

NO: R023

COUNCIL DATE: January 31, 2022

REGULAR COUNCIL

TO: **Mayor & Council**

DATE: **January 27, 2022**

FROM: **General Manager, Engineering
General Manager, Parks, Recreation & Culture**

FILE: **5260-07**
XC: **3150-01**

SUBJECT: **10-Year (2022-2031) Servicing Plan and 2022 Development Cost Charge Bylaw**

RECOMMENDATION

The Engineering Department and the Parks, Recreation & Culture Department recommend that Council:

1. Receive this report for information;
2. Endorse the proposed 10-Year (2022-2031) Servicing Plan, attached as Appendix "I";
3. Authorize the City Clerk to bring forward for First, Second and Third Reading the 2022 Development Cost Charge Bylaw, attached as Appendix "II";
4. Authorize staff to forward the 2022 Development Cost Charge Bylaw, attached as Appendix "II", to the Provincial Inspector of Municipalities for approval and to grant the City approval to enact the Bylaw ("Provincial Approval"); and
5. Upon Provincial Approval, authorize the City Clerk to bring forward the 2022 Development Cost Charge Bylaw, attached as Appendix "II", for Final Adoption.

INTENT

The purpose of this report is to obtain Council endorsement of the updated Engineering 10-Year Servicing Plan, give the related Development Cost Charge Bylaw (the "Bylaw") the required readings, and authorize staff to submit the Bylaw for Provincial Approval prior to final adoption by Council.

BACKGROUND

The 10-Year Servicing Plan establishes the City's Engineering capital expenditure plan for the construction of engineering infrastructure that will service existing neighbourhoods and support new growth across the City. Together with the Parkland Acquisition Program, it also forms the basis for establishing the City's Development Cost Charge ("DCC") rates.

Since 2006, staff have undertaken an annual review of the 10-Year Servicing Plan and Parkland Acquisition Program, and when warranted, have recommended adjustments to the Plan and Program to reflect updated construction pricing and land costs. In 2021, Council adopted the current 10-Year (2021-2030) Servicing Plan and related DCC rates.

DISCUSSION

Engineering's 10-Year Servicing Plan and Parks, Recreation & Culture's Parkland Acquisition Program are structured to align with the principles of Smart Development. Specifically, both programs support aligning development with essential infrastructure; offering a range of housing choices; creating compact, connected and walkable urban centres; expanding transit-oriented development; preserving sensitive ecosystems; and community engagement and responsiveness to housing and business demands.

Combined, Engineering's 10-Year Servicing Plan and Parks, Recreation & Culture's Parkland Acquisition Program represents a \$2.8 billion dollar investment in the City's infrastructure and parks over the next 10 years to support achieving Smart Development principles.

Engineering Department's 10-Year Servicing Plan

In 2021, the Engineering Department delivered the largest program value on record of Capital Projects. An even greater program value is anticipated in 2022 and includes projects such as:

- King George Boulevard Nicomekl Bridge Replacement
- 152 Street Road Raising and Widening – Nicomekl River to Serpentine River
- Fraser Highway Widening to support SkyTrain – 138 Street to 140 Street
- North Cloverdale Trunk Sanitary Sewer
- Extension of the District Energy Network and the addition of new Energy Transfer Stations

The proposed 10-Year Servicing Plan builds on the previous version of the plan. Completed projects have been removed and new projects have been added. All projects are selected using a combination of data-driven decision tools, prioritization methods that support new development as well as infrastructure improvements for existing residents, and rehabilitation programs and initiatives anticipated over the next 10 years.

Project cost estimates have been updated to reflect current construction prices. The proposed 10-Year Servicing Plan is not a commitment to construct all the identified projects, but rather identifies projects that are anticipated be constructed on a year-to-year basis as funding becomes available.

The principal funding sources of the 10-Year Servicing Plan are generally categorized as follows:

- *Growth*: This funding source (apart from the City's contribution through the Municipal Assist Factor) comes from revenues generated through DCCs that are collected on new development and are required to support growth in the City. Further discussion on DCCs is provided below.

- *Non-Growth*: This funding source comes from the City's annual operating budgets:
 - For Transportation, non-growth projects are funded from general revenue which includes the Roads and Traffic Safety Levy; and
 - For sanitary sewer, water and drainage, non-growth projects are funded through dedicated utility fees for each respective utility.
- *External*: These funding sources come from senior levels of government such as Federal and Provincial Ministries, Grants, and other sources.
- *TransLink*: This funding represents the contributions that TransLink makes through the various funding programs that are available, such as Major Road Network maintenance and upgrade funding.

Planning and Engineering Studies

Since the last 10-Year Servicing Plan update in 2021, a number of planning and engineering studies have been completed that identified updated infrastructure needs in the City. These include:

- Newton Town Centre Plan;
- Darts Hill Neighborhood Concept Plan ("NCP");
- Various sewer, water and drainage model updates;
- Traffic/transportation updates; and
- Continued advancement of the Surrey-Langley SkyTrain project.

Many of the infrastructure elements identified as a result of these studies and plans have been incorporated into the proposed 10-Year Servicing Plan.

Development Cost Charges (Growth Funding)

DCCs are levied on new development to fund the costs of expanding and upgrading the City's road, water, drainage, and sewer services, and for parkland acquisition or improvement, to meet the needs of projected growth that's expected to occur, as outlined in the 10-Year Servicing Plan and Parkland Acquisition Program.

Some growth triggered projects identified in the 10-Year Servicing Plan are identified as "NCP driven", meaning they are required beyond a 10-year time horizon and closer to build-out of the NCP.

DCCs are charged at the subdivision stage when creating new single-family lots, or at the building permit stage for multi-family, commercial, industrial, and institutional development.

The collection and usage of DCCs are legislated under the Provincial *Local Government Act* and the accompanying DCC Best Practices Guide, which outlines project eligibility requirements. DCCs cannot be used to fund any projects that do not meet the eligibility requirements.

Municipal Assist Factor

The Municipal Assist Factor (“MAF”) represents the City’s financial contribution from non-growth revenue sources to support growth, as required under the *Local Government Act*. The City has provided considerable support to the development community over the past through the MAF contribution.

The MAF is set at 1% for all assets to align with most municipalities in the Lower Mainland and the City’s development-pay principles. Funding for the City’s 1% Engineering Utilities MAF is from the applicable Road and Safety Levy and sanitary sewer, water and drainage dedicated utility fees. The parkland acquisition MAF is funded by general operating revenue.

The estimated total cost of all the projects in the proposed 10-Year Servicing Plan are listed in the following table:

Proposed 10-Year (2022-2031) Servicing Plan

Program	Growth (\$)	Non-Growth (\$)	External (\$)¹	TransLink (\$)	Total (\$)
Transportation (Arterial)	406,376,327	156,115,542	77,947,509	216,309,070	952,142,428
Transportation (Collector)	95,393,980				
Water	83,516,000	124,395,773	0	0	207,911,773
Sanitary Sewer	134,389,761	96,586,900	0	0	230,976,661
Drainage	94,328,348	153,529,777	66,466,058	0	314,324,183
City Centre Property Acquisition	63,684,000	0	0	0	63,684,000
Campbell Heights	138,283,846	0	13,133,900	26,267,800	177,685,546
Highway 99 Corridor	43,619,091	0	27,707,104	2,746,656	74,072,851
Anniedale-Tynehead	217,230,429	0	99,105,040	34,724,780	351,060,249
Redwood Heights	36,211,200	0	0	0	36,211,200
Darts Hill	25,841,000	0	0	0	25,841,000
Total	1,338,873,982	530,627,992	284,359,611	280,048,306	2,433,909,891

¹ External funding includes MoTI, ICBC, Federal, Community Works Fund, etc.

Parks, Recreation & Culture Department’s Parkland Acquisition Program

The Parkland Acquisition Program is funded through several sources, including DCCs and cash-in-lieu of Park Dedication. Additional parkland is acquired through the Federal Eco-gift Program and other gifts of land to the City. The majority of new park acquisitions are funded from Parks DCCs.

The value of the growth component (DCC eligible) of the proposed Parkland Acquisition Program is \$381.8 million. Funding for the current Parkland Acquisition Program continues to be challenged due to increases in land costs. An adjustment to the Parkland Acquisition DCC is required to fully fund the current Parkland Acquisition Program.

In 2021, funding for the City's Biodiversity Conservation Strategy ("BCS") was introduced as a component of the Parkland Acquisition DCC rate. DCC funding for the BCS is being phased in over a 5-year period (2021-2025). The value of the BCS program for 2022 (Year 2) is \$65.6 million.

2022 Development Cost Charge Rates

The proposed DCC rate increases reflect increases in annual construction and property costs, and increased infrastructure projects to support Growth. In 2021, construction cost inflation ranged from 3-5%, whereas the average cost of land has increased approximately 20-30% across the City.

The net result is a City-wide DCC rate increase representing a 3.8% average increase for single-family houses (infrastructure + land cost increases) plus 2.2% for BCS for a total of 6.0%. For multi-family residential units, the average increase equates to 4.0% (infrastructure + land costs) and 2.8% for BCS. While the percent increase is higher for multi-family residential units, the net increase per multi-family unit is very comparable to a single-family house.

Darts Hill Area-Specific DCC for Drainage

The Darts Hill NCP was adopted by Council on May 10, 2021 (R092: 2021). The Darts Hill NCP area encompasses approximately 130 hectares and is generally bounded by 20 Avenue to the north, 16 Avenue to the south, 168 Street to the west, and Redwood Park to the east. The Darts Hill NCP is a relatively undeveloped area with little to no utility infrastructure networks currently in place. New water, sanitary sewer, drainage and transportation infrastructure and new parks are required to support developments in Darts Hill.

City-wide DCC rates will be sufficient to cover all proposed infrastructure in Darts Hill except for drainage. Drainage will require an area specific DCC to fully fund the cost of drainage infrastructure. Therefore, a new schedule for Darts Hill (Schedule "G") is included in the proposed 2022 Bylaw.

A complete listing of DCC rates for all land uses in the City is provided in Schedules B through G in the proposed 2022 Bylaw, attached to this report as Appendix "II".

Public and Development Industry Consultation

Surrey is committed to ongoing engagement with the development industry on the City's DCC rates. Since 2006, staff have actively sought feedback from the development industry on proposed DCC rate increases through the City's Development Advisory Committee ("DAC"). Staff presented the proposed 2022 DCC rates to the Development Advisory Committee ("DAC") and the Urban Development Institute ("UDI") on January 11, 2022. Overall, the feedback received was positive; DAC members expressed their appreciation for the City's efforts in providing timely and proactive communications on changes to DCC rates.

In addition, staff held online engagement between December 16, 2021 and January 12, 2022 to solicit feedback from the public on the proposed rates. The online engagement was advertised on the City's website, promoted through Your City e-newsletter to over 10,700 subscribers, and four social media postings through the City's channels. There was one comment on social media about development taking away green spaces and a couple of comments expressing concerns about increasing fees/taxes impacting affordability.

In total, two emails were received during the two-week public engagement period.

Metro Vancouver and TransLink DCC Rates

The Greater Vancouver Regional Sewerage & Drainage District (“Metro Vancouver”) and TransLink also charge DCCs on new development.

Metro Vancouver’s current DCC rates took effect on May 1, 2018. Metro Vancouver began a review of its DCCs in late 2020 to ensure that new development in the region is adequately contributing to the cost of infrastructure expansion required to service the new development. The review is considering an update to liquid waste DCC rates as well as the establishment of a new water DCC, pending legislative changes to the Greater Vancouver Water District (“GVWD”) Act.

In December 2017, TransLink’s Mayors’ Council approved a framework to establish a new DCC to assist in funding the 10-Year Vision for the Metro Vancouver Transportation Plan (2017-2026). This DCC was implemented in three phases from 2019 to 2021. On September 23, 2021, TransLink’s Board of Directors approved a 0.6% increase to the TransLink DCC rates effective January 1, 2022.

Implementation

The 10-Year Servicing Plan and the related DCC rates, as proposed, are to be implemented in accordance with the following schedule:

January 31, 2022:	Corporate Report to Council for endorsement of the 10-Year (2022-2031) Servicing Plan and the first three readings of the related 2022 Bylaw.
February-April 2022:	Provincial Inspector of Municipalities review and approval of the 2022 Bylaw.
April 2022:	Final Adoption of 2022 Bylaw by Council follow approval from the Inspector of Municipalities.
May 2022:	2022 DCC Rates take effect for all applicable applications not approved by the City prior to May 15.

Impact on the 5-Year (2022-2026) Financial Plan

The relevant components of the proposed 10-Year Servicing Plan and Parkland Acquisition Program values identified in this report align with the 5-Year (2022-2026) Financial Plans that were approved by Council in December 2021, plus funding currently available in capital reserves.

Legal Services and Finance Review

This report has been reviewed by the Finance Department and the related Bylaw has been reviewed by the Legal Services Division and they have no concerns.

SUSTAINABILITY CONSIDERATIONS

A properly developed and adequately funded 10-Year Servicing Plan and Parkland Acquisition Program helps to ensure continued planned and orderly development in Surrey, which supports the objectives of the City's Sustainability Charter 2.0. In particular, the Plan supports the Sustainability Charter 2.0 themes of Infrastructure, Built Environment and Neighbourhoods, Ecosystems, and Public Safety. Specifically, a properly developed and adequately funded 10-Year Servicing Plan and Parkland Acquisition Program supports the following Desired Outcomes ("DO"s) and Strategic Direction ("SD"):

- All Infrastructure DO1: City facilities and infrastructure systems are well managed, adaptable and long lasting, and are effectively integrated into regional systems;
- All Infrastructure SD1: Proactively manage community assets to maintain them over the long-term in a state of good repair;
- Energy and Climate DO6: The City anticipates changing weather patterns and sea level rise as a result of climate change, and implements appropriate infrastructure, land use planning and emergency response solutions that will be resilient over the long-term; and
- Green Infrastructure DO12: Include natural capital and ecosystem services in all City projects at the planning phase, as well as in the City's infrastructure services program and climate adaptation planning.

CONCLUSION

Based on the above discussion, Council's approval of the proposed 10-Year Servicing Plan and bringing forward of the DCC Bylaw will establish the City's Engineering capital expenditure plan and parkland acquisition that will service existing neighbourhoods and support new growth across the City.

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AP/js

Appendix "I": 10-Year (2022-2031) Servicing Plan

Appendix "II": Proposed Surrey Development Cost Charge Bylaw, 2022, No. XXXX

10-YEAR SERVICING PLAN

Engineering Department



City of Surrey
Engineering Department

10-YEAR SERVICING PLAN (2022-2031)

TABLE OF CONTENTS

1.	OVERVIEW OF THE PLAN.....	1
2.	TRANSPORTATION	6
3.	WATER.....	40
4.	SANITARY SEWER.....	54
5.	DRAINAGE	71
6.	CAMPBELL HEIGHTS.....	92
7.	HIGHWAY 99 CORRIDOR	104
8.	ANNIE DALE-TYNEHEAD	114
9.	REDWOOD HEIGHTS	126
10.	DARTS HILL.....	129

1. OVERVIEW OF THE PLAN

The objective of the 10-Year Servicing Plan (the “Servicing Plan”) is to establish a program of municipal engineering infrastructure works and services that are required to meet the needs identified under the Official Community Plan and Community Land Use Plans approved by Council.

The Servicing Plan identifies the costs to provide transportation, drainage, water and sanitary sewer services for both the existing population and the projected growth in population over the next 10-years (2022-2031).

The Servicing Plan is developed based on the following plans and documents:

- Official Community Plan (“OCP”);
- Neighbourhood Concept Plans (“NCPs”), Town Centre Plans (“TCPs”) and Local Area Plans (“LAPs”);
- Sustainability Charter;
- Previous 10-Year Servicing Plan (2021-2030);
- Biodiversity Conservation Strategy;
- Transportation Strategic Plan;
- Walking and Cycling Plans;
- Integrated Stormwater Management Plans;
- Serpentine/Nicomex Strategic Plan for Lowlands Flood Control;
- Coastal Flood Adaptation Strategy (“CFAS”);
- Metro Vancouver’s Integrated Liquid Waste Resource Management Plan; and
- Metro Vancouver’s Drinking Water Management Plan.

The needs identified in the Servicing Plan are used by the Finance Department to prepare future 5-Year Capital and Operating budget plans. The identified growth-related components in the Servicing Plan are used to determine the Development Cost Charges (“DCCs”) for engineering infrastructure.

1.1 Servicing Plan Programs

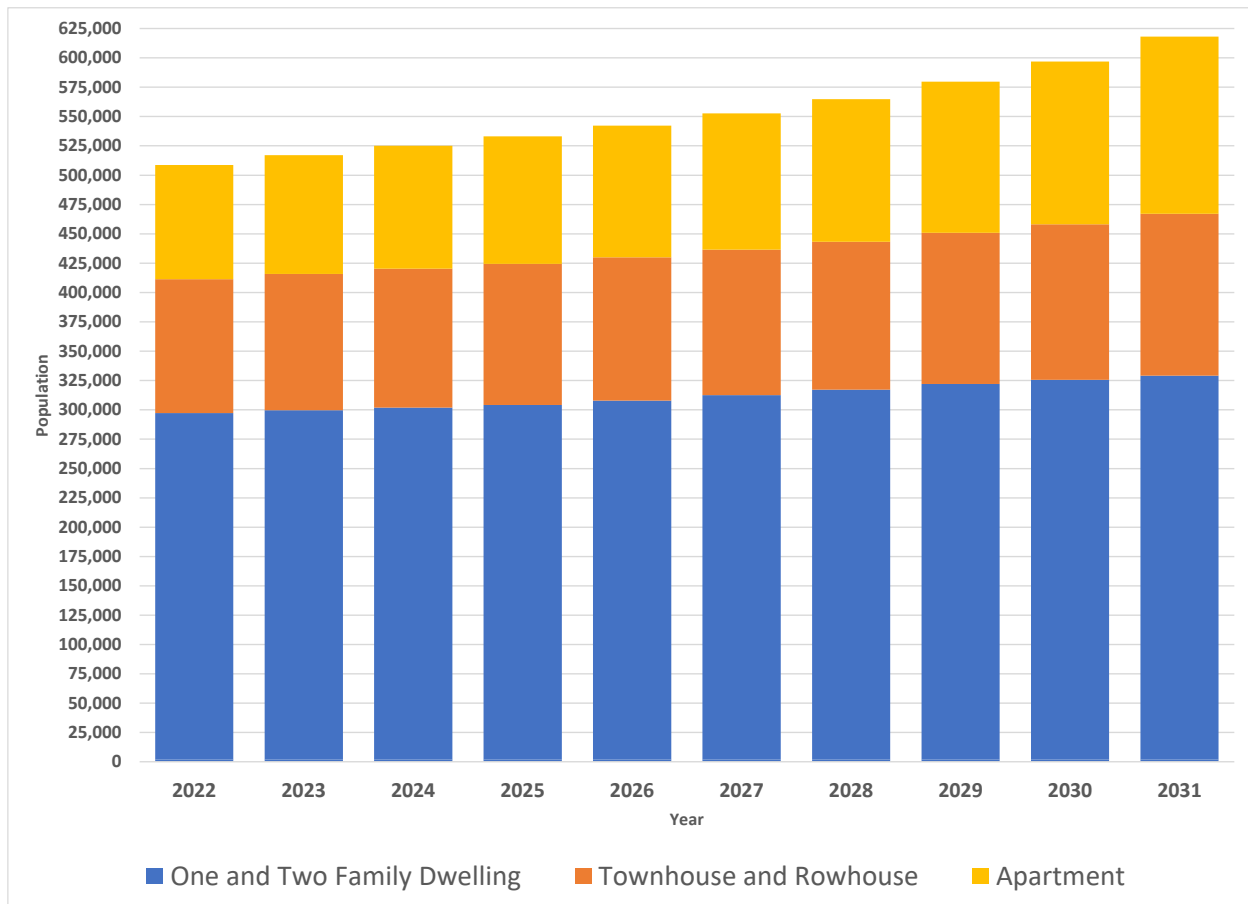
The needs included in the Servicing Plan are divided by the type of asset: transportation; sanitary sewer; water; and drainage. They are then further divided into programs under each asset type. Programs seek to associate projects of similar works and services.

The Engineering Department revised its Capital and Operating program structure in 2009 to differentiate operation/maintenance programs and capital programs as part of its Public Sector Accounting Board PS3150 reporting requirements; therefore, some projects included in the Servicing Plan under specific programs may be contained in different programs as compared to previous Servicing Plan editions. Although projects may have changed programs, the activity and funding requirements of the projects generally will remain the same.

1.2 Population Projections

Growth related needs are primarily driven by the increase in population. The Servicing Plan is developed based on the population projections estimated by the City's Planning & Development Department. The City's population, for the purposes of engineering services, is estimated to increase by approximately 117,311 residents over the next 10 years.

Figure 1.1 - Population Projections



The principles behind the methodologies used in the development of this Plan are classified under three categories:

- Infrastructure required to support the existing population (non-growth);
- Infrastructure required to support future development (growth); and
- Infrastructure required to support both the existing population and future development.

1.3 Infrastructure Required to Support the Existing Population (Non-Growth)

A portion of the servicing requirements included in the Servicing Plan are to support the City's existing population (non-growth). In addition to maintaining the serviceability of the existing infrastructure, this category of requirements includes works to overcome deficiencies within

already developed areas. These servicing requirements are funded by the existing residents and businesses through their utility rates and General Revenue (including the Roads and Traffic Levy).

Examples of non-growth related works included in the Servicing Plan are:

- Repaving of roads and bridges;
- New sidewalks and streetlights for developed areas;
- Local improvements in developed areas;
- Resolutions to existing drainage problems;
- Drainage main, water main and sanitary sewer main replacements; and
- Climate change adaptation.

1.4 Infrastructure Required to Support Future Development (Growth)

A portion of the servicing requirements included in the Servicing Plan are to support future development (growth).

To ensure that growth related projects are cost-effective, the following were considered in the sizing of infrastructure and the timing of works:

- Life cycle of mains, pipes and other materials used in the construction of municipal services (typically spans 50 to 100 years);
- Incremental costs for upsizing trunk sewers or feeder mains that are relatively small compared to the total construction cost or to the cost of further relief work at a future date;
- Extent and effect of disruptions caused by phased and/or sectional improvement works; and
- Strategy of interim upgrading of roads to reach full urban standards over, or even beyond, the life of the Servicing Plan.

1.5 Infrastructure Required to Support both the Existing Population (Non-Growth) and Future Development (Growth)

Some projects support the existing population as well as future development. Examples of this type of project are replacement of a water main or bridge that is also upsized to provide additional capacity. In this case, the replacement cost would be assigned to non-growth needs and the upsizing cost to growth needs.

1.6 Cost Estimates

All costs quoted in the Servicing Plan are capital costs, exclusive of long-term operating and maintenance costs, expressed in 2021 dollars. The majority of these costs are indicative (Class D) level estimates. More detailed cost estimates have been used where available.

For annual projects, the total cost of the project over 10 years is provided.

1.7 Financing Infrastructure to Support Future Development (Growth)

There are a number of financial strategies available for front-ending developers or property owners to recover an appropriate share of costs to service growth. Examples of these are:

- Development Cost Charge (“DCC”) Front-Enders Agreements;
- Developments Works Agreements; and
- Latecomer Charges Agreements.

Financing strategies for major servicing elements included in the Servicing Plan allow for a cooperative approach between the City and developers to use DCCs generated in respective developing areas.

1.8 Financing Strategies for Servicing Industrial Areas

The Servicing Plan includes major servicing requirements for industrial lands in South Westminster, East Bridgeview, South Cloverdale, Highway 99 Corridor, East Newton and Campbell Heights. The City’s ability to directly provide, or facilitate developers to provide, these servicing requirements supports the City’s goal to increase economic development activity.

1.9 Area-Specific Financing Strategies to Support Future Development (Growth)

The Highway 99 Corridor, Campbell Heights, Anniedale-Tynehead, Darts Hill, and Redwood Heights areas have been treated as specific areas from the overall City-wide DCC-funded Servicing Plan due to the higher costs of providing services to these areas. This has allowed greater flexibility in the financing of services through the use of specified area charges and public-private partnerships. Servicing requirements for these areas are included in separate sections of the Servicing Plan.

1.10 Projects Constructed Under DCC Front-Enders Agreement

Some projects identified in the previous 10-Year Servicing Plan (2021-2030) have been constructed and financed by developers through DCC Front-Enders Agreements. These agreements allow DCCs collected in the benefiting catchments to be refunded to the respective front-ending developer, to the limit of the cost of the project as development occurs.

1.11 Timing of Projects

The tables of works are based on the anticipated pace and expected locations of future growth. Should development and growth occur differently, then the timing of individual projects may have to change as well; therefore, the projects, and in particular their timelines and extents of work shown, should be regarded as conceptual and subject to change.

The estimated project timeline ranges within the Servicing Plan are classified as follows:

Annual	Every year
Short Term	1 - 5 years
Long Term	6 – 10 years
NCP Driven	Timing depends on development within NCP area
Upsizing Contribution	No fixed time, project carried out as required

1.12 Public Consultation

The majority of studies and plans that identify the various infrastructure requirements included in the Servicing Plan have received considerable public input. This input ranges from public opinion surveys, open houses, and online engagement; citizen advisory committees; and the various Committees of Council, such as the Agriculture, Environment, and Investment Advisory Committee, and the Development Advisory Committee.

1.13 Summary of Funding Requirements

Based on the activities detailed under each City-wide program and area specific programs for Highway 99, Campbell Heights, Anniedale-Tynehead, Redwood Heights, and Darts Hill, the Servicing Plan funding requirements are as follows:

Table 1.1 - 2022-2031 10-Year Servicing Plan Cost Summary

Program	Growth (\$)	Non-Growth (\$)	External (\$)¹	TransLink (\$)	Total (\$)
Transportation (Arterial)	406,376,327	156,115,542	77,947,509	216,309,070	952,142,428
Transportation (Collector)	95,393,980				
Water	83,516,000	124,395,773	0	0	207,911,773
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Total	1,338,873,982	530,627,992	284,359,611	280,048,306	2,433,909,891

¹ External funding includes MoTI, ICBC, Federal, Community Works Fund, etc.

2. TRANSPORTATION

To meet the current and future transportation needs of residents, Surrey is building a transportation system that is efficient, equitable, safe and sustainable. One that offers increased choice and better access, supports compact and complete communities, and improves the way all users travel within Surrey.

The transportation network improvements outlined in the 10-Year Servicing Plan are, in principle, guided by Surrey's Transportation Strategic Plan. The Transportation Strategic Plan is the overarching framework which seeks to develop a balanced transportation system that supports all mobility needs, including pedestrians, cyclists, transit users, car drivers, and the movement of goods and services.

Surrey is currently updating the Transportation Strategic Plan in part as a response to the many changes to the transportation network, population growth, and increases to densities since the plan was developed in 2008. The new Surrey Transportation Plan seeks to address the challenges of responding to City and global drivers of change. It will chart a path forward to provide an efficient and equitable transportation system and support a thriving, green and inclusive City. To achieve this, five foundational pillars will guide the plan and respond to Surrey's unique context:

1. Grow the Transportation Network
 - a. Delivering and planning for a transportation network that will accommodate growth and manage congestion in order to achieve modal choice as Surrey continues to evolve into an urban centre for Metro Vancouver.
2. Prioritize Vision Zero Surrey
 - a. Vision Zero principles goal is eliminating collisions that result in death or serious injuries. Vision Zero recognizes that people make mistakes; however, these mistakes should not result in death or serious injuries. By assessing and prioritizing infrastructure with a road safety lens, lives can be saved.
3. Tackle the Climate Crisis
 - a. The climate crisis is an external driver of change, and with the declaration of a Climate Emergency the City must focus on transportation's role in combating the climate crisis and how people move in and around Surrey.
4. Innovate through Technology and New Mobility
 - a. Combining Technology's role in how people move around through Intelligent Transportation Systems and data collection while adapting and accommodating the role that new mobility options have in shifting travel choices in Surrey.
5. Balance Equity
 - a. To become a thriving, green and inclusive City, equity in transportation options is a key factor in reducing poverty and financial burden and for achieving a transportation system that is accessible to all.

The revised plan will identify a long-range transportation vision for the City of Surrey beyond 2050. It will deliver action plans with key objectives, projects and initiatives for the next 10 years and develop a framework for how to prioritize future transportation investments. Using the principles and outcomes from the plan, the City can allocate resources to transportation servicing programs essential to the planning, expansion, operation and maintenance of the City.

2.1 Funding Sources for Transportation Infrastructure

There are two primary sources of City funding for the continuous planning, design, delivery and maintenance of new and existing transportation infrastructure: General Revenue (including the Roads and Traffic Levy); and DCCs. The City also receives funding from TransLink and other external agencies, such as: the Ministry of Transportation and Infrastructure (“MoTI”); the Federal Government; and the Insurance Corporation of British Columbia (“ICBC”). Additionally, the City collects funding for transportation infrastructure from developments in City Centre as cash-in-lieu for parking relaxations.

2.1.1 General Revenue, Roads and Traffic Levy

General Revenue is collected by the City annually through property taxes and includes the Roads and Traffic Levy. This funding source is used for non-growth capital projects that are for rehabilitating infrastructure for a state-of-good repair and completing infrastructure in established neighbourhoods.

Examples of non-growth capital projects in the 10-Year Servicing Plan include:

- Repaving of roads;
- Traffic signal rehabilitation;
- Sidewalk installation in developed areas;
- Bus stop infrastructure; and
- Cycling infrastructure in developed areas.

General Revenue and the Roads and Traffic Levy are also used for other operational programs such as day-to-day City operations and maintaining existing infrastructure that is not identified in the 10-Year Servicing Plan. This includes:

- Streetlight maintenance (approximately \$3.2 million per year);
- Hydro Utility for streetlights and traffic signals (approximately \$4.0 million per year);
- General Street Operations (including pothole repair, sweeping, winter maintenance, and other general repair at approximately \$19.3 million per year);
- Traffic Engineering operations, including Traffic Management Centre, pavement marking operations and planning (\$3.0 million); and
- Other Transportation plans studies and operations (\$3.4 million).

2.1.2 Development Cost Charges

DCCs are collected from developments to fund the growth-related cost of Arterial and Collector (non-arterial) road infrastructure improvements that are required to service new development areas. Examples of growth-related projects funded by DCCs in the 10-Year Servicing Plan include:

- Arterial widening of roads in, or connecting to, high growth areas;
- Collector road improvements to accommodate traffic and provide complete streets for all modes;
- New sidewalks on arterial and collector roads;
- New cycling infrastructure on arterial and collector roads;
- Strategic property acquisition for future arterial and collector road improvements;
- Intersection improvements for safety, capacity, and operations, such as roundabouts;
- New and widened bridges and overpasses;
- New and improved highway interchanges; and
- New traffic signal installations.

2.1.3 TransLink

TransLink is the City's largest sustained cost-sharing agency. TransLink provides a significant source of funding through the following funding programs:

Operations, Maintenance and Rehabilitation Funding

In April of 1999, the Province declassified Provincial Highways across Metro Vancouver, including three within Surrey: King George Highway; Fraser Highway; and Scott Road. In conjunction with the creation of TransLink and highway downloading, TransLink established the Major Road Network ("MRN") to support the safe and efficient movement of people and goods across the region.

TransLink provides annual Operations, Maintenance and Rehabilitation ("OMR") funding to Surrey for the MRN, based on the number of lane kilometres of MRN in the City. There is currently 593 km of MRN, for which the City receives approximately \$12.5 million of funding. \$5.1 million is allocated for pavement rehabilitation ("R") which is included in the TransLink total in Program 1016 (Arterial Paving) of the plan. The remainder (\$7.4 million) is allocated for operations and maintenance ("O&M"). A small portion of the O&M funding is included in the 10-Year Servicing Plan for Traffic Signal Rehabilitation and the remainder goes to other operational programs not shown within the 10-Year Servicing Plan.

Annual Capital Funding Programs

TransLink has a variety of annual capital cost-sharing programs that support projects both on the MRN and within other areas that meet supportive criteria. These programs have an allotment of annual funding based on population and employment, and/or a competitive component. With the funding from Phase 1 and 2 of the Mayor's Council 10-Year Investment Plan, these programs have been either reinstated or increased, allowing Surrey to maximize growth and non-growth revenue sources.

The programs are as follows:

- Major Road Network and Bike (“MRNB”) (\$5.912 million allocated)
 - The MRNB program supports widening and improvements on the MRN, as well as bike projects that meet supportive criteria.
- Bicycle Infrastructure Capital Cost Sharing (“BICCS”) (\$1.906 million allocated, up to \$1.2 million competitive)
 - The BICCS program supports the implementation of All Ages and Abilities cycling infrastructure on both the Major Bike Network (“MBN”), Town Centres, Frequent Transit Development Areas, and areas identified with High Cycling Potential.
- Walking Infrastructure to Transit (“WITT”) (\$690,000 allocated, up to \$800,000 competitive)
 - The WITT program supports new and improved walking infrastructure improvements to connect transit users to the SkyTrain, Rapid Bus, and Bus network.
- MRN Structures (“MRNS”) (up to \$5 million competitive)
 - The MRNS supports the rehabilitation of bridges, retaining walls, culverts, and other larger scale structures on the MRN.
- Transit Related Road Infrastructure Program (“TRRIP”) (up to \$500,000 competitive)
 - TRRIP supports the construction of new and improved bus stops (typically converting to fully accessible) and bus operational improvements.
- Bus Speed and Reliability Program (“BSR”) (up to \$100,000 planning and \$750,000 for infrastructure improvements)
 - BSR supports the planning and implementation of improvements such as transit only lanes and bus queue jumpers that support TransLink/Coast Mountain Bus Company’s operational improvements.

The total amount of funding anticipated from the OMR and capital cost-sharing programs is represented as TransLink funding in the 10-Year Servicing Plan.

2.1.4 External Funding

Funding sources from external sources are included in the 10 Year Servicing Plan. These can include various grants available from the Provincial and Federal governments, such as the Community Works Fund, and ICBC’s Roads Improvement Program for projects outlined in the 10-Year Servicing Plan that have broader Provincial or Federal implications and safety benefits for the transportation of goods and/or people. Additionally, the City partners with the Ministry of Transportation and Infrastructure for cost-sharing on new or enhanced infrastructure wanted by the City on Provincial Highways. This strategic application for funding is vital for optimizing the City’s budget and ensuring funding received from Surrey taxpayers is leveraged to the highest extent in the delivery of key regional and local transportation infrastructure.

An additional external funding source is secured through the Alternative Transportation Infrastructure Reserve Fund. These funds are collected from development applicants in lieu of providing off-street parking spaces within the proposed development site for the purposes of providing transportation infrastructure that supports walking, cycling, public transit or other alternative forms of transportation.

2.2 Road Classifications and Transportation Inventory

Surrey classifies the road network into four categories based on traffic volumes, design standards and multi-modal amenities. These classifications reflect the role a road has within the network, from providing capacity on the highest volume corridors to providing access to local properties and businesses. A road classification map illustrating arterial and collector roads, along with their corresponding road widths, are shown in the *Surrey Subdivision and Development By-law, 1986, No. 8830*, as amended from time to time.

Roads are classified into the following four categories:

- **Provincial Highways:** Provincial Highways are those roads in Surrey that are owned and maintained by the Ministry of Transportation and Infrastructure. The Province typically funds capital works on Provincial Highways; however, the City may cost share on specific improvements that have a significant benefit for Surrey (such as sidewalks, new and improved interchanges, bridges and/or intersections).
- **Arterial Roads:** Arterial roads are the main transportation corridors for the movement of all vehicle classes, both through and within the City. Arterials carry the highest traffic volumes and provide important corridors for transit services and goods movement. Arterials are protected for a standard of five lanes (four lanes for general purpose traffic with a dual left-turn centre lane), cycling facilities, sidewalks, boulevards, street trees, and lighting. Heavy truck travel² is generally restricted to Provincial highways and arterial roads.
- **Collector Roads:** Collector roads are primarily intended to collect and distribute traffic between local and arterial roads. Traffic using a collector is usually going to or coming from somewhere nearby. Collector Roads typically include cycling facilities, sidewalks, boulevard trees and parking.
- **Local Roads:** The primary function of local roads is to provide access to residences, neighbourhood schools, recreational facilities and local businesses, rather than traffic movement. Parking is usually available on both sides of the road except for a few local conditions.

The City's current inventory of roads and a sample of supporting infrastructure are summarized in **Table 2.1**. A map illustrating all the Provincial Highways, Arterial (both MRN and non-MRN), and Collector roads is shown on **Figure 2.1**. The width and classification of the City's Arterial and Collector road networks are identified in the Major Road Allowance Map and the Road Classification Map (R-91), both contained within the *Surrey Subdivision and Development By-law, 1986, No. 8830*, as amended from time to time.

² Heavy trucks refer to vehicles required to limit their travel to designated truck routes and truck areas based on the Licensed Gross Vehicle Weight of a vehicle or combination of vehicles. Heavy trucks may use all municipal roads within industrial areas. For destinations not on a truck route, the most direct route to/from a destination and the closest truck route must be used.

Table 2.1 – Current Transportation Asset Inventory

Roads - Centreline Length	
Arterial Roads (including MRN roads)	382 km
Collector Roads	265 km
Local Roads	1,315 km
<u>Lanes</u>	<u>207 km</u>
Total Surrey Roads	2,169 km
Provincial Highways	119km
Total Surrey & Provincial Roads	20,288 km
Lane Kilometer Length	
Major Road Network	593 km
City Arterials	1,020 km
Collectors	531 km
Supporting Infrastructure	
Multi-use Pathways	133 km
Bridges and Structures	50
Streetlights	31,630
Traffic Signals	492
Traffic Signs	51,203

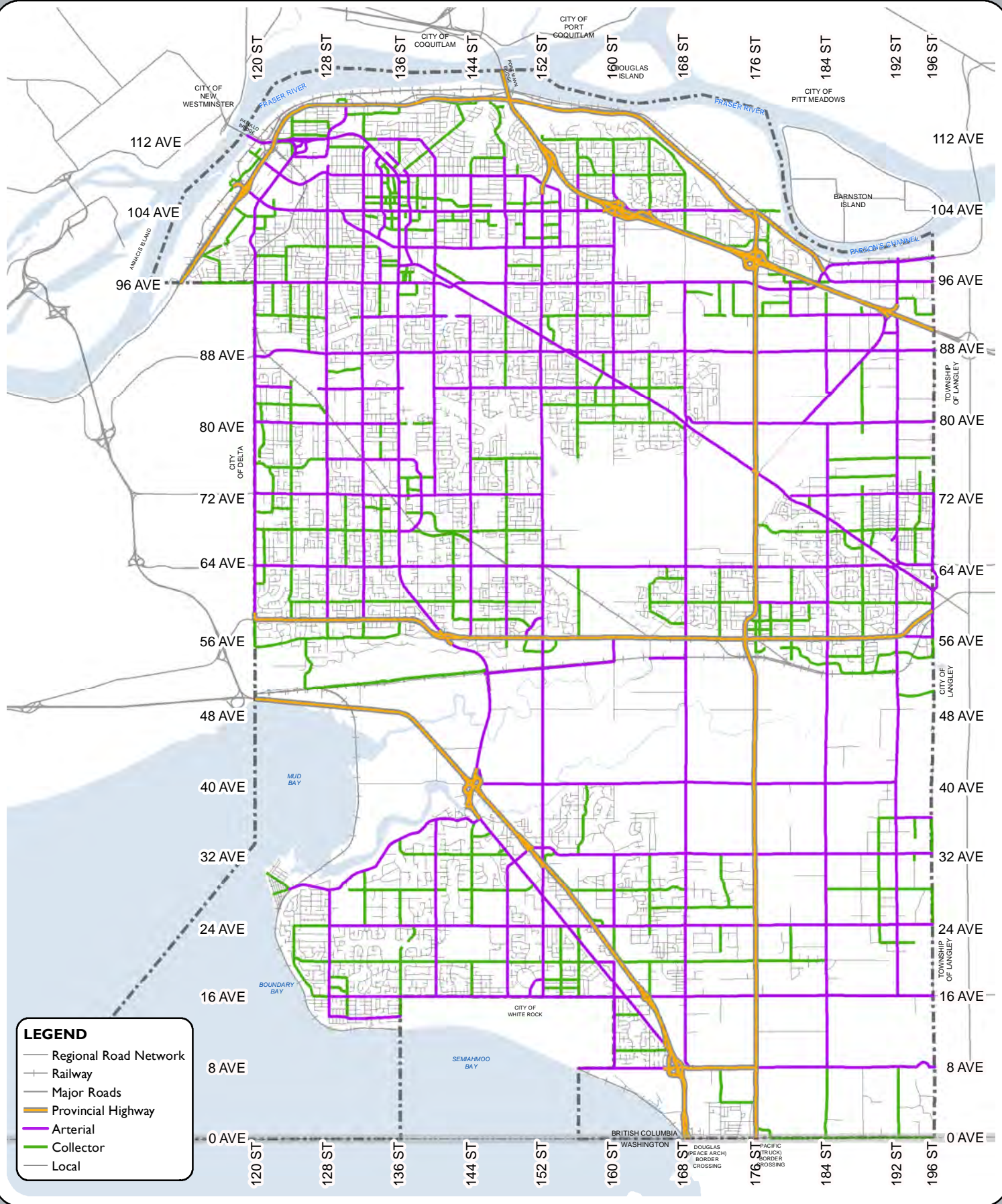


FIGURE 2.1 - ROAD NETWORK

2.3 Capital Planning

The planning process for major capital works begins in advance of when the projects begin construction. The City uses a data driven, evidence-based approach to identify projects for inclusion in the 10-Year Servicing Plan. This process also uses a multiple account evaluation methodology to ensure projects meet the goals and objectives outlined in the Transportation Strategic Plan and with the in-progress update, Surrey Transportation Plan, and the five fundamental pillars of:

1. Grow the Transportation Network
2. Prioritize Vision Zero Surrey
3. Tackle the Climate Crisis
4. Innovate through Technology and New Mobility
5. Balance Equity

The process of incorporating these fundamental pillars is embedded into project evaluation and prioritization which includes analysing data from seven categories: added user safety, traffic level of service, cycling connections, transit network, walkability, right-of-way constraints and community needs. Each category includes one or more quantitative or qualitative measures. These measures include assessment of current condition (ex. Killed or Seriously Injured Collisions, Volume-over-Capacity ratio) and future network (ex. Future Cycling Connections, Long Range Transit Vision).

For major projects chosen to be delivered in the short-term, terms of reference, detailed design and construction are typically completed in phases over three years, with detailed design being in the first year, property acquisition within the second year, and finally construction starting in the third year.

2.4 Project Delivery

Based on the funding source, the City delivers transportation infrastructure through either development or capital works.

2.4.1 Development

For developments fronting Local or Collector roadways, the developer is responsible for constructing all the road works. The developer directly funds road improvements to the Local road standard and receives DCC funding for the incremental cost to meet the Collector road standard. Servicing agreements are established to ensure these works meet City design standards and specifications. For developments on arterial roadways, the City collects DCCs from developers and uses this funding to deliver strategic corridor-wide improvements, allowing the City to prioritize and manage the delivery of large comprehensive improvements to communities.

2.4.2 Capital Works

Most major capital construction, along with minor construction improvements, are led by the City. They are subject to regular review and prioritized based on demands. Typically, the City obtains a contractor for these works; however, the City's Operations Division is responsible for daily repairs and minor maintenance on the road system.

2.5 Transportation Programs

To accommodate existing and future demands on the transportation network, funding is allocated to 23 transportation network servicing programs, which are categorized into capital and capital rehabilitation work.

2.5.1 New Capital Programs

Program 1000 – New Arterial Improvements

The New Arterial Improvements program is based on completing strategic and planned Arterial connections in the City's road network that are identified as part of concept plans and are included in the City's road classification map. These important connections facilitate improved distribution of traffic to help relieve congested intersections and corridors, and improve cycling, walking and transit movement through the City.

Program 1002 – Arterial Widening

Growth related improvements are determined from a process that includes using traffic model projections, growth trends due to development in NCP areas, and where vehicle volumes exceed capacity. Prioritization of projects is based on factors that include improving the operational safety of the corridor and introducing new or enhanced multi-modal facilities for pedestrians, cyclists and transit users. The typical five-lane road configuration consists of two travel lanes in either direction, with left-turn bays at intersections, cycling infrastructure, sidewalks, bus stops, street tree boulevards and streetlighting.

Program 1004 – Arterial Improvements

This program consists of the completion of arterial roads to an identified unique standard. The classification as a unique arterial standard is typically based on access management and is not required to be widened to five lanes. Growth-related improvements provide operational capacity, safety benefits and new or enhanced multi-modal facilities for pedestrians, cyclists and transit users.

Program 1006 – Strategic Property Acquisition

This program funds advanced property acquisition for primarily arterial and collector road projects prior to detailed design and/or construction being identified. Properties that are anticipated to be significantly impacted through new arterial roads or from arterial road widening have been identified through concept plans or as part of the City's road classification and allowance maps.

The majority of collector and strategic local road construction projects are completed within existing road allowances, but there are a few instances where they can only be achieved through property acquisition. This program also allocates funds to several collector and strategic local roads that have little or no opportunity for construction by adjacent related traffic impacts. These local roads are normally found within the City's NCPs and other development that have a value in supporting the growth objectives of the particular NCP or Town Centre Plan area.

Program 1008 – Development Coordinated Improvements

The Development Coordinated Improvements Program includes both Development Coordinated Works (“DCW”) and collector upsizing, which uses DCCs collected to complete the work.

DCW accommodates the construction of works that are not identified in the 10-Year Servicing Plan in conjunction with the development of adjacent properties. The intent is to construct required works that will improve the transportation system and are unlikely to occur through subsequent development or until a future iteration of the 10-Year Servicing Plan. It is often cost effective to construct certain works adjacent to development sites that are not expected to be completed through future development projects. This includes road widening/completion, sidewalks and other works completed through active development projects. As these works are in response to development activity, it is not possible to predict a detailed program of works.

Most collector road widening projects are constructed in conjunction with development with DCC upsizing funds. Developers are responsible for construction of the applicable local road standard (based on zoning) plus curb and gutter, drainage works, sidewalk, streetlights and landscaping. The City will complete the road to the ultimate standard by funding the additional cost to upgrade to the collector standard for sidewalk width and streetlighting.

Program 1012 – Intersection Improvements

The Intersection Improvements program is a warrant-based program that focuses on projects that increase capacity or mitigate the impact of traffic growth on roadways with respect to safety. Most of the works include construction of roundabouts, additional travel lanes at intersections, and/or extensions and improvements of left-turn bays.

Program 1018 – Bridges and Overpasses

This program consists of new, widening and other improvements to transportation crossings, including new growth-related bridges and overpasses, and non-growth crossings in established areas with a focus on pedestrian/cycling bridges. Costs have been assigned between growth and non-growth based on the rationale for improvements. Significant external funding contributions from the Province (through cost-sharing), the Federal government (through the Community Works Fund) and TransLink (through MRNS funding) are anticipated for the new overpasses and pedestrian bridges.

Program 1020 – Highways and External Agency Projects

Typical projects within this program include highway grade separation, interchange ramps and at-grade railway crossing improvements. The costs are based on the City’s share of works.

Program 1030 – Collector Road Improvements

Collector roads serve a wider community need, both in terms of vehicular and pedestrian/cycle traffic. Most collector roads are completed as an upsizing project through Program 1008 – Development Coordinated Improvements. However, several collector roads remain incomplete and upgrades are required at locations that are not expected to be achieved through the redevelopment process. Unlike arterial roads, the need for collector widening is not strictly driven by capacity, but rather to provide improved pedestrian, cyclist and traffic mobility and on street parking, as well as to provide a finished streetscape that enhances liveability for residents and businesses.

Program 1074 – Local Area Service

Areas of Surrey that developed before the current servicing standards usually lack roads that are completed to final standard; missing components can include sidewalks, curbs, streetlights, etc. For local roads, upgrades can be carried out under the Local Area Service (“LAS”) program. The LAS program provides residents, who have the support of their neighbours, to petition for the upgrading of works, and share the cost of upgrading between fronting property owners and the City. The LAS program funding is from non-growth sources and used to cost-share in projects that are considered eligible based on the City’s LAS criteria.

Program 1102 – Traffic Signals

This program includes all intersection control projects and is focused on growth-related installations of traffic signals and pedestrian signals. The installation of intersection controls is based on whether the appropriate industry standard warrants are met, with an emphasis on reducing collisions and improving pedestrian crossing opportunities or in conjunction with road widening and improvement projects.

Program 1108 – Crosswalks and Traffic Control Infrastructure

This program consists of implementing crosswalks, traffic circles and other traffic calming measures throughout the City. The types of projects within this program are speed humps, speed tables, traffic circles, Rapid Rectangular Flashing Beacon (“RRFB”) crosswalks, and pavement narrowing through curb extensions (bulges).

Program 1120 – Bicycle Infrastructure

As cycling facilities are a standard part of arterial and collector cross sections, a significant portion of bicycle infrastructure is completed through new or widening projects, with funding being included within the respective road widening programs. Therefore, this program focuses on improving, expanding, and connecting the growing network of raised, separated bike lanes (commonly known as cycle tracks) for All Ages and Abilities cycling outside of existing road improvement projects. Funding for tactical intervention projects allows some interim protection of existing on-street bike lanes and continued expansion of the protected cycling network.

Other projects include the funding of pavement markings as well as signing and traffic signal modifications on existing arterial and collector roads that do not have bike lanes. In addition, local street bikeways and multi-use pathways are included in cooperation with the Parks, Recreation & Culture Department.

Bicycle improvement projects are largely funded by DCCs as increased protected cycling infrastructure has proven to increase mode share and the number of cycling trips. This accommodates growth through the increased number of trips, frees up road space for existing users and increases capacity for growth. The City regularly applies for annual TransLink funding under the Bicycle Infrastructure Capital Cost Sharing program, as well as Provincial (Bike BC) government funding programs.

Program 1142 – Transit Infrastructure

The Transit Infrastructure improvements program provides non-growth funding for infrastructure projects to assist in the transit services provided by TransLink and Coast Mountain Bus Company. Projects include enhanced transit facilities, such as new bus stops and making bus stops wheelchair accessible. Additionally, improvements such as transit pre-emption and “queue jump” lanes are included to enhance the reliability and reduce travel times for transit users. The City regularly applies for annual TransLink funding under the Transit Related Infrastructure Improvements Program and the new Bus Speed and Reliability Program.

Program 1154 – Walking Infrastructure

This program provides sidewalks and other infrastructure such as curbs, boulevard and streetlights in locations that have the greatest likelihood of pedestrian activity, but without plans for road widening or development. The growth-related funding in this program targets pedestrian improvements on arterial and collector roads in higher growth areas that will help complete the street and increase walking mode share and walking to transit. The City applies for annual TransLink funding under the Walking Infrastructure program.

2.5.2 Capital Rehabilitation Programs

Program 1016 – Arterial Road Paving

The City uses a sophisticated pavement management system that integrates raw road data, such as pavement condition and surface distress, into a centralized database which analyses corridors under current and future traffic loading conditions, and then generates a pavement deterioration curve. This is a vital asset management tool for optimizing the schedule of repaving and repairs to achieve least cost for maintenance and capital repaving over the life cycle.

The paving program is separated into the different road classifications: arterial (Program 1016), collector (Program 1046), and local (Program 1070). General revenue is allocated for arterial roads repaving, as it pertains to the overall maintenance and operation of the City. One exception is that MRN repaving is funded through TransLink’s OMR Paving Rehabilitation program.

Program 1046 - Collector Road Paving

Similar to Program 1016 for arterial roads, pavement studies are used to indicate when resurfacing of collector roads is required in order to provide the most cost-effective approach to reduce rehabilitation costs. This program allocates non-growth related funding to collector and local roads for pavement resurfacing. Additionally, this program allocates funds to finish the final paving lift (i.e., final overlay on roads where this was delayed due to redevelopment and to avoid servicing pavement cuts of new asphalt).

Program 1050 – Bridges and Overpasses Rehabilitation

This program identifies major non-growth replacement and rehabilitation of existing crossings. The City undertakes a bridge condition assessment annually, which identifies the bridges for replacement or major deck rehabilitation due to their condition. General Revenue is allocated for the rehabilitation of bridge and overpasses. One exception is the rehabilitation on MRN structures, which is funded through TransLink's MRNS funding.

Program 1070 – Local Road Paving

Please refer to Programs 1016 and 1046 for details about the City's paving programs.

Program 1104 – Street Lighting and Ancillary Signal Infrastructure

This non-growth program addresses the capital rehabilitation of streetlights and signal support infrastructure. This includes replacement of aging streetlight poles and fixtures, controller cabinets, uninterrupted power supply (UPS) systems, and signal communications infrastructure such as emergency vehicle pre-emption ("Opticom") and intelligent transportation system ("ITS") improvements.

Program 1160 – Traffic Signals Rehabilitation

This non-growth program is an operating program that focuses on signal rebuild projects. One exception is for traffic signals on MRN roads, which is funded through TransLink's MRN OMR program.

2.5.3 Other Programs*Program 1026 – City Centre Property Acquisition*

This is an area-specific program that is funded through an additional DCC rate applicable in the City Centre only. This program funds the acquisition of key properties that are unlikely to be dedicated to the City through redevelopment but are critical to achieve the finer grained road network in City Centre. The finer grained road network is critical to the success of the City Centre becoming a vibrant and successful downtown core with smaller blocks that encourage multi-modal travel.

No.	Program	Program Type	Growth (\$)	Non-Growth	Total (\$)
1026	City Centre Property Acquisition	Capital	63,684,000	0	63,684,000

Program 1505 – Transportation Planning - Design and Studies

This program allocates funding for future works project planning, studies, policy development and resources that are required to support growth related planning work such as Transportation Plans for Neighbourhood Concept Plan areas.

2.4 Transportation Cost Summary

No.	Program	Program Type	Growth Arterial(\$)	Growth (\$) Non-Arterial	Non-Growth (\$)	External ³ (\$)	TransLink (\$)	Total (\$)
1000	New Arterial Improvements	Capital	40,132,189	0	0	0	1,034,000	41,166,189
1002	Arterial Widening	Capital	182,921,680	0	21,348,607	8,653,166	69,288,403	282,211,856
1004	Arterial Improvements	Capital	25,932,364	0	4,120,135	0	6,824,768	36,877,267
1006	Strategic Property Acquisition	Capital	19,764,000	10980000	0	0	0	30,744,000
1008	Development Coordinated Improvements	Capital	9,040,200	9917332	3,958,656	0	0	22,916,188
1012	Intersection Improvements	Capital	37,113,574	9205144	17,574,298	50,000	1,484,740	65,427,756
1016	Arterial Road Paving	Rehab	0	0	22,002,240	0	54,380,280	76,382,520
1018	Bridges and Overpasses	Capital	35,273,432	0	2,923,440	49,160,960	21,021,990	108,379,822
1020	Highways and External Agency Projects	Capital	2,283,840	0	2,156,960	12,688,000	0	17,128,800
1030	Collector Road Improvements	Capital	0	55275111	7,069,580	0	2,961,816	65,306,507
1046	Collector Road Paving	Rehab	0	0	12,200,000	0	0	12,200,000
1050	Bridges and Overpasses Rehabilitation	Rehab	0	0	3,288,064	0	6,498,208	9,786,272
1070	Local Road Paving	Rehab	0	0	16,104,000	0	0	16,104,000
1074	Local Area Service	Capital	0	0	500,000	0	0	500,000
1102	Traffic Signals	Capital	28,924,733	761280	1,078,480	0	959,213	31,723,706
1104	Street Lighting and Ancillary	Rehab	0	0	13,800,000	0	0	13,800,000
1108	Crosswalks and Traffic Control	Capital	0	2888960	10,675,488	0	0	13,564,448
1120	Bicycle Infrastructure	Capital	10,103,315	2378793	790,234	7,395,383	18,500,536	39,168,261
1142	Transit Infrastructure	Capital	4,575,000	0	1,586,000	0	16,097,900	22,258,900
1154	Walking Infrastructure	Capital	7,384,000	3987360	10,632,960	0	11,076,000	33,080,320
1160	Traffic Signals Rehabilitation	Capital	0	0	4,306,400	0	6,181,216	10,487,616
1505	Transportation Planning -	Non-Capital	2,928,000	0	0	0	0	2,928,000
Total			406,376,327	95,393,980	156,115,542	77,947,509	216,309,070	952,142,428

³ External funding includes MoTI, ICBC, Community Works Fund, etc

2.5 Transportation Projects by Program

This section contains tables and figures that identify the projects under the key transportation programs.

The tables provide the following information:

- a) Project ID - the unique identifier of the project
- b) Project name - the specific name or generic name that depicts the type of work
- c) Project location - the geographic extent of the works
- d) Priority - the intended time frame for when the project is planned to proceed (subject to change)
- e) Costs – the high-level estimates in 2021 dollars (subject to change at the actual time of construction)

The costs are comprised of growth, non-growth, external and TransLink funding components. Each program table is accompanied by a figure (map) that shows the location and extent of the projects. Projects that are general in nature or in various locations throughout Surrey may not be shown on the maps.

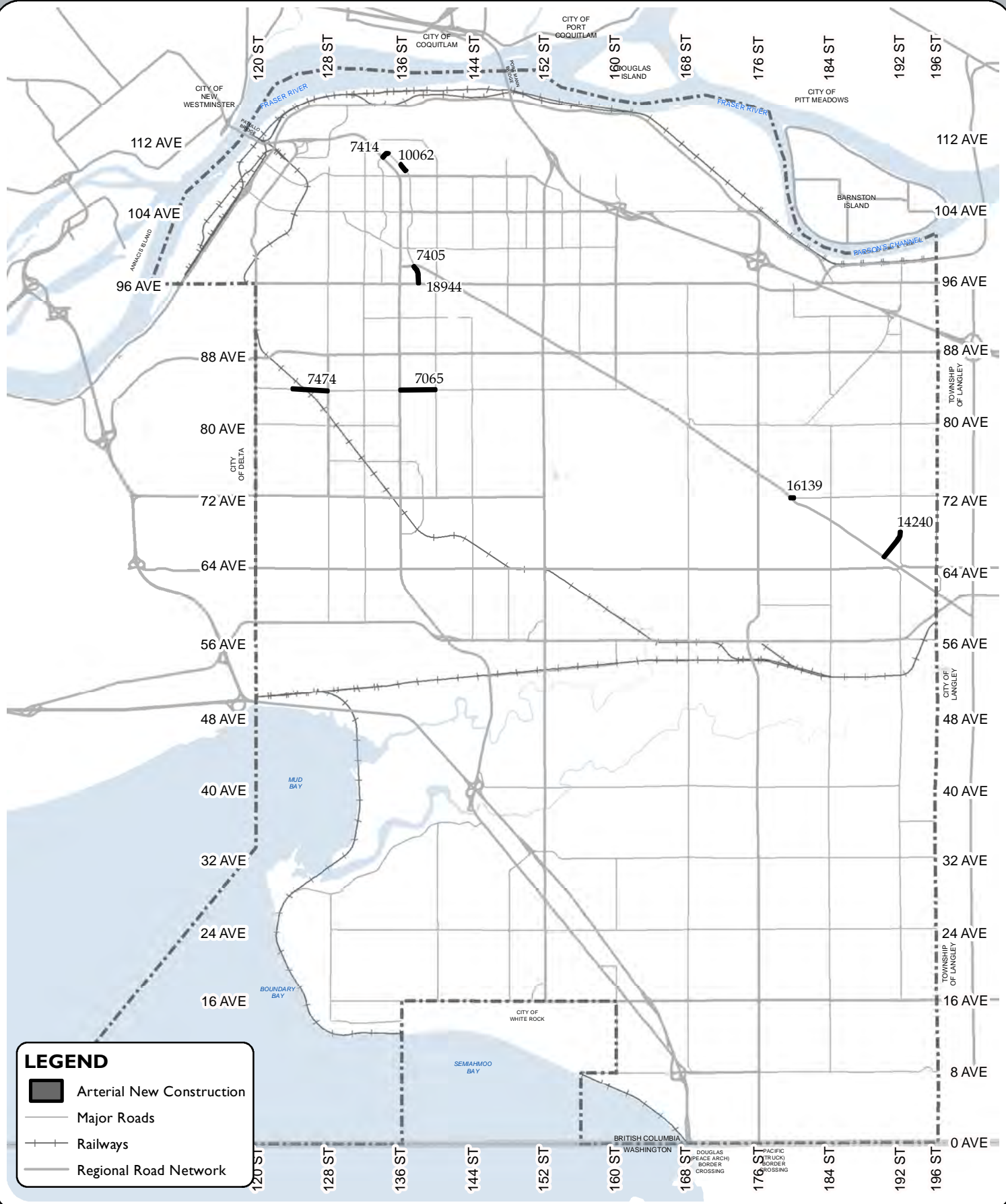


FIGURE 2.2 - Transportation
New Arterial Improvements (Program 1000)

The data provided is compiled from various sources and IS NOT warranted as to its accuracy or sufficiency by the City of Surrey.
This information is provided for information and convenience purposes only. Lot sizes, legal descriptions and other information must be confirmed at the Land Title Office.

