weight (weight of contents minus container weight) on the field data form. Measurements were made to the nearest 0.01 pound.

After the weight of each material had been recorded from each stream, waste was placed back into one of the 3-cy bins.

Table 2. Standard and Expanded List of Material Types

Category	2014 Standard Material List	2014 Expanded Material List
Paper	Uncoated Corrugated Cardboard	Uncoated Corrugated Cardboard
	Paper Bags	Paper Bags
	Newspaper	Newspaper
	White Ledger Paper	White Ledger Paper
	Other Office Paper	Other Office Paper
	Magazines and Catalogs	Magazines and Catalogs
	Phone Books and Directories	Phone Books and Directories
	Other Miscellaneous Paper	Other Miscellaneous Paper - Compostable
		Other Miscellaneous Paper - Other
	Remainder/Composite Paper	Remainder/Composite Paper - Rigid Food and Beverage Cartons
		Remainder/Composite Paper - Compostable
		Remainder/Composite Paper - Other
Glass	Clear Glass Bottles and Containers	Clear Glass Bottles and Containers - CRV
		Clear Glass Bottles and Containers - Non-CRV
	Green Glass Bottles and Containers	Green Glass Bottles and Containers - CRV
		Green Glass Bottles and Containers - Non-CRV
	Brown Glass Bottles and Containers	Brown Glass Bottles and Containers - CRV
		Brown Glass Bottles and Containers - Non-CRV
	Other Colored Glass Bottles and Containers	Other Colored Glass Bottles and Containers - CRV
		Other Colored Glass Bottles and Containers - Non-CRV
	Flat Glass	Flat Glass
	Remainder/Composite Glass	Remainder/Composite Glass
Metal	Tin/Steel Cans	Tin/Steel Cans - CRV Bimetal Containers
		Tin/Steel Cans - Other
	Major Appliances	Major Appliances
	Used Oil Filters	Used Oil Filters
	Other Ferrous	Other Ferrous
	Aluminum Cans	Aluminum Cans - CRV
		Aluminum Cans - Non-CRV
	Other Non-Ferrous	Other Non-Ferrous
	Remainder/Composite Metal	Remainder/Composite Metal
Electronics	Brown Goods	Brown Goods
	Computer-Related Electronics	Computer-Related Electronics
	Other Small Consumer Electronics	Other Small Consumer Electronics
	Video Display Devices	Video Display Devices - CRT
		Video Display Devices - Other

Table 2 Continued

Category	2014 Standard Material List	2014 Expanded Material List
Plastic	PETE Containers	PETE Containers - CRV PETE Containers - Non-CRV
	HDPE Containers	HDPE Containers - CRV HDPE Containers - Non-CRV
	Miscellaneous Plastic Containers	Miscellaneous Plastic Containers - CRV Miscellaneous Plastic Containers - Non-CRV
	Plastic Trash Bags	Plastic Trash Bags
	Plastic Grocery and Other Merchandise Bags	Plastic Grocery and Other Merchandise Bags
	Non-Bag Commercial and Industrial Packaging Film	Non-Bag Commercial and Industrial Packaging Film
	Film Products	Film Products
	Other Film	Other Film - Flexible Plastic Pouches Other Film - Other
	Durable Plastic Items	Durable Plastic Items - #3-#5 Bulky Rigids Durable Plastic Items - Other
	Remainder/Composite Plastic	Remainder/Composite Plastic
Other Organic	Food	Food
	Leaves and Grass	Leaves and Grass
	Prunings and Trimmings	Prunings and Trimmings
	Branches and Stumps	Branches and Stumps
	Manures	Manures
	Textiles	Textiles
	Carpet	Carpet
	Remainder/Composite Organic	Remainder/Composite Organic
Inerts and Other	Concrete	Concrete
	Asphalt Paving	Asphalt Paving
	Asphalt Roofing	Asphalt Roofing
	Lumber	Clean Dimensional Lumber Clean Engineered Wood Clean Pallets and Crates Other Wood Waste
	Gypsum Board	Gypsum Board
	Rock, Soil and Fines	Rock, Soil and Fines
	Remainder/Composite Inerts and Other	Remainder/Composite Inerts and Other

Source: CalRecycle 2014 Statewide Waste Characterization Study

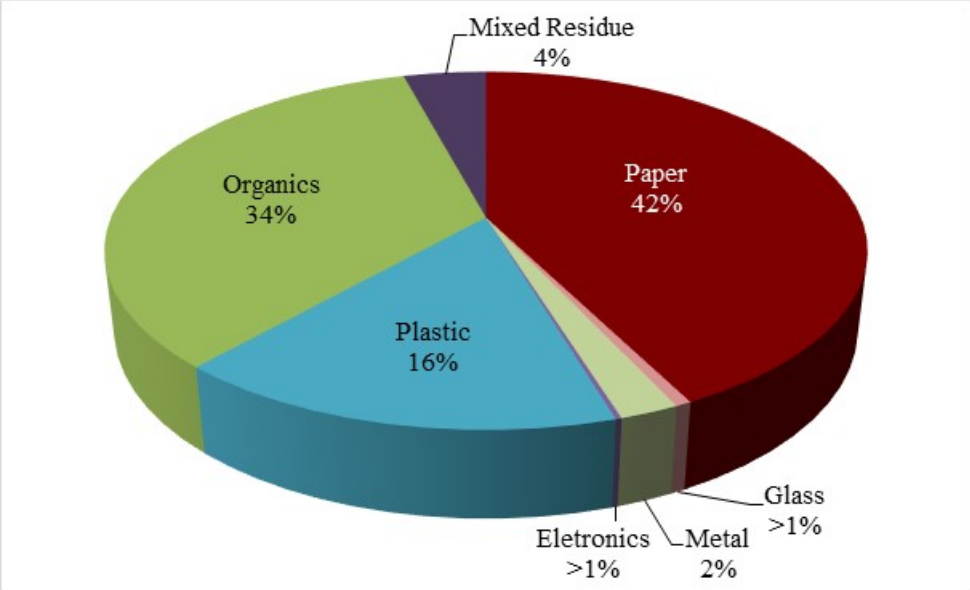
3.0 STUDY RESULTS

3.1 OVERALL WASTE STREAM COMPOSITION

The composition of the facility's overall waste stream, comprised of office, cafeteria, and motor pool waste, is presented in **Exhibit 1**. Based on the samples collected, the most prevalent material category, by weight, is Paper, representing 42 percent of the overall waste stream. Organics represents 34 percent of the overall waste stream, and Plastics represent 16 percent of the overall waste stream.

Based on the results of the study, this facility would fall under tier 1 of AB 1826, California's Mandatory Commercial Organics Recycling legislation, as 58% of the waste stream generated is Organic under the definition in the legislation which includes food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste. Note that the compostable materials component used in other sections of this report, including in Exhibit 6 (58%) is equivalent to the Organics definition in AB 1826.

Exhibit 1. Overall Facility Waste Composition



A detailed breakdown of the facility's overall waste stream in material percentages and weight, comprised of office, cafeteria, and motor pool waste, is presented by material type in **Table 3**.

Table 3. Overall Facility Detailed Waste Composition

Material Type	Sample Weight (Pounds)	Material Percentage
PAPER		**42.5%**
Uncoated Corrugated Cardboard	11.1	1.6%
Paper Bags	3.3	0.5%
Newspaper	3.5	0.5%
White Ledger Paper	20.1	2.8%
Other Office Paper	12.7	1.8%
Magazines and Catalogs	3.8	0.5%
Other Miscellaneous Paper - Comp	1.7	0.2%
Other Miscellaneous Paper - Other	12.3	1.7%
Remainder/Composite Paper - Rigid Food and Beverage Cartons	0.5	0.1%
Remainder/Composite Paper - Compostable	230.8	32.5%
Remainder/Composite Paper	2.1	0.3%
GLASS		**0.5%**
Clear Glass Bottles and Containers	2.4	0.3%
Clear Glass Bottles and Containers - Non-CRV	1.6	0.2%
METAL		**2.6%**
Tin/Steel Cans - CRV Bimetal Containers	0.8	0.1%
Tin/Steel Cans - Other	9.6	1.4%
Other Ferrous	3.3	0.5%
Aluminum Cans	0.5	0.1%
Other Non-Ferrous	0.9	0.1%
ELECTRONIC		**0.2%**
Other Small Consumer Electronics	1.5	0.2%
PLASTIC		**16.1%**
PETE Containers - CRV	2.9	0.4%
PETE Containers - Non-CRV	5.0	0.7%
HDPE Containers - Non-CRV	3.1	0.4%
Miscellaneous Plastic Containers - Non-CRV	4.3	0.6%
Plastic Trash Bags	65.6	9.2%
Plastic Grocery and Other Merchandise Bags	1.5	0.2%
Non-Bag Commercial and Industrial Packaging Film	1.1	0.1%
Film Products	1.8	0.3%
Other Film - Flexible Plastic Pouches	0.0	0.0%
Other Film - Other	10.1	1.4%
Durable Plastic Items - #3-#5 Bulky Rigids	0.4	0.1%

Material Type	Sample Weight (Pounds)	Material Percentage
Durable Plastic Items - Other	2.8	0.4%
Remainder/Composite Plastic	16.5	2.3%
ORGANICS		**34.2%**
Food	169.3	23.8%
Leaves and Grass	70.3	9.9%
Textiles	3.0	0.4%
Remainder/Composite Organics	0.6	0.1%
MIXED RESIDUE	29.7	**4.1%**
TOTAL	**710.5**	**100%**

3.2 MOTOR POOL WASTE STREAM COMPOSITION

The motor pool waste stream is generated from employees working in the motor pool area, as well as from waste generated in vehicles used by Public Works employees, that is emptied into the motor pool waste bin. The composition of the waste generated by the facility's Motor Pool is presented in **Exhibit 2**. Based on the samples collected, the most prevalent material category, by weight, is Paper, representing 49 percent of the waste stream. A detailed breakdown of the facility's Motor Pool waste stream in material percentage and weight is presented by material type in **Table 4**.

