



## Feasibility of Ensuring the Disconnection of Sanitary and Storm Laterals at Time of Demolition

**Date:** February 8, 2018

**To:** Public Works and Infrastructure Committee

**From:** General Manager, Toronto Water

**Wards:** All

### SUMMARY

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This Report presents Toronto Water's review of the City's policy and program (Site Servicing Program) for disconnecting municipal sewer service connections in respect to the timing of those disconnections and single-family residential building demolitions. This report has been prepared in consultation with Toronto Building.

The review concludes that the City's policy and program effectively limit potential infiltration contributions from private sewer service connections that may be disconnected by property owners and left uncapped at the time of home demolition. A change in the policy and program to the timing of disconnections is not recommended as it would add operational costs to the program, increase costs to property owners, and would not result in a discernible reduction in inflow and infiltration (I&I) to the sanitary sewer system given other I&I contributing sources.

The review has led to improved efficiencies between Toronto Water and Toronto Building as better coordination measures are being added to the program for single-family residential properties. While, the review did not examine the Site Servicing Program in respect to industrial, commercial, institutional (ICI) and multi-residential properties, staff will explore opportunities to increase coordination between Toronto Water and Development Engineering in Engineering and Construction Services (ECS) and City Planning to improve efficiencies for these clients.

### RECOMMENDATIONS

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The General Manager of Toronto Water recommends that:

1. City Council receive this report for information.

## FINANCIAL IMPACT

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This report has no financial impacts.

## DECISION HISTORY

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On October 5, 2016 City Council adopted without amendments MM21.11 - Request for report on Feasibility of Ensuring the Disconnection of Storm and Sanitary Laterals - by Councillor Christin Carmichael Greb, seconded by Councillor Jon Burnside. A copy of the Council Decision Document can be found at:

[City Council Decision October 5, 2016](#)

## COMMENTS

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### Background - Sewer Service Connections and Inflow and Infiltration

A sewer service connection (also known as a sewer lateral) is the pipe that conveys wastewater or stormwater from a building to the City's sewer main. The portion of the sewer service connection that runs from the City's sewer main to the property line of the property being serviced is the municipal sewer connection and is generally located within the public road allowance. The municipal sewer connection is the responsibility of the City of Toronto. The portion of the sewer service connection that runs from the property line of the property to the private plumbing of the building on the property being serviced is the private sewer connection, which is the responsibility of the private property owner.

A building can have both a sanitary sewer service connection and a storm sewer service connection. Sanitary sewer service connections convey wastewater flows from a building's plumbing (e.g., toilets, showers, floor drains, washing machines, etc.) to the City's sanitary or combined sewer system and ultimately to a City wastewater treatment plant. Storm sewer service connections convey stormwater runoff from a building to the City's storm sewer system, which is eventually discharged to the natural environment, typically City watercourses and Lake Ontario through storm sewer outfalls.

There are approximately 505,000 municipal sewer service connections in the City of Toronto, and they are one of the sources of inflow and infiltration (I&I) to the City's sewer systems. There are two components to I&I with many contributing sources:

- Infiltration refers to the migration of clear water present in sub-surface soil (i.e. groundwater) into sanitary sewer infrastructure under the ground's surface. Water can enter sanitary sewer infrastructure in the public road allowance and private property through defects such as cracks, breaks, pipe joint offsets, root intrusions, and are caused by material deterioration, settlement of the adjacent sub-soils and/or poor installation practices; and,

- Inflow refers to engineered stormwater collection mechanisms, purposely built for the purpose of transporting stormwater to a suitable outlet location, that have been connected to a sanitary network. Sources that contribute inflows can include residential downspouts, residential surface drains, catch basins, manhole pick holes, interconnections with storm sewers and foundation drain connections.

I&I in the City's sewer system can vary across the city due to variations in the condition of sewer main and sewer service connections, groundwater conditions, soil type, topography, basement and sewer service connection elevation and sewer connection practices. In addition, I&I contributions from various sources can vary depending on the time of year and magnitude of different storm events.

