

Clause embodied in Report No. 9 of the Works Committee, as adopted by the Council of the City of Toronto at its Special Meeting held on July 30, 31 and August 1, 2002.

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### **Proposed Changes to the Water Service Replacement Program**

*(City Council at its Special Meeting held on July 30, 31 and August 1, 2002, adopted this Clause, without amendment.)*

**The Works Committee recommends the adoption of the report dated June 11, 2002, from the Commissioner of Works and Emergency Services.**

The Works Committee reports, for the information of Council, having requested the Commissioner of Works and Emergency Services to submit a report to the Committee:

- (1) on identification of the geographic locations of those homes that have received water service replacement where the flow was less than 18 litres per minute;
- (2) on identification of the geographic locations of complainants over the last three years who have not met the minimum flow criteria; and
- (3) through the 2003 budget process, on the existing parts of the City that still have lead or galvanized water services, and timelines and funding for replacement.

**The Works Committee submits the following report (June 11, 2002) from the Commissioner of Works and Emergency Services:**

Purpose:

To provide an update and suggest amendments to the City's Water Service Replacement Program.

Financial Implications and Impact Statement:

Council at its meeting of March 6, 7 and 8, 2002, approved the 2002 Water and Wastewater Capital Program which included total funding in the amount of \$23.8M (net of GST) for the current Water Service Replacement Program.

Increasing the minimum acceptable flow (MAF) from 18 to 27 litres per minute would result in estimated increases in funding of \$8.9M initially, and an additional \$2.9M annually thereafter.

Recommendations:

It is recommended that:

- (1) the Water Service Replacement Program (Appendix A) be amended as follows:
  - (i) the Water Service Replacement Program be directed exclusively to service single family residential properties (including mixed use commercial/single family residential);
  - (ii) the standard single family residential water service connection shall be 19mm (3/4 inch) in diameter and copper material;
  - (iii) a homeowner requesting the upsizing of their water service replacement greater than the standard size will be required to submit an analysis demonstrating the need for upsizing to the Commissioner of Works and Emergency Services, upsize the private portion of their service and pay the incremental cost of upsizing the public portion of the water service;
  - (iv) where upsizing is required for irrigation purposes, the homeowner is required to submit an outdoor water audit undertaken by a Certified Landscape Irrigation Auditor, identifying the irrigation system adjustments necessary to reduce their overall water usage consistent with the City's efforts to reduce outdoor water use;
  - (v) water service connections providing less than 7 litres per minute (1.54 gallons per minute) flow measured at the meter will be replaced as a first priority;
  - (vi) the Minimum Acceptable Flow (MAF) criterion used to determine whether a water service is to be replaced under this program remains at 18 litres per minute (3.96 gallons per minute); and
  - (vii) new water services for new or redeveloped properties will be provided at the owner's expense;
- (2) the Water Service Replacement Program funding be reviewed annually and the Capital Budget request be adjusted accordingly to provide a homeowner waiting period of 12 months; and
- (3) the lead and galvanized water service replacement be given high priority and the 2003 capital budget request be adjusted to provide a homeowner waiting period of less than 12 months.

Background:

Council at its meeting held on July 9, 1999, amended and approved the Harmonized Residential Water Service Connection Repair Program. The program is found in Appendix A.

The Works Committee, at its meeting held on September 10, 2001, had before it the following communications related to the upgrading or replacement of exterior water pipes as part of the Water Service Replacement Program:

- (1) dated August 1, 2001, from the Acting City Clerk advising that City Council at its meeting held on July 24, 25, and 26, 2001, referred to the Works Committee a Motion by Councillor Di Giorgio, seconded by Councillor Augimeri, respecting the upgrading or renewal of infrastructure, wherein it is resolved that whenever residents of the City of Toronto upgrade or replace exterior water pipes on residential properties at their expense, the City make arrangements to upgrade or replace the City portion of the pipes, up to three-quarters of an inch diameter, at the City's expense within the guidelines of the Water Service Replacement Program;
- (2) dated August 23, 2001, from Councillor Joe Mihevc, Ward 21 - St. Paul's, respecting the lead pipe replacement program and the need to improve the length of time of the waiting list from 15 months to 12 months; requesting that the funding in the 2002 capital budget be increased; and suggesting that a report outlining the outstanding requests and cost to upgrade such pipes would be helpful during budget deliberations; and
- (3) dated December 18, 2000, from the Honourable Charles Caccia, M.P. for Davenport, regarding the health problem posed by the 134,000 residential properties in Toronto serviced with water by lead or galvanized iron pipes; stressing the importance of the replacement of the pipes; and suggesting that consideration be given to inserting this item in the infrastructure plan to be worked out with senior levels of government.

