

**PUBLIC WORKS DEPARTMENT**  
**MEMORANDUM #2010 – 51**

**DATE:** October 14, 2010  
**TO:** Honorable Mayor Joyce Downing and City Council Members  
**FROM:** William A. Simmons, City Manager *WAS*  
David H. Willett, Director of Public Works *DW*  
Norman Bell, Public Works Superintendent *NB*  
**SUBJECT:** Automated Trash Collection and Recycling – “Recycling Implementation Plan”

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**BACKGROUND**

During the spring/summer of 2010, the Solid Waste Division of the Public Works Department has successfully implemented the conversion process from semi automated to fully automated residential trash collection. City staff and residents have worked together during this transitional period and have currently achieved 99.5% compliance. The resulting benefits have been a reduction of three full time positions in the Solid Waste Division, reduced overtime, an expanded green waste recycling program and an aesthetically improved look in residential neighborhoods.

There has been a significant level of interest expressed by residents for the City to provide a curbside recycling service. Current participation rates at the two City sponsored voluntary drop-off sites produces about a 3% landfill diversion rate. It is estimated that a single-stream curbside recycling program could increase the diversion rate substantially. Estimates for first year diversion rates run about 20% with increases projected in successive years. Staff has prepared an Implementation Plan to accompany this memo.

**BUDGET/TIME IMPLICATIONS**

It is estimated that start-up costs would be \$548,000.00 with a payback period of approximately 5-1/2 years based on savings derived from landfill diversion and recycling revenue. This amount reflects the purchase of additional carts and identifying labels. No additional staff would be required to implement this program.

**RECOMMENDATION**

A service delivery business plan is attached to this memo. Staff respectfully requests City Council to authorize the implementation of the single stream curbside recycling program for early 2011 implementation.

**STAFF REFERENCE**

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# 2011 RECYCLING IMPLEMENTATION PLAN

## Public Works Department/Sanitation Division "The Plan"

October 14, 2010

### **I. Introduction/Objective Statement**

The Department of Public Works respectfully submits the 2011 Recycling Implementation Plan (The Plan) to City Council. Our objective is to design a recycling program that is operationally constrained to the current levels of manpower and equipment yet financially viable as an integral part of the enterprise.

### **II. Current Organizational Overview**

The Solid Waste Division programs include solid waste collection, bulk item collection (a.k.a. special pickups), roll-off rental service, green waste collection, and stationary recycle centers. The current programs are performed with eight (8) employees and are allocated as follows:

- (1) Foreman (admin duties, monitors crew performance, customer relations, budgeting)
- (1) Municipal Service Worker (maintain coverage per leave – vacation, illness, injury)
- (1) Municipal Service Worker (manage roll-off rentals, cart distribution and repair)
- (4-5) Municipal Service Workers (solid waste collection)

Note: (5) workers are utilized when the rear load truck is operating in place of one of the automated trucks. The automated trucks are rotated out of service to complete routine and unscheduled maintenance.

Solid waste collection is the largest program within the Division. In an effort to modernize, reduce injury, and prepare for a compatible recycling program the Division moved to the utilization of fully automated trucks. The Division kept one rear-load truck to accommodate the special pick-up program. Service levels are maintained with the staffing as described above and the following equipment – four automated trucks and one rear load truck (used mainly for special pickups and substitute for maintenance rotation). The Division sells three sizes of trash containers that are fitted for use with the automated trucks.

### **III. Status Quo Statements**

The Division's goal is to maximize operating efficiency while providing the optimum level of service for all programs. Currently our sanitation Division workers have reached a high level of efficiency performing automated solid waste collection. Therefore it is anticipated that the addition of a recycling program, as planned, will be operationally practical. As we move away from status quo, the next logical step to mitigate the escalating landfill fees – while establishing our community as a participant in environmental stewardship – is the implementation of a single-stream curbside recycling program. Our theme: Each pound diverted from the landfill equates to cost saving for the solid waste program and revenue generated from the recycled materials program.

**Staffing** – As noted earlier, the Division is comprised of eight employees. It is recommended that staffing be held at this level until which time the last remaining rear-load truck is replaced with an automated truck. Our target staff level upon implementation of The Plan, as described in section IV, is seven (7) employees. However, curbside recycling versus customer participation is unknown. Initial participation estimates are based on information from other municipalities so the early staffing projection may need adjustment to match service demand.

