



PO Box 1749  
Halifax, Nova Scotia  
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## Item No. 8.2

Committee of the Whole  
February 26, 2008  
Halifax Regional Council  
March 4, 2008  
March 18, 2008

**TO:** Mayor Kelly and Members of Halifax Regional Council

A handwritten signature in cursive script, appearing to read "Dan English".

**SUBMITTED BY:**

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Dan English, Chief Administrative Officer

A handwritten signature in cursive script, appearing to read "Wayne Anstey".

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Wayne Anstey, Deputy Chief Administrative Officer - Operations

**DATE:** January 8, 2008

**SUBJECT:** Regional Capital Cost Contributions - Solid Waste Facilities

### ORIGIN

- On October 6, 2006, HRM adopted the Infrastructure Charges Study (SGE Acres, September, 2006) as the basis for developing policy and by-laws.
- On December 12, 2006 HRM authorized a withdrawal of \$550,000 from Q310, Service Improvement Reserve to form a Capital Cost Contribution Policy Implementation Team, to be repaid from regional CCC charges and CDS00101- Capital Cost Contributions Area Studies.

### RECOMMENDATION

It is recommended that Halifax Regional Council Approve in principle By-law C-800 "A By-law Respecting Capital Cost Charges for Solid Waste Facilities", as shown in Attachment A, and schedule a public hearing.

Halifax Regional Council approve the amendments to the attached Reserve Business Case for Q137, Regional Capital Cost Charges Reserve.

## Executive Summary

There are two types of Capital Cost Contributions(CCC's) that are collected from developers: "area specific" and "regional". Area specific CCC's were adopted by HRM in 2003 and apply to new "green field" areas. The amount of the CCC for a particular area depends on the cost of infrastructure needed to support the development, and is collected at the subdivision stage of development.

This program has been effective at predicting and funding infrastructure in "green field" areas, but does not collect CCC's from "in-fill" or re-development that does not require the subdivision of land, and does not collect CCC's for regional infrastructure such as wastewater treatment plants and landfill sites.

In 2006 HRM agreed to keep the existing program and begin collecting CCC's from all forms of development, because all development benefits from regional infrastructure. Regional wastewater treatment facilities, regional transportation infrastructure, buses, ferries, transit facilities, and regional solid waste facilities were identified as services best suited for CCC's.

In May, 2007 HRM adopted a by-law to collect a regional CCC for the growth related share of wastewater treatment facilities (By-law C-600).

The proposed By-law C-800 collects a regional CCC for the growth related share of the Residual Disposal Facility at Otter lake, including sitework, processing facilities, and new disposal cells. Existing disposal cells that have been closed will not be used by new growth, and this charge does not fund the capital costs associated with the construction or closure of existing cells.

The net capital cost of infrastructure described above is approximately \$201M. The remaining life of the Otter Lake facility is estimated as 18 years, and over this time approximately \$21M, or 10.5%, can be funded by a CCC collected from new development.

The new charges are summarized below:

	Existing Wastewater	Proposed Solid Waste	Total	% Increase
Single Detached Residential Building	\$ 880/unit	\$ 230/unit	\$ 1,110/unit	26.1 %
Multiple Unit Residential Building	\$ 590/unit	\$ 230/unit	\$ 820/unit	39.0%
All other uses	\$ 0.27/sq.ft.	\$ 0.17/sq.ft.	\$ 0.44/sq.ft.	63.0%

The capital cost of infrastructure that will be built in future years is indexed to account for inflation. However, the per unit charge has been the same from year to year. Developers have requested that HRM consider indexing the amount of the charge to account for the time value of money. The proposed by-law provides for annual indexing of the rate. HRM will collect the same amount of revenue, and this approach is more equitable for the development community.

## **BACKGROUND**

Capital Cost Contributions (CCC's) are collected from developers to help fund infrastructure that is needed to support development. CCC's help fund the original build costs of infrastructure related to new growth. They do not fund operating, maintenance, replacement, or infrastructure renewal costs.

There are two types of CCC's: "area specific" and "regional". These are each described below.