Exhibit 2. Motor Pool Waste Composition

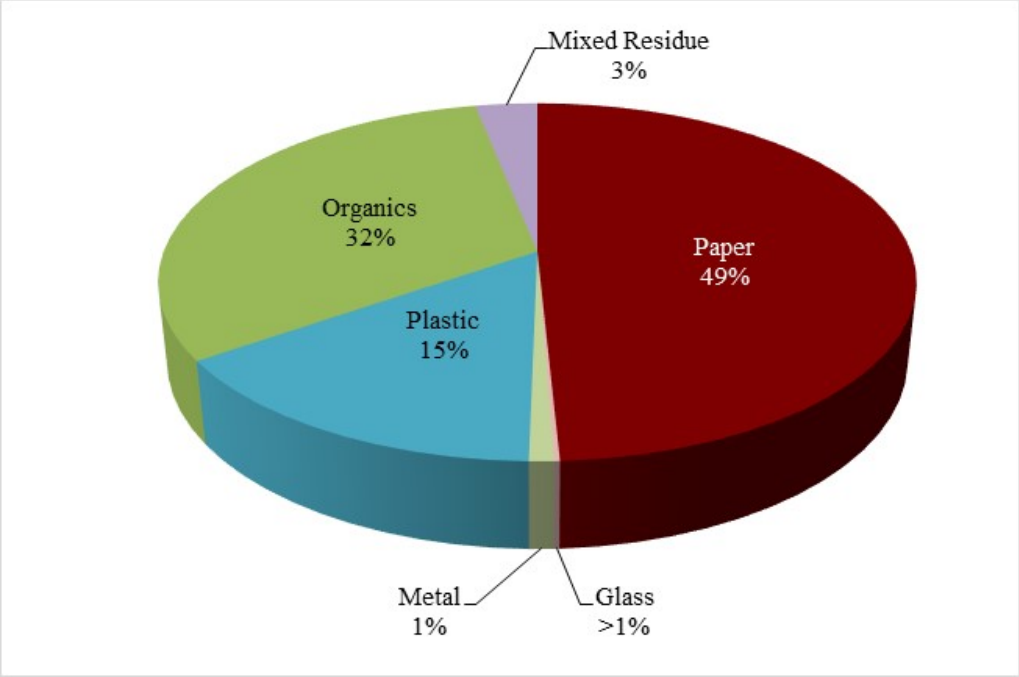


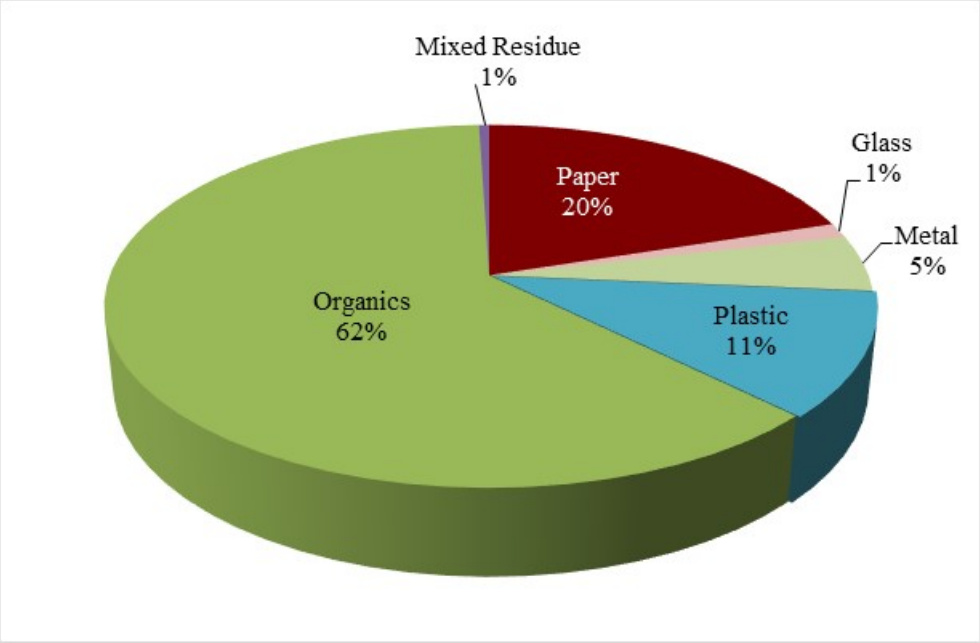
Table 4. Motor Pool Detailed Waste Composition

Material Type	Sample Weight (Pounds)	Percentage
PAPER		**49.3%**
Uncoated Corrugated Cardboard	1.4	0.8%
Paper Bags	1.98	1.2%
Newspaper	1.78	1.1%
White Ledger Paper	4.8	3.0%
Other Office Paper	6.26	3.8%
Magazines and Catalogs	0.28	0.2%
Other Miscellaneous Paper - Other	3.2	1.9%
Remainder/Composite Paper - Compostable	60.2	37.0%
Remainder/Composite Paper	0.4	0.3%
GLASS		**0.2%**
Clear Glass Bottles and Containers	0.4	0.2%
METAL		**0.9%**
Tin/Steel Cans - CRV Bimetal Containers	0.1	0.1%
Tin/Steel Cans - Other	0.2	0.1%
Other Ferrous	1.0	0.6%
Other Non-Ferrous	0.1	0.0%
PLASTIC		**15.1%**
PETE Containers - CRV	0.4	0.2%
PETE Containers - Non-CRV	1.8	1.1%
Miscellaneous Plastic Containers - Non-CRV	2.2	1.3%
Plastic Trash Bags	15.0	9.2%
Plastic Grocery and Other Merchandise Bags	0.5	0.3%
Other Film - Other	1.3	0.8%
Durable Plastic Items - Other	0.4	0.3%
Remainder/Composite Plastic	3.0	1.8%
ORGANICS		**31.4%**
Food	29.9	18.4%
Leaves and Grass	20.9	12.9%
Remainder/Composite Organics	0.2	0.1%
MIXED RESIDUE	**5.0**	**3.1%**
TOTAL	**162.7**	**100%**

3.3 RAMP WASTE STREAM COMPOSITION

The ramp waste stream consists of waste generated from the public works building, the cafeteria, and from landscaping activities. The composition of the samples taken from the ramp waste bins located is presented in **Exhibit 3**. Based on the samples collected, the most prevalent material category, by weight, is Other Organics, representing 62 percent of the waste stream. Food scraps and yard waste make up the majority of the disposed organics.

Exhibit 3. Ramp Waste Composition



A detailed breakdown of the ramp waste stream in material percentage and weight is presented by material type in **Table 5**.

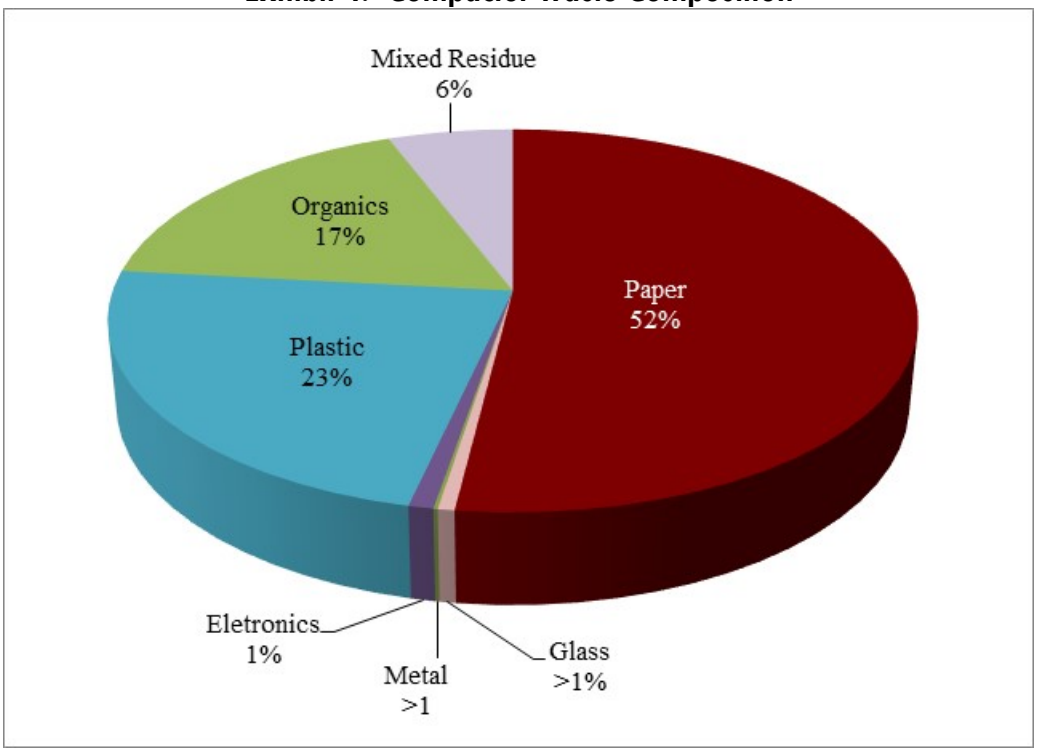
Table 5. Ramp Detailed Waste Composition