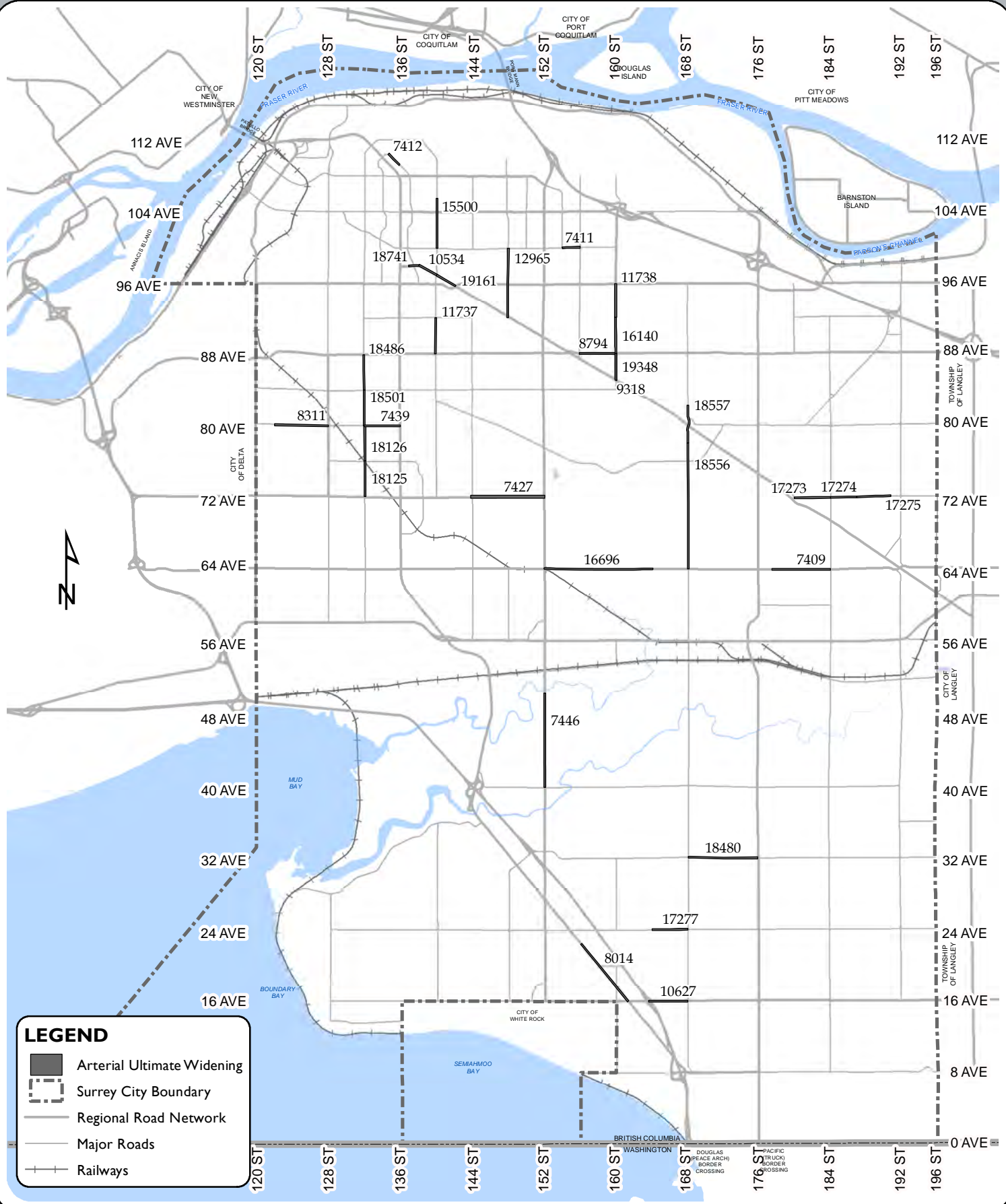
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ROADS

Program 1000 - T - New Arterial Improvements

		Program Total		41,166,189	40,132,189	-	-	1,034,000
Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding
7065	Arterial New Construction	084 Ave: 136 St - 140 St (TOR21-27I)	Short Term (1 - 5 Yrs)	11,464,960	11,464,960	-	-	-
7405	Arterial New Construction	Whalley Blvd: 97 Ave - Fraser Hwy (TOR21-21I)	Short Term (1 - 5 Yrs)	2,141,568	1,107,568	-	-	1,034,000
7414	Arterial New Construction	Whalley Blvd: King George Blvd. - Hilton Rd	Long Term (6 - 10 Yrs)	1,649,440	1,649,440	-	-	-
7474	Arterial New Construction	084 Ave: 124 St - 128 St	Short Term (1 - 5 Yrs)	9,220,640	9,220,640	-	-	-
10062	Arterial New Construction	Whalley Blvd: Grosvenor Rd - Bentley Rd	Long Term (6 - 10 Yrs)	1,649,440	1,649,440	-	-	-
14240	Arterial New Construction	192 St: Fraser Hwy - 68 Ave	Long Term (6 - 10 Yrs)	3,688,880	3,688,880	-	-	-
16139	Arterial New Construction	072 Ave: Fraser Hwy - 180 St	Long Term (6 - 10 Yrs)	9,009,000	9,009,000	-	-	-
18944	New Arterial Construction	Whalley Blvd: 096 Ave - 097 Ave	Long Term (6 - 10 Yrs)	2,342,261	2,342,261	-	-	-

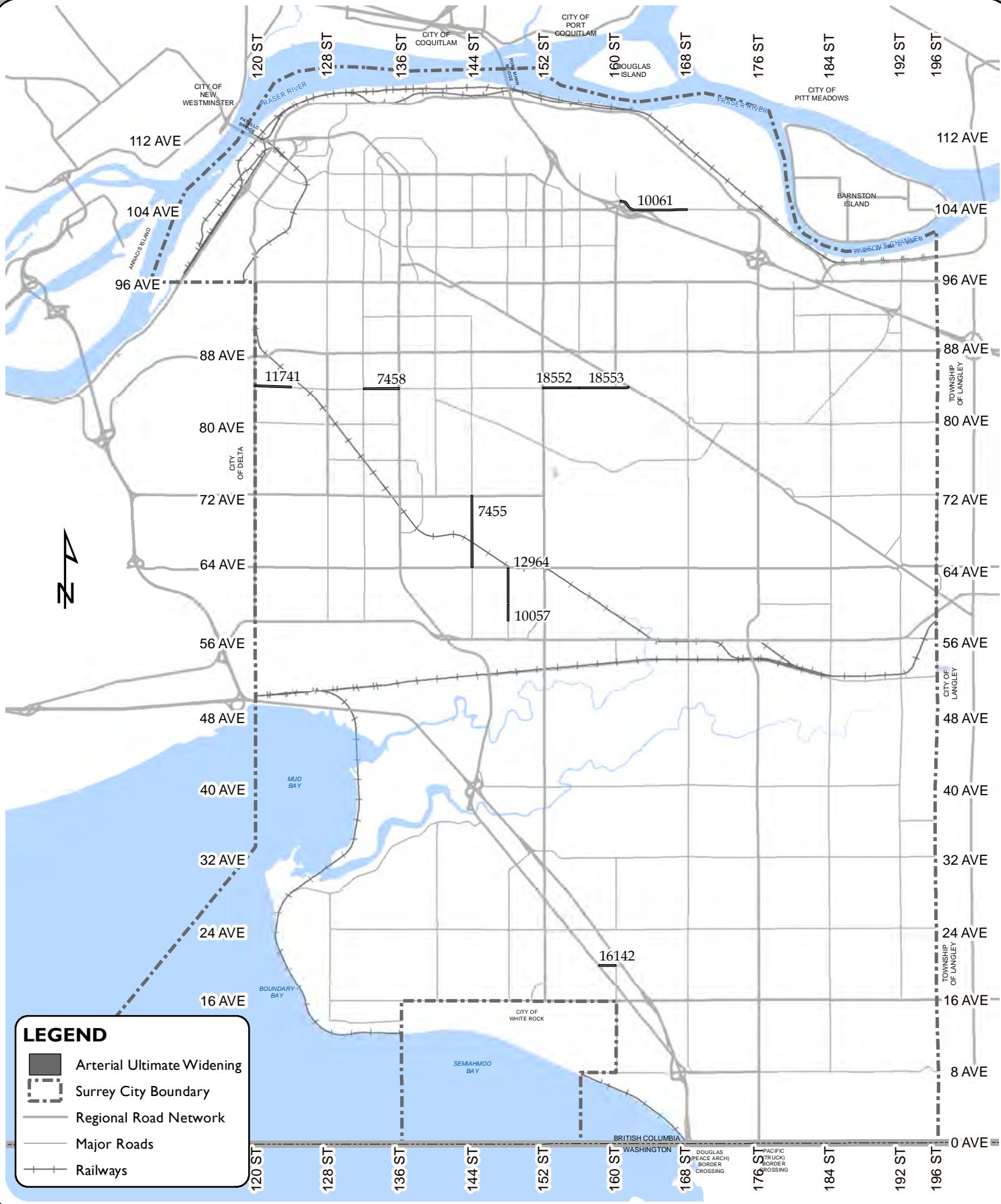


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ROADS

Program 1002 - T - Arterial Widening

Program 1002 - T - Arterial Widening				Program Total	282,211,856	182,921,680	21,348,607	8,653,166	69,288,403
Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding	
7409	Arterial Widening - 5 Lane	064 Ave: 177 St - 184 St	Short Term (1 - 5 Yrs)	13,715,968	6,857,984	-	-	6,857,984	
7411	Arterial Widening - 5 Lane	100 Ave: 154 St - 156 St (Y)	Long Term (6 - 10 Yrs)	3,235,329	2,311,796	323,533	-	600,000	
7412	Arterial Widening - 4 Lane	Whalley Blvd (Hilton Rd): Bentley to Bolivar	Long Term (6 - 10 Yrs)	1,617,664	1,617,664	-	-	-	
7427	Arterial Widening - 5 Lane	072 Ave: 144 St - 152 St	Long Term (6 - 10 Yrs)	13,852,672	6,926,336	-	-	6,926,336	
7439	Arterial Widening - 5 Lane	080 Ave: 132 St - KGB (VP32) (VP46) (Y)	Short Term (1 - 5 Yrs)	7,382,016	6,682,016	-	-	700,000	
7446	DMAF: Arterial Widening - 5 Lane	152 St: 040 Ave - 5000 Blk (Y)	Short Term (1 - 5 Yrs)	20,524,140	6,875,587	-	6,772,966	6,875,587	
8014	Arterial Widening - 5 Lane	King George Blvd: 016 Ave - 156 St	Long Term (6 - 10 Yrs)	11,118,592	5,559,296	-	-	5,559,296	
8311	Arterial Widening - 5 Lane	080 Ave: 122 St - 128 St (TOR21-131)	Short Term (1 - 5 Yrs)	11,073,024	9,265,722	1,107,302	-	700,000	
8794	Arterial Widening - 3 to 5 Lane	088 Ave: 156 St - 160 St	Long Term (6 - 10 Yrs)	8,293,376	4,146,688	-	-	4,146,688	
9318	Arterial Widening - 5 Lane	160 St: Fraser Hwy - 88 Ave (VPS3) (TOR21-191)	Short Term (1 - 5 Yrs)	7,837,696	3,918,848	-	-	3,918,848	
10534	Arterial Widening - 5 Lane	Fraser Hwy: 138 St - 140 St (VPS4) (SLS)	Short Term (1 - 5 Yrs)	5,388,416	2,694,208	-	-	2,694,208	
10627	Arterial Widening - 3 to 5 Lane (50% w/10636)	016 Ave: Hwy 99 - 168 St	Long Term (6 - 10 Yrs)	7,520,800	1,880,200	-	1,880,200	3,760,400	
11737	Arterial Widening - 5 Lane	140 St: 088 Ave - 092 Ave (VP35) (Y)	Short Term (1 - 5 Yrs)	7,837,696	6,270,157	1,567,539	-	-	
11738	Arterial Widening - 5 Lane	160 St: 092 Ave - 096 Ave	Long Term (6 - 10 Yrs)	7,837,696	3,918,848	-	-	3,918,848	
12965	Arterial Widening - 3 to 5 Lane	148 St: Fraser Hwy - 100 Ave	Long Term (6 - 10 Yrs)	14,661,505	11,729,204	2,932,301	-	-	
15500	Arterial Widening - 5 Lane	140 St: 100 Ave - 105A Ave (VP29) (Y)	Short Term (1 - 5 Yrs)	11,756,544	10,580,890	1,175,654	-	-	
16140	Arterial Widening - 5 Lane	160 St: 88 Ave - 92 Ave	Long Term (6 - 10 Yrs)	7,837,696	3,918,848	-	-	3,918,848	
16696	Arterial Widening - 5 Lane	064 Ave: 152 St - 164 St	Long Term (6 - 10 Yrs)	17,794,304	8,897,152	-	-	8,897,152	
17273	Arterial Widening - 5 Lane	072 Ave: 180 St - 184 St	Long Term (6 - 10 Yrs)	6,470,657	5,823,591	647,066	-	-	
17274	Arterial Widening - 5 Lane	072 Ave: 184 St - 187 St	Long Term (6 - 10 Yrs)	4,852,992	4,367,693	485,299	-	-	
17275	Arterial Widening - 5 Lane	072 Ave: 187 St - 191 St	Long Term (6 - 10 Yrs)	6,470,657	5,823,591	647,066	-	-	
17277	Arterial Widening - 3 to 5 Lane	024 Ave: 164 St - 168 St	Long Term (6 - 10 Yrs)	6,379,520	5,741,568	637,952	-	-	
18125	Arterial Widening - 5 Lane	132 St: 072 Ave - 076 Ave	Short Term (1 - 5 Yrs)	6,470,656	5,176,525	1,294,131	-	-	
18126	Arterial Widening - 3 to 5 Lane	132 St: 076 Ave - 080 Ave	Long Term (6 - 10 Yrs)	8,088,320	6,470,656	1,617,664	-	-	
18480	Arterial Widening - 3 to 5 Lane	032 Ave: 168 St - 176 St	Long Term (6 - 10 Yrs)	13,852,672	6,926,336	-	-	6,926,336	
18486	Arterial Widening - 3 to 5 Lane	132 St: 084 Ave - 088 Ave	Long Term (6 - 10 Yrs)	6,470,656	5,176,525	1,294,131	-	-	
18501	Arterial Widening - 3 to 5 Lane	132 St: 080 Ave - 084 Ave	Long Term (6 - 10 Yrs)	6,470,656	5,176,525	1,294,131	-	-	
18556	Arterial Widening - 3 to 5 Lane	168 St: 064 Ave - 078 Ave	Long Term (6 - 10 Yrs)	24,242,176	19,393,741	4,848,435	-	-	
18557	Arterial Widening - 3 to 5 Lane	168 St: 078 Ave - 082 Ave	Long Term (6 - 10 Yrs)	7,382,016	5,905,613	1,476,403	-	-	
18741	Arterial Improvements	Fraser Hwy: George Junction - 138 St	Short Term (1 - 5 Yrs)	1,731,584	865,792	-	-	865,792	
19161	Arterial Widening - 5 Lane	Fraser Hwy: 140 St - 96 Ave (SLS)	Short Term (1 - 5 Yrs)	4,044,160	2,022,080	-	-	2,022,080	



**FIGURE 2.4 - Transportation
Arterial Improvements (Program 1004)**

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SCALE: 1:15,000

ROADS

Program 1004 - T - Arterial Improvements

Program Total	36,877,267	25,932,364	4,120,135	-	6,824,768
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Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding
7455	Arterial Improvements	144 St: 064 Ave - 072 Ave (VP36) (Y)	Long Term (6 - 10 Yrs)	6,284,289	5,027,431	1,256,858	-	-
7458	Arterial Widening - 3 Lane	084 Ave: 132 St - KGB	Short Term (1 - 5 Yrs)	4,406,784	1,762,714	440,678	-	2,203,392
10057	Arterial Improvements	148 St: 058 Ave - 060 Ave (Y)	Short Term (1 - 5 Yrs)	2,203,392	1,983,053	220,339	-	-
10061	Arterial Improvements	104 Ave: 160 St - 168 St	Long Term (6 - 10 Yrs)	7,074,049	6,366,644	707,405	-	-
11741	Arterial Improvements	084 Ave: 120 St - 124 St	Short Term (1 - 5 Yrs)	3,537,024	2,064,322	353,702	-	1,119,000
12964	Arterial Improvements	148 St: 060 Ave - 064 Ave (Y)	Short Term (1 - 5 Yrs)	4,406,784	3,966,106	440,678	-	-
16142	Arterial Improvements	020 Ave: KGB - 160 St (Y)	Long Term (6 - 10 Yrs)	1,960,192	1,960,192	-	-	-
18552	Arterial Improvements	084 Ave: 152 St - 156 St	Short Term (1 - 5 Yrs)	3,537,024	1,414,810	353,702	-	1,768,512
18553	Arterial Improvements	084 Ave: 156 St - Fraser Hwy	Short Term (1 - 5 Yrs)	3,467,729	1,387,092	346,773	-	1,733,864

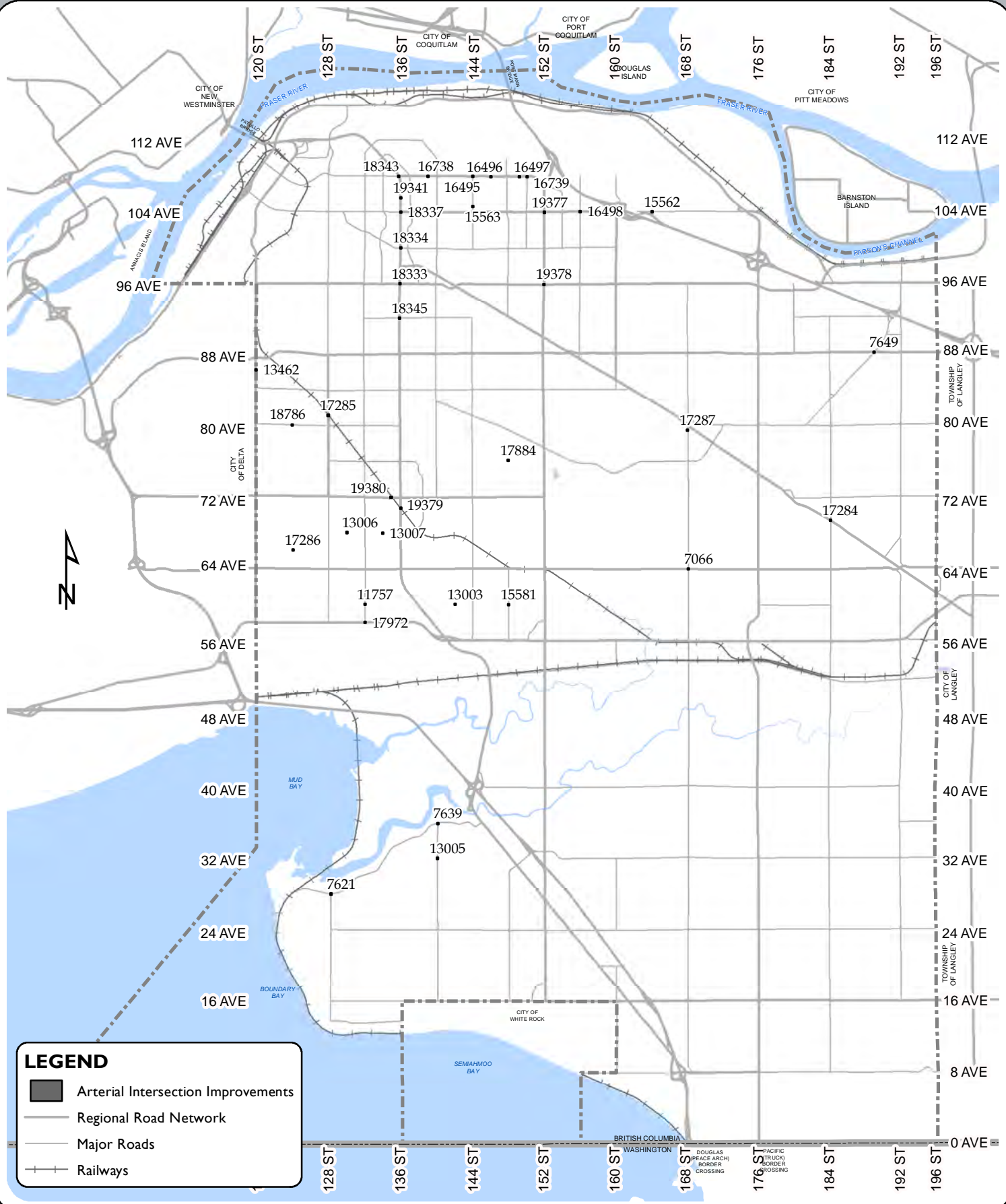


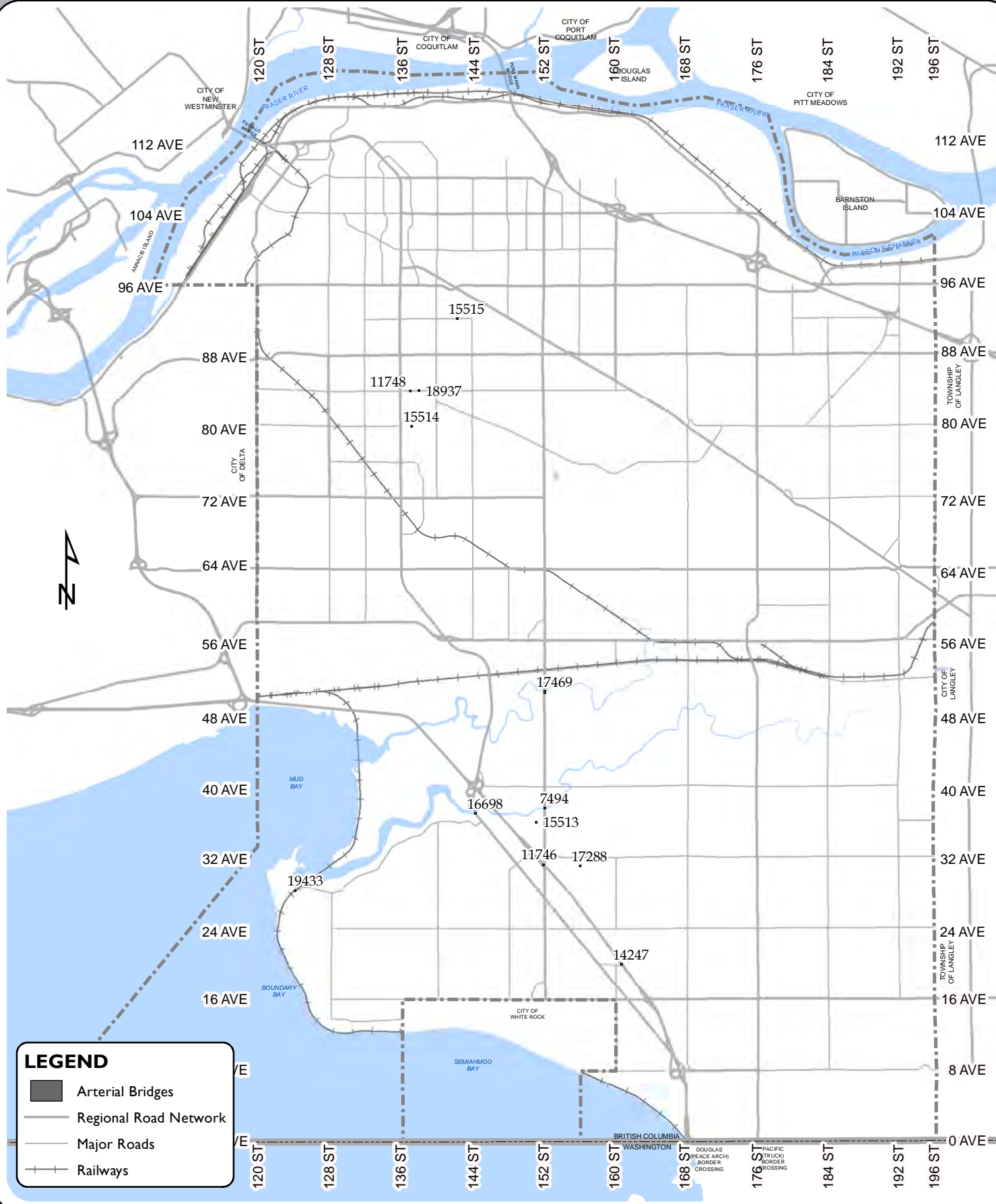
FIGURE 2.5 - Transportation Intersection Improvements (Program 1012)

0 0.5 1 2 3 4 5 KM
SCALE: 1:15,000

ROADS

Program 1012 - T - Intersection Improvements

				Program Total	65,427,756	46,318,718	17,574,298	50,000	1,484,740
Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding	
7066	Intersection Improvements	064 Ave & 168 St (Y)	Short Term (1 - 5 Yrs)	1,268,800	1,268,800	-	-	-	-
7441	Left Turn Bay Extensions Short Term	Various	Short Term (1 - 5 Yrs)	1,903,200	1,903,200	-	-	-	-
7621	Roundabout	Crescent Rd / 128 St	Short Term (1 - 5 Yrs)	1,341,600	898,872	442,728	-	-	-
7639	Roundabout	Crescent Rd / 140 St	Long Term (6 - 10 Yrs)	1,341,600	898,872	442,728	-	-	-
7649	Roundabout: New	088 Ave & Harvie Rd (Y)	Short Term (1 - 5 Yrs)	1,107,600	1,107,600	-	-	-	-
11757	Roundabout: New	060 Ave & 132 St	Short Term (1 - 5 Yrs)	1,251,600	838,572	413,028	-	-	-
13003	Roundabout: New	060 Ave & 142 St	Short Term (1 - 5 Yrs)	951,600	637,572	314,028	-	-	-
13005	Roundabout: New	032 Ave & 140 St	Short Term (1 - 5 Yrs)	951,600	-	951,600	-	-	-
13006	Roundabout: New	068 Ave & 130 St	Short Term (1 - 5 Yrs)	400,640	-	400,640	-	-	-
13007	Roundabout: New	068 Ave & 134 St	Short Term (1 - 5 Yrs)	400,640	-	400,640	-	-	-
13462	Intersection Improvements	086 Ave & 120 St	Short Term (1 - 5 Yrs)	570,960	285,480	285,480	-	-	-
15520	Collector Roundabouts Long Term	Various	Long Term (6 - 10 Yrs)	4,758,000	4,758,000	-	-	-	-
15562	Roundabout: New	104 Ave & 164 St (TOR22-03Tw)	Long Term (6 - 10 Yrs)	1,111,436	744,662	366,774	-	-	-
15563	Roundabout: New	104A Ave & 144 St	Short Term (1 - 5 Yrs)	951,600	951,600	-	-	-	-
15581	Roundabout: New	060 Ave & 148 St (Y)	Short Term (1 - 5 Yrs)	951,600	637,572	314,028	-	-	-
16495	Intersection Improvements	108 Ave & 144 St	Long Term (6 - 10 Yrs)	1,268,800	850,096	418,704	-	-	-
16496	Intersection Improvements	108 Ave & 146 St (Y)	Long Term (6 - 10 Yrs)	1,268,800	850,096	418,704	-	-	-
16497	Intersection Improvements	108 Ave & Oriole Dr (Y)	Short Term (1 - 5 Yrs)	1,268,800	850,096	418,704	-	-	-
16498	Intersection Improvements	104 Ave & 156 St (Y)	Short Term (1 - 5 Yrs)	1,268,800	850,096	418,704	-	-	-
16738	Intersection Improvements	108 Ave & 139 St (mis10Y)	Short Term (1 - 5 Yrs)	1,268,800	850,096	418,704	-	-	-
16739	Intersection Improvements	108 Ave & 150 St	Short Term (1 - 5 Yrs)	1,268,800	850,096	418,704	-	-	-
17284	Intersection Improvements	Fraser Highway / 184 St (VP52)	Long Term (6 - 10 Yrs)	1,903,200	1,903,200	-	-	-	-
17285	Intersection Improvements	082 Ave & 128 St (VP12) (Y)	Short Term (1 - 5 Yrs)	951,600	-	951,600	-	-	-
17286	Roundabout: New	066 Ave & 124 St	Short Term (1 - 5 Yrs)	400,640	-	400,640	-	-	-
17287	Intersection Improvements	Fraser Hwy & 80 Ave & 168 St (VP43)	Short Term (1 - 5 Yrs)	634,400	634,400	-	-	-	-
17723	Left Turn Bay Extensions Long Term	Various	Long Term (6 - 10 Yrs)	3,806,400	3,806,400	-	-	-	-
17724	Collector Intersection Improvements Long Term	Various	Long Term (6 - 10 Yrs)	3,806,400	1,268,800	2,537,600	-	-	-
17725	Art Intersection Improvements Long Term	Various	Long Term (6 - 10 Yrs)	12,688,000	8,500,960	4,187,040	-	-	-
17884	Roundabout	076 Ave & 148 St	Long Term (6 - 10 Yrs)	951,600	951,600	-	-	-	-
17972	Intersection Improvements	058 Ave & 132 St (Y)	Short Term (1 - 5 Yrs)	732,000	732,000	-	-	-	-
18333	Intersection Improvements	096 Ave & KGB	Short Term (1 - 5 Yrs)	1,268,800	850,096	418,704	-	-	-
18334	Intersection Improvements	100 Ave & KGB & Old Yale Rd	Short Term (1 - 5 Yrs)	1,268,800	850,096	418,704	-	-	-
18337	Intersection Improvements	104 Ave & KGB	Short Term (1 - 5 Yrs)	1,268,800	850,096	418,704	-	-	-
18343	Intersection Improvements	108 Ave & KGB	Short Term (1 - 5 Yrs)	1,268,800	850,096	418,704	-	-	-
18345	Intersection Improvements	092 Ave & KGB (VZ20) (TOR21-14I)	Short Term (1 - 5 Yrs)	1,268,800	850,096	368,704	50,000	-	-
18786	Intersection Improvements	080 Ave & 124 St (TOR21-11I)	Short Term (1 - 5 Yrs)	380,640	380,640	-	-	-	-
19341	Intersection Improvements	105A Ave & KGB	Short Term (1 - 5 Yrs)	610,000	-	610,000	-	-	-
19377	Intersection Capacity & Transit Improvements	104 Ave & 152 St	Short Term (1 - 5 Yrs)	1,342,000	603,900	-	-	-	738,100
19378	Intersection Capacity & Transit Improvements	096 Ave & 152 St	Short Term (1 - 5 Yrs)	1,464,000	717,360	-	-	-	746,640
19379	Intersection Realignment	071 Ave & King George Blvd	Short Term (1 - 5 Yrs)	1,268,800	1,268,800	-	-	-	-
19380	Intersection Realignment	072 Ave & Hall Road	Short Term (1 - 5 Yrs)	1,268,800	1,268,800	-	-	-	-



**FIGURE 2.6 - Transportation
Bridges & Overpasses (Program 1018)**

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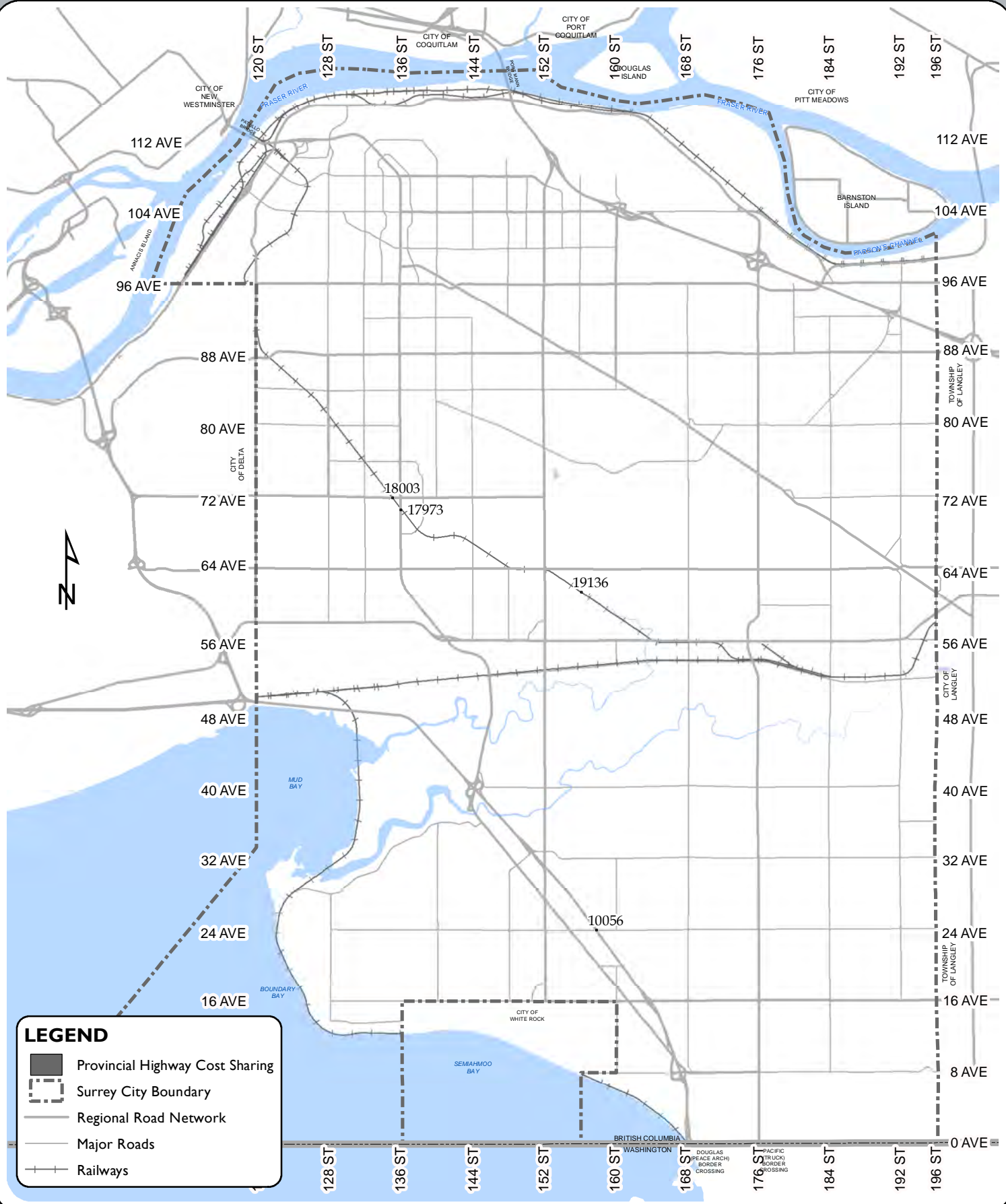
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Source: G:\MAPPING\GIS\Maps\Recurring\4_CCP10yrCCP_Plan10yrServicingPlan2022-31\Figure2-6-Transportation.mxd

ROADS

Program 1018 - T - Bridges & Overpasses

Program Total								
Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding
7494	DMAF - New Crossing	152 St & Nicomekl River (TOR21-16I)	Short Term (1 - 5 Yrs)	11,419,200	5,709,600	- -		5,709,600
11746	New Overpass	152 St Overpass of Highway 99	Long Term (6 - 10 Yrs)	19,476,080	9,738,040	- -		9,738,040
11748	New Crossing	084 Ave & Bear Creek (TOR21-25I)	Short Term (1 - 5 Yrs)	3,425,760	3,425,760	- -		
14247	R-14341 New Overpass	020 Ave Overpass Hwy 99 (Y)	Short Term (1 - 5 Yrs)	14,414,400	7,207,200	-	7,207,200	
15513	Pedestrian - Cycle Bridge	036 Ave & Barbara Creek (15100 Blk)	Short Term (1 - 5 Yrs)	1,522,560	-	-	1,522,560	
15514	Pedestrian - Cycle Bridge	080 Ave & Hunt Brook (13800 Blk) (Y)	Long Term (6 - 10 Yrs)	1,522,560	-	-	1,522,560	
15515	Pedestrian - Cycle Bridge	092 Ave & King Creek (14200 Blk)	Short Term (1 - 5 Yrs)	1,522,560	-	-	1,522,560	
16698	DMAF - Replace Crossing	KGB & Nicomekl River (AC22)	Short Term (1 - 5 Yrs)	23,802,802	5,702,802	-	13,100,000	5,000,000
17288	Pedestrian - Cycle Bridge	156 St @ Titman Creek	Long Term (6 - 10 Yrs)	1,522,560	-	-	1,522,560	
17469	Repair Crossing - MRN	05000 Blk & 152 St (mis10Y) (Y)	Short Term (1 - 5 Yrs)	652,350	-	78,000 -		574,350
18937	New Crossing	084 Avenue & King Creek	Short Term (1 - 5 Yrs)	644,590	644,590	- -		
19433	New Railway Overpass	Crescent Rd @ BNSF Railway	Long Term (6 - 10 Yrs)	28,454,400	2,845,440	2,845,440	22,763,520	



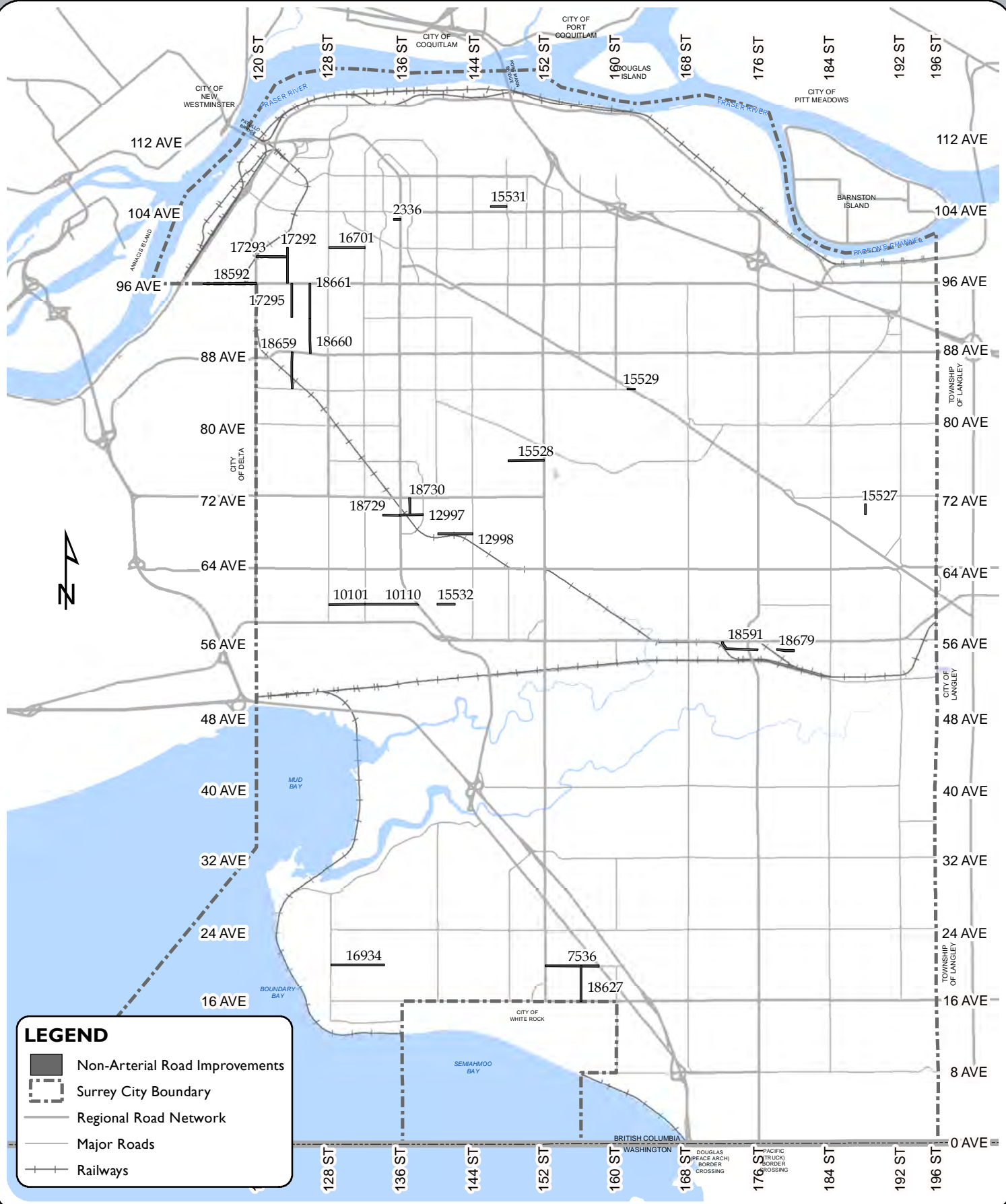
**FIGURE 2.7 - Transportation
Highway & Railroad Projects (Program 1020)**

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SCALE: 1:15,000

ROADS

Program 1020 - T - Highway & Railroad Projects

Program Total								
Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding
10056	MoTI Interchange Ramps	024 Ave & Hwy 99	Long Term (6 - 10 Yrs)	11,419,200	-	-	11,419,200	-
15519	Railway Improvements Short Term	Various	Short Term (1 - 5 Yrs)	1,903,200	1,141,920	761,280	-	-
17973	Railway Improvements	Hall Rd & KGB (SRY Rail)	Short Term (1 - 5 Yrs)	634,400	-	-	634,400	-
18003	Railway Improvements	072 Ave & Hall Rd (SRY Rail)	Short Term (1 - 5 Yrs)	634,400	-	-	634,400	-
18120	Railway Improvements Long Term	Various	Long Term (6 - 10 Yrs)	1,903,200	1,141,920	761,280	-	-
19136	Railway Improvements	156 Street - Mile 10.80 (SRY Rail)	Short Term (1 - 5 Yrs)	634,400	-	634,400	-	-



**FIGURE 2.8 - Transportation
Collector Road Improvements (Program 1030)**

0 0.5 1 2 3 4 5 KM
SCALE: 1:15,000

ROADS

Program 1030 - T - Collector Road Improvements

Program Total	65,306,508	55,275,111	7,069,580	-	2,961,816
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Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding
2336	Collector Widening	Central Ave (103 Ave): City Pkwy - KGB	Short Term (1 - 5 Yrs)	1,262,976	1,262,976	-	-	-
7536	Collector Widening	020 Ave: 152 St - KGB (Y)	Short Term (1 - 5 Yrs)	4,142,304	3,728,074	414,230	-	-
10101	Collector Widening	060 Ave: 128 St - 132 St (N side)	Long Term (6 - 10 Yrs)	2,521,984	2,017,587	504,397	-	-
10110	Collector Widening	060 Ave: 136 St - KGB	Long Term (6 - 10 Yrs)	1,260,992	1,008,794	252,198	-	-
12997	New Collector	070 Ave: King George Blvd - 138 St	Short Term (1 - 5 Yrs)	2,905,309	1,809,309	-	-	1,096,000
12998	Collector Widening	068 Ave: 140 St - 144 St	Long Term (6 - 10 Yrs)	2,521,984	2,017,587	504,397	-	-
15527	Collector Widening	188 St: 070 Ave - 071 Ave (W.Side)	Long Term (6 - 10 Yrs)	630,496	504,397	126,099	-	-
15528	Collector Widening	076 Ave: 148 St - 152 St	Long Term (6 - 10 Yrs)	3,555,584	2,844,467	711,117	-	-
15529	New Collector	084 Ave : Fraser Hwy - 162 St	Long Term (6 - 10 Yrs)	1,141,920	1,141,920	-	-	-
15531	New Collector	105 Blvd: 146 St - 148 St	Long Term (6 - 10 Yrs)	2,334,592	2,334,592	-	-	-
15532	Collector Widening	060 Ave: 140 St - 142 St (S Side) (Y)	Short Term (1 - 5 Yrs)	630,496	504,397	126,099	-	-
16701	Collector Widening	100 Ave: 128 St - 132 St (Y)	Short Term (1 - 5 Yrs)	3,555,584	2,844,467	711,117	-	-
16934	Collector Widening	020 Ave: 128 St - 134 St	Short Term (1 - 5 Yrs)	3,782,976	3,026,381	756,595	-	-
17292	Collector Widening	123A St: 096 Ave - 100 Ave	Long Term (6 - 10 Yrs)	2,521,984	2,017,587	504,397	-	-
17293	Collector Widening	099 Ave: 120 St - 123A St	Long Term (6 - 10 Yrs)	2,206,736	1,765,389	441,347	-	-
17295	Collector Widening	124 St: 092 Ave - 096 Ave	Short Term (1 - 5 Yrs)	2,521,984	2,017,587	504,397	-	-
18591	New Collector	055 Ave : H10 - 176 St	Long Term (6 - 10 Yrs)	5,278,208	5,278,208	-	-	-
18592	Collector Widening	096 Ave: Queens PL - 120 St (TOR22-03I)	Short Term (1 - 5 Yrs)	2,521,984	1,179,786	252,198	-	1,090,000
18627	Collector Widening	156 St: 016 Ave - 020 Ave	Long Term (6 - 10 Yrs)	1,260,992	1,008,794	252,198	-	-
18659	New Collector	124 St: 084 Ave - 088 Ave	Long Term (6 - 10 Yrs)	4,222,176	4,222,176	-	-	-
18660	Collector Widening	126 St: 088 Ave - 092 Ave	Long Term (6 - 10 Yrs)	2,521,984	2,017,587	504,397	-	-
18661	Collector Widening	126 St: 092 Ave - 096 Ave	Short Term (1 - 5 Yrs)	2,521,984	2,017,587	504,397	-	-
18679	New Collector	S. Cloverdale (55 Ave): 177 St - 180 St	Long Term (6 - 10 Yrs)	3,686,093	3,686,093	-	-	-
18729	New Collector	070 Ave : 134 St - KGB (TOR21-09I)	Short Term (1 - 5 Yrs)	3,367,210	2,591,393	-	-	775,816
18730	New Collector	137 St: 070 Ave - 072 Ave	Long Term (6 - 10 Yrs)	2,427,976	2,427,976	-	-	-

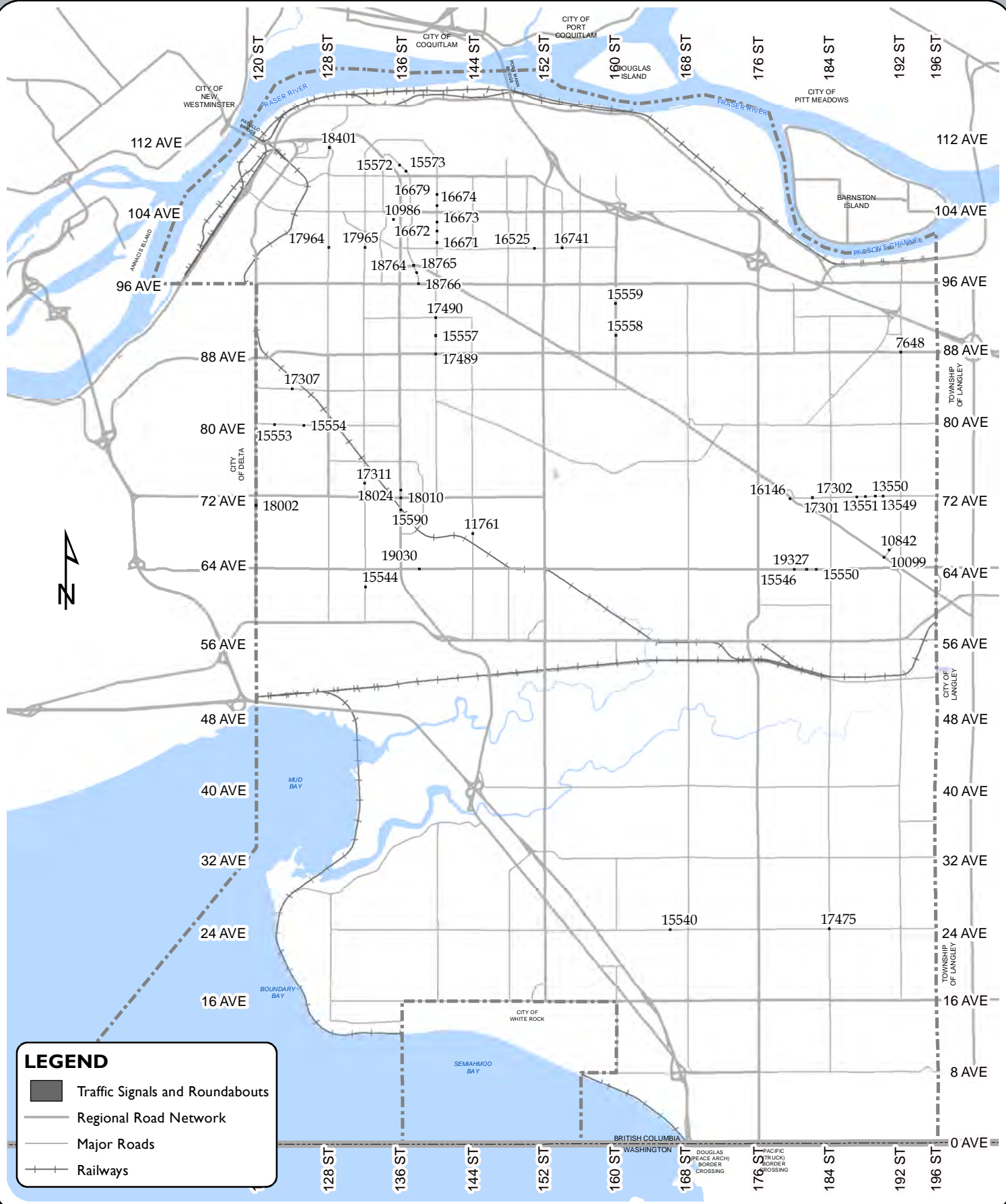


FIGURE 2.9 - Transportation Traffic Signals (Program 1102)

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ROADS

Program 1102 - T - New Traffic Signals

Program Total	31,723,706	29,686,013	1,078,480	-	959,213
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Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding
7648	Traffic Signals: New	088 Ave & 192 St (TOR21-02T)	Short Term (1 - 5 Yrs)	380,640	380,640	-	-	-
10099	Traffic Signals: New	Fraser Hwy & 192 St Div.	Long Term (6 - 10 Yrs)	380,640	380,640	-	-	-
10842	Traffic Signals: New	065 Ave & 192 St Div	Long Term (6 - 10 Yrs)	380,640	380,640	-	-	-
10986	Traffic Signals: New with widening	103 Ave (Central) / City Parkway	Short Term (1 - 5 Yrs)	380,640	380,640	-	-	-
11761	Traffic Signals: New with widening	068 Ave & 144 St	Long Term (6 - 10 Yrs)	380,640	380,640	-	-	-
13549	Traffic Signals: New	072 Ave & 188 St	Long Term (6 - 10 Yrs)	380,640	380,640	-	-	-
13550	Traffic Signals: New	072 Ave & 189 St	Long Term (6 - 10 Yrs)	380,640	380,640	-	-	-
13551	Traffic Signals: New	072 Ave & 190 St	Long Term (6 - 10 Yrs)	380,640	380,640	-	-	-
14255	Traffic Signals: Pedestrian Short Term Allocation	Various	Short Term (1 - 5 Yrs)	3,037,600	3,037,600	-	-	-
15536	Traffic Signals: New Short Term Allocation	Various	Short Term (1 - 5 Yrs)	3,445,120	3,445,120	-	-	-
15537	Traffic Signals: New Long Term Allocation	Various	Long Term (6 - 10 Yrs)	4,306,400	4,306,400	-	-	-
15540	Traffic Signals: New with widening	024 Ave / 166 St	Long Term (6 - 10 Yrs)	380,640	380,640	-	-	-
15544	Pedestrian Signal	062 Ave & 132 St	Short Term (1 - 5 Yrs)	505,440	505,440	-	-	-
15546	Traffic Signals: New with widening	064 Ave & 180 St	Short Term (1 - 5 Yrs)	380,640	190,320	-	-	190,320
15550	Traffic Signals: New with widening	064 Ave & Clayton Wood	Short Term (1 - 5 Yrs)	380,640	190,320	-	-	190,320
15553	Traffic Signals: New with widening	080 Ave & 122 St	Short Term (1 - 5 Yrs)	380,640	380,640	-	-	-
15554	Traffic Signals: New with widening	080 Ave & 125 St	Short Term (1 - 5 Yrs)	380,640	380,640	-	-	-
15557	Traffic Signals: New with widening	090 Ave & 140 St (Y)	Short Term (1 - 5 Yrs)	380,640	380,640	-	-	-
15558	Traffic Signals: New with widening	090 Ave / 160 St	Long Term (6 - 10 Yrs)	380,640	380,640	-	-	-
15559	Traffic Signals: New with widening	094 Ave / 160 St	Long Term (6 - 10 Yrs)	380,640	380,640	-	-	-
15572	Traffic Signals: New	Whalley Blvd / Bentley	Long Term (6 - 10 Yrs)	380,640	380,640	-	-	-
15573	Traffic Signals: New	Whalley Blvd / Grosvenor	Long Term (6 - 10 Yrs)	380,640	380,640	-	-	-
15590	Traffic Signals: New	070 Ave & KGB	Short Term (1 - 5 Yrs)	380,640	380,640	-	-	-
16146	Traffic Signals: New	072 Ave / Fraser Hwy	Long Term (6 - 10 Yrs)	380,640	380,640	-	-	-
16525	Traffic Signal Conversion	100 Ave & 151 St (Y)	Short Term (1 - 5 Yrs)	380,640	380,640	-	-	-
16671	Pedestrian Signal	100A Ave & 140 St (mis10Y) (Y)	Short Term (1 - 5 Yrs)	380,640	380,640	-	-	-
16672	Traffic Signal Rebuild with Widening	102 Ave & 140 St (mis10Y) (Y)	Short Term (1 - 5 Yrs)	380,640	190,320	190,320	-	-
16673	Traffic Signals: New with widening	103 Ave & 140 St	Short Term (1 - 5 Yrs)	380,640	380,640	-	-	-
16674	Traffic Signal	10450 Blk 140 St (mis10Y)	Short Term (1 - 5 Yrs)	380,640	380,640	-	-	-
16679	Traffic Signals: New with widening	106 Ave & 140 St (Y)	Short Term (1 - 5 Yrs)	380,640	380,640	-	-	-
16741	Traffic Signals: Rebuild with Widening	100 Ave & 154 St (Y)	Long Term (6 - 10 Yrs)	253,760	126,880	126,880	-	-
17301	Traffic Signals: New with widening	072 Ave / 182 St	Long Term (6 - 10 Yrs)	380,640	380,640	-	-	-
17302	Traffic Signals: New with widening	072 Ave / 187 St	Long Term (6 - 10 Yrs)	380,640	380,640	-	-	-
17307	Traffic Signals: New with widening	084 Ave / 124 St	Long Term (6 - 10 Yrs)	380,640	380,640	-	-	-
17311	Traffic Signals: New with widening	Comber Way / 132 St	Long Term (6 - 10 Yrs)	380,640	380,640	-	-	-
17475	Traffic Signals: New	024 Ave & 184 St (Y)	Short Term (1 - 5 Yrs)	505,440	505,440	-	-	-
17489	R-11737S 10 YSP Traffic Signals: Renew with Widening	088 Ave & 140 St (VP35)	Short Term (1 - 5 Yrs)	380,640	190,320	190,320	-	-
17490	R-11737S 10 YSP Traffic Signals: Renew with Widening	092 Ave & 140 St (Y)	Short Term (1 - 5 Yrs)	380,640	190,320	190,320	-	-
17964	Signal Rebuild with Widening	100 Ave & 128 St (mis10Y)	Short Term (1 - 5 Yrs)	380,640	190,320	190,320	-	-
17965	R-17965L 5 YCP Signal Rebuild	100 Ave & 132 St (mis10Y)	Short Term (1 - 5 Yrs)	380,640	190,320	190,320	-	-
18002	Full traffic signal	071 Blk & 120 St (Y)	Short Term (1 - 5 Yrs)	380,640	380,640	-	-	-
18010	Traffic Signals: REBUILD (MRN)	072 Ave & KGB (VP08) (Y)	Short Term (1 - 5 Yrs)	380,640	-	-	-	380,640
18024	Traffic Signals: NEW (MRN)	073 Ave & KGB (Y)	Short Term (1 - 5 Yrs)	380,640	380,640	-	-	-
18122	Traffic Signals: Pedestrian Long Term Allocation	Various	Long Term (6 - 10 Yrs)	3,037,600	3,037,600	-	-	-
18401	Pedestrian Signal	111 Ave & 128 St (TOR21-14T)	Short Term (1 - 5 Yrs)	630,240	630,240	-	-	-
18764	Traffic Signal Rebuild (With Widening)	Whalley Blvd and Fraser Hwy (TOR21-21I)	Short Term (1 - 5 Yrs)	380,640	380,640	-	-	-
18765	New Traffic Signal (With Widening)	Whalley Blvd and 97A Ave (TOR21-21I)	Short Term (1 - 5 Yrs)	380,640	380,640	-	-	-
18766	Traffic Signal Rebuild (With Widening)	Whalley Blvd and 96 Ave (TOR21-21I)	Short Term (1 - 5 Yrs)	380,640	380,640	-	-	-
19030	Traffic Signals: New	064 Ave & 138 St (TOR21-01T)	Short Term (1 - 5 Yrs)	380,640	380,640	-	-	-
19327	New Pedestrian Signal	064 Ave & 181A St (TOR22-01I)	Short Term (1 - 5 Yrs)	395,866	197,933	-	-	197,933

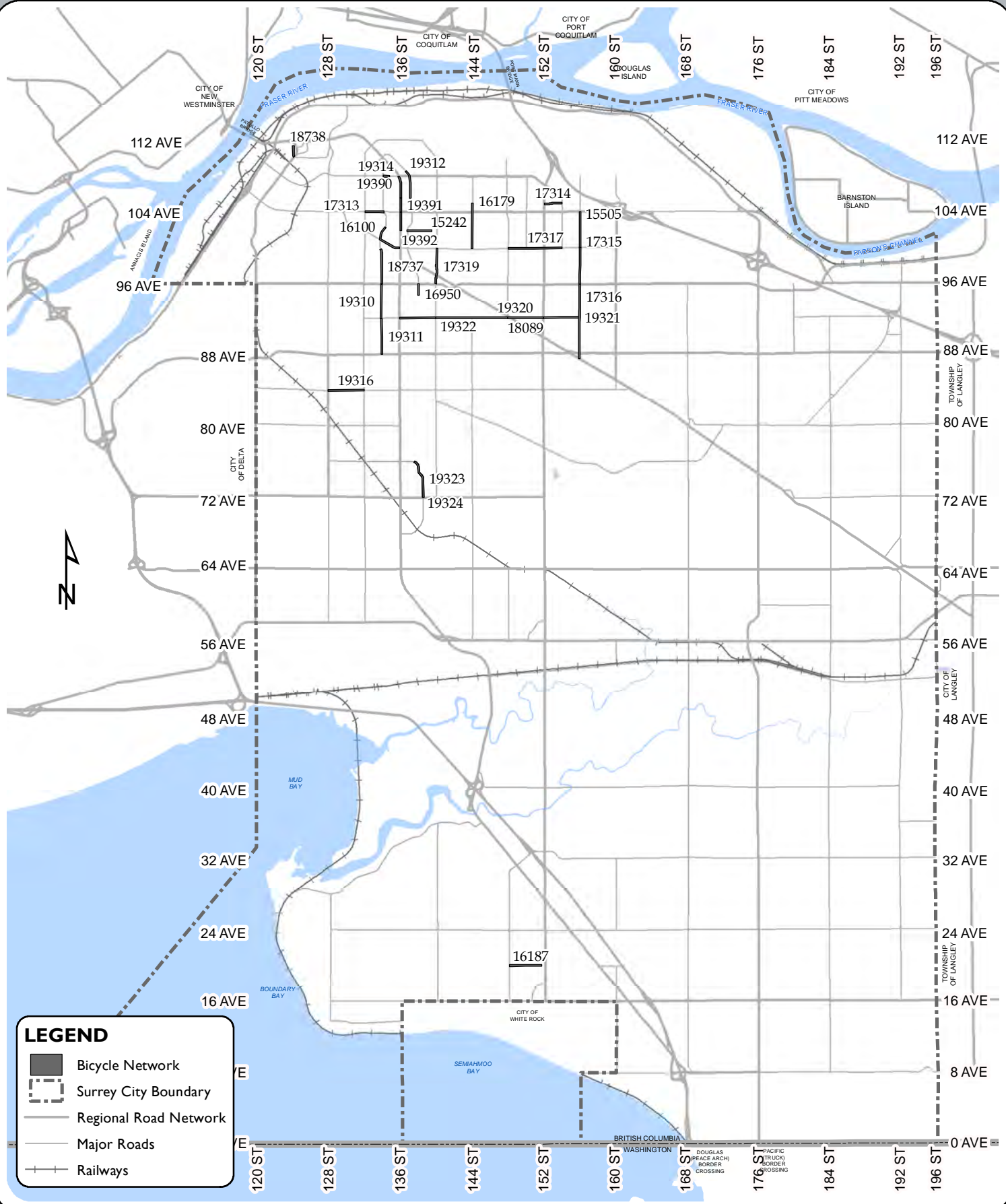


FIGURE 2.10 - Transportation Bicycle Infrastructure (Program 1120)

0 0.5 1 2 3 4 5 KM
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ROADS

Program 1120 - T - Bicycle Infrastructure

Program 1120 - T - Bicycle Infrastructure				Program Total	39,168,253	12,482,108	790,234	7,395,383	18,500,536
Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding	
15242	Cycle Tracks	102 Ave: Whalley Blvd - 139A St (Y)	Short Term (1 - 5 Yrs)	2,101,400	-	-	1,050,700	1,050,700	
15505	Cycle Tracks	156 St: 100 Ave - 104 Ave	Long Term (6 - 10 Yrs)	2,085,600	1,042,800	-	-	1,042,800	
16100	Cycle Tracks	BC Parkway: University/102 Ave - Old Yale/KGB (Y)	Short Term (1 - 5 Yrs)	2,111,283	1,111,283	-	-	1,000,000	
16179	Multi-Use Pathway	Bon Accord Greenway: 100 - 105A Ave	Long Term (6 - 10 Yrs)	2,607,000	1,303,500	-	-	1,303,500	
16187	Multi-Use Pathway	Sunnyside Greenway: 148 - 151A St	Short Term (1 - 5 Yrs)	507,520	-	253,760	-	253,760	
16950	Multi-Use Pathway	138 St: 94A Avenue to 96 Avenue	Long Term (6 - 10 Yrs)	1,042,800	521,400	-	-	521,400	
17313	Cycle Tracks	104 Ave: 132 St - University Dr	Long Term (6 - 10 Yrs)	1,042,800	521,400	-	-	521,400	
17314	Cycle Tracks	105 Boulevard: 152 St - 154 St	Long Term (6 - 10 Yrs)	1,042,800	521,400	-	-	521,400	
17315	Cycle Tracks	156 St: 96 Ave - 100 Ave	Long Term (6 - 10 Yrs)	2,085,600	1,042,800	-	-	1,042,800	
17316	Cycle Tracks	156 St: Fraser Hwy - 96 Ave	Long Term (6 - 10 Yrs)	4,431,900	2,215,950	-	-	2,215,950	
17317	Cycle Tracks	100 Ave: 148 St - 154 St	Short Term (1 - 5 Yrs)	3,128,400	1,564,200	-	-	1,564,200	
17319	Cycle Tracks	140 St: 096 Ave - 100 Ave	Long Term (6 - 10 Yrs)	2,085,600	-	-	1,042,800	1,042,800	
18083	Tactical Cycling Interventions Long Term	Various	Long Term (6 - 10 Yrs)	2,537,600	-	-	1,268,800	1,268,800	
18089	Cycle Tracks	092 Ave: 140 St - 148 St	Long Term (6 - 10 Yrs)	1,827,471	913,736	-	913,736	-	
18737	Tactical Intervention - City Centre	134 St: 96 Ave to 100 Ave	Short Term (1 - 5 Yrs)	844,513	-	-	422,257	422,257	
18738	Tactical Intervention - Pattullo Bridge	124 St: 110 Ave to 111A Ave	Short Term (1 - 5 Yrs)	228,434	-	114,217	114,217	-	
19310	Tactical Intervention	134 St: 92 Ave - 96 Ave	Long Term (6 - 10 Yrs)	844,513	-	-	422,257	422,257	
19311	Tactical Intervention	134 St: 88 Ave - 92 Ave	Long Term (6 - 10 Yrs)	844,513	-	-	422,257	422,257	
19312	Cycle Tracks	Whalley Blvd: 105A Ave - Grosvenor Rd	Long Term (6 - 10 Yrs)	633,385	-	-	316,692	316,692	
19314	Cycle Tracks	108 Ave: University Dr to City Parkway	Short Term (1 - 5 Yrs)	521,400	-	-	260,700	260,700	
19316	Cycle Tracks	84 Ave: 128 St to 132 St	Long Term (6 - 10 Yrs)	913,736	456,868	-	-	456,868	
19320	Cycle Tracks	92 Ave: 148 St to 152 St	Long Term (6 - 10 Yrs)	844,513	422,257	-	-	422,257	
19321	Cycle Tracks	92 Ave: 152 St to 156 St	Long Term (6 - 10 Yrs)	844,513	-	-	422,257	422,257	
19322	Cycle Tracks	92 Ave: King George Blvd to 140 St	Long Term (6 - 10 Yrs)	844,513	-	422,257	-	422,257	
19323	Cycle Tracks	138 St: 72 Ave to 76 Ave (NB)	Long Term (6 - 10 Yrs)	844,513	422,257	-	-	422,257	
19324	Cycle Tracks	138 St: 72 Ave to 76 Ave (SB)	Long Term (6 - 10 Yrs)	844,513	422,257	-	-	422,257	
19390	Tactical Cycling Intervention	King George Blvd: 105A Ave - 108 Ave	Short Term (1 - 5 Yrs)	633,180	-	-	316,590	316,590	
19391	Tactical Cycling - Cycle Tracks	King George Blvd: 104 Ave - 105A Ave	Short Term (1 - 5 Yrs)	422,120	-	-	211,060	211,060	
19392	Tactical Cycling - Cycle Tracks	King George: 102 Ave - 104 Ave	Short Term (1 - 5 Yrs)	422,120	-	-	211,060	211,060	

3. WATER

The water utility strives to provide sufficient, safe and clean drinking water to the residents of the City through the efficient management of the City's water system. To achieve this, the City shall:

- Replace assets that are comprised of non-acceptable materials;
- Replace assets that have high operation and maintenance costs;
- Upsize or install new distribution mains, feeder mains and other essential assets, including pump stations and pressure reducing valves, to meet the increased demand in the system; and
- Improve overall water system management, including water quality monitoring, water conservation, water loss (leakage) reduction, and water metering.

