



City of Richmond


Report to Committee

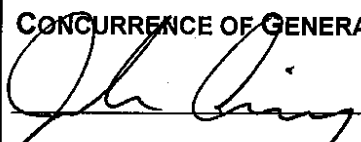
To: Public Works and Transportation Committee
From: Suzanne Bycraft
Manager, Fleet & Environmental Programs
Re: **Organics Collection Program**

Date: November 4, 2009
File: 10-6370-10-01/2009-
Vol 01

Staff Recommendation

1. That food waste organics be added to the City of Richmond's recycling program as outlined in Option 1 of the staff report from the Manager, Fleet & Environmental Programs.
2. That the additional estimated 2010 cost of \$640,000 be funded from the sanitation and recycling provision account.
3. That the annual cost be included in the 2011 base level budget submission.
4. That the General Manager, Engineering & Public Works be authorized to execute an amendment to Contract T.2988, Residential Garbage and Recycling Collection Services, effective April 1, 2010 to:
 - a. add food waste organics collection to the scope of work,
 - b. extend the term of the contract to December 31, 2014,
 - c. include an annual inflation rate of 3%,
 - d. change the collection starting time to 7:30 a.m.,
 - e. eliminate the yard waste processing components of the contract.
5. That the City of Richmond participate in the Greater Vancouver Sewerage and Drainage District service agreement for food waste organics and yard waste processing.


 Suzanne Bycraft
 Manager, Fleet & Environmental Programs
 (604-233-3338)

FOR ORIGINATING DEPARTMENT USE ONLY		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Budgets	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	 PBR: RG

REVIEWED BY TAG	YES	NO	REVIEWED BY CAO	YES	NO
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Staff Report

Origin

Food waste organics collection is a significant waste diversion action item outlined in Goal 2 of the Zero Waste Challenge, an integral component of the new draft regional solid waste management plan. The Zero Waste Challenge, which establishes a new waste diversion target of 70%, was presented to Council at their May 11, 2009 meeting. As part of that report, staff advised that specific actions would be brought forward for consideration as part of implementing various aspects of the Zero Waste Challenge. This report responds to that and presents options for adding food waste organics to the City's comprehensive recycling program.

Analysis

The City currently provides weekly collection of yard and garden trimmings from single-family homes and a limited number of townhomes. Items collected include grass clippings, hedge prunings, tree trimmings, etc., collected in clear plastic bags or secured bundles. Between 9,000-10,000 tonnes is collected annually through this program, or approximately 15% of total residential waste in Richmond. These materials are collected under contract and delivered to Fraser Richmond Biocycle, located on No. 8 Road in Richmond, for composting as a soil amendment.

Metro Vancouver entered into a contract with Fraser Richmond Biocycle in July, 2009 to accept food waste organics at a preferred rate from those member municipalities who opt into the program during 2009/2010. The contract is for a 10-year term, with two 5-year renewal options. This presents the opportunity for the City to expand its yard and garden trimmings program to include food waste organics. The additional items which could be added with food waste organics collection include:

- Fruit and vegetable trimmings
- Dairy products
- Meat, poultry, fish, bones
- Table scraps
- Bread products
- Coffee grounds, tea bags
- Paper towels, paper napkins, paper plates
- Food contaminated paper

Under the terms of the contract with Metro Vancouver, Fraser Richmond Biocycle will not accept organics in plastic bags, including any purported to be biodegradable. Only unbagged or materials in paper yard trimmings bags are accepted to minimize contamination and odour concerns, as well as for efficiency and worker health and safety purposes.

The elimination of plastic bags results in the need to change our current collection method to either resident-provided containers and paper bags or City-provided carts. Either option results in additional collection costs due to the increased collection time/lost productivity associated with handling multiple containers/heavier-type paper bags or carts vs. plastic bags. There are some

savings in per tonne composting/processing fees when plastic bags are not used, but these only minimally offset the increased collection costs. With this in mind, staff have developed 4 different collection options for Council's consideration. In each of these options, food waste organics would be mixed and collected with yard and garden trimmings using our current service provider (Sierra Waste Services). Service would be available to those residents who currently receive yard and garden trimmings curbside collection or single-family homes. Multi-family and commercial food waste organics are not targeted at this time since they are not currently included in the City's yard trimmings service program. In addition, studies have shown that contamination is beyond acceptable levels in the multi-family and commercial sectors in regard to food waste. Further review and strategy development is required before advancing food waste opportunities to these sectors.

