

King County Waste Monitoring Program

2007/2008 Construction and Demolition Materials Characterization Study

Final Report

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Department of Natural Resources and Parks
Solid Waste Division

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Table of Contents

1	OVERVIEW 1	
1.1	Introduction and Background.....	1
1.2	Terms and Definitions	2
1.3	King County’s Construction and Demolition Materials Stream.....	6
1.4	Study Methodology.....	8
2	SUMMARY OF FINDINGS	11
2.1	Interpreting the Results.....	11
2.2	Key Findings	12
2.3	Transfer Station Disposed C&D Materials	13
2.4	Intermodal Containers Hauled to Railheads.....	16
2.5	Processed C&D Materials	18
2.6	Composition Results for Processing Residuals	20
3	DETAILED COMPOSITION RESULTS	22
3.1	Disposed Materials Hauled to Transfer Stations	22
3.1.1	By Activity Type	24
3.1.2	By Load Type.....	29
3.1.3	By Hauler Type	33
3.1.4	By Vehicle Type	37
3.1.5	By Season	41
3.2	Processed Materials	45
3.2.1	By Activity Type	46
3.2.2	By Load Type.....	51
3.2.3	By Hauler Type	55
3.2.4	By Vehicle Type	59
3.2.5	C&D Materials by Season.....	63
APPENDIX A.	MATERIAL LIST AND DEFINITIONS FOR 2007/2008 C&D STUDY	A-1
APPENDIX B.	STUDY METHODOLOGY	B-1
APPENDIX C.	C&D MATERIALS COMPOSITION CALCULATIONS	C-1
APPENDIX D.	FIELD FORMS.....	D-1
APPENDIX E.	QUALITY CONTROL PLAN.....	E-1
APPENDIX F.	ADDITIONAL TABLES AND FIGURES	F-1
APPENDIX G.	COMPARISON TO C&D MATERIALS IN THE CITY OF SEATTLE ...	G-1
APPENDIX H.	SAMPLE PHOTOGRAPHS	H-1

Table of Tables

Table 1-1. Months Included in Each Season	5
Table 1-2. Sampling Goals and Actual Sample Collected	9
Table 2-1. Transfer Station Disposed and Processed Load Composition Comparison	13
Table 2-2. Top Ten Components – Overall Transfer Station Disposed C&D	14
Table 2-3. Composition by Weight – Overall Transfer Station Disposed C&D	15
Table 2-4. Top Ten Components – Intermodal Containers	16
Table 2-5. Composition by Weight – Intermodal Containers	17
Table 2-6. Top Ten Components – Overall Processed C&D	18
Table 2-7. Composition by Weight – Overall Processed C&D	19
Table 2-8. Top Ten Components – Residuals	20
Table 2-9. Composition by Weight – Residuals	21
Table 3-1. Overview of Transfer Station Disposed Substream Samples	23
Table 3-2. Top Ten Components – Transfer Station Disposed Demolition	25
Table 3-3. Top Ten Components – Transfer Station Disposed New Construction	26
Table 3-4. Top Ten Components – Transfer Station Disposed Other Construction	27
Table 3-5. Top Ten Components – Transfer Station Disposed Remodeling	27
Table 3-6. Top Ten Components – Transfer Station Disposed Roofing	28
Table 3-7. Top Ten Components – Transfer Station Disposed Residential Buildings	30
Table 3-8. Top Ten Components – Transfer Station Disposed Nonresidential Buildings	30
Table 3-9. Top Ten Components – Transfer Station Disposed Mixed Loads	31
Table 3-10. Top Ten Components – Transfer Station Disposed Other Structures	32
Table 3-11. Top Ten Components – Transfer Station Disposed Certificated Haulers	34
Table 3-12. Top Ten Components – Transfer Station Disposed C&D Haulers	34
Table 3-13. Top Ten Components – Transfer Station Disposed Business Self-haul	35
Table 3-14. Top Ten Components – Transfer Station Disposed Residential Self-haul	36
Table 3-15. Top Ten Components – Transfer Station Disposed Drop Boxes	38
Table 3-16. Top Ten Components – Transfer Station Disposed End Dumps	38
Table 3-17. Top Ten Components – Transfer Station Disposed Other Large Vehicles	39
Table 3-18. Top Ten Components – Transfer Station Disposed Pick-up/Passenger Vehicles	39
Table 3-19. Top Ten Components – Transfer Station Disposed Fall	42
Table 3-20. Top Ten Components – Transfer Station Disposed Winter	43
Table 3-21. Top Ten Components – Transfer Station Disposed Spring	43
Table 3-22. Top Ten Components – Transfer Station Disposed Summer	44
Table 3-23. Overview of Processed Substream Samples	45
Table 3-24. Top Ten Components – Processed Demolition	47
Table 3-25. Top Ten Components – Processed New Construction	48
Table 3-26. Top Ten Components – Processed Other Construction	48
Table 3-27. Top Ten Components – Processed Remodeling	49
Table 3-28. Top Ten Components – Processed Roofing	49
Table 3-29. Top Ten Components – Processed Unknown	50
Table 3-30. Top Ten Components – Processed Residential Buildings	52
Table 3-31. Top Ten Components – Processed Nonresidential Buildings	52
Table 3-32. Top Ten Components – Processed Mixed Loads	53
Table 3-33. Top Ten Components – Processed Other Structures	53
Table 3-34. Top Ten Components – Processed Certificated Haulers	56
Table 3-35. Top Ten Components – Processed C&D Haulers	56
Table 3-36. Top Ten Components – Processed Business Self-haul	57
Table 3-37. Top Ten Components – Processed Residential Self-haul	57
Table 3-38. Top Ten Components – Processed Drop Boxes	60
Table 3-39. Top Ten Components – Processed End Dumps	60
Table 3-40. Top Ten Components – Processed Other Large Vehicles	61
Table 3-41. Top Ten Components – Processed Pick-up/Passenger Vehicles	61

Table 3-42. Top Ten Components – Processed Fall	64
Table 3-43. Top Ten Components – Processed Winter	65
Table 3-44. Top Ten Components – Processed Spring	65
Table 3-45. Top Ten Components – Processed Summer	66
Table F-1. Composition by Weight – Transfer Station Disposed C&D	F-3
Table F-2. Composition by Weight – Transfer Station Disposed Demolition	F-4
Table F-3. Composition by Weight – Transfer Station Disposed New Construction	F-5
Table F-4. Composition by Weight – Transfer Station Disposed Other Construction	F-6
Table F-5. Composition by Weight – Transfer Station Disposed Remodeling	F-7
Table F-6. Composition by Weight – Transfer Station Disposed Roofing	F-8
Table F-7. Composition by Weight – Transfer Station Disposed Residential Buildings	F-9
Table F-8. Composition by Weight – Transfer Station Disposed Nonresidential Buildings	F-10
Table F-9. Composition by Weight – Transfer Station Disposed Mixed Loads	F-11
Table F-10. Composition by Weight – Transfer Station Disposed Other Structures	F-12
Table F-11. Composition by Weight – Transfer Station Disposed Certificated Haulers	F-13
Table F-12. Composition by Weight – Transfer Station Disposed C&D Haulers	F-14
Table F-13. Composition by Weight – Transfer Station Disposed Business Self-haul	F-15
Table F-14. Composition by Weight – Transfer Station Disposed Residential Self-haul	F-16
Table F-15. Composition by Weight – Transfer Station Disposed Drop Boxes	F-17
Table F-16. Composition by Weight – Transfer Station Disposed End Dumps	F-18
Table F-17. Composition by Weight – Transfer Station Disposed Other Large Vehicles	F-19
Table F-18. Composition by Weight – Transfer Station Disposed Pick-up/Passenger Vehicles	F-20
Table F-19. Composition by Weight – Transfer Station Disposed Fall	F-21
Table F-20. Composition by Weight – Transfer Station Disposed Winter	F-22
Table F-21. Composition by Weight – Transfer Station Disposed Spring	F-23
Table F-22. Composition by Weight – Transfer Station Disposed Summer	F-24
Table F-23. Composition by Weight – Intermodal Containers	F-25
Table F-24. Composition by Weight – Overall Processed C&D	F-26
Table F-25. Composition by Weight – Processed Demolition	F-27
Table F-26. Composition by Weight – Processed New Construction	F-28
Table F-27. Composition by Weight – Processed Other Construction	F-29
Table F-28. Composition by Weight – Processed Remodeling	F-30
Table F-29. Composition by Weight – Processed Roofing	F-31
Table F-30. Composition by Weight – Processed Unknown	F-32
Table F-31. Composition by Weight – Processed Residential Buildings	F-33
Table F-32. Composition by Weight – Processed Nonresidential Buildings	F-34
Table F-33. Composition by Weight – Processed Mixed Loads	F-35
Table F-34. Composition by Weight – Processed Other Structures	F-36
Table F-35. Composition by Weight – Processed Certificated Haulers	F-37
Table F-36. Composition by Weight – Processed C&D Haulers	F-38
Table F-37. Composition by Weight – Processed Business Self-Haul	F-39
Table F-38. Composition by Weight – Processed Residential Self-haul	F-40
Table F-39. Composition by Weight – Processed Drop Boxes	F-41
Table F-40. Composition by Weight – Processed End Dumps	F-42
Table F-41. Composition by Weight – Processed Other Large Vehicles	F-43
Table F-42. Composition by Weight – Processed Pick-up/Passenger Vehicles	F-44
Table F-43. Composition by Weight – Processed Fall	F-45
Table F-44. Composition by Weight – Processed Winter	F-46
Table F-45. Composition by Weight – Processed Spring	F-47
Table F-46. Composition by Weight – Processed Summer	F-48
Table F-47. Composition by Weight – Residuals	F-49
Table G-1. Tonnage by Material Class, King County	G-2
Table G-2. Tonnage by Material Class, Seattle	G-2

Table G-3. Tonnage by Material Class, King County Transfer Station Disposed C&D plus Seattle	G-2
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Table of Figures

Figure 1-1. Vehicle Type Examples.....	5
Figure 1-2. Proportion of C&D Tons by Substream	7
Figure 1-3. Flow of C&D Materials Sampled in 2007/2008 Study	7
Figure 1-4. Proportion of the Transfer Station Disposed and Processed Substreams by Activity Type	8
Figure 2-1. Composition Summary – Overall Transfer Station Disposed C&D.....	14
Figure 2-2. Composition Summary – Intermodal Containers	16
Figure 2-3. Composition Summary – Overall Processed C&D.....	18
Figure 2-4. Composition Summary – Residuals	20
Figure 3-1. Transfer Station Disposed Composition Summary, by Activity Type	24
Figure 3-2. Transfer Station Disposed Composition Summary, by Load Type.....	29
Figure 3-3. Transfer Station Disposed Composition Summary, by Hauler Type	33
Figure 3-4. Transfer Station Disposed Composition Summary, by Vehicle Type	37
Figure 3-5. Transfer Station Disposed Composition Summary, by Season	41
Figure 3-6. Processed Composition Summary, by Activity Type	46
Figure 3-7. Processed Composition Summary, by Load type	51
Figure 3-8. Processed Composition Summary, by Hauler Type	55
Figure 3-9. Processed Composition Summary, by Vehicle Type	59
Figure 3-10. Processed Composition Summary, by Season.....	63
Figure F-1. Proportion of the Transfer Station Disposed and Processed Substreams by Load Type	F-1
Figure F-2. Proportion of the Transfer Station Disposed and Processed Substreams by Hauler Type	F-2
Figure F-3. Proportion of the Transfer Station Disposed and Processed Substreams by Vehicle Type	F-2
Figure G-1. Composition Summary – Transfer Station Disposed C&D, King County.....	G-1
Figure G-2. Composition Summary – Transfer Station Disposed C&D, Seattle.....	G-1
Figure G-3. Composition Summary – King County Transfer Station Disposed C&D plus Seattle	G-2
Figure H-1. Vehicle Survey	H-1
Figure H-2. <i>Clean Engineered Wood</i> in a Processed Roofing Load	H-2
Figure H-3. <i>Dirt and Sand</i> in Transfer Station Disposed Sample Number DEMO-19.....	H-3
Figure H-4. <i>Other Aggregates</i> in Transfer Station Disposed Sample Number DEMO-51	H-4
Figure H-5. Transfer Station Disposed Sample Number DEMO-71	H-5
Figure H-6. Partially Demolished Building to be Loaded in an Intermodal Container	H-6
Figure H-7. <i>Clean Gypsum Board</i> in Transfer Station Disposed Sample Number NC-35	H-7
Figure H-8. Processed Sample Number PROC-1 Prior to Sorting	H-8
Figure H-9. <i>Wood Roofing</i> in Transfer Station Disposed Sample Number REM-43.....	H-9
Figure H-10. Lots of Wood in Transfer Station Disposed Sample Number REM-44	H-10
Figure H-11. <i>Clean Engineered Wood and Composition Roofing</i> in Transfer Station Disposed Sample Number RF-66	H-11
Figure H-12. The End of a Processing Facility Sorting Line	H-12

1 Overview

1.1 Introduction and Background

Since 1990, the King County Solid Waste Division (KCSWD) has maintained a waste monitoring program to answer key questions about the County's waste: what is the composition of materials generated within the county, where does this waste come from, and where does it go? To help King County provide efficient and effective services, plan for future needs, and track progress towards its recycling goals, the waste monitoring program includes waste characterization studies, customer surveys, and other studies as needed.

King County Solid Waste Division requires detailed information on the sources and composition of the C&D material stream to plan and design targeted C&D material prevention and recycling programs. In response to these information needs, the county commissioned this study of the C&D material stream to accomplish the following objectives:

- Provide statistically significant data on the composition of materials generated via construction and demolition (C&D) activities within King County.
- Identify materials in the disposed C&D material stream that are potentially recyclable.
- Identify materials in loads being processed.
- Understand seasonal and substream differences so that targeted diversion programs can be designed.
- Provide a benchmark for continued long-term measurement of the C&D material stream.

King County's previous comprehensive C&D Materials Stream Characterization Study was conducted in 2002.¹ While the results of the 2007/2008 study can be compared with the 2002 study, the methodology for the 2007/2008 study differed in several ways from that used in the 2002 study:

- The 2007/2008 study characterized loads intended for disposal, intermodal loads at jobsites, loads intended for processing (prior to any processing), and residual materials after processing at C&D recycling facilities; the 2002 study characterized only loads intended for disposal.

¹ Field work for the previous study was conducted in 2001 and the report was finalized in 2002. The 2002 CDL Waste Composition Study can be found on King County's website at: <http://your.kingcounty.gov/solidwaste/about/documents/CD-Characterization.PDF>.

- The number of material categories increased from 70 to 72 to more accurately reflect the types of materials found in the C&D materials stream.
- The number of samples for the study period increased from 550 to 747 to characterize three additional substreams – processed, intermodals and residuals.
- The number of sampling days increased from 24 to 38 to accommodate the additional number of samples.

This report, which consists of three sections, presents the results of the 2007/2008 C&D materials study.

- Section 1 briefly introduces the project, common terms and definitions, and the study methodology.
- Section 2 summarizes key study findings and present the results for the disposed, intermodal, processed and residual substreams.
- Section 3 details the disposed and processed substream results by the various strata.

Appendices follow the main body of the report and provide the following:

- Material category definitions
- Sampling methodology
- Material composition calculations
- Copies of field forms
- Quality control plan
- Detailed composition tables
- Field photos

1.2 Terms and Definitions

Each load sampled in this study was categorized by substream, activity, load type, hauler type, vehicle type, and season; results can be aggregated by any category or combination of categories. Each of these categories and corresponding sub-categories are defined in this section. These terms are used throughout this report.

- **Substreams** – The flow of C&D materials in King County can be broken down into smaller flows. Each of these smaller flows is referred to as a *substream*. This study characterized the material from four C&D material substreams:
 - **Transfer station disposed substream** – The transfer station disposed substream (disposed substream for brevity) includes loads tipped at selected private transfer stations that are not intended for processing and ultimately get disposed as waste. These loads are tipped at one of the selected transfer stations. Once tipped, materials are containerized and landfilled.

- **Intermodal substream** – The intermodal substream includes materials collected at demolition or construction sites and loaded directly into shipping containers for rail transport to the landfill. Once containerized at the jobsite, this material is not emptied from the container until it is disposed at a landfill.
 - **Processed substream** – The processed substream includes loads that are intended for processing – with equipment or by hand – to recover the divertible fraction. These loads are characterized prior to processing. The remaining materials that are not recovered are **Residuals**.
 - **Residuals substream** – The residual substream includes materials not recovered during processing. These materials are landfilled.
- **Activity types** – While surveying drivers of inbound loads, the field crew collected data regarding the type of construction or demolition activity that generated the load. This information is helpful for identifying targeted material reduction strategies. All loads were categorized according to five activity types:
- **Demolition** – Materials generated from tearing down any facility or building, whether interior or exterior.
 - **New construction** – Materials generated from the construction of new buildings.
 - **Other construction** – Construction or demolition materials generated from activities not otherwise classified, such as the building, repair, and/or demolition of roads, bridges, and other public infrastructure.
 - **Remodeling** – Construction or demolition materials generated from remodeling buildings.
 - **Roofing** – Construction or demolition materials generated from new construction, remodeling, and demolition of residential or nonresidential roofs.
- **Load types** – With the driver’s assistance, the surveyors categorized inbound loads according to the type of building at which the load was generated. All loads were categorized according to four load types:
- **Residential** – Loads generated at residential buildings, either single-family or multifamily.
 - **Nonresidential** – Loads generated at nonresidential buildings, typically commercial or industrial buildings.
 - **Mixed loads** – Loads containing a mixture of residential and nonresidential debris. Often from the construction or demolition of mixed use commercial/multifamily projects.
 - **Other structures** – Loads generated from the construction or demolition of other structures. This typically includes road construction and other public works projects (light rail, parks, sewer, etc.).

- **Hauler types** – The surveyors categorized loads according to the type of hauler delivering the load. All loads were categorized according to four hauler types were:
 - **Certificated haulers** – Certificated haulers include businesses permitted by the WUTC (or contracted by an incorporated city) to haul municipal solid waste (MSW) and C&D materials. The certificated haulers in King County and its incorporated cities are Waste Management and Allied Waste/Rabanco.
 - **C&D haulers** – C&D haulers include companies whose principal business includes demolition and/or hauling of construction and demolition materials. Examples in King County include Nuprecon and Greyhawk.
 - **Business self-haul** – Business self-haul includes contractors or construction companies for which hauling is an incidental part of their business. This often includes roofing companies and small general contractors.
 - **Residential self-haul** – Residential self-haul includes loads hauled by the owner of the residence from which the materials were generated. This is usually a homeowner remodeling their own home.
- **Vehicle types** – The surveyors categorized loads by the type of vehicle delivering them. The four vehicle types were:
 - **Drop Boxes** – Also known as roll-offs. Generally hauled by either a certificated hauler or a C&D hauler. Typically left at a job site until full, then collected by the hauler, emptied at either a disposal or processing facility, and returned to the job site.
 - **End Dumps** – Vehicles in which the storage area is permanently attached to the passenger area and is either mechanically or hydraulically raised to tip material out of the storage area.
 - **Large Other** – Vehicles not primarily intended to transport passengers and from which material must be hand unloaded.
 - **Pick-up/Passenger Vehicles** – Vehicles primarily intended to transport passengers and from which material must be hand unloaded.

Figure 1-1 shows examples of the four vehicle types in this study.

Figure 1-1. Vehicle Type Examples



Seasons – To account for seasonal variations in the types and quantities of materials generated, characterization activities were split into four events, one event per season. For the purposes of this study the seasons were defined as shown in Table 1-1.

Table 1-1. Months Included in Each Season

Fall	September 2007 October 2007 November 2007
Winter	December 2007 January 2008 February 2008
Spring	March 2008 April 2008 May 2008
Summer	June 2008 July 2008 August 2008

The composition results are presented with two levels of detail:

- **Material components** – Material components are the finest level at which composition data is recorded and reported. Examples of material components include *painted/stained gypsum* and *clean engineered wood*. See Appendix A for a complete list of the 72 material components and corresponding definitions.
- **Material classes** – Material classes group like material components together. Material components are grouped into 11 material classes. For example the **Clean Wood** material class includes eight unpainted, unstained, untreated wood material components.

1.3 King County's Construction and Demolition Materials Stream

This study examined C&D materials hauled to seven private C&D processing and transfer facilities (Eastmont, Recycle NW, Cascade Recovery, Third & Lander, Black River, CDL Recycle, and Recovery 1). Materials hauled directly from C&D sites in intermodal containers to the railheads were also included. Lastly, this study includes residuals from C&D processing operations at the Eastmont, Cascade Recovery, and CDL Recycle facilities.

During the study period, all facilities included handled approximately 381,000² tons of the County's C&D materials. More than 127,000 tons were disposed at the four private transfer station facilities – Allied Waste's Third & Lander and Black River facilities, and Waste Management's Eastmont and Recycle NW facilities. An additional 32,000 tons were hauled directly to a railhead in intermodal containers for disposal. Roughly 222,000 of the total tons were sent to facilities for processing. This study characterized loads at five of those processing facilities: Eastmont, Cascade Recovery, CDL Recycle, and Recovery 1, and beginning in January 2008 Third & Lander. King County Solid Waste Division provided total tonnage figures for this study. Data collected from the vehicle surveys was used to apportion these tonnages to the various material substreams and other groupings for this report.

Figure 1-2 shows the proportion of C&D tons in each substream while Figure 1-3 models the flow of King County's non-MSW C&D materials.

² The 381,000 tons disposed or processed through the private stations and intermodal boxes do not represent all of the disposed C&D generated by C&D activities conducted in King County. More than 147,000 tons of C&D materials are also delivered to County transfer stations by homeowners and small volume contractors. Additional C&D materials are delivered annually to other facilities not included in this study. These facilities typically recycle only inert materials such as concrete or dirt. All figures exclude material originating within the City of Seattle, which manages its waste separately from the rest of King County.

Figure 1-2. Proportion of C&D Tons by Substream

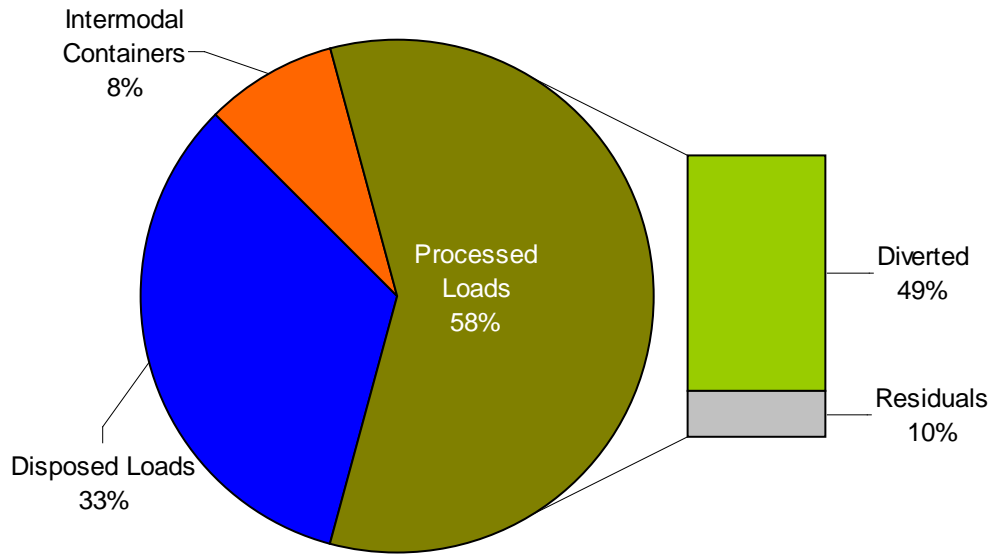
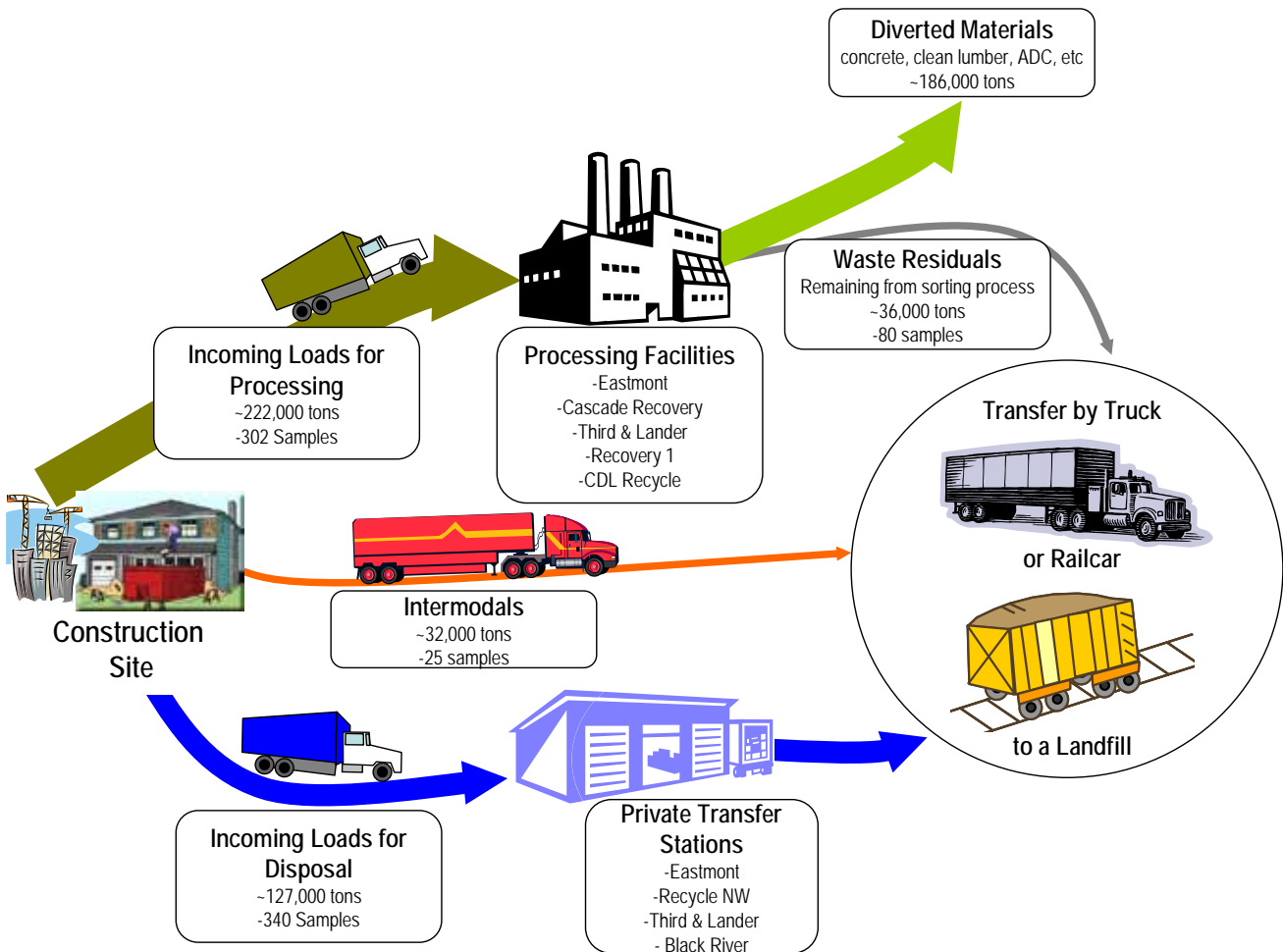


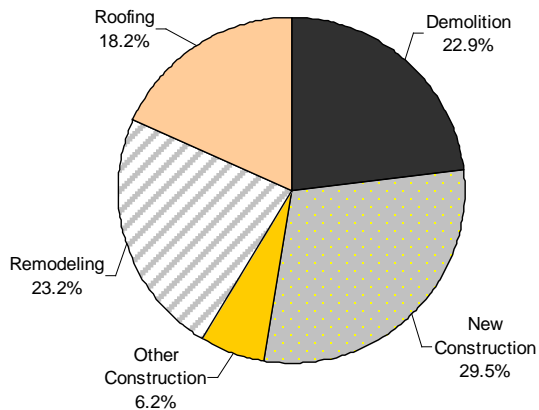
Figure 1-3. Flow of C&D Materials Sampled in 2007/2008 Study



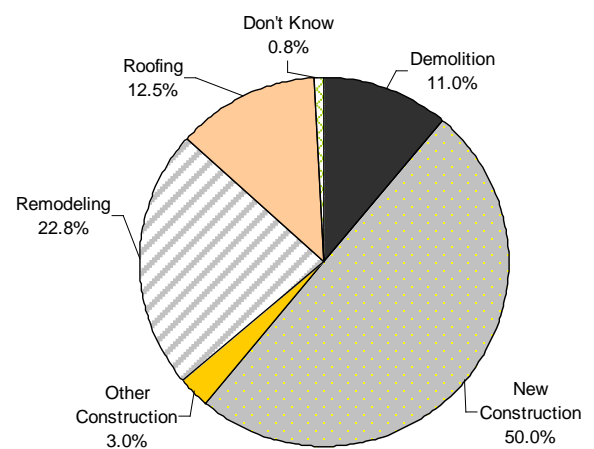
For both the transfer station disposed and processed substreams, new construction projects were the largest generators, by weight (approximately 30% and 50%, respectively). Remodel projects (23.2%) and demolition projects (22.9%) each generated nearly one quarter of the transfer station disposed substream. Remodel projects were nearly one quarter (22.8%) of processed loads as well. Figure 1-4 shows the proportion of the transfer station disposed and processed substream that can be attributed to each activity type. Appendix F also presents this information by load type, hauler type and vehicle type.

Figure 1-4. Proportion of the Transfer Station Disposed and Processed Substreams by Activity Type

Transfer Station Disposed Substream



Processed Substream



1.4 Study Methodology

This section provides an overview of the 2007/2008 study methodology. The study can be divided into five major steps. These steps are presented according to the order in which they occurred during the course of the study. Appendix B contains the complete study design as well as a detailed description of the visual observation methodology.

Step 1: Develop Sampling Plan

- Sample goals were allocated among the five activity types (demolition, new construction, other construction, remodeling, and roofing), intermodal, processed, and residual streams. Table 1-2 shows the goals compared to the actual samples collected.
- A sampling schedule was constructed for the study, consisting of about nine sampling days each quarter. The sampling days were randomly selected and adjusted to provide a representative distribution across seasons and facilities.

Table 1-2. Sampling Goals and Actual Sample Collected

Activity Type	Number of Samples	
	Goal	Actual
T.S. Disposed Loads	300	340
<i>Demolition</i>	75	68
<i>Remodeling</i>	75	96
<i>New Construction</i>	75	95
<i>Roofing</i>	55	56
<i>Other/Mixed</i>	20	25
Intermodals	40	25
Processed Loads	300	302
Residuals	80	80
Total	720	747

Step 2: Coordinate Sampling Events

- Prior to each month's sampling, facility representatives and affected personnel were contacted and reminded of the upcoming sampling and surveying events.
- Haulers were contacted to obtain information for scheduled intermodal projects.

Step 3: Survey Vehicles and Select Samples

- To quantify the C&D materials associated with each activity type, surveys were conducted at the entrance of each participating facility.
- The surveyor:
 - Verified that the load contained C&D materials generated within King County, outside the City of Seattle.
 - Recorded the vehicle's net weight.
 - Noted the vehicle and hauler types.
 - Asked the driver for the load origin, activity type, and load type.
 - Determined with facility staff if the load was intended for disposal or processing.
 - Recorded data on a *Vehicle Survey Form* (see Appendix D).
- The surveyor also selected loads for sampling based on the sampling plan, directing affected drivers to the sampling area. The entire load carried by each selected vehicle constituted one sample.
- Intermodals** were sampled through visual observation at construction sites as material was transferred into intermodal containers.
- Residuals** from the recycling sorting line at Eastmont, Cascade Recovery and CDL Recycle were sampled directly on the conveyor belt.



Step 4: Characterize Samples

- A 7-step visual volumetric measurement method was used to characterize all loads of C&D materials. The seven steps are:



2. Collect sample placard from the driver
3. Measure load volume
4. Photograph the sample
5. Note which material classes are present
6. Estimate composition by volume for each material class
7. Estimate composition by volume for each material component
8. Check and reconcile percentage data

- For this study, a total of 747 samples were characterized into 72 distinct component categories, such as *clean engineered wood* or *composition roofing*. Please refer to Appendix A for a complete list of materials and definitions.

Step 5: Analyze Data and Prepare Report

- Each quarter all characterization data were entered into a customized database and reviewed for data entry errors. Volume estimates for each sample were converted to weights using accepted volume-to-weight conversion factors, which are included in Appendix A.
- At the conclusion of the study, composition estimates were calculated by aggregating sampling data using a weighted average procedure. These calculations were based on data provided by the King County Solid Waste Division and information gathered during vehicle surveys.

Substance	Wt%	Wt	Wt%	Wt
Pine/Softwood	99.60	0.00	0.00	0.00
OSB/Sheath, uncoated	4.50	0.00	0.00	0.00
Mixed Lumber Grade	14.20	0.00	0.00	0.00
Flame Boards	3.80	0.00	0.00	0.00
Other Paper	5.50	0.00	0.00	0.00
Computer Paper	0.30	0.00	0.00	0.00
Mix. Other Polymers	0.60	0.00	0.00	0.00
Process Used Products	0.80	0.00	0.00	0.00
Composites/Textile	15.10	0.00	0.00	0.00
Paper/Other Materials	0.60	0.00	0.00	0.00
Other Paper	0.80	0.00	0.00	0.00

Once the data were analyzed, this report was prepared.

2 Summary of Findings

This section presents an overview of the characterization results for each of the four C&D substreams.

1. **Transfer station disposed substream** – The transfer station disposed substream (disposed substream for brevity) includes loads tipped at selected private transfer stations that are not intended for processing and ultimately get disposed as waste. These loads are tipped at one of the selected transfer stations. Once tipped, materials are containerized and landfilled.
2. **Intermodal substream** – The intermodal substream includes materials collected at demolition or construction sites and loaded directly into shipping containers for rail transport to the landfill. Once containerized at the jobsite, this material is not emptied from the container until it is buried at a landfill.
3. **Processed substream** – The processed substream includes loads that are intended for processing – with equipment or by hand – to recover the divertible fraction. These loads are characterized prior to processing. The remaining materials that are not recovered are **residuals**.
4. **Residuals substream** – The residual substream includes materials not recovered during processing. These materials are landfilled.

Composition results for each substream are presented in the following order throughout this report. First, a pie chart reflects the composition percentages of the 11 C&D material classes. The C&D material classes are: **Clean Wood, Painted and Treated Wood, Aggregates, Rock and Soil, Asphalt Roofing, Metal, Other Materials with Potential Value, Plastic, Green Debris, Other Organics, Hazardous Materials, and Other Materials with Little or No Value**

Each pie chart is followed by a table that lists the ten most prevalent material components, by weight. Rounding out the results, a detailed composition table lists the full composition results for all 72 material components and 11 material classes. Percentages may not add to 100% in tables throughout the report due to rounding.

2.1 Interpreting the Results

When interpreting the results presented in the tables and figures in this report, it is important to consider the effect of rounding.

To keep the waste composition tables and figures readable, estimated tonnages are rounded to the nearest ton, and estimated percentages are rounded to the nearest tenth of a percent. Due to this rounding, the tonnages presented in the report, when added together, may not equal the subtotals and totals shown, which were calculated using more precise percentages. Similarly, the percentages, when added together, may not equal the subtotals or totals shown, which represent more precise percentages.

It is important to recognize that the tons shown in the report were calculated using the more precise percentages. Therefore, using the rounded percentages to calculate tonnages yields quantities that are less precise than those shown in the report.

An example will help illustrate the effects of rounding in the report. The rounded percentage for *clean dimensional lumber greater than 16"* in Table 2-2 and Table 2-3 is shown as 6.5% of the disposed substream. The more precise percentage was 6.50684240461667 %. Thus, adding the rounded percentages in the tables may not necessarily yield the subtotals or totals shown, which are based on more precise percentages.

If the rounded percentage for *clean dimensional lumber greater than 16"* in Table 2-2 and Table 2-3 were used to calculate the tonnage, it would yield the following: 6.5% x 127,051 (the total tonnage) = 8,258.315 tons. However, if the more precise percentage for this material is used, it yields the following: 6.50684240461667% x 127,050.9 (the total tonnage) = 8267.00183664712 tons, or 8,267 tons when rounded to the nearest ton. It is the more precise tonnage of 8,267 that is used in the two tables.

All waste composition results were derived using a 90% confidence level, meaning that there is a 90% certainty that the actual composition is within the calculated range. In charts throughout this report, the values graphed represent the mean component percentage, not the range.

2.2 Key Findings

Key observations and opportunities from the 2007/2008 C&D characterization include:

- Nearly two thirds of the transfer station disposed C&D was comprised of just ten materials (64%).
- Nearly one quarter of the transfer station disposed C&D stream was **Clean Wood** (24%).
- **Aggregates, Rock and Soil** was the second most prevalent material class in the transfer station disposed and processed substreams at 23.5% and 17.9% of the total, by weight.
- Nearly 17,500 tons of *composition roofing* was disposed at the study facilities making it the most prevalent material component in the disposed stream.
- **Clean Wood** and **Aggregates, Rock and Soil** combined were nearly 30% of the residuals stream.
- Nearly one third of transfer station disposed materials and one half of processed materials come from new construction projects (29.5% and 50.0% respectively).
- About half of transfer station disposed and processed materials come from residential buildings (54.2% and 49.4% respectively).
- Transfer station disposed and processed loads have very similar characterization profiles (Table 2-1).

Table 2-1. Transfer Station Disposed and Processed Load Composition Comparison

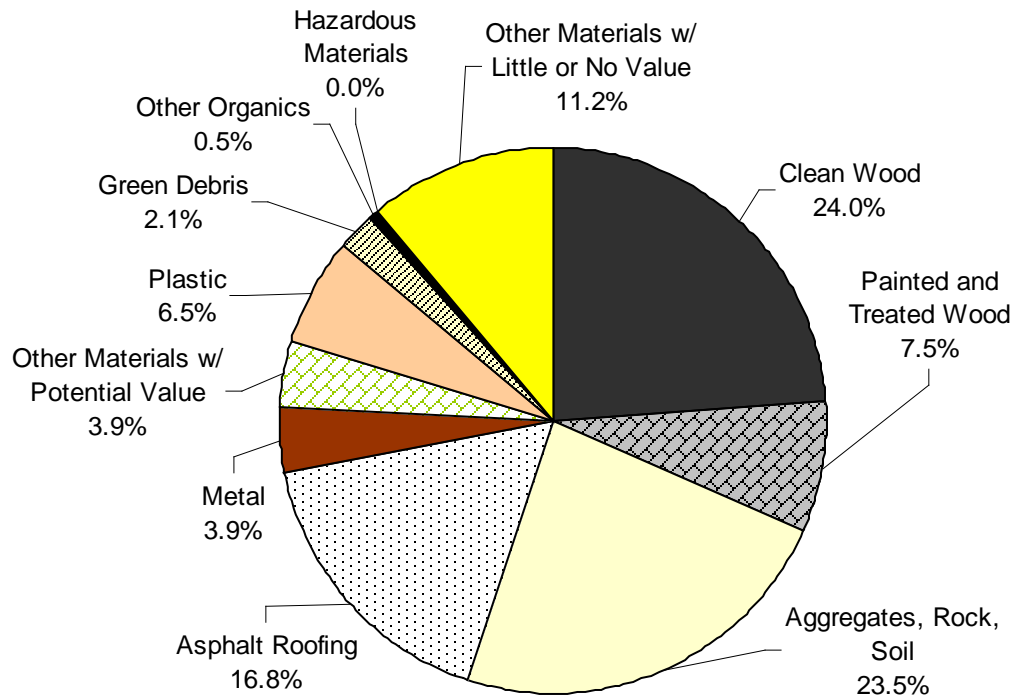
	T. S.	
	Disposed Loads	Processed Loads
Clean Wood	24.0%	37.7%
Painted and Treated Wood	7.5%	7.8%
Aggregates, Rock, Soil	23.5%	17.9%
Asphalt Roofing	16.8%	10.7%
Metal	3.9%	3.8%
Other Materials w/ Potential Value	3.9%	4.6%
Plastic	6.5%	4.4%
Green Debris	2.1%	1.3%
Other Organics	0.5%	0.1%
Hazardous Materials	0.0%	0.2%
Other Materials w/ Little or No Value	11.2%	11.5%
Total	100%	100%

2.3 Transfer Station Disposed C&D Materials

Between September 2007 and August 2008 340 disposed C&D loads were characterized at four private facilities. A total of 127,051 tons of C&D materials were disposed from King County at the study facilities during this time. The composition estimates were applied to these tons to estimate the quantity disposed for each material component during the study period.

As shown in Figure 2-1, **Clean Wood** and **Aggregates, Rock and Soil** were the largest material classes at 24.0% and 23.5% of the transfer station disposed substream, by weight. **Asphalt Roofing** made up about 16% of the total.

Figure 2-1. Composition Summary – Overall Transfer Station Disposed C&D



The ten most prevalent materials in King County’s overall transfer station disposed C&D stream are listed in Table 2-2. When summed together, they accounted for approximately 63% of the transfer station disposed substream tonnage. The most prevalent material components were *composition roofing* (13.8%), *painted/demolition gypsum* (9.6%), and *clean engineered wood* (8.0%). Table 2-3 lists the detailed composition of King County’s transfer station disposed C&D stream.

Table 2-2. Top Ten Components – Overall Transfer Station Disposed C&D

MATERIAL	MEAN	CUM %	TONS
Composition Roofing	13.8%	13.8%	17,480
Painted/Demolition Gypsum	9.6%	23.3%	12,146
Clean Engineered Wood	8.0%	31.3%	10,173
Clean Dimensional Lumber >~16"	6.5%	37.8%	8,267
Mixed/Other C&D	5.8%	43.6%	7,349
Clean Gypsum Board	5.7%	49.3%	7,251
Painted/Stained Wood	4.4%	53.8%	5,652
Pallets and Crates	3.6%	57.4%	4,552
Concrete	3.3%	60.7%	4,187
Other Asphalt Roofing	3.1%	63.7%	3,918
Subtotal	63.7%		80,974
<i>All Other Materials Combined</i>	<i>36.3%</i>		<i>46,077</i>
Total	100.0%		127,051

Table 2-3. Composition by Weight – Overall Transfer Station Disposed C&D

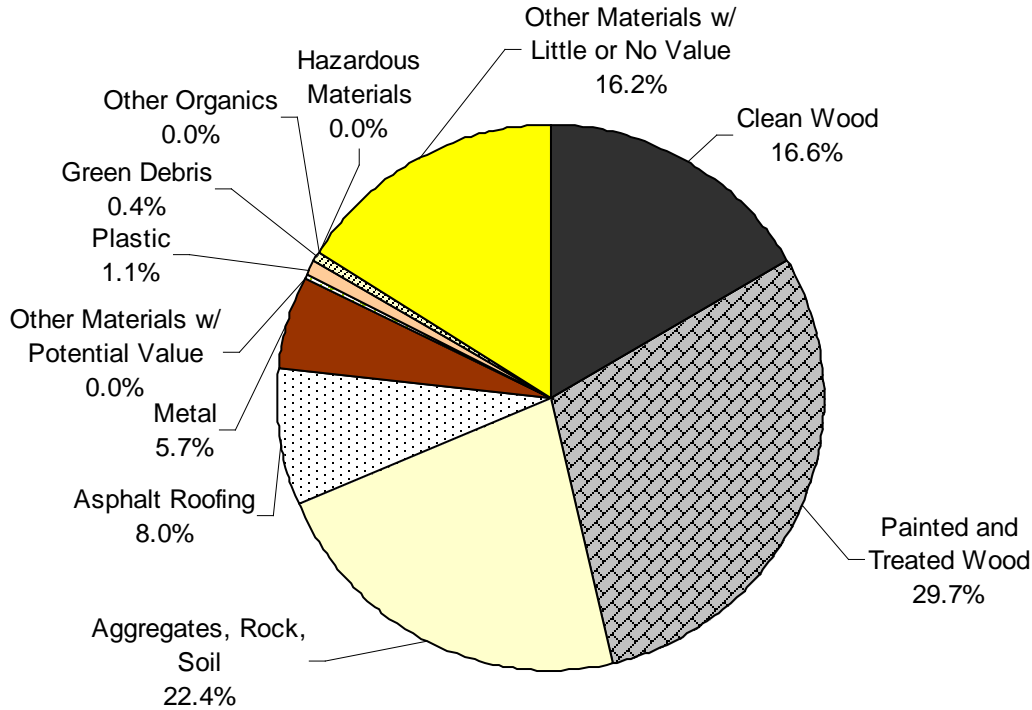
Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	30,515	24.0%		Plastic	8,230	6.5%	
Clean Dimensional Lumber >-16"	8,267	6.5%	1.3%	PET Bottles	14	0.0%	0.0%
Clean Dimensional Lumber <-16"	2,954	2.3%	0.6%	HDPE Bottles	2	0.0%	0.0%
Clean Engineered Wood	10,173	8.0%	1.3%	Other Plastic Containers	52	0.0%	0.0%
Pallets and Crates	4,552	3.6%	1.2%	5 Gallons #2 Buckets	60	0.0%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	320	0.3%	0.2%
Wood Roofing	2,620	2.1%	1.0%	Trash Bags Grocery/ Merch. Bags	303	0.2%	0.1%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	232	0.2%	0.1%
Other Recyclable Wood	1,950	1.5%	0.4%	Plastic Sheeting & Ag. Film	1,814	1.4%	0.8%
Painted and Treated Wood	9,579	7.5%		Other Film	188	0.1%	0.1%
Painted/Stained Wood Siding	2,062	1.6%	0.8%	Plastic Piping	2,183	1.7%	0.7%
Painted/Stained Wood	5,652	4.4%	0.9%	Other Plastic Products	497	0.4%	0.2%
Creosote-treated Wood	65	0.1%	0.1%	Mixed/Other Plastic	123	0.1%	0.1%
Other Treated Wood	737	0.6%	0.4%	Carpet	2,043	1.6%	0.5%
Finished Wood Furnishings	1,064	0.8%	0.4%	Carpet Padding	399	0.3%	0.1%
Aggregates, Rock, Soil	29,911	23.5%		Green Debris	2,635	2.1%	
Concrete	4,187	3.3%	1.2%	Yard Waste	1,094	0.9%	0.4%
Asphalt Paving	474	0.4%	0.4%	Large Prunings	1,022	0.8%	0.8%
Other Aggregates	3,074	2.4%	1.1%	Stumps	519	0.4%	0.5%
Rock and Gravel	539	0.4%	0.3%	Other Organics	589	0.5%	
Dirt and Sand	2,240	1.8%	1.0%	Food	0	0.0%	0.0%
Clean Gypsum Board	7,251	5.7%	2.6%	Textiles	589	0.5%	0.4%
Painted/Demolition Gypsum	12,146	9.6%	2.3%	Hazardous Materials	61	0.0%	
Asphalt Roofing	21,398	16.8%		Oil Paint	0	0.0%	0.0%
Composition Roofing	17,480	13.8%	2.1%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	3,918	3.1%	1.5%	Used Oil	0	0.0%	0.0%
Metal	4,963	3.9%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	4	0.0%	0.0%	Other Household Hazardous	61	0.0%	0.1%
HVAC Ducting	109	0.1%	0.0%	Other Materials w/ Little or No Value	14,193	11.2%	
Major Appliances	44	0.0%	0.0%	Cellulose Insulation	26	0.0%	0.0%
Other Ferrous Metal	3,490	2.7%	0.7%	Mixed/Other Paper	1,288	1.0%	0.6%
Aluminum Cans	24	0.0%	0.0%	Mixed/Other Glass	1,323	1.0%	0.7%
Other Non-Ferrous Metal	753	0.6%	0.3%	Furniture and Mattresses	654	0.5%	0.5%
Mixed/Other Metal	538	0.4%	0.2%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	4,976	3.9%		Nondistinct Fines	1,199	0.9%	0.5%
Uncoated Corrugated Cardboard	2,857	2.2%	0.6%	MSW	1,502	1.2%	0.4%
Other Recyclable Paper	1,847	1.5%	0.4%	Other Waste	75	0.1%	0.1%
Glass Bottles and Containers	72	0.1%	0.1%	Fiberglass Insulation	313	0.2%	0.1%
Sm. Appliances & Personal Electronics	32	0.0%	0.0%	Expanded Polystyrene Insulation	465	0.4%	0.2%
Computer-related Electronics	10	0.0%	0.0%	Mixed/Other C&D	7,349	5.8%	1.5%
TV's & Other CRTs	125	0.1%	0.1%	Totals	127,051	100%	
Latex Paint	17	0.0%	0.0%	Number of Samples	340		
Tires	17	0.0%	0.0%				

Error range calculated at a 90% confidence level

2.4 Intermodal Containers Hauled to Railheads

A total of 25 intermodal containers were characterized during the study period. Approximately 31,773 tons were disposed of in intermodal containers during the study period. As shown in Figure 2-2, **Painted and Treated Wood** accounted for almost 30% of C&D materials disposed in intermodal containers, while **Aggregates, Rock and Soil** and **Clean Wood** comprised approximately 22% and 17% of intermodal container materials, respectively.

Figure 2-2. Composition Summary – Intermodal Containers



As shown in Table 2-4, *painted/stained wood* (23.9%), *painted/demolition gypsum* (17.8%), and *mixed/other c&d* (11.7%) were the most prevalent material components disposed in intermodal containers. When added together, all of the top ten components summed to approximately 85% of the total, by weight. The full composition results for intermodal loads are presented in Table 2-5.

Table 2-4. Top Ten Components – Intermodal Containers

MATERIAL	MEAN	CUM %	TONS
Painted/Stained Wood	23.9%	23.9%	7,588
Painted/Demolition Gypsum	17.8%	41.7%	5,663
Mixed/Other C&D	11.7%	53.4%	3,702
Other Recyclable Wood	8.9%	62.3%	2,840
Composition Roofing	5.2%	67.4%	1,637
Painted/Stained Wood Siding	5.1%	72.6%	1,622
Other Non-Ferrous Metal	4.5%	77.0%	1,415
Other Asphalt Roofing	2.8%	79.8%	891
Other Aggregates	2.6%	82.4%	817
Clean Dimensional Lumber >~16"	2.5%	84.9%	788
Subtotal	84.9%		26,964
<i>All Other Materials Combined</i>	<i>15.1%</i>		<i>4,809</i>
Total	100.0%		31,773

Table 2-5. Composition by Weight – Intermodal Containers

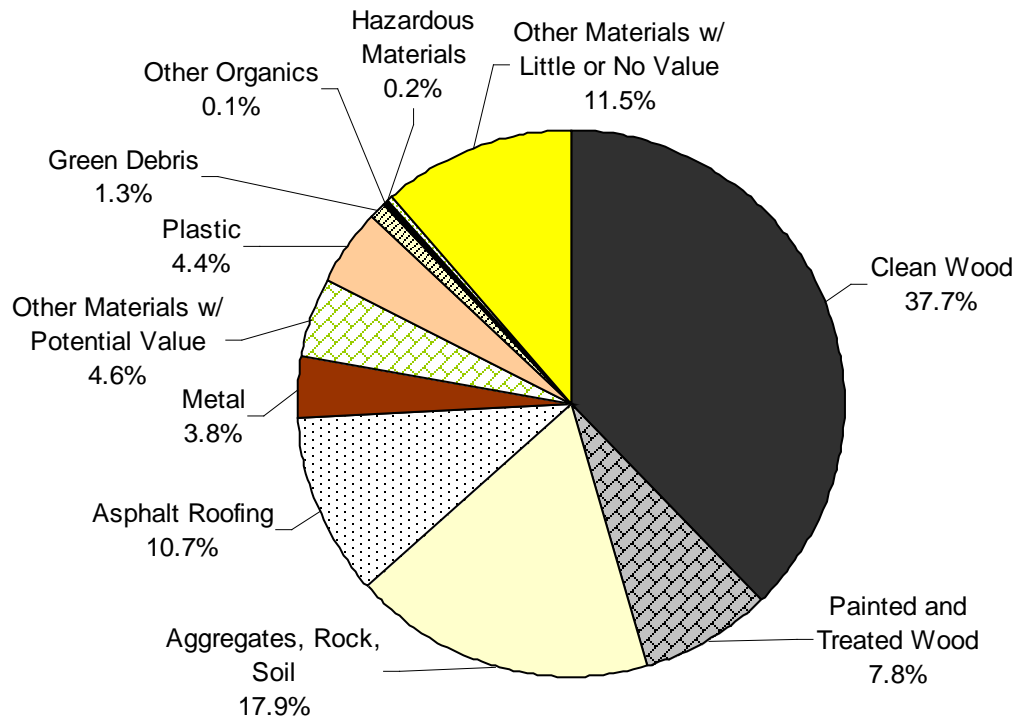
Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	5,281	16.6%		Plastic	351	1.1%	
Clean Dimensional Lumber >-16"	788	2.5%	0.6%	PET Bottles	0	0.0%	0.0%
Clean Dimensional Lumber <-16"	426	1.3%	0.9%	HDPE Bottles	0	0.0%	0.0%
Clean Engineered Wood	755	2.4%	1.6%	Other Plastic Containers	0	0.0%	0.0%
Pallets and Crates	0	0.0%	0.0%	5 Gallons #2 Buckets	0	0.0%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	0	0.0%	0.0%
Wood Roofing	472	1.5%	2.2%	Trash Bags Grocery/ Merch. Bags	0	0.0%	0.0%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	0	0.0%	0.0%
Other Recyclable Wood	2,840	8.9%	1.9%	Plastic Sheeting & Ag. Film	10	0.0%	0.0%
Painted and Treated Wood	9,438	29.7%		Other Film	2	0.0%	0.0%
Painted/Stained Wood Siding	1,622	5.1%	4.1%	Plastic Piping	7	0.0%	0.0%
Painted/Stained Wood	7,588	23.9%	6.6%	Other Plastic Products	42	0.1%	0.1%
Creosote-treated Wood	0	0.0%	0.0%	Mixed/Other Plastic	10	0.0%	0.0%
Other Treated Wood	228	0.7%	0.6%	Carpet	242	0.8%	0.3%
Finished Wood Furnishings	0	0.0%	0.0%	Carpet Padding	36	0.1%	0.1%
Aggregates, Rock, Soil	7,107	22.4%		Green Debris	115	0.4%	
Concrete	105	0.3%	0.4%	Yard Waste	109	0.3%	0.3%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	5	0.0%	0.0%
Other Aggregates	817	2.6%	2.4%	Stumps	1	0.0%	0.0%
Rock and Gravel	153	0.5%	0.8%	Other Organics	3	0.0%	
Dirt and Sand	369	1.2%	1.2%	Food	0	0.0%	0.0%
Clean Gypsum Board	0	0.0%	0.0%	Textiles	3	0.0%	0.0%
Painted/Demolition Gypsum	5,663	17.8%	3.2%	Hazardous Materials	0	0.0%	
Asphalt Roofing	2,528	8.0%		Oil Paint	0	0.0%	0.0%
Composition Roofing	1,637	5.2%	3.3%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	891	2.8%	1.1%	Used Oil	0	0.0%	0.0%
Metal	1,804	5.7%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	0	0.0%	0.0%	Other Household Hazardous	0	0.0%	0.0%
HVAC Ducting	18	0.1%	0.1%	Other Materials w/ Little or No Value	5,134	16.2%	
Major Appliances	10	0.0%	0.0%	Cellulose Insulation	0	0.0%	0.0%
Other Ferrous Metal	220	0.7%	0.3%	Mixed/Other Paper	7	0.0%	0.0%
Aluminum Cans	0	0.0%	0.0%	Mixed/Other Glass	351	1.1%	1.2%
Other Non-Ferrous Metal	1,415	4.5%	0.5%	Furniture and Mattresses	11	0.0%	0.0%
Mixed/Other Metal	140	0.4%	0.1%	Ash	447	1.4%	2.3%
Other Materials w/ Potential Value	11	0.0%		Nondistinct Fines	88	0.3%	0.5%
Uncoated Corrugated Cardboard	1	0.0%	0.0%	MSW	3	0.0%	0.0%
Other Recyclable Paper	2	0.0%	0.0%	Other Waste	0	0.0%	0.0%
Glass Bottles and Containers	8	0.0%	0.0%	Fiberglass Insulation	524	1.7%	0.1%
Sm. Appliances & Personal Electronics	0	0.0%	0.0%	Expanded Polystyrene Insulation	0	0.0%	0.0%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	3,702	11.7%	2.5%
TV's & Other CRTs	0	0.0%	0.0%	Totals	31,773	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	25		
Tires	0	0.0%	0.0%	<i>Error range calculated at a 90% confidence level</i>			

2.5 Processed C&D Materials

For this study 302 processed C&D loads were characterized between September 2007 and August 2008 at five processing facilities. These facilities processed a total of 222,117 tons of C&D materials from King County.