3.1 Water Supply

The City receives its water supply from a system of transmission mains and reservoir structures operated by the Greater Vancouver Water District ("GVWD"). Currently, the GVWD system supplies water at the following six reservoirs:

- Whalley
- Clayton
- Kennedy
- Newton
- Sunnyside
- Grandview Heights

In addition, there are a number of direct connections to GVWD's transmission mains from which the City also receives its water supply. The overall regional water system in Surrey is shown in **Figure 3.1**.

3.2 Water Distribution System

The City distributes the water to its customers from GVWD reservoirs and direct connections. Under the agreement between the City and the GVWD, the GVWD has no obligation to provide a set of minimum residual pressure at their supply points. As a result, the City operates a system of pump stations to provide adequate pressure under peak demand conditions and for firefighting purposes. The existing water distribution system throughout the City is illustrated in **Figure 3.1**. The characteristics of the City's distribution system is summarized in **Table 3.1**.

Table 3.1 – Major Water System Infrastructure Summary

Water Mains (acceptable materials)	1,743 km (typically constructed after 1970)
Water Mains (other materials)	126 km (typically constructed before 1970)
Pressure Reducing Stations	92
Pump Stations	9

3.3 Region's Current Obligations to Provide Supply

The GVWD is obligated under the GVWD Water Act to provide the required water demand at the supply points. GVWD is also obligated to upgrade its facilities to meet increased demand due to growth within the City, except for certain facilities where there is an existing agreement between the City and the GVWD that stipulates the timing of the works and cost-sharing mechanism between the City and GVWD.

The GVWD has identified and completed a number of projects that would directly improve water supply to the City. Below is the list of GVWD's projects in the City and their status as of end of 2021:

- Annacis water main tunnel: tender has been closed and construction will start early 2022;
- Kennedy-Newton feeder main: construction of Phase 2 of the project (between 72 Ave and Newton PS) has commenced, with early 2022 expected completion;
- Newton Pump Station upgrade: tender has been issued and construction will start in Fall 2022;
- 148 Street feeder main: construction is to be completed by early 2022;
- New Fleetwood reservoir: tender has been issued and construction will start in 2022;
- Sunnyside reservoir upgrade: construction has been completed.

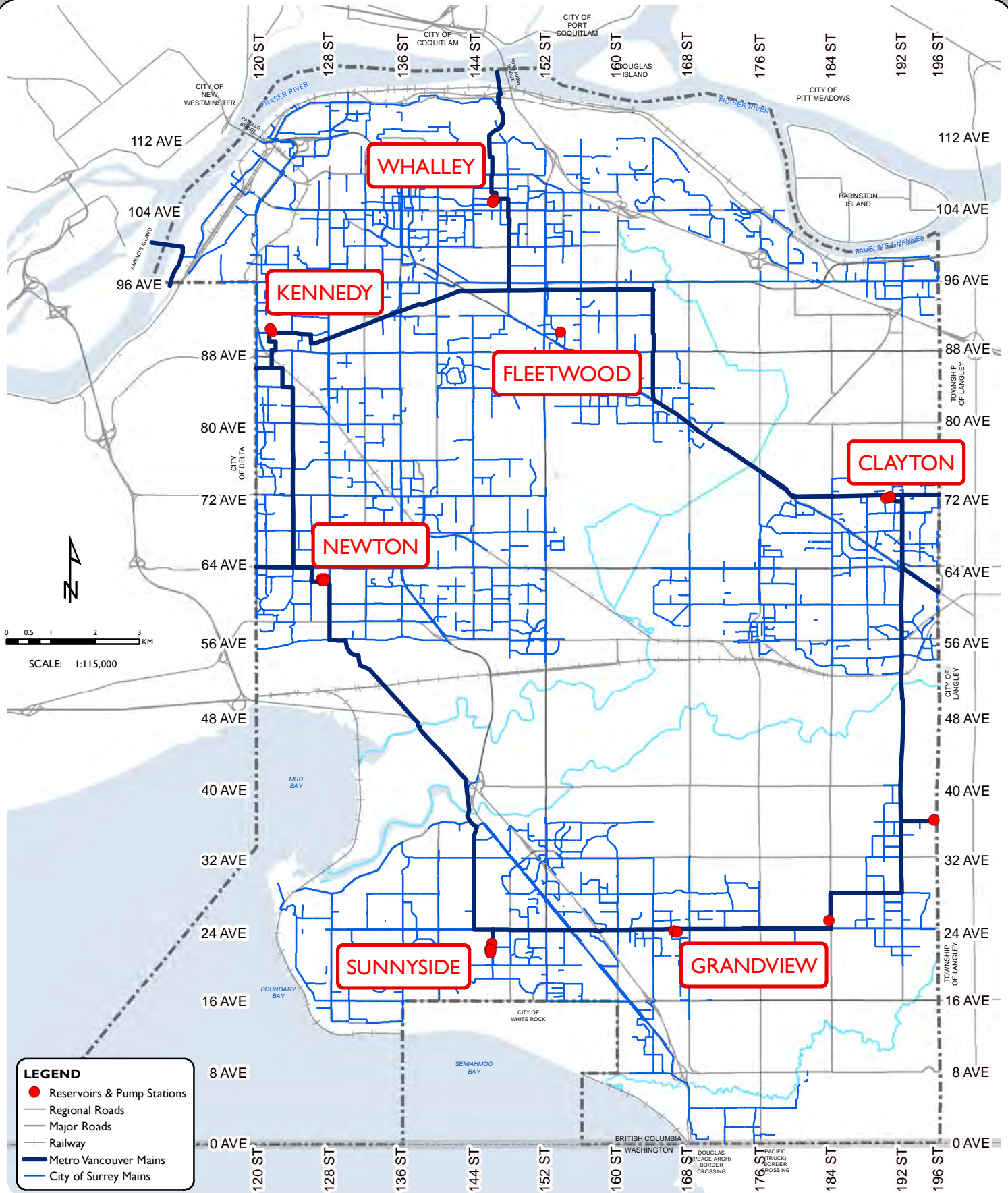


FIGURE 3.1 - MAJOR WATER NETWORK

3.5 Water Main Replacement Strategy

Water mains constructed in the 1950s and 1960s were mainly cast iron and asbestos cement. These materials are no longer used and are considered as non-acceptable materials. The service life of these materials is generally between 50 to 65 years and, as a result, most of these pipes are at the end of their service life and are due for replacement.

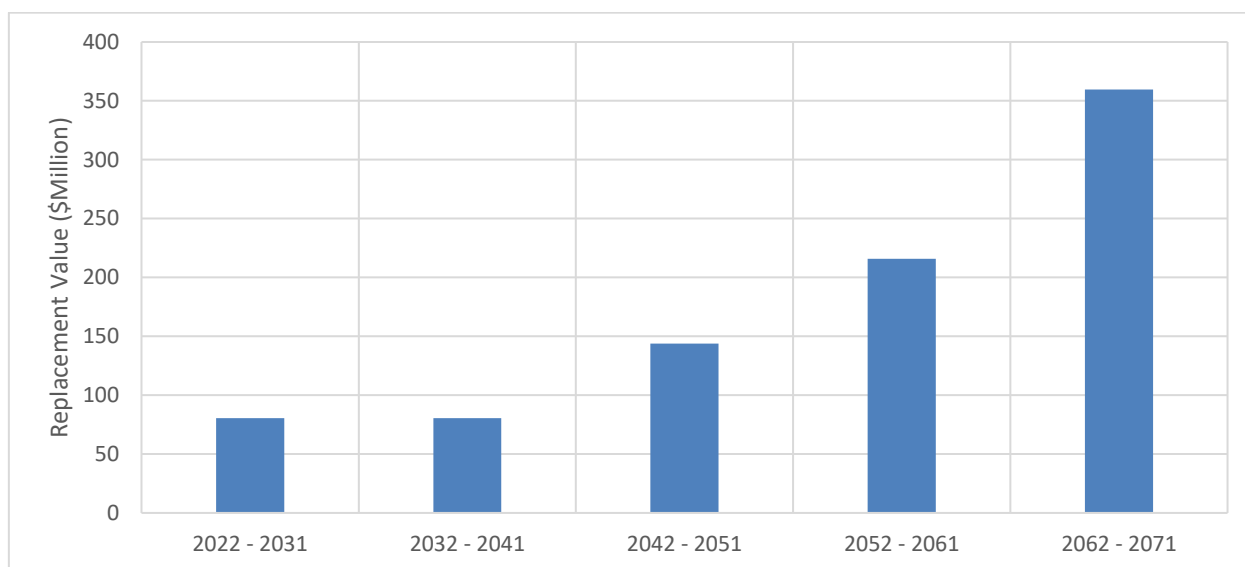
The service life of water mains constructed of currently approved materials, such as plastic and ductile iron pipes, is estimated to be 75 years. Currently, it is assumed that plastic and ductile iron pipes will be replaced when they reach 75 years old. This assumption will be reviewed periodically to consider more up-to-date information.

The characteristics of the pipes requiring replacement over the next 50 years is summarized in **Table 3.2**.

Table 3.2 Water System Replacement Requirements in the Next 50 Years

Material	Total Main Length	Replacement Forecast (2070)	Estimated Replacement Cost
Acceptable Materials: PVC, PE, HDPE, Ductile Iron	1,743km (93% of entire pipe system by length)	669 km	\$724 million
Other Materials: Cast Iron, Asbestos Cement, Concrete, Copper, Galvanized Iron, Steel	126 km (7% of entire pipe system by length)	126 km	\$157 million

The estimated cost to replace aging water mains in the next 10 years is \$104 million, and \$880 million in the next 50 years. The replacement cost in the next 50 years is illustrated in **Figure 3.2**.

Figure 3.2 – Estimated Water Main Replacement Costs over the Next 50 Years

It is too early to establish a strategy for the replacement of pipes beyond 50 years, as changing technologies, developments in asset management and demand management practices may influence the replacement strategy in that period.

3.6 Water Servicing Program

Program 1600 – General Items

This program covers the overhead costs associated with the general operating of the Water Section. Included are the costs of staff time, hardware and software equipment, and internal support services.

Program 1602 - Distribution Mains (<= 300mm)

This program aims to replace existing water mains, prioritized based on their age, condition and material of the pipe, replacement costs versus maintenance cost, risk/frequency of breakage, hydraulic capacity, fire flow availability, criticality, and impact to environment and property. The replacement of these mains is a non-growth cost component, unless upsizing is required which is a growth cost component.

Efforts will be made to complete pipe replacement works in conjunction with road reconstruction or widening or other utilities related works to minimize the cutting and patching of roads and to avoid construction in the same area within a short period of time.

Water meter replacement initiative is also covered under this program. Meters are replaced based on their age, depending on the meter type, model, failure and testing records.

Program 1604 - Cross Connection

The City administers a comprehensive Cross Connection Control (“CCC”) program to minimize the risk of contaminants originating from private properties from entering the City’s water network and private property’s plumbing system.

The program includes enforcement of annual testing of backflow preventers, installation of backflow preventers for all new construction (plumbing permit requirements), and installation of backflow preventers for all existing industrial, commercial and institutional (“ICI”) properties through a CCC survey.

The CCC survey program was started in 2015, however it is currently on-hold due to Covid-19 Pandemic. The survey program will be resumed when the condition is more conducive to support onsite survey activities.

Program 1606 - Minor Projects

The Minor Projects program includes the projects for the following initiatives:

- Water main abandonment;
- Water quality improvement; and
- Condition assessment on both distribution and feeder mains.

The water main abandonment initiative is to abandon pipes that are located within the hard-to-access easements, transfer any active service connection to adjacent pipe, and perform any local system improvements as required.

The implementation schedule for the main abandonment projects is typically coordinated with the City’s Water Main Replacement Strategy.

The water quality improvement initiative is to reduce stagnant water in dead-end mains and on either side of pressure zone boundaries, which may include the abandonment of some existing pressure reducing valves (“PRV”) and some minor piping adjustments around the PRV.

The condition assessment initiative is to conduct assessments on selected mains to better understand their condition. As a start, this initiative focuses on the older and more significant feeder mains.

Program 1608 - Planning (Capital)

This program covers the planning studies that are required to support the overall management of the water system, including hydraulic model update, system optimization and emergency planning, asset management, and neighborhood concept plan servicing studies.

Program 1609 - Demand Management

This program covers all water conservation related initiatives including outreach programs to residents, educational programs to students, rain barrel and water timer sales, and other water saving tools and programs as they may arise. The outreach and educational programs aim to promote a water conservation mindset in daily activities through informative, fun and hands-on events and workshops.

Most of the onsite activities under this program is currently on-hold due to Covid-19 pandemic. Update to this program will be provided in the future as condition improved. Online water conservation educational materials are provided through Metro Vancouver's online platforms.

Program 1610 - Supply Works and Feeder Mains

This program includes replacement of major water facilities such as pump stations and pressure reducing valves, as well as large-diameter feeder mains. These facilities serve overall City-wide supply needs and are generally beyond the servicing requirements of individual developers.

The replacement of these pump stations or feeder mains is a non-growth cost component, unless upsizing is required which is a growth cost component. All new feeder mains are funded through growth cost component.

Program 1612 - Planning (Operating)

This program includes studies in water loss reduction, water quality and other planning works that are required for the operation of the utility.

The City has an active Water Loss Reduction program with the objective of reducing non-revenue water and reducing water main break incidents. Studies and works are carried out such as water audits, leak detection surveys and zone meter installations.

Program 1620 - DCW Upsizing

NCPs have identified the need for new distribution mains where there are currently no water mains or the upsizing of the existing main where it does not have adequate capacity to service the new development. In these cases, the minimum (or base) water main size necessary for the fronting properties is funded by the fronting or benefiting properties, and the cost to upsize the water main from the base size to the ultimate size is funded by the DCC program.

An allowance is included in this program to upsize water mains not currently identified in the Servicing Plan. The upsizing provision will allow for a cost-effective sizing of the distribution system, as development opportunities arise.

3.7 Water Cost Summary

No.	Program	Program Type	Growth (\$)	Non-Growth (\$)	Total (\$)
1600	General Items	Operating	0	13,600,000	13,600,000
1602	Distribution Mains (<=300mm)	Capital	9,523,000	53,251,000	62,774,000
1604	Cross Connection	Operating	0	900,000	900,000
1606	Minor Projects	Operating	0	2,950,000	2,950,000
1608	Planning (Capital)	Non-Capital	174,000	724,000	898,000
1609	Demand Management	Operating	0	0	0
1610	Supply Works and Feeder Mains	Capital	71,819,000	51,860,773	123,679,773
1612	Planning (Operating)	Operating	0	100,000	100,000
1620	DCW Upsizing	Capital	2,000,000	1,000,000	3,000,000
TOTAL			83,516,000	124,395,773	207,911,773

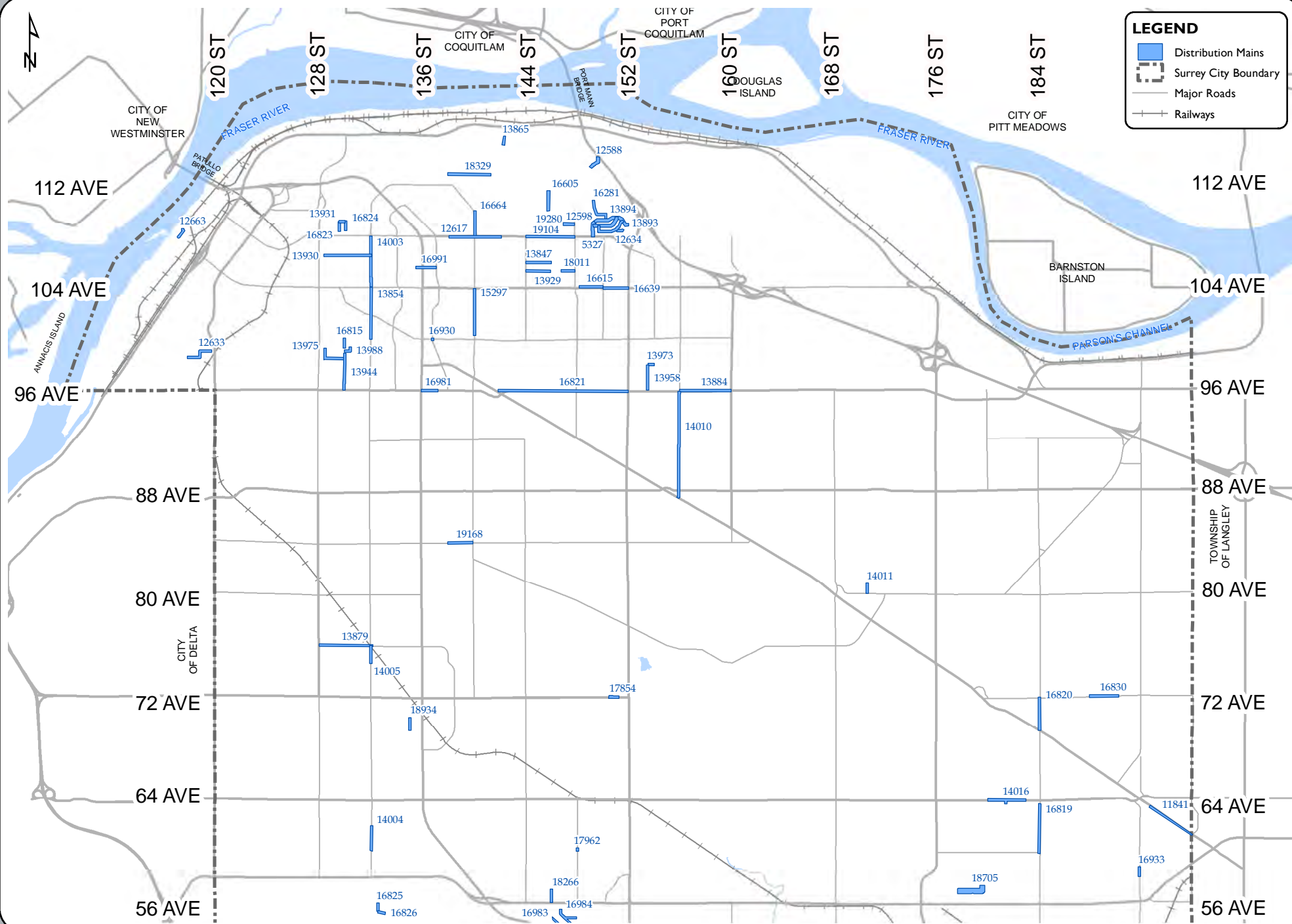
3.8 Water Projects by Program

This section contains tables and figures that identify the projects under the key Water programs.

The tables provide the following information:

- Project ID - the unique identifier of the project
- Project name - the specific name or generic name that depicts the type of work
- Project location - the geographic extent of the works
- Priority - the intended time frame for when the project is planned to proceed (subject to change)
- Costs – the high-level estimates in 2021 dollars (subject to change at the actual time of construction). The costs are comprised of growth and non-growth components.

Each program table is accompanied by a figure that shows the location and extent of the projects. Projects that are general in nature or in various locations throughout Surrey may not be shown on the figures.



**FIGURE 3.2 - Water
Distribution Mains <=300mm (Program 1602)**

The data provided is compiled from various sources and IS NOT warranted as to its accuracy or sufficiency by the City of Surrey.
This information is provided for information and convenience purposes only. Lot sizes, legal descriptions and encumbrances must be confirmed at the Land Title Office.

Date Printed: 2022-01-07 Cartographer: P205934 © City of Surrey
Source: G:\MAPPING\GIS\Maps\Recurring\4_CCP\10yrCCP_Plan\10yrServicingPlan2022-31\Figure3-2-WaterNorth.mxd

**GIS SECTION
ENGINEERING**



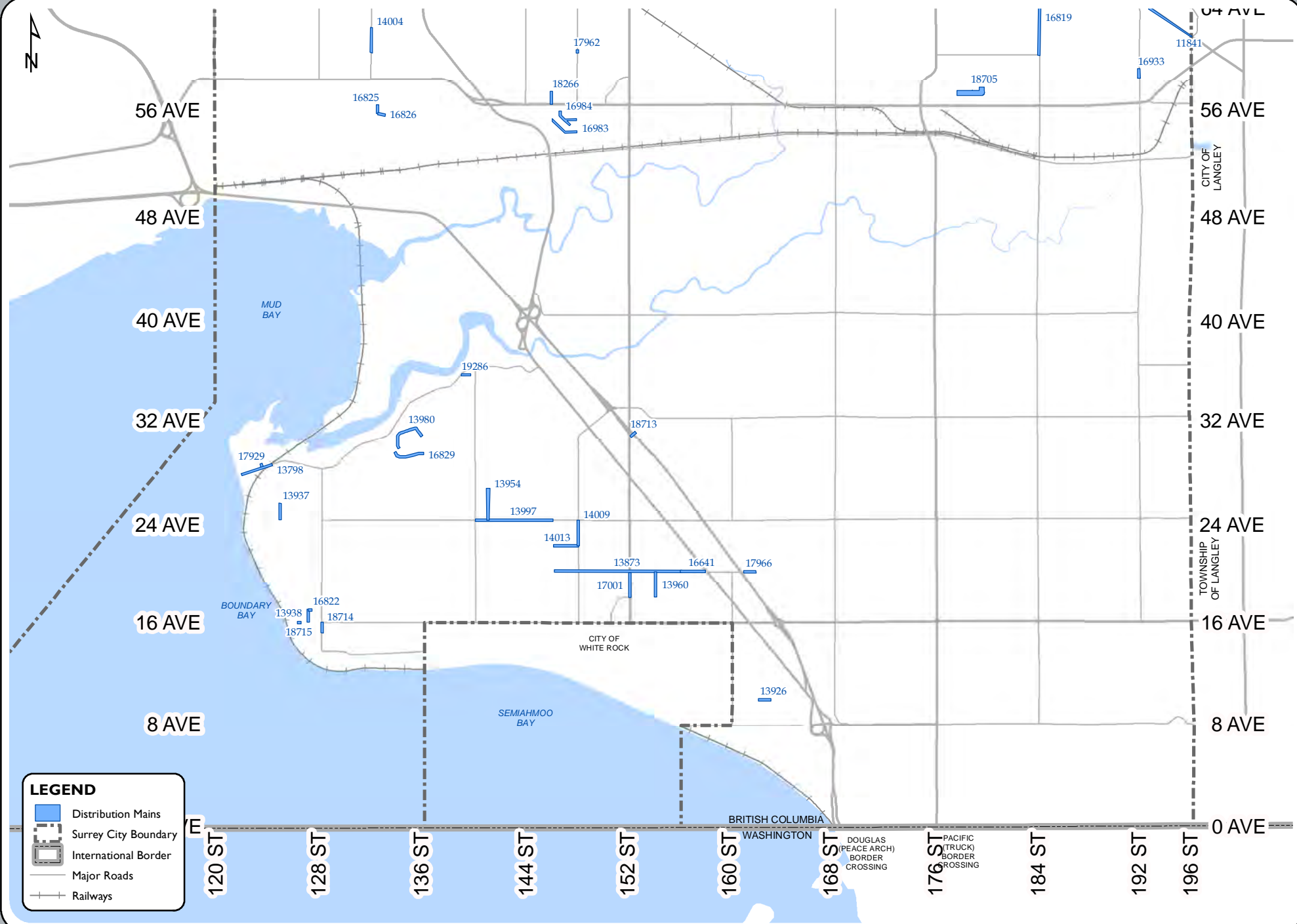


FIGURE 3.2 - Water Distribution Mains <=300mm (Program 1602)

0 0.5 1 2 3 KM
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GIS SECTION
ENGINEERING



WATER

Program 1602 - W - Distribution Mains (<=300mm)

Program Total	62,774,000	9,523,000	53,251,000	-	-
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Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding
5327	240m of 200mm diameter	Oriole Dr: 108 Ave - Canary Dr	Long Term (6 - 10 Yrs)	252,000	-	252,000	-	-
11841	360m of 300 mm diameter	Fraser Hwy: Lot 19268 - 196 St	Long Term (6 - 10 Yrs)	468,000	257,000	211,000	-	-
12588	220m of 200mm diameter	Loughren Dr: Perth Dr - Hwy 1	Short Term (1 - 5 Yrs)	231,000	-	231,000	-	-
12598	550m of 200mm diameter	Raven Pl: Bluebird Cres - Canary Dr	Long Term (6 - 10 Yrs)	578,000	-	578,000	-	-
12617	980m of 300mm diameter	108 Ave: 138 - 142 St	Short Term (1 - 5 Yrs)	1,274,000	701,000	573,000	-	-
12633	400m of 200mm diameter	098A - 99 Ave: 118 - 119B St	Long Term (6 - 10 Yrs)	420,000	-	420,000	-	-
12634	110m of 200mm diameter	Dove Pl: Raven Pl - lot 15151	Long Term (6 - 10 Yrs)	116,000	-	116,000	-	-
12663	160m of 300mm diameter	Dyke Rd: Tannery Rd - lot 10839	Long Term (6 - 10 Yrs)	219,000	-	219,000	-	-
13798	565m of 250mm diameter	Beecher St: McBride Ave - Bayview St	Short Term (1 - 5 Yrs)	678,000	244,000	434,000	-	-
13847	350m of 200mm diameter	106 Ave: 144 - 146 St	Long Term (6 - 10 Yrs)	368,000	-	368,000	-	-
13854	970m of 300mm diameter	132 St: 100 - 104 Ave	Long Term (6 - 10 Yrs)	1,324,000	-	1,324,000	-	-
13865	140m of 200mm diameter	142 St: 115 - 115A Ave	Long Term (6 - 10 Yrs)	147,000	-	147,000	-	-
13873	2010m of 300mm diameter	020 Ave: 146 - 156 St	Short Term (1 - 5 Yrs)	2,744,000	-	2,744,000	-	-
13879	940m of 300mm diameter	076 Ave: 128 - 132A St	Short Term (1 - 5 Yrs)	1,283,000	-	1,283,000	-	-
13884	830m of 300mm diameter	096 Ave: 156 - 160 St	Short Term (1 - 5 Yrs)	1,133,000	-	1,133,000	-	-
13893	460m of 200mm diameter	Bluebird Cr: Oriole Dr - Canary Dr	Long Term (6 - 10 Yrs)	483,000	-	483,000	-	-
13894	600m of 200mm diameter	Canary Dr: Oriole Dr - 152 St	Long Term (6 - 10 Yrs)	630,000	-	630,000	-	-
13926	200m of 200mm diameter	010 Ave: 162 - 163 St	Long Term (6 - 10 Yrs)	210,000	-	210,000	-	-
13929	425m of 300mm diameter	105A Ave: 144 - Lot 14611	Short Term (1 - 5 Yrs)	553,000	304,000	249,000	-	-
13930	750m of 200mm diameter	106A Ave: Old Yale Rd - 132 St	Long Term (6 - 10 Yrs)	788,000	-	788,000	-	-
13931	100m of 200mm diameter	109 Ave: 129A - 130 St	Long Term (6 - 10 Yrs)	105,000	-	105,000	-	-
13937	200m of 200mm diameter	124B St: 24 - 25 Ave	Long Term (6 - 10 Yrs)	210,000	-	210,000	-	-
13938	200m of 200mm diameter	127 St: 16 - 17 Ave	Short Term (1 - 5 Yrs)	210,000	-	210,000	-	-
13944	750m of 300mm diameter	130 St: 96 - 98B Ave	Long Term (6 - 10 Yrs)	1,024,000	-	1,024,000	-	-
13954	400m of 200mm diameter	141 St: 24 - 26 Ave	Long Term (6 - 10 Yrs)	420,000	-	420,000	-	-
13958	400m of 200mm diameter	153A St: 96 - 98 Ave	Long Term (6 - 10 Yrs)	420,000	-	420,000	-	-
13960	410m of 300mm diameter	154 St: 18 - 20 Ave	Short Term (1 - 5 Yrs)	533,000	293,000	240,000	-	-
13973	100m of 200mm diameter	098 Ave: 153A - 154 St	Long Term (6 - 10 Yrs)	105,000	-	105,000	-	-
13975	500m of 200mm diameter	98A Ave: 128A - 130 St; 128A St: 98A - 99 Ave	Long Term (6 - 10 Yrs)	525,000	-	525,000	-	-
13980	800m of 200mm diameter	Balsam Cr: Woodcrest Dr - 136 St	Short Term (1 - 5 Yrs)	840,000	-	840,000	-	-
13988	150m of 200mm diameter	Pekin Pl: 130 St - Lot 13095	Short Term (1 - 5 Yrs)	158,000	-	158,000	-	-
13997	1260m of 750mm diameter	24 Ave: 140 - 146 St	Long Term (6 - 10 Yrs)	2,898,000	1,043,000	1,855,000	-	-
14003	800m of 300mm diameter	132 St: 104 - 108 Ave	Long Term (6 - 10 Yrs)	1,092,000	-	1,092,000	-	-
14004	820 of 300mm diameter	132 St: 60 - 62 Ave	Long Term (6 - 10 Yrs)	546,000	-	546,000	-	-
14005	280m of 300mm diameter	132 St: Lot 7445 - 76 Ave	Short Term (1 - 5 Yrs)	383,000	-	383,000	-	-
14009	410m of 300mm diameter	148 St: 22 - 24 Ave	Short Term (1 - 5 Yrs)	533,000	160,000	373,000	-	-
14010	1700m of 300mm diameter	156 St: Fraser Hwy - 96 Ave	Long Term (6 - 10 Yrs)	2,321,000	-	2,321,000	-	-
14011	170m of 200mm diameter	170A St: 80 Ave - Lot 8072	Long Term (6 - 10 Yrs)	179,000	-	179,000	-	-
14013	410m of 300mm diameter	022 Ave: 146 - 148 St	Short Term (1 - 5 Yrs)	533,000	160,000	373,000	-	-
14016	650m of 200mm diameter	064 Ave: 180 St - Lot 18303; 181A St south of 064 Ave	Short Term (1 - 5 Yrs)	735,000	-	735,000	-	-
15297	750m of 300mm diameter	140 St: Lot 10029 - 104 Ave	Short Term (1 - 5 Yrs)	1,024,000	-	1,024,000	-	-
16281	440m of 200mm diameter	Partridge Cr: Canary Dr - Blackbird Cr	Short Term (1 - 5 Yrs)	462,000	-	462,000	-	-
16605	340m of 200mm diameter	146 St: 110 - 111A Ave	Long Term (6 - 10 Yrs)	357,000	-	357,000	-	-
16615	300m of 300mm diameter	104 Ave: Lot 14835 - 150 St (North)	Long Term (6 - 10 Yrs)	546,000	-	546,000	-	-
16639	430m of 300mm diameter	104 Ave: 150 - 152 St (North)	Long Term (6 - 10 Yrs)	587,000	-	587,000	-	-
16641	400m of 300mm diameter	020 Ave: 156 St - King George Blvd	Short Term (1 - 5 Yrs)	520,000	286,000	234,000	-	-
16664	400m of 300mm diameter	140 St: 108 - 110 Ave	Short Term (1 - 5 Yrs)	520,000	286,000	234,000	-	-

WATER

Program 1602 - W - Distribution Mains (<=300mm)

Program Total				62,774,000	9,523,000	53,251,000	-	-
Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding
16815	200m of 200mm diameter	130 St: 99 - 100 Ave	Short Term (1 - 5 Yrs)	210,000	-	210,000	-	-
16819	850m of 300mm diameter	184 St: 60 - 64 Ave	Long Term (6 - 10 Yrs)	1,161,000	-	1,161,000	-	-
16820	520m of 300mm diameter	184 St: Fraser Hwy - 72 Ave	Short Term (1 - 5 Yrs)	710,000	-	710,000	-	-
16821	2050m of 300mm diameter	096 Ave: Fraser Hwy - 152 St	Long Term (6 - 10 Yrs)	2,799,000	-	2,799,000	-	-
16822	60m of 100mm diameter	017 Ave: 127 St - Lot 12745	Short Term (1 - 5 Yrs)	55,000	-	55,000	-	-
16823	100m of 200mm, 40m of 100mm	129A St: Lot 10823 - 109 Ave	Long Term (6 - 10 Yrs)	105,000	-	105,000	-	-
16824	150m of 200mm diameter	130 St: Lot 10843 - 109 Ave	Long Term (6 - 10 Yrs)	158,000	-	158,000	-	-
16825	120m of 200mm diameter	132A St: 55A - 56 Ave	Long Term (6 - 10 Yrs)	126,000	-	126,000	-	-
16826	120m of 200mm diameter	55A Ave: 132A St - Lot 13295	Long Term (6 - 10 Yrs)	126,000	-	126,000	-	-
16829	500m of 200mm diameter	Vine Maple Dr: Woodcrest Dr - 136 St	Long Term (6 - 10 Yrs)	525,000	-	525,000	-	-
16830	420m of 300mm diameter	072 Ave: 188 St - Lot 18865; 189 St - Lot 19041	Short Term (1 - 5 Yrs)	546,000	300,000	246,000	-	-
16930	Watermain Tie-in 250mm to 450mm	100 Ave / Whalley Blvd	Short Term (1 - 5 Yrs)	53,000	-	53,000	-	-
16933	160m of 200mm diameter	192 St: Enterprise Way - 59 Ave	Long Term (6 - 10 Yrs)	168,000	-	168,000	-	-
16981	250m of 300mm diameter	096 Ave: King George Blvd - 137A St	Short Term (1 - 5 Yrs)	778,000	-	778,000	-	-
16983	500m of 200mm diameter	Southview Dr/54 Ave: 146 - 148 St	Long Term (6 - 10 Yrs)	525,000	-	525,000	-	-
16984	500m of 200mm diameter	Bakerview Dr:55A Ave-Lot 5452; 055 Ave: Bakerview Dr-	Long Term (6 - 10 Yrs)	525,000	-	525,000	-	-
16991	250m of 300mm diameter	105A Ave: 135A St - Whalley Blvd	Long Term (6 - 10 Yrs)	342,000	-	342,000	-	-
17001	400m of 300mm diameter	152 St: 18 - 20 Ave (East Side)	Short Term (1 - 5 Yrs)	546,000	-	546,000	-	-
17854	180m of 300mm diameter	072 Ave: 150A St - Lot 15116	Long Term (6 - 10 Yrs)	234,000	129,000	105,000	-	-
17929	DMAF: 85m of 250mm diameter	Sullivan St: Beecher - Lot 12325	Short Term (1 - 5 Yrs)	560,000	202,000	358,000	-	-
17962	65m of 300mm diameter	148 St: 60 Ave - Lot 6025	Short Term (1 - 5 Yrs)	85,000	47,000	38,000	-	-
17966	110m of 100mm DI	020 Ave: Lot 16114 - Lot 16184®	Short Term (1 - 5 Yrs)	99,000	-	99,000	-	-
18011	225m of 300mm diameter	105A Ave: Lot 14689 - 148 St	Long Term (6 - 10 Yrs)	293,000	161,000	132,000	-	-
18022	Skytrain Related Works	Fraser Hwy - Misc.	Short Term (1 - 5 Yrs)	1,300,000	500,000	800,000	-	-
18266	210m of 200mm diameter	146 St: 56 Ave - 57 Ave	Long Term (6 - 10 Yrs)	221,000	-	221,000	-	-
18329	650m of 200mm diameter	113 Ave: 138 - 141A St	Long Term (6 - 10 Yrs)	683,000	-	683,000	-	-
18421	Meter Install and Replacement	Various Locations	Annual	8,000,000	-	8,000,000	-	-
18705	680m of 200mm main	057 Ave: 177B St - Lot 17885;Shannon Pl: 57A Ave - Lot 1	Long Term (6 - 10 Yrs)	714,000	-	714,000	-	-
18708	Short Main Replacements - Phase 2	Various Locations	Annual	1,500,000	-	1,500,000	-	-
18713	150m of 300mm diameter	152 St/31 Ave/King George crossing	Long Term (6 - 10 Yrs)	375,000	206,000	169,000	-	-
18714	200m of 200mm diameter	128 St: 15 Ave - 16 Ave	Long Term (6 - 10 Yrs)	210,000	-	210,000	-	-
18715	50m of 100mm diameter	16 Ave: West of 126A St	Long Term (6 - 10 Yrs)	46,000	-	46,000	-	-
18743	PSV Installation	Various Locations	Long Term (6 - 10 Yrs)	500,000	-	500,000	-	-
18934	300m of 250mm DI	135 St: 70B Ave - 69A Ave	Short Term (1 - 5 Yrs)	378,000	378,000	-	-	-
19104	Abandon 780m of 300 CAS	108 Ave: 144 St - 148 St		230,000	-	230,000	-	-
19168	350m of 300mm	84 Ave: Lot 13850 - 140 St		478,000	478,000	-	-	-
19280	200m of 200mm diameter	109 Ave: Lot 14696 - 148 St		210,000	-	210,000	-	-
19286	140m of 100mm diameter	35A Ave: East of Crescent Rd		127,000	-	127,000	-	-
19287	Volunteer Meter Supply	Various Locations	Annual	1,500,000	-	1,500,000	-	-
19288	Meter Testing	Various Locations	Annual	500,000	-	500,000	-	-
19334	Darts Hill Distribution Main Upsizing (High Pressure)	Various Locations		651,000	651,000	-	-	-
19335	Darts Hill Distribution Main Upsizing (Low Pressure)	Various Locations		977,000	977,000	-	-	-
19428	Semiahmoo Distribution Main Upsizing Contribution	Semiahmoo		1,760,000	1,760,000	-	-	-

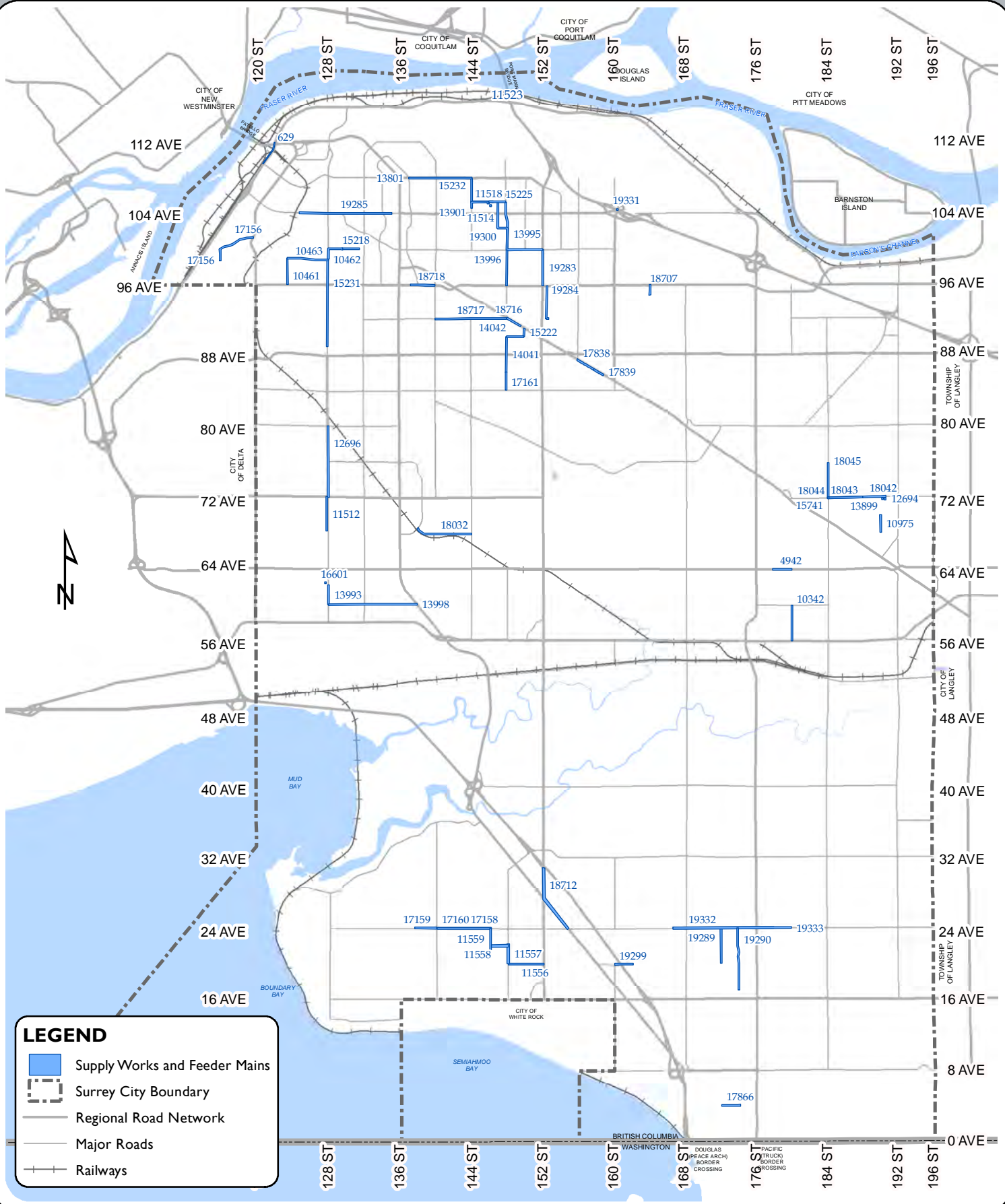


FIGURE 3.3 - Water Supply Works & Feeder Mains (Program 1610)

0 0.5 1 2 3 4 5 KM
SCALE: 1:115,478

WATER

Program 1610 - W- Supply Works & Feeder Main

Program Total					122,154,773	71,819,000	51,860,773	-	-
Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding	
629	500m of 400mm diameter	SFPR/Bridge Road: Old Yale Rd - 112 Ave	Short Term (1 - 5 Yrs)	893,000	893,000	-	-	-	-
4942	360m of 350mm diameter	064 Ave: 178 - 180 St*	Short Term (1 - 5 Yrs)	484,000	324,000	160,000	-	-	-
10342	800m of 600mm diameter	180 St: 56 - 60 Ave	Short Term (1 - 5 Yrs)	1,680,000	1,680,000	-	-	-	-
10461	600m of 600mm diameter	123A St: 96 Ave - 99 Ave	Long Term (6 - 10 Yrs)	1,071,000	1,071,000	-	-	-	-
10462	900m of 600mm diameter	099 Ave: 123A St - 128 Ave	Long Term (6 - 10 Yrs)	1,607,000	1,607,000	-	-	-	-
10463	600m of 600mm diameter	128 St: 99 Ave - 100 Ave; 100 Ave:128 St - 129A St	Long Term (6 - 10 Yrs)	1,071,000	1,071,000	-	-	-	-
10975	420m of 600mm diameter	190 St: 68 - 70 Ave	Short Term (1 - 5 Yrs)	882,000	882,000	-	-	-	-
11512	800m of 750mm diameter	128 St: 68 - 72 Ave	Short Term (1 - 5 Yrs)	1,840,000	662,000	1,178,000	-	-	-
11514	Whalley P.S. 6th Pump	105A Ave: lot 14620	Short Term (1 - 5 Yrs)	788,000	788,000	-	-	-	-
11518	450m of 1200mm diameter	105A Ave: 146 - 148 St	Long Term (6 - 10 Yrs)	1,935,000	1,451,000	484,000	-	-	-
11535	Upgrade/Replace Existing PRVs	Various Locations	Long Term (6 - 10 Yrs)	7,000,000	2,100,000	4,900,000	-	-	-
11556	800m of 450mm diameter	020 Ave: 148 - 152 St	Short Term (1 - 5 Yrs)	1,176,000	1,176,000	-	-	-	-
11557	410m of 600mm diameter	148 St: 20 - 22 Ave	Short Term (1 - 5 Yrs)	732,000	732,000	-	-	-	-
11558	410m of 600mm diameter	022 Ave: 146 - 148 St	Short Term (1 - 5 Yrs)	732,000	732,000	-	-	-	-
11559	550m of 900mm diameter - Low Pressure Main	146 St: 22 ave - 24 ave	Long Term (6 - 10 Yrs)	1,650,000	495,000	1,155,000	-	-	-
12694	Clayton P.S. 5th pump	72 Ave / 190 St	Long Term (6 - 10 Yrs)	788,000	788,000	-	-	-	-
12696	1600m of 600mm diameter	128 St: 72 - 80 Ave	Short Term (1 - 5 Yrs)	2,720,000	1,197,000	1,523,000	-	-	-
13801	1460m of 600mm diameter	108 Ave: Whalley Blvd - 144 St	Short Term (1 - 5 Yrs)	2,482,000	1,092,000	1,390,000	-	-	-
13899	Clayton P.S. 6th pump	72 Ave / 190 St	Long Term (6 - 10 Yrs)	788,000	788,000	-	-	-	-
13901	750m of 900mm diameter	105A Ave: 144 St - Lot 14611; 144 St: 105A Ave - 104A A	Short Term (1 - 5 Yrs)	2,250,000	675,000	1,575,000	-	-	-
13993	510m of 750mm diameter	128 St: 60 - 62A Ave	Long Term (6 - 10 Yrs)	1,173,000	422,000	751,000	-	-	-
13995	1500m of 900mm diameter	148 St: 100 - 105A Ave	Long Term (6 - 10 Yrs)	4,500,000	2,475,000	2,025,000	-	-	-
13996	800m of 600mm diameter	148 St: 96 - 100 Ave	Long Term (6 - 10 Yrs)	1,360,000	598,000	762,000	-	-	-
13998	2060 of 600mm diameter	60 Ave: 128 - KG Blvd	Long Term (6 - 10 Yrs)	3,502,000	1,541,000	1,961,000	-	-	-
14041	750m of 450mm diameter	148 St: 86 - 90 Ave	Short Term (1 - 5 Yrs)	1,103,000	1,103,000	-	-	-	-
14042	400m of 450mm diameter	090 Ave: 148 - 150 St	Short Term (1 - 5 Yrs)	588,000	588,000	-	-	-	-
15218	450m of 750mm diameter	100 Ave: 129A - 131A St	Long Term (6 - 10 Yrs)	1,035,000	662,000	373,000	-	-	-
15222	200m of 450mm diameter	150 St: 90 Ave - Fraser Hwy	Short Term (1 - 5 Yrs)	294,000	294,000	-	-	-	-
15225	Whalley Pump Station Electrical & Mechanical Replacem	105A Ave: lot 14620	Short Term (1 - 5 Yrs)	3,413,000	-	3,413,000	-	-	-
15231	1980m of 750mm diameter	128 St: 8900 block - 99 Ave	Long Term (6 - 10 Yrs)	4,554,000	2,915,000	1,639,000	-	-	-
15232	1,000m of 750mm diameter	144 St: 105A - 108 Ave; 105A Ave: 144 St-Whalley PS	Short Term (1 - 5 Yrs)	2,300,000	828,000	1,472,000	-	-	-
15741	West Clayton PRV Stations	072 Ave / 184 St	Short Term (1 - 5 Yrs)	400,000	280,000	120,000	-	-	-
16601	Newton Pump Station Electrical & Mechanical Upgrades	128 St: Lot 6275	Short Term (1 - 5 Yrs)	5,675,000	-	7,200,000	-	-	-
17019	Jericho Reservoir - CoS Contribution Ph2 2023	Township of Langley (20400 - 73A Avenue)	Short Term (1 - 5 Yrs)	2,081,591	-	2,081,591	-	-	-
17056	Jericho Reservoir - CoS Contribution Ph1 2022	Township of Langley (20400 - 73A Avenue)	Short Term (1 - 5 Yrs)	1,513,000	1,513,000	-	-	-	-
17156	1200m of 600mm diameter	116 St: Bailey Cres - River Rd; River Rd: 116 St - Scott Rd	Short Term (1 - 5 Yrs)	2,520,000	2,520,000	-	-	-	-
17158	1200m of 750mm diameter	24 Ave: Rotary Way - 140 St (Low Pressure Main)	Long Term (6 - 10 Yrs)	2,898,000	2,898,000	-	-	-	-
17159	500m of 600mm diameter	24 Ave: 137A - 140 St (Low Pressure Main)	Short Term (1 - 5 Yrs)	1,050,000	1,050,000	-	-	-	-
17160	1,200m of 450mm diameter	24 Ave: 140 St - Rotary Way	Short Term (1 - 5 Yrs)	1,764,000	1,764,000	-	-	-	-
17161	400m of 450mm diameter	148 St: 84 - 86 Ave	Short Term (1 - 5 Yrs)	588,000	588,000	-	-	-	-
17169	Jericho Reservoir - CoS Contribution Ph2 2024	Township of Langley (20400 - 73A Avenue)	Short Term (1 - 5 Yrs)	2,081,591	-	2,081,591	-	-	-
17170	Jericho Reservoir - CoS Contribution Ph2 2025	Township of Langley (20400 - 73A Avenue)	Short Term (1 - 5 Yrs)	2,081,591	-	2,081,591	-	-	-
17838	450m of 450mm diameter	Fraser Hwy: 156 - 158 St	Short Term (1 - 5 Yrs)	662,000	662,000	-	-	-	-
17839	150m of 450mm diameter	Fraser Hwy: 158B - 159 St	Short Term (1 - 5 Yrs)	221,000	221,000	-	-	-	-
17866	450m of 400mm diameter	004 Ave: 172 - 174 St	Short Term (1 - 5 Yrs)	648,000	-	648,000	-	-	-
18032	2700m of 450mm of water main	68 Ave: 138 St - 144 St	Long Term (6 - 10 Yrs)	1,764,000	1,764,000	-	-	-	-

WATER

Program 1610 - W- Supply Works & Feeder Main

				Program Total	122,154,773	71,819,000	51,860,773	-	-
18042	600m of 750mm water main (90m zone main)	72 Ave: Clayton Res - 188 St	Short Term (1 - 5 Yrs)	1,449,000	1,449,000	-	-	-	-
18043	800m of 600mm water main (90m zone main)	72 Ave: 184 St - 188 St	Short Term (1 - 5 Yrs)	1,428,000	1,428,000	-	-	-	-
18044	800m of 450mm water main (115m zone main)	72 Ave: 184 St - 188 St	Short Term (1 - 5 Yrs)	1,176,000	1,176,000	-	-	-	-
18045	800m of 450mm water main (90m zone main)	184 St: 72 Ave - 76 Ave	Short Term (1 - 5 Yrs)	1,176,000	1,176,000	-	-	-	-
18707	170m of 750mm main	164 St: 95 ave - 96 ave	Long Term (6 - 10 Yrs)	391,000	141,000	250,000	-	-	-
18709	Feeder Main Valve Upgrade	Various Locations	Long Term (6 - 10 Yrs)	1,000,000	-	1,000,000	-	-	-
18712	1550m of 450mm diameter (Kensington W110/Morgan	KGB: 24 Ave - 152 St; 152 St: KGB-Croydon Dr	Long Term (6 - 10 Yrs)	3,360,000	3,360,000	-	-	-	-
18716	380m of 450mm diameter (connecting Fleetwood Res	to Fraser Hwy: Lot 14960 - 148 St	Short Term (1 - 5 Yrs)	798,000	798,000	-	-	-	-
18717	1600m of 450mm diameter (connecting Fleetwood Res	t 092 Ave: 140 St - 148 St	Long Term (6 - 10 Yrs)	3,360,000	3,360,000	-	-	-	-
18718	550m of 450mm diameter (connecting Fleetwood Res	to 96 Ave: 137A St - 140 St	Long Term (6 - 10 Yrs)	1,155,000	1,155,000	-	-	-	-
19283	800m of 750mm diameter	152 St: 96 Ave - 100 Ave		1,840,000	662,000	1,178,000	-	-	-
19284	800m of 750mm diameter	152A St: 92 Ave - 96 Ave; 92 Ave: 152A St - Fleetwood Way;		2,530,000	911,000	1,619,000	-	-	-
19285	2200m of 600mm diameter	104 Ave: City Parkway - 124A St		3,927,000	-	3,927,000	-	-	-
19289	800m of 450mm diameter (high pressure)	172 St: 20 Ave - 24 Ave	NCP Driven	1,360,000	1,360,000	-	-	-	-
19290	1400m of 450mm diameter (low pressure)	174 St: 17 Ave - 24 Ave	NCP Driven	2,380,000	2,380,000	-	-	-	-
19299	420m of 400mm DI	20 Ave: Lot 16211 - 160 St		751,000	563,000	188,000	-	-	-
19300	2250m of 900m	147 St: 105A Ave - 102A Ave; 102A Ave: 147 St - 148 St;		6,750,000	2,025,000	4,725,000	-	-	-
19331	New Hwy 1 Crossing to Fraser Heights	TBD (Highway 1 / 160 St)		1,000,000	1,000,000	-	-	-	-
19332	24 Ave Feeder Main Upsizing (High Pressure)	24 Ave: 16666 24 Ave – 178 St		1,605,000	1,605,000	-	-	-	-
19333	24 Ave Feeder Main Upsizing (Low Pressure)	24 Ave: 16666 24 Ave – 180 St		2,380,000	2,380,000	-	-	-	-

4. SANITARY SEWER

The City strives to build and maintain a robust sanitary sewer system that is cost-effective, scalable, lasting and environmentally responsible. To have a robust sanitary sewer system, the City shall:

- Replace systems that have high operation and maintenance costs;
- Build a scalable system that accommodates future growth and additional sewer catchments, by upsizing sewers whenever opportunities arise;
- Replace sewers that are at the end of their service life; and
- Build a system to minimize or eliminate sanitary sewer overflows.

4.1 Sewer Works Inventory

Surrey has approximately 1,619 km of sanitary sewers, as summarized in **Table 4.1**. The majority of this system is relatively young and in good condition. However, there are older sections of the system, constructed of asbestos cement, vitrified clay and other currently non-acceptable materials that are showing signs of deterioration due to wear and tear, cracks, settlement, and joint dislocations, and are subject to excessive groundwater infiltration and rainwater inflow. Surrey's existing sanitary sewer system is shown in **Figure 4.1**.

Table 4.1 – Current Sanitary Sewer System Inventory

Sanitary Sewers	1,610 km
Vacuum Sanitary System	9.4 km
Sanitary Pump Stations	45

4.2 Rehabilitation or Replacement of the Gravity Sewer System

As part of the City's commitment to Strategy 3.18 – Manage Assets and Optimize Existing Sanitary Sewerage Operations under Metro Vancouver's Integrated Liquid Waste and Resource Management Plan, the City is developing an asset management plan targeting a 100-year replacement or rehabilitation cycle for the sanitary system. Currently the City is prioritizing the replacement of small asbestos cement sewers which are the most critical in terms of poor condition and capacity, as well as moving along the strategy of phasing out existing vacuum sewer systems.

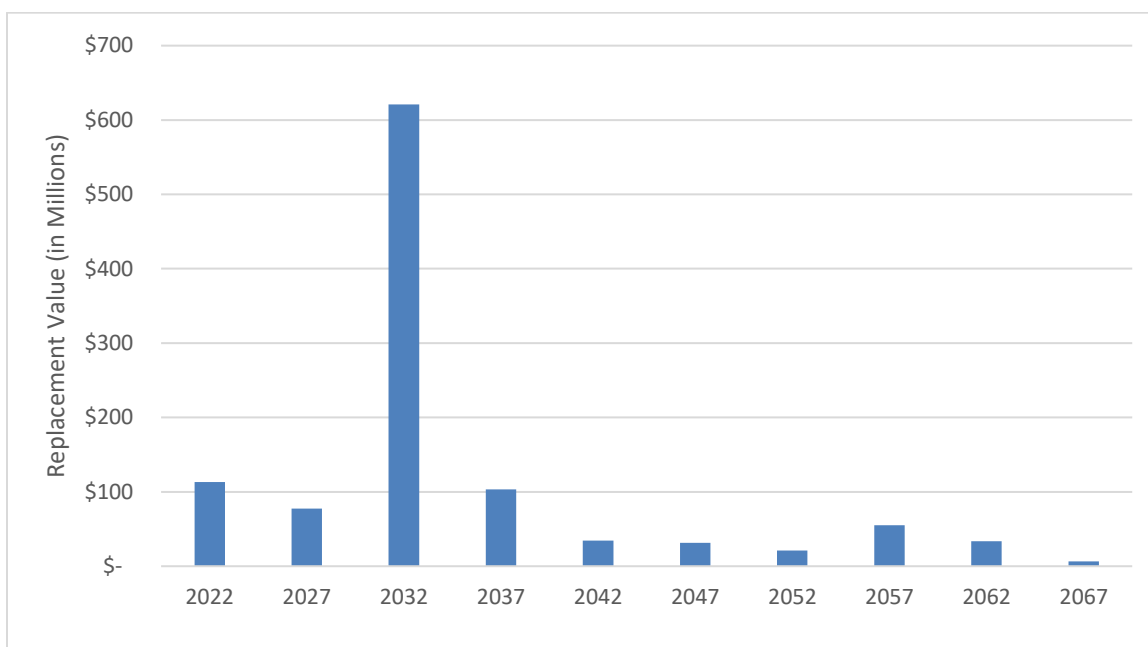
A large part of sewer replacement or rehabilitation in the coming decades will focus on remaining non-acceptable materials and utilizing redevelopment and growth opportunities to further replacement of older pipes. Ongoing annual pipe inspection will provide updated conditions and will support a long term strategy for the replacement of pipes as changing technologies, development in asset management, and demand management practices may influence the replacement strategy in that period. **Table 4.2** and **Figure 4.1** provide some insight of the potential replacement demand over the next 50 years based on age and pipe material. Detailed risk assessment will aid planning of replacements to better balance asset replacement in the late 2020s, 2030s and 2040s.

In the next 50 years, by age, about 27.5% of all sewer mains may have to be replaced at a cost of \$1 billion. The remaining sewers will reach their end of service life in the subsequent 50 years. Such

a large resource requirement necessitates careful planning and development of strategies to deal with the replacement demand, which the City is now actively preparing.