Material Type	Sample Weight (Pounds)	Percentage
PAPER		**20.4%**
Uncoated Corrugated Cardboard	2.46	1.2%
Paper Bags	0.54	0.3%
Newspaper	0.46	0.2%
White Ledger Paper	1.76	0.8%
Other Miscellaneous Paper - Comp	1.7	0.8%
Other Miscellaneous Paper - Other	2.08	1.0%
Remainder/Composite Paper - Rigid Food and Beverage Cartons	0.48	0.2%
Remainder/Composite Paper - Compostable	33.66	15.9%
GLASS		**1.3%**
Clear Glass Bottles and Containers	1.1	0.5%
Clear Glass Bottles and Containers - Non-CRV	1.6	0.8%
METAL		**5.0%**
Tin/Steel Cans - CRV Bimetal Containers	0.0	0.0%
Tin/Steel Cans - Other	7.8	3.7%
Other Ferrous	2.3	1.1%
Aluminum Cans	0.4	0.2%
PLASTIC		**10.9%**
PETE Containers - CRV	1.1	0.5%
PETE Containers - Non-CRV	0.7	0.3%
HDPE Containers - Non-CRV	1.0	0.5%
Miscellaneous Plastic Containers - Non-CRV	0.0	0.0%
Miscellaneous Plastic Containers - Non-CRV	0.2	0.1%
Plastic Trash Bags	6.4	3.0%
Plastic Grocery and Other Merchandise Bags	0.2	0.1%
Other Film - Other	7.4	3.5%
Durable Plastic Items - Other	2.0	0.9%
Remainder/Composite Plastic	4.1	2.0%
ORGANICS		**61.9%**
Food	82.2	38.9%
Leaves and Grass	48.4	22.9%
MIXED RESIDUE	**1.0**	**0.5%**
TOTAL	**211.1**	**100%**

3.4 COMPACTOR WASTE STREAM COMPOSITION

The compactor waste is generated by employees working in the main headquarters building. The composition of the samples taken from the compactor is presented in **Exhibit 4**. Based on the samples collected, the most prevalent material category, by weight, is Paper, representing 52 percent of the compactor waste stream.

Exhibit 4. Compactor Waste Composition



A detailed breakdown of the compactor waste stream in material percentage and weight is presented by material type in **Table 6**.

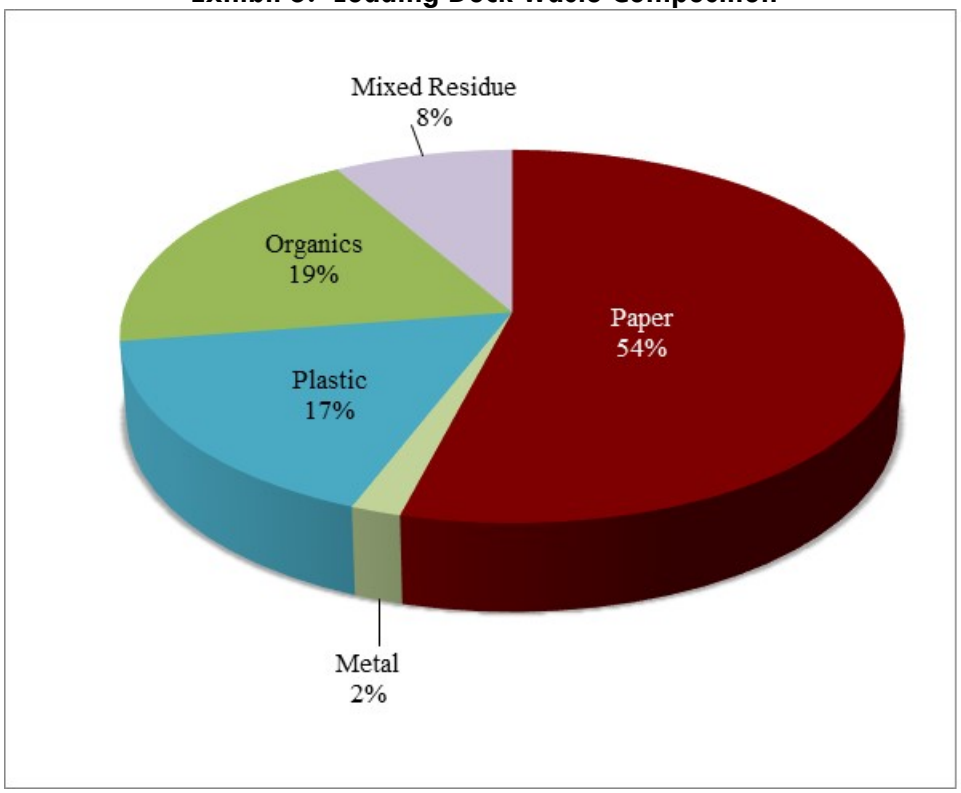
Table 6. Compactor Detailed Waste Composition

Material Type	Sample Weight (Pounds)	Percentage
PAPER		**52.1%**
Paper Bags	0.44	0.3%
White Ledger Paper	12.79	7.3%
Other Office Paper	2.54	1.5%
Magazines and Catalogs	3.08	1.8%
Other Miscellaneous Paper - Other	4.82	2.8%
Remainder/Composite Paper - Compostable	66.78	38.4%
GLASS		**0.60%**
Clear Glass Bottles and Containers	1	0.6%
METAL		**0.20%**
Aluminum Cans	0.1	0.1%
Other Non-Ferrous	0.1	0.1%
ELECTRONICS		**0.9%**
Other Small Consumer Electronics	1.5	0.9%
PLASTIC		**23.2%**
PETE Containers - CRV	1.2	0.7%
PETE Containers - Non-CRV	1.3	0.7%
HDPE Containers - Non-CRV	0.7	0.4%
Miscellaneous Plastic Containers - Non-CRV	1.0	0.6%
Plastic Trash Bags	24.9	14.3%
Plastic Grocery and Other Merchandise Bags	0.4	0.2%
Non-Bag Commercial and Industrial Packaging Film	0.5	0.3%
Film Products	1.8	1.0%
Durable Plastic Items - Other	0.4	0.2%
Remainder/Composite Plastic	8.3	4.8%
ORGANICS		**17.4%**
Food	27.2	15.6%
Leaves and Grass	0.9	0.5%
Textiles	1.8	1.1%
Remainder/Composite Organics	0.4	0.2%
MIXED RESIDUE	**10.1**	**5.8%**
TOTAL	**174.1**	**100%**

3.5 LOADING DOCK WASTE STREAM COMPOSITION

The loading dock waste stream is generated by employees working in the main headquarters building. The composition of the Loading Dock waste stream is presented in **Exhibit 5**. Based on the samples collected, the most prevalent material category, by weight, is Paper, representing 54 percent of the waste stream.

Exhibit 5. Loading Dock Waste Composition



A detailed breakdown of the loading dock waste stream in material percentage and weight is presented by material type in **Table 7**.

Table 7. Loading Dock Detailed Waste Composition

Material Type	Sample Weight (Pounds)	Percentage
PAPER		**54.0%**
Uncoated Corrugated Cardboard	7.28	4.5%
Paper Bags	0.38	0.2%
Newspaper	1.24	0.8%
White Ledger Paper	0.72	0.4%
Other Office Paper	3.92	2.4%
Magazines and Catalogs	0.4	0.2%
Other Miscellaneous Paper - Other	2.24	1.4%
Remainder/Composite Paper - Compostable	70.1	43.1%
Remainder/Composite Paper - Other	1.6	1.0%
METAL		**1.8%**
Tin/Steel Cans - CRV Bimetal Containers	0.7	0.4%
Tin/Steel Cans - Other	1.6	1.0%
Other Non-Ferrous	0.7	0.4%
PLASTIC		**16.6%**
PETE Containers - CRV	0.3	0.2%
PETE Containers - Non-CRV	1.3	0.8%
HDPE Containers - Non-CRV	1.4	0.9%
Miscellaneous Plastic Containers - Non-CRV	1.0	0.6%
Plastic Trash Bags	19.3	11.9%
Plastic Grocery and Other Merchandise Bags	0.3	0.2%
Non-Bag Commercial and Industrial Packaging Film	0.6	0.3%
Film Products	0.0	0.0%
Other Film - Other	1.3	0.8%
Durable Plastic Items - #3-#5 Bulky Rigids	0.4	0.2%
Remainder/Composite Plastic	1.0	0.6%
ORGANIC		**19.1%**
Food	29.9	18.4%
Textiles	1.2	0.7%
MIXED RESIDUE	13.6	**8.4%**
TOTAL	**162.7**	**100%**

3.6 DIVERTIBILITY ANALYSIS

In order to determine the diversion potential at the facility, each of the 82 material types is classified into one of four divertibility groups:

- **Divertible Materials:** This includes materials for which programs, methods, and infrastructure exist for reuse and/or recycling.
- **Compostable Materials:** This includes organic materials that are appropriate for municipal composting programs.
- **Potentially Divertible:** This includes materials for which methods and/or technology exist for reuse, recycling, or other beneficial uses, although programs to collect and process the materials are rare or nonexistent in the LA County area.
- **Other Materials:** This includes materials that do not fit any of the definitions above and that are not easily diverted from disposal.

The material types, now grouped according to these divertibility classifications, are shown in **Table 8**.

