

Presented To:	Operations Committee
Presented:	Monday, Jan 16, 2017
Report Date	Tuesday, Dec 20, 2016
Type:	Managers' Reports

Request for Decision

W/WW Frozen Water Policy

Resolution

THAT the City of Greater Sudbury approves the policy framework appended to the W/WW Frozen Water Policy report dated December 20, 2016 from the General Manager of Infrastructure Services.

AND THAT staff be authorized to implement the policy elements into services delivered for customers starting in the 2017 thawing season.

Finance Implications

There are no budget implications.

Background

During the winter of 2015 an extended cold spell combined with an unusually wet fall that saturated the ground created conditions that led to a significant number of frozen water and sewer services and water mains in Greater Sudbury. Records indicate a significant variability in the number of frozen services experienced by residents from year to year with the weather a primary determinant.

The 2015 event resulted in the unprecedented number of 1518 customers being impacted by frozen services and required the Division to implement its' Emergency Response Plan to coordinate response efforts over a period of several weeks.

Once the emergency response period had passed, in accordance with the Water / Wastewater Emergency Response Plan, staff performed a detailed review of the response framework used during the winter of 2015. The review identified several potential improvement ideas which could be implemented into future such responses.

One such improvement opportunity was the need for a frozen services policy approved by Council that would help guide future customer response protocols. Staff has developed the attached policy recommendations to guide our actions in assisting customers moving forward.

Policy Purpose & Goals

Signed By

Report Prepared By

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Director of Water/Wastewater
Digitally Signed Dec 21, 16

Division Review

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Recommended by the Department

Tony Cecutti
General Manager of Growth and
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Recommended by the C.A.O.

Ed Archer
Chief Administrative Officer
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The purpose of this policy is to prevent and manage the temporary freezing of water and sewer service laterals for customers serviced by Greater Sudbury's municipal water distribution and wastewater collection systems through the following goals:

- Assist customers to prevent freezing through the timely delivery of communications instruments;
- Transparently and responsibly prioritize customer requests for thawing services;
- Clarify roles and responsibilities;
- Facilitate prompt, effective response to requests for thawing services using available resources;
- Facilitate effective service delivery to vulnerable customers;
- Maintain compliance with regulations and health guidelines

Conclusion:

Although we all hope that a frozen services event of the scope and duration does not reoccur staff continues to prepare for future such emergencies. This policy will help to ensure that the City can effectively respond to customers with frozen services requests in an effective manner when required.

Therefore we recommend that Council approves the attached Policy framework and authorizes staff to integrate the elements of the policy into services delivered for customers starting in the 2017 thawing season.

CGS Frozen Water Services Policy

Background:

During the winter of 2015 an extended cold spell combined with an unusually wet fall that saturated the ground created conditions that led to an unprecedented number of frozen water and sewer services and water mains in Greater Sudbury.

In accordance with our Emergency Response Plan, staff performed a detailed review of the response framework used during the winter of 2015 and developed a number of improvements to the protocol.

The need for a frozen services policy was identified in that process. Therefore staff developed the following policy recommendations to guide our actions in assisting customers moving forward.

Policy Purpose & Goals

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Roles and Responsibilities

Customers: each customer requesting service from CGS shall:

- Comply with the terms of this policy;
- Take proactive steps as necessary to prevent freezing pipes;
- Ensure that the customers plumbing complies with the Ontario Building Code and is functional;
- Pay for all home based energy costs incurred when the customer applies heat to exposed water pipes on the customers property to cure or prevent water pipe freezing, whether instructed to do so by Water & Wastewater Services or voluntarily doing so;
- Permit safe access the customer's property by Water & Wastewater Services if the customer has requested thawing or other services;
- Follow the provisions of this policy and instructions provided by Water and Wastewater Services representatives;
- Operate and maintain water pipes and temporary water systems on the customers property;