The rehabilitation work through the City's Inflow and Infiltration ("I&I") reduction program will assist in dealing with part of this replacement demand as materials, such as vitrified clay pipe ("VCP") may be used for longer periods than expected, provided they are rehabilitated.

Figure 4.1 – Sanitary Sewer Replacement Costs over the Next 50 Years

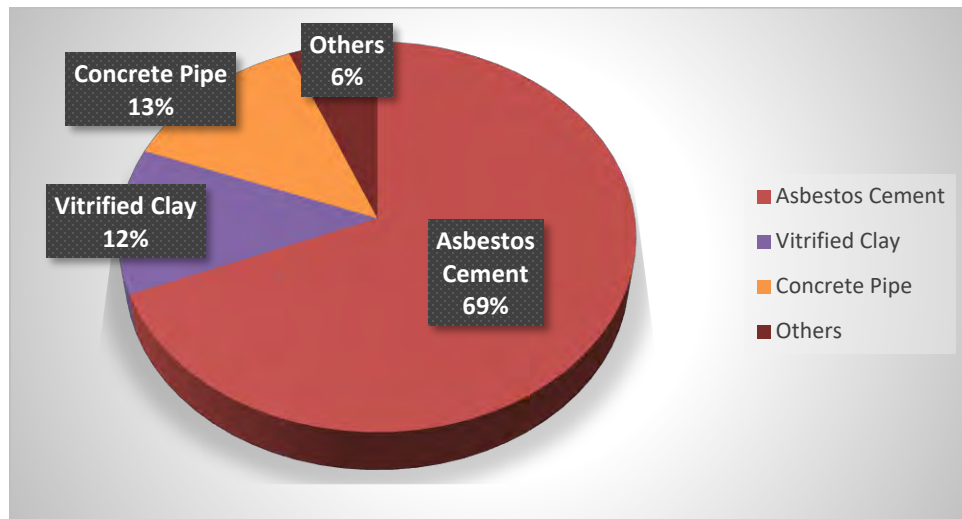


Under this Servicing Plan, funding has been identified for sewer replacements and this will be used where it is needed most.

Table 4.2 – Sanitary System Replacement Requirements in the Next 50 Years

Material	Total Sewer Main Inventory		50 Year Forecast	
	Length	Replacement Cost	Length	Replacement Cost
Non-Acceptable Materials: Asbestos Cement, Vitrified Clay, Cast Iron, Ductile Iron	375 km (23% of entire pipe length)	\$892 Million	374.4 km	\$891 Million
Acceptable Materials: CIPP, HDPE, PVC, Steel, Concrete Pipe	1,245 km (77% of entire pipe length)	\$2.93 Billion	69.5 km	\$206 Million

Through an established maintenance management program, the gravity sewer system is systematically video inspected to determine its condition. The rehabilitation needs for structural deficiencies are confirmed based on this inspection data. Based on the current projections and levels of expenditures, the estimated rehabilitation and asset replacement needs over the next 10 years is in the range of \$190 million. The rehabilitation and continued serviceability of the sanitary sewer system, including the control of I&I, is a municipal commitment under the Metro Vancouver Integrated Liquid Waste and Resource Management Plan.

Figure 4.2 – Sanitary Main Replacement over Next 50 Years (by material)

Rehabilitation or replacement of the gravity sewer system components are included as projects within either Program 1632 - Minor Mains (< 450mm diameter) or Program 1644 – Major Facilities.

4.3 Vacuum Sewer System Replacement

A vacuum sewer system still services a portion of the South Westminster area in North Surrey, as the area is low-lying, flat, and subject to considerable settlement. The City's vacuum sewer system is more expensive to operate than conventional gravity and low-pressure systems.

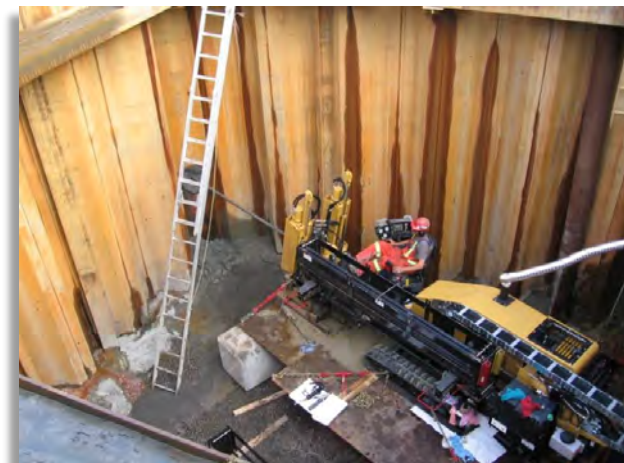
The servicing strategy for this area, as outlined in the South Westminster NCP, calls to replace the vacuum sewer in all new developments and redevelopments with a low-pressure system, because:

- a) The operation and maintenance costs associated with the vacuum sewer system are high; and
- b) The existing system does not have sufficient capacity to accommodate development and redevelopment, including new major industries.

The replacement program is to be funded by each development in accordance with their needs. Eventually, the vacuum sewer system in South Westminster will be replaced as development reaches build-out.

The adjacent Bridgeview area had its remaining vacuum sewers replaced in 2017. Bridgeview is now serviced by:

- a) A steep grade system for the residential area; and
- b) A low-pressure system for the industrial/commercial areas in general.



4.4 Sewer Servicing Program

Program 1630 – General Items

This program covers the overhead costs associated with the general operating of the sanitary sewer section. Included are a portion of the cost of staff time, hardware and software equipment cost, and cost of internal services by other sections and divisions that are general in nature.

Program 1632 - Minor Mains (< 450mm dia)

There are a number of sections of the existing sewer system that will not have sufficient capacity over the next 10 years to meet one or more of the following:

- Current flows that may have increased due to I&I; or
- Servicing demand from future OCP designated land uses.

Replacement of the existing system that is needed to provide capacity to meet current demand, or to meet the reduction in capacity due to structural failure of the existing sewer, are considered to be non-growth related costs. Upsizing these replacements, to allow for new growth to OCP designations, is considered to be growth related costs. Where a relief sewer is necessary for new growth, costs have been primarily assigned to growth, with a small contribution from non-growth to represent the depreciated value of the replaced asset.

In recent years, the City has concentrated on the replacement of aging sewers, primarily comprised of small diameter asbestos cement (AC) pipe material. The prioritized replacement plan targets high inflow and infiltration (I&I) catchment areas and concurrently eliminating side and rear yard sewers where possible. This program covers the replacement of these sewers.

Program 1634 - Inflow and Infiltration

As part of the City's commitments under Metro Vancouver's Integrated Liquid Waste and Resource Management Plan, the City developed an Inflow and Infiltration Management Plan ("IIMP") in 2013. In general, the plan establishes a long term, systematic, quantifiable, and cost-effective approach to managing I&I in the sanitary sewer system. I&I is defined as rainwater and groundwater intrusion into the sanitary sewer system.

Generally, higher I&I rates are found in the older subdivision areas in the northern and southern parts of the City and are worse with some pipe materials like asbestos cement and eras of construction. This is expected as I&I rates increase as sewer pipes age and deteriorate (refer to Figure 4.3). Eventually, these sewer pipes will be replaced when they reach the end of their service life. The range of I&I rates in Surrey are similar to other Metro Vancouver municipalities.

Figure 4.3 – I&I Rates Per Pipe Age

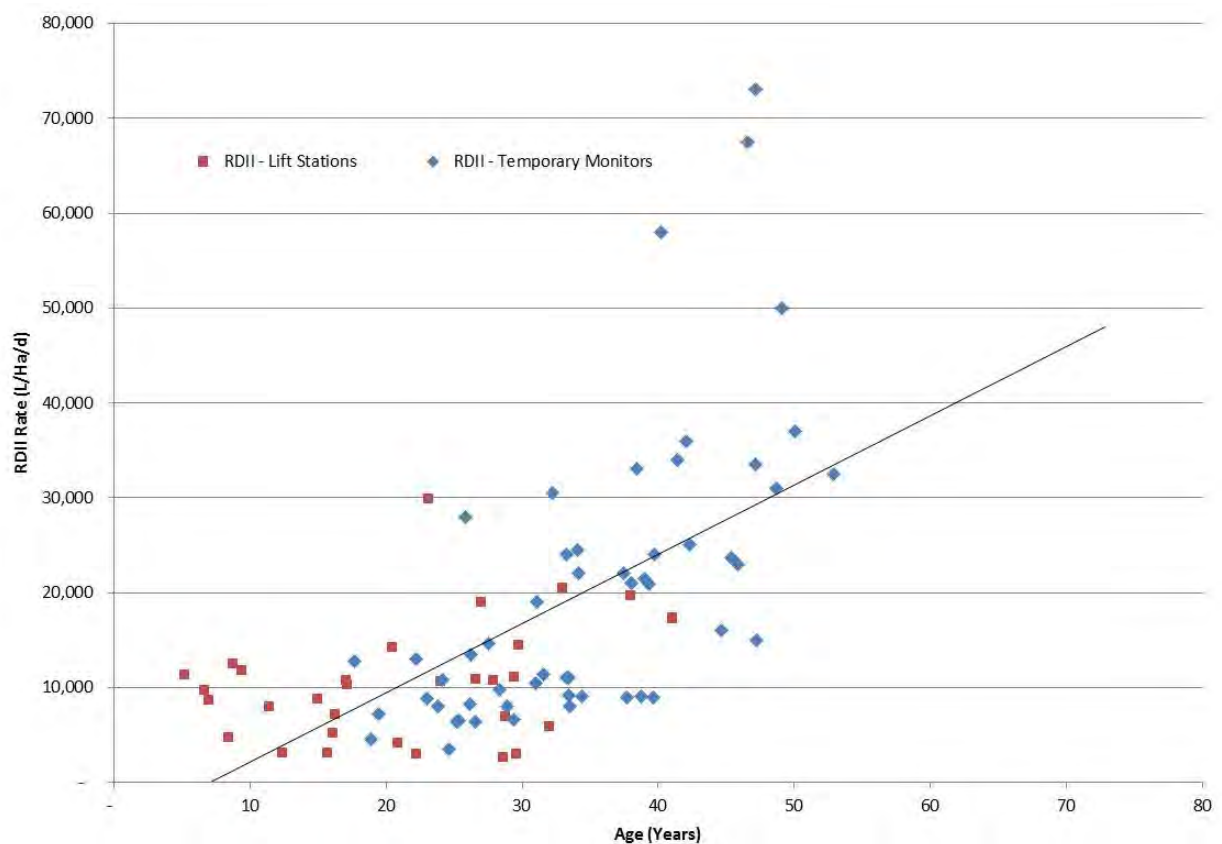
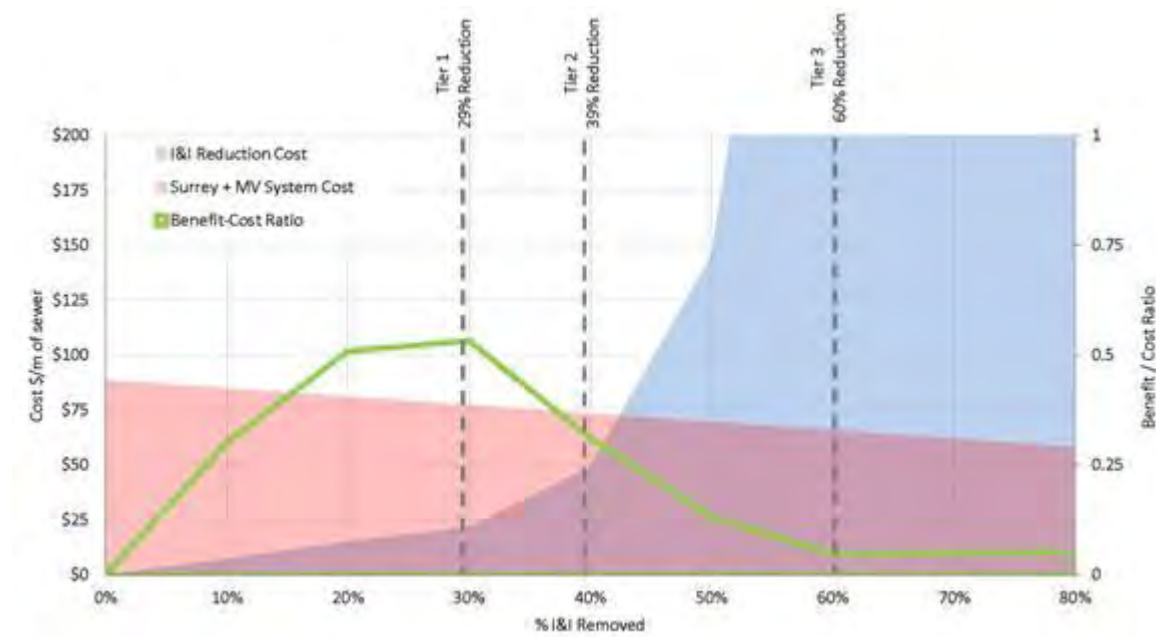


Figure 4.4 – I&I Reduction Cost-Benefit Curve

A large part of cost of operating the sewer system is the Metro Vancouver costs for operating the regional trunk sewers and treatment plants. Metro Vancouver is moving towards an I&I centric billing approach which will incentivize I&I reduction and will likely change the cost benefit relationship.

Under the IIMP, the City will undertake the following activities:

- Continue the flow monitoring program;
- Conduct systematic QA/QC for temporary and permanent flow monitoring sites and lift station data;
- Use the calibrated hydraulic model and EPA's Sanitary Sewer Overflow Analysis and Planning ("SSOAP") to determine the rain dependent inflow and infiltration factor;
- Continue with closed circuit video inspection ("CCTV") and manhole inspection during wet weather and smoke testing during dry weather programs to identify rehabilitation works;
- Use the threshold limit table in the IIMP for evaluation of study areas;
- Focus on sewer replacement and rehabilitation in older areas within the City that have predominantly asbestos cement and vitrified clay sewer pipes;
- Plan works in conjunction with overall asset planning works where CCTV show rehabilitation is warranted; and
- Continue to develop and implement community outreach programs to encourage I&I mitigation on private sewers.

To satisfy these commitments, the City has established an ongoing evaluation and rehabilitation program.

The City's approach in recent years has been to align sewer asset replacement with I&I reduction and focus on replacing sewers that are at the end of their service life and have high I&I. The works associated with these are generally funded under Program 1632 – Minor Mains (≤ 450 mm diameter). This approach achieves two major objectives: to reduce the I&I, and to renew

sewers that are at the end of their service life. With the City's policy requiring developments to replace service connections that are more than 30 years old, it is anticipated that most of the sewers that contribute I&I will be replaced in the long-term horizon.

Program 1636 – Minor Projects

An allowance has been made for any minor sewer works (normally less than \$50,000 each) that come up on an as needed basis and in situations where remediation works will be necessary prior to the next 10-Year Servicing Plan update.

Program 1638 – Planning

As development takes place, additional sewage flows are generated which may cause some sections or components of the sewer system to reach capacity and, consequently, increase the need for relief works. These relief works can range from flow diversions, relief pump stations, sewer twinning or replacement with a larger sewer, to upgrading pump stations to provide more capacity.

The impact of growth on the sewer system is tracked using computer models. These models are used to predict sections of the sewer system that need additional capacity:

- a) Within the next 10 years; and
- b) For ultimate development.

The works necessary to provide additional capacity are included in the following programs:

- Program 1644 - Major Facilities
- Program 1632 - Minor Mains ($\leq 450\text{mm}$ diameter)
- Program 1650 - DCW Upsizing

These programs do not include relief works associated to the Greater Vancouver Sewerage & Drainage District (“GVS&DD”) system, which are the responsibility of the GVS&DD, and are funded on a regional basis.

The provision of infrastructure for new growth is handled in two ways:

- i) Where infrastructure services a large area, and is of high cost which makes it unreasonable to expect one fronting or benefiting property to finance the works, the works are included in the Major Facilities program; however, sewers with a peak flow of less than 40 litres per second are not considered as growth related costs; and
- ii) Where servicing can be reasonably provided through upsizing or extending the services necessary for a fronting or benefiting property, then the works are included in the DCW Program.

In addition to flow monitoring and computer modeling, planning studies are required to develop master sewer plans, servicing plans, Neighbourhood Concept Plans, and specific project details. The costs of these engineering services are included in this program. Further, this program covers a portion of staff time related to Planning initiatives.

Program 1643 – West Clayton

Sewer works to service the West Clayton NCP area are included in this program. This area -specific DCC program includes the Cloverdale Trunk Sewer extension through the NCP area, and an upsizing allowance for tributary sewers within the NCP area, along with offsite upgrades to the existing Cloverdale Trunk Sewer and the North Cloverdale Pump Station to support the flow increase from the West Clayton NCP area.

Program 1644 - Major Facilities

Major facilities include sewage lift stations, pressure sewers, replacement of vacuum sewer system, and large-diameter trunk mains ($\geq 450\text{mm}$ diameter). In some cases, major facilities do benefit existing customers, and therefore a portion of the projects costs is attributed as non--growth. These costs are attributed to:

- The replacement and/or upgrade of pump station components;
- Relief of Bear Creek trunk sewer through relief pump station and forcemain;
- Quibble Creek pump station twin forcemain pump station upgrade;
- Upgrade of the City Central trunk sewer;
- The addition of new pump stations
- The addition of new odour control facilities; and
- The addition of new interceptors.



Typically, due to the size and scope of major facility projects, whether the project is located in existing serviced areas or the facilities service both new and existing areas, the City will initiate construction.

Program 1650 - DCW Upsizing

Trunk mains to service new areas can be provided, with the City funding the upsize component from the base size which is necessary for fronting or benefiting properties. For these trunk sewers, only the upsizing cost - the cost from the base size required for a fronting property to the size required for the overall catchment - is included. As the timing of these works is strictly dependent on the fronting property owners or development, no estimate of timing is provided.

In addition to the upsizing of identified trunks, an allowance for upsizing yet-to-be identified works is included in the overall provision for upsizing.

Program 1652 – DCW Connections

This program provides funding for situations where it is beneficial to pre-install sanitary service connections within the road allowance for any un-serviced lots when a sewer is extended by a land development project.

Program 1658 - Land Acquisition

Land acquisition and requirements, such as rights-of-way and working easements, are occasionally required for capital projects. This program deals with various such requirements for the projects listed under various programs.

4.5 Sanitary Sewer Cost Summary

No.	Program	Program Type	Growth (\$)	Non-Growth (\$)	Total (\$)
1630	General Items	Operating	75,000	9,645,000	9,720,000
1632	Minor Mains <450mm dia	Capital	16,863,486	61,327,900	78,191,386
1634	Inflow and Infiltration	Operating	-	3,640,000	3,640,000
1636	Minor Projects	Operating	-	4,284,600	4,284,600
1638	Planning	Non-Capital	3,660,000	1,760,000	5,420,000
1643	West Clayton	Capital	7,675,900	-	7,675,900
1644	Major Facilities	Capital	97,887,992	15,079,400	112,967,392
1650	DCW Upsizing	Capital	7,977,383	-	7,977,383
1652	DCW Connections	Capital	-	400,000	400,000
1658	Land Acquisition	Capital	250,000	450,000	700,000
Total			134,389,761	96,586,900	230,976,661

4.6 Sanitary Sewer Projects by Program

This section contains tables and figures that identify the projects under the key Sanitary Sewer programs.

The tables provide the following information:

- Project ID - the unique identifier of the project
- Project name - the specific name or generic name that depicts the type of work
- Project location - the geographic extent of the works
- Priority - the intended time frame for when the project is planned to proceed (subject to change)
- Costs - the high-level estimates in 2022 dollars (subject to change at the actual time of construction). The costs are comprised of growth, non-growth and external components.

Each program table is accompanied by a figure (map) that shows the location and extent of the projects. Projects that are general in nature or in various locations throughout Surrey may not be shown on the maps.

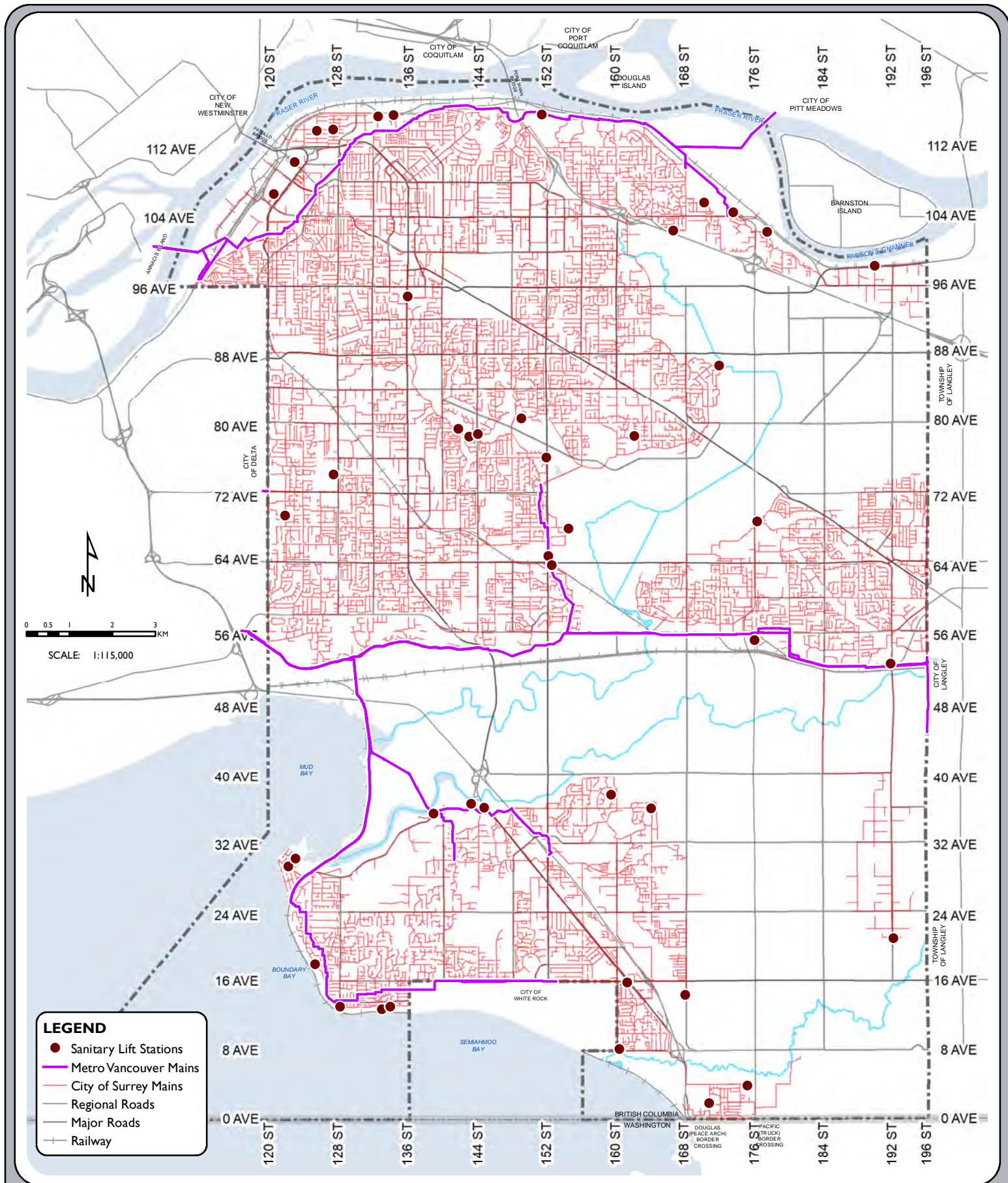
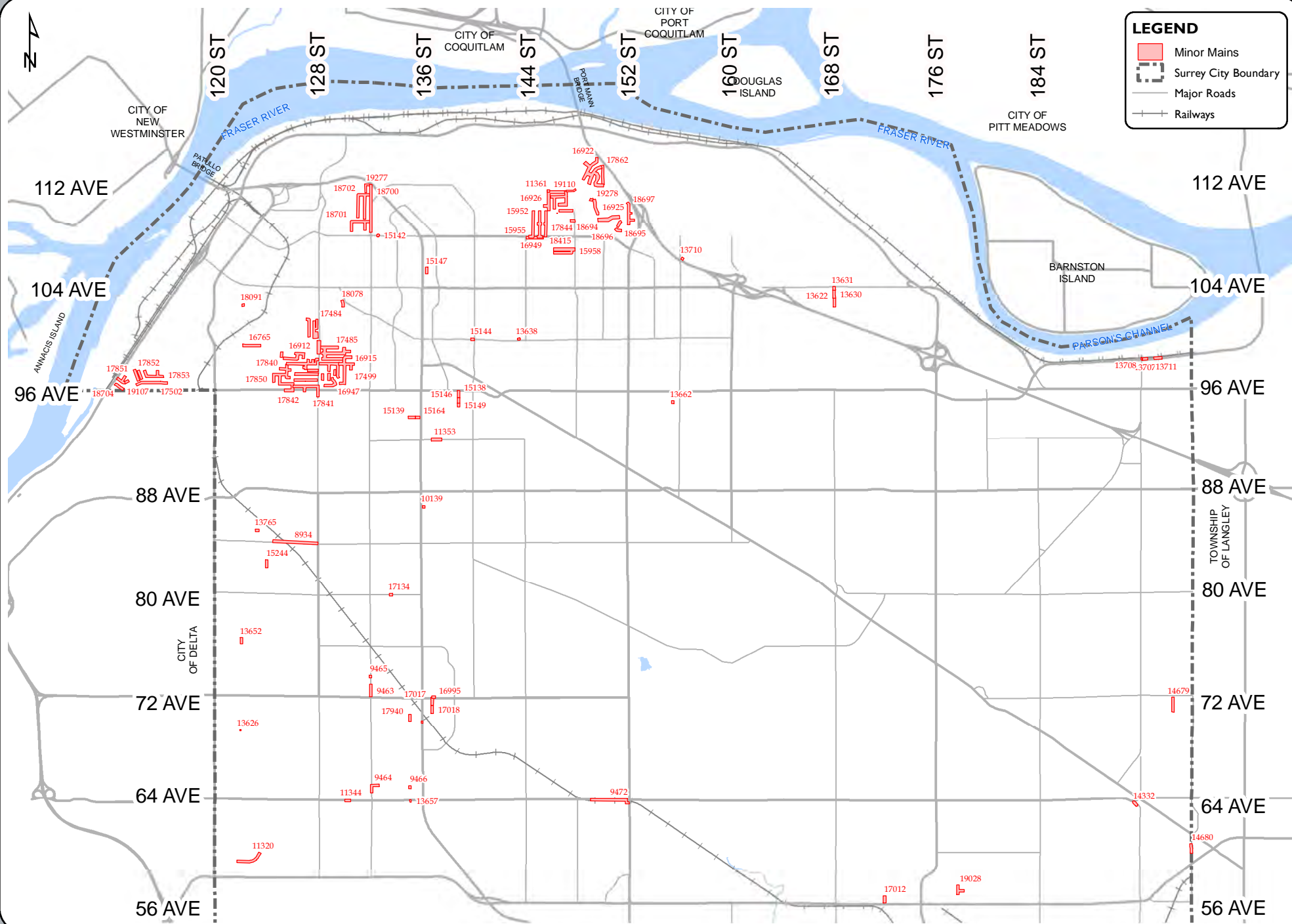


FIGURE 4.1 - SANITARY SEWER SYSTEM



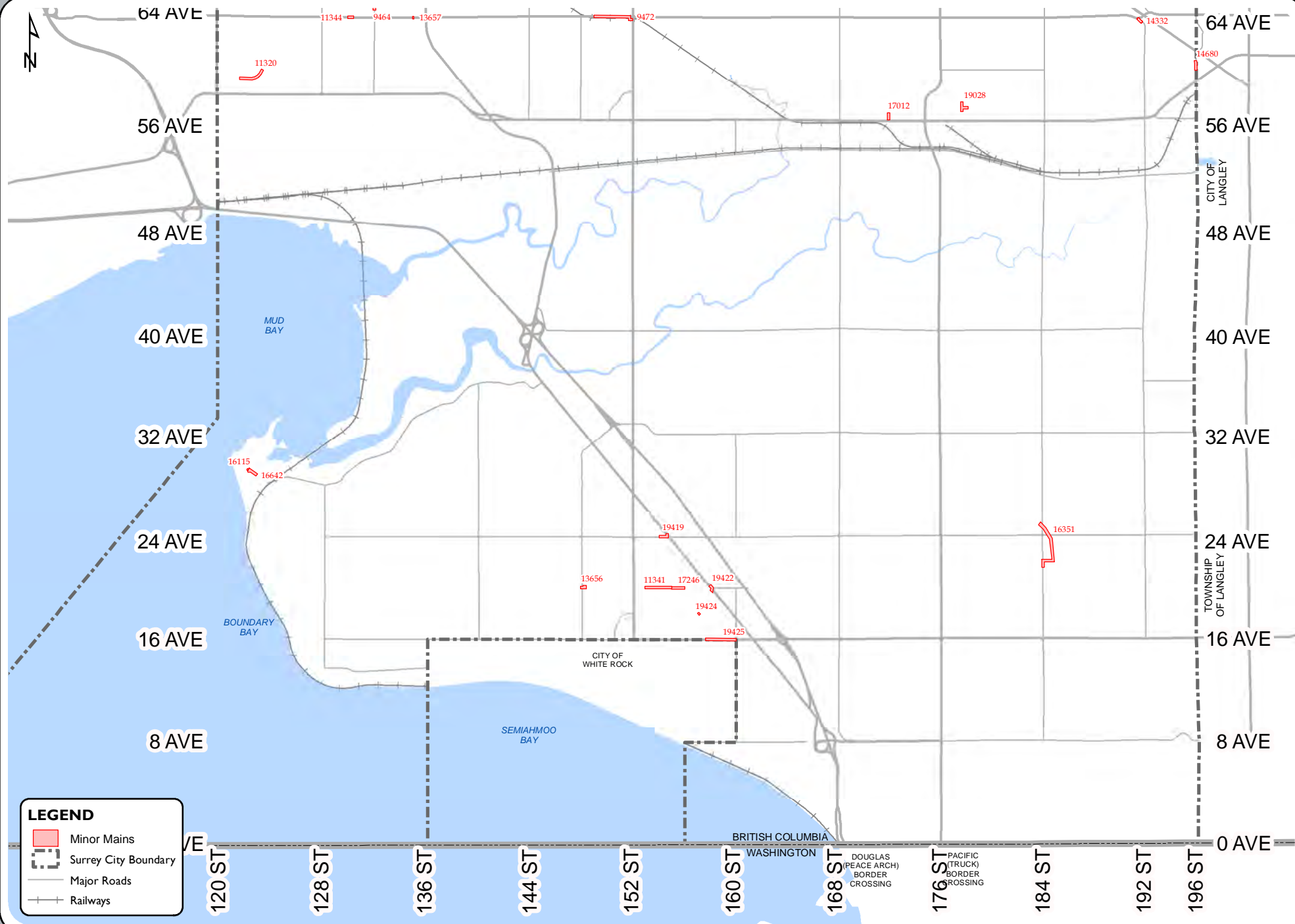
**FIGURE 4.2 - Sewer
Minor Mains < 450mm (Program 1632)**

The data provided is compiled from various sources and IS NOT warranted as to its accuracy or sufficiency by the City of Surrey.
This information is provided for information and convenience purposes only. Lot sizes, legal descriptions and encumbrances must be confirmed at the Land Title Office.

Date Printed: 2022-01-07 Cartographer: P205934 © City of Surrey
Source: G:\MAPPING\GIS\Maps\Recurring\4_CCP\10yrCCP_Plan\10yrServicingPlan2022-31\Figure4-2-SewerNorth.mxd

**GIS SECTION
ENGINEERING**

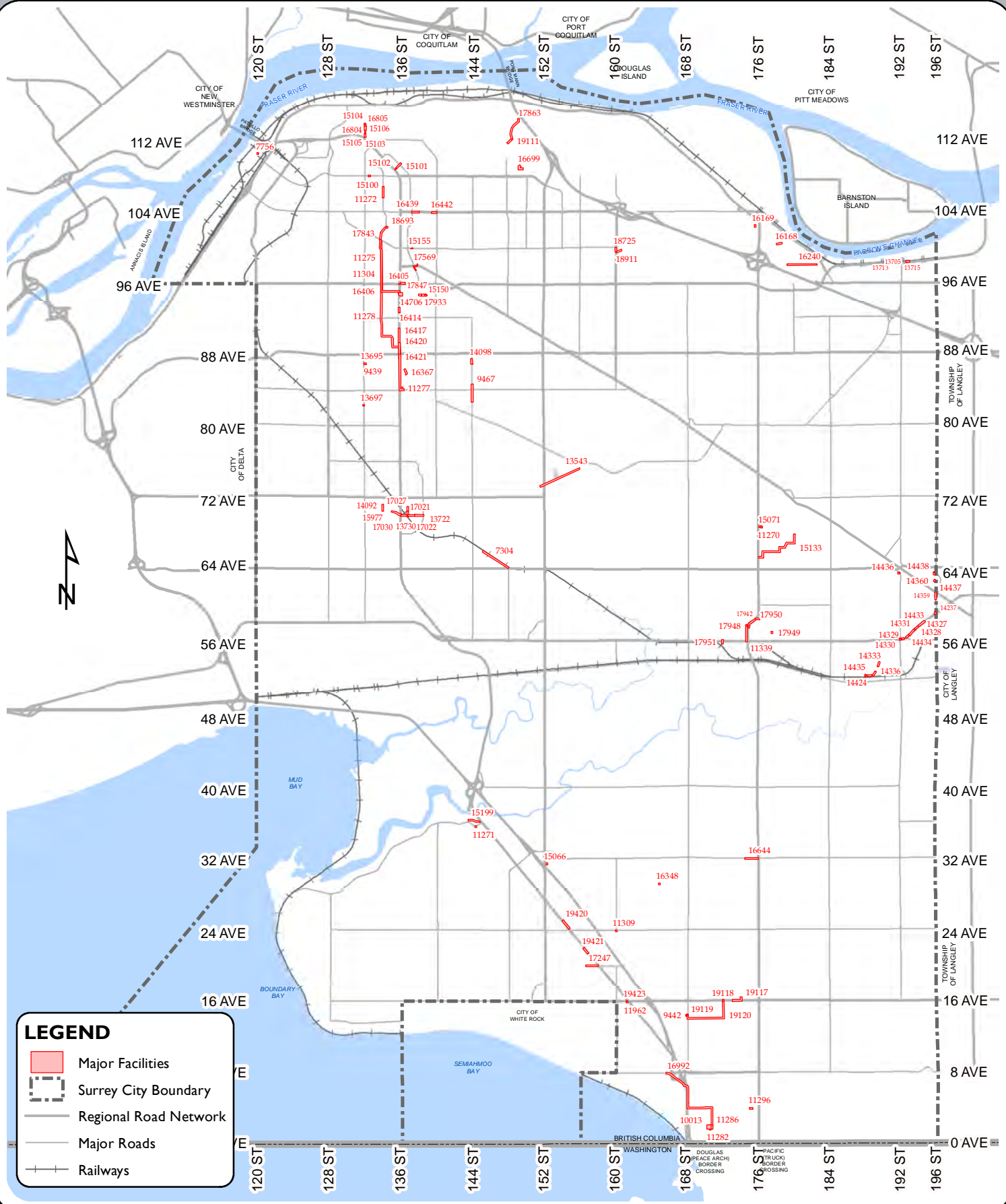




**FIGURE 4.2 - Sewer
Minor Mains < 450mm (Program 1632)**

The data provided is compiled from various sources and IS NOT warranted as to its accuracy or sufficiency by the City of Surrey.
This information is provided for information and convenience purposes only. Lot sizes, legal descriptions and encumbrances must be confirmed at the Land Title Office.

Date Printed: 2022-01-07 Cartographer: P205934 © City of Surrey
Source: \\file-server2\ENGINEERING\GIS\Maps\Recurring\4_CCP10yrCCP_Plan\10yrServicingPlan2022-31\Figure4-2-SewerSouth.mxd



**FIGURE 4.3 - Sewer
Major Facilities (Program 1644)**

0 0.5 1 2 3 4 5 KM
SCALE: 1:15,000

SEWER

Program 1632 - S - Minor Mains <450mm dia

Program Total					78,191,386	16,863,486	61,327,900	-	-
Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding	
8934	720m of 375mm diameter	084 Ave: 12450 - 128 St	Short Term (1 - 5 Yrs)	1,886,000	1,886,000	-	-	-	-
9463	200m of 250mm diameter	132 St: 072 - 073 Ave	Long Term (6 - 10 Yrs)	595,000	357,000	238,000	-	-	-
9464	235m of 250mm diameter	132 St and 64A Ave to 13255 65A Ave	Long Term (6 - 10 Yrs)	510,700	408,500	102,200	-	-	-
9465	45m of 250mm diameter	132 St: 073A Ave to 7360	Long Term (6 - 10 Yrs)	139,800	111,800	28,000	-	-	-
9466	51m of 250mm diameter	135 St: 064A Ave to 065A Ave	Long Term (6 - 10 Yrs)	99,400	79,500	19,900	-	-	-
9472	660m of 375mm diameter	064 Ave: 149 St to 152 St	Long Term (6 - 10 Yrs)	2,134,800	2,134,800	-	-	-	-
10139	Bear Creek Erosion Protection & Sewer Diversion	Bear Creek at 8700 blk and KG Hwy	Short Term (1 - 5 Yrs)	561,800	-	561,800	-	-	-
11320	415m of 375 diameter	Boundary Dr. South: Boundary Cres - 12181 (N)	Long Term (6 - 10 Yrs)	966,500	966,500	-	-	-	-
11341	390m of 375mm diameter	020 Ave: #15305 to 155 St	Short Term (1 - 5 Yrs)	1,337,100	1,337,100	-	-	-	-
11344	90m of 300mm diameter	064 Ave: 130 St - 13031 64 Ave	Long Term (6 - 10 Yrs)	278,200	222,600	55,600	-	-	-
11353	130m of 200mm diameter	092 Ave: 137A St to lot 13684 (flow diversion)	Short Term (1 - 5 Yrs)	376,800	301,400	75,400	-	-	-
11361	20m of 200mm diameter	111A Ave / 146 St (flow diversion)	Long Term (6 - 10 Yrs)	37,600	37,600	-	-	-	-
13622	DCCFE: 140m of 300mm diameter	168 St: 102 Ave - 103 Ave	Long Term (6 - 10 Yrs)	53,200	53,200	-	-	-	-
13626	21m of 300mm diameter	122 St: lot 6935 (south, in park)	Long Term (6 - 10 Yrs)	35,400	28,300	7,100	-	-	-
13630	DCCFE: 126m of 250mm diameter	168 St: 103 Ave to 10362 168 St	Long Term (6 - 10 Yrs)	48,000	48,000	-	-	-	-
13631	DCCFE: 60m of 250mm diameter	168 St: 104 Ave to 10362 168 St	Long Term (6 - 10 Yrs)	22,800	22,800	-	-	-	-
13638	26m of 300mm diameter	100 Ave: lot 14345 - 143A St	Long Term (6 - 10 Yrs)	52,500	42,000	10,500	-	-	-
13652	98m of 300mm diameter	122 St: 76 - 76A Ave	Short Term (1 - 5 Yrs)	197,700	158,200	39,500	-	-	-
13656	Semiahmoo TC NCP: 109m of 300mm diameter sewer	020 Ave: 148 St - Lot 14845	NCP Driven	156,000	156,000	-	-	-	-
13657	16m of 300mm diameter	064 Ave: lot 13498 - lot 13514	Long Term (6 - 10 Yrs)	44,800	44,800	-	-	-	-
13662	46m of 300mm diameter	155A st: 15547 95 Ave to 34A utility ROW (ROW1982-0021)	Long Term (6 - 10 Yrs)	153,900	153,900	-	-	-	-
13707	86m of 375mm diameter (Port Kells)	098A Ave: 192 St to 19287 98A Ave	Long Term (6 - 10 Yrs)	253,400	202,700	50,700	-	-	-
13708	24m of 375mm diameter (Port Kells)	192 St / 98A Ave (intersection)	Long Term (6 - 10 Yrs)	70,800	56,600	14,200	-	-	-
13710	37m of 375mm diameter	Highway 1: 156 St to ROW E1987-0184	Long Term (6 - 10 Yrs)	65,400	52,400	13,000	-	-	-
13711	135m of 375mm diameter (Port Kells)	098A Ave:19287 to 19339	Long Term (6 - 10 Yrs)	397,600	318,100	79,500	-	-	-
13765	57m of 375mm diameter sewer upgrade	123 St: lot 8482 (ROW E1975-0018)	Long Term (6 - 10 Yrs)	137,200	109,700	27,500	-	-	-
14103	Rehab & Replacement of Minor Mains	Various Locations	Long Term (6 - 10 Yrs)	5,400,000	-	5,400,000	-	-	-
14332	Langley Bypass: 79m of 250mm diameter twinning (DCCI	19146 64 Ave - 6363 192 St	Long Term (6 - 10 Yrs)	44,930	44,930	-	-	-	-
14679	Langley Bypass: 220m of 300mm diameter twinning	194A St: SouthPL of 7185 to 71 Ave	Long Term (6 - 10 Yrs)	496,500	496,500	-	-	-	-
14680	Langley Bypass: 150m of 375mm diameter twinning	196 St: 6039 - 60 Ave	Long Term (6 - 10 Yrs)	457,500	457,500	-	-	-	-
15138	City Centre NCP: 101m of 375mm diameter_Updated to	139 St: 96 Ave to Tallon Pl	Short Term (1 - 5 Yrs)	257,900	257,900	-	-	-	-
15139	City Centre NCP: 115m of 250mm diameter	King George Blvd: lot 9457 (Queen Elizabeth SS)	NCP Driven	258,500	258,500	-	-	-	-
15142	City Centre NCP: 9m of 375mm diameter	108 Ave / 132A St	NCP Driven	16,000	16,000	-	-	-	-
15144	City Centre NCP: 51m of 300mm diameter	100 Ave: 140St to 13969 100 Ave	NCP Driven	138,400	138,400	-	-	-	-
15146	City Centre NCP: 85m of 375mm diameter	139 St: 9506 139 St to Tallon Pl	Short Term (1 - 5 Yrs)	223,200	223,200	-	-	-	-
15147	City Centre NCP: 103m of 375mm diameter	Lane east of KGB, south of 105A Ave	NCP Driven	240,400	240,400	-	-	-	-
15149	City Centre NCP: 61m of 375mm diameter	139St: 94A Ave to 9506 139 St	Short Term (1 - 5 Yrs)	149,000	149,000	-	-	-	-
15164	City Centre NCP: 71m of 250mm diameter	King George Blvd: lot 9457 (Queen Elizabeth SS)	NCP Driven	232,700	232,700	-	-	-	-
15244	120m of 375mm Sanitary Sewer Flow Diversion	124 St / 82 Ave	Short Term (1 - 5 Yrs)	224,700	224,700	-	-	-	-
15952	254 m of 200 mm diameter (FRRS)	110 Ave: 14790 to 14670	Short Term (1 - 5 Yrs)	351,900	-	351,900	-	-	-
15955	254 m of 250 mm diameter (FRRS)	108 Ave:14560 to 14440	Short Term (1 - 5 Yrs)	831,600	-	831,600	-	-	-
15958	690 m of 200 mm diameter (Birdland FRRS)	107 Ave: 14613 to 10705 148 St	Long Term (6 - 10 Yrs)	1,930,700	-	1,930,700	-	-	-
16115	DMAF: 10m of 200mm diameter main	Sullivan St: Kidd Rd to Sullivan pump station	Short Term (1 - 5 Yrs)	337,100	-	337,100	-	-	-
16351	922m of 300mm diam trunk Redwood Heights (outside I	Catchment S6 Redwood Heights	NCP Driven	1,455,956	1,455,956	-	-	-	-

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Program 1632 - S - Minor Mains <450mm dia

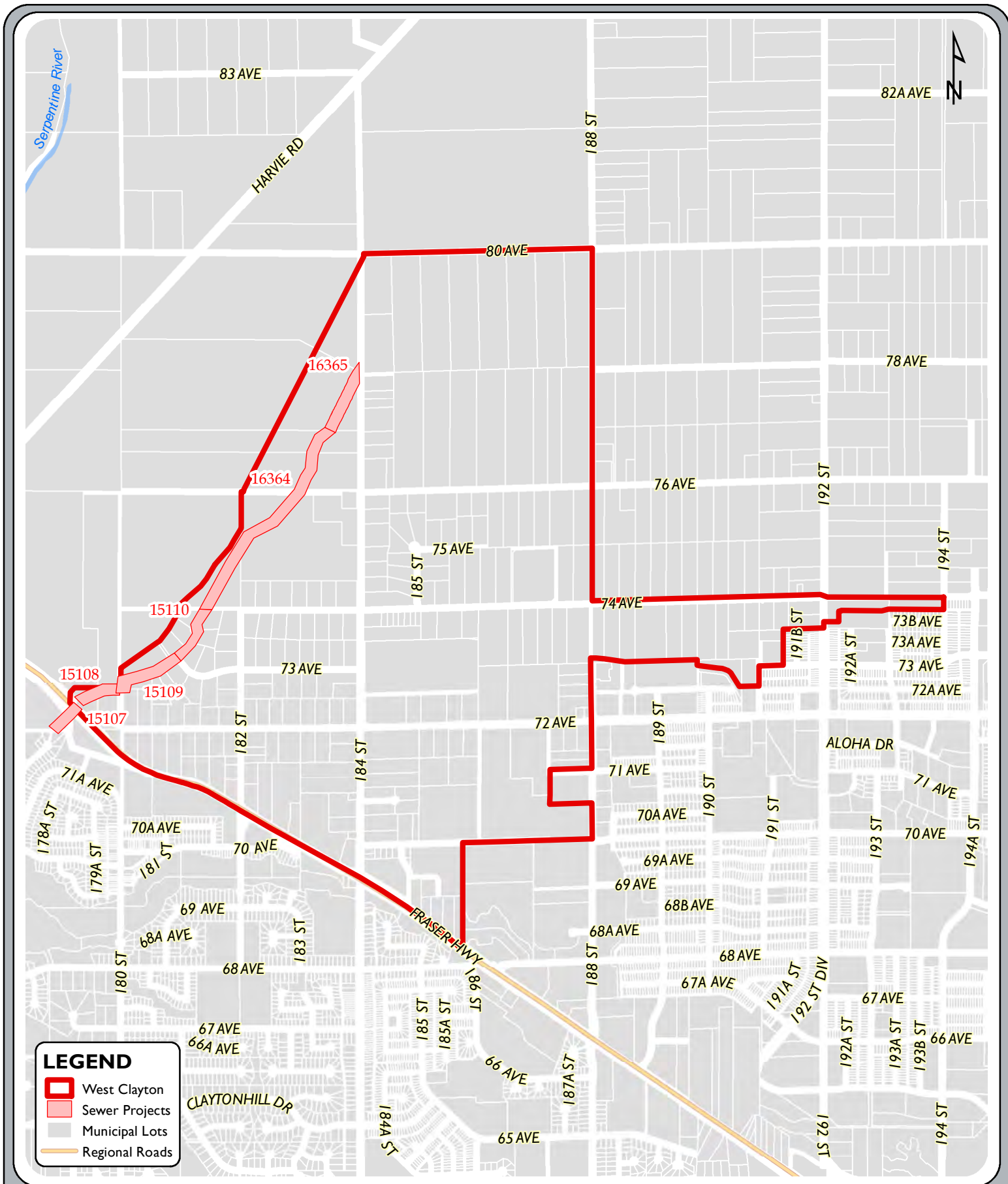
Program Total				78,191,386	16,863,486	61,327,900	-	-
16642	DMAF: 190m of 200mm diameter main	Mckenzie Ave: Sunshine-Sullivan; Sullivan St: Kidd to Gor	Short Term (1 - 5 Yrs)	448,700	-	448,700	-	-
16765	245m of 200mm diameter (Robson Ph1)	99A Ave: 122 - 123A St	Short Term (1 - 5 Yrs)	898,900	-	898,900	-	-
16912	582m of 200mm to 250mm diam (Robson Replacement	Grove Cr:12502 99 Ave to woodland Pl	Short Term (1 - 5 Yrs)	1,377,900	-	1,377,900	-	-
16915	716m of 200mm to 250mm diameter sewers (Robson)	Robson South Area	Long Term (6 - 10 Yrs)	1,674,900	-	1,674,900	-	-
16922	1310m of 200mm to 250mm diam sewer (Birdland Repl	Birdland North Area	Short Term (1 - 5 Yrs)	3,646,900	-	3,646,900	-	-
16925	250m of 200mm diameter sewers (Birdland Replacemen	Partridge Cr: 10960 to Blackbird Cr	Short Term (1 - 5 Yrs)	635,200	-	635,200	-	-
16926	645m of 200mm to 250mm diam (Birdland Replacement	110 Ave to 111A Ave: 146 St to 147A St.	Long Term (6 - 10 Yrs)	1,526,400	-	1,526,400	-	-
16947	507m of 200mm to 250mm diameter sewers(Robson)	96B Ave at 128A St	Long Term (6 - 10 Yrs)	1,418,600	-	1,418,600	-	-
16949	1633m of 200mm diameter sewers (Birdland)	108 Ave to 110 Ave: 144A St to 148 St	Long Term (6 - 10 Yrs)	4,600,000	-	4,600,000	-	-
16995	Newton TC NCP: 53m of 250mm diam	72 Ave: 13671 to 137 St	NCP Driven	111,000	111,000	-	-	-
17012	Cloverdale TC NCP: 92m of 375mm Diam	172 St: At 17277 56 Ave	NCP Driven	219,100	219,100	-	-	-
17017	Newton TC NCP: 91m of 300mm Diam	137 St:72 Ave to 71A Ave	NCP Driven	177,100	177,100	-	-	-
17018	Newton TC NCP: 152m of 375mm Diam	137 St:71A Ave to 71 Ave	NCP Driven	290,900	290,900	-	-	-
17134	6m Sag Repair on 200mm Sewer	80 Ave and 133A St	Short Term (1 - 5 Yrs)	15,700	-	15,700	-	-
17246	210m of 375mm diameter	20 Ave: 155 St to 156 St	Short Term (1 - 5 Yrs)	693,200	693,200	-	-	-
17484	1110m of 200 to 375mm Sewers (Robson Replacement)	127A St to 128 St; 102 Ave to 99 Ave	Short Term (1 - 5 Yrs)	3,134,800	-	3,134,800	-	-
17485	1298m of 200mm to 250mm diam (Robson Replacemen	99 Ave and 128 St	Short Term (1 - 5 Yrs)	3,436,400	-	3,436,400	-	-
17499	900m of 200mm diam (Robson Replacement)	130 St: 96A Ave to 98A Ave	Long Term (6 - 10 Yrs)	2,106,300	-	2,106,300	-	-
17502	440m of 200mm diam (Royal Heights)	Royal Heights (96A Ave:Townline Div to 116 Ave)	Short Term (1 - 5 Yrs)	1,017,500	-	1,017,500	-	-
17840	889m of 200mm to 300mm diam (Robson Replacement)	98 Ave: 125A st to 128 St	Short Term (1 - 5 Yrs)	2,055,400	-	2,055,400	-	-
17841	928m of 200mm diam (Robson Replacement)	96B Ave to 97A Ave, 126 St to 128 st	Short Term (1 - 5 Yrs)	2,174,700	-	2,174,700	-	-
17842	592m of 200mm to 250mm diam (Robson Replacement)	N of 96 Ave: 126 St to 128 St	Short Term (1 - 5 Yrs)	1,236,000	-	1,236,000	-	-
17844	65m of 200mm diameter sewers (Birdland)	Lane North of 109A Ave: #14763 to 148 St	Long Term (6 - 10 Yrs)	177,300	-	177,300	-	-
17850	1300m of 200-300mm diameter (Robson)	96 Ave to 98 Ave:124A St to 126 St	Short Term (1 - 5 Yrs)	2,829,500	-	2,829,500	-	-
17851	218m of 200-250mm diam. (Royal Heights)	Regal Dr: 11301 to River Rd	Long Term (6 - 10 Yrs)	610,000	-	610,000	-	-
17852	325m of 200mm diam (Royal Heights)	Princess Dr and Lane West of: 96A Ave to 97A Ave	Short Term (1 - 5 Yrs)	736,000	-	736,000	-	-
17853	355m of 200mm diam (Royal Heights)	115A St; 97 Ave; Crown Cr	Short Term (1 - 5 Yrs)	827,300	-	827,300	-	-
17862	275m of 200mm diameter sewer (Birdland FRRS)	150 St: Robin Cr to Lansdowne Dr	Short Term (1 - 5 Yrs)	594,100	-	594,100	-	-
17940	Newton TC NCP: 141m of 300mm to 375mm Diam	135 St: Lane North of 70B Ave to 70A Ave; and on KGB	Short Term (1 - 5 Yrs)	185,200	185,200	-	-	-
18078	100m of 200mm diam (Robson)	Lane East of 129A St: #10247 to 103 Ave	Short Term (1 - 5 Yrs)	241,600	-	241,600	-	-
18091	39m of 200mm diam	122 St; 102A Ave to Metro Vancouver main	Short Term (1 - 5 Yrs)	150,000	-	150,000	-	-
18415	820m of 200mm diameter sewer (Birdland West)	110 A Ave, 111 Ave, 146A St, and 147A St	Short Term (1 - 5 Yrs)	2,070,800	-	2,070,800	-	-
18694	350m of 200mm diameter sewer (Birdland)	Canary Dr: #14943 to #15134	Short Term (1 - 5 Yrs)	955,100	-	955,100	-	-
18695	110m of 200mm diameter sewer (Birdland)	Dove Pl: #15144 to Raven Pl	Short Term (1 - 5 Yrs)	300,100	-	300,100	-	-
18696	110m of 200mm diameter sewer (Birdland)	Raven Pl: #15139 to #15117	Short Term (1 - 5 Yrs)	300,100	-	300,100	-	-
18697	455m of 200mm to 300mm diameter sewer (Birdland)	152 St, Flamingo, Hummingbird	Long Term (6 - 10 Yrs)	1,278,700	-	1,278,700	-	-
18700	760m of 250mm to 375mm diameter sewer (AC Repl)	132 St: 108 Ave to King George Blvd	Long Term (6 - 10 Yrs)	2,831,600	-	2,831,600	-	-
18701	600m of 200mm to 250mm diameter sewer (AC Repl)	108 ave to 109 Ave; 130A St to 132 St	Long Term (6 - 10 Yrs)	1,640,600	-	1,640,600	-	-
18702	945m of 200mm diameter sewer (AC Repl)	131 St to 132 St; 109 Ave to 111 Ave	Long Term (6 - 10 Yrs)	2,636,200	-	2,636,200	-	-
18704	174m of 200mm diam sewer (Royal Heights)	Queens Pl: 96 Ave to River Rd	Long Term (6 - 10 Yrs)	474,800	-	474,800	-	-
19028	245m of 250mm & 375mm diameter sewer	177B St and 57 Ave	Short Term (1 - 5 Yrs)	420,000	420,000	-	-	-
19107	55m of 200mm sewer	Regal Dr: Regent Pl to 11291	Short Term (1 - 5 Yrs)	82,000	-	82,000	-	-
19110	170m of 375mm diam sewer (Birdland)	111A Ave: 147A St to 148 St	Short Term (1 - 5 Yrs)	400,100	-	400,100	-	-
19277	202m of 200mm to 250mm diameter sewer (AC Replace	131A St and 112 Ave	Long Term (6 - 10 Yrs)	469,500	-	469,500	-	-
19278	60m of 300mm diameter sewers (AC Repl Birdland)	Blackbird Cr: Oriole Dr to Partridge Cr	Long Term (6 - 10 Yrs)	144,000	-	144,000	-	-
19419	Semiahmoo TC NCP: 137m of 250mm to 375mm diamet	24 Ave: 154 St to King George Blvd	NCP Driven	499,100	499,100	-	-	-
19422	Semiahmoo TC NCP: 110m of 250mm diam sewer	King George Blvd: #2062 to #1972	NCP Driven	313,700	313,700	-	-	-

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Program 1632 - S - Minor Mains <450mm dia

19424	Semiahmoo TC NCP: 8m of 300mm diam sewer	18 Ave and Flower Rd
19425	Semiahmoo TC NCP: 484m of 300mm diam	16 Ave: #15751 to 160 St

Program Total	78,191,386	16,863,486	61,327,900	-	-
NCP Driven	16,600	16,600	-	-	-
NCP Driven	452,400	452,400	-	-	-



SEWER

Program 1644 - S - Major Facilities

Program Total	112,967,392	97,887,992	15,079,400	-	-
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Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding
7304	700m of 750mm diameter	Hyland Rd: 066 - 064 Ave	Long Term (6 - 10 Yrs)	2,192,100	2,192,100	-	-	-
7756	Steep Grade Lift Stations	11977-Old Yale Road - immediate opposite 11048 Oslen	Long Term (6 - 10 Yrs)	2,969,400	2,524,000	445,400	-	-
9439	50m of 675mm diameter relief trunk	132 St, North of Shakespeare Place	Short Term (1 - 5 Yrs)	160,900	160,900	-	-	-
9442	DCCFE: Grandview South/Fergus Pump Station & Force	168 St / 13 Ave	Long Term (6 - 10 Yrs)	1,475,652	1,475,652	-	-	-
9467	400m of 525mm diameter relief sewer	144 St: 082A Ave - 8469	Long Term (6 - 10 Yrs)	1,409,600	1,127,700	281,900	-	-
10013	DCCFE: Emergency Storage for Douglas Pump Stn (West)	171 St / 002 Ave	Long Term (6 - 10 Yrs)	300,000	300,000	-	-	-
11270	WC NCP: North Cloverdale PS Upgrade Phase 1	176 St / 68 Ave	NCP Driven	2,782,400	2,782,400	-	-	-
11271	Pinch Valve Replacement at Crescent Road	144 St / Crescent Rd (N)	Long Term (6 - 10 Yrs)	224,300	224,300	-	-	-
11272	295m of 1200mm diameter twinning	University Dr: 105A Ave to 10665	Short Term (1 - 5 Yrs)	2,300,000	2,300,000	-	-	-
11275	Bear Creek Relief PS FM - 1195m of 650mm forcemain	134 St/95 Ave North to Old Yale Rd/University Dr	Short Term (1 - 5 Yrs)	4,330,300	4,330,300	-	-	-
11277	Bear Creek Relief Pump Station	King George Blvd and 84 Ave	Short Term (1 - 5 Yrs)	12,000,000	12,000,000	-	-	-
11278	Bear Creek Relief PS FM: 2,820m of 650mm forcemain	134 St: 95 Ave to 90 Ave, 135A St, 89A Ave, KGB, 84 Ave	Short Term (1 - 5 Yrs)	7,363,800	7,363,800	-	-	-
11281	Odour Control Facility	Various Locations	Long Term (6 - 10 Yrs)	2,500,000	625,000	1,875,000	-	-
11282	Douglas Pump Station West Surge Tank	171 St / 002 Ave	Long Term (6 - 10 Yrs)	505,600	505,600	-	-	-
11286	Douglas Pump Station Relocation	171 St / 002 Ave (N)	Long Term (6 - 10 Yrs)	1,649,400	1,649,400	-	-	-
11287	Pump Stations Upgrades	Various Locations	Annual	5,000,000	-	5,000,000	-	-
11296	Peace Portal Pump Station Upgrade - 3rd pump	17510 4 Ave	Long Term (6 - 10 Yrs)	398,000	398,000	-	-	-
11304	Quibble Creek PS FM Twinning - 1,705m of 600mm force	QC PS West to 134 St and North to Old Yale Rd/Universit	Short Term (1 - 5 Yrs)	6,860,000	6,860,000	-	-	-
11309	Grandview South P.S. Odour Control at outlet	24 Ave and 160 St	Long Term (6 - 10 Yrs)	1,013,600	1,013,600	-	-	-
11339	WC NCP: Cloverdale TS - 414m of 1350mm diameter	175 St: Cloverdale By-pass - Hwy 10	Long Term (6 - 10 Yrs)	3,200,000	3,200,000	-	-	-
11962	Semiahmoo TC NCP: North Bluff Pump Station Upgrades	16 Ave/KGB	Long Term (6 - 10 Yrs)	2,338,700	2,338,700	-	-	-
13543	Lower Tynehead Siphon Capacity Upgrades (3rd Siphon)	7507 156 St to 15144 73B Ave	Long Term (6 - 10 Yrs)	5,300,000	5,300,000	-	-	-
13695	13m of 675mm diameter	132 St: lot 8696 (street crossing)	Short Term (1 - 5 Yrs)	48,500	43,600	4,900	-	-
13697	29m of 525mm diameter	132 St: 82A Ave - lot 8217	Long Term (6 - 10 Yrs)	93,800	18,800	75,000	-	-
13705	92m of 450mm diameter (Port Kells)	098A Ave:19219 to 19287	Long Term (6 - 10 Yrs)	284,200	56,800	227,400	-	-
13713	99m of 600mm diameter (Port Kells)	98A Ave: 19031 to 9875 (along Railway)	Long Term (6 - 10 Yrs)	334,600	66,900	267,700	-	-
13715	97m of 600mm diameter (Port Kells)	98A Ave: 192 St to 9875 (ROW E1976-0309)	Long Term (6 - 10 Yrs)	327,800	65,600	262,200	-	-
13722	191m of 525mm diameter	70 Ave: 137A to 138 St	Long Term (6 - 10 Yrs)	502,900	402,300	100,600	-	-
13730	157m of 525mm to 675 mm diameter	70 Ave: 136B St to 137A St	Short Term (1 - 5 Yrs)	443,200	354,600	88,600	-	-
14092	138m of 450mm diameter	134 St: 070B Ave to #7125	Long Term (6 - 10 Yrs)	373,100	373,100	-	-	-
14098	122m of 525mm diameter sewer upgrade	144 St: 8684 - 8734	Long Term (6 - 10 Yrs)	459,900	459,900	-	-	-
14237	Langley Bypass: 32m of 525mm diameter (DCCFE)	Hwy 10/196 St	Long Term (6 - 10 Yrs)	30,800	30,800	-	-	-
14327	Langley Bypass: 150m of 600mm diameter twinning (DCCF 19425 Hwy 10		Long Term (6 - 10 Yrs)	127,580	127,580	-	-	-
14328	Langley Bypass: 40m of 900mm diameter twinning (DCCF 19372 Hwy 10		Long Term (6 - 10 Yrs)	32,930	32,930	-	-	-
14329	Langley Bypass: 83m of 675mm diameter twinning (DCCF 19289 - 19262 Hwy 10		Long Term (6 - 10 Yrs)	89,500	89,500	-	-	-
14330	Langley Bypass: 29m of 750mm diameter twinning (DCCF 19225 Hwy 10		Long Term (6 - 10 Yrs)	48,840	48,840	-	-	-
14331	Langley Bypass: 20m of 600mm diameter twinning (DCCF Hwy 10/192 St		Long Term (6 - 10 Yrs)	44,460	44,460	-	-	-
14333	Langley Bypass: 84m of 450mm diameter twinning (DCCF 5358 - 189 St East side ROW		Long Term (6 - 10 Yrs)	66,550	66,550	-	-	-
14334	Langley Bypass: 113m of 525mm diameter twinning (DCCF 052 Ave: south of 18833		Long Term (6 - 10 Yrs)	34,380	34,380	-	-	-
14335	Langley Bypass: 50m of 675mm diameter twinning (DCCF 052 Ave: South of 18833		Long Term (6 - 10 Yrs)	122,960	122,960	-	-	-
14336	Langley Bypass: 10m of 1200mm diameter twinning (DCCF 052 Ave/188 St		Long Term (6 - 10 Yrs)	13,630	13,630	-	-	-
14359	Langley Bypass: 139m of 525mm diameter twinning	196 St: south of Fraser Hwy	Short Term (1 - 5 Yrs)	449,700	449,700	-	-	-
14360	Langley Bypass: 56m of 525mm diameter twinning	195B St: 6332 - 6324	Short Term (1 - 5 Yrs)	130,500	130,500	-	-	-
14424	Langley Bypass: 93m of 675mm diameter twinning	18872 - 52 Ave	Long Term (6 - 10 Yrs)	47,870	47,870	-	-	-
14433	Langley Bypass: 110m of 600mm diameter twinning (DCCF 19415 - 19395 Hwy 10		Long Term (6 - 10 Yrs)	90,270	90,270	-	-	-
14434	Langley Bypass: 151m of 600mm diameter twinning (DCCF 19360 - 19300 Hwy 10		Long Term (6 - 10 Yrs)	123,270	123,270	-	-	-
14435	Langley Bypass: 18m of 600mm diameter twinning (DCCF 19219 Hwy 10		Long Term (6 - 10 Yrs)	47,200	47,200	-	-	-