### **Area CCC's**

Area CCC's were approved by HRM in 2003 and apply to new "green field" development in specific areas. Area CCC's are collected from a developer prior to granting subdivision approval and help pay for infrastructure needed to support the development, which is either within or alongside of a charge area.

The amount of the CCC for a particular area depends on the cost of the infrastructure that is required for that area. Examples of Charge Areas that have their own CCC are Bedford South/Wentworth Estates, Russell Lake West, and Portland Hills.

The cost to provide infrastructure to each "Charge Area" is a key consideration in selecting areas to carry out a Master Plan, and having CCC's for each area supports efficient development patterns.

This program has proven effective at predicting and funding infrastructure needed to support a specific Charge Area, but did not collect CCC's for "regional" infrastructure such as wastewater treatment plants or landfill sites.

Additionally, collecting CCC's at the subdivision stage of development worked well in "green field" areas, but CCC's could not be collected for development that does not require subdivision approval, such as "in-fill" or "high rise" development.

### **Regional CCC's**

HRM undertook a review of the CCC Policy and on October 10, 2006, Regional Council adopted the Infrastructure Charges Study (SGE Acres, September, 2006) as the basis for developing policy and by-laws.

The Infrastructure Charges Study recommends that HRM maintain the "Charge Area" approach in master plan areas, and expand the Capital Cost Contribution program to include facilities that are more "regional" in nature. The study also recommended that HRM continue to focus on "hard" infrastructure, and identified regional wastewater treatment facilities, regional transportation infrastructure, buses, ferries, transit facilities, and solid waste facilities as services that were best suited for Capital Cost Charges.

Both HRM and the Union of Nova Scotia Municipalities requested an amendment to the Municipal Government Act to enable new charges as recommended by the Infrastructure

Charges Study. The Province agreed and the Act was amended in January, 2007 to allow charges for buses, ferries, transit facilities, and solid waste facilities, in addition to water, wastewater, and transportation infrastructure.

Regional Charges are collected at the Building Permit Stage, from all forms of development, including development that does not involve the sub-division of land. This is important because all development benefits from regional infrastructure.

In May, 2007, Council approved a bylaw to collect Regional CCC's from developers for the growth related share of wastewater treatment facilities (By-law C600). As a result of the merger of HRM Wastewater Services with the Halifax Regional Water Commission, the provisions of this by-law are expected to be approved as regulations under the Public Utilities Act, and By-law C600 can be repealed when this occurs.

## **DISCUSSION**

### **Solid Waste Resource Facilities**

This report deals with Regional CCC's for Solid Waste Resource Facilities. Regional solid waste facilities consist of the Residual Disposal Site at Otter Lake, and include sitework, processing facilities, and disposal cells. The Otter Lake Facility is a central facility that serves all of HRM and the growth related capital costs are not dependant on the location of specific developments. In accordance with the Infrastructure Charges Study, this type of growth related cost can be recovered region-wide from all developments that will use the Residual Disposal Site at Otter Lake.

The Infrastructure Charges Study noted that infrastructure charges on development are intended to recover municipal costs, and not costs that are paid for by other levels of Government. The charge adopted for wastewater treatment adheres to this principle and recovers the growth related share of the "net" capital cost, after all cost sharing and grants have been deducted from the total cost of the various capital projects. The same approach is proposed for solid waste facilities.

### **Cost Elements**

Specific elements of the Otter Lake Disposal Site that can be funded in part from the charge generally consist of the site selection, design and construction of the Residual Disposal Facilities at Otter Lake. This includes sitework, the highway interchange, the front end processing facility, the organic stabilization facility, methane and leachate collection systems, and construction and closure costs for new residual disposal cells. Existing disposal cells that have been closed will not be used by new growth, and this charge does not fund the capital costs associated with the construction or closure of existing cells.

In addition, the new charge does not fund capital costs that arise from the recycling and composting facilities. The composting facility is a privately owned and operated facility. If

required, future expansions to the Recycling facility may be included in the calculation of the CCC when costs are identified.

**Methodology**

This section of the report describes the approach used to develop the amount of the CCC. Determining the amount of the charge involves estimating both remaining capacity in facilities and future growth rates, in a transparent and defensible manner.

