

COMMITTEE REPORT

TO: CHAIR AND MEMBERS FINANCIAL
MANAGEMENT COMMITTEE**DATE:** 2019 August 29**FROM:** DIRECTOR ENGINEERING**FILE:** 36000-02**SUBJECT: COMBINED SEWER SEPARATION GRANT****PURPOSE:** To implement a new grant program to support private-side sewer separation.

RECOMMENDATION:

1. **THAT** the Financial Management Committee recommend Council authorize staff to implement a new grant program to support private-side sewer separation as outlined in this report.

REPORT**INTRODUCTION**

Combined sewer systems collect sanitary sewage and storm water in a single sewer pipe. During wet weather, these older combined sewers cannot carry all the sewage flows to regional treatment plants and discharge excess combined sewer flows (CSO's) through outfalls to the Burrard Inlet and Fraser River.

Combined sewer overflows contain domestic sewage, which negatively impacts the receiving environment (Burrard Inlet or Fraser River). The City of Burnaby has been actively eliminating combined sewers and constructing new separated sewage systems in their place. Since 1989, the City of Burnaby has separated approximately 40km of an original inventory of 85km of combined sewers and is on target to complete full system separation in approximately 25-30 years, per Burnaby's commitment under the Regional Integrated Liquid Waste and Resource Management Plan (ILWRMP). Currently, approximately 7% of Burnaby has combined sewers.

The significant municipal effort to separate public-side sewers within the street has redirected drainage from public lands and roadways to the new separated drainage system. However, though the frequency and volume of CSO's is reduced, CSO's into the Burrard Inlet and Fraser River still occur through the contribution of existing on-site, or private-side combined service connections. Until private property connections are also separated, the newly separated municipal sanitary sewer systems will continue to overflow to public waterways.

A private-side sewer separation grant program could help to increase the rate of private-side sewer separation and further reduce (and ultimately eliminate) the frequency and severity of ongoing combined sewer overflows, accelerating environmental benefits of the program.

POLICY SECTION

The private-side sewer separation grant program is aligned with the City of Burnaby's Corporate Strategic Plan by supporting the following goals and sub-goals of the Plan.

Goal

- A Dynamic Community
 - City facilities and infrastructure –
Build and maintain infrastructure that meets the needs of our growing community
- A Healthy Community
 - Healthy environment –
Enhance our environmental health, resilience and sustainability

