



City of Richmond

Report to Committee

To: Finance Committee
From: Jerry Chong, CPA, CA
 Director, Finance
Re: 2020 Capital Budget

Date: November 20, 2019
File: 03-0985-01/2020-Vol
 01

Staff Recommendation

1. That the 2020 Capital Budget as presented in Appendix 3 totalling \$155,651,559 be approved and staff be authorized to commence the 2020 Capital Projects; and
2. That the 2020 Capital Budget totalling \$155,651,559 and the 2021-2024 Capital Projects be included in the Consolidated 5 Year Financial Plan (2020-2024).

Jerry Chong, CPA, CA
 Director, Finance
 (604-276-4064)

REPORT CONCURRENCE	
CONCURRENCE OF GENERAL MANAGER	
REVIEWED BY SMT	INITIALS:
APPROVED BY CAO	

Executive Summary

Funds are directed towards infrastructure and asset management programs ranked on the highest priority projects to respond to Council direction and provide services to the citizens of Richmond. The 2020 Capital Budget totaling \$155.7M includes significant investment in infrastructure renewal to maintain community viability. A more detailed breakdown of each program is included in the appendices to this report.

The following is an overview of selected program areas funded through the capital budget. The complete list of recommended projects are included in Appendix 3 starting on page 15.

Infrastructure – \$92.9M:



The City's Infrastructure Program includes: dikes, roads, drainage and sanitary pump stations, drainage, water, and sanitary mains (pages 15-16).

Building – \$17.6M:



The Building Program includes major building renovation projects as well as minor facility upgrades (page 16).

Parks – \$12.2M:



The Parks program includes development of parks and parkland acquisition (page 17).

Land – \$10.0M:



The Land program includes funding for land acquisition. This amount is to ensure funding is in place to act on opportunities as they arise with Council approval required for each specific acquisition (page 17).

Equipment – \$6.4M:



The Equipment Program includes Information Technology hardware and software, fleet and equipment, as well as fire vehicle and equipment replacement (page 17-18).

Staff Report

Origin

Subsection 165(1) of the *Community Charter* requires the City to adopt a 5 Year Financial Plan (5YFP) Bylaw. The 5YFP Bylaw includes operating, utility and capital budgets for year 2020 and provides estimates for the remaining years of the five-year program. The Consolidated 5YFP (2020-2024) Bylaw provides the City with the authority to proceed with spending as outlined in the Bylaw. The 5YFP must be balanced and therefore includes proposed funding sources. The 5YFP provides authorization for the use of certain funding sources such as Development Cost Charges (DCCs) and Statutory Reserves.

The Capital Budget is one of the main components of the 5YFP. The budget includes all expenditures that improve, replace and extend the useful life of the City's asset inventory, which currently has a net book value of \$2.4 billion as of December 31, 2018. The Capital Budget allows the City to sustain existing civic infrastructure, while also adding new assets and services to serve the growing community.

The Long Term Financial Management Strategy (LTFMS - Policy 3707) is a set of principles created by Council to guide the financial planning process. As per item 5, it is Council policy and a key component of the LTFMS to "*ensure that long term capital funding for infrastructure (e.g. parks, trails, facilities, roads, etc.) is in place in order to maintain community liveability and generate economic development.*"

This report supports Council's Strategic Plan 2018-2022 Strategy #5 Sound Financial Management:

Accountable, transparent, and responsible financial management that supports the needs of the community into the future.

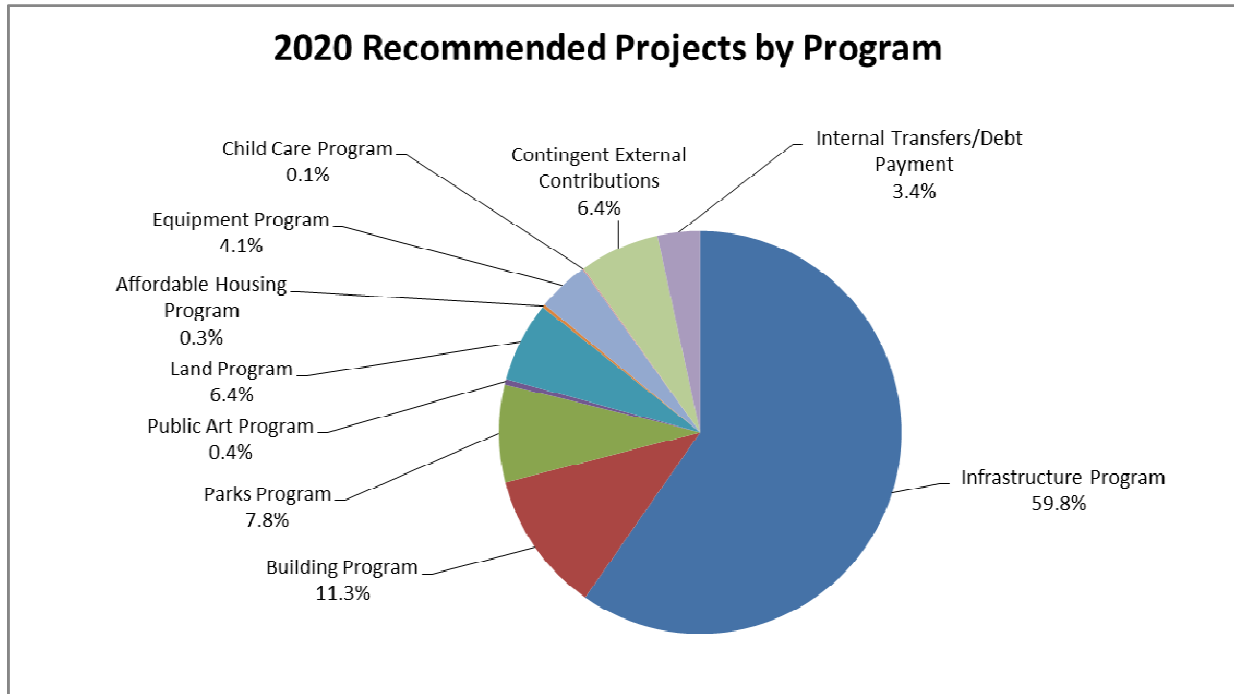
- 5.1. Maintain a strong and robust financial position.*
- 5.2. Clear accountability through transparent budgeting practices and effective public communication.*
- 5.3. Decision-making focuses on sustainability and considers circular economic principles.*
- 5.4. Work cooperatively and respectfully with all levels of government and stakeholders while advocating for the best interests of Richmond.*

Analysis

This report presents the proposed 2020 Capital Budget and seeks Council review and approval on 2020 recommended projects and the operating expenditures associated with each respective project. The proposed Capital Budget for 2020 is \$155.7M. This report also presents the projects currently planned for years 2021-2024 as required; however the projects will be subject to final approval in each subsequent year.