The detailed approach is outlined below.

Step 1 - Identify Infrastructure

The table below provides a summary of the capital projects that can be considered part of the Regional Waste Resources Facility, where a portion of the capital cost can be apportioned to growth.

<b>Item</b>	<b>Net Cost (\$'000)</b>
Residual Disposal Facility Site - site selection, land costs, and sitework	17,950
Interchange with Highway 103	1,366
Front-End Processing/Waste Stabilization Facilities	19,235
Interest on Debt	12,857
Construction of new Cells	94,757
Closure of new Cells	55,098
<b>Total</b>	<b>201,263</b>

Note: Above costs are shown in 2008 dollars. Future costs have been escalated at the estimated rate of inflation.

Step 2 - Identify Capacity

Capacity of solid waste facilities is measured by weight or volume, and can be expressed in terms of remaining life of a disposal site. Based upon the rate of growth projected in the Regional Plan and current levels of waste diversion, the Otter Lake facility is expected to last another 16 to 18 years. For the purpose of determining a CCC the remaining life of Otter Lake is taken as 18 years.

Step 3 - Estimate Growth-Related Waste Generation

The growth related share of capacity is based on the amount of solid waste that will be generated by new growth in the next 18 years. A very accurate record of waste generation is continuously maintained, and records for the last 4 years from both residential and non-residential sources were used to estimate this growth related share. Increases in solid waste from residential sources are based on expected population growth, and increases in solid waste from non-residential sources are based on expected employment growth.

Statistics Canada's 2006 census was used for existing levels of population and employment, and the Regional Plan's median growth forecast (Clayton Research Associates, "Employment, Population and Housing Projections Halifax Regional Municipality," 2001) was used for population and employment growth.

Total waste generation was then estimated over the remaining life of the facility.

	<b>Dwelling Units/ Jobs</b>	<b>Waste Generation over next 18 years (tonnes)</b>	<b>Percentage Waste Gen.</b>
Existing Residential	155,135	1,453,491	44.5%
Existing Non-Residential	198,260	1,470,454	45.0%
<b>Sub-total Existing Properties</b>		<b>2,923,945</b>	<b>89.5%</b>
New Residential	46,800	231,420	7.1%
New Non-Residential	27,936	109,350	3.4%
<b>Sub-total New Properties</b>		<b>340,770</b>	<b>10.5%</b>
<b>Total</b>		<b>3,264,715</b>	<b>100.0%</b>

Step 4 - Allocate Capital Costs Between Existing Properties & Future Growth

Capital costs were allocated according to each sector's relative share of waste generation over the remaining life of the facility. Capital costs were apportioned as follows:

	<b>Percentage Waste Gen.</b>	<b>Capital Costs (\$'000)</b>
Existing Residential	44.5%	\$89,605
Existing Non-Residential	45.0%	\$90,651
<b>Sub-total Existing Properties<sup>(1)</sup></b>	<b>89.5%</b>	<b>\$180,256</b>

New Residential	7.1%	\$14,266
New Non-Residential	3.4%	\$6,741
<b>Sub-total New Properties<sup>(2)</sup></b>	<b>10.5%</b>	<b>\$21,007</b>
<b>Total</b>	<b>100.0%</b>	<b>\$201,263</b>

<sup>(1)</sup> - This expenditure is for existing homes and businesses and cannot be collected from new development

<sup>(2)</sup> - This is the amount to be collected from new development

Step 5 - Develop Charges

Residential growth will be charged per dwelling unit, and non-residential growth will be charged per square foot of construction. This approach is consistent with the Regional Wastewater CCC and consistent with practises in other jurisdictions.

The same charge per unit is proposed for both detached single residential as well as multiple unit residential uses. This is because the amount of solid waste generated by a detached single unit house is approximately equal to an apartment or condominium.

Capital costs for both Regional and Masterplan Areas inflated the cost of infrastructure to be constructed in future years. However, the per unit charge was the same from year to year. In other words, a developer today and a developer twenty years from now would pay the same charge. Developers have requested that HRM consider indexing the charge to account for the time value of money. This practise is common throughout the Province of Ontario.