Toronto Water is undertaking area-specific I&I studies to investigate contributing sources of I&I to the City's sanitary sewer system, the impacts of I&I in the sewer system, and effective ways to reduce I&I in these areas. As an example, a study has been initiated in the Scott Street Pumping Station Service Area in downtown Toronto, and two I&I studies have been completed in other areas of the City as follows:

- *Basement Flooding Study Area 9 I&I Study* - completed in 2016 for Basement Flooding Study Area (Area 9) in Etobicoke, this I&I study investigated contributing sources of extraneous I&I into the sanitary sewer system; and,
- *Wirral Court Pumping Station (Phase 1 Pilot) I&I Reduction Study* - completed in 2017 for an area in south-central Scarborough that is serviced by the Wirral Court Pumping Station, this I&I study investigated the causes of extraneous water entering the study area's sanitary sewers and impacts on the capacity of the pumping station.

Both studies involved detailed field investigations including flow monitoring, CCTV inspections, and smoke and dye testing to identify I&I contributions from both public and private property to the sanitary sewer system.

The two studies did not identify groundwater infiltration contributions from private sewer service connections as a main contributor of I&I to the sanitary sewer system. The main contributors of I&I to the sanitary sewer system were identified to be inflows from private property including private foundation drains and residential downspouts (the primary reason for Council adopting Mandatory Downspout Disconnection policies). Inflows from public infrastructure, such as sanitary maintenance holes were also identified as significant contributors to I&I in the sanitary system.

Reducing I&I in the City's sewer systems is a long-term effort. The findings and lessons learned from completed and future area-specific I&I studies will inform the development of policies, projects, and/or programs in the future to achieve meaningful and cost-effective I&I reductions in the longer-term. In the meantime, current ongoing Toronto Water initiatives that help to reduce I&I include:

- Mandatory Downspout Disconnection Bylaw that requires property owners to disconnect their downspout from the City's sewer system unless an exemption has been granted by the General Manager of Toronto Water in circumstances where it

would be hazardous or not technically feasible to disconnect. The final phase for property owners to disconnect was December 3, 2016;

- Sewer Main Inspection Program - \$10 million in 2018 and \$100 million over 10 years for CCTV inspections to investigate sewer mains; and,
- Sewer Infrastructure Renewal Program - \$77 million in 2018 and \$676 million over 10 years to repair and rehabilitate sewer mains.

## **City's Disconnection Policy for Sewer Service Connections**

The review focused on the City's current disconnection policy for sewer service connections as it applies to the demolition of a single-family residential building. This section of the Report discusses:

1. Sewers By-law Requirements for Building Demolitions;
2. Demolition and Construction Permitting Process for Residential Infill Development;
3. Municipal Sewer Service Disconnections by the Site Servicing Program; and,
4. Private Sewer Service Disconnections

### **1. Sewers By-law Requirements for Building Demolitions**

The Sewers By-law requires the disconnection of the existing municipal sewer connection and a new municipal sewer connection to be installed in a number of circumstances. These include, under §681-11 C and §681-11 D, where there is a subdivision or severance of a lot or parcel of land or change in location of a building on a lot; where *an existing building is substantially demolished* or where there is a construction of a new or reconstructed building.

In certain circumstances, under §681-11 D(3), the City may permit the re-use of a municipal sewer connection servicing a residential property when an existing building is substantially demolished, if the existing municipal sewer connection meets current City standards and specifications, is not a double connection, does not have record of history of sewer back-ups and is free of structural and operational defects.

### **2. Demolition and Construction Permitting Process for Residential Infill Development**

Since the entire City is an area of residential demolition control, a building permit and demolition permit is required for the demolition of an existing residential building and construction of the new or reconstructed residential building.

Demolition and building permits are issued by Toronto Building pursuant to the Building Code Act. The building permit is required to be issued by Toronto Building prior to the issuance of a demolition permit. These requirements apply to all types of residential building construction including single-family dwellings, duplexes, and triplexes, townhouses, etc. Demolition permit data from Toronto Building identifies that the City

issued 4,852 demolition permits (approximately 1,210 per year) for residential buildings from 2014 to 2017.<sup>1</sup>

For all types of residential building demolition and/or construction, Toronto Building requires the applicant to complete and submit an Application for a Permit to Construct or Demolish, a survey and grading plan, and other forms. One of the forms required with the residential demolition permit application is a completed Demolition Permit Application List, in which the applicant is required to declare that they have arranged/will arrange with the proper authorities for the termination and capping of all services and utilities including, but not limited to, water, sewer, gas, electricity, telephone and cable.

