AUSTIN RESOURCE RECOVERY

A City of Austin Service Department

To: Zero Waste Advisory Commission

From: Bob Gedert, Director
Austin Resource Recovery Department

Date: August 14, 2013

Subject: **Director's Report**

Materials Management

Zero Waste is a paradigm shift from *waste management* to *materials management*. This new approach treats materials collected as *resources* that have secondary lives, not as *waste streams*. Thus, Zero Waste is redirecting the Department's mission toward *resource recovery*. This new perspective treats the material as a resource that is recovered for a second life, rather than a waste stream destined for a landfill.

The Austin Resource Recovery Department is evolving from a waste collection service provider toward a *materials management* department. A materials management systems approach focuses on the life cycle impacts of materials currently being disposed of in landfills and the greenhouse gas emission reductions that are possible by diverting wasted materials from landfills through source reduction, reuse, remanufacturing, recycling and composting. Additional methods of material management include environmentally preferable purchasing policies, upstream redesign, extended producer responsibility systems and clean manufacturing practices. The success of Zero Waste requires that we redefine the concept of "disposal" in our society. In the past, waste was considered a natural by-product of our culture. Zero Waste communities recognize that proper *materials management*, not *waste management*, is at the heart of reducing waste sent to landfills.

Zero Waste is a philosophy and a design principle for the 21st century that includes recycling but goes beyond recycling by taking a system approach to the vast flow of resources generated throughout society. It is a goal and guide for people to emulate sustainable natural cycles, where all wasted materials are resources for others to use. Zero Waste allows us to examine the materials management opportunities at three major generation sources; *upstream, midstream, and downstream*. These concepts are defined in the following way:

Reduce Upstream Waste: Upstream wastes are defined as materials generated from mining operations, manufacturing operations, and packaging of products, and the transportation waste to deliver products to market. For every ton of product reaching our local market shelves, 71 tons of wastes were created to mine, manufacture, store, and finally transport it to market. These materials pose a challenge for local governmental control, but are created in response to consumer demand for products and services.

Possible means to reduce such upstream waste is through Extended Producer Responsibility, Raw Material Exchanges, By-Product and/or Waste Trading, and Clean Manufacturing practices.

Reuse Midstream Waste: Midstream wastes are generated locally by every household, school, business and governmental office through material wasting inefficiencies, excess packaging, food waste, inefficient inventories, and unnecessary product waste. If the wasted materials generated at this level are not addressed, they become a financial burden to local government in the form of downstream collection costs.

Possible means to address midstream waste involves extensive networks to encourage reuse. Moving wastes into a variety of reuse options eliminates collection costs and is at the heart of waste prevention.

Recycle Downstream Waste: Downstream wastes are generated locally by every household, school, business, and governmental office, with the intent to dispose of unwanted packaging, products and other wasted materials. Wasted materials at this level must be collected, processed and sent to a final disposal facility. Downstream captured materials are a direct financial burden to the local government for collection and processing, and include landfilling, composting, recycling and disposal of household hazardous waste.

If wasted materials must be handled downstream, the best options involve the support and expansion of existing recycling and composting programs, and the reduction of toxics disposal through education and reuse programs. Based on local disposal from households, nearly 90% of all discards (wastes) set at the curb can be recycled or composted, if placed in the right container.

Source: ARR Master Plan, excerpts from pages 2, 42, 43, 44

China's Operation Green Fence

Exporting Recycling & China's Green Fence

For the past 20 years, the United States has been exporting its raw materials such as metal, paper, plastic and more, instead of recycling the materials here in the U.S. While this is good for the trade deficit with China – scrap is our largest export to that country – it may not be so good in the long run. China is implementing higher standards on imports of recycled material via Operation Green Fence. This could have quite an impact on the recycling industry and the U.S. in a broader context, forcing the U.S. to have higher standards for what they export worldwide.

One reason the United States began exporting to China is because, as a result of the large amount of goods we import from them, the shipping containers that carried those goods were being sent back to the country empty. It made sense to send them back filled with bales of empty cardboard boxes which those goods had been packed in because China does not have the forest resources that the U.S. does. Most of China's packaging was previously made from recycled fibers which proved quite flimsy. China wanted to import our high quality cardboard to mix in with their low quality fibers to make better packaging. This win-win situation began the exporting of our recyclables.