As shown in Figure 2-3, the largest material class, **Clean Wood**, accounted for an estimated 38% of processed C&D materials, **Aggregates, Rock and Soil** comprised about 18% of the total, and **Other Materials with Little or No Value** comprised about 12%, by weight.

Figure 2-3. Composition Summary – Overall Processed C&D



The ten most prevalent materials in King County's overall processed C&D stream are listed in Table 2-6. When summed, they accounted for approximately 65% of the overall processed C&D tonnage. The most prevalent material components were *clean engineered wood* (14.2%), *clean dimensional lumber greater than 16"* (8.9%), and *composition roofing* (8.1%). The detailed results are presented in Table 2-7.

Table 2-6. Top Ten Components – Overall Processed C&D

MATERIAL	MEAN	CUM %	TONS
Clean Engineered Wood	14.2%	14.2%	31,467
Clean Dimensional Lumber >~16"	8.9%	23.1%	19,872
Composition Roofing	8.1%	31.2%	18,003
Pallets and Crates	6.7%	37.9%	14,826
Painted/Demolition Gypsum	6.3%	44.2%	14,075
Painted/Stained Wood	5.0%	49.2%	11,129
Mixed/Other C&D	4.9%	54.2%	10,994
Clean Gypsum Board	4.0%	58.2%	8,926
Concrete	3.5%	61.7%	7,807
Other Recyclable Wood	2.9%	64.7%	6,541
Subtotal	64.7%		143,641
<i>All Other Materials Combined</i>	35.3%		78,476
Total	100.0%		222,117

Table 2-7. Composition by Weight – Overall Processed C&D

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	83,701	37.7%		Plastic	9,787	4.4%	
Clean Dimensional Lumber >-16"	19,872	8.9%	1.4%	PET Bottles	19	0.0%	0.0%
Clean Dimensional Lumber <-16"	6,110	2.8%	0.6%	HDPE Bottles	3	0.0%	0.0%
Clean Engineered Wood	31,467	14.2%	1.9%	Other Plastic Containers	4	0.0%	0.0%
Pallets and Crates	14,826	6.7%	1.4%	5 Gallons #2 Buckets	141	0.1%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	93	0.0%	0.0%
Wood Roofing	4,802	2.2%	1.2%	Trash Bags Grocery/ Merch. Bags	139	0.1%	0.0%
Unfinished Wood Furnishings	84	0.0%	0.0%	Non-Bag Packaging Film	562	0.3%	0.2%
Other Recyclable Wood	6,541	2.9%	1.4%	Plastic Sheeting & Ag. Film	1,533	0.7%	0.1%
Painted and Treated Wood	17,241	7.8%		Other Film	116	0.1%	0.0%
Painted/Stained Wood Siding	4,564	2.1%	0.9%	Plastic Piping	3,227	1.5%	0.6%
Painted/Stained Wood	11,129	5.0%	1.4%	Other Plastic Products	861	0.4%	0.2%
Creosote-treated Wood	16	0.0%	0.0%	Mixed/Other Plastic	295	0.1%	0.2%
Other Treated Wood	405	0.2%	0.1%	Carpet	2,447	1.1%	0.6%
Finished Wood Furnishings	1,126	0.5%	0.2%	Carpet Padding	347	0.2%	0.1%
Aggregates, Rock, Soil	39,833	17.9%		Green Debris	2,972	1.3%	
Concrete	7,807	3.5%	1.5%	Yard Waste	2,749	1.2%	0.8%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	223	0.1%	0.1%
Other Aggregates	3,546	1.6%	0.8%	Stumps	0	0.0%	0.0%
Rock and Gravel	246	0.1%	0.1%	Other Organics	304	0.1%	
Dirt and Sand	5,232	2.4%	1.6%	Food	130	0.1%	0.1%
Clean Gypsum Board	8,926	4.0%	2.0%	Textiles	174	0.1%	0.1%
Painted/Demolition Gypsum	14,075	6.3%	1.6%	Hazardous Materials	405	0.2%	
Asphalt Roofing	23,678	10.7%		Oil Paint	0	0.0%	0.0%
Composition Roofing	18,003	8.1%	1.7%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	5,675	2.6%	1.7%	Used Oil	0	0.0%	0.0%
Metal	8,506	3.8%		Batteries	36	0.0%	0.0%
Tin/Steel Cans	12	0.0%	0.0%	Other Household Hazardous	369	0.2%	0.3%
HVAC Ducting	755	0.3%	0.5%	Other Materials w/ Little or No Value	25,575	11.5%	
Major Appliances	121	0.1%	0.1%	Cellulose Insulation	3	0.0%	0.0%
Other Ferrous Metal	5,777	2.6%	1.3%	Mixed/Other Paper	1,567	0.7%	0.4%
Aluminum Cans	24	0.0%	0.0%	Mixed/Other Glass	1,377	0.6%	0.4%
Other Non-Ferrous Metal	850	0.4%	0.2%	Furniture and Mattresses	447	0.2%	0.2%
Mixed/Other Metal	967	0.4%	0.2%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	10,116	4.6%		Nondistinct Fines	4,133	1.9%	0.8%
Uncoated Corrugated Cardboard	3,600	1.6%	0.5%	MSW	5,549	2.5%	0.8%
Other Recyclable Paper	3,207	1.4%	0.7%	Other Waste	677	0.3%	0.5%
Glass Bottles and Containers	4	0.0%	0.0%	Fiberglass Insulation	515	0.2%	0.2%
Sm. Appliances & Personal Electronics	48	0.0%	0.0%	Expanded Polystyrene Insulation	313	0.1%	0.1%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	10,994	4.9%	1.4%
TV's & Other CRTs	7	0.0%	0.0%	Totals	222,117	100%	
Latex Paint	258	0.1%	0.1%	Number of Samples	302		
Tires	2,990	1.3%	1.4%				<i>Error range calculated at a 90% confidence level</i>

2.6 Composition Results for Processing Residuals

A total of 80 residual samples were characterized from the recycling sorting line at the Cascade Recycling Center, CDL Recycle, and Eastmont facilities during the study period. An estimated 36,551 tons of residuals were generated at the selected facilities during the study period. As shown in Figure 2-4, **Other Materials with Little or No Value** accounted for approximately 44% of material in the residual stream, while **Aggregates, Rock and Soil** made up about 16%, and **Clean Wood** represented about 14% of this stream.

Figure 2-4. Composition Summary – Residuals

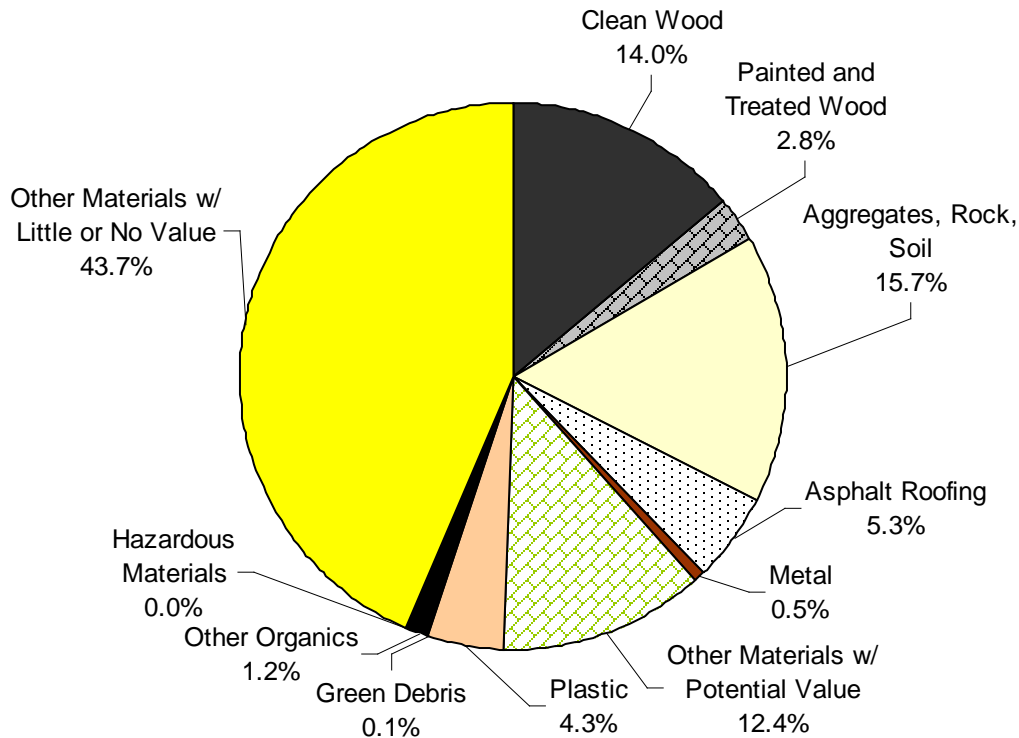


Table 2-8. Top Ten Components – Residuals

MATERIAL	MEAN	CUM %	TONS
Nondistinct Fines	30.6%	30.6%	11,178
Other Recyclable Paper	11.6%	42.1%	4,223
Other Recyclable Wood	8.8%	50.9%	3,219
Mixed/Other C&D	7.1%	58.0%	2,587
Dirt and Sand	6.8%	64.8%	2,473
Composition Roofing	5.0%	69.8%	1,833
Mixed/Other Paper	4.5%	74.3%	1,628
Clean Gypsum Board	3.8%	78.0%	1,383
Painted/Demolition Gypsum	3.0%	81.0%	1,089
Painted/Stained Wood	2.4%	83.4%	890
Subtotal	83.4%		30,502
<i>All Other Materials Combined</i>	16.6%		6,049
Total	100.0%		36,551

As shown in Table 2-8, *nondistinct fines* (30.6%) was the most prevalent material component of C&D residuals. The second largest material component was *other recyclable paper* which made up about 12%. The full composition results for residuals are presented in Table 2-9.

Table 2-9. Composition by Weight – Residuals

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	5,100	14.0%		Plastic	1,569	4.3%	
Clean Dimensional Lumber >-16"	96	0.3%	0.5%	PET Bottles	13	0.0%	0.0%
Clean Dimensional Lumber <-16"	671	1.8%	1.5%	HDPE Bottles	0	0.0%	0.0%
Clean Engineered Wood	332	0.9%	0.6%	Other Plastic Containers	8	0.0%	0.0%
Pallets and Crates	702	1.9%	2.7%	5 Gallons #2 Buckets	22	0.1%	0.1%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	208	0.6%	0.4%
Wood Roofing	80	0.2%	0.2%	Trash Bags Grocery/ Merch. Bags	23	0.1%	0.1%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	96	0.3%	0.3%
Other Recyclable Wood	3,219	8.8%	8.5%	Plastic Sheeting & Ag. Film	502	1.4%	0.7%
Painted and Treated Wood	1,033	2.8%		Other Film	29	0.1%	0.1%
Painted/Stained Wood Siding	86	0.2%	0.3%	Plastic Piping	264	0.7%	0.6%
Painted/Stained Wood	890	2.4%	1.5%	Other Plastic Products	12	0.0%	0.0%
Creosote-treated Wood	0	0.0%	0.0%	Mixed/Other Plastic	52	0.1%	0.1%
Other Treated Wood	58	0.2%	0.2%	Carpet	269	0.7%	0.6%
Finished Wood Furnishings	0	0.0%	0.0%	Carpet Padding	71	0.2%	0.2%
Aggregates, Rock, Soil	5,724	15.7%		Green Debris	45	0.1%	
Concrete	365	1.0%	1.2%	Yard Waste	45	0.1%	0.1%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	0	0.0%	0.0%
Other Aggregates	395	1.1%	1.1%	Stumps	0	0.0%	0.0%
Rock and Gravel	20	0.1%	0.1%	Other Organics	434	1.2%	
Dirt and Sand	2,473	6.8%	4.5%	Food	0	0.0%	0.0%
Clean Gypsum Board	1,383	3.8%	2.6%	Textiles	434	1.2%	1.0%
Painted/Demolition Gypsum	1,089	3.0%	1.5%	Hazardous Materials	0	0.0%	
Asphalt Roofing	1,947	5.3%		Oil Paint	0	0.0%	0.0%
Composition Roofing	1,833	5.0%	4.1%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	114	0.3%	0.5%	Used Oil	0	0.0%	0.0%
Metal	195	0.5%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	0	0.0%	0.0%	Other Household Hazardous	0	0.0%	0.0%
HVAC Ducting	0	0.0%	0.0%	Other Materials w/ Little or No Value	15,988	43.7%	
Major Appliances	0	0.0%	0.0%	Cellulose Insulation	0	0.0%	0.0%
Other Ferrous Metal	110	0.3%	0.2%	Mixed/Other Paper	1,628	4.5%	4.2%
Aluminum Cans	0	0.0%	0.0%	Mixed/Other Glass	138	0.4%	0.6%
Other Non-Ferrous Metal	44	0.1%	0.2%	Furniture and Mattresses	0	0.0%	0.0%
Mixed/Other Metal	41	0.1%	0.1%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	4,515	12.4%		Nondistinct Fines	11,178	30.6%	6.0%
Uncoated Corrugated Cardboard	292	0.8%	0.4%	MSW	338	0.9%	0.7%
Other Recyclable Paper	4,223	11.6%	9.1%	Other Waste	0	0.0%	0.0%
Glass Bottles and Containers	0	0.0%	0.0%	Fiberglass Insulation	58	0.2%	0.1%
Sm. Appliances & Personal Electronics	0	0.0%	0.0%	Expanded Polystyrene Insulation	61	0.2%	0.1%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	2,587	7.1%	3.6%
TV's & Other CRTs	0	0.0%	0.0%	Totals	36,551	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	80		
Tires	0	0.0%	0.0%	<i>Error range calculated at a 90% confidence level</i>			

3 Detailed Composition Results

Sampling results for all sampling groupings are included in this section. The results are divided into two sub-sections.

- The first sub-section includes data for **disposed** materials hauled to transfer stations by activity type, load type, hauler type, vehicle type, and season.
- The second sub-section includes composition profiles for **processed** loads by activity type, load type, hauler type, vehicle type, and season.

Results for all groupings include a pie chart by material class and a top ten table similar to the results presented in *Section 2: Summary of Findings*. Detailed composition tables for each grouping can be found in Appendix F.

All tonnage data in the following tables was calculated using a combination of King County Solid Waste Division provided total tonnage figures and data collected from the vehicle surveys.

Each load sampled in this study was categorized by substream, activity, load type, hauler type, vehicle type, and season and results can be aggregated by any category or combination of categories.

3.1 Disposed Materials Hauled to Transfer Stations

A total of 340 loads hauled to transfer stations for disposal were characterized from September 2007 to August 2008. These loads were stratified by activity type, load type, hauler type, vehicle type, and season. Table 3-1 summarizes the sample results for each of these strata. As shown, the average load weighed approximately 6,200 pounds.

Table 3-1. Overview of Transfer Station Disposed Substream Samples

Substream	<i>(All Weights in Pounds)</i>		
	Sample Count	Total Sample Weight	Average Sample Weight
Activity Type			
Demolition	68	493,980	7,264
New Construction	95	613,780	6,461
Other Construction	25	166,920	6,677
Remodel	96	530,639	5,527
Roofing	56	312,603	5,582
Load Type			
Residential	186	1,097,931	5,903
Nonresidential	139	887,171	6,383
Mixed Loads	5	42,700	8,540
Other Structure	10	90,120	9,012
Hauler Type			
Certificated Hauler	107	865,639	8,090
C&D Hauler	79	634,780	8,035
Business Self-haul	150	603,023	4,020
Residential Self-haul	4	14,480	3,620
Vehicle Type			
Drop Boxes	206	1,600,499	7,769
End Dumps	93	385,483	4,145
Other Large Vehicles	13	55,120	4,240
Pick-up/Passenger Vehicles	28	76,820	2,744
Season			
Fall	95	645,360	6,793
Winter	91	552,719	6,074
Spring	95	621,583	6,543
Summer	59	298,260	5,055
Total T. S. Disposed C&D Samples	340	2,117,922	6,229

This section presents composition estimates by activity type, load type, hauler types, vehicle type, and season for loads being disposed at transfer stations.

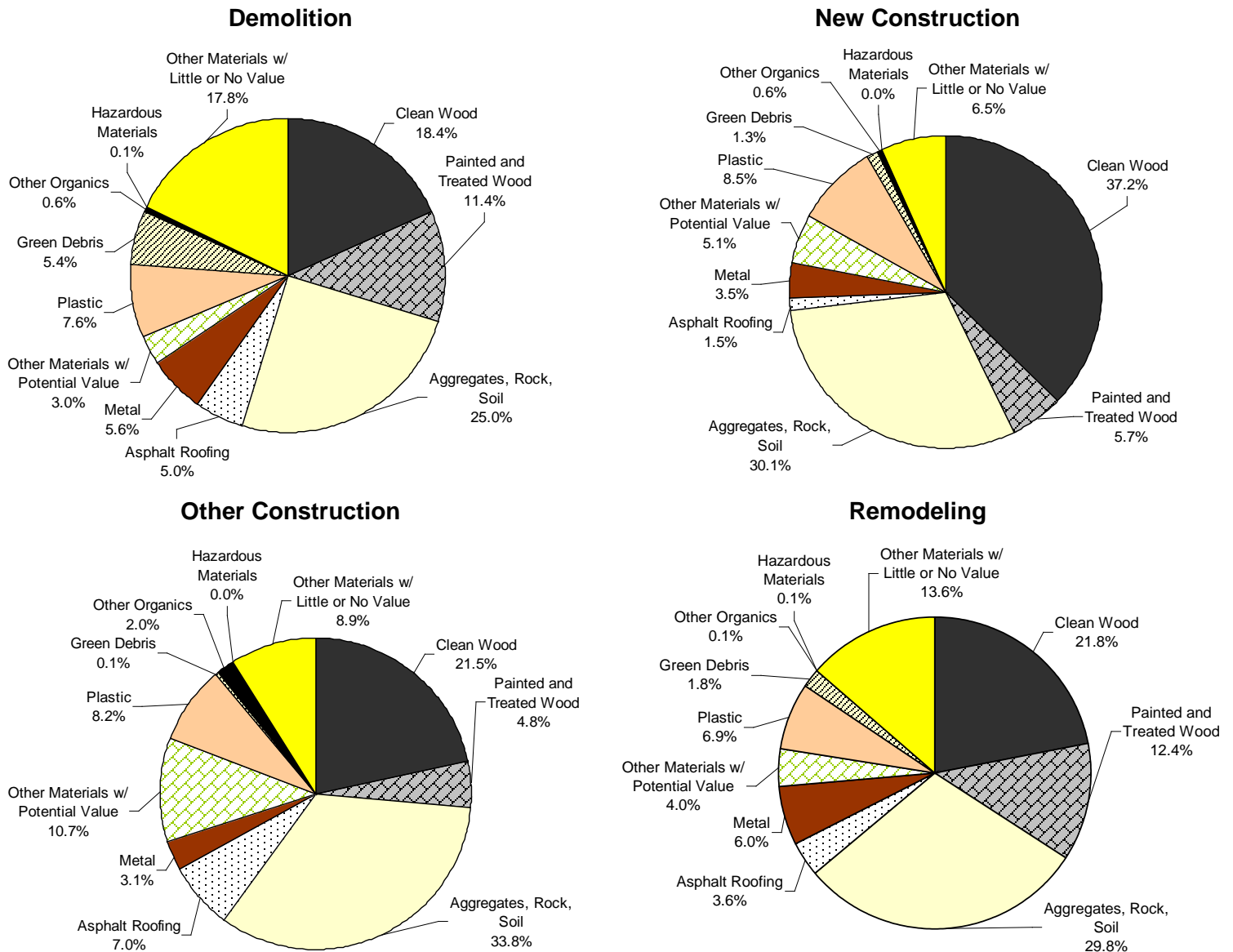
3.1.1 By Activity Type

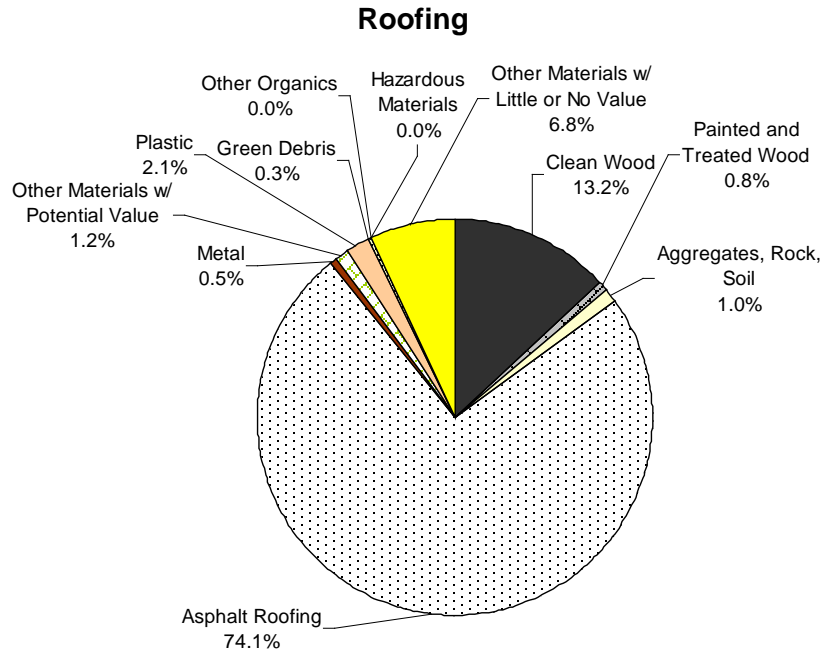
As shown in Figure 3-1, **Clean Wood** made up between approximately 18% and 37% of loads of demolition, new construction, other construction, and remodeling loads.

Roofing loads contained the highest percentage of **Asphalt Roofing** (74.1%).

Aggregates, Rock and Soil made up about 30% of new construction, other construction and remodeling loads while **Other Materials with Little or No Value** accounted for about 18% of demolition loads.

Figure 3-1. Transfer Station Disposed Composition Summary, by Activity Type





Demolition

In the 2007/2008 study period 68 demolition loads were sampled. Materials from demolition projects were estimated to amount to 27,991 tons during this time period. As shown in Table 3-2, *painted/demolition gypsum* and *mixed/other c&d* each accounted for approximately 12% of the materials disposed at transfer stations from demolition activities. When added together, the top ten components summed to approximately 62% of the total. The full composition results from demolition activities are presented in Appendix F.

Table 3-2. Top Ten Components – Transfer Station Disposed Demolition

MATERIAL	MEAN	CUM %	TONS
Painted/Demolition Gypsum	12.1%	12.1%	3,390
Mixed/Other C&D	11.7%	23.8%	3,278
Dirt and Sand	6.2%	30.0%	1,737
Clean Dimensional Lumber >~16"	6.1%	36.1%	1,712
Painted/Stained Wood	5.9%	42.0%	1,652
Clean Engineered Wood	4.6%	46.6%	1,287
Composition Roofing	4.5%	51.2%	1,272
Other Ferrous Metal	4.5%	55.7%	1,261
Nondistinct Fines	2.9%	58.6%	823
Plastic Sheeting & Ag. Film	2.9%	61.6%	817
Subtotal	61.6%		17,230
<i>All Other Materials Combined</i>	<i>38.4%</i>		<i>10,762</i>
Total	100.0%		27,991

New Construction

A total of 95 loads were characterized from new construction projects during the 2007/2008 study period. An estimated 38,110 tons of C&D materials were attributable to this activity type. *Clean engineered wood, clean gypsum board, painted/demolition gypsum, and clean dimensional lumber greater than 16”* each accounted for more than 10% of this activity type (Table 3-3). When added together, the top ten components summed to approximately 74% of the total. The full composition results from new construction activities are presented in Appendix F.

Table 3-3. Top Ten Components – Transfer Station Disposed New Construction

MATERIAL	MEAN	CUM %	TONS
Clean Engineered Wood	15.7%	15.7%	5,986
Clean Gypsum Board	12.9%	28.6%	4,898
Painted/Demolition Gypsum	10.4%	39.0%	3,974
Clean Dimensional Lumber >~16"	10.4%	49.4%	3,965
Pallets and Crates	5.0%	54.4%	1,908
Painted/Stained Wood	4.7%	59.1%	1,781
Concrete	4.3%	63.4%	1,645
Plastic Piping	3.9%	67.2%	1,470
Uncoated Corrugated Cardboard	3.5%	70.7%	1,328
Clean Dimensional Lumber <~16"	3.5%	74.2%	1,319
Subtotal	74.2%		28,273
<i>All Other Materials Combined</i>	<i>25.8%</i>		<i>9,837</i>
Total	100.0%		38,110

Other Construction

A total of 25 other construction loads were characterized during the 2007/2008 study period. Materials from these projects totaled 7,625 tons. *Concrete* was the most prevalent individual material component, accounting for more than 15% of the materials from these projects (Table 3-4). The next most prevalent material component, *clean engineered wood*, was about half as prevalent (8.2%). When added together, the top ten components summed to approximately 72% of the total. The full composition results from other construction activities are presented in Appendix F.

Table 3-4. Top Ten Components – Transfer Station Disposed Other Construction

MATERIAL	MEAN	CUM %	TONS
Concrete	15.4%	15.4%	1,173
Clean Engineered Wood	8.2%	23.5%	622
Painted/Demolition Gypsum	8.1%	31.6%	615
Other Aggregates	7.4%	39.0%	562
Pallets and Crates	7.2%	46.2%	548
Composition Roofing	7.0%	53.2%	534
Uncoated Corrugated Cardboard	5.6%	58.8%	428
Other Recyclable Paper	4.9%	63.7%	377
MSW	4.8%	68.5%	364
Clean Dimensional Lumber >~16"	3.0%	71.5%	226
Subtotal	71.5%		5,449
<i>All Other Materials Combined</i>	<i>28.5%</i>		<i>2,176</i>
Total	100.0%		7,625

Remodeling

During the 2007/2008 study period, 96 vehicles hauling remodeling materials were characterized. Materials from this activity were estimated at approximately 29,869 tons. As shown in Table 3-5, the two most prevalent components were *painted/demolition gypsum* (15.9%) and *clean dimensional lumber greater than 16"* (7.6%). The full composition results from remodeling activities are presented in Appendix F.

Table 3-5. Top Ten Components – Transfer Station Disposed Remodeling

MATERIAL	MEAN	CUM %	TONS
Painted/Demolition Gypsum	15.9%	15.9%	4,738
Clean Dimensional Lumber >~16"	7.6%	23.4%	2,260
Mixed/Other C&D	7.1%	30.5%	2,116
Painted/Stained Wood	6.8%	37.3%	2,028
Clean Engineered Wood	5.2%	42.5%	1,552
Other Aggregates	4.4%	46.9%	1,328
Pallets and Crates	4.2%	51.2%	1,261
Clean Gypsum Board	3.9%	55.1%	1,171
Painted/Stained Wood Siding	3.8%	58.9%	1,141
Carpet	3.7%	62.6%	1,112
Subtotal	62.6%		18,707
<i>All Other Materials Combined</i>	<i>37.4%</i>		<i>11,163</i>
Total	100.0%		29,869

Roofing

A total of 56 roofing loads were characterized during the 2007/2008 study. An estimated 23,455 tons of transfer station disposed materials were generated from roofing activities in 2007/2008. *Composition roofing* (55.2%) and *other asphalt roofing* (18.9%) were the most prevalent material components for this activity type (Table 3-6). When added together, the top ten components summed to approximately 96% of the total, by weight. The full composition results from roofing activities are presented in Appendix F.

Table 3-6. Top Ten Components – Transfer Station Disposed Roofing

MATERIAL	MEAN	CUM %	TONS
Composition Roofing	55.2%	55.2%	12,944
Other Asphalt Roofing	18.9%	74.1%	4,425
Wood Roofing	11.0%	85.1%	2,588
Mixed/Other C&D	3.1%	88.2%	729
Mixed/Other Paper	2.5%	90.7%	595
Clean Engineered Wood	1.5%	92.2%	340
Expanded Polystyrene Packaging	1.3%	93.5%	303
Other Recyclable Paper	1.0%	94.5%	231
Clean Gypsum Board	0.9%	95.4%	219
Expanded Polystyrene Insulation	0.5%	95.9%	110
Subtotal	95.9%		22,485
<i>All Other Materials Combined</i>	<i>4.1%</i>		<i>970</i>
Total	100.0%		23,455

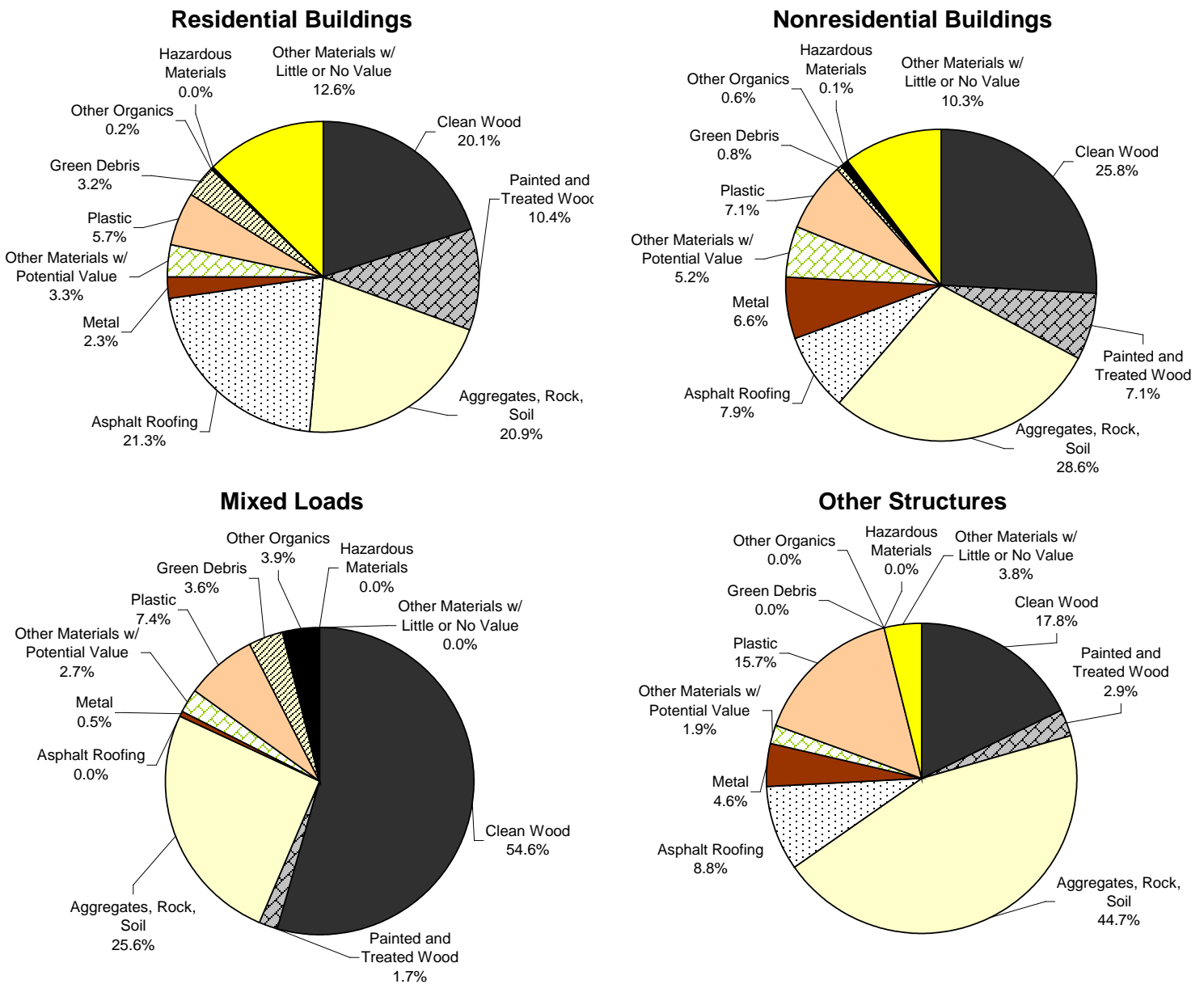
Comparison among Activity Types

Clean Engineered Wood was the only material component common to all activity types. *painted/demolition gypsum* was common to all activity types except roofing. Several material components only appeared in the top ten lists for one activity type: *plastic piping* for new construction projects, *carpet* for remodeling, *dirt and sand* and *nondistinct fines* from demolition loads, and *expanded polystyrene insulation* for roofing.

3.1.2 By Load Type

As shown in Figure 3-2, **Clean Wood** comprised at least 18% of C&D materials across all load types. Residential building loads contained the highest percentage of **Asphalt Roofing** (21.3%). More than 44% of transfer station disposed materials from other structures are **Aggregates, Rock and Soil**. Other structures also contained the highest percentage of **Plastic** (15.7%).

Figure 3-2. Transfer Station Disposed Composition Summary, by Load Type



Residential Buildings

A total of 186 transfer station disposed loads were characterized from residential buildings during the 2007/2008 study period. This type of construction resulted in the disposal of an estimated 68,808 tons in 2007/2008. As shown in Table 3-7 composition

roofing (16.7%) and *painted/demolition gypsum* (7.7%) were the most prevalent material components disposed at transfer stations from residential buildings in 2007/2008. When added together, the top ten components summed to approximately 65% of the total, by weight. The full composition results for residential buildings are presented in Appendix F.

Table 3-7. Top Ten Components – Transfer Station Disposed Residential Buildings

MATERIAL	MEAN	CUM %	TONS
Composition Roofing	16.7%	16.7%	11,509
Painted/Demolition Gypsum	7.7%	24.5%	5,324
Clean Engineered Wood	7.3%	31.8%	5,041
Mixed/Other C&D	6.2%	38.0%	4,276
Painted/Stained Wood	5.5%	43.5%	3,811
Clean Dimensional Lumber >~16"	5.3%	48.9%	3,663
Other Asphalt Roofing	4.6%	53.4%	3,139
Clean Gypsum Board	4.2%	57.7%	2,916
Dirt and Sand	3.8%	61.4%	2,590
Painted/Stained Wood Siding	3.4%	64.8%	2,315
Subtotal	64.8%		44,584
<i>All Other Materials Combined</i>	<i>35.2%</i>		<i>24,224</i>
Total	100.0%		68,808

Nonresidential Buildings

During the study period, 139 C&D loads from nonresidential buildings were characterized. Materials from nonresidential buildings were estimated to account for approximately 51,560 tons. As shown in Table 3-8, *painted/demolition gypsum* (14.4%) was the most prevalent material component. Other prevalent components included *clean dimensional lumber greater than 16"* (8.0%), *clean engineered wood* (7.6%) and *clean gypsum board* (6.2%). The full composition results for nonresidential buildings are presented in Appendix F.

Table 3-8. Top Ten Components – Transfer Station Disposed Nonresidential Buildings

MATERIAL	MEAN	CUM %	TONS
Painted/Demolition Gypsum	14.4%	14.4%	7,438
Clean Dimensional Lumber >~16"	8.0%	22.4%	4,122
Clean Engineered Wood	7.6%	30.0%	3,913
Clean Gypsum Board	6.2%	36.2%	3,185
Pallets and Crates	5.7%	41.8%	2,916
Mixed/Other C&D	5.2%	47.0%	2,685
Painted/Stained Wood	5.1%	52.2%	2,635
Composition Roofing	4.8%	57.0%	2,474
Other Ferrous Metal	4.7%	61.6%	2,412
Concrete	4.2%	65.8%	2,154
Subtotal	65.8%		33,934
<i>All Other Materials Combined</i>	<i>34.2%</i>		<i>17,627</i>
Total	100.0%		51,560

Mixed Loads

Five mixed loads were characterized during the 2007/2008 study. Because of the small sample size these results should be considered anecdotal in nature. Materials from this type of load accounted for approximately 2,501 tons. As shown in Table 3-9, *clean engineered wood* (31.0%), *clean dimensional lumber greater than 16"* (14.4%), *concrete* (13.1%), and *painted/demolition gypsum* (12.5%) each comprised more than 12% of these loads. When added together, all of the top ten components summed to approximately 94% of the total, by weight. The full composition results for mixed loads are presented in Appendix F.

Table 3-9. Top Ten Components – Transfer Station Disposed Mixed Loads

MATERIAL	MEAN	CUM %	TONS
Clean Engineered Wood	31.0%	31.0%	775
Clean Dimensional Lumber >~16"	14.4%	45.4%	361
Concrete	13.1%	58.5%	328
Painted/Demolition Gypsum	12.5%	71.1%	314
Clean Dimensional Lumber <~16"	8.3%	79.3%	206
Plastic Piping	4.4%	83.8%	111
Textiles	3.9%	87.6%	97
Yard Waste	2.6%	90.2%	65
Uncoated Corrugated Cardboard	2.2%	92.4%	55
Plastic Sheeting & Ag. Film	1.3%	93.8%	33
Subtotal	93.8%		2,345
<i>All Other Materials Combined</i>	6.2%		156
Total	100.0%		2,501

Other Structures

In 2007/2008, 10 loads from other structures were characterized. These results should be considered anecdotal in nature due to the small number of samples. Approximately 4,181 tons of materials were estimated to have been disposed at transfer stations from this load type. As shown in Table 3-10, *concrete* (27.2%), *other aggregates* (11.1%), *composition roofing* (8.8%), and *plastic piping* (7.8%) were the most prevalent material components disposed at transfer stations from other structures during the study period. When added together, the top ten components summed to approximately 87% of the total, by weight. The full composition results for other structures are presented in Appendix F.

Table 3-10. Top Ten Components – Transfer Station Disposed Other Structures

MATERIAL	MEAN	CUM %	TONS
Concrete	27.2%	27.2%	1,137
Other Aggregates	11.1%	38.3%	463
Composition Roofing	8.8%	47.1%	367
Plastic Piping	7.8%	54.9%	328
Pallets and Crates	7.6%	62.5%	317
Clean Engineered Wood	7.0%	69.5%	291
Painted/Demolition Gypsum	5.6%	75.0%	233
Plastic Sheeting & Ag. Film	4.6%	79.6%	191
Other Ferrous Metal	4.3%	83.9%	179
Clean Dimensional Lumber >~16"	2.9%	86.8%	122
Subtotal	86.8%		3,630
<i>All Other Materials Combined</i>	<i>13.2%</i>		<i>552</i>
Total	100.0%		4,181

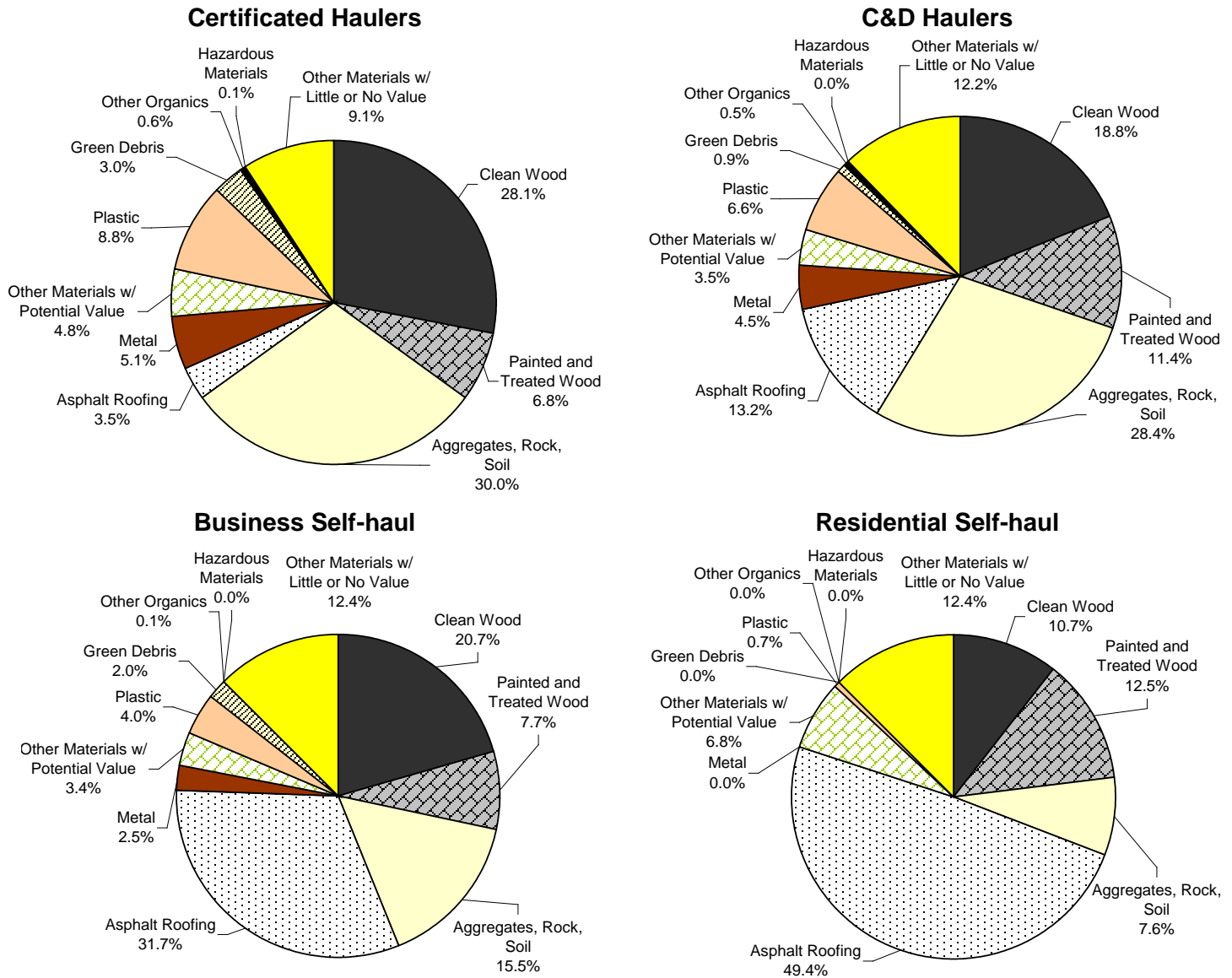
Comparisons among Load Types

Painted/demolition gypsum, clean engineered wood, and clean dimensional lumber greater than 16" were the only material components among the top ten for all load types. *Concrete* was among the top ten components in all load types except for residential buildings. *Composition roofing* was a top ten component in loads from residential buildings, nonresidential buildings, and other structures. *Other aggregates* was unique to the top ten components from other structures and *other asphalt roofing* was unique to residential loads.

3.1.3 By Hauler Type

As shown in Figure 3-3, **Clean Wood** made up at least 11% of loads from all four types of haulers and as much as 28% of certificated hauler loads. **Asphalt Roofing** accounted for nearly half (49.4%) of residential self-haul loads and was almost one-third (31.7%) of business self-haul loads.

Figure 3-3. Transfer Station Disposed Composition Summary, by Hauler Type



Certificated Haulers

A total of 107 loads were characterized from certificated haulers during the 2007/2008 study period. As shown in Table 3-11, *painted/demolition gypsum* (10.7%) and *clean engineered wood* (10.3%) each comprised more than 10% of the materials disposed at transfer stations by certificated haulers in 2007. When added together, the top ten

material components summed to approximately 61% of the total, by weight. The full composition results from certificated haulers are presented in Appendix F.

Table 3-11. Top Ten Components – Transfer Station Disposed Certificated Haulers

MATERIAL	MEAN	CUM %	TONS
Painted/Demolition Gypsum	10.7%	10.7%	4,753
Clean Engineered Wood	10.3%	21.1%	4,582
Clean Dimensional Lumber >~16"	8.9%	30.0%	3,950
Concrete	6.4%	36.3%	2,816
Painted/Stained Wood	4.3%	40.6%	1,901
Mixed/Other C&D	4.2%	44.8%	1,863
Pallets and Crates	4.2%	49.0%	1,859
Clean Gypsum Board	4.0%	53.0%	1,768
Other Aggregates	3.8%	56.8%	1,670
Other Ferrous Metal	3.7%	60.5%	1,645
Subtotal	60.5%		26,807
<i>All Other Materials Combined</i>	<i>39.5%</i>		<i>17,523</i>
Total	100.0%		44,330

C&D Haulers

A total of 79 samples were characterized from C&D hauler disposed loads during the 2007/2008 study period. C&D haulers are companies whose principal business includes the hauling of construction and demolition materials, usually for large C&D contractors. As shown in Table 3-12, *painted/demolition gypsum* (16.5%) was the most prevalent material component. In total, the ten most prevalent materials comprised nearly two-thirds (63.2%) of the materials disposed at transfer stations by C&D haulers. The full composition results from C&D haulers are presented in Appendix F.

Table 3-12: Top Ten Components – Transfer Station Disposed C&D Haulers

MATERIAL	MEAN	CUM %	TONS
Painted/Demolition Gypsum	16.5%	16.5%	5,193
Composition Roofing	8.7%	25.2%	2,744
Painted/Stained Wood	6.3%	31.6%	1,992
Clean Engineered Wood	5.3%	36.9%	1,668
Clean Gypsum Board	4.9%	41.8%	1,533
Clean Dimensional Lumber >~16"	4.8%	46.6%	1,507
Mixed/Other C&D	4.8%	51.3%	1,501
Other Asphalt Roofing	4.5%	55.8%	1,410
Pallets and Crates	4.1%	59.9%	1,281
Concrete	3.3%	63.2%	1,041
Subtotal	63.2%		19,870
<i>All Other Materials Combined</i>	<i>36.8%</i>		<i>11,570</i>
Total	100.0%		31,441

Business Self-haul

During the 2007/2008 study, 150 business self-haul loads were characterized. As shown in Table 3-13, *composition roofing* was the most prevalent material component for this hauler type, accounting for about 24% of the total, by weight. *Mixed/other c&d* and *other asphalt roofing* each made up about 8% of the material disposed at transfer stations from business self-haul in 2007/2008. When added together, the top ten components summed to about three-quarters (73.3%) of the total materials from these vehicles. The full composition results for business self-haul transfer station disposed loads are presented in Appendix F.

Table 3-13. Top Ten Components – Transfer Station Disposed Business Self-haul

MATERIAL	MEAN	CUM %	TONS
Composition Roofing	24.1%	24.1%	11,993
Mixed/Other C&D	7.9%	32.0%	3,949
Other Asphalt Roofing	7.6%	39.6%	3,792
Clean Engineered Wood	7.1%	46.7%	3,549
Clean Gypsum Board	6.1%	52.8%	3,033
Clean Dimensional Lumber >~16"	5.0%	57.8%	2,504
Painted/Stained Wood	4.8%	62.6%	2,374
Painted/Demolition Gypsum	4.2%	66.8%	2,100
Wood Roofing	3.6%	70.4%	1,779
Dirt and Sand	2.9%	73.3%	1,450
Subtotal	73.3%		36,522
<i>All Other Materials Combined</i>	<i>26.7%</i>		<i>13,301</i>
Total	100.0%		49,823

Residential Self-haul

A total of four samples were characterized from residential self-haul transfer station disposed loads during the study period. Because of the small sample size, these results should be considered anecdotal in nature. As shown in Table 3-14, *composition roofing* (43.1%) was the most prevalent material component, more than five times as prevalent as the next material component, *clean engineered wood* (8.0%). The top ten components combined accounted for approximately 92% of residential self-haul C&D materials disposed at transfer stations. The full composition results from residential self-haul loads are presented in Appendix F.

Table 3-14. Top Ten Components – Transfer Station Disposed Residential Self-haul

MATERIAL	MEAN	CUM %	TONS
Composition Roofing	43.1%	43.1%	627
Clean Engineered Wood	8.0%	51.1%	117
Concrete	7.6%	58.7%	111
Other Asphalt Roofing	6.3%	65.0%	92
Mixed/Other C&D	6.2%	71.2%	91
Finished Wood Furnishings	5.4%	76.7%	79
Other Recyclable Paper	5.4%	82.1%	79
Painted/Stained Wood	5.1%	87.1%	74
MSW	2.6%	89.7%	38
Clean Dimensional Lumber >~16"	2.0%	91.8%	30
Subtotal	91.8%		1,337
<i>All Other Materials Combined</i>	<i>8.2%</i>		<i>120</i>
Total	100.0%		1,457

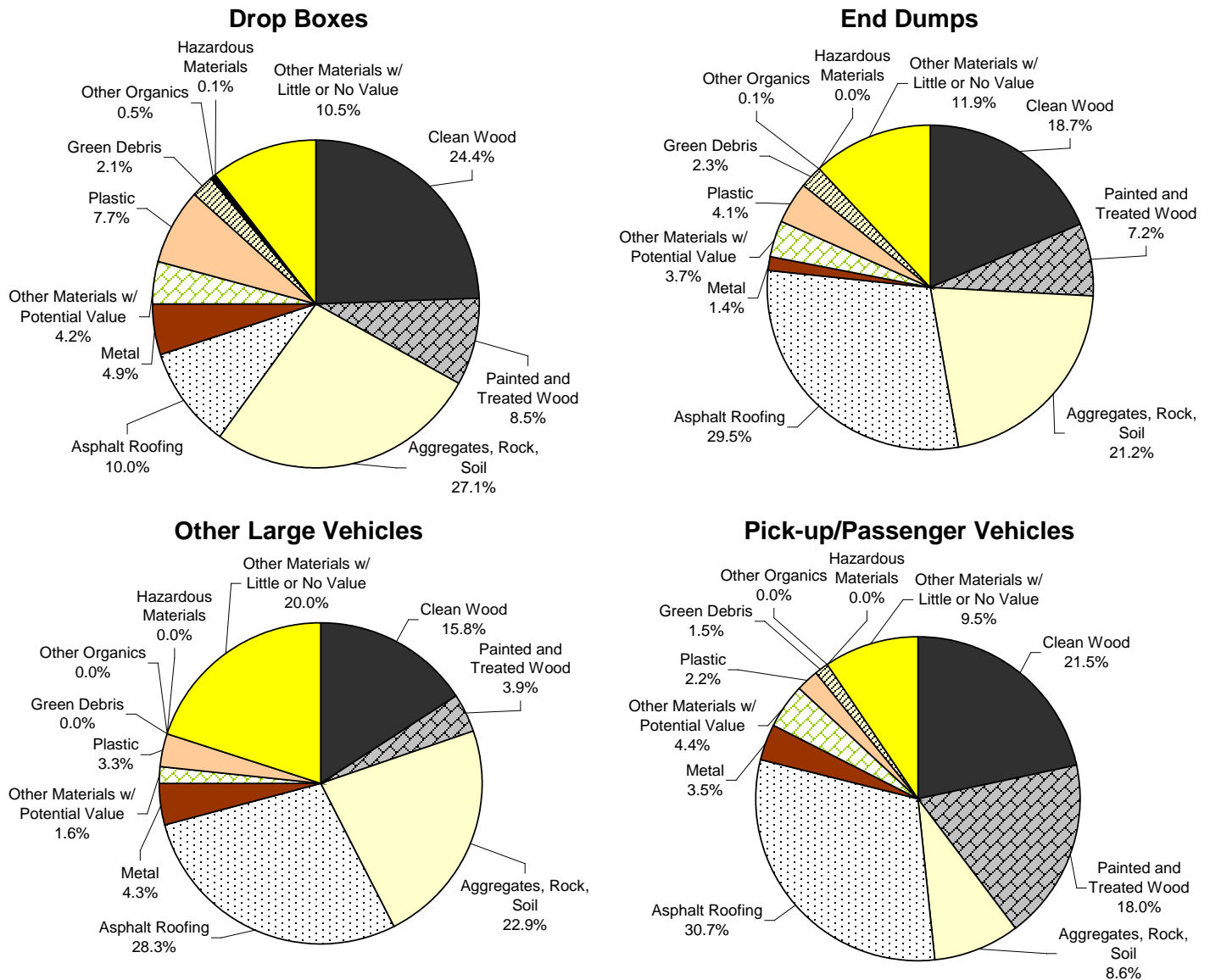
Comparisons among Hauler Types

Clean engineered wood, clean dimensional lumber greater than 16", painted/stained wood, and mixed/other c&d appeared in the top ten lists for all four hauler types. *Concrete* appeared in the top ten lists for all hauler types except for business self-haul, *painted demolition gypsum* and *clean gypsum board* appeared in the top ten lists for all hauler types except for residential self-haul, while *composition roofing* and *other asphalt roofing* were common to each hauler type other than certificated haulers. *Other aggregates* and *other ferrous metal* were only found in the top ten list for certificated haulers. Similarly *dirt and sand* was unique to business self-haul, and *MSW* was found only in the residential self-haul top ten list.

3.1.4 By Vehicle Type

As shown in Figure 3-4, **Clean Wood** made up a large portion of all vehicle type loads except other large vehicles, between 16% and 24%. **Asphalt Roofing** was more than 28% of loads from all vehicle types except drop boxes. **Painted and Treated Wood** made up about 18% of pick-up/passenger vehicle loads. **Aggregates, Rock and Soil** accounted for about 27% of drop box loads.

