



**SOLID WASTE ADVISORY COMMISSION  
JULY 13, 2011, 6:30 P.M.  
CITY HALL, COUNCIL CHAMBERS  
301 WEST 2<sup>ND</sup> STREET  
AUSTIN, TEXAS 78701**

**CURRENT COMMISSION MEMBERS:**

Gerry Acuna, Chair  
Bob Schafer

Rick Cofer, Co-Chair  
Maydelle Fason

Fayez Kazi  
Rahm McDaniel

Brent Perdue

**AGENDA**

**CALL TO ORDER**

**1. CITIZEN COMMUNICATION: GENERAL**

The first four speakers signed up prior to the meeting being called to order will each be allowed a three-minute allotment to address their concerns regarding items not posted on the agenda.

**2. APPROVAL OF JUNE MINUTES**

**3. STAFF BRIEFINGS**

- a. Discussion - Master Plan Update
- b. Discussion - Hauler License Fee Update
- c. Discussion - Emerging Conversion Technologies
- d. Discussion - Director's Report

Long Term MRF, Oak Hill Fire Clean-up, Brownfield Redevelopment Program, Universal Recycling Ordinance, Take your Kids to Work Day, Employee Recognition, Performance Measures, Quarterly Recycling Composition Study

**4. FUTURE AGENDA ITEMS**

**ADJOURNMENT**

The City of Austin is committed to compliance with the American with Disabilities Act. Reasonable modifications and equal access to communications will be provided upon request. Meeting locations are planned with wheelchair access. If requiring Sign Language Interpreters or alternative formats, please give notice at least 4 days before the meeting date. Please call Gretchen Kingham at Solid Waste Services Department, at (512) 974-1987, for additional information; TTY users route through Relay Texas at 711.

For more information on the Solid Waste Advisory Commission, please contact Gretchen Kingham at (512) 974-1987.

## **SOLID WASTE ADVISORY COMMISSION MEETING MINUTES 06/08/2011**



Solid Waste Advisory Commission  
Minutes

Regular Meeting  
8 June, 2011

The Solid Waste Advisory Commission convened in a regular meeting on 8 June, 2011 at 301 West 2<sup>nd</sup> Street, Council Chambers Room in Austin, Texas.

Chair Gerry Acuna called the Commission Meeting to order at 6:30 p.m.

Board Members in Attendance:

Gerry Acuna, Rick Cofer, Maydelle Fason, Fayez Kazi, and Rahm McDaniel

Staff in Attendance:

Bob Gedert, Tammie Williamson, Gabriella Powers, Jessica King, Donald Hardee, Richard McHale, Roshanda Smiley, Keith Murray, Sue Cooper, Cindy Moreno, Ron Romero, Robert Rowan, Cherilyn Wadley, Jessica Edwards, Vidal Maldonado, Dan Cardenas, Sharon Callis, Gretchen Kingham and Annette Moreno

### **1. CITIZEN COMMUNICATION**

Lee Kuhn – Representative with Republic Services invited the community to an open house on June 11, 2011 at their Sunset Farms landfill.

Robin Schneider – Texas Campaign for the environment. Ms. Schneider reported that the Texas legislature passed the Television Recycle Take back Bill and they are optimistic that the bill will receive the Governors signature. The Texas Legislature did not support the efforts of retail chains and the Chemical Council to prevent Cities like Austin from taking comprehensive action against Simple Use bags, mainly plastic bags.

### **2. APPROVAL OF MINUTES**

Minutes for the regular meeting of 05/11/2011 were approved on a Commissioner Rick Cofer motion, Commissioner Fayez Kazi second on a 4-0-1 vote. Commissioner Rahm McDaniel abstained and Commissioners Bob Schafer and Brent Perdue were absent from the meeting.

### **3. NEW BUSINESS**

A motion for Fayez Kazi to sit as an alternate on the Universal Recycling Ordinance Committee was approved on a Commissioner Rahm McDaniel motion, Commissioner Maydelle Fason second on a 5-0-0 vote. Commissioners Bob Schafer and Brent Perdue were absent from the meeting.

### **4. STAFF BRIEFINGS**

- a. A motion to authorize award and execution of a 36-month requirements service contract with MAGNA-FLOW ENVIRONMENTAL, INC., Austin, Texas, for grit trap-septic pumping, hauling and disposal services for the Solid Waste Services Department in an amount not to exceed \$198,135 with three 12-month extension options in an amount not to exceed \$66,045 per extension option, for a total contract

amount not to exceed \$396,270 was approved on a Commissioner Rahm McDaniel motion, Commissioner Maydelle Fason second on a 5-0-0 vote. Commissioners Bob Schafer and Brent Perdue were absent from the meeting.

- b. A motion to authorize award and execution of a 36-month requirements supply contract with SAFETY SHOE DISTRIBUTORS, Houston, TX, for safety shoes and boots for the Solid Waste Services Department in an amount not to exceed \$149,724.88 with three 12-month extension options in an amount not to exceed \$74,862.44 per extension option, for a total contract amount not to exceed \$374,312.20 was approved on a Commissioner Rahm McDaniel motion, Commissioner Maydelle Fason second on a 5-0-0 vote. Commissioners Bob Schafer and Brent Perdue were absent from the meeting.
- c. Hauler License Fee Update – Solid Waste Services (SWS) Director Bob Gedert gave a brief update and requested to have the topic differed until the July meeting. Commission approved deferring the item until July.
- d. Event Recycling Program– SWS Strategic Initiatives manager, Jessica King, gave a presentation on the Event Recycling Program and answered questions.
- e. Director's Report – SWS Director Bob Gedert gave a report on the following items: Dare-to-Go-Zero, Department Re-Branding, Universal Recycling Ordinance, Juneteenth, Blues on the Green, Event Recycling, Employee Recognition and Awards, SWS New Hires and Promotion, Performance Measures and Single Stream Statistical Report
- f. Solid Waste Services Department Budget - SWS Director Bob Gedert gave a presentation on the FY 2012 Proposed SWS Budget.
- g. Code Compliance Department Budget - Dan Cardenas gave a presentation on the FY 2012 Proposed Code Compliance Budget.  
Citizen Scott Johnson, citizen of Austin, was allowed to speak on this item. Mr. Johnson was glad to hear about the Event Recycling Rebate and that Solid Waste Services was a recipient of an Environment Awareness Award. Would like to see Code Compliance continue to grow in their professionalism and reputation by continuing to be aware of retaliation complaints filed by citizens.