As the U.S. became a consumer economy with a shrinking manufacturing base, Chinese manufacturing was growing. The U.S. generates more scrap than it is able to consume domestically. Meanwhile Chinese demand for raw materials grew and recyclables are a lower cost raw material compared to virgin raw materials.

Beginning in February of 2013 China launched what they're calling "Operation Green Fence", a 10-month long initiative that kicked off in February to prevent the importation of solid waste-contaminated shipments. Operation Green Fence has set a limit of 1.5 percent prohibitive, or allowable contaminant, in each bale, in an effort to keep trash out of China. The new initiative will include random inspection of all forms of "imported waste," meaning metal, plastic, textiles, rubber and recovered paper materials.

As Operation Green Fence is rolled out and rules and regulations begin to change, it is clear that the amount of materials we export will be reduced. However, as single stream recycling is becoming more widely adopted, we are producing even more contaminated materials. If China and other importers are operating at higher standards, where will all of the new contaminated materials go?

China's Green Fence policy could greatly impact the recycling industry both here in the United States and worldwide. Currently the initiative is putting a great pressure on prices as recyclers are not shipping to China for fear of rejections. More material is available domestically so the domestic mills can pay less. When supply goes up, the price comes down. If China maintains Operation Green Fence past its current set timeframe, the cost of exporting our materials could rise as well. These projected views are based, however, on the likelihood of China staying steadfast in their Green Fence policy. Because China's appetite for scrap as a raw material is voracious, the Chinese manufacturers may put pressure on the government to relax the policy in the coming months.

Operation Green Fence may be a burden to the recycling industry presently, but it could be the perfect time for businesses and municipalities to really evaluate how our current policies are affecting the end result. Keeping our materials separated allows our domestic recycling industry to recycle the maximum amount of materials, whether here or abroad, which keeps them out of the world's landfills.

Source: Excerpts from Author Valerie Androutsopoulos, Posted: April 30th 2013, contents copyright by Vangel Paper.

Current and Upcoming Job Posting

Position	Contact Manager	Posting Status
Planner II or III	Jessica King	2nd round Interviews scheduled
Public Information Spec	Emlea Chanslor	2nd round Interviews scheduled
Occupational Health & Safety Coordinator	Jeff Dilbert	Top candidate identified
Technical Trainer	Jeff Dilbert	Position to be posted
Brownfields Program Manager	Nancy Chan	Interviews scheduled
Temporary Administrative Specialist	Nancy Chan	Interviews scheduled
Business Process Consultant	Nancy Chan	Position posted
GIS Supervisor	Nancy Chan	Interviews scheduled
Environmental Program Specialist	Donald Hardee	Interviews scheduled
ARR Operator Senior	Ron Romero	Interviews scheduled
ARR Crew Leader	Ron Romero	Interviews scheduled
Solid Waste Operator	Richard McHale	Position to be posted
ARR Associate	Richard McHale	Top candidate to start 8-12-13

Staff Hires and Promotion Updates

New employee	Promotions	Title
Kimberly Euresti		Accounting Manager
Derrick Steward		ARR Associate
Sean Fresch		ARR Operator
Ashley Lincoln		Intern—Strategic Initiatives
Christopher Cook		Temporary ARR Associate
Maxwell Armand		Temporary ARR Associate
Ginger Enger		Temporary Administrative Specialist
Joseph Lopez		Temporary ARR Associate
Michael Mitchell		Temporary ARR Associate
Glenn Phillips		Temporary ARR Associate
David McCluggage		Financial Consultant
Timothy Jackson		Human Resources Advisor
Luis Leos		ARR Associate
Jeffery Dilbert		Safety Division Manager
Jason Everitt		Temporary Recycle Right Auditor
Leodoro Franco		Temporary Recycle Right Auditor
Ruben Orosco		Temporary Recycle Right Auditor
Quinton Session		Temporary Recycle Right Auditor
Marlayna Wright		Temporary Recycle Right Auditor
	Christopher Guerrero	To: ARR Supervisor