- Pay the fees associated with services received in good faith

CGS Staff

- Water & Wastewater Services – respond to customer requests for service related to frozen water and sewer services in accordance with the elements of this policy; provide documentation of information needed for records, billing and reporting purposes, coordinate with all internal and external partners to ensure that thawing programs are ready when needed;
- Corporate Communications – Provide specific updates and timely delivery of a variety of communications instruments to Council, customers, and executive leadership team; coordinate media requests for information.
- Community Development – Assess customers for vulnerable status and maintain records of vulnerable customers, deliver alternate water for potable and sanitation to vulnerable customers, coordinate any other outreach support services as required to support affected customers.
- Corporate Services
 - Finance – support emergency response by attending the emergency operations centre to document and validate data required for billing and invoicing; process invoices and field billing inquiries.
 - Purchasing - support emergency response by attending the emergency operations centre to assist in procurement activities;
- Emergency Services –support the emergency response by attending the emergency operations centre and supporting the response.

Definitions

Customer – Any person who has an active water and/or wastewater account in good standing with the City;

Private water service – pipe that conveys water between the property line and the property owner’s premises;

Private sewer service (also called the lateral) – pipe that conveys wastewater between the property line and the property owner’s premises;

Public sewer service – pipe that conveys wastewater between the private wastewater lateral and the sewer main. This part of the wastewater lateral is physically located on the municipal side of the property line. A wastewater lateral is typically smaller in diameter than the sewer main that it connects into.

Public water service – pipe that conveys water between the watermain and the private water service. This part of the water service is physically located on the municipal side of the property line. A water service is typically smaller in diameter than the watermain that supplies it.

Property owner – individual(s) or corporation that owns a property. In the case of a landlord-tenant relationship, the City will only accept a written request authorized by the property owner.

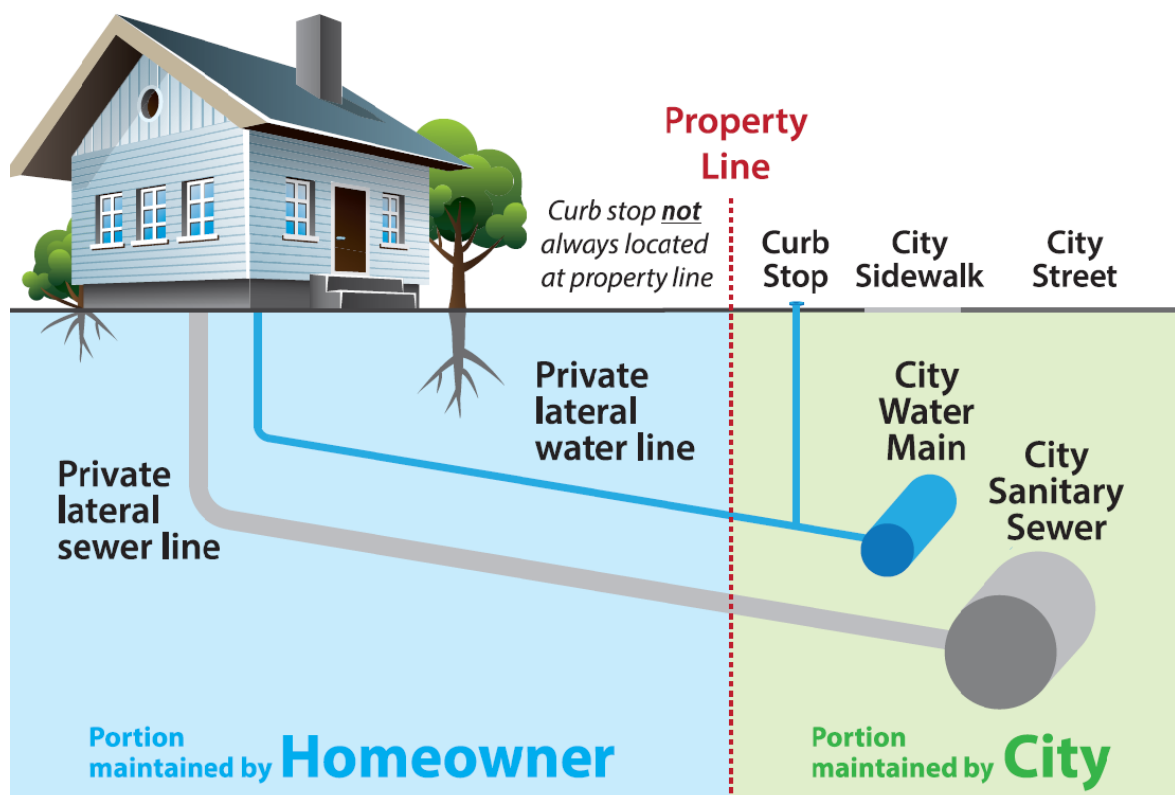
Vulnerable customer – a customer who is evaluated by CGS Community Development and found to be unable to provide alternate water supply for themselves during a service outage because of a physical or mental impairment.

