



Council Report

Report Number WWW2020-009

Meeting Date: December 15, 2020

Title: Backwater Valve Subsidy Program

Description: Presenting an option for a Backwater Valve Subsidy Program as requested by Council.

Author and Title: Robert MacPherson, Water & Wastewater Technician

Recommendation(s):

That Report WWW2020-009, **Backwater Valve Subsidy Program**, be received.

Department Head:_____

Financial/Legal/HR/Other:_____

Chief Administrative Officer:_____

Background:

As outlined in previous reports and presentations, there are a number of potential causes for sewer backups into building basements. The majority of causes are due to unmaintained foundations cracking and leaking, failures in the properties weeping system, and issues in the private sanitary lines such as blockages caused by roots, grease, non-flushable items, age of infrastructure and buildup of calcite around cracks and leaks in a pipe. On certain occasions (rare in the City of Kawartha Lakes), an extreme weather event can cause the collection system to reach capacity and begin to travel back up sewer laterals and potentially into people's basements. This was experienced on January 11, 2020 when CKL experienced 60 mm of rainfall in a short amount of time combined with frozen ground with no potential for infiltration to the ground and high seasonal temperatures causing significant melt water.

In a proactive response to climate change, Council requested Staff to present a subsidy program for consideration to aid residents in paying for the modification of their sanitary lateral in order to prevent back-ups through the installation of a Backwater Valve (BWV).

At the Council Meeting of November 17, 2020 Council adopted the following resolution:

10.3.20 CW2020-176

That Report WWW2020-007, **Sanitary Infrastructure Subsidy and Loan Program**, be received;

That Staff report back to Council on the impact of the implementation of a proposed Backwater Valve Installation Subsidy Program, as outlined as Option 1 within Report WWW2020-007, limiting subsidy to 50% contributions; and

That the report back include a full overview of the proposed Subsidy Program including the criteria to be met by applicants, the application process and any impact that the maximum annual program budget for the proposed Subsidy Program will have on the Water/Wastewater Operating Budget.

Carried

This report addresses that direction.

Rationale:

The City of Kawartha Lakes continuously works to ensure that the sanitary sewer systems under its control are properly constructed, maintained, and functioning. Although the City designs systems in accordance with provincial standards and performs regular maintenance and flushing of the sanitary mains, extreme events can cause sewer back-ups.

One potential strategy that has been identified to reduce the risk of sewer back-ups from occurring is to have the property owners install a BWV on their sanitary lines. This valve can prevent basements from flooding caused by surcharged sewers during severe weather events. BWVs work by mechanically blocking any reverse flow from the sanitary sewer system into the building. It is important to note however that while the BWV is operating in such a fashion, the flows from within the home (shower, toilet, etc.) will not be able to exit the home. This can still cause internal backups within the building.

Currently, there are backwater valve subsidy programs in a number of other municipalities such as City of Markham, City of Vaughan, and Halton Region that provide a subsidy to homeowners for 50% of the cost to install a backwater valve inside their home on a first come, first served basis, up to a capped amount ranging between \$675 - \$750 (average installation price of a device is \$1500). These programs were created through an identified need amongst their local populace to make it easier and more affordable for residents to make improvements to their piping in order to reduce the risk of sewer back-ups from occurring. As with every municipality's programs, this subsidy only applies to existing homes and does not apply to any homes in the planning or construction stage. As per By-law 2016-006 "By-law to Establish Management and Use of Sewer Works", the installation of an approved backwater valve on a sanitary lateral for all new buildings is already required. The program is also not available to any Institutional, Commercial and Industrial (ICI) properties.

If a Backwater Valve Subsidy Program were to be implemented in CKL, staff recommend the following criteria for the program:

- Eligible properties receive 50% of the invoiced cost of installing a backwater valve, up to a maximum of \$750 for all eligible labour, materials, permit fees and taxes.
- The subsidy does not cover ineligible costs, which includes any interior restoration (paint, drywall, flooring, etc.) and exterior restoration (landscaping, etc.).
- Backwater valves must be installed by a licensed plumber.
- A Building Permit must be obtained for the installation.
- Subsidies are subject to available funding and provided on a first come, first served basis. The annual cap would be \$75,000.
- Property must be registered as a residential property within CKL. For properties with more than one dwelling unit within the building and where

there is a shared sanitary sewer lateral, the BWV(s) must be installed as per Ontario Building Code (OBC) on each unit's lateral upstream of the shared connection point. The property must be connected to the municipal sanitary sewer system, and is not a new home in the planning or construction stages.

- The property has no outstanding taxes or debts owed to the City at the time the application is processed.
- Proof that downspouts from eavestrough, sump pumps and/or foundation drains are disconnected from the City's sanitary sewer system (if applicable) must be provided in order to reduce potential inflow and infiltration into the sanitary system.
- The subsidy is only allowed for first time installations and is not for replacement devices.
- Installation must be completed before applying for the subsidy.
- Homeowners must submit a completed application that includes invoice(s) marked "paid in full" that shows a cost breakdown for all charges, and clearly shows the plumbers Ontario College of Trades registry number and a copy of the building permit and final inspection.
- Where multiple BWVs are required for a property based on number of dwelling units as per OBC, an application is required for each separate installation.

