

TO: CHAIR AND MEMBERS FINANCIAL MANAGEMENT COMMITTEE **DATE:** 2021 February 09

FROM: DIRECTOR ENGINEERING **FILE:** 32000-05

SUBJECT: **2021 FEBRUARY ENGINEERING CAPITAL INFRASTRUCTURE BYLAW FUNDING REQUEST**

PURPOSE: To request the use of Waterworks Utility and Sanitary Sewer Fund Capital Reserves and to request a Capital Reserve Fund Bylaw to finance 2021 - 2025 Engineering capital infrastructure projects.

RECOMMENDATION:

1. **THAT** the Financial Management Committee recommend Council authorize the City Solicitor to bring forward a Capital Reserve Fund Bylaw in the amount of \$3,150,000, the use of Sanitary Sewer Fund Capital Reserves in the amount of \$4,250,000 and the use of Waterworks Utility Capital Reserves in the amount of \$3,163,000 to finance Engineering capital infrastructure improvement projects, as outlined in this report.

REPORT**INTRODUCTION**

The 2021 – 2025 Provisional Financial Plan will provide funding for various multi-year capital improvement projects. Upon approval of this funding request by Council, these expenditures will be included in the 2021 – 2025 Financial Plan (Engineering Section). In order to proceed with the award of contracts for design, contract administration and construction, funding approval is requested for the projects listed below. This report is to seek Council approval of fund allocation for Engineering projects in advance of Council adoption of the 2021 - 2025 Financial Plan.

POLICY SECTION

The following projects are aligned with the City of Burnaby's Corporate Strategic Plan by supporting the following goals and sub-goals of the Plan.

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Goal

- A Safe Community
 - Transportation safety –
Make City streets, pathways, trails and sidewalks safer.
- A Dynamic Community
 - City Facilities and infrastructure –
Build and maintain infrastructure that meets the needs of our growing community.
- A Thriving Organization
 - Reliable services, technology and information –
Protect the integrity and security of City information, services and assets.

1.0 Infrastructure

1.1 Local Area Servicing Program

Estimated \$150,000

This is a multi-year program for the design and construction of Local Area Service Program (LASP) works as approved by Council. LASP projects are initiated by property owners through a petition process and are constructed through cost-sharing between property owners and the City. Terms of the cost-sharing were established through the *Local Improvement Charges Bylaw*.

LASP projects range from full street upgrades, sidewalk installations, streetlight installations, traffic calming measures (such as speed humps), and street tree planting or replacements. Water and sewer funding is allocated to main and service replacements to be coordinated with the LASP works.

Early funding is being requested to proceed with in-house preliminary design of future LASP works.

Project Mask(s)	2021
ECA.8018 – Roads	\$50,000
EJA.8018 – Water	\$50,000
EKA.8018 – Sewer	\$50,000
Total	\$150,000

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1.2 Bridge Expansion Joint Replacements

Estimated \$150,000

Bridge expansion joints will be replaced as necessary in accordance with regular inspections performed by city consultants. The work will be performed as part of a tender involving other work on bridges identified by the consultant as part of a 5-year plan to keep the bridges in a state of good condition. Early funding is being requested to proceed with replacements as soon as funding is available.

Project Mask(s)	<u>2021</u>
EMC.8015 – Roads	\$150,000

1.3 Byrne Creek Dike Upgrades

Estimated \$200,000

Portions of the existing Byrne Creek dike have settled and need to be raised to ensure a consistent level of flood protection. Detailed designs have been prepared and are under review by the Inspector of Dikes. This project will be tendered for construction in 2021 and construction is expected to continue into 2022. Prefunding is being requested to proceed with the construction tender.

Project Mask	<u>2022</u>
ELA.8016 – Drainage	\$200,000

1.4 Eagle Creek Culvert Replacement

Estimated \$350,000

This project involves replacement of the deepest culverts in the City. Eagle Creek crosses under Broadway through a system of culverts between 1800 - 2600mm in diameter and approximately 16 meters deep. Inspections by engineering consultants have concluded that this culvert system is in poor condition, is continuing to deteriorate, and requires replacement. Recommended monitoring and grouting will be performed by Engineering Operations until the culverts can be replaced. In 2018, a consultant estimated the cost of this culvert replacement to cost between \$5 Million to \$6 Million.

Eagle Creek is an important fish bearing creek, and therefore opportunities to improve fish passage will be explored. Working closely with the Parks Department, conceptual design will also involve a feasibility review of daylighting the creek north of Broadway in the golf course. Climate change will also be considered in the sizing of the proposed culverts.

