

GO GREEN RECYCLING DBA: SUSTAINABILITY

SustainAbility Hub and Spoke Project 2012

Project Coordinator: Melisa Kraai

Report Written By:

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II. WORK PLAN:

Deliverables	Completion Date	Comments
Signage installed at Indiana Street Spoke	8/30/12	
Q4 postcard/flyer distribution	n/a	Funding transferred to educational posters; approved by grant monitors
Q3 postcard/flyer distribution	n/a	Funding transferred to educational posters; approved by grant monitors
Q2 postcard/flyer distribution	n/a	Funding transferred to educational posters; approved by grant monitors
Q1 postcard/flyer distribution	7/31/12	
Weigh scale delivered and installed at Indiana Street Spoke	8/17/12	
Install liftgate on box truck	12/10/12	
Purchase used forklift	12/10/12	
Baler delivered and installed at hub	1/29/13	

III. PROJECT SUMMARY

1. Executive Summary

The purpose of the *SustainAbility Hub and Spoke Project 2012* was to establish a spoke in the densely populated western outskirts of the City of Arvada offering residents an all-inclusive drop-off center for the following items: typical recyclables, many hard-to-recycle items, electronic waste and composting.

In addition to opening an all-inclusive drop-off site for Arvada and surrounding residents, our goals included creating 20 part-time jobs, 3 full-time jobs and diverting 101 tons of recyclables from landfills during the grant period.

As a result of the grant monies and our business's expansion, we were able to create 24 jobs within our company. We successfully opened a drop-off site in the northwestern edge of the City of Arvada in August of 2012 where we are accepting typical recyclables, many hard-to-recycle items and electronic waste.

The most challenging aspect of this project has been getting residents in Arvada and the communities surrounding our drop-off site to take advantage of our services. While we have not seen the numbers we had anticipated and projected at the start of the project, we have seen an increase every month in the amount of recyclables brought to the Indiana Spoke.

Economic and environmental benefits of this project include job creation and taking a previously landfilled stream of resources and placing them back into the local economy. It should be noted

that 21 of the 24 jobs created went to individuals who have developmental disabilities; a segment of our society that struggles with an over 70% unemployment rate.

2. Project Description & Overview of Work Completed

Our project goals were as follows:

Goal 1: Open an all-inclusive drop-off site for typical recyclables, hard-to-recycle items, compost and electronic waste in the northwestern area of the City of Arvada which also serves as an educational center and store for our repurposed products. We have completed all aspects of this goal with the exception of the collection of composting.

On August 21st, 2012 we opened the Indiana Spoke drop-off center in the precise area we targeted in our grant proposal. This site also houses an educational center and store for our repurposed goods. Our drop-off site is accepting typical recyclables, electronic waste and many hard-to-recycle items (i.e. Styrofoam, cd's/dvd's, cork, fabric, large plastic items, metals) from the surrounding community. At this time we have chosen not to collect compostable organics based on the lower than expected rates of customers taking advantage of our site for typical recyclables. We are continuing to experiment with new marketing strategies and as a result our diversion rates are increasing at the Indiana Spoke every month. We will revisit offering composting options at our site at a future date.

Goal 2: Create an additional 20 part-time jobs and 3 full-time jobs during the grant period. We have achieved this goal.

During the grant period we have created 21 part-time jobs and 3 full-time jobs, this includes: 6 positions on our weekend electronic waste crews (includes one full-time Supervisor position), 8 sorting crew positions to handle increased recyclables and 10 positions on a day and swing shift transporting materials to and from the Hub and Spokes and to market (this includes 2 full-time Supervisor positions).

Goal 3: Divert 101 tons of waste from landfills through recyclables received at the Indiana Spoke. We did not meet this goal. See "Arvada Typical Recyclables Collected" graph in appendix (this graph does not include electronic waste).

This project benefits the recycling community and Colorado in general by diverting recyclables from landfills and placing these resources back into the Colorado economy. The City of Arvada completed a study in 2010 which determined that only 10% of their residents pay for recycling services. The Indiana Spoke offers free recycling for typical recyclables and many hard-to-recycle items. This is appealing to residents who do not want to pay for recycling. It can be concluded that a large portion of the recyclables coming through our site were formally going to landfills.