Collection Options:

Option 1 – Food Waste Organics and Yard Trimmings Collected Weekly in Cans, Paper Bags, or Bundles

Under this option, plastic bags are eliminated. Residents would use and provide their own reusable garbage cans for organics/trimmings marked with labels made available by the City to distinguish the material as organics/yard trimmings. Alternatively, residents could use paper bags designed for yard and garden trimmings waste. Weekly collection service would be provided.

Under this option, it is estimated that an additional 1,500 tonnes of waste would be collected annually, or an additional 2.5%.

The main advantages of this option are that organics can be added to the program and plastic bags are eliminated. Disadvantages include increased costs to residents associated with providing additional containers for the organics/trimmings and/or the paper bags (\$0.89 for a paper bag compared with \$0.48 for a clear plastic bag). There is also reduced convenience for residents to use cans/paper bags vs. the current system of clear plastic bags.

The annual additional operating cost for this program is approximately \$815,000, plus one time costs of \$25,000 for labels/promotion. This cost includes additional collection vehicles, costs for processing the additional organics, and a staff resource to administer the program. Optional kitchen catchers could also be provided for an additional one time cost of \$165,000. Contract provisions would require a 2 year extension (to 2014) and 3% inflation rate.

Option 2 – Same as Option 1 with Bi-Weekly (Every Two Weeks) Collection of Garbage

Organics/trimmings collection under Option 2 is identical to Option 1. Garbage, however, would be collected every other week under Option 2 as opposed to weekly. This is expected to encourage greater organics recycling, or a total additional 1,900 tonnes annually equal to 3% diversion.

Advantages and disadvantages are similar to Option 1. Additionally, the reduced convenience for garbage collection is expected to encourage greater organics recycling. There would be additional

administration associated with addressing enquiries and communicating the bi-weekly aspect of garbage collection.

The annual additional cost for this program is approximately \$600,000, plus one time costs of \$25,000 for labels/promotion. This cost includes additional collection vehicles, costs for processing the additional organics, and two staff resource positions to administer the program. Optional kitchen catchers could also be provided for an additional one time cost of \$165,000. Contract provisions would require a 2 year extension (to 2014) and 3% inflation rate.

Option 3 – Food Waste Organics Collected in Carts (Semi-Automated) with Bi-Weekly Collection of Garbage

Under Option 3, residents are provided with a large cart to recycle their trimmings and organics. Plastic bags are not used. Paper bags could be used for any excess items that would not fit into the cart, if required. Organics/trimmings are collected weekly using semi-automated collection trucks. Garbage would be collected bi-weekly in resident-provided cans or bags.

This option is expected to generate an additional 2,500 tonnes of additional organics collected annually, or a 4% increase in waste diverted.

The advantages of this option include reduced cost to residents to provide their own containers/bags for trimmings/organics, since the City would provide the cart. It would also be more convenient to use the cart than multiple cans/bags. The cart is also on wheels for easier movement. Some disadvantages could include storage requirements for housing the carts, odour accumulation, and additional administration for new/replacement carts.

The annual additional cost for this program is approximately \$2 million, plus one time costs of approximately \$3.5 million for the carts/delivery, etc. This cost includes additional collection vehicles equipped with lifting apparatus, retrofit of existing vehicles (to incorporate lifting apparatus), costs for processing the additional organics, and two staff resource positions to administer the program. The capital cost for the carts is based on current costs, which could potentially be reduced with a large-volume purchase. Optional kitchen catchers could also be provided for an additional one time cost of \$165,000. Contract provisions would require an 8 year contract term (to 2017) and 3% inflation rate.

