

As Presented and Discussed 4-23-09

Report on Waste Characterization Field Study Solid Waste Management Plan Steering Committee April 23, 2009

- CHA designed and conducted a field study to determine the percent composition of a variety of material components within the solid waste and recyclables stream within the Planning Unit.
- A total of 36 randomly selected samples were collected from solid waste vehicles (both DGS and commercial) arriving at the Rapp Road Landfill in Albany over a five-day period from February 23 through February 27, 2009. Each of the representative solid waste samples was then sorted into 39 material categories, and the weight of each material category was recorded.
- A total of 46 representative samples of recyclable materials were obtained during a three day period from March 2 through March 4. Recyclable collection vehicles were re-routed from the Sierra Fibers recycling facility to the Rapp Road Landfill, where sampling and sorting occurred. Half of the recyclable material samples were from the mixed paper stream and other half was from the commingled GMP stream. All of the recyclable samples collected were from Albany DGS vehicles. Each sample was sorted using the same material categories used for the solid waste sampling, and the data was also recorded and calculated in a similar manner.
- The sampling and sorting program was generally conducted and analyzed according to Standard Test Method for Determination of the Composition of Unprocessed Municipal Solid Waste, ASTM D5231-92.
- The average composition percentages were calculated for each material component for each sample, and then calculated for each material category across multiple samples. Results for the solid waste and recyclable material sampling are presented with the combined total of all samples, as well as separate results for the DGS vehicles only and the commercial vehicles only.

The table below shows average solid waste composition of the top 10 material categories compared to results from other studies.

<i>Material</i>	<i>Component Fraction</i>	<i>OCRRA 2005</i>	<i>USEPA 2007</i>
Food Waste	18.7%	14.6%	18.2%
Other Paper	11.1%	12.8%	6.7%
Dirt/Fines	7.9%	4.3%	n/a
Textiles & Leather	5.7%	5.8%	4.7%
Corrugated	4.5%	4.6%	4.9%
Film Plastic & Plastic Bags	4.4%	n/a	3.2%
Paper Board	4.2%	1.7%	4.0%
Mixed Office Paper	4.1%	3.3%	4.7%
Miscellaneous	3.8%	11.7%	21.4%
Wood	3.6%	3.2%	4.3%
<i>Subtotal</i>	<i>68%</i>	<i>62%</i>	<i>72%</i>

The compositions of the DGS and Commercial solid waste collection vehicles were also compiled separately to examine any differences from the overall waste stream composition.

<i>Material</i>	<i>Total Component Fraction</i>	<i>DGS</i>	<i>Commercial</i>
Food Waste	18.7%	23.2%	20.5%
Other Paper	11.1%	7.4%	16.6%
Dirt/Fines	7.9%	4.1%	6.0%
Textiles & Leather	5.7%	6.2%	3.4%
Corrugated	4.5%	3.4%	5.6%
Film Plastic & Plastic Bags	4.4%	6.4%	4.5%
Paper Board	4.2%	5.3%	3.9%
Mixed Office Paper	4.1%	2.1%	6.3%
Miscellaneous	3.8%	3.4%	3.5%
Wood	3.6%	5.2%	0.2%
<i>Subtotal</i>	<i>68%</i>	<i>67%</i>	<i>71%</i>

With respect to the curbside recyclable materials, average composition is summarized in the following tables.

<i>Material Category</i>	<i>Mixed Paper Deliveries</i>
Newspaper	52.7 %
Books including phone directories	12.8 %
Magazines	10.8 %
Paper Board	7.5 %
Mixed Office Paper	6.6 %
Corrugated	6.2 %
Other Paper	1.7 %
Gable Top/Drink Boxes	0.2%
Subtotal	98.5%
All Other Categories	1.5%

<i>Material Category</i>	<i>GMP Deliveries</i>
All Glass Categories	58.8 %
All Ferrous Metal	12.0 %
Plastic Containers #1	8.7 %
Plastic Containers #2	6.1 %
Non-Ferrous Metal	2.1 %
Subtotal	87.7%
All Paper Categories	7.9%
Other Plastic Containers	2.7 %
All Other Categories	1.7%

Observations

- Food waste is the largest single component of the discarded solid waste stream, totaling almost 19%. When combined with the yard waste and other compostable elements of the some other waste material categories, the compostable organic waste fraction may equal or exceed 30% of the MSW discarded.
- Significant quantities of designated recyclables are present in the discarded solid waste stream. While this is evident in all the waste streams delivered, it is most evident in the commercial waste stream.
- Yard waste only represented 1.2% of the solid waste discarded during this study. While there are numerous yard waste composting programs in place within the planning unit, the waste characterization study was conducted during the low season for yard waste generation.