One of the unanticipated successes of opening the Indiana Spoke drop-off site was the amount of electronics we have collected. Currently, we are averaging 3 tons of e-waste collections each month. Not only is the collection of e-waste saving valuable resources, its keeping hazardous materials from entering our soil and water.

Another benefit of this project to the community has been the introduction of recycling information and education to an area that lacks "green" education. The postcards we distribute as

well as our educational center offers information on general recycling practices, the e-waste problem, Senate Bill-133 and up-cycling. Furthermore, we direct customers to local businesses and recycling centers that are able to accept items for recycling or re-use which are not within our scope of business.

3. Summary of Findings and Results

Equipment Purchases: used baler, used forklift, box truck (our match), truck lift gate, weigh scale

The above equipment purchases allowed us to more efficiently handle the increased recyclables coming in to our facility.

- The baler has given us the ability to bale our post-consumer plastic containers. This has decreased our carbon footprint significantly as we are able to transport 5x more per trip to our downstream plastic recycler. In addition, folks working at our recycling facility have the opportunity to learn how to use this piece of equipment further developing their job skills.
- The forklift has been essential in the movement of baled materials to the truck for transport; bales cannot be loaded on trucks for transport without the forklift. Moving from taking materials to market in bins to taking baled materials has significantly decreased our carbon footprint and increased our efficiency.
- We purchased a new 16 foot box truck as an in kind match to RREO funding. This truck has been necessary to continuously move materials to and from our Hub and Spokes and for taking all sorted/baled materials to market. Ten jobs have been created within our company as a result of this addition to our fleet.
- The new truck lift gate powers both up and down, is wider than our other truck lift gates and it is light. This has allowed us to transport bales, to load and unload quicker and it has improved the safety of the job process.
- The weigh scale purchased for the Indiana Spoke is necessary for weighing incoming electronics so that customers are charged accurate fees for recycling this waste stream. We also use the scale to keep a monthly record of all recyclables diverted from the Indiana Spoke.

Educational Posters, Flyers, Signage:

- The educational posters have been placed in our Indiana and Wheat Ridge Spoke stores. These posters contain information about the e-waste problem, Senate Bill-133 and how our program ensures the ethical and safe handling of electronics. The posters also educate on the concept and benefits of up-cycling and how our program is creating jobs while giving materials a new life. Customers visiting our drop-off centers can read these materials while waiting to have their e-waste weighed or while shopping for our up-cycled products. Many people bringing typical recyclables to our sites are introduced to the e-waste problem and the idea of up-cycling through our staff and educational materials.
- We have two crews that travel to different neighborhoods in the cities of Arvada and Wheat Ridge 4 days a week passing out flyers which advertise our drop-off centers and the different services we offer. These flyers serve as a catalyst to bring people in to our business as well as educate the general public about the benefits of recycling to their

community. We have passed out over 25,000 flyers during the grant period. Grant monies were used for 5,000 flyers. We used our own monies for the remainder.

Community Response:

Customers who frequent our business communicate their appreciation for the affordable and all-inclusive services we have offered the community. The City of Arvada has been incredibly supportive including advertisement on their website and social networking, 2 newspaper articles and a video produced and paid for by the City. The City of Arvada has been impressed with our operations and as a result they have recently asked if we will partner with them to create a 2nd drop-off site in the southeastern portion of Arvada. Talks include the City partially funding a site location as well as investing towards improving our infrastructure.

4. Summary of Unanticipated Outcomes or Roadblocks

Our first road block to meeting our diversion rate goals was a delayed opening for the Indiana Spoke drop-off site. We intended to begin our operations on the first week of July 2012 which was the date we secured our warehouse. We had been in close communication with the City of Arvada who was in the process of changing zoning in our area of business. The City of Arvada anticipated that we could begin operations the 1st or 2nd week of July, but the process for this change was delayed and as a result we were not able to open until August 21st of 2012 which set back our diversion by 1.5 months.

Our projected measurable results for the Indiana Spoke were based on the diversion rates and the public receptivity of our Wheat Ridge drop-off site which thrived in its first year of operations. We are finding that our targeted area in Arvada has a different culture and dynamic. We are exceeding projected e-waste collection numbers; however, people are not bringing in typical recyclables at the rate/frequency we anticipated. Through our discussions with people who are bringing in e-waste, we are finding a common perception that typical recyclables “just end up in landfills” and that typical recycling does not have much of an impact on the environment. People do see the need to recycle electronics understanding that these items contain hazardous waste.

