




PO Box 1749  
Halifax, Nova Scotia  
B3J 3A5 Canada

**Halifax Regional Council  
Committee of the Whole  
April 11, 2006**

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

**SUBMITTED BY:**

  
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Brad Anguish, P.Eng., PMP, MBA, Director  
Environmental Management Services

**DATE:** March 6, 2006

**SUBJECT:** Council Focus Area: Infrastructure - Stormwater and Wastewater

**INFORMATION REPORT**

**ORIGIN**

On October 11, Council approved a list of Council Focus Areas. Staff returned to Council with a status report on each item and a suggested approach to further action. Discussion included an analysis of current initiatives, issues, options for resolution, capacity and implications.

**BACKGROUND**

Council indicated focus areas it wished to address. These included (in no particular order):

- |                |                       |
|----------------|-----------------------|
| Regional Plan  | Community Relations   |
| Transit        | Youth                 |
| Infrastructure | Community Recreation  |
| Traffic        | Community Development |
| Public Safety  | Economic Development  |
| Tax Reform     | By-Law Enforcement    |

Staff prepared a document on each of these focus areas for Council discussion and direction at Committee of the Whole meetings. In each case, staff described its understanding of Council's concerns, what is currently being done in each of these areas, the issues impacting these areas, options for addressing these issues, and the implications of pursuing these options.

When staff went to Council with the report on Infrastructure, it was indicated that a separate report would be forthcoming with respect to Stormwater and Wastewater, given the range and complexity of issues related to this program. The Stormwater and Wastewater report follows.

## **DISCUSSION**

Not unlike other major municipalities in Canada, HRM is facing massive shortfalls in funding to maintain regulatory compliance for its existing stormwater and wastewater systems. During previous presentations to Council, staff have identified a requirement for \$600M (in 05/06 dollars) to be invested in HRM's existing stormwater and wastewater systems over the next 25 years to regain and maintain compliance with current regulations. This amount is surplus to funding required to complete Harbour Solutions Project, support rural growth centres, extend central services to communities with failing on-site systems, remediate flood-prone areas, upgrade dams to new safety guidelines, adapt to climate change, and meet inevitable future changes in environmental regulations. To meet this enormous challenge, it is suffice to say that considerable reforms are necessary to the way that HRM currently delivers its wastewater and stormwater services today.

Staff have identified four key areas for reform related to Stormwater and Wastewater Service Delivery in HRM - Governance, Organization, Financial, and Technical/Operational. Two of these key areas - Organization and Technical/Operational - are primarily for action by staff, and so will not be addressed in this report. With respect to Organization, it is noted that an administrative realignment has recently been implemented by the CAO, which has had the positive effect of integrating all of the major Stormwater and Wastewater Operations functions into Environmental Management Services. Staff are still looking at other organizational synergy opportunities to further improve stormwater and wastewater service delivery.

The other two key areas for reform - Governance and Financial - are the primary responsibility of Regional Council, and so for each, staff have identified the various options (in the attached tables) available to address current issues, and the implications of each. Staff will work in accordance with Council's direction to implement the options for improving wastewater and stormwater service delivery in HRM.

Staff also intend to use Council's direction during the COW session to recommend a sustainable funding strategy that will meet Council's short and long term objectives with respect to stormwater and wastewater service delivery. It is intended that the funding recommendation will be brought to Regional Council ahead of tabling the 05/06 Capital Budget such that any amendments by Council can be accommodated within the final Budget recommendations.

## **BUDGET IMPLICATIONS**

There are no direct budget implications as a result of the material discussed herein.

## **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**

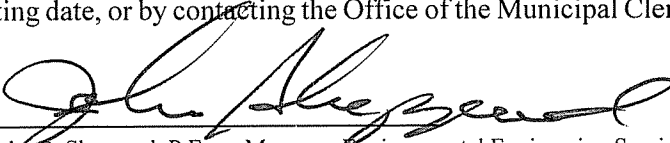
N/A

**ATTACHMENTS**

Council Focus Area: Stormwater and Wastewater Service Delivery


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 :



John P. Sheppard, P.Eng., Manager, Environmental Engineering Services, 490-6958

Financial Review :

  
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Joan Broussard, MBA, Financial Consultant, Budget and Financial Analysis, 490-6267