City/CGS – City of Greater Sudbury

Ownership and components of the water service

A typical water service consists of municipally owned piping and privately owned piping. The pipe from the water main connection to the property line is owned and maintained by the municipality. The service shut off valve, or curb stop, is typically located at the property line (although varies throughout the City) is also owned and maintained by the City. All piping located on private property, beyond the lot-line, except the municipally owned water meter, is owned and maintained by the property owner.

A typical sanitary sewer service also consists of municipally owned piping and privately owned piping. The pipe from the sanitary sewer main connection and the property line is owned and maintained by the municipality. The clean out is typically located at the property line (although varies throughout the City) is also owned and maintained by the City. All piping located on private property, beyond the lot-line is owned and maintained by the property owner.



Methods to prevent freezing

There are several ways in which a water or sanitary service may become frozen. At the beginning of winter, the most frequent freezing that is reported to the City happens on the inside of the foundation wall, often because adequate heat is not provided in the area where the water service enters the premises. As the winter progresses, and the frost dives deeper into the ground, there are more occurrences of freezing outside the foundation wall. Generally, a service that is buried deeper and backfilled with more insulating materials will be less likely to freeze, whereas, a service that is shallow buried in an area without snow cover, or within a rock trench which does not provide many insulating properties is more likely to freeze. Sanitary sewer services are less likely to freeze than water services because the water leaving through a sanitary sewer service is warmer, as is the sanitary sewer that it connects to.

Should the City or a customer wish to perform maintenance to reduce the risk of freezing, the water service can be lowered, insulated, or change the materials in the trench where the service is laid (i.e. blasting a rock outcrop). It is not guaranteed that in more severe winters that maintenance done on a service will preclude it from freezing. Sanitary sewer services also have limitations in how deep they can be buried, as they are a gravity system and cannot be lowered beneath the sanitary sewer main that they are connecting to. These maintenance methods have very high cost and a long payback period when compared with the cost of running water as a preventive strategy.

The City maintains a list of customers who have frozen for 2 subsequent years on City side. These customers are sent a letter to instruct them to run their water the width of a pencil and again when to stop running their water. The City also instructs customers to run their water after they have thawed a service on City side since the service is then deemed at high risk of freezing again under the conditions experienced at that location during that winter.

Running water is the most common strategy used by municipalities across Ontario for preventing freezing where it is a known risk, and in most cases is the most cost-effective route. During the time that customers are running their water during a specified 'run period' at the City's direction because of a City-side deficiency, the water consumption charges will be adjusted to reflect a consumption charge based on a daily average consumption in accordance with the Water and Wastewater Rates and Charges Bylaw. Should the customer stop running their water and experience their service freezing, the City will collect the costs of thawing the service from the customer who failed to follow the City's directions.

If the City has thawed a customer on the private side, the City will recommend to the customer to keep their water running as a preventive measure from their service freezing again. This of course, is at the customers discretion, as the cost of running water is at their expense. It is recommended because the cost of running water is often less than the expense of the thawing service.

Thawing methods

Should a customer request thawing services from the City, the City will search maintenance records to see if there is any history of freezing at that address, and if/how the service was thawed in the past. The City will plan to thaw the customer using the most recently successful method, providing that new methods/tools/procedures are available that the City has reason to believe would be more successful than a previously successful method. This information will be communicated to the customer.