#### **5. FUTURE AGENDA ITEMS**

Hauler license fee, waste to energy technologies (broad overview of what waste to energy or conversion means, what are the modern developments in the various technologies), master plan update, SWS environmental awareness award, event recycling, briefing from Code Compliance, public hearing on Code Compliance, , minutes from city council that are related to Solid Waste (added to SWAC packet), plastic bags.

#### **ADJOURNMENT**

Chair Gerry Acuna adjourned the meeting at 8:30 p.m. without objection.

## Disposal Management

In 2009, the Austin City Council endorsed Zero Waste as a significant goal for the City and adopted the Zero Waste Strategic Plan.

In embracing Zero Waste, disposing of “waste” is not inevitable. The term “Zero Waste” means reducing the generation of discarded materials at the source as much as possible, and maximizing diversion methods of wastes generated to avoid landfills and incinerators. The overall goal is to strive for zero waste that is burned or buried – that all materials have a secondary life.

The Austin City Council has established three major benchmark goals for achieving Zero Waste:

- Reducing by 20% the per capita solid waste disposed to landfills by 2012,
- Diverting 75% of solid waste from landfills and incinerators by 2020, and
- Diverting 90% of solid waste from landfills and incinerators by 2040.

Conversely, that implies disposal management needs for the foreseeable future. As the City reaches 75% diversion in 2020, there will be 25% waste disposal activity. Although landfill disposal will aggressively decrease as new diversion programs are deployed, there is still a need to plan for the community’s disposal needs of non-reused, non-recycled and non-composted material.

The City, preparing for the closure of the FM812 City-owned Landfill, foresaw the need to contract for the long-term disposal needs of city residents. The Department committed to a thirty-year disposal contract with Texas Disposal Systems, with a contractual term from May 2000 through May 2030. As the Department deploys new diversion programs to meet the Zero Waste goals of the City, a declining amount of waste is expected to be landfilled annually.

## Disposal Carbon Footprint

As the City is committed toward decreasing its carbon footprint, the Department adopted a Climate Protection Plan in 2009. It is estimated that 90% of the Department’s calculated carbon footprint is caused directly through the collection and landfilling of solid waste – regardless of who owns the landfill. The advancement of recycling and composting diversion will reduce landfilling needs, however the continued practice of landfilling discards should be periodically challenged and alternatives should be researched. “Zero Waste” means reducing disposal of discarded materials at landfills and incinerators. Landfilling is counter-productive to the goals of Zero Waste.

## Alternative Disposal Options – False Promises

A new generation of high-temperature thermal combustion processing technologies that would consume mixed municipal solid waste is being marketed to local jurisdictions as “zero waste” alternatives to landfill disposal, and purport to replace fossil fuels with alternative, “sustainable” fuels made from waste. These waste-based energy technologies are being promoted with the false title of “Emerging Conversion Technologies”.

These thermal combustion processing technologies are at the bottom of the *Highest and Best Use Hierarchy* (see chart attached), and are fundamentally contrary to the basic tenants of Zero Waste systems. The overall goal of the City is to strive for zero waste that is burned or buried. These technologies institutionalize waste, by making waste a "commodity" feedstock for the energy production industry. By contrast, waste reduction, traditional recycling and composting are producing known, current, quantifiable net energy savings and reduction in greenhouse gasses, at significantly lower cost and with greater local job creation.

While these waste-to-energy combustion technologies may appeal to the goals and values of some communities, they distract communities from progressing toward true sustainability. "Clean Energy" should not involve a form of energy production from waste that has a greater impact on climate change through greenhouse gas emissions than traditional landfilling. The Department rejects all such claims of clean energy production, unless the technology can provide direct evidence it has less impact on the environment than traditional landfilling – evidence not proven to date.

The City of Austin commits to the focused journey of zero waste – toward the day when no waste is landfilled or combusted. This commitment includes the rejection of combustion technologies for recyclables, compostables, and waste disposal.

## Climate Impacts of Waste Disposal Technologies

It is the City of Austin's goal to pursue sustainable practices and reduce the effects of climate change. The Department manages its disposal stream through traditional landfilling. As landfills are a major source of greenhouse gases (particularly methane), it is in the best interest of the Department to explore alternative measures of disposal that reduce its impact on climate change.

Neither landfills nor combustion incinerators are an appropriate response to the challenge of implementing Zero Waste strategies. As the Department explores alternative disposal technologies, oxygen-fed combustion is not an option. Instead, the principles of Zero Waste require the reduction of greenhouse gas emissions as well as reducing other environmental impacts.

The Department is a participant in a disposal technology life-cycle analysis (LCA) study through the Department of Civil Engineering, Center for Sustainable Infrastructure Systems at the University of Colorado Denver. This study will provide an environmental and economic comparison of conventional landfilling with alternative energy conversion technologies. The major measuring stick is greenhouse gas reductions as compared to traditional landfilling. The study will also offer additional means to measure environmental impacts, through a systems analysis of each disposal method.

## Alternative Disposal Options – Emerging Technologies

The term "alternative disposal technology" is all-inclusive of numerous processes. A subset of these processing facility types is called "conversion technology", a term used to describe new and emerging non-combustion thermal, chemical, and biological technologies.

As the University of Colorado life-cycle analysis might yield an alternative disposal technology that has greenhouse gas reductions as compared to traditional landfilling, the Department will research the need and potential for diversion from traditional landfilling. The study will also offer additional means to measure environmental impacts, through a systems analysis of each disposal method. Specific examples of technologies that might meet the greenhouse gas reduction requirement include thermal conversion and biochemical conversion processes.

### **Thermal Conversion - Direct Combustion**

Direct combustion (also referred to as waste-to-energy) is the complete oxidation of a fuel at high temperatures under controlled conditions yielding substantial net energy release. Temperatures in the combustion zone of the units are generally in the range of 1500° to 3000°F. Actual temperatures depend upon the type of fuel used, stoichiometric conditions (i.e., ratio of air to fuel), heat losses, and design of the combustion unit. The direct combustion process results in the production of hot gases (CO<sub>2</sub>, water vapor, and some products of incomplete combustion) from which heat is recovered in the form of steam and production of a solid residue (ash).