Figure 3-4. Transfer Station Disposed Composition Summary, by Vehicle Type



Drop Boxes

A total of 206 drop box loads were characterized during the 2007/2008 study period. The most prevalent material components in this materials stream included *painted/demolition gypsum* (12.7%), *clean engineered wood* (7.7%), *clean dimensional lumber greater than 16"* (7.5%), and *composition roofing* (6.7%) (see Table 3-15). The

next four components, *painted stained wood* (4.9%), *mixed/other c&d* (4.8%), *concrete* (4.5%), and *clean gypsum board* (4.2%) each made up between 4% and 5% of the materials hauled in drop boxes. Appendix F presents the detailed composition results for this transfer station disposed materials stream.

Table 3-15. Top Ten Components – Transfer Station Disposed Drop Boxes

MATERIAL	MEAN	CUM %	TONS
Painted/Demolition Gypsum	12.7%	12.7%	10,416
Clean Engineered Wood	7.7%	20.4%	6,335
Clean Dimensional Lumber >~16"	7.5%	27.9%	6,134
Composition Roofing	6.7%	34.6%	5,468
Painted/Stained Wood	4.9%	39.5%	4,044
Mixed/Other C&D	4.8%	44.3%	3,929
Concrete	4.5%	48.8%	3,700
Clean Gypsum Board	4.2%	53.0%	3,472
Pallets and Crates	3.9%	56.9%	3,206
Other Ferrous Metal	3.4%	60.4%	2,812
Subtotal	60.4%		49,516
<i>All Other Materials Combined</i>	<i>39.6%</i>		<i>32,521</i>
Total	100.0%		82,037

End Dumps

During the 2007/2008 study period, 93 end dump loads were characterized. As listed in Table 3-16, *composition roofing* (24.6%) is the most prevalent material component. *Clean engineered wood* (8.7%), *mixed/other c&d* (6.9%) *clean gypsum board* (6.6%) were also prevalent material components. When added together, the top ten material components summed to approximately 72% of the total. The full transfer station disposed end dump composition results are detailed in Appendix F.

Table 3-16. Top Ten Components – Transfer Station Disposed End Dumps

MATERIAL	MEAN	CUM %	TONS
Composition Roofing	24.6%	24.6%	8,136
Clean Engineered Wood	8.7%	33.2%	2,869
Mixed/Other C&D	6.9%	40.1%	2,276
Clean Gypsum Board	6.6%	46.6%	2,175
Dirt and Sand	5.1%	51.7%	1,689
Painted/Stained Wood	5.1%	56.8%	1,689
Other Asphalt Roofing	4.9%	61.7%	1,626
Clean Dimensional Lumber >~16"	3.5%	65.3%	1,164
Painted/Demolition Gypsum	3.5%	68.7%	1,150
Other Aggregates	3.0%	71.8%	1,007
Subtotal	71.8%		23,780
<i>All Other Materials Combined</i>	<i>28.2%</i>		<i>9,358</i>
Total	100.0%		33,138

Other Large Vehicles

A total of 13 samples were characterized for other large vehicle loads during the study period. Because of the small sample size these results should be considered anecdotal in nature. *Composition roofing* (20.0%), *mixed/other c&d* (15.6%), *clean gypsum board* (12.1%), and *painted/demolition gypsum* (10.8%) were the most prevalent (Table 3-17). The full composition results for other large vehicle loads are presented in Appendix F.

Table 3-17. Top Ten Components – Transfer Station Disposed Other Large Vehicles

MATERIAL	MEAN	CUM %	TONS
Composition Roofing	20.0%	20.0%	857
Mixed/Other C&D	15.6%	35.6%	667
Clean Gypsum Board	12.1%	47.7%	519
Painted/Demolition Gypsum	10.8%	58.5%	461
Other Asphalt Roofing	8.3%	66.7%	354
Wood Roofing	6.2%	72.9%	264
Clean Dimensional Lumber >~16"	4.3%	77.2%	182
MSW	2.6%	79.8%	112
Clean Engineered Wood	2.5%	82.3%	109
Painted/Stained Wood Siding	2.4%	84.7%	101
Subtotal	84.7%		3,627
<i>All Other Materials Combined</i>	<i>15.3%</i>		<i>655</i>
Total	100.0%		4,283

Pick-up / Passenger Vehicles

During the study period, 28 loads from pick-up/passenger vehicles were characterized. As presented in Table 3-18, *composition roofing* (29.4%) was the most prevalent material component for this vehicle type. Detailed composition results for transfer station disposed loads from pick-up/passenger vehicles are presented in Appendix F.

Table 3-18. Top Ten Components – Transfer Station Disposed Pick-up/Passenger Vehicles

MATERIAL	MEAN	CUM %	TONS
Composition Roofing	29.4%	29.4%	2,230
Clean Engineered Wood	12.0%	41.4%	910
Painted/Stained Wood	10.1%	51.5%	768
Painted/Stained Wood Siding	5.8%	57.3%	444
Mixed/Other C&D	4.5%	61.8%	342
Other Aggregates	3.7%	65.5%	281
Clean Dimensional Lumber >~16"	3.2%	68.8%	247
Other Recyclable Paper	3.2%	72.0%	243
Clean Dimensional Lumber <~16"	3.0%	75.0%	227
Clean Gypsum Board	3.0%	77.9%	224
Subtotal	77.9%		5,916
<i>All Other Materials Combined</i>	<i>22.1%</i>		<i>1,677</i>
Total	100.0%		7,593

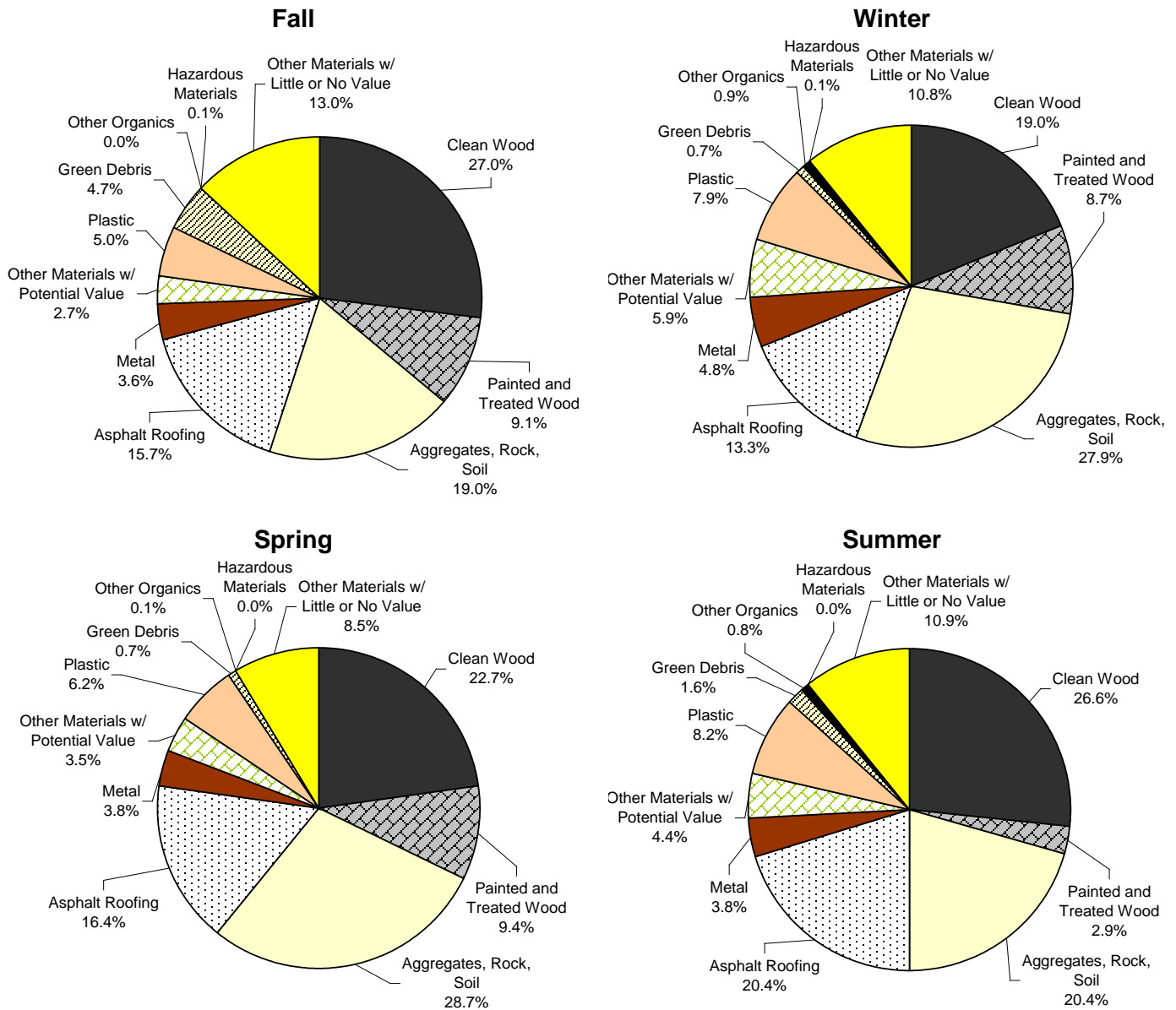
Comparisons among Vehicle Types

A total of five material components appeared in the top ten lists for all four vehicle types: *clean engineered wood, clean dimensional lumber greater than 16", composition roofing, mixed/other c&d, and clean gypsum board. Painted/demolition gypsum* was common to the top ten lists for all vehicle types other than pick-up/passenger vehicles. *Painted/stained wood* was common to all vehicle types except other large vehicles. *Concrete, pallets and crates, and other ferrous metal* were unique to drop boxes; *composition roofing* was the most prevalent material component in every vehicle type except drop box loads.

3.1.5 By Season

This section presents results by season for transfer station disposed loads hauled to transfer stations. When combined, **Clean Wood** (19% to 27%) **Aggregates, Rock and Soil** (19% to 29%) and **Asphalt Roofing** (13% to 20%) made up the majority of C&D materials disposed at transfer stations in each season. As shown in Figure 3-5, **Other Materials with Little or No Value** made up between approximately 9% and 13% in all seasons. C&D loads disposed during the summer contained a smaller proportion of **Painted and Treated Wood** than loads from other seasons.

Figure 3-5. Transfer Station Disposed Composition Summary, by Season



Fall

During fall 2007, 95 disposed loads were characterized. As shown in Table 3-19, *composition roofing* and *painted/demolition gypsum* and *clean engineered wood* each were 9% or more of the estimated 35,786 tons of C&D materials disposed at transfer stations in the fall. Appendix F presents detailed composition results for this season's disposed C&D materials.

**Table 3-19. Top Ten Components – Transfer Station Disposed Fall
(September, October, and November 2007)**

MATERIAL	MEAN	CUM %	TONS
Composition Roofing	15.1%	15.1%	5,417
Painted/Demolition Gypsum	9.0%	24.1%	3,216
Clean Engineered Wood	8.9%	33.0%	3,179
Clean Dimensional Lumber >~16"	8.0%	41.0%	2,874
Mixed/Other C&D	7.6%	48.6%	2,717
Painted/Stained Wood	5.1%	53.7%	1,811
Concrete	4.1%	57.8%	1,483
Clean Dimensional Lumber <~16"	4.1%	62.0%	1,481
Pallets and Crates	3.4%	65.3%	1,200
Other Ferrous Metal	3.0%	68.3%	1,064
Subtotal	68.3%		24,443
<i>All Other Materials Combined</i>	<i>31.7%</i>		<i>11,343</i>
Total	100.0%		35,786

Winter

During the winter season, 91 disposed C&D samples were characterized. As shown in Table 3-20, *composition roofing*, *painted/demolition gypsum*, and *clean engineered wood* each accounted for more than 7% of the materials disposed at transfer stations in winter. Appendix F provides the detailed composition results for transfer station disposed materials in the winter.

**Table 3-20. Top Ten Components – Transfer Station Disposed Winter
(December 2007 and January, February 2008)**

MATERIAL	MEAN	CUM %	TONS
Composition Roofing	12.6%	12.6%	3,507
Painted/Demolition Gypsum	11.0%	23.6%	3,056
Clean Engineered Wood	7.2%	30.9%	2,009
Painted/Stained Wood	6.2%	37.1%	1,722
Clean Dimensional Lumber >~16"	5.9%	43.0%	1,646
Clean Gypsum Board	5.4%	48.4%	1,501
Carpet	3.9%	52.3%	1,094
Uncoated Corrugated Cardboard	3.5%	55.8%	968
Other Aggregates	3.4%	59.3%	958
Pallets and Crates	3.2%	62.5%	897
Subtotal	62.5%		17,358
<i>All Other Materials Combined</i>	<i>37.5%</i>		<i>10,411</i>
Total	100.0%		27,769

Spring

A total of 95 samples were characterized from loads during the spring. As shown in Table 3-21, *painted/demolition gypsum* (12.5%), *composition roofing* (8.9%) and *clean engineered wood* (8.8%) were the most prevalent material components disposed at transfer stations during this time period. The detailed spring composition results are presented in Appendix F.

**Table 3-21. Top Ten Components – Transfer Station Disposed Spring
(March, April, and May 2008)**

MATERIAL	MEAN	CUM %	TONS
Painted/Demolition Gypsum	12.5%	12.5%	4,008
Composition Roofing	8.9%	21.4%	2,868
Clean Engineered Wood	8.8%	30.2%	2,814
Other Asphalt Roofing	7.4%	37.6%	2,375
Clean Gypsum Board	7.2%	44.8%	2,306
Clean Dimensional Lumber >~16"	5.2%	50.0%	1,667
Painted/Stained Wood	5.0%	55.1%	1,616
Dirt and Sand	4.0%	59.1%	1,291
Pallets and Crates	3.9%	63.0%	1,257
Painted/Stained Wood Siding	3.9%	66.9%	1,253
Subtotal	66.9%		21,456
<i>All Other Materials Combined</i>	<i>33.1%</i>		<i>10,609</i>
Total	100.0%		32,065

Summer

During the summer months in the study period 59 samples were characterized. As shown in Table 3-22, *composition roofing* (13.7%) was the most prevalent material component disposed at transfer stations in the summer. The ten largest material

components combined comprised slightly more than 69% of the total tons disposed at transfer stations in the summer season. Appendix F presents the full composition results for C&D disposed at transfer stations in the summer.

Table 3-22. Top Ten Components – Transfer Station Disposed Summer (June, July, and August 2008)

MATERIAL	MEAN	CUM %	TONS
Composition Roofing	13.7%	13.7%	4,307
Clean Gypsum Board	8.7%	22.4%	2,748
Painted/Demolition Gypsum	7.8%	30.2%	2,450
Other Asphalt Roofing	6.7%	36.9%	2,099
Mixed/Other C&D	6.6%	43.5%	2,076
Wood Roofing	6.6%	50.1%	2,071
Clean Dimensional Lumber >~16"	6.4%	56.5%	1,998
Clean Engineered Wood	5.7%	62.1%	1,785
Pallets and Crates	4.0%	66.1%	1,245
Other Ferrous Metal	3.0%	69.1%	947
Subtotal	69.1%		21,726
<i>All Other Materials Combined</i>	<i>30.9%</i>		<i>9,706</i>
Total	100.0%		31,432

Comparisons among Seasons

The following material components were included in the list of top ten components in all seasons: *Composition roofing, clean engineered wood, painted demolition gypsum, clean dimensional lumber greater than 16"*, and *pallets and crates*. *Clean gypsum board* was included in the top ten list in all seasons but the fall. Similarly, *mixed/other c&d* was included in the top ten lists in all seasons other than winter. Many material components were included in the top ten in only one season, such as *other ferrous metal* in the fall, *carpet* in the winter, *painted/stained wood siding* in the spring, and *wood roofing* in the summer.

3.2 Processed Materials

A total of 302 loads hauled to transfer stations for processing were characterized from September 2007 to August 2008. These loads were categorized by activity type, load type, hauler type, vehicle type, and season. Table 3-23 summarizes the sample information for each grouping. The average sample weight was approximately 6,200 pounds.

Table 3-23. Overview of Processed Substream Samples

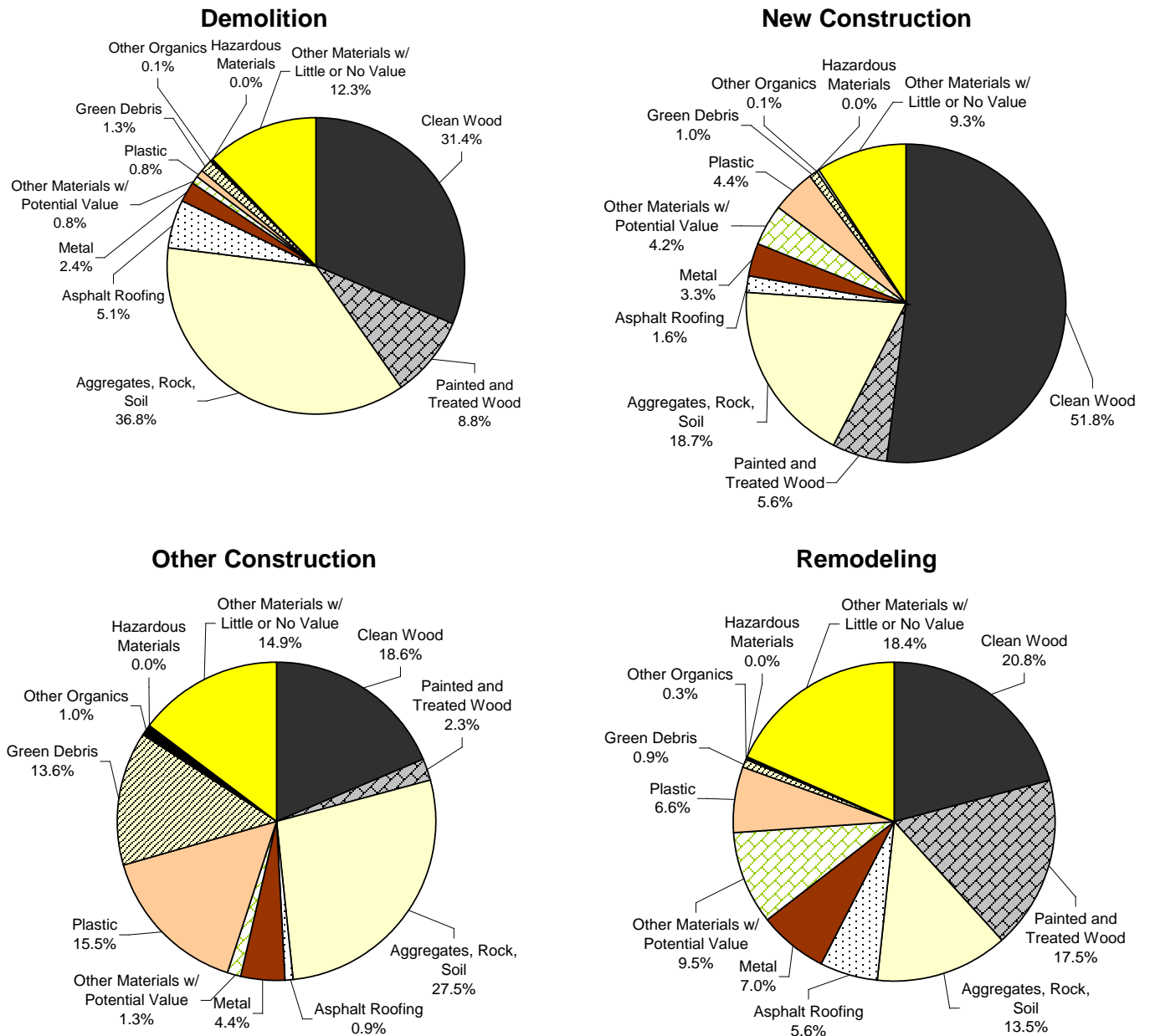
Substream	<i>(All Weights in Pounds)</i>		
	Sample Count	Total Sample Weight	Average Sample Weight
Activity Type			
Demolition	32	187,420	5,857
New Construction	132	929,840	7,044
Other Construction	10	58,160	5,816
Remodel	82	438,680	5,350
Roofing	43	229,340	5,333
Don't Know	3	14,960	4,987
Load Type			
Residential	153	876,620	5,730
Nonresidential	142	933,580	6,575
Mixed Loads	2	38,320	7,664
Other Structure	5	9,880	4,940
Hauler Type			
Certificated Hauler	89	622,500	6,994
C&D Hauler	109	799,140	7,332
Business Self-haul	102	431,440	4,230
Residential Self-haul	2	5,320	2,660
Vehicle Type			
Drop Boxes	223	1,523,460	6,832
End Dumps	54	234,760	4,347
Other Large Vehicles	22	86,840	3,947
Pick-up/Passenger Vehicles	3	13,340	4,447
Season			
Fall	37	251,040	6,785
Winter	52	377,820	7,266
Spring	64	387,960	6,062
Summer	149	841,580	5,648
Total Processed C&D Samples	302	1,858,400	6,154

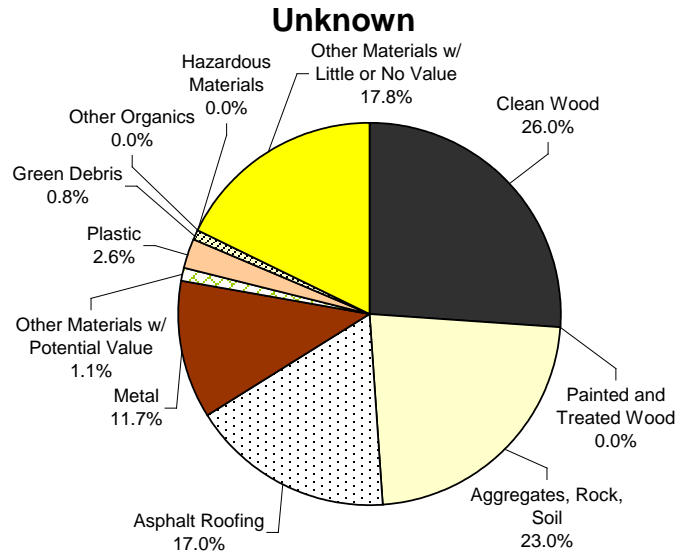
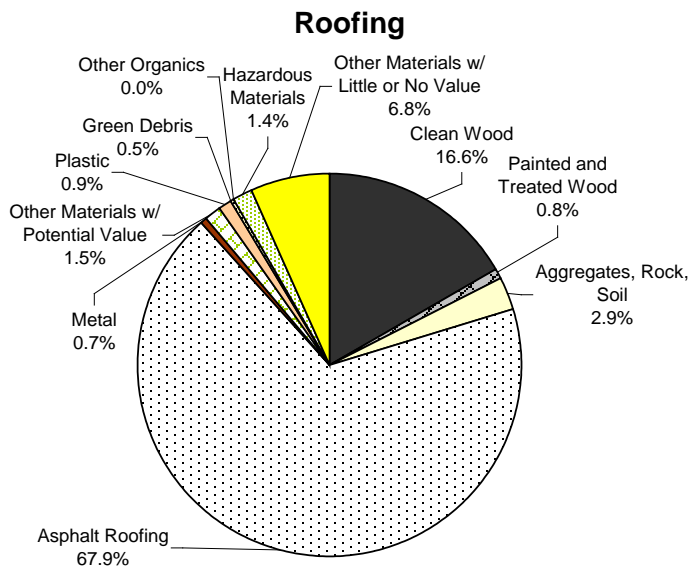
The remainder of this section presents composition estimates by activity type, load type, hauler type, vehicle type, and season from processed loads.

3.2.1 By Activity Type

As shown in Figure 3-6, **Clean Wood** made up between 19% and 52% of loads from all activity types except roofing. Roofing loads contained the highest percentage of **Asphalt Roofing** (67.9%). **Aggregates, Rock and Soil** made up about 37% of demolition loads while **Other Materials with Little or No Value** accounted for about 18% of remodeling loads and loads with an unknown activity type.

Figure 3-6. Processed Composition Summary, by Activity Type





Demolition

Over the study period, 32 demolition loads were characterized. Loads intended for processing from demolition projects totaled 23,150 tons during this time period. As shown in Table 3-24, *painted/demolition gypsum* (23.4%) was the most prevalent material component. *clean engineered wood* (9.7%) and *clean dimensional lumber greater than 16"* (9.4%) were each almost 10% of demolition loads. The full composition results from processed demolition activities are presented in Appendix F.

Table 3-24. Top Ten Components – Processed Demolition

MATERIAL	MEAN	CUM %	TONS
Painted/Demolition Gypsum	23.4%	23.4%	5,422
Clean Engineered Wood	9.7%	33.1%	2,245
Clean Dimensional Lumber >~16"	9.4%	42.5%	2,172
Concrete	8.5%	51.0%	1,965
Pallets and Crates	5.9%	56.9%	1,362
Composition Roofing	5.1%	62.0%	1,187
Painted/Stained Wood	5.0%	67.0%	1,165
Mixed/Other C&D	4.3%	71.3%	991
Other Recyclable Wood	3.8%	75.1%	869
Nondistinct Fines	3.3%	78.3%	757
Subtotal	78.3%		18,134
<i>All Other Materials Combined</i>	<i>21.7%</i>		<i>5,016</i>
Total	100.0%		23,150

New Construction

A total of 132 loads were characterized from new construction projects during the 2007/2008 study period. *Clean engineered wood* (20.6%), *clean dimensional lumber greater than 16"* (13.7%), and *pallets and crates* (8.9%) were the three most prevalent material components (see Table 3-25). The full composition results from processed new construction activities are presented in Appendix F.

Table 3-25. Top Ten Components – Processed New Construction

MATERIAL	MEAN	CUM %	TONS
Clean Engineered Wood	20.6%	20.6%	24,048
Clean Dimensional Lumber >~16"	13.7%	34.3%	15,906
Pallets and Crates	8.9%	43.2%	10,343
Clean Gypsum Board	7.1%	50.3%	8,311
Painted/Demolition Gypsum	4.5%	54.8%	5,282
Clean Dimensional Lumber <~16"	4.3%	59.1%	4,984
Painted/Stained Wood	3.9%	63.0%	4,522
Other Recyclable Wood	3.8%	66.7%	4,374
Concrete	3.2%	69.9%	3,729
Dirt and Sand	3.1%	73.1%	3,639
Subtotal	73.1%		85,138
<i>All Other Materials Combined</i>	<i>26.9%</i>		<i>31,382</i>
Total	100.0%		116,521

Other Construction

A total of 10 samples were characterized from other construction loads during the 2007/2008 study period. Because of the small sample size these results should be considered anecdotal in nature. *Concrete* was the most prevalent material component, comprising about 27% of the materials (Table 3-26). The full composition results from other processed construction loads are presented in Appendix F.

Table 3-26. Top Ten Components – Processed Other Construction

MATERIAL	MEAN	CUM %	TONS
Concrete	27.1%	27.1%	1,838
Plastic Piping	14.3%	41.4%	971
Mixed/Other C&D	13.7%	55.1%	928
Yard Waste	13.6%	68.7%	923
Pallets and Crates	9.9%	78.6%	673
Clean Dimensional Lumber >~16"	4.5%	83.1%	305
Mixed/Other Metal	2.4%	85.5%	163
Other Recyclable Wood	2.2%	87.7%	151
Painted/Stained Wood	2.2%	89.9%	150
Clean Engineered Wood	1.7%	91.7%	117
Subtotal	91.7%		6,220
<i>All Other Materials Combined</i>	<i>8.3%</i>		<i>566</i>
Total	100.0%		6,786

Remodeling

During the 2007/2008 study period, 82 remodeling loads were characterized. Processed remodeling loads totaled 47,664 tons during this study period. As shown in Table 3-27, the two most prevalent material components in this activity type were *painted/stained wood* (11.0%) and *mixed/other c&d* (10.5%). The full composition results from processed remodeling loads are presented in Appendix F.

Table 3-27. Top Ten Components – Processed Remodeling

MATERIAL	MEAN	CUM %	TONS
Painted/Stained Wood	11.0%	11.0%	5,222
Mixed/Other C&D	10.5%	21.5%	5,028
Clean Engineered Wood	7.3%	28.8%	3,500
Painted/Demolition Gypsum	6.6%	35.5%	3,160
Tires	6.2%	41.7%	2,957
Painted/Stained Wood Siding	5.4%	47.1%	2,561
Other Ferrous Metal	4.6%	51.6%	2,173
Pallets and Crates	3.9%	55.5%	1,836
Wood Roofing	3.8%	59.3%	1,824
MSW	3.8%	63.0%	1,791
Subtotal	63.0%		30,051
<i>All Other Materials Combined</i>	<i>37.0%</i>		<i>17,613</i>
Total	100.0%		47,664

Roofing

A total of 43 processed roofing loads were characterized during the 2007/2008 study. An estimated 25,850 tons of material were processed from roofing loads. *Composition roofing* (52.9%) and *other asphalt roofing* (14.9%) were the most prevalent material components from roofing activities in 2007/2008 (Table 3-28). The full composition results from processed roofing loads are presented in Appendix F.

Table 3-28. Top Ten Components – Processed Roofing

MATERIAL	MEAN	CUM %	TONS
Composition Roofing	52.9%	52.9%	13,679
Other Asphalt Roofing	14.9%	67.9%	3,861
Wood Roofing	8.7%	76.6%	2,251
Clean Engineered Wood	5.6%	82.2%	1,446
Mixed/Other C&D	2.7%	84.8%	692
Other Aggregates	2.6%	87.4%	667
Other Household Hazardous	1.4%	88.8%	369
MSW	1.4%	90.3%	367
Mixed/Other Glass	1.4%	91.6%	349
Pallets and Crates	1.3%	92.9%	335
Subtotal	92.9%		24,016
<i>All Other Materials Combined</i>	<i>7.1%</i>		<i>1,834</i>
Total	100.0%		25,850

Unknown

A total of three loads from unknown activities were characterized during the 2007/2008 study. These loads are considered unknown because the driver either did not know or would not disclose the activity type. Because of the small sample size these results should be considered anecdotal in nature. *Composition roofing* (17.0%), *Pallets and Crates* (12.9%), *MSW* (11.9%), and *Concrete* (11.4%) each accounted for more than 10% of the total tons disposed from unknown activities in 2007 (Table 3-29). The full composition results from these processed loads are presented in Appendix F.

Table 3-29. Top Ten Components – Processed Unknown

MATERIAL	MEAN	CUM %	TONS
Composition Roofing	17.0%	17.0%	365
Pallets and Crates	12.9%	29.9%	277
MSW	11.9%	41.8%	256
Concrete	11.4%	53.2%	244
Painted/Demolition Gypsum	9.9%	63.1%	212
Mixed/Other Metal	7.9%	71.0%	170
Clean Engineered Wood	5.2%	76.2%	112
Mixed/Other C&D	4.9%	81.1%	104
Clean Dimensional Lumber >~16"	3.8%	84.9%	81
Other Ferrous Metal	2.2%	87.0%	47
Subtotal	87.0%		1,868
<i>All Other Materials Combined</i>	<i>13.0%</i>		<i>278</i>
Total	100.0%		2,146

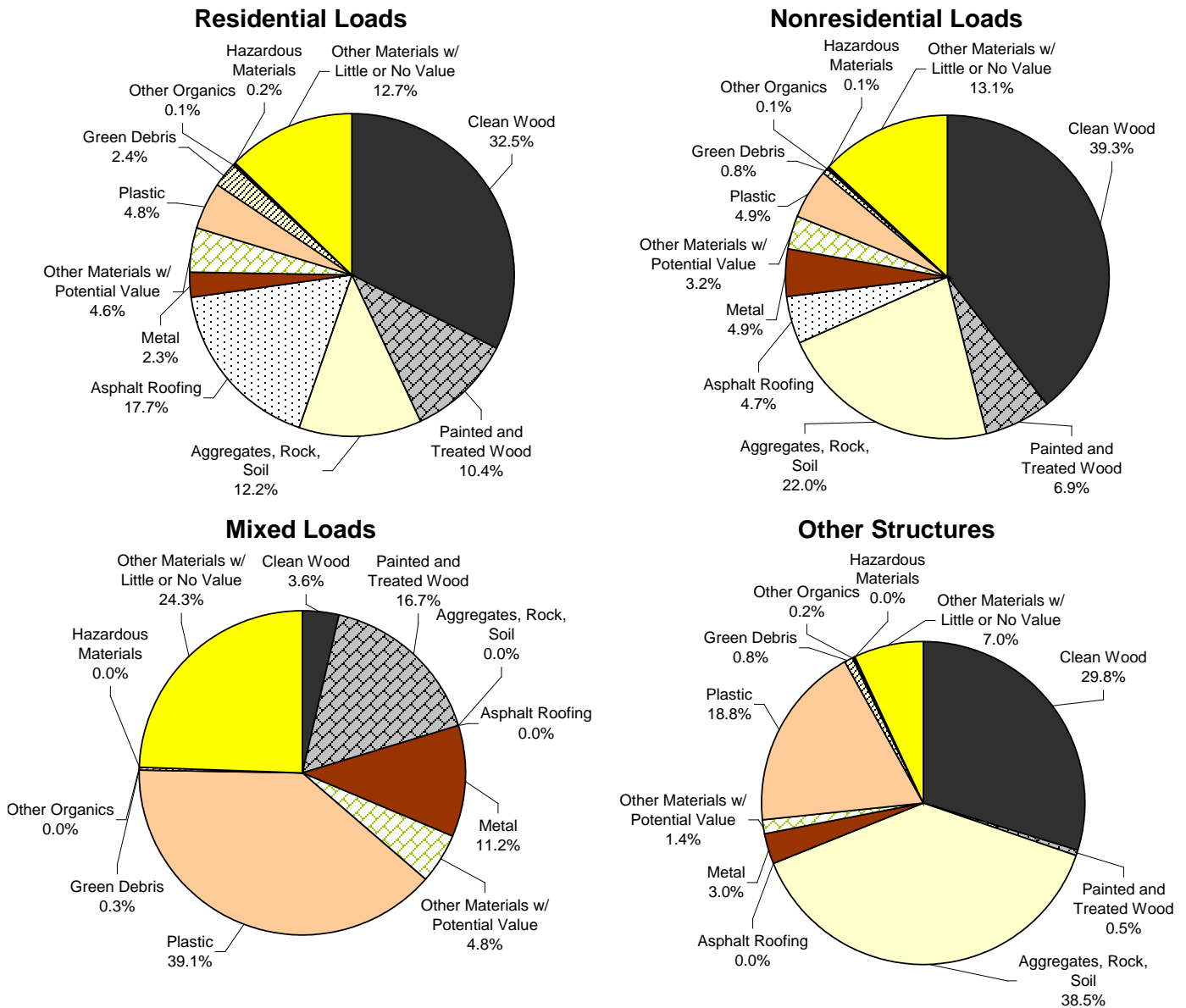
Comparison among Activity Types

Mixed/other c&d was the only material component common to all activity types. *Clean engineered wood* was common to all activities types except other construction. *Pallets and crates* was common to all activities types except remodeling. Several material components only appeared in the top ten list for one activity type: *nondistinct fines* for demolition loads; *clean dimensional lumber less than 16"* for new construction; *plastic piping* for other construction projects; *carpet, tires*, and *painted/stained wood siding* for remodeling; and *other asphalt roofing* for roofing.

3.2.2 By Load Type

As shown in Figure 3-7, **Clean Wood** comprised at least 29% of processed C&D loads across all load types except mixed loads. Residential loads contained the highest percentage of **Asphalt Roofing** (17.7%). Nearly 39% of processed materials from other structures is **Aggregates, Rock and Soil**. Mixed loads contained the highest percentage of **Plastic** (39.1%).

Figure 3-7. Processed Composition Summary, by Load type



Residential Buildings

A total of 153 processed loads were characterized from residential buildings during the 2007/2008 study period. As shown in Table 3-30 *Composition roofing* (15.8%) and *clean engineered wood* (14.3%) were the most prevalent material components of the

total tons processed from residential buildings in 2007. The full composition results for processed residential loads are presented in Appendix F.

Table 3-30. Top Ten Components – Processed Residential Buildings

MATERIAL	MEAN	CUM %	TONS
Composition Roofing	15.8%	15.8%	17,356
Clean Engineered Wood	14.3%	30.1%	15,724
Mixed/Other C&D	6.3%	36.5%	6,928
Painted/Stained Wood	6.2%	42.7%	6,818
Clean Dimensional Lumber >~16"	5.4%	48.1%	5,945
Wood Roofing	4.1%	52.2%	4,542
Painted/Demolition Gypsum	3.7%	55.9%	4,027
Painted/Stained Wood Siding	3.2%	59.1%	3,541
Other Recyclable Wood	3.0%	62.1%	3,289
Clean Dimensional Lumber <~16"	3.0%	65.1%	3,246
Subtotal	65.1%		71,417
<i>All Other Materials Combined</i>	<i>34.9%</i>		<i>38,304</i>
Total	100.0%		109,721

Nonresidential Buildings

During the study period, a total of 142 C&D loads coming from nonresidential buildings were characterized. As shown in Table 3-31, *pallets and crates* (10.9%) was the most prevalent material component in this type of load. Other prevalent material components included *clean dimensional lumber greater than 16"* (10.5%), and *clean engineered wood* (10.4%). The full composition results for processed nonresidential loads are presented in Appendix F.

Table 3-31. Top Ten Components – Processed Nonresidential Buildings

MATERIAL	MEAN	CUM %	TONS
Pallets and Crates	10.9%	10.9%	11,634
Clean Dimensional Lumber >~16"	10.5%	21.4%	11,198
Clean Engineered Wood	10.4%	31.9%	11,110
Painted/Demolition Gypsum	8.9%	40.8%	9,480
Clean Gypsum Board	7.6%	48.3%	8,076
Mixed/Other C&D	5.6%	54.0%	6,015
Other Recyclable Wood	4.5%	58.5%	4,791
Painted/Stained Wood	3.8%	62.3%	4,075
Other Ferrous Metal	3.7%	66.1%	3,990
Nondistinct Fines	3.4%	69.5%	3,666
Subtotal	69.5%		74,034
<i>All Other Materials Combined</i>	<i>30.5%</i>		<i>32,497</i>
Total	100.0%		106,532

Mixed Loads

Two mixed loads were characterized during the 2007/2008 study. Because of the small sample size these results should be considered anecdotal in nature. As shown in Table

3-32, *Other Plastic Products* (38.2%), *Mixed/Other C&D* (23.9%), *Painted/Stained Wood Siding* (16.7%), and *Other Non-Ferrous Metal* (11.1%) each comprised more than 10% of these loads. The full composition results for mixed processed loads are presented in Appendix F.

Table 3-32. Top Ten Components – Processed Mixed Loads

MATERIAL	MEAN	CUM %	TONS
Other Plastic Products	38.2%	38.2%	586
Mixed/Other C&D	23.9%	62.2%	367
Painted/Stained Wood Siding	16.7%	78.9%	255
Other Non-Ferrous Metal	11.1%	89.9%	170
Uncoated Corrugated Cardboard	2.7%	92.6%	41
Other Recyclable Paper	2.1%	94.7%	32
Pallets and Crates	1.9%	96.7%	30
Clean Engineered Wood	1.7%	98.3%	25
Trash Bags Grocery/ Merch. Bags	0.8%	99.2%	13
MSW	0.4%	99.6%	6
Subtotal	99.6%		1,524
<i>All Other Materials Combined</i>	<i>0.4%</i>		<i>7</i>
Total	100.0%		1,531

Other Structures

A total of five processed loads from other structures were characterized. Because of the small sample size these results should be considered anecdotal in nature. As shown in Table 3-33, *concrete* (38.5%) and *plastic piping* (17.8%) were the most prevalent material components from loads from other structures. The full composition results for processed loads from other structures are presented in Appendix F.

Table 3-33. Top Ten Components – Processed Other Structures

MATERIAL	MEAN	CUM %	TONS
Concrete	38.5%	38.5%	1,670
Plastic Piping	17.8%	56.3%	771
Clean Engineered Wood	12.5%	68.8%	540
Pallets and Crates	8.9%	77.6%	384
Mixed/Other C&D	4.7%	82.3%	203
Clean Dimensional Lumber >~16"	4.4%	86.8%	192
Mixed/Other Metal	2.6%	89.3%	111
Other Recyclable Wood	2.2%	91.6%	96
Clean Dimensional Lumber <~16"	1.8%	93.3%	77
Expanded Polystyrene Insulation	1.4%	94.7%	60
Subtotal	94.7%		4,105
<i>All Other Materials Combined</i>	<i>5.3%</i>		<i>228</i>
Total	100.0%		4,333

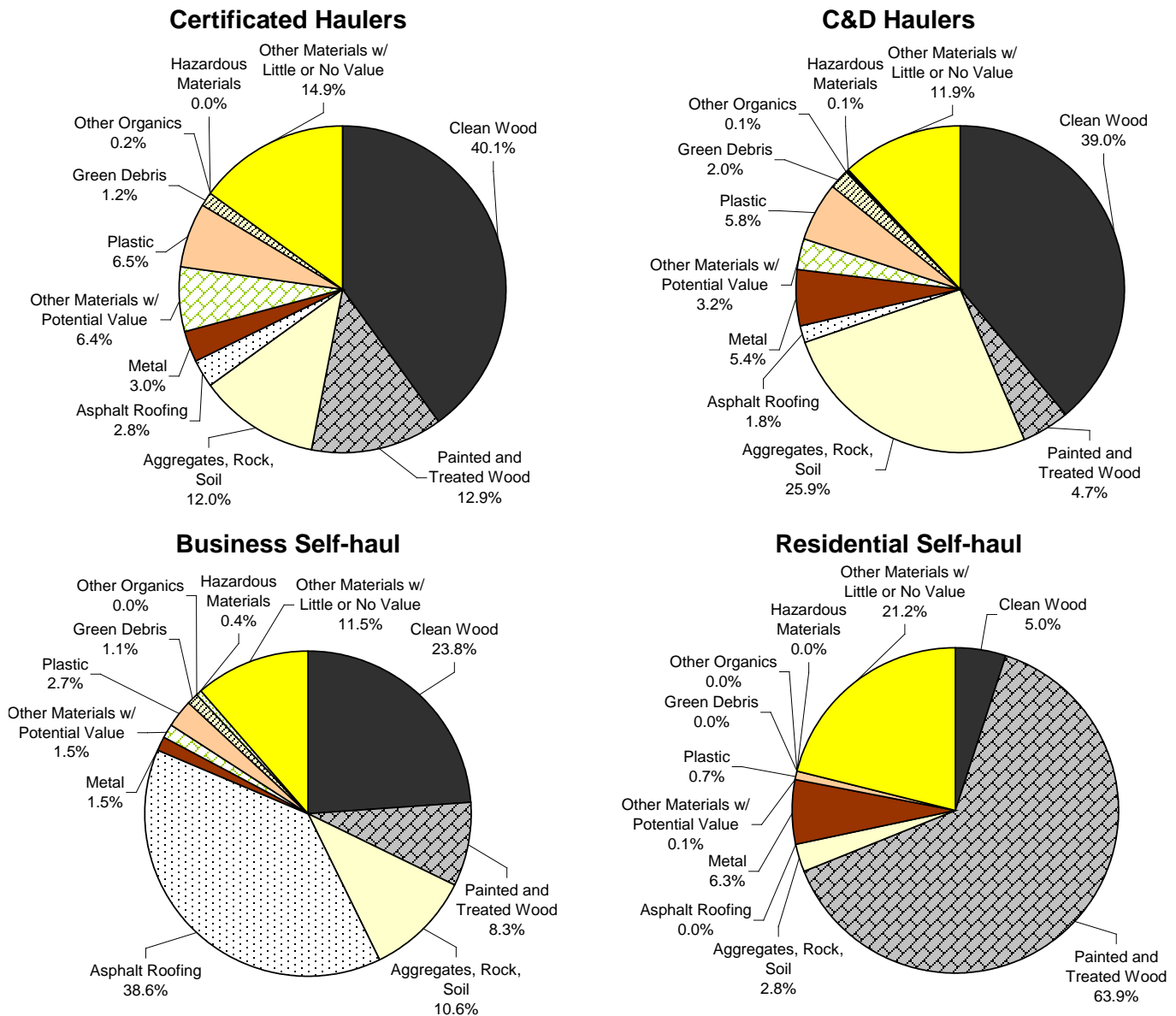
Comparisons among Load Types

Clean engineered wood and *mixed/other c&d* were the only material components among the top ten lists for all load types. *Clean dimensional lumber greater than 16"* and *other recyclable wood* were common to loads from all load types except mixed loads. Similarly, *pallets and crates* were common to all load types except residential buildings. *Composition roofing* and *wood roofing* were unique to the top ten lists for loads from residential buildings, *clean gypsum board* was in the top ten only from nonresidential buildings, while *concrete*, *plastic piping*, and *expanded polystyrene insulation* were among the top ten only from other structures.

3.2.3 By Hauler Type

As shown in Figure 3-8, **Clean Wood** made up at least 24% of loads from all haulers except residential self-haul and as much as 40% of certificated hauler loads. **Painted and Treated Wood** accounted for nearly 64% of residential self-haul loads. **Asphalt Roofing** accounted for nearly 39% of business self-haul loads.

Figure 3-8. Processed Composition Summary, by Hauler Type



Certificated Haulers

A total of 89 loads were characterized from certificated haulers (Waste Management and Allied) during the study period. As shown in Table 3-34, *clean engineered wood* (17.0%), and *clean dimensional lumber greater than 16"* (9.3%) were the two most prevalent material components from these loads in 2007/2008. The full composition results from processed certificated hauler loads are presented in Appendix F.

Table 3-34. Top Ten Components – Processed Certificated Haulers

MATERIAL	MEAN	CUM %	TONS
Clean Engineered Wood	17.0%	17.0%	13,076
Clean Dimensional Lumber >~16"	9.3%	26.3%	7,175
Mixed/Other C&D	7.0%	33.3%	5,393
Painted/Stained Wood	6.6%	39.9%	5,095
Pallets and Crates	6.1%	46.0%	4,670
Painted/Stained Wood Siding	5.3%	51.3%	4,051
Clean Dimensional Lumber <~16"	4.1%	55.4%	3,144
Other Recyclable Wood	3.4%	58.7%	2,600
Painted/Demolition Gypsum	2.9%	61.7%	2,245
Concrete	2.9%	64.5%	2,208
Subtotal	64.5%		49,657
<i>All Other Materials Combined</i>	<i>35.5%</i>		<i>27,298</i>
Total	100.0%		76,955

C&D Haulers

A total of 109 samples were characterized from processed C&D hauler loads during the 2007/2008 study period (e.g., Nuprecon and Greyhawk). *Clean engineered wood* (10.7%) and *pallets and crates* (10.1%) were the two most prevalent material components (Table 3-35). The full composition results for processed loads from C&D haulers are presented in Appendix F.

Table 3-35. Top Ten Components – Processed C&D Haulers

MATERIAL	MEAN	CUM %	TONS
Clean Engineered Wood	10.7%	10.7%	9,897
Pallets and Crates	10.1%	20.8%	9,314
Clean Dimensional Lumber >~16"	9.5%	30.3%	8,783
Clean Gypsum Board	8.0%	38.3%	7,411
Painted/Demolition Gypsum	7.7%	46.1%	7,143
Mixed/Other C&D	5.3%	51.4%	4,907
Concrete	4.9%	56.3%	4,547
Other Recyclable Wood	4.9%	61.2%	4,502
Other Ferrous Metal	4.1%	65.3%	3,809
Dirt and Sand	3.8%	69.1%	3,520
Subtotal	69.1%		63,832
<i>All Other Materials Combined</i>	<i>30.9%</i>		<i>28,503</i>
Total	100.0%		92,335

Business Self-haul

A total of 102 processed loads from business self-haulers were characterized. As shown in Table 3-36, *composition roofing* was the most prevalent material component in these loads, accounting for about 32% of the total, by weight. The full composition results from processed business self-haul loads are presented in Appendix F.

Table 3-36. Top Ten Components – Processed Business Self-haul

MATERIAL	MEAN	CUM %	TONS
Composition Roofing	32.3%	32.3%	16,761
Clean Engineered Wood	8.4%	40.7%	4,358
Painted/Demolition Gypsum	8.1%	48.9%	4,219
Wood Roofing	7.1%	56.0%	3,666
Other Asphalt Roofing	6.3%	62.2%	3,240
Mixed/Other C&D	5.9%	68.1%	3,051
Painted/Stained Wood	5.7%	73.7%	2,931
Clean Dimensional Lumber >~16"	3.1%	76.8%	1,595
MSW	2.4%	79.2%	1,228
Pallets and Crates	2.3%	81.4%	1,168
Subtotal	81.4%		42,216
<i>All Other Materials Combined</i>	<i>18.6%</i>		<i>9,616</i>
Total	100.0%		51,832

Residential Self-Haul

A total of two processed loads from residential self-haulers were characterized in 2007/2008. Because of the small sample size these results should be considered anecdotal in nature. As shown in Table 3-37, *painted/stained wood* (63.9%) was the most prevalent material component, more than four times as prevalent as the next material component, *mixed/other c&d* (14.0%). The full processed residential self-haul composition results are presented in Appendix F.

Table 3-37. Top Ten Components – Processed Residential Self-haul

MATERIAL	MEAN	CUM %	TONS
Painted/Stained Wood	63.9%	63.9%	636
Mixed/Other C&D	14.0%	77.9%	139
MSW	6.1%	83.9%	60
Major Appliances	5.6%	89.5%	55
Clean Engineered Wood	4.3%	93.8%	43
Painted/Demolition Gypsum	2.8%	96.6%	27
Mixed/Other Paper	0.7%	97.3%	7
Mixed/Other Metal	0.6%	97.9%	6
Other Plastic Products	0.5%	98.4%	5
Fiberglass Insulation	0.4%	98.8%	4
Subtotal	98.8%		983
<i>All Other Materials Combined</i>	<i>1.2%</i>		<i>12</i>
Total	100.0%		995

Comparisons among Hauler Types

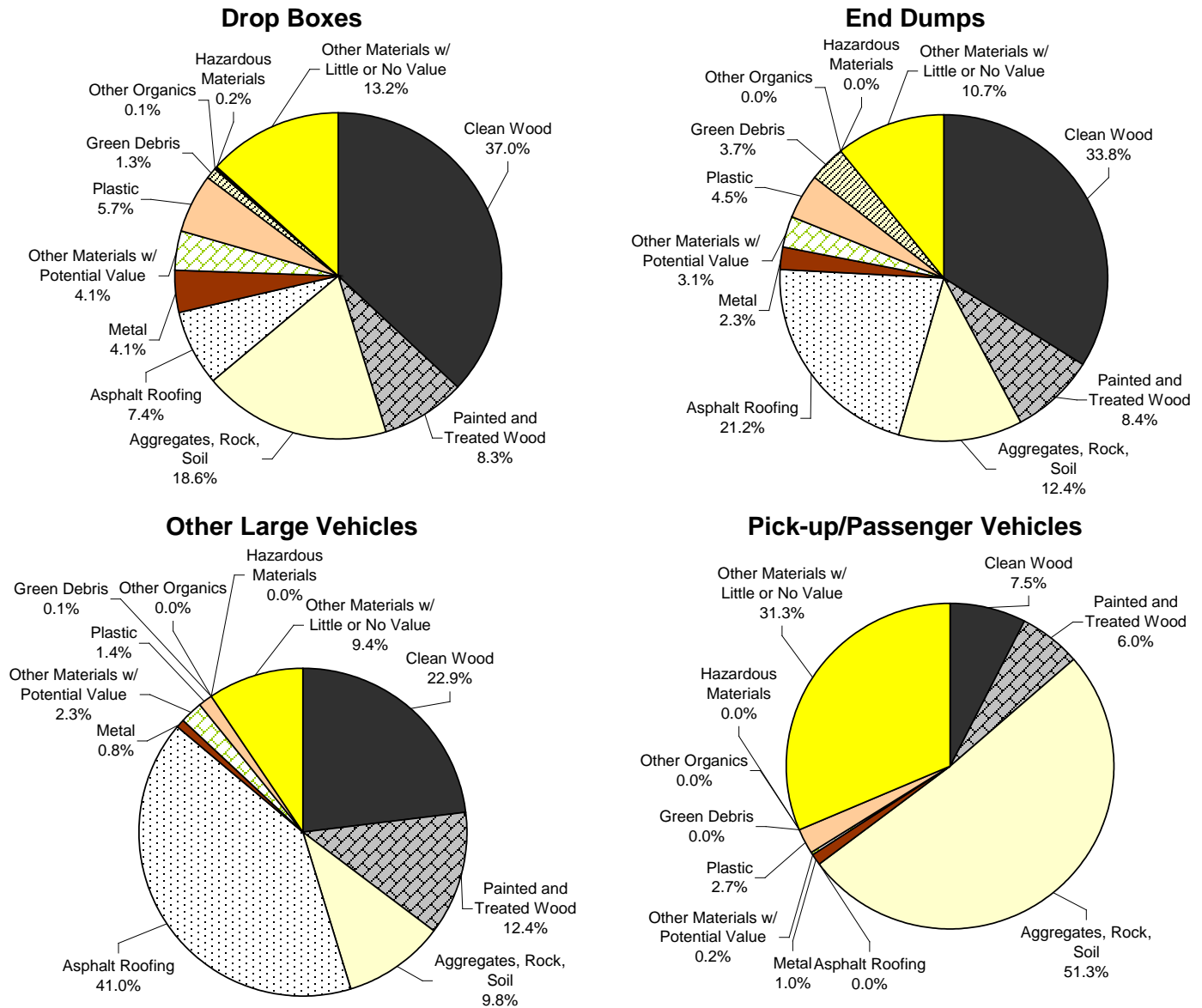
Clean engineered wood, painted/demolition gypsum, and mixed/other c&d appeared in the top ten lists for all four hauler types. *Clean dimensional lumber greater than 16"* appeared in the top ten lists for all hauler types except for residential self-haul, while *painted/stained wood* was common to each hauler type other than C&D haulers.

Painted/stained wood siding and clean dimensional lumber less than 16” were unique to certificated haulers. Clean gypsum and other ferrous metal were unique to loads from C&D haulers. Similarly, composition roofing, other asphalt roofing, and wood roofing were unique to business self-haul loads, and major appliances and fiberglass insulation were only found in the residential self-haul top ten list.

3.2.4 By Vehicle Type

As shown in Figure 3-9, **Clean Wood** made up a large portion, between 23% and 37%, of all vehicle type loads except pick-up/passenger vehicles. **Asphalt Roofing** comprised at least 20% of loads from end dumps and other large vehicles. **Aggregates, Rock and Soil** made up over 51% of pick-up/passenger loads.

Figure 3-9. Processed Composition Summary, by Vehicle Type



Drop Boxes

A total of 223 processed drop box loads were characterized during the 2007/2008 study period. The most prevalent material components (Table 3-38) in this materials stream included *clean engineered wood* (12.4%), *clean dimensional lumber greater than 16"* (8.9%), and *pallets and crates* (7.6%). Appendix F presents the detailed composition results for this processed materials stream.