## **COUNCIL FOCUS AREA - INFRASTRUCTURE**

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# **STORMWATER AND WASTEWATER SERVICE DELIVERY**

**Background and Discussion Paper**

**April 11, 2006**

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## 1. INTRODUCTION

One of the most critical services which HRM provides to its citizens and to its visitors is the collection, treatment and disposal of wastewater. This service is provided, or is in the process of being provided, to communities in the urban core such as Halifax, Beechville / Lakeside / Timberlea, Beaver Bank, Sackville, Bedford, Dartmouth, Cole Harbour, and Eastern Passage, and also to other generally smaller communities outside the urban core, such as Uplands Park (off Hammonds Plains Road), Springfield Lake, Fall River, Wellington Subdivision, AeroTech Park, Frame Subdivision (off Waverley Road), Middle Musquodoboit and North Preston.

HRM also provides stormwater service, primarily in the form of drainage systems in and near streets owned by HRM. In the urban core, the drainage systems are typically pipe and catch basins, while in the rural areas, open ditches and culverts are more prevalent.

HRM owns considerable infrastructure related to these services. Staff developed a rough estimate about a year and a half ago of the replacement value of the stormwater and wastewater infrastructure owned by HRM. That value was estimated to be about \$1 billion at that time. Inflation and the increased cost of construction, and the increased stock of infrastructure, together have likely pushed that replacement value today to about \$1.1 billion.

During previous presentations to Council, staff have identified a requirement for \$600M or approximately \$24M/year (in 05/06 dollars) to be invested in HRM's existing stormwater and wastewater systems over the next 25 years to regain and maintain compliance with current regulations. This amount is surplus to funding required to complete Harbour Solutions Project, support rural growth centres, extend central services to communities with failing on-site systems, remediate flood-prone areas, upgrade dams to new safety guidelines, adapt to climate change, and meet inevitable future changes in environmental regulations.

Current capital funding for existing infrastructure ranges between \$4.0 to \$4.5 million annually, only a fraction of what is needed to be sustainable. This is by far the most critical challenge facing HRM in terms of its stormwater and wastewater service ... that the current funding levels do not provide an acceptable level of service to citizens.

Staff attempted to commence closing the funding gap in February of 2005 when staff recommended an increase of 5 cents on the Environmental Protection Rate. This recommendation was rejected by Council. The situation is therefore even more acute today than it was a year ago, and it is in a steady state of decline.

## 2. COUNCIL CONCERNS

HRM's wastewater and stormwater systems are in a critical state of disrepair. Much of the infrastructure is at the end of its service life, meaning that structural failure is increasingly likely, resulting in emergency situations involving release of wastewater, impact on streets and traffic, damage to private property, and the need for immediate and costly repairs. We are permitting wastewater overflows into our natural environment and onto our streets and onto private property at many locations on a frequent basis during wet weather conditions. And these wastewater

releases expose the public to public health risks, and put the HRM into a continual state of violation with federal and provincial regulations.

With the existing infrastructure in such a critical state, it has made it extremely difficult for Council to justify funding for non-mandated projects such as the extension of central services.

The good news is that the situation can be remedied. The challenge is the funding.

A significant increase in the level of funding is required in order to enable staff to move forward to solve these problems. Staff know how to fix these problems and remain enthusiastic to do so, as soon as resources will allow.

The other key issue that is the responsibility of Council is the method of governance utilized for our stormwater and wastewater systems. Governance is strongly tied to funding methodologies, especially as it applies to utility/service commission approaches. Thus it is deemed appropriate and necessary that Council should review its governance approach to wastewater and stormwater service delivery while considering how to close the infrastructure funding gap.

### **3. CURRENT ISSUES and OPTIONS**

The issues and options in the tables that follow are presented at a very high level for brevity. A staff presentation will be provided at COW to ensure Council have a comprehensive understanding of the issues and the options for potential resolution.

