

For Information Only
Source Control Update

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Recommendation

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Background

See attached report

Signed By

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Operational Committee Review – January 20, 2014

FOR INFORMATION ONLY

This information report is an update on the Source Control Program implemented and administered by the Water/Wastewater Services Compliance Section.

KEY FACTS

- 1) Both the Water Use By-law and Sewer Use By-law have been very successful in reducing negative impacts on CGS infrastructure and the environment;
- 2) Education and outreach programs initiated by the Compliance Section have been well received by the business owners in Sudbury and a high rate of compliance has been achieved through voluntary compliance;
- 3) Businesses and individuals who do not comply with our by-laws are being held fully accountable for the damage caused to our infrastructure and the environment, due to their actions / inactions

BACKGROUND

In 2010, the City of Greater Sudbury approved both a Water Use By-law and a Sewer Use By-law. Both By-laws are administered and enforced through the Compliance Section of the Water/Wastewater Services Division. The passing of the two By-laws was intended to send a clear message to the community that the City would protect their water and wastewater infrastructure so no negative health or safety issues would affect the citizens of the CGS or the natural environment.

WATER USE BY-LAW

The City of Greater Sudbury Council approved the Water Use By-law on September 29th, 2010 and it came into effect September 2011. Administration and enforcement of the Water Use By-law, is lead by the Compliance Section. The Water / Wastewater By-law Compliance Officer conducts inspections when complaints are lodged with the City. These complaints are comprised of a variety of issues varying from water meter tampering, water shut off tampering, improper lawn watering (odd/even days), and fire hydrant tampering.

Highlighted Stats

- Over 102 complaints received and inspected
- 2 charges laid
- 19 charges pending



Fire hydrant tampering

Complaints are being received by this office on a weekly basis and investigations continue. The Compliance Section continues to obtain compliance with the By-law through education and voluntary compliance but in some instances, enforcement measures are required when contraventions of the Water Use By-law are discovered.

SEWER USE BY-LAW

The Sewer Use By-law was approved and passed by Council on September 15th, 2010 and came into effect September 2011. There are three key objectives of the Sewer Use By-law:

- 1) Educate the public (residential, industrial, commercial and institutional) of the By-law, the purpose of the By-law, and how the By-law affects these customers directly.
- 2) Conduct inspections of residential, industrial, commercial and institutional properties in order to identify what products are entering the sanitary sewer system or storm systems and how to reduce, avoid or eliminate the release of pollutants into the sanitary and storm sewers.
- 3) Protect the environment and ensure the health and safety of the general public and CGS wastewater staff as well as protect the infrastructure against corrosion, blockages, equipment failure, and other harmful effects related to the presence of contaminants in the wastewater.

Following a one year phase-in period, full implementation came into effect on September 15th, 2011. During the phase-in period efforts were focused on the development and delivery of an education and outreach program to inform the various sectors of their obligations and how to work proactively to achieve objectives.

To support the Source Control Program, a By-law Compliance Officer was hired in the Water/Wastewater Division in December of 2010. Since then, a variety of businesses were visited representing various sectors and inspections were conducted. At each visit, companies were informed of the new By-law and the direction the CGS was taking to protect the environment and help make our City a healthy and environmentally sustainable community. The Program has been well received in most cases and great progress has been made since the start of this program.

Since the enforcement of the Sewer Use By-law began the City has benefitted from cleaner and more efficient sanitary sewer infrastructure. This also translates to cost containment savings for CGS operations and improved reliability for our customers.

SOURCES OF HARMFUL CONTAMINANTS

INDUSTRIAL / COMMERCIAL / INSTITUTIONAL (ICI) FACILITIES

The City's infrastructure and wastewater treatment plants are constantly affected by contaminants from many sources. Heavy oils, hydrocarbons, sediments and other contaminants (waste by-products) from large industries is one source of concern but Fats, Oils and Grease (FOG) from residential and commercial kitchens is also recognized as a priority problem contaminant for our sanitary sewer systems. More recently flushable non-disposable consumer products, such as personal care wipes, have also caused issues for the city's wastewater systems. These items need to be disposed of through other means and kept out of of CGS wastewater systems.

Highlighted Stats

- Over 531 ICI sites visited and inspected since March 2011
- 74% of ICI sites initial inspection completed
- 81% of inspected ICI sites in full compliance with By-law

FOOD WASTE

Fats, Oils and Grease (FOG) enters City sewers from individual residential homes and apartment complexes, but it has been determined that a large amount of damage done to our sewers is from the larger producers of FOG, such as commercial kitchens in restaurants and food preparation sites. These types of businesses are recognized as potentially high FOG contaminators to our sanitary sewer infrastructure. FOG comprised of wastes from food production and equipment cleaning can cause blockages in City sewers pipes and structures and result in costly repairs and cleanups to both property owners and the CGS.

Upon conducting inspections of the types of businesses throughout the CGS that generate FOG it was found that many restaurants did not have the appropriate grease interceptors in place to prevent the FOG discharging directly into the CGS sewers. Further, many owners were not aware of the issue with FOG and the potential problems

they may cause in the system. Because of the significance of the issue, combating FOG has been an early priority for the source control program.