Option 4 - Organics and Garbage Collected in Carts (Fully Automated) with Bi-Weekly Collection of Garbage

Under Option 4, residents are provided with 1 cart for trimmings/organics and 1 cart for garbage. No additional receptacles are permitted due to the fully automated nature of the collection service. Organics and trimmings would be collected weekly, and garbage would be collected bi-weekly. This option is expected to generate an additional 2,500 tonnes of additional organics collected annually, or a 4% increase in waste diverted.

The advantages of this option include reduced costs to residents to provide their own containers/bags for trimmings/organics and garbage since the City would provide the carts for both. Carts may

be more convenient to use than multiple cans/bags. The carts are also on wheels for easier movement. Some disadvantages could include storage requirements for housing the carts, odour accumulation, and additional administration for new/replacement carts. As this option is for fully-automated collection, there is no avenue to address occasional additional volumes of garbage or trimmings/organics. To address this, the City could offer varying container sizes.

The annual additional cost for this program is approximately \$3 million, plus one time costs of approximately \$7.5 million for the carts/delivery, etc. This cost includes a new fleet of automated collection vehicles, costs for processing the additional organics, and two staff resource positions to administer the program. The capital cost for the carts is based on current costs, which could potentially be reduced with large-volume purchases. Optional kitchen catchers could also be provided for an additional one time cost of \$165,000. Contract provisions would require an 8 year contract term (to 2017) and 3% inflation rate.

Attachment 1 provides an overview of the options, including advantages/disadvantages.

Advisory Committee on the Environment Comments:

These options were discussed with the Advisory Committee on the Environment (ACE) at their October 21, 2009 meeting. ACE was supportive of eliminating plastic bags. ACE recommended Option 1, suggesting that this is a good first step toward expanding the City's program. Concerns around space to store carts and the need for a graduated approach to change were cited as reasons for supporting Option 1.

Collection starting time was also discussed with ACE. The City's solid waste and recycling service provider has requested an earlier start time to help address challenges with servicing in light of increasing density and traffic conditions. They have requested consideration to change from 8 a.m. to 7 a.m. or 7:30 a.m. as the collection starting/required set out time. ACE comments were that a 7:30 a.m. starting time is reasonable. As this will help support collection efficiency, this change is recommended.

Other Options

1. Take No Action – Incorporate Food Waste Organics into New 2013-2017 Contract

Under this option, no action would be taken to add food waste through the current contract term (December 31, 2012). Food waste organics would be incorporated into a subsequent service contract for addition to the City's collection program commencing January 1, 2013. This would allow the City to test the market for competitive bids.

Richmond's current annual contract value is approximately \$3.6 million (after recycling revenues). Two other recent Lower Mainland garbage/recycling service contracts with approximately 40% less serviceable units than Richmond were awarded at a value of approximately \$5 million annually. Based on current pricing structures, Richmond could expect an annual contract cost of \$6.5 million under a new service contract.

The addition of organics outlined under Collection Option 1 would increase Richmond's annual contract value to approximately \$4.5 million annually, or approximately \$2 million less per year than what could be expected with re-tendering. Therefore, this option is not recommended.

2. *Issue a Separate Contract for Food Waste Organics Collection*

A separate tender could be issued for food waste organics collection as a separate item to obtain competitive bids. This option is not recommended for several reasons. From a cost perspective, it is extremely unlikely that an alternative bidder could provide the service at a lower cost than the City's current service provider. From an operations perspective, if an alternate service provider was selected, residents would have to keep food waste separate from yard trimmings in order that it be collected in separate trucks. This presents communication challenges with residents and is completely undesirable from the receiving facility's perspective since they require that food waste be mixed with trimmings in order that odour and moisture can be more readily absorbed.

Recommended Option

The Zero Waste Challenge targets 70% waste diversion. Richmond is currently diverting approximately 50% of total residential waste through a variety of programs and initiatives. A combination of expanded recycling opportunities, waste disincentives, expanded social marketing and other strategies will be required to meet this new diversion target.

Food waste organics represents approximately 9% of the waste stream. As such, it represents the next most significant portion of the waste stream to target for diversion to move beyond 50%. The collection methodology outlined under Option 1 is consistent with that used in other jurisdictions and is effective in eliminating the use of plastic bags. It is desirable to eliminate plastic bags from an environmental perspective. While debagging takes place at Fraser Richmond Biocycle, they are unable to remove all the plastic and this results in contamination challenges with the finished compost product. Richmond is one of the few, if not the only City where plastic bags are still used.