Table 3-38. Top Ten Components – Processed Drop Boxes

MATERIAL	MEAN	CUM %	TONS
Clean Engineered Wood	12.4%	12.4%	22,091
Clean Dimensional Lumber >~16"	8.9%	21.3%	15,939
Pallets and Crates	7.6%	28.9%	13,487
Painted/Demolition Gypsum	6.3%	35.2%	11,266
Mixed/Other C&D	6.2%	41.5%	11,121
Composition Roofing	6.1%	47.6%	10,841
Clean Gypsum Board	4.3%	51.8%	7,645
Painted/Stained Wood	4.3%	56.1%	7,640
Other Recyclable Wood	4.0%	60.1%	7,054
Concrete	3.5%	63.6%	6,272
Subtotal	63.6%		113,356
<i>All Other Materials Combined</i>	<i>36.4%</i>		<i>64,852</i>
Total	100.0%		178,208

End Dumps

During the 2007/2008 study period, a total of 54 end dump processed loads were characterized. As listed in Table 3-39, *composition roofing* (18.3%) was the most prevalent material component. *Clean engineered wood* (12.7%) was the only other material component that made up more than 10% of loads from this vehicle type. The full processed end dump composition results are detailed in Appendix F.

Table 3-39. Top Ten Components – Processed End Dumps

MATERIAL	MEAN	CUM %	TONS
Composition Roofing	18.3%	18.3%	5,491
Clean Engineered Wood	12.7%	31.0%	3,824
Wood Roofing	8.5%	39.5%	2,554
Clean Gypsum Board	6.7%	46.2%	2,021
Painted/Stained Wood	6.3%	52.4%	1,885
Mixed/Other C&D	4.9%	57.4%	1,480
Pallets and Crates	4.9%	62.3%	1,478
Other Recyclable Wood	3.6%	65.8%	1,072
Clean Dimensional Lumber >~16"	3.5%	69.4%	1,062
Yard Waste	3.3%	72.7%	1,007
Subtotal	72.7%		21,873
<i>All Other Materials Combined</i>	<i>27.3%</i>		<i>8,210</i>
Total	100.0%		30,083

Other Large Vehicles

A total of 22 samples from processed loads hauled by other large vehicle were characterized during the study period. *Composition roofing* (31.1%), *Painted/stained wood* (11.0%), and *clean engineered wood* (10.1%) were each more than 10% of processed materials from other large vehicles (Table 3-40). The full composition results for processed loads from other large vehicles are presented in Appendix F.

Table 3-40. Top Ten Components – Processed Other Large Vehicles

MATERIAL	MEAN	CUM %	TONS
Composition Roofing	31.1%	31.1%	3,586
Painted/Stained Wood	11.0%	42.0%	1,268
Clean Engineered Wood	10.1%	52.2%	1,167
Other Asphalt Roofing	9.9%	62.0%	1,142
Painted/Demolition Gypsum	6.1%	68.1%	699
Wood Roofing	5.9%	74.0%	678
MSW	4.4%	78.4%	509
Other Aggregates	3.5%	81.8%	400
Clean Dimensional Lumber >~16"	2.9%	84.8%	337
Nondistinct Fines	2.4%	87.2%	276
Subtotal	87.2%		10,062
<i>All Other Materials Combined</i>	<i>12.8%</i>		<i>1,482</i>
Total	100.0%		11,544

Pick-up/Passenger Vehicles

A total of three processed loads from pick-up/passenger vehicles were characterized for this study. Because of the small sample size these results should be considered anecdotal in nature. As presented in Table 3-41, *painted/demolition gypsum* (45.9%) and *mixed/other c&d* (31.0%) were the most prevalent material components. Detailed composition results for pick-up/passenger vehicles are presented in Appendix F.

Table 3-41. Top Ten Components – Processed Pick-up/Passenger Vehicles

MATERIAL	MEAN	CUM %	TONS
Painted/Demolition Gypsum	45.9%	45.9%	1,048
Mixed/Other C&D	31.0%	76.9%	707
Painted/Stained Wood	6.0%	82.9%	137
Clean Gypsum Board	5.4%	88.3%	123
Clean Engineered Wood	3.5%	91.8%	79
Clean Dimensional Lumber <~16"	2.2%	93.9%	50
Clean Dimensional Lumber >~16"	1.8%	95.8%	42
Carpet	1.7%	97.5%	39
Carpet Padding	1.0%	98.5%	23
Other Ferrous Metal	1.0%	99.5%	23
Subtotal	99.5%		2,270
<i>All Other Materials Combined</i>	<i>0.5%</i>		<i>12</i>
Total	100.0%		2,282

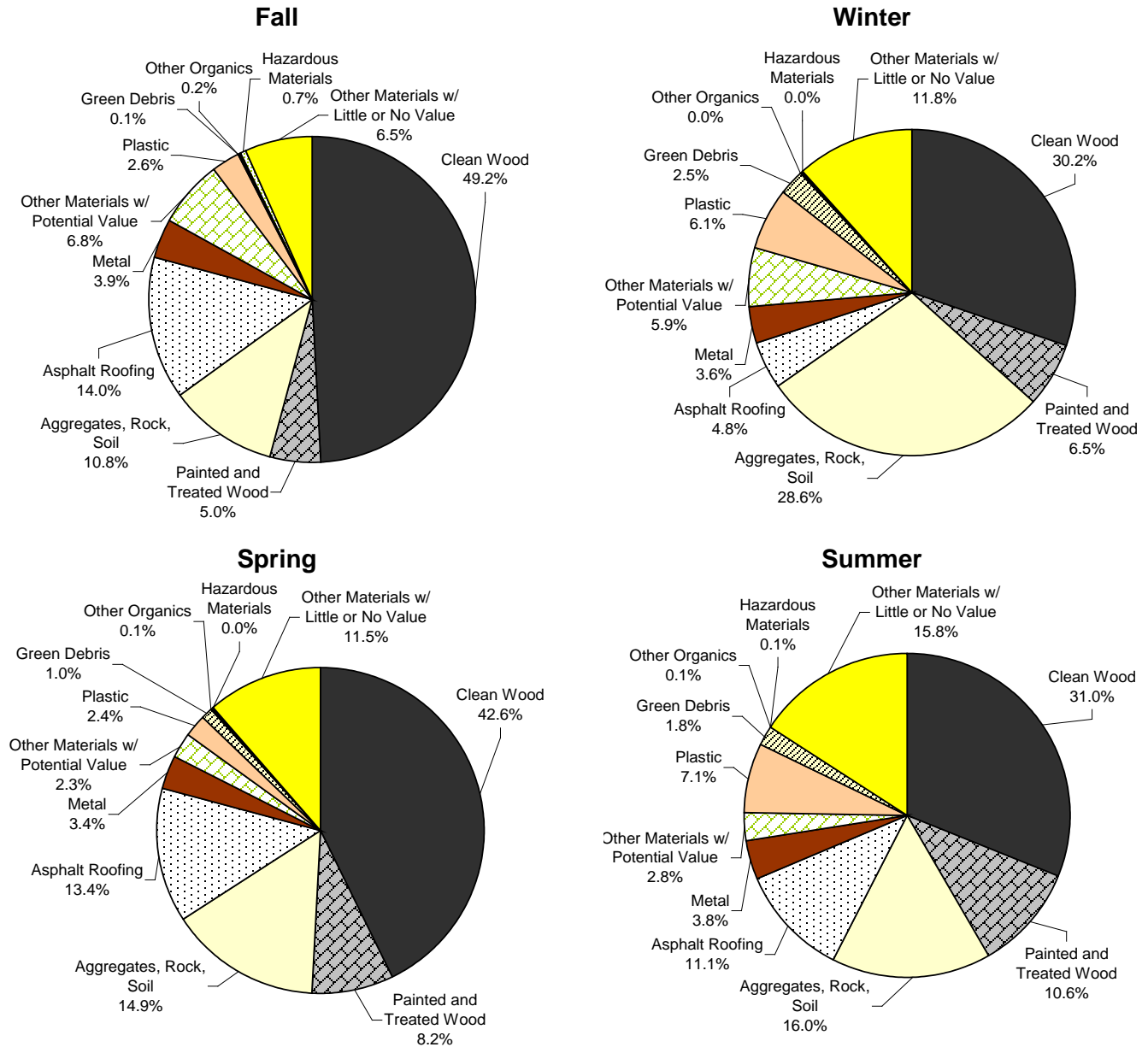
Comparisons among Vehicle Types

Three material components appeared in the top ten lists across loads from all four vehicle types: *clean engineered wood*, *clean dimensional lumber greater than 16"*, and *painted/stained wood*. *Painted/demolition gypsum* was common to the top ten lists for all vehicle types other than end dumps. *Mixed/other c&d* and *clean gypsum board* were common to all vehicle types except other large vehicles; likewise *composition roofing* was common to all vehicle types except pick up/passenger vehicles. Several material components were unique to a single vehicle type: *concrete* to drop boxes, *yard waste* to end dumps, *other asphalt roofing* and *other aggregates* to other large vehicles, and *clean dimensional lumber less than 16"*, *carpet*, and *carpet padding* to pickup/passenger vehicles.

3.2.5 C&D Materials by Season

This section presents results by season for processed loads hauled to transfer stations. As shown in Figure 3-10 **Clean Wood** was the largest material category each season, accounting for between 30% and 49% of the material in processed loads. Each season, **Asphalt Roofing** and **Aggregates, Soil and Rock** combined comprised between about 25% and 33% of material in processed loads. **Other Materials with Little or No Value** made up between approximately 7% and 16% in all seasons.

Figure 3-10. Processed Composition Summary, by Season



Fall

During the fall season, a total of 37 processed loads were characterized. As shown in Table 3-42, *clean engineered wood* (26.0%) was the most prevalent material component. *Clean dimensional lumber greater than 16"* and *composition roofing* each made up more than 10% of the 54,547 tons processed in the fall season. Appendix F presents detailed composition results for processed C&D fall loads.

**Table 3-42. Top Ten Components – Processed Fall
(September, October, and November 2007)**

MATERIAL	MEAN	CUM %	TONS
Clean Engineered Wood	26.0%	26.0%	14,162
Clean Dimensional Lumber >~16"	11.6%	37.6%	6,342
Composition Roofing	11.6%	49.1%	6,300
Concrete	6.0%	55.1%	3,278
Pallets and Crates	5.6%	60.7%	3,030
Tires	4.4%	65.1%	2,418
Clean Dimensional Lumber <~16"	4.1%	69.2%	2,227
Painted/Stained Wood	3.7%	72.9%	2,029
MSW	3.1%	76.0%	1,678
Other Ferrous Metal	2.6%	78.6%	1,419
Subtotal	78.6%		42,882
<i>All Other Materials Combined</i>	<i>21.4%</i>		<i>11,665</i>
Total	100.0%		54,547

Winter

During the winter season, a total of 52 processed C&D loads were characterized. As shown in Table 3-43, *pallets and crates* (9.7%), *dirt and sand* (8.9%), and *painted/demo gypsum* (8.1%) were the three most prevalent material components. Appendix F lists the detailed composition results for processed C&D materials in the winter.

**Table 3-43. Top Ten Components – Processed Winter
(December 2007 and January, February 2008)**

MATERIAL	MEAN	CUM %	TONS
Pallets and Crates	9.7%	9.7%	5,083
Dirt and Sand	8.9%	18.5%	4,659
Painted/Demolition Gypsum	8.1%	26.6%	4,237
Concrete	6.4%	32.9%	3,346
Clean Engineered Wood	6.4%	39.3%	3,343
Clean Dimensional Lumber >~16"	6.1%	45.4%	3,204
Painted/Stained Wood	4.6%	50.0%	2,418
Other Recyclable Wood	4.6%	54.5%	2,396
Mixed/Other C&D	4.2%	58.8%	2,220
Composition Roofing	4.2%	63.0%	2,203
Subtotal	63.0%		33,109
<i>All Other Materials Combined</i>	<i>37.0%</i>		<i>19,479</i>
Total	100.0%		52,587

Spring

A total of 64 samples were characterized from processed loads during the spring. As shown in Table 3-44, *clean engineered wood* (17.4%) and *clean dimensional lumber greater than 16"* (11.5%) were the most prevalent material components in processed loads during this time period. The detailed spring composition results for processed C&D materials are presented in Appendix F.

**Table 3-44. Top Ten Components – Processed Spring
(March, April, and May 2008)**

MATERIAL	MEAN	CUM %	TONS
Clean Engineered Wood	17.4%	17.4%	10,422
Clean Dimensional Lumber >~16"	11.5%	28.9%	6,856
Other Asphalt Roofing	6.7%	35.6%	3,999
Composition Roofing	6.7%	42.2%	3,992
Painted/Stained Wood	6.5%	48.8%	3,914
Pallets and Crates	5.7%	54.5%	3,434
Mixed/Other C&D	5.0%	59.5%	2,987
Clean Gypsum Board	4.5%	64.0%	2,703
Concrete	3.7%	67.8%	2,232
Other Aggregates	3.4%	71.1%	2,023
Subtotal	71.1%		42,562
<i>All Other Materials Combined</i>	<i>28.9%</i>		<i>17,259</i>
Total	100.0%		59,822

Summer

During the summer months, a total of 149 samples were characterized. As shown in Table 3-45, *composition roofing* (10.9%) was the most prevalent material component in the summer's processed loads. Appendix F presents the full composition results for C&D processed in the summer.

**Table 3-45. Top Ten Components – Processed Summer
(June, July, and August 2008)**

MATERIAL	MEAN	CUM %	TONS
Composition Roofing	10.9%	10.9%	6,016
Mixed/Other C&D	8.6%	19.5%	4,765
Clean Engineered Wood	8.5%	28.0%	4,663
Painted/Demolition Gypsum	8.1%	36.1%	4,458
Pallets and Crates	6.6%	42.7%	3,630
Clean Dimensional Lumber >~16"	6.0%	48.7%	3,320
Clean Gypsum Board	5.2%	53.9%	2,868
Other Recyclable Wood	5.2%	59.1%	2,861
Painted/Stained Wood Siding	4.7%	63.8%	2,610
Painted/Stained Wood	4.5%	68.3%	2,508
Subtotal	68.3%		37,699
<i>All Other Materials Combined</i>	<i>31.7%</i>		<i>17,462</i>
Total	100.0%		55,161

Comparisons among Seasons

The following material components were among the top ten in all seasons: *clean engineered wood, composition roofing, clean dimensional lumber greater than 16", pallets and crates, and painted/stained wood*. Concrete was included in the top ten lists for all seasons but summer. Similarly, *mixed/other c&d* was included in the top ten all seasons other than fall. Many material components were included in the top ten in only one season: *tires and clean dimensional lumber less than 16"* in the fall, *dirt and sand* in the winter, *other asphalt roofing and other aggregates* in the spring, and *painted/stained wood siding* in the summer.

Appendix A.

Material List and Definitions for 2007/2008 C&D Study

CLEAN WOOD PAPER

1. *CLEAN DIMENSIONAL LUMBER GREATER THAN 16"*: unpainted new or demolition dimensional lumber in lengths greater than 16 inches. 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.
2. *CLEAN DIMENSIONAL LUMBER LESS THAN 16"*: unpainted new or demolition dimensional lumber in lengths less than 16 inches. 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.
3. *CLEAN ENGINEERED WOOD*: 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.
4. *PALLETS AND CRATES*: unpainted wood pallets, crates, and packaging made of lumber/engineered wood.
5. *CLEAN WOOD SIDING*: unpainted new or demolition wood planks used as siding.
6. *WOOD ROOFING*: new or demolition wood used as roofing. Can be painted, stained or treated but contains only trace amounts of other contaminants such as tar paper, Tyvek, and gutters or flashing.
7. *UNFINISHED FURNISHINGS*: Furniture or cabinets made entirely from wood that have not been treated with paint, stain, or some other chemical finish.
8. *OTHER RECYCLABLE WOOD*: recyclable wood not included in any other category. May be recycled into ethanol, adhesives, or other engineered wood products.

PAINTED AND TREATED WOOD

9. *PAINTED/STAINED WOOD SIDING*: new or demolition wood planks used as siding that has had an external coating, such as paint, stain, or varnish, applied.
10. *PAINTED/STAINED WOOD*: wood that has had an external coating, such as paint, stain, or varnish, applied. Examples include handrails and finished furniture.
11. *CREOSOTE-TREATED WOOD*: wood that has been treated with creosote. Examples include railroad ties, marine timbers and pilings, landscape timbers, and telephone poles.
12. *OTHER TREATED WOOD*: wood that has been treated with a chemical preservative not included in any other category, such as chromated copper arsenate (CCA), also called "pressure-treated wood." This type of wood may

have a greenish tint or be perforated. Examples include some cedar shakes and shingles and most wood from playgrounds, decks, and other outdoor structures.

13. *FINISHED WOOD FURNISHINGS*: Furniture or cabinets made entirely from wood that have been treated with paint, stain, or some other chemical finish.

AGGREGATES, ROCK, AND SOIL

14. *CONCRETE*: a hard material made from sand, gravel, aggregate, cement mix, and water. This category includes concrete containing steel mesh and/or reinforcement bars, or "rebar". Examples include pieces of building foundations, concrete paving, and cinder blocks.
15. *ASPHALT PAVING*: a black or brown, tar-like material mixed with aggregate used as a paving material. This category includes asphalt paving containing steel mesh and/or reinforcement bars, or "rebar".
16. *OTHER AGGREGATES*: aggregates other than concrete and asphalt paving such as bricks, masonry tile, ceramics, porcelain toilets, and clay roofing tiles.
17. *ROCK & GRAVEL*: pieces of mineral matter or rock. Examples include landscaping rock, paving stones, pathway gravel and other natural or mechanically crushed materials.
18. *DIRT AND SAND*: nutrient rich decayed organic matter and fine pieces of mineral matter, often left over from land clearing activities. This category also includes non-hazardous contaminated soil.
19. *CLEAN GYPSUM BOARD*: unpainted gypsum wallboard or interior wall covering made of a sheet of gypsum sandwiched between paper layers. Examples: This category includes used or unused, broken or whole sheets. Gypsum board may also be called sheetrock, drywall, plasterboard, gypboard, gyproc, or wallboard.
20. *PAINTED/DEMOLITION GYPSUM BOARD*: painted gypsum wallboard or interior wall covering made of a sheet of gypsum sandwiched between paper layers. Examples: This category includes used or unused, broken or whole sheets. Gypsum board may also be called sheetrock, drywall, plasterboard, gypboard, gyproc, or wallboard.

ASPHALT ROOFING

21. *COMPOSITION ROOFING*: composite shingles composed of fiberglass or organic felts saturated with asphalt and covered with inert aggregates as well as attached roofing tar and tar paper. Does not include built-up roofing. Commonly known as three tab roofing. Examples include asphalt shingles and attached roofing tar and tar paper.
22. *OTHER ASPHALT ROOFING (Built-up Roofing)*: other roofing material made with layers of felt, asphalt, aggregates, and attached roofing tar and tar paper normally used on flat/low pitched roofs usually on commercial buildings.

METAL

23. *TIN/STEEL FOOD CANS*: rigid containers made mainly of steel used to contain food. These items will stick to a magnet and may be tin-coated. Does not include other bi-metals, paint cans, or other types of steel cans.
24. *HVAC DUCTING*: sheet metal tubing, typically galvanized, used for conveying ventilation air.
25. *MAJOR APPLIANCES*: discarded major appliances of any color. These items are often enamel-coated. Examples include washing machines, clothes dryers, hot water heaters, stoves, refrigerators, furnaces and heating and cooling equipment. This category does not include electronics, such as televisions and stereos.
26. *OTHER FERROUS*: any iron or steel that is magnetic or any stainless steel item. This category does not include "tin/steel cans". Examples include structural steel beams, boilers, metal clothes hangers, metal pipes, stainless steel cookware, security bars, and scrap ferrous items and galvanized items such as nails and flashing.
27. *ALUMINUM CANS*: any food or beverage container made mainly of aluminum. Examples: This category includes aluminum soda or beer cans, and some pet food cans. This category does not include bimetal containers with steel sides and aluminum ends.
28. *OTHER NON-FERROUS*: 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, uninsulated copper wire, shell casings, brass pipe, and aluminum foil.
29. *MIXED/OTHER METAL*: metal that cannot be put in any other category. This category includes items made mostly of metal but combined with other materials and items made of both ferrous metals and non-ferrous metal combined. Examples include small non-electronic appliances such as hair dryers, motors, used oil filters, 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.

OTHER MATERIALS WITH POTENTIAL VALUE

30. *UNCOATED CORRUGATED CARDBOARD AND KRAFT*: means corrugated boxes or paper bags made from Kraft paper. 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. Kraft includes bags and sheets made from Kraft paper. Examples include paper grocery bags, fast food bags, department store bags, and heavyweight sheets of Kraft packing paper. This category does not include chipboard.
31. *OTHER RECYCLABLE PAPER*: recyclable items made mostly of paper that do not fit into the above category. Paper may be combined with minor amounts of other materials such as wax or glues. This category includes items made of

bond paper, newsprint, glossy coated paper, chipboard, groundwood paper, and deep-toned or fluorescent dyed paper. Examples include ledger, newspaper, manila folders, cereal and cracker boxes, unused paper plates and cups, goldenrod colored paper, school construction paper/butcher paper, milk cartons, ice cream cartons and other frozen food boxes, junk mail, colored envelopes for greeting cards, pulp paper egg cartons, unused pulp paper plant pots, magazines and catalogues, phone books and directories, and softcover books.

32. *GLASS BOTTLES AND CONTAINERS*: glass beverage and food containers. Examples: This category includes whole or broken soda and beer bottles, fruit juice bottles, peanut butter jars, whole or broken wine bottles, and mayonnaise jars.
33. *SMALL APPLIANCES AND PERSONAL ELECTRONICS*: non-computer-related electronic goods that have some circuitry. Examples include microwaves, toasters, stereos, VCRs, DVD players, radios, audio/visual equipment, non-CRT televisions (such as LCD televisions), cell phones, phone systems, phone answering machines, computer games and other electronic toys, portable CD players, camcorders, and digital cameras. This category does not include personal digital assistants (PDAs).
34. *COMPUTER-RELATED ELECTRONICS*: electronics with large circuitry that is computer-related. Examples include processors, mice, keyboards, laptops, disk drives, printers, modems, personal digital assistants (PDAs), and fax machines.
35. *TELEVISIONS AND OTHER ITEMS WITH CRTS*: televisions, computer monitors, and other items containing a cathode ray tube (CRT).
36. *LATEX PAINT*: containers with water-based paints and similar products in them. This category does not include dried paint, empty paint cans, or empty aerosol containers.
37. *TIRES*: vehicle tires. Examples include tires from trucks, automobiles, motorcycles, heavy equipments, and bicycles.

PLASTIC

38. *PET BOTTLES*: all bottles made from polyethylene terephthalate (PET), consisting of pop, oil, liquor, and other types of bottles (SPI code 1). Examples include soft drink and water bottles, some liquor bottles, and cooking oil containers.
39. *HDPE BOTTLES*: all bottles made of high-density polyethylene (HDPE), such as milk, juice, detergent, and other bottles (SPI code 2).
40. *OTHER CONTAINERS*: rigid plastic packaging made of types of plastic numbers 1 through 7 and unmarked rigid plastic packaging (excluding expanded polystyrene), such as clamshells, salad trays, lids, cookie tray inserts, plastic spools, plastic frozen food trays, plastic plant pots, and plastic toothpaste tubes. Also includes toxic product containers, such as for oil or antifreeze.

41. *5 GALLON #2 BUCKETS*: HDPE buckets in standard 5 gallon commercial sizes with metal wire or other type handles. Usually have a round or square shape and are frequently used as containers for paint or other construction materials.
42. *EXPANDED POLYSTYRENE PACKAGING*: items marked with a PS or a #6. Examples include packaging peanuts, meat and vegetable packaging trays, packaging blocks, and EPS clamshell containers.
43. *PLASTIC TRASH, GROCERY AND OTHER MERCHANDISE BAGS*: plastic bags sold for use as trash bags, for both residential and commercial use and plastic shopping bags used to contain merchandise to transport from the place of purchase, given out by the store with the purchase. Includes dry-cleaning plastic bags intended for 1-time use.
44. *NON-BAG COMMERCIAL AND INDUSTRIAL PACKAGING FILM*: film plastic used for large-scale packaging or transport packaging. Examples include shrink-wrap, mattress bags, furniture wrap, and film bubble wrap.
45. *PLASTIC SHEETING AND AGRICULTURAL FILM*: 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/Tyvek packaging.
46. *OTHER FILM*: all other plastic film that does not fit into any other category. Examples include other types of plastic bags (sandwich bags, zipper-recloseable bags, newspaper bags, produce bags, frozen vegetable bags, bread bags), food wrappers such as candy-bar wrappers, mailing pouches, bank bags, X-ray film, metallized film (wine containers and balloons), and plastic food wrap.
47. *PLASTIC PIPING*: pipes and fittings made of PVC (polyvinyl chloride), ABS (acrylonitrile butadiene styrene), or other rigid plastics.
48. *OTHER PLASTIC PRODUCTS*: plastic objects other than containers and film plastic. This category also includes plastic objects other than containers or film that bear the numbers 1 through 7 in the triangular recycling symbol. These items are usually made to last for more than one use. Examples: This category includes plastic outdoor furniture, plastic toys and sporting goods, CD's, and plastic housewares, such as mop buckets, dishes, cups, and cutlery. This category also includes building materials such as house siding, and window sashes and frames; housings for electronics such as computers, and televisions and stereos.
49. *MIXED/OTHER PLASTIC*: plastic that cannot be put in any other category. This category 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 packing blocks (not including expanded polystyrene blocks), plastic strapping, new plastic laminate (e.g., Formica), vinyl, linoleum, plastic lumber, imitation ceramics, handles and knobs, plastic lids, some kitchen ware, toys, plastic string (as used for hay bales), and plastic rigid bubble/foil packaging (as for medications).

50. *CARPET*: flooring applications consisting of various natural or synthetic fibers bonded to some type of backing material. Does not include carpet padding.
51. *CARPET PADDING*: plastic, foam, felt, and other materials used under carpet to provide insulation and padding.

GREEN DEBRIS

52. *YARD WASTE*: plant material from any public or private landscapes up to four inches in diameter. Examples include leaves, grass clippings, sea weed, and plants. This category does not include material from agricultural sources.
53. *LARGE PRUNINGS*: woody plant material more than four inches in diameter from any public or private landscape. Examples include prunings, shrubs, and small branches with branch diameters more than 4 inches. This category does not include stumps or tree trunks. This category does not include material from agricultural sources.
54. *STUMPS*: tree trunks and stumps, including associated dirt, that exceed four inches in diameter from any public or private landscape.

OTHER ORGANICS

55. *FOOD*: food material resulting from the processing, storage, preparation, cooking, handling, or consumption of food. This category 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 category includes grape pomace and other processed residues or material from canneries, wineries, or other industrial sources.
56. *TEXTILES*: means items made of thread, yarn, fabric, cloth, or leather. Examples include clothes, fabric trimmings, draperies, and all natural and synthetic cloth fibers. This category does not include cloth-covered or leather covered furniture or mattresses.

HAZARDOUS MATERIALS

57. *OIL PAINT*: containers with solvent-based paints, varnishes, and similar products in them. This category does not include dried paint, empty paint cans, or empty aerosol containers.
58. *VEHICLE AND EQUIPMENT FLUIDS*: containers with fluids used in vehicles or engines, except used oil. Examples include used antifreeze and brake fluid. This category does not include empty vehicle and equipment fluid containers.
59. *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.
60. *BATTERIES*: any type of battery including both dry cell and lead acid. Examples include car, flashlight, small appliance, watch, and hearing aid batteries.
61. *OTHER HOUSEHOLD HAZARDOUS*: household hazardous material that cannot be put in any other category. This category 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 fluorescent light bulbs, pesticides, solvents, medical waste, caustic cleaners, and mercury containing items.

OTHER MATERIALS WITH LITTLE TO NO VALUE

62. *CELLULOSE INSULATION*: pulped paper, usually newsprint, installed as insulation in walls using a dense-packing or spraying technique. Typically treated with fire retardants.
63. *MIXED/OTHER PAPER*: items made mostly of paper but combined with large amounts of other materials such as wax, plastic, glues, foil, food, and moisture. Examples include waxed corrugated cardboard, aseptic packages, waxed paper, tissue, paper towels, blueprints, sepia, onion skin, fast food wrappers, carbon paper, self-adhesive notes, hardcover books, and photographs.
64. *MIXED/OTHER GLASS*: glass other than recyclable containers. It includes items made mostly of glass but combined with other materials or other flat glass products. Examples: This category includes glass window panes, doors, table tops, Pyrex, Corningware, crystal and other glass tableware, mirrors, non-fluorescent light bulbs, and auto windshields.
65. *FURNITURE AND MATTRESSES*: furniture and mattresses made of mixed materials and in any condition including box springs.
66. *ASH*: a residue from the combustion of any solid or liquid material. Examples include ash from structure fires, fireplaces, incinerators, biomass facilities, waste-to-energy facilities, and barbecues.
67. *NONDISTINCT FINES*: residue material that cannot be put in any other category. This category includes mixed residue that cannot be further sorted. Examples include residual material from a materials recovery facility or other sorting process that cannot be put in any of the previous remainder/composite categories. It also includes clay and other fines.
68. *MSW*: mixed household garbage, including thrash bags containing non-C&D materials, leather items, cork, hemp rope, garden hoses, rubber items, hair, cigarette butts, diapers, feminine hygiene products, and wood products (Popsicle sticks and toothpicks).
69. *OTHER WASTE*: waste that cannot be put in any other category. Examples include disposable diapers, rubber products, animal carcasses and feces, miscellaneous organic and inorganic wastes.
70. *FIBERGLASS INSULATION*: means any of the various types of synthetic fiber insulation including both faced and unfaced batts and rigid board types. Used in ceilings, walls and around ducting for both thermal insulation and sound attenuation.
71. *EXPANDED POLYSTYRENE INSULATION*: Insulation panels marked with a PS or a #6.
72. *MIXED/OTHER CONSTRUCTION AND DEMOLITION*: construction and demolition material that cannot be put in any other category. This category may include items from different categories combined, which would be very hard to separate. This category may also include demolition debris that is a mixture of

materials such as non-porcelain sinks, synthetic counter tops, fiber or composite acoustic ceiling tiles, plate glass, wood, tiles, gypsum board, and aluminum scrap.

CONVERSION FACTORS

The composition calculations rely on the availability of individual component weights for each sample. Characterization data that was collected in the form of volume estimates; the volume estimates were converted to weights using accepted waste density conversion factors listed below with their accompanying data sources.

Material Class	Material Component	Density (lbs/cubic yard)	Source
Clean Wood	Clean Dimensional Lumber, greater than 16"	169	CIWMB2004
Clean Wood	Clean Dimensional Lumber, less than 16"	169	CIWMB2004
Clean Wood	Clean Engineered Wood	268	CIWMB2004
Clean Wood	Pallets and Crates	169	CIWMB2004
Clean Wood	Clean Wood Siding	169	CIWMB2004
Clean Wood	Wood Roofing	169	CIWMB2004
Clean Wood	Unfinished Wood Furnishings	169	CIWMB2004
Clean Wood	Other Recyclable Wood	169	CIWMB2004
Painted and Treated Wood	Painted/Stained Wood Siding	169	CIWMB2004
Painted and Treated Wood	Painted/Stained Wood	169	CIWMB2004
Painted and Treated Wood	Creosote-treated Wood	169	CIWMB2004
Painted and Treated Wood	Other Treated Wood	169	CIWMB2004
Painted and Treated Wood	Finished Wood Furnishings	169	CIWMB2004
Aggregates, Rock, Soil	Concrete	860	CIWMB2004
Aggregates, Rock, Soil	Asphalt Paving	772.8	Tellus scaled down by factor from Florida C&D study
Aggregates, Rock, Soil	Other Aggregates	860	CIWMB2004
Aggregates, Rock, Soil	Clean Gypsum Board	467	CIWMB2004

Material Class	Material Component	Density (lbs/cubic yard)	Source
Aggregates, Rock, Soil	Painted/Demolition Gypsum	467	CIWMB2004
Aggregates, Rock, Soil	Rock and Gravel	999	CIWMB2004
Aggregates, Rock, Soil	Dirt and Sand	929	CIWMB2004
Asphalt Roofing	Composition Roofing	731	CIWMB2004
Asphalt Roofing	Other Asphalt Roofing	731	CIWMB2004
Metal	Tin/Steel Cans	150	U.S. EPA
Metal	HVAC Ducting	47	CIWMB2004
Metal	Major Appliances	145	CIWMB2004
Metal	Other Ferrous	225	CIWMB2004
Metal	Aluminum Cans	65	U.S. EPA
Metal	Other Non-Ferrous	225	CIWMB2004
Metal	Mixed/Other Metal	142.83	Average of "metals" without <i>Used Oil Filters</i>
Other Materials w/ Potential Value	Uncoated Corrugated Cardboard	53	CIWMB2004
Other Materials w/ Potential Value	Other Recyclable Paper	295	U.S. EPA (<i>Average of newspaper, office paper, and magazines</i>)
Other Materials w/ Potential Value	Glass Bottles and Containers	600	U.S. EPA
Other Materials w/ Potential Value	Small Appliances and Personal Electronics	343.17	CIWMB Staff Measurement
Other Materials w/ Potential Value	Computer-related Electronics	354.08	CIWMB
Other Materials w/ Potential Value	TV's & Other CRTs	405	CIWMB
Other Materials w/ Potential Value	Latex Paint	1,836.00	Tellus
Other Materials w/ Potential Value	Tires	200	CIWMB

Material Class	Material Component	Density (lbs/cubic yard)	Source
Plastic	PET Bottles	35	U.S. EPA
Plastic	HDPE Bottles	24	U.S. EPA
Plastic	Other Containers	21.76	Tellus
Plastic	5 Gallons #2 Buckets	24	U.S. EPA
Plastic	Expanded Polystyrene Packaging	32	CIWMB2004
Plastic	Trash Bags Grocery/ Merchandise Bags	35	CIWMB2004
Plastic	Non-Bag Packaging Film	35	CIWMB2004
Plastic	Plastic Sheeting and Agricultural Film	35	CIWMB2004 - non bag packaging film
Plastic	Other Film	22.55	Tellus
Plastic	Plastic Piping	281.5	Tellus/Cascadia
Plastic	Other Plastic Products	50	U.S. EPA
Plastic	Mixed/Other Plastic	50	U.S. EPA
Plastic	Carpet	147	CIWMB2004
Plastic	Carpet Padding	62	CIWMB2004
Green Debris	Yard Waste	312.5	U.S. EPA
Green Debris	Large Prunings	127	CIWMB2004
Green Debris	Stumps	127	CIWMB2004
Other Organics	Food	486	FEECO, Tellus
Other Organics	Textiles	225	Tellus
Hazardous Materials	Oil Paint	1,836.00	Tellus
Hazardous Materials	Vehicle & Equip. Fluids	1,653.00	Tellus
Hazardous Materials	Used Oil	1,524.94	Tellus
Hazardous Materials	Batteries	2,400.00	CIWMB
Hazardous Materials	Other Household Hazardous	1,671.31	Average of "HHW" liquids
Other Materials w/ Little or No Value	Cellulose Insulation	17	U.S. EPA
Other Materials w/ Little or No Value	Mixed/Other Paper	363.5	U.S. EPA

Material Class	Material Component	Density (lbs/cubic yard)	Source
Other Materials w/ Little or No Value	Mixed/Other Glass	1,400.00	U.S. EPA
Other Materials w/ Little or No Value	Furniture and Mattresses	80	Tellus
Other Materials w/ Little or No Value	Ash	1,012.50	FEECO
Other Materials w/ Little or No Value	Nondistinct Fines	999	FEECO
Other Materials w/ Little or No Value	MSW	225	U.S. EPA
Other Materials w/ Little or No Value	Other Waste	142.8	Average of all "other materials," except <i>ash</i>
Other Materials w/ Little or No Value	Fiberglass Insulation	17	Tellus
Other Materials w/ Little or No Value	Expanded Polystyrene Insulation	32	CIWMB2004
Other Materials w/ Little or No Value	Mixed/Other C&D	416.53	CIWMB2004

Sources

Cascadia refers to direct measurements of representative samples taken by Cascadia staff members for this and other studies.

CIWMB refers to measurements, estimates, or correspondence from California Integrated Waste Management Board staff during 2006.

CIWMB2004 refers to Targeted Statewide Waste Characterization Study: Detailed Characterization of Construction and Demolition Waste, performed by Cascadia Consulting Group for California Integrated Waste Management Board, 2006.

FEECO refers to FEECO International, Complete Systems and Equipment Handbook, 9th printing.

Florida C&D Study refers to Converting C&D Debris from Volume to Weight: A Fact Sheet for C&D Debris Facility Operators, University of Florida, 2000.

San Diego refers to conversion factors that were used in the San Diego Waste Comp. Study, conducted by Cascadia Consulting Group in 2000.

Tellus refers to the Tellus Institute, Boston, Massachusetts

U.S. EPA refers to the U.S. Environmental Protection Agency's "Measuring Recycling: A Guide for State and Local Governments," document no. EPA530-R-97-011, published September 1997.

Appendix B. Study Methodology

Overview

King County conducted the 2007/2008 Construction and Demolition (C&D) Materials Characterization Study to gain a deeper understanding of C&D material disposal and recycling.¹ The 2007/2008 study refined the methods used for the previous study, in 2002, to determine the current quantity and composition of King County's disposed and processed C&D materials. More than 700 samples of materials slated for disposal or processing were visually characterized at seven facilities. Residuals from the processed loads as well as materials disposed of in intermodal containers from across the county were also visually characterized. Sampling activities occurred over four seasons to capture any seasonal variation. The study design is organized into the following sections:

- Objectives
- Sampling Universe
- Sample Allocation
- Vehicle Surveys
- Sample Selection
- Sample Characterization
- QA/QC Procedures
- Safety Procedures
- Changes from the 2002 Study

Appendices containing the material definitions (Appendix A) as well as examples of the field forms (Appendix D) are included.

Objectives

The objective of the 2007/2008 Construction and Demolition (C&D) Materials Characterization Study was to collect statistically representative composition data on King County's disposed and processed C&D materials stream. Composition data was calculated at the 90% confidence level. Additionally the study:

- Identified materials in the disposed materials C&D stream that are potentially recyclable,
- Characterized loads slated for processing

¹ Processed loads were characterized only at Cascade Recovery, CDL Recycle, Eastmont, and Recovery1. These facilities handle a significant portion, but not all, of the processed C&D loads in King County.

- Characterized disposed materials by activity type and for the county overall, and
- Provided a benchmark for continued long-term measurement of the C&D materials stream.

Sampling Universe

This study examined C&D materials that were generated throughout King County, excluding the City of Seattle, by both residential and commercial sources. C&D materials were defined as materials generated from new construction, remodeling, demolition, roofing, and other/mixed activities (e.g. public infrastructure projects). Loads that contain at least 80% C&D materials were eligible for inclusion in the study.

Material samples were characterized at seven processing and transfer stations that accept King County C&D materials: Black River, Cascade Recycling Center, CDL Recycle, Eastmont, Recovery 1, Recycle Northwest, and Third & Lander. In addition, samples were collected from construction sites where C&D materials were placed directly into shipping, or intermodal containers. This study did not characterize C&D materials hauled to King County owned transfer stations.

Four C&D substreams were characterized:

- Transfer Station Disposed Materials
- Processed Materials
- Residuals
- Intermodal Containers

Other information about the origin and type of materials was collected through the vehicle surveys. Sample targets by stream and activity are detailed in the next section. Each load sampled in this study was categorized by substream, activity, load and vehicle type. Each of these categories and corresponding sub-categories are defined in this section. These terms are used throughout this report.

Transfer Station Disposed Materials

The transfer station disposed materials universe included loads that were not intended for processing and ultimately get disposed as waste. These loads were tipped at one of the selected transfer stations. Once tipped, materials were containerized and landfilled. The disposed materials stream was stratified by the following construction activity types:

- **Demolition** – Materials generated from tearing down any facility or building, whether interior or exterior.
- **New construction** – Materials generated from the construction of new buildings.
- **Other construction** – Construction or demolition materials generated from activities not otherwise classified, such as the building, repair, and/or demolition of roads, bridges, and other public infrastructure.
- **Remodeling** – Construction or demolition materials generated from remodeling buildings.

- **Roofing** – Construction or demolition materials generated from new construction, remodeling, and demolition of residential or nonresidential roofs.

Transfer station disposed loads were characterized at Eastmont, Black River, Third & Lander, and Recycle NW. Samples were allocated to facilities in proportion to the annual tonnage handled by each facility.

Processed Materials

The processed universe included loads that were intended for processing – with equipment or by hand – to recover the divertible fraction. The remaining materials that were not recovered were *residuals*. These loads were characterized prior to processing at Cascade Recovery, CDL Recycle, Eastmont, Recovery 1, and beginning with the spring season Third and Lander. Samples were allocated to facilities in proportion to the annual tonnage handled by each facility.

Intermodal

The intermodal universe includes materials collected at demolition or construction sites and loaded directly into shipping containers for rail transport to a landfill. Once containerized at the jobsite, this material is not emptied from the container until it is buried at a landfill. These loads were characterized at the job site as material was aggregated into piles or loaded into containers.

Residual

The residual universe included materials not recovered during processing. These materials were landfilled. Residuals were characterized at Cascade Recovery, CDL Recycle, and Eastmont.

Sample Allocation

The sampling goal for this study was a total of 720 samples: Cascadia characterized 747 samples of C&D materials. The number of samples characterized at each site is approximately proportionate to the annual tonnage handled at each site. Sample goals were allocated to activity types as shown in Table B-1.

Table B-1. Sample Allocation by Activity

Activity Type	Number of Samples	
	Goal	Actual
T.S. Disposed Loads	300	340
<i>Demolition</i>	75	68
<i>Remodeling</i>	75	96
<i>New Construction</i>	75	95
<i>Roofing</i>	55	56
<i>Other/Mixed</i>	20	25
Intermodals	40	25
Processed Loads	300	302
Residuals	80	80
Total	720	747

Every site, with the exception of Recovery 1, was visited in each of four seasons to capture any seasonal variation. Sampling occurred in October and December 2007 as well as May and August 2008. Sampling days were randomly selected using the random number generator in Microsoft Excel. Sampling days, locations, and quotas are presented in Table B-2 and Table B-3.

Table B-2. Calendar of Sampling Days

	Monday	Tuesday	Wednesday	Thursday	Friday
October				25 - Black River 25- Eastmont	26 - Black River 26 - Eastmont
9 Days	29 - Recycle NW	30- CDL 30 - 3rd & Lander	31 - Cascade 31 - Recovery 1		
December	10 - Eastmont	11 - Eastmont	12 - 3rd & Lander	13 - Cascade	14 - Black River
9 Days	17 - Black River	18 - Recovery 1	19 - CDL	20 - Recycle NW	
May			7 - Eastmont	8 - Eastmont	9 - 3rd & Lander
9 Days	12 - Black River	13 - Black River	14 - Cascade	15 - Recovery 1	16 - CDL
	19 - Recycle NW				
August					15 - Recovery 1
11 Days	18 - 3rd & Lander	19 - Cascade	20 - Recycle NW	21 - Eastmont	22 - Eastmont
	25 - Black River	26 - Black River	27 - CDL	28 - Make up	29 - Make up
# of Days	7	7	8	8	8

Table B-3. Sample Quotas by Location and Season

	October	December	May	August	Total
3rd & Lander	15	15	15	15	60
Black River	25	25	25	25	100
Cascade	25	25	25	25	100
CDL Recycle	20	20	20	20	80
Eastmont	50	50	50	50	200
Recycle NW	15	15	15	15	60
Recovery 1	20	20	20	20	80
Intermodals	10	10	10	10	40
Total	180	180	180	180	720

Hauler and Transfer Station Participation

Successfully characterizing 747 samples over 38 field days required the assistance of facility operators and the local waste haulers. Cascadia implemented the following steps to secure the participation of the transfer station operators and haulers prior to commencing field work.

TRANSFER STATION DISPOSED MATERIALS, PROCESSED MATERIALS, AND RESIDUALS

Cascadia and the County contacted and met with facility representatives during the study design phase to explain the details of the study and determine how the

sampling and surveying was to be conducted at each site. All affected personnel received a sampling schedule prior to the first sampling event. Additionally, they were contacted the week before and the day prior to each sampling event. The facilities were asked to notify their staff of each sampling event.

INTERMODALS

To sample intermodals at construction sites, the Project Manager contacted the individuals at Waste Management and Allied who schedule intermodal service to explain the study and obtain any information that might have impacted the study design. The appropriate hauler representatives were contacted the week before and the day prior to each sampling event. Intermodal sampling at demolition and construction sites was scheduled on a day to day basis with hauler staff during the sampling period.

Vehicle Surveys

To quantify the materials associated with each activity type, surveys were conducted at the entrance of each participating facility. The surveys were administered to the driver of each vehicle entering the facility through the gate at which the surveyor was posted. The surveys were conducted at each participating facility on the same days that sampling occurred. On each survey day, the surveyor was on site for an eight-hour period, inclusive of all necessary rest and meal breaks. The window for surveying was 6am to 6pm and starting times were chosen between 6am and 10am.

The information collected on the *Vehicle Survey Form* corresponded to six main categories of information: material type, vehicle type, hauler, load origin, construction activity type, and load type. A copy of the *Vehicle Survey Form* is included in Appendix D. The net weights of each vehicle were also obtained. The survey process consisted of four steps:

Step 1. Verify that the load is eligible. The surveyor first confirmed that the load contains at least 80% C&D materials and that it originated in King County, excluding Seattle. The survey excluded loads that are more than 20 percent MSW.²

Step 2. Observe. Next, the surveyor observed and recorded the following:

Vehicle type – The surveyor recorded the vehicle type, according to the four categories: drop-box/roll-off, end-dump (includes flatbeds that dump), other large vehicle, or pick-up (includes truck, van, auto, and other small vehicles).

Hauler type – The surveyor determined if the vehicle is a certificated hauler, C&D hauler or self-hauler. Surveyors had a list of all certificated hauling companies and examples of C&D haulers.

² Loads generated by C&D activities generally contain more than 80% C&D materials. Having a 80% threshold likely excluded small loads, such as residential self-haul, that contain a large portion of MSW.

Step 3. Ask all drivers for specified information. All surveyed drivers were then asked for the following information:

Material type – The surveyor recorded the material type, disposed or processed.

Activity type –The surveyor asked if the load contained waste from new construction, remodeling, demolition, roofing, or other construction.

Load type –The surveyor asked the driver to choose the category that best described the building: residential, nonresidential, mixed (both residential and nonresidential construction), or other structures.

Load origin – For the final question, the surveyor ask the driver the city from which the load originated.

Step 4. Record net weight. The procedure for obtaining vehicle net weights differed by facility. If the surveyor was positioned before the vehicle reached the scale house, the driver was given a numbered card so that the surveyor could record the net weight for the load as the vehicle exited the facility. If the surveyor was positioned after the scale house, the surveyor looked at the ticket and recorded the net weight if the vehicle had a tare weight in the system. If the vehicle did not have a tare weight, a numbered card was given to the driver and collected as the vehicle exited the facility. A second surveyor was needed at some sites to obtain net weights.

The surveyor recorded data from the interviews on a *Vehicle Survey Form*. Cascadia's project manager was on site at the beginning of the sampling and survey phase of the project and trained the surveyor in the implementation of the survey and the use of the *Vehicle Survey Form*. Following each day of surveying, the completed *Vehicle Survey Forms* were delivered to Cascadia's office for entry into a customized Microsoft Access database.

Sample Selection

This section describes how vehicles, residual and intermodal samples were selected for sampling. Disposed loads and processed loads were selected using the same method, residuals and intermodals each required their own unique methods.

Sampling of Transfer Station Disposed and Processed Loads

The surveyor selected vehicles for sampling. At the start of the survey day, every third remodeling and demolition load was selected for sampling. Because new construction, roofing and other/mixed loads were expected to be less common, every load of those types was selected. These sampling intervals were based on field experience gained through other local C&D studies and were adjusted as needed, based on traffic flows, in order to meet each day's sampling goals. *Vehicle Selection Forms* were created for each day and each location. When a vehicle was selected, the surveyor assigned a unique sample ID to the load and recorded that sample ID on the *Vehicle Survey Form*.

The surveyor then placed a *Sample Placard* labeled with the sample ID number on the vehicle's windshield or dashboard to identify it as a vehicle intended for sampling and directed the driver to the sampling area. The entire load carried by each vehicle chosen for sampling constituted one sample and was characterized while still on the tipping floor. Examples of the *Vehicle Selection Form* and the *Sample Placard* are included in Appendix D.

Sampling of Intermodals

Materials collected in intermodal containers at demolition and construction sites were only visible as they were being transferred into the container and at the landfill when being dumped. For this reason, intermodal containers were characterized at the construction site. A list of all sites that have requested intermodal service during each season's sampling period was obtained from the haulers. The list of sites was randomly sorted and visited in the random order they appear on the list. When necessary, sampling was re-scheduled to accommodate intermodal service requests. To complete the characterization a visual estimator stood at a safe distance from the construction activity at each site and characterized materials as they were placed in the intermodal container.

Sampling of Residuals

At Cascade Recycling Center, CDL Recycle, and Eastmont highly recoverable loads of C&D materials were diverted to the sorting line, where recoverable materials, such as untreated wood and cardboard, were separated for recovery. A total of 80 samples of residuals, or non-recoverable left-over material from this operation were characterized while on a conveyor belt. A process for sampling this material was refined with facility personnel with priority placed on the safety of the sampling staff and the sorters. This conveyor belt was occasionally stopped for the sample so that the estimator could characterize material on approximately eight feet of the conveyor belt at one time. Prior to each sampling day, a random time was selected for the visual estimator to sample residuals. This designated time coincided with the hours the estimator was on site and the sorting line was operational.

Sample Characterization

A visual volumetric measurement protocol was used to characterize all loads of C&D materials. Visual sampling was more effective than hand sorting methods due to the heavy, bulky and highly variable nature of C&D loads. This led to a more representative characterization of each load and, therefore, the materials stream as a whole. A professional visual estimator used the field-tested, seven-step process described below to estimate the composition of all C&D loads.

Step 1. Collect sample placard from driver. Record the sample number and date on the *Visual Sampling Form*.

Step 2. Measure load volume. Measure and record the length, width, and height of the load while it is still in the vehicle (if possible) or after the load is tipped. Record measurements on the *Visual Sampling Form*.

Step 3. Photograph sample. Take a photograph of the sample, with the sample placard made clearly visible in the photograph.

Step 4. Note which material classes are present. After the driver had dumped the load onto the ground and it had been spread out, the estimator walked entirely around the load and indicated on the sampling form which material classes were present in the load. Material classes include **Clean Wood, Painted and Treated Wood, Aggregates, Rock and Soil, Asphalt Roofing, Metal, Other Materials with Potential Value, Plastic, Green Debris, Other Organics, Hazardous Materials,** and **Other Materials with Little or No Value.**

Step 5. Estimate composition by volume for each material class. Beginning with the largest material class present by volume, staff estimated the percentage by volume of this material class and recorded it on the form. This process was repeated for the next most common material class, and so forth, until the volumetric percentage of every material class had been estimated. The estimator then calculated the total for this step, ensuring that it totaled 100 percent.

Step 6. Estimate composition by volume for each material component. Considering each material class separately, staff estimated the percentage by volume of the material class each material component comprised. An example of a material component within the material class of **Metal** was *other ferrous*. For example, while considering only the **Metal** material class, staff estimated the volumetric percentage of **Metal** each material component comprises. The total of percentages for all of the material components within each material class equaled 100%. Staff repeated this process for the other material classes, with all the material components in each material class totaling 100%.

Step 7. Check and reconcile percentage data. Staff verified that the percentage estimates for the material classes added up to 100%. Also, the percentage estimates for the material components within each material class totaled 100%.

The visual estimator used a *Visual Sampling Form* to record the composition estimates and the information obtained from the *Sample Placard* for each sampled vehicle. Appendix D includes a copy of the *Visual Sampling Form*. The data from completed forms were entered into a database.

QA/QC Procedures

To minimize data collection errors and maximize the accuracy of the study results, the following quality assurance/quality control procedures were followed:

- All field crew were trained in the vehicle survey, sample selection, and sample characterization procedures.
- All survey and characterization data were checked for accuracy in the field.
- The project manager provided continuous data review and verification to ensure that field forms were complete and data was properly recorded.

- Following each seasonal sampling period, Cascadia entered all survey and characterization data into a custom Microsoft Access database.
- To improve consistency across field forms and efficient data entry, the database was developed prior to beginning field work.
- The project manager conducted an inspection of randomly selected records to monitor the accuracy of the data entry process.
- All field crew members were provided with a copy of the study design and material definitions.

Field crew members familiarized themselves with the design, materials, and QA/QC procedures enabling them to immediately resolve problems in the field while promoting timely and on-budget completion of the project.

Safety Procedures

All Cascadia field crew personal complied with safety requests from facility and construction site personnel. Additionally, crew members wore appropriate safety gear at all times. For all field crew this included:

- High visibility clothing,
- A hard hat,
- Steel toe boots, and
- Safety glasses.

Samplers also wore gloves, hearing protection, and a dust mask.

Changes from the 2002 Study

The 2007/2008 C&D study included changes to the study design and material lists from the 2002 Study. These changes were made to achieve a different set of objectives and to provide better data for county-wide waste planning. Specific changes included:

- Characterizing processed loads, residual materials and intermodal containers in addition to disposed loads,
- Stratifying disposed loads based on activity type rather than hauler type,
- Altering the material list to be more compatible with the Waste Monitoring Program's 2007 Waste Characterization Study, and
- Discontinuing the processor interviews.

Appendix C. C&D Materials Composition Calculations

Cascadia estimated compositions and tonnages through analyses of the materials characterization data, customer surveys, and data provided by King County Solid Waste Division. This Appendix details each step of the calculation process.

Composition Calculations

The composition estimates represent the **ratio of the components' weight to the total sample weight** for each noted substream. They are derived by summing each component's weight across all of the selected records and dividing by the sum of the total sample weight, as shown in the following equation:

$$r_j = \frac{\sum_i c_{ij}}{\sum_i w_i}$$

where:

- r = ratio of components' weight to the total sample weight
- c = weight of particular component
- w = sum of all component weights
- for i 1 to n

where:

- n = number of selected samples
- for j 1 to m

where:

- m = number of components

The confidence interval for this estimate is derived in two steps. First, the variance around the estimate is calculated, accounting for the fact that the ratio includes two random variables (the component and total sample weights). The variance of the ratio estimator equation follows:

$$V_{r_j} = \frac{\sum_i (c_{ij} - r_j w_i)^2}{n-1} \times \frac{1}{\bar{w}^2}$$

where:

$$\bar{w} = \frac{\sum_i w_i}{n}$$

Second, **precision levels** at the 90% confidence interval are calculated for a component's mean as follows:

$$r_j \pm (t \times \sqrt{V_{r_j}})$$

where:

t = the value of the t-statistic (1.645) corresponding to a 90% confidence level

For more detail, please refer to Chapter 6 “Ratio, Regression and Difference Estimation” of *Elementary Survey Sampling* by R.L. Scheaffer, W. Mendenhall and L. Ott (PWS Publishers, 1986).