SEWER

Program 1644 - S - Major Facilities

			Program Total	112,967,392	97,887,992	15,079,400	-	-
14436	Langley Bypass: 30m of 250mm diameter twinning (DCCF 6355 192 St: ROW 1991-0400	Long Term (6 - 10 Yrs)	7,240	7,240	-	-	-	-
14437	Langley Bypass: 17m of 525mm diameter twinning 062A Ave/195B St	Short Term (1 - 5 Yrs)	39,600	39,600	-	-	-	-
14438	Langley Bypass: 17m of 525mm diameter twinning 063A Ave/195B St	Short Term (1 - 5 Yrs)	39,600	39,600	-	-	-	-
14706	Quibble Creek Pump Station Upgrade King George Blvd / 94A Ave	Short Term (1 - 5 Yrs)	2,358,200	2,358,200	-	-	-	-
15066	Odour Pre-treatment Facility for Rosemary Heights Bio-b Croydon Dr: Lot 3144 (Rosemary Heights Bio-bed)	Short Term (1 - 5 Yrs)	1,350,000	-	1,350,000	-	-	-
15071	WC NCP: North Cloverdale PS Overflow Storage Tank Ph 176 St/68 Ave (N)	NCP Driven	1,856,000	1,856,000	-	-	-	-
15100	City Centre NCP: 16m of 450mm diameter 108 Ave / 132A St (intersection)	NCP Driven	49,400	49,400	-	-	-	-
15101	City Centre NCP: 153m of 450mm diameter Bentley Rd: 13546 to Hilton Rd	NCP Driven	522,800	522,800	-	-	-	-
15102	City Centre NCP: 43m of 525mm diameter Bentley Rd: King George Blvd to 13546 Bentley Rd	NCP Driven	151,900	151,900	-	-	-	-
15103	City Centre NCP: 86m of 900mm diameter 132 St: 11242 to 11279 132 St	Short Term (1 - 5 Yrs)	271,800	271,800	-	-	-	-
15104	City Centre NCP: 92m of 900mm diameter 132 St: 11299 to 11354 132 St	Short Term (1 - 5 Yrs)	334,600	334,600	-	-	-	-
15105	City Centre NCP: 62m of 900mm diameter 132 St: 112B Ave to 11299 132 St	Short Term (1 - 5 Yrs)	211,000	211,000	-	-	-	-
15106	City Centre NCP: 16m of 900mm diameter 132 St and 112B Ave (south of intersection)	Short Term (1 - 5 Yrs)	56,200	56,200	-	-	-	-
15133	WC NCP: 180th St Sewer Diversion (DCCFE) 180 St: 68 - 67 St; 67 St: 180 St - 67 Ave: Lot 17926; &mo	Long Term (6 - 10 Yrs)	345,910	345,910	-	-	-	-
15150	City Centre NCP: 12m of 450mm diameter 094A Ave / 139 St	Short Term (1 - 5 Yrs)	25,500	25,500	-	-	-	-
15155	City Centre NCP: 48m of 450mm diam sewer 100 Ave: 137A St to 13713 on the South side	Short Term (1 - 5 Yrs)	148,300	148,300	-	-	-	-
15190	Unallocated Allowance for Rehab & Replacement of Maj Various Location	Annual	3,000,000	-	3,000,000	-	-	-
15199	450mm diameter Flow Diversion King George Blvd - Elgin Rd: lot 3653 (South Port P.S.)	Short Term (1 - 5 Yrs)	1,033,710	310,110	723,600	-	-	-
15977	182m of 450 to 525 mm diameter King George Blvd: 7010 to 13720 70 Ave	Short Term (1 - 5 Yrs)	530,700	530,700	-	-	-	-
16168	DCCFE: 101m of 900mm diameter Sewer (LD 7816-0032- 17800blk of 100A Ave	Long Term (6 - 10 Yrs)	100,000	100,000	-	-	-	-
16169	DCCFE: 71m of 900mm diameter sewer (7816-0032-01) 10245 176 St	Long Term (6 - 10 Yrs)	155,580	155,580	-	-	-	-
16240	182A St Sanitary Pump Station and Forcemain 182A St and Hwy 17; 182A St: Hwy 17 to 98 Ave;	Short Term (1 - 5 Yrs)	1,712,900	1,712,900	-	-	-	-
16348	Odour Facility for GH East PS Redwood H (outside NCP c 16484 29A Ave	Long Term (6 - 10 Yrs)	325,100	325,100	-	-	-	-
16367	Bear Creek Trunk: 146m of 900mm diameter sewer main Bear Creek Park ROW	Long Term (6 - 10 Yrs)	491,100	491,100	-	-	-	-
16405	62m of 600mm diameter King George Blvd and 96 Ave	Short Term (1 - 5 Yrs)	209,400	167,500	41,900	-	-	-
16406	City Centre: 107m of 525mm diameter sanitary main 96 Ave east of King George Blvd	Short Term (1 - 5 Yrs)	346,200	346,200	-	-	-	-
16414	122m of 675mm diameter sanitary main King George Blvd: 9258 to 9310	Long Term (6 - 10 Yrs)	489,700	440,700	49,000	-	-	-
16417	337m of 675mm diameter sanitary main King George Blvd: 91 Ave to 89 Ave	Long Term (6 - 10 Yrs)	1,352,800	1,217,500	135,300	-	-	-
16420	248m of 750mm diameter sanitary main King George Blvd: 88 Ave to 89 Ave	Long Term (6 - 10 Yrs)	1,044,200	939,800	104,400	-	-	-
16421	84m of 750mm dia sanitary (KGB) King George Blvd: 8739 to 88 Ave	Long Term (6 - 10 Yrs)	328,900	296,000	32,900	-	-	-
16439	168m of 600mm dia sanitary 104 Ave: Whalley Blvd to 138 St	Long Term (6 - 10 Yrs)	616,500	554,800	61,700	-	-	-
16442	121m of 525mm dia sanitary - (104 Ave) 104 Ave: 13939 104 Ave to 140 St	Long Term (6 - 10 Yrs)	426,400	426,400	-	-	-	-
16644	307m of 600mm diam trunk Redwood Heights (outside 132 Ave: Highway 15 to 17436	NCP Driven	86,300	86,300	-	-	-	-
16699	160m of 600mm diameter trunk sewer (Birdland diversic Bluebird Cr, Oriole Dr	Long Term (6 - 10 Yrs)	525,400	-	525,400	-	-	-
16804	City Centre NCP: 44m of 900mm diameter 132 St: 113B Ave north	Short Term (1 - 5 Yrs)	175,400	175,400	-	-	-	-
16805	City Centre NCP: 9m of 900mm diameter & Tie-in to MV' 132 St: immediate west of lot 13208 114 Ave	Short Term (1 - 5 Yrs)	431,400	431,400	-	-	-	-
16992	1500m of 300mm diameter Forcemain - Douglas FM Twi Douglas PS to 8 Ave/165A St	Long Term (6 - 10 Yrs)	3,012,700	3,012,700	-	-	-	-
17021	Newton TC NCP: 65m of 450mm Diam 137 St: 71 Ave to 70 Ave	NCP Driven	128,800	128,800	-	-	-	-
17022	Newton TC NCP: 98m of 450mm Diam 137 St: 71 Ave to 70 Ave	NCP Driven	194,200	194,200	-	-	-	-
17027	Newton TC NCP: 216m of 450mm Diam 70 Ave: 135 St to KGB	Short Term (1 - 5 Yrs)	526,200	526,200	-	-	-	-
17030	Newton TC NCP: 4m of 675mm Diam 70 Ave at 136B St	Short Term (1 - 5 Yrs)	11,900	11,900	-	-	-	-
17247	280m of 450mm diameter 20 Ave: 15650 to King George Blvd	Short Term (1 - 5 Yrs)	749,600	749,600	-	-	-	-
17569	City Centre NCP: 225m of 900mm 138 St and Fraser Hwy West and South to 97B Ave and 1	Short Term (1 - 5 Yrs)	1,047,900	1,047,900	-	-	-	-
17843	Twin Forcemain: 600mm & 650mm ID University Dr between Old Yale Rd and 102 Ave	Short Term (1 - 5 Yrs)	1,827,400	1,827,400	-	-	-	-
17847	City Centre NCP: 91m of 450mm diameter_Updated to 1 9469 139 St Side Yard	Short Term (1 - 5 Yrs)	168,500	168,500	-	-	-	-
17863	535m of 675mm to 750mm diam Trunk Sewer (Birdland) Glen Avon Dr: Ellendale Dr to St Andrews Dr	Long Term (6 - 10 Yrs)	1,680,900	1,344,700	336,200	-	-	-
17933	City Centre NCP: 73m of 450mm diameter 9469 139 St Side Yard	Short Term (1 - 5 Yrs)	129,200	129,200	-	-	-	-
17942	Cloverdale TC NCP: 101m of 525mm diam 58A Ave: 5834 176 St to Cloverdale Bypass	NCP Driven	237,700	237,700	-	-	-	-
17948	Cloverdale TC NCP: 44m of 525mm Diam From 1/5 St to 1/44/ 5/ Ave, From 1/44/ 5/ Ave	NCP Driven	140,200	140,200	-	-	-	-

SEWER

Program 1644 - S - Major Facilities

				Program Total	112,967,392	97,887,992	15,079,400	-	-
17949	Cloverdale TC NCP: 51m of 450mm Diam	Lane W of 177B St: 56A Ave to 5677 177B St	NCP Driven		119,300	119,300	-	-	-
17950	Cloverdale TC NCP: 227m of 525mm Diam	Cloverdale Bypass:58A Ave to 57A Ave	NCP Driven		733,300	733,300	-	-	-
17951	Cloverdale TC NCP: 69m of 450mm Diam	172 St:17277 56 Ave to 5580 172 St	NCP Driven		213,700	213,700	-	-	-
18693	Odour Control Facility	University Dr and 102 Ave	Short Term (1 - 5 Yrs)		1,060,000	1,060,000	-	-	-
18725	103m of 750mm diameter sewer	160 St: #9945 to 100 Ave	Long Term (6 - 10 Yrs)		464,100	464,100	-	-	-
18911	110m of 675mm diameter trunk sewer (Upper Tynehead South of 99B Ave: 160 St East to the Tynehead Siphons		Long Term (6 - 10 Yrs)		257,600	257,600	-	-	-
19111	150m of 675mm diam trunk sewer (Birdland) FRRS	Ellendale Dr: Blackbird Cr to Glen Avon Dr	Short Term (1 - 5 Yrs)		451,800	361,500	90,300	-	-
19117	316m of 450mm to 600mm diameter sewer (Darts Hill N	174 St: 16A Ave to 16 Ave; 16 Ave: 173 St to 174 St	NCP Driven		736,660	736,660	-	-	-
19118	26.9m of 600mm Trunk Sewer (Darts Hill NCP)	172 St and 16 Ave to Siphon	Short Term (1 - 5 Yrs)		78,800	78,800	-	-	-
19119	Fergus PS Upgrade (Darts Hill NCP)	Fergus PS (1400 Blk and 168 St)	Short Term (1 - 5 Yrs)		400,000	400,000	-	-	-
19120	Twin Siphon Sanitary Sewer (Darts Hill NCP)	172 St & 16 Ave to Fergus PS	Short Term (1 - 5 Yrs)		5,236,400	5,236,400	-	-	-
19420	Semiahmoo TC NCP: 255m of 450mm diam sewers	King George Blvd: 54 Ave to #2500	NCP Driven		829,900	829,900	-	-	-
19421	Semiahmoo TC NCP: 164m of 450mm diam sewers	King George Blvd: #2205 to #2143	NCP Driven		704,100	704,100	-	-	-
19423	Semiahmoo TC NCP: 11m of 450m diam	King George Blvd and 16 Ave (North Bluff PS)	NCP Driven		34,600	34,600	-	-	-

5. DRAINAGE

The City's drainage basins are comprised of upland and lowland areas. Generally, the upland areas are being urbanized while the lowlands are within the designated Agricultural Land Reserve ("ALR"), with the exception of the Fraser River and Crescent Beach floodplain areas. The City drains to four rivers - the Serpentine, Nicomekl, Little Campbell and Fraser Rivers - through a network of watercourses (rivers, creeks and ditches) and storm sewers.

These watercourses are habitat areas that support aquatic life, including various species of Pacific salmon. In general, the upland drainage system operates as a free-flowing gravity system through open watercourses and storm sewers. The lowland drainage system's operation is impacted by the diurnal ocean tides and the extended wet weather of Pacific Northwest winters, and relies on a system of dyking, floodplain storage and pump stations.

The diverse meteorological, hydrological, topographical and eco-system characteristics of the City's watersheds and watercourses have created a complex drainage environment with distinct rainfall-runoff impact control needs. This poses many challenges in developing and managing a viable servicing scheme for the City, as mandated by the *Local Government Act*, that addresses current and long-term needs based on the current characteristics and those that may be impacted through climate change, including sea level rise.

The 10-Year Servicing Plan aims to ensure the City's drainage utility provides a high level of service within the natural constraints highlighted above. This includes operation and maintenance of the existing system; planning, design and construction of new infrastructure to support growth and development; and monitoring system performance. Climate adaptation investigations to determine vulnerable areas and projected servicing requirements are also a part of the Servicing Plan.

5.1 Drainage Inventory

The drainage system in the City is comprised of a combination of storm sewer systems in urban areas, constructed drainage ditches and canals in the more rural and older urban areas, and natural watercourses, streams and rivers. The current estimated inventory is shown in **Table 5.1**.

Table 5.1 – Major Drainage System Infrastructure Summary

Storm Sewers	2,067 km
Ditches	1,051 km
Watercourses	306 km
Serpentine River	31 km
Nicomekl River	21 km
Campbell River	15 km
TOTAL	3,491 km

5.2 Drainage Program Needs

The capital needs for drainage comprise various programs of work to meet the needs of the existing residents as well as new growth.

Programs dealing with servicing existing residents are focused on infrastructure to address the following:

- Public safety;
- Preserving aquatic habitat;
- Avoiding property damage from flooding and land erosion;
- Reducing inconvenience to the public from problems like localized ponding; and
- Climate change adaptation.

The growth-related programs of works identified are intended to:

- Meet the drainage servicing needs for new growth; and
- Mitigate and eliminate any downstream impacts associated with growth.

Figure 5.1 provides an overview of the City's drainage system.

The works included in the 10-Year Servicing Plan reflect the current design criteria requirements, policies to promote orderly development, and protection of natural watercourses including the more holistic approaches proposed in Master Drainage Plans ("MDPs"), Functional Plans, NCPs, Integrated Stormwater Management Plans ("ISMPs") and Drainage Strategies that are either complete or substantially complete.

ISMPs are a municipal action item included in Metro Vancouver's Integrated Liquid Waste and Resource Management Plan ("ILWRMP"). These plans are aimed at bridging the gap between traditional drainage planning through MDPs and land-use planning, while protecting the recreational, environmental and physical functionalities of the City's natural drainage system. According to the ILWRMP, an ISMP must be completed for every urban (or potentially urban) watershed within the region.

There are drainage related impacts due to urbanization that are not fully addressed in the programs mentioned above. These include impacts to water quality, base flows and groundwater. In these situations, the City relies on the development community to address these issues through the provisions of Best Management Practices ("BMPs") and source controls. A framework for implementation of these BMPs is provided through ISMPs, MDPs and NCPs.

The 10-Year Servicing Plan only identifies the offsite drainage work necessary to manage and mitigate the impacts of development. Onsite works, as identified by ISMPs and NCPs, may be required in certain areas of the City. Onsite works are the responsibility of the developer, and they are not a DCC eligible item.

The City has developed a Coastal Flood Adaptation Strategy ("CFAS"). This strategy looks at the potential impact of sea level rise and climate change on Surrey's coastal community. The strategic direction proposes a suite of recommendations to assist with adaptation efforts and flood resiliency moving forward.

In 2019, the City was successful in obtaining Federal grant funding through the Disaster Mitigation and Adaptation Fund (“DMAF”) to assist with funding of key projects which arose from the CFAS initiative. The proportion of federal funding is based on the type of expenditure, asset ownership and partnership arrangements and is capped at an overall contribution rate of 41.5% of eligible expenditures. DMAF projects total \$187 million (up to \$76.6 million Federal funding, approximately \$61 million City funding, and the balance from partners and other grant sources) and are to be implemented before March 31, 2028. The City’s 10 Year Servicing Plan reflects this funding, which is enabling the City to increase its resilience to coastal flooding and adapt to climate change and sea level rise, while upgrading older infrastructure.

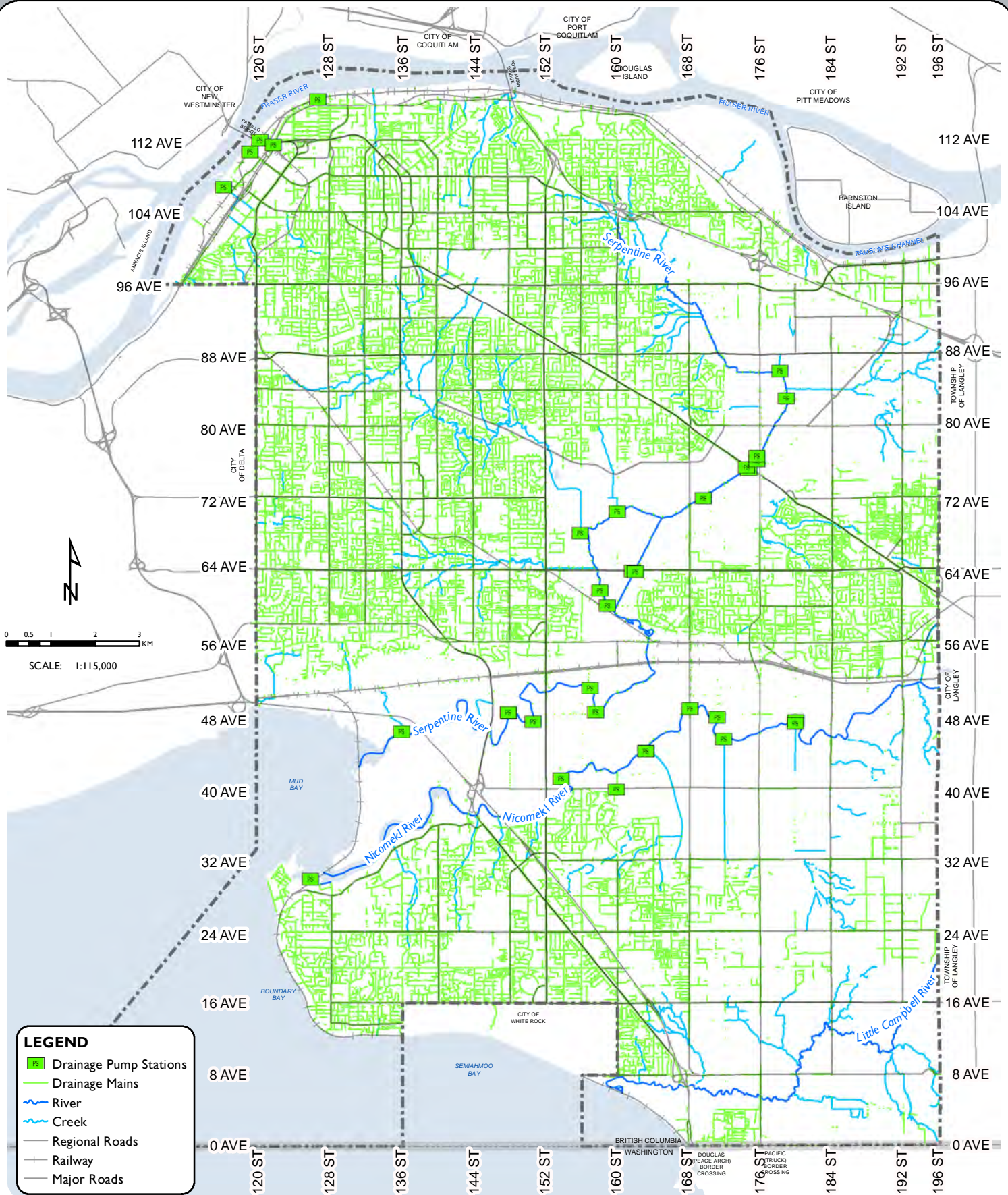


FIGURE 5.1 - DRAINAGE SYSTEM

5.3 Drainage Main Replacement Strategy

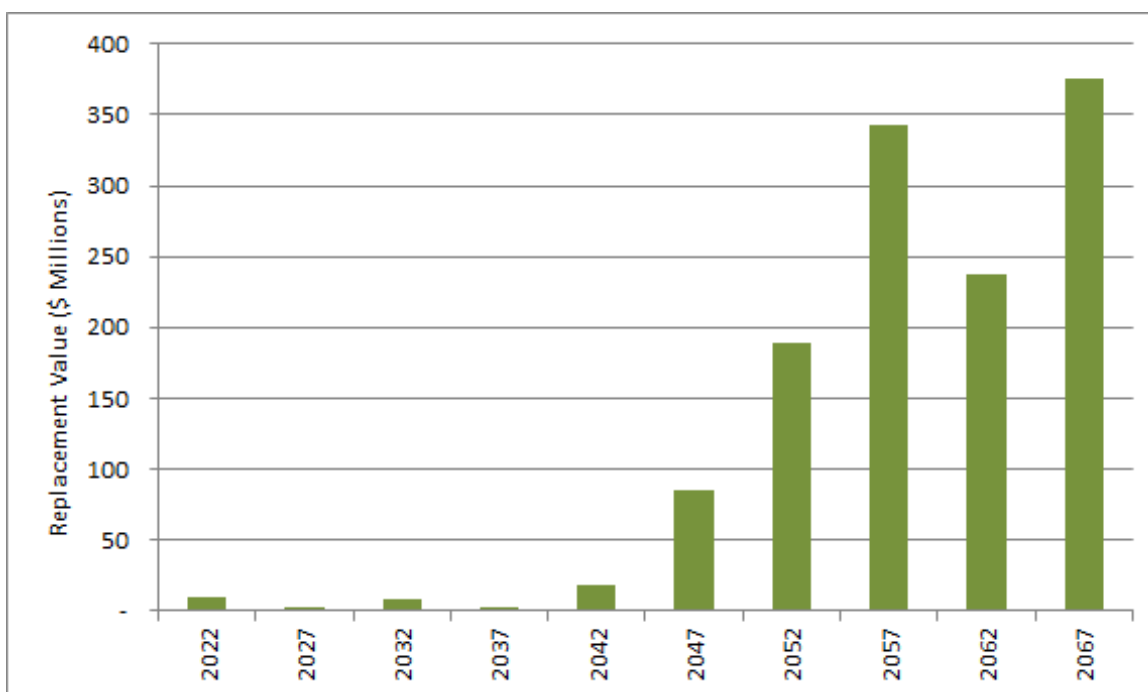
Replacement of drainage infrastructure at the end of their service lives will be of concern when competing servicing demands, such as growth needs and new standards or practices in drainage servicing, necessitates prioritization of replacement works.

The characteristics of the pipes requiring replacement in the next 50 years is summarized in **Table 5.2**.

Table 5.2 Drainage System Replacement Requirements in the Next 50 Years

Material	Total Main Length	50 Year Forecast	
		Length	Replacement Cost
Miscellaneous: Asbestos Cement, Clay Tile, Corrugated Metal Pipe, Cast Iron, Ductile Iron, Steel Pipe, and Wood	59 km (3% of entire pipe length)	29 km	\$44 million
Concrete: Concrete Pipe	1,204 km (58% of entire pipe length)	767 km	\$921 million
Plastic: Poly Ethylene, Poly Vinyl Chloride, Polypropylene	804 km (39% of entire pipe length)	322 km	\$307 million

The estimated cost to replace aging sewer mains over the next 10 years is \$12 million and \$1.27 billion over the next 50 years. The annual replacement cost over the next 50 years is illustrated in **Figure 5.2**.

Figure 5.2 – Drainage Main Replacement Costs over the Next 50 Years

The service life of drainage mains, constructed of currently approved materials and installed after the 1970's, is estimated to be 75 years. Assuming there is an average 75-year lifespan for these materials, only a small amount of drainage mains may have to be replaced in the next 50 years.

It is too early to establish a strategy for the replacement of pipes beyond 50 years, as changing technologies and developments in asset management may influence the replacement strategy in that period.

5.4 Drainage Servicing Program

Program 1660 – General Items

This program is comprised of projects necessary for the planning, design and operation of the drainage system. Some of the projects include:

- Funding resources required to manage all aspects of the drainage program including servicing plans, staffing, public liaison, the review and project management of ISMPs and NCPs, as well as internal coordination with other divisions in Engineering and other departments.
- Monitoring initiatives that assist in all factors of drainage planning and system operation. A Surrey-wide rainfall, flow and water quality monitoring program is in place to provide more accurate predictions of rainfall, stream flows and water quality. The monitoring also provides staff with a better understanding of existing system operations after significant rainfall or drought events. New to the monitoring program is the OceanMet initiative. With this program, the City is monitoring winds, waves, storm surges and tides around the Boundary Bay area. This should help in emergency planning and to resolve questions regarding the local rate of sea level rise in the bay area.

Programs 1662 and 1663- Existing System Upgrades

Drainage improvements within this program seek to resolve documented or potential flooding and environmental concerns. Improving the drainage systems in older neighbourhoods has been an ongoing issue and will likely continue beyond the current extent of the 10-Year Servicing Plan.

Included within this program are existing system upgrades in the Robson, Birdland and Crescent Beach areas. These areas have older drainage systems with limited service. In Crescent Beach, the City has received DMAF funding to assist with system implementation. Upgrading the internal drainage system in Crescent Beach along with raising the roads to keep ahead of rising groundwater are all components of the CFAS strategy.

Program 1664, 1665 and 1666 - Lowlands Flood Control

The Strategic Plan for the Lowlands Flood Control program involves extending and raising dykes along the Serpentine and Nicomekl Rivers, as well as constructing pump stations and conveyance improvements throughout the lowland area in an effort to meet the Agri-Food Regional Development Subsidiary Agreement (“ARDSA”) drainage service criteria.

A new addition to the lowland strategy includes the recommendations of the CFAS strategy for the coastal farm areas. CFAS identified critical dykes, pump stations and infrastructure that require upgrading to address projected changes along the coastal environment. The City was successful in obtaining DMAF funds to assist with implementation of some key projects which include:

- Replacement of the Nicomekl and Serpentine River sea dams;
- Upgrades to the Colebrook dykes;
- Upgrades to the Serpentine and Nicomekl dykes between King George Boulevard and 152 Street;
- Burrows pump station low level pump;
- Colebrook pump station reconstruction; and
- Mud Bay foreshore enhancements.

Program 1668 – Planning

New growth requires the development of strategies and servicing plans in advance of the functional and detailed design of drainage works. Areas of existing urban development also need drainage plan updates to meet new objectives such as infrastructure management, floodplain studies and asset replacement strategies. In the past, this program included MDPs necessary to scope projects for watershed management.

ISMPs now form the basis of planning for the capital program. The existing plans are being integrated with land-use, transportation and parks planning initiatives as part of the City's commitment under the ILWRMP to update all watersheds on a 12-year cycle. Ongoing monitoring and updates of ISMPs is needed to keep plans current. This program also includes the Adaptive Management Framework, which monitors stormwater and assesses and reports on the implementation and effectiveness of ISMPs. The next round of ISMP updates will be to include changes to precipitation associated with climate change.

Program 1670 - Relief and Trunk System

Relief and trunk storm systems consist of storm sewers, overland flow paths, ditches and other conveyance systems that have a catchment area greater than 20 hectares and serve areas of urban development. These systems are sometimes applied as diversion systems to reduce flows to the natural creeks, and as alternatives to stormwater detention ponds. In this case, the storm diversion provides a similar function as a detention pond to reduce peak storm discharges to streams.

Program 1671 – Planning (Operating)

This program includes funding for drainage parcel taxes related to City-owned drainage facilities.

Program 1672 - Community Detention

This program includes provisions for land acquisition and construction of stormwater detention ponds. These ponds are planned and designed to reduce peak flows to natural streams, and in many cases, to improve water quality. The detention facilities listed have been recommended through existing ISMPs, MDPs and NCPs. Also included are detention/infiltration corridors proposed through recently completed NCPs.

Program 1678 and 1679 - Erosion and Ravine Stabilization

Creeks form an integral part of the City's drainage system. Although the City practices stormwater management to reduce impacts of peak flows on natural creeks, some allowance for erosion control is necessary due to local conditions. Detailed assessments of problem areas are ongoing and the projects identified within this program are to address medium to high-risk areas.

Program 1680 - DCW Upsizing

The design of community infrastructure (e.g., trunks and ponds) in developing areas has been optimized to provide the best possible long-term system for the City. In some cases, this leads to increased local drainage servicing requirements beyond the minimum fronting servicing needs for properties/developments.

Since these larger local systems are integral to proper functioning of the community system, allocation has been made under this specific upsizing program through funding for growth. An allowance has been made based on a detailed review of the City's current drainage system make-up and anticipated future drainage system construction in developing neighbourhoods. The anticipated costs for upsizing are entirely linked to growth.

Program 1681 – Minor Projects

This program includes minor drainage improvements at various locations throughout the City that arise during the year and in situations where remediation works will be necessary prior to the next 10-year plan update.

Program 1682 – Environment

This program includes provisions for water quality and riparian health assessments required as a component of the ISMP process. Also, this program is to address compliance for the City's Stormwater and Erosion & Sediment Control Bylaws.

The program comprises:

- Overall programs for long-term monitoring of various riparian areas to meet Fisheries & Oceans' requirements;
- Benthic collection and assessments for ISMP stream health;
- Boundary Bay water quality sampling for non-point source pollution tracing;
- General environmental services to address spill events and other pollution events when they occur in the City's waterways; and
- Obtaining approvals for conducting drainage maintenance and emergency works on open channels throughout the City.

Since open channels are a significant component of the City's drainage system, maintaining environmental health in these systems is an item that the City needs to address on a consistent basis.

Program 1683 – Climate Change Adaptation

New information and design considerations have come from the Province regarding potential impacts from climate change, in particular sea level rise. Rising seas and potential increases in precipitation will impact existing drainage systems. The projects in this program are meant to identify potential impacts, timing of potential vulnerabilities, work towards new strategies to address climate change in the drainage program, and times of asset renewal. In this plan, all the projects are study based and are in support of the City's Climate Adaptation Strategy.

One of the key projects has been the development of CFAS. CFAS has developed a recommended implementation list which includes additional technical assessments, policy work, modelling and engagement activities. This program is designed to keep advancing climate science relevant to the City and to assist in adaptation efforts.

Program 1688 – Land Acquisition

This program includes provisions for land acquisition of statutory right of ways for storm infrastructure, future community stormwater detention ponds, erosion control sites or water quality features.

Program 1690 - Operations and Maintenance

This program includes provisions for video inspection of older systems with conveyance issues, payments of water licenses, and general operating items.

Program 1691 – West Clayton

This program includes provisions for land acquisition and construction of the West Clayton community stormwater detention ponds and all associated trunk sewers. These ponds are planned and designed to reduce peak flows to natural streams, and in many cases, to improve water quality. The detention ponds listed have been recommended through the West Clayton NCP.

5.5 Drainage Cost Summary

No.	Program	Program Type	Growth (\$)	Non-Growth (\$)	External (\$)	Total (\$)
1660	General Items	Operating	-	11,870,000	-	11,870,000
1662	Existing System Upgrades	Capital	4,845,187	41,833,621	4,357,860	51,036,668
1663	Existing System Upgrades	Operating	-	-	-	0
1664	Lowlands Flood Control	Capital	5,241,231	33,762,556	57,093,162	96,096,949
1665	Lowlands Flood Control	Non-Capital	124,000	496,000	-	620,000
1666	Lowlands Flood Control	Operating	-	500,000	-	500,000
1668	Planning	Non-Capital	4,900,000	3,028,000	52,000	7,980,000
1670	Relief and Truck Systems	Capital	20,294,687	23,321,500	-	43,616,187
1671	Planning	Operating	-	25,000	-	25,000
1672	Community Detention	Capital	16,034,900	2,337,100	-	18,372,000
1677	Redwood Heights	Capital	11,839,893	-	-	11,839,893
1678	Erosion and Ravine Stabilization	Operating	-	2,481,000	-	2,481,000
1679	Erosion and Ravine Stabilization	Capital	3,035,000	3,700,000	-	6,735,000
1680	DCW Upsizing	Capital	9,250,000	-	-	9,250,000
1681	Minor Projects	Operating	-	3,500,000	-	3,500,000
1682	Environment	Operating	-	19,980,000	1,240,000	21,220,000
1683	Climate Change Adaptation	Operating	850,000	4,150,000	3,723,036	8,723,036
1688	Land Acquisition	Capital	4,570,000	1,105,000	-	5,675,000
1690	Operations and Maintenance	Operating	-	1,440,000	-	1,440,000
1691	West Clayton	Capital	13,343,450	-	-	13,343,450
Total			94,328,348	153,529,777	66,466,058	314,324,183

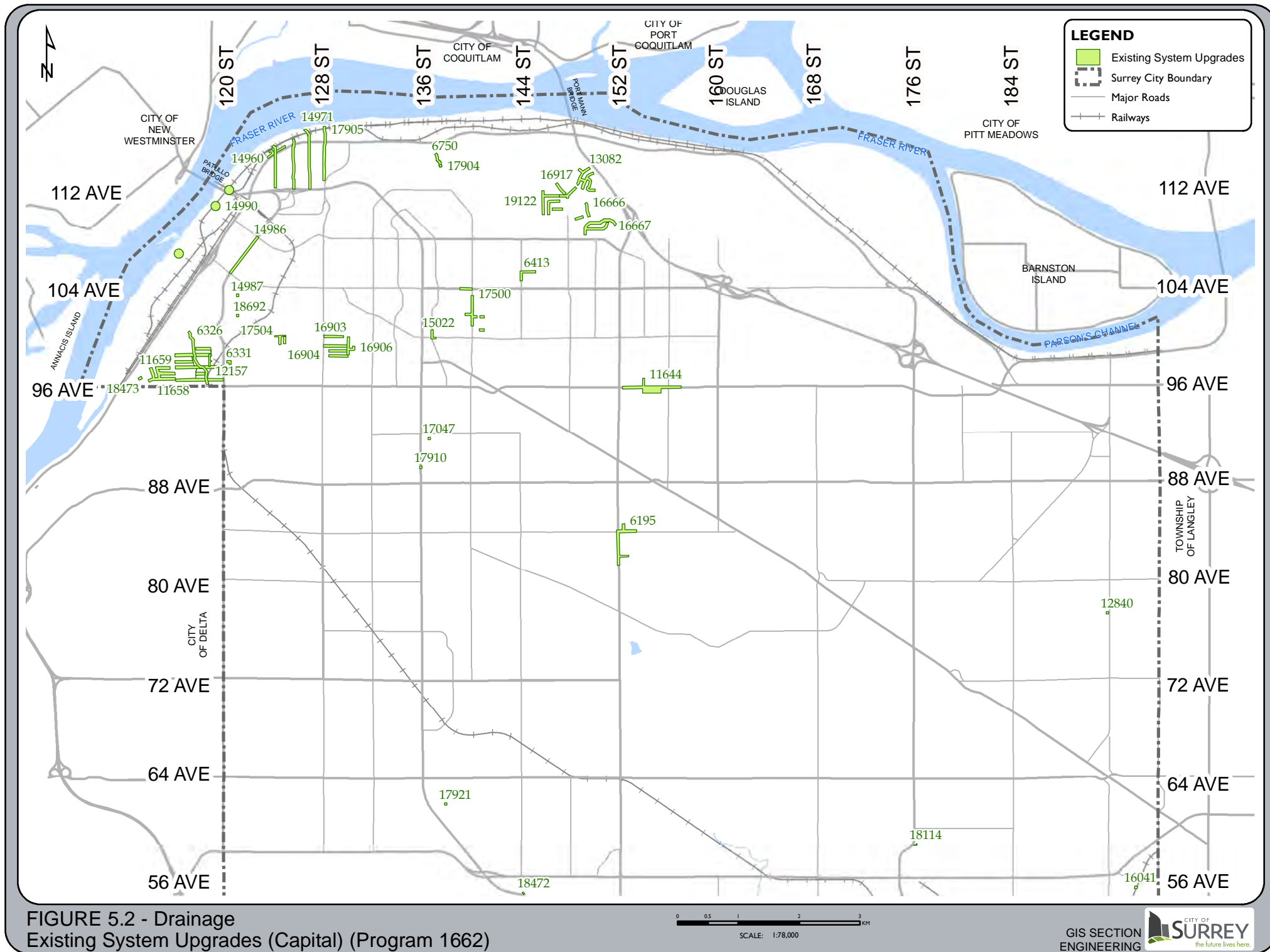
5.6 Drainage Projects by Program

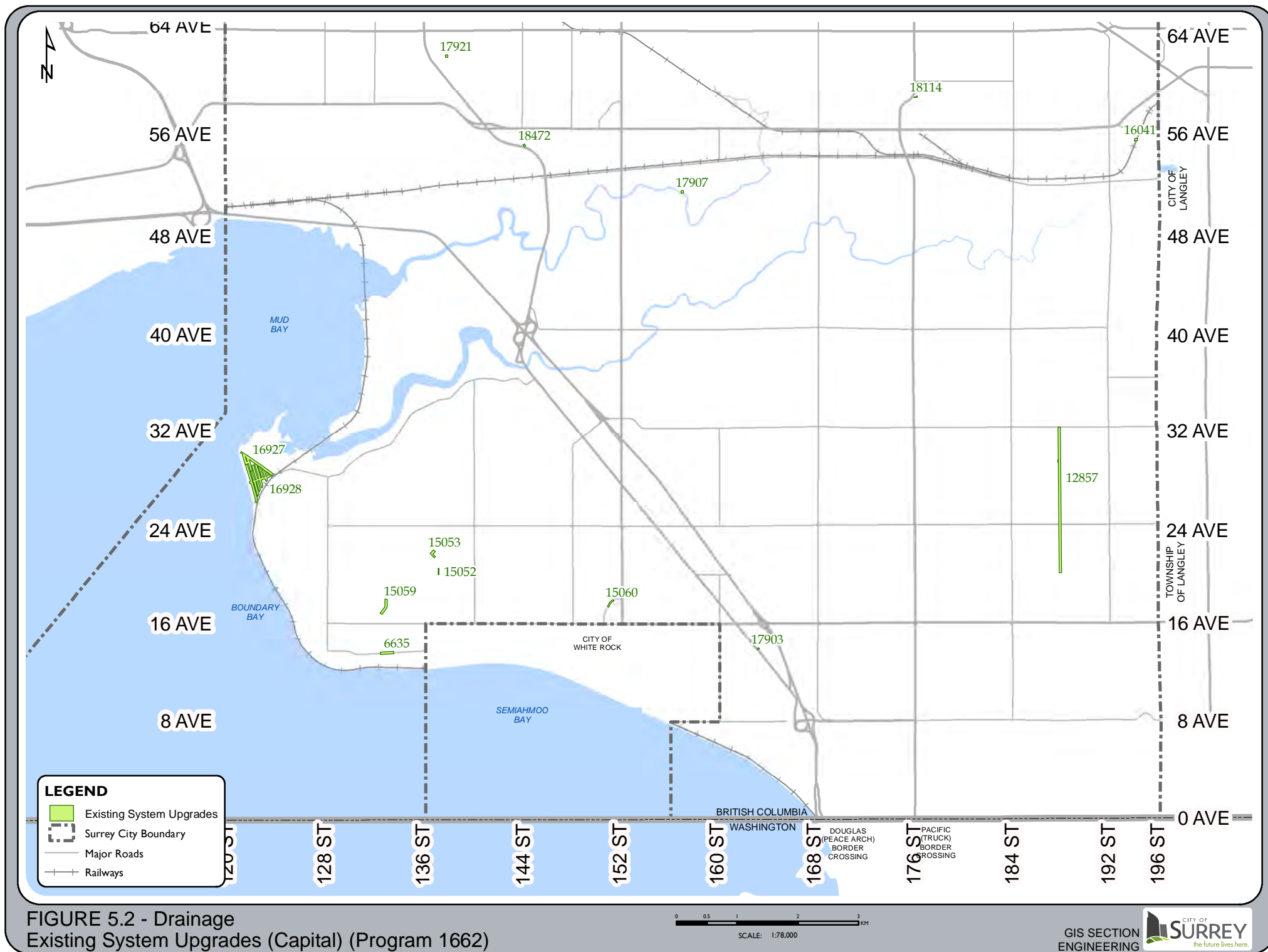
This section contains tables and figures that identify the projects under the key drainage programs.

The tables provide the following information:

- a) Project ID - the unique identifier of the project;
- b) Project name - the specific name or generic name that depicts the type of work;
- c) Project location - the geographic extent of the works;
- d) Priority - the intended time frame for when the project is planned to proceed (subject to change); and
- e) Costs – the high-level estimates in 2022 dollars (subject to change at the actual time of construction). The costs are comprised of growth and non-growth components.

Each program table is accompanied by a figure (map) that shows the location and extent of the projects. Projects that are general in nature or in various locations throughout Surrey may not be shown on the maps.

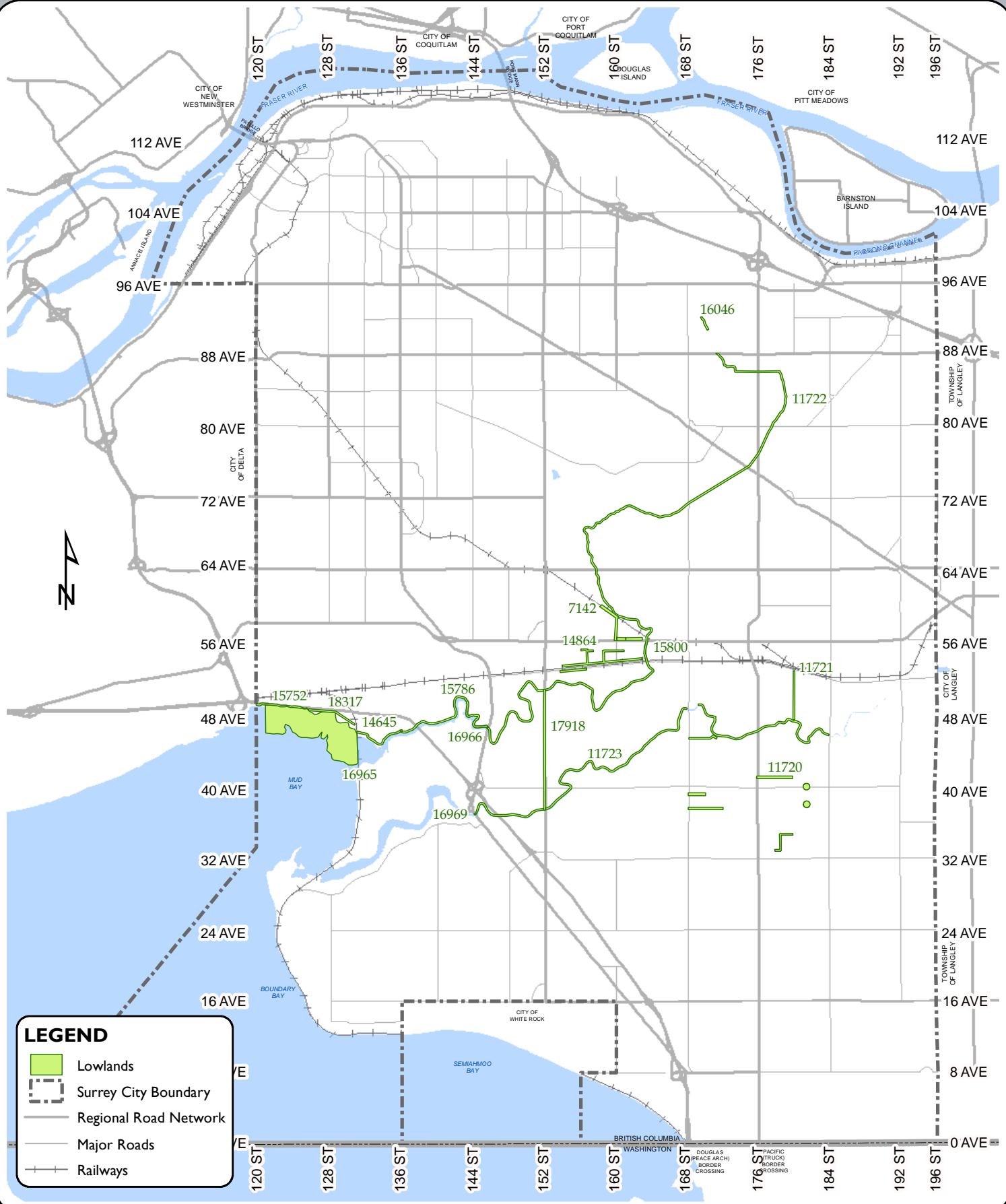




DRAINAGE

Program 1662 - D - Ex Sys Upgrades (Capital)

					Program Total	51,036,668	4,845,187	41,833,621	4,357,860	-
Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding		
6195	Trunk: 1030m - 675 to 1050mm	152 St: 84- 81 Ave	Long Term (6 - 10 Yrs)	3,000,000	-	3,000,000	-	-	-	-
6326	Delta Creek Ravine protection	118 St 96 - River Rd (100 Ave)	Short Term (1 - 5 Yrs)	791,000	160,000	631,000	-	-	-	-
6331	120A St/98Ave Culvert Upgrade	120A St - 98 Ave	Long Term (6 - 10 Yrs)	300,000	60,000	240,000	-	-	-	-
6413	350m of 600mm diameter. Pipe Upgrades	105A Ave: 144 - 145 St	Long Term (6 - 10 Yrs)	700,000	70,000	630,000	-	-	-	-
6635	Marine Drive Storm Upgrade	Marine Dr: 13245 Marine Dr to Knudson Creek	Long Term (6 - 10 Yrs)	450,000	-	450,000	-	-	-	-
6750	Southward Creek Diversion 759 m -	138 St 114 Ave to 137 and 115 Ave	Long Term (6 - 10 Yrs)	2,000,000	200,000	1,800,000	-	-	-	-
11644	Storm Sewer Upgrade	096Ave: 152 - 157St	Long Term (6 - 10 Yrs)	2,000,000	-	2,000,000	-	-	-	-
11658	Storm Sewer Upgrade	96A Ave to 97A Ave: 116 St - Townline Div	Long Term (6 - 10 Yrs)	2,000,000	-	2,000,000	-	-	-	-
11659	Storm Sewer Upgrade	96A Ave to 99A Ave: 116 St - 120 St	Long Term (6 - 10 Yrs)	3,000,000	-	3,000,000	-	-	-	-
12157	Storm Sewer Extension	118B Street: 98Ave to 97A Ave	Short Term (1 - 5 Yrs)	135,000	-	135,000	-	-	-	-
12840	Ravine Erosion Works	7743-192 St	Short Term (1 - 5 Yrs)	210,000	-	210,000	-	-	-	-
12857	South Surrey - Existing infrastructure and Culvert Upgrad	188 St from 20 to 32 Ave	NCP Driven	2,000,000	2,000,000	-	-	-	-	-
13082	North Surrey - East Bon Accord Creek Drainage Improven	Glen Avon Drive	Short Term (1 - 5 Yrs)	2,500,000	500,000	2,000,000	-	-	-	-
14960	Industrial Rd and 116 Ave (Bridgeview Upgrade)	Industrial Rd and 116 Ave at SFPR	Long Term (6 - 10 Yrs)	800,000	400,000	400,000	-	-	-	-
14971	16m culvert upgrade to 2400mm	culvert under 126A St at Royal City PS	Long Term (6 - 10 Yrs)	250,000	50,000	200,000	-	-	-	-
14986	Improve drainage conveyance and storage	Scott Rd from Tannery Rd to Old Yale Rd	Long Term (6 - 10 Yrs)	100,000	20,000	80,000	-	-	-	-
14987	Improve hydraulic efficiency of culverts and inlets	121 St at 103A Ave	Long Term (6 - 10 Yrs)	120,000	24,000	96,000	-	-	-	-
14990	Future design criteria for the South Westminster PS	Manson, Old Yale, & Pattullo Pump Stations	Long Term (6 - 10 Yrs)	30,000	6,000	24,000	-	-	-	-
15022	192m pipe upgrade on Whalley Blvd and 100 Ave	Whalley Blvd at 100 Ave	Long Term (6 - 10 Yrs)	500,000	100,000	400,000	-	-	-	-
15052	Upper Chantrell Creek Green Corridor	13741 - 20 Ave	Long Term (6 - 10 Yrs)	300,000	150,000	150,000	-	-	-	-
15053	Sediment and water quality device Upper Chantrell	2101 - 136A St	Long Term (6 - 10 Yrs)	200,000	-	200,000	-	-	-	-
15059	230m pipe upgrade to 450mm	1755 - Amble Green Blvd	Long Term (6 - 10 Yrs)	600,000	300,000	300,000	-	-	-	-
15060	125m pipe upgrade to 450mm	Martin Drive and Southmere Crescent,	Long Term (6 - 10 Yrs)	300,000	300,000	-	-	-	-	-
16041	Upgrade Existing Twin 900mm CMP Culverts	19458-56 Ave (Raliway Corridor) at 19450 & 19495-55 Av	Long Term (6 - 10 Yrs)	100,000	-	100,000	-	-	-	-
16666	East Bon Accord - S.Birdland Phs 2 & 4 - 2020	Partridge Cres, & Lark Pl	Short Term (1 - 5 Yrs)	941,000	-	941,000	-	-	-	-
16667	East Bon Accord - S.Birdland Phs 2 & 4 - 2021	Canary Dr, Bluebird Cres, & Oriole Dr	Long Term (6 - 10 Yrs)	1,616,000	-	1,616,000	-	-	-	-
16903	Phase 2 Robson Southeast	100 Ave from 129A to 128 St	Long Term (6 - 10 Yrs)	1,850,000	-	1,850,000	-	-	-	-
16904	Phase 3 Robson Southeast Drainage	99 Ave from 130 St to 128 St; 98B Ave from 130 St to 128	Short Term (1 - 5 Yrs)	2,830,000	-	2,830,000	-	-	-	-
16906	Phase 5 Robson Southeast Drainage - part 2	130 St and Pekin Pl	Short Term (1 - 5 Yrs)	1,500,000	-	1,500,000	-	-	-	-
16917	Birdland Ellendale Dr. (Phase 1 & 2)	Ellendale Dr, 111A Ave, 111 Ave, 146A St, 110A Ave, 148	Short Term (1 - 5 Yrs)	2,439,500	-	2,439,500	-	-	-	-
16927	DMAF - Crescent Beach Phase 3 - Perforated Piping	Sullivan, portions of Ohare lane, Alexandra, McBride and	Short Term (1 - 5 Yrs)	6,077,287	-	4,130,167	1,947,120	-	-	-
16928	DMAF - Crescent Beach Phase 4	portions of Ohare Lane, McBride, sunshine alley, McKenz	Short Term (1 - 5 Yrs)	4,934,229	-	2,523,489	2,410,740	-	-	-
17047	Quibble Creek Ravine Stability at 9168 136A Ave	9168 136A Street	Short Term (1 - 5 Yrs)	323,254	-	323,254	-	-	-	-
17500	Storm sewer upgrade on 140th St	140th st from 100 to 108 Ave	Short Term (1 - 5 Yrs)	1,080,000	216,000	864,000	-	-	-	-
17504	Robson 3A area - Storm Sewer Upgrades on 124A & 124B	124A & 124B from 99A Ave to 100 Ave, on 100 Ave from	Short Term (1 - 5 Yrs)	1,090,000	218,000	872,000	-	-	-	-
17903	Carlson Creek Fish Ladder	King George Blvd and 14 Ave	Short Term (1 - 5 Yrs)	15,000	-	15,000	-	-	-	-
17904	13745 114 Ave Erosion Protection	13745 114 Ave	Short Term (1 - 5 Yrs)	477,965	-	477,965	-	-	-	-
17905	BridgeView Culvert Replacement	Bridgeview	Long Term (6 - 10 Yrs)	60,000	-	60,000	-	-	-	-
17907	DMAF - Gray Creek Drainage Pump Station Forebay Upsiz	Grey Creek Drainage Pump Station near 5117 157 St	Short Term (1 - 5 Yrs)	200,000	-	200,000	-	-	-	-
17910	Quibble Creek Outfall Headwall	KGB and 89 Ave	Short Term (1 - 5 Yrs)	355,933	71,187	284,746	-	-	-	-
17921	LD 10-0270 Existing Weir Removal	6195 138 St	Short Term (1 - 5 Yrs)	100,000	-	100,000	-	-	-	-
18114	5871-176A St ROW Drainage Improvement	5871-176A St	Short Term (1 - 5 Yrs)	50,000	-	50,000	-	-	-	-
18472	Upsize 200mm to 250mm PVC	5439 144A St	Short Term (1 - 5 Yrs)	50,000	-	50,000	-	-	-	-
18473	Replace sections of damaged concrete pipe of various siz	11308 Regal Dr	Short Term (1 - 5 Yrs)	100,000	-	100,000	-	-	-	-
18692	Missing Invert 450 CSP	121 St & 101B Ave	Short Term (1 - 5 Yrs)	100,000	-	100,000	-	-	-	-
19122	Birdland Ellendale Dr. (Phase 3)	Wallace Dr, 111A Ave, 146 St	Long Term (6 - 10 Yrs)	2,460,500	-	2,460,500	-	-	-	-



DRAINAGE

Program 1664 - D - Lowlands (Capital)

Program Total	96,096,949	5,241,231	33,762,556	57,093,162	-
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Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding
7142	Hook Brook Drainage Improvements	Various Locations	Long Term (6 - 10 Yrs)	3,300,000	330,000	2,970,000	-	-
11720	Erickson/Burrow Conveyance Works	Erickson/ Burrow	Long Term (6 - 10 Yrs)	1,250,000	250,000	1,000,000	-	-
11721	Hall's Prairie Lowlands Conveyance Works (180 St Ditch)	Southwest Cloverdale, east of 176 St and south of Colebrook	Short Term (1 - 5 Yrs)	2,500,000	500,000	2,000,000	-	-
11722	DMAF - Serpentine River Dyking	Serpentine River KGB to 152 St	Short Term (1 - 5 Yrs)	1,856,640	247,066	988,264	621,310	-
11723	DMAF - Nicomekl River Dyking	Elgin Rd at Nicomekl River to 40 Ave	Short Term (1 - 5 Yrs)	1,919,479	207,179	828,718	883,582	-
14645	DMAF - Colebrook Pump Station Upgrades	Colebrook at Serpentine River	Short Term (1 - 5 Yrs)	5,853,950	650,790	2,603,160	2,600,000	-
14864	Surrey Lowlands - Gray Creek North of Colebrook Rd	152 St to Serpentine River	Long Term (6 - 10 Yrs)	1,240,000	240,000	1,000,000	-	-
14944	Floodbox Replacement Program (10YP)	various	Annual	3,000,000	-	3,000,000	-	-
15752	DMAF - Colebrook Dyke Upgrades - City lands	Colebrook dykes -Mud Bay Park and 4981 KGB only	Short Term (1 - 5 Yrs)	1,556,310	-	933,790	622,520	-
15786	DMAF - Colebrook Dyke Upgrades - Provincial Portion	Colebrook dyke - BNSF to Western PL of 4981 KGB	Short Term (1 - 5 Yrs)	5,250,000	-	-	5,250,000	-
15800	DMAF - Dyke Reinstatement and Tie-Ins (remaining phases)	Serpentine River: Colebrook Road to SRY	Short Term (1 - 5 Yrs)	454,245	-	454,245	-	-
16046	Upper Serpentine dyke tie in 17040 92 Ave	17040 92 Ave	Long Term (6 - 10 Yrs)	250,000	-	250,000	-	-
16965	DMAF - Nature-based Coastal Climate Adaptation Project	Boundary Bay and Mud Bay Coastline	Short Term (1 - 5 Yrs)	7,967,602	-	3,467,602	4,500,000	-
16966	DMAF - Serpentine Sea Dam Construction	Serpentine Sea Dam location downstream of KGB	Short Term (1 - 5 Yrs)	34,462,633	2,292,526	9,170,107	23,000,000	-
16969	DMAF - Nicomekl Sea Dam Construction	Nicomekl River: Elgin Rd to KGB	Short Term (1 - 5 Yrs)	21,618,350	523,670	2,094,680	19,000,000	-
17918	DMAF 152 St road upgrades Serpentine river to Nicomekl river	152 Street - Serpentine river to Nicomekl river	Short Term (1 - 5 Yrs)	1,063,200	-	1,063,200	-	-
18317	DMAF - Mud Bay Park Dykes - Series 100 - Provincial Portion	Mud Bay Park	Short Term (1 - 5 Yrs)	1,554,540	-	938,790	615,750	-
19153	Minor Projects - Lowlands (TCA) (10YP)	Various	Annual	1,000,000	-	1,000,000	-	-

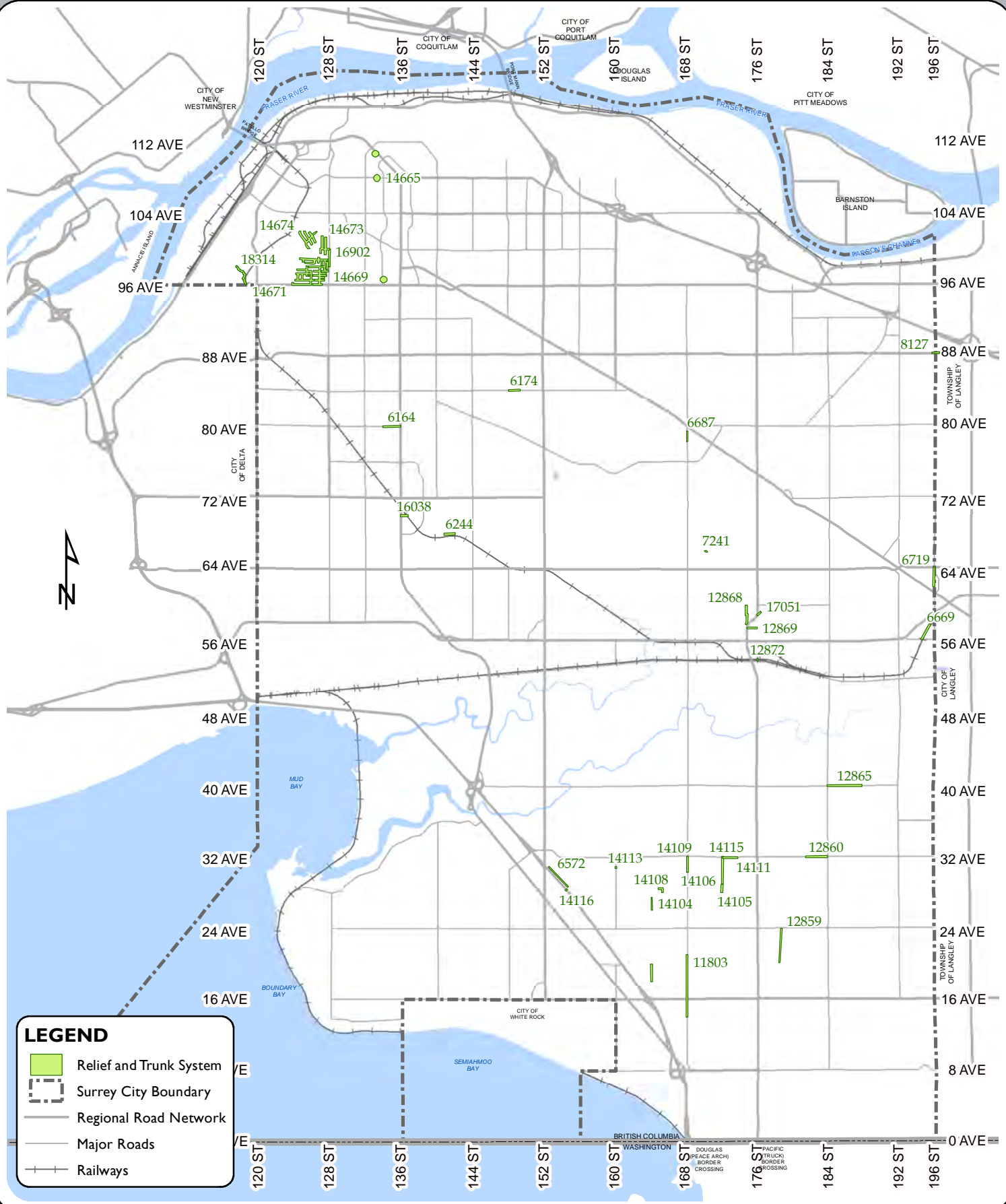


FIGURE 5.4 - Drainage Relief & Trunk System (Program 1670)