In most modern MSW-fueled direct combustion systems, the heat energy of the combustion gases is recovered in a steam boiler; energy in the steam is then used for heating, producing electricity using a turbine generator, or both.

The City of Austin will not consider any direct thermal combustion technologies, as the principle goal of Zero Waste is to divert material away from burying (landfilling) and burning (combustion).

### **Thermal Conversion - Gasification**

Gasification is the process whereby solid organic matter is converted under controlled conditions of partial oxidation into fuel gases. Feedstocks appropriate for gasification include coal, wood, and organic materials in MSW. Partial oxidation is carried out by using less air than required for complete combustion of the fuel (i.e., sub-stoichiometric air), or by indirectly heating the organic matter. Temperatures range from 1400° to 3000°F. The gas that is produced is known as synthesis gas, syngas, or producer gas. Syngas consists primarily of carbon monoxide, hydrogen, methane, and other hydrocarbons, as well as CO<sub>2</sub> and N<sub>2</sub> in some gasification processes. Gasification processes may also result in the production of liquids and solids as byproducts.

The gasification process can theoretically be designed to optimize the production of gases or liquids. Syngas can be used as fuel in boilers or, if cleaned up, in internal combustion units. Furthermore, gasification products can theoretically be used to produce chemicals such as methanol and liquid fuels.

Thermal gasification of MSW may be considered by the Department in the future, only if it is economical, and the resulting greenhouse gases are reduced from the baseline per ton comparison to landfilling. If gasification meets these environmental standards, the Department could power its collection vehicles with liquid fuels generated from this process, creating a closed loop to further reduce greenhouse gas generation.



### **Thermal Conversion - Plasma Arc Gasification**

Plasma arc gasification is new to the field of MSW processing as a form of thermal gasification. The technology uses an electrical arc process to generate extremely high temperatures (9000° to 18000°F.) to decompose the waste and convert it to a very high temperature gas that is subsequently converted to heat and electrical energy using conventional energy conversion systems.

Through plasma arc gasification, the organic materials in the waste are broken down into basic compounds, while the inorganic materials form a liquid slag. The syngas produced can be combusted and the heat recovered in a waste heat boiler. After conditioning, the syngas is combusted in an engine or gas turbine producing electricity. The remaining ash material forms a brittle slag that, when cooled, is an inert (non-hazardous) granular material that may have use as a construction aggregate or road base.

Plasma arc gasification of MSW may be considered by the Department in the future, only if it is economical, and the resulting greenhouse gases are reduced from the baseline comparison to landfilling. If plasma-arc gasification meets these environmental standards, the Department could utilize the generated electricity to power the proposed Eco-Industrial Park at the FM 812 Landfill.

### **Thermal Conversion - Pyrolysis**

Pyrolysis is a process whereby organic matter is converted to gaseous, liquid, and solid fuels under high temperatures (700° to 1500°F) in the absence of oxygen. Feedstocks appropriate for pyrolysis include coal, wood, and organic materials in MSW. Pyrolysis is similar to the gasification process, but pyrolysis generally occurs at lower temperatures due to the lesser availability of oxygen. Similar to the case of thermal gasification, the pyrolysis process can be designed to optimize the production of gases or liquids. Syngas can be used as fuel in boilers, or in internal combustion units or gas turbines, if the gas is adequately cleaned. The liquid byproducts generated during the pyrolysis process, known as pyrolytic oils, can be used directly in boilers, or they can be refined for other uses such as in the manufacturing of lubricating oils and chemicals. Char is also produced as a result of pyrolysis and would require further processing to meet specifications for marketable commodities.

Pyrolysis of MSW may be considered by the Department in the future, only if it is economical, and the resulting greenhouse gases are reduced from the baseline comparison to landfilling. If pyrolysis meets these environmental standards, the Department could utilize the generated electricity to power the proposed Eco-Industrial Park at the FM 812 Landfill.

### **Thermal Conversion - Thermal and Catalytic Depolymerization**

The depolymerization, or cracking, process theoretically converts polymers in plastic and other synthetic-fiber compounds of the waste stream into products such as diesel and gasoline. Typical feedstocks mentioned for catalytic depolymerization are waste oils, grease, and offal (i.e., processed animal soft tissue). Pressure and heat are used to decompose long chain polymers composed of hydrogen, oxygen, and carbon into short chains of petroleum hydrocarbons. This process is somewhat similar to that used at an oil refinery to convert crude oil into usable products.

There are two depolymerization methods that can be used to convert organic materials into fuel: thermal and catalytic. In the thermal depolymerization process, high temperatures (temperature ranges from 1000° to 1400°F) and high pressures are used to crack the large hydrocarbon molecules. The catalytic depolymerization process uses lower temperatures (500° to 700°F) and lower pressures than in the case of thermal depolymerization

Depolymerization of MSW may be considered by the Department in the future, only if it is economical, and the resulting greenhouse gases are reduced from the baseline per ton comparison to landfilling. If Depolymerization meets these environmental standards, the Department could power its vehicles with liquid fuels generated from this process, creating a closed loop to further reduce greenhouse gas generation.

### **Biochemical Conversion - Anaerobic Digestion**

The typical anaerobic digestion process is one in which the organic matter found in the waste stream is converted in an aqueous environment in the absence of oxygen into a combustible gas. Potential waste-derived organic feedstocks are MSW-derived organics, wastewater treatment plant biosolids, manure, and food waste. Anaerobic digestion can take place in one or two phases. Typically, anaerobic digestion is a two-phase process known as the “acid phase” and the “methane-producing phase.” The end products of anaerobic digestion are: biogas, compost, and a solid or liquid residue. The biogas consists primarily of methane (60% to 70% by volume), carbon dioxide (29% to 39%), and trace amounts of hydrogen, hydrogen sulfide, and other gases.

Anaerobic digestion may be considered as the Department explores the delivery of food scrap discards to the Hornsby Bend Composting Facility. Direct composting of food waste is being explored, as a higher end-use than anaerobic digestion.