The City’s Capital Budget ensures appropriate planning for required projects and their related funding to demonstrate the complete impact of major multi-year projects. Capital requirements are driven by many factors including growth, maintenance of current aging infrastructure and ensuring that the City is consistently meeting industry standards as well as legislated, regulatory and safety requirements.

Figure 1 – 2020 Recommended Projects by Program



The City continues to see sustained population and economic growth. Significant additional growth is projected through 2041 under the Official Community Plan. This new growth requires expansion of City infrastructure in order to maintain the high level of civic services expected by new and current residents. As the City continues to mature, some of the existing infrastructure is nearing the end of its lifespan and/or capacity. Continuous, ongoing investment in replacement and maintenance of aging infrastructure is required to maintain service levels and protect civic assets. Capital investment allows the City to take advantage of new technology and building practices to improve operational efficiency and accrue environmental benefits from the use of more sustainable building practices and equipment. Finally, the Capital Budget also includes internal transfers and debt repayment to replenish reserve accounts used to provide interim funding for various projects.

2020 Capital Process

Each division sets priorities specific to their area of expertise. A project submission is completed detailing the scope of work, review of alternatives, financial impact, and proposed funding sources. In addition, the submission is self-ranked using established criteria summarized in Appendix 1. The process behind the 2020-2024 Capital Budget is illustrated in Appendix 2.

The Capital Review Committee (CRC) which is comprised of Directors from each City division reviewed and ranked each project submission. To ensure consistent application of the established ranking criteria, the CRC determines the final ranking for each submission giving consideration to strategic and master plans, policies and Council priorities.

The ranked projects are consolidated and the projects are recommended based on funding availability. Project funding recommendations are then reviewed by the Senior Management Team (SMT) and the CAO. The final recommendation is consolidated to form the 2020 Capital Budget presented to Finance Committee for review, approval and inclusion in the 5YFP (2020-2024).

Finance Committee Input

Appendix 3 provides a list of the recommended projects for funding in 2020. The details of each recommended project is attached in Appendix 8. Appendix 4 provides a list of those projects not recommended for funding in 2020 due to budget constraints. The details of projects not recommended for funding in 2020 are included in Appendix 9.

At the Finance Committee's discretion, any capital project recommended for funding may be removed from the recommended list. In addition, any capital project that is not recommended for funding may be reconsidered for recommendation, subject to funding availability.

The following is an overview with selected highlights of the recommended Capital program that supports new infrastructure needs compared to the replacement of existing infrastructure.

New 2020 Capital Costs

The new capital costs total \$101.5M (65.2%) of the 2020 Capital Budget, which includes:

- Capstan Station Construction - \$27.5M funded by developer contributions (page 32)
- Steveston Highway Multi-Use Pathway, Mortfield Gate to No. 2 Road - \$6.0M (page 39)
- Disaster Mitigation and Adaptation Fund Infrastructure Upgrades - \$4.5M (page 56)
- Watermain Replacement and Upgrades Program - \$5.8M (page 70)
- Minoru Lakes Renewal and Upgrades – Phase 1 - \$4.1M (page 102)
- Parkland Acquisition - \$4.0M (page 112)
- Strategic Land Acquisition - \$10.0M (page 116)

Replacement 2020 Capital Costs

The replacement capital costs total \$38.3M (24.6%) of the 2020 Capital Budget, which includes:

- Annual Asphalt Re-Paving Program – Non-MRN - \$3.3M (page 28)
- Cambie Overpass Rehabilitation Project - \$1.4M (page 30)
- Steveston Gravity Sewer Replacement and Rehabilitation - \$1.2M (page 81)
- City Hall - Replacement of Mechanical, Life/Safety, and Envelope Components and Associated Works - \$2.6M (page 93)
- Minoru Centre for Active Living - Lap Pool 1 Reconstruction - \$3.0M (page 95)
- Richmond Ice Centre Infrastructure Renewals - Phase 1 - \$6.9M (page 97)
- Minoru Oval - Artificial Turf Replacement - \$1.0M (page 103)
- Vehicle and Equipment Reserve Purchases (Public Works and Corporate Fleet) - \$3.3M (page 121)

Other Items

Other items included in the capital budget amount to \$15.9M (10.2%) and do not fall into the new or replacement infrastructure categories.

Contingent External Contributions

Contingent External Contributions of \$10.0M (6.4%) (page 138) is an estimate of external grants that may be received throughout the year for various projects. Spending will only occur if funds are confirmed. Including an estimate in the Capital Budget will allow staff to request scope changes to existing projects without having to wait until the 5YFP Bylaw Amendment, which is typically in the fall of each year. It is unknown what contingent external contributions will be received and thus, not possible to determine if the project will be for new or replacement costs.

Internal Transfers and Debt Repayment

Internal Transfers and Debt Repayment total \$5.3M (3.4%) of the 2020 Capital Budget, including:

- 12040 Horseshoe Way Repayment - \$0.5M (page 140)
- 7080 River Road Repayment - \$2.3M (page 141)
- Nelson Road Interchange Repayment - \$0.4M (page 142)
- River Road/North Loop (2005) Repayment - \$1.3M (page 143)
- Transfer funding from DCC Parks Development General to DCC Parks Development West Cambie - \$0.7M (page 144)

These are internal payments and therefore are not applicable to be classified as new or replacement.