A draft Council Policy and Management Directive are attached to this report as Appendix A and Appendix B respectively. These documents provide more details on the proposed program if one were to be adopted.

Although residents who install a backwater valve may significantly reduce the risk of basement flooding; there is no guarantee that installing a backwater valve will completely prevent basement flooding in the future. Of the 53 sewer back-ups reported within CKL from 2016-2019, 52 of the events were caused by reasons other than surcharging of sewers related to extreme weather events. The vast majority were caused by blockages and tree root growth on the private side of the sanitary line, which can easily be mitigated by homeowners with regular maintenance of their lateral. The remaining event is suspected as caused by high flows as it was raining at the time, but was never verified as an inspection did not find any cause of the back-up. Prior to the event in January 2020, the last confirmed case of sanitary sewage back-ups caused by high flows was in Fenelon Falls in 2015 and was the result of equipment failure, which has since been rectified.

Based on the low frequency of backups caused by extreme weather events resulting in surcharging sewers due to high flows, and the potential financial impacts to the water and wastewater user rates of providing a subsidy, Staff continue to not recommend implementation of a backwater valve subsidy program at this time.

Other Alternatives Considered:

If Council wishes to implement a Backwater Valve Subsidy Program as described in the Rationale section of this report and further in the Council Policy and Management Directive attached as Appendix A and B respectively, staff recommend the following resolution be adopted:

“That Report WWW2020-009, **Backwater Valve Subsidy Program** be received;

That the policy entitled Backwater Valve Subsidy Program Policy appended to Report WWW2020-009 as “Appendix A” be adopted, numbered and inserted in the Corporate Policy and Procedures Manual;

That the Back Water Valve Subsidy Program Management Directive be received; and

That \$75,000 be included in the 2021 Water & Wastewater Operating Budget to be funded through the Sewer Infrastructure Reserve.”

Alignment to Strategic Priorities

The recommendation to Council is consistent with the Council Adopted Strategic Plan in the following ways:

“Healthy Environment” – The additional protection of the sanitary infrastructure will help in the prevention and reduction of environmental spills and damages associated with extreme weather events interacting with the municipalities sanitary system.

“An Exceptional Quality of Life” – will be met through the proper servicing and collection of appropriate user fees to fund the maintenance, capacity and growth of the municipal water and wastewater systems. Increasing the amount of homes of a backwater valve device will also update the municipality’s community preparedness to address natural hazards such as extreme weather events.

“Good Government” – will be met through increasing the efficiency and effectiveness of service delivery and ensuring that the municipal assets are well maintained and managed.

Financial/Operation Impacts:

Maintaining the status quo would not present any additional financial/operational impacts to consider.

If Council chooses to adopt the Backwater Valve Subsidy Program as presented in this report as an alternative option, the program would present the following financial impacts.

The subsidy program being proposed would provide a subsidy for 50% of the costs associated with the installation of a backwater valve on a sanitary sewer line for a residential property; up to \$750 per property. For 2021, it is being proposed to cap the annual available subsidy at \$75,000.

On average the cost for installation of a backwater valve is approximately \$1,500. This cost estimate includes the cost of the valve, and any eligible labour, materials, permit fees and taxes for the installation of the valve. It does not include any interior or exterior restoration costs which are not eligible to be claimed as part of the subsidy program. It is estimated with an annual cost of \$75,000 (for 2021), approximately 100 properties could receive the subsidy assuming that they are eligible to receive the full subsidy amount of \$750. The program would be offered on a first come, first served basis for application submission. Those received after the budgeted amount has been expended in each calendar year would be considered the following budget year, with the subsidy being provided on the basis that funding would be available.

The proposed 2021 annual budget of \$75,000 represents 0.4% of the overall Water & Wastewater user rate budget. It is unknown at this time how many residents would take advantage of the subsidy program and whether \$75,000/year is an appropriate budget amount. In order to prevent any impacts to the annual user rate the subsidy amount would be funded from the Sewer Infrastructure Reserve. Funding the program in this manner will pull the unknown impacts from the operating budget to avoid potential unutilized budget allocation. Although funding from the reserve will reduce the amount available in the reserve fund which is typically used to fund capital projects. This will increase pressure on the fixed rate costs that fund the infrastructure reserve, depending on what is required annually from the reserve overall. It is further recommended that the subsidy amount be reviewed annually based on available funding and average number of applications received.

Implementing the subsidy program could potentially generate approximately \$16,100 in revenue per year in permit fees (\$157/permit) for the Building Division based on 100 properties per year being inspected.

At this time, it is felt that this program could be implemented with current staff resources. Staff hours are already accounted for in general Water and

Wastewater Division operations, and therefore no additional City resources are required to implement this program.

One thing to note for costing is that once the device is installed; it must be inspected by a licensed plumber once every 6-12 months, or as per manufacturer's recommendations to ensure they are in working order. This additional maintenance scheduling and cost would be the sole responsibility of the property owner. If the maintenance is not performed, there is no guarantee the device will perform as intended in preventing a sewer back-up.

Consultations:

Supervisor, Water and Wastewater Operations
Treasurer
Chief Building Official

Attachments:

Appendix A – Backwater Valve Subsidy Program Council Policy



Appendix A -
WWW2020-009 Backl

Appendix B – Backwater Valve Subsidy Program Management Directive



Appendix B -
WWW2020-009 Backl

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