**Operations** – When we examine the operating efficiency of the entire Solid Waste Division, one program stands out as an anomaly – bulk item collection (or special pickups). This program does not complement the use of automated trash trucks. Currently this service is being performed with two municipal service workers using a rear-load trash truck.

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### IV. Implementation Planning

The Solid Waste Division provides service to approximately 9,400 households. The Northglenn Municipal Code, Section 16-7-8 requires customers to utilize approved trash containers at a weekly maximum volume of three containers per customer. A summer 2010 (peak season) trash survey indicated that the maximum number of carts collected was approximately 11,000 per week.

- A. *Route Analysis and Collection* – Route optimization and the elimination of 1) two stationary recycling centers, and 2) the special pickup collection.

*Note: The current number of routes is 19 (four routes Monday through Thursday, and three on Friday). To accommodate curbside recycling an additional route would be added on Friday, making 20 routes altogether. This will be looked at closely because typically in the past one of the trucks would rotate out-of-service on Friday for routine preventative maintenance.*

- B. *Inventory Management* – Customers have purchased their own carts for the past 10 years. During this time 14,000 carts have been sold. The sale of carts (as opposed to City issue) has been problematic because carts can be sold, given or otherwise transferred to different owners or addresses without City knowledge making inventory management difficult. It is anticipated that with the implementation of recycling 90% of our customers will have two carts – one for solid waste the other for recycling. A few customers will have three carts, one of which must be used for recycling.

- C. *Mandatory Recycling* – For customers that have previously purchased a cart(s), The Plan focuses mainly on a customized labeling system to identify carts by address and to identify recycling carts from trash carts. Regardless of customer owned or City issue carts, all customers will be given two labels, one of which will indentify at least one cart to be used for recycled materials. All new carts going forward will be City issue (identified by City logo). For the current single-cart customers a City issue cart will be supplied to be used exclusively for recycled materials. For the few customers that have the maximum of three carts, an additional label will be provided and at least one must be used for recycled materials. A maximum of three carts/labels allowed per ordinance.

- D. *Program Reduction* – The Plan calls for an open solicitation to provide bulk item collection (or special pickup) services, a reduction in the operational hours of the green waste recycling center and the elimination of two stationary recycle centers: City Hall and NW Open Space.

### V. Service Overview and Recycling Program Start-up Cost

*Service Overview: Beginning 2011 the Solid Waste Division proposes to provide the following services: solid waste collection, recycle collection, roll-off service, and green waste collection at the Northglenn Maintenance and Operations Facility. Solid waste and recycled materials collection will occur Monday through Friday. Green waste recycling will be available to the public on Fridays and some Saturdays. Roll-off service on an as needed basis.*

*Recycling Program Implementation Start-up Cost:*

#### A. Cost Recycling Implementation

Component	Comments	Cost
5,500 carts	recycle participation (single cart customer)	\$330,000
1,550 carts	recycle 0.5 participation (two cart customer)	\$93,000
30,000 labels	@\$2.50/label	\$75,000
Contingency	10%	\$50,000
<b>Total</b>		<b>\$548,000</b>

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### B. Solid Waste Cost Reduction vs. Recycled Materials Revenue

Solid Waste	Comments	Cost
Solid Waste 17,000 tons vs.	Landfill Tipping Fee = \$12.50 ton	\$212,500
Recycle Reduction 14,000 tons	Recycle (reduces solid waste by 20%)	\$175,000
	<b>Savings</b>	<b>\$37,500</b>
Recyclables 3,000 tons	Recycle Revenue = \$20.00 ton	\$60,000
	<b>Revenue</b>	<b>\$60,000</b>

*Cart/label investment, estimated pay back = 5.5 years (based on savings and recycled materials revenue). Charts represent simple start-up cost and do not reflect depreciation of equipment or tipping fee inflation.*

## VI. Challenges

- A. *Implementation – The following items will need to be accomplished prior to start-up of a single stream curbside recycling program:*
  1. *Carts, labels will need to be ordered, received, and delivered to customers.*
  2. *Routing changes will be determined and residents will be notified of collection procedures. Some residents may have their trash collection day shifted to a different weekday.*
  3. *A contract for a recycling vendor will need to be issued.*
  4. *A contract for bulk item collection services will need to be issued.*
  5. *Section 16-7 of the Northglenn Municipal Code will need to be amended to reflect the new recycling program and cart requirements.*
- B. *Customer Relations – Helping customers with the program transition will be a key element to a successful program:*
  1. *Prepare informational flyers explaining the recycling program, labeling system, changes to cart regulations and modifications to bulk item collection.*
  2. *Notify those customers whose trash day will change.*
  3. *Prepare informational articles for the newsletter and website.*
- C. *Operations – Personnel, Equipment*
  1. *Maximum number of carts collected per route given current levels of staffing and equipment.*
  2. *Four automated trash trucks to cover four routes every week day (20 routes total) versus preventative service/maintenance and major repair.*
  3. *Staff leave coverage*
- D. *Financial*
  1. *Sanitation Fund account for truck replacement. Automated trash truck useful life = 5 years.*
  2. *Sanitation Fund account for cart replacement. Trash/Recycle carts useful life = 10 years.*
  3. *Identify an appropriate operating fund balance to cover unplanned/emergency contingency.*