## ISSUES

## INITIATIVES/OPTIONS

## IMPLICATIONS

### 1. Governance

1. Status Quo - Council sets rates

- Political pressure exists to keep the wastewater rates low, thereby putting the protection of public health and the environment at risk
- Council maintains direct accountability for system compliance

2. Wastewater Board - subcommittee of Council sets rates

- Council maintains direct accountability; however increased focus and oversight of service delivery is established (comparable to Solid Waste Resource Advisory Committee)

3. HRWC Merger - Council sets rates

- Utility business practices are adopted, yet Council maintains control over rate setting
- Rates likely to increase to capture all indirect support resources currently captured under General Revenue
- Council maintains direct accountability for system compliance
- Numerous change management issues such as refinancing, union integration, etc.
- Increased synergy with HRWC field operations, reduction in synergy with HRM

4. HRWC Merger - UARB sets rates

- Council retains only indirect accountability for system compliance
- UARB provides professional and experienced oversight
- Flexibility in funding sources is typically reduced

5. Private Utility

- Complete transfer of risk onto the Private Sector

ISSUES	INITIATIVES/OPTIONS	IMPLICATIONS
<p>2. Financial</p> <p>A.1. Stormwater System Revenues are largely collected through water rate payers based on water consumption. There is poor correlation between water consumption and the stormwater generated from properties. Further, non water rate payers essentially receive stormwater services for free.</p>	<p>1. Collect Stormwater revenues through General Taxes</p> <p>2. Water Rate</p> <p>3. Flat Rate (per property/per frontage length/per acre/per type of property)</p> <p>4. Calculated as to Property Size and Impervious Surface</p>	<p>1.a. Easy to administer due to annual tax bill</p> <p>1.b. Some correlation between assessed value of the property and stormwater service.</p> <p>1.c. Can be applied to all HRM taxpayers</p> <p>2.a. Easy to administer due to water bill</p> <p>2.b. Poor correlation between water consumption and stormwater service</p> <p>2.c. Can be used for customers who receive water service. Modified approach needed for all others.</p> <p>2.d. Most commonly used approach across Canada (based on limited research)</p> <p>3.a. More difficult to administer than Options 1 or 2.</p> <p>3.b. Low correlation between per property or frontage approach and stormwater service. Better correlation for per acre.</p> <p>3.c. Can be used for all HRM.</p> <p>4.a. Very difficult to administer. Would require considerable additional resources.</p> <p>4.b. Excellent correlation between property size and impervious area, and stormwater service.</p> <p>4.c. Can be used for all HRM.</p>



ISSUES	INITIATIVES/OPTIONS	IMPLICATIONS
<p>A.2. Some disagreement remains within Council regarding the primary method of revenue collection for wastewater services - ie. user pay based on water consumption.</p>	<p>1. Status Quo - hybrid - multiple funding sources, i.e. primarily wastewater rate accompanied with revenue from sewer redevelopment charge, trunk sewer charges, general taxes</p> <p>2. Solely rely on the Wastewater rate levied on Water Bill (begin to include indirect costs such as accommodations and support functions such as HR, IT, Finance, etc)</p> <p>3. General Taxes</p>	<p>1.a. Difficult to administer</p> <p>1.b. Strong correlation between revenues and services received</p> <p>1.c. Extremely confusing to stakeholders and makes accountability difficult</p> <p>2.a. Easy to administer due to water bill</p> <p>2.b. Very strong correlation between revenues and services received, ie. user pay. Recommended by National Roundtable.</p> <p>2.c. Creates high level of financial accountability</p> <p>2.d. Water rates would increase with a corresponding reduction in general taxes</p>
<p>B. Insufficient funding is available for stormwater and wastewater service delivery.</p>	<p>1. Status quo - low Water Rates</p> <p>2. Increase the Water Rates</p> <p>3. Direct unused stormwater and wastewater capital funds to other Stormwater and Wastewater projects, rather than to CRESPOOL.</p>	<p>2.a. Easy to administer due to annual tax bill</p> <p>2.b. Poor correlation between assessed value of the property and wastewater services received.</p> <p>2.c. Low level of financial accountability</p> <p>1. Continuation of wastewater overflows, public health risks, systems in need of rehabilitation, system failures, sewage backups onto private property, risk of charges from regulators, poor tracking of system performance.</p> <p>2. Depending upon the increase, resolution of the above-noted problems, with concurrent lessening of exposure to risk.</p> <p>3.a. About \$900,000 can be immediately directed into Priority 1 and 2 capital projects.</p> <p>3.b. Water Rate increases will be less.</p> <p>3.c. Less unused capital will be available for projects other than wastewater/stormwater</p>