Using this approach, the charge is adjusted annually, in accordance with the *Statistics Canada Construction Price Index*. HRM will collect the same amount of revenue, and it is more equitable for the development community.

Assuming rising inflation, the charge shown below will increase each year. If the charge is held constant, it would be approximately 30% higher than the 2008 value.

Recommended 2008 charges are as follows:

Residential                      \$230 per Dwelling Unit  
Non-Residential                \$0.17 per square foot

Step 6 - Monitor and Review

The amount of the proposed charge depends on several factors that may change:

- the life of the Otter Lake Facility and amount of capacity needed for growth depends on the actual rate of growth and actual waste generation rates;

- projected costs may escalate more than anticipated; and
- new projects can arise that may add capacity and can be included in the proposed charge.

The Infrastructure Charges Study recommends reviewing the charge a minimum of every five years, to ensure the growth related capital requirements are met.

Discussions with the Solid Waste Resource Advisory Committee suggested formal reviews should be carried out once every four years, and continuous monitoring will allow the rate to be amended on an interim basis if needed.

### **Transitional Issues**

The Infrastructure Charges Study acknowledged that introducing new infrastructure charges may create temporary inequities when costs are re-allocated between current and future taxpayers.

An inequity arises when a new homeowner begins to pay property taxes as a portion of the funds collected will go toward retiring debt that is included in the capital cost charge. The magnitude of the inequity depends on how much of the capital cost contribution is passed on to a new homeowner by the developer, and an inequity will exist until the new revenue can be integrated with the existing tax structure.

The Infrastructure Charges Study noted that the Province of Ontario has a mandatory 10% reduction for new development charges to deal with similar transitional issues.

Best Practises research has identified practical difficulties in determining the exact amount and most appropriate method that should be used for addressing this inequity on a short term basis. It is appropriate for HRM to decrease the proposed charge by a similar 10% as an interim measure, as was done with the Regional Wastewater Charge.

The charges presented in this report have been reduced by 10% in recognition of this issue.

### **Summary of Capital Cost Contribution Amount**

	Existing Wastewater	Proposed Solid Waste	Total	% Increase
Single Detached Residential Building	\$ 880/unit	\$ 230/unit	\$ 1,110/unit	26.1 %
Multiple Unit Residential Building	\$ 590/unit	\$ 230/unit	\$ 820/unit	39.0%
All other uses	\$ 0.27/sq.ft.	\$ 0.17/sq.ft.	\$ 0.44/sq.ft.	63.0%

## **Housing Market Impacts**

Housing affordability and market trends in HRM are dealt with under a separate report entitled “Affordable Housing”.

Generally, the amount of a new Capital Cost Contribution that will be passed on to home buyers in the short term will depend on the housing market. Over time it is expected that the market will adjust to capital cost charges as they become a known cost of development.

Relatively small increases in the cost of a new home that may result from the charges proposed under By-law C-800 are not expected to impact the affordability of new homes across HRM.

Additional Regional CCC’s for transit and transportation are anticipated for the third quarter of 2008. It is too early to predict the amount of these charges.

## **BUDGET IMPLICATIONS**

The Capital Cost Charge for solid waste facilities represents a new funding source for HRM. Staff anticipate annual revenues of \$800,000 - \$900,000 to start, depending on the actual rate of growth and inflation. Revenues will increase annually in accordance with the *Statistics Canada Construction Price Index*. Solid Waste Resource capital expenditures are currently funded through Q123 Waste Resources Capital Reserve, and Q120 Otter Lake Landfill Closure Reserve, which in turn are funded through the general tax rate (from the operating budget). This new charge will alleviate some pressures on the general rate.

Revenues collected will be available to fund the growth-related share of solid waste facilities capital expenditures and to repay their related debt. They cannot be expended for maintenance or operations. They may be used for capital upgrades but only to the extent that there is capacity available in the facilities to serve new growth. If Council adopts the by-law, housekeeping amendments are required to the Reserve Business Case for Q137 Regional Capital Cost Charges Reserve, to permit expenditures for solid waste facilities.