### **Chemical Conversion - Hydrolysis**

Hydrolysis is a chemical reaction in which organic matter is converted to glucose or other simple sugars that can then be fermented or digested to produce other products or chemicals. Some of the products are conventional fuels (e.g., ethanol), which can be burned in energy conversion devices such as heaters and engines. Materials appropriate for chemical hydrolysis include wood and organic materials derived from MSW. In processes used to chemically hydrolyze MSW, an acid or enzyme is employed to break down the complex structures of the cellulosic materials contained in MSW, (e.g., paper, food waste, and yard waste) into simpler compounds (i.e., primarily sugars). Microorganisms can then easily ferment the sugars under appropriately controlled conditions into ethanol, or convert them in an anaerobic digestion system into methane-rich biogas.

Hydrolysis of MSW may be considered by the Department in the future, only if it is economical, and the resulting greenhouse gases are reduced from the baseline per ton comparison to landfilling. Hydrolysis is unlikely to be endorsed by the Department, as there are higher end-uses of paper, food scrap, and yard trimmings.



# ZERO WASTE HIGHEST AND BEST USE HIERARCHY

*Highest Use*

## **Redesign Manufacturing & Supply Chain**

- Mandate Extended Producer Responsibility
- Produce durable, reusable, recyclable, and recycled-content products
- Use environmentally sustainable feedstocks & materials
- Design for repair, reconditioning, disassembly, deconstruction and recycling
- Make brand owners/first importers responsible to take back products & packaging

## **Reduce/Refuse/Return**

- Reduce Toxicity
- Reduce toxic materials in products
- Replace toxic materials in products with less toxic or non-toxic alternatives
- Reduce Consumption
- Purchase and use less
- Apply Environmentally Preferable Purchasing standards to purchasing
- Reduce Packaging
- Purchase products with less packaging
- Incentive durable, reusable packaging

## **Reuse/Preserve Form & Function**

- Repair and recondition products
- Deconstruct and salvage buildings and building products
- Support thrift stores and charity collection

## **Recycle/Compost/Digestion**

- Recover & return materials to economic mainstream for remanufacture to like-value products
- Recover & return materials to economic mainstream for composting to value-added soil amendment products
- Ambient temperature (<200 degrees) processing of organic materials for recovery of fuels and energy, with composting of residue

## **Down Cycle**

- Recover & return materials to economic mainstream for remanufacture to non- or marginally-recyclable products, such as office paper to tissue paper, or soda bottles to toys or clothing

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## **Waste-Based Energy**

- Biological energy recovery technologies, including anaerobic digestion
- Thermal energy recovery technologies including gasification, plasma arc, pyrolysis

## **Bury/Incinerate**

- Bioreactor landfilling, when design incorporates sufficient safety & environmental protections
- "Beneficial" landfill use, such as alternative daily cover or landfill construction
- Traditional landfilling

*Lowest Use*



**To:** Solid Waste Advisory Commission

**From:** Bob Gedert, Director, Solid Waste Services Department

**Date:** July 13, 2011

**Subject:** Director's Report

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#### **Long Term MRF**

The City signed the Single Stream Recycling Processing Agreement with Balcones on April 27th. An outstanding issue on that contract was the need to assign a transition site in the event construction was delayed and Balcones could not take delivery in their new facility by Oct 1st. Council requested that a new transition site assignment be presented for approval on June 23rd. I presented the option of utilizing the Todd Lane facility as a temporary transition site. Council opted to defer the decision indefinitely. I promised Council I would provide an update in April as to the need or lack of need to assign a transition site. Balcones has acquired the land and is on schedule for operational status by July 31st.

The City continues to negotiate with TDS on contract language, as it passes between the attorneys. The agreement has not materially changed since Council approval, but there was inconsistent and confusing language that needed cleanup. At the writing of this report, I have been assured that the contract will be ready to sign in next few days. I will provide an update at the July 13th SWAC meeting.

The long term recycling agreements with Balcones and with TDS begins Oct 1, 2012.

The very long multi-year journey toward securing processing capacity for the single-stream recycling program has finally been resolved!

#### **Oak Hill Fire Clean-up**

A brush fire swept through the Oak Hill area on April 17<sup>th</sup> affecting more than 100 homes. In the last three months, Solid Waste Services has provided extra bulk and trash service as resident's cleaned debris from the fire disaster. SWS staff collected 72 extra set-outs for a total of 24,760 lbs (12.38tons). This experience has highlighted the need for advance disaster relief planning in waste collection, in collaboration with Austin Fire Department.

#### **Brownfield Redevelopment Program**

The Brownfield program has moved from Watershed Protection to Solid Waste Service. The goal of this move is to revitalize the program and encourage environmental remediation and economic redevelopment on sites around the city. Often there is a stigma on a property classified as a Brownfield. Staff will work closely with the Economic Growth and Redevelopment Office to market the reuse of remediated properties. Due to the nature of the redevelopment projects, many of the cases will be sent to the Environmental Board for review.

### Universal Recycling Ordinance

**Phase 1.** The most recent URO Phase 1 Stakeholder meeting was on Tuesday, June 28<sup>th</sup>. Meetings occur every 2<sup>nd</sup> and 4<sup>th</sup> Tuesday of the month. The next meeting, scheduled on July 26<sup>th</sup>, will cover service provider registration process and hauler data requirements. All meetings will be held in the Rutherford Lane Campus training room at 1520 Rutherford Lane.

**Phase 2.** The next meeting is scheduled for Tuesday July 19<sup>th</sup> at 2:30pm in City Hall, located at 301 W. 2<sup>nd</sup> Street. The planned discussion will involve Hotel/Motel recycling and organics collection challenges.