Toronto Building has advised that the issuance of a demolition permit for an existing residential building prior to a building permit for the replacement residential building is extremely rare and requires Community Council approval. This minimizes the risk of a building being demolished and the site remaining undeveloped for an extended period of time with abandoned private sewer service connections connected to the City's sewer system.

### **3. Municipal Sewer Service Disconnections by the Site Servicing Program**

Established in 2008, the City's program for municipal water and sewer connections and disconnections (referred to as the Site Servicing Program) is administered by the Distribution and Collection section in Toronto Water. The Site Servicing Program's services are delivered by municipal contractors who undertake the connection and disconnection work.

For new residential building construction and/or demolition (when more than 50% of the first story (above grade) of an existing building has been demolished), the property owner is required to make an application to the Site Servicing Program for the connection and/or disconnection of the municipal sewer service connection, in accordance with the Sewers Bylaw. The flat-rate fee for the disconnection of a municipal sewer service connection is currently \$1,420 for a single-family residential application.

Once an application is received by the Site Servicing Program, the following procedures are typically followed for municipal sewer service disconnections for single-family residential properties:

- The Program contractor disconnects the existing municipal sewer service connections when a new municipal sewer service connection is installed, which is typically completed in one visit to the site;
- The timing of the disconnection and connection work typically occurs after demolition of an existing building and during the construction of the replacement building;

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<sup>1</sup> Residential demolition permit data includes single-family dwellings (detached and semi-detached, townhouse), duplex, duplex/semi-detached, two unit detached, and three plus units detached.

- The Program contractor employs closed-circuit camera TV inspections and dye testing, where possible, to locate the municipal sewer service connections that are to be disconnected; and,
- The disconnection of the existing municipal sewer service connection is typically undertaken by severing and capping, plugging, or clamping the pipe at its connection point to the sewer main, which is considered best practice because:
  - It ensures that the entire length of the sewer service connection pipe is physically disconnected from the sewer main, which most effectively limits the potential for infiltration contributions to the City's sewer system from water that may enter the sewer service connection pipe through breaks, cracks, and joints;
  - During any subsequent CCTV inspections of the City's sewer mains, Toronto Water can confirm that the cap or plug at the sewer main is in good condition and that water is not entering the sewer main at that location; and,
  - Toronto Water can undertake remediation of the caps or plugs (if required) as part of sewer main rehabilitation work.

The Site Servicing Program is highly effective in successfully completing the disconnection of municipal sewer service connections following the practices described above when an application is received by the Program. For single-family residential applications, the connection and disconnection work is undertaken by the Site Servicing Program's contractors 121 calendar days on average after a residential building demolition permit application is received by Toronto Building.<sup>2</sup>

From 2008 to 2017, the Site Servicing Program successfully completed the disconnection of existing sewer service connections for 7154 of the 7515 applications received from single-family residential properties, which represents a 95 per cent completion rate. Reasons why the Site Servicing Program was unable to complete the disconnection of the existing sewer service connections at the City's sewer main for single-family residential applications include:

- The location of the sewer service connection to be disconnected could not be identified when it connected to a double sewer connection; and,
- CCTV inspection and dye testing was inconclusive and the contractor could not verify which sewer service connection was inactive and to be disconnected.

#### **4. Disconnection of Private Sewer Service Connections**

A private property owner may disconnect the private sewer service connection during demolition of a residential building or may leave it in place.

Private property owners generally do not advise Toronto Water if and when the private sewer service connection has been disconnected and usually Toronto Water does not become aware of such a disconnection until the private property owner applies for a

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2. For single-family residential properties, Toronto Water receives an application for a new municipal sewer connection 65 calendar days, on average, after the demolition permit application date. The Site Servicing Program undertakes the connection and disconnection work 56 calendar days, on average, after the New Sewer Connection Application date is received by Toronto Water.

new municipal service connection and Toronto Water undertakes disconnection of the municipal sewer service connection.