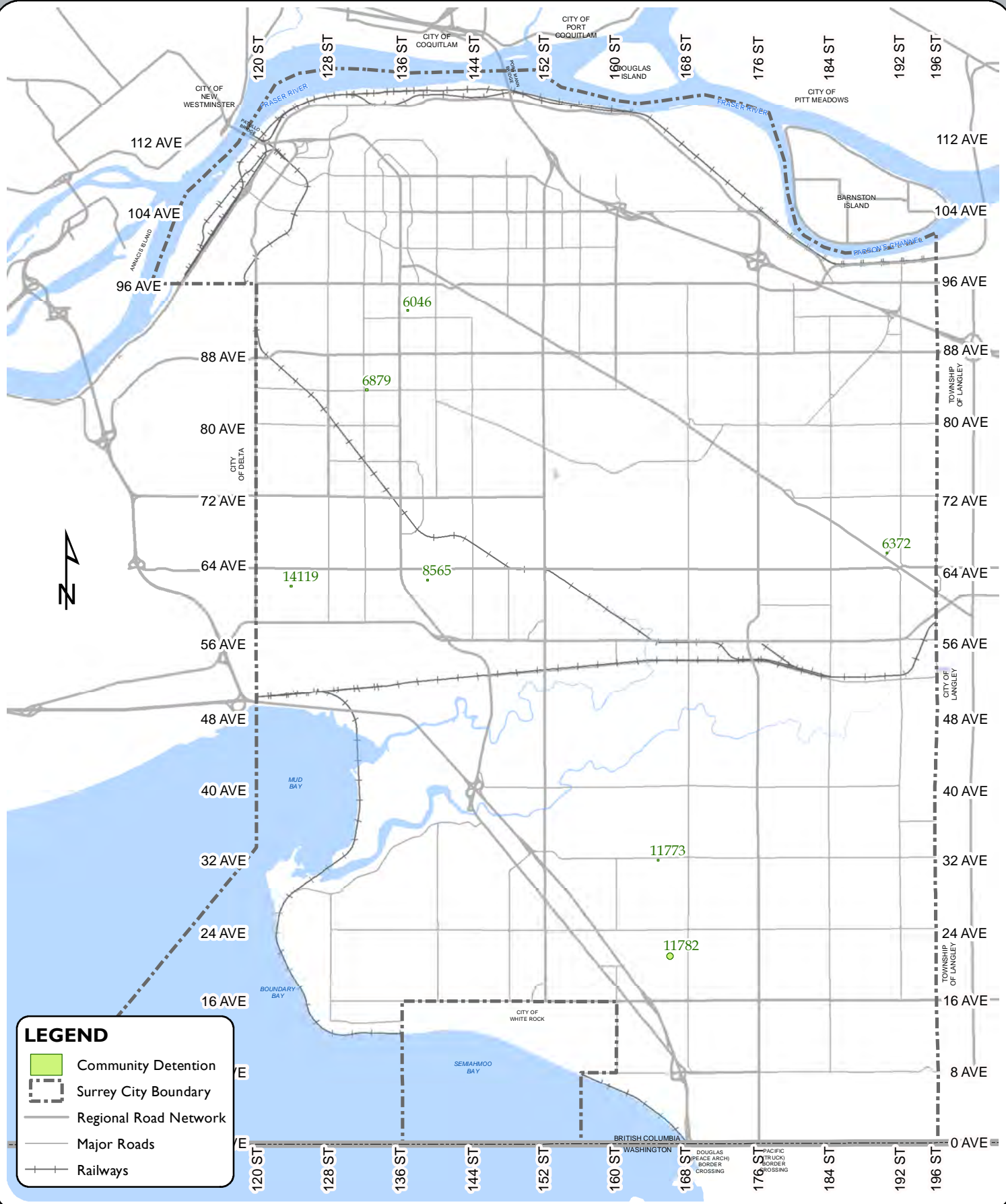
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DRAINAGE

Program 1670 - D - Relief & Trunk System

Program Total	43,616,187	20,294,687	23,321,500	-	-
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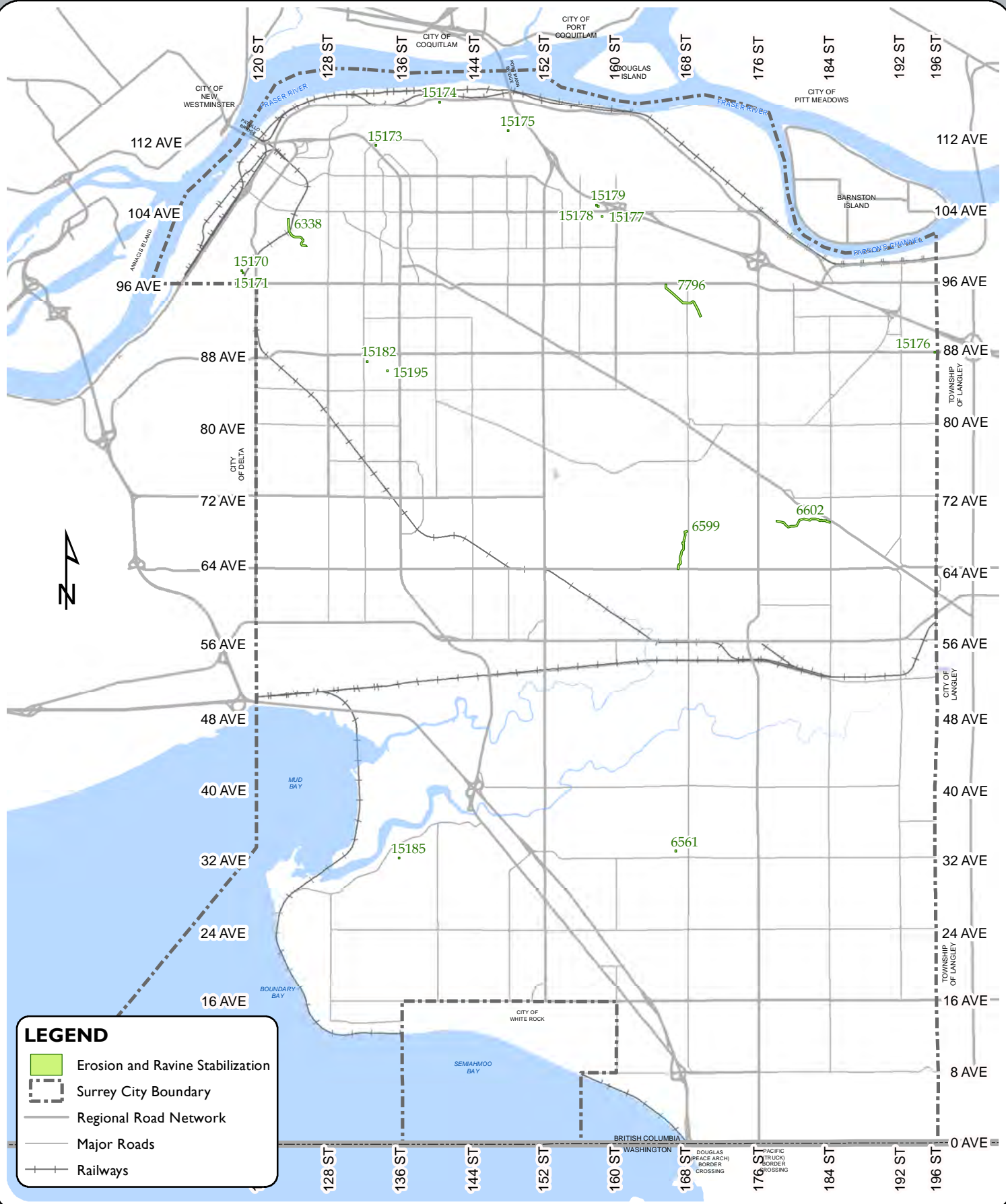
Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding
6164	807m of 750 to 900mm diameter	134 St and 78 Ave to KGB and 80 Ave	Long Term (6 - 10 Yrs)	3,000,000	3,000,000	-	-	-
6174	Trunk: 213m - 750 -900mm	84 Ave: E of 148 St	Short Term (1 - 5 Yrs)	375,000	375,000	-	-	-
6244	900mm Upgrade Existing Storm	068 Ave: 141 - 142 St	Long Term (6 - 10 Yrs)	850,000	850,000	-	-	-
6572	425m of 1,200mm trunk sewer	Croydon Dr: 029 - 031 Ave (Rosemary Hts Bus Prk NCP)	Long Term (6 - 10 Yrs)	1,714,280	1,714,280	-	-	-
6669	406m - Erosion protection.	195 St: 56 - 58 Ave	Short Term (1 - 5 Yrs)	200,000	200,000	-	-	-
6687	250m of 750mm diameter. Trunk	168 St: 80 Ave- 078 Ave	Long Term (6 - 10 Yrs)	700,000	700,000	-	-	-
6719	Trunk storm sewer diversion	196 St: 064 Ave - outfall	Short Term (1 - 5 Yrs)	1,895,000	1,895,000	-	-	-
7241	Culvert Drainage	066 Ave / 171 St	NCP Driven	72,000	36,000	36,000	-	-
8127	New Storm Trunk Sewer (150m)	88 Ave - 196 St to Latimer Creek Trib	Short Term (1 - 5 Yrs)	125,000	112,500	12,500	-	-
11803	7816-0376-00: Trunk Storm Sewers	Sunnyside Heights NCP @ 16692 16 Ave	NCP Driven	1,418,400	1,418,400	-	-	-
11804	Ditch/Channel Erosion Protection	Sunnyside Heights NCP	NCP Driven	25,560	25,560	-	-	-
12859	South Surrey - Drainage Channel DC1	179 St 20 to 24 ave Erickson Watershed	NCP Driven	217,000	217,000	-	-	-
12860	South Surrey - Drainage Channel DC2	32 Ave 182 to 184 St Erickson Watershed	NCP Driven	139,000	139,000	-	-	-
12865	South Surrey - Drainage Channel DC5	40 ave 188 to 184 St. Erickson watershed	NCP Driven	155,000	155,000	-	-	-
12868	Cloverdale - 175th St. Storm sewer Upgrade	175th St from 60 Ave to Cloverdale Bypass	Long Term (6 - 10 Yrs)	1,600,000	640,000	960,000	-	-
12869	Cloverdale TC - 57th Ave Storm Sewer	057 Ave: 175 to 176 St	Short Term (1 - 5 Yrs)	600,000	-	600,000	-	-
12872	Cloverdale TC - 176 St Rail Crossing	176 St and BC Hydro Railway	Short Term (1 - 5 Yrs)	315,000	126,000	189,000	-	-
14104	South Surrey - Orchard Grove NCP trunk sewer upgrade	164 St: 26 Ave to 2700 block	NCP Driven	395,000	395,000	-	-	-
14105	outh Surrey - 172 St trunk sewer upgrade to 600 mm dia	172 St alignment behind 2815 to 2875 Country Woods Dr	NCP Driven	227,000	227,000	-	-	-
14106	outh Surrey - 172 St trunk sewer upgrade to 1200 mm dia	172 St from 32 ave to back of 2875 Country Woods Dr	NCP Driven	1,515,947	1,515,947	-	-	-
14108	South Surrey - April Creek headwaters trunk sewer	165 St at 28 Ave north to April Creek (Old Logging ISMP)	Long Term (6 - 10 Yrs)	400,000	-	400,000	-	-
14109	South Surrey - 168 St trunk sewer upgrade	168 St from 30A Ave to 32 Ave (Old Logging/Burrow's ISMP)	Long Term (6 - 10 Yrs)	1,500,000	-	1,500,000	-	-
14111	South Surrey - 32 Avenue trunk sewer to 1050mm diam	32 Ave from 172 St to 17300 blk (Old Logging/Burrow's ISMP)	Long Term (6 - 10 Yrs)	1,500,000	-	1,500,000	-	-
14113	South Surrey - Wills Brook trib at 160 St culvert upgrade	3087 - 160 St: Wills Brook trib (Old Logging/Burrow's ISMP)	NCP Driven	45,000	45,000	-	-	-
14115	outh Surrey - Burrow's Ditch at 32 Avenue culvert upgrac	32 Ave at 172 St (Old Logging/Burrow's ISMP)	Long Term (6 - 10 Yrs)	250,000	-	250,000	-	-
14116	South Surrey - Hwy 99 Culvert at Morgan Creek	Hwy 99 at 28 Ave: Upper Titman Creek (Old Logging ISMP)	Long Term (6 - 10 Yrs)	250,000	-	250,000	-	-
14665	City Centre Water Quality features	Various Locations	Short Term (1 - 5 Yrs)	1,479,000	1,479,000	-	-	-
14669	son South 99 Ave Trunk Project #1 McElhanney/USL rep	99 Ave from Grove Cr. To 127B St	Short Term (1 - 5 Yrs)	8,480,000	1,696,000	6,784,000	-	-
14671	obson 124A St Trunk Project #3 McElhanney/Urban System	Robson South - 124A St and 99A Ave	Short Term (1 - 5 Yrs)	4,500,000	900,000	3,600,000	-	-
14673	Robson 100 Ave Trunk project #5 McElhanney	100 Ave from 128 St to 127A St, 127A St & 127B St from 100 A	Short Term (1 - 5 Yrs)	2,832,000	572,000	2,260,000	-	-
14674	Robson North Beaver/Park Drive Trunk Project	Beaver/Park/Helen/Mary/Centre Drive	Short Term (1 - 5 Yrs)	3,500,000	700,000	2,800,000	-	-
16038	Newton Pond Trunk Sewer Diversion	070 Ave from KGB to Newton pond	Short Term (1 - 5 Yrs)	417,000	417,000	-	-	-
16902	Phase 1 Robson southeast storm sewer replacement	128 St from 100 Ave to 75m south of 98 Ave	Short Term (1 - 5 Yrs)	1,624,000	324,000	1,300,000	-	-
17051	Cloverdale TC - Upgrade between Highway 15 & 176A St	5945 176A St From 176 to 176A St	Long Term (6 - 10 Yrs)	800,000	320,000	480,000	-	-
18314	Delta Creek Diversion Functional Study 2020	Delta Creek, from 96 Ave to 98 Ave	Short Term (1 - 5 Yrs)	500,000	100,000	400,000	-	-



DRAINAGE

Program 1672 - D - Community Detention

Program Total								
Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding
6046	Community detention/sediment Pond	093Ave: 136A St - Hydro ROW	Long Term (6 - 10 Yrs)	55,000	5,000	50,000	-	-
6372	East Clayton NCP Pond - D	Fraser Hwy / 190 St	NCP Driven	2,890,000	2,890,000	-	-	-
6879	Mahood Cruickshank Pond 3	Mahood Creek: 084 Ave / 132 St	Long Term (6 - 10 Yrs)	8,500,000	6,800,000	1,700,000	-	-
8565	Archibald Detention Pond P1B	138 St / 62 Ave	NCP Driven	2,471,000	2,223,900	247,100	-	-
11773	DCC F/End - North Grandview Heights NCP Pond F: 1800	032 Ave / 166 St (April Crk)	NCP Driven	616,000	616,000	-	-	-
11782	Stormwater Corridors for Sunnyside Heights NCP	Grandview Heights #2 (Sunnyside Heights) NCP	NCP Driven	3,500,000	3,500,000	-	-	-
14119	Central Surrey - Rain garden in Boundary Park	Boundary Drive East at 62 Ave; Boundary Park & Pond	Long Term (6 - 10 Yrs)	340,000	-	340,000	-	-



**FIGURE 5.6 - Drainage
Erosion & Ravine Stabilization (Program 1679)**

0 0.5 1 2 3 4 5 KM
SCALE: 1:15,000

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GIS SECTION
ENGINEERING

The data provided is compiled from various sources and IS NOT warranted as to its accuracy or sufficiency by the City of Surrey.
This information is provided for information and convenience purposes only. Lot sizes, legal descriptions and encumbrances must be confirmed at the Land Title Office.

Date Printed: 2022-01-07 Cartographer: P205934 © City of Surrey
Source: G:\MAPPING\GIS\Maps\Recurring\4_CCP10yrCCP_Plan10yrServicingPlan2022-31\Figure5-6-Drainage.mxd

DRAINAGE

Program 1679 - D - E&R Stabilization (Capital)

Program Total	6,735,000	3,035,000	3,700,000	-	-
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Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding
6338	Robson Creek Ravine Erosion Protection Works	Robson Creek: 127 St / 099 Ave - 104 Ave / 123 St	Short Term (1 - 5 Yrs)	250,000	-	250,000	-	-
6561	Erosion protection - North Grandview Heights NCP	167 St / 033 Ave	NCP Driven	60,000	60,000	-	-	-
6599	Creek Protection- W Cloverdale North NCP	East Creek: 064 Ave - 168 St	NCP Driven	700,000	700,000	-	-	-
6602	900m of creek improvement - North Cloverdale West NC	North Creek: 70 Ave /184 - 178 St	NCP Driven	700,000	700,000	-	-	-
7796	Upper Serpentine Erosion Prevention	Serpentine River: 16532 096 Ave to 9170 168 St	Long Term (6 - 10 Yrs)	2,000,000	1,000,000	1,000,000	-	-
15170	Erosion site (high risk) Delta Creek #1	Delta Creek: 11822 97A Ave (118B St / 97A Ave)	Short Term (1 - 5 Yrs)	250,000	50,000	200,000	-	-
15171	Erosion site (high risk) - Delta Creek #2	Delta Creek: 11851 97 Ave (118B St / 96A Ave)	Short Term (1 - 5 Yrs)	250,000	50,000	200,000	-	-
15173	Erosion site (high risk) : Bolivar Creek	Bolivar Creek: 13285 King George Blvd (132 St Div / KGB)	Long Term (6 - 10 Yrs)	250,000	50,000	200,000	-	-
15174	Erosion site (high risk): Dingwall Creek	Dingwall Creek: 14037 116 Ave (140A St / 116 Ave)	Long Term (6 - 10 Yrs)	250,000	50,000	200,000	-	-
15175	Erosion site (high risk): Wallace Creek outfall	Wallace Creek: 11348 Roxburgh Rd (Wellington Dr)	Short Term (1 - 5 Yrs)	540,000	90,000	450,000	-	-
15176	Erosion site (high risk): Latimer Creek	Latimer Creek: 19588 88 Ave (192 St / 88 Ave)	Short Term (1 - 5 Yrs)	250,000	50,000	200,000	-	-
15177	Erosion site (high risk): Serpentine River Tributary	Serpentine River Trib:10336 158A St (158A St/102B Ave)	Long Term (6 - 10 Yrs)	125,000	25,000	100,000	-	-
15178	Erosion site (high risk): Guildford Brook Creek#1	Guildford Brook Creek: 10461 158 St (158 St / 104 Ave)	Short Term (1 - 5 Yrs)	125,000	25,000	100,000	-	-
15179	Erosion site (high risk): Guildford Brook Creek #2	Guildford Brook Creek: 10461 158 St (158 St / 104 Ave)	Long Term (6 - 10 Yrs)	125,000	25,000	100,000	-	-
15182	Erosion site (high risk): Grenville Creek	Grenville Creek: 13256 Tulsy Pl (132 St / Shakespeare Pl)	Long Term (6 - 10 Yrs)	250,000	50,000	200,000	-	-
15185	Erosion site (high risk): Chantrell Creek	Chantrell Creek: 13552 32 Ave (136A St / 136 St)	Short Term (1 - 5 Yrs)	360,000	60,000	300,000	-	-
15195	Erosion site (high risk): Bear Creek	Bear Creek: 8626 Tulsy Cr E (Tulsy Cr / Tulsy Cr E)	Long Term (6 - 10 Yrs)	250,000	50,000	200,000	-	-

6. CAMPBELL HEIGHTS

The Campbell Heights area encompasses approximately 800 hectares in southeast Surrey. The area generally lies between 18 Avenue and 44 Avenue to the south and north, and 186 Street and 196 Street to the west and east. The western boundary follows the top of a ridge that descends to the Nicomekl River lowland floodplain.

The City of Surrey OCP designates all of Campbell Heights as an industrial area.

A specific area servicing plan was developed for this area to address local site constraints and issues related to servicing an entire industrial development. Major servicing requirements include:

- Local feeder mains to provide water distribution and fire protection;
- New collector and arterial routes, and the widening of arterials to four or five lanes throughout the area;
- Pump station upgrades, siphons to the Metro Vancouver Cloverdale trunk sewer, and local gravity trunk sewers to provide sanitary sewer service; and
- Exfiltration systems and detention ponds for drainage, also including environmental measures such as habitat restoration.

6.1 Campbell Heights Programs

Program 1017 – Transportation

Accessing Campbell Heights and providing key intra-regional connections is critical to the successful economic development of the area. The transportation servicing strategy includes typical collector road improvements to provide internal circulation as well as four major arterial road improvements (described below) to provide access to the rest of Surrey and the region.

16 Avenue

This arterial road is part of TransLink's Major Road Network ("MRN") and is a designated City truck route. It is a key intra-regional road that connects with Provincial Highway 99, Highway 15, and Highway 13 in Township of Langley and the respective border crossings with the United States. As this road services more than just the growth of Campbell Heights, funding for improvements is identified as 25% from Campbell Heights, 25% from City Wide DCCs (shown as External in Table 6.1 below), and 50% from TransLink's Major Road Network and Bikes ("MRNB") Capital Cost Sharing Program.

24 Avenue

This arterial road is the central east-west road for South Surrey and South Langley and connects Campbell Heights with Grandview Heights and Semiahmoo Peninsula to the west and Brookwood to the east. With a central location and transit supportive land uses, 24 Avenue is planned to accommodate future Frequent Transit Network service and potential high order transit service of Rapid Bus.

32 Avenue

This arterial road is also part of TransLink's MRN and a designated City truck route. It is a key intra-regional road that connects with Provincial Highway 99 and Highway 15, as well as 200 Street in the Township of Langley. The need for widening of this corridor east of Highway 15 is for the employment and goods movement growth to service Campbell Heights.

192 Street

This arterial road is the only north-south corridor through Campbell Heights and provides critical connections to Highway 10 and Cloverdale to the north. It also intersects with all three east west arterial roads in the area and is a City designated truck route.

Program 1617 – Water

The Campbell Heights area is located within the 80m water pressure zone and is supplied by two existing direct connections to Greater Vancouver Water District (“GVWD”) feeder mains located at 24 Avenue/184 Street and 28 Avenue/192 Street. Water is distributed to this area through a set of mains ranging in diameter from 300 to 500mm. Larger sized water distribution mains (300mm or larger) are required due to its industrial zoned lots, which require higher fire flow availability in the system.

Program 1637 – Sewer

The gravity sewer system is mostly installed in the south west and north west quadrants of the Campbell Heights area. The pump station at 21 Avenue and 192 Street has been built, along with the 250 mm diameter and 450 mm diameter forcemains on 192 Street from the pump station to 32 Avenue. From the pump station, wastewater is conveyed west and to 40 Avenue where it discharges to a twin siphon system. The siphon system continues west and north and discharges to Metro Vancouver’s trunk interceptor system at 184 Street and 52 Avenue. Remaining facilities to be built include the final capacity upgrade of the pump station, the overflow storage tank, the grit chamber, and some upsize provisions.

A chemical dosing facility is planned at the pump station. This facility will supplement the existing air management odour facility immediately upstream of the siphon inlet. Both these odour control facilities are intended to service the Campbell Heights NCP area only, and will not be able to service areas outside the NCP. Further, there is no ability to upgrade these facilities in the future due to space constraints at each site.

The sewer system has not been designed to handle flows from outside the NCP area, both from the odour mitigation and capacity perspective. Further, upgrading the pump station capacity would involve major retrofits and would result in an extended service disruption to sewer the NCP area. Also, this is not the most feasible and economic approach if sewer servicing beyond the NCP area is required.

Program 1667 – Drainage

Approved by Council in 2000, the stormwater servicing strategies for Campbell Heights were developed to:

- Minimize the potential impacts to, and enhance, the natural environment, including the ground water resource;
- Limit runoff to the Nicomekl lowlands to be consistent with or improve upon the design assumptions for the Erickson Pump Station; and
- Provide a convenient and safe system to convey the runoff from the minor and major storm events within Campbell Heights.

There are two different stormwater management strategies for Campbell Heights depending on ground conditions. The core area around Latimer Lake has a high ground water table and requires a conventional storm sewer and detention pond system. The larger area around the perimeter of Campbell Heights has conditions very conducive to ground water recharge; in this area, it is proposed that both the City and private systems be constructed to exfiltrate water into the ground, reducing the size of the storm sewer system and eliminating the need for detention ponds. This approach will recharge the aquifer and maintain the base flows in the streams that emanate from the base of the northwest face of the Campbell Heights slope and subsequently discharge into the Nicomekl lowlands.

Table 6.1 – Campbell Heights Cost Summary

No.	Program	Growth (\$)	Non-Growth (\$)	External (\$)	TransLink (\$)	Total (\$)
1017	Transportation	116,553,346	0	13,133,900 ⁽¹⁾	26,267,800	155,955,046
1617	Water	11,698,000	0	0	0	11,698,000
1637	Sewer	3,908,800	0	0	0	3,908,800
1667	Drainage	6,123,700	0	0	0	6,123,700
Total		138,283,846	0	13,133,900	26,267,800	177,685,546

(1) City Wide DCC contributions for Transportation are shown as External funding in the Campbell Heights Area-Specific Program.

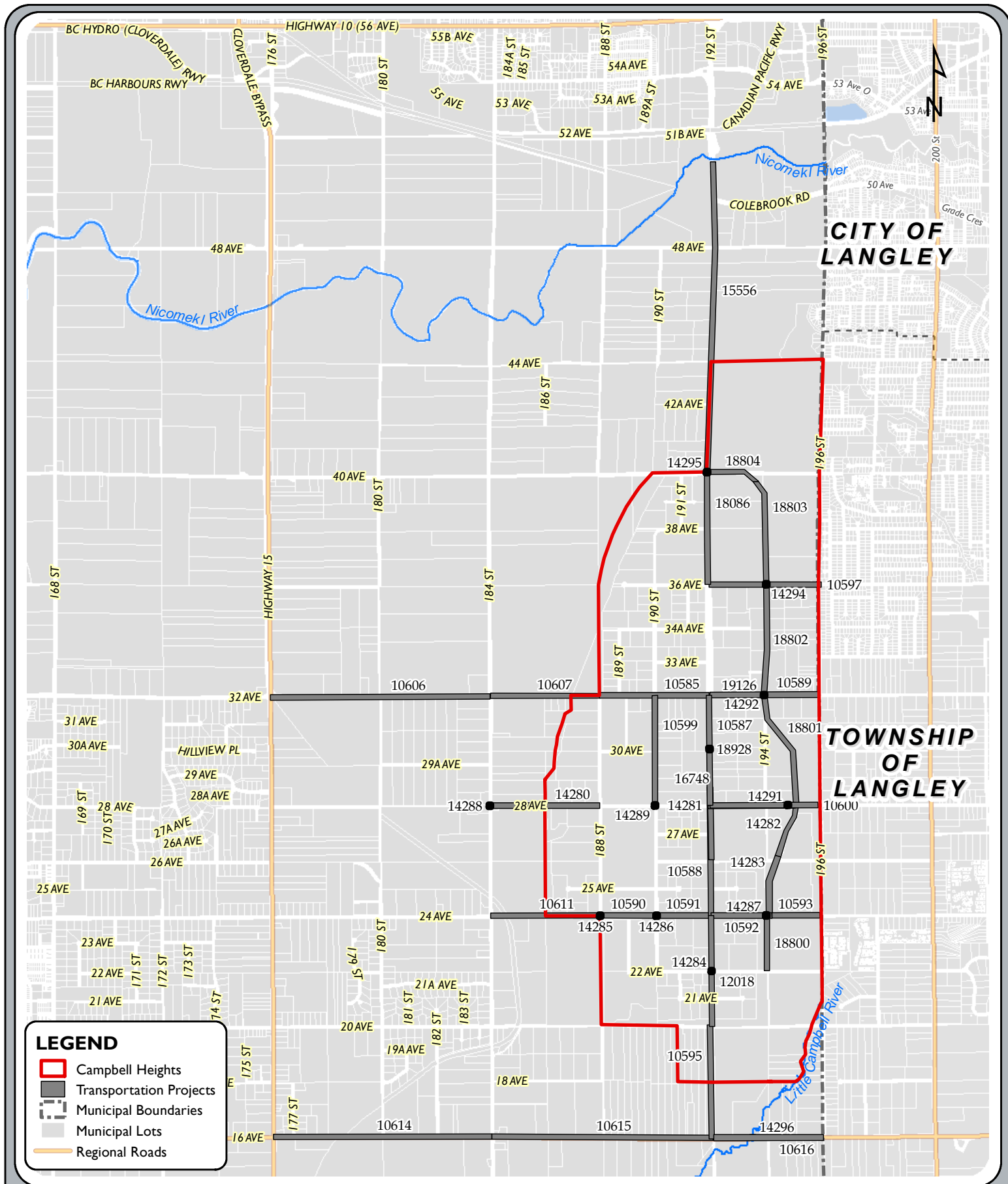
6.2 Campbell Heights Projects by Program

The following tables and figures identify the projects under the Campbell Heights programs for transportation, sanitary sewer, water and drainage. The tables provide the following information:

- Project ID - the unique identifier of the project;
- Project name - the specific name or generic name that depicts the type of work;
- Project location - the geographic extent of the works;
- Priority - the intended time frame for when the project is planned to proceed (subject to change); and
- Costs – the high-level estimates in 2022 dollars (subject to change at the actual time of construction).

The costs are comprised of growth, non-growth, external and TransLink funding components.

Each program table is accompanied by a figure (map) that shows the location and extent of the projects. Projects that are general in nature or in various locations may not be shown on the maps.

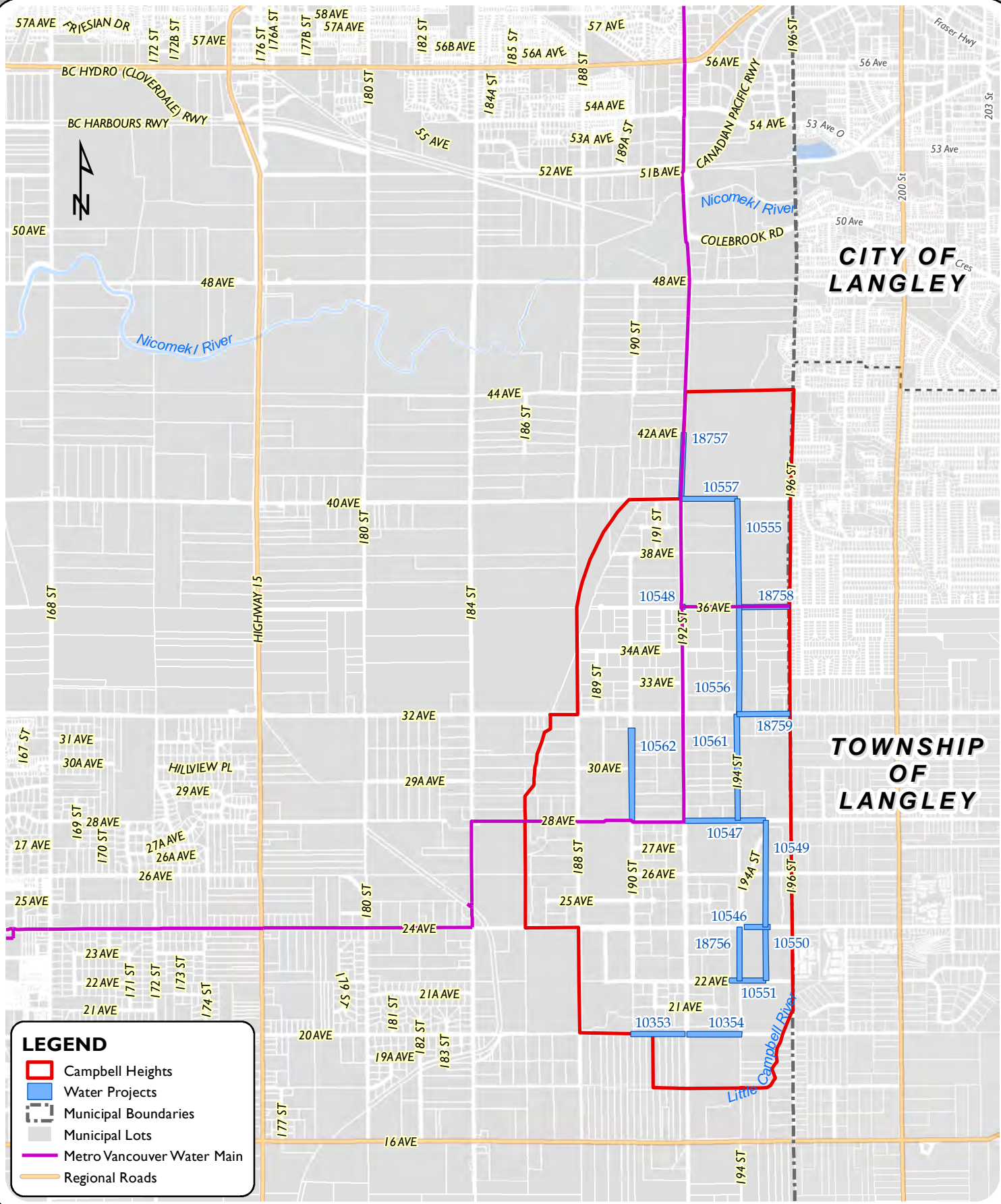


ROADS

Program 1017 - T - Campbell Heights

Program Total	155,955,046	116,553,346	-	13,133,900	26,267,800
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Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding
10585	Arterial Widening (South Side)	032 Ave: 188 St - 192 St	NCP Driven	1,882,560	1,882,560	-	-	-
10587	Arterial Widening - 5 Lane	192 St: 028 Ave - 032 Ave	NCP Driven	7,184,320	7,184,320	-	-	-
10588	Arterial Widening - 3 to 5 Lane (East Side)	192 St: 024 Ave - 028 Ave	NCP Driven	3,020,160	3,020,160	-	-	-
10589	Arterial Widening - 5 Lane	032 Ave: 192 St - 196 St	NCP Driven	7,184,320	7,184,320	-	-	-
10590	Arterial Widening - 5 Lane	024 Ave: 188 St - 190 St (Y)	Short Term (1 - 5 Yrs)	3,592,160	3,592,160	-	-	-
10591	Arterial Widening - 3 to 5 Lane (South Side)	024 Ave: 190 St - 192 St (Y)	Short Term (1 - 5 Yrs)	1,796,080	1,796,080	-	-	-
10592	Arterial Widening - 3 to 5 Lane (South Side)	024 Ave: 192 St - 194 St (Y)	NCP Driven	1,510,080	1,510,080	-	-	-
10593	7817-0009-00: New Arterial Construction	024 Ave: 194 St - 196 St	NCP Driven	4,245,280	4,245,280	-	-	-
10595	Arterial Widening - 5 Lane	192 St: 016 Ave - 020 Ave	NCP Driven	7,184,320	7,184,320	-	-	-
10597	Arterial Widening - 5 Lane	036 Ave: 192 St - 196 St	NCP Driven	7,184,320	7,184,320	-	-	-
10599	Collector Upsizing - linked to multiple LD projects	190 St: 028 Ave - 032 Ave	Short Term (1 - 5 Yrs)	1,589,056	1,589,056	-	-	-
10600	7817-0009-00_Collector Upsizing (north)	028 Ave: 192 St - 196 St	Short Term (1 - 5 Yrs)	794,528	794,528	-	-	-
10606	Arterial Widening - 5 Lane	032 Ave: 176 St - 184 St (Y)	Short Term (1 - 5 Yrs)	12,080,640	12,080,640	-	-	-
10607	Arterial Widening - 5 Lane	032 Ave: 184 St - 188 St (Y)	Short Term (1 - 5 Yrs)	6,040,320	6,040,320	-	-	-
10611	Arterial Widening - 5 Lane	024 Ave: 184 St - 188 St	Short Term (1 - 5 Yrs)	7,184,320	7,184,320	-	-	-
10614	Arterial Widening - 5 Lane	016 Ave: 176 St - 184 St	NCP Driven	18,487,040	4,621,760	-	4,621,760	9,243,520
10615	Arterial Widening - 5 Lane	016 Ave: 184 St - 192 St	NCP Driven	18,487,040	4,621,760	-	4,621,760	9,243,520
10616	Arterial Widening - 5 Lane	016 Ave: 192 St - 196 St	NCP Driven	9,243,520	2,310,880	-	2,310,880	4,621,760
12018	Arterial Widening - 3 to 5 Lane (East Side)	192 St: 020 Ave - 024 Ave	NCP Driven	3,592,160	3,592,160	-	-	-
14280	Collector Widening	028 Ave: 184 St - 188 St	NCP Driven	4,567,680	4,567,680	-	-	-
14281	Collector Widening (south)	028 Ave: 192 St - 194A St (Y)	Short Term (1 - 5 Yrs)	1,201,680	1,201,680	-	-	-
14282	Collector Widening	194A St: 026 Ave - 028 Ave	Short Term (1 - 5 Yrs)	558,272	558,272	-	-	-
14283	7817-0009-00: Collector Upsizing	194A St: 024 Ave - 026 Ave	Short Term (1 - 5 Yrs)	558,272	558,272	-	-	-
14284	Traffic Signal	022 Ave / 192 St	Short Term (1 - 5 Yrs)	380,640	380,640	-	-	-
14285	Traffic Signal	024 Ave / 188 St	Short Term (1 - 5 Yrs)	380,640	380,640	-	-	-
14286	Traffic Signal	024 Ave / 190 St	NCP Driven	380,640	380,640	-	-	-
14287	Traffic Signal	024 Ave / 194A St	NCP Driven	380,640	380,640	-	-	-
14288	Traffic Signal	028 Ave / 184 St	NCP Driven	380,640	380,640	-	-	-
14289	Traffic Signal	028 Ave / 190 St	NCP Driven	380,640	380,640	-	-	-
14291	Traffic Signal	028 Ave / 194A St	NCP Driven	380,640	380,640	-	-	-
14292	Traffic Signal	032 Ave / 194A St	NCP Driven	380,640	380,640	-	-	-
14294	Traffic Signal	036 Ave / 194A St	NCP Driven	380,640	380,640	-	-	-
14295	Traffic Signal	040 Ave / 192 St	NCP Driven	380,640	380,640	-	-	-
14296	Widen Crossing	016 Ave & Campbell River	NCP Driven	6,318,000	1,579,500	-	1,579,500	3,159,000
15556	Arterial Widening - 3 to 5 Lane	192 St: 040 Ave - 5000 Blk	NCP Driven	6,349,200	6,349,200	-	-	-
16748	Latimer Greenway Multi-Use Pathway	192 St: 2900 Blk - 2600 Blk (Y)	Short Term (1 - 5 Yrs)	837,408	837,408	-	-	-
18086	Arterial Widening - 3 to 5 Lane (East Side)	192 St: 036 Ave - 040 Ave	NCP Driven	3,592,160	3,592,160	-	-	-
18800	Collector Upsizing	194 St: 022 Ave - 024 Ave	NCP Driven	738,949	738,949	-	-	-
18801	Collector Upsizing	194A St: 028 Ave - 032 Ave	NCP Driven	1,477,898	1,477,898	-	-	-
18802	Collector Upsizing	194 St: 032 Ave - 036 Ave	Short Term (1 - 5 Yrs)	869,453	869,453	-	-	-
18803	Collector Upsizing	194 St: 036 Ave - 040 Ave	NCP Driven	1,477,898	1,477,898	-	-	-
18804	Collector Upsizing	040 Ave: 192 St - 194 St	NCP Driven	738,949	738,949	-	-	-
18928	New Traffic Signal	030 Ave & 192 Street	NCP Driven	395,866	395,866	-	-	-
19126	7817-0529-00_R18802S Collector Upsizing	19437 32 Ave	Short Term (1 - 5 Yrs)	184,737	184,737	-	-	-

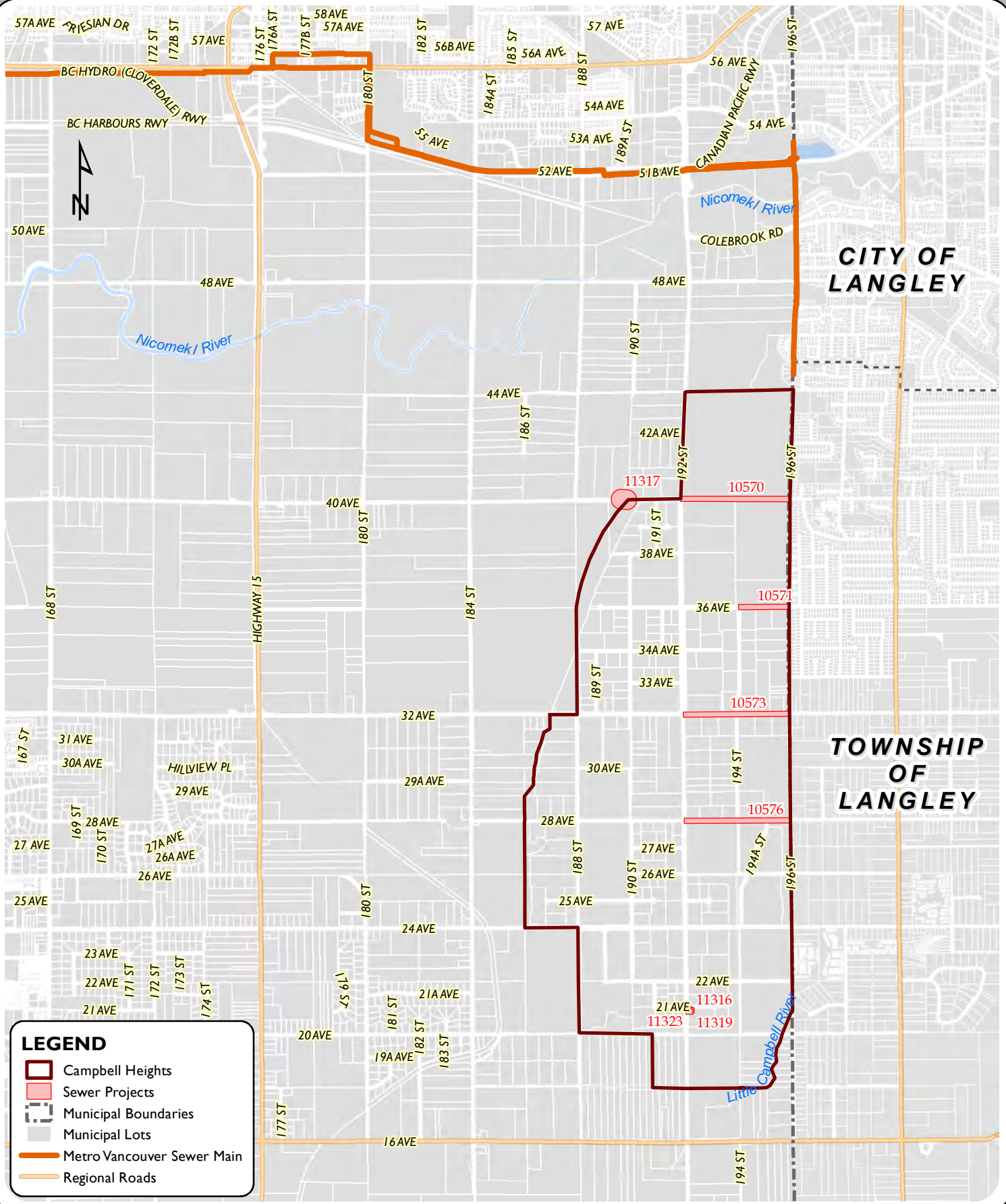


WATER

Program 1617 - W - Campbell Heights

Program Total	11,698,000	11,698,000	-	-	-
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Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding
10353	400m of 300mm diameter	020 Ave: 190 - 192 St	NCP Driven	536,000	536,000	-	-	-
10354	400m of 300mm diameter	020 Ave: 192 - 194 St	NCP Driven	536,000	536,000	-	-	-
10546	7817-0009-00_200m of 300mm diameter	024 Ave: 194 - 195 St	NCP Driven	268,000	268,000	-	-	-
10547	7817-0009-00_600m of 350mm diameter	028 Ave: 195 - 192 St	NCP Driven	828,000	828,000	-	-	-
10548	Connection to GVWD	192 St / 036 Ave	NCP Driven	695,000	695,000	-	-	-
10549	7817-0009-00_800m of 350mm diameter	195 St: 028 - 024 Ave	NCP Driven	1,104,000	1,104,000	-	-	-
10550	400m of 350mm diameter	195 St: 024 - 022 Ave	NCP Driven	552,000	552,000	-	-	-
10551	200m of 300mm diameter	022 Ave: 194 - 195 St	NCP Driven	268,000	268,000	-	-	-
10555	800m of 350mm diameter	194 St: 040 - 036 Ave	NCP Driven	1,104,000	1,104,000	-	-	-
10556	7819-0256-00_630m of 350mm diameter	194 St: 032 Ave - Lot 3505	NCP Driven	870,000	870,000	-	-	-
10557	400m of 350mm diameter	040 Ave: 194 - 192 St	NCP Driven	552,000	552,000	-	-	-
10561	800m of 350mm diameter	194 St: 032 - 028 Ave	NCP Driven	1,104,000	1,104,000	-	-	-
10562	300m of 300mm diameter	190 St: 030 Ave - Lot 3141	NCP Driven	402,000	402,000	-	-	-
17060	Jericho Reservoir - CoS Contribution (Camp Heights) Ph1 2022	Township of Langley (20400 - 73A Avenue)	NCP Driven	601,000	601,000	-	-	-
18756	400 mm of 300mm diameter	194 St: 22 - 24 Ave	NCP Driven	536,000	536,000	-	-	-
18757	500mm of 300mm diameter	192 St: 40 - 42A Ave	NCP Driven	670,000	670,000	-	-	-
18758	7819-0256-00_400mm of 300mm diameter	36 Ave: 194 - 196 St	NCP Driven	536,000	536,000	-	-	-
18759	400 mm of 300mm diameter	32 Ave: 194 - 196 St	NCP Driven	536,000	536,000	-	-	-



The data provided is compiled from various sources and IS NOT warranted as to its accuracy or sufficiency by the City of Surrey.
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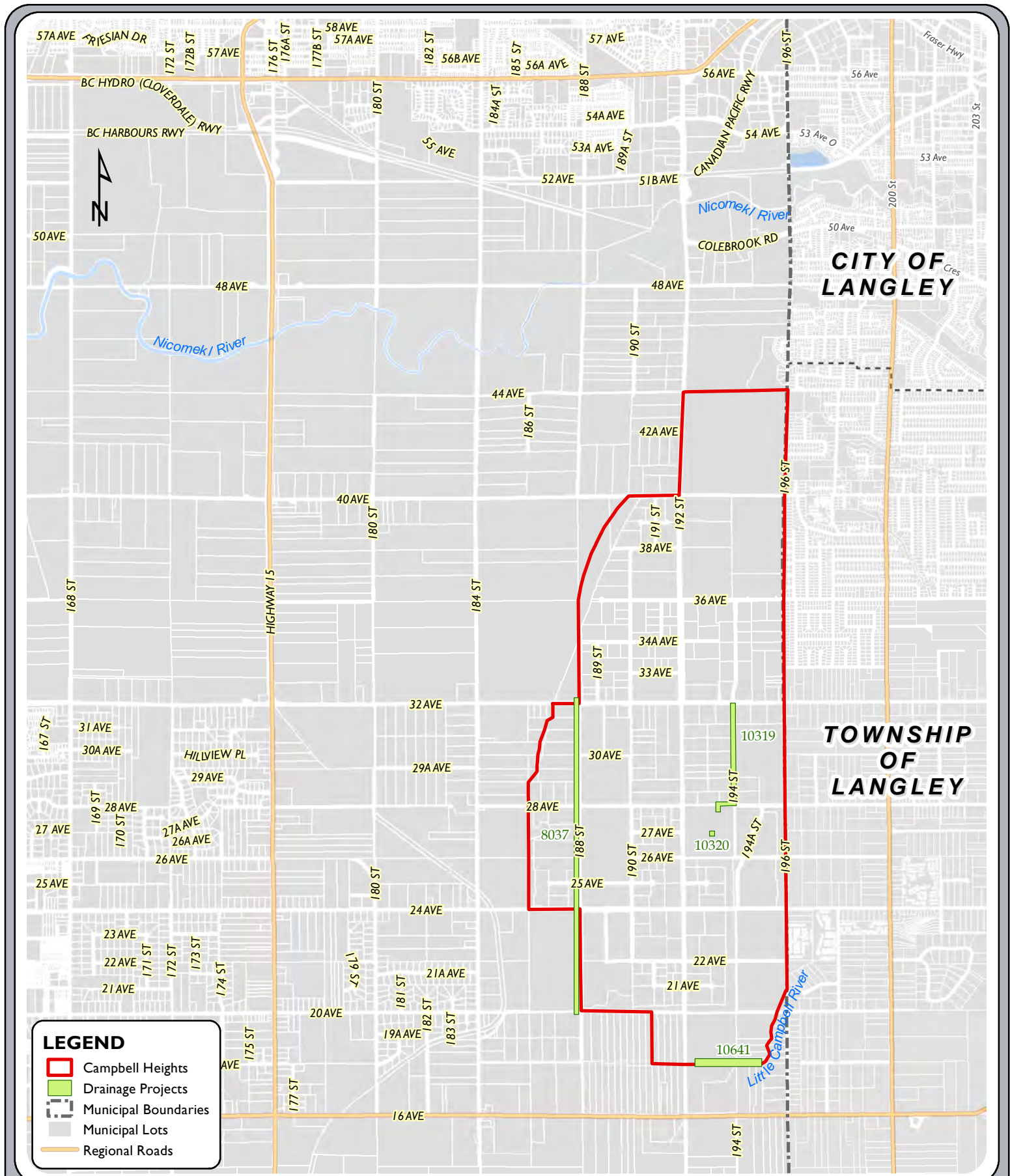
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Date Printed: 2022-01-07 Cartographer: P205934 © City of Surrey

SEWER

Program 1637 - S - Campbell Heights

Program Total	3,908,800	3,908,800	-	-	-
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Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding
10570	800m of 375mm diameter upsizing	040 Ave: 192 - 196 St	Upsizing Contribution	150,600	150,600	-	-	-
10571	525m of 375mm diameter upsizing	036 Ave: 19370 - 196 St	Upsizing Contribution	164,700	164,700	-	-	-
10573	7819-0236-00_800m of 375mm diameter upsizing	032 Ave: 192 - 196 St (19426 32 Ave)	Upsizing Contribution	251,000	251,000	-	-	-
10576	800m of 300mm diameter upsizing	028 Avenue: 192 to 196 Street	Upsizing Contribution	115,100	115,100	-	-	-
11316	Odour Control Facilities at Pump station	021 Ave / 192 St	NCP Driven	315,000	315,000	-	-	-
11317	Campbell Hts Grit Chamber	040 Ave / 19000 blk (N)	NCP Driven	642,800	642,800	-	-	-
11318	Campbell Hts Sewer Upsizing	Various Locations	Upsizing Contribution	230,300	230,300	-	-	-
11319	Campbell Hts. Overflow Storage Tank at P.S.	2090 192 St	NCP Driven	1,575,000	1,575,000	-	-	-
11323	Campbell Hts. Pump Station - 2nd Upgrade to 210 L/s	021 Ave / 192 St	NCP Driven	464,300	464,300	-	-	-



DRAINAGE

Program 1667 - D - Campbell Heights

Program Total				6,123,700	6,123,700	-	-	-
Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding
10641	Exfiltration Drainage System	018 Ave: 192 - 195 St	NCP Driven	435,000	435,000	-	-	-
10320	Latimer Pond (DCCFEA)	192 St / 028 Ave	NCP Driven	440,200	440,200	-	-	-
10319	Latimer 194 St and 28 Ave Trunk (DCCFEA)	194 St,from 28 - 32 Ave; 28 Ave,from park entrance to 194 St	NCP Driven	2,377,500	2,377,500	-	-	-
8037	Storm Exfiltration System	188 St: 020 - 028 Ave	NCP Driven	2,871,000	2,871,000	-	-	-

7. HIGHWAY 99 CORRIDOR

The Highway 99 Corridor area encompasses approximately 195 hectares and generally lies along Highway 99 from 8 Avenue to 32 Avenue.

The City's OCP designates the Highway 99 Corridor for commercial and industrial development.

A specific area servicing plan was developed for this area to address issues related to servicing a mixed-use commercial/industrial development. Major servicing requirements include:

- Feeder mains, pressure reducing valves and local feeder mains to provide water distribution and fire protection;
- Intersection improvements, and the widening of collectors and arterials throughout the area;
- A new sanitary pump station and forcemain, and local gravity trunk sewers to provide sanitary sewer service; and
- Community detention facilities, and culvert and watercourse upgrades.

7.1 Highway 99 Corridor Programs

Program 1019 – Transportation

The original transportation analysis for Highway 99 identified key improvements to collector and arterial roads to provide critical circulation and connections to the area. Further transportation modelling and analysis has refined the transportation servicing needs with the major corridors are summarized below.

16 Avenue

This arterial road is part of TransLink's Major Road Network ("MRN") and is a designated City truck route. It is a key intra-regional road that connects with Provincial Highway 99, Highway 15, and Highway 13 in Township of Langley and the respective border crossings with the United States. Widening improvements and a new overpass across Highway 99 are already complete. As this road services more than just the growth of the Highway 99 area, funding for improvements is identified as 25% from Highway 99, 25% from City Wide DCCs (shown as External in Table 7.1 below), and 50% from TransLink's Major Road Network and Bikes ("MRNB") Capital Cost Sharing Program.

24 Avenue

This arterial road is the central east-west road for South Surrey and South Langley and connects Highway 99 with Grandview Heights and Semiahmoo Peninsula to the west and Brookwood to the east. Road widening and a new overpass across Highway 99 has already been completed and funded by the area. A future interchange is identified to be funded by the Province.

Croydon Drive/Oak Meadows Way

This road is the main corridor through the Highway 99 area. North of 24 Avenue it is classified as a standard collector road with corresponding upsizing frontage requirements, and completion of works without development frontage adjacent to Highway 99. South of 20 Avenue it is a modified collector standard with additional travel lanes to support goods movement traffic servicing the area. Between 20 Avenue and 24 Avenue it is an arterial as it provides key connection with 20 Avenue. Due to the many realignments required along the corridor, a number of roundabouts are planned to service the turning movements and maintain efficient operations.

20 Avenue

With continued growth in the Grandview Heights area, specifically from Sunnyside Heights, a new overpass of Highway 99 was identified as critical to connect Highway 99 and Grandview Heights with the Semiahmoo Peninsula. The overpass project was identified to provide significant benefit to servicing the Highway 99 area and funding is split 50% from Highway 99, and 50% from Citywide DCCs (shown as External in Table 7.1 below).

Program 1619 – Water

The Highway 99 area is predominantly located within the 142m and 105m pressure zones supplied by Grandview Pump Station and Grandview Reservoir, respectively. There are other smaller sections of this area that are within the 110m pressure zone supplied by the direct connection to Greater Vancouver Water District (“GVWD”) feeder mains located at 24 Avenue/157 Street.

Water is distributed to this area through a set of mains ranging in diameter from 200mm to 350mm. Due to the location of this plan area, it is also important to ensure there is sufficient east-west water system connectivity across Highway 99. Currently there is an existing water main crossing Highway 99 at 16 Avenue (400/500mm) and at 24 Avenue (450mm) which can be used to maintain the east-west water connectivity within this plan area as well as to the surrounding water distribution system.

Program 1639 – Sewer

As the area first developed, an interim diversion to the Semiahmoo Pump Station was permitted to service the area, up to 40 litres per second capacity, until the Fergus pump station at 168 Street and 1400 block was built. The Fergus Pump Station has now been constructed, therefore the interim servicing approach to Semiahmoo Pump Station needs to be diverted back to Fergus Pump Station.

Wastewater generated from areas north of 2600 block will flow north on Croydon Drive to 156 Street, whereas areas north of 28 Avenue will flow north on Croydon Drive to 31 Avenue. Wastewater generated from areas south of 12 Avenue will be pumped to Fergus Pump Station.

Program 1669 – Drainage

Approved by Council in 2004, the stormwater servicing strategy for the Highway 99 Corridor was aimed at attenuating the post development flows to ensure protection of valuable aquatic habitat within and downstream of the corridor area. The majority of the proposed servicing requirements, such as creek and pipe diversions, community detention pond and associated drainage infrastructure, have been completed already. The only remaining project is the Highway 99 ditch relocation from 16 Avenue to Fergus Creek. The intent of this project is to relocate the existing ditch along Highway 99, from 16 Avenue to the mainstem of Fergus Creek, off of the highway corridor. The drainage program value shown in Table 7.1 below represents the City’s contribution towards this work, with the remaining costs for the work to be borne by the development community.

Table 7.1 – Highway 99 Corridor Cost Summary

No.	Program	Growth (\$)	Non-Growth (\$)	External (\$)	TransLink (\$)	Total (\$)
1019	Transportation	35,713,508	0	27,707,104 ⁽¹⁾	2,746,656	66,167,269
1619	Water	3,194,000	0		0	3,194,000
1639	Sanitary Sewer	4,511,583	0		0	4,511,583
1669	Drainage	200,000	0	0	0	200,000
Total		43,619,091	0	27,707,104	2,746,656	74,072,851

(1) City Wide DCC and Provincial contributions for Transportation are shown as External funding in the Highway 99 Corridor Area-Specific Program.

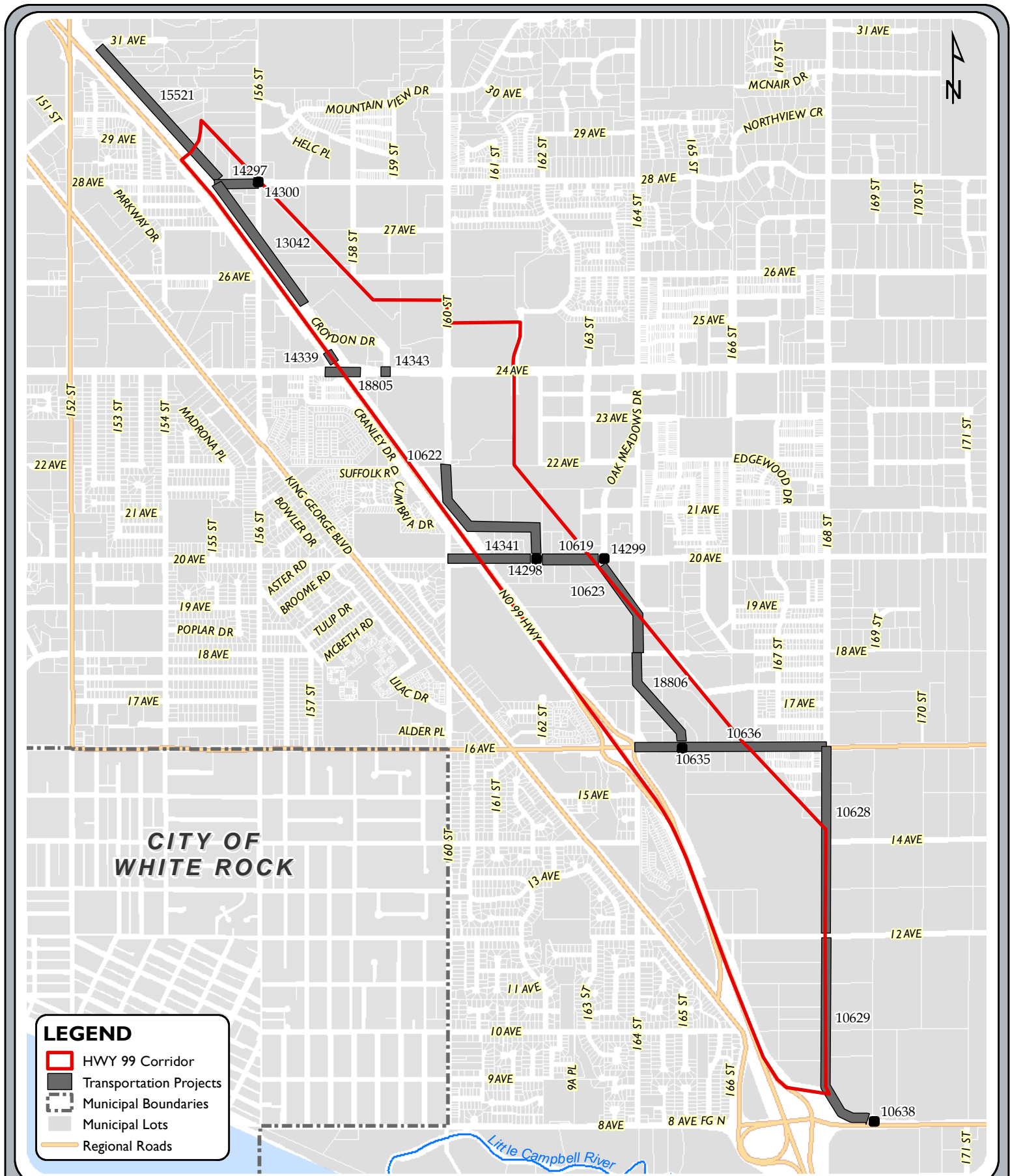
7.2 Highway 99 Corridor Projects by Program

The following tables and figures identify the projects under the Highway 99 Corridor programs for transportation, sanitary sewer, water and drainage. The tables provide the following information:

- Project ID - the unique identifier of the project;
- Project name - the specific name or generic name that depicts the type of work;
- Project location - the geographic extent of the works;
- Priority - the intended time frame for when the project is planned to proceed (subject to change); and
- Costs – the high-level estimates in 2022 dollars (subject to change at the actual time of construction).

