



## City of Richmond

## Report to Committee

To: Public Works and Transportation Committee *To Public Works + Transportation -* **Date:** February 22, 2007 *Mar 21, 2007*  
From: Robert Gonzalez, P.Eng. **File:** 10-6400-01/2007-Vol 01  
Director, Engineering *xc 12-8060-20-7551/1321,*  
Re: **Enforcement of Grease Discharges to City Sewers** *05-1810-01*

### Staff Recommendation

1. That Council adopt the recommended Option 2 and direct staff to:
  - a) Amend Sanitary Sewer System and Drainage System Bylaw No. 7551 to specifically identify the discharge of grease into the sewer system as being illegal and subject to fines under the Municipal Ticket Information Authorization Bylaw 7321;
  - b) Amend Municipal Ticket Information (MTI) Authorization Bylaw 7321 to specifically identify a fine associated with a violation of a bylaw requirement to dispose of grease other than into a sewer system;
  - c) Hire a part time bylaw enforcement staff person to complete grease discharge enforcement of the updated Bylaws 7551 and 7321 including business inspections, issuing of fines and coordination with Business Licences;
  - d) Complete a communication program.
2. That staff be directed to send a letter to the GVRD requesting that they complete their sewer inspection and cleaning program in the City by the end of 2009.

Robert Gonzalez, P.Eng.  
Director, Engineering  
(4150)

### FOR ORIGINATING DEPARTMENT USE ONLY

ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Business Licences .....	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
Environmental Programs .....	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
Sewerage & Drainage .....	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
Law .....	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
Bylaws .....	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
REVIEWED BY TAG	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	REVIEWED BY CAO
		YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>

## **Staff Report**

### **Origin**

The GVRD's Sewer Use Bylaw No. 164 prohibits the discharge of deleterious substances including grease into the sewer system. Grease accumulation in sewers remains a problem despite this regulation.

The purpose of this report is to recommend a grease discharge enforcement program to Council.

### **Analysis**

Grease impacting the City's sanitary sewer system is thought to be largely derived from cooking of food products. There is considerable field evidence that suggests that the grease is disposed of in the sanitary sewer system particularly in the vicinity of restaurants. The liquid grease enters the sewer system, cools and solidifies in the sewer pipe producing the following main consequences:

- a reduced hydraulic capacity, i.e., it can no longer carry the flow for which it was designed;
- it attaches to the pipe wall and requires considerable effort and cost (the City's cost is estimated to be \$311,000 annually) to remove as part of an operations and maintenance program;
- the sewer system becomes more prone to blockages resulting in flooding and the associated health impacts.

While the GVRD system has been designed to accommodate flows according to the City's current OCP build-out population, the GVRD has advised staff that their system capacity may have been significantly compromised due to grease accumulations. A particularly significant and extreme consequence of grease causing a reduction in hydraulic capacity is the potential to require a development moratorium.

While the City and the GVRD have grease control related bylaws in place, they have been relatively ineffective in the context of prevention. Accordingly, operations staff has taken a proactive approach through focusing of efforts to remove the grease in the areas known to be prone to this problem.

The GVRD commenced their inspection and cleaning program of trunk mains in 2003 based upon an annual funding level of \$200,000. Staff has found however, that this level of service is inadequate given the continued sewer overflows in part as a result of their reduced system capacity attributable to grease accumulations. The GVRD also incurs an additional estimated annual cost of \$40,000 to \$50,000 to remove grease that ends up at their wastewater treatment plant.

The main source of grease discharge into the sanitary sewer system is thought to be from many of the approximately 750 restaurants in the City. This conclusion has been reached based upon the observation of significant grease accumulations in the areas of the City where restaurants are located.

### **Solution**

While both the City and the GVRD have bylaws in place regulating discharge of grease into sanitary sewers, the level of enforcement to date has been largely ineffective. Both the City and the GVRD have no dedicated resources for this activity.

The following were considered as options to deal with grease discharge into sewers.

**Option 1 – Status quo.** Under this option the City would continue to provide an operational response to the accumulations of grease in sanitary sewers. The consequences of continuing in this manner are continued sewer overflows, increased operational costs and the possibility of requiring a development moratorium.

**Option 2 – Increase enforcement (recommended).** The process to provide increased enforcement of illegal discharges of grease to sanitary sewers is recommended as follows.

- Amend Sanitary Sewer System and Drainage System Bylaw No. 7551 to specifically identify the discharge of grease into the sewer system as being illegal and subject to fines under the Municipal Ticket Information Authorization Bylaw 7321. Staff would prepare a draft amendment bylaw for Council approval.
- Amend Municipal Ticket Information (MTI) Authorization Bylaw 7321 to specifically identify a fine associated with a violation of a bylaw requirement to dispose of grease other than into a sewer system. Staff would prepare a draft amendment bylaw for Council approval.
- Hire a part time bylaw enforcement staff person to complete grease discharge enforcement of the updated Bylaws 7551 and 7321. This is anticipated to include business inspections, education on the need for grease trap cleaning, issuing of fines and coordination with the Business Licences department. The initial focus would be on restaurants. The Business Licence division has the ability to have businesses that are repeat offenders, appear before the Chief Licence Inspector for a Show Cause Hearing which could result in a recommendation to suspend or cancel their Business License. The cost of this position (\$49,120.95) would be quickly offset by reductions in the annual operating costs associated with grease.
- Complete a communication program, which includes the following: educational brochure; a letter to individual City restaurants; communication through the business licence application process; and completion of advertising through the local newspapers. Restaurants are to be advised of the revised Bylaws 7551 and 7321 a minimum of 3 months in advance of implementation.

**Option 3 – Awareness Campaign.** Staff would contact residents and businesses through various means to increase awareness of the consequences of discharging grease into sanitary sewers.

The effectiveness of this option would rely upon the individual business residents interest in the City's corporate well being.

The level of effort estimated to have a positive impact on grease reduction under the recommended Option 2 is estimated to be 130 working days per year, i.e., ½-year. Staff would review the effectiveness of this process as well as any legal costs that may be incurred after the first year and any adjustments will be made accordingly.

While the City has been proactive from an operations viewpoint with regard to the grease accumulations in the sanitary sewers, the GVRD did not commence such a program until three years ago. Accordingly, there remains a considerable length of their system that has not been inspected/cleaned and according to their present program (approximately 800 metres annually) they may not have their work complete in time to accommodate the City's present rate of growth. To continue the City's proactive approach, it is recommended that the GVRD be encouraged to accelerate their program for completion by 2009.

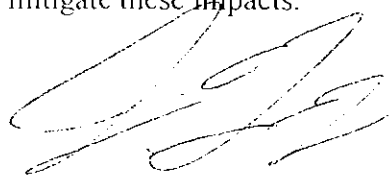
The implementation of Option 2 also has the potential advantage to realize the sustainable practice of collecting grease at the source before it is contaminated and converting it into bio-diesel fuel should the opportunity arise.

#### **Financial Impact**

It is estimated that annual funding of \$39,352.95 for a staff person plus \$9,768 for a vehicle based upon 2007 rates from the Sanitary Utility would be required to retain a staff person as recommended under Option 2. Funding would be included for Council consideration in the 2008 Sanitary Utility budget.

#### **Conclusion**

While there are presently bylaws in place that make it illegal to discharge grease into the sanitary sewer system, these discharges continue to proceed largely unabated. The consequences of this are an increased opportunity of sewer overflows and flooding (and the associated health impacts) and in the extreme case the potential for a development moratorium. Better control of grease discharges through enforcement of updated grease discharge related bylaws are expected to mitigate these impacts.



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