Single Stream Recycling Statistical Report - August 14, 2013 ZWAC Meeting

FY 2012-13: October, 2012 through June, 2013

Texas Disposal Systems (TDS) and Balcones Resources, Inc. (BRI)

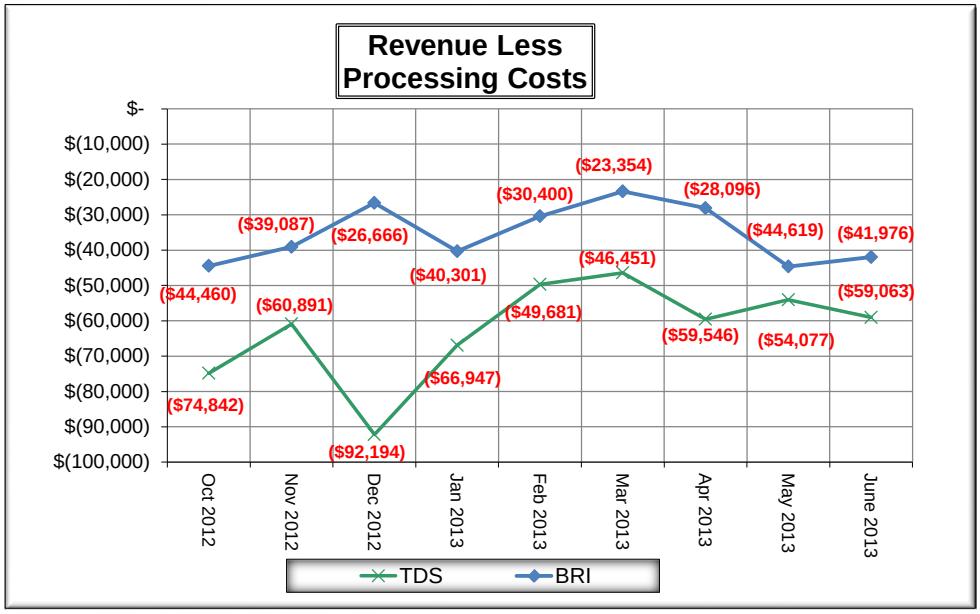
		Contractor Payments			Net Value to the City	Landfill Cost Avoidance	
Month, Year, Contractor	Tons Delivered	Revenue	Processing Cost	Net Amount Due/(Owed)	$ per ton value	Cost Per Ton	Total
October 2012 - TDS	1,992.62	$107,483	$182,325	($74,842)	($37.56)	$21.14	$42,124
October 2012 - BRI	2,522.20	$156,614	$201,074	($44,460)	($17.63)	$21.14	$53,319
Total	4,514.82	$264,097	$383,399	($119,302)			$95,443
November 2012 - TDS	1,676.28	$92,488	$153,380	($60,891)	($36.33)	$21.14	$35,437
November 2012 - BRI	2,864.82	$188,214	$227,301	($39,087)	($13.64)	$21.14	$60,562
Total	4,541.10	$280,702	$380,681	($99,978)			$95,999
December 2012 - TDS	2,584.16	$144,257	$236,451	($92,194)	($35.68)	$21.14	$54,629
December 2012 - BRI	2,010.51	$135,238	$161,904	($26,666)	($13.26)	$21.14	$42,502
Total	4,594.67	$279,495	$398,355	($118,860)			$97,131
January 2013 - TDS	2,014.55	$117,385	$184,331	($66,946)	($33.23)	$21.14	$42,588
January 2013 - BRI	3,059.87	$201,932	$242,233	($40,301)	($13.17)	$21.14	$64,686
Total	5,074.42	$319,317	$426,564	($107,247)			$107,273
February 2013 - TDS	1,588.12	$95,632	$145,313	($49,681)	($31.28)	$21.14	$33,573
February 2013 - BRI	2,370.66	$159,074	$189,474	($30,400)	($12.82)	$21.14	$50,116
Total	3,958.78	$254,706	$334,787	($80,081)			$83,689
March 2013 - TDS	1,639.78	$103,588	$150,039	($46,451)	($28.33)	$21.14	$34,665
March 2013 - BRI	2,625.14	$185,599	$208,953	($23,354)	($8.90)	$21.14	$55,495
Total	4,264.92	$289,187	$358,992	($69,805)			$90,160
April 2013 - TDS	2,055.29	$128,513	$188,059	($59,546)	($28.97)	$21.14	$43,449
April 2013 - BRI	2,517.46	$172,616	$200,712	($28,096)	($11.16)	$21.14	$53,219
Total	4,572.75	$301,129	$388,771	($87,642)			$96,668
May 2013 - TDS	1,649.59	$96,860	$150,937	($54,077)	($32.78)	$21.14	$34,872
May 2013 - BRI	3,167.84	$205,879	$250,498	($44,619)	($14.09)	$21.14	$66,968
Total	4,817.43	$302,739	$401,436	($98,697)			$101,840
June 2013 - TDS	1,694.34	$95,969	$155,032	($59,063)	($34.86)	$21.14	$35,818
June 2013 - BRI	2,479.78	$155,851	$197,827	($41,976)	($16.93)	$21.14	$52,423
Total	4,174.12	$251,820	$352,859	($101,039)			$88,241
FY 2012-13 Totals	**$40,513**	**$2,543,192**	**$3,425,843**	**($882,651)**			**$856,445**