If the private portion of the sewer service connection is disconnected by a property owner during demolition and left uncapped, there may be the potential for infiltration to the City's sewer system until such time as it is capped or the municipal sewer connection is severed and capped.<sup>3</sup>

Based on a review of the City's current policy and statistics from the Site Servicing Program for single-family residential properties, Staff consider that the City's current disconnection policy effectively limits the potential for infiltration to the City's sewers from private sewer service connections if they are disconnected by the property owner during demolition and left uncapped. In summary:

- The Sewers By-law requires the disconnection of the existing municipal sewer connection and a new municipal sewer connection to be installed, except in the case of permitted re-use, as described above;
- Site Servicing Program contractors utilize best practices by severing and capping, plugging or clamping at the sewer main, when technically feasible;
- For single-family residential applications, the connection and disconnection work is undertaken by the Site Servicing Program's contractors 121 calendar days on average after a residential building demolition permit application is received by Toronto Building;
- A review of all historical data shows that the Site Servicing Program completes over 95 percent of all disconnections in conformity with existing procedures (the reasons for the variance from full compliance includes issues such as homes that have a shared connection to the sewer main or inconclusive CCTV inspection and dye testing results making it difficult for the City contractor to verify which sewer service is inactive and to be disconnected); and,
- Toronto Building's residential demolition permitting process further limits the potential timeframe in which a private sewer service connection may be disconnected.

## **Disconnection Policies and Practices in Other Municipalities**

As requested by Council, Toronto Water staff undertook a jurisdictional scan of sewer service disconnection policies and practices in other municipalities with a focus on single-family residential properties. This included a review of by-laws, demolition applications, and disconnection procedures in Canadian and U.S. municipalities. Attachment 1 provides a summary of the information collected from municipal websites and/or communications with staff in other municipalities.

The jurisdictional scan identified three common approaches for the disconnection of sewer service connections associated with demolitions for single-family residential buildings.

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<sup>3</sup> Depending on where it is capped on private property, a private sewer service connection still has the potential to contribute infiltration to the City's sewer, until it is severed and capped at the sewer main.

### **1. Municipal Sewer Service Disconnection Program**

The first approach is that the municipality disconnects (i.e., cuts and caps or plugs) the sewer service connection at the sewer main after demolition of an existing building and during construction of the replacement building. The City of Toronto follows this approach. The City of Calgary and City of Markham follow a similar approach.

Calgary's wastewater by-law requires the property owner to notify the municipality when a sewer service connection is being discontinued and requires disconnection. Staff at the City of Calgary advised that the municipality disconnects and caps the sewer service connection at the sewer main sometime after the construction of the new or replacement building and the property owner pays the costs of the disconnection work to the municipality. Similarly, in the City of Markham, municipal contractors disconnect and cap existing sewer service connections at the sewer main and property line when a new sewer service connection is being installed. The work by the municipal contractor occurs in one visit and is paid for by the property owner. The timing of the disconnection and new connection work by the municipal contractor can occur prior to or after the actual demolition of the existing building or construction of the replacement building.

### **2. Private Sewer Service Disconnection**

The second approach puts the onus on the property owner to disconnect and cap the private sewer service connection at or near the property line on private property prior to or at the time of a building demolition. This approach was followed in the City of Ottawa, the City of Greater Sudbury, the City of Port Colborne, and the City of Kingston, each of which do not have a municipal program for sewer service disconnections comparable to the City of Toronto. This approach was also followed in the City of Houston.

Municipal by-laws concerning sewers or building and demolition in the above-mentioned Canadian municipalities typically include the requirement that the property owner provide satisfactory proof to the municipality that arrangements have been made with the proper authorities for the disconnection and capping of sewer service connections as part of the demolition permit approvals process. Procedures in municipalities typically include an on-site municipal inspection to confirm the disconnection and capping of the sewer service connection by the property owner's contractor at or near the property line on private property prior to backfilling, and in some cases at the sewer main in the municipal right-of-way (e.g. City of Kingston).

### **3. Municipal and Private Sewer Service Disconnection**

The third approach is a combination of the first two approaches and involves the disconnection and capping of the sewer service connection by the private property owner at the property line and an inspection prior to demolition, followed by the disconnection of the same sewer service connection by the municipality or private utility commission at the sewer main when a new sewer service connection is installed during the construction of the replacement building. This approach was followed in the City of



Delta, B.C. and the Washington Suburban Sanitary Commission, which is a private company that services 1.8 million properties in suburban counties outside of Washington D.C.