## **FINANCIAL MANAGEMENT POLICIES / BUSINESS PLAN**

This report complies with the Municipality’s Multi-Year Financial Strategy, the approved Operating, Capital and Reserve budgets, policies and procedures regarding withdrawals from the utilization of Capital and Operating reserves, as well as any relevant legislation.

## **ALTERNATIVES**

Council can choose not to adopt a Capital Cost Charge for Solid Waste Facilities, and continue to pay growth related costs through the General Tax Rate. This is not recommended for the reasons outlined in this report.

**ATTACHMENTS**

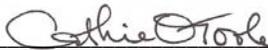
Attachment A - By-Law Number C-800 Respecting Regional Capital Cost Charges for Solid Waste Facilities

Attachment B - Reserves Business Case

Attachment C - Regional Solid Waste CCC Calculation

A copy of this report can be obtained online at <http://www.halifax.ca/council/agendasc/cagenda.html> then choose the appropriate meeting date, or by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

Report Prepared by: Peter Duncan, P.Eng., Manager, Capital Cost Contribution Project 490-5449  
Holly Power-Garrett, CGA, Financial Consultant, 490-4488

Report Approved by:   
Cathie O'Toole, Director Infrastructure and Asset Management, 490-4825

(Original signed)

Financial Approval by: \_\_\_\_\_  
Dale MacLennan, Director Financial Services, 490-1562

Attachment A

**REVISED**

**HALIFAX REGIONAL MUNICIPALITY  
BY-LAW NUMBER C - 800  
RESPECTING REGIONAL CAPITAL COST CHARGES  
FOR SOLID WASTE FACILITIES**

**GENERAL**

The Council of the Halifax Regional Municipality under the authority vested in it by Sections 79 and 81(1)(ba) of the *Municipal Government Act*, enacts as follows:

**Number and Short Title**

1. This by-law may be cited as By-law C-800, the Capital Cost Charges for Solid Waste Facilities By-law.

**Interpretation/Definitions**

2. In this By-law,
  - (a) **“Dwelling Unit”** means one or more habitable rooms designed, occupied or intended for use by one or more persons as an independent and separate housekeeping establishment in which cooking, sleeping and bathroom facilities are provided for the exclusive use of such persons.
  - (b) **“Floor Space”** means the total area in square feet of all floors, measured along the outside surface of the exterior walls of the building, including the areas occupied by exterior and interior walls and partitions, all exits, service access spaces, vertical service spaces, and parking spaces within the exterior walls of the building but excluding non-habitable attic spaces and crawl spaces.
  - (c) **“Mixed Use Building”** means a building that contains both residential and non-residential uses.
  - (d) **“Multiple Unit Residential Building”** means a building that contains more than one dwelling unit.
  - (e) **“New Building”** means a building that is newly constructed or which is moved onto a lot after coming into force of this By-law.
  - (f) **“Single Detached Residential Building”** means a building that contains not more than one dwelling unit.