### Take Your Kids to Work Day

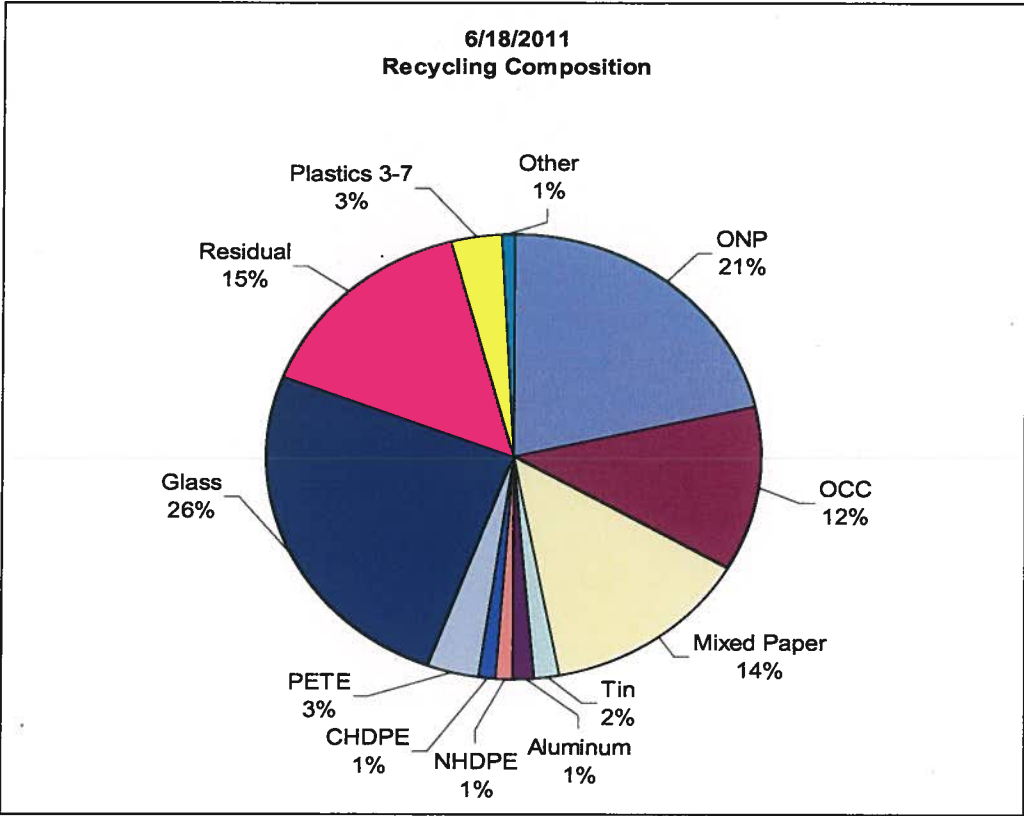
The City sponsors an annual Take Your Kid to Work day, so that parents can showcase their daily work to their children. SWS, as a family friendly employer, encouraged the staff to bring in their children for a day of fun activities and tour of our facilities. More than 50 kids were entertained and presented with recycling, composting and HHW diversion information, and a view of their parent's workplace. The event was very well planned by staff and the kids had a fun day.

### Employee Recognition

**Marcus Pryor** found an iPhone on the route on 6/03/11 and brought it in to the office. **Victoria Sanchez** then took it to the AT&T store so they could return it to the owner. We appreciate the honesty and extra effort of these two employees toward finding the owner of the found phone.

### Quarterly Recycling Composition Study

Material Composition Percentages		
Material		
	2/19/2011	6/18/2011
ONP	25.89%	21.26%
OCC	13.99%	12.01%
Mixed Paper	14.34%	13.72%
Tin	1.81%	1.65%
Aluminum	0.95%	1.39%
NHDPE	1.16%	1.12%
CHDPE	1.00%	1.07%
PETE	3.30%	3.36%
Glass	26.88%	25.36%
Residual	8.26%	14.86%
Plastics 3-7	1.83%	3.46%
Other	0.59%	0.74%
	100.00%	100.00%



**Performance Measures**

See attachments for detailed Performance Measures.

## Single Stream Recycling Statistical Report as of May 2011

Contractor Payments					
Month	Tons Delivered	Revenue	Processing Cost	Net Amount Due/(Owed)	Landfill Cost Avoidance (\$19.94/Ton)
October-10	4,016.67	\$310,896	\$321,334	(\$10,437)	\$80,092
November-10	4,389.46	\$365,461	\$351,156	\$14,305	\$87,526
December-10	4,972.47	\$450,396	\$397,798	\$52,598	\$99,151
January-11	4,575.35	\$451,982	\$366,028	\$85,954	\$91,232
February-11	3,909.79	\$403,338	\$312,783	\$90,555	\$77,961
March-11	4,531.25	\$488,360	\$362,500	\$125,860	\$90,353
April-11	4,202.05	\$452,813	\$336,164	\$116,649	\$83,789
May-11	4,385.61	\$461,493	\$350,849	\$110,645	\$87,449
Totals	34,982.65	\$3,384,740	\$2,798,611	\$586,129	\$697,554

\* This chart does not reflect the City's transportation costs, as previously presented\*

Blended Commodity Values per Ton				
Month	Market Value/Ton	City Value/Ton (80% Market)	Processing Cost/Ton	Net Amount Due/(Owed)/Ton
October-10	\$96.75	\$77.40	\$80.00	(\$2.60)
November-10	\$104.08	\$83.26	\$80.00	\$3.26
December-10	\$113.23	\$90.58	\$80.00	\$10.58
January-11	\$123.48	\$98.79	\$80.00	\$18.79
February-11	\$128.95	\$103.16	\$80.00	\$23.16
March-11	\$134.72	\$107.78	\$80.00	\$27.78
April-11	\$134.70	\$107.76	\$80.00	\$27.76
May-11	\$131.54	\$105.23	\$80.00	\$25.23

Material Composition Percentages			
Material	Date of Waste Stream Audit		
	10/30 & 11/20/2010	2/19/2011	6/18/2011
ONP	30.34%	25.89%	21.26%
OCC	9.58%	13.99%	12.01%
Mixed Paper	12.99%	14.34%	13.72%
Tin	1.93%	1.81%	1.65%
Aluminum	1.28%	0.95%	1.39%
NHDPE	1.06%	1.16%	1.12%
CHDPE	1.09%	1.00%	1.07%
PETE	3.23%	3.30%	3.36%
Glass	28.64%	26.88%	25.36%
Residual	7.36%	8.26%	14.86%
Plastics 3-7	1.97%	1.83%	3.46%
Other	0.53%	0.59%	0.74%
	100.00%	100.00%	100.00%