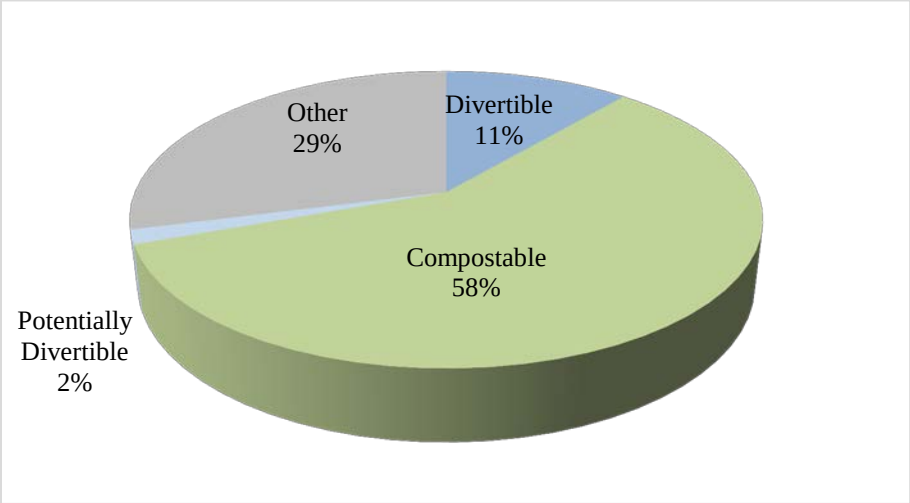
Table 8. Materials Organized by Divertibility Group

Divertible	Compostable	Potentially Divertible	Other
Uncoated Corrugated Cardboard	Other Miscellaneous Paper - Comp	Plastic Grocery and Other Merchandise Bags	Other Miscellaneous Paper - Other
Paper Bags	Remainder/Composite Paper - Compostable	Non-Bag Commercial and Industrial Packaging Film	Remainder/Composite Paper - Rigid Food and Beverage Cartons
Newspaper	Food	Durable Plastic Items - #3-#5 Bulky Rigids	Remainder/Composite Paper
White Ledger Paper	Leaves and Grass	Textiles	Flat Glass
Other Office Paper	Prunings and Trimmings	Carpet	Remainder/Composite Glass
Magazines and Catalogs	Branches and Stumps	Used Oil Filters	Major Appliances
Phone Books and Directories	Manures	Other Ferrous	Remainder/Composite Metal
Clear Glass Bottles and Containers	Clean Dimensional Lumber	Other Non-Ferrous	Brown Goods
Clear Glass Bottles and Containers - Non-CRV	Clean Engineered Wood	Computer-related Electronics	Plastic Trash Bags
Green Glass Bottles and Containers		Other Small Consumer Electronics	Other Film - Flexible Plastic Pouches
Green Glass Bottles and Containers - Non-CRV		Video Display Devices - CRT	Other Film - Other
Brown Glass Bottles and Containers		Video Display Devices - Other	Durable Plastic Items - Other
Brown Glass Bottles and Containers - Non-CRV		Other Wood Waste	Remainder/Composite Plastic
Other Colored Glass Bottles and Containers		Paint	Remainder/Composite Inerts and Other
Other Colored Glass Bottles and Containers - Non-CRV		Vehicle & Equipment Fluids	Remainder/Composite Organics
Tin/Steel Cans - CRV Bimetal Containers		Used Oil	Mercury-containing Items - Not Lamps
Tin/Steel Cans - Other		Batteries	Lamps - Fluorescent and LED
Aluminum Cans		Bulky Items	Remainder/Composite Household Hazardous
Aluminum Cans - Non-CRV		Tires	Ash
PETE Containers - CRV			Treated Medical Waste
PETE Containers - Non-CRV			Remainder/Composite Special Waste
HDPE Containers - CRV			Mixed Residue
HDPE Containers - Non-CRV			
Miscellaneous Plastic Containers - CRV			
Miscellaneous Plastic Containers - Non-CRV			
Concrete			
Asphalt Paving			
Asphalt Roofing			
Clean Pallets and Crates			
Gypsum Board			
Rock, Soil and Fines			

3.6.1 Overall Waste Stream

The divertibility of materials from the overall waste stream is shown in **Exhibit 6**. As indicated, 58% is compostable and 11% is divertible. In total nearly three-quarters of the overall waste stream could be diverted from disposal.

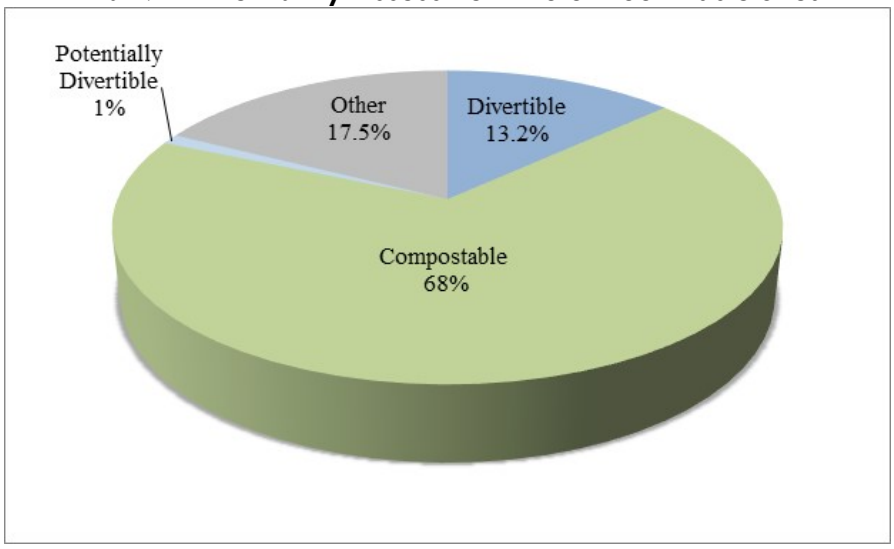
Exhibit 6. Divertibility Assessment Overall Facility



3.6.2 Motor Pool Waste Stream

The divertibility of materials from the motor pool waste stream is shown in **Exhibit 7**. As indicated, 68% is compostable and 13% is divertible. In total, over 81% of the motor pool waste stream could be diverted from disposal.

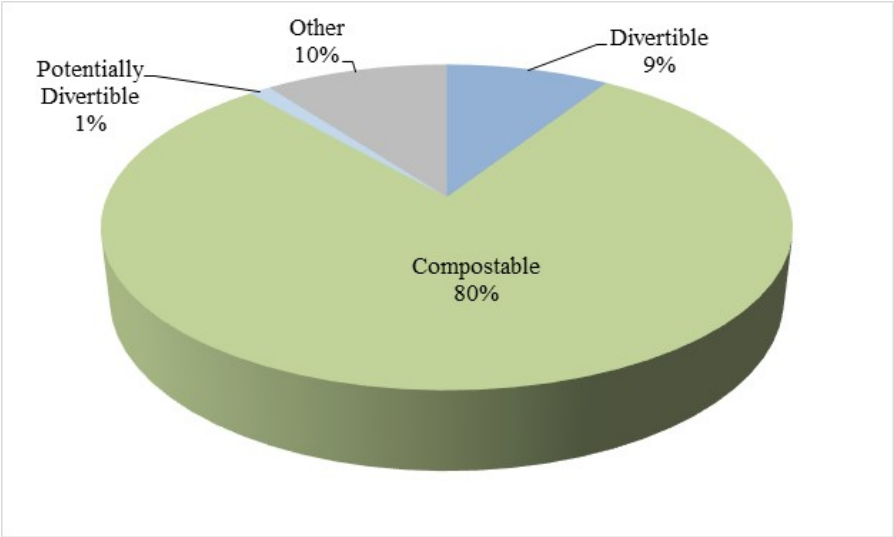
Exhibit 7. Divertibility Assessment Motor Pool Waste Stream



3.6.3 Ramp Waste Stream

The divertibility of materials from the bins located on the ramp is shown in **Exhibit 8**. As indicated, 80% percent is compostable and 9% is divertible. In total, almost 89% of the ramp waste stream could be diverted from disposal.

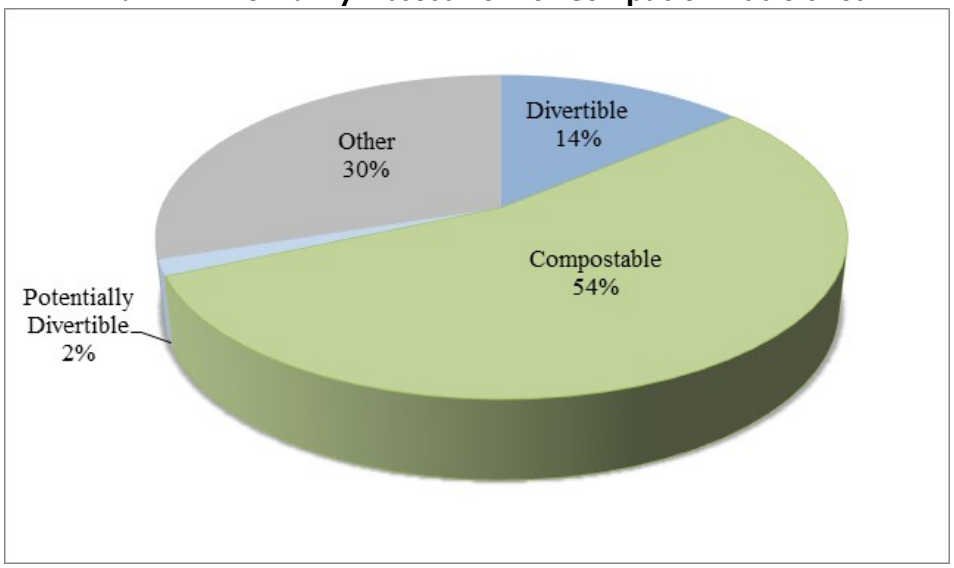
Exhibit 8. Divertibility Assessment Ramp Waste Stream



3.6.4 Compactor Waste Stream

The divertibility of materials in the compactor waste stream is shown in **Exhibit 9**. As indicated, 54% is compostable and 14 percent is divertible. In total, almost three-quarters of the compactor waste stream could be diverted from disposal.