**Capital Cost Charge for Solid Waste Facilities**

3.
  - (1) A charge in the amount of \$230.00 shall be paid to HRM prior to the issuance of a building permit for all new single detached residential buildings.
  - (2) A charge in the amount of \$230.00 per dwelling unit shall be paid to HRM prior to the issuance of a building permit for all new multiple unit residential buildings.
  - (3) A charge at a rate of \$0.17 per square foot of floor space shall be paid to HRM prior to the issuance of a building permit for all other new buildings and building additions.
  - (4) A charge in the amount of \$230.00 per dwelling unit and a charge at a rate of \$0.17 per square foot of floor space used for non-residential purposes, shall be paid to HRM prior to the issuance of a building permit for new mixed-use buildings.
4. Notwithstanding Section 3, no charge shall be payable under this By-law where a building is rebuilt, replaced or repaired, if destroyed or damaged by fire or otherwise, including demolition for the purpose of renovation or redevelopment, if the building is substantially the same as it was before the destruction or damage and it is occupied by the same use.
5. Notwithstanding Sections 3, and 4, when a building is rebuilt, replaced, or repaired in a manner that creates additional dwelling units, a charge in the amount of \$230.00 per each additional dwelling unit shall be paid to HRM prior to the issuance of a building permit.
6. Notwithstanding Sections 3, and 4, when a building is rebuilt, replaced or repaired in a manner that creates additional square footage of floor space for non-residential purposes, a charge at the rate of \$0.17 per additional square foot of floor space shall be paid to HRM prior to the issuance of a building permit.
7. Notwithstanding Section 3, no charge shall be payable under this By-law for an addition to a residential building, or a residential unit within a mixed-use building where additional dwelling units are not being created.
8. Notwithstanding Section 3, no charge shall be payable under this By-law for a new building which is accessory to a residential building.
9. The Capital Cost Charges prescribed in this By-law shall be indexed without amendment to this By-Law on April 1, 2009, and in each subsequent year on April 1, in accordance with the indexing set out in the Non-Residential Building Construction Price Index for Canada, Table # 327-0039 as published by Statistics Canada for the immediate preceding yearly quarter.
  - (1) The fees indexed in this manner shall be reduced to the nearest cent where they contain a fraction of a cent less than \$0.005 and shall be increased to the nearest

cent where they contain a fraction of a cent equal to or greater than \$0.005.

- (2) The Council of the Halifax Regional Municipality shall inform the public by publication of an Administrative Order, or by such other means as it considers appropriate, of the indexing calculated under this By-law.

**Lien**

10. A charge or charges levied under this by-law shall constitute a lien against the property in respect of which the charge is levied and may be collected in the same manner and with the same remedies as provided for the collection of real property taxes.

\_\_\_\_\_  
Mayor

\_\_\_\_\_  
Municipal Clerk

I, [REDACTED], Municipal Clerk of the Halifax Regional Municipality, hereby certify that the above noted by-law was passed at a meeting of Halifax Regional Council held on the [REDACTED] day of [REDACTED].

\_\_\_\_\_  
[REDACTED], Municipal Clerk

Notice of Motion: [REDACTED]

First Reading: [REDACTED]

Notice of Public Hearing Publication: [REDACTED]

Second Reading:

Approval of Service Nova Scotia and Municipal Relations: N/A

Effective Date:

# Reserves Business Case

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Halifax Regional Municipality • Corporate Services • Finance Division • 490-6308 • Fax: 490-1578

Date: May 4, 2007

Contact: Director Finance

## **Regional Capital Cost Charges Reserve Q137**

### **Purpose**

To fund the growth-related share of regional infrastructure for which a CCC is collected as outlined in the Application of Funds.

### **Source of Funds**

The Capital Cost Charge for Wastewater Treatment Facilities, Solid Waste Facilities, and other Regional CCCs as they are incorporated into Bylaws C-600, respecting Regional Capital Cost Charges & C-800, respecting Regional Capital Cost Charges for Solid Waste Facilities, from time to time. Interest will be earned in accordance with the Reserve Policy.

### **Application of Funds**

Funds collected for all Regional CCCs will be deposited into this reserve. They will be accounted for separately by infrastructure type and shall be expended according to the purpose for which they were collected. This business case will be amended from time to time as new Regional CCCs are approved.

#### **Wastewater Treatment Facilities**

Pending the anticipated merger with the Halifax Regional Water Commission, funds collected under the Wastewater Treatment Facility Capital Cost Charge will be transferred to the HRWC. Funds collected under this Capital Cost Charge shall be expended for Wastewater Treatment Plants, Interceptor Sewers, and Pumping Stations associated with the Interceptor Sewers. For the purposes of this Reserve, Interceptor Sewers are defined as:

- Halifax, Dartmouth, and Herring Cove Interceptor Sewers associated with the Harbour Solutions Project
- Existing Halifax Interceptor Sewer, from Duffus Street Pumping Station to Birch Cove

- North West Arm Interceptor Sewer, from Armdale to Point Pleasant Park Pumping Station to the Halifax Wastewater Treatment Plant
- Mill Cove Interceptor Sewer, from the Fish Hatchery Pumping Station to the Mill Cove Wastewater Treatment Plant
- Future Pumping Station and Forcemain that may connect the Beechville-Lakeside-Timberlea service area to the Halifax wastewater system.