Early funding is being requested to start the preliminary design for this project.

Project Mask	<u>2021</u>	<u>2022</u>	<u>Total</u>
ELA.8017 – Drainage	\$150,000	\$200,000	\$350,000

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1.5 Meadow Pump Station & Conveyance Upgrades Estimated \$390,000

A recent Master Drainage Plan for Burnaby's Meadow/Willard Area (Big Bend) has identified the need to undertake improvements to the existing drainage network in the area. This project involves the development of a functional plan to complete an initial stage of the overall drainage improvements, specifically upgrades to the existing Meadow Pump Station, conveyance and forebay systems to accommodate long term drainage requirements and impacts associated with climate change (rise in Fraser River levels) at anticipated flows of nearly 6 m³/sec. This project is anticipated to take multiple years to complete, and is currently at Stage 1.

Project Mask	<u>2021</u>	<u>2022</u>	<u>Total</u>
ELA.8006	\$240,000	\$150,000	\$390,000

1.6 Sanitary Pump Station Replacement (Bridge & Delta) Estimated \$150,000

Two sanitary pump stations have aging pumps that need to be replaced to improve pump station reliability. The existing pumps at the Bridge Sanitary Pump Station and Delta Sanitary Pump Station will be replaced. Operations will request quotes to supply and install the pumps.

Project Mask(s)	<u>2021</u>
EKA.8019 – Sewer	\$150,000

1.7 Willingdon Storm Sewer Estimated \$600,000

A tributary of Beecher Creek was piped in the early 1960's when the original BCIT campus was built. Burnaby has three connections into this storm main located on the BCIT campus without a registered easement. Burnaby will cost-share with BCIT to relocate this storm main onto Willingdon Avenue, freeing up additional space on the property for planned BCIT expansion.

There are two potential phases to this storm main relocation, with phase 1 planned for construction in 2022. This project will be managed by Burnaby or BCIT, and the cost-sharing percentage is in the midst of negotiation. Climate change will be considered in the design of the new pipe. The total project cost is expected to be \$4.5 Million over the next five years. Early funding is being requested to begin preliminary design.

Project Mask	<u>2021</u>	<u>2022</u>	<u>Total</u>
ELA.8020 - Drainage	\$200,000	\$400,000	\$600,000

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1.8 Burnaby Heights Combined Sewer Separation

Estimated \$4,000,000

This project is part of the City's ongoing infrastructure renewal program involving separation of combined sewers as required under the local Liquid Waste Management Plan (ILWRMP). Sewer separation minimizes volumes of combined sewer over-flow to the environment and the amount of wastewater that needs to be treated resulting in better allocation of resources, lower energy use and reduced environmental impact. As a fully integrated project, the scope includes separation of combined sewers, watermain and service replacements and street upgrades in the Burnaby Heights area.

Included in Appendix A is a detailed list of proposed locations and scope of work.

Project Mask	2023
EKA.3193 – Sewer	\$4,000,000

1.9 Broadway Improvements Bainbridge to Underhill

Estimated \$660,000

Broadway (Bainbridge Avenue to Underhill Avenue) will be upgraded with widened pavement, urban trail, sidewalks, and treed boulevards to improve the street for all users. Storm sewers and watermains requiring condition or capacity upgrades in this section will also be addressed in this project. Installation of the City's IT network conduit will also be completed along the full length of the project.

This project involves street upgrades such as the installation of widened pavement for bus routes, extension of an urban trail and new sidewalks. The City will install front grass boulevards with street trees. Sanitary, water, and drainage utilities and IT Conduit will also be constructed as part of the underground works. Residential properties will be impacted and public engagement strategies are being implemented.

Project Mask	2021
ELA.3031 – Drainage	\$560,000
EJA.3031 – Water	\$100,000
Total	\$660,000

1.10 Centennial Way Horizons Phase 2

Estimated \$33,000

This work will include the design of a future flow control pressure reducing valve chamber in conjunction with Phase II of the Centennial Watermain project. Construction started with City forces installing 200mm diameter watermain services and will be completed with a new pressure reducing valve chamber.

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This project is to provide appropriate levels of service for water pressure and water quality to the residents and Horizon's Restaurant and also includes new fibre optic conduit as well.