We continue to advertise our services and educate the public through our flyers, educational posters, recycling events, newspaper articles, our video and our website as well as talking directly to individuals visiting our centers. These efforts are showing an increase in diversion rates each month. While residents are not responding as quickly to our services as we had anticipated; they are responding. We are confident that the Indiana Spoke will eventually see the diversion rates we projected.

5. Communication of Project Findings

In an effort to educate the public about the benefits of the RREO grant to our program, we have given many tours of our facility to customers, community leaders and various groups such as Sunday school programs, day programs, City of Arvada employees and Girl Scout and Boy Scout troops. During these tours we talk about having received grant monies from the RREO program through the State of Colorado and how this has increased the creation of jobs and productivity of our business. We also communicate to other recyclers about the RREO grant program’s positive impact for our business and encourage submission of grant applications.

6. Future Impact of the Project

How will this project impact future waste diversion in your area and in Colorado?

This project enabled us to expand our all-inclusive drop-off center business strategy to the City of Arvada. Our model is unique in the Denver Metro area. No other recycling facility is taking the diversity of materials we are able to accept. We now have centers in Wheat Ridge and Arvada. These drop-off sites offer affordable recycling options for not only traditional recycling, but also hard-to-recycle items and e-waste. Our successful operations in Wheat Ridge and Arvada have led to a proposed partnership with the City of Arvada to open a 2nd all-inclusive drop-off site on the southeastern edge of the City. This model with its social mission and Medicaid funding source could be appealing to other cities in the Denver Metro area who are struggling financially to maintain their current drop-off sites.

Are there any downstream effects of this project?

Downstream effects of this project most notably include an increased volume of commodities sold to local partners. Since we do not broker materials ourselves, the increased collection by our company directly correlates to additional material going to local downstream recyclers. We have also been able to form new and stronger relationships with downstream recyclers as a result of our increased volumes.

Is there potential for transferring technology or process knowledge to others?

There is large potential for Sustainability to share knowledge with others in the industry. We currently do this through tours administered at our sites, presentations given to organizations and businesses and calls/meetings with people interested in setting up a similar model. We are also a member of VERN, a network of recyclers that consistently share knowledge and technology with each other.

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7. Financial Summary

Grant Budget Table

Description	Grant Funds Spent	Matching/In Kind Amount (if any)	Total Amount
Personnel Salaries	\$0.00	\$0.00	\$0.00
Fringe Benefits	\$0.00	\$0.00	\$0.00
Tuition/Fees	\$0.00	\$0.00	\$0.00
Travel Costs	\$0.00	\$0.00	\$0.00
Materials/Supplies/Equipment(under \$5000)	\$5,561.03	\$0.00	\$5,561.03
Equipment Purchases (over \$5000)	\$16,749.20	\$32,550.00	\$49,299.20
Contractors/Subcontractors	\$0.00	\$0.00	\$0.00
Consultants	\$0.00	\$0.00	\$0.00
Training/Education	\$0.00	\$0.00	\$0.00
Marketing/Advertising	\$3,869.45	\$900.00	\$4769.45
Other Direct Costs	\$0.00	\$0.00	\$0.00
Indirect Costs	\$0.00	\$0.00	\$0.00
Total Project Cost:	\$26,179.68	\$33,450.00	\$59,629.68