The jurisdictional scan provides useful information to identify common approaches in other municipalities that could be applied to the City of Toronto to ensure the disconnection and capping of sewer service connections at the time of demolition. When comparing the City of Toronto's current practices to other municipalities, it is important to consider differences between the City and these other municipalities (e.g. size of the municipality, size and age of the sewer system, and whether the municipality is an older urban area with more residential infill development or a newer suburban areas with less residential infill development, etc.). Determining whether sewer service disconnection policies and practices in other municipalities are suitable for the City of Toronto needs to take these differences into account.

### **Assessment of Options for Site Servicing Program Changes**

Based on the common approaches identified in the jurisdictional scan, Staff identified two feasible changes that could be implemented by the City to ensure the disconnection of sewer service connections at the time of a building demolition for single-family residential properties. They are:

- Option 1 - Disconnection and Capping of the Municipal Sewer Service Connection by the City at the Time of Demolition
- Option 2 - Disconnection and Capping of the Private Sewer Service Connection by the Property Owner at the Time of Demolition

The advantages and disadvantages of each option compared to the City's current Site Servicing Program are presented in this section of the Report.

#### **Option 1 - Disconnection and Capping of the Municipal Sewer Service Connection by the City at the Time of Demolition**

This option would involve changes to the Site Servicing Program to carry out the disconnection (i.e. sever and cap, plug or clamp) of existing municipal sewer service connections at the sewer main at the time of a building demolition (i.e. prior to or shortly after demolition).

This option would necessitate two separate visits to the site by the Site Servicing Program's contractors since it is not technically feasible to install a new sewer service connection at the sewer main at the time of demolition. Building design changes (i.e., elevation, depth and grade) may occur after demolition and at the time of construction, which may necessitate changes to the design of a sewer service connection that could not be accommodated after its installation.

This change would require the Site Servicing Program's contractors to return to the site on a second occasion to install the new sewer service connection at the sewer main

when the replacement building is constructed. Accordingly, this would increase operational impacts to the Site Servicing Program and increase the costs to the property owner.

Administrative changes to the Site Servicing Program and Toronto Building's Building and Demolition Permitting process would be required to coordinate notification to the applicant of the Site Servicing Program changes. This would also require stakeholder communication and education activities.

The advantages and disadvantages of Option 1 compared to the City's current policy with respect to limiting infiltration, operational impacts, and property owner impacts are summarized in Table 1 below.

**Table 1: Option 1 Advantages and Disadvantages**

Advantages	Disadvantages
<p><b>Limit Infiltration Contributions</b></p> <p>Generally eliminates the potential for infiltration contributions from the private sewer service connection to the City's sewer system between the period of building demolition and reconstruction.</p>	<p><b>Operational Impacts</b></p> <p>Need for additional Site Servicing Program staff and training for administering additional and separate contracts.</p> <p>Doubling of the administration process for Site Servicing Program associated with managing deposits and refunds, and contract procurement and management.</p> <p><b>Property Owner Impacts</b></p> <p>Increase the Site Servicing Program's sewer service disconnection fee to the applicant for single-family residential properties from \$1420 to an estimated \$4100 in order to recover the City's costs.<sup>4</sup></p> <p>Construction-related impacts such as noise, vibration and dust that generally occurs with excavation and infrastructure work in the City's right-of-way would be experienced twice by the community.</p>

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<sup>4</sup> Cost estimate takes into consideration labour, equipment and material costs associated with two site visits by the Site Servicing Program's contractors.

## **Option 2 - Disconnection and Capping of the Private Sewer Service Connection by the Property Owner at the Time of Demolition**

This option would require the property owner to disconnect and cap the existing private sewer service connection at the time of demolition (i.e. prior to or shortly after demolition).

As it is best practice to disconnect the sewer service connection at the municipal sewer main, this requirement would need to be in addition to the existing requirement under the Site Servicing Program, namely disconnection by the City of the municipal sewer service connection at the sewer main when a new sewer service connection is installed for the replacement building. In short, there would be two disconnections and caps on the sewer service connection but at different points in time - one at or near the property line on the private property (by the property owner) at the time of demolition and one at the sewer main (by the City) at the time of reconstruction.