Childcare Program

The Childcare Program of \$0.2M (0.1%) provides funding for grants and other childcare initiatives funded by statutory reserves and does not necessarily result in City-owned capital infrastructure.

Affordable Housing Program

The Affordable Housing Program of \$0.4M (0.3%) provides funding for housing affordability and homelessness initiatives funded by statutory reserves and does not necessarily result in City-owned capital infrastructure.

2020 Capital Budget Funding Sources

The 2020 capital budget uses a variety of funding sources which include:

- Development Cost Charges (DCCs) – These fees are collected through development and are used for growth related projects.
- External Sources – These include grants awarded from Provincial and Federal Governments, developer contributions (other than DCCs) and other non-City related sources.

- Reserves – These are funds established by bylaws for specific purposes and are funded primarily by budgeted contributions from the Operating and Utility Budgets and developer contributions plus interest earned on fund balances.
- Appropriated Surplus – These are funds set aside for future commitments.

Generally, projects are funded up to the amount approved to be transferred into each reserve from the annual tax contributions.

For information purposes, Appendix 5 summarizes the projects recommended for funding from the Revolving Fund. The Revolving Fund is used to fund a variety of general projects which do not have dedicated sources of funding and also funds the assist factor for Roads DCC and Parks DCC projects.

Appendix 6 summarizes all the 2020 recommended projects funded by DCCs. Under the *Local Government Act*, the City is required to fund the municipal assist factor portion for growth related projects; therefore, a project cannot be fully funded by DCCs.

Appendix 7 summarizes all the 2020 recommended projects funded by the Capital Building and Infrastructure Reserve. The Capital Building and Infrastructure General Fund is used for facility construction and is funded from taxes and gaming revenue. The Capital Building and Infrastructure Special Sports Fund is for construction costs relating to artificial turf fields and is funded from sports field fees and other recoveries.

The funding sources of the 2020 recommended projects are summarized in Table 1.

Table 1 – 2020 Funding Sources (in millions)

Funding Sources	Amount
Reserves	\$99.7
DCCs	28.7
Appropriated Surplus	11.0
<i>Subtotal - Internal</i>	<i>\$139.4</i>
External Sources	16.3
<i>Subtotal - External</i>	<i>\$16.3</i>
Total 2020 Funding	\$155.7

Approximately \$139.4M of this year's capital plan is funded by Reserves, Appropriated Surplus, and DCCs, which are contributed by developers, and \$16.3M through external sources. Funding details of each individual submission are included in Appendix 8.

Recommended 2020 versus Historical (2016 - 2019) Capital Budget Analysis

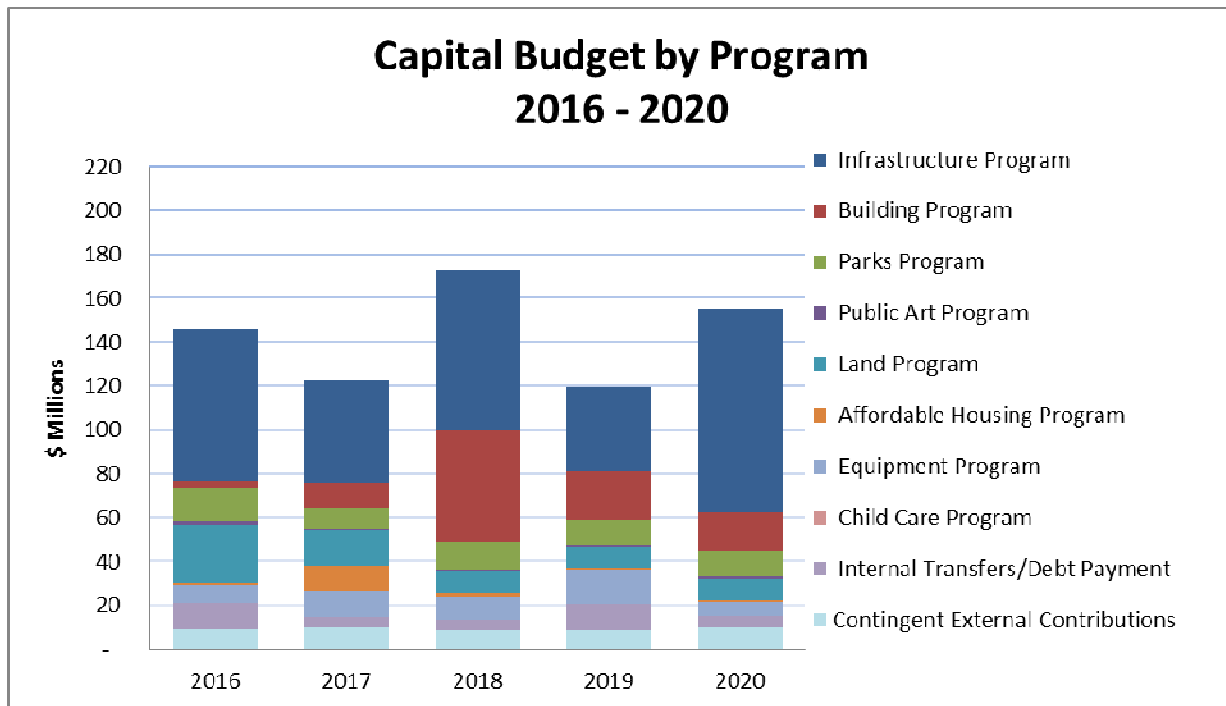
Figure 2 provides analysis of the program types of the capital budget as amended for the past four years compared to the 2020 recommended capital plan. For the years 2016-2019, the Capital Budgets as amended averaged \$140.4M.