Prior to commencing any work, the City will obtain consent in writing, from the owner of the property, authorizing the work to take place, and full cost of the work to be recovered from the customer should it be determined that the service is found frozen solely on the private side of the lot-line.

Should a customer request thawing services for an address where the City's records do not have information, once the City obtains consent from the property owner, the City will typically follow a protocol such as: first assess the issue as inside the premises/foundation wall or outside the foundation wall, and if an outside the foundation wall issue, attempt with hot water/steam thawing, then proceed to electrical thawing, and finally attempt by excavation unless the City has reason to believe that providing new methods/tools/procedures will be less costly to the property owner should the freeze be located on the private side of the service.

Should any of the attempts fail to thaw the service, the City will only endeavor to collect charges from the property owner should the City have evidence to show that the service is frozen solely on the private side of the service. At each successive attempt, the City will need to obtain authorization from the property owner to continue new attempts and possibly incur further charges.

Steam/hot water:

It should be noted that each thawing technique can only be attempted under the correct circumstances. The owner will be responsible for securing the services of and paying for a licensed plumber to complete any plumbing modifications necessary to facilitate thawing of a frozen water or sanitary sewer service. Water and Wastewater Services should be consulted before any plumbing modifications are made to ensure that those modifications will meet the requirements for the thawing equipment that will be used. Typically, a full flow through ball valve connected to the underground service piping where it enters the building and short length of copper pipe connected to the downstream side of the ball valve is required to facilitate the use of service line thawing hot water/steam equipment. If there are too many bends or fittings, it is possible that the thawing equipment will not be able to reach the frozen section of the water service.

Establishing Thawing Priority

Making the service calls to respond to thawing requests shall be done in the following order: Most vulnerable customers, followed by oldest request to newest request until complete. If there are any vulnerable customers, those calls will be attended to as a first priority. Any vulnerable customers that are known to Water and Wastewater Services should be triaged to assess the appropriate

priority within the vulnerable category. Vulnerable customers are self-identified and referred to Community Development to assess in the triage process and to ensure that if they require to be connected with other services during their water service outage, that they are connected with someone to help them navigate the system. CGS Community Development staff can also assess the need to provide them with any supplemental assistance and provide information to help water and wastewater services create a prioritization within the vulnerable customers.

Once the vulnerable customers have been addressed, thawing calls will be attended to in a first-in first-out system. The City will maintain a target of thawing all frozen water services within 48 hours of receiving thawing consent in writing from a customer.

When a water or sanitary sewer service requires excavations

Should all other thawing methods fail, or be unreasonable options, and if it is unacceptable to leave the customer without a water service, then the excavation method will be explored as an option of last resort. Because of the resource and demands of exercising this option, it is not reasonable to expect that this option will be exercised or completed within 48 hours of the initial thawing request, because most often, both time and energy will have been used in other attempts.

Furthermore, utility locates will need to be obtained prior to excavation, and in most cases this type of excavation will not meet the Ontario One Call definition for emergency locates and will fall into the 5 day locate window. Written consent will be required from the customer once again because if the service is frozen on the private side of the property line, there will be substantial cost for the customer. In brief, this process involves locating utilities, excavating either by backhoe or hydro-excavator, depending on site conditions, cutting and removing a section of the water service, inserting a hot water/steam thawing machine to thaw the frozen pipe, repairing the pipe, and then backfilling the trench and finally performing final restoration on the excavation in the summer/fall.

Note that the City Supported restoration will only be completed if the location of the freeze is on the City side of the lot-line.

Accessing alternate water supplies when a customer experiences a frozen water service

There are 4 residential filling stations that are available at convenient locations throughout the City. Customers are able to collect drinking water at no charge at these stations in their own containers 24 hours per day, 7 days a week. Advertising of these residential filling stations is part of the Water and Wastewater communication strategy during regular maintenance activities throughout the year and also remain available should someone require water while they are without water service due to a frozen line.