The costs are comprised of growth, non-growth, external and TransLink funding components.

Each program table is accompanied by a figure (map) that shows the location and extent of the projects. Projects that are general in nature or in various locations may not be shown on the maps.



**FIGURE 7.1 - Transportation
Highway 99 Corridor (Program 1019)**

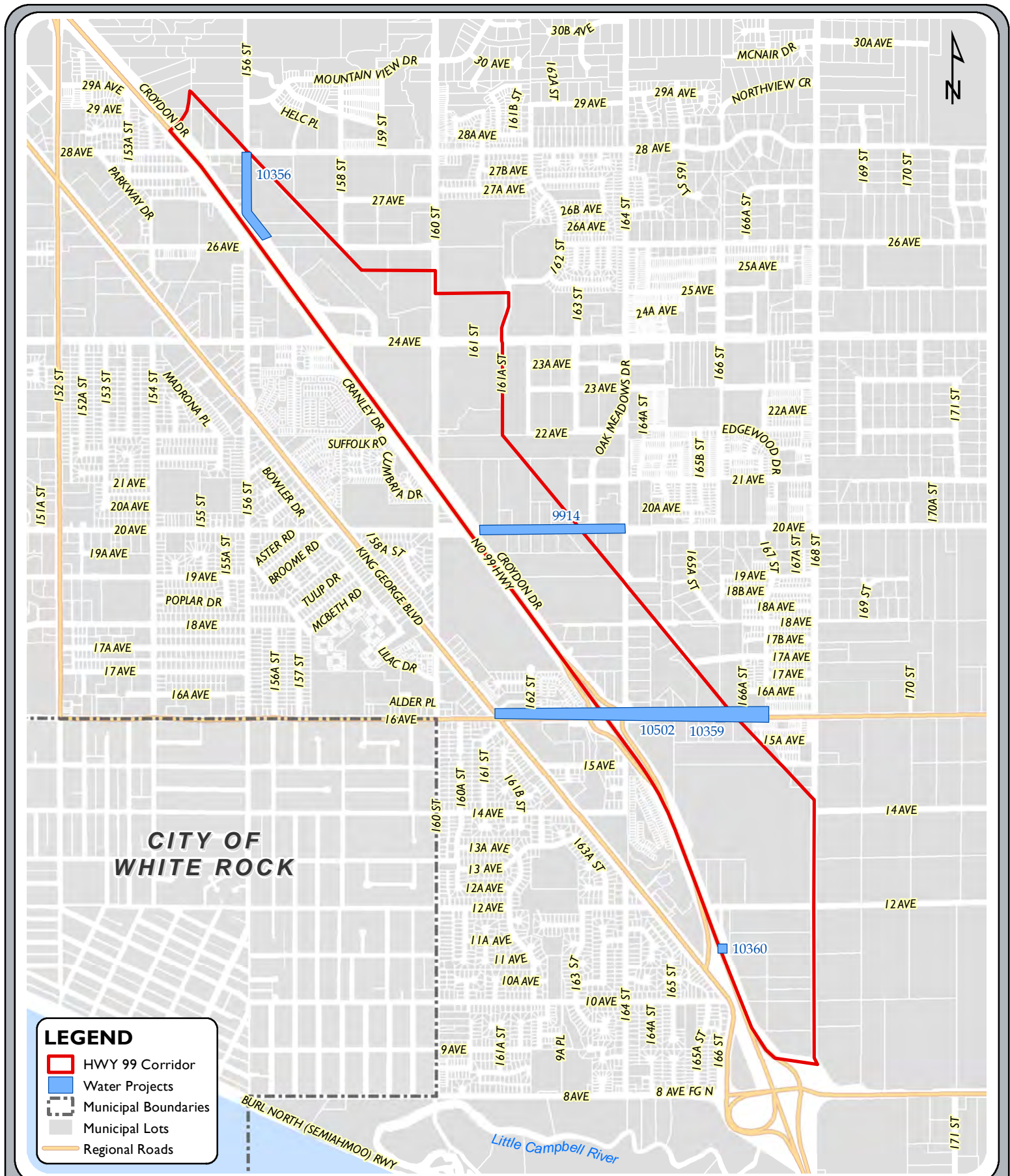
The data provided is compiled from various sources and IS NOT warranted as to its accuracy or sufficiency by the City of Surrey.
This information is provided for information and convenience purposes only. Lot sizes, legal descriptions and encumbrances must be confirmed at the Land Title Office.

Date Printed: 2022-01-12 Cartographer: JJR © City of Surrey
Source: G:\MAPPING\GIS\Maps\Recurring\4_CCP\10yrCCP_Plan\10yrServicingPlan2022-31\Figure7-1_Hwy99Corridor-T.mxd

ROADS

Program 1019 - T - Highway 99 Corridor

Program 1019 - T - Highway 99 Corridor				Program Total	66,167,269	35,713,508	-	27,707,104	2,746,656
Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding	
10619	Arterial Widening	020 Ave: 161 St - 164 St	NCP Driven	4,187,040	4,187,040	-	-	-	
10622	Arterial Widening	Croydon Dr: 020 Ave - 2200 Blk	NCP Driven	4,516,928	2,258,464	-	2,258,464	-	
10623	Collector Upsizing (5 Lane)	164 St: 018 Ave - 020 Ave	NCP Driven	3,838,120	1,919,060	-	1,919,060	-	
10628	Arterial Improvements	168 St: 012 Ave - 016 Ave	NCP Driven	3,328,000	3,328,000	-	-	-	
10629	Arterial Improvements	168 St: 008 Ave - 012 Ave	NCP Driven	3,328,000	3,328,000	-	-	-	
10635	Traffic Signal: New	016 Ave / 164A St	NCP Driven	380,640	380,640	-	-	-	
10636	Arterial Widening	016 Ave: Hwy 99 - 168 St (2 to 5 Lanes)	NCP Driven	6,866,640	2,059,992	-	2,059,992	2,746,656	
10638	Traffic Signal: New	008 Ave / 168 St	NCP Driven	380,640	380,640	-	-	-	
13042	Collector Ultimate Widening	Croydon Dr: 2500 Blk to 28 Ave	NCP Driven	951,600	951,600	-	-	-	
14297	Collector Upsizing	028 Ave: Croydon Dr - 156 St (South Side)	NCP Driven	877,632	438,816	-	438,816	-	
14298	Roundabout_LD 7916-0396-00	020 Ave & Croydon Dr	NCP Driven	955,100	955,100	-	-	-	
14299	Roundabout	020 Ave & 164 St	Short Term (1 - 5 Yrs)	955,100	477,550	-	477,550	-	
14300	Traffic Signal	028 Ave / 156 St	NCP Driven	425,640	425,640	-	-	-	
14339	Interchange Ramp Connections	024 Ave & Hwy 99	NCP Driven	11,350,400	-	-	11,350,400	-	
14341	R-14247 New Crossing	020 Ave Overpass Hwy 99	Short Term (1 - 5 Yrs)	14,414,000	7,207,000	-	7,207,000	-	
14343	Intersection Improvements	024 Ave & Croydon Dr	Short Term (1 - 5 Yrs)	1,702,560	1,702,560	-	-	-	
15521	Collector Widening	Croydon Dr: 028 Ave to 031 Ave (Y)	Short Term (1 - 5 Yrs)	1,903,200	1,903,200	-	-	-	
18805	Interchange Supporting Improvements	24 Ave / Hwy 99	NCP Driven	1,814,384	1,814,384	-	-	-	
18806	Collector Upsizing (5 Lane)	164 St: 016 Ave - 018 Ave	NCP Driven	3,991,645	1,995,822	-	1,995,822	-	

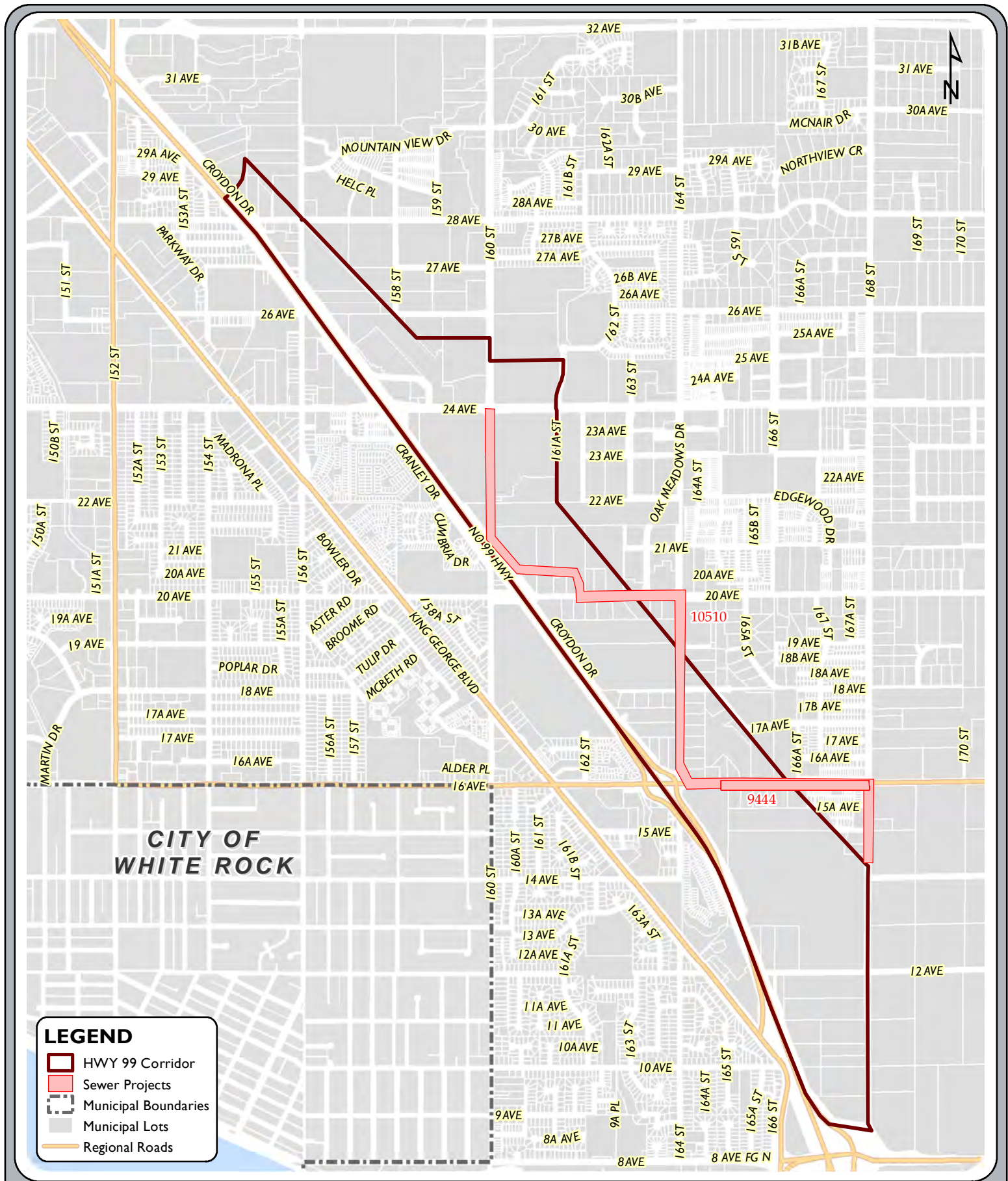


WATER

Program 1619 - W - Hwy 99

Program Total	3,194,000	3,194,000	-	-	-
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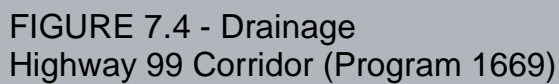
Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding
9914	430m of 400mm diameter	020 Ave: Lot 16184 - 164 St	NCP Driven	607,000	607,000	-	-	-
10356	300m of 350mm diameter	Croydon Dr: 028 Ave - lot 2630	NCP Driven	415,000	415,000	-	-	-
10359	Pressure Reducing Valve	016 Ave / 16600 blk	NCP Driven	309,000	309,000	-	-	-
10360	Hwy 99 watermain crossing	011 Ave / Hwy 99	NCP Driven	412,000	412,000	-	-	-
10502	1,000m of 300mm diameter	016 Ave: King George Blvd - 167 St	NCP Driven	1,339,000	1,339,000	-	-	-
17064	Jericho Reservoir - CoS Contribution (Highway 99) Ph1 2022	Township of Langley (20400 - 73A Avenue)	NCP Driven	112,000	112,000	-	-	-



SEWER

Program 1639 - S - Hwy 99

Program 1639 - S - Hwy 99				Program Total	4,511,583	4,511,583	-	-	-
Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding	
9444	670m of 525mm diameter gravity sewer (Fergus Trunk Sewer)	15 Ave/Hwy 99 - 168 St/1200 blk (Grandview South PS)	NCP Driven	1,550,400	1,550,400	-	-	-	
10510	DCCFE Fergus Pump Station & Forcemain (partial cost)	168 Street/1400 blk	Long Term (6 - 10 Yrs)	2,961,183	2,961,183	-	-	-	



DRAINAGE

Program 1669 - D - Hwy 99

Program 1669 - D - Hwy 99				Program Total	200,000	200,000	-	-	-
Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding	
10325	Highway 99 Ditch Relocation to Fergus Crk (Contribution)	016 Ave / 164 St	NCP Driven	200,000	200,000	-	-	-	

8. ANNIEDALE-TYNEHEAD

The Anniedale-Tynehead NCP area encompasses approximately 415 hectares and generally lies south of Highway 1 and north of the Agricultural Land Reserve located from 168 Street to Harvie Road.

The NCP designates the area for a variety of land uses including commercial, light industrial, business park, institutional and a range of multi-family and single-family housing densities (2 to 45 units per acre).

An area specific DCC was developed for this area to provide an equitable way to distribute the high costs of providing sanitary sewer, water, drainage and transportation servicing infrastructure required to support build out of the NCP area. Major servicing requirements include:

- Four new sanitary sewer pump stations, three low pressure systems and a network of gravity trunk sewers and forcemains;
- Two new water supply sources, and a network of distribution and feeder mains;
- Community detention and water quality ponds, and construction of a major drainage system; and
- Highway 15 and Golden Ears Way overpasses, intersection roundabouts, traffic signals, road widening and upgrades throughout the area.

8.1 Anniedale-Tynehead Programs

Program 1021 – Transportation

A comprehensive transportation analysis for Anniedale Tynehead was conducted to assess the servicing needs for the area for the significant population and employment planned. With the plan area in a junction of three major interregional roads, Highway 1, Highway 15, and 96 Avenue/Golden Ears Way the analysis included analysis of the background regional traffic. The analysis resulted in key road widening, new arterial improvements and overpasses required to service the area described below.

Highway 15/96 Avenue/Golden Ears Way Overpass

Highway 15 is a Provincial Highway and 96 Avenue and Golden Ears Way are part of TransLink's Major Road Network (MRN) and both are designated City truck routes. They carry interregional traffic and are critical corridors for moving people and goods. The traffic analysis identified the need to provide grade separation of 96 Avenue/Golden Ears Way to adequately service the area. As this road services more than just the growth of the Anniedale Tynehead funding for improvements is identified as 50% from Anniedale Tynehead, and 50% from TransLink's Major Road Network and Bikes (MRNB) Capital Cost Sharing Program. Interchange ramps with Highway 15 are planned with the overpass and to be funded by the Province in the future.

88 Avenue

Is part of TransLink's Major Road Network (MRN) and is a designated City truck route west of Highway 15. Although it does not run through the plan area, improvements were identified as being required to adequately service the area to connect it with new north south arterial connections. As this road services more than just the growth of the Anniedale Tynehead funding for improvements is identified as 40% from Anniedale Tynehead, 10% from future growth in the South Port Kells area and 50% from TransLink's Major Road Network and Bikes (MRNB) Capital Cost Sharing Program.

180 Street

This is the main corridor through the Anniedale area. The transportation analysis identified the need to provide a new connection to extend the road to 88 Avenue to service the area due to limited access permitted to Highway 15.

184 Street

This is the main corridor to connect West Clayton with the Anniedale area. A new connection between 80 Avenue and 88 Avenue is required to complete this connection. As this road services more than just the growth of the Anniedale Tynehead funding for improvements is identified as 50% from Anniedale Tynehead, 50% from West Clayton (as City Wide DCCs and shown as External).

192 Street Widening & Overpass of Highway 1

Is an alternate corridor to connect Anniedale with Clayton and Highway 1 and considered critical to servicing growth in the area. It is planned to extend north of 88 Avenue across Highway 1 to connect with Port Kells with road widening south to North Clayton areas. As the road widening services more than just the growth of the Anniedale Tynehead funding for improvements is identified as 50% from Anniedale Tynehead, and 25 % from future South Port Kells and North Clayton area (as City Wide DCCs and shown as External).

92 Avenue and 90 Avenue

92 Avenue is the only east west arterial road that solely services the area and 100% funded from the plan area. 90 Avenue provides connections to 192 Street and partially services the South Port Kells area with 30% of funding identified as future City Wide DCC (shown as External).

168 Street

This is the main north south corridor connecting the Tynehead area. As this road services more than just the growth of the Anniedale Tynehead funding for improvements is identified as 50% from Anniedale Tynehead, 50% from Fleetwood Town Centre (as City Wide DCCs and shown as External).

Anniedale Road and Ridgeline Drive

These two new collector roads are critical to servicing the Anniedale Triangle and connecting Anniedale with Tynehead without requiring the use of regional routes.

Program 1621 – Water

The majority of the NCP area is currently serviced by private wells, with a small portion of the area being serviced by small diameter City water mains which connect to the existing 525mm City feeder main on 96 Avenue. This feeder main is supplied by a Greater Vancouver Water District (“GVWD”) direct connection at 95 Avenue/164 Street.

It should be noted that the existing 525mm water main on 96 Avenue has no capacity to provide service to the Anniedale-Tynehead area.

A new GVWD reservoir in Meagan Anne MacDougall Park (9008 Fleetwood Way) will be constructed to support overall growth within North Surrey, including Anniedale-Tynehead.

Program 1641 – Sewer

This NCP will be serviced four pump stations: 172 Street pump station at 170 Street and 92 Avenue, 176 Street pump station at 176 Street and 9000 block, 184 Street pump station at 184 Street and 9000 block and Anniedale pump station at south of Highway One and 18700 Block. These stations pump to Highway One and 103 Avenue where it discharges to a gravity trunk that flows to Metro Vancouver's North Surrey Interceptor at 104 Avenue and 173 Street. Odour Control Facilities will also be provided.

Program 1676 – Drainage

Approved by Council in 2012, the stormwater objectives for Anniedale-Tynehead are to:

- Protect downstream lands from exacerbated flooding;
- Protect receiving watercourses from erosion;
- Maintain base flows in creeks;
- Maintain water quality in creeks, ditches and storm systems;
- Safely convey runoff to the river systems; and
- Protect the natural environment adjacent to watercourses.

The servicing plan consists of both offsite and onsite measures that together meet the above stated stormwater objectives. In particular, the offsite measures include the implementation of various trunk sewers, ditch improvement works, stormwater detention ponds, and water quality ponds. The stormwater detention ponds will mitigate peak flows and downstream flooding during major rain events. The water quality ponds act to provide adequate base flows to natural watercourses to support fish life while mitigating erosion and maintaining or enhancing water quality for aquatic purposes and downstream users.

Table 8.1 – Anniedale-Tynehead Cost Summary

No.	Program	Growth (\$)	Non-Growth (\$)	External (\$)	TransLink (\$)	Total (\$)
1021	Transportation	132,251,436	0	99,105,040 ⁽¹⁾	34,724,780	266,081,256
1621	Water	21,220,800	0	0	0	21,220,800
1641	Sewer	35,499,000	0	0	0	35,499,000
1676	Drainage	28,259,193	0	0	0	28,259,193
Total		217,230,429	0	99,105,040	34,724,780	351,060,249

(1) City Wide DCC and Provincial contributions for Transportation are shown as External funding in the Anniedale-Tynehead Area-Specific Program.

8.2 Anniedale-Tynehead Projects by Program

The following tables and figures identify the projects under the Anniedale-Tynehead programs for transportation, sanitary sewer, water and drainage. The tables provide the following information:

- a) Project ID - the unique identifier of the project;
- b) Project name - the specific name or generic name that depicts the type of work;
- c) Project location - the geographic extent of the works;
- d) Priority - the intended time frame for when the project is planned to proceed (subject to change); and
- e) Costs – the high-level estimates in 2018 dollars (subject to change at the actual time of construction).

The costs are comprised of growth, non-growth, external, and TransLink funding components.

Each program table is accompanied by a figure (map) that shows the location and extent of the projects. Projects that are general in nature or in various locations may not be shown on the maps.

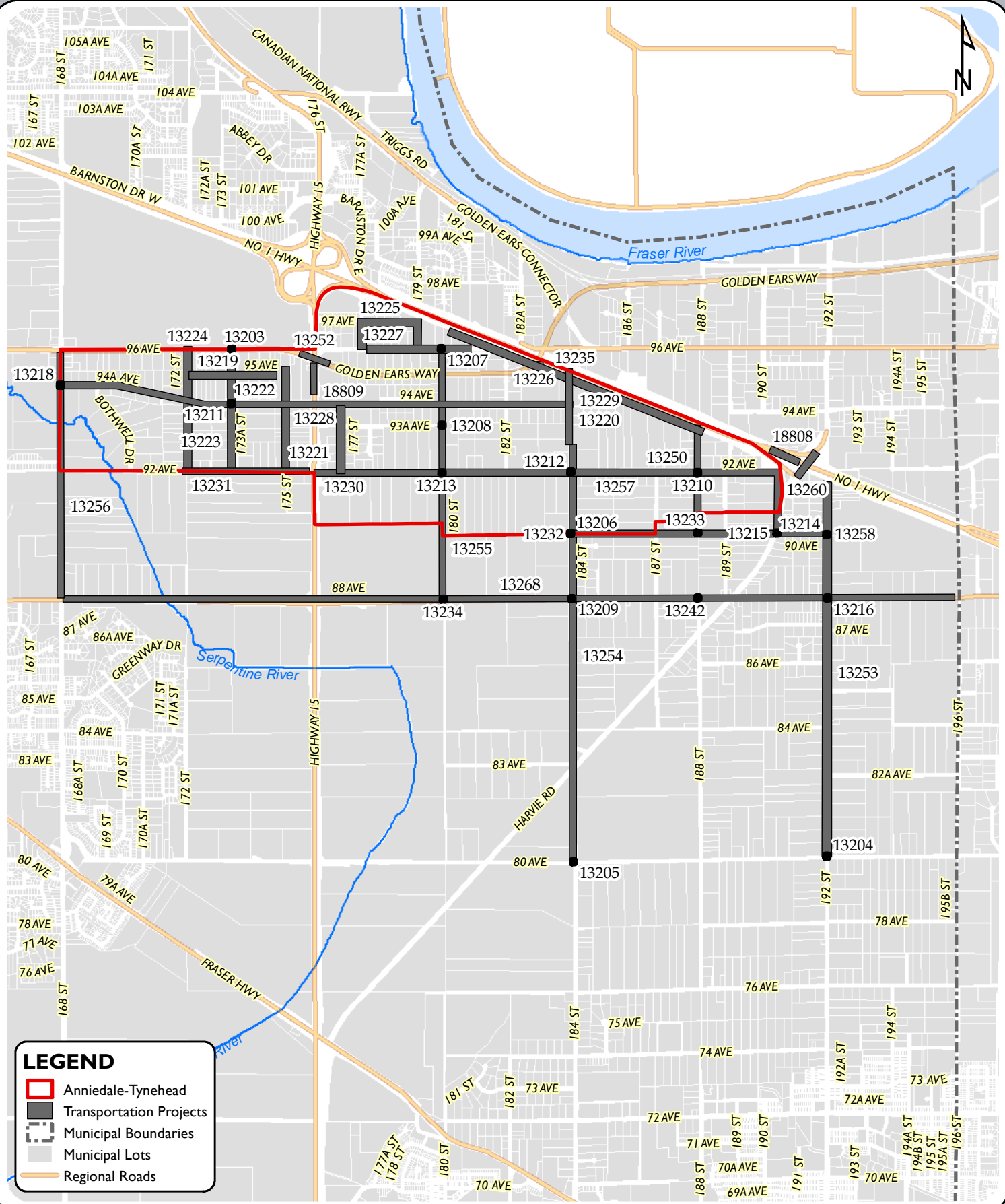


FIGURE 8.1 - Transportation
Anniedale-Tynehead (Program 1021)

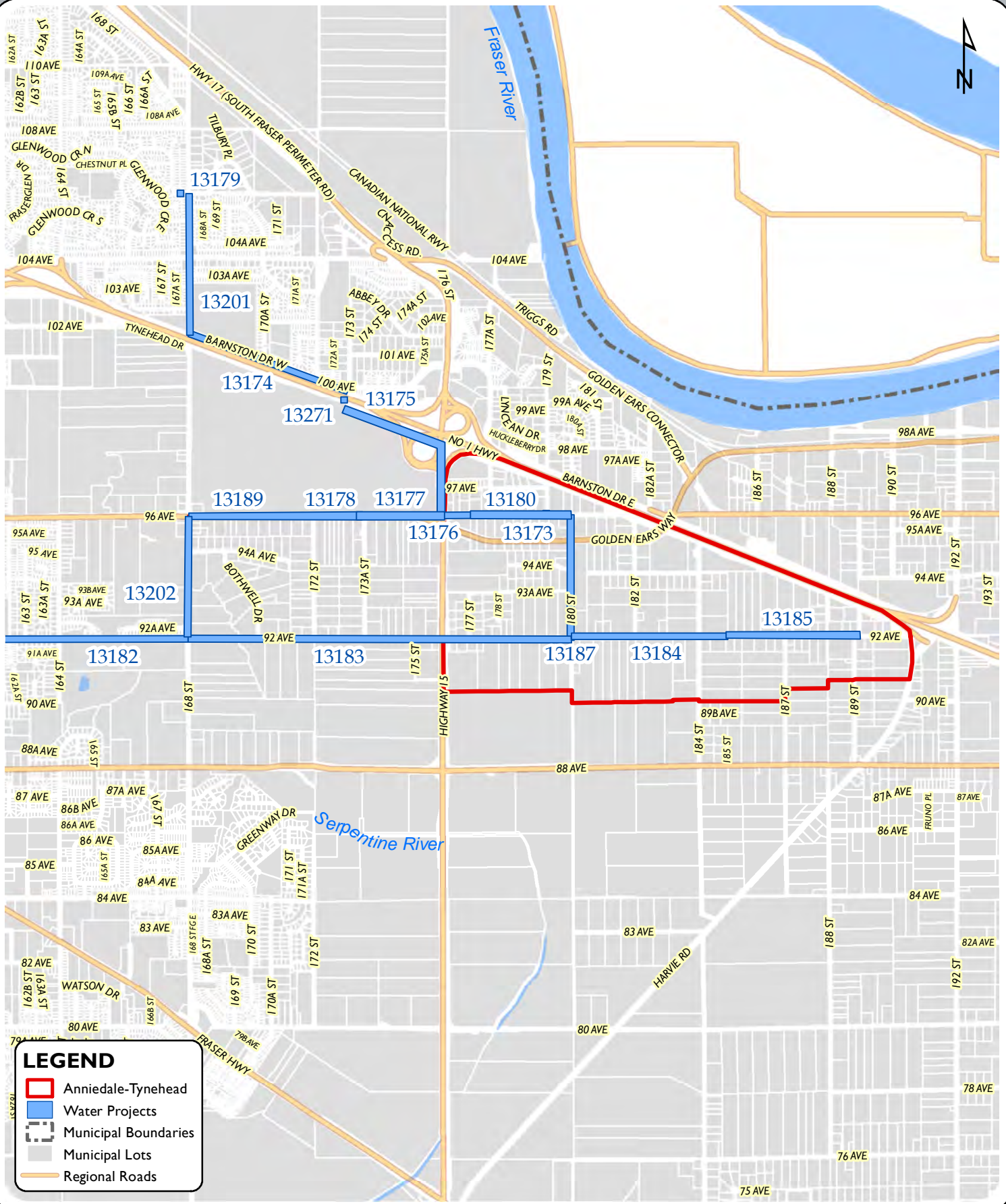
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ROADS

Program 1021 - T - Anniedale-Tynehead

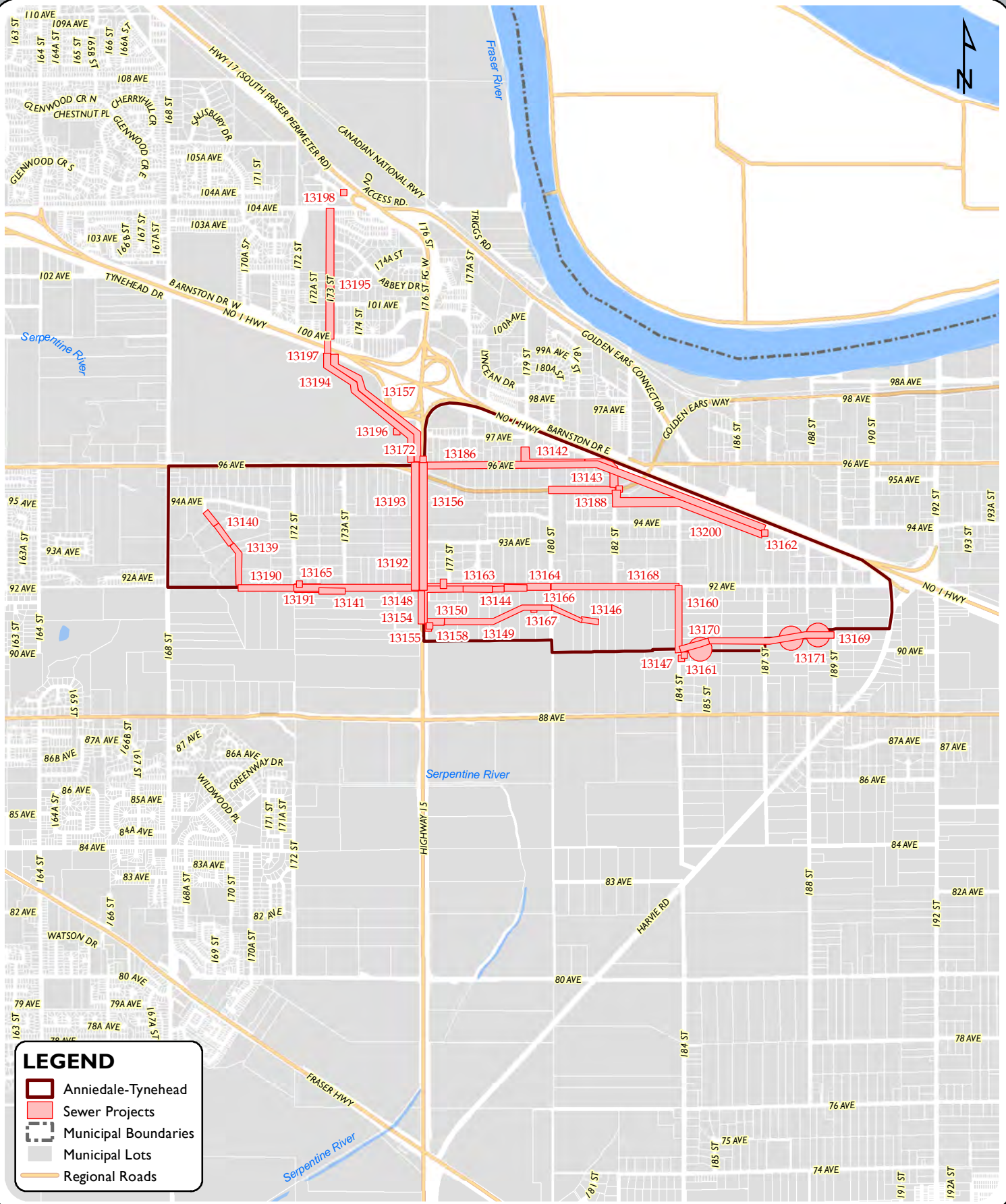
Program 1021 - T - Anniedale-Tynehead				Program Total	266,081,256	132,251,436	-	99,105,040	34,724,780
Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding	
13203	Traffic Signal	096 Ave / 173A St	NCP Driven	380,640	380,640	-	-	-	
13204	Traffic Signal	080 Ave / 192 St	NCP Driven	380,640	190,320	-	190,320	-	
13205	Traffic Signal	080 Ave / 184 St	NCP Driven	380,640	190,320	-	190,320	-	
13206	Traffic Signal	090 Ave / 184 St	NCP Driven	380,640	190,320	-	190,320	-	
13207	Traffic Signal	096 Ave / 180 St	NCP Driven	380,640	380,640	-	-	-	
13208	Traffic Signal	"Ridgeline Dr" (093A Ave) / 180 St	NCP Driven	380,640	380,640	-	-	-	
13209	Traffic Signal	088 Ave / 184 St	NCP Driven	380,640	190,320	-	190,320	-	
13210	Traffic Signal	092 Ave / 188 St	NCP Driven	380,640	380,640	-	-	-	
13211	Roundabout	"Ridgeline Dr" (094A Ave) / 173A St	NCP Driven	951,600	951,600	-	-	-	
13212	Traffic Signal	092 Ave / 184 St	NCP Driven	380,640	380,640	-	-	-	
13213	Traffic Signal	092 Ave / 180 St	NCP Driven	380,640	380,640	-	-	-	
13214	Traffic Signal	090 Ave / 192 St	NCP Driven	380,640	266,448	-	114,192	-	
13215	Traffic Signal	090 Ave / Harvie Rd	NCP Driven	380,640	266,448	-	114,192	-	
13216	Traffic Signal	088 Ave / 192 St	NCP Driven	380,640	152,256	-	228,384	-	
13218	Traffic Signal	"Ridgeline Dr" (094A Ave) / 168 St	NCP Driven	380,640	190,320	-	190,320	-	
13219	Collector Upsizing (Section D-D)	095 Ave: 172 - 175 St	NCP Driven	570,960	570,960	-	-	-	
13220	Collector Upsizing	184 St: 092A Ave - "Anniedale Rd"	NCP Driven	475,800	475,800	-	-	-	
13221	Collector Upsizing	177 St: 092 Ave - "Ridgeline Dr" (093A Ave)	NCP Driven	285,480	285,480	-	-	-	
13222	Collector Upsizing (Section E-E)	175 St: 092 Ave - 095 Ave	NCP Driven	570,960	570,960	-	-	-	
13223	Collector Upsizing	173A St: 092 - 096 Ave	NCP Driven	761,280	761,280	-	-	-	
13224	Collector Upsizing	172 St: 092 - 096 Ave	NCP Driven	761,280	761,280	-	-	-	
13225	Collector Upsizing	177A St / 097A Ave / 179 St: Triangle	NCP Driven	785,070	785,070	-	-	-	
13226	Collector Overpass	"Anniedale Rd" / Golden Ears Way	NCP Driven	6,185,400	6,185,400	-	-	-	
13227	Collector Upsizing	096 Ave: 177A - 181A St	NCP Driven	570,960	570,960	-	-	-	
13228	Collector Overpass	"Ridgeline Dr" (094A Ave) / Hwy 15	NCP Driven	7,137,000	7,137,000	-	-	-	
13229	Collector Upsizing (Section A-A)	"Ridgeline Dr" (093A/094A Ave): 168 St - 184 St	NCP Driven	2,688,270	2,688,270	-	-	-	
13230	Collector Upsizing	092 Ave: 176 - 180 St	NCP Driven	761,280	761,280	-	-	-	
13231	Collector Upsizing (Section C-C)	092 Ave: 172 St - 176 St	NCP Driven	761,280	761,280	-	-	-	
13232	Collector Upsizing (Section K-K)	090 Ave: 184 St - 187 St	NCP Driven	475,800	475,800	-	-	-	
13233	Roundabout	090 Ave / 188 St	NCP Driven	951,600	951,600	-	-	-	
13234	Traffic Signal	088 Ave / 180 St	NCP Driven	380,640	152,256	-	228,384	-	
13235	Collector Upsizing (Section G-G)	"Anniedale Rd" : 096 Ave - 188 St	NCP Driven	1,046,760	1,046,760	-	-	-	
13242	Traffic Signal	088 Ave / 188 St	NCP Driven	380,640	152,256	-	228,384	-	
13250	Collector Upsizing	188 St: 090A Ave - Anniedale Rd	NCP Driven	523,380	523,380	-	-	-	
13252	New Overpass	Hwy 15 / Golden Ears Way / 96 Ave	NCP Driven	14,354,520	7,177,260	-	-	7,177,260	
13253	Arterial Ultimate Widening	192 St: 080 Ave - 092 Ave	NCP Driven	22,239,360	11,119,680	-	11,119,680	-	
13254	Arterial Ultimate Widening	184 St: 080 Ave - 093 Ave	NCP Driven	24,092,640	12,046,320	-	12,046,320	-	
13255	Arterial Ultimate Widening	180 St: 088 Ave - 096 Ave	NCP Driven	14,826,240	14,826,240	-	-	-	
13256	Arterial Ultimate Widening	168 St: 088 - 096 Ave	NCP Driven	14,826,240	7,413,120	-	7,413,120	-	
13257	Arterial Interim Upsizing	092 Ave: 180 St - Harvie Rd / 90 Ave	NCP Driven	19,369,056	19,369,056	-	-	-	
13258	Arterial Ultimate Widening	090 Ave: Harvie Rd - 192 St	NCP Driven	3,014,480	3,014,480	-	-	-	
13260	New Overpass	Hwy 1 / 192 St	NCP Driven	9,516,000	4,758,000	-	4,758,000	-	
13268	Arterial Ultimate Widening	088 Ave: 168 St - 192 St	NCP Driven	55,095,040	22,038,016	-	5,509,504	27,547,520	
18808	Interchange Ramps	Hwy 1 / 192 St	NCP Driven	19,793,280	-	-	19,793,280	-	
18809	Interchange Ramps	Hwy 15 / Golden Ears Way / 96 Ave	NCP Driven	36,600,000	-	-	36,600,000	-	



WATER

Program 1621 - W - Anniedale-Tynehead

Program Total					21,220,800	21,220,800	-	-
Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding
13138	Upsizing 9,345m of 300mm diameter	Various Locations	NCP Driven	2,584,400	2,584,400	-	-	-
13145	Upsizing 1,595m of 300mm diameter	Various Locations	NCP Driven	166,400	166,400	-	-	-
13173	440m of 300mm diameter (DCCFE)	096 Ave: 177 - 180 St	NCP Driven	325,600	325,600	-	-	-
13174	600m of 450mm diameter (DCCFE)	Hwy 1: 170A- 173 St	NCP Driven	901,000	901,000	-	-	-
13175	1,060 of 450mm diameter (DCCFE)	South of Hwy 1: 173 -176 St; 176 St: South of Hwy 1 - 96	NCP Driven	901,000	901,000	-	-	-
13176	350m of 450mm diameter (DCCFE)	096 Ave: Hwy 15 - 178 St	NCP Driven	297,500	297,500	-	-	-
13177	505m of 300mm diameter (DCCFE)	096 Ave: Hwy 15 - 173A St	NCP Driven	373,700	373,700	-	-	-
13178	PRV station (DCCFE)	096 Ave/173A St	NCP Driven	115,000	115,000	-	-	-
13179	80m of 450mm diameter (DCCFE)	Cherry Hill Cr/Cherry Hill Ct - 168 St/106 Ave	NCP Driven	102,500	102,500	-	-	-
13180	PRV station (DCCFE)	096 Ave/179 St	NCP Driven	115,000	115,000	-	-	-
13181	550m of 750mm diameter (DCCFE)	153 St: 90 - 92 Ave	NCP Driven	935,000	935,000	-	-	-
13182	3,000m of 750mm diameter (DCCFE)	092 Ave: 153 - 168 St	NCP Driven	5,100,000	5,100,000	-	-	-
13183	2,405 of 750mm diameter (DCCFE)	092 Ave: 168 - 180 St	NCP Driven	4,087,000	4,087,000	-	-	-
13184	955m of 600mm diameter (DCCFE)	092 Ave: 180 - 185 St	NCP Driven	1,260,600	1,260,600	-	-	-
13185	780m of 450mm diameter (DCCFE)	092 Ave: 185 - 189 St	NCP Driven	663,000	663,000	-	-	-
13187	770m of 350mm diameter (DCCFE)	180 St: 96 - 92 Ave	NCP Driven	592,900	592,900	-	-	-
13189	1,095m of 300mm diameter (DCCFE)	096 Ave: 173A - 168 St	NCP Driven	814,000	814,000	-	-	-
13201	1,060m of 450mm diameter (DCCFE)	168 St: 106 Ave - Hwy 1	NCP Driven	901,000	901,000	-	-	-
13202	760m of 350mm diameter (DCCFE)	168 St: 96 - 92 Ave	NCP Driven	585,200	585,200	-	-	-
13271	Hwy 1 Crossing (DCCFE)	Hwy 1 / 173 St	NCP Driven	400,000	400,000	-	-	-



**FIGURE 8.3 - Sewer
Anniedale-Tynehead (Program 1641)**

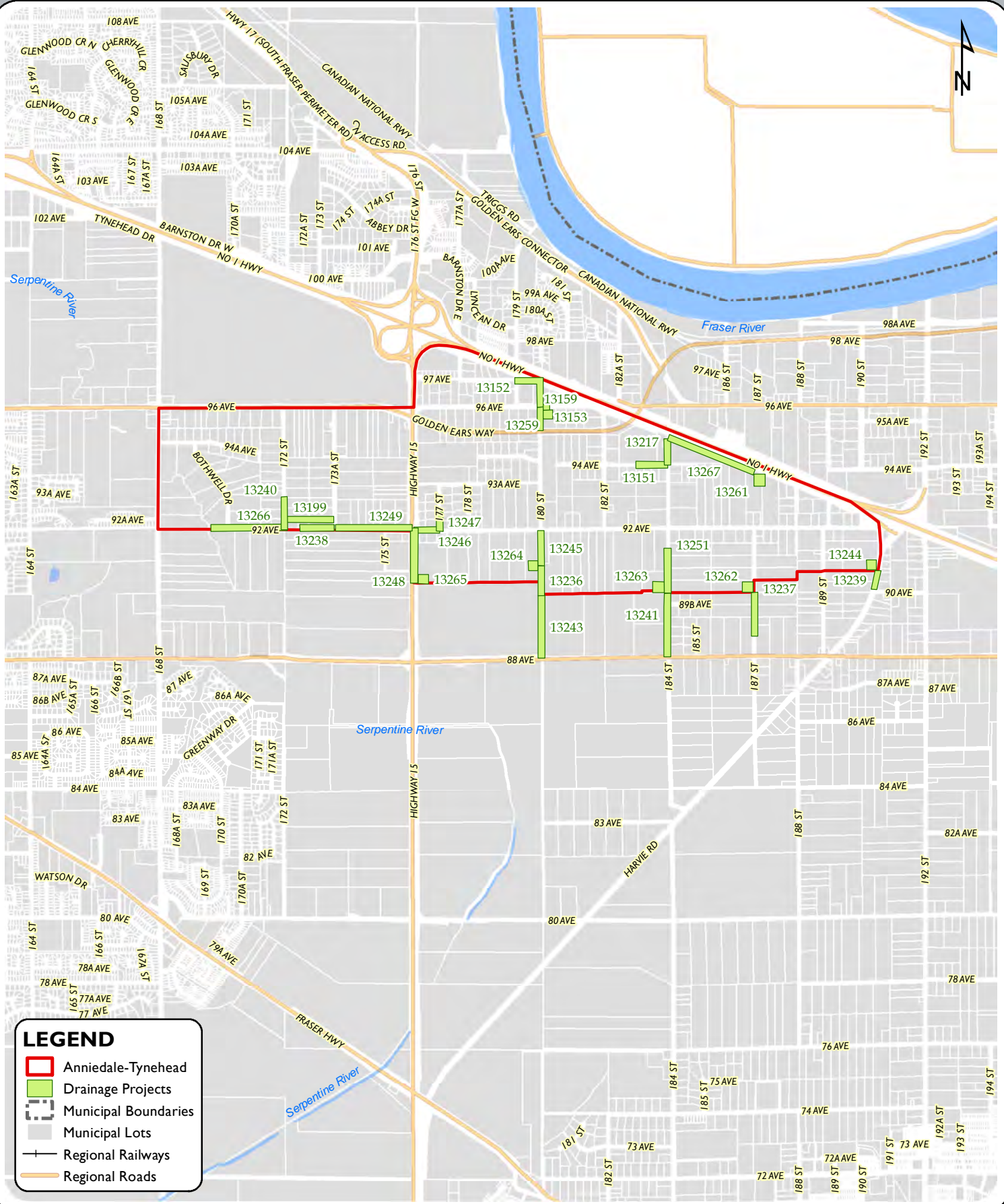
0 0.125 0.25 0.5 0.75 1
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SEWER

Program 1641 - S - Anniedale-Tynehead

Program Total	35,499,000	35,499,000	-	-	-
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Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding
13139	AT: 435m of 375mm diameter	Tynehead 375mm diameter upsizing	NCP Driven	113,000	113,000	-	-	-
13140	AT 160m of 300mm diameter	Tynehead 300mm diameter upsizing	NCP Driven	23,800	23,800	-	-	-
13141	AT: 270m of 250mm diameter (upsizing)	Tynehead 250mm diameter upsizing	Upsizing Contribution	18,900	18,900	-	-	-
13142	AT: 1,135m of 250mm diameter local main upsizing	Anniedale A/B1/B4	Upsizing Contribution	78,400	78,400	-	-	-
13143	AT: 350m of 300mm diameter local main upsizing	Anniedale A/B1/B4	Upsizing Contribution	51,400	51,400	-	-	-
13144	AT: 75m of 375mm diameter local main upsizing	Anniedale A1/B1/B4	Upsizing Contribution	19,500	19,500	-	-	-
13146	AT: 100m of 300mm diameter local main upsizing	Anniedale B3	Upsizing Contribution	14,600	14,600	-	-	-
13147	AT: Anniedale B2 pump station	184 St / 089 Ave	NCP Driven	4,758,600	4,758,600	-	-	-
13148	AT: 390m of 375mm diameter Anniedale B4 Trunk -2	092 Ave: 177 - 176 St	NCP Driven	101,100	101,100	-	-	-
13149	AT: 690m of 300mm diameter Anniedale B3 Trunk -2	091 Ave: 180 - 178 St	NCP Driven	101,700	101,700	-	-	-
13150	AT: 135m of 375mm diameter Anniedale B3 Trunk -3	090A Ave: 178 - 176 St	NCP Driven	35,100	35,100	-	-	-
13154	AT: 200m of 400mm diameter Anniedale B4 Forcemain (DCCFE)	Hwy 15: 091 -092 Ave	NCP Driven	304,800	304,800	-	-	-
13155	AT: Anniedale B4 FM odour control	Hwy 15 / 091 Ave	NCP Driven	64,900	64,900	-	-	-
13156	AT: 980m of 500mm diameter Forcemain Twin (DCCFE)	Hwy 15: 092 - 096 Ave	NCP Driven	1,604,500	1,604,500	-	-	-
13157	AT: 1150m of 650mm diameter South Port Kells FM Twin (DCCFE)	Hwy 15: 096 Ave - S. of Hwy 1; S. of Hwy 1: Hwy 15 - 173 St	NCP Driven	2,171,000	2,171,000	-	-	-
13158	AT: Anniedale B4 Pump Station	176 St / 091 Ave	NCP Driven	3,785,300	3,785,300	-	-	-
13160	AT: 400m of 250mm diameter Anniedale B2 Forcemain	184 St: 090 -092 Ave	NCP Driven	328,800	328,800	-	-	-
13161	AT: Anniedale B2 FM odour control	090 Ave / 184 St	NCP Driven	64,900	64,900	-	-	-
13162	AT: Anniedale Pump Station	South of Hwy 1 / 187 St	NCP Driven	3,893,400	3,893,400	-	-	-
13163	AT: 265m of 375mm diameter Anniedale B4 Trunk -1	092 Ave: 178 - 177 St	NCP Driven	68,700	68,700	-	-	-
13164	AT: 850m of 250mm diameter Anniedale B forcemain	092 Ave: 180 to 176 St	NCP Driven	698,600	698,600	-	-	-
13165	AT: Tynehead Pump Station	092 Ave / 172 St	NCP Driven	3,569,000	3,569,000	-	-	-
13166	AT: 220m of 300mm diameter Anniedale B3 Trunk -1	091 Ave: 180 - 181 St	NCP Driven	32,400	32,400	-	-	-
13167	AT: Anniedale B3 Trunk ROW	091 Ave / 179 St	NCP Driven	243,300	243,300	-	-	-
13168	AT: 920m of 250mm diameter Anniedale B2 forcemain	092 Ave: 184 - 180 St	NCP Driven	756,000	756,000	-	-	-
13169	AT: 890m of 525mm diameter Anniedale B2 Trunk-2	090A Ave: 189 - 186 St	NCP Driven	889,000	889,000	-	-	-
13170	AT: 190m of 600 diameter Anniedale B2 Trunk -2	090 Ave: 186 - 184 St	NCP Driven	206,600	206,600	-	-	-
13171	AT: Anniedale B2 Trunk ROW	089 Ave / 185 St; 90A Ave / 188 St; 91 Ave / 188A St	NCP Driven	254,200	254,200	-	-	-
13172	AT: Hwy 15 crossing	Hwy 15 / 097 Ave	NCP Driven	216,300	216,300	-	-	-
13186	AT: 2140m of 400mm diameter Anniedale A Forcemain	South of Hwy 1: 182 - 187 St and 096 Ave: 182 St - Hwy 15	NCP Driven	2,247,400	2,247,400	-	-	-
13188	AT: Anniedale A forcemain odour control	096 Ave / 182 St	NCP Driven	64,900	64,900	-	-	-
13190	AT: 355m of 375mm diameter Tynehead Trunk	092 Ave: 171 - 172 St	NCP Driven	92,500	92,500	-	-	-
13191	AT: 835m of 400mm diameter Tynehead Forcemain (DCCFE)	092 Ave: 176 - 172 St	NCP Driven	1,071,000	1,071,000	-	-	-
13192	AT: Tynehead forcemain odour contol	Hwy 15 / 092A Ave	NCP Driven	64,900	64,900	-	-	-
13193	AT: 980m of 400mm diameter Forcemain (DCCFE)	Hwy 15: 096 - 092 Ave	NCP Driven	1,382,600	1,382,600	-	-	-
13194	AT: 1150m of 400mm diam South Port Kells Forcemain (DCCFE)	S. of Hwy 1: 176 - 173 St and Hwy 15: 096 Ave - S. of Hwy 1	NCP Driven	1,622,500	1,622,500	-	-	-
13195	AT: 800m of 600mm diam South Port Kells Trunk Sewer (DCCFE)	173 St: Hwy 1 - 104 Ave	NCP Driven	1,648,900	1,648,900	-	-	-
13196	AT: Tynehead Trunk ROW	097 Ave / 175A St	NCP Driven	97,300	97,300	-	-	-
13197	AT: Hwy 1 crossing (DCCFE) twin Forcemain	Hwy 1 / 173 St	NCP Driven	682,500	682,500	-	-	-
13198	AT: South Port Kells odour control (DCCFE)	17337 104A Ave	NCP Driven	1,797,100	1,797,100	-	-	-
13200	AT: 1000m of 375mm diameter upsizing	South of Hwy 1: 182 - 187 St	Upsizing Contribution	259,600	259,600	-	-	-



DRAINAGE

Program 1676 - D - Anniedale-Tynehead

Program Total	28,259,193	28,259,193	-	-	-
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Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding
13151	200m of 1050mm diameter	094 Ave: 183 - 184 St Anniedale NCP	NCP Driven	411,526	411,526	-	-	-
13152	250m of 900mm diameter	097 Ave: 179 - 180 St; 180 St: 97 - 96 Ave Anniedale NCP	NCP Driven	386,806	386,806	-	-	-
13153	65m of 1050mm diameter	096 Ave / 180 St Anniedale NCP	NCP Driven	140,636	140,636	-	-	-
13159	160m of 1050mm diameter	180 St: 96 Ave - Golden Ears Way. Anniedale NCP	NCP Driven	335,306	335,306	-	-	-
13199	Storm Trunk east of 172 St	east of 172 St and north of 92 Ave	NCP Driven	285,866	285,866	-	-	-
13217	150m of 1050mm diameter	184 St: 94 - 95 Ave Anniedale NCP	NCP Driven	316,766	316,766	-	-	-
13236	270m of 525mm diameter	180 St: 91 - 90 Ave Anniedale NCP	NCP Driven	303,376	303,376	-	-	-
13237	250m of ditch improvement	187 St: 89 - 90 Ave. Anniedale NCP	NCP Driven	64,416	64,416	-	-	-
13238	200m of ditch improvement	092 Ave: 173 - 173A St Anniedale NCP	NCP Driven	57,206	57,206	-	-	-
13239	100m of ditch improvement	Harvie Rd: 91 -90 Ave Anniedale NCP	NCP Driven	43,816	43,816	-	-	-
13240	Storm Trunk on 172 St	172 St: 93 - 92 Ave Anniedale NCP	NCP Driven	255,996	255,996	-	-	-
13241	400m of ditch improvement	184 St: 90 - 88 Ave Anniedale NCP	NCP Driven	85,016	85,016	-	-	-
13243	400m of ditch improvement & ROW	180 St: 90 - 88 Ave Anniedale NCP	NCP Driven	553,666	553,666	-	-	-
13244	Anniedale 6 detention pond	191 St / 91 Ave	NCP Driven	3,406,766	3,406,766	-	-	-
13245	150m of 450mm diameter	180 St: 91 - 92 Ave Anniedale NCP	NCP Driven	167,416	167,416	-	-	-
13246	150m of 750mm diameter	092 Ave: 176 - 177 St Anniedale NCP	NCP Driven	255,996	255,996	-	-	-
13247	170m of 600mm diameter	177 St: 93 - 92 Ave Anniedale NCP	NCP Driven	252,906	252,906	-	-	-
13248	350m of 900mm diameter	176 St: 90A - 92 Ave Anniedale NCP	NCP Driven	862,666	862,666	-	-	-
13249	350m of ditch improvement	092 Ave: 173A - 176 St Anniedale NCP	NCP Driven	77,806	77,806	-	-	-
13251	290m of 900mm diameter	184 St: 91A - 90 Ave Anniedale NCP	NCP Driven	525,856	525,856	-	-	-
13259	Anniedale 7 detention pond	096 Ave / 180 St Anniedale NCP	NCP Driven	5,064,036	5,064,036	-	-	-
13261	Anniedale 8 water quality pond	187 St / 93 Ave	NCP Driven	2,312,906	2,312,906	-	-	-
13262	Anniedale 5 water quality pond	090 Ave / 187 St	NCP Driven	1,511,566	1,511,566	-	-	-
13263	Anniedale 4 water quality pond	184 St / 90 Ave	NCP Driven	1,758,766	1,758,766	-	-	-
13264	Anniedale 3 water quality pond	180 St / 91 Ave	NCP Driven	1,819,536	1,819,536	-	-	-
13265	Anniedale 2 water quality pond	90A Ave / Hwy 15	NCP Driven	3,085,406	3,085,406	-	-	-
13266	92 Ave Drainage Infrastructure (west of 172 St)	Along 92 Ave, between Serpentine River and 172 St	NCP Driven	2,215,056	2,215,056	-	-	-
13267	1050m of 1050mm diameter	South of Hwy 1: 184 - 187 St Anniedale NCP	NCP Driven	1,702,111	1,702,111	-	-	-

9. REDWOOD HEIGHTS

The Redwood Heights NCP area encompasses approximately 201 hectares and is bounded by the ALR to the north and east, 20 Avenue and the existing Redwood Estates to the south and 176 Street (Highway 15) to the west.

The NCP designates the area for a variety of land uses including commercial and mixed-uses, institutional, parks and natural areas, and a range of multi-family and single-family housing densities.

The Redwood Heights NCP is a relatively undeveloped area with little to no utility infrastructure networks currently in place. The NCP will increase development intensity and population and will require significant improvements to the utility infrastructure including water, sanitary, and drainage systems. A specific area servicing plan was developed for this area to address these challenges. Major servicing requirements include:

- Trunk sanitary sewers along with a new sanitary pump station and forcemain (Grandview Heights East pump station);
- Establishment of three separate pressure zones through a series of feeder mains and pressure reducing stations;
- Four community detention and water quality ponds, and construction of major drainage sewer systems; and
- Intersection roundabouts, traffic signals, road widening and new roads throughout the area. These projects are included in Transportation's City Wide programs as summarized below.

9.1 Redwood Heights Programs

Transportation Projects

The Transportation analysis for Redwood Heights identified a number of arterial road widening improvements to service the area, as well as collector roads improvements to provide access and circulation. There is sufficient transportation DCCs generated within the plan area to service future growth without the need for an area-specific program. Transportation projects will be included in various City Wide programs (such as 1002 – Arterial Widening) based on growth in the area. Projects will be prioritized with consideration to relative demand against other City Wide projects.

Program 1623 – Water

The majority of Redwood Heights NCP area lies within the 142m and 105m pressure zones and is supplied by Grandview Pump Station and Grandview Reservoir, located at 1666 - 24 Avenue. A small portion of this NCP, the area north of 29A Avenue, is located within the 80m pressure zone. Water will be supplied to this area through a series of pressure reducing valve stations.

New high pressure (142m) and low pressure (105m) feeder mains along 24 Avenue, between the Grandview Pump Station and Reservoir to the boundary of the NCP area, are required. To determine the appropriate feeder main sizes, the future population and demand of Redwood Heights as well as other Grandview Heights NCP areas are considered.

Under this NCP, it is determined that the Redwood Heights NCP will fund the “base” feeder main size required to service Redwood Heights population and demand, while the upsizing costs of these feeder mains will be attributed to the other Grandview Heights NCP areas distributed proportionally based on their projected water demand.

Program 1642 – Sewer

Sewerage flow will be collected by a proposed trunk on the north east boundary of the NCP and gravitate to the East Grandview Heights Pump Station located in the vicinity of 17400 Block and 32 Avenue. From the station, the flow will be pumped to 170 Street and 2900 block where it will discharge to the Grandview Height Interceptor that will be extended from 2934 - 165B Street. This will eventually flow to Metro Vancouver’s Rosemary Height Pressure Sewer at 152 Street and Croydon Drive.

Program 1677 – Drainage

Approved by Council in 2020, the stormwater objectives for Redwood Heights are to:

- To mitigate and reduce the impacts to downstream infrastructure and habitat by reducing discharge rates and volumes;
- Maintain base flows in creeks;
- Maintain water quality in creeks, ditches, and storm systems; and
- Protect the natural environment adjacent to watercourses.

The servicing plan consists of both offsite and onsite measures that together meet the above stated stormwater objectives. The main components include:

- Storm trunk sewer systems to collect and convey runoff from the various lots proposed within the neighbourhood;
- Detention ponds to control post-development flows to established rates for the 5-year return period; and
- Low impact development (LID) measures located throughout the development to provide stormwater infiltration in order to meet runoff volume targets.

There is sufficient DCCs generated within the NCP plan to service transportation and drainage projects. A specific area servicing plan was developed for this area to address the shortfall related to Water and Sewer projects in Redwood Heights.

Table 9.1 – Redwood Heights Cost Summary

No.	Program	Growth (\$)	Non-Growth (\$)	Total (\$)
1623	Water	18,364,000	0	18,364,000
1642	Sewer	17,847,200	0	17,847,200
Total		36,211,200	0	36,211,200

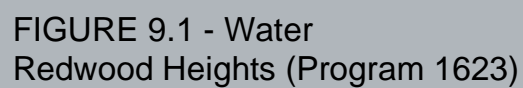
9.2 Redwood Heights Projects by Program

The following tables and figures identify the projects under the Redwood Heights programs for sanitary sewer, water and drainage. The tables provide the following information:

- a. Project ID - the unique identifier of the project;
- b. Project name - the specific name or generic name that depicts the type of work;
- c. Project location - the geographic extent of the works;
- d. Priority - the intended time frame for when the project is planned to proceed (subject to change); and
- e. Costs – the high-level estimates in 2022 dollars (subject to change at the actual time of construction).