Major Facilities Phase 2

Council approved the following projects as part of the Major Facilities Phase 2 Replacement Plan:

- Advanced Planning and Design for Major Facilities Phase 2 (2017: \$2.0M)
- City Centre Community Centre North (2017: Developer Funded)
- Animal Shelter Replacement (2018: \$8.0M)
- Lawn Bowling Clubhouse Replacement (2018: \$4.0M; 2019 \$1.2M)
- Phoenix Net Loft Building Stabilization (2018: \$11.5M)

Figure 2 – Capital Budget by Program 2020 vs. Historical



Proposed 2020 - 2024 Capital Budget

Figure 3 shows the 5 Year Capital Plan from 2020 to 2024, which proposes to continue to invest an average of \$120.1M each year in the City’s assets, excluding Major Facilities Phase 2 Projects. In 2021, the Steveston Community Centre and Branch Library project is estimated at \$100.0M.

Figure 3 – Proposed 5 Year Capital Plan by Program 2020 to 2024

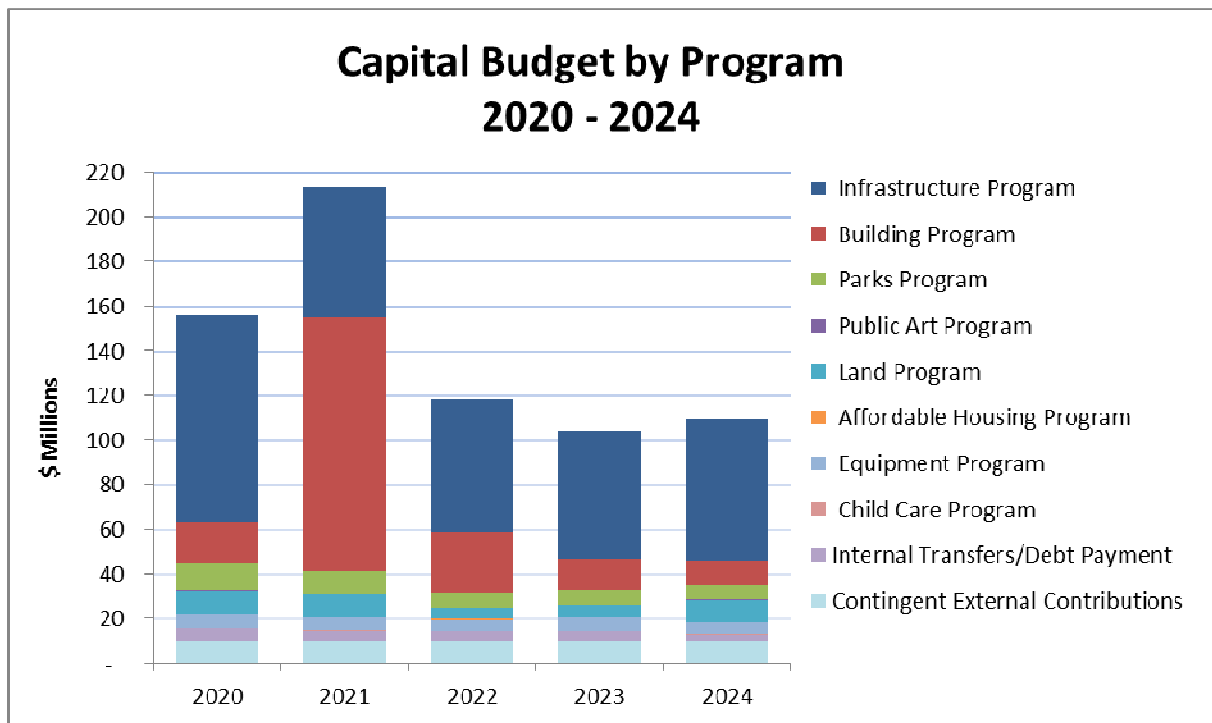


Table 2 presents a summary of the amount of proposed investment for Capital Projects for 2021-2024. 2021 OBI includes an estimate of \$1.00M OBI for Steveston Community Centre and Branch Library. A listing of the 2020-2024 Capital Projects by program is presented in Appendix 12. A summary of the 5 Year Capital Program presented in Appendix 10 and the Funding Sources are presented in Appendix 11. Highlights of the 2021-2024 projects are summarized in Appendix 13.

Table 2: Proposed 2021 to 2024 Capital Projects (in millions)

Year	Amount	OBI
2021	\$213.3	\$1.78
2022	\$118.4	\$0.70
2023	\$103.8	\$0.51
2024	\$109.6	\$0.42

2020 Operating Budget Impact

Upon completion of capital projects, new assets are added to the City’s inventory. There are costs associated with maintaining these new assets. For example, a new building will require staffing, janitorial services, gas and hydro utility costs; a new park will include annual maintenance and labour costs. This ongoing maintenance cost is the Operating Budget Impact (OBI) associated with the new asset which is added to the operating budget.

OBI were reviewed by the Capital Review Committee as part of the Capital submission review process. The total OBI relating to the 2020 recommended projects is \$0.79M. Of this amount, \$0.15M is associated with recycling, water, sewer and drainage utility projects and is included within the infrastructure program. If the respective projects are approved, this amount will be incorporated into the 2021 Utility Budget, and therefore be included in the 2021 utility rates. The 2020 utility rates were previously approved by Council on November 12, 2019. The remaining \$0.64M is included in the operating budget. To align with the expected completion of the new asset, an OBI phase-in plan is adopted each year. For the recommended 2020 Capital Program, the OBI is proposed to be phased in over three years.

The following table summarizes the 2020 recommended Capital Budget by program and the associated OBI, including a breakdown of the labour costs and other expenses.