The Committee referred the aforementioned communications to the Commissioner of Works and Emergency Services for a report thereon to the Committee, such report to also include consideration of the following options as part of the overall review:

- (1) review the minimum flow criteria required for upgrading water pipes with a view to increasing it by 50 percent;
- (2) allocating funds each year to be applied to the City's portion of the infrastructure; and
- (3) removing the limit and undertaking upgrades on an as-needed basis.

Comments:

The Water Service Replacement Program is used to replace substandard water services on a priority basis taking advantage of cost savings by coordinating the work with other underground and surface work that impacts the surface of the roadway and boulevard. Specifically, water services are replaced prior to road reconstruction in order to avoid road reinstatement costs; and in conjunction with watermain replacement projects. In addition, water services are replaced at the request of homeowners if the existing water service is found to be substandard as defined in the City's Water Service Replacement Program.

The approved 2002 Water and Wastewater Capital Budget contains a funding allocation for the Water Service Replacement Program separated by program categories as follows:

Program Components	2002 Approved Budget
Water Service Replacement in Conjunction with Road Reconstruction	\$5.9M
Water Service Replacement in Conjunction with Watermain Replacement	\$1.5M
Water Service Replacement at Homeowners Request	\$16.4M
TOTAL BUDGET:	\$23.8M

The current funding allocation supports the replacement of approximately 8,000 substandard (non-copper or flow less than 18 litre per minute) water services annually. A high percentage of these are lead services. The funding for this program has quadrupled from \$5.6M in 1999 to \$23.8M in 2002. The current level of funding represents approximately 13 percent of the Water and Wastewater District Capital Budget. This has resulted in an accelerated replacement of all substandard water services from an estimated 75 years to 30 years.

The following responds to questions arising from communications received by the Works Committee at its meeting of September 10, 2001.

City to Upgrade the Public Portion of a Water Service Connection  
Whenever a Homeowner is Prepared to Replace the Private Portion:

A number of alternatives exist within the present program for a homeowner interested in replacing the private portion of their water service as follows:

- (i) a homeowner who has replaced the private portion of their water service can apply and be placed on the "On-Demand" waiting list to have the public portion of their water service replaced up to a maximum size of 19mm (3/4 inch) diameter;
- (ii) a homeowner interested in having the full service (private and public portion) replaced has the option under Section 8 (i) of the program to have their name placed on the "On-Demand" waiting list for the replacement of the public portion of the water service. When their name reaches the top of the list, they have the option at that time to replace both the private and public portions at the same time;
- (iii) if a homeowner decides to proceed with the replacement of their full water service (private and public portion) ahead of the waiting list, they have the opportunity to proceed immediately and under Section 8 (ii) of the program to have their costs for the public portion reimbursed when their name reaches the top of the "On-Demand" waiting list in a given year; and
- (iv) alternatively, a homeowner can opt to replace the private portion of their water service when the City is unilaterally replacing substandard water services in conjunction with watermain replacement or road reconstruction projects along a given street.

### Reducing the “On-Demand” Waiting List from 15 to 12 Months:

The City has committed to replacing water services for homeowners on the “On-Demand” list within 12 months of an application being approved. However, there are circumstances which vary from year to year, including the number of applications received as well as the number of water services replaced with watermain or road reconstruction. While every effort is made in budgeting the necessary funds in a given year, there may be situations where the “On-Demand” exceeds the available funding. Currently, the waiting period for homeowners on the “On-Demand” list for 2002 is projected to extend to about 15 months. If this level of demand persists through 2002, an adjustment will be made in the preparation of the 2003 Water and Wastewater Capital Budget.