Tonnage Estimates

The annual tonnage estimates (349,168 tons disposed or recycled at facilities included in this study and 31,773 intermodal tons) were provided by the Solid Waste Division. The tonnages allocated to all other substreams (i.e. activity type, hauler type, load type, etc.) were calculated using customer survey data.

Weighted Averages

Cascadia calculated the overall materials composition estimates and the composition estimates for each substream by performing a weighted average by activity type. Cascadia calculated weighted averages using customer survey data and the tonnage estimates for each substream.

The **weighted average for an overall composition estimate** is performed as follows:

$$O_j = (p_1 \times r_{j1}) + (p_2 \times r_{j2}) + (p_3 \times r_{j3}) + \dots$$

where:

p = proportion of tonnage contributed by the noted substream

r = ratio of component weight to total sample weight in the noted substream

for j = 1 to m

where:

m = number of components

The following scenario illustrates the above equation. This example involves the component *carpet* in three materials sectors.

	Materials Sector 1	Materials Sector 2	Materials Sector 3
Ratio of carpet (r)	0.05	0.10	0.15
Proportion of Tonnage (p)	0.50	0.25	0.25

$$O_{Carpet} = (0.50 * 0.05) + (0.25 * 0.10) + (0.25 * 0.15) = 0.0875$$

So, it is estimated that 0.0875 or 8.75% of the entire materials stream is comprised of *carpet*.

The **variance of the weighted average** is calculated:

$$VarO_j = (p_1^2 \times \hat{V}_{r_{j1}}) + (p_2^2 \times \hat{V}_{r_{j2}}) + (p_3^2 \times \hat{V}_{r_{j3}}) + \dots$$

where:

V = ratio estimator's variance in the noted substream

Appendix D. Field Forms

This appendix includes examples of the various field forms including the following.

- Vehicle survey form
- Vehicle selection form
- Sample placard
- Visual sampling form

Figure D-1. Vehicle Survey Form, Front

Verify that the load contains at least 80% C&D waste and is from King County, excluding Seattle.

SAMPLE ID	ORIGIN	WASTE TYPE	VEHICLE	HAULER	ACTIVITY	BUILDING TYPE	NET WT	NOTES
	<u>Ask what city the waste was generated in.</u>	W = Waste P = Prcsd.	DB=drop-box ED=end dump SE=semi truck LG=other large vehicle PU=pick-up/passenger	COM=contracted haulers C&D=C&D haulers BSH=business self-haul HSH=homeowner self-haul	NC=new construction REM=remodel DMO=demolition RF=roofing OC=other c&d/mixed DK=don't know	R=residential buildings NR=non-residential buildings M=Mixed load OS=Other structures	Net weights only Record gross weights in NOTES	Record the following, if applicable: 1) Comments 2) Weigh Back Transaction #'s 3) Min. Vehicle Gross Weights 4) Min. Vehicle Make & Model 5) Weigh back card ID
		W P	DB ED SE LG PU	COM C&D BSH HSH	NC REM DMO RF OC DK	R NR M OS		
		W P	DB ED SE LG PU	COM C&D BSH HSH	NC REM DMO RF OC DK	R NR M OS		
		W P	DB ED SE LG PU	COM C&D BSH HSH	NC REM DMO RF OC DK	R NR M OS		
		W P	DB ED SE LG PU	COM C&D BSH HSH	NC REM DMO RF OC DK	R NR M OS		
		W P	DB ED SE LG PU	COM C&D BSH HSH	NC REM DMO RF OC DK	R NR M OS		
		W P	DB ED SE LG PU	COM C&D BSH HSH	NC REM DMO RF OC DK	R NR M OS		
		W P	DB ED SE LG PU	COM C&D BSH HSH	NC REM DMO RF OC DK	R NR M OS		
		W P	DB ED SE LG PU	COM C&D BSH HSH	NC REM DMO RF OC DK	R NR M OS		
		W P	DB ED SE LG PU	COM C&D BSH HSH	NC REM DMO RF OC DK	R NR M OS		
		W P	DB ED SE LG PU	COM C&D BSH HSH	NC REM DMO RF OC DK	R NR M OS		
		W P	DB ED SE LG PU	COM C&D BSH HSH	NC REM DMO RF OC DK	R NR M OS		
		W P	DB ED SE LG PU	COM C&D BSH HSH	NC REM DMO RF OC DK	R NR M OS		
		W P	DB ED SE LG PU	COM C&D BSH HSH	NC REM DMO RF OC DK	R NR M OS		
		W P	DB ED SE LG PU	COM C&D BSH HSH	NC REM DMO RF OC DK	R NR M OS		
		W P	DB ED SE LG PU	COM C&D BSH HSH	NC REM DMO RF OC DK	R NR M OS		
		W P	DB ED SE LG PU	COM C&D BSH HSH	NC REM DMO RF OC DK	R NR M OS		
		W P	DB ED SE LG PU	COM C&D BSH HSH	NC REM DMO RF OC DK	R NR M OS		
		W P	DB ED SE LG PU	COM C&D BSH HSH	NC REM DMO RF OC DK	R NR M OS		
		W P	DB ED SE LG PU	COM C&D BSH HSH	NC REM DMO RF OC DK	R NR M OS		
		W P	DB ED SE LG PU	COM C&D BSH HSH	NC REM DMO RF OC DK	R NR M OS		

Figure D-2. Vehicle Survey Form, Back

Complete this section for every page

Page _____ of _____

Date _____ Circle the site:
Third & Lander Cascade Recycle NW
Gatekeeper _____ Eastmont CDL
Black River Recovery 1

Complete this section for first page only

Inclement Weather? _____
Start Time _____ Stop Time _____

Other Notes about Today's Sampling:

If found, please call Cascadia Consulting Group at 206/343-9759. Reward offered.

Figure D-3. Vehicle Selection Form

**2007 King County C&D Study
Vehicle Selection Form**

Site: Eastmont
Date: 5/7/2008 and 5/8/2008

**Goal: 25 Samples/day
50 Samples Total**

When you reach the number circled, ask this vehicle to go to the sorting area.

New Construction

NEED 4 TOTAL

(1) (2) (3) (4) 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Remodeling

NEED 8 TOTAL

(1) 2 3 (4) 5 6 (7) 8 9 (10) 11 12 (13) 14 15 (16) 17 18 (19) 20
21 (22) 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

Demolition

NEED 8 TOTAL

(1) 2 3 (4) 5 6 (7) 8 9 (10) 11 12 (13) 14 15 (16) 17 18 (19) 20
21 (22) 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

Roofing

NEED 6 TOTAL

(1) (2) (3) (4) (5) (6) 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Other/Mixed

NEED 4 TOTAL

(1) (2) (3) (4) 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Processed

NEED 15 TOTAL

(1) 2 3 (4) 5 6 (7) 8 9 (10) 11 12 (13) 14 15 (16) 17 18 (19) 20
21 (22) 23 24 (25) 26 27 (28) 29 30 (31) 32 33 (34) 35 36 (37) 38 39 (40)
41 42 (43) 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60

Residuals

NEED 5 TOTAL

Sample at 11:30 AM

Figure D-4. Sample Placard

PROC - 1

Date /

Figure D-5. Visual Sampling Form

Step 1:
 Site: 3&L BR CR CDL
 EMT R1 RNW Intermodal
 Date: _____
 Numbered Card: _____

Step 2: Measure and record the load volume.
 (Include trailer dimensions if applicable.)
Dimensions:
 _____ ft x _____ ft x _____ ft
 _____ ft x _____ ft x _____ ft

Step 3: Identify and record all broad material categories (in bold) that appear in the load.
 Step 4: Estimate composition of load by volume for each broad material category (in bold).
 Step 5: For each broad material category, estimate composition by volume of each specific material component.
 Step 6: Make sure broad material category estimates AND material component estimates EACH total 100%.

Paper: _____%

OCC
Other Recyclable Paper
Cellulose Insulation
R/C Paper
% Subtotal (must equal 100%)

Wood Waste: _____%

Clean Dimensional Lumber, >~16"
Clean Dimensional Lumber, <~16"
Clean Engineered Wood
Pallets and Crates
Clean Wood Siding
Painted Stained Wood Siding
Wood Roofing
Painted/Stained Wood
Creosote Treated Wood
Other Treated Wood
Unfinished Furnishings
Finished Furnishings
Other Recyclable Wood
% Subtotal (must equal 100%)

Grand Total: _____%
(Must equal 100%)

NOTES: _____

Plastic: _____%

PET Bottles
HDPE Bottles
5 Gallon #2 Buckets
Other Containers
Expanded Polystyrene Packaging
Plastic Trash Grocery/Other Merchandise Bags
Non-Bag Commercial and Industrial Packaging Film
Plastic Sheeting/Agricultural Film
Other Film
Plastic Piping
Other Plastic Products
Plastic and Other Materials
% Subtotal (must equal 100%)

Metal: _____%

Tin/Steel Cans
HVAC Ducting
Major Appliances
Other Ferrous Metals
Aluminum Cans
Other Non-Ferrous
R/C Metal
% Subtotal (must equal 100%)

Construction & Demolition: _____%

Concrete
Asphalt Paving
Composition Roofing
Other Asphalt Roofing
Other Aggregates
Clean Gypsum Board
Painted/Demolition Gypsum Board
Rock and Gravel
Dirt and Sand
Fiberglass Insulation
Expanded Polystyrene Insulation
R/C C&D
% Subtotal (must equal 100%)

Compostables: _____%

Food
Yard Waste
Large Prunings
Stumps
% Subtotal (must equal 100%)

Glass: _____%

Glass Bottles and Containers
Other Glass
% Subtotal (must equal 100%)

Other Materials: _____%

Textiles
Furniture and Mattresses
Carpet
Carpet Padding
Tires
Ash
Nondistinct Fines
Other Waste
MSW
% Subtotal (must equal 100%)

Household Hazardous Waste: _____%

Latex Paint
Oil Paint
Vehicle and Equipment Fluids
Used Oil
Batteries
Other HHW
% Subtotal (must equal 100%)

Electronics: _____%

Small Appliances/Other Personal Electronics
Computer Related Electronics
Televisions/Other Items with CRT's
% Subtotal (must equal 100%)

Appendix E.

Quality Control Plan

This control plan ensures quality and consistency throughout this study – from executing the fieldwork to the data entry to report production.

Train Characterization Staff

To provide consistent surveying and characterization, the same staff trained at the onset of the study worked through the study's completion in August 2008. All characterization staff spent time in the field studying the components and practicing the sampling protocol. The training focused on the precise definitions for each material component and covered safety procedures, characterization techniques, and quality control procedures. The gatekeeper (the surveyor) was trained in survey methods, vehicle selection, transfer station protocol, safety procedures, and identifying vehicle types.

Select Vehicles

For each sampling day, the gatekeeper tallied vehicles as they entered the transfer station on a *Vehicle Selection Form*. The form indicated the sampling frequency and the total number of vehicles needed for each substream and vehicle type. For each vehicle selected for sampling, the gatekeeper placed a fluorescent pink *Sample Placard* on the windshield and directed the vehicle to the characterization staff. The brightly colored cards enabled the characterization staff to identify the selected vehicle easily. The gatekeeper assigned each vehicle a unique identification number and recorded it on both the pink card and the gatekeeper form. When the driver proceeded to the tipping area, the characterization staff collected the pink card from the vehicle's driver.

Record and Review Data

The Sort Crew Manager recorded the characterization information in a specially designed database. By combining the Cascadia designed database, and corresponding electronic data-entry forms together, Cascadia was able to ensure accuracy, consistency among forms, and efficient recording of data. After each month's sampling event, a designated Cascadia staff member entered the survey data, and the sampling task manager reviewed the entered results to ensure accuracy and reliability.

Report Preparation

Cascadia calculated waste composition estimates using automated analytical tools, developed by the firm. These automated tools reduce the possibility for human error and were tailored to meet the needs of this study. The automated calculation tools provided basic information that Cascadia used as a checkpoint to help ensure valid and correct data analysis. For example, the analysis tools showed the total number of samples and the average net weight of the samples when computing composition estimates. Additionally, the user selected specific statistical procedures for each analysis. A user's guide for the analytical tools provided new project staff with an ongoing reference and instructions.

Appendix F. Additional Tables and Figures

Additional Substream Data

This section contains additional charts and tables for more specific C&D streams. First, a pie chart shows the proportion of materials attributable to each load, hauler and vehicle type for the disposed and processed substreams. Those pie charts are followed by a complete set of detailed composition tables. Detailed composition tables from disposed loads are shown first, then the intermodal table. Processed and residuals loads follow.

Figure F-1. Proportion of the Transfer Station Disposed and Processed Substreams by Load Type

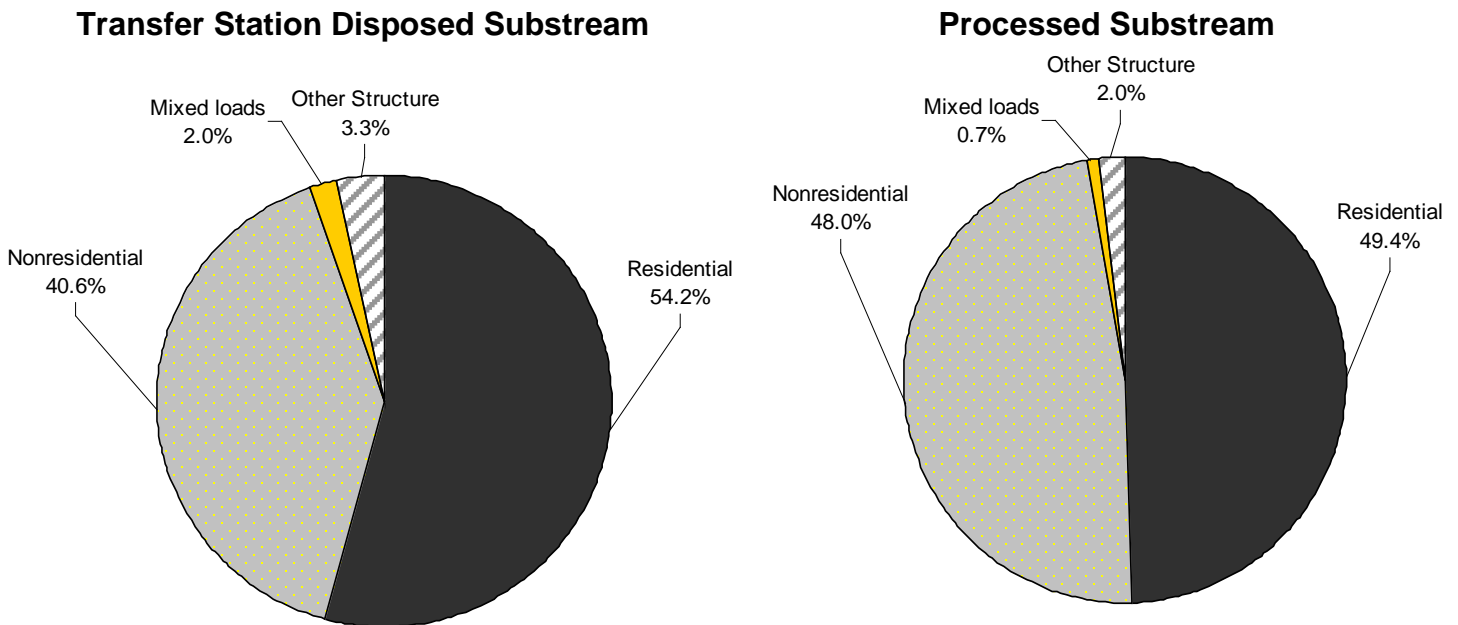
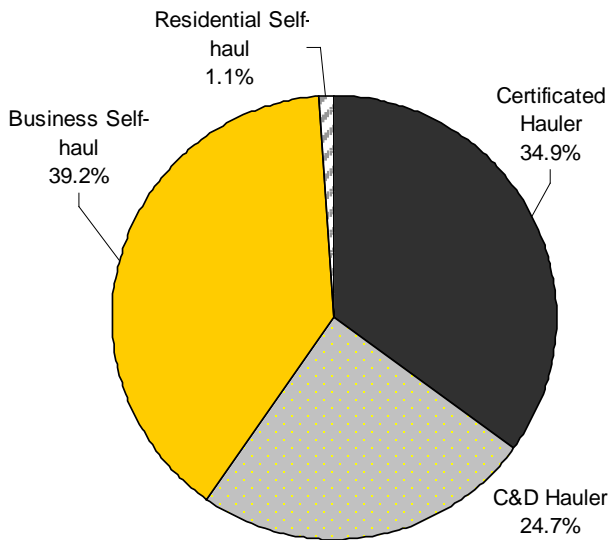


Figure F-2. Proportion of the Transfer Station Disposed and Processed Substreams by Hauler Type

Transfer Station Disposed Substream



Processed Substream

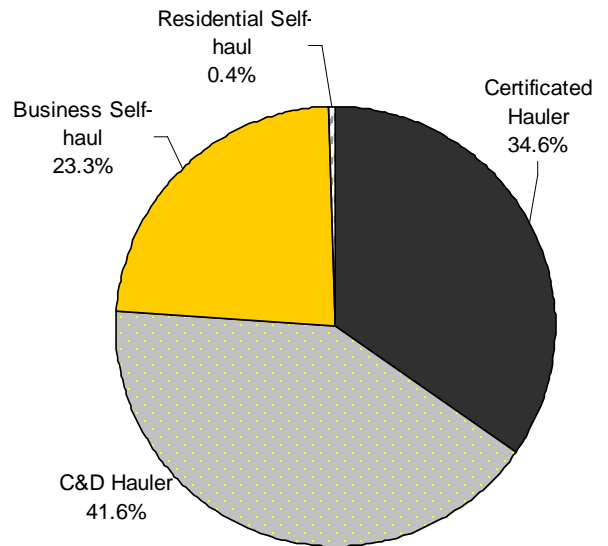
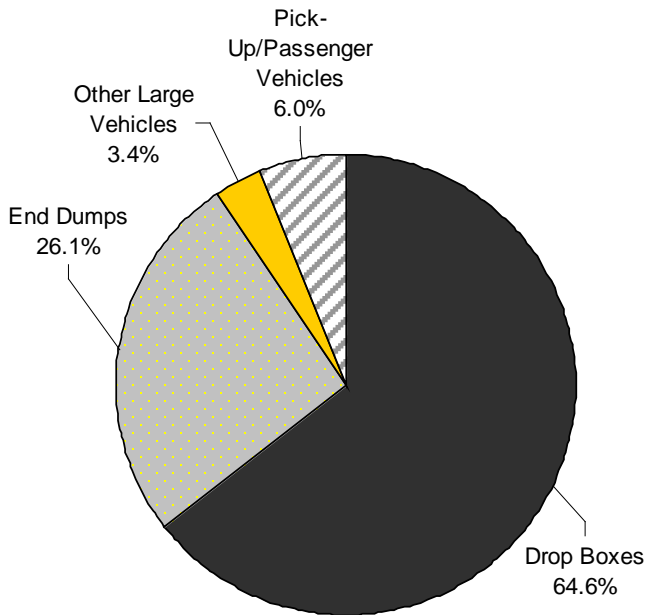
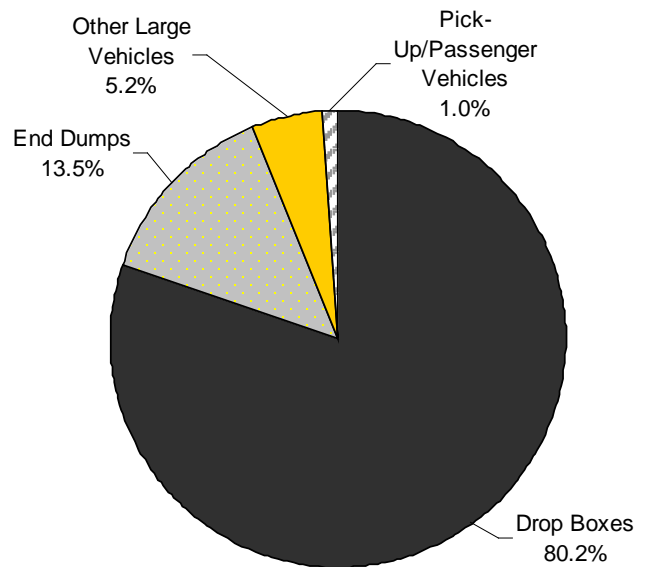


Figure F-3. Proportion of the Transfer Station Disposed and Processed Substreams by Vehicle Type

Transfer Station Disposed Substream



Processed Substream



**Table F-1. Composition by Weight – Transfer Station Disposed C&D
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	30,515	24.0%		Plastic	8,230	6.5%	
Clean Dimensional Lumber >-16"	8,267	6.5%	1.3%	PET Bottles	14	0.0%	0.0%
Clean Dimensional Lumber <-16"	2,954	2.3%	0.6%	HDPE Bottles	2	0.0%	0.0%
Clean Engineered Wood	10,173	8.0%	1.3%	Other Plastic Containers	52	0.0%	0.0%
Pallets and Crates	4,552	3.6%	1.2%	5 Gallons #2 Buckets	60	0.0%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	320	0.3%	0.2%
Wood Roofing	2,620	2.1%	1.0%	Trash Bags Grocery/ Merch. Bags	303	0.2%	0.1%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	232	0.2%	0.1%
Other Recyclable Wood	1,950	1.5%	0.4%	Plastic Sheeting & Ag. Film	1,814	1.4%	0.8%
Painted and Treated Wood	9,579	7.5%		Other Film	188	0.1%	0.1%
Painted/Stained Wood Siding	2,062	1.6%	0.8%	Plastic Piping	2,183	1.7%	0.7%
Painted/Stained Wood	5,652	4.4%	0.9%	Other Plastic Products	497	0.4%	0.2%
Creosote-treated Wood	65	0.1%	0.1%	Mixed/Other Plastic	123	0.1%	0.1%
Other Treated Wood	737	0.6%	0.4%	Carpet	2,043	1.6%	0.5%
Finished Wood Furnishings	1,064	0.8%	0.4%	Carpet Padding	399	0.3%	0.1%
Aggregates, Rock, Soil	29,911	23.5%		Green Debris	2,635	2.1%	
Concrete	4,187	3.3%	1.2%	Yard Waste	1,094	0.9%	0.4%
Asphalt Paving	474	0.4%	0.4%	Large Prunings	1,022	0.8%	0.8%
Other Aggregates	3,074	2.4%	1.1%	Stumps	519	0.4%	0.5%
Rock and Gravel	539	0.4%	0.3%	Other Organics	589	0.5%	
Dirt and Sand	2,240	1.8%	1.0%	Food	0	0.0%	0.0%
Clean Gypsum Board	7,251	5.7%	2.6%	Textiles	589	0.5%	0.4%
Painted/Demolition Gypsum	12,146	9.6%	2.3%	Hazardous Materials	61	0.0%	
Asphalt Roofing	21,398	16.8%		Oil Paint	0	0.0%	0.0%
Composition Roofing	17,480	13.8%	2.1%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	3,918	3.1%	1.5%	Used Oil	0	0.0%	0.0%
Metal	4,963	3.9%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	4	0.0%	0.0%	Other Household Hazardous	61	0.0%	0.1%
HVAC Ducting	109	0.1%	0.0%	Other Materials w/ Little or No Value	14,193	11.2%	
Major Appliances	44	0.0%	0.0%	Cellulose Insulation	26	0.0%	0.0%
Other Ferrous Metal	3,490	2.7%	0.7%	Mixed/Other Paper	1,288	1.0%	0.6%
Aluminum Cans	24	0.0%	0.0%	Mixed/Other Glass	1,323	1.0%	0.7%
Other Non-Ferrous Metal	753	0.6%	0.3%	Furniture and Mattresses	654	0.5%	0.5%
Mixed/Other Metal	538	0.4%	0.2%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	4,976	3.9%		Nondistinct Fines	1,199	0.9%	0.5%
Uncoated Corrugated Cardboard	2,857	2.2%	0.6%	MSW	1,502	1.2%	0.4%
Other Recyclable Paper	1,847	1.5%	0.4%	Other Waste	75	0.1%	0.1%
Glass Bottles and Containers	72	0.1%	0.1%	Fiberglass Insulation	313	0.2%	0.1%
Sm. Appliances & Personal Electronics	32	0.0%	0.0%	Expanded Polystyrene Insulation	465	0.4%	0.2%
Computer-related Electronics	10	0.0%	0.0%	Mixed/Other C&D	7,349	5.8%	1.5%
TV's & Other CRTs	125	0.1%	0.1%	Totals	127,051	100%	
Latex Paint	17	0.0%	0.0%	Number of Samples	340		
Tires	17	0.0%	0.0%				

Error range calculated at a 90% confidence level

**Table F-2. Composition by Weight – Transfer Station Disposed Demolition
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	5,162	18.4%		Plastic	2,132	7.6%	
Clean Dimensional Lumber >-16"	1,712	6.1%	2.9%	PET Bottles	1	0.0%	0.0%
Clean Dimensional Lumber <-16"	598	2.1%	1.6%	HDPE Bottles	0	0.0%	0.0%
Clean Engineered Wood	1,287	4.6%	1.9%	Other Plastic Containers	8	0.0%	0.0%
Pallets and Crates	778	2.8%	1.8%	5 Gallons #2 Buckets	4	0.0%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	10	0.0%	0.0%
Wood Roofing	200	0.7%	0.8%	Trash Bags Grocery/ Merch. Bags	45	0.2%	0.1%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	20	0.1%	0.1%
Other Recyclable Wood	588	2.1%	1.8%	Plastic Sheeting & Ag. Film	817	2.9%	3.2%
Painted and Treated Wood	3,188	11.4%		Other Film	35	0.1%	0.1%
Painted/Stained Wood Siding	707	2.5%	1.6%	Plastic Piping	573	2.0%	1.8%
Painted/Stained Wood	1,652	5.9%	1.8%	Other Plastic Products	91	0.3%	0.2%
Creosote-treated Wood	0	0.0%	0.0%	Mixed/Other Plastic	58	0.2%	0.2%
Other Treated Wood	391	1.4%	1.1%	Carpet	416	1.5%	0.7%
Finished Wood Furnishings	439	1.6%	1.5%	Carpet Padding	55	0.2%	0.1%
Aggregates, Rock, Soil	6,992	25.0%		Green Debris	1,517	5.4%	
Concrete	603	2.2%	1.8%	Yard Waste	315	1.1%	0.9%
Asphalt Paving	97	0.3%	0.5%	Large Prunings	719	2.6%	3.7%
Other Aggregates	785	2.8%	2.7%	Stumps	484	1.7%	2.5%
Rock and Gravel	0	0.0%	0.0%	Other Organics	156	0.6%	
Dirt and Sand	1,737	6.2%	6.1%	Food	0	0.0%	0.0%
Clean Gypsum Board	380	1.4%	1.4%	Textiles	156	0.6%	0.6%
Painted/Demolition Gypsum	3,390	12.1%	5.1%	Hazardous Materials	38	0.1%	
Asphalt Roofing	1,412	5.0%		Oil Paint	0	0.0%	0.0%
Composition Roofing	1,272	4.5%	3.1%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	139	0.5%	0.8%	Used Oil	0	0.0%	0.0%
Metal	1,570	5.6%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	0	0.0%	0.0%	Other Household Hazardous	38	0.1%	0.2%
HVAC Ducting	4	0.0%	0.0%	Other Materials w/ Little or No Value	4,973	17.8%	
Major Appliances	16	0.1%	0.1%	Cellulose Insulation	9	0.0%	0.0%
Other Ferrous Metal	1,261	4.5%	2.0%	Mixed/Other Paper	143	0.5%	0.7%
Aluminum Cans	2	0.0%	0.0%	Mixed/Other Glass	162	0.6%	0.5%
Other Non-Ferrous Metal	152	0.5%	0.4%	Furniture and Mattresses	251	0.9%	1.2%
Mixed/Other Metal	135	0.5%	0.3%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	851	3.0%		Nondistinct Fines	823	2.9%	2.2%
Uncoated Corrugated Cardboard	312	1.1%	0.6%	MSW	91	0.3%	0.4%
Other Recyclable Paper	441	1.6%	1.2%	Other Waste	70	0.3%	0.3%
Glass Bottles and Containers	17	0.1%	0.1%	Fiberglass Insulation	76	0.3%	0.2%
Sm. Appliances & Personal Electronics	11	0.0%	0.1%	Expanded Polystyrene Insulation	70	0.2%	0.4%
Computer-related Electronics	9	0.0%	0.1%	Mixed/Other C&D	3,278	11.7%	4.9%
TV's & Other CRTs	50	0.2%	0.2%	Totals	27,991	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	68		
Tires	10	0.0%	0.0%				

Error range calculated at a 90% confidence level

**Table F-3. Composition by Weight – Transfer Station Disposed New Construction
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	14,182	37.2%		Plastic	3,242	8.5%	
Clean Dimensional Lumber >-16"	3,965	10.4%	2.7%	PET Bottles	9	0.0%	0.0%
Clean Dimensional Lumber <-16"	1,319	3.5%	0.9%	HDPE Bottles	0	0.0%	0.0%
Clean Engineered Wood	5,986	15.7%	3.4%	Other Plastic Containers	3	0.0%	0.0%
Pallets and Crates	1,908	5.0%	1.6%	5 Gallons #2 Buckets	38	0.1%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	33	0.1%	0.1%
Wood Roofing	0	0.0%	0.0%	Trash Bags Grocery/ Merch. Bags	104	0.3%	0.1%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	96	0.3%	0.2%
Other Recyclable Wood	1,004	2.6%	0.9%	Plastic Sheeting & Ag. Film	645	1.7%	0.7%
Painted and Treated Wood	2,163	5.7%		Other Film	89	0.2%	0.2%
Painted/Stained Wood Siding	248	0.7%	0.6%	Plastic Piping	1,470	3.9%	2.2%
Painted/Stained Wood	1,781	4.7%	2.0%	Other Plastic Products	167	0.4%	0.3%
Creosote-treated Wood	0	0.0%	0.0%	Mixed/Other Plastic	19	0.0%	0.0%
Other Treated Wood	62	0.2%	0.2%	Carpet	486	1.3%	0.7%
Finished Wood Furnishings	72	0.2%	0.2%	Carpet Padding	85	0.2%	0.1%
Aggregates, Rock, Soil	11,453	30.1%		Green Debris	483	1.3%	
Concrete	1,645	4.3%	2.6%	Yard Waste	229	0.6%	0.5%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	219	0.6%	0.4%
Other Aggregates	173	0.5%	0.5%	Stumps	35	0.1%	0.1%
Rock and Gravel	346	0.9%	1.0%	Other Organics	222	0.6%	
Dirt and Sand	418	1.1%	1.0%	Food	0	0.0%	0.0%
Clean Gypsum Board	4,898	12.9%	6.9%	Textiles	222	0.6%	0.8%
Painted/Demolition Gypsum	3,974	10.4%	4.7%	Hazardous Materials	0	0.0%	
Asphalt Roofing	575	1.5%		Oil Paint	0	0.0%	0.0%
Composition Roofing	348	0.9%	0.8%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	227	0.6%	1.0%	Used Oil	0	0.0%	0.0%
Metal	1,343	3.5%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	4	0.0%	0.0%	Other Household Hazardous	0	0.0%	0.0%
HVAC Ducting	24	0.1%	0.1%	Other Materials w/ Little or No Value	2,490	6.5%	
Major Appliances	0	0.0%	0.0%	Cellulose Insulation	0	0.0%	0.0%
Other Ferrous Metal	914	2.4%	1.1%	Mixed/Other Paper	578	1.5%	0.9%
Aluminum Cans	11	0.0%	0.0%	Mixed/Other Glass	344	0.9%	1.3%
Other Non-Ferrous Metal	300	0.8%	0.7%	Furniture and Mattresses	54	0.1%	0.2%
Mixed/Other Metal	91	0.2%	0.1%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	1,958	5.1%		Nondistinct Fines	98	0.3%	0.2%
Uncoated Corrugated Cardboard	1,328	3.5%	1.1%	MSW	590	1.5%	0.8%
Other Recyclable Paper	573	1.5%	0.7%	Other Waste	5	0.0%	0.0%
Glass Bottles and Containers	22	0.1%	0.1%	Fiberglass Insulation	75	0.2%	0.1%
Sm. Appliances & Personal Electronics	9	0.0%	0.0%	Expanded Polystyrene Insulation	144	0.4%	0.2%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	601	1.6%	1.1%
TV's & Other CRTs	8	0.0%	0.0%	Totals	38,110	100%	
Latex Paint	13	0.0%	0.1%	Number of Samples	95		
Tires	4	0.0%	0.0%				

Error range calculated at a 90% confidence level

**Table F-4. Composition by Weight – Transfer Station Disposed Other Construction
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	1,642	21.5%		Plastic	624	8.2%	
Clean Dimensional Lumber >-16"	226	3.0%	1.2%	PET Bottles	1	0.0%	0.0%
Clean Dimensional Lumber <-16"	105	1.4%	0.8%	HDPE Bottles	0	0.0%	0.0%
Clean Engineered Wood	622	8.2%	4.2%	Other Plastic Containers	23	0.3%	0.5%
Pallets and Crates	548	7.2%	9.1%	5 Gallons #2 Buckets	12	0.2%	0.1%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	5	0.1%	0.1%
Wood Roofing	0	0.0%	0.0%	Trash Bags Grocery/ Merch. Bags	20	0.3%	0.2%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	35	0.5%	0.5%
Other Recyclable Wood	142	1.9%	2.3%	Plastic Sheeting & Ag. Film	166	2.2%	2.3%
Painted and Treated Wood	363	4.8%		Other Film	44	0.6%	0.6%
Painted/Stained Wood Siding	37	0.5%	0.7%	Plastic Piping	154	2.0%	1.0%
Painted/Stained Wood	152	2.0%	2.3%	Other Plastic Products	30	0.4%	0.2%
Creosote-treated Wood	36	0.5%	0.8%	Mixed/Other Plastic	10	0.1%	0.1%
Other Treated Wood	31	0.4%	0.6%	Carpet	82	1.1%	1.2%
Finished Wood Furnishings	106	1.4%	1.4%	Carpet Padding	40	0.5%	0.5%
Aggregates, Rock, Soil	2,574	33.8%		Green Debris	9	0.1%	
Concrete	1,173	15.4%	8.4%	Yard Waste	0	0.0%	0.0%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	9	0.1%	0.2%
Other Aggregates	562	7.4%	5.6%	Stumps	0	0.0%	0.0%
Rock and Gravel	0	0.0%	0.0%	Other Organics	149	2.0%	
Dirt and Sand	198	2.6%	3.3%	Food	0	0.0%	0.0%
Clean Gypsum Board	26	0.3%	0.6%	Textiles	149	2.0%	1.9%
Painted/Demolition Gypsum	615	8.1%	6.3%	Hazardous Materials	0	0.0%	
Asphalt Roofing	534	7.0%		Oil Paint	0	0.0%	0.0%
Composition Roofing	534	7.0%	4.8%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	0	0.0%	0.0%	Used Oil	0	0.0%	0.0%
Metal	233	3.1%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	0	0.0%	0.0%	Other Household Hazardous	0	0.0%	0.0%
HVAC Ducting	0	0.0%	0.0%	Other Materials w/ Little or No Value	681	8.9%	
Major Appliances	0	0.0%	0.0%	Cellulose Insulation	0	0.0%	0.0%
Other Ferrous Metal	190	2.5%	1.3%	Mixed/Other Paper	52	0.7%	0.9%
Aluminum Cans	0	0.0%	0.0%	Mixed/Other Glass	0	0.0%	0.0%
Other Non-Ferrous Metal	8	0.1%	0.2%	Furniture and Mattresses	11	0.1%	0.3%
Mixed/Other Metal	34	0.4%	0.8%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	815	10.7%		Nondistinct Fines	3	0.0%	0.1%
Uncoated Corrugated Cardboard	428	5.6%	3.4%	MSW	364	4.8%	2.9%
Other Recyclable Paper	377	4.9%	3.8%	Other Waste	0	0.0%	0.0%
Glass Bottles and Containers	0	0.0%	0.0%	Fiberglass Insulation	19	0.2%	0.3%
Sm. Appliances & Personal Electronics	1	0.0%	0.0%	Expanded Polystyrene Insulation	64	0.8%	1.0%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	168	2.2%	2.7%
TV's & Other CRTs	9	0.1%	0.1%	Totals	7,625	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	25		
Tires	0	0.0%	0.0%				

Error range calculated at a 90% confidence level

**Table F-5. Composition by Weight – Transfer Station Disposed Remodeling
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	6,516	21.8%		Plastic	2,068	6.9%	
Clean Dimensional Lumber >-16"	2,260	7.6%	3.1%	PET Bottles	4	0.0%	0.0%
Clean Dimensional Lumber <-16"	820	2.7%	1.8%	HDPE Bottles	1	0.0%	0.0%
Clean Engineered Wood	1,552	5.2%	2.2%	Other Plastic Containers	17	0.1%	0.1%
Pallets and Crates	1,261	4.2%	3.2%	5 Gallons #2 Buckets	10	0.0%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	96	0.3%	0.3%
Wood Roofing	272	0.9%	1.0%	Trash Bags Grocery/ Merch. Bags	125	0.4%	0.4%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	53	0.2%	0.2%
Other Recyclable Wood	350	1.2%	0.6%	Plastic Sheeting & Ag. Film	75	0.3%	0.1%
Painted and Treated Wood	3,692	12.4%		Other Film	26	0.1%	0.1%
Painted/Stained Wood Siding	1,141	3.8%	2.7%	Plastic Piping	131	0.4%	0.3%
Painted/Stained Wood	2,028	6.8%	2.3%	Other Plastic Products	174	0.6%	0.5%
Creosote-treated Wood	0	0.0%	0.0%	Mixed/Other Plastic	27	0.1%	0.1%
Other Treated Wood	48	0.2%	0.1%	Carpet	1,112	3.7%	2.1%
Finished Wood Furnishings	476	1.6%	0.8%	Carpet Padding	218	0.7%	0.5%
Aggregates, Rock, Soil	8,911	29.8%		Green Debris	536	1.8%	
Concrete	610	2.0%	1.6%	Yard Waste	493	1.7%	1.1%
Asphalt Paving	418	1.4%	1.7%	Large Prunings	43	0.1%	0.2%
Other Aggregates	1,328	4.4%	3.5%	Stumps	0	0.0%	0.0%
Rock and Gravel	267	0.9%	1.1%	Other Organics	25	0.1%	
Dirt and Sand	379	1.3%	1.2%	Food	0	0.0%	0.0%
Clean Gypsum Board	1,171	3.9%	2.0%	Textiles	25	0.1%	0.1%
Painted/Demolition Gypsum	4,738	15.9%	6.2%	Hazardous Materials	25	0.1%	
Asphalt Roofing	1,083	3.6%		Oil Paint	0	0.0%	0.0%
Composition Roofing	1,000	3.3%	2.3%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	83	0.3%	0.4%	Used Oil	0	0.0%	0.0%
Metal	1,778	6.0%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	0	0.0%	0.0%	Other Household Hazardous	25	0.1%	0.1%
HVAC Ducting	79	0.3%	0.2%	Other Materials w/ Little or No Value	4,051	13.6%	
Major Appliances	31	0.1%	0.1%	Cellulose Insulation	16	0.1%	0.1%
Other Ferrous Metal	1,085	3.6%	1.6%	Mixed/Other Paper	74	0.2%	0.3%
Aluminum Cans	8	0.0%	0.0%	Mixed/Other Glass	696	2.3%	1.8%
Other Non-Ferrous Metal	301	1.0%	0.6%	Furniture and Mattresses	156	0.5%	0.3%
Mixed/Other Metal	274	0.9%	0.9%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	1,185	4.0%		Nondistinct Fines	278	0.9%	1.3%
Uncoated Corrugated Cardboard	795	2.7%	1.6%	MSW	560	1.9%	0.9%
Other Recyclable Paper	326	1.1%	0.6%	Other Waste	0	0.0%	0.0%
Glass Bottles and Containers	34	0.1%	0.2%	Fiberglass Insulation	141	0.5%	0.4%
Sm. Appliances & Personal Electronics	12	0.0%	0.0%	Expanded Polystyrene Insulation	14	0.0%	0.0%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	2,116	7.1%	2.7%
TV's & Other CRTs	14	0.0%	0.1%	Totals	29,869	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	96		
Tires	4	0.0%	0.0%				

Error range calculated at a 90% confidence level

**Table F-6. Composition by Weight – Transfer Station Disposed Roofing
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	3,089	13.2%		Plastic	500	2.1%	
Clean Dimensional Lumber >-16"	22	0.1%	0.1%	PET Bottles	0	0.0%	0.0%
Clean Dimensional Lumber <-16"	8	0.0%	0.0%	HDPE Bottles	0	0.0%	0.0%
Clean Engineered Wood	340	1.5%	0.7%	Other Plastic Containers	0	0.0%	0.0%
Pallets and Crates	105	0.4%	0.3%	5 Gallons #2 Buckets	1	0.0%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	303	1.3%	1.9%
Wood Roofing	2,588	11.0%	6.4%	Trash Bags Grocery/ Merch. Bags	5	0.0%	0.0%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	18	0.1%	0.1%
Other Recyclable Wood	25	0.1%	0.1%	Plastic Sheeting & Ag. Film	55	0.2%	0.1%
Painted and Treated Wood	198	0.8%		Other Film	2	0.0%	0.0%
Painted/Stained Wood Siding	22	0.1%	0.1%	Plastic Piping	0	0.0%	0.0%
Painted/Stained Wood	65	0.3%	0.3%	Other Plastic Products	24	0.1%	0.2%
Creosote-treated Wood	58	0.2%	0.4%	Mixed/Other Plastic	0	0.0%	0.0%
Other Treated Wood	52	0.2%	0.2%	Carpet	64	0.3%	0.4%
Finished Wood Furnishings	2	0.0%	0.0%	Carpet Padding	27	0.1%	0.2%
Aggregates, Rock, Soil	233	1.0%		Green Debris	61	0.3%	
Concrete	0	0.0%	0.0%	Yard Waste	16	0.1%	0.1%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	45	0.2%	0.3%
Other Aggregates	0	0.0%	0.0%	Stumps	0	0.0%	0.0%
Rock and Gravel	0	0.0%	0.0%	Other Organics	1	0.0%	
Dirt and Sand	0	0.0%	0.0%	Food	0	0.0%	0.0%
Clean Gypsum Board	219	0.9%	1.6%	Textiles	1	0.0%	0.0%
Painted/Demolition Gypsum	14	0.1%	0.1%	Hazardous Materials	0	0.0%	
Asphalt Roofing	17,369	74.1%		Oil Paint	0	0.0%	0.0%
Composition Roofing	12,944	55.2%	12.2%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	4,425	18.9%	11.6%	Used Oil	0	0.0%	0.0%
Metal	124	0.5%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	0	0.0%	0.0%	Other Household Hazardous	0	0.0%	0.0%
HVAC Ducting	2	0.0%	0.0%	Other Materials w/ Little or No Value	1,599	6.8%	
Major Appliances	0	0.0%	0.0%	Cellulose Insulation	0	0.0%	0.0%
Other Ferrous Metal	57	0.2%	0.2%	Mixed/Other Paper	595	2.5%	3.7%
Aluminum Cans	0	0.0%	0.0%	Mixed/Other Glass	15	0.1%	0.1%
Other Non-Ferrous Metal	48	0.2%	0.2%	Furniture and Mattresses	0	0.0%	0.0%
Mixed/Other Metal	17	0.1%	0.1%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	281	1.2%		Nondistinct Fines	104	0.4%	0.6%
Uncoated Corrugated Cardboard	49	0.2%	0.1%	MSW	45	0.2%	0.1%
Other Recyclable Paper	231	1.0%	0.7%	Other Waste	0	0.0%	0.0%
Glass Bottles and Containers	0	0.0%	0.0%	Fiberglass Insulation	0	0.0%	0.0%
Sm. Appliances & Personal Electronics	0	0.0%	0.0%	Expanded Polystyrene Insulation	110	0.5%	0.6%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	729	3.1%	2.8%
TV's & Other CRTs	1	0.0%	0.0%	Totals	23,455	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	56		
Tires	0	0.0%	0.0%				

Error range calculated at a 90% confidence level

**Table F-7. Composition by Weight – Transfer Station Disposed Residential Buildings
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	13,823	20.1%		Plastic	3,902	5.7%	
Clean Dimensional Lumber >- 16"	3,663	5.3%	1.4%	PET Bottles	11	0.0%	0.0%
Clean Dimensional Lumber <- 16"	1,497	2.2%	0.9%	HDPE Bottles	1	0.0%	0.0%
Clean Engineered Wood	5,041	7.3%	2.1%	Other Plastic Containers	5	0.0%	0.0%
Pallets and Crates	1,051	1.5%	0.8%	5 Gallons #2 Buckets	44	0.1%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	33	0.0%	0.0%
Wood Roofing	1,461	2.1%	1.1%	Trash Bags Grocery/ Merch. Bags	121	0.2%	0.1%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	39	0.1%	0.0%
Other Recyclable Wood	1,110	1.6%	1.0%	Plastic Sheeting & Ag. Film	1,069	1.6%	1.5%
Painted and Treated Wood	7,155	10.4%		Other Film	53	0.1%	0.1%
Painted/Stained Wood Siding	2,315	3.4%	1.7%	Plastic Piping	1,095	1.6%	1.1%
Painted/Stained Wood	3,811	5.5%	1.4%	Other Plastic Products	194	0.3%	0.2%
Creosote-treated Wood	91	0.1%	0.2%	Mixed/Other Plastic	63	0.1%	0.1%
Other Treated Wood	378	0.5%	0.4%	Carpet	930	1.4%	0.7%
Finished Wood Furnishings	560	0.8%	0.4%	Carpet Padding	243	0.4%	0.2%
Aggregates, Rock, Soil	14,400	20.9%		Green Debris	2,207	3.2%	
Concrete	871	1.3%	0.8%	Yard Waste	732	1.1%	0.7%
Asphalt Paving	530	0.8%	1.0%	Large Prunings	967	1.4%	1.7%
Other Aggregates	1,930	2.8%	1.9%	Stumps	508	0.7%	1.1%
Rock and Gravel	239	0.3%	0.6%	Other Organics	141	0.2%	
Dirt and Sand	2,590	3.8%	3.0%	Food	0	0.0%	0.0%
Clean Gypsum Board	2,916	4.2%	2.8%	Textiles	141	0.2%	0.2%
Painted/Demolition Gypsum	5,324	7.7%	2.9%	Hazardous Materials	4	0.0%	
Asphalt Roofing	14,648	21.3%		Oil Paint	0	0.0%	0.0%
Composition Roofing	11,509	16.7%	4.5%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	3,139	4.6%	3.1%	Used Oil	0	0.0%	0.0%
Metal	1,603	2.3%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	1	0.0%	0.0%	Other Household Hazardous	4	0.0%	0.0%
HVAC Ducting	72	0.1%	0.1%	Other Materials w/ Little or No Value	8,660	12.6%	
Major Appliances	47	0.1%	0.1%	Cellulose Insulation	20	0.0%	0.0%
Other Ferrous Metal	982	1.4%	0.6%	Mixed/Other Paper	799	1.2%	0.7%
Aluminum Cans	8	0.0%	0.0%	Mixed/Other Glass	632	0.9%	0.6%
Other Non-Ferrous Metal	262	0.4%	0.2%	Furniture and Mattresses	444	0.6%	0.7%
Mixed/Other Metal	231	0.3%	0.2%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	2,266	3.3%		Nondistinct Fines	1,105	1.6%	1.1%
Uncoated Corrugated Cardboard	1,143	1.7%	0.6%	MSW	1,197	1.7%	0.7%
Other Recyclable Paper	955	1.4%	0.5%	Other Waste	5	0.0%	0.0%
Glass Bottles and Containers	50	0.1%	0.1%	Fiberglass Insulation	134	0.2%	0.1%
Sm. Appliances & Personal Electronics	13	0.0%	0.0%	Expanded Polystyrene Insulation	46	0.1%	0.1%
Computer-related Electronics	10	0.0%	0.0%	Mixed/Other C&D	4,276	6.2%	2.3%
TV's & Other CRTs	76	0.1%	0.1%	Totals	68,808	100%	
Latex Paint	8	0.0%	0.0%	Number of Samples	186		
Tires	10	0.0%	0.0%				<i>Error range calculated at a 90% confidence level</i>

**Table F-8. Composition by Weight – Transfer Station Disposed Nonresidential Buildings
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	13,286	25.8%		Plastic	3,646	7.1%	
Clean Dimensional Lumber >- 16"	4,122	8.0%	2.5%	PET Bottles	3	0.0%	0.0%
Clean Dimensional Lumber <- 16"	1,143	2.2%	1.3%	HDPE Bottles	1	0.0%	0.0%
Clean Engineered Wood	3,913	7.6%	1.8%	Other Plastic Containers	17	0.0%	0.0%
Pallets and Crates	2,916	5.7%	1.7%	5 Gallons #2 Buckets	22	0.0%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	172	0.3%	0.3%
Wood Roofing	249	0.5%	0.6%	Trash Bags Grocery/ Merch. Bags	146	0.3%	0.1%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	93	0.2%	0.1%
Other Recyclable Wood	943	1.8%	0.7%	Plastic Sheeting & Ag. Film	456	0.9%	0.5%
Painted and Treated Wood	3,637	7.1%		Other Film	78	0.2%	0.1%
Painted/Stained Wood Siding	85	0.2%	0.2%	Plastic Piping	671	1.3%	0.6%
Painted/Stained Wood	2,635	5.1%	1.9%	Other Plastic Products	228	0.4%	0.2%
Creosote-treated Wood	41	0.1%	0.1%	Mixed/Other Plastic	50	0.1%	0.1%
Other Treated Wood	206	0.4%	0.5%	Carpet	1,471	2.9%	1.4%
Finished Wood Furnishings	670	1.3%	0.8%	Carpet Padding	240	0.5%	0.3%
Aggregates, Rock, Soil	14,770	28.6%		Green Debris	413	0.8%	
Concrete	2,154	4.2%	2.1%	Yard Waste	273	0.5%	0.4%
Asphalt Paving	94	0.2%	0.3%	Large Prunings	106	0.2%	0.2%
Other Aggregates	965	1.9%	1.7%	Stumps	34	0.1%	0.1%
Rock and Gravel	433	0.8%	0.9%	Other Organics	289	0.6%	
Dirt and Sand	501	1.0%	0.8%	Food	0	0.0%	0.0%
Clean Gypsum Board	3,185	6.2%	2.8%	Textiles	289	0.6%	0.6%
Painted/Demolition Gypsum	7,438	14.4%	4.2%	Hazardous Materials	63	0.1%	
Asphalt Roofing	4,062	7.9%		Oil Paint	0	0.0%	0.0%
Composition Roofing	2,474	4.8%	2.9%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	1,588	3.1%	2.7%	Used Oil	0	0.0%	0.0%
Metal	3,397	6.6%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	1	0.0%	0.0%	Other Household Hazardous	63	0.1%	0.1%
HVAC Ducting	56	0.1%	0.1%	Other Materials w/ Little or No Value	5,306	10.3%	
Major Appliances	7	0.0%	0.0%	Cellulose Insulation	12	0.0%	0.0%
Other Ferrous Metal	2,412	4.7%	1.4%	Mixed/Other Paper	393	0.8%	0.5%
Aluminum Cans	5	0.0%	0.0%	Mixed/Other Glass	452	0.9%	1.0%
Other Non-Ferrous Metal	550	1.1%	0.7%	Furniture and Mattresses	126	0.2%	0.2%
Mixed/Other Metal	366	0.7%	0.6%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	2,691	5.2%		Nondistinct Fines	379	0.7%	1.1%
Uncoated Corrugated Cardboard	1,578	3.1%	1.0%	MSW	695	1.3%	0.7%
Other Recyclable Paper	1,051	2.0%	1.2%	Other Waste	68	0.1%	0.2%
Glass Bottles and Containers	0	0.0%	0.0%	Fiberglass Insulation	200	0.4%	0.3%
Sm. Appliances & Personal Electronics	26	0.1%	0.0%	Expanded Polystyrene Insulation	297	0.6%	0.4%
Computer-related Electronics	1	0.0%	0.0%	Mixed/Other C&D	2,685	5.2%	1.7%
TV's & Other CRTs	27	0.1%	0.1%	Totals	51,560	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	139		
Tires	9	0.0%	0.0%				

Error range calculated at a 90% confidence level

**Table F-9. Composition by Weight – Transfer Station Disposed Mixed Loads
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	1,365	54.6%		Plastic	184	7.4%	
Clean Dimensional Lumber >- 16"	361	14.4%	9.7%	PET Bottles	0	0.0%	0.0%
Clean Dimensional Lumber <- 16"	206	8.3%	6.3%	HDPE Bottles	0	0.0%	0.0%
Clean Engineered Wood	775	31.0%	24.5%	Other Plastic Containers	0	0.0%	0.0%
Pallets and Crates	22	0.9%	1.3%	5 Gallons #2 Buckets	0	0.0%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	0	0.0%	0.0%
Wood Roofing	0	0.0%	0.0%	Trash Bags Grocery/ Merch. Bags	0	0.0%	0.0%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	23	0.9%	1.6%
Other Recyclable Wood	0	0.0%	0.0%	Plastic Sheeting & Ag. Film	33	1.3%	2.2%
Painted and Treated Wood	42	1.7%		Other Film	15	0.6%	1.0%
Painted/Stained Wood Siding	18	0.7%	1.3%	Plastic Piping	111	4.4%	7.6%
Painted/Stained Wood	3	0.1%	0.2%	Other Plastic Products	0	0.0%	0.0%
Creosote-treated Wood	0	0.0%	0.0%	Mixed/Other Plastic	0	0.0%	0.0%
Other Treated Wood	21	0.9%	1.1%	Carpet	0	0.0%	0.0%
Finished Wood Furnishings	0	0.0%	0.0%	Carpet Padding	2	0.1%	0.1%
Aggregates, Rock, Soil	641	25.6%		Green Debris	91	3.6%	
Concrete	328	13.1%	22.0%	Yard Waste	65	2.6%	4.3%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	26	1.0%	1.8%
Other Aggregates	0	0.0%	0.0%	Stumps	0	0.0%	0.0%
Rock and Gravel	0	0.0%	0.0%	Other Organics	97	3.9%	
Dirt and Sand	0	0.0%	0.0%	Food	0	0.0%	0.0%
Clean Gypsum Board	0	0.0%	0.0%	Textiles	97	3.9%	6.8%
Painted/Demolition Gypsum	314	12.5%	15.3%	Hazardous Materials	0	0.0%	
Asphalt Roofing	0	0.0%		Oil Paint	0	0.0%	0.0%
Composition Roofing	0	0.0%	0.0%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	0	0.0%	0.0%	Used Oil	0	0.0%	0.0%
Metal	12	0.5%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	0	0.0%	0.0%	Other Household Hazardous	0	0.0%	0.0%
HVAC Ducting	0	0.0%	0.0%	Other Materials w/ Little or No Value	0	0.0%	
Major Appliances	0	0.0%	0.0%	Cellulose Insulation	0	0.0%	0.0%
Other Ferrous Metal	12	0.5%	0.8%	Mixed/Other Paper	0	0.0%	0.0%
Aluminum Cans	0	0.0%	0.0%	Mixed/Other Glass	0	0.0%	0.0%
Other Non-Ferrous Metal	0	0.0%	0.0%	Furniture and Mattresses	0	0.0%	0.0%
Mixed/Other Metal	0	0.0%	0.0%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	68	2.7%		Nondistinct Fines	0	0.0%	0.0%
Uncoated Corrugated Cardboard	55	2.2%	3.1%	MSW	0	0.0%	0.0%
Other Recyclable Paper	13	0.5%	0.9%	Other Waste	0	0.0%	0.0%
Glass Bottles and Containers	0	0.0%	0.0%	Fiberglass Insulation	0	0.0%	0.0%
Sm. Appliances & Personal Electronics	0	0.0%	0.0%	Expanded Polystyrene Insulation	0	0.0%	0.0%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	0	0.0%	0.0%
TV's & Other CRTs	0	0.0%	0.0%	Totals	2,501	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	5		
Tires	0	0.0%	0.0%				<i>Error range calculated at a 90% confidence level</i>