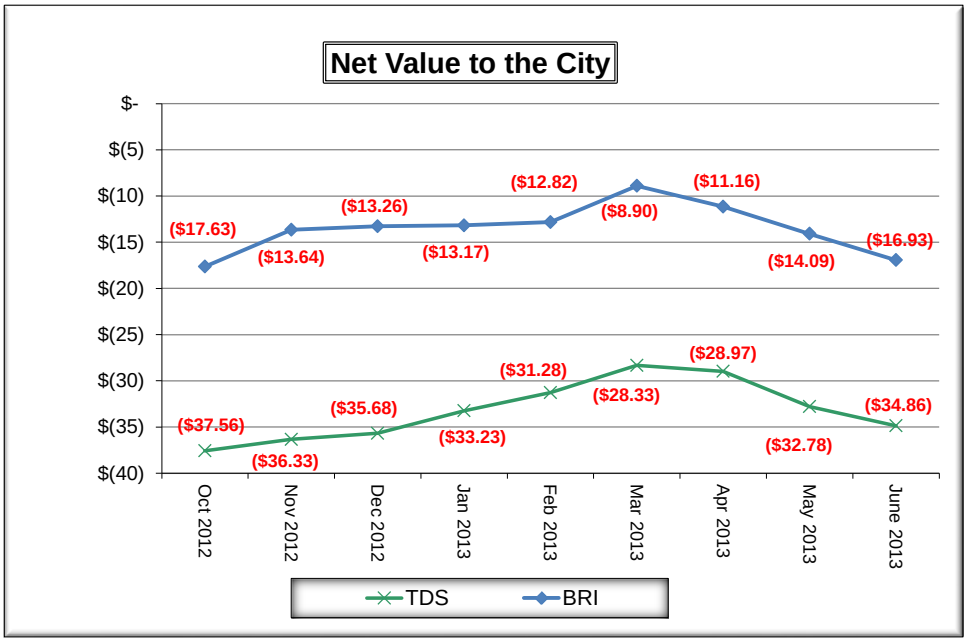
Material Composition Percentages						
	Audit #1		Audit #2		Audit #3 (current)	
	TDS	BRI	TDS	BRI	TDS	BRI
Material	**10/27/2012**	**10/22/2012**	**2/9/2013**	**1/26/2013**	**4/13/2013**	**4/27/2013**
ONP #8 (Old Newspaper)	13.80%	27.89%	22.54%	25.01%	16.14%	25.97%
OCC (Corrugated Cardboard)	7.58%	11.15%	9.19%	12.80%	8.42%	12.14%
Mixed Paper	19.76%	12.31%	18.23%	13.13%	20.17%	9.73%
Plastic Bottles - PETE	3.13%	3.58%	2.44%	3.05%	2.71%	3.21%
HDPE Natural	1.34%	0.90%	1.05%	1.08%	1.00%	0.62%
HDPE Color	1.11%	0.64%	0.87%	0.91%	0.83%	0.75%
Mixed Plastics 3-7	3.17%	2.53%	3.38%	2.02%	3.73%	1.85%
UBC (Used Beverage Cans)	1.32%	1.45%	1.09%	0.98%	1.21%	1.33%
Tin Cans	2.04%	2.28%	1.66%	2.17%	1.94%	1.86%
Scrap Metal	0.69%	0.35%	0.55%	0.43%	0.89%	0.72%
Glass	30.61%	26.59%	26.89%	27.66%	27.04%	27.99%
Residual - trash	15.45%	10.33%	12.11%	10.76%	15.92%	13.83%
Other	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Single Stream Recycling Statistical Report - August 14, 2013 ZWAC Meeting