The Redwood Heights program costs are comprised entirely of growth funding.

Each program table is accompanied by a figure (map) that shows the location and extent of the projects. Projects that are general in nature or in various locations throughout Surrey may not be shown on the maps.



WATER

Program 1623 - W - Redwood Heights

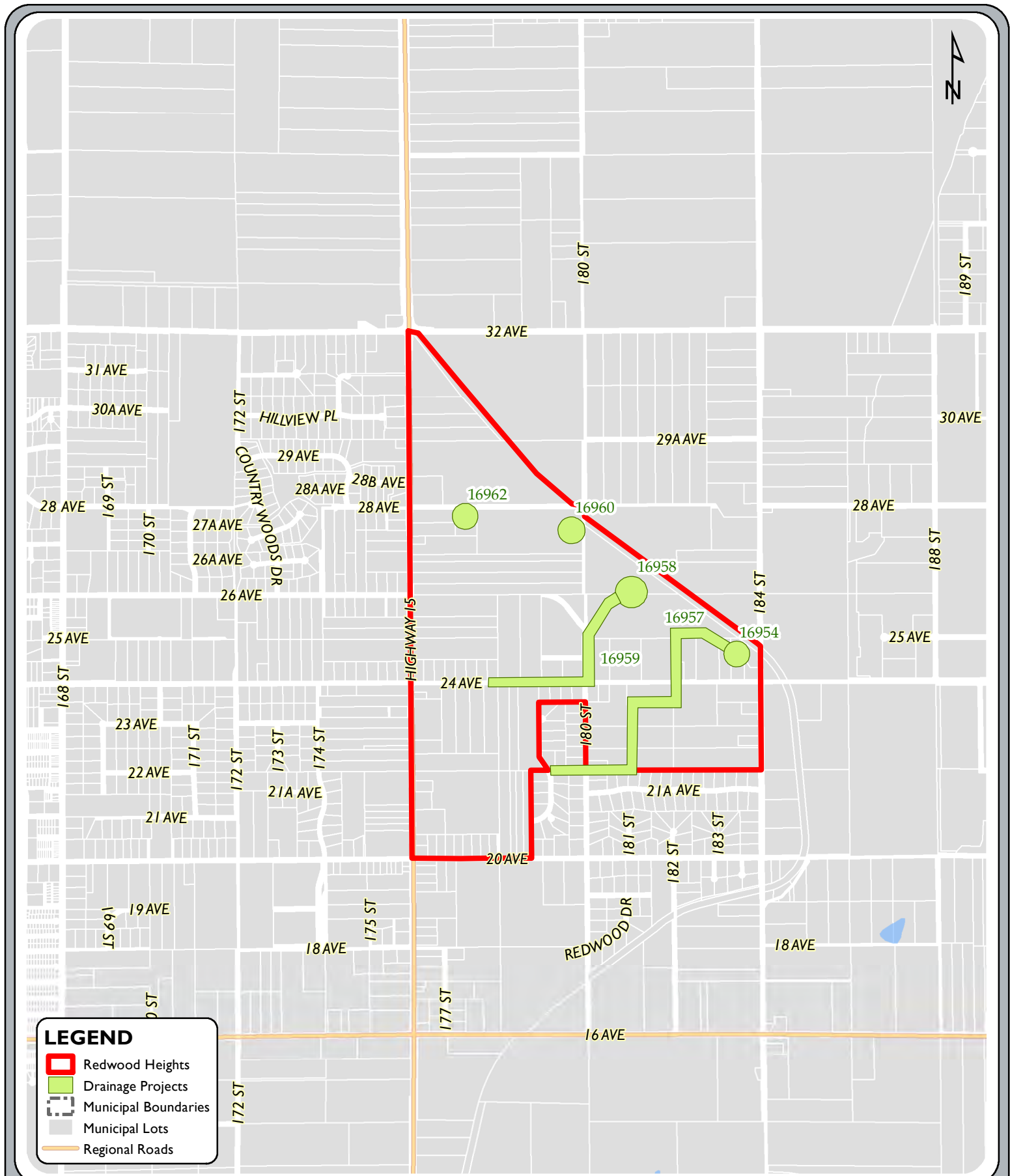
				Program Total	18,364,000	18,364,000	-	-	-
Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding	
16646	Redwood Heights - Upsizing Contribution - 110m Pressur	Various Locations	NCP Driven	3,250,000	3,250,000	-	-	-	-
16647	Redwood Heights - Upsizing Contribution - 142m Pressur	Various Locations	NCP Driven	2,150,000	2,150,000	-	-	-	-
16648	Redwood Heights - PRV's (5 Locations)	Various Locations	NCP Driven	1,575,000	1,575,000	-	-	-	-
16649	Redwood Heights - Highway 15 Crossing (3 Locations)	Various Locations	NCP Driven	1,890,000	1,890,000	-	-	-	-
16650	Upsizing 550m of 350mm diameter - Low Pressure	178 St: 24 - 27 Ave	NCP Driven	774,000	774,000	-	-	-	-
16651	800m of 600mm diameter - Low Pressure	024 Ave: 176 - 180 St	NCP Driven	1,360,000	1,360,000	-	-	-	-
16652	400m of 450mm diameter - High Pressure	024 Ave: 176 - 178 St	NCP Driven	560,000	560,000	-	-	-	-
16653	800m of 450mm diameter - High Pressure	024 Ave: 172 - 176 St	NCP Driven	1,200,000	1,200,000	-	-	-	-
16654	800m of 600mm diameter - High Pressure	024 Ave: 168 - 172 St	NCP Driven	1,200,000	1,200,000	-	-	-	-
16655	350m of 750mm diameter - High Pressure	024 Ave: Lot 16666 - 168 St	NCP Driven	525,000	525,000	-	-	-	-
16656	400m of 750mm & 400m of 600mm diameter - Low Pres	024 Ave: 172 - 176 St	NCP Driven	1,600,000	1,600,000	-	-	-	-
16657	1200m of 750mm diameter - Low Pressure	024 Ave: Lot 16666 - 172 St	NCP Driven	2,280,000	2,280,000	-	-	-	-

SEWER

Program 1642 - S - Redwood Heights

Program Total	17,847,200	17,847,200	-	-	-
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Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding
13493	Odour Facility for GH East PS (Redwood Heights)	16484 29A Ave	NCP Driven	663,700	663,700	-	-	-
16349	Grandview Heights East PS - Redwood Heights	17400 block of 32 Ave	NCP Driven	4,838,300	4,838,300	-	-	-
16350	1306m of 500mm diameter forcemain Redwood Heights	17190 32 Ave to Grandview East PS	NCP Driven	1,552,300	1,552,300	-	-	-
16352	547m of 300 mm diameter trunk main Redwood Heights	2499 184 St ROW	NCP Driven	984,200	984,200	-	-	-
16353	530m of 375mm diameter trunk main Redwood Heights	ROW in Redwood Heights	NCP Driven	992,400	992,400	-	-	-
16354	1058m of 450mm diameter trunk main Redwood Heights	180 St/28 Ave to 176 St/32 Ave (through ROW)	NCP Driven	6,338,400	6,338,400	-	-	-
16355	307m of 600mm diameter trunk main Redwood Heights	32 Ave: Highway 15 to 17436	NCP Driven	991,600	991,600	-	-	-
16356	88m of 250mm diameter main upsizing costs Redwood heights	Catchment S3 in Redwood Heights	Upsizing Contribution	5,400	5,400	-	-	-
16357	25m of 375mm diameter main Redwood Heights	Catchment S3 in Redwood Heights (180 St/28 Ave)	NCP Driven	459,300	459,300	-	-	-
16358	74m of 250mm diameter main Redwood Heights	Catchment S4 in Redwood heights	NCP Driven	129,400	129,400	-	-	-
16359	86m of 300mm diameter main Redwood Heights	Catchments S4 and S5 in Redwood Heights	NCP Driven	373,400	373,400	-	-	-
16360	123m of 300mm diameter main Upsizing costs Redwood Heights	Catchment S5 in Redwood Heights	Upsizing Contribution	15,100	15,100	-	-	-
17425	229m of 300mm diameter sewer in Redwood Heights	Catchment S3 in Redwood Heights	NCP Driven	494,400	494,400	-	-	-
17426	181m of 250mm diameter main upsizing costs Redwood Heights	Catchment S4 in Redwood Heights	Upsizing Contribution	9,300	9,300	-	-	-



**FIGURE 9.3 - Drainage
Redwood Heights (Program 1677)**

0 205 410 820 1,230 1,640
SCALE: 1:22,500

DRAINAGE

Program 1677 - D - Redwood Heights

Program Total								
Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding
16954	Redwood Heights NCP Pond 1 - Phase 1 (pond)	NW corner of 184 St and 24 Ave	NCP Driven	2,155,373	2,155,373	-	-	-
16957	Redwood Heights NCP Pond 1 - Phase 2 (Trunk Sewer)	Catchment C-1A in Redwood Heights NCP	NCP Driven	1,000,000	1,000,000	-	-	-
16958	Redwood Heights NCP Pond 2 - Phase 1 (pond)	NE corner of 180 St and 24 Ave	NCP Driven	899,981	899,981	-	-	-
16959	Redwood Heights NCP Pond 2 - Phase 2 (Trunk Sewer)	Catchment C-2A in Redwood Heights NCP	NCP Driven	2,152,260	2,152,260	-	-	-
16960	Redwood Heights NCP Pond 3	SW corner of 180 St and 28 Ave	NCP Driven	3,621,574	3,621,574	-	-	-
16962	Redwood Heights NCP Pond 4	SE corner of 28 Ave and Highway 15	NCP Driven	2,010,705	2,010,705	-	-	-

10. DARTS HILL

The Darts Hill NCP area encompasses approximately 130 hectares and is generally bounded by 20 Avenue to the north, 16 Avenue to the south, 168 Street to the west, and Redwood Park to the east.

The NCP designates the area for a variety of land uses including commercial and mixed-uses, institutional, parks and natural areas, and a range of multi-family and single-family housing densities.

The Darts Hill NCP is a relatively undeveloped area with little to no utility infrastructure networks currently in place. The NCP will increase development intensity and population and will require significant improvements to the utility infrastructure including water, sanitary, and drainage systems. There is sufficient DCCs generated within the NCP plan to service transportation, water and sewer projects. A specific area servicing plan was developed for this area to address the shortfall related to three community detention ponds and construction of major drainage sewer systems.

10.1 Darts Hill Programs

Transportation Projects

The Transportation analysis for Darts Hill identified a number of transportation improvements to service the area, as well as provide access and circulation. There is sufficient transportation DCCs generated within the plan area to service future growth without the need for an area-specific program. Transportation projects will be included in various City Wide programs (such as 1002 – Arterial Widening) based on growth in the area, and prioritized with consideration to relative demand against other City Wide projects.

Water Projects

Darts Hill NCP will be serviced by both the Grandview Pump Station (for the high elevation areas) and Grandview Reservoir (for the low elevation area). To service the future demand within this NCP, new feeder mains are required along 24 Avenue, 172 Street and 174 Street. It should be noted that Redwood Heights developments will fund the “base” size of the feeder mains along 24 Avenue, and Darts Hill, along with other Grandview Heights areas will contribute to the upsizing costs for this feeder main.

Sufficient water DCCs will be generated within the plan area to service future growth without the need for an area specific program. Water projects will be included in various City Wide programs (such as 1610 – Supply Works and Feeder Mains) and will be prioritized against other City Wide growth projects.

Sewer Projects

A siphon system consisting of twin pipes from 172 Street and 16 Avenue to the Fergus PS will be required to service Darts Hill. A large majority of the area will be serviceable by gravity, however a small portion will need to be serviced by low pressure sewer system or individual pump connections. Sufficient sewer DCCs will be generated within the plan area to service future growth without the need for an area specific program. Sewer projects will be included in various

City Wide programs (such as 1644 – Major Facilities) and will be prioritized against other City Wide growth projects.

Program 1693 – Drainage

Approved by Council in 2021, the stormwater objectives for Darts Hill are to:

- To mitigate and reduce the impacts to downstream infrastructure and habitat by reducing discharge rates and volumes;
- Maintain base flows in creeks;
- Maintain water quality in creeks, ditches, and storm systems; and
- Protect the natural environment adjacent to watercourses.

The servicing plan consists of both offsite and onsite measures that together meet the above stated stormwater objectives. The main components include:

- Storm trunk sewer systems to collect and convey runoff from the various lots proposed within the neighbourhood;
- Detention ponds to control post-development flows to established rates for the 2-year and 5-year events;
- Low flow diversion structures designed to maintain flows up to 2-year predevelopment peak flow to the Class A and B watercourses where appropriate;
- On-lot detention systems to control post-development flows to established targets for the 2-year and 5-year events for areas that are unable to drain to the detention ponds;
- Safe conveyance of 100-year post-development flows through the storm sewer system, detention ponds and downstream watercourses; and
- Low impact development (LID) measures located throughout the development to provide stormwater infiltration in order to meet runoff volume targets.

Table 10.1 – Darts Hill Cost Summary

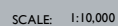
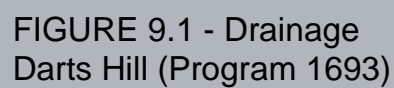
No.	Program	Growth (\$)	Non-Growth (\$)	Total (\$)
1677	Drainage	25,841,000	0	25,841,000
Total		25,841,000	0	25,841,000

10.2 Darts Hill Projects by Program

The following tables and figures identify the projects under the Redwood Heights programs for sanitary sewer, water and drainage. The tables provide the following information:

- Project ID - the unique identifier of the project;
- Project name - the specific name or generic name that depicts the type of work;
- Project location - the geographic extent of the works;
- Priority - the intended time frame for when the project is planned to proceed (subject to change); and
- Costs – the high-level estimates in 2022 dollars (subject to change at the actual time of construction).

The Darts Hill program costs are comprised entirely of growth funding. Each program table is accompanied by a figure (map) that shows the location and extent of the projects. Projects that are general in nature or in various locations throughout Surrey may not be shown on the maps.



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DRAINAGE

Program 1693 - D - Darts Hill

Program Total								
Project ID	Project Name	Project Location	Priority	Total	Growth Component	Non-Growth Component	External Funding	Translink Funding
19108	Darts Hill NCP Darts Hill Garden Park Pond - Phase 1 (Pond)	NE corner of Darts Hill Garden Park	NCP Driven	9,830,000	9,830,000	-	-	-
19109	Darts Hill NCP Darts Hill Garden Park Pond - Phase 2 (Trunk)	Catchment C3 in Darts Hill NCP	NCP Driven	79,000	79,000	-	-	-
19112	Darts Hill NCP 172 St & 16 Ave Pond - Phase 1 (Pond)	NW corner of 172 St & 16 Ave	NCP Driven	6,668,000	6,668,000	-	-	-
19113	Darts Hill NCP 172 St & 16 Ave Pond - Phase 2 (Trunk)	Catchment C4 in Darts Hill NCP	NCP Driven	918,000	918,000	-	-	-
19114	Darts Hill NCP Highway 15 & 16 Ave Pond - Phase 1 (Pond)	NW corner of Highway 15 & 16 Ave	NCP Driven	7,988,000	7,988,000	-	-	-
19115	Darts Hill NCP Highway 15 & 16 Ave Pond - Phase 2 (Trunk)	Catchment C7 in Darts Hill NCP	NCP Driven	358,000	358,000	-	-	-

Appendix II

CITY OF SURREY

BYLAW NO. 20560

A Bylaw to impose development cost charges.

.....

WHEREAS:

- A. Pursuant to Part 14, Division 19 of the Local Government Act, as amended from time to time, and the regulations passed pursuant thereto, the Council of the City of Surrey may, by bylaw, impose development cost charges; and
- B. Development cost charges may be imposed for the purpose of providing funds to assist the City of Surrey to pay the capital costs of providing, constructing, altering or expanding sewage, water, drainage and highway facilities, other than off-street parking facilities, and providing and improving park land to service, directly or indirectly, the development for which the charges are being imposed.

NOW THEREFORE, the Council of the City of Surrey ENACTS AS FOLLOWS:

TITLE

1. This Bylaw shall be cited for all purposes as "Surrey Development Cost Charge Bylaw, 2022, No. 20560".

DEFINITIONS AND INTREPRETATION

2. For the purposes of this Bylaw, unless the context otherwise requires:

"Anniedale-Tynehead" means the area of the City of Surrey shown in Section E.27(a) of Schedule "G" of the Surrey Zoning Bylaw.

"Assisted Living Residence" means a multiple unit residential building containing 45 Dwelling Units per acre or greater which is subject to a housing agreement pursuant to Section 483 of the Local Government Act, as amended from time to time, between the City of Surrey and the owner of the building, but does not include Not-for-Profit Rental Housing or Hospital. The housing agreement will specify that the multiple unit residential building will:

- (a) be occupied only by persons who are Qualified Occupants;
- (b) be registered as an Assisted Living Residence under the Community Care and Assisted Living Act, S.B.C. 2002, c. 75, as amended from time to time; and
- (c) not be strata-titled or further subdivided.

"BA" Or "Building Area" means building area as defined by the total sum of all floor areas enclosed or partially enclosed by the exterior perimeter of a building or structure including without limitation stairways, elevator shafts, storage rooms, mechanical rooms and basements, and excluding areas for parking that are provided as an accessory use to the building or structure.

"Bylaw 5942" means Surrey Zoning By-law, 1979, No. 5942 as amended from time to time.

"Campbell Heights" means the area of the City of Surrey shown in Section E.17(a) of Schedule "G" of the Surrey Zoning Bylaw.

"City Centre" means the area of the City of Surrey shown in Schedule E.30(a) of the Surrey Zoning Bylaw.

"Community Charter" means the Community Charter, S.B.C. 2003, c.26, as amended from time to time.

"Completed" means, in the case of a subdivision, an application for which the servicing agreement is completed and signed, appropriate zoning is in place, all applicable fees and levies are paid, all conditions of approval are fulfilled, and the final plan of subdivision is ready for approval by the approving officer.

"Darts Hill" means the area of the City of Surrey shown in Section E.35(a) of Schedule "G" of the Surrey Zoning Bylaw.

"Developed Area" means that area of a lot containing any improvements for the accommodation of a building, accessory building, structure, storage or parking or circulation area, landscaping or anything or device to facilitate the permitted use.

"DU" or "Dwelling Unit" means dwelling unit as defined in the Surrey Zoning Bylaw.

"Effective Date" means the date on which this bylaw comes into force, which is established as May 15, 2022.

"Federal and Provincial Buildings" means buildings or lots owned by the Provincial or Federal government for use by the Provincial or Federal government or crown corporations, excluding a Hospital operating under Federal or Provincial legislation, located in any zone.

"Highway 99 Corridor" means the area of the City of Surrey shown in Section E.20(a) of Schedule "G" of the Surrey Zoning Bylaw.

"Hospital" means a hospital and/or a licensed community care facility as defined under the Hospital Act, R.S.B.C. 1996, c. 200, as amended from time to time, the Hospital Insurance Act, R.S.B.C. 1996, c. 204, as amended from time to time, a private hospital as defined under the Hospital Act and a private mental hospital as defined under the Mental Health Act, R.S.B.C. 1996, c. 288, as amended from time to time.

"In-Stream" means, in reference to an application, not determined, rejected or withdrawn and:

- (a) in the case of an application for subdivision, one for which the application form has been submitted, the application fees have been paid, and all supporting documentation required by the City of Surrey has been submitted and accepted by the City of Surrey as a legitimate application;
- (b) in the case of an application for building permit, one for which the application form has been submitted, the application fees have been paid, and all supporting documentation required by the City of Surrey including without limitation all applicable architectural, structural, plumbing, electrical, mechanical and site drainage drawings has been submitted and accepted by the City of Surrey as a legitimate application;
- (c) in the case of a rezoning application, one for which the application form has been submitted, the application fees have been paid, and all supporting documentation required by the City of Surrey has been submitted and accepted by the City of Surrey as a legitimate application; and
- (d) in the case of an application for development permit, one for which the application form has been submitted, the application fees have been paid, and all supporting documentation required by the City of Surrey has been submitted and accepted by the City of Surrey as a legitimate application.

"Issuable" means, in the case of a building permit, an application which meets the requirements of an In-Stream application and for which:

- (a) Council has approved any applicable rezoning and/or development permit and/or development variance permit;
- (b) all required off-site legal encumbrances relating to engineering services have been registered at the Land Title Office on title to the lot;
- (c) any plan, including a plan of subdivision, consolidation, or road dedication, that would affect the legal description of the lot has been registered at the Land Title Office on title to the lot;
- (d) all review comments arising from the building permit application review process have been addressed to the satisfaction of the City of Surrey; and
- (e) all applicable fees and levies have been paid.

"Local Government Act" means Local Government Act, R.S.B.C. 2015, c. 1, as amended from time to time.

"Minor Change" means a change to the scope of work authorized by a building permit which results in an increase of five percent (5%) or less in the cumulative total Square Footage of the Dwelling Unit, the Building Area, the number of Dwelling Units within a building or on a lot, or the Developed Area of a lot.

"Not-For-Profit Rental Housing" means a housing development project subject to either the Memorandum of Understanding on Responding to Homelessness between the BC Housing Management Commission and the City of Surrey dated for reference March 31, 2008, as amended from time to time, or the Memorandum of Understanding Regarding

the Development of Housing for the Homeless between the BC Housing Management Commission and the City of Surrey dated for reference September 2015, as amended from time to time.

"Precursor Application" means, in relation to a building permit, that there is an:

- (a) In-Stream development permit application and that the development authorized by the building permit is entirely within the area of land that is the subject of the application; or
- (b) In-Stream rezoning application and that the development authorized by the building permit is entirely within the area of land to which the application relates.

"Qualified Occupants" means:

- (a) a person who is a resident as defined under the Community Care and Assisted Living Act, S.B.C. 2002, c. 75, as amended from time to time; and
- (b) a person who is employed to manage the Assisted Living Residence and their spouse, provided only one Dwelling Unit within the Assisted Living Residence is designated for this type of occupant.

"Redwood Heights" means the area of the City of Surrey shown in Section E.33(a) of Schedule "G" of the Surrey Zoning Bylaw.

"Revision Permit" means a revised building permit issued by the City of Surrey where the City of Surrey has accepted a proposed change to the scope of work originally authorized by a building permit.

"Seniors Apartments" means a multiple unit residential building with a minimum density of 45 Dwelling Units per acre and where there exists a housing agreement pursuant to Section 483 of the Local Government Act, as amended from time to time, between the City of Surrey and the owner specifying that the multiple unit residential building will be restricted to seniors, but does not include Not-for-Profit Rental Housing.

"Square Footage Of The Dwelling Unit" Or "sq. ft. of DU" means the cumulative floor area measured from the outside edge of the exterior walls or sheathing of the Dwelling Unit and, where applicable, the centre line of the common walls dividing the Dwelling Units and shall include all the internal walls within each Dwelling Unit excluding parking areas (to a maximum of 250 square feet per parking space), crawl spaces less than or equal to 1.5 metres [5 ft.] clear height, balconies, canopies, terraces and sun decks.

"Substantial Change" means a change to the scope of work authorized by a building permit which results in either:

- (a) an increase by more than five percent (5%) in the cumulative total Square Footage of the Dwelling Unit, the Building Area, the number of Dwelling Units within a building or on a lot, or the Developed Area of a lot; or

- (b) a change to the zone or land use on which the development cost charges was based, as determined by the City of Surrey.

"Surrey Zoning Bylaw" means Surrey Zoning By-law, 1993, No. 12000, as amended from time to time.

"West Clayton" means the area of the City of Surrey shown in Section E.29(a) of Schedule "G" of the Surrey Zoning Bylaw.

- 3. Words not specifically defined in this Bylaw shall have the same meaning as defined in Surrey Zoning Bylaw.
- 4. If any section, clause or phrase of this Bylaw is held to be invalid by a court of competent jurisdiction, the invalid portion shall be severed and the remainder of the Bylaw shall be deemed to have been enacted without the invalid portion.

DEVELOPMENT COST CHARGES

- 5. Every person who obtains:
 - a) approval of a subdivision; or
 - b) a building permit authorizing the construction, alteration or extension of a building or structure, including a building permit that authorizes the construction, alteration or extension of a building or part of a building that will, after the construction, alteration or extension, contain one or more Dwelling Units

shall pay to the City of Surrey the development cost charges in the amounts set out in Schedule "B" of this Bylaw except for those within:

- c) West Clayton, which shall pay the amounts set out in Schedule "C" of this Bylaw;
- d) City Centre, which shall pay the amounts set out in Schedule "D" of this Bylaw;
- e) Anniedale-Tynehead, which shall pay the amounts set out in Schedule "E" of this Bylaw;
- f) Redwood Heights, which shall pay the amounts set out in Schedule "F" of this Bylaw; and
- g) Darts Hill, which shall pay the amounts set out in Schedule "G" of this Bylaw.

The list of zones set out in Schedule "A" of this Bylaw include zones in both the Surrey Zoning Bylaw and Bylaw 5942. The development cost charges payable for any zones where Bylaw 5942 is applicable are determined by referring to its equivalent zone in the "Bylaw 12000 Zone" column in Schedule "A".

- 6. Development cost charges shall be payable at the time specified below:
 - (a) after application for a subdivision has been submitted, but before the approval of the subdivision and the subdivision plan has been executed by the approving officer, for agricultural, single family and single family with a secondary suite land use, or all zones and land uses within Campbell Heights;

- (b) for all zones and land uses within Campbell Heights whose development cost charges were not collected upon approval of the subdivision as described in clause 6(a), after application for a building permit has been submitted, but before the building permit has been issued; and
- (c) for all cases other than those described in clause 6(a) and clause 6(b), after application for a building permit has been submitted, but before the building permit has been issued.

EXEMPTIONS

- 7. Development cost charges are not payable if any of the following applies in relation to a development authorized by a building permit:
 - (a) the permit authorizes the construction, alteration or extension of a building or part of a building that is, or will be, after the construction, alteration or extension, exempt from taxation under Section 220(1)(h) or 224(2)(f) of the Community Charter;
 - (b) the value of the work authorized by the permit does not exceed \$100,000;
 - (c) the size of the Dwelling Unit is no greater than 312.2 ft² [29 m²]; and
 - (d) the permit authorizes the construction, alteration or extension of a building or part of a building that is, or will be, after the construction, alteration or extension, used for Not-for-Profit Rental Housing.

MIXED USE AND COMPREHENSIVE DEVELOPMENTS

- 8. For mixed use developments, the development cost charges payable shall be calculated separately for each portion of the development contained in the building permit or subdivision application in accordance with the zones and land uses identified in the applicable Schedule(s). The total payable will be the sum of the development cost charges for each portion of the development.
- 9. Development cost charges payable for comprehensive development zones shall be calculated as specified in the applicable comprehensive development zone amendment to Surrey Zoning Bylaw.

CHANGES TO WORK AUTHORIZED BY A BUILDING PERMIT

- 10. If a Minor Change to a building permit is proposed, the development cost charges will be recalculated based on the increase in Building Area, Developed Area, or Dwelling Units (as applicable) using the rates in the Surrey Development Cost Charge Bylaw in effect at the time of issuance of the Revision Permit. The difference between the original development cost charges amount and the recalculated development cost charges amount shall be paid to the City of Surrey prior to the issuance of the Revision Permit.
- 11. If a Substantial Change to a building permit is proposed, the development cost charges will be recalculated on the entire project at the rates in the Surrey Development Cost Charge Bylaw in effect at the time of issuance of the Revision Permit. The difference between the original development cost charges amount and the recalculated development

cost charges amount shall be paid to the City of Surrey prior to the issuance of the Revision Permit.

EFFECTIVE DATE AND TRANSITIONAL PROVISIONS

12. This Bylaw will come into force on the Effective Date.
13. Surrey Development Cost Charge Bylaw, 2020, No. 20019, and all amendments thereto, is hereby repealed except in the case of:
 - (a) applications for subdivision of lots that are In-Stream on the Effective Date and which are Completed within one year of the Effective Date;
 - (b) building permits that are In-Stream on the Effective Date and which are Issuable within one year of the Effective Date; and
 - (c) building permits on lots with a Precursor Application In-Stream on the Effective Date and where the related building permit is Issuable within one year of the Effective Date

in which case Surrey Development Cost Charge Bylaw, 2021, No. 20291, and all amendments thereto, shall apply. Surrey Development Cost Charge Bylaw, 2021, No. 20291, and all amendments thereto, shall be wholly repealed one year from the Effective Date.

PASSED FIRST READING on the th day of , 202 .

PASSED SECOND READING on the th day of , 202 .

PASSED THIRD READING on the th day of , 202 .

APPROVED BY THE DEPUTY INSPECTOR of MUNICIPALITIES on the th day of , 202 .

RECONSIDERED AND FINALLY ADOPTED, signed by the Mayor and Clerk, and sealed with the Corporate Seal on the th day of , 202 .

MAYOR

CLERK

SCHEDULE "A"

LIST OF ZONES

SURREY ZONING BYLAWS 12000 AND 5942

	Name of Zone	Bylaw 12000 Zone	Bylaw 5942 Zone
Residential Zones	General Agriculture	A-1	A-1, A-3
	Intensive Agriculture	A-2	A-2
	One-Acre Residential	RA	RS
	Acreage Residential Gross Density	RA-G	R-A(G)
	Half-Acre Residential	RH	R-1
	Half-Acre Residential Gross Density	RH-G	R-H(G)
	Single Family Residential	RF	R-F, R-F(R), R-F(F)
	Single Family Residential Secondary Suite	RF-SS	RF-SS, RFR-SS
	Single Family Residential Gross Density	RF-G	R-F(C)
	Duplex Residential	RM-D	R-F(D)
	Manufactured Home Residential	RM-M	R-F(M), CT(2)
	Multiple Residential 15	RM-15	RT-1
	Multiple Residential 30	RM-30	RM-1
	Multiple Residential 45	RM-45	RM-2
	Multiple Residential 70	RM-70	RM-3
	Multiple Residential Commercial 150	RMC-150	RM-4
	Special Care Housing 1	RMS-1	P-P, P-P(2)
	Special Care Housing 2	RMS-2	P-P, P-P(2)
Institutional Zones	Cemetery	PC	P-C
	Assembly Hall 1	PA-1	P-A
	Assembly Hall 2	PA-2	P-A

SCHEDULE "A"

LIST OF ZONES continued

SURREY ZONING BYLAWS 12000 AND 5942

	Name of Zone	Bylaw 12000 Zone	Bylaw 5942 Zone
Commercial Zones	Local Commercial	C-4	C-L
	Community Commercial	C-8	C-S
	Town Centre Commercial	C-15	CR-1, CR-2, CR-3, CR-4
	Downtown Commercial	C-35	C-C
	Highway Commercial Industrial	CHI	C-H, I-S
	Self-Service Gasoline Station	CG-1	C-G(1)
	Combined Service Gasoline Station	CG-2	C-G(2), CG
	Tourist Accommodation	CTA	C-T(1), C-T(2)
	Child Care	CCR	P-P(1)
	Commercial Recreation	CPR	P-R, P-D
	Golf Course	CPG	P-R
	Marina	CPM	P-R
Industrial Zones	Business Park	IB, IB-3	I-1, I-P(2), I-G, I-4
	Light Impact Industrial	IL	I-G, I-S, I-T, I-W
	High Impact Industrial	IH	I-H, I-W
	Salvage Industrial	IS	I-L(S)
	Agro-Industrial	IA	I-A
Comprehensive Development Zone	Comprehensive Development	CD	C-D

Schedule "B"									
Surrey Development Cost Charge Bylaw, 2022, No. 20560									
CITY WIDE									
EXCEPT: West Clayton (Schedule "C"), City Centre (Schedule "D"), Annisdale-Tynehead (Schedule E), Redwood Heights (Schedule "F"), and Darts Hill (Schedule "G")									
No	Zones and Land Uses CITY WIDE EXCEPT: West Clayton (Schedule "C"), City Centre (Schedule "D"), Annisdale-Tynehead (Schedule E), Redwood Heights (Schedule "F"), and Darts Hill (Schedule "G")	DCC Components						Total	Units for Each Column
		Water	Sewer	Arterial Roads	Collector Roads	Drainage	Parkland Acquisition		
	Agricultural								
1	A-1, A-2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	/lot
	Single Family Residential								
2	RA, RA-G, RH, RH-G, RC (Types I and II), RF-O, RQ	\$3,003	\$4,380	\$19,672	\$4,593	\$6,545	\$6,604	\$44,797	/lot
3	RF, RF-G, RF-SS, RF-12, RF-12C, RF-13	\$3,003	\$4,380	\$19,672	\$4,593	\$3,740	\$13,207	\$48,595	/lot
4	RF-10, RF-10S, RF-9, RF-9C, RF-9S, RF-SD, RM-23	\$2,734	\$3,987	\$17,913	\$4,182	\$2,207	\$12,027	\$43,050	/lot
5	RM-D	\$2,734	\$3,987	\$17,913	\$4,182	\$2,207	\$12,027	\$43,050	/DU (a)
6	RM-M	\$1,617	\$2,358	\$8,976	\$2,096	\$823	\$12,027	\$27,897	/pad or /DU
	Multi Family Residential								
7	RM-10, RM-15, RM-30, RC (Type III) (except line 8)	\$1.31	\$1.91	\$7.40	\$1.73	\$1.40	\$12.11	\$25.86	/sq.ft. of DU (b)
8	RM-30 (in City Centre)	\$1.31	\$1.91	\$7.40	\$1.73	\$1.40	\$12.11	\$25.86	/sq.ft. of DU (b)
9	RM-45, RM-70 (except lines 10,11,12, & 13)	\$1.70	\$2.48	\$9.62	\$2.25	\$0.98	\$12.33	\$29.36	/sq.ft. of DU (c)
10	RM-45, RM-70 (for Seniors Apartments not in City Centre)	\$1.90	\$2.77	\$6.26	\$1.46	\$1.10	\$13.79	\$27.28	/sq.ft. of DU (c)
11	RM-45, RM-70 (for Assisted Living Residences)	\$1.90	\$2.77	\$6.26	\$1.46	\$1.10	\$4.60	\$18.09	/sq.ft. of DU (c)
12	RM-45, RM-70 (in City Centre, except for lines 11 & 13)	\$1.90	\$2.77	\$6.84	\$1.60	\$1.10	\$7.35	\$21.56	/sq.ft. of DU (d)
13	RM-45, RM-70 (for Seniors Apartments in City Centre)	\$1.90	\$2.77	\$6.26	\$1.46	\$1.10	\$7.35	\$20.84	/sq.ft. of DU (d)
14	RM-135, RMC-135, RMC-150 (except lines 15, 16, & 17)	\$1.82	\$2.65	\$8.55	\$2.00	\$0.43	\$13.55	\$29.00	/sq.ft. of DU (e)
15	RM-135, RMC-135, RMC-150 (for Seniors Apartments not in City Centre)	\$1.82	\$2.65	\$6.41	\$1.50	\$0.43	\$13.55	\$26.36	/sq.ft. of DU (e)
16	RM-135, RMC-135, RMC-150 (Assisted Living Residences)	\$1.82	\$2.65	\$6.41	\$1.50	\$0.43	\$4.52	\$17.33	/sq.ft. of DU (e)
17	RM-135, RMC-135, RMC-150 (in City Centre) (except for line 16)	\$1.82	\$2.65	\$5.46	\$1.28	\$0.43	\$7.17	\$18.81	/sq.ft. of DU (f)
18	RMS-1, RMS-2, RMS-1A	\$0.77	\$1.12	\$1.50	\$0.35	\$0.94	\$0.00	\$4.68	/sq.ft. of BA
	Commercial Zones excluding CTA, CPG, CPM, CPR, and CCR (except for lines 33, 34 & 35)								
19	Commercial - Ground floor	\$0.77	\$1.12	\$7.31	\$1.71	\$2.43	\$0.00	\$13.34	/sq.ft. of BA (g)
20	Commercial - All other floors	\$0.77	\$1.12	\$4.61	\$1.08	\$0.49	\$0.00	\$8.07	/sq.ft. of BA (g)
	CTA, CPG, CPM, CPR, and CCR (except for lines 33, 34 & 35)								
21	CTA	\$1,160	\$1,680	\$4,490	\$1,050	\$820	\$0	\$9,200	/pad (h)
22	CPG, CPM, CPR, CCR	\$0.85	\$1.12	\$5.82	\$1.36	\$1.46	\$0	\$10.61	/sq.ft. of BA
	Dwelling Units in Non Residential								
23	DU in Non Residential Zones (excluding line 24)	\$1.70	\$2.48	\$9.62	\$2.25	\$0.98	\$12.33	\$29.36	/sq.ft. of DU (c)
24	DU in Non Residential Zones (in City Centre)	\$1.90	\$2.77	\$6.84	\$1.60	\$1.10	\$7.35	\$21.56	/sq.ft. of DU (d)
	Industrial (except for lines 33, 34 & 35)								
25	All Industrial Zones & Land Uses - Developed Area	\$7,700	\$11,230	\$39,396	\$9,198	\$31,792	\$0	\$99,316	/acre (g)
26	All Industrial Zones & Land Uses - All other floors	\$0.18	\$0.26	\$0.57	\$0.13	\$0.15	\$0	\$1.29	/sq.ft. of BA (g) (i)
	Institutional (except for lines 33, 34 & 35)								
27	PA-1, PA-2, PC	\$0.85	\$1.12	\$0.00	\$0.00	\$1.46	\$0.00	\$3.43	/sq.ft. of BA (g)
28	Public & Private Schools (to grade 12)	\$0.85	\$1.12	\$0.00	\$0.00	\$1.46	\$0.00	\$3.43	/sq.ft. of BA (g)
29	Public & Private Schools (Post Secondary)	\$0.85	\$1.12	\$4.65	\$1.09	\$1.46	\$0.00	\$9.17	/sq.ft. of BA (g)
30	Hospitals	\$0.85	\$1.12	\$2.33	\$0.54	\$1.46	\$0.00	\$6.30	/sq.ft. of BA (g)
31	Federal and Provincial Buildings	\$0.85	\$1.12	\$4.57	\$1.07	\$0.49	\$0.00	\$8.10	/sq.ft. of BA (g)
32	Municipal Buildings	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	/sq.ft. of BA
	Highway 99 Corridor								
33	All Commercial Zones & Land Uses	\$17,982	\$27,402	\$171,224	\$42,274	\$0	\$11,332	\$270,214	/acre (g)
34	All Industrial Zones & Land Uses	\$17,982	\$27,402	\$50,360	\$12,433	\$0	\$11,332	\$119,509	/acre (g)
35	Municipal Buildings	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	/sq.ft. of BA
	Campbell Heights								
36	All Zones & Land Uses	\$21,940	\$4,361	\$117,309	\$23,163	\$7,331	\$0	\$174,104	/acre (g)
37	Municipal Buildings	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	/sq.ft. of BA

Notes:

West Clayton rates are provided in Schedule "C"

City Centre rates are provided in Schedule "D"

Annisdale-Tynehead rates are provided in Schedule "E"

Redwood Heights rates are provided in Schedule "F"

Darts Hill rates are the rates are provided in Schedule "G"

Parkland Acquisition rates include Biodiversity Conservation Strategy ("BCS") Green Infrastructure Network ("GIN") land acquisitions

(a) Rate to be charged per DU, with an ultimate of 2 DU per lot.

(b) Rate to be charged based on the total sq. ft. of DU to a maximum of \$45,256/DU.

(c) Rate to be charged based on the total sq. ft. of DU to a maximum of \$39,636/DU.

(d) Rate to be charged based on the total sq. ft. of DU to a maximum of \$29,107/DU.

(e) Rate to be charged based on the total sq. ft. of DU to a maximum of \$36,251/DU.

(f) Rate to be charged based on the total sq. ft. of DU to a maximum of \$23,513/DU.

(g) Dwelling Units within Non Residential Zones and Land Uses shall be charged the applicable rate in line 23 or line 24.

(h) Rate to be charged per trailer pad or camping site in addition to rate of lines 19 and 20 for BA of any other building.

(i) Rate to be charged for all other floors in addition to rate of line 25.

Schedule "C"

Surrey Development Cost Charge Bylaw, 2022, No. 20560

West Clayton

No	Zones and Land Uses	DCC Components						Total	Units for Each Column
		¹ Water	² Sewer	¹ Arterial Roads	¹ Collector Roads	² Drainage	¹ Parkland Acquisition		
	Single Family Residential								
1	RA, RA-G, RH, RH-G, RC (Types I and II), RQ	\$3,003	\$6,050	\$19,672	\$4,593	\$10,514	\$6,604	\$50,436	/lot
2	RF, RF-G, RF-SS, RF-12, RF-12C, RF-13	\$3,003	\$6,050	\$19,672	\$4,593	\$6,008	\$13,207	\$52,533	/lot
3	RF-10, RF-10S, RF-SD, RM-23	\$2,734	\$5,472	\$17,913	\$4,182	\$1,338	\$12,027	\$43,666	/lot
4	RM-D	\$2,734	\$5,472	\$17,913	\$4,182	\$3,545	\$12,027	\$45,873	/DU (a)
	Multi Family Residential								
5	RM-10, RM-15, RM-30, RC (Type III)	\$1.31	\$2.75	\$7.40	\$1.73	\$2.25	\$12.11	\$27.55	/sq.ft. of DU (b)
6	RM-45, RM-70 (except lines 7 & 8)	\$1.70	\$3.30	\$9.62	\$2.25	\$1.58	\$12.33	\$30.78	/sq.ft. of DU (c)
7	RM-45, RM-70 (for Seniors Apartments)	\$1.90	\$3.69	\$6.26	\$1.46	\$1.77	\$13.79	\$28.87	/sq.ft. of DU (c)
8	RM-45, RM-70 (for Assisted Living Residences)	\$1.90	\$3.69	\$6.26	\$1.46	\$1.77	\$4.60	\$19.68	/sq.ft. of DU (c)
9	RMS-1, RMS-2, RMS-1A	\$0.77	\$1.49	\$1.50	\$0.35	\$1.51	\$0.00	\$5.62	/sq.ft. of BA
	Commercial Zones								
10	Commercial - Ground floor	\$0.77	\$1.49	\$7.31	\$1.71	\$3.90	\$0.00	\$15.18	/sq.ft. of BA (d)
11	Commercial - All other floors	\$0.77	\$1.49	\$4.61	\$1.08	\$0.78	\$0.00	\$8.73	/sq.ft. of BA (d)
12	CPG, CPM, CPR, CCR	\$0.85	\$1.49	\$5.82	\$1.36	\$2.34	\$0.00	\$11.86	/sq.ft. of BA
	Dwelling Units in Non Residential								
13	DU in Non Residential Zones	\$1.70	\$5.78	\$9.62	\$2.25	\$2.56	\$12.33	\$34.24	/sq.ft. of DU (c)
	Institutional								
14	PA-1, PA-2, PC	\$0.85	\$1.49	\$0.00	\$0.00	\$2.34	\$0.00	\$4.68	/sq.ft. of BA (d)
15	Public & Private Schools (to grade 12)	\$0.85	\$1.49	\$0.00	\$0.00	\$2.34	\$0.00	\$4.68	/sq.ft. of BA (d)
16	Public & Private Schools (Post Secondary)	\$0.85	\$1.49	\$4.65	\$1.09	\$2.34	\$0.00	\$10.42	/sq.ft. of BA (d)
17	Hospitals	\$0.85	\$1.49	\$2.33	\$0.54	\$2.34	\$0.00	\$7.55	/sq.ft. of BA (d)
18	Federal and Provincial Buildings	\$0.85	\$1.49	\$4.57	\$1.07	\$0.78	\$0.00	\$8.76	/sq.ft. of BA (d)
19	Municipal Buildings	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	/sq.ft. of BA

Notes:

1. Rates shown are from Schedule "B" City Wide.
2. Rates include Schedule "B" City Wide + Schedule "C" West Clayton.

- (a) Rate to be charged per DU, with an an ultimate of 2 DU per lot.
 (b) Rate to be charged based on the total sq. ft. of DU to a maximum of \$48,213/DU.
 (c) Rate to be charged based on the total sq. ft. of DU to a maximum of \$41,554/DU.
 (d) Dwelling Units within Non Residential Zones and Land Uses shall be charged the applicable rate in line 13.

Schedule "D"

Surrey Development Cost Charge Bylaw, 2022, No. 20560

City Centre

No	Zones and Land Uses	DCC Component							Total	Units for Each Column
		¹ Water	¹ Sewer	¹ Arterial Roads	¹ Collector Roads	² Local Road	¹ Drainage	¹ Parkland Acquisition		
	Multi Family Residential									
1	RM-10, RM-15, RM-30, RC (Type III)	\$1.31	\$1.91	\$7.40	\$1.73	\$3.44	\$1.40	\$12.11	\$29.30	/sq.ft. of DU (a)
2	RM-45, RM-70	\$1.90	\$2.77	\$6.84	\$1.60	\$3.18	\$1.10	\$7.35	\$24.74	/sq.ft. of DU (b)
3	RM-135, RMC-135, RMC-150	\$1.82	\$2.65	\$5.46	\$1.28	\$2.54	\$0.43	\$7.17	\$21.35	/sq.ft. of DU (c)
	Commercial Zones									
4	Commercial - Ground floor	\$0.77	\$1.12	\$7.31	\$1.71	\$3.40	\$2.43	\$0.00	\$16.74	/sq.ft. of BA (d)
5	Commercial - All other floors	\$0.77	\$1.12	\$4.61	\$1.08	\$2.15	\$0.49	\$0.00	\$10.22	/sq.ft. of BA (d)
	Dwelling Units in Non Residential									
6	DU in Non Residential Zones	\$1.90	\$2.77	\$6.84	\$1.60	\$3.18	\$1.10	\$7.35	\$24.74	/sq.ft. of DU (b)
	Institutional									
7	Public & Private Schools (Post Secondary)	\$0.85	\$1.12	\$4.65	\$1.09	\$2.17	\$1.46	\$0.00	\$11.34	/sq.ft. of BA (d)
8	Hospitals	\$0.85	\$1.12	\$2.33	\$0.54	\$1.08	\$1.46	\$0.00	\$7.38	/sq.ft. of BA (d)
9	Federal and Provincial Buildings	\$0.85	\$1.12	\$4.57	\$1.07	\$2.13	\$0.49	\$0.00	\$10.23	/sq.ft. of BA (d)
10	Municipal Buildings	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	/sq.ft. of BA

Notes:

1. Rates shown are from Schedule "B" City Wide.

2. Rates shown are from Schedule "D" City Centre.

(a) Rate to be charged based on the total sq. ft. of DU to a maximum of \$51,275/DU.

(b) Rate to be charged based on the total sq. ft. of DU to a maximum of \$33,399/DU.

(c) Rate to be charged based on the total sq. ft. of DU to a maximum of \$26,688/DU.

(d) Dwelling Units within Non Residential Zones and Land Uses shall be charged the applicable rate in line 6.

Schedule "E"									
Surrey Development Cost Charge By-law, 2022, No. 20560									
Anniedale-Tynehead									
No	Zones and Land Uses	DCC Components						¹ Total	Units for Each Column
		Water	Sewer	Arterial Roads	Collector Roads	Drainage	Parkland Acquisition		
	Agricultural								
1	A-1, A-2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	/lot
	Single Family Residential								
2	RA, RA-G, RH, RH-G, RC (Types I and II), RF-O, RQ	\$3,571	\$5,978	\$20,918	\$5,313	\$9,742	\$3,922	\$49,444	/lot
3	RF, RF-G, RF-SS, RF-12, RF-12C, RF-13	\$3,571	\$5,978	\$20,918	\$5,313	\$5,567	\$7,845	\$49,192	/lot
4	RF-10, RF-10S, RF-9, RF-9C, RF-9S, RF-SD, RM-23	\$3,218	\$5,387	\$19,035	\$4,835	\$3,284	\$7,139	\$42,898	/lot
5	RM-D	\$3,218	\$5,387	\$19,035	\$4,835	\$3,284	\$7,139	\$42,898	/DU (a)
6	RM-M	\$2,281	\$3,819	\$11,296	\$2,869	\$1,225	\$7,139	\$28,629	/pad or /DU
	Multi Family Residential								
7	RM-10, RM-15, RM-30, RC (Type III)	\$2.01	\$3.36	\$8.93	\$2.27	\$2.15	\$8.15	\$26.87	/sq.ft. of DU (b)
8	RM-45, RM-70 (except lines 9 & 10)	\$2.28	\$3.82	\$11.50	\$2.92	\$1.39	\$8.24	\$30.15	/sq.ft. of DU (c)
9	RM-45, RM-70 (for Seniors Apartments)	\$2.28	\$3.82	\$6.69	\$1.70	\$1.39	\$8.24	\$24.12	/sq.ft. of DU (c)
10	RM-45, RM-70 (for Assisted Living Residences)	\$2.28	\$3.82	\$6.69	\$1.70	\$1.39	\$2.75	\$18.63	/sq.ft. of DU (c)
11	RM-135, RMC-135, RMC-150 (except lines 12 & 13)	\$2.20	\$3.68	\$8.66	\$2.20	\$0.51	\$6.67	\$23.92	/sq.ft. of DU (d)
12	RM-135, RMC-135, RMC-150 (for Seniors Apartments)	\$2.20	\$3.68	\$6.49	\$1.65	\$0.51	\$6.67	\$21.20	/sq.ft. of DU (d)
13	RM-135, RMC-135, RMC-150 (Assisted Living Residences)	\$2.20	\$3.68	\$6.49	\$1.65	\$0.51	\$2.23	\$16.76	/sq.ft. of DU (d)
14	RMS-1, RMS-2, RMS-1A	\$1.10	\$1.85	\$1.88	\$0.48	\$1.39	\$0.00	\$6.70	/sq.ft. of BA
	Commercial Zones excluding CTA, CPG, CPM, CPR, and CCR								
15	Commercial - Ground floor	\$1.10	\$1.85	\$9.20	\$2.34	\$3.62	\$0.00	\$18.11	/sq.ft. of BA (e)
16	Commercial - All other floors	\$1.10	\$1.85	\$5.80	\$1.47	\$0.72	\$0.00	\$10.94	/sq.ft. of BA (e)
	CTA, CPG, CPM CPR, and CCR								
17	CTA	\$1,650	\$2,770	\$5,650	\$1,430	\$1,220	\$0	\$12,720	/pad (f)
18	CPG, CPM, CPR, CCR	\$1.21	\$1.85	\$7.32	\$1.86	\$2.17	\$0.00	\$14.41	/sq.ft. of BA
	Dwelling Units in Non Residential								
19	DU in Non Residential Zones	\$2.28	\$3.82	\$11.50	\$2.92	\$1.39	\$8.24	\$30.15	/sq.ft. of DU (c)
	Industrial								
20	All Industrial Zones & Land Uses - Developed Area	\$11,021	\$18,450	\$67,984	\$17,266	\$47,316	\$0	\$162,037	/acre (e)
21	All Industrial Zones & Land Uses - All other floors	\$0.25	\$0.42	\$0.72	\$0.18	\$0.22	\$0.00	\$1.79	/sq.ft. of BA (e) (g)
	Institutional								
22	PA-1, PA-2, PC	\$1.21	\$1.85	\$0.00	\$0.00	\$2.17	\$0.00	\$5.23	/sq.ft. of BA (e)
23	Public & Private Schools (to grade 12)	\$1.21	\$1.85	\$0.00	\$0.00	\$2.17	\$0.00	\$5.23	/sq.ft. of BA (e)
24	Public & Private Schools (Post Secondary)	\$1.21	\$1.85	\$5.86	\$1.49	\$2.17	\$0.00	\$12.58	/sq.ft. of BA (e)
25	Hospitals	\$1.21	\$1.85	\$2.93	\$0.74	\$2.17	\$0.00	\$8.90	/sq.ft. of BA (e)
26	Federal and Provincial Buildings	\$1.21	\$1.85	\$5.75	\$1.46	\$0.72	\$0.00	\$10.99	/sq.ft. of BA (e)
27	Municipal Buildings	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	/sq.ft. of BA

Notes:

1 Anniedale-Tynehead rates are calculated for an area-specific Schedule "E" Anniedale-Tynehead.

Comments:

- (a) Rate to be charged per DU, with an ultimate of 2 DU per lot.
- (b) Rate to be charged based on the total sq. ft. of DU to a maximum of \$47,030/DU.
- (c) Rate to be charged based on the total sq. ft. of DU to a maximum of \$40,707/DU.
- (d) Rate to be charged based on the total sq. ft. of DU to a maximum of \$29,895/DU.
- (e) Dwelling Units within Non Residential Zones and Land Uses shall be charged the applicable rate in line 19.
- (f) Rate to be charged per trailer pad or camping site in addition to rate of lines 15 and 16 for BA of any other building.
- (g) Rate to be charged for all other floors in addition to rate of line 20.

Schedule "F"

Surrey Development Cost Charge Bylaw, 2022, No. 20560

Redwood Heights

No	Zones and Land Uses	DCC Components						Total	Units for Each Column
		¹ Water	¹ Sewer	² Arterial Roads	² Collector Roads	² Drainage	³ Parkland Acquisition		
	Agricultural								
1	A-1, A-2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	/lot
	Single Family Residential								
2	RA, RA-G, RH, RH-G, RC (Types I and II), RF-O, RQ	\$5,162	\$5,016	\$19,672	\$4,593	\$6,545	\$18,439	\$59,427	/lot
3	RF, RF-G, RF-SS, RF-12, RF-12C, RF-13	\$4,995	\$4,854	\$19,672	\$4,593	\$3,740	\$23,645	\$61,499	/lot
4	RF-10, RF-10S, RF-9, RF-9C, RF-9S, RF-SD, RM-23	\$4,180	\$4,062	\$17,913	\$4,182	\$2,207	\$20,616	\$53,160	/lot
5	RM-D	\$4,180	\$4,062	\$17,913	\$4,182	\$2,207	\$20,616	\$53,160	/DU (a)
6	RM-M	\$4,180	\$4,062	\$8,976	\$2,096	\$823	\$20,616	\$40,753	/pad or /DU
	Multi Family Residential								
7	RM-10, RM-15, RM-30, RC (Type III)	\$2.23	\$2.16	\$7.40	\$1.73	\$1.40	\$15.84	\$30.76	/sq.ft. of DU (b)
8	RM-45, RM-70 (except lines 9 & 10)	\$3.06	\$2.98	\$9.62	\$2.25	\$0.98	\$18.10	\$36.99	/sq.ft. of DU (c)
9	RM-45, RM-70 (for Seniors Apartments)	\$3.06	\$2.98	\$6.26	\$1.46	\$1.10	\$19.33	\$34.19	/sq.ft. of DU (c)
10	RM-45, RM-70 (for Assisted Living Residences)	\$3.06	\$2.98	\$6.26	\$1.46	\$1.10	\$11.51	\$26.37	/sq.ft. of DU (c)
11	RMS-1, RMS-2, RMS-1A	\$1.39	\$1.35	\$1.50	\$0.35	\$0.94	\$0.00	\$5.53	/sq.ft. of BA
	Commercial Zones excluding CTA, CPG, CPM, CPR, and CCR								
12	Commercial - Ground floor	\$1.39	\$1.35	\$7.31	\$1.71	\$2.43	\$0.00	\$14.19	/sq.ft. of BA
13	Commercial - All other floors	\$1.39	\$1.35	\$4.61	\$1.08	\$0.49	\$0.00	\$8.92	/sq.ft. of BA
	CTA, CPG, CPM CPR, and CCR								
14	CTA	\$2,080	\$2,020	\$4,490	\$1,050	\$820	\$0.00	\$10,460	/pad (d)
15	CPG, CPM, CPR, CCR	\$1.52	\$1.48	\$5.82	\$1.36	\$1.46	\$0.00	\$11.64	/sq.ft. of BA
	Institutional								
16	PA-1, PA-2, PC	\$1.52	\$1.48	\$0.00	\$0.00	\$1.46	\$0.00	\$4.46	/sq.ft. of BA
17	Public & Private Schools (to grade 12)	\$1.52	\$1.48	\$0.00	\$0.00	\$1.46	\$0.00	\$4.46	/sq.ft. of BA
18	Public & Private Schools (Post Secondary)	\$1.52	\$1.48	\$4.65	\$1.09	\$1.46	\$0.00	\$10.20	/sq.ft. of BA
19	Hospitals	\$1.52	\$1.48	\$2.33	\$0.54	\$1.46	\$0.00	\$7.33	/sq.ft. of BA
20	Federal and Provincial Buildings	\$1.52	\$1.48	\$4.57	\$1.07	\$0.49	\$0.00	\$9.13	/sq.ft. of BA
21	Municipal Buildings	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	/sq.ft. of BA

Notes:

Redwood Heights DCC rates are the rates provided in Schedule "F"

¹ Rates are calculated for an area-specific Schedule "F" Redwood Heights.

² Rates shown are from Schedule "B" City Wide DCC

³ Rates for Parkland Acquisition reflect the City Wide Parkland Acquisition DCC rates in Schedule "B" (adjusted to remove the Biodiversity Conservation Strategy ("BCS") premium) plus the Redwood Heights Area Specific Biodiversity Conservation Strategy ("BCS") DCC rate.

(a) Based on an ultimate of 2 DU per lot.

(b) Rate to be charged based on the total sq. ft. of DU to a maximum of \$53,821/DU.

(c) Rate to be charged based on the total sq. ft. of DU to a maximum of \$49,937/DU.

(d) Rate to be charged per trailer pad or camping site in addition to rate of lines 12 and 13 for BA of any other building.

Schedule "G"

Surrey Development Cost Charge Bylaw, 2022, No. 20560

Darts Hill

No	Zones and Land Uses	DCC Components						Total	Units for Each Column
		¹ Water	¹ Sewer	¹ Arterial Roads	¹ Collector Roads	² Drainage	¹ Parkland Acquisition		
	Agricultural								
1	A-1, A-2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	/lot
	Single Family Residential								
2	RA, RA-G, RH, RH-G, RC (Types I and II), RF-O, RQ	\$3,003	\$4,380	\$19,672	\$4,593	\$23,049	\$6,604	\$61,301	/lot
3	RF, RF-G, RF-SS, RF-12, RF-12C, RF-13	\$3,003	\$4,380	\$19,672	\$4,593	\$13,171	\$13,207	\$58,026	/lot
4	RF-10, RF-10S, RF-9, RF-9C, RF-9S, RF-SD, RM-23	\$2,734	\$3,987	\$17,913	\$4,182	\$7,771	\$12,027	\$48,614	/lot
5	RM-D	\$2,734	\$3,987	\$17,913	\$4,182	\$7,771	\$12,027	\$48,614	/DU (a)
6	RM-M	\$1,617	\$2,358	\$8,976	\$2,096	\$2,898	\$12,027	\$29,972	/pad or /DU
	Multi Family Residential								
7	RM-10, RM-15, RM-30, RC (Type III)	\$1.31	\$1.91	\$7.40	\$1.73	\$4.93	\$12.11	\$29.39	/sq.ft. of DU (b)
8	RM-45, RM-70 (except lines 9 & 10)	\$1.70	\$2.48	\$9.62	\$2.25	\$3.47	\$12.33	\$31.85	/sq.ft. of DU (c)
9	RM-45, RM-70 (for Seniors Apartments)	\$1.90	\$2.77	\$6.26	\$1.46	\$3.87	\$13.79	\$30.05	/sq.ft. of DU (c)
10	RM-45, RM-70 (for Assisted Living Residences)	\$1.90	\$2.77	\$6.26	\$1.46	\$3.87	\$4.60	\$20.86	/sq.ft. of DU (c)
11	RMS-1, RMS-2, RMS-1A	\$0.77	\$1.12	\$1.50	\$0.35	\$3.29	\$0.00	\$7.03	/sq.ft. of BA
	Commercial Zones excluding CTA, CPG, CPM, CPR, and CCR								
12	Commercial - Ground floor	\$0.77	\$1.12	\$7.31	\$1.71	\$8.56	\$0.00	\$19.47	/sq.ft. of BA
13	Commercial - All other floors	\$0.77	\$1.12	\$4.61	\$1.08	\$1.71	\$0.00	\$9.29	/sq.ft. of BA
	CTA, CPG, CPM CPR, and CCR								
14	CTA	\$1,160	\$1,680	\$4,490	\$1,050	\$2,900	\$0.00	\$11,280	/pad (d)
15	CPG, CPM, CPR, CCR	\$0.85	\$1.12	\$5.82	\$1.36	\$5.14	\$0.00	\$14.29	/sq.ft. of BA
	Institutional								
16	PA-1, PA-2, PC	\$0.85	\$1.12	\$0.00	\$0.00	\$5.14	\$0.00	\$7.11	/sq.ft. of BA
17	Public & Private Schools (to grade 12)	\$0.85	\$1.12	\$0.00	\$0.00	\$5.14	\$0.00	\$7.11	/sq.ft. of BA
18	Public & Private Schools (Post Secondary)	\$0.85	\$1.12	\$4.65	\$1.09	\$5.14	\$0.00	\$12.85	/sq.ft. of BA
19	Hospitals	\$0.85	\$1.12	\$2.33	\$0.54	\$5.14	\$0.00	\$9.98	/sq.ft. of BA
20	Federal and Provincial Buildings	\$0.85	\$1.12	\$4.57	\$1.07	\$1.71	\$0.00	\$9.32	/sq.ft. of BA
21	Municipal Buildings	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	/sq.ft. of BA

Notes:

- 1 Rates shown are from Schedule "B" City Wide DCC.
- 2 Rates are calculated for an area-specific Schedule "G" Darts Hill.

- (a) Based on an ultimate of 2 DU per lot.
- (b) Rate to be charged based on the total sq. ft. of DU to a maximum of \$51,433/DU.
- (c) Rate to be charged based on the total sq. ft. of DU to a maximum of \$42,998/DU.
- (d) Rate to be charged per trailer pad or camping site in addition to rate of lines 12 and 13 for BA of any other building.