## VII. Planning/Performance Evaluation/Assessment

- A. *Performance Evaluation vs Cost of Service – The operational (staffing and equipment) cost to provide service will be assessed on a monthly basis. Start-up is estimated to begin early 2011. It is hoped that transitional adjustments will be completed and peak collection efficiencies will be reached by the middle of the second quarter of 2011 prior to seasonal volume increases. Staff will provide City Council with quarterly updates of progress including operational cost data, trash and recycling volumes, program challenges and recommended solutions.*

# **2011 RECYCLING IMPLEMENTATION PLAN**

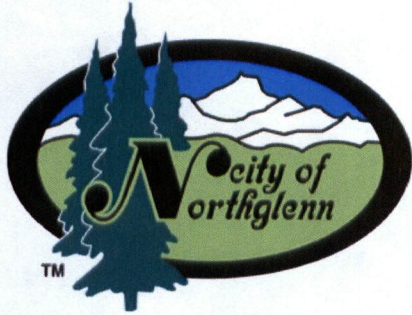
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*Public Works Department/Sanitation Division  
"The Plan"*

*Attachments:*

- A. Single Stream Recyclable Materials*
- B. Cart Distribution*
- C. Sanitation Fund Balance*

# ATTACHMENT A



## SINGLE STREAM RECYCLING

### Put Everything in One Container!

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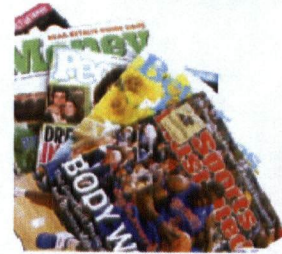
#### Acceptable Items/Artículos Reciclable:



**Flattened Cardboard**  
Cartulina Aplanada



**Office Paper**  
Papel de Oficina



**Magazines**  
Revistas



**Junk Mail**  
Desperdicio de Correo



**Phone Books**  
Directorios Telefónicos



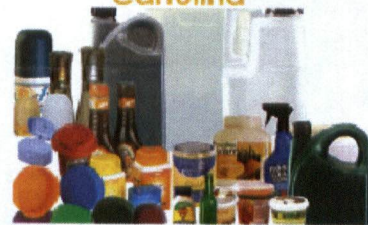
**Paperboard**  
Cartulina



**Brown Paper Bags**  
Bolsas de Papel



**Newspapers**  
Periódicos



**Plastic Containers #1-7\***  
Envases Plásticos 1-7\*



**Glass Bottles and Jars**  
Botellas de Vidrio



**Aluminum Cans & Foil, Pie Tins**  
Envases y Papel de Aluminio



**Steel Cans & Empty Aerosol Cans**  
Latas de Hierro y Envases de Aerosol Vacíos

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#### Unacceptable Items/Artículos No Reciclable:



**Plastic Bags**  
Bolsas de Plastico



**Garbage**  
Basuro



## ATTACHMENT B

### *Cart Distribution*

<i>Number of Carts</i>	<i>Households</i>	<i>Total Carts</i>
<i>1 Cart</i>	<i>5,500</i>	<i>5,500</i>
<i>2 Carts</i>	<i>3,100</i>	<i>6,200</i>
<i>3 Carts</i>	<i>800</i>	<i>2,400</i>
<b><i>TOTALS</i></b>	<b><i>9,600</i></b>	<b><i>14,100</i></b>

## ATTACHMENT C

### *Sanitation Fund Balance*

<i>As of 1/01/2010</i>	<i>Estimated 12/31/2010</i>	<i>Estimated 12/31/2011</i>
<b><i>\$1,827,062</i></b>	<b><i>1,170,968</i></b>	<b><i>1,226,646 *</i></b>

\*Estimated fund balance for 12/31/2011 is based on implementation of Recycling Plan.