**Table F-10. Composition by Weight – Transfer Station Disposed Other Structures
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	743	17.8%		Plastic	655	15.7%	
Clean Dimensional Lumber >- 16"	122	2.9%	1.8%	PET Bottles	1	0.0%	0.0%
Clean Dimensional Lumber <- 16"	13	0.3%	0.4%	HDPE Bottles	0	0.0%	0.0%
Clean Engineered Wood	291	7.0%	7.7%	Other Plastic Containers	29	0.7%	1.2%
Pallets and Crates	317	7.6%	6.6%	5 Gallons #2 Buckets	7	0.2%	0.1%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	2	0.1%	0.1%
Wood Roofing	0	0.0%	0.0%	Trash Bags Grocery/ Merch. Bags	0	0.0%	0.0%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	29	0.7%	1.1%
Other Recyclable Wood	0	0.0%	0.0%	Plastic Sheeting & Ag. Film	191	4.6%	6.7%
Painted and Treated Wood	120	2.9%		Other Film	48	1.2%	1.4%
Painted/Stained Wood Siding	49	1.2%	1.6%	Plastic Piping	328	7.8%	9.6%
Painted/Stained Wood	31	0.7%	0.8%	Other Plastic Products	12	0.3%	0.5%
Creosote-treated Wood	0	0.0%	0.0%	Mixed/Other Plastic	0	0.0%	0.0%
Other Treated Wood	41	1.0%	1.4%	Carpet	0	0.0%	0.0%
Finished Wood Furnishings	0	0.0%	0.0%	Carpet Padding	7	0.2%	0.2%
Aggregates, Rock, Soil	1,868	44.7%		Green Debris	0	0.0%	
Concrete	1,137	27.2%	18.3%	Yard Waste	0	0.0%	0.0%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	0	0.0%	0.0%
Other Aggregates	463	11.1%	11.4%	Stumps	0	0.0%	0.0%
Rock and Gravel	0	0.0%	0.0%	Other Organics	0	0.0%	
Dirt and Sand	0	0.0%	0.0%	Food	0	0.0%	0.0%
Clean Gypsum Board	34	0.8%	1.5%	Textiles	0	0.0%	0.0%
Painted/Demolition Gypsum	233	5.6%	6.3%	Hazardous Materials	0	0.0%	
Asphalt Roofing	367	8.8%		Oil Paint	0	0.0%	0.0%
Composition Roofing	367	8.8%	8.6%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	0	0.0%	0.0%	Used Oil	0	0.0%	0.0%
Metal	191	4.6%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	0	0.0%	0.0%	Other Household Hazardous	0	0.0%	0.0%
HVAC Ducting	0	0.0%	0.0%	Other Materials w/ Little or No Value	158	3.8%	
Major Appliances	0	0.0%	0.0%	Cellulose Insulation	0	0.0%	0.0%
Other Ferrous Metal	179	4.3%	2.6%	Mixed/Other Paper	0	0.0%	0.0%
Aluminum Cans	0	0.0%	0.0%	Mixed/Other Glass	0	0.0%	0.0%
Other Non-Ferrous Metal	11	0.3%	0.5%	Furniture and Mattresses	0	0.0%	0.0%
Mixed/Other Metal	0	0.0%	0.0%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	79	1.9%		Nondistinct Fines	0	0.0%	0.0%
Uncoated Corrugated Cardboard	71	1.7%	1.4%	MSW	59	1.4%	2.4%
Other Recyclable Paper	8	0.2%	0.4%	Other Waste	0	0.0%	0.0%
Glass Bottles and Containers	0	0.0%	0.0%	Fiberglass Insulation	0	0.0%	0.0%
Sm. Appliances & Personal Electronics	0	0.0%	0.0%	Expanded Polystyrene Insulation	60	1.4%	2.3%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	39	0.9%	1.3%
TV's & Other CRTs	0	0.0%	0.0%	Totals	4,181	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	10		
Tires	0	0.0%	0.0%				<i>Error range calculated at a 90% confidence level</i>

**Table F-11. Composition by Weight – Transfer Station Disposed Certificated Haulers
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	12,457	28.1%		Plastic	3,900	8.8%	
Clean Dimensional Lumber >- 16"	3,950	8.9%	2.6%	PET Bottles	5	0.0%	0.0%
Clean Dimensional Lumber <- 16"	1,436	3.2%	1.6%	HDPE Bottles	1	0.0%	0.0%
Clean Engineered Wood	4,582	10.3%	2.9%	Other Plastic Containers	41	0.1%	0.1%
Pallets and Crates	1,859	4.2%	1.3%	5 Gallons #2 Buckets	32	0.1%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	61	0.1%	0.1%
Wood Roofing	20	0.0%	0.1%	Trash Bags Grocery/ Merch. Bags	126	0.3%	0.1%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	68	0.2%	0.1%
Other Recyclable Wood	610	1.4%	0.6%	Plastic Sheeting & Ag. Film	938	2.1%	1.8%
Painted and Treated Wood	3,033	6.8%		Other Film	106	0.2%	0.2%
Painted/Stained Wood Siding	530	1.2%	1.1%	Plastic Piping	1,027	2.3%	1.5%
Painted/Stained Wood	1,901	4.3%	1.7%	Other Plastic Products	151	0.3%	0.2%
Creosote-treated Wood	0	0.0%	0.0%	Mixed/Other Plastic	49	0.1%	0.1%
Other Treated Wood	219	0.5%	0.4%	Carpet	1,057	2.4%	1.4%
Finished Wood Furnishings	383	0.9%	0.6%	Carpet Padding	238	0.5%	0.3%
Aggregates, Rock, Soil	13,319	30.0%		Green Debris	1,337	3.0%	
Concrete	2,816	6.4%	3.6%	Yard Waste	314	0.7%	0.4%
Asphalt Paving	431	1.0%	1.3%	Large Prunings	640	1.4%	2.1%
Other Aggregates	1,670	3.8%	2.5%	Stumps	382	0.9%	1.4%
Rock and Gravel	381	0.9%	0.9%	Other Organics	250	0.6%	
Dirt and Sand	1,499	3.4%	2.3%	Food	0	0.0%	0.0%
Clean Gypsum Board	1,768	4.0%	3.2%	Textiles	250	0.6%	0.6%
Painted/Demolition Gypsum	4,753	10.7%	3.6%	Hazardous Materials	55	0.1%	
Asphalt Roofing	1,543	3.5%		Oil Paint	0	0.0%	0.0%
Composition Roofing	1,424	3.2%	1.9%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	119	0.3%	0.4%	Used Oil	0	0.0%	0.0%
Metal	2,279	5.1%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	0	0.0%	0.0%	Other Household Hazardous	55	0.1%	0.1%
HVAC Ducting	13	0.0%	0.0%	Other Materials w/ Little or No Value	4,021	9.1%	
Major Appliances	6	0.0%	0.0%	Cellulose Insulation	6	0.0%	0.0%
Other Ferrous Metal	1,645	3.7%	1.2%	Mixed/Other Paper	330	0.7%	0.6%
Aluminum Cans	1	0.0%	0.0%	Mixed/Other Glass	161	0.4%	0.3%
Other Non-Ferrous Metal	289	0.7%	0.5%	Furniture and Mattresses	320	0.7%	0.9%
Mixed/Other Metal	326	0.7%	0.7%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	2,137	4.8%		Nondistinct Fines	412	0.9%	0.9%
Uncoated Corrugated Cardboard	1,274	2.9%	0.9%	MSW	645	1.5%	0.8%
Other Recyclable Paper	769	1.7%	1.2%	Other Waste	6	0.0%	0.0%
Glass Bottles and Containers	16	0.0%	0.1%	Fiberglass Insulation	166	0.4%	0.3%
Sm. Appliances & Personal Electronics	15	0.0%	0.0%	Expanded Polystyrene Insulation	112	0.3%	0.1%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	1,863	4.2%	2.5%
TV's & Other CRTs	63	0.1%	0.2%	Totals	44,330	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	107		
Tires	0	0.0%	0.0%				

Error range calculated at a 90% confidence level

**Table F-12. Composition by Weight – Transfer Station Disposed C&D Haulers
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	5,898	18.8%		Plastic	2,079	6.6%	
Clean Dimensional Lumber >- 16"	1,507	4.8%	1.9%	PET Bottles	3	0.0%	0.0%
Clean Dimensional Lumber <- 16"	385	1.2%	0.6%	HDPE Bottles	1	0.0%	0.0%
Clean Engineered Wood	1,668	5.3%	2.2%	Other Plastic Containers	1	0.0%	0.0%
Pallets and Crates	1,281	4.1%	2.1%	5 Gallons #2 Buckets	8	0.0%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	23	0.1%	0.1%
Wood Roofing	286	0.9%	0.8%	Trash Bags Grocery/ Merch. Bags	22	0.1%	0.0%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	55	0.2%	0.1%
Other Recyclable Wood	771	2.5%	1.6%	Plastic Sheeting & Ag. Film	340	1.1%	1.0%
Painted and Treated Wood	3,578	11.4%		Other Film	63	0.2%	0.1%
Painted/Stained Wood Siding	901	2.9%	2.3%	Plastic Piping	719	2.3%	1.5%
Painted/Stained Wood	1,992	6.3%	2.3%	Other Plastic Products	126	0.4%	0.3%
Creosote-treated Wood	0	0.0%	0.0%	Mixed/Other Plastic	38	0.1%	0.1%
Other Treated Wood	186	0.6%	0.7%	Carpet	542	1.7%	1.0%
Finished Wood Furnishings	499	1.6%	1.1%	Carpet Padding	139	0.4%	0.3%
Aggregates, Rock, Soil	8,926	28.4%		Green Debris	277	0.9%	
Concrete	1,041	3.3%	2.0%	Yard Waste	109	0.3%	0.4%
Asphalt Paving	80	0.3%	0.4%	Large Prunings	114	0.4%	0.4%
Other Aggregates	927	2.9%	2.7%	Stumps	54	0.2%	0.2%
Rock and Gravel	0	0.0%	0.0%	Other Organics	157	0.5%	
Dirt and Sand	152	0.5%	0.8%	Food	0	0.0%	0.0%
Clean Gypsum Board	1,533	4.9%	2.9%	Textiles	157	0.5%	0.5%
Painted/Demolition Gypsum	5,193	16.5%	5.5%	Hazardous Materials	0	0.0%	
Asphalt Roofing	4,154	13.2%		Oil Paint	0	0.0%	0.0%
Composition Roofing	2,744	8.7%	4.4%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	1,410	4.5%	4.6%	Used Oil	0	0.0%	0.0%
Metal	1,418	4.5%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	1	0.0%	0.0%	Other Household Hazardous	0	0.0%	0.0%
HVAC Ducting	83	0.3%	0.2%	Other Materials w/ Little or No Value	3,848	12.2%	
Major Appliances	0	0.0%	0.0%	Cellulose Insulation	19	0.1%	0.1%
Other Ferrous Metal	933	3.0%	1.5%	Mixed/Other Paper	274	0.9%	0.7%
Aluminum Cans	1	0.0%	0.0%	Mixed/Other Glass	509	1.6%	1.6%
Other Non-Ferrous Metal	287	0.9%	0.8%	Furniture and Mattresses	55	0.2%	0.2%
Mixed/Other Metal	111	0.4%	0.2%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	1,107	3.5%		Nondistinct Fines	589	1.9%	2.0%
Uncoated Corrugated Cardboard	612	1.9%	0.8%	MSW	612	1.9%	1.1%
Other Recyclable Paper	434	1.4%	0.9%	Other Waste	54	0.2%	0.3%
Glass Bottles and Containers	14	0.0%	0.1%	Fiberglass Insulation	61	0.2%	0.1%
Sm. Appliances & Personal Electronics	8	0.0%	0.0%	Expanded Polystyrene Insulation	173	0.6%	0.5%
Computer-related Electronics	8	0.0%	0.0%	Mixed/Other C&D	1,501	4.8%	1.7%
TV's & Other CRTs	21	0.1%	0.1%	Totals	31,441	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	79		
Tires	10	0.0%	0.0%				<i>Error range calculated at a 90% confidence level</i>

**Table F-13. Composition by Weight – Transfer Station Disposed Business Self-haul
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	10,298	20.7%		Plastic	1,977	4.0%	
Clean Dimensional Lumber >- 16"	2,504	5.0%	1.9%	PET Bottles	6	0.0%	0.0%
Clean Dimensional Lumber <- 16"	944	1.9%	0.8%	HDPE Bottles	1	0.0%	0.0%
Clean Engineered Wood	3,549	7.1%	2.0%	Other Plastic Containers	15	0.0%	0.0%
Pallets and Crates	992	2.0%	1.1%	5 Gallons #2 Buckets	36	0.1%	0.1%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	157	0.3%	0.4%
Wood Roofing	1,779	3.6%	1.9%	Trash Bags Grocery/ Merch. Bags	129	0.3%	0.2%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	65	0.1%	0.1%
Other Recyclable Wood	531	1.1%	0.6%	Plastic Sheeting & Ag. Film	353	0.7%	0.6%
Painted and Treated Wood	3,850	7.7%		Other Film	12	0.0%	0.0%
Painted/Stained Wood Siding	895	1.8%	1.2%	Plastic Piping	277	0.6%	0.3%
Painted/Stained Wood	2,374	4.8%	1.6%	Other Plastic Products	146	0.3%	0.2%
Creosote-treated Wood	180	0.4%	0.4%	Mixed/Other Plastic	13	0.0%	0.0%
Other Treated Wood	230	0.5%	0.4%	Carpet	707	1.4%	0.7%
Finished Wood Furnishings	172	0.3%	0.2%	Carpet Padding	61	0.1%	0.1%
Aggregates, Rock, Soil	7,717	15.5%		Green Debris	1,000	2.0%	
Concrete	324	0.7%	0.8%	Yard Waste	757	1.5%	1.1%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	235	0.5%	0.3%
Other Aggregates	492	1.0%	0.7%	Stumps	8	0.0%	0.0%
Rock and Gravel	317	0.6%	1.0%	Other Organics	68	0.1%	
Dirt and Sand	1,450	2.9%	4.5%	Food	0	0.0%	0.0%
Clean Gypsum Board	3,033	6.1%	3.6%	Textiles	68	0.1%	0.1%
Painted/Demolition Gypsum	2,100	4.2%	2.4%	Hazardous Materials	6	0.0%	
Asphalt Roofing	15,785	31.7%		Oil Paint	0	0.0%	0.0%
Composition Roofing	11,993	24.1%	6.8%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	3,792	7.6%	4.8%	Used Oil	0	0.0%	0.0%
Metal	1,259	2.5%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	2	0.0%	0.0%	Other Household Hazardous	6	0.0%	0.0%
HVAC Ducting	13	0.0%	0.0%	Other Materials w/ Little or No Value	6,188	12.4%	
Major Appliances	62	0.1%	0.1%	Cellulose Insulation	3	0.0%	0.0%
Other Ferrous Metal	851	1.7%	0.9%	Mixed/Other Paper	623	1.3%	0.9%
Aluminum Cans	16	0.0%	0.0%	Mixed/Other Glass	366	0.7%	0.6%
Other Non-Ferrous Metal	201	0.4%	0.3%	Furniture and Mattresses	135	0.3%	0.2%
Mixed/Other Metal	114	0.2%	0.1%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	1,676	3.4%		Nondistinct Fines	322	0.6%	0.5%
Uncoated Corrugated Cardboard	867	1.7%	1.1%	MSW	575	1.2%	0.7%
Other Recyclable Paper	757	1.5%	0.6%	Other Waste	3	0.0%	0.0%
Glass Bottles and Containers	17	0.0%	0.1%	Fiberglass Insulation	91	0.2%	0.1%
Sm. Appliances & Personal Electronics	12	0.0%	0.0%	Expanded Polystyrene Insulation	121	0.2%	0.3%
Computer-related Electronics	1	0.0%	0.0%	Mixed/Other C&D	3,949	7.9%	3.0%
TV's & Other CRTs	2	0.0%	0.0%	Totals	49,823	100%	
Latex Paint	10	0.0%	0.0%	Number of Samples	150		
Tires	10	0.0%	0.0%				<i>Error range calculated at a 90% confidence level</i>

**Table F-14. Composition by Weight – Transfer Station Disposed Residential Self-haul
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	155	10.7%		Plastic	10	0.7%	
Clean Dimensional Lumber >- 16"	30	2.0%	3.0%	PET Bottles	0	0.0%	0.0%
Clean Dimensional Lumber <- 16"	8	0.6%	0.6%	HDPE Bottles	0	0.0%	0.0%
Clean Engineered Wood	117	8.0%	10.9%	Other Plastic Containers	0	0.0%	0.0%
Pallets and Crates	0	0.0%	0.0%	5 Gallons #2 Buckets	1	0.0%	0.1%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	0	0.0%	0.0%
Wood Roofing	0	0.0%	0.0%	Trash Bags Grocery/ Merch. Bags	1	0.1%	0.1%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	0	0.0%	0.0%
Other Recyclable Wood	0	0.0%	0.0%	Plastic Sheeting & Ag. Film	8	0.6%	1.0%
Painted and Treated Wood	182	12.5%		Other Film	0	0.0%	0.0%
Painted/Stained Wood Siding	30	2.0%	3.0%	Plastic Piping	0	0.0%	0.0%
Painted/Stained Wood	74	5.1%	6.7%	Other Plastic Products	0	0.0%	0.0%
Creosote-treated Wood	0	0.0%	0.0%	Mixed/Other Plastic	0	0.0%	0.0%
Other Treated Wood	0	0.0%	0.0%	Carpet	0	0.0%	0.0%
Finished Wood Furnishings	79	5.4%	10.1%	Carpet Padding	0	0.0%	0.0%
Aggregates, Rock, Soil	111	7.6%		Green Debris	0	0.0%	
Concrete	111	7.6%	11.1%	Yard Waste	0	0.0%	0.0%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	0	0.0%	0.0%
Other Aggregates	0	0.0%	0.0%	Stumps	0	0.0%	0.0%
Rock and Gravel	0	0.0%	0.0%	Other Organics	0	0.0%	
Dirt and Sand	0	0.0%	0.0%	Food	0	0.0%	0.0%
Clean Gypsum Board	0	0.0%	0.0%	Textiles	0	0.0%	0.0%
Painted/Demolition Gypsum	0	0.0%	0.0%	Hazardous Materials	0	0.0%	
Asphalt Roofing	719	49.4%		Oil Paint	0	0.0%	0.0%
Composition Roofing	627	43.1%	43.0%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	92	6.3%	12.3%	Used Oil	0	0.0%	0.0%
Metal	0	0.0%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	0	0.0%	0.0%	Other Household Hazardous	0	0.0%	0.0%
HVAC Ducting	0	0.0%	0.0%	Other Materials w/ Little or No Value	180	12.4%	
Major Appliances	0	0.0%	0.0%	Cellulose Insulation	0	0.0%	0.0%
Other Ferrous Metal	0	0.0%	0.0%	Mixed/Other Paper	0	0.0%	0.0%
Aluminum Cans	0	0.0%	0.0%	Mixed/Other Glass	0	0.0%	0.0%
Other Non-Ferrous Metal	0	0.0%	0.0%	Furniture and Mattresses	25	1.7%	3.2%
Mixed/Other Metal	0	0.0%	0.0%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	99	6.8%		Nondistinct Fines	25	1.7%	3.4%
Uncoated Corrugated Cardboard	15	1.0%	1.1%	MSW	38	2.6%	3.8%
Other Recyclable Paper	79	5.4%	6.7%	Other Waste	0	0.0%	0.0%
Glass Bottles and Containers	0	0.0%	0.0%	Fiberglass Insulation	2	0.1%	0.2%
Sm. Appliances & Personal Electronics	6	0.4%	0.6%	Expanded Polystyrene Insulation	0	0.0%	0.0%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	91	6.2%	11.6%
TV's & Other CRTs	0	0.0%	0.0%	Totals	1,457	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	4		
Tires	0	0.0%	0.0%				<i>Error range calculated at a 90% confidence level</i>

**Table F-15. Composition by Weight – Transfer Station Disposed Drop Boxes
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	20,051	24.4%		Plastic	6,294	7.7%	
Clean Dimensional Lumber >-16"	6,134	7.5%	1.7%	PET Bottles	9	0.0%	0.0%
Clean Dimensional Lumber <-16"	2,088	2.5%	1.0%	HDPE Bottles	1	0.0%	0.0%
Clean Engineered Wood	6,335	7.7%	1.6%	Other Plastic Containers	51	0.1%	0.1%
Pallets and Crates	3,206	3.9%	1.0%	5 Gallons #2 Buckets	48	0.1%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	105	0.1%	0.1%
Wood Roofing	913	1.1%	0.7%	Trash Bags Grocery/ Merch. Bags	199	0.2%	0.1%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	141	0.2%	0.1%
Other Recyclable Wood	1,375	1.7%	0.8%	Plastic Sheeting & Ag. Film	1,409	1.7%	1.1%
Painted and Treated Wood	7,003	8.5%		Other Film	153	0.2%	0.1%
Painted/Stained Wood Siding	1,518	1.8%	1.1%	Plastic Piping	1,692	2.1%	1.0%
Painted/Stained Wood	4,044	4.9%	1.3%	Other Plastic Products	327	0.4%	0.2%
Creosote-treated Wood	110	0.1%	0.2%	Mixed/Other Plastic	91	0.1%	0.1%
Other Treated Wood	394	0.5%	0.3%	Carpet	1,694	2.1%	0.8%
Finished Wood Furnishings	938	1.1%	0.5%	Carpet Padding	372	0.5%	0.2%
Aggregates, Rock, Soil	22,224	27.1%		Green Debris	1,728	2.1%	
Concrete	3,700	4.5%	2.1%	Yard Waste	536	0.7%	0.3%
Asphalt Paving	514	0.6%	0.7%	Large Prunings	754	0.9%	1.1%
Other Aggregates	2,198	2.7%	1.5%	Stumps	438	0.5%	0.8%
Rock and Gravel	382	0.5%	0.5%	Other Organics	439	0.5%	
Dirt and Sand	1,541	1.9%	1.3%	Food	0	0.0%	0.0%
Clean Gypsum Board	3,472	4.2%	2.1%	Textiles	439	0.5%	0.4%
Painted/Demolition Gypsum	10,416	12.7%	2.9%	Hazardous Materials	59	0.1%	
Asphalt Roofing	8,171	10.0%		Oil Paint	0	0.0%	0.0%
Composition Roofing	5,468	6.7%	2.4%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	2,704	3.3%	2.3%	Used Oil	0	0.0%	0.0%
Metal	4,001	4.9%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	1	0.0%	0.0%	Other Household Hazardous	59	0.1%	0.1%
HVAC Ducting	99	0.1%	0.1%	Other Materials w/ Little or No Value	8,640	10.5%	
Major Appliances	6	0.0%	0.0%	Cellulose Insulation	25	0.0%	0.0%
Other Ferrous Metal	2,812	3.4%	0.9%	Mixed/Other Paper	760	0.9%	0.5%
Aluminum Cans	7	0.0%	0.0%	Mixed/Other Glass	797	1.0%	0.7%
Other Non-Ferrous Metal	661	0.8%	0.4%	Furniture and Mattresses	390	0.5%	0.5%
Mixed/Other Metal	414	0.5%	0.4%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	3,427	4.2%		Nondistinct Fines	1,019	1.2%	0.9%
Uncoated Corrugated Cardboard	1,958	2.4%	0.6%	MSW	1,170	1.4%	0.6%
Other Recyclable Paper	1,309	1.6%	0.8%	Other Waste	62	0.1%	0.1%
Glass Bottles and Containers	31	0.0%	0.0%	Fiberglass Insulation	258	0.3%	0.2%
Sm. Appliances & Personal Electronics	26	0.0%	0.0%	Expanded Polystyrene Insulation	229	0.3%	0.2%
Computer-related Electronics	8	0.0%	0.0%	Mixed/Other C&D	3,929	4.8%	1.6%
TV's & Other CRTs	86	0.1%	0.1%	Totals	82,037	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	206		
Tires	10	0.0%	0.0%				

Error range calculated at a 90% confidence level

**Table F-16. Composition by Weight – Transfer Station Disposed End Dumps
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	6,201	18.7%		Plastic	1,356	4.1%	
Clean Dimensional Lumber >-16"	1,164	3.5%	1.3%	PET Bottles	5	0.0%	0.0%
Clean Dimensional Lumber <-16"	355	1.1%	0.5%	HDPE Bottles	1	0.0%	0.0%
Clean Engineered Wood	2,869	8.7%	4.6%	Other Plastic Containers	0	0.0%	0.0%
Pallets and Crates	801	2.4%	2.3%	5 Gallons #2 Buckets	18	0.1%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	118	0.4%	0.6%
Wood Roofing	538	1.6%	1.3%	Trash Bags Grocery/ Merch. Bags	31	0.1%	0.1%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	31	0.1%	0.0%
Other Recyclable Wood	474	1.4%	0.7%	Plastic Sheeting & Ag. Film	146	0.4%	0.2%
Painted and Treated Wood	2,398	7.2%		Other Film	42	0.1%	0.1%
Painted/Stained Wood Siding	388	1.2%	1.0%	Plastic Piping	383	1.2%	0.8%
Painted/Stained Wood	1,689	5.1%	2.3%	Other Plastic Products	66	0.2%	0.2%
Creosote-treated Wood	0	0.0%	0.0%	Mixed/Other Plastic	1	0.0%	0.0%
Other Treated Wood	231	0.7%	0.7%	Carpet	468	1.4%	0.9%
Finished Wood Furnishings	91	0.3%	0.2%	Carpet Padding	47	0.1%	0.1%
Aggregates, Rock, Soil	7,009	21.2%		Green Debris	768	2.3%	
Concrete	662	2.0%	2.0%	Yard Waste	551	1.7%	1.6%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	217	0.7%	0.6%
Other Aggregates	1,007	3.0%	3.9%	Stumps	0	0.0%	0.0%
Rock and Gravel	327	1.0%	1.6%	Other Organics	26	0.1%	
Dirt and Sand	1,689	5.1%	6.9%	Food	0	0.0%	0.0%
Clean Gypsum Board	2,175	6.6%	4.7%	Textiles	26	0.1%	0.1%
Painted/Demolition Gypsum	1,150	3.5%	3.7%	Hazardous Materials	0	0.0%	
Asphalt Roofing	9,762	29.5%		Oil Paint	0	0.0%	0.0%
Composition Roofing	8,136	24.6%	9.0%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	1,626	4.9%	4.7%	Used Oil	0	0.0%	0.0%
Metal	455	1.4%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	0	0.0%	0.0%	Other Household Hazardous	0	0.0%	0.0%
HVAC Ducting	12	0.0%	0.1%	Other Materials w/ Little or No Value	3,938	11.9%	
Major Appliances	0	0.0%	0.0%	Cellulose Insulation	3	0.0%	0.0%
Other Ferrous Metal	365	1.1%	0.6%	Mixed/Other Paper	348	1.0%	1.0%
Aluminum Cans	6	0.0%	0.0%	Mixed/Other Glass	101	0.3%	0.4%
Other Non-Ferrous Metal	28	0.1%	0.1%	Furniture and Mattresses	64	0.2%	0.3%
Mixed/Other Metal	44	0.1%	0.1%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	1,226	3.7%		Nondistinct Fines	331	1.0%	0.8%
Uncoated Corrugated Cardboard	718	2.2%	1.6%	MSW	539	1.6%	1.2%
Other Recyclable Paper	481	1.5%	0.6%	Other Waste	3	0.0%	0.0%
Glass Bottles and Containers	17	0.1%	0.1%	Fiberglass Insulation	43	0.1%	0.1%
Sm. Appliances & Personal Electronics	6	0.0%	0.0%	Expanded Polystyrene Insulation	230	0.7%	0.7%
Computer-related Electronics	1	0.0%	0.0%	Mixed/Other C&D	2,276	6.9%	3.7%
TV's & Other CRTs	0	0.0%	0.0%	Totals	33,138	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	93		
Tires	3	0.0%	0.0%				

Error range calculated at a 90% confidence level

**Table F-17. Composition by Weight – Transfer Station Disposed Other Large Vehicles
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	676	15.8%		Plastic	139	3.3%	
Clean Dimensional Lumber >-16"	182	4.3%	5.0%	PET Bottles	1	0.0%	0.0%
Clean Dimensional Lumber <-16"	17	0.4%	0.4%	HDPE Bottles	0	0.0%	0.0%
Clean Engineered Wood	109	2.5%	3.3%	Other Plastic Containers	0	0.0%	0.0%
Pallets and Crates	98	2.3%	3.4%	5 Gallons #2 Buckets	0	0.0%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	5	0.1%	0.2%
Wood Roofing	264	6.2%	7.8%	Trash Bags Grocery/ Merch. Bags	11	0.3%	0.3%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	2	0.1%	0.0%
Other Recyclable Wood	6	0.1%	0.2%	Plastic Sheeting & Ag. Film	6	0.1%	0.1%
Painted and Treated Wood	166	3.9%		Other Film	0	0.0%	0.0%
Painted/Stained Wood Siding	101	2.4%	3.0%	Plastic Piping	10	0.2%	0.4%
Painted/Stained Wood	64	1.5%	1.4%	Other Plastic Products	5	0.1%	0.1%
Creosote-treated Wood	0	0.0%	0.0%	Mixed/Other Plastic	4	0.1%	0.1%
Other Treated Wood	0	0.0%	0.0%	Carpet	67	1.6%	2.0%
Finished Wood Furnishings	0	0.0%	0.0%	Carpet Padding	28	0.7%	0.8%
Aggregates, Rock, Soil	980	22.9%		Green Debris	0	0.0%	
Concrete	0	0.0%	0.0%	Yard Waste	0	0.0%	0.0%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	0	0.0%	0.0%
Other Aggregates	0	0.0%	0.0%	Stumps	0	0.0%	0.0%
Rock and Gravel	0	0.0%	0.0%	Other Organics	0	0.0%	
Dirt and Sand	0	0.0%	0.0%	Food	0	0.0%	0.0%
Clean Gypsum Board	519	12.1%	19.2%	Textiles	0	0.0%	0.0%
Painted/Demolition Gypsum	461	10.8%	14.2%	Hazardous Materials	0	0.0%	
Asphalt Roofing	1,212	28.3%		Oil Paint	0	0.0%	0.0%
Composition Roofing	857	20.0%	24.4%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	354	8.3%	13.8%	Used Oil	0	0.0%	0.0%
Metal	182	4.3%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	0	0.0%	0.0%	Other Household Hazardous	0	0.0%	0.0%
HVAC Ducting	0	0.0%	0.0%	Other Materials w/ Little or No Value	858	20.0%	
Major Appliances	26	0.6%	0.8%	Cellulose Insulation	0	0.0%	0.0%
Other Ferrous Metal	62	1.5%	1.5%	Mixed/Other Paper	41	1.0%	1.7%
Aluminum Cans	1	0.0%	0.0%	Mixed/Other Glass	13	0.3%	0.5%
Other Non-Ferrous Metal	0	0.0%	0.0%	Furniture and Mattresses	23	0.5%	0.7%
Mixed/Other Metal	93	2.2%	2.1%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	69	1.6%		Nondistinct Fines	1	0.0%	0.0%
Uncoated Corrugated Cardboard	43	1.0%	0.8%	MSW	112	2.6%	2.6%
Other Recyclable Paper	18	0.4%	0.4%	Other Waste	0	0.0%	0.0%
Glass Bottles and Containers	0	0.0%	0.0%	Fiberglass Insulation	1	0.0%	0.0%
Sm. Appliances & Personal Electronics	2	0.0%	0.1%	Expanded Polystyrene Insulation	0	0.0%	0.0%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	667	15.6%	14.0%
TV's & Other CRTs	0	0.0%	0.0%	Totals	4,283	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	13		
Tires	6	0.1%	0.2%	<i>Error range calculated at a 90% confidence level</i>			

Table F-18. Composition by Weight – Transfer Station Disposed Pick-up/Passenger Vehicles
(September 2007 – August 2008)

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	1,636	21.5%		Plastic	168	2.2%	
Clean Dimensional Lumber >- 16"	247	3.2%	1.8%	PET Bottles	1	0.0%	0.0%
Clean Dimensional Lumber <-16"	227	3.0%	1.9%	HDPE Bottles	0	0.0%	0.0%
Clean Engineered Wood	910	12.0%	4.1%	Other Plastic Containers	0	0.0%	0.0%
Pallets and Crates	100	1.3%	1.2%	5 Gallons #2 Buckets	7	0.1%	0.1%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	4	0.1%	0.1%
Wood Roofing	0	0.0%	0.0%	Trash Bags Grocery/ Merch. Bags	6	0.1%	0.1%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	9	0.1%	0.2%
Other Recyclable Wood	152	2.0%	1.5%	Plastic Sheeting & Ag. Film	24	0.3%	0.2%
Painted and Treated Wood	1,370	18.0%		Other Film	0	0.0%	0.0%
Painted/Stained Wood Siding	444	5.8%	7.4%	Plastic Piping	33	0.4%	0.6%
Painted/Stained Wood	768	10.1%	5.6%	Other Plastic Products	4	0.1%	0.1%
Creosote-treated Wood	0	0.0%	0.0%	Mixed/Other Plastic	3	0.0%	0.0%
Other Treated Wood	46	0.6%	0.7%	Carpet	76	1.0%	1.7%
Finished Wood Furnishings	113	1.5%	1.9%	Carpet Padding	0	0.0%	0.0%
Aggregates, Rock, Soil	656	8.6%		Green Debris	111	1.5%	
Concrete	118	1.6%	2.5%	Yard Waste	59	0.8%	1.3%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	42	0.6%	0.6%
Other Aggregates	281	3.7%	3.9%	Stumps	10	0.1%	0.2%
Rock and Gravel	0	0.0%	0.0%	Other Organics	0	0.0%	
Dirt and Sand	0	0.0%	0.0%	Food	0	0.0%	0.0%
Clean Gypsum Board	224	3.0%	3.7%	Textiles	0	0.0%	0.0%
Painted/Demolition Gypsum	32	0.4%	0.6%	Hazardous Materials	0	0.0%	
Asphalt Roofing	2,328	30.7%		Oil Paint	0	0.0%	0.0%
Composition Roofing	2,230	29.4%	17.3%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	98	1.3%	2.2%	Used Oil	0	0.0%	0.0%
Metal	269	3.5%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	2	0.0%	0.0%	Other Household Hazardous	0	0.0%	0.0%
HVAC Ducting	2	0.0%	0.1%	Other Materials w/ Little or No Value	720	9.5%	
Major Appliances	44	0.6%	1.0%	Cellulose Insulation	0	0.0%	0.0%
Other Ferrous Metal	133	1.8%	1.6%	Mixed/Other Paper	4	0.1%	0.1%
Aluminum Cans	0	0.0%	0.0%	Mixed/Other Glass	99	1.3%	2.2%
Other Non-Ferrous Metal	68	0.9%	0.9%	Furniture and Mattresses	60	0.8%	0.9%
Mixed/Other Metal	18	0.2%	0.3%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	334	4.4%		Nondistinct Fines	32	0.4%	0.6%
Uncoated Corrugated Cardboard	72	0.9%	0.6%	MSW	179	2.4%	2.6%
Other Recyclable Paper	243	3.2%	2.8%	Other Waste	0	0.0%	0.0%
Glass Bottles and Containers	0	0.0%	0.0%	Fiberglass Insulation	4	0.0%	0.0%
Sm. Appliances & Personal Electronics	6	0.1%	0.1%	Expanded Polystyrene Insulation	0	0.0%	0.0%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	342	4.5%	3.8%
TV's & Other CRTs	0	0.0%	0.0%	Totals	7,593	100%	
Latex Paint	13	0.2%	0.3%	Number of Samples	28		
Tires	0	0.0%	0.0%				

Error range calculated at a 90% confidence level

**Table F-19. Composition by Weight – Transfer Station Disposed Fall
(September, October, and November 2007)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	9,672	27.0%		Plastic	1,807	5.0%	
Clean Dimensional Lumber >-16"	2,874	8.0%	2.3%	PET Bottles	4	0.0%	0.0%
Clean Dimensional Lumber <-16"	1,481	4.1%	1.9%	HDPE Bottles	1	0.0%	0.0%
Clean Engineered Wood	3,179	8.9%	2.4%	Other Plastic Containers	32	0.1%	0.1%
Pallets and Crates	1,200	3.4%	1.6%	5 Gallons #2 Buckets	17	0.0%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	24	0.1%	0.1%
Wood Roofing	523	1.5%	1.8%	Trash Bags Grocery/ Merch. Bags	37	0.1%	0.1%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	52	0.1%	0.1%
Other Recyclable Wood	415	1.2%	0.6%	Plastic Sheeting & Ag. Film	154	0.4%	0.2%
Painted and Treated Wood	3,252	9.1%		Other Film	45	0.1%	0.1%
Painted/Stained Wood Siding	452	1.3%	0.9%	Plastic Piping	699	2.0%	2.0%
Painted/Stained Wood	1,811	5.1%	2.1%	Other Plastic Products	88	0.2%	0.2%
Creosote-treated Wood	0	0.0%	0.0%	Mixed/Other Plastic	41	0.1%	0.1%
Other Treated Wood	366	1.0%	0.7%	Carpet	489	1.4%	0.9%
Finished Wood Furnishings	622	1.7%	1.3%	Carpet Padding	123	0.3%	0.2%
Aggregates, Rock, Soil	6,791	19.0%		Green Debris	1,693	4.7%	
Concrete	1,483	4.1%	2.1%	Yard Waste	376	1.1%	0.8%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	804	2.2%	2.9%
Other Aggregates	1,046	2.9%	2.3%	Stumps	513	1.4%	1.9%
Rock and Gravel	0	0.0%	0.0%	Other Organics	17	0.0%	
Dirt and Sand	908	2.5%	2.6%	Food	0	0.0%	0.0%
Clean Gypsum Board	138	0.4%	0.4%	Textiles	17	0.0%	0.1%
Painted/Demolition Gypsum	3,216	9.0%	3.9%	Hazardous Materials	38	0.1%	
Asphalt Roofing	5,630	15.7%		Oil Paint	0	0.0%	0.0%
Composition Roofing	5,417	15.1%	2.9%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	213	0.6%	0.7%	Used Oil	0	0.0%	0.0%
Metal	1,289	3.6%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	0	0.0%	0.0%	Other Household Hazardous	38	0.1%	0.2%
HVAC Ducting	25	0.1%	0.1%	Other Materials w/ Little or No Value	4,646	13.0%	
Major Appliances	7	0.0%	0.0%	Cellulose Insulation	24	0.1%	0.1%
Other Ferrous Metal	1,064	3.0%	1.4%	Mixed/Other Paper	166	0.5%	0.4%
Aluminum Cans	1	0.0%	0.0%	Mixed/Other Glass	171	0.5%	0.4%
Other Non-Ferrous Metal	113	0.3%	0.3%	Furniture and Mattresses	73	0.2%	0.2%
Mixed/Other Metal	78	0.2%	0.2%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	952	2.7%		Nondistinct Fines	782	2.2%	1.6%
Uncoated Corrugated Cardboard	463	1.3%	0.7%	MSW	399	1.1%	0.7%
Other Recyclable Paper	424	1.2%	0.6%	Other Waste	75	0.2%	0.3%
Glass Bottles and Containers	0	0.0%	0.0%	Fiberglass Insulation	69	0.2%	0.1%
Sm. Appliances & Personal Electronics	19	0.1%	0.0%	Expanded Polystyrene Insulation	170	0.5%	0.5%
Computer-related Electronics	9	0.0%	0.0%	Mixed/Other C&D	2,717	7.6%	3.8%
TV's & Other CRTs	29	0.1%	0.1%	Totals	35,786	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	95		
Tires	7	0.0%	0.0%				

Error range calculated at a 90% confidence level

**Table F-20. Composition by Weight – Transfer Station Disposed Winter
(December 2007 and January, February 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	5,276	19.0%		Plastic	2,194	7.9%	
Clean Dimensional Lumber >-16"	1,646	5.9%	2.4%	PET Bottles	4	0.0%	0.0%
Clean Dimensional Lumber <-16"	336	1.2%	0.5%	HDPE Bottles	0	0.0%	0.0%
Clean Engineered Wood	2,009	7.2%	2.3%	Other Plastic Containers	3	0.0%	0.0%
Pallets and Crates	897	3.2%	1.2%	5 Gallons #2 Buckets	25	0.1%	0.1%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	48	0.2%	0.1%
Wood Roofing	245	0.9%	0.9%	Trash Bags Grocery/ Merch. Bags	41	0.1%	0.1%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	52	0.2%	0.1%
Other Recyclable Wood	142	0.5%	0.6%	Plastic Sheeting & Ag. Film	140	0.5%	0.2%
Painted and Treated Wood	2,420	8.7%		Other Film	24	0.1%	0.1%
Painted/Stained Wood Siding	160	0.6%	0.5%	Plastic Piping	357	1.3%	0.9%
Painted/Stained Wood	1,722	6.2%	2.3%	Other Plastic Products	156	0.6%	0.3%
Creosote-treated Wood	36	0.1%	0.2%	Mixed/Other Plastic	37	0.1%	0.1%
Other Treated Wood	166	0.6%	0.8%	Carpet	1,094	3.9%	2.1%
Finished Wood Furnishings	336	1.2%	0.7%	Carpet Padding	212	0.8%	0.5%
Aggregates, Rock, Soil	7,761	27.9%		Green Debris	200	0.7%	
Concrete	759	2.7%	2.0%	Yard Waste	114	0.4%	0.5%
Asphalt Paving	418	1.5%	1.8%	Large Prunings	87	0.3%	0.4%
Other Aggregates	958	3.4%	2.9%	Stumps	0	0.0%	0.0%
Rock and Gravel	535	1.9%	1.8%	Other Organics	240	0.9%	
Dirt and Sand	533	1.9%	1.5%	Food	0	0.0%	0.0%
Clean Gypsum Board	1,501	5.4%	3.2%	Textiles	240	0.9%	0.7%
Painted/Demolition Gypsum	3,056	11.0%	5.2%	Hazardous Materials	22	0.1%	
Asphalt Roofing	3,695	13.3%		Oil Paint	0	0.0%	0.0%
Composition Roofing	3,507	12.6%	3.2%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	187	0.7%	1.1%	Used Oil	0	0.0%	0.0%
Metal	1,335	4.8%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	0	0.0%	0.0%	Other Household Hazardous	22	0.1%	0.1%
HVAC Ducting	36	0.1%	0.1%	Other Materials w/ Little or No Value	3,002	10.8%	
Major Appliances	0	0.0%	0.0%	Cellulose Insulation	0	0.0%	0.0%
Other Ferrous Metal	800	2.9%	1.3%	Mixed/Other Paper	340	1.2%	1.1%
Aluminum Cans	0	0.0%	0.0%	Mixed/Other Glass	380	1.4%	1.6%
Other Non-Ferrous Metal	174	0.6%	0.6%	Furniture and Mattresses	255	0.9%	1.2%
Mixed/Other Metal	325	1.2%	1.0%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	1,625	5.9%		Nondistinct Fines	162	0.6%	0.5%
Uncoated Corrugated Cardboard	968	3.5%	1.2%	MSW	896	3.2%	1.3%
Other Recyclable Paper	597	2.1%	1.2%	Other Waste	0	0.0%	0.0%
Glass Bottles and Containers	0	0.0%	0.0%	Fiberglass Insulation	24	0.1%	0.0%
Sm. Appliances & Personal Electronics	13	0.0%	0.1%	Expanded Polystyrene Insulation	76	0.3%	0.4%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	867	3.1%	2.0%
TV's & Other CRTs	43	0.2%	0.2%	Totals	27,769	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	91		
Tires	4	0.0%	0.0%				<i>Error range calculated at a 90% confidence level</i>

**Table F-21. Composition by Weight – Transfer Station Disposed Spring
(March, April, and May 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	7,280	22.7%		Plastic	1,999	6.2%	
Clean Dimensional Lumber >-16"	1,667	5.2%	2.2%	PET Bottles	2	0.0%	0.0%
Clean Dimensional Lumber <-16"	373	1.2%	0.6%	HDPE Bottles	0	0.0%	0.0%
Clean Engineered Wood	2,814	8.8%	3.0%	Other Plastic Containers	0	0.0%	0.0%
Pallets and Crates	1,257	3.9%	1.9%	5 Gallons #2 Buckets	15	0.0%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	18	0.1%	0.0%
Wood Roofing	221	0.7%	0.7%	Trash Bags Grocery/ Merch. Bags	92	0.3%	0.1%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	5	0.0%	0.0%
Other Recyclable Wood	948	3.0%	1.6%	Plastic Sheeting & Ag. Film	659	2.1%	1.3%
Painted and Treated Wood	3,007	9.4%		Other Film	70	0.2%	0.2%
Painted/Stained Wood Siding	1,253	3.9%	2.7%	Plastic Piping	617	1.9%	1.6%
Painted/Stained Wood	1,616	5.0%	1.7%	Other Plastic Products	55	0.2%	0.1%
Creosote-treated Wood	58	0.2%	0.3%	Mixed/Other Plastic	5	0.0%	0.0%
Other Treated Wood	24	0.1%	0.1%	Carpet	384	1.2%	0.5%
Finished Wood Furnishings	57	0.2%	0.1%	Carpet Padding	77	0.2%	0.2%
Aggregates, Rock, Soil	9,189	28.7%		Green Debris	215	0.7%	
Concrete	881	2.7%	1.9%	Yard Waste	111	0.3%	0.3%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	104	0.3%	0.3%
Other Aggregates	703	2.2%	2.3%	Stumps	0	0.0%	0.0%
Rock and Gravel	0	0.0%	0.0%	Other Organics	45	0.1%	
Dirt and Sand	1,291	4.0%	4.6%	Food	0	0.0%	0.0%
Clean Gypsum Board	2,306	7.2%	3.8%	Textiles	45	0.1%	0.1%
Painted/Demolition Gypsum	4,008	12.5%	4.3%	Hazardous Materials	4	0.0%	
Asphalt Roofing	5,243	16.4%		Oil Paint	0	0.0%	0.0%
Composition Roofing	2,868	8.9%	3.7%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	2,375	7.4%	3.3%	Used Oil	0	0.0%	0.0%
Metal	1,230	3.8%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	1	0.0%	0.0%	Other Household Hazardous	4	0.0%	0.0%
HVAC Ducting	41	0.1%	0.1%	Other Materials w/ Little or No Value	2,732	8.5%	
Major Appliances	40	0.1%	0.1%	Cellulose Insulation	0	0.0%	0.0%
Other Ferrous Metal	695	2.2%	1.3%	Mixed/Other Paper	375	1.2%	0.8%
Aluminum Cans	1	0.0%	0.0%	Mixed/Other Glass	87	0.3%	0.3%
Other Non-Ferrous Metal	385	1.2%	0.9%	Furniture and Mattresses	112	0.4%	0.3%
Mixed/Other Metal	67	0.2%	0.1%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	1,121	3.5%		Nondistinct Fines	317	1.0%	1.4%
Uncoated Corrugated Cardboard	554	1.7%	0.6%	MSW	311	1.0%	0.7%
Other Recyclable Paper	532	1.7%	0.7%	Other Waste	0	0.0%	0.0%
Glass Bottles and Containers	17	0.1%	0.1%	Fiberglass Insulation	171	0.5%	0.4%
Sm. Appliances & Personal Electronics	3	0.0%	0.0%	Expanded Polystyrene Insulation	126	0.4%	0.2%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	1,233	3.8%	1.8%
TV's & Other CRTs	10	0.0%	0.0%	Totals	32,065	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	95		
Tires	4	0.0%	0.0%				

Error range calculated at a 90% confidence level

**Table F-22. Composition by Weight – Transfer Station Disposed Summer
(June, July, and August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	8,363	26.6%		Plastic	2,566	8.2%	
Clean Dimensional Lumber >-16"	1,998	6.4%	3.1%	PET Bottles	3	0.0%	0.0%
Clean Dimensional Lumber <-16"	660	2.1%	0.9%	HDPE Bottles	0	0.0%	0.0%
Clean Engineered Wood	1,785	5.7%	2.0%	Other Plastic Containers	17	0.1%	0.1%
Pallets and Crates	1,245	4.0%	3.5%	5 Gallons #2 Buckets	8	0.0%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	358	1.1%	1.4%
Wood Roofing	2,071	6.6%	4.3%	Trash Bags Grocery/ Merch. Bags	129	0.4%	0.4%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	111	0.4%	0.3%
Other Recyclable Wood	604	1.9%	0.8%	Plastic Sheeting & Ag. Film	805	2.6%	2.8%
Painted and Treated Wood	925	2.9%		Other Film	56	0.2%	0.1%
Painted/Stained Wood Siding	290	0.9%	0.8%	Plastic Piping	654	2.1%	1.2%
Painted/Stained Wood	529	1.7%	1.0%	Other Plastic Products	186	0.6%	0.5%
Creosote-treated Wood	0	0.0%	0.0%	Mixed/Other Plastic	31	0.1%	0.1%
Other Treated Wood	27	0.1%	0.1%	Carpet	193	0.6%	0.5%
Finished Wood Furnishings	79	0.3%	0.2%	Carpet Padding	15	0.0%	0.1%
Aggregates, Rock, Soil	6,421	20.4%		Green Debris	498	1.6%	
Concrete	908	2.9%	2.6%	Yard Waste	453	1.4%	1.0%
Asphalt Paving	97	0.3%	0.5%	Large Prunings	40	0.1%	0.1%
Other Aggregates	141	0.4%	0.5%	Stumps	5	0.0%	0.0%
Rock and Gravel	78	0.2%	0.4%	Other Organics	252	0.8%	
Dirt and Sand	0	0.0%	0.0%	Food	0	0.0%	0.0%
Clean Gypsum Board	2,748	8.7%	7.4%	Textiles	252	0.8%	1.0%
Painted/Demolition Gypsum	2,450	7.8%	5.5%	Hazardous Materials	0	0.0%	
Asphalt Roofing	6,406	20.4%		Oil Paint	0	0.0%	0.0%
Composition Roofing	4,307	13.7%	8.0%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	2,099	6.7%	8.0%	Used Oil	0	0.0%	0.0%
Metal	1,193	3.8%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	2	0.0%	0.0%	Other Household Hazardous	0	0.0%	0.0%
HVAC Ducting	7	0.0%	0.0%	Other Materials w/ Little or No Value	3,415	10.9%	
Major Appliances	0	0.0%	0.0%	Cellulose Insulation	2	0.0%	0.0%
Other Ferrous Metal	947	3.0%	1.4%	Mixed/Other Paper	561	1.8%	2.7%
Aluminum Cans	19	0.1%	0.1%	Mixed/Other Glass	579	1.8%	1.9%
Other Non-Ferrous Metal	138	0.4%	0.4%	Furniture and Mattresses	32	0.1%	0.2%
Mixed/Other Metal	80	0.3%	0.2%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	1,393	4.4%		Nondistinct Fines	44	0.1%	0.2%
Uncoated Corrugated Cardboard	927	2.9%	1.7%	MSW	44	0.1%	0.2%
Other Recyclable Paper	395	1.3%	1.1%	Other Waste	0	0.0%	0.0%
Glass Bottles and Containers	56	0.2%	0.2%	Fiberglass Insulation	48	0.2%	0.1%
Sm. Appliances & Personal Electronics	0	0.0%	0.0%	Expanded Polystyrene Insulation	28	0.1%	0.1%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	2,076	6.6%	2.6%
TV's & Other CRTs	0	0.0%	0.0%	Totals	31,432	100%	
Latex Paint	13	0.0%	0.1%	Number of Samples	59		
Tires	2	0.0%	0.0%				