For Billing Purposes

Used for Oct10  
thru Jan11

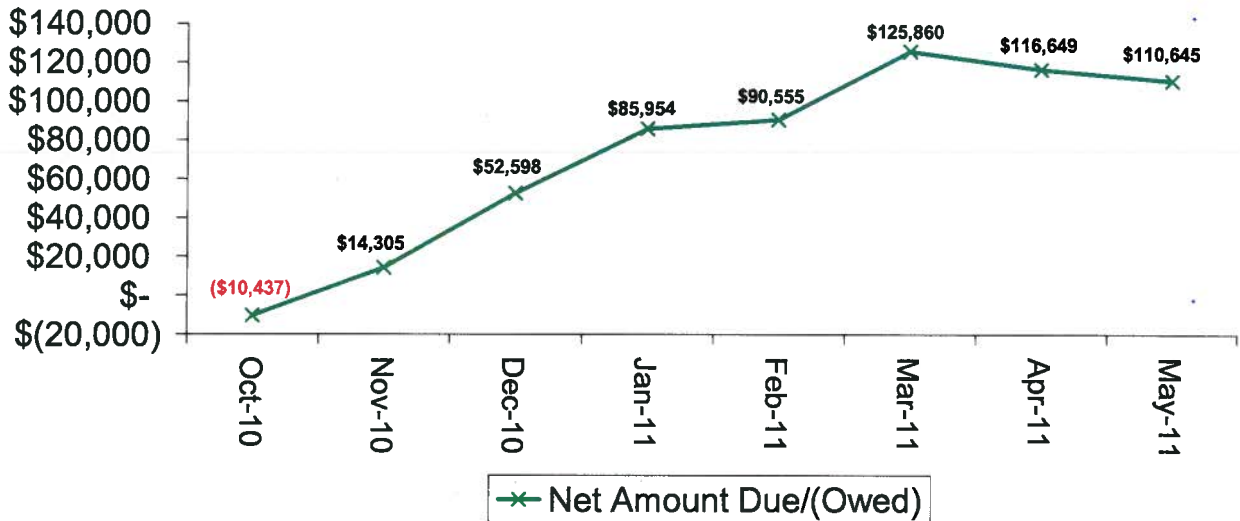
Used for Feb11  
thru May11

Used for Jun11  
thru current

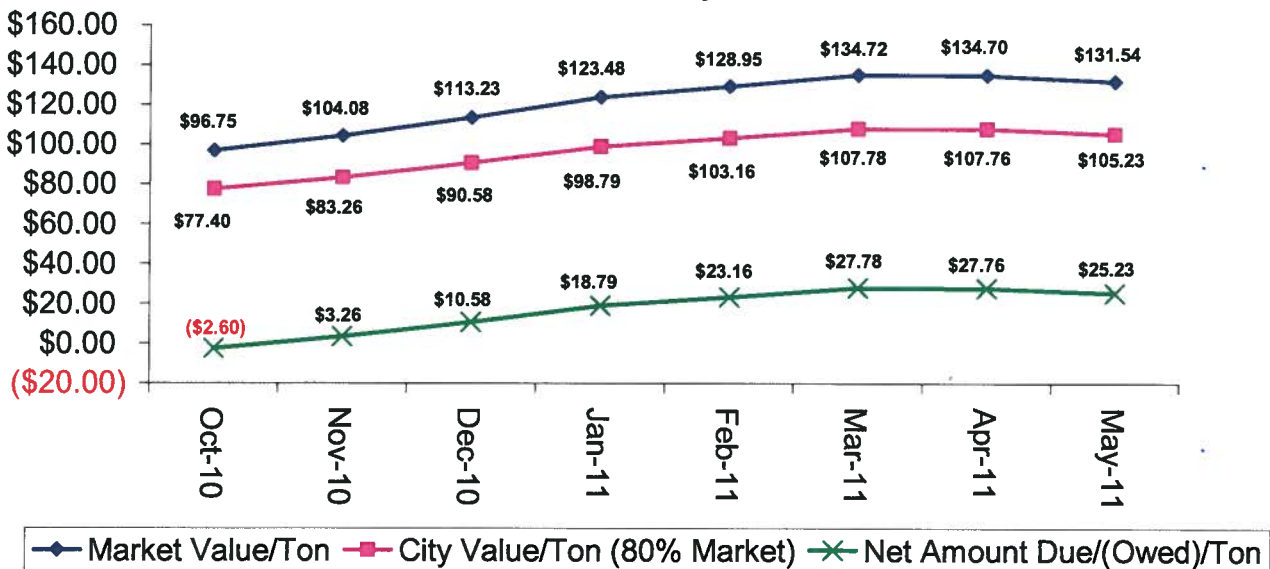
7/7/2011

**Single Stream Recycling Statistical Report  
as of May 2011**