Total award amount: \$26,210.00

8. Conclusion

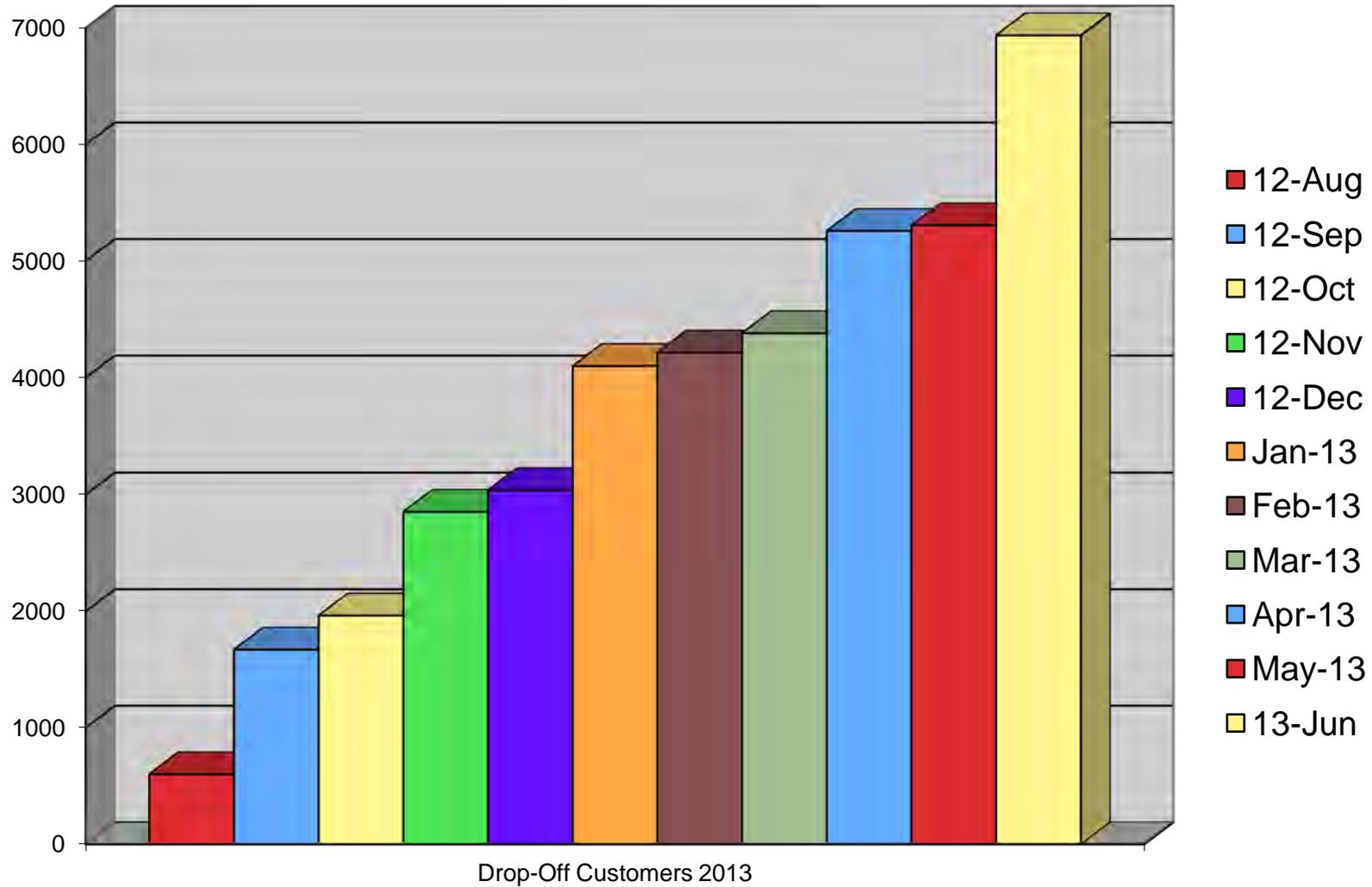
Thank you so much. The grants you have awarded us in the past two years have created so many jobs and opportunities for our business. We are currently in talks with the City of Arvada to take over their main recycling drop-off site. Our model which these grants have funded may be a viable option for other cities struggling to pay for public drop-off sites for recycling.

9. Appendix

- a. Grant Metrics Table (separate doc attached)
- b. Arvada Typical Recyclables Collected (separate doc attached)
- c. Community Leader Contacts:

1. **Jessica Prosser**
Arvada SustainAbility Coordinator
720-898-7511
jprosser@arvada.org
2. **Ryan Stachelski**
Arvada Economic Development Manager
720-898-7016
rstachelski@arvada.org
3. **Steve Art**
Wheat Ridge Economic Development Manager
303-235-2806
sart@ci.wheatridge.co.us