### Reducing the Number of Lead and Galvanized Water Services:

Homeowners can request the replacement of their lead or galvanized iron pipes by applying to the City and being placed on the “On-Demand” list. At the same time staff will ensure that these pipes are routinely replaced when working on watermain upgrading or road reconstruction projects.

We believe that the replacement of these water services materials must be given a very high priority for health reasons.

Accordingly, the “On-Demand” list will give the highest priority to the replacement of lead or galvanized water services. We will review the capital funding for this program annually to ensure the waiting period is less than 12 months.

### Increasing the Minimum Acceptable Flow (MAF) by 50 percent:

Prior to the City’s amalgamation and harmonization of the Water Service Replacement Program, the MAF approved by each of the former municipalities ranged from 14 to 15 litres per minute at the water meter. At that time, this was considered to be sufficient flow for a residential property. At the recommendation of the Works Committee on November 4, 1998, this limit was reviewed and increased to 18 litres per minute and subsequently approved by Council on November 25, 1998.

Increasing the minimum acceptable flow (MAF) by 50 percent would raise the standard to 27 litres per minute (5.94 gallons per minute).

Upon review of low water flow complaints received from homeowners, over the past three years, 36 percent failed the current MAF of 18 litres per minute. If the MAF was increased to 27 litres per minute, it is estimated that an additional 33 percent of the services which have been filed as low flow complaints would fail. This would result in a backlog of water services requiring replacement. The financial impact of increasing the MAF from 18 to 27 litres per minute is estimated to be an initial increase of \$8.9M to address the backlog of residents that have complained of low water flow to date and an additional annual increase of \$2.9M.

Given the significant backlog and annual cost impact to the Capital Program resulting from increasing the MAF from 18 to 27 litres per minute; recognizing the higher priority placed on the replacement of non-copper and services that fail to satisfy the 18 litre per minute MAF; and to further support the City's efforts to reduce overall water consumption through the forthcoming Water Efficiency Plan, an increase to the MAF is not recommended.

Conversely, situations do arise where the water service flow rate, when measured, is found to be completely unacceptable and should be replaced immediately. It is proposed, therefore, that water services with flows less than 7 litres per minute (1.54 gallons per minute) be replaced as a first priority by-passing the on-demand water service replacement list.

Resolving Practices Pertaining to the Water Service Replacement Program that Differ between the Former City of Toronto and Other Former Cities Currently not Addressed by the Program:

There are a number of practices pertaining to the Residential Water Service Repair Program that differ between the former City of Toronto and the other former municipalities that are not addressed by the present program and require harmonization.

(1) Redevelopment of residential property serviced by a substandard water service:

In the former City of Toronto, the owner is still eligible for a free new water service connection in accordance with the current Water Service Connection Repair Program, while in the other former municipalities, the homeowner assumes all costs associated with a new water service connection.

(2) Mixed use commercial and residential property:

Currently, mixed use commercial/single family residential properties are only eligible under the program within the former City of Toronto.

(3) Maximum size of water service for multi-unit residential property:

In the former City of Toronto, the size of the upgraded water service is based on the number of fixtures within a given building which, in some cases, may result in a new service up to two inches in diameter. However, in each of the other former municipalities, a free service is limited to one inch in diameter, and the owner is required to pay for the difference in cost when a larger water service is required.

(4) Definition of a multi-unit residential property:

In the former City of Toronto, an owner with a building of up to ten units may apply for the program. In the other former municipalities, only residential duplex properties qualify.

The single family residential sector represents the majority of the substandard lead and galvanized water services. Given the limited availability of funding and competing water and

wastewater infrastructure renewal needs, the replacement of substandard water services within the single family residential sector is a priority. It is recommended, that the Water Service Repair Program funding be directed exclusively to the single family residential sector, consequently excluding the multi-unit residential sector from eligibility. This will allow the replacement of the substandard water services within the single family residential sector in the shortest timeframe possible.