This option would necessitate administrative changes to Toronto Building's Demolition Permit application process (e.g., modification of application forms and requirements checklist). If an on-site inspection was incorporated into this option as it is in other municipalities, it would also necessitate operational changes to Toronto Building's permitting process or Toronto Water's Site Servicing Program to confirm that the private sewer service connection has been disconnected by capping prior to backfilling, at the time of demolition by the property owner. Currently, Toronto Building and Toronto Water do not have processes and staff resources in place to undertake such inspections.

The advantages and disadvantages of Option 2 compared to the City's current policy with respect to limiting infiltration, operational impacts, and property owner impacts are summarized in Table 2 below.

**Table 2: Option 2 Advantages and Disadvantages**

Advantages	Disadvantages
<p><b>Limit Infiltration Contributions</b></p> <p>Generally eliminates the potential for infiltration contributions from the private sewer service connection to the City's sewer system between the period of building demolition and reconstruction.</p>	<p><b>Operational Impacts</b></p> <p>Administrative changes to Toronto Building's Permitting Process are required.</p> <p>On-site inspection (if incorporated) requires operational changes to Toronto Building's permitting process or Toronto Water's Site Servicing Program.</p> <p>Additional staff and resources required for Toronto Building or Toronto Water to undertake on-site inspections (if incorporated).</p> <p><b>Property Owner Impacts</b></p> <p>Additional costs to the property owner to disconnect the existing sewer service connection by capping at or near the property line at the time of demolition. One estimate received from a wastewater servicing company was \$2,000 for the excavation, cutting and capping of a sewer service connection at or near the property line on private property.</p> <p>A fee (estimated at \$300 to recover the City's costs) would be charged by the City for the on-site inspection (if incorporated) to confirm the disconnection by capping by the property owner.</p>

**Summary of Options Assessment**

The key advantage of both options compared to the current Site Servicing Program is that they would generally eliminate the potential for infiltration contributions from the private sewer service connection to the City's sewer system between the period of demolition and reconstruction. However, both options have disadvantages including operational and administrative burdens on City Programs, the need for additional staff resources, and additional costs to property owners.

With respect to I&I reduction benefits in the City's sewer system of either option, Staff consider that eliminating the potential for infiltration contributions from approximately 1,210 private sewer service connections per year (based on approx.1,210 residential

building demolition permits issued per year) for the period between demolition and disconnection and capping of the municipal sewer service connection, would not likely result in a discernible reduction of I&I to the City's sanitary sewer system, in light of other contributing sources of I&I. Two recently completed I&I studies (as noted above) did not identify groundwater infiltration contributions from private sewer service connections as a main contributor of I&I to the sewer system.

## **Conclusions and Opportunities for Improvement**

Based on the review of the City's current disconnection policy and Site Servicing Program for single-family residential properties, Staff conclude that a change to the City's current disconnection policy and Site Servicing Program with respect to the timing of disconnections and demolition is not necessary.

The Site Servicing Program, in its current form, is cost-effective, operationally efficient, and effectively limits the potential for infiltration contributions from sewer service disconnections associated with single-family residential building demolitions. Staff do not recommend the implementation of either of the two options considered to ensure the disconnection and capping of sewer service connections at the time of demolition. Staff consider that the implementation of either option would not likely result in a discernible reduction of I&I to the sanitary sewer system, and both options would have additional operational and administrative burdens on the City's programs and additional costs to property owners.

### **Opportunities for Improvement - Single-Family Residential Properties**

As part of its review, Toronto Water compared demolition permit data for residential buildings from Toronto Building to the number of single-family residential applications for a new municipal sewer service connection and disconnection or re-use of the existing municipal sewer service connection submitted to the Site Servicing Program.

The data from both programs is provided in Table 3 and shows a greater number of demolition permits issued by Toronto Building for residential buildings than applications made to the Site Servicing Program for a new municipal sewer service connection and disconnection of the existing municipal sewer service connections or re-use of the existing municipal sewer service connection from 2014 to 2017.

**Table 3: Demolition Permits Issued for Residential Buildings and Site Servicing Program Single-Family Residential Applications (2014-2017)**

Year	Demolition Permits Issued by Toronto Building - Residential Buildings <sup>5</sup>	Single-Family Residential Applications to Site Servicing Program (New Municipal Sewer Service Connection and Disconnection or Re-Use)
2014	1178	905
2015	1285	1118
2016	1224	1093
2017	1165	962

One possible outcome for instances when a new municipal sewer service connection is required but an application is not submitted by the property owner to the Site Servicing Program is the unapproved re-use of the existing municipal sewer connection, which is not in compliance with the Sewers By-law.