**Single Stream Recycling  
Revenue less Processing Costs**



**Single Stream Recycling  
Blended Commodity Values/Ton**

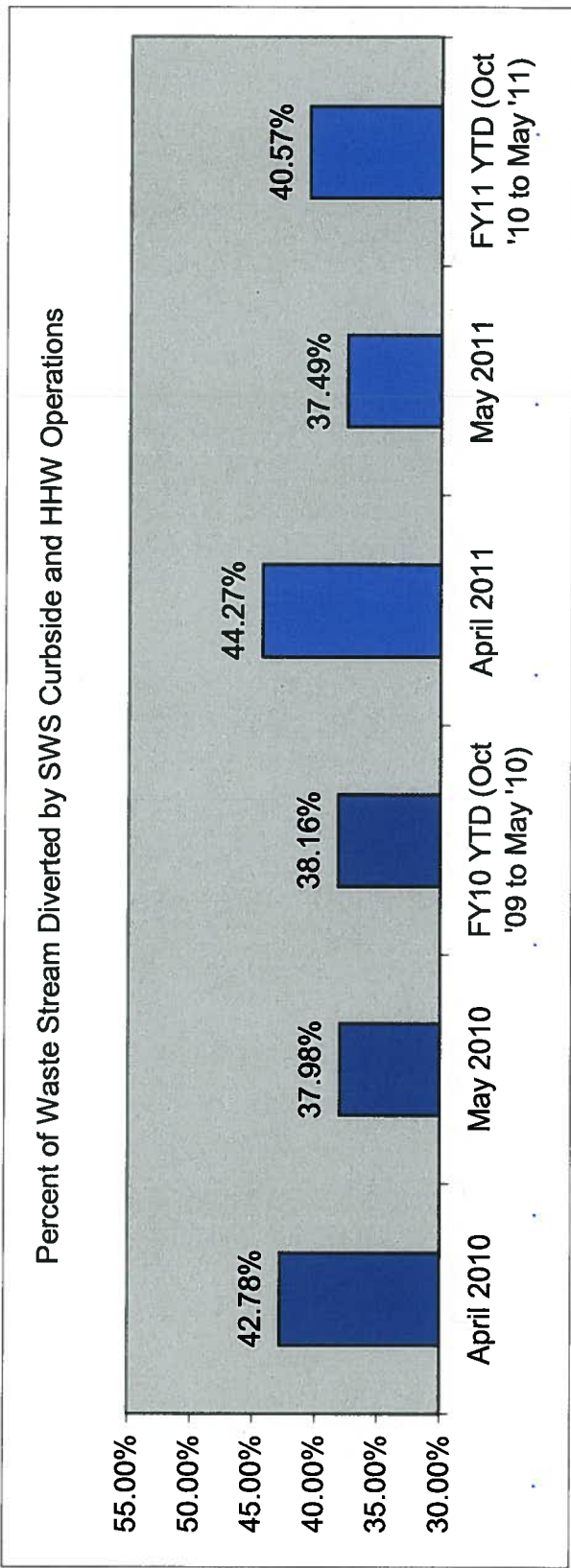
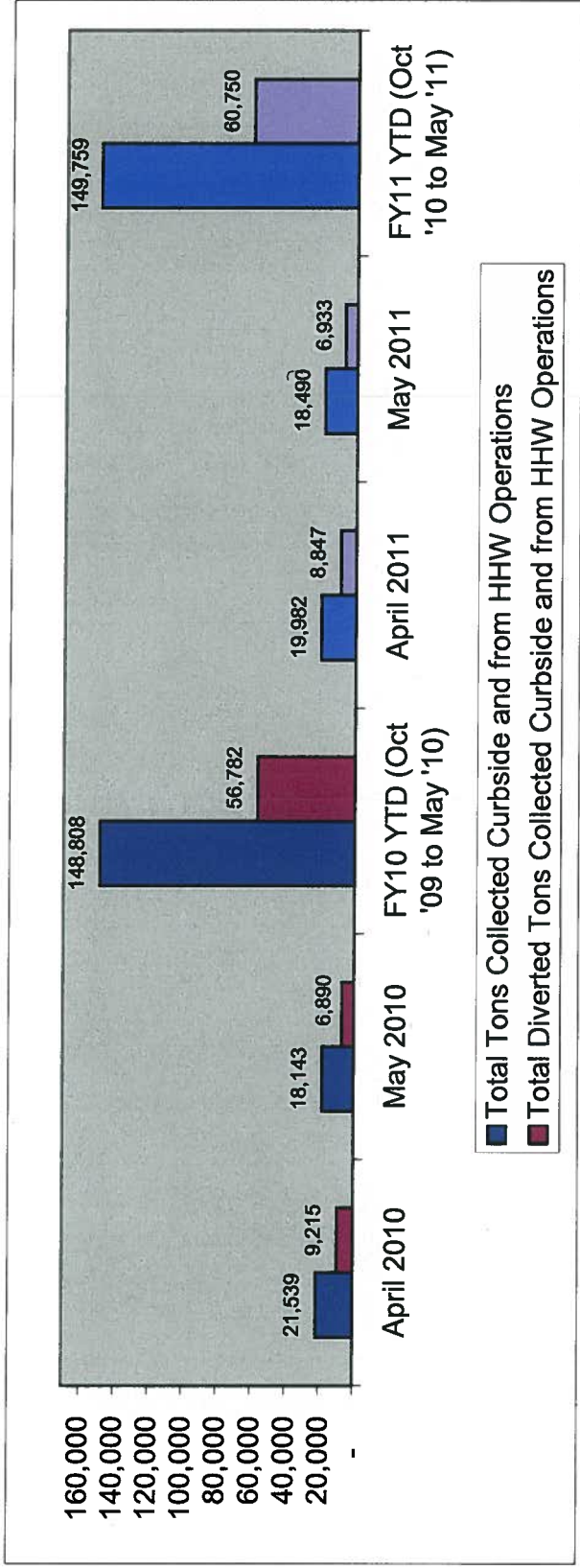