It should be noted that while the replacement of the public portion of a substandard water service will increase water flows at the street line, the full flow benefits of this replacement will only be realized when the private portion (street line to the water meter) of the water service is also replaced. However, most homeowners that receive an upgraded water service on the public portion of their water service through the Water Service Replacement Program currently do not replace the private portion of their service, even though the Water Service Replacement Program provides a number of options for the full length water service replacement (private and public portion).

Furthermore, upsizing of water services (larger than the standard 19mm diameter) for single family residential properties is generally requested to service outdoor water use such as landscape irrigation. However, if the irrigation systems are not optimized for efficient water usage, they may conflict with the City's forthcoming Water Efficiency Plan aimed at reducing outdoor water use and the City's peak day water demand.

The following changes are being recommended to harmonize the program across the City:

- (a) the program apply exclusively to single family residential properties (including mixed use commercial/single family residential);
- (b) the maximum standard size of water service connections be limited to 19mm (3/4 inch) in diameter;
- (c) where a water service connection is to be replaced under this program and the homeowner requests a larger diameter connection than the standard size, the homeowner will be required to upsize the private portion of the water service and charged the incremental cost of upsizing the public portion, conditional on approval by the City;
- (d) where upsizing is required for irrigation purposes, the homeowner is required to submit an outdoor water audit undertaken by a Certified Landscape Irrigation Auditor, identifying the irrigation system adjustments necessary to reduce their overall water usage consistent with the City's efforts to reduce outdoor water use; and
- (e) property owners who redevelop a property serviced by a substandard water service will be required to upgrade the service at their cost.

#### Conclusions:

The Water Service Replacement Program as approved by Council on July 9, 1999, has been implemented with significant funding increases annually since 1999 to support the Program's

increased popularity and corresponding increase in the number of low water flow complaints. Increasing the scope of the program by raising the Minimum Acceptable Flow will redirect funds from the program's principal priority of replacing substandard (lead and galvanized) water services, and will place additional pressure on the funding requirements.

While the replacement of the public portion of a substandard water service will increase water flows at the street line, the full flow benefits of this replacement will only be realized when the private portion of the water service (from street line to the water meter) is also replaced. However, most homeowners that receive an upgraded water service on the public portion of their water service through the Water Service Replacement Program currently do not replace the private portion of their service, even though the Water Service Replacement Program provides a number of options for the full length water service replacement (private and public portion).

The City continues its commitment to allocate appropriate funding to maintain an "On-Demand" waiting list of no more than 12 months for the replacement of water services requested by homeowners.

Limiting the Water Service Replacement Program to the provision of a standard water service size to 19mm (3/4 inch) diameter exclusively to single family residential properties (including mixed use commercial/single family residential properties) will ensure that the City's water conservation efforts are supported while harmonizing a practice which presently differs between the former City of Toronto and the other former municipalities.

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## APPENDIX A

### RESIDENTIAL WATER SERVICE CONNECTION REPAIR PROGRAM

- (1) Water Service Connection Replacement Program:
  - (i) The City will replace at no cost to the homeowner, substandard water service connections within the road allowance which are defined as non-copper material (lead or galvanized iron) and/or water service connections which transmit a flow of less than 18 litres per minute, measured at the water meter, with a new water service connection in accordance with current water service connection standards for size and materials;
  - (ii) the City will advise the homeowner that it may be necessary to replace the private portion of their water service and in some cases upgrade the internal house plumbing system in order to receive the maximum improvement in water supply;