Customers may also elect to have a temporary water service installed (also known as a bib line). This temporary system is most often installed from one customer's hose bib to the neighbouring customer's hose bib. The distance, placement, and nature of both the donor and receiving customer's hose bib must be adequate in order for this to be a viable option. Both the donor and

receiver customer must also be willing participants for this to occur and the City requires that written consent is obtained from both parties prior to installing a temporary line.

During the time that the temporary water service is installed, it is recommended for customers to run their water continuously so that the hose supplying water does not freeze. During this time billing adjustments will be as below:

Billing Arrangements for Temporary Services (donor and receiver)

It is also customary for water billing to be adjusted during the time that the temporary water service is installed, since the entire quantity of water runs through the donor customer's water meter. The owner of the private property supplying the water (ie donor) through the temporary service will not be billed for consumption during the period that the temporary water service is connected. The owner of the private property receiving the water through the temporary service will be billed for consumption for the period that the temporary service is connected, based on the daily average consumption for the same period in the prior year.

Authorization for Temporary Services

Should a customer wish to request a temporary water service, the appropriate paperwork must be completed from both the donor and receiver customers to give their consent in the process. Although the City will perform a chlorine residual test as part of the installation process, it is important for customers to understand that the water supplied to the receiving customer is not deemed potable since the water is not arriving at the customer's home directly from the City's water distribution system it comes via a private plumbing system.

Provision of Alternate Water Supply

The water delivery option is an alternative that is only exercised should someone meet the vulnerability requirements and is identified as requiring this service by CGS Community Development. Community Development staff will make arrangements for this service to be performed if and when they deem it as required.

Special considerations for frozen sanitary sewer services

When a sanitary sewer service freezes, the customer will notice that wastewater fails to exit their premises, similar to a sanitary sewer blockage. While it is more unusual for a sanitary sewer service to freeze, there are known occurrences within the City. Until a sanitary sewer service is thawed, the customer will not be able to use any of the plumbing drainage in their premises because the water will have no way to make it out of the premises. For this reason, the options discussed for alternate water supplies are not options available for customers with frozen sanitary sewer services.

Communications with Customers

Public service announcements:

Corporate Communications initiatives begin with a proactive approach aimed at helping customers avoid freezing in the first place and then taking actions to mitigate the negative aspects if it does occur.

When temperatures are observed to be consistently -15 to -20 degrees Celcius overnight for a period of 4 days or more, it is time to put out a PSA from corporate communications to remind people of the potential for some water services to freeze. This PSA also reminds people that water pipes can freeze within their homes if they are not careful to ensure that heat reaches all the areas where their pipes are.

Corporate Communications may also issues additional PSA's as warranted, should there be growing or large numbers of customers that are affected by frozen water services, to advertise City processes and procedures, and to keep the public abreast of the situation.

Website Content:

Corporate Communications has also posted information for customers on the City's website.

Customer Guidance Brochures:

Brochures have been developed to guide customers through the thawing process.

Billing

The City will not reimburse owners who choose to hire their own plumbers, as the City has no way to verify the location of the freeze.

For those customers accessing thawing through the City there are really two billing streams as follows:

Public Side (City Responsibility)

The City will cover the costs of the thaw and (if required) restoration required.

Private Side (Customer's Responsibility)

The City will invoice the property owner a fee as set out in Schedule 'A' of the current Water – Wastewater Rates and Charges Bylaw if the water service is found to be frozen on the private side of the lot-line. It should be anticipated that the smallest bills are most often completed by steam/hot water thawing, followed by electrical thawing, and finally by excavation. This is because crew size, hours, and complexity increases with each additional method attempted.

It should also be noted that the customer will be billed for the sum of the attempts should the location of the freeze be determined to be located on the private side of the lot-line. This means that if the hot water/steam thawing method fails, it is added to the bill for electrical thawing should that be successful and known to be on the private side of the lot-line.

When the service is frozen on both the City side and the private side, there is no way to determine if the freezing originated on the public or private side of the water service. In these cases, the City will err on the side of caution, and absorb the costs for thawing the water service.

All billing disputes are to be resolved by written submission to the director of Water and Wastewater Services. Disputes must include dates, times, full names, meter readings, and any other relevant information to be considered as part of the dispute.