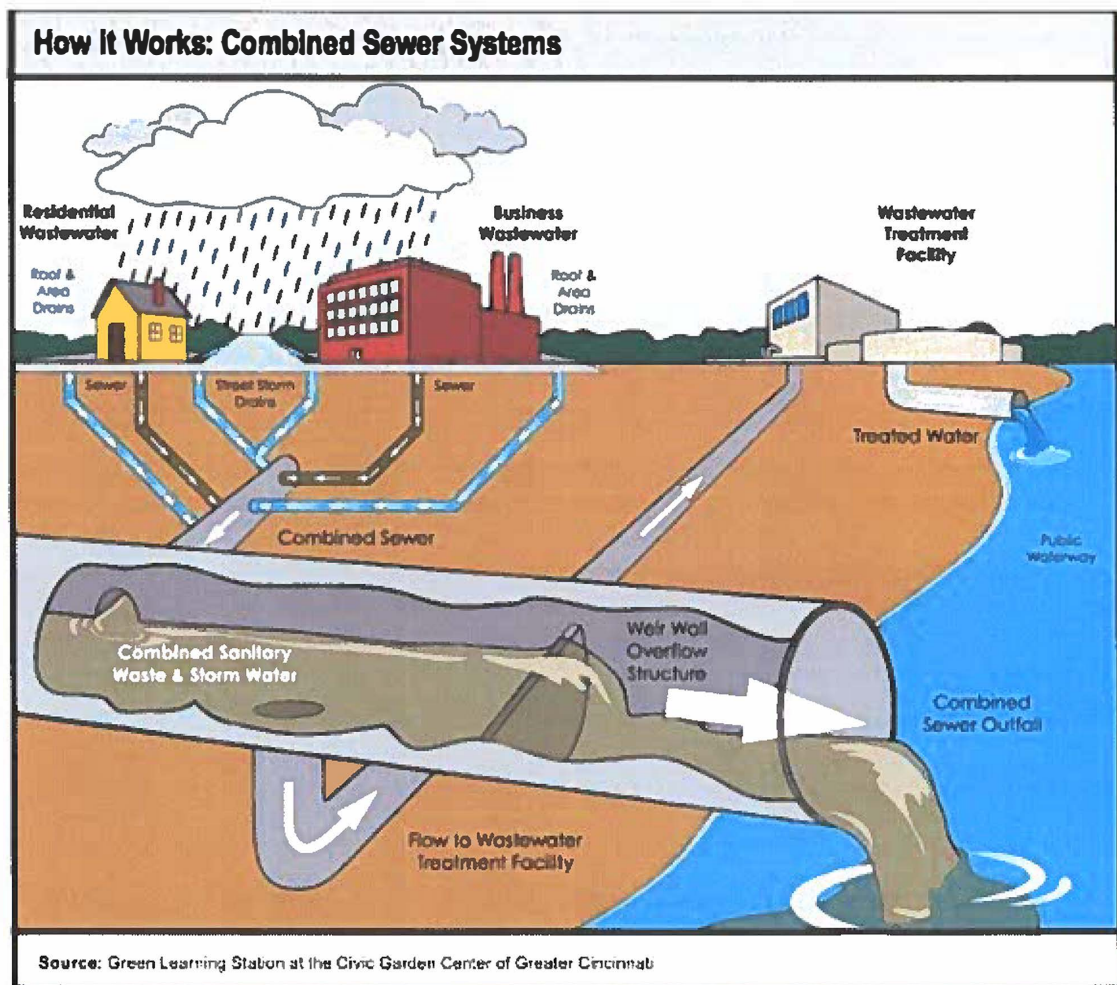


Figure 1 – Combined Sewer System Schematic

BACKGROUND

Burnaby currently has approximately 620 km of sanitary sewers and 45 km (7%) of combined sewers (see Appendix A for maps). The Burnaby sewer system contributes to four combined sewer outfalls (three in the Burrard Inlet and one in the Fraser River). Burnaby is fully responsible for one outfall, shares one with Metro Vancouver, and Metro Vancouver is fully responsible for the other two outfalls.

The City-initiated sewer separation program results in an immediate reduction of approximately 30% of stormwater flows into the combined sanitary sewer system via the redirection of rainfall into new dedicated storm sewer pipes. This City-initiated sewer separation program reduces the likelihood of ongoing combined sewer overflows. However, the remaining 70% of the total stormwater flow that originates from hard-surface areas within private properties will continue to be directed into existing combined service connections and the City sanitary system. Given this high ratio of ongoing rainwater flow into the new dedicated sanitary system, the City is still experiencing ongoing combined sewer overflows more than 100 days per year, with a volume exceeding 125,000 cubic metres per year.

Through redevelopment, properties are required to separate their on-site connections and since 1989, over 400 properties or 10% of the private-side systems have been separated. However, with a current housing stock turnover rate of only ~1% per year, private-side separation through redevelopment alone will not achieve the full system separation within the regulatory timeframe (2050 for Northwest Burnaby and 2075 for Southeast Burnaby) set out by the ILWRMP.