**Solid Waste Facilities**

Funds collected under this Capital Cost Charge shall be expended for construction of new landfill cells, closure of the same, post-closure costs, and a share of the debt related to common facility construction costs such as the residual disposal facility, front-end processing, waste stabilization, leachate/methane collection, and roadways required for the facilities.

This reserve does not address Area CCCs which apply to specific geographical locations within HRM. Funds collected for Area CCCs pay for infrastructure that is either within or alongside a defined charge area and the amount of the charge depends on the cost of the infrastructure required for that geographic area.

**Time Line**

Ongoing with comprehensive review at minimum, every 5 years.

**Approval Process**

Requests for funding from the Regional Capital Cost Charges Reserve, excepting Wastewater Treatment, must be initiated by the Director of the business unit responsible for the capital project and confirmed by the CCC Implementation Team and Financial Services prior to going to Council for authorization.

The approval process for the Wastewater Treatment CCC will consist of the CCC Implementation Team confirming to Financial Services amounts to be transferred to the Halifax Regional Water Commission.

**Attachments**

Regional Wastewater Treatment CCC Cash Flow  
Regional Solid Waste CCC Cash Flow

*Approval*

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**CAO**

**Regional Wastewater Treatment CCC Cash Flow**

<b>Estimated annual recoveries</b>	<b>\$1,790,000</b>
Pro-rated recoveries 2007/08	\$1,342,500
Repayment of Service Improvement loan- Implementation Team	<u>\$ 293,978</u>
2007/08 Balance available for wastewater treatment projects	\$1,048,522

**Regional Solid Waste CCC Cash Flow**

Residential and non-residential construction is assumed to happen evenly over the life of the charge. Projected annual revenue amounts will vary due to the inclusion of an inflation factor (3.31% annually - Statistics Canada Non-residential construction index 1982-2007).

<b>Revenues</b>			
<b>Year</b>	<b>Residential</b>	<b>Non-Residential</b>	<b>Total Revenue</b>
2008*	\$444,342	\$209,996	\$654,338
2009	\$612,066	\$289,221	\$901,287
2010	\$632,326	\$298,795	\$931,121
2011	\$653,256	\$308,685	\$961,941
2012	\$674,878	\$318,902	\$993,780

\*Pro-rated for partial year

<b>Expenditures</b>					
<b>Year</b>	<b>CWI00782 Cell 5</b>	<b>CWI00966 Closure-4</b>	<b>CWU01066 Cell 6</b>	<b>CWU01069 Closure-5</b>	<b>Total</b>
2008/09	\$17,500,000	\$1,758,000			\$19,258,000
2009/10		\$2,999,000			\$2,999,000
2010/11		\$2,069,000	\$18,500,000	\$2,896,000	\$23,465,000
2011/12				\$3,827,000	\$3,827,000
2012/13				\$2,069,000	\$2,069,000

Source: 5 Year Capital Plan

Any revenues collected would be eligible for application toward the above projects

Attachment C

**Capital Cost Contribution  
Regional Solid Waste Charge**

*Step 1 - Identify Infrastructure*

<b>Project #</b>	<b>Project Name</b>	<b>Net Cost (\$)</b>
CWR00404	Professional Services - Design/Site Selection	\$2,190,002
CWR00408	Residual Disposal Facility Site	\$14,949,630
CWR00409	Interchange Highway 103	\$1,366,477
CWR00410	Front-End Processing/Waste Stabilization	\$19,235,137
	Interest on Debt Funded Projects	\$12,857,385
CWI00446	Otter Lake Cell 4	\$9,418,915
CWI00967	Land Acquisition-Otter Lake	\$810,000
CWI00782	Construction of Cell 5-Otter Lake	\$8,888,400
CWI00966	Closure of Cell 4-Otter Lake	\$6,143,400
CWU01066	Construction of Cell 6-Otter Lake	\$16,650,000
CWU01069	Closure of Cell 5-Otter Lake	\$7,912,800
	Construction of Cell 7-Otter Lake	\$18,193,905
	Closure of Cell 6-Otter Lake	\$8,646,530
	Construction of Cell 8-Otter Lake	\$19,880,970
	Closure of Cell 7-Otter Lake	\$9,448,297
	Construction of Cell 9-Otter Lake	\$21,724,474
	Closure of Cell 8-Otter Lake	\$10,324,409
	Closure of Cell 9-Otter Lake	\$11,281,761
	Post-Closure Costs	\$1,341,000
<b>Total</b>		<b>\$201,263,492</b>