Better information and data sharing and coordination between Toronto Water and Toronto Building can help address this problem. The two divisions have worked together to improve information and data sharing and coordination on the installation of water meters. For example, Toronto Building shares information with Toronto Water on whether a water meter is observed during building inspections for a new single-family residential construction.

Toronto Water and Toronto Building have explored opportunities to apply similar approaches to improve information and data sharing and coordination between the Site Servicing Program and Toronto Building's Construction and Demolition Permit Program, including:

- Transfer of residential infill building permit application information from Toronto Building to the Site Servicing Program;
- Transfer of building permit issuance and start of construction data to Toronto Water; and
- Enhanced communication to building and demolition permit applicants to advise them of requirements for new municipal sewer service connections and associated disconnections through the Site Servicing Program.

Enhanced information and data sharing and coordination pertaining to building and demolition permits will inform Toronto Water of new residential buildings that require a new municipal sewer service connection under the Sewers By-law so that Toronto Water can follow-up when applications for a new municipal sewer service connection and associated disconnections have not been submitted by the property owner.

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<sup>5</sup> Residential demolition permit data includes single-family dwellings (detached and semi-detached, townhouse), duplex, duplex/semi-detached, two unit detached, and three plus units detached.

These enhancements will improve the Site Servicing Program's effectiveness by ensuring that all new residential buildings that are required to apply to the Site Servicing Program for a new municipal sewer service connection and associated disconnections do so. In turn, this will reduce the potential for unapproved re-use of the existing municipal sewer service connection, which is not in compliance with the Sewers By-law.

### **Opportunities for Improvement - ICI and Multi-Residential Properties**

While this report has focused on single-family residential properties, there are also opportunities to improve municipal sewer service disconnections for ICI and multi-residential properties.

ICI and multi-residential developments have different application requirements for demolition and building permits and municipal sewer service connections and disconnections than single-family residential properties, and they involve a Site Plan review process through Development Engineering in Engineering and Construction Services.

While data has not been compiled by Toronto Water staff on the Site Servicing Program concerning ICI and multi-residential properties, staff will explore opportunities to increase coordination between Toronto Water and Development Engineering in ECS and City Planning to improve efficiencies for the program.

### **CONTACT**

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### **SIGNATURE**

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Lou Di Gironimo  
General Manager, Toronto Water

## ATTACHMENTS

### Attachment 1: Disconnection of Sewer Service Connections in Other Municipalities

Municipality	Disconnection Requirements and Procedures
<b><i>Municipal Sewer Service Disconnection Program</i></b>	
City of Calgary, AB	<p>Wastewater Bylaw requires that a person making, altering, disconnecting or removing a connection to the wastewater system must obtain written approval from the Director, Water Services, before making, altering, disconnecting or removing the connection, and that the owner pay the City all costs for the disconnection before proceeding with the work.</p> <p>The property owner applies to the City of Calgary for the disconnection of the sewer service connection by cutting and capping it at the sewer main, which is typically done after demolition and construction of a new or replacement building.</p>
City of Markham, ON	<p>The Bylaw respecting Construction, Demolition, Change of Use Permits and Inspections requires that applications for permits to demolish be accompanied by proof satisfactory to the Chief Building Official that arrangements have been made with the proper authorities for the termination and capping of all the water, sewer, gas, electric, telephone or other utilities and services.</p> <p>The Residential Infill Lot Grading and Servicing (RIGS) application process deals with disconnection of existing sewer service connections and installation of new sewer service connections for residential infill construction. RIGS approval occurs prior to the issuance of the building permit</p> <p>The property owner applies to City of Markham Engineering, and the City's contractor undertakes the disconnection and capping of existing sewer service connections and installation of the new sewer service connection at the sewer main in one visit, which is paid for by the homeowner. The timing of the sewer service disconnection by the City is independent of the timing of the building permit or actual demolition of the existing building or construction of the replacement building.</p>