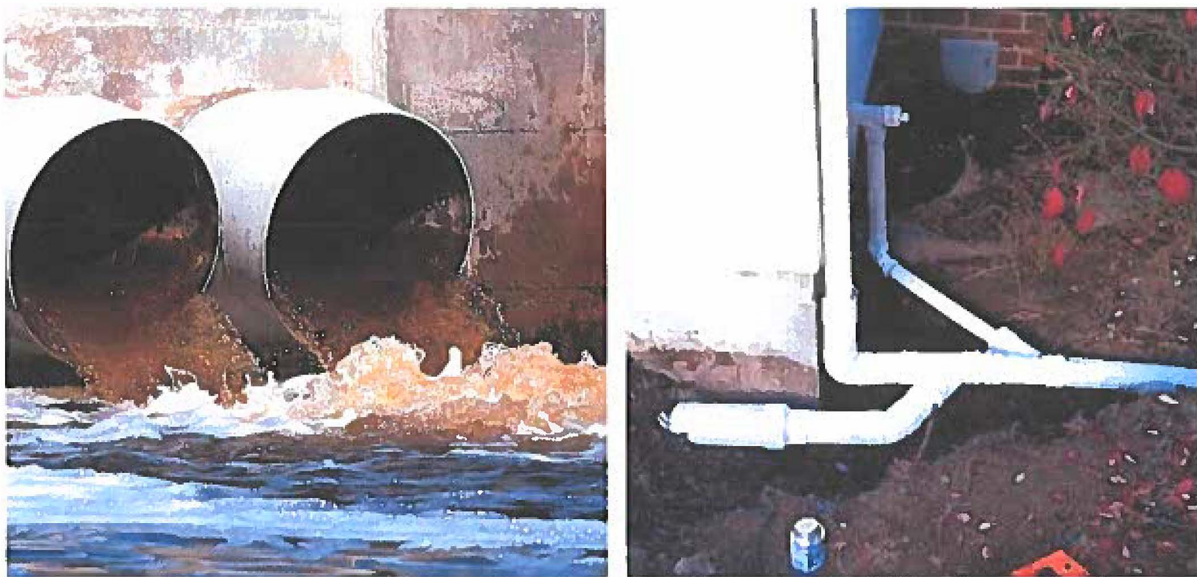


Figure 2 – Combined Sewer Overflow & On-Site Private Sewer System

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Figure 3 –Private-Side Separation Status in Burnaby (typical)

Home-owner Grant Process

Engineering staff would pre-screen applications to ensure eligibility, and then the property owner would proceed with a standard plumbing permit and sewer connection permit (typical permit fees would be waived). Upon completion of construction, inspection by City staff, and issuance of a permit, the property owner would submit a copy of their paid contractor invoice and the City would provide the property owner a corresponding one-time grant of up to \$2500.

Program Promotion

Phase 1

Initially, staff would provide information about the grant program on the City website, and also provide letters to property owners adjacent to City-initiated combined sewer separation projects. With a contractor already mobilized for City sewer separation, the opportunity exists for significant cost-efficiency with private on-site sewer separation.

Phase 2

Once the grant program is working efficiently, letters could be sent to the entire eligible combined area within the northwest quadrant of Burnaby. Per regional guidelines outlined in the Integrated Liquid Waste and Resource Management Plan (ILWRMP), this area of Burnaby is required to prevent CSO's the earliest (by 2050) and is where Burnaby is currently focusing city-initiated sewer separation.

Phase 3

As the City moves into the combined sewer areas within the southeast quadrant of Burnaby, letters can be sent to eligible properties within this quadrant, outlining the program value, eligibility, and process.

Future Private-Side Sewer Separation Opportunities

Longer term, additional opportunities exist to support ongoing private-side sewer separation. These opportunities include:

- increased grant program promotion
- City-contractor partnerships
- penalties for non-compliance

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From: Director Engineering
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FINANCIAL IMPLICATIONS

The grant program is proposed to be funded out of the Sewer Operating Reserve, which has sufficient funds to finance the proposed grant program.

There are approximately 6,750 sewer service connections in combined or previously combined areas, and the City has provided separated sewers to approximately 4,050 of those connections. Approximately 400 private connections have already been separated, leaving a total of approximately 6,350 eligible connections. However, due to the cost, effort by property owners, and impact on existing private property, the initial program uptake rate is only estimated to be 25-100 applications per year. The City of Vancouver has had a similar program for many years, and only processes approximately 10 applications per year (the Vancouver grant value is only \$1000). Based on the projected uptake rate, the proposed grant program would cost Burnaby approximately \$60,000 to \$250,000 per year in grants disbursed to property owners. To limit the financial risk, the program would initially be restricted to only 250 applications per year (maximum value of \$625,000 per year).

RECOMMENDATION

It is recommended that the Financial Management Committee recommend Council authorize staff to implement a new grant program to support private-side sewer separation as outlined in this report. This grant program supports the City goal of a healthy environment, and provides a collaborative approach toward full sewer system separation as required through the Regional Integrated Liquid Waste and Resource Management Plan (ILWRMP).



for Leon A. Gous, P.Eng., MBA
DIRECTOR ENGINEERING

JWH/ac

Attachment

Copied to: City Manager
Director Finance
Director Planning & Building
Director Corporate Services
Director Parks, Recreation, and Cultural Services