Error range calculated at a 90% confidence level

**Table F-23. Composition by Weight – Intermodal Containers
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	5,281	16.6%		Plastic	351	1.1%	
Clean Dimensional Lumber >-16"	788	2.5%	0.6%	PET Bottles	0	0.0%	0.0%
Clean Dimensional Lumber <-16"	426	1.3%	0.9%	HDPE Bottles	0	0.0%	0.0%
Clean Engineered Wood	755	2.4%	1.6%	Other Plastic Containers	0	0.0%	0.0%
Pallets and Crates	0	0.0%	0.0%	5 Gallons #2 Buckets	0	0.0%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	0	0.0%	0.0%
Wood Roofing	472	1.5%	2.2%	Trash Bags Grocery/ Merch. Bags	0	0.0%	0.0%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	0	0.0%	0.0%
Other Recyclable Wood	2,840	8.9%	1.9%	Plastic Sheeting & Ag. Film	10	0.0%	0.0%
Painted and Treated Wood	9,438	29.7%		Other Film	2	0.0%	0.0%
Painted/Stained Wood Siding	1,622	5.1%	4.1%	Plastic Piping	7	0.0%	0.0%
Painted/Stained Wood	7,588	23.9%	6.6%	Other Plastic Products	42	0.1%	0.1%
Creosote-treated Wood	0	0.0%	0.0%	Mixed/Other Plastic	10	0.0%	0.0%
Other Treated Wood	228	0.7%	0.6%	Carpet	242	0.8%	0.3%
Finished Wood Furnishings	0	0.0%	0.0%	Carpet Padding	36	0.1%	0.1%
Aggregates, Rock, Soil	7,107	22.4%		Green Debris	115	0.4%	
Concrete	105	0.3%	0.4%	Yard Waste	109	0.3%	0.3%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	5	0.0%	0.0%
Other Aggregates	817	2.6%	2.4%	Stumps	1	0.0%	0.0%
Rock and Gravel	153	0.5%	0.8%	Other Organics	3	0.0%	
Dirt and Sand	369	1.2%	1.2%	Food	0	0.0%	0.0%
Clean Gypsum Board	0	0.0%	0.0%	Textiles	3	0.0%	0.0%
Painted/Demolition Gypsum	5,663	17.8%	3.2%	Hazardous Materials	0	0.0%	
Asphalt Roofing	2,528	8.0%		Oil Paint	0	0.0%	0.0%
Composition Roofing	1,637	5.2%	3.3%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	891	2.8%	1.1%	Used Oil	0	0.0%	0.0%
Metal	1,804	5.7%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	0	0.0%	0.0%	Other Household Hazardous	0	0.0%	0.0%
HVAC Ducting	18	0.1%	0.1%	Other Materials w/ Little or No Value	5,134	16.2%	
Major Appliances	10	0.0%	0.0%	Cellulose Insulation	0	0.0%	0.0%
Other Ferrous Metal	220	0.7%	0.3%	Mixed/Other Paper	7	0.0%	0.0%
Aluminum Cans	0	0.0%	0.0%	Mixed/Other Glass	351	1.1%	1.2%
Other Non-Ferrous Metal	1,415	4.5%	0.5%	Furniture and Mattresses	11	0.0%	0.0%
Mixed/Other Metal	140	0.4%	0.1%	Ash	447	1.4%	2.3%
Other Materials w/ Potential Value	11	0.0%		Nondistinct Fines	88	0.3%	0.5%
Uncoated Corrugated Cardboard	1	0.0%	0.0%	MSW	3	0.0%	0.0%
Other Recyclable Paper	2	0.0%	0.0%	Other Waste	0	0.0%	0.0%
Glass Bottles and Containers	8	0.0%	0.0%	Fiberglass Insulation	524	1.7%	0.1%
Sm. Appliances & Personal Electronics	0	0.0%	0.0%	Expanded Polystyrene Insulation	0	0.0%	0.0%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	3,702	11.7%	2.5%
TV's & Other CRTs	0	0.0%	0.0%	Totals	31,773	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	25		
Tires	0	0.0%	0.0%				

Error range calculated at a 90% confidence level

**Table F-24. Composition by Weight – Overall Processed C&D
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	83,701	37.7%		Plastic	9,787	4.4%	
Clean Dimensional Lumber >-16"	19,872	8.9%	1.4%	PET Bottles	19	0.0%	0.0%
Clean Dimensional Lumber <-16"	6,110	2.8%	0.6%	HDPE Bottles	3	0.0%	0.0%
Clean Engineered Wood	31,467	14.2%	1.9%	Other Plastic Containers	4	0.0%	0.0%
Pallets and Crates	14,826	6.7%	1.4%	5 Gallons #2 Buckets	141	0.1%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	93	0.0%	0.0%
Wood Roofing	4,802	2.2%	1.2%	Trash Bags Grocery/ Merch. Bags	139	0.1%	0.0%
Unfinished Wood Furnishings	84	0.0%	0.0%	Non-Bag Packaging Film	562	0.3%	0.2%
Other Recyclable Wood	6,541	2.9%	1.4%	Plastic Sheeting & Ag. Film	1,533	0.7%	0.1%
Painted and Treated Wood	17,241	7.8%		Other Film	116	0.1%	0.0%
Painted/Stained Wood Siding	4,564	2.1%	0.9%	Plastic Piping	3,227	1.5%	0.6%
Painted/Stained Wood	11,129	5.0%	1.4%	Other Plastic Products	861	0.4%	0.2%
Creosote-treated Wood	16	0.0%	0.0%	Mixed/Other Plastic	295	0.1%	0.2%
Other Treated Wood	405	0.2%	0.1%	Carpet	2,447	1.1%	0.6%
Finished Wood Furnishings	1,126	0.5%	0.2%	Carpet Padding	347	0.2%	0.1%
Aggregates, Rock, Soil	39,833	17.9%		Green Debris	2,972	1.3%	
Concrete	7,807	3.5%	1.5%	Yard Waste	2,749	1.2%	0.8%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	223	0.1%	0.1%
Other Aggregates	3,546	1.6%	0.8%	Stumps	0	0.0%	0.0%
Rock and Gravel	246	0.1%	0.1%	Other Organics	304	0.1%	
Dirt and Sand	5,232	2.4%	1.6%	Food	130	0.1%	0.1%
Clean Gypsum Board	8,926	4.0%	2.0%	Textiles	174	0.1%	0.1%
Painted/Demolition Gypsum	14,075	6.3%	1.6%	Hazardous Materials	405	0.2%	
Asphalt Roofing	23,678	10.7%		Oil Paint	0	0.0%	0.0%
Composition Roofing	18,003	8.1%	1.7%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	5,675	2.6%	1.7%	Used Oil	0	0.0%	0.0%
Metal	8,506	3.8%		Batteries	36	0.0%	0.0%
Tin/Steel Cans	12	0.0%	0.0%	Other Household Hazardous	369	0.2%	0.3%
HVAC Ducting	755	0.3%	0.5%	Other Materials w/ Little or No Value	25,575	11.5%	
Major Appliances	121	0.1%	0.1%	Cellulose Insulation	3	0.0%	0.0%
Other Ferrous Metal	5,777	2.6%	1.3%	Mixed/Other Paper	1,567	0.7%	0.4%
Aluminum Cans	24	0.0%	0.0%	Mixed/Other Glass	1,377	0.6%	0.4%
Other Non-Ferrous Metal	850	0.4%	0.2%	Furniture and Mattresses	447	0.2%	0.2%
Mixed/Other Metal	967	0.4%	0.2%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	10,116	4.6%		Nondistinct Fines	4,133	1.9%	0.8%
Uncoated Corrugated Cardboard	3,600	1.6%	0.5%	MSW	5,549	2.5%	0.8%
Other Recyclable Paper	3,207	1.4%	0.7%	Other Waste	677	0.3%	0.5%
Glass Bottles and Containers	4	0.0%	0.0%	Fiberglass Insulation	515	0.2%	0.2%
Sm. Appliances & Personal Electronics	48	0.0%	0.0%	Expanded Polystyrene Insulation	313	0.1%	0.1%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	10,994	4.9%	1.4%
TV's & Other CRTs	7	0.0%	0.0%	Totals	222,117	100%	
Latex Paint	258	0.1%	0.1%	Number of Samples	302		
Tires	2,990	1.3%	1.4%				

Error range calculated at a 90% confidence level

**Table F-25. Composition by Weight – Processed Demolition
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	7,279	31.4%		Plastic	196	0.8%	
Clean Dimensional Lumber >-16"	2,172	9.4%	4.8%	PET Bottles	2	0.0%	0.0%
Clean Dimensional Lumber <-16"	631	2.7%	1.8%	HDPE Bottles	0	0.0%	0.0%
Clean Engineered Wood	2,245	9.7%	4.3%	Other Plastic Containers	0	0.0%	0.0%
Pallets and Crates	1,362	5.9%	4.5%	5 Gallons #2 Buckets	5	0.0%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	2	0.0%	0.0%
Wood Roofing	0	0.0%	0.0%	Trash Bags Grocery/ Merch. Bags	8	0.0%	0.0%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	14	0.1%	0.1%
Other Recyclable Wood	869	3.8%	4.0%	Plastic Sheeting & Ag. Film	64	0.3%	0.2%
Painted and Treated Wood	2,030	8.8%		Other Film	3	0.0%	0.0%
Painted/Stained Wood Siding	354	1.5%	2.0%	Plastic Piping	64	0.3%	0.3%
Painted/Stained Wood	1,165	5.0%	2.6%	Other Plastic Products	20	0.1%	0.1%
Creosote-treated Wood	0	0.0%	0.0%	Mixed/Other Plastic	7	0.0%	0.0%
Other Treated Wood	0	0.0%	0.0%	Carpet	4	0.0%	0.0%
Finished Wood Furnishings	511	2.2%	1.8%	Carpet Padding	5	0.0%	0.0%
Aggregates, Rock, Soil	8,520	36.8%		Green Debris	311	1.3%	
Concrete	1,965	8.5%	9.2%	Yard Waste	180	0.8%	0.9%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	131	0.6%	0.9%
Other Aggregates	708	3.1%	2.6%	Stumps	0	0.0%	0.0%
Rock and Gravel	176	0.8%	0.8%	Other Organics	32	0.1%	
Dirt and Sand	4	0.0%	0.0%	Food	0	0.0%	0.0%
Clean Gypsum Board	245	1.1%	1.1%	Textiles	32	0.1%	0.2%
Painted/Demolition Gypsum	5,422	23.4%	7.1%	Hazardous Materials	0	0.0%	
Asphalt Roofing	1,187	5.1%		Oil Paint	0	0.0%	0.0%
Composition Roofing	1,187	5.1%	5.3%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	0	0.0%	0.0%	Used Oil	0	0.0%	0.0%
Metal	558	2.4%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	0	0.0%	0.0%	Other Household Hazardous	0	0.0%	0.0%
HVAC Ducting	37	0.2%	0.1%	Other Materials w/ Little or No Value	2,849	12.3%	
Major Appliances	0	0.0%	0.0%	Cellulose Insulation	0	0.0%	0.0%
Other Ferrous Metal	442	1.9%	2.3%	Mixed/Other Paper	0	0.0%	0.0%
Aluminum Cans	1	0.0%	0.0%	Mixed/Other Glass	437	1.9%	3.1%
Other Non-Ferrous Metal	0	0.0%	0.0%	Furniture and Mattresses	290	1.3%	2.1%
Mixed/Other Metal	77	0.3%	0.3%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	189	0.8%		Nondistinct Fines	757	3.3%	4.0%
Uncoated Corrugated Cardboard	106	0.5%	0.3%	MSW	73	0.3%	0.4%
Other Recyclable Paper	49	0.2%	0.2%	Other Waste	0	0.0%	0.0%
Glass Bottles and Containers	4	0.0%	0.0%	Fiberglass Insulation	297	1.3%	1.6%
Sm. Appliances & Personal Electronics	0	0.0%	0.0%	Expanded Polystyrene Insulation	4	0.0%	0.0%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	991	4.3%	3.0%
TV's & Other CRTs	0	0.0%	0.0%	Totals	23,150	100%	
Latex Paint	9	0.0%	0.1%	Number of Samples	32		
Tires	21	0.1%	0.2%				

Error range calculated at a 90% confidence level

**Table F-26. Composition by Weight – Processed New Construction
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	60,404	51.8%		Plastic	5,087	4.4%	
Clean Dimensional Lumber >-16"	15,906	13.7%	2.3%	PET Bottles	13	0.0%	0.0%
Clean Dimensional Lumber <-16"	4,984	4.3%	1.1%	HDPE Bottles	2	0.0%	0.0%
Clean Engineered Wood	24,048	20.6%	3.2%	Other Plastic Containers	3	0.0%	0.0%
Pallets and Crates	10,343	8.9%	2.3%	5 Gallons #2 Buckets	100	0.1%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	72	0.1%	0.0%
Wood Roofing	717	0.6%	0.7%	Trash Bags Grocery/ Merch. Bags	77	0.1%	0.0%
Unfinished Wood Furnishings	32	0.0%	0.0%	Non-Bag Packaging Film	464	0.4%	0.3%
Other Recyclable Wood	4,374	3.8%	2.6%	Plastic Sheeting & Ag. Film	986	0.8%	0.2%
Painted and Treated Wood	6,511	5.6%		Other Film	77	0.1%	0.0%
Painted/Stained Wood Siding	1,513	1.3%	1.0%	Plastic Piping	1,941	1.7%	0.7%
Painted/Stained Wood	4,522	3.9%	1.4%	Other Plastic Products	313	0.3%	0.1%
Creosote-treated Wood	12	0.0%	0.0%	Mixed/Other Plastic	267	0.2%	0.3%
Other Treated Wood	296	0.3%	0.2%	Carpet	684	0.6%	0.4%
Finished Wood Furnishings	168	0.1%	0.1%	Carpet Padding	88	0.1%	0.1%
Aggregates, Rock, Soil	21,756	18.7%		Green Debris	1,175	1.0%	
Concrete	3,729	3.2%	2.1%	Yard Waste	1,133	1.0%	0.6%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	43	0.0%	0.0%
Other Aggregates	796	0.7%	0.5%	Stumps	0	0.0%	0.0%
Rock and Gravel	0	0.0%	0.0%	Other Organics	61	0.1%	
Dirt and Sand	3,639	3.1%	2.6%	Food	0	0.0%	0.0%
Clean Gypsum Board	8,311	7.1%	3.7%	Textiles	61	0.1%	0.1%
Painted/Demolition Gypsum	5,282	4.5%	2.3%	Hazardous Materials	36	0.0%	
Asphalt Roofing	1,851	1.6%		Oil Paint	0	0.0%	0.0%
Composition Roofing	1,361	1.2%	0.9%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	490	0.4%	0.5%	Used Oil	0	0.0%	0.0%
Metal	3,890	3.3%		Batteries	36	0.0%	0.1%
Tin/Steel Cans	4	0.0%	0.0%	Other Household Hazardous	0	0.0%	0.0%
HVAC Ducting	76	0.1%	0.0%	Other Materials w/ Little or No Value	10,827	9.3%	
Major Appliances	65	0.1%	0.1%	Cellulose Insulation	0	0.0%	0.0%
Other Ferrous Metal	2,884	2.5%	1.4%	Mixed/Other Paper	1,131	1.0%	0.7%
Aluminum Cans	19	0.0%	0.0%	Mixed/Other Glass	62	0.1%	0.1%
Other Non-Ferrous Metal	578	0.5%	0.3%	Furniture and Mattresses	50	0.0%	0.1%
Mixed/Other Metal	264	0.2%	0.1%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	4,923	4.2%		Nondistinct Fines	2,274	2.0%	1.2%
Uncoated Corrugated Cardboard	2,563	2.2%	0.9%	MSW	3,062	2.6%	1.1%
Other Recyclable Paper	2,081	1.8%	1.1%	Other Waste	669	0.6%	1.0%
Glass Bottles and Containers	0	0.0%	0.0%	Fiberglass Insulation	164	0.1%	0.1%
Sm. Appliances & Personal Electronics	28	0.0%	0.0%	Expanded Polystyrene Insulation	162	0.1%	0.1%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	3,251	2.8%	1.4%
TV's & Other CRTs	2	0.0%	0.0%	Totals	116,521	100%	
Latex Paint	249	0.2%	0.2%	Number of Samples	132		
Tires	0	0.0%	0.0%				

Error range calculated at a 90% confidence level

**Table F-27. Composition by Weight – Processed Other Construction
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	1,259	18.6%		Plastic	1,053	15.5%	
Clean Dimensional Lumber >-16"	305	4.5%	5.4%	PET Bottles	1	0.0%	0.0%
Clean Dimensional Lumber <-16"	3	0.0%	0.1%	HDPE Bottles	0	0.0%	0.0%
Clean Engineered Wood	117	1.7%	2.3%	Other Plastic Containers	0	0.0%	0.0%
Pallets and Crates	673	9.9%	7.2%	5 Gallons #2 Buckets	1	0.0%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	5	0.1%	0.1%
Wood Roofing	10	0.1%	0.3%	Trash Bags Grocery/ Merch. Bags	2	0.0%	0.0%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	2	0.0%	0.0%
Other Recyclable Wood	151	2.2%	2.0%	Plastic Sheeting & Ag. Film	48	0.7%	0.3%
Painted and Treated Wood	157	2.3%		Other Film	0	0.0%	0.0%
Painted/Stained Wood Siding	3	0.0%	0.1%	Plastic Piping	971	14.3%	16.0%
Painted/Stained Wood	150	2.2%	2.9%	Other Plastic Products	15	0.2%	0.2%
Creosote-treated Wood	4	0.1%	0.1%	Mixed/Other Plastic	5	0.1%	0.1%
Other Treated Wood	0	0.0%	0.0%	Carpet	3	0.0%	0.1%
Finished Wood Furnishings	0	0.0%	0.0%	Carpet Padding	0	0.0%	0.0%
Aggregates, Rock, Soil	1,865	27.5%		Green Debris	923	13.6%	
Concrete	1,838	27.1%	13.3%	Yard Waste	923	13.6%	22.4%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	0	0.0%	0.0%
Other Aggregates	0	0.0%	0.0%	Stumps	0	0.0%	0.0%
Rock and Gravel	0	0.0%	0.0%	Other Organics	70	1.0%	
Dirt and Sand	27	0.4%	0.7%	Food	0	0.0%	0.0%
Clean Gypsum Board	0	0.0%	0.0%	Textiles	70	1.0%	1.5%
Painted/Demolition Gypsum	0	0.0%	0.0%	Hazardous Materials	0	0.0%	
Asphalt Roofing	59	0.9%		Oil Paint	0	0.0%	0.0%
Composition Roofing	59	0.9%	1.8%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	0	0.0%	0.0%	Used Oil	0	0.0%	0.0%
Metal	301	4.4%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	0	0.0%	0.0%	Other Household Hazardous	0	0.0%	0.0%
HVAC Ducting	0	0.0%	0.0%	Other Materials w/ Little or No Value	1,008	14.9%	
Major Appliances	0	0.0%	0.0%	Cellulose Insulation	0	0.0%	0.0%
Other Ferrous Metal	109	1.6%	0.9%	Mixed/Other Paper	12	0.2%	0.2%
Aluminum Cans	0	0.0%	0.0%	Mixed/Other Glass	0	0.0%	0.0%
Other Non-Ferrous Metal	29	0.4%	0.0%	Furniture and Mattresses	0	0.0%	0.0%
Mixed/Other Metal	163	2.4%	2.4%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	91	1.3%		Nondistinct Fines	0	0.0%	0.0%
Uncoated Corrugated Cardboard	54	0.8%	0.7%	MSW	0	0.0%	0.0%
Other Recyclable Paper	37	0.5%	0.8%	Other Waste	0	0.0%	0.0%
Glass Bottles and Containers	0	0.0%	0.0%	Fiberglass Insulation	1	0.0%	0.0%
Sm. Appliances & Personal Electronics	0	0.0%	0.0%	Expanded Polystyrene Insulation	67	1.0%	2.8%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	928	13.7%	9.2%
TV's & Other CRTs	0	0.0%	0.0%	Totals	6,786	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	10		
Tires	0	0.0%	0.0%				<i>Error range calculated at a 90% confidence level</i>

**Table F-28. Composition by Weight – Processed Remodeling
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	9,897	20.8%		Plastic	3,150	6.6%	
Clean Dimensional Lumber >-16"	1,370	2.9%	1.5%	PET Bottles	1	0.0%	0.0%
Clean Dimensional Lumber <-16"	410	0.9%	0.5%	HDPE Bottles	1	0.0%	0.0%
Clean Engineered Wood	3,500	7.3%	4.0%	Other Plastic Containers	2	0.0%	0.0%
Pallets and Crates	1,836	3.9%	2.3%	5 Gallons #2 Buckets	35	0.1%	0.1%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	13	0.0%	0.0%
Wood Roofing	1,824	3.8%	4.5%	Trash Bags Grocery/ Merch. Bags	45	0.1%	0.0%
Unfinished Wood Furnishings	52	0.1%	0.2%	Non-Bag Packaging Film	56	0.1%	0.1%
Other Recyclable Wood	906	1.9%	0.8%	Plastic Sheeting & Ag. Film	347	0.7%	0.4%
Painted and Treated Wood	8,328	17.5%		Other Film	34	0.1%	0.1%
Painted/Stained Wood Siding	2,561	5.4%	3.5%	Plastic Piping	234	0.5%	0.4%
Painted/Stained Wood	5,222	11.0%	5.6%	Other Plastic Products	356	0.7%	0.8%
Creosote-treated Wood	0	0.0%	0.0%	Mixed/Other Plastic	17	0.0%	0.0%
Other Treated Wood	98	0.2%	0.2%	Carpet	1,756	3.7%	2.6%
Finished Wood Furnishings	447	0.9%	0.6%	Carpet Padding	253	0.5%	0.4%
Aggregates, Rock, Soil	6,457	13.5%		Green Debris	429	0.9%	
Concrete	30	0.1%	0.1%	Yard Waste	382	0.8%	0.8%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	47	0.1%	0.1%
Other Aggregates	1,339	2.8%	2.3%	Stumps	0	0.0%	0.0%
Rock and Gravel	71	0.1%	0.2%	Other Organics	142	0.3%	
Dirt and Sand	1,489	3.1%	4.2%	Food	130	0.3%	0.3%
Clean Gypsum Board	370	0.8%	0.9%	Textiles	12	0.0%	0.0%
Painted/Demolition Gypsum	3,160	6.6%	3.7%	Hazardous Materials	0	0.0%	
Asphalt Roofing	2,676	5.6%		Oil Paint	0	0.0%	0.0%
Composition Roofing	1,352	2.8%	2.2%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	1,324	2.8%	4.3%	Used Oil	0	0.0%	0.0%
Metal	3,318	7.0%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	3	0.0%	0.0%	Other Household Hazardous	0	0.0%	0.0%
HVAC Ducting	635	1.3%	2.2%	Other Materials w/ Little or No Value	8,759	18.4%	
Major Appliances	57	0.1%	0.1%	Cellulose Insulation	2	0.0%	0.0%
Other Ferrous Metal	2,173	4.6%	5.0%	Mixed/Other Paper	424	0.9%	0.8%
Aluminum Cans	3	0.0%	0.0%	Mixed/Other Glass	528	1.1%	0.6%
Other Non-Ferrous Metal	176	0.4%	0.3%	Furniture and Mattresses	91	0.2%	0.1%
Mixed/Other Metal	271	0.6%	0.5%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	4,507	9.5%		Nondistinct Fines	812	1.7%	1.6%
Uncoated Corrugated Cardboard	737	1.5%	0.6%	MSW	1,791	3.8%	2.3%
Other Recyclable Paper	787	1.7%	1.5%	Other Waste	8	0.0%	0.0%
Glass Bottles and Containers	0	0.0%	0.0%	Fiberglass Insulation	24	0.1%	0.0%
Sm. Appliances & Personal Electronics	20	0.0%	0.0%	Expanded Polystyrene Insulation	50	0.1%	0.1%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	5,028	10.5%	5.0%
TV's & Other CRTs	5	0.0%	0.0%	Totals	47,664	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	82		
Tires	2,957	6.2%	6.5%				<i>Error range calculated at a 90% confidence level</i>

**Table F-29 Composition by Weight – Processed Roofing
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	4,303	16.6%		Plastic	245	0.9%	
Clean Dimensional Lumber >-16"	38	0.1%	0.1%	PET Bottles	1	0.0%	0.0%
Clean Dimensional Lumber <-16"	38	0.1%	0.2%	HDPE Bottles	0	0.0%	0.0%
Clean Engineered Wood	1,446	5.6%	2.0%	Other Plastic Containers	0	0.0%	0.0%
Pallets and Crates	335	1.3%	1.2%	5 Gallons #2 Buckets	0	0.0%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	1	0.0%	0.0%
Wood Roofing	2,251	8.7%	4.4%	Trash Bags Grocery/ Merch. Bags	6	0.0%	0.0%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	15	0.1%	0.0%
Other Recyclable Wood	196	0.8%	1.1%	Plastic Sheeting & Ag. Film	47	0.2%	0.1%
Painted and Treated Wood	215	0.8%		Other Film	2	0.0%	0.0%
Painted/Stained Wood Siding	133	0.5%	0.5%	Plastic Piping	18	0.1%	0.1%
Painted/Stained Wood	70	0.3%	0.5%	Other Plastic Products	154	0.6%	0.9%
Creosote-treated Wood	0	0.0%	0.0%	Mixed/Other Plastic	0	0.0%	0.0%
Other Treated Wood	11	0.0%	0.1%	Carpet	0	0.0%	0.0%
Finished Wood Furnishings	0	0.0%	0.0%	Carpet Padding	1	0.0%	0.0%
Aggregates, Rock, Soil	741	2.9%		Green Debris	117	0.5%	
Concrete	0	0.0%	0.0%	Yard Waste	114	0.4%	0.5%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	3	0.0%	0.0%
Other Aggregates	667	2.6%	4.3%	Stumps	0	0.0%	0.0%
Rock and Gravel	0	0.0%	0.0%	Other Organics	0	0.0%	
Dirt and Sand	74	0.3%	0.3%	Food	0	0.0%	0.0%
Clean Gypsum Board	0	0.0%	0.0%	Textiles	0	0.0%	0.0%
Painted/Demolition Gypsum	0	0.0%	0.0%	Hazardous Materials	369	1.4%	
Asphalt Roofing	17,540	67.9%		Oil Paint	0	0.0%	0.0%
Composition Roofing	13,679	52.9%	12.1%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	3,861	14.9%	11.8%	Used Oil	0	0.0%	0.0%
Metal	188	0.7%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	5	0.0%	0.0%	Other Household Hazardous	369	1.4%	2.5%
HVAC Ducting	6	0.0%	0.0%	Other Materials w/ Little or No Value	1,751	6.8%	
Major Appliances	0	0.0%	0.0%	Cellulose Insulation	0	0.0%	0.0%
Other Ferrous Metal	122	0.5%	0.3%	Mixed/Other Paper	0	0.0%	0.0%
Aluminum Cans	0	0.0%	0.0%	Mixed/Other Glass	349	1.4%	1.8%
Other Non-Ferrous Metal	33	0.1%	0.2%	Furniture and Mattresses	5	0.0%	0.0%
Mixed/Other Metal	21	0.1%	0.1%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	381	1.5%		Nondistinct Fines	290	1.1%	1.3%
Uncoated Corrugated Cardboard	128	0.5%	0.3%	MSW	367	1.4%	1.3%
Other Recyclable Paper	253	1.0%	0.6%	Other Waste	0	0.0%	0.0%
Glass Bottles and Containers	0	0.0%	0.0%	Fiberglass Insulation	18	0.1%	0.1%
Sm. Appliances & Personal Electronics	0	0.0%	0.0%	Expanded Polystyrene Insulation	30	0.1%	0.1%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	692	2.7%	2.9%
TV's & Other CRTs	0	0.0%	0.0%	Totals	25,850	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	43		
Tires	0	0.0%	0.0%				

Error range calculated at a 90% confidence level

**Table F-30. Composition by Weight – Processed Unknown
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	559	26.0%		Plastic	56	2.6%	
Clean Dimensional Lumber >-16"	81	3.8%	5.1%	PET Bottles	1	0.0%	0.0%
Clean Dimensional Lumber <-16"	44	2.1%	2.2%	HDPE Bottles	0	0.0%	0.0%
Clean Engineered Wood	112	5.2%	5.4%	Other Plastic Containers	0	0.0%	0.0%
Pallets and Crates	277	12.9%	13.5%	5 Gallons #2 Buckets	0	0.0%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	0	0.0%	0.0%
Wood Roofing	0	0.0%	0.0%	Trash Bags Grocery/ Merch. Bags	0	0.0%	0.0%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	11	0.5%	0.5%
Other Recyclable Wood	45	2.1%	4.7%	Plastic Sheeting & Ag. Film	40	1.9%	1.7%
Painted and Treated Wood	0	0.0%		Other Film	0	0.0%	0.0%
Painted/Stained Wood Siding	0	0.0%	0.0%	Plastic Piping	0	0.0%	0.0%
Painted/Stained Wood	0	0.0%	0.0%	Other Plastic Products	3	0.2%	0.0%
Creosote-treated Wood	0	0.0%	0.0%	Mixed/Other Plastic	0	0.0%	0.0%
Other Treated Wood	0	0.0%	0.0%	Carpet	0	0.0%	0.0%
Finished Wood Furnishings	0	0.0%	0.0%	Carpet Padding	0	0.0%	0.0%
Aggregates, Rock, Soil	493	23.0%		Green Debris	17	0.8%	
Concrete	244	11.4%	11.9%	Yard Waste	17	0.8%	0.8%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	0	0.0%	0.0%
Other Aggregates	37	1.7%	1.8%	Stumps	0	0.0%	0.0%
Rock and Gravel	0	0.0%	0.0%	Other Organics	0	0.0%	
Dirt and Sand	0	0.0%	0.0%	Food	0	0.0%	0.0%
Clean Gypsum Board	0	0.0%	0.0%	Textiles	0	0.0%	0.0%
Painted/Demolition Gypsum	212	9.9%	10.4%	Hazardous Materials	0	0.0%	
Asphalt Roofing	365	17.0%		Oil Paint	0	0.0%	0.0%
Composition Roofing	365	17.0%	0.0%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	0	0.0%	0.0%	Used Oil	0	0.0%	0.0%
Metal	251	11.7%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	0	0.0%	0.0%	Other Household Hazardous	0	0.0%	0.0%
HVAC Ducting	0	0.0%	0.0%	Other Materials w/ Little or No Value	381	17.8%	
Major Appliances	0	0.0%	0.0%	Cellulose Insulation	0	0.0%	0.0%
Other Ferrous Metal	47	2.2%	0.8%	Mixed/Other Paper	0	0.0%	0.0%
Aluminum Cans	0	0.0%	0.0%	Mixed/Other Glass	0	0.0%	0.0%
Other Non-Ferrous Metal	34	1.6%	1.7%	Furniture and Mattresses	10	0.5%	1.0%
Mixed/Other Metal	170	7.9%	17.8%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	25	1.1%		Nondistinct Fines	0	0.0%	0.0%
Uncoated Corrugated Cardboard	13	0.6%	0.6%	MSW	256	11.9%	0.0%
Other Recyclable Paper	0	0.0%	0.0%	Other Waste	0	0.0%	0.0%
Glass Bottles and Containers	0	0.0%	0.0%	Fiberglass Insulation	11	0.5%	0.5%
Sm. Appliances & Personal Electronics	0	0.0%	0.0%	Expanded Polystyrene Insulation	0	0.0%	0.0%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	104	4.9%	10.9%
TV's & Other CRTs	0	0.0%	0.0%	Totals	2,146	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	3		
Tires	12	0.6%	0.0%				<i>Error range calculated at a 90% confidence level</i>

**Table F-31. Composition by Weight – Processed Residential Buildings
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	35,696	32.5%		Plastic	5,281	4.8%	
Clean Dimensional Lumber >-16"	5,945	5.4%	1.4%	PET Bottles	6	0.0%	0.0%
Clean Dimensional Lumber <-16"	3,246	3.0%	0.9%	HDPE Bottles	3	0.0%	0.0%
Clean Engineered Wood	15,724	14.3%	2.9%	Other Plastic Containers	3	0.0%	0.0%
Pallets and Crates	2,825	2.6%	0.8%	5 Gallons #2 Buckets	68	0.1%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	46	0.0%	0.0%
Wood Roofing	4,542	4.1%	1.8%	Trash Bags Grocery/ Merch. Bags	83	0.1%	0.0%
Unfinished Wood Furnishings	125	0.1%	0.2%	Non-Bag Packaging Film	181	0.2%	0.1%
Other Recyclable Wood	3,289	3.0%	1.7%	Plastic Sheeting & Ag. Film	516	0.5%	0.1%
Painted and Treated Wood	11,438	10.4%		Other Film	30	0.0%	0.0%
Painted/Stained Wood Siding	3,541	3.2%	1.6%	Plastic Piping	807	0.7%	0.4%
Painted/Stained Wood	6,818	6.2%	1.9%	Other Plastic Products	555	0.5%	0.4%
Creosote-treated Wood	21	0.0%	0.0%	Mixed/Other Plastic	30	0.0%	0.0%
Other Treated Wood	309	0.3%	0.2%	Carpet	2,662	2.4%	2.1%
Finished Wood Furnishings	748	0.7%	0.5%	Carpet Padding	290	0.3%	0.2%
Aggregates, Rock, Soil	13,432	12.2%		Green Debris	2,655	2.4%	
Concrete	2,792	2.5%	2.9%	Yard Waste	2,396	2.2%	1.4%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	260	0.2%	0.2%
Other Aggregates	3,154	2.9%	2.0%	Stumps	0	0.0%	0.0%
Rock and Gravel	221	0.2%	0.3%	Other Organics	114	0.1%	
Dirt and Sand	1,824	1.7%	1.9%	Food	61	0.1%	0.1%
Clean Gypsum Board	1,413	1.3%	0.7%	Textiles	53	0.0%	0.0%
Painted/Demolition Gypsum	4,027	3.7%	1.8%	Hazardous Materials	232	0.2%	
Asphalt Roofing	19,367	17.7%		Oil Paint	0	0.0%	0.0%
Composition Roofing	17,356	15.8%	4.8%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	2,011	1.8%	1.6%	Used Oil	0	0.0%	0.0%
Metal	2,547	2.3%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	0	0.0%	0.0%	Other Household Hazardous	232	0.2%	0.3%
HVAC Ducting	365	0.3%	0.4%	Other Materials w/ Little or No Value	13,925	12.7%	
Major Appliances	96	0.1%	0.1%	Cellulose Insulation	2	0.0%	0.0%
Other Ferrous Metal	1,476	1.3%	1.0%	Mixed/Other Paper	839	0.8%	0.7%
Aluminum Cans	5	0.0%	0.0%	Mixed/Other Glass	908	0.8%	0.4%
Other Non-Ferrous Metal	380	0.3%	0.2%	Furniture and Mattresses	235	0.2%	0.1%
Mixed/Other Metal	225	0.2%	0.1%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	5,035	4.6%		Nondistinct Fines	1,419	1.3%	0.8%
Uncoated Corrugated Cardboard	1,973	1.8%	0.8%	MSW	3,153	2.9%	1.1%
Other Recyclable Paper	1,432	1.3%	0.9%	Other Waste	0	0.0%	0.0%
Glass Bottles and Containers	0	0.0%	0.0%	Fiberglass Insulation	352	0.3%	0.2%
Sm. Appliances & Personal Electronics	31	0.0%	0.0%	Expanded Polystyrene Insulation	89	0.1%	0.0%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	6,928	6.3%	2.6%
TV's & Other CRTs	13	0.0%	0.0%	Totals	109,721	100%	
Latex Paint	175	0.2%	0.2%	Number of Samples	153		
Tires	1,411	1.3%	2.1%				<i>Error range calculated at a 90% confidence level</i>

**Table F-32. Composition by Weight – Processed Nonresidential Buildings
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	41,890	39.3%		Plastic	5,186	4.9%	
Clean Dimensional Lumber >-16"	11,198	10.5%	2.3%	PET Bottles	15	0.0%	0.0%
Clean Dimensional Lumber <-16"	2,124	2.0%	0.6%	HDPE Bottles	2	0.0%	0.0%
Clean Engineered Wood	11,110	10.4%	2.6%	Other Plastic Containers	2	0.0%	0.0%
Pallets and Crates	11,634	10.9%	2.5%	5 Gallons #2 Buckets	82	0.1%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	54	0.1%	0.0%
Wood Roofing	1,023	1.0%	1.6%	Trash Bags Grocery/ Merch. Bags	104	0.1%	0.0%
Unfinished Wood Furnishings	11	0.0%	0.0%	Non-Bag Packaging Film	519	0.5%	0.5%
Other Recyclable Wood	4,791	4.5%	2.4%	Plastic Sheeting & Ag. Film	1,052	1.0%	0.3%
Painted and Treated Wood	7,350	6.9%		Other Film	92	0.1%	0.1%
Painted/Stained Wood Siding	2,533	2.4%	2.2%	Plastic Piping	1,577	1.5%	0.8%
Painted/Stained Wood	4,075	3.8%	1.4%	Other Plastic Products	318	0.3%	0.2%
Creosote-treated Wood	0	0.0%	0.0%	Mixed/Other Plastic	222	0.2%	0.3%
Other Treated Wood	164	0.2%	0.1%	Carpet	985	0.9%	0.4%
Finished Wood Furnishings	578	0.5%	0.4%	Carpet Padding	161	0.2%	0.1%
Aggregates, Rock, Soil	23,464	22.0%		Green Debris	802	0.8%	
Concrete	2,378	2.2%	1.5%	Yard Waste	802	0.8%	0.8%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	0	0.0%	0.0%
Other Aggregates	812	0.8%	0.7%	Stumps	0	0.0%	0.0%
Rock and Gravel	0	0.0%	0.0%	Other Organics	135	0.1%	
Dirt and Sand	2,717	2.6%	2.5%	Food	0	0.0%	0.0%
Clean Gypsum Board	8,076	7.6%	3.8%	Textiles	135	0.1%	0.2%
Painted/Demolition Gypsum	9,480	8.9%	3.3%	Hazardous Materials	59	0.1%	
Asphalt Roofing	5,008	4.7%		Oil Paint	0	0.0%	0.0%
Composition Roofing	2,720	2.6%	1.6%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	2,288	2.1%	2.5%	Used Oil	0	0.0%	0.0%
Metal	5,245	4.9%		Batteries	59	0.1%	0.1%
Tin/Steel Cans	6	0.0%	0.0%	Other Household Hazardous	0	0.0%	0.0%
HVAC Ducting	89	0.1%	0.1%	Other Materials w/ Little or No Value	13,939	13.1%	
Major Appliances	30	0.0%	0.0%	Cellulose Insulation	0	0.0%	0.0%
Other Ferrous Metal	3,990	3.7%	1.7%	Mixed/Other Paper	909	0.9%	0.6%
Aluminum Cans	25	0.0%	0.0%	Mixed/Other Glass	284	0.3%	0.2%
Other Non-Ferrous Metal	548	0.5%	0.3%	Furniture and Mattresses	526	0.5%	0.8%
Mixed/Other Metal	557	0.5%	0.3%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	3,455	3.2%		Nondistinct Fines	3,666	3.4%	2.3%
Uncoated Corrugated Cardboard	1,849	1.7%	0.4%	MSW	1,699	1.6%	0.9%
Other Recyclable Paper	1,568	1.5%	0.7%	Other Waste	501	0.5%	0.8%
Glass Bottles and Containers	7	0.0%	0.0%	Fiberglass Insulation	92	0.1%	0.0%
Sm. Appliances & Personal Electronics	22	0.0%	0.0%	Expanded Polystyrene Insulation	246	0.2%	0.1%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	6,015	5.6%	2.0%
TV's & Other CRTs	0	0.0%	0.0%	Totals	106,532	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	142		
Tires	9	0.0%	0.0%				

Error range calculated at a 90% confidence level

**Table F-33. Composition by Weight – Processed Mixed Loads
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	55	3.6%		Plastic	599	39.1%	
Clean Dimensional Lumber >-16"	0	0.0%	0.0%	PET Bottles	0	0.0%	0.0%
Clean Dimensional Lumber <-16"	0	0.0%	0.0%	HDPE Bottles	0	0.0%	0.0%
Clean Engineered Wood	25	1.7%	3.8%	Other Plastic Containers	0	0.0%	0.0%
Pallets and Crates	30	1.9%	4.4%	5 Gallons #2 Buckets	0	0.0%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	0	0.0%	0.1%
Wood Roofing	0	0.0%	0.0%	Trash Bags Grocery/ Merch. Bags	13	0.8%	0.8%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	0	0.0%	0.0%
Other Recyclable Wood	0	0.0%	0.0%	Plastic Sheeting & Ag. Film	0	0.0%	0.0%
Painted and Treated Wood	255	16.7%		Other Film	0	0.0%	0.0%
Painted/Stained Wood Siding	255	16.7%	16.8%	Plastic Piping	0	0.0%	0.0%
Painted/Stained Wood	0	0.0%	0.0%	Other Plastic Products	586	38.2%	38.5%
Creosote-treated Wood	0	0.0%	0.0%	Mixed/Other Plastic	0	0.0%	0.0%
Other Treated Wood	0	0.0%	0.0%	Carpet	0	0.0%	0.0%
Finished Wood Furnishings	0	0.0%	0.0%	Carpet Padding	0	0.0%	0.0%
Aggregates, Rock, Soil	0	0.0%		Green Debris	4	0.3%	
Concrete	0	0.0%	0.0%	Yard Waste	4	0.3%	0.6%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	0	0.0%	0.0%
Other Aggregates	0	0.0%	0.0%	Stumps	0	0.0%	0.0%
Rock and Gravel	0	0.0%	0.0%	Other Organics	0	0.0%	
Dirt and Sand	0	0.0%	0.0%	Food	0	0.0%	0.0%
Clean Gypsum Board	0	0.0%	0.0%	Textiles	0	0.0%	0.0%
Painted/Demolition Gypsum	0	0.0%	0.0%	Hazardous Materials	0	0.0%	
Asphalt Roofing	0	0.0%		Oil Paint	0	0.0%	0.0%
Composition Roofing	0	0.0%	0.0%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	0	0.0%	0.0%	Used Oil	0	0.0%	0.0%
Metal	172	11.2%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	2	0.1%	0.3%	Other Household Hazardous	0	0.0%	0.0%
HVAC Ducting	0	0.0%	0.0%	Other Materials w/ Little or No Value	373	24.3%	
Major Appliances	0	0.0%	0.0%	Cellulose Insulation	0	0.0%	0.0%
Other Ferrous Metal	0	0.0%	0.0%	Mixed/Other Paper	0	0.0%	0.0%
Aluminum Cans	0	0.0%	0.0%	Mixed/Other Glass	0	0.0%	0.0%
Other Non-Ferrous Metal	170	11.1%	11.2%	Furniture and Mattresses	0	0.0%	0.0%
Mixed/Other Metal	0	0.0%	0.0%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	73	4.8%		Nondistinct Fines	0	0.0%	0.0%
Uncoated Corrugated Cardboard	41	2.7%	2.4%	MSW	6	0.4%	0.9%
Other Recyclable Paper	32	2.1%	4.8%	Other Waste	0	0.0%	0.0%
Glass Bottles and Containers	0	0.0%	0.0%	Fiberglass Insulation	0	0.0%	0.0%
Sm. Appliances & Personal Electronics	0	0.0%	0.0%	Expanded Polystyrene Insulation	0	0.0%	0.0%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	367	23.9%	54.7%
TV's & Other CRTs	0	0.0%	0.0%	Totals	1,531	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	2		
Tires	0	0.0%	0.0%				<i>Error range calculated at a 90% confidence level</i>

**Table F-34. Composition by Weight – Processed Other Structures
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	1,290	29.8%		Plastic	815	18.8%	
Clean Dimensional Lumber >-16"	192	4.4%	6.0%	PET Bottles	0	0.0%	0.0%
Clean Dimensional Lumber <-16"	77	1.8%	3.1%	HDPE Bottles	0	0.0%	0.0%
Clean Engineered Wood	540	12.5%	19.8%	Other Plastic Containers	0	0.0%	0.0%
Pallets and Crates	384	8.9%	9.2%	5 Gallons #2 Buckets	0	0.0%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	4	0.1%	0.2%
Wood Roofing	0	0.0%	0.0%	Trash Bags Grocery/ Merch. Bags	0	0.0%	0.0%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	2	0.0%	0.1%
Other Recyclable Wood	96	2.2%	3.4%	Plastic Sheeting & Ag. Film	29	0.7%	1.0%
Painted and Treated Wood	23	0.5%		Other Film	0	0.0%	0.0%
Painted/Stained Wood Siding	0	0.0%	0.0%	Plastic Piping	771	17.8%	27.2%
Painted/Stained Wood	20	0.5%	0.9%	Other Plastic Products	7	0.2%	0.3%
Creosote-treated Wood	3	0.1%	0.1%	Mixed/Other Plastic	0	0.0%	0.0%
Other Treated Wood	0	0.0%	0.0%	Carpet	2	0.1%	0.1%
Finished Wood Furnishings	0	0.0%	0.0%	Carpet Padding	0	0.0%	0.0%
Aggregates, Rock, Soil	1,670	38.5%		Green Debris	36	0.8%	
Concrete	1,670	38.5%	49.9%	Yard Waste	36	0.8%	1.3%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	0	0.0%	0.0%
Other Aggregates	0	0.0%	0.0%	Stumps	0	0.0%	0.0%
Rock and Gravel	0	0.0%	0.0%	Other Organics	7	0.2%	
Dirt and Sand	0	0.0%	0.0%	Food	0	0.0%	0.0%
Clean Gypsum Board	0	0.0%	0.0%	Textiles	7	0.2%	0.3%
Painted/Demolition Gypsum	0	0.0%	0.0%	Hazardous Materials	0	0.0%	
Asphalt Roofing	0	0.0%		Oil Paint	0	0.0%	0.0%
Composition Roofing	0	0.0%	0.0%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	0	0.0%	0.0%	Used Oil	0	0.0%	0.0%
Metal	131	3.0%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	0	0.0%	0.0%	Other Household Hazardous	0	0.0%	0.0%
HVAC Ducting	0	0.0%	0.0%	Other Materials w/ Little or No Value	302	7.0%	
Major Appliances	0	0.0%	0.0%	Cellulose Insulation	0	0.0%	0.0%
Other Ferrous Metal	19	0.4%	0.7%	Mixed/Other Paper	0	0.0%	0.0%
Aluminum Cans	0	0.0%	0.0%	Mixed/Other Glass	0	0.0%	0.0%
Other Non-Ferrous Metal	0	0.0%	0.0%	Furniture and Mattresses	0	0.0%	0.0%
Mixed/Other Metal	111	2.6%	3.9%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	61	1.4%		Nondistinct Fines	0	0.0%	0.0%
Uncoated Corrugated Cardboard	35	0.8%	1.1%	MSW	37	0.9%	1.5%
Other Recyclable Paper	26	0.6%	1.0%	Other Waste	0	0.0%	0.0%
Glass Bottles and Containers	0	0.0%	0.0%	Fiberglass Insulation	1	0.0%	0.0%
Sm. Appliances & Personal Electronics	0	0.0%	0.0%	Expanded Polystyrene Insulation	60	1.4%	2.7%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	203	4.7%	9.2%
TV's & Other CRTs	0	0.0%	0.0%	Totals	4,333	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	5		
Tires	0	0.0%	0.0%				

Error range calculated at a 90% confidence level

**Table F-35. Composition by Weight – Processed Certificated Haulers
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	30,871	40.1%		Plastic	4,991	6.5%	
Clean Dimensional Lumber >-16"	7,175	9.3%	2.5%	PET Bottles	7	0.0%	0.0%
Clean Dimensional Lumber <-16"	3,144	4.1%	1.1%	HDPE Bottles	1	0.0%	0.0%
Clean Engineered Wood	13,076	17.0%	3.8%	Other Plastic Containers	1	0.0%	0.0%
Pallets and Crates	4,670	6.1%	1.7%	5 Gallons #2 Buckets	83	0.1%	0.1%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	26	0.0%	0.0%
Wood Roofing	190	0.2%	0.3%	Trash Bags Grocery/ Merch. Bags	47	0.1%	0.0%
Unfinished Wood Furnishings	16	0.0%	0.0%	Non-Bag Packaging Film	520	0.7%	0.7%
Other Recyclable Wood	2,600	3.4%	1.5%	Plastic Sheeting & Ag. Film	763	1.0%	0.4%
Painted and Treated Wood	9,964	12.9%		Other Film	70	0.1%	0.1%
Painted/Stained Wood Siding	4,051	5.3%	3.6%	Plastic Piping	2,057	2.7%	2.0%
Painted/Stained Wood	5,095	6.6%	2.2%	Other Plastic Products	209	0.3%	0.2%
Creosote-treated Wood	4	0.0%	0.0%	Mixed/Other Plastic	213	0.3%	0.4%
Other Treated Wood	172	0.2%	0.2%	Carpet	768	1.0%	0.6%
Finished Wood Furnishings	644	0.8%	0.6%	Carpet Padding	226	0.3%	0.2%
Aggregates, Rock, Soil	9,208	12.0%		Green Debris	949	1.2%	
Concrete	2,208	2.9%	3.8%	Yard Waste	903	1.2%	0.7%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	46	0.1%	0.1%
Other Aggregates	2,118	2.8%	2.4%	Stumps	0	0.0%	0.0%
Rock and Gravel	0	0.0%	0.0%	Other Organics	129	0.2%	
Dirt and Sand	697	0.9%	1.1%	Food	60	0.1%	0.1%
Clean Gypsum Board	1,939	2.5%	2.1%	Textiles	69	0.1%	0.1%
Painted/Demolition Gypsum	2,245	2.9%	2.2%	Hazardous Materials	0	0.0%	
Asphalt Roofing	2,178	2.8%		Oil Paint	0	0.0%	0.0%
Composition Roofing	1,776	2.3%	1.6%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	402	0.5%	0.7%	Used Oil	0	0.0%	0.0%
Metal	2,277	3.0%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	0	0.0%	0.0%	Other Household Hazardous	0	0.0%	0.0%
HVAC Ducting	283	0.4%	0.6%	Other Materials w/ Little or No Value	11,449	14.9%	
Major Appliances	59	0.1%	0.1%	Cellulose Insulation	0	0.0%	0.0%
Other Ferrous Metal	1,191	1.5%	1.3%	Mixed/Other Paper	639	0.8%	0.9%
Aluminum Cans	8	0.0%	0.0%	Mixed/Other Glass	359	0.5%	0.3%
Other Non-Ferrous Metal	444	0.6%	0.3%	Furniture and Mattresses	666	0.9%	1.2%
Mixed/Other Metal	293	0.4%	0.3%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	4,938	6.4%		Nondistinct Fines	1,251	1.6%	1.5%
Uncoated Corrugated Cardboard	1,904	2.5%	1.2%	MSW	2,146	2.8%	1.2%
Other Recyclable Paper	1,459	1.9%	1.4%	Other Waste	536	0.7%	1.1%
Glass Bottles and Containers	0	0.0%	0.0%	Fiberglass Insulation	268	0.3%	0.3%
Sm. Appliances & Personal Electronics	27	0.0%	0.0%	Expanded Polystyrene Insulation	192	0.2%	0.2%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	5,393	7.0%	3.1%
TV's & Other CRTs	0	0.0%	0.0%	Totals	76,955	100%	
Latex Paint	173	0.2%	0.3%	Number of Samples	89		
Tires	1,375	1.8%	2.9%				<i>Error range calculated at a 90% confidence level</i>

**Table F-36. Composition by Weight – Processed C&D Haulers
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	35,983	39.0%		Plastic	5,368	5.8%	
Clean Dimensional Lumber >-16"	8,783	9.5%	2.3%	PET Bottles	13	0.0%	0.0%
Clean Dimensional Lumber <-16"	1,951	2.1%	0.8%	HDPE Bottles	2	0.0%	0.0%
Clean Engineered Wood	9,897	10.7%	3.1%	Other Plastic Containers	3	0.0%	0.0%
Pallets and Crates	9,314	10.1%	2.7%	5 Gallons #2 Buckets	52	0.1%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	61	0.1%	0.0%
Wood Roofing	1,526	1.7%	2.0%	Trash Bags Grocery/ Merch. Bags	110	0.1%	0.0%
Unfinished Wood Furnishings	12	0.0%	0.0%	Non-Bag Packaging Film	180	0.2%	0.1%
Other Recyclable Wood	4,502	4.9%	3.2%	Plastic Sheeting & Ag. Film	693	0.8%	0.2%
Painted and Treated Wood	4,364	4.7%		Other Film	49	0.1%	0.0%
Painted/Stained Wood Siding	1,240	1.3%	1.0%	Plastic Piping	1,056	1.1%	0.6%
Painted/Stained Wood	2,467	2.7%	1.1%	Other Plastic Products	742	0.8%	0.8%
Creosote-treated Wood	0	0.0%	0.0%	Mixed/Other Plastic	45	0.0%	0.0%
Other Treated Wood	80	0.1%	0.1%	Carpet	2,254	2.4%	2.3%
Finished Wood Furnishings	576	0.6%	0.5%	Carpet Padding	108	0.1%	0.1%
Aggregates, Rock, Soil	23,934	25.9%		Green Debris	1,891	2.0%	
Concrete	4,547	4.9%	3.5%	Yard Waste	1,824	2.0%	1.6%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	68	0.1%	0.1%
Other Aggregates	1,167	1.3%	1.0%	Stumps	0	0.0%	0.0%
Rock and Gravel	146	0.2%	0.3%	Other Organics	122	0.1%	
Dirt and Sand	3,520	3.8%	3.5%	Food	0	0.0%	0.0%
Clean Gypsum Board	7,411	8.0%	4.2%	Textiles	122	0.1%	0.2%
Painted/Demolition Gypsum	7,143	7.7%	3.5%	Hazardous Materials	59	0.1%	
Asphalt Roofing	1,677	1.8%		Oil Paint	0	0.0%	0.0%
Composition Roofing	997	1.1%	1.6%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	680	0.7%	1.2%	Used Oil	0	0.0%	0.0%
Metal	5,010	5.4%		Batteries	59	0.1%	0.1%
Tin/Steel Cans	3	0.0%	0.0%	Other Household Hazardous	0	0.0%	0.0%
HVAC Ducting	95	0.1%	0.1%	Other Materials w/ Little or No Value	11,013	11.9%	
Major Appliances	31	0.0%	0.0%	Cellulose Insulation	0	0.0%	0.0%
Other Ferrous Metal	3,809	4.1%	1.9%	Mixed/Other Paper	728	0.8%	0.7%
Aluminum Cans	23	0.0%	0.0%	Mixed/Other Glass	441	0.5%	0.4%
Other Non-Ferrous Metal	506	0.5%	0.4%	Furniture and Mattresses	71	0.1%	0.1%
Mixed/Other Metal	543	0.6%	0.3%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	2,913	3.2%		Nondistinct Fines	3,203	3.5%	2.5%
Uncoated Corrugated Cardboard	1,585	1.7%	0.5%	MSW	1,450	1.6%	1.0%
Other Recyclable Paper	1,301	1.4%	0.8%	Other Waste	6	0.0%	0.0%
Glass Bottles and Containers	7	0.0%	0.0%	Fiberglass Insulation	76	0.1%	0.0%
Sm. Appliances & Personal Electronics	8	0.0%	0.0%	Expanded Polystyrene Insulation	130	0.1%	0.1%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	4,907	5.3%	2.2%
TV's & Other CRTs	12	0.0%	0.0%	Totals	92,335	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	109		
Tires	0	0.0%	0.0%				