SustainAbility Arvada Spoke- 2013



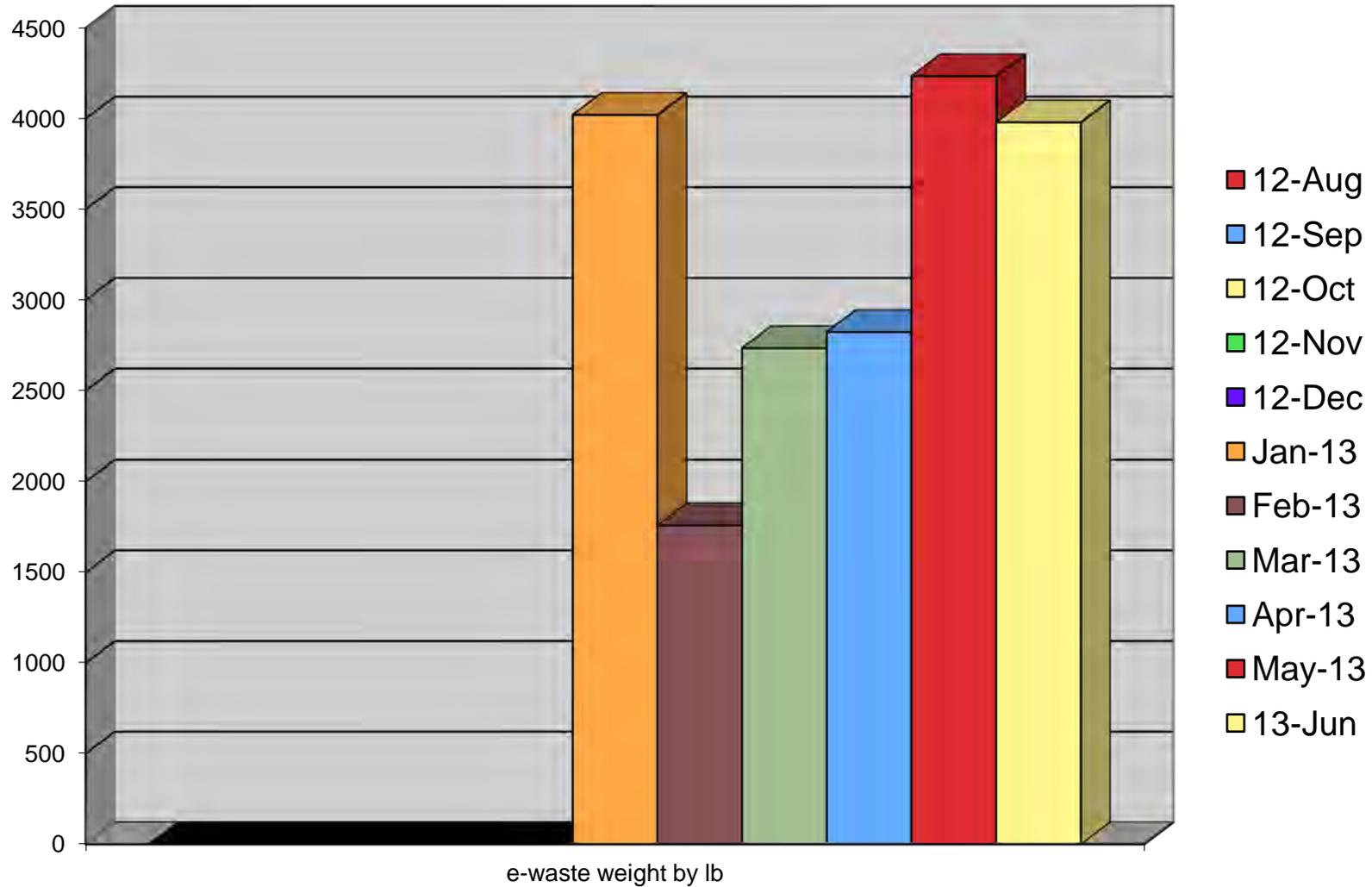
August 12: 601
 September 12: 1669
 October 12: 1962
 November 12: 2852

December 12: 3038
 January 13: 4098
 February 13: 4215
 March 13: 4380

April 13: 5258
 May 13: 5306
 June 13: 6936

**NOTE: these numbers reflect single stream recycling collection only and do not include electronic waste

SustainAbility Arvada Spoke E-WASTE- 2013



August 12: xx
 September 12: xx
 October 12: xx
 November 12: xx

December 12: xx
 January 13: 4020
 February 13: 1759
 March 13: 2733

April 13: 2822
 May 13: 4233
 June 13: 3979

**NOTE: these numbers reflect e-waste recycling collection

Grant Metrics

Date project fully operational:

August-12

Based on deliverables. Provide the month during which the grant project increased diversion/created jobs/increased number of customers.