Project Mask	<u>2021</u>
EJA.3027 – Water	\$33,000

1.11 Nelson Watermain and Road Upgrades

Estimated \$800,000

This capital works package consists of several project sites along Nelson Avenue, from Marine Drive to Rumble Street, in the Burnaby South-Slopes area. The total project involves replacement of existing aged watermains, hydrants and services, complete with pavement rehabilitation and/or full road upgrades on local/collector streets, and a new Urban Trail on Nelson Avenue from Marine Drive to Rumble Street, east side. Interim strip roads and traffic safety improvements will be upgraded to urban street standard as part of an integrated project approach.

Project Mask	<u>2021</u>	<u>2022</u>	<u>Total</u>
EMC.3215– Roads	\$100,000	\$700,000	\$800,000

1.12 Wright Street Watermain and Road Upgrades

Estimated \$2,180,000

This watermain and roads package consists of project sites in the Cariboo-Armstrong neighbourhood of Burnaby. The project involves replacement of existing aged watermains, hydrants and services, a limited section of new storm and sanitary sewers separation complete with pavement rehabilitation and/or upgrade to local/collector streets. This project is intended for design by an engineering consultant and construction by City forces with a separate tender for roadworks.

Funding is being requested to enable City Forces to start the replacement of the watermains portion of the project.

Included in Appendix A is a detailed list of proposed locations and scope of work.

Project Mask	<u>2021</u>
EJA.3194 – Water	\$2,180,000

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1.13 Glenwood and Willingdon Heights Water and Road Upgrades

Estimated \$800,000

This is a watermain replacement and roadworks package with work on mostly local streets in the Clinton - Glenwood and Willingdon Heights areas. Asbestos cement watermain will be replaced and upsized to hydraulic model requirements. Impacted roads will be restored with new pavement or full street upgrade if they are currently in interim street condition. Sidewalks and wheelchair ramps will be added to all streets where they are missing. Civic communication conduits have been added to locations as required by the IT Department.

Included in Appendix A is a detailed list of proposed locations and scope of work.

Project Mask	2021	2022	Total
EJA.3228– Water	\$250,000	\$550,000	\$800,000

1.14 Third Party Coordinated Works

Estimated \$100,000

This project is to obtain capital funding for staff to utilize in situations where third parties perform construction work within the City and only perform minimal restoration work on City roads. At times, City staff identify the need to have a full road paved so that ultimately once these parties leave the City we are not left with roads that are in worse condition than before. In the cases regarding Metro Vancouver, there was a regional policy agreed upon to only provide municipalities with trench repairs. This has proven to be inadequate at times and the City must coordinate with contractors to complete restoration works up to City standards.

Project Mask	2021
EKA.3221 – Sewer	\$50,000
EMC.3221 – Roads	\$50,000
Total	\$100,000

These expenditures will be included in the 2021 – 2025 Provisional Financial Plan and sufficient Capital Reserves and Reserve Funds are available to finance the capital projects outlined in this report.

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RECOMMENDATION

It is recommended that the Financial Management Committee recommend Council authorize the City Solicitor to bring forward a Capital Reserve Fund Bylaw in the amount of \$3,150,000, the use of Sanitary Sewer Fund Capital Reserves in the amount of \$4,250,000 and the use of Waterworks Utility Capital Reserves in the amount of \$3,163,000 to finance Engineering capital infrastructure improvement projects, as outlined in this report.



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DIRECTOR ENGINEERING

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Copied to: City Manager
Director Finance
City Solicitor
Deputy Director Engineering
Assistant Director Infrastructure & Development
Manager, Engineering Projects

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Appendix A

Project: Burnaby Heights Combined Sewer Separation (Section 1.8)

Construction is being planned at the following locations:

Item	Locations
1	Albert Street
2	Cambridge Street
3	Trinity Street
4	Ingleton Avenue North
5	McGill Street
6	Eton Street

Project: Wright Street Watermain and Road Upgrades (Section 1.12)

Construction is being planned at the following locations:

Item	Locations
1	17th Avenue (Newcombe Street to Cumberland Street)

Project: Glenwood and Willingdon Heights Water and Road Upgrades (Section 1.13)

Construction is being planned at the following locations:

Item	Location
1	Keith Street from Royal Oak Avenue to 5663 Keith Street, Macpherson Avenue between Keith Street, and Marine Drive and Eleanor Street
2	Keith Street to Gilley Avenue, Buller Avenue from Keith Street to Gilley Avenue, and Gilley Avenue from Marine Drive to Keith Street
3	Kitchener Street from Carleton Avenue to Madison Avenue, and Madison Ave from Charles Street to Graveley Street