Table 3: Recommended 2020 Capital and OBI by Program (in millions)

Program (in millions)	Amount	Labour	Other Expenses	Total OBI
Infrastructure Program	\$ 92.9	\$ 0.21	\$ 0.24	\$ 0.45
Building Program	17.6	-	0.04	0.04
Parks Program	12.2	0.05	0.02	0.07
Public Art Program	0.7	-	0.01	0.01
Land Program	10.0	-	-	-
Affordable Housing Program	0.4	-	-	-
Equipment Program	6.4	0.03	0.19	0.22
Child Care Program	0.2	-	-	-
Contingent External Contribution	10.0	-	-	-
Internal Transfers/Debt Payment	5.3	-	-	-
Total 2020 Capital and OBI	\$155.7	\$0.29	\$0.50	\$0.79

Financial Impact

The 2020 Capital Budget with a total value of \$155,651,559 will enable the City to maintain and advance the asset inventory that continues to provide necessities and benefits to the community. The OBI associated with these projects is \$792,765 and will be phased into the 2020-2024 5YFP.

Conclusion

The recommended Capital budget for 2020 is \$155,651,559. The Capital Review Committee worked closely with SMT and the CAO to represent the interests of all stakeholders to ensure that the 2020 capital program addresses Council priorities and meets the needs of the community while effectively utilizing available funding.

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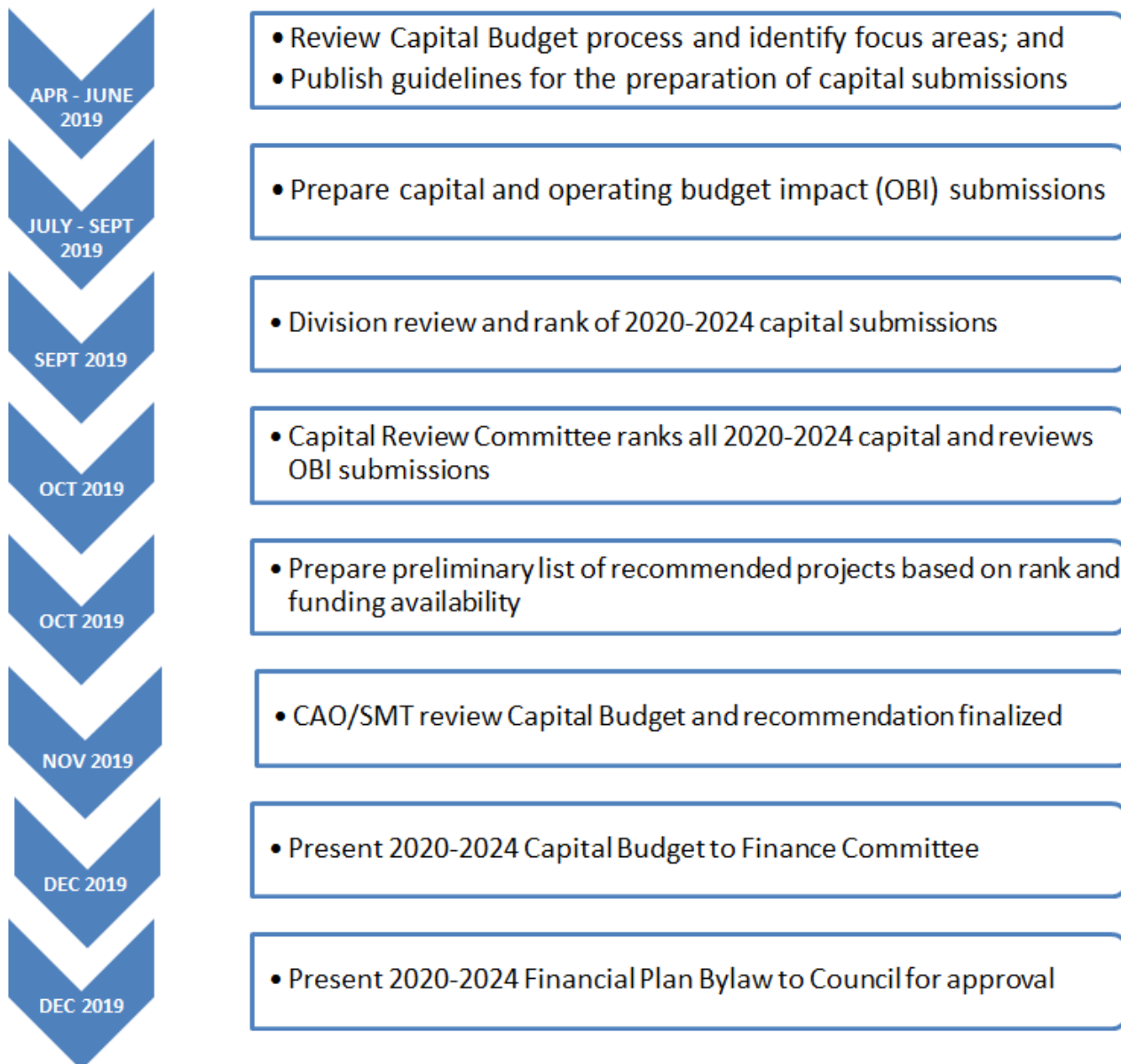
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- Appendix 1: Capital Ranking Criteria
- Appendix 2: 2020 Capital Budget Process
- Appendix 3: Summary of Capital Projects – Recommended for funding in 2020
- Appendix 4: Summary of Capital Projects – Not Recommended for funding in 2020
- Appendix 5: 2020 Summary of Projects Funded by Revolving Fund
- Appendix 6: 2020 Summary of Projects Funded by Development Cost Charges
- Appendix 7: 2020 Summary of Projects Funded by Capital Building and Infrastructure Reserve
- Appendix 8: Details of Projects Recommended for funding in 2020 by Program
- Appendix 9: Details of Projects Not Recommended for funding in 2020 by Program
- Appendix 10: 5 Year Capital Plan Summary (2020 - 2024)
- Appendix 11: 5 Year Capital Plan by Funding Sources (2020 - 2024)
- Appendix 12: 5 Year Capital Plan by Program (2020 - 2024)
- Appendix 13: 2021 - 2024 Capital Plan Highlights
- Appendix 14: Glossary of Terms