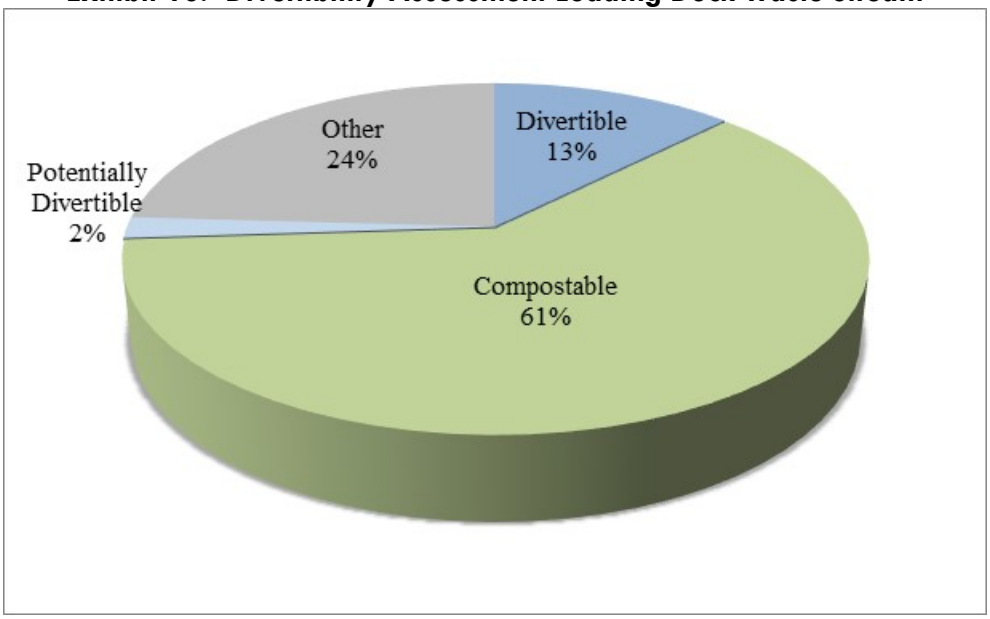
Exhibit 9. Divertibility Assessment of Compactor Waste Stream



3.6.5 Loading Dock Waste Stream

The divertibility of materials in the loading dock waste stream is shown in **Exhibit 10**. As indicated, 61% is compostable and 13% is divertible. In total, almost three-quarters of the loading dock waste stream could be diverted from disposal.

Exhibit 10. Divertibility Assessment Loading Dock Waste Stream



4.0 RECOMMENDATIONS

The results of the waste characterization study conducted at the Department of Public Works Headquarters identified opportunities for increasing waste diversion through enhancing existing or implementing new waste reduction and recycling activities.

Specific recommendations are discussed in detail in the following sections.

4.1 WASTE REDUCTION

Waste reduction means reducing purchases and consumption of products that become waste. Waste reduction opportunities are as follows:

- Promote reuse by encouraging employees to use china, glassware, and silverware instead of single-use products, when possible. Consider providing a reusable mug or cup to employees as an incentive to reduce the use of disposable products.

- If single-use food service items are provided in the cafeteria, it is suggested that purchasing protocols be reviewed, as both single-use compostable and disposal plastic utensils were identified in the waste stream.

- Where possible, vendors should be required to provide supplies and materials that are recyclable or contain recycled content materials.

- Reduce or eliminate the use of disposable coffee/tea k-cups. A large number of these were found in the samples taken from the ramp, compactor, and loading dock bins. Keurig makes a reusable coffee pod that could be purchased for these types of coffee/tea makers.

- Establish a reuse area for unwanted office items. If space is available, set up a reuse area, where reusable items can be stored rather than thrown away. Encourage employees to reuse these items in the workplace. Reusable items may include binders, folders, staplers, calculators, etc. These items can also be donated to non-profit organizations if they are no longer needed or used by County operations.

- Consider installing hand dryers to reduce the amount of paper towels in restrooms. Door opening hardware can also be installed to eliminate the need for using paper towels to turn door handles.

4.2 RECYCLING

- A large number of black trash bags used for desk-side and common space trash bins were found in the waste stream. The majority of these trash bags had very little material in them. This could be the result of the trash bins being over serviced and/or excessive use of the bags. Ideally, the cleaning staff could remove only the contents of the trash bag into a larger collection bin, and leave the trash bag in place. The trash bag could be replaced as needed at the discretion of cleaning staff.

- Desk side trash bins should be removed and replaced with desk side recycling bins. Employees would dispose of trash in strategically placed bins in common areas, and conveniently recycle at their desk.

- Recycling bins should have proper signage so it is clear to staff what they can and cannot recycle.

- Recycling containers should be placed next to all printers, in common areas, next to every desk, and paired with trashcans.

- Recycling information should be included in the new-hire orientation process so they are aware of the recycling procedures from the start.

- Establish an organics collection and recycling system for organics including food soiled paper, paper towels, and food scraps not utilized in the vermicomposting bins. The Music Center of Los Angeles County contracts for organics collection and recycling, and diverts approximately 6 to 9 tons of organic waste per month to composting.

4.3 EMPLOYEE EDUCATION AND TRAINING

- Once the recycling program enhancements are implemented, a training program should be developed to educate staff on the recycling program procedures. An additional training session should also be developed for foodservice and cleaning staff, as they will handle back of house material collection and disposal.

- Recycling guidelines should be developed to make staff aware of the correct recycling procedures. Recycling guidelines could be posted in common areas, such as break rooms, the cafeteria, and at elevators, and also distributed electronically to each employee via email.

- Organize a Green Team to focus on resource management and other sustainability initiatives. Green Team members should include a representative from each division, and initially meet on a monthly basis. Members will be encouraged to assist in the development of the program goals and make recommendations to improve all sustainability initiatives. A suggestion box is also a great way for employees to get engaged and provide program recommendations.

- Provide recycling updates on program achievements to employees on a regular basis, through memos or newsletters. Staff should be reminded what is and isn't recyclable, with emphasis on the DOs and DON'Ts and benefits of recycling.

- Custodial staff should be re-educated on toilet paper roll replacement protocol, as 7.46 pounds of toilet paper rolls were measured in the ramp, loading dock bin, and loading dock compactor samples. The majority of toilet paper rolls had over a quarter roll of toilet paper remaining.

4.4 MONITORING AND REPORTING

A diversion database should be developed for tracking the progress and accomplishments of the diversion program, including quantities of waste disposed, recycled, and composted. The database can be used to track financial data related to the program, including expenses, revenue generated from the sale of recyclables, and overall financial status of the program. Reporting of the program accomplishments should be shared with management and staff.

Appendix A

Material Categories and Definitions

Appendix A. Material Categories and Type Definitions

Material ID & Name		Material Type Definition
PAPER		
	Uncoated Corrugated Cardboard	Uncoated Corrugated Cardboard means a paper laminate usually composed of three layers. The center wavy layer is sandwiched between the two outer layers. It does not have any wax coating on the inside or outside. Examples include entire cardboard containers, such as shipping and moving boxes, computer packaging cartons, and sheets and pieces of boxes and cartons. This type does not include chipboard boxes such as cereal and tissue boxes. This type does include very clean (no food residue and only lightly stained) pizza boxes.
	Paper Bags	Paper Bags means bags and sheets made from kraft paper. The paper may be brown (unbleached) or white (bleached). Examples include paper grocery bags, clean fast food bags, department store bags, and heavyweight sheets of kraft packing paper.
	Newspaper	Newspaper means paper used in newspapers. Examples include newspaper and glossy inserts found in newspapers, and all items made from newsprint, such as free advertising guides, election guides, plain news packing paper, stapled college schedules of classes, and tax instruction booklets.
	White Ledger	White Ledger means bleached, uncolored bond, rag, or stationery grade paper, without ground wood fibers. It may have colored ink on it. When the paper is torn, the fibers are white. Examples include white paper used in photocopiers and laser printers, and letter paper.
	Other Office Paper	Other Office Paper means paper used in offices other than white ledger paper. Examples include colored ledger, computer paper, manila folders, manila envelopes, index cards, white envelopes, white window envelopes, white or colored notebook paper, ground wood computer paper, junk mail, and carbonless forms.
	Magazines and Catalogs	Magazines and Catalogs means items made of glossy coated paper. This paper is usually slick, smooth to the touch, and reflects light. Examples include glossy magazines, catalogs, brochures, pamphlets, and glossy advertisements.
	Phone Books and Directories	Phone Books and Directories means thin paper between coated covers. These items are bound along the spine with glue. Examples include whole or damaged telephone books, yellow pages, real estate listings, and some non-glossy mail order catalogs.
	Other Miscellaneous Paper - Compostable	Other Miscellaneous Paper - Compostable means items made mostly of paper that could be composted, that do not fit into any of the other paper types. Paper may be combined with minor