A 6-month pilot program to measure food waste recycling with this collection system is currently being undertaken by Metro Vancouver in partnership with West Vancouver, the Township of Langley, Coquitlam, and Delta. The pilot started in October and will run until the end of March, 2010. Participation is somewhat low (25%-40%) at the early stage of the program.

Kitchen catchers can be provided to residents as a visual reminder of the program and for convenience. It is too early in the Metro Vancouver pilot program to determine if this aspect of the pilot contributes to increased participation. Comments from administrators of Seattle's organics program were that there was no marked difference in participation where kitchen catchers were provided. Staff do not recommend that kitchen catchers be provided in conjunction with the introduction of this program. They can be incorporated at a later time, either on a request basis or through broad scale distribution if it is considered necessary to promote further participation.

Staff have negotiated the collection pricing information with our current service provider to reflect additional costs only, with no added profit. A minimum three month lead time is required to implement the program to allow for acquiring the necessary vehicles, etc. and to undertake communication activities. Therefore, it is recommended that the program commence April 1, 2010.

Large Item Pick Up Program

At their option, Council could also offer a large item pick up program. This service would permit residents the opportunity to dispose of up to 4 large items per year, where the items are collected at curbside any time throughout the calendar year. Service would be to all residents who currently receive City garbage collection service. Items could be collected all at the same time or on different occasions, as desired, anytime within the calendar year (only). The contractor would undertake all administration of the program. The cost to provide this service is approximately \$200,000 under Options 1 – 3, and approximately \$600,000 under Option 4.

Staff do not recommend a large item collection program. Currently, residents can purchase a garbage voucher for \$5.00 from City facilities. This voucher can be used to dispose of items at the Vancouver Landfill up to approximately \$20.00 in value. Residents also have the option to hire private haulers to dispose of large items.

Attachment 2 provides a summary of the various options and associated costs.

Financial Impact

Costs to provide organics collection under Option 1 is \$815,000 annually, or approximately \$30 per household. This includes additional contract/collection fees, additional organics processing fees, and salary costs for one additional position for program administration. One time costs include approximately \$25,000 for labelling/promotion. Operating costs in 2010 would be approximately \$615,000, given an April 1st start date.

Funding has not been provided in the annual budget for this program, however, could initially be accommodated from the sanitation and recycling provision account. Future funding requirements would be reflected in the annual operating budget and rates (2011 and beyond).


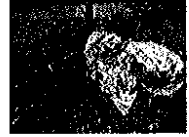

Conclusion






Richmond currently has a very successful recycling program, where over 50% of residential waste is recycled. The new contract that Metro Vancouver has entered into with Fraser Richmond Biocycle presents an opportunity for Richmond to participate by adding food waste to our yard trimmings program, and increase our diversion by an estimated additional 2.5%. Expansion of Richmond's program will be necessary to achieve meaningful gains toward the new diversion target of 70% as outlined in Metro Vancouver's Zero Waste Challenge.


Suzanne Bycraft

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City of Richmond Residential Waste Collection Yard Trimmings with Food Waste (Organics) Options

Garbage of 2 can limit in cans or bags \$2 tag for extra cans or bags	Yard Trimmings in clear plastic bags or bundle of 2 feet x 3 feet	Multi Material Recycling in Blue Box with Blue and Yellow Bags
		

New Collection System Options					
Type of Materials	How it is collected	Option 1	Option 2	Option 3	Option 4
Organics - yard trimmings - food waste <ul style="list-style-type: none"> • meat • poultry • fish • shellfish • bones • egg • dairy products • table scraps • plate scrapings • vegetables • salad (with dressing) • fruit • bread • dough • pasta • grains • coffee grounds • filters • tea bags • paper towels • paper napkins • paper plates • pizza delivery boxes 	 Cans, "Kraft" paper bags or bundle	Weekly	Weekly		
	 Cart				Weekly
Garbage	 2 Cans or bags and \$2 tag for extra	Weekly	Biweekly (every other week)	Biweekly (every other week)	
	 Cart				Biweekly (every other week)
Multi Material Recycling - Containers - Newspaper - Paper Products	 Blue Box with Blue and Yellow Bags	Weekly	Weekly	Weekly	Weekly