ISSUES	INITIATIVES/OPTIONS	IMPLICATIONS
<p>C. No escalation factor for inflation or for increased operating and maintenance costs, or for the increased stock of infrastructure is included in the rates set by Council. For example, the Non-residential Construction Index for Halifax has increased 23.8%. There have been no increases in any of the capital rates for existing stormwater and wastewater, so the buying power has been eroded 23.8% since amalgamation based on this factor alone.</p>	<p>4. Gas Tax Allocation to Existing Stormwater and Wastewater Capital Projects (ie. Bigger share of Capital Budget from General Revenue to Existing Stormwater and Wastewater capital projects)</p> <p>5. HRWC Water Dividend (\$3.6M) directed to Existing Stormwater and Wastewater Projects</p> <p>6. Capital Cost Contributions (CCC) used for all new Stormwater and Wastewater infrastructure or for all expansions to existing Stormwater and Wastewater infrastructure related to growth outside the existing Serviceable and Development Boundaries, (ie. Regional CCC)</p>	<p>4. Water Rate increases will be less; however, there will be less capital funds available from General Revenue for projects other than wastewater/stormwater.</p> <p>5. Water Rate increases will be less; however, there will be less funds available from General Revenue for services other than wastewater/stormwater.</p> <p>6.a. Generation of additional funding from landowners/developers who will directly benefit from new or expanded infrastructure.</p> <p>6.b. Water Rate increases will be less.</p>
<p>C. No escalation factor for inflation or for increased operating and maintenance costs, or for the increased stock of infrastructure is included in the rates set by Council. For example, the Non-residential Construction Index for Halifax has increased 23.8%. There have been no increases in any of the capital rates for existing stormwater and wastewater, so the buying power has been eroded 23.8% since amalgamation based on this factor alone.</p>	<p>1. Status Quo - There is currently no adjustment for inflation or for increased operating and maintenance costs, or for the increased stock of infrastructure.</p> <p>2. Adjust rates annually on an automatic basis for inflation, using a standardized construction or inflation index.</p> <p>3. Adjust rates annually based on the increase in the new stormwater and wastewater infrastructure constructed in the previous year.</p>	<p>1. Ability of HRM to fund its Existing Stormwater and Wastewater Program is eroded on a continual basis and causes big swings in the rates.</p> <p>2. Automatic increases tied to inflation will help ensure sustainable funding levels and ensure incremental increases for residents. Rate administration will be lessened.</p> <p>3. Automatic increases tied to new infrastructure added to the current stock will help ensure sustainable funding levels. Rate administration will be lessened.</p>

ISSUES	INITIATIVES/OPTIONS	IMPLICATIONS
<p>D. Funding sources for stormwater and wastewater are “siloesd” (i.e. there are multiple funding sources which direct funding to specific activities, regardless of the need or priority)</p>	<p>1. Status Quo - direct stormwater and wastewater revenue into various reserves (silos) and then utilize these funds for the specific activities as defined in the Sewer Charges By-Law or in the Reserves Business Case</p>	<p>1.a. Funding will continue to be unavailable for certain projects, while there is funding available in other reserves which is not immediately required for capital work.  1.b. Staff will continue to direct considerable administrative time towards managing these reserves, in terms of identifying from which reserve the activity is to be funded and the priority rating for each projects or activity, sorted by reserve, with no benefit to the customer.</p>
	<p>2. Reduce the number of silos. Put all revenue into one or maximum two reserves, and utilize the funds for operating and/or capital, based on priority determined as part of the annual business plan and budget process.</p>	<p>2.a. Funding is used for operating or for capital projects, based on priority, to the benefit of the customer and to HRM.  2.b. Administrative costs are significantly reduced, again to the benefit of the customer and to HRM.</p>

**4. SUMMARY**

Improvements to the wastewater and stormwater service delivery program have been completed and more are ongoing; however, the existing infrastructure base is in critical condition due to a substantial lack of funding. Lack of compliance with regulations is increasingly putting public health and protection of the environment at risk. Current infrastructure investment levels are not considered acceptable, therefore, comprehensive financial reforms are required along with consideration of a change in the current governance approach. Staff seek Council’s direction regarding the preferred governance and financial approaches to delivering wastewater and stormwater services in future.