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Material ID & Name		Material Type Definition
		amounts of other materials such as wax or glues. Examples include pulp paper egg cartons, unused pulp paper plant pots, molded paper packing materials, some berry trays, some take-out food containers, dirty molded paper plates.
	Other Miscellaneous Paper - Other	Other Miscellaneous Paper – Other means items made mostly of paper that do not fit into any of the other paper types, but that are generally recyclable or not generally composted. Paper may be combined with minor amounts of other materials such as wax or glues. This type includes items made of chipboard, ground wood paper, and deep-toned or fluorescent dyed paper. Examples include cereal and cracker boxes, paperboard boxes for software, unused paper plates and cups, goldenrod colored paper, school construction paper, butcher paper, ice cream cartons and other frozen food boxes, self-adhesive notes, and hard cover and soft cover books.
	Remainder/Composite Paper-Rigid Food and Beverage Cartons	Remainder/Composite Paper - Rigid Food and Beverage Cartons means aseptic containers (multi-layered packaging that contains shelf-stable food products such as apple juice, soup, soy/rice milk, etc.) and "gable top" cartons (non-refrigerated items such as granola and crackers; refrigerated items such as milk, juice, egg substitutes, etc.). Rigid food and beverage cartons are usually paper-based, may be any shape, and may include a plastic pour spout as part of the carton.
	Remainder/Composite Paper-Compostable	Remainder/Composite Paper – Compostable means items made mostly of paper, that don't fit into any other material types, that are combined or contaminated with large amounts of other materials such as wax, food, and moisture, that are compostable. Examples include waxed corrugated cardboard, waxed paper, napkins, tissue, paper towels, fast food wrappers, food-soiled paper and moisture-soiled paper, all pizza boxes (unless at least 95% clean), and shredded paper.
	Remainder/Composite Paper-Other	Remainder/Composite Paper – Other means items made mostly of paper but combined with large amounts of other materials. These are items that do not fit into any other categories, are not generally compostable or recyclable, and are not food and beverage cartons. Examples include blueprints, sepia, onion skin, carbon paper, photographs, paper frozen juice cans, sheets of paper stick-on labels, and paper mailing envelopes lined with bubble wrap or plastic.

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Material ID & Name		Material Type Definition
GLASS		
	Clear Glass Bottles and Containers – CRV	Clear Glass Bottles and Containers – CRV means clear glass containers that display the CRV notification. Examples include whole or broken clear soda bottles and fruit juice bottles, and whole or broken clear wine cooler bottles.
	Clear Glass Bottles and Containers – Non-CRV	Clear Glass Bottles and Containers – Non-CRV means clear glass containers that do not display the CRV notification. Examples include clear wine bottles, mayonnaise jars, and jam jars.
	Green Glass Bottles and Containers – CRV	Green Glass Bottles and Containers – CRV means green-colored glass containers that display the CRV notification. Examples include whole or broken green soda and beer bottles.
	Green Glass Bottles and Containers – Non-CRV	Green Glass Bottles and Containers – Non-CRV means green-colored glass containers that do not display the CRV notification. Examples include green wine bottles.
	Brown Glass Bottles and Containers – CRV	Brown Glass Bottles and Containers – CRV means brown-colored glass containers that display the CRV notification. Examples include whole or broken brown beer bottles.
	Brown Glass Bottles and Containers – Non-CRV	Brown Glass Bottles and Containers – Non-CRV means brown-colored glass containers that do not display the CRV notification. Examples include whole or broken brown wine bottles.
	Other Colored Glass Bottles and Containers – CRV	Other Colored Glass Bottles and Containers – CRV means other-colored glass containers that display the CRV notification. Examples include whole or broken blue soda and water bottles.
	Other Colored Glass Bottles and Containers – Non-CRV	Other Colored Glass Bottles and Containers – Non-CRV means other-colored glass containers that do not display the CRV notification. Examples include whole or broken blue or other colored wine or liquor bottles and other containers.
	Flat Glass	Flat Glass means clear or tinted glass that is flat. Examples include glass window panes, doors and table tops, flat automotive window glass (side windows), safety glass, and architectural glass. This type does not include automotive windshields, laminated glass, or any curved glass.
	Remainder/Composite Glass	Remainder/Composite Glass means glass that cannot be put in any other type. It includes items made mostly of glass but combined with other materials. Examples include Pyrex, Corningware, crystal and other glass tableware, mirrors, non-fluorescent light bulbs, auto windshields, laminated glass, or any curved glass.

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Material ID & Name		Material Type Definition
METAL		
	Tin/Steel Cans- CRV Bimetal Containers	Tin/Steel Cans- CRV Bimetal Containers means rigid containers that have steel sides and aluminum ends and that display the CRV notification. These cans are often used to store beverages.
	Tin/Steel Cans- Other	Tin/Steel Cans – Other means rigid containers made mainly of steel that are not CRV Bimetal Cans. These items will stick to a magnet and may be tin-coated. This subtype is used to store food, beverages, paint, and a variety of other household and consumer products. Examples include canned food and beverage containers, empty metal paint cans, empty spray paint and other aerosol containers, and non-CRV bimetal containers with steel sides and aluminum ends.
	Major Appliances	Major Appliances means discarded major appliances of any color. These items are often enamel-coated. Examples include washing machines, clothes dryers, hot water heaters, stoves, and refrigerators. This type does not include electronics, such as televisions and stereos.
	Used Oil Filters	Used Oil Filters means metal oil filters used in motor vehicles and other engines, which contain a residue of used oil.
	Other Ferrous	Other Ferrous means any iron or steel that is magnetic or any stainless steel item. This type does not include tin/steel cans. Examples include structural steel beams, metal clothes hangers, metal pipes, stainless steel cookware, security bars, and scrap ferrous items.
	Aluminum Cans – CRV	Aluminum Cans – CRV means any food or beverage container that is made mainly of aluminum and that displays the CRV notification. Examples include most aluminum soda or beer cans. This subtype does not include bimetal containers with steel sides and aluminum ends.
	Aluminum Cans – Non-CRV	Aluminum Cans – non-CRV means any food or beverage container that is made mainly of aluminum and that does not display the CRV notification. Examples include some pet food and meat cans.
	Other Non-Ferrous	Other Non-Ferrous means any metal item, other than aluminum cans, that is not stainless steel and that is not magnetic. These items may be made of aluminum, copper, brass, bronze, lead, zinc, or other metals. Examples include aluminum window frames, aluminum siding, copper wire, shell casings, brass pipe, and aluminum foil.

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Material ID & Name		Material Type Definition
	Remainder/Composite Metal	Remainder/Composite Metal means metal that cannot be put in any other type. This type includes items made mostly of metal but combined with other materials and items made of both ferrous metal and non-ferrous metal combined. Examples include small non-electronic appliances such as toasters and hair dryers, motors, insulated wire, and finished products that contain a mixture of metals, or metals and other materials, whose weight is derived significantly from the metal portion of its construction.
ELECTRONICS		
	Brown Goods	Brown Goods means generally larger, non-portable electronic goods that have some circuitry. Examples include microwaves, stereos, VCRs, DVD players, large radios, and audio/visual equipment. Does not include items with video display devices.
	Computer-related Electronics	Computer-related Electronics means electronics with large circuitry that is computer-related, not including monitors. Examples include processors, keyboards, printers, fax machines, mice, disk drives, and modems.
	Other Small Consumer Electronics	Other Small Consumer Electronics means portable non-computer-related electronics with large circuitry. Examples include personal digital assistants (PDA), cell phones (including those with a screen larger than 4 inches), phone systems, phone answering machines, portable electronic book readers (like Kindles and Nooks) and other devices for reading static text, computer games and other electronic toys, portable CD players, camcorders, digital cameras, cell phone chargers and other electronic device chargers, and other electronic devices.
	Video Display Devices – CRT	Video Display Devices – CRT means items with video displays larger than 4 inches that contain a cathode ray tube (CRT). Examples include some televisions, computer monitors, and other items containing a cathode ray tube (CRT). The shape of the item is usually more boxy than flat.
	Video Display Devices – Other	Video Display Devices – Other means items with video displays larger than 4 inches that are not CRTs nor are they included in the Other Small Consumer Electronics category. Examples include some televisions, computer monitors, portable DVD players, tablet computers (like the iPad and Kindle Fire), and laptop computers. The shape of the item is usually more flat than boxy and the device is primarily intended to display moving video, perform computing functions, or view web content.

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Material ID & Name		Material Type Definition
PLASTIC		
	PETE Containers – CRV	PETE Containers – CRV means clear or colored PET containers that display the CRV notification. When marked for identification, it bears the number "1" in the center of the triangular recycling symbol and may also bear the letters "PETE" or "PET." The color is usually transparent green or clear. A PET container usually has a small dot left from the manufacturing process, not a seam. It does not turn white when bent. Examples include soda and water bottles.
	PETE Containers – Non-CRV	PETE Containers – Non-CRV means clear or colored PET containers that do not display the CRV notification. When marked for identification, it bears the number "1" in the center of the triangular recycling symbol and may also bear the letters "PETE" or "PET." The color is usually transparent green or clear. A PET container usually has a small dot left from the manufacturing process, not a seam. It does not turn white when bent. Examples include non-CRV juice or water bottles, some liquor bottles, cooking oil containers, food jars, pastry jars, frozen food or other trays, clamshell packaging, and aspirin bottles.
	HDPE Containers – CRV	HDPE Containers – CRV means natural and colored HDPE containers that display the CRV notification. This plastic is usually either cloudy white, allowing light to pass through it (natural) or a solid color, preventing light from passing through it (colored). When marked for identification, it bears the number “2” in the triangular recycling symbol and may also bear the letters “HDPE.” Examples include some small juice bottles.
	HDPE Containers – Non-CRV	HDPE Containers – Non-CRV means natural and colored HDPE containers that do not display the CRV notification. This plastic is usually either cloudy white, allowing light to pass through it (natural) or a solid color, preventing light from passing through it (colored). When marked for identification, it bears the number “2” in the triangular recycling symbol and may also bear the letters “HDPE.” Examples include milk jugs, detergent bottles, some hair-care bottles, some margarine and yogurt tubs, clamshell packaging, empty motor oil, empty antifreeze, and other empty vehicle and equipment fluid containers.
	Miscellaneous Plastic Containers –CRV	Miscellaneous Plastic Containers – CRV means plastic containers that display the CRV notification that are made of types of plastic other than HDPE or PET. Items may be made of PVC, PP, or PS or mixed resins. When marked for identification, these items may bear the number “3,” “4,” “5,” “6,” or “7” in the triangular recycling symbol. This subtype also includes plastic containers that do not have the triangular recycling symbol.