**City of Richmond
Residential Waste Collection
Yard Trimmings with Food Waste (Organics) Options**

New Collection System Options					
Type of Materials	How it is collected	Option 1	Option 2	Option 3	Option 4
Advantages of Option		<ul style="list-style-type: none"> • Plastic bags eliminated • Able to add organics 	<ul style="list-style-type: none"> • Plastic bags eliminated • Able to add organics • Biweekly garbage encourages recycling/composting options 	<ul style="list-style-type: none"> • Cart is provided to residents • Plastic bags eliminated • More convenient to use cart than multiple cans. • Potentially increased diversion. • Reduced cost to residents who no longer have to provide bags or cans for collection • Biweekly garbage encourages recycling/composting 	<ul style="list-style-type: none"> • Carts are provided to residents for yard waste and garbage • Plastic bags eliminated • More convenient to use carts than multiple cans • Reduced cost to residents who no longer have to provide bags or cans for collection • Biweekly garbage encourages recycling/composting • Reduced litter from garbage containers
Disadvantages of Option		<ul style="list-style-type: none"> • Less convenient for residents. • Potentially reduced diversion. • Labels for yard/ organic waste must be provided. • Increased cost to residents to purchase additional containers and paper bags. • Increased collection time/reduced collection efficiency. 	<ul style="list-style-type: none"> • Less convenient for residents. • Potential reduced diversion. • Labels for yard/ organic waste must be provided. • Increased cost to residents to purchase additional containers and paper bags. • Increased collection time/reduced collection efficiency. • Some residents will forget which week their garbage will be collected • Additional administration to handle complaints/enquiries • Communication challenges 	<ul style="list-style-type: none"> • Unpleasant odours from carts (over time) – residents need to keep carts clean. • Damaged/stolen carts – who responsible for repairs/replacement? • Same challenges as Option 2 relating to garbage collection. • Increased collection time to empty carts. • Residents require space to store cart. • Reduced collection efficiency. 	<ul style="list-style-type: none"> • Unpleasant odours from carts (over time) – residents need to keep clean. • Damaged carts – who responsible for repairs? • Same challenges as Option 2 relating to garbage collection. • Increased collection time to empty carts. • Residents require space to store carts. • Reduced collection efficiency.

Attachment 2

Summary of Organic Collection Options							
Option	Level of Service (Single-Family Homes)	Diversion	Annual Operating Cost	One Time/Capital Costs	Additional Resources Required	Added Contract Provisions	Optional Large Item Collection
1	Weekly organics collection in labelled cans/paper bags	~ 1,500 tonnes (2.5%)	\$815,000	\$25,000 (labels) \$165,000 (optional kitchen catchers)	1 FTE	2 year extension 3% annual escalation	\$200,000
2	Weekly organics collection in labelled cans/paper bags; Bi-Weekly garbage collection in resident provided cans/bags	~ 1,900 tonnes (3%)	\$600,000	\$25,000 (labels) \$165,000 (optional kitchen catchers)	2 FTE	2 year extension 3% annual escalation	\$200,000
3	Weekly organics collection in City-provided carts; Bi-Weekly garbage collection in resident provided cans/bags	~ 2,500 tonnes (4%)	\$2,000,000	\$3.5 million (carts) \$165,000 (optional kitchen catchers)	2 FTE	8 year term 3% annual escalation	\$200,000
4	Weekly organics collection in City-provided carts; Bi-Weekly garbage collection in City-provided carts	~ 2,500 tonnes (4%)	\$3,000,000	\$7.5 million (carts) \$165,000 (optional kitchen catchers)	2 FTE	8 year term 3% annual escalation	\$600,000

Capital costs for carts are based on current costs. Costs could be reduced with a negotiated purchase for larger quantity purchases.