# Solid Waste Services Curbside Collection and HHW Operations

	FY 2008	FY 2009	April 2010	May 2010	FY10 YTD (Oct '09 to May '10)	FY 2010	April 2011	May 2011	FY11 YTD (Oct '10 to May '11)
<b>Tons Disposed</b>									
Tons of curbside Garbage	143,950	128,519	11,543	10,678	86,939	130,851	10,390	10,925	84,092
Tons of Curbside Bulk Disposed	7,589	8,033	751	536	4,847	7,516	700	598	4,662
HHW Operations Tons Disposed	402	341	30	39	240	390	45	34	255
<b>Total Disposed Tons Collected Curbside and from HHW Operations</b>	<b>151,941</b>	<b>136,893</b>	<b>12,324</b>	<b>11,253</b>	<b>92,026</b>	<b>138,757</b>	<b>11,135</b>	<b>11,557</b>	<b>89,009</b>
<b>Tons Diverted</b>									
Tons of curbside recycling	34,691	49,811	4,371	4,163	34,900	52,479	4,177	4,219	34,949
HHW Operations Tons recycled/reused	118	114	7	12	72	132	17	14	102
Tons of Curbside Yard Trimmings	24,027	19,497	4,214	2,035	17,166	22,456	3,962	2,030	20,612
Tons of Curbside Bulk Recycled	203	187	21	14	132	194	20	18	163
Tons of Curbside Brush Collected	7,380	7,683	602	666	4,512	7,350	671	652	4,924
<b>Total Diverted Tons Collected Curbside and from HHW Operations</b>	<b>66,419</b>	<b>77,292</b>	<b>9,215</b>	<b>6,890</b>	<b>56,782</b>	<b>82,611</b>	<b>8,847</b>	<b>6,933</b>	<b>60,750</b>
<b>Total Tons Collected Curbside and from HHW Operations</b>	<b>218,360</b>	<b>214,185</b>	<b>21,539</b>	<b>18,143</b>	<b>148,808</b>	<b>221,368</b>	<b>19,982</b>	<b>18,490</b>	<b>149,759</b>
Percent of Waste Stream Diverted by SWS Curbside and HHW Operations	30.42%	36.09%	42.78%	37.98%	38.16%	37.32%	44.27%	37.49%	40.57%
<b>Pounds of Garbage collected per customer per pickup</b>	<b>32.14</b>	<b>27.90</b>	<b>29.55</b>	<b>27.38</b>	<b>n/a</b>	<b>27.99</b>	<b>26.24</b>	<b>27.64</b>	<b>n/a</b>
Number of Garbage customers	172,287	177,156	179,985	180,119	n/a	179,788	182,437	182,601	n/a
<b>Pounds of Recycled materials collected per customer per pickup (every other Pounds of Yard Trimmings collected per customer per week</b>	<b>15.56</b>	<b>21.61</b>	<b>22.53</b>	<b>21.49</b>	<b>n/a</b>	<b>22.61</b>	<b>21.26</b>	<b>21.49</b>	<b>n/a</b>
Number of Recycling and Yard Trimmings customers	5.39	4.23	10.86	5.25	n/a	4.84	10.08	5.17	n/a
	171,446	177,267	178,783	178,925	n/a	178,574	181,121	181,350	n/a
<b>Total tons of Dead Animals Collected from COA rights-of-way and the animal shelter</b>	<b>158</b>	<b>153</b>	<b>10</b>	<b>10</b>	<b>95</b>	<b>142</b>	<b>6</b>	<b>8</b>	<b>64</b>

# Solid Waste Services Curbside Collection and HHW Operations



Solid Waste Services Fund  
Fund Summary  
Month Ended May 31, 2011

	Approved Budget	Amended Budget	May-11 w/ Encumb	Year to Date w/Encumb	Year End Estimate
BEGINNING BALANCE	15,844,235	15,844,235		20,493,983	20,493,983
REVENUE					
Residential	43,408,293	43,408,293	3,599,666	28,697,821	42,964,695
Extra Stickers and Carts	1,590,750	1,590,750	44,041	474,274	1,409,169
Commercial	2,553,098	2,553,098	207,625	1,657,916	2,486,661
Anti-Litter	22,289,929	22,289,929	1,915,443	15,222,195	22,785,018
MRF Processing Revenue	29,013	29,013	783	302,800	0
Single-Stream Revenue	5,161,194	5,161,194	0	2,503,554	5,190,711
New Services Fees	646,290	646,290	49,777	370,258	518,310
Other	724,653	724,653	82,505	622,285	769,533
Auction Sales	35,000	35,000	0	44,023	44,024
Travis County	84,000	84,000	0	0	84,000
TOTAL AVAILABLE FUNDS	76,522,220	76,522,220	5,899,840	49,895,126	76,252,121
EXPENSES					
Landfill	0	0	44,754	613,491	0
Litter Abatement	9,994,308	9,994,308	857,297	5,431,335	9,099,448
Operations Support	4,305,796	4,305,796	188,222	2,625,805	3,930,267
Pay As You Throw (PAYT)	22,255,737	22,255,737	1,622,322	13,273,698	21,209,392
Support Services	6,727,712	6,727,712	373,076	3,253,667	5,448,427
Waste Diversion	9,110,347	9,110,347	330,257	3,969,307	7,997,496
TOTAL EXPENSES	52,393,900	52,393,900	3,415,929	29,167,304	47,685,031
TRANSFERS OUT					
Sustainability Fund	760,362	760,362	63,364	506,906	760,362
GO Debt Service	9,526,194	9,526,194	0	6,787,136	9,526,194
Capital Improvement Projects Fund	380,816	380,816	31,735	253,876	380,816
Comm and Tech Mgmt. Fund	1,020,486	1,020,486	85,041	680,322	1,020,486
Trunked Radio	115,160	115,160	9,597	76,772	115,160
CTECC Support	7,690	7,690	641	5,126	7,690
Environmental Remediation	241,500	241,500	0	181,125	241,500
Code Compliance Fund	8,706,726	8,706,726	725,560	5,804,486	8,706,726
TOTAL TRANSFERS OUT	20,758,934	20,758,934	915,938	14,295,749	20,758,934
OTHER REQUIREMENTS					
Workers' Compensation	385,110	385,110	32,093	256,738	385,110
Liability Reserve Fund	205,000	205,000	17,083	136,668	205,000
Insurance - Fire/EC	21,273	21,273	0	16,108	21,273
Administrative Support-City	2,290,490	2,290,490	0	1,717,868	2,290,490
Accrued Payroll	106,000	106,000	0	0	106,000
27th Pay Period Expense	837,085	837,085	0	866,814	837,085
27th Pay Period Funding	-837,085	-837,085	0	-791,904	-837,085
Compensation Program	25,870	25,870	515	3,850	25,870
Additional Retirement Contr.	951,410	951,410	66,926	611,772	951,410
CIS Billing Support	901,494	901,494	75,125	600,996	901,494
311 System Support	3,426,433	3,426,433	285,536	2,284,289	3,426,433
Bad Debt Expense	500,000	500,000	65,838	519,537	500,000
TOTAL OTHER REQUIREMENTS	8,813,080	8,813,080	543,116	6,222,735	8,813,080
TOTAL REQUIREMENTS	81,965,914	81,965,914	4,874,982	49,685,788	77,257,045
EXCESS (DEFICIENCY) OF TOTAL AVAILABLE FUNDS OVER REQUIREMENTS	-5,443,694	-5,443,694	1,024,858	209,338	-1,004,924
ENDING BALANCE	10,400,541	10,400,541		20,703,321	19,489,059