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Material ID & Name		Material Type Definition
	Miscellaneous Plastic Containers – Non-CRV	Miscellaneous Plastic Containers - Non-CRV means plastic containers that do not display the CRV notification that are made of types of plastic other than HDPE or PET. Items may be made of PVC, PP, or PS. When marked for identification, these items may bear the number "3," "4," "5," "6," or "7" in the triangular recycling symbol. This subtype also includes plastic containers that do not have the triangular recycling symbol. Examples include hardware and fastener packaging, food containers such as bottles for salad dressings and vegetable oils, flexible and brittle yogurt cups, syrup bottles, margarine tubs, microwave food trays, and clamshell-shaped fast food containers. This type also includes some shampoo containers, vitamin bottles, foam egg cartons, and clamshell-like muffin containers.
	Plastic Trash Bags	Plastic Trash Bags means plastic bags sold for use as trash bags, for both residential and commercial use. This type includes garbage, kitchen, compactor, can-liner, composting, yard, lawn, leaf, and recycling bags. This type does not include other plastic bags, like shopping bags, that might have been used to contain trash.
	Plastic Grocery and Other Merchandise Bags	Plastic Grocery and Other Merchandise Bags means plastic shopping bags used to contain merchandise to transport from the place of purchase, given out by the store with the purchase. This type includes dry cleaning bags intended for one-time use. Does not include produce bags.
	Non-bag Commercial and Industrial Packaging Film	Non-Bag Commercial and Industrial Packaging Film means film plastic used for large-scale packaging or transport packaging. Examples include shrink-wrap, mattress bags, furniture wrap, and film bubble wrap.
	Film Products	Film Products means plastic film used for purposes other than packaging. Examples include agricultural film (films used in various farming and growing applications, such as silage greenhouse films, mulch films, and wrap for hay bales), plastic sheeting used as drop cloths, and building wrap.
	Other Film – Flexible Plastic Pouches	Other Film - Flexible Plastic Pouches means plastic pouches made of thicker, multi-layer flexible material. May have a flat bottom so that package would stand up on its own, but not always. Material is thicker than potato chip bags and frozen vegetable bags. Includes plastic coffee bags like Starbucks and Peets; Capri Sun pouches; baby food pouches – may have plastic screw top; soup pouches; salad dressing pouches; wine pouches; backpacking meals in pouches; soap refill pouches; laundry detergent pouches; and other similar items.

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Material ID & Name		Material Type Definition
	Other Film - Other	Other Film - Other means all other plastic film that does not fit into any other type, excluding flexible plastic pouches. Examples include other types of plastic bags (sandwich bags, zipper-recloseable bags, newspaper bags, produce bags, frozen vegetable bags, bread bags), food wrappers such as candy-bar wrappers, potato chip bags, mailing pouches, bank bags, X-ray film, metallized film (such as balloons), and plastic food wrap.
	Durable Plastic Items - #3 - #5 Bulky Rigids	Durable Plastic Items - #3 -#5 Bulky Rigids means plastic items other than containers or film plastic, that are large (generally larger than a soccer ball) rigid #2 HDPE or #5 PP plastic bulky items. These items are made to last for more than one use. These items usually bear the number 2 or 5 in the triangular recycling symbol. Examples include: crates, buckets (including 5-gallon buckets), baskets, totes, large plastic garbage cans, large tubs, large storage tubs/bins (usually with lids) that don't have sharp corners, flexible (non-brittle) flower pots of 1 gallon size or larger, lawn furniture, large plastic toys, tool boxes, first aid boxes, and some sporting goods.
	Durable Plastic Items - Other	Durable Plastic Items - Other means plastic items other than containers or film plastic, that are often made to last for more than one use, that are not large rigid items made from #2 or #5 plastics. These items may bear the numbers 1 through 7 in the triangular recycling symbol. Examples include CDs, plastic housewares such as dishes, cups, and cutlery. This type also includes building materials such as house siding, window sashes and frames, housings for electronics such as computers, televisions and stereos, fan blades, and plastic pipes and fittings.
	Remainder/Composite Plastic	Remainder/Composite Plastic means plastic that cannot be put in any other type. These items are usually recognized by their optical opacity. This type includes items made mostly of plastic but combined with other materials. Examples include auto parts made of plastic attached to metal, plastic drinking straws, foam drinking cups, plastic cups, produce trays, foam meat and pastry trays, foam packing blocks, packing peanuts, cookie trays found in cookie packages, plastic strapping, plastic lids, some kitchen ware, some toys, foam plates/bowls, window blinds, plastic lumber, insulating foam, imitation ceramics, handles and knobs, plastic string (such as used for hay bales), plastic rigid bubble/foil packaging (as for medications), small (less than 1 gal) plant containers such as nursery pots and plant six-packs, and new Formica, new vinyl, or new linoleum. Some items in this list are recyclable.

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Material ID & Name		Material Type Definition
OTHER ORGANICS		
	Food	Food means food material resulting from the processing, storage, preparation, cooking, handling, or consumption of food. This type includes material from industrial, commercial, or residential sources. Examples include discarded meat scraps, dairy products, egg shells, fruit or vegetable peels, and other food items from homes, stores, and restaurants. This type includes grape pomace and other processed residues or material from canneries, wineries, or other industrial sources.
	Leaves and Grass	Leaves and Grass means plant material, except woody material, from any public or private landscape. Examples include leaves, grass clippings, plants, and seaweed. This type does not include woody material or material from agricultural sources.
	Prunings and Trimmings	Prunings and Trimmings means woody plant material up to 4 inches in diameter from any public or private landscape. Examples include prunings, shrubs, and small branches with branch diameters that do not exceed 4 inches. This type does not include stumps, tree trunks, branches exceeding 4 inches in diameter, or material from agricultural sources.
	Branches and Stumps	Branches and Stumps means woody plant material, branches, and stumps that exceed 4 inches in diameter, from any public or private landscape.
	Manures	Manures means manure and soiled bedding materials from large domestic, farm, or ranch animals. Examples include manure and soiled bedding from animal production operations, race tracks, riding stables, animal hospitals, and other sources. Does not include feces from small household pets such as dogs and cats.
	Textiles	Textiles means items made of thread, yarn, fabric, or cloth. Examples include clothes, fabric trimmings, draperies, and all natural and synthetic cloth fibers. This type does not include cloth covered furniture, mattresses, leather shoes, leather bags, or leather belts.
	Carpet	Carpet means flooring applications consisting of various natural or synthetic fibers bonded to some type of backing material. This type does not include carpet padding or woven rugs with no backing.
	Remainder/Composite Organics	Remainder/Composite Organics means organic material that cannot be put in any other type. This type includes items made mostly of organic materials, but combined with other material types. Examples include leather items, cork, hemp rope, garden

Appendix A. Material Categories and Type Definitions

Material ID & Name		Material Type Definition
		hoses, rubber items, hair, carpet padding, cigarette butts, diapers, feminine hygiene products, small wood products (such as Popsicle sticks and tooth picks), sawdust, agricultural crop residues, and animal feces from small household pets such as dogs and cats.
INERTS & OTHER		
	Concrete	Concrete means a hard material made from sand, aggregate, gravel, cement mix and water. Examples include pieces of building foundations, concrete paving, and concrete/cinder blocks. This category includes concrete with a steel internal structure composed of reinforcing bars (re-bar) or metal mesh.
	Asphalt Paving	Asphalt Paving means a black or brown, tar-like material mixed with aggregate used as a paving material.
	Asphalt Roofing	Asphalt Roofing means composite shingles and other roofing material made with asphalt. Examples include asphalt shingles and attached roofing tar and tar paper.
	Lumber – Clean Dimensional Lumber	Lumber - Clean Dimensional Lumber means unpainted new or demolition dimensional lumber. Includes materials such as 2 x 4s, 2 x 6s, 2 x 12s, and other residual materials from framing and related construction activities. May contain nails or other trace contaminants.
	Lumber – Clean Engineered Wood	Lumber - Clean Engineered Wood means unpainted new or demolition scrap from sheeted goods such as plywood, particleboard, wafer board, oriented strand board, and other residual materials used for sheathing and related construction uses. May contain nails or other trace contaminants.
	Lumber – Clean Pallets and Crates	Lumber - Clean Pallets and Crates means unpainted wood pallets, crates, and packaging made of lumber/engineered wood.
	Lumber – Other Wood Waste	Lumber - Other Wood Waste means wood waste that cannot be put into any other material type. This type may include untreated/unpainted scrap from production of prefabricated wood products such as wood furniture or cabinets, untreated or unpainted wood roofing and siding, painted or stained wood, and treated wood.
	Gypsum Board	Gypsum Board means interior wall covering made of a sheet of gypsum sandwiched between paper layers. Examples include used or unused, broken or whole sheets. Gypsum board may also be called sheetrock, drywall, plasterboard, gypboard, gyproc, or wallboard. Includes painted gypsum board.