Municipality	Disconnection Requirements and Procedures
<b><i>Private Sewer Service Disconnection</i></b>	
City of Port Colborne, ON	<p>The By-law Respecting Permits for Construction, Demolition, Occupancy and Change of Use, Transfer of Permits, and Inspections requires that where an application is made for a demolition permit, that the applicant provide satisfactory proof that arrangements have been made with the proper authorities for the termination and capping or plugging of all sewer services.</p> <p>The property owner disconnects and caps the sewer service connection at the property line at the time of demolition. The disconnection and capping work is inspected by a City Building Inspector before backfilling the excavation.</p>
City of Kingston, ON	<p>The Sewers By-law requires that when an owner permanently discontinues the use of a sewer lateral to a building or buildings the sewer lateral must be disconnected at the sanitary sewer and removed at the Owner's expense. All work must be inspected by the Operating Authority and the Owner shall pay for such inspection as required in the Miscellaneous Charges and Appliance Rental Rates By-law.</p> <p>The disconnection and capping of the sewer service connection is undertaken by the private contractor for the property owner at the sewer main and inspected by Utilities Kingston prior to backfill and demolition. Utilities Kingston signs a Confirmation of Removal of Services form, which is required by the Building Department for the demolition permit to be issued by the City.</p>
City of Ottawa, ON	<p>The Building By-law requires that when an application is made for a demolition permit, the applicant provide satisfactory proof that arrangements have been made with the proper authorities for the termination and capping or plugging of all sewer services.</p> <p>The property owner disconnects and caps the sewer service connection at or near the property line on private property. The disconnection and capping work is inspected by the City of Ottawa (Development Review Services) before backfilling of the excavation.</p> <p>The City of Ottawa does not disconnect and cap existing sewer service connections at the sewer main when the new sewer service is being installed for the replacement building.</p>

<b>Municipality</b>	<b>Disconnection Requirements and Procedures</b>
City of Greater Sudbury, ON	<p>By-law Respecting Construction, Demolition, Change of Use Permits, Inspections and Fees requires, where an application is made for a demolition permit, that the applicant provide satisfactory proof that arrangements have been made with the proper authorities for the termination and capping or plugging of all sewer services</p> <p>The property owner disconnects and caps the sewer service connection on private property or at the property line. The disconnection and capping work is inspected by the municipality and typically done prior to demolition of the building.</p>
City of Houston, TX	<p>Applicants for a demolition permit are required to have sewer service connections disconnected and capped within five feet of the property line on private property, by a Master Plumber licensed by the State of Texas. The Master Plumber must have the sewer service disconnection permitted and inspected by the City of Houston (Plumbing Inspection Section) as part of the demolition permit application and issuance.</p> <p>The City of Houston does not disconnect and cap existing sewer service connections at the sewer main when the new sewer service is being installed for the replacement building.</p>
<b><i>Municipal and Private Sewer Service Disconnection</i></b>	
City of Delta, BC	<p>Demolition Permit Requirements on the City of Delta's website identify that sewer service connections must be disconnected and capped by the applicant on private property (typically done at the property line) for single-family residential demolitions. The work is inspected by the municipality before the applicant is permitted to proceed with the building demolition.</p> <p>The City of Delta will also replace and renew any municipal 100 mm sanitary or storm sewer connections greater than 25 years old by installing a new municipal service from the city main to the property line. The property owner will pay for the cost for disconnection of existing sewer service connections by the City's contractor at the sewer main if there is a realignment of services for the replacement building.</p>

<b>Municipality</b>	<b>Disconnection Requirements and Procedures</b>
<p>Washington Suburban Sanitary Commission</p> <p>(Prince George's and Montgomery counties in Maryland USA)</p>	<p>The Washington Suburban Sanitary Commission (WSSC) website identifies that when planning total or partial demolition of a building, the WSSC requires certification that sewer services have been disconnected from the structure or portion of the structure awaiting demolition.</p> <p>For total demolition, WSSC provides customers with a written certification after a WSSC licensed Registered Master Plumber caps sewer service connections at the property line. WSSC's Regulatory Services Group inspects the plumber's work and reports the results on a "short form postcard permit", which is required to issue the demolition/raze permit. If the replacement building requires a new sewer service connection (e.g. if relocating building, existing service is in poor condition), WSSC's contractor will abandon (disconnect and cap) the existing sewer service connection at the sewer main when the new sewer service connection is installed, which is paid for by the property owner.</p>

Attachment 1: Disconnection of Sewer Service Connections in Other Municipalities