*Step 2 - Identify Capacity*

Based upon the rate of growth projected in the Regional Plan, the Otter Lake facility is expected to last another 16-18 years.

*Step 3a - Estimate Growth-Related Waste Generation*

Year	Residential			Non-Residential		Total Waste Gen. (tonnes)
	Population	Dwelling Units	Waste Gen. (tonnes)	Jobs	Waste Gen. (tonnes)	
2008	3,376	2,600	1,353	1,552	639	1,992
2009	6,752	5,200	2,707	3,104	1,279	3,986
2010	10,128	7,800	4,060	4,656	1,918	5,978
2011	13,504	10,400	5,413	3,208	2,558	7,971
2012	16,880	13,000	6,767	7,760	3,197	9,964
2013	20,256	15,600	8,120	9,312	3,837	11,957
2014	23,632	18,200	9,473	10,864	4,476	13,949
2015	27,008	20,800	10,827	12,416	5,116	15,943
2016	30,384	23,400	12,180	13,968	5,755	17,935
2017	33,760	26,000	13,533	15,520	6,395	19,928
2018	37,136	28,600	14,887	17,072	7,034	21,921
2019	40,512	31,200	16,240	18,624	7,674	23,914
2020	43,888	33,800	17,593	20,176	8,313	25,906
2021	47,264	36,400	18,947	21,728	8,953	27,900
2022	50,640	39,000	20,300	23,280	9,592	29,892
2023	54,016	41,600	21,653	24,832	10,232	31,885
2024	57,392	44,200	23,007	26,384	10,871	33,878
2025	60,768	46,800	24,360	27,936	11,511	35,871
<b>Total</b>			231,420		109,350	340,770

*Step 3b - Estimate Waste Generation for Existing Residential & Non-Residential Properties over next 18 years*

	Existing Dwellings/ Jobs	Annual Waste Gen. (tonnes)	Remaining Facility life (years)	Total Waste Gen. (tonnes)
Residential	155,135	80,749	18	1,453,491
Non-Residential	198,260	81,692	18	1,470,454
<b>Total</b>		<b>162,441</b>		<b>2,923,945</b>

*Step 4 - Allocate Capital Costs Among Existing Properties and Future Growth*

	<b>Waste Gen. (tonnes)</b>	<b>Waste Gen. (percentage)</b>	<b>Capital Costs</b>
Existing Residential	1,453,491	44.52%	\$89,604,893
Existing Non-Residential	1,470,454	45.04%	\$90,650,637
<b>Subtotal Existing Properties</b>	<b>2,923,945</b>	<b>89.56%</b>	<b>\$180,255,530</b>
New Residential	231,420	7.09%	\$14,266,548
New Non-Residential	109,350	3.35%	\$6,741,415
<b>Subtotal New Properties</b>	<b>340,770</b>	<b>10.44%</b>	<b>\$21,007,963</b>
<b>Total</b>	<b>3,264,715</b>	<b>100.00%</b>	<b>\$201,263,493</b>

*Step 5 - Develop Charges*

*Residential*

Capital Costs over next 18 years	\$14,266,548
*Anticipated Dwelling Units constructed over next 18 years per Regional Plan median growth forecast	46,800
<b>Charge per Dwelling Unit</b>	<b>\$230</b>

*\*Source: Clayton Research "Employment, Population and Housing Projections Halifax Regional Municipality"*

*Non-Residential*

Capital Costs over next 18 years	\$6,741,415
**Construction over next 18 years	29,011,194 square feet
<b>Non-Residential Charge</b>	<b>\$0.17 per square foot</b>

*\*\*Source: HRM development statistics*