- (iii) the City will obtain a competitive price for replacing the private portion of the water service from the street line to the meter. Homeowners may also choose to obtain separate competitive prices for replacing the private portion of the water service. In either case, the homeowner will be responsible for replacing the private portion of the water service and resolving any disputes regarding work done on private property directly with the contractor;
  - (iv) the City will require flat rate customers who qualify under the Residential Water Service Connection Repair Program to have a water meter installed as a mandatory requirement of the program;
- (2) Standard Size for Water Service Connections:
- (i) the standard residential single family water service connection shall be 19mm (3/4 inch) in diameter and copper material;
  - (ii) where a water service connection is to be replaced under this program and the homeowner requests a larger diameter connection than the standard size, and if the request is approved by the City, the owner will be charged an additional \$500.00 fee for the larger diameter connection. This additional fee will be waived for multi-unit residential properties;
- (3) Minimal Acceptable Flow (MAF):
- (i) the City will adopt 18 litres per minute (3.96 gallons per minute) as the Minimum Acceptable Flow measured at the water meter;
- (4) Water Service Connection Cleaning Program:
- (i) the City will clean free of charge copper water service connections between the meter and the watermain in the street when it is determined to be a feasible method of restoring the flow capacity in the connection to a Minimum Acceptable Flow;
- (5) Breaks and Leaks:
- (i) if a break or leak occurs within the road allowance of a water service connection which does not meet current standards of size and/or material, the City will replace the water service connection within the road allowance and advise the homeowner of the need to replace the private portion of the substandard water service in order to receive the maximum improvement in water supply. To assist homeowners in upgrading the private portion of the water service, the City will advise the homeowner of the options described under Item (1) of this program;
  - (ii) if a leak or break occurs within the road allowance portion of a water service connection which meets current standards of size and/or material, the City will

repair the water service connection, unless due to a recurring leak problem, a replacement is warranted;

- (iii) if a leak or break occurs on the homeowner's portion of a water service connection, it is the homeowner's responsibility to repair or replace the private portion of the water service connection;
  - (iv) homeowners requesting the City to carry out a street line excavation to investigate a water service for breaks or leaks, which cannot be located using remote leak detection methods, will be required to enter into an agreement with the City. This agreement will state that, if the break or leak is found on the private side of the street line, the homeowner will pay the cost of the investigation;
- (6) Residential Water Service Repairs Prior to Roadway Reconstruction:
- (i) the City will replace as a priority the water services below the acceptable flow of 18 litres per minute (3.96 gallons per minute), lead and galvanized water services and the 5/8 inch to 1/2 inch double copper services, all of which are connected to watermains located in roadways planned for reconstruction under the City's annual Capital Works Program;
  - (ii) when such residential water services are repaired in advance of roadway reconstruction, the City will advise the homeowners of the need to replace the private portion of their water services in order to receive the maximum improvement in water supply. To assist homeowners in upgrading the private portion of their water service, the City will advise the homeowners of the options described under Item (1) of this program;
- (7) Residential Water Service Repair in Conjunction with New Watermain Construction:
- (i) the City will replace, as a priority, the water services below the acceptable flow of 18 litres per minute (3.96 gallons per minute), lead and galvanized water services and the 5/8 inch to 1/2 inch double copper services connected to watermains which are scheduled to be reconstructed under the City's annual Capital Works Program;
  - (ii) when residential water services are replaced as part of a watermain reconstruction project, the City will advise the homeowners of the need to replace the private portion of their water services in order to receive the maximum improvement in water supply. To assist homeowners in upgrading the private portion of their water services, the City will advise the homeowner of the options described under Item (1) of this program;

- (8) Guidelines for Administration of the Residential Water Service Connection Repair Program:
- (i) staff will establish a Water Service Repair Request List by District for the replacement of deficient water service connections within the road allowance on a first-come, first-served basis. Water service connection repairs will be tendered by District each year until the funds allocated to that District for that budget year are exhausted;
  - (ii) if any homeowner wishes to have the repair of the water service carried out in a year in which their name is not expected to come up on the Water Service Repair Request List until after the funds available for that year have been exhausted, the homeowner will be required to pay for the total cost of the repair prior to the City undertaking the work. In such a case, the homeowner's name shall remain on the Water Service Repair Request List and when their name reaches the top of the List in any following year in which funds have been approved by City Council, the City will reimburse, in current dollars, the amount paid by that homeowner for the repair of the water service which they previously funded;
  - (iii) a homeowner whose name is included in the current year's funding and requests that the repair of their water service be carried out in advance of the scheduled time for the repair, shall be charged a non-reimbursable quick service repair fee of \$500.00; and
  - (iv) homeowners who participate in the Residential Water Service Connection Repair Program will be provided with one free indoor water efficiency kit.