Capital Ranking Criteria



2020 Capital Budget Process



Summary of Capital Projects – Recommended for funding in 2020

Appendix 3

Project Name	External Funding	City Funding	Total Investment	Total OBI	Ref
INFRASTRUCTURE PROGRAM					
<i>Roads</i>					
Accessible Pedestrian Signal Program	-	250,000	250,000	13,986	25
Active Transportation Improvement Program	-	600,000	600,000	9,859	26
Annual Asphalt Re-Paving Program - MRN	-	1,558,050	1,558,050	-	27
Annual Asphalt Re-Paving Program - Non-MRN	-	3,287,660	3,287,660	-	28
Arterial Roadway Improvement Program	-	800,000	800,000	28,703	29
Cambie Overpass Rehabilitation Project	677,500	677,500	1,355,000	-	30
Cambie Road/No. 5 Road - Intersection Improvements	690,000	2,070,000	2,760,000	17,361	31
Capstan Station Construction	-	27,500,000	27,500,000	-	32
Capstan Station Integration Design	-	500,000	500,000	-	33
Citywide Connector Walkways Rehabilitation Program	-	250,000	250,000	-	34
Citywide Sidewalk and Street Light Replacement Program	-	500,000	500,000	-	35
LED Street Name Sign Program	-	300,000	300,000	5,355	36
Neighbourhood Walkway Program	-	750,000	750,000	44,171	37
Special Crosswalk Program	-	200,000	200,000	7,468	38
Steveston Highway Multi-Use Pathway, Mortfield Gate to No. 2 Road	3,000,000	3,000,000	6,000,000	33,137	39
Street Light LED Upgrade Program	-	400,000	400,000	(30,000)	40
Top 20 Collision Prone Intersections- Preliminary Designs for Medium/Long-term improvements	-	600,000	600,000	-	41
Top 20 Collision Prone Intersections- Short-term Improvements	-	500,000	500,000	12,484	42
Traffic Calming Program	-	300,000	300,000	24,434	43
Traffic Signal Power Backup System (UPS)	-	100,000	100,000	1,943	44
Traffic Signal Program	-	800,000	800,000	16,176	45
Traffic Video and Communication Program	-	400,000	400,000	3,481	46
Transit-Related Amenity Improvement Program	-	25,000	25,000	1,337	47
Transit-Related Roadway Improvement Program	100,000	400,000	500,000	12,526	48
Transportation Planning, Functional and Preliminary Design	-	257,000	257,000	-	49
West Richmond Sidewalk Rehabilitation Program - Phase 1	-	350,000	350,000	-	50
Total Roads	\$4,467,500	\$46,375,210	\$50,842,710	\$202,421	
<i>Drainage</i>					
Box Culvert Repair	-	1,000,000	1,000,000	-	52
Burkeville Utility Improvements Drainage	-	2,236,000	2,236,000	25,000	53
Canal Stabilization	-	500,000	500,000	10,000	54
Development Coordinated Works - Drainage	-	250,000	250,000	10,000	55
Disaster Mitigation and Adaptation Fund Infrastructure Upgrades	1,806,400	2,709,600	4,516,000	10,000	56
Drainage Network Ecological Enhancement	-	200,000	200,000	-	57
Drainage Pump Station Rehabilitation and Generator Upgrade	-	250,000	250,000	10,000	58
East Richmond Drainage & Irrigation Upgrades	-	1,000,000	1,000,000	3,000	59
Flood Protection & Dike Improvements	-	1,000,000	1,000,000	15,000	60
Invasive Species Management	-	325,000	325,000	-	61
Laneway Drainage Upgrade	-	1,460,000	1,460,000	15,000	62
SCADA System Improvements	-	150,000	150,000	-	63
Storm Main Drainage Upgrade	-	1,020,000	1,020,000	10,000	64
Watercourse Crossing Rehabilitation & Replacement	-	300,000	300,000	-	65
Total Drainage	\$1,806,400	\$12,400,600	\$14,207,000	\$108,000	

Summary of Capital Projects – Recommended for funding in 2020

Appendix 3

Project Name	External Funding	City Funding	Total Investment	Total OBI	Ref
INFRASTRUCTURE PROGRAM					
<i>Water</i>					
Development Coordinated Works - Water	-	250,000	250,000	20,000	67
Thompson Gate Pressure Reducing Valve Station	-	1,500,000	1,500,000	15,000	68
Water Metering Program	-	1,200,000	1,200,000	25,000	69
Watermain Replacement Upgrades Program	-	5,792,500	5,792,500	-	70
Watermain Tie-in and Restoration	-	400,000	400,000	-	71
Total Water	-	\$9,142,500	\$9,142,500	\$60,000	
<i>Sanitary Sewer</i>					
Development Coordinated Works - Sanitary	-	350,000	350,000	10,000	73
Eckersley B Sanitary Pump Station Replacement and Spires	-				
Utility Servicing	-	5,100,000	5,100,000	-	74
Gravity Sewer Assessment Program	-	150,000	150,000	-	75
Hamilton Area Sanitary Sewer and Pump Station	-	2,800,000	2,800,000	-	76
Leslie Pump Station Replacement	-	2,913,000	2,913,000	25,000	77
Sanitary Pump Station & Forcemain Assessments, Upgrades, and Grease Management	-	600,000	600,000	5,000	78
Sanitary Pump Station Rehabilitation	-	300,000	300,000	-	79
Sanitary Sewer Tie-in and Restoration	-	150,000	150,000	-	80
Steveston Gravity Sewer Replacement and Rehabilitation	-	1,200,000	1,200,000	35,000	81
Total Sanitary Sewer	-	\$13,563,000	\$13,563,000	\$75,000	
<i>Infrastructure Advanced Design and Minor Public Works</i>					
Fleet Minor Capital	-	280,000	280,000	-	83
Public Works Infrastructure Advanced Design	-	2,550,000	2,550,000	-	84
Public Works Minor Capital - Drainage	-	400,000	400,000	-	85
Public Works Minor Capital - Roads	-	400,000	400,000	-	86
Public Works Minor Capital - Sanitary	-	400,000	400,000	-	87
Public Works Minor Capital - Sanitation & Recycling	-	350,000	350,000	-	88
Public Works Minor Capital - Traffic	-	250,000	250,000	8,106	89
Public Works Minor Capital - Water	-	500,000	500,000	-	90
Total Infrastructure Advanced Design and Minor Public Works	-	\$5,130,000	\$5,130,000	\$8,106	
TOTAL INFRASTRUCTURE PROGRAM	\$6,273,900	\$86,611,310	\$92,885,210	\$453,527	
BUILDING PROGRAM					
<i>Building</i>					
Capital Buildings Project Development Advanced Design	-	500,000	500,000	-	92
City Hall - Replacement of Mechanical, Life/Safety, and Envelope Components and Associated Works	-	2,630,000	2,630,000	-	93
Community Safety Building - Mechanical Component Replacements and Associated Works	-	1,350,000	1,350,000	-	94
Minoru Centre for Active Living - Lap Pool 1 Reconstruction	-	3,000,000	3,000,000	-	95
Richmond Courthouse - Mechanical Components Replacements, Envelope Renewals, Electrical Replacements, Structural Renewals and Associated Works	-	1,601,500	1,601,500	-	96
Richmond Ice Centre Infrastructure Renewals - Phase 1	-	6,850,000	6,850,000	-	97
Works Yard Electrical Service Upgrade and Electrical Vehicle Infrastructure	-	1,688,000	1,688,000	40,960	98
Total Building	-	\$17,619,500	\$17,619,500	\$40,960	
TOTAL BUILDING PROGRAM	-	\$17,619,500	\$17,619,500	\$40,960	