Diversion Rates:

Choose one material per box. Only list materials diverted as a direct result of the grant project. Must be listed in tons. See tab labeled "Conversion Tables" if needed.

Material Diverted #1		Plastics (#1-7)
Tons Diverted		
July-12	0.52	
August-12	2.57	
September-12	1.72	
October-12	2	
November-12	1.83	
December-12	1.78	
January-13	1.74	
February-13	2.06	
March-13	2.65	
April-13	2.28	
May-13	0.848	
June-13		
Total	19.998	

Other div. material:

Material Diverted #2		Other (pls describe below)
Tons Diverted		
July-12	8.67	
August-12	4.58	
September-12	4.83	
October-12	4.67	
November-12	4.58	
December-12	7.84	
January-13	12.69	
February-13	9.75	
March-13	5.28	
April-13	15.76	
May-13	11.47	
June-13		
Total	90.12	

Other div. material: unsorted single stream

Material Diverted #3		Scrap metal
Tons Diverted		
July-12	0.64	
August-12	2.5	
September-12	2.9	
October-12	3.7	
November-12	1.9	
December-12	2	
January-13	3.2	
February-13	1.9	
March-13	4.8	
April-13	1.2	
May-13	1.4	
June-13	3.9	
Total	30.04	

Other div. material: *includes aluminum and steel cans

Material Diverted #4		Electronics (CPUs, TVs, etc.)
Tons Diverted		
July-12	3.9	
August-12	3.4	
September-12	1.6	
October-12	6.4	
November-12	3.4	
December-12	3.6	
January-13	2.6	
February-13	3	
March-13	1.8	
April-13	4.8	
May-13	4	
June-13	3.5	
Total	42	

Other div. material:

Material Diverted #5		Newspaper/Office paper
Tons Diverted		
July-12	3.4	
August-12	6.5	
September-12	7.6	
October-12	7.2	
November-12	7.1	
December-12	7.5	
January-13	4.86	
February-13	3.18	
March-13	6.82	
April-13	6	
May-13	3.84	
June-13		
Total	64	

Other div. material:

Material Diverted #6		Cardboard
Tons Diverted		
July-12	9.59	
August-12	8.63	
September-12	5.39	
October-12	6.74	
November-12	7.36	
December-12	2.69	
January-13	9.16	
February-13	3.7	
March-13	6	
April-13	6.69	
May-13	5.66	
June-13		
Total	71.61	

Other div. material:

Material Diverted #7		Glass
Tons Diverted		
July-12	4	
August-12	4	
September-12	5.4	
October-12	3.5	
November-12	2.9	
December-12	3.5	
January-13	5	
February-13	3.5	
March-13	4.7	
April-13	3.9	
May-13	1.8	
June-13	5.4	
Total	47.6	

Other div. material:

Material Diverted #8		Styrofoam
Tons Diverted		
July-12		
August-12	n/a	
September-12		
October-12		
November-12		
December-12		
January-13		
February-13		
March-13		
April-13		
May-13		
June-13		
Total	0	

Other div. material:

End use of diverted materials:

Describe where materials are going (e.g. MRF, new products, reuse)

Plastics:All Recycling, Alpine, ERI. Single stream unsorted:Alpine. Newspaper/office paper: Alpine. Cardboard: Alpine. Glass: Miller Coors. Electronics: ERI, VERN, Silver Anvil. Scrap metal:

Number of Permanent Jobs Created:

Include full-time & part time paid positions. 1 FTE = 40 Hours Per Week

3 FTE & 21 PTE

Type of Permanent Job(s) Created:

Provide titles of jobs created

FTE = Crew Supervisor; PTE = Recycling Specialist

Average Salaries of Jobs Created:

Average of all jobs created

Less than \$15,000

Average Monthly Customers for FY 2011:

July 1, 2012 - June 30, 2013

n/a grant is for drop-off site

Average Monthly Customers for FY 2013:

Estimate or refer to customer list

Avg. Monthly Amount	
July-12	grant is for drop-off site
August-12	
September-12	
October-12	
November-12	
December-12	
January-13	
February-13	
March-13	
April-13	
May-13	
June-13	
Ave. / FY 13	#DIV/0!