FY 2012-13: October, 2012 through June, 2013

Texas Disposal Systems (TDS) and Balcones Resources, Inc. (BRI)





Austin Resource Recovery Curbside Collection and HHW Operations

				LAST FISCAL YEAR			CURRENT FISCAL YEAR			
		FY 2012	FY 2012 *Goal*	May 2012	Jun 2012	FY12 YTD (Oct '11 - Jun '12)	May 2013	Jun 2013	FY13 YTD (Oct '12 - Jun '13)	FY 2013 *Goal*
Tons Disposed	Tons of curbside Garbage	129,653	123,000	11,120	10,289	98,563	10,445	9,804	93,066	127,000
	Tons of Curbside Bulk Disposed	7,611	7,500	485	877	5,593	1,107	822	5,613	6,600
	HHW Operations Tons Disposed	434	400	38	57	335	39	32	287	400
	Total Disposed Tons Collected Curbside and from HHW Operations	**137,698**	**130,900**	**11,643**	**11,223**	**104,491**	**11,591**	**10,658**	**98,966**	**134,000**
Tons Diverted	Tons of curbside recycling	54,009	60,000	4,767	4,350	41,054	4,789	4,129	40,291	63,000
	HHW Operations Tons recycled/reused	208	150	22	24	155	23	28	182	150
	Tons of Curbside Yard Trimmings	21,712	25,000	1,954	1,259	18,106	2,345	1,631	22,242	27,000
	Tons of Curbside Bulk Recycled	233	200	11	19	188	26	16	132	800
	Tons of Curbside Brush Collected	7,720	7,500	880	771	5,349	679	505	5,545	6,400
	Total Diverted Tons Collected Curbside and from HHW Operations	**83,882**	**92,850**	**7,634**	**6,423**	**64,852**	**7,862**	**6,309**	**68,392**	**97,350**
	Total Tons Collected Curbside and from HHW Operations	**221,580**	**223,750**	**19,277**	**17,646**	**169,343**	**19,453**	**16,967**	**167,358**	**231,350**
	Percent of Waste Stream Diverted by Curbside and HHW Operations	**37.86%**	**41.50%**	**39.60%**	**36.40%**	**38.30%**	**40.42%**	**37.18%**	**40.87%**	**42.08%**
	Pounds of Garbage collected per customer per pickup	**27.05**	**25.06**	**27.81**	**25.65**	**n/a**	**25.74**	**23.92**	**n/a**	**26.03**
	Number of Garbage customers	184,316	188,807	184,720	184,862	n/a	187,444	188,914	n/a	187,676
	Pounds of Recycled materials collected per customer per pickup (every other week)	**22.71**	**24.44**	**24.02**	**21.85**	**n/a**	**23.79**	**20.30**	**n/a**	**25.82**
	Pounds of Yard Trimmings collected per customer per week	**4.56**	**5.09**	**4.92**	**3.16**	**n/a**	**5.82**	**4.01**	**n/a**	**5.53**
	Number of Recycling and Yard Trimmings customers	182,971	188,807	183,358	183,488	n/a	185,989	187,461	n/a	187,676

Austin Resource Recovery Curbside Collection and HHW Operations