Project Name	External Funding	City Funding	Total Investment	Total OBI	Ref
PARKS PROGRAM					
<i>Parks</i>					
Lang Park Completion	-	250,000	250,000	12,092	100
London Steveston Park Phase 3 Construction	-	400,000	400,000	22,162	101
Minoru Lakes Renewal Upgrades – Phase 1	-	4,060,000	4,060,000	-	102
Minoru Oval - Artificial Turf Replacement	-	1,030,000	1,030,000	-	103
Parks Advance Planning and Design	-	300,000	300,000	-	104
Parks Ageing Infrastructure Replacement Program	-	590,000	590,000	-	105
Parks General Development	-	400,000	400,000	4,383	106
Parks Identity Signage Program - Phase 3	-	100,000	100,000	12,785	107
Playground Improvement Program	-	600,000	600,000	-	108
Railway Granville Bike Park	-	270,000	270,000	13,503	109
Riverport and Cook Community Gardens	-	180,000	180,000	8,017	110
Total Parks	-	\$8,180,000	\$8,180,000	\$72,942	
<i>Parkland</i>					
Parkland Acquisition	-	4,000,000	4,000,000	-	112
Total Parkland	-	\$4,000,000	\$4,000,000	-	
TOTAL PARKS PROGRAM	-	\$12,180,000	\$12,180,000	\$72,942	
PUBLIC ART PROGRAM					
<i>Public Art</i>					
Public Art Program	-	694,764	694,764	10,000	114
TOTAL PUBLIC ART PROGRAM	-	\$694,764	\$694,764	\$10,000	
LAND PROGRAM					
<i>Land</i>					
Strategic Land Acquisition	-	10,000,000	10,000,000	-	116
TOTAL LAND PROGRAM	-	\$10,000,000	\$10,000,000	-	
AFFORDABLE HOUSING PROGRAM					
<i>Affordable Housing</i>					
Affordable Housing 2020 Operating Initiatives	-	400,000	400,000	-	118
TOTAL AFFORDABLE HOUSING PROGRAM	-	\$400,000	\$400,000	-	
EQUIPMENT PROGRAM					
<i>Vehicle</i>					
Automatic Vehicle Location/Global Positioning System	-	118,000	118,000	49,870	120
Vehicle and Equipment Reserve Purchases (Public Works and Corporate Fleet)	-	3,322,766	3,322,766	27,160	121
Total Vehicle	-	\$3,440,766	\$3,440,766	\$77,030	
<i>Fire Dept Vehicles and Equipment</i>					
Fire Vehicle Replacement Reserve Purchases	-	416,455	416,455	-	123
Total Fire Dept Vehicles and Equipment	-	\$416,455	\$416,455	-	

Summary of Capital Projects – Recommended for funding in 2020

Appendix 3

Project Name	External Funding	City Funding	Total Investment	Total OBI	Ref
EQUIPMENT PROGRAM					
<i>Information Technology</i>					
Annual Hardware Refresh	-	362,800	362,800	-	125
Data Centre Server Refresh /Update - Phase 1 of 2	-	363,000	363,000	-	126
Network Refresh for City Facilities - Phase 1 of 3	-	557,950	557,950	31,733	127
Office 2016 Licensing - Phase 2 of 2	-	494,909	494,909	6,573	128
PeopleSoft HCM 9.2 Update 2020	-	217,440	217,440	-	129
Total Information Technology	-	\$1,996,099	\$1,996,099	\$38,306	
<i>Equipment</i>					
Fire Equipment Replacement from Reserve	-	258,145	258,145	55,000	131
Richmond Fire Driving Testing/Evaluation Platform	-	280,000	280,000	45,000	132
Total Equipment	-	\$538,145	\$538,145	\$100,000	
TOTAL EQUIPMENT PROGRAM	-	\$6,391,465	\$6,391,465	\$215,336	
CHILD CARE PROGRAM					
<i>Child Care</i>					
Child Care - Administration	-	110,000	110,000	-	134
Child Care Projects - City-wide (Capital Grants)	-	50,000	50,000	-	135
Child Care Projects - City-wide Non-Capital Grants	-	10,000	10,000	-	136
TOTAL CHILD CARE PROGRAM	-	\$170,000	\$170,000	-	
CONTINGENT EXTERNAL CONTRIBUTION					
Contingent External Contribution	10,000,000	-	10,000,000	-	138
TOTAL CONTINGENT EXTERNAL CONTRIBUTION	\$10,000,000	-	\$10,000,000	-	
INTERNAL TRANSFERS/DEBT PAYMENT					
<i>Internal Transfers/Debt Payment</i>					
12040 Horseshoe Way Repayment	-	525,000	525,000	-	140
7080 River Road Repayment	-	2,341,384	2,341,384	-	141
Nelson Road Interchange Repayment	-	385,098	385,098	-	142
River Road/North Loop (2005) Repayment	-	1,334,953	1,334,953	-	143
Transfer funding from DCC Parks Development General to DCC Parks Development West Cambie	-	724,185	724,185	-	144
TOTAL INTERNAL TRANSFERS/DEBT PAYMENT	-	\$5,310,620	\$5,310,620	-	
Total 2020 Capital Program	\$16,273,900	\$139,377,659	\$155,651,559	\$792,765	