Error range calculated at a 90% confidence level

**Table F-37. Composition by Weight – Processed Business Self-Haul
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	12,332	23.8%		Plastic	1,422	2.7%	
Clean Dimensional Lumber >-16"	1,595	3.1%	1.4%	PET Bottles	1	0.0%	0.0%
Clean Dimensional Lumber <-16"	348	0.7%	0.4%	HDPE Bottles	0	0.0%	0.0%
Clean Engineered Wood	4,358	8.4%	2.5%	Other Plastic Containers	0	0.0%	0.0%
Pallets and Crates	1,168	2.3%	1.4%	5 Gallons #2 Buckets	18	0.0%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	17	0.0%	0.0%
Wood Roofing	3,666	7.1%	3.2%	Trash Bags Grocery/ Merch. Bags	38	0.1%	0.0%
Unfinished Wood Furnishings	104	0.2%	0.3%	Non-Bag Packaging Film	30	0.1%	0.0%
Other Recyclable Wood	1,093	2.1%	1.3%	Plastic Sheeting & Ag. Film	171	0.3%	0.1%
Painted and Treated Wood	4,310	8.3%		Other Film	7	0.0%	0.0%
Painted/Stained Wood Siding	1,038	2.0%	1.3%	Plastic Piping	158	0.3%	0.2%
Painted/Stained Wood	2,931	5.7%	2.8%	Other Plastic Products	352	0.7%	0.8%
Creosote-treated Wood	20	0.0%	0.1%	Mixed/Other Plastic	8	0.0%	0.0%
Other Treated Wood	219	0.4%	0.3%	Carpet	505	1.0%	0.6%
Finished Wood Furnishings	102	0.2%	0.2%	Carpet Padding	117	0.2%	0.2%
Aggregates, Rock, Soil	5,518	10.6%		Green Debris	546	1.1%	
Concrete	84	0.2%	0.2%	Yard Waste	411	0.8%	0.6%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	134	0.3%	0.3%
Other Aggregates	611	1.2%	1.7%	Stumps	0	0.0%	0.0%
Rock and Gravel	61	0.1%	0.2%	Other Organics	6	0.0%	
Dirt and Sand	273	0.5%	0.4%	Food	0	0.0%	0.0%
Clean Gypsum Board	269	0.5%	0.5%	Textiles	6	0.0%	0.0%
Painted/Demolition Gypsum	4,219	8.1%	4.0%	Hazardous Materials	223	0.4%	
Asphalt Roofing	20,001	38.6%		Oil Paint	0	0.0%	0.0%
Composition Roofing	16,761	32.3%	7.9%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	3,240	6.3%	5.6%	Used Oil	0	0.0%	0.0%
Metal	775	1.5%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	5	0.0%	0.0%	Other Household Hazardous	223	0.4%	0.7%
HVAC Ducting	71	0.1%	0.1%	Other Materials w/ Little or No Value	5,938	11.5%	
Major Appliances	0	0.0%	0.0%	Cellulose Insulation	2	0.0%	0.0%
Other Ferrous Metal	518	1.0%	0.6%	Mixed/Other Paper	380	0.7%	0.6%
Aluminum Cans	0	0.0%	0.0%	Mixed/Other Glass	363	0.7%	0.6%
Other Non-Ferrous Metal	115	0.2%	0.2%	Furniture and Mattresses	59	0.1%	0.1%
Mixed/Other Metal	67	0.1%	0.1%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	762	1.5%		Nondistinct Fines	676	1.3%	1.3%
Uncoated Corrugated Cardboard	411	0.8%	0.3%	MSW	1,228	2.4%	1.3%
Other Recyclable Paper	307	0.6%	0.4%	Other Waste	0	0.0%	0.0%
Glass Bottles and Containers	0	0.0%	0.0%	Fiberglass Insulation	93	0.2%	0.1%
Sm. Appliances & Personal Electronics	17	0.0%	0.0%	Expanded Polystyrene Insulation	87	0.2%	0.1%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	3,051	5.9%	3.2%
TV's & Other CRTs	0	0.0%	0.0%	Totals	51,832	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	102		
Tires	27	0.1%	0.1%				

Error range calculated at a 90% confidence level

**Table F-38. Composition by Weight – Processed Residential Self-haul
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	50	5.0%		Plastic	7	0.7%	
Clean Dimensional Lumber >-16"	0	0.0%	0.0%	PET Bottles	0	0.0%	0.0%
Clean Dimensional Lumber <-16"	3	0.3%	0.8%	HDPE Bottles	0	0.0%	0.1%
Clean Engineered Wood	43	4.3%	10.7%	Other Plastic Containers	0	0.0%	0.0%
Pallets and Crates	0	0.0%	0.0%	5 Gallons #2 Buckets	0	0.0%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	0	0.0%	0.0%
Wood Roofing	0	0.0%	0.0%	Trash Bags Grocery/ Merch. Bags	0	0.0%	0.0%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	0	0.0%	0.0%
Other Recyclable Wood	3	0.3%	0.8%	Plastic Sheeting & Ag. Film	2	0.2%	0.6%
Painted and Treated Wood	636	63.9%		Other Film	0	0.0%	0.0%
Painted/Stained Wood Siding	0	0.0%	0.0%	Plastic Piping	0	0.0%	0.0%
Painted/Stained Wood	636	63.9%	52.2%	Other Plastic Products	5	0.5%	0.4%
Creosote-treated Wood	0	0.0%	0.0%	Mixed/Other Plastic	0	0.0%	0.0%
Other Treated Wood	0	0.0%	0.0%	Carpet	0	0.0%	0.0%
Finished Wood Furnishings	0	0.0%	0.0%	Carpet Padding	0	0.0%	0.0%
Aggregates, Rock, Soil	27	2.8%		Green Debris	0	0.0%	
Concrete	0	0.0%	0.0%	Yard Waste	0	0.0%	0.0%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	0	0.0%	0.0%
Other Aggregates	0	0.0%	0.0%	Stumps	0	0.0%	0.0%
Rock and Gravel	0	0.0%	0.0%	Other Organics	0	0.0%	
Dirt and Sand	0	0.0%	0.0%	Food	0	0.0%	0.0%
Clean Gypsum Board	0	0.0%	0.0%	Textiles	0	0.0%	0.0%
Painted/Demolition Gypsum	27	2.8%	6.8%	Hazardous Materials	0	0.0%	
Asphalt Roofing	0	0.0%		Oil Paint	0	0.0%	0.0%
Composition Roofing	0	0.0%	0.0%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	0	0.0%	0.0%	Used Oil	0	0.0%	0.0%
Metal	63	6.3%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	0	0.0%	0.0%	Other Household Hazardous	0	0.0%	0.0%
HVAC Ducting	0	0.0%	0.0%	Other Materials w/ Little or No Value	211	21.2%	
Major Appliances	55	5.6%	4.5%	Cellulose Insulation	0	0.0%	0.0%
Other Ferrous Metal	2	0.2%	0.4%	Mixed/Other Paper	7	0.7%	1.8%
Aluminum Cans	0	0.0%	0.0%	Mixed/Other Glass	0	0.0%	0.0%
Other Non-Ferrous Metal	0	0.0%	0.0%	Furniture and Mattresses	0	0.0%	0.0%
Mixed/Other Metal	6	0.6%	0.5%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	1	0.1%		Nondistinct Fines	0	0.0%	0.0%
Uncoated Corrugated Cardboard	1	0.1%	0.3%	MSW	60	6.1%	1.0%
Other Recyclable Paper	0	0.0%	0.0%	Other Waste	0	0.0%	0.0%
Glass Bottles and Containers	0	0.0%	0.0%	Fiberglass Insulation	4	0.4%	0.3%
Sm. Appliances & Personal Electronics	0	0.0%	0.0%	Expanded Polystyrene Insulation	0	0.0%	0.0%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	139	14.0%	34.5%
TV's & Other CRTs	0	0.0%	0.0%	Totals	995	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	2		
Tires	0	0.0%	0.0%	<i>Error range calculated at a 90% confidence level</i>			

**Table F-39. Composition by Weight – Processed Drop Boxes
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	65,957	37.0%		Plastic	10,119	5.7%	
Clean Dimensional Lumber >-16"	15,939	8.9%	1.6%	PET Bottles	21	0.0%	0.0%
Clean Dimensional Lumber <-16"	4,894	2.7%	0.6%	HDPE Bottles	4	0.0%	0.0%
Clean Engineered Wood	22,091	12.4%	2.1%	Other Plastic Containers	3	0.0%	0.0%
Pallets and Crates	13,487	7.6%	1.6%	5 Gallons #2 Buckets	129	0.1%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	90	0.1%	0.0%
Wood Roofing	2,365	1.3%	1.2%	Trash Bags Grocery/ Merch. Bags	165	0.1%	0.0%
Unfinished Wood Furnishings	128	0.1%	0.1%	Non-Bag Packaging Film	685	0.4%	0.3%
Other Recyclable Wood	7,054	4.0%	1.8%	Plastic Sheeting & Ag. Film	1,440	0.8%	0.2%
Painted and Treated Wood	14,790	8.3%		Other Film	119	0.1%	0.0%
Painted/Stained Wood Siding	5,552	3.1%	1.6%	Plastic Piping	2,228	1.3%	0.5%
Painted/Stained Wood	7,640	4.3%	1.1%	Other Plastic Products	1,230	0.7%	0.5%
Creosote-treated Wood	0	0.0%	0.0%	Mixed/Other Plastic	239	0.1%	0.2%
Other Treated Wood	370	0.2%	0.1%	Carpet	3,382	1.9%	1.3%
Finished Wood Furnishings	1,228	0.7%	0.4%	Carpet Padding	386	0.2%	0.1%
Aggregates, Rock, Soil	33,130	18.6%		Green Debris	2,316	1.3%	
Concrete	6,272	3.5%	2.4%	Yard Waste	2,174	1.2%	0.6%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	142	0.1%	0.1%
Other Aggregates	3,398	1.9%	1.2%	Stumps	0	0.0%	0.0%
Rock and Gravel	207	0.1%	0.1%	Other Organics	251	0.1%	
Dirt and Sand	4,341	2.4%	1.9%	Food	57	0.0%	0.1%
Clean Gypsum Board	7,645	4.3%	1.9%	Textiles	194	0.1%	0.1%
Painted/Demolition Gypsum	11,266	6.3%	2.2%	Hazardous Materials	277	0.2%	
Asphalt Roofing	13,251	7.4%		Oil Paint	0	0.0%	0.0%
Composition Roofing	10,841	6.1%	2.4%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	2,409	1.4%	1.4%	Used Oil	0	0.0%	0.0%
Metal	7,309	4.1%		Batteries	60	0.0%	0.1%
Tin/Steel Cans	3	0.0%	0.0%	Other Household Hazardous	217	0.1%	0.2%
HVAC Ducting	379	0.2%	0.2%	Other Materials w/ Little or No Value	23,515	13.2%	
Major Appliances	86	0.0%	0.1%	Cellulose Insulation	2	0.0%	0.0%
Other Ferrous Metal	5,102	2.9%	1.2%	Mixed/Other Paper	1,132	0.6%	0.4%
Aluminum Cans	31	0.0%	0.0%	Mixed/Other Glass	949	0.5%	0.3%
Other Non-Ferrous Metal	984	0.6%	0.2%	Furniture and Mattresses	743	0.4%	0.5%
Mixed/Other Metal	725	0.4%	0.2%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	7,292	4.1%		Nondistinct Fines	4,365	2.4%	1.5%
Uncoated Corrugated Cardboard	3,483	2.0%	0.5%	MSW	3,972	2.2%	0.8%
Other Recyclable Paper	2,291	1.3%	0.5%	Other Waste	514	0.3%	0.5%
Glass Bottles and Containers	7	0.0%	0.0%	Fiberglass Insulation	337	0.2%	0.1%
Sm. Appliances & Personal Electronics	34	0.0%	0.0%	Expanded Polystyrene Insulation	381	0.2%	0.1%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	11,121	6.2%	1.8%
TV's & Other CRTs	12	0.0%	0.0%	Totals	178,208	100%	
Latex Paint	164	0.1%	0.1%	Number of Samples	223		
Tires	1,301	0.7%	1.2%				<i>Error range calculated at a 90% confidence level</i>

**Table F-40. Composition by Weight – Processed End Dumps
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	10,158	33.8%		Plastic	1,360	4.5%	
Clean Dimensional Lumber >-16"	1,062	3.5%	1.7%	PET Bottles	1	0.0%	0.0%
Clean Dimensional Lumber <-16"	168	0.6%	0.4%	HDPE Bottles	0	0.0%	0.0%
Clean Engineered Wood	3,824	12.7%	6.6%	Other Plastic Containers	1	0.0%	0.0%
Pallets and Crates	1,478	4.9%	3.2%	5 Gallons #2 Buckets	15	0.1%	0.1%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	9	0.0%	0.0%
Wood Roofing	2,554	8.5%	4.7%	Trash Bags Grocery/ Merch. Bags	29	0.1%	0.1%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	20	0.1%	0.0%
Other Recyclable Wood	1,072	3.6%	2.2%	Plastic Sheeting & Ag. Film	121	0.4%	0.2%
Painted and Treated Wood	2,513	8.4%		Other Film	3	0.0%	0.0%
Painted/Stained Wood Siding	532	1.8%	1.9%	Plastic Piping	987	3.3%	4.6%
Painted/Stained Wood	1,885	6.3%	4.5%	Other Plastic Products	57	0.2%	0.1%
Creosote-treated Wood	25	0.1%	0.1%	Mixed/Other Plastic	6	0.0%	0.0%
Other Treated Wood	2	0.0%	0.0%	Carpet	77	0.3%	0.3%
Finished Wood Furnishings	70	0.2%	0.3%	Carpet Padding	33	0.1%	0.1%
Aggregates, Rock, Soil	3,736	12.4%		Green Debris	1,117	3.7%	
Concrete	551	1.8%	2.7%	Yard Waste	1,007	3.3%	4.4%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	110	0.4%	0.5%
Other Aggregates	33	0.1%	0.1%	Stumps	0	0.0%	0.0%
Rock and Gravel	0	0.0%	0.0%	Other Organics	0	0.0%	
Dirt and Sand	164	0.5%	0.6%	Food	0	0.0%	0.0%
Clean Gypsum Board	2,021	6.7%	9.4%	Textiles	0	0.0%	0.0%
Painted/Demolition Gypsum	968	3.2%	2.7%	Hazardous Materials	0	0.0%	
Asphalt Roofing	6,378	21.2%		Oil Paint	0	0.0%	0.0%
Composition Roofing	5,491	18.3%	9.6%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	887	2.9%	3.9%	Used Oil	0	0.0%	0.0%
Metal	677	2.3%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	5	0.0%	0.0%	Other Household Hazardous	0	0.0%	0.0%
HVAC Ducting	48	0.2%	0.2%	Other Materials w/ Little or No Value	3,222	10.7%	
Major Appliances	38	0.1%	0.2%	Cellulose Insulation	0	0.0%	0.0%
Other Ferrous Metal	340	1.1%	0.6%	Mixed/Other Paper	586	1.9%	2.3%
Aluminum Cans	0	0.0%	0.0%	Mixed/Other Glass	192	0.6%	0.8%
Other Non-Ferrous Metal	59	0.2%	0.2%	Furniture and Mattresses	18	0.1%	0.1%
Mixed/Other Metal	187	0.6%	0.7%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	921	3.1%		Nondistinct Fines	522	1.7%	2.0%
Uncoated Corrugated Cardboard	228	0.8%	0.3%	MSW	341	1.1%	0.6%
Other Recyclable Paper	673	2.2%	3.0%	Other Waste	0	0.0%	0.0%
Glass Bottles and Containers	0	0.0%	0.0%	Fiberglass Insulation	68	0.2%	0.2%
Sm. Appliances & Personal Electronics	0	0.0%	0.0%	Expanded Polystyrene Insulation	15	0.1%	0.0%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	1,480	4.9%	4.7%
TV's & Other CRTs	0	0.0%	0.0%	Totals	30,083	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	54		
Tires	19	0.1%	0.1%				

Error range calculated at a 90% confidence level

**Table F-41. Composition by Weight – Processed Other Large Vehicles
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	2,649	22.9%		Plastic	163	1.4%	
Clean Dimensional Lumber >-16"	337	2.9%	3.5%	PET Bottles	0	0.0%	0.0%
Clean Dimensional Lumber <-16"	238	2.1%	1.5%	HDPE Bottles	0	0.0%	0.0%
Clean Engineered Wood	1,167	10.1%	7.4%	Other Plastic Containers	0	0.0%	0.0%
Pallets and Crates	170	1.5%	1.3%	5 Gallons #2 Buckets	6	0.1%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	5	0.0%	0.1%
Wood Roofing	678	5.9%	6.7%	Trash Bags Grocery/ Merch. Bags	3	0.0%	0.0%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	0	0.0%	0.0%
Other Recyclable Wood	59	0.5%	0.6%	Plastic Sheeting & Ag. Film	45	0.4%	0.3%
Painted and Treated Wood	1,435	12.4%		Other Film	1	0.0%	0.0%
Painted/Stained Wood Siding	71	0.6%	1.0%	Plastic Piping	45	0.4%	0.6%
Painted/Stained Wood	1,268	11.0%	7.5%	Other Plastic Products	15	0.1%	0.1%
Creosote-treated Wood	0	0.0%	0.0%	Mixed/Other Plastic	12	0.1%	0.1%
Other Treated Wood	97	0.8%	1.0%	Carpet	24	0.2%	0.4%
Finished Wood Furnishings	0	0.0%	0.0%	Carpet Padding	6	0.0%	0.1%
Aggregates, Rock, Soil	1,128	9.8%		Green Debris	10	0.1%	
Concrete	0	0.0%	0.0%	Yard Waste	10	0.1%	0.1%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	0	0.0%	0.0%
Other Aggregates	400	3.5%	5.6%	Stumps	0	0.0%	0.0%
Rock and Gravel	0	0.0%	0.0%	Other Organics	0	0.0%	
Dirt and Sand	0	0.0%	0.0%	Food	0	0.0%	0.0%
Clean Gypsum Board	29	0.3%	0.4%	Textiles	0	0.0%	0.0%
Painted/Demolition Gypsum	699	6.1%	6.6%	Hazardous Materials	0	0.0%	
Asphalt Roofing	4,727	41.0%		Oil Paint	0	0.0%	0.0%
Composition Roofing	3,586	31.1%	15.7%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	1,142	9.9%	15.4%	Used Oil	0	0.0%	0.0%
Metal	89	0.8%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	0	0.0%	0.0%	Other Household Hazardous	0	0.0%	0.0%
HVAC Ducting	11	0.1%	0.1%	Other Materials w/ Little or No Value	1,082	9.4%	
Major Appliances	0	0.0%	0.0%	Cellulose Insulation	0	0.0%	0.0%
Other Ferrous Metal	70	0.6%	0.5%	Mixed/Other Paper	56	0.5%	0.6%
Aluminum Cans	0	0.0%	0.0%	Mixed/Other Glass	18	0.2%	0.3%
Other Non-Ferrous Metal	8	0.1%	0.1%	Furniture and Mattresses	0	0.0%	0.0%
Mixed/Other Metal	0	0.0%	0.0%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	260	2.3%		Nondistinct Fines	276	2.4%	3.6%
Uncoated Corrugated Cardboard	131	1.1%	0.9%	MSW	509	4.4%	4.4%
Other Recyclable Paper	99	0.9%	0.9%	Other Waste	0	0.0%	0.0%
Glass Bottles and Containers	0	0.0%	0.0%	Fiberglass Insulation	22	0.2%	0.3%
Sm. Appliances & Personal Electronics	19	0.2%	0.2%	Expanded Polystyrene Insulation	3	0.0%	0.0%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	197	1.7%	1.6%
TV's & Other CRTs	0	0.0%	0.0%	Totals	11,544	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	22		
Tires	10	0.1%	0.1%	<i>Error range calculated at a 90% confidence level</i>			

**Table F-42. Composition by Weight – Processed Pick-up/Passenger Vehicles
(September 2007 – August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	171	7.5%		Plastic	62	2.7%	
Clean Dimensional Lumber >-16"	42	1.8%	2.8%	PET Bottles	0	0.0%	0.0%
Clean Dimensional Lumber <-16"	50	2.2%	3.3%	HDPE Bottles	0	0.0%	0.0%
Clean Engineered Wood	79	3.5%	5.3%	Other Plastic Containers	0	0.0%	0.0%
Pallets and Crates	0	0.0%	0.0%	5 Gallons #2 Buckets	0	0.0%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	0	0.0%	0.0%
Wood Roofing	0	0.0%	0.0%	Trash Bags Grocery/ Merch. Bags	0	0.0%	0.0%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	0	0.0%	0.0%
Other Recyclable Wood	0	0.0%	0.0%	Plastic Sheeting & Ag. Film	0	0.0%	0.0%
Painted and Treated Wood	137	6.0%		Other Film	0	0.0%	0.0%
Painted/Stained Wood Siding	0	0.0%	0.0%	Plastic Piping	0	0.0%	0.0%
Painted/Stained Wood	137	6.0%	3.8%	Other Plastic Products	0	0.0%	0.0%
Creosote-treated Wood	0	0.0%	0.0%	Mixed/Other Plastic	0	0.0%	0.0%
Other Treated Wood	0	0.0%	0.0%	Carpet	39	1.7%	2.0%
Finished Wood Furnishings	0	0.0%	0.0%	Carpet Padding	23	1.0%	1.0%
Aggregates, Rock, Soil	1,171	51.3%		Green Debris	0	0.0%	
Concrete	0	0.0%	0.0%	Yard Waste	0	0.0%	0.0%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	0	0.0%	0.0%
Other Aggregates	0	0.0%	0.0%	Stumps	0	0.0%	0.0%
Rock and Gravel	0	0.0%	0.0%	Other Organics	0	0.0%	
Dirt and Sand	0	0.0%	0.0%	Food	0	0.0%	0.0%
Clean Gypsum Board	123	5.4%	8.1%	Textiles	0	0.0%	0.0%
Painted/Demolition Gypsum	1,048	45.9%	28.4%	Hazardous Materials	0	0.0%	
Asphalt Roofing	0	0.0%		Oil Paint	0	0.0%	0.0%
Composition Roofing	0	0.0%	0.0%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	0	0.0%	0.0%	Used Oil	0	0.0%	0.0%
Metal	23	1.0%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	0	0.0%	0.0%	Other Household Hazardous	0	0.0%	0.0%
HVAC Ducting	0	0.0%	0.0%	Other Materials w/ Little or No Value	714	31.3%	
Major Appliances	0	0.0%	0.0%	Cellulose Insulation	0	0.0%	0.0%
Other Ferrous Metal	23	1.0%	1.5%	Mixed/Other Paper	0	0.0%	0.0%
Aluminum Cans	0	0.0%	0.0%	Mixed/Other Glass	0	0.0%	0.0%
Other Non-Ferrous Metal	0	0.0%	0.0%	Furniture and Mattresses	0	0.0%	0.0%
Mixed/Other Metal	0	0.0%	0.0%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	4	0.2%		Nondistinct Fines	0	0.0%	0.0%
Uncoated Corrugated Cardboard	0	0.0%	0.0%	MSW	1	0.1%	0.1%
Other Recyclable Paper	4	0.2%	0.3%	Other Waste	0	0.0%	0.0%
Glass Bottles and Containers	0	0.0%	0.0%	Fiberglass Insulation	6	0.3%	0.2%
Sm. Appliances & Personal Electronics	0	0.0%	0.0%	Expanded Polystyrene Insulation	0	0.0%	0.0%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	707	31.0%	26.9%
TV's & Other CRTs	0	0.0%	0.0%	Totals	2,282	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	3		
Tires	0	0.0%	0.0%				

Error range calculated at a 90% confidence level

**Table F-43. Composition by Weight – Processed Fall
(September, October, and November 2007)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	26,843	49.2%		Plastic	1,417	2.6%	
Clean Dimensional Lumber >-16"	6,342	11.6%	4.2%	PET Bottles	2	0.0%	0.0%
Clean Dimensional Lumber <-16"	2,227	4.1%	2.1%	HDPE Bottles	0	0.0%	0.0%
Clean Engineered Wood	14,162	26.0%	6.5%	Other Plastic Containers	0	0.0%	0.0%
Pallets and Crates	3,030	5.6%	3.6%	5 Gallons #2 Buckets	27	0.0%	0.1%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	27	0.1%	0.0%
Wood Roofing	989	1.8%	1.9%	Trash Bags Grocery/ Merch. Bags	0	0.0%	0.0%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	93	0.2%	0.2%
Other Recyclable Wood	93	0.2%	0.3%	Plastic Sheeting & Ag. Film	322	0.6%	0.3%
Painted and Treated Wood	2,721	5.0%		Other Film	14	0.0%	0.0%
Painted/Stained Wood Siding	454	0.8%	1.4%	Plastic Piping	345	0.6%	0.5%
Painted/Stained Wood	2,029	3.7%	3.5%	Other Plastic Products	50	0.1%	0.1%
Creosote-treated Wood	0	0.0%	0.0%	Mixed/Other Plastic	0	0.0%	0.0%
Other Treated Wood	62	0.1%	0.2%	Carpet	470	0.9%	1.0%
Finished Wood Furnishings	177	0.3%	0.4%	Carpet Padding	66	0.1%	0.2%
Aggregates, Rock, Soil	5,890	10.8%		Green Debris	74	0.1%	
Concrete	3,278	6.0%	9.3%	Yard Waste	74	0.1%	0.2%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	0	0.0%	0.0%
Other Aggregates	70	0.1%	0.2%	Stumps	0	0.0%	0.0%
Rock and Gravel	0	0.0%	0.0%	Other Organics	108	0.2%	
Dirt and Sand	144	0.3%	0.3%	Food	106	0.2%	0.3%
Clean Gypsum Board	1,115	2.0%	2.3%	Textiles	2	0.0%	0.0%
Painted/Demolition Gypsum	1,282	2.4%	2.7%	Hazardous Materials	403	0.7%	
Asphalt Roofing	7,662	14.0%		Oil Paint	0	0.0%	0.0%
Composition Roofing	6,300	11.6%	8.6%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	1,362	2.5%	3.6%	Used Oil	0	0.0%	0.0%
Metal	2,151	3.9%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	8	0.0%	0.0%	Other Household Hazardous	403	0.7%	1.2%
HVAC Ducting	499	0.9%	1.5%	Other Materials w/ Little or No Value	3,570	6.5%	
Major Appliances	5	0.0%	0.0%	Cellulose Insulation	0	0.0%	0.0%
Other Ferrous Metal	1,419	2.6%	3.3%	Mixed/Other Paper	356	0.7%	0.7%
Aluminum Cans	0	0.0%	0.0%	Mixed/Other Glass	337	0.6%	0.6%
Other Non-Ferrous Metal	0	0.0%	0.0%	Furniture and Mattresses	0	0.0%	0.0%
Mixed/Other Metal	219	0.4%	0.4%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	3,708	6.8%		Nondistinct Fines	96	0.2%	0.3%
Uncoated Corrugated Cardboard	342	0.6%	0.4%	MSW	1,678	3.1%	1.5%
Other Recyclable Paper	657	1.2%	1.4%	Other Waste	0	0.0%	0.0%
Glass Bottles and Containers	0	0.0%	0.0%	Fiberglass Insulation	45	0.1%	0.1%
Sm. Appliances & Personal Electronics	0	0.0%	0.0%	Expanded Polystyrene Insulation	144	0.3%	0.4%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	916	1.7%	1.9%
TV's & Other CRTs	0	0.0%	0.0%	Totals	54,547	100%	
Latex Paint	292	0.5%	0.6%	Number of Samples	37		
Tires	2,418	4.4%	6.9%				<i>Error range calculated at a 90% confidence level</i>

**Table F-44. Composition by Weight – Processed Winter
(December 2007 and January, February 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	15,895	30.2%		Plastic	3,222	6.1%	
Clean Dimensional Lumber >-16"	3,204	6.1%	2.3%	PET Bottles	7	0.0%	0.0%
Clean Dimensional Lumber <-16"	1,597	3.0%	1.5%	HDPE Bottles	1	0.0%	0.0%
Clean Engineered Wood	3,343	6.4%	2.7%	Other Plastic Containers	2	0.0%	0.0%
Pallets and Crates	5,083	9.7%	3.7%	5 Gallons #2 Buckets	52	0.1%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	19	0.0%	0.0%
Wood Roofing	241	0.5%	0.6%	Trash Bags Grocery/ Merch. Bags	19	0.0%	0.0%
Unfinished Wood Furnishings	32	0.1%	0.1%	Non-Bag Packaging Film	141	0.3%	0.2%
Other Recyclable Wood	2,396	4.6%	5.4%	Plastic Sheeting & Ag. Film	415	0.8%	0.3%
Painted and Treated Wood	3,396	6.5%		Other Film	18	0.0%	0.0%
Painted/Stained Wood Siding	618	1.2%	1.5%	Plastic Piping	1,912	3.6%	3.2%
Painted/Stained Wood	2,418	4.6%	2.1%	Other Plastic Products	147	0.3%	0.2%
Creosote-treated Wood	4	0.0%	0.0%	Mixed/Other Plastic	5	0.0%	0.0%
Other Treated Wood	104	0.2%	0.3%	Carpet	389	0.7%	0.5%
Finished Wood Furnishings	252	0.5%	0.5%	Carpet Padding	95	0.2%	0.1%
Aggregates, Rock, Soil	15,046	28.6%		Green Debris	1,302	2.5%	
Concrete	3,346	6.4%	6.2%	Yard Waste	1,202	2.3%	2.8%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	100	0.2%	0.3%
Other Aggregates	380	0.7%	0.7%	Stumps	0	0.0%	0.0%
Rock and Gravel	246	0.5%	0.6%	Other Organics	20	0.0%	
Dirt and Sand	4,659	8.9%	6.9%	Food	0	0.0%	0.0%
Clean Gypsum Board	2,178	4.1%	3.7%	Textiles	20	0.0%	0.0%
Painted/Demolition Gypsum	4,237	8.1%	5.2%	Hazardous Materials	0	0.0%	
Asphalt Roofing	2,546	4.8%		Oil Paint	0	0.0%	0.0%
Composition Roofing	2,203	4.2%	3.7%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	342	0.7%	1.1%	Used Oil	0	0.0%	0.0%
Metal	1,870	3.6%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	3	0.0%	0.0%	Other Household Hazardous	0	0.0%	0.0%
HVAC Ducting	26	0.0%	0.0%	Other Materials w/ Little or No Value	6,206	11.8%	
Major Appliances	95	0.2%	0.2%	Cellulose Insulation	2	0.0%	0.0%
Other Ferrous Metal	911	1.7%	1.0%	Mixed/Other Paper	446	0.8%	1.4%
Aluminum Cans	12	0.0%	0.0%	Mixed/Other Glass	555	1.1%	0.8%
Other Non-Ferrous Metal	390	0.7%	0.5%	Furniture and Mattresses	48	0.1%	0.1%
Mixed/Other Metal	432	0.8%	0.7%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	3,086	5.9%		Nondistinct Fines	623	1.2%	1.0%
Uncoated Corrugated Cardboard	1,507	2.9%	1.8%	MSW	1,998	3.8%	2.2%
Other Recyclable Paper	1,549	2.9%	2.2%	Other Waste	0	0.0%	0.0%
Glass Bottles and Containers	0	0.0%	0.0%	Fiberglass Insulation	296	0.6%	0.5%
Sm. Appliances & Personal Electronics	10	0.0%	0.0%	Expanded Polystyrene Insulation	19	0.0%	0.1%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	2,220	4.2%	2.9%
TV's & Other CRTs	0	0.0%	0.0%	Totals	52,587	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	52		
Tires	21	0.0%	0.1%				<i>Error range calculated at a 90% confidence level</i>

**Table F-45. Composition by Weight – Processed Spring
(March, April, and May 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	25,510	42.6%		Plastic	1,458	2.4%	
Clean Dimensional Lumber >-16"	6,856	11.5%	3.7%	PET Bottles	2	0.0%	0.0%
Clean Dimensional Lumber <-16"	1,605	2.7%	1.1%	HDPE Bottles	1	0.0%	0.0%
Clean Engineered Wood	10,422	17.4%	5.1%	Other Plastic Containers	2	0.0%	0.0%
Pallets and Crates	3,434	5.7%	2.5%	5 Gallons #2 Buckets	30	0.0%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	15	0.0%	0.0%
Wood Roofing	1,987	3.3%	4.0%	Trash Bags Grocery/ Merch. Bags	36	0.1%	0.0%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	51	0.1%	0.1%
Other Recyclable Wood	1,205	2.0%	1.3%	Plastic Sheeting & Ag. Film	436	0.7%	0.3%
Painted and Treated Wood	4,920	8.2%		Other Film	50	0.1%	0.1%
Painted/Stained Wood Siding	893	1.5%	1.2%	Plastic Piping	407	0.7%	0.5%
Painted/Stained Wood	3,914	6.5%	2.7%	Other Plastic Products	80	0.1%	0.1%
Creosote-treated Wood	0	0.0%	0.0%	Mixed/Other Plastic	259	0.4%	0.7%
Other Treated Wood	113	0.2%	0.3%	Carpet	83	0.1%	0.1%
Finished Wood Furnishings	0	0.0%	0.0%	Carpet Padding	6	0.0%	0.0%
Aggregates, Rock, Soil	8,926	14.9%		Green Debris	609	1.0%	
Concrete	2,232	3.7%	3.5%	Yard Waste	547	0.9%	0.8%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	63	0.1%	0.1%
Other Aggregates	2,023	3.4%	2.6%	Stumps	0	0.0%	0.0%
Rock and Gravel	0	0.0%	0.0%	Other Organics	82	0.1%	
Dirt and Sand	288	0.5%	0.8%	Food	0	0.0%	0.0%
Clean Gypsum Board	2,703	4.5%	5.8%	Textiles	82	0.1%	0.1%
Painted/Demolition Gypsum	1,680	2.8%	2.0%	Hazardous Materials	0	0.0%	
Asphalt Roofing	7,991	13.4%		Oil Paint	0	0.0%	0.0%
Composition Roofing	3,992	6.7%	4.0%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	3,999	6.7%	6.4%	Used Oil	0	0.0%	0.0%
Metal	2,032	3.4%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	0	0.0%	0.0%	Other Household Hazardous	0	0.0%	0.0%
HVAC Ducting	68	0.1%	0.1%	Other Materials w/ Little or No Value	6,893	11.5%	
Major Appliances	0	0.0%	0.0%	Cellulose Insulation	0	0.0%	0.0%
Other Ferrous Metal	1,839	3.1%	2.7%	Mixed/Other Paper	245	0.4%	0.5%
Aluminum Cans	0	0.0%	0.0%	Mixed/Other Glass	48	0.1%	0.1%
Other Non-Ferrous Metal	101	0.2%	0.2%	Furniture and Mattresses	17	0.0%	0.0%
Mixed/Other Metal	23	0.0%	0.0%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	1,400	2.3%		Nondistinct Fines	1,577	2.6%	2.0%
Uncoated Corrugated Cardboard	819	1.4%	0.5%	MSW	1,271	2.1%	1.7%
Other Recyclable Paper	530	0.9%	0.7%	Other Waste	677	1.1%	1.8%
Glass Bottles and Containers	0	0.0%	0.0%	Fiberglass Insulation	21	0.0%	0.0%
Sm. Appliances & Personal Electronics	27	0.0%	0.1%	Expanded Polystyrene Insulation	50	0.1%	0.1%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	2,987	5.0%	3.4%
TV's & Other CRTs	2	0.0%	0.0%	Totals	59,822	100%	
Latex Paint	9	0.0%	0.0%	Number of Samples	64		
Tires	12	0.0%	0.0%	<i>Error range calculated at a 90% confidence level</i>			

**Table F-46. Composition by Weight – Processed Summer
(June, July, and August 2008)**

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	17,099	31.0%		Plastic	3,905	7.1%	
Clean Dimensional Lumber >-16"	3,320	6.0%	1.8%	PET Bottles	7	0.0%	0.0%
Clean Dimensional Lumber <-16"	859	1.6%	0.5%	HDPE Bottles	1	0.0%	0.0%
Clean Engineered Wood	4,663	8.5%	2.1%	Other Plastic Containers	1	0.0%	0.0%
Pallets and Crates	3,630	6.6%	2.0%	5 Gallons #2 Buckets	38	0.1%	0.0%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	34	0.1%	0.0%
Wood Roofing	1,710	3.1%	1.7%	Trash Bags Grocery/ Merch. Bags	84	0.2%	0.0%
Unfinished Wood Furnishings	57	0.1%	0.2%	Non-Bag Packaging Film	278	0.5%	0.5%
Other Recyclable Wood	2,861	5.2%	2.1%	Plastic Sheeting & Ag. Film	413	0.7%	0.3%
Painted and Treated Wood	5,822	10.6%		Other Film	35	0.1%	0.1%
Painted/Stained Wood Siding	2,610	4.7%	2.8%	Plastic Piping	598	1.1%	0.7%
Painted/Stained Wood	2,508	4.5%	1.7%	Other Plastic Products	607	1.1%	0.9%
Creosote-treated Wood	11	0.0%	0.0%	Mixed/Other Plastic	31	0.1%	0.0%
Other Treated Wood	140	0.3%	0.2%	Carpet	1,601	2.9%	2.2%
Finished Wood Furnishings	552	1.0%	0.6%	Carpet Padding	177	0.3%	0.2%
Aggregates, Rock, Soil	8,823	16.0%		Green Debris	980	1.8%	
Concrete	283	0.5%	0.7%	Yard Waste	917	1.7%	1.0%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	62	0.1%	0.1%
Other Aggregates	1,058	1.9%	1.8%	Stumps	0	0.0%	0.0%
Rock and Gravel	0	0.0%	0.0%	Other Organics	64	0.1%	
Dirt and Sand	156	0.3%	0.2%	Food	0	0.0%	0.0%
Clean Gypsum Board	2,868	5.2%	2.9%	Textiles	64	0.1%	0.2%
Painted/Demolition Gypsum	4,458	8.1%	3.2%	Hazardous Materials	34	0.1%	
Asphalt Roofing	6,111	11.1%		Oil Paint	0	0.0%	0.0%
Composition Roofing	6,016	10.9%	4.2%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	95	0.2%	0.3%	Used Oil	0	0.0%	0.0%
Metal	2,101	3.8%		Batteries	34	0.1%	0.1%
Tin/Steel Cans	0	0.0%	0.0%	Other Household Hazardous	0	0.0%	0.0%
HVAC Ducting	51	0.1%	0.1%	Other Materials w/ Little or No Value	8,702	15.8%	
Major Appliances	21	0.0%	0.1%	Cellulose Insulation	0	0.0%	0.0%
Other Ferrous Metal	1,437	2.6%	1.4%	Mixed/Other Paper	541	1.0%	0.7%
Aluminum Cans	12	0.0%	0.0%	Mixed/Other Glass	255	0.5%	0.3%
Other Non-Ferrous Metal	358	0.6%	0.4%	Furniture and Mattresses	396	0.7%	0.9%
Mixed/Other Metal	222	0.4%	0.2%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	1,520	2.8%		Nondistinct Fines	1,856	3.4%	2.5%
Uncoated Corrugated Cardboard	972	1.8%	0.5%	MSW	664	1.2%	0.6%
Other Recyclable Paper	526	1.0%	0.6%	Other Waste	0	0.0%	0.0%
Glass Bottles and Containers	4	0.0%	0.0%	Fiberglass Insulation	76	0.1%	0.1%
Sm. Appliances & Personal Electronics	12	0.0%	0.0%	Expanded Polystyrene Insulation	149	0.3%	0.2%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	4,765	8.6%	2.7%
TV's & Other CRTs	6	0.0%	0.0%	Totals	55,161	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	149		
Tires	0	0.0%	0.0%				

Error range calculated at a 90% confidence level

Table F-47. Composition by Weight – Residuals

Material	TONS	MEAN	+/-	Material	TONS	MEAN	+/-
Clean Wood	5,100	14.0%		Plastic	1,569	4.3%	
Clean Dimensional Lumber >-16"	96	0.3%	0.5%	PET Bottles	13	0.0%	0.0%
Clean Dimensional Lumber <-16"	671	1.8%	1.5%	HDPE Bottles	0	0.0%	0.0%
Clean Engineered Wood	332	0.9%	0.6%	Other Plastic Containers	8	0.0%	0.0%
Pallets and Crates	702	1.9%	2.7%	5 Gallons #2 Buckets	22	0.1%	0.1%
Clean Wood Siding	0	0.0%	0.0%	Expanded Polystyrene Packaging	208	0.6%	0.4%
Wood Roofing	80	0.2%	0.2%	Trash Bags Grocery/ Merch. Bags	23	0.1%	0.1%
Unfinished Wood Furnishings	0	0.0%	0.0%	Non-Bag Packaging Film	96	0.3%	0.3%
Other Recyclable Wood	3,219	8.8%	8.5%	Plastic Sheeting & Ag. Film	502	1.4%	0.7%
Painted and Treated Wood	1,033	2.8%		Other Film	29	0.1%	0.1%
Painted/Stained Wood Siding	86	0.2%	0.3%	Plastic Piping	264	0.7%	0.6%
Painted/Stained Wood	890	2.4%	1.5%	Other Plastic Products	12	0.0%	0.0%
Creosote-treated Wood	0	0.0%	0.0%	Mixed/Other Plastic	52	0.1%	0.1%
Other Treated Wood	58	0.2%	0.2%	Carpet	269	0.7%	0.6%
Finished Wood Furnishings	0	0.0%	0.0%	Carpet Padding	71	0.2%	0.2%
Aggregates, Rock, Soil	5,724	15.7%		Green Debris	45	0.1%	
Concrete	365	1.0%	1.2%	Yard Waste	45	0.1%	0.1%
Asphalt Paving	0	0.0%	0.0%	Large Prunings	0	0.0%	0.0%
Other Aggregates	395	1.1%	1.1%	Stumps	0	0.0%	0.0%
Rock and Gravel	20	0.1%	0.1%	Other Organics	434	1.2%	
Dirt and Sand	2,473	6.8%	4.5%	Food	0	0.0%	0.0%
Clean Gypsum Board	1,383	3.8%	2.6%	Textiles	434	1.2%	1.0%
Painted/Demolition Gypsum	1,089	3.0%	1.5%	Hazardous Materials	0	0.0%	
Asphalt Roofing	1,947	5.3%		Oil Paint	0	0.0%	0.0%
Composition Roofing	1,833	5.0%	4.1%	Vehicle & Equip. Fluids	0	0.0%	0.0%
Other Asphalt Roofing	114	0.3%	0.5%	Used Oil	0	0.0%	0.0%
Metal	195	0.5%		Batteries	0	0.0%	0.0%
Tin/Steel Cans	0	0.0%	0.0%	Other Household Hazardous	0	0.0%	0.0%
HVAC Ducting	0	0.0%	0.0%	Other Materials w/ Little or No Value	15,988	43.7%	
Major Appliances	0	0.0%	0.0%	Cellulose Insulation	0	0.0%	0.0%
Other Ferrous Metal	110	0.3%	0.2%	Mixed/Other Paper	1,628	4.5%	4.2%
Aluminum Cans	0	0.0%	0.0%	Mixed/Other Glass	138	0.4%	0.6%
Other Non-Ferrous Metal	44	0.1%	0.2%	Furniture and Mattresses	0	0.0%	0.0%
Mixed/Other Metal	41	0.1%	0.1%	Ash	0	0.0%	0.0%
Other Materials w/ Potential Value	4,515	12.4%		Nondistinct Fines	11,178	30.6%	6.0%
Uncoated Corrugated Cardboard	292	0.8%	0.4%	MSW	338	0.9%	0.7%
Other Recyclable Paper	4,223	11.6%	9.1%	Other Waste	0	0.0%	0.0%
Glass Bottles and Containers	0	0.0%	0.0%	Fiberglass Insulation	58	0.2%	0.1%
Sm. Appliances & Personal Electronics	0	0.0%	0.0%	Expanded Polystyrene Insulation	61	0.2%	0.1%
Computer-related Electronics	0	0.0%	0.0%	Mixed/Other C&D	2,587	7.1%	3.6%
TV's & Other CRTs	0	0.0%	0.0%	Totals	36,551	100%	
Latex Paint	0	0.0%	0.0%	Number of Samples	80		
Tires	0	0.0%	0.0%	<i>Error range calculated at a 90% confidence level</i>			

Appendix G. Comparison to C&D Materials in the City of Seattle

This section provides a brief comparison between this study and a recent C&D characterization study completed by the city of Seattle. Seattle commissioned a C&D characterization study using a methodology similar to the methodology employed in this study. Two differences of note are:

1. Some detail was lost as material types were “rolled up” to match Seattle’s less extensive list of material types. Because of these small changes the data below doesn’t exactly match the data shown elsewhere in the report. Specifically the amount of **Painted and Treated Wood** has decrease slightly and the amount of **Other Materials with Little or No Value** has increased a commensurate amount.
2. This study used tonnage data for the period September 2007 through August 2008, the Seattle study used January 2007 to December 2007 tonnage data.

Figure G-1 displays the proportion of each material class in King County’s transfers station disposed material stream, the corresponding table (Table G-1) shows the quantity in tons for each material class. Figure G-2 and Table G-2 show the same information for the city of Seattle.

Figure G-1. Composition Summary – Transfer Station Disposed C&D, King County

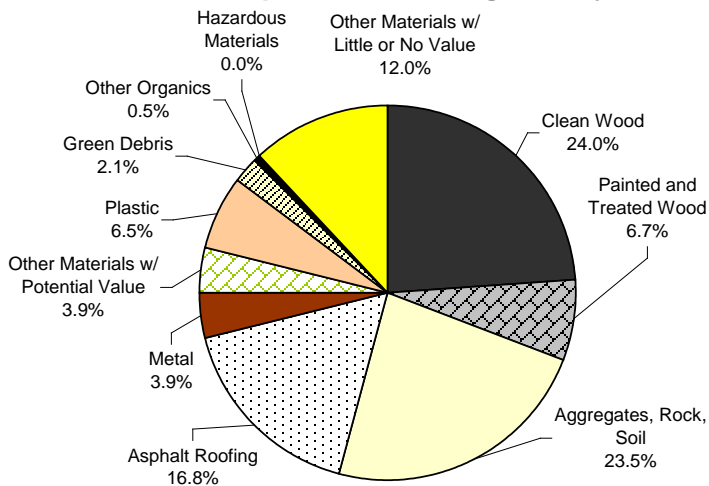


Figure G-2. Composition Summary – Transfer Station Disposed C&D, Seattle

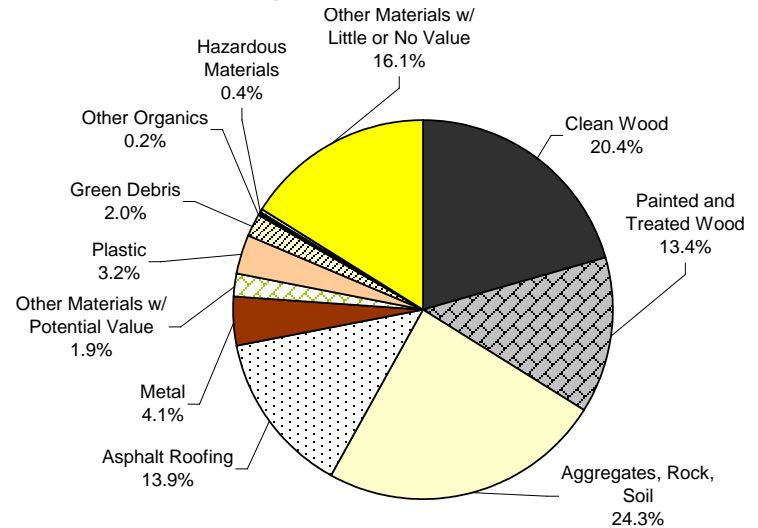


Table G-1. Tonnage by Material Class, King County

Material Class	Disposed Tons
Clean Wood	31,703
Painted and Treated Wood	20,859
Aggregates, Rock, Soil	37,761
Asphalt Roofing	21,505
Metal	6,295
Other Materials w/ Potential Value	2,996
Plastic	5,018
Green Debris	3,107
Other Organics	364
Hazardous Materials	621
Other Materials w/ Little or No Value	25,009
Total	155,237

Table G-2. Tonnage by Material Class, Seattle

Material Class	Disposed Tons
Clean Wood	30,515
Painted and Treated Wood	8,515
Aggregates, Rock, Soil	29,911
Asphalt Roofing	21,398
Metal	4,963
Other Materials w/ Potential Value	4,976
Plastic	8,230
Green Debris	2,635
Other Organics	589
Hazardous Materials	61
Other Materials w/ Little or No Value	15,257
Total	127,051

Figure G-3. Composition Summary – King County Transfer Station Disposed C&D plus Seattle

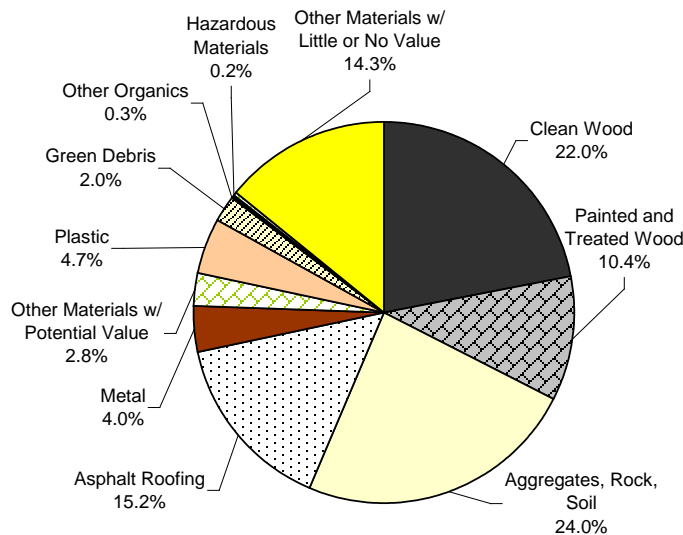


Table G-3. Tonnage by Material Class, King County Transfer Station Disposed C&D plus Seattle

Material Class	Disposed Tons
Clean Wood	62,218
Painted and Treated Wood	29,374
Aggregates, Rock, Soil	67,672
Asphalt Roofing	42,903
Metal	11,257
Other Materials w/ Potential Value	7,972
Plastic	13,248
Green Debris	5,742
Other Organics	953
Hazardous Materials	682
Other Materials w/ Little or No Value	40,266
Total	282,288

Appendix H. Sample Photographs

This appendix contains several photos as examples of typical survey set-ups, characterization conditions, and loads.

Figure H-1. Vehicle Survey



Figure H-2. Clean Engineered Wood in a Processed Roofing Load



Figure H-3. *Dirt and Sand* in Transfer Station Disposed Sample Number DEMO-19



Figure H-4. Other Aggregates in Transfer Station Disposed Sample Number DEMO-51



Figure H-5. Transfer Station Disposed Sample Number DEMO-71

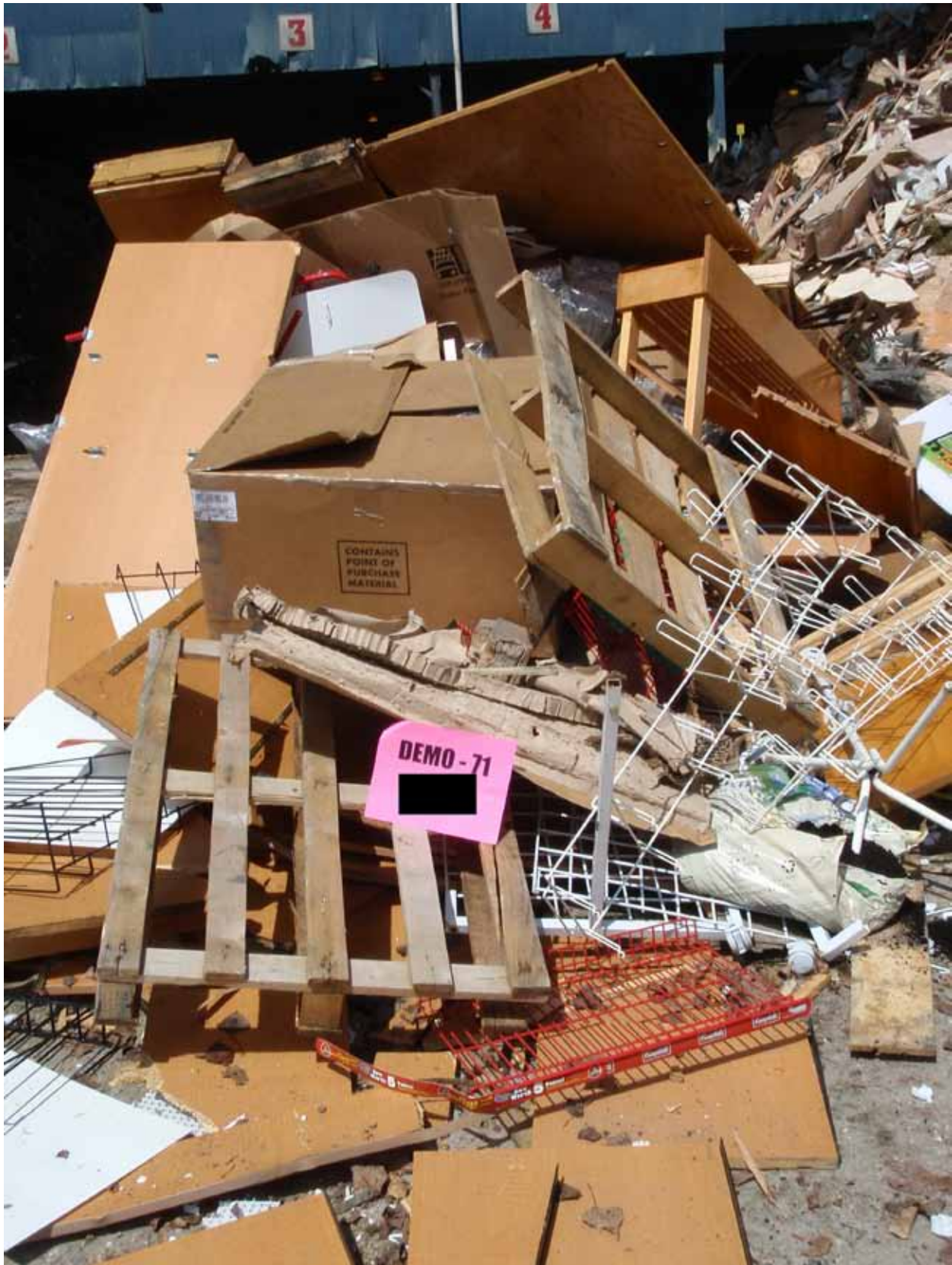


Figure H-6. Partially Demolished Building to be Loaded in an Intermodal Container



Figure H-7. Clean Gypsum Board in Transfer Station Disposed Sample Number NC-35



Figure H-8. Processed Sample Number PROC-1 Prior to Sorting



Figure H-9. Wood Roofing in Transfer Station Disposed Sample Number REM-43



Figure H-10. Lots of Wood in Transfer Station Disposed Sample Number REM-44



**Figure H-11. Clean Engineered Wood and Composition Roofing in Transfer Station
Disposed Sample Number RF-66**



Figure H-12 shows the end of the sorting line at a facility that processes loads of construction materials. The sorting line is moving towards the photographer, a residuals sample would include materials at the bottom right corner of the photo; the material beyond the final sorter. Just out of the photo is the end of the conveyor belt, material spills off the conveyor into a container for disposal.

Figure H-12. The End of a Processing Facility Sorting Line