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Material ID & Name		Material Type Definition
	Rock, Soil, and Fines	Rock, Soil and Fines means rock pieces of any size and soil, dirt, and other matter. Examples include rock, stones, sand, clay, soil and other fines. This type also includes non-hazardous contaminated soil.
	Remainder/Composite Inerts and Other	Remainder/Composite Inerts and Other means inerts and other material that cannot be put in any other type. This type may include items from different types combined, which would be very hard to separate. Examples include brick, ceramics, tiles, toilets, sinks, dried paint not attached to other materials, and fiberglass insulation. This type may also include demolition debris that is a mixture of items such as plate glass, wood, tiles, gypsum board, synthetic counter tops, fiber or composite acoustic ceiling tiles, and aluminum scrap.
HAZARDOUS & ELECTRONIC WASTE		
	Paint	Paint means containers with paint in them. Examples include latex paint, oil based paint, and tubes of pigment or fine art paint. This type does not include dried paint, empty paint cans, or empty aerosol containers.
	Vehicle and Equipment Fluids	Vehicle and Equipment Fluids means containers with fluids used in vehicles or engines, except used oil. Examples include used antifreeze and brake fluid. This type does not include empty vehicle and equipment fluid containers.
	Used Oil	Used Oil means the same as defined in Health and Safety Code section 25250.1(a). Examples include spent lubricating oil such as crankcase and transmission oil, gear oil, and hydraulic oil.
	Batteries	Batteries means any type of battery including both dry cell, rechargeable, and lead acid. Examples include car, flashlight, small appliance, watch, and hearing aid batteries.
	Remainder/Composite Household Hazardous-Mercury Containing Items – Not Lamps	Remainder/Composite Household Hazardous - Mercury-Containing Items - Not Lamps means items other than lamps that are readily identifiable as containing mercury such as thermostats and thermometers.
	Remainder/Composite Household Hazardous-Lamps – Fluorescent and LED	Remainder/Composite Household Hazardous - Lamps - Fluorescent and LED means both compact and tube-style fluorescent lights, and LED lights.

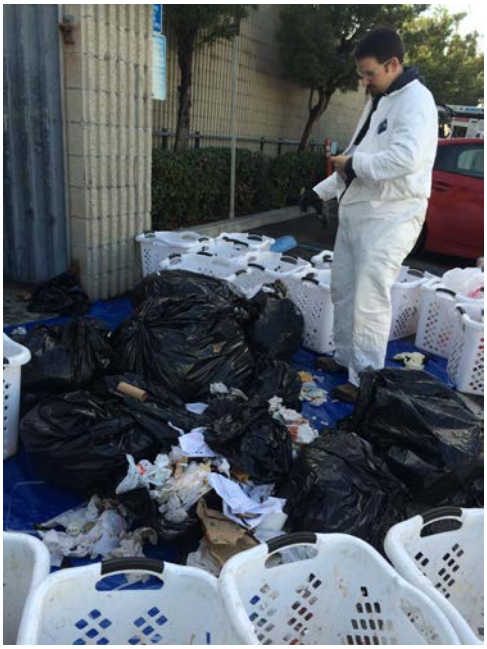
Appendix A. Material Categories and Type Definitions

Material ID & Name		Material Type Definition
	Remainder/Composite Household Hazardous	Remainder/Composite Household Hazardous means household hazardous material that cannot be put in any other type. This type also includes household hazardous material that is mixed. Examples include household hazardous waste which if improperly put in the solid waste stream may present handling problems or other hazards, such as pesticides and caustic cleaners; sharps (needles), medications, and supplements.
SPECIAL WASTE		
	Ash	Ash means a residue from the combustion of any solid or liquid material. Examples include ash from fireplaces, incinerators, biomass facilities, waste-to-energy facilities, and barbecues. This type also includes ash and burned debris from structure fires.
	Treated Medical Waste	Treated Medical Waste means medical waste that has been processed in order to change its physical, chemical, or biological character or composition, or to remove or reduce its harmful properties or characteristics, as defined in Section 25123.5 of the Health and Safety Code.
	Bulky Items	Bulky Items means large hard to handle items that are not defined elsewhere in the material types list, including furniture, mattresses, and other large items. Examples include all sizes and types of furniture, box springs, and base components.
	Tires	Tires means vehicle tires. Tires may be pneumatic or solid. Examples include tires from trucks, automobiles, motorcycles, heavy equipment, lawn mowers, and bicycles.
	Remainder/ Composite Special Waste	Remainder/Composite Special Waste means special waste that cannot be put in any other type. Examples include asbestos-containing materials such as certain types of pipe insulation and floor tiles, auto fluff, auto bodies, trucks, trailers, truck cabs, untreated medical waste (such as tubes, oxygen masks, medical instruments), and artificial fireplace logs.
MIXED RESIDUE		
	Mixed Residue	Mixed Residue means material that cannot be put in any other type or category. This category includes mixed residue that cannot be further sorted. Examples include clumping kitty litter, cosmetics, partially filled containers of non-food consumer products, and residual material from a materials recovery facility or other sorting process that cannot be put in any other material type, including remainder/composite types.

Appendix B

Photographs

Motor Pool Sample



Sample Area with Bags of Trash and Bins for Separating Materials

Material Emptied from Black Bags

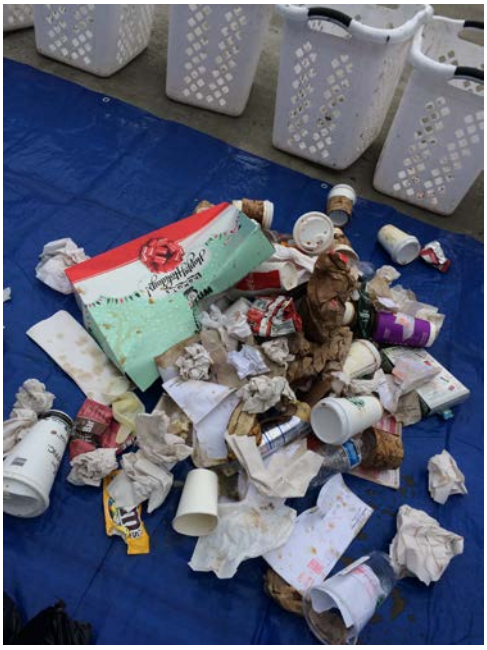
Food Waste and Misc. Plastic Containers

Ramp Sample

Bag Full of Clean Food Waste

Cardboard

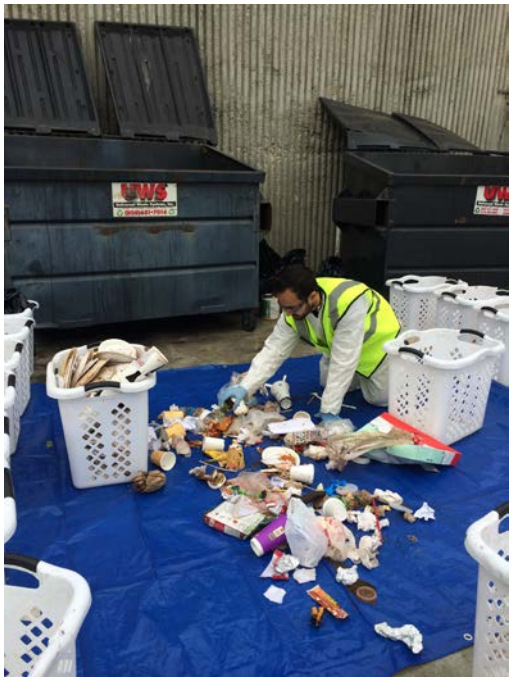
Compostable Utensils



Various paper products to be separated

Ramp Sample (Continued)

Remainder Composite Paper - Compostable



Separating into Material Groups

Clean Yard Waste in Bin

Compactor Sample

High Quantity of Black Bags

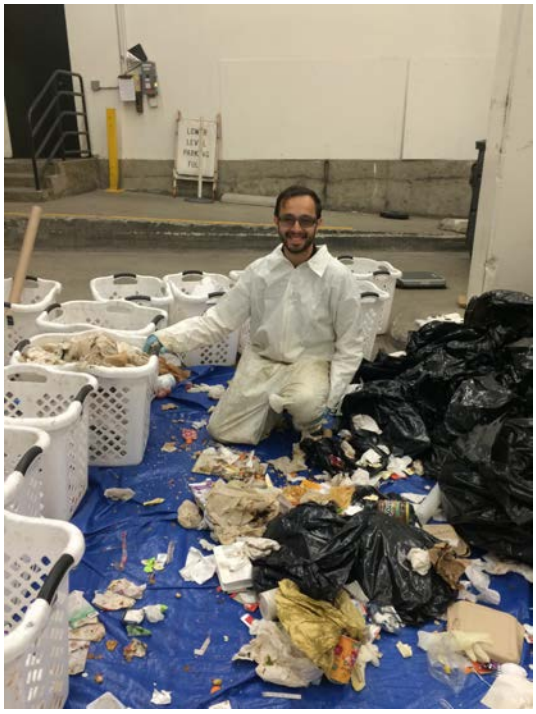
Materials to be separated

Grocery Bags and Other Film Other

Loading Dock Sample

Disposed Toilet Paper

Large Number of Black Trash Bags Compared to Size of Bins



Separating Materials