The By-Law Compliance Officer conducted many inspections of food preparation and commercial restaurants in the CGS since 2011. During the past 3 years 307 FOG producing businesses in the City have been inspected and educated about the By-law. Of these inspections conducted, 65 businesses were found to be non-compliant with the By-law and new grease interceptors were ordered to be installed.

The Source Control Program has achieved voluntary compliance in many instances, the down town core area being a very good example. Many restaurants in that area are located in older buildings that did not have the required grease interceptors but have since voluntarily upgraded to meet current standards.



Old grease interceptor requires replacement



New grease interceptor installed

Through the educational visits and inspections, businesses that did not have the required grease interceptors voluntarily installed them as requested and a 100% compliance rate was achieved in the down town area. They are also now following the proper maintenance schedules required to keep FOG from entering into the sanitary sewers. This is a great indicator to staff that there are many responsible business owners in the City of Greater Sudbury who understand the By-law, want to comply with our Sewer Use By-law, and want to help protect CGs sewer infrastructure and the environment.

Although great progress has been made through education, outreach, and voluntary compliance, a small number of business owners have required enhanced enforcement to comply with our By-law through legal means. To date, only three charges have been laid against restaurant business owners in the City due to FOG discharge issues.

We are hopeful that the progress being made with restaurant and food preparation facility owners will translate to reduced numbers of blockages and other unwanted consequences of FOG.

INDUSTRIAL WASTE

Another priority for the Source Control program is controlling industrial contaminants. These contaminants can threaten the health and safety of CGS staff, impair CGS treatment processes, and pass through facilities designed to treat only biological waste, thus damaging the environment.

For example, the Industrial / Commercial (vehicle repair) sector is the second largest potential contributor of dangerous contaminants to the CGS infrastructure and the environment. Approximately 173 site inspections have been conducted in this sector since 2011 by the Compliance Section.

Oil interceptors are an important piece of equipment located in vehicle repair garages and industrial manufacturing shops. They help prevent the escape of hydrocarbons, oils, etc. into the sanitary sewer and on into the local environment. CGS inspectors have been reviewing the condition of the oil interceptors and ensuring companies have proper maintenance programs in place to keep the interceptors functioning. Throughout the inspection process over the last 3 years a number of businesses were found to be non-compliant with the Sewer Use By-law (ie damaged / non-functioning / non-existent interceptors). These businesses were educated on the importance of the interceptors and (if necessary) ordered to repair, replace or install the proper equipment to comply with the CGS by-law.



Damaged oil interceptor requiring repair / replacement



Repaired oil interceptor

Highlighted Stats

- 32% of inspections conducted are Industrial / Commercial (vehicle repair) sites
- 97% compliance rate

RESIDENTIAL WASTE

CGS sanitary sewer infrastructure has been designed to properly handle and treat human waste and toilet paper only. Unfortunately, many residential customers have been increasingly adding waste products to our sewer system that are not intended to be handled by the sewage treatment plants. Flushable non-dispersible products include items such as baby wipes, dental floss, personal hygiene products, and other non-biodegradable materials that are being flushed into our sanitary sewers system and causing numerous negative issues such as sewer pipe and pump blockages. These blockages can be very costly to both the City and the property owner.

The Sewer Use By-law does not permit non-biodegradable materials to enter our sewer system. The Compliance Officers attend sites on many occasions where blockages and sewer backups occur in order to educate the residential owners about the By-law and the consequences of such non-compliant actions. We are continuing to educate the public by adding to our outreach program through brochures, television and newspaper advertisements with the help of CGS partners such as Environmental Planning Initiatives and Corporate Communications.

FUTURE PROJECTS

In 2013 the City of Greater Sudbury had a number of spills in the City which directly contaminated our sanitary and storm sewer systems and the natural environment. Three such spills entered Ramsey Lake and one spill contaminated Junction Creek with potentially negative consequences. In all cases the Compliance Section was notified of the spill and quickly responded to each scene. All spills were investigated, sources of contamination determined, proper mitigation and clean up procedures were completed, and where appropriate, charges were laid to foster accountability in the community.

The Sewer Use By-law addresses the issue of environmental spills within CGS boundaries. The purpose of the By-law is to ensure that when a spill occurs on CGS property and enters CGS sanitary or storm sewer systems, or into the natural environment, the City is notified immediately and all reasonable efforts are made to mitigate the spill and clean up any spilled contaminants.



Contaminated water entering the storm sewer system



Contaminated water entering Ramsey Lake via storm sewer system

Each spill scenario has been a large learning curve for CGS staff.. Staff are presently working on an improved CGS spill response framework and examining how the Source Control program can reduce the risks from environmental spills, especially those spills occurring within Drinking Water Source Protection areas. This is a very important aspect for the Compliance Section and it is hoped that the new operating procedures will be ready soon to help protect both our citizens and the environment.