OBI Type	
Operating OBI	\$ 644,794
Utility OBI	147,971
Total OBI	\$792,765

2020 Summary of Projects Funded by Revolving Fund

Appendix 5

Each year, the Revolving Fund is utilized to fund various capital projects. This summary shows the 2020 capital projects and the corresponding amounts funded by the Revolving Fund.

Project Name	Revolving Fund	Total Investment	Total OBI	Ref
Roads				
Cambie Overpass Rehabilitation Project	677,500	1,355,000	-	30
Citywide Connector Walkways Rehabilitation Program	250,000	250,000	-	34
Citywide Sidewalk and Street Light Replacement Program	500,000	500,000	-	35
West Richmond Sidewalk Rehabilitation Program - Phase 1	350,000	350,000	-	50
Total Infrastructure	\$1,777,500	\$2,455,000	-	
Parks				
Minoru Oval - Artificial Turf Replacement	680,000	1,030,000	-	103
Parks Ageing Infrastructure Replacement Program	590,000	590,000	-	105
Playground Improvement Program	600,000	600,000	-	108
Total Parks	\$1,870,000	\$2,220,000	-	
Total 2020 Projects Funded by Revolving Fund	\$3,647,500	\$4,675,000	-	

The City Assist Factor on Roads DCC and Parks DCC projects are also funded by the Revolving Fund.

City Assist Factor on Parks Acquisition	\$377,312			
City Assist Factor on Parks Development	\$354,495			
City Assist Factor on Roads DCC	\$699,245			
Total Funding from Revolving Fund	\$5,078,552			

Project Name	DCC Funding	City Assist Factor	Total Investment ¹	Total OBI	Ref
Roads					
Accessible Pedestrian Signal Program	235,125	14,875	250,000	13,986	25
Active Transportation Improvement Program	564,300	35,700	600,000	9,859	26
Arterial Roadway Improvement Program	752,400	47,600	800,000	28,703	29
Cambie Road/No. 5 Road - Intersection Improvements	1,946,835	123,165	2,760,000	17,361	31
LED Street Name Sign Program	282,150	17,850	300,000	5,355	36
Neighbourhood Walkway Program	705,375	44,625	750,000	44,171	37
Special Crosswalk Program	188,100	11,900	200,000	7,468	38
Steveston Highway Multi-Use Pathway, Mortfield Gate to No. 2 Road	2,821,500	178,500	6,000,000	33,137	39
Top 20 Collision Prone Intersections- Preliminary Designs for Medium/Long-term improvements	564,300	35,700	600,000	-	41
Top 20 Collision Prone Intersections- Short-term Improvements	470,250	29,750	500,000	12,484	42
Traffic Calming Program	282,150	17,850	300,000	24,434	43
Traffic Signal Power Backup System (UPS)	94,050	5,950	100,000	1,943	44
Traffic Signal Program	752,400	47,600	800,000	16,176	45
Traffic Video and Communication Program	376,200	23,800	400,000	3,481	46
Transit-Related Amenity Improvement Program	23,512	1,488	25,000	1,337	47
Transit-Related Roadway Improvement Program	376,200	23,800	500,000	12,526	48
Transportation Planning, Functional and Preliminary Design	241,708	15,292	257,000	-	49
Total Roads	\$10,676,555	\$675,445	\$15,142,000	\$232,421	
Water					
Watermain Replacement Upgrades Program	137,899	8,724	5,792,500	-	70
Total Water	\$137,899	\$8,724	\$5,792,500	\$-	
Sanitary Sewer					
Eckersley B Sanitary Pump Station Replacement and Spires Utility Servicing	587,813	5,938	5,100,000	-	74
Hamilton Area Sanitary Sewer and Pump Station	1,763,438	111,563	2,800,000	-	76
Leslie Pump Station Replacement	1,175,625	11,875	2,913,000	25,000	77
Total Sanitary Sewer	\$3,526,876	\$129,376	\$10,813,000	\$25,000	
Infrastructure Advanced Design and Minor Public Works					
Public Works Infrastructure Advanced Design	376,200	23,800	2,550,000	-	84
Total Infrastructure Advanced Design and Minor Public Works	\$376,200	\$23,800	\$2,550,000	\$-	
Parks					
Lang Park Completion	235,250	14,750	250,000	12,092	100
London Steveston Park Phase 3 Construction	376,200	23,800	400,000	22,162	101
Minoru Lakes Renewal Upgrades – Phase 1	3,818,430	241,570	4,060,000	-	102
Parks Advance Planning and Design	282,150	17,850	300,000	-	104
Parks General Development	376,200	23,800	400,000	4,383	106
Parks Identity Signage Program - Phase 3	94,050	5,950	100,000	12,785	107
Railway Granville Bike Park	253,935	16,065	270,000	13,503	109
Riverport and Cook Community Gardens	169,290	10,710	180,000	8,017	110
Total Parks	\$5,605,505	\$354,495	\$5,960,000	\$72,942	
Parkland					
Parkland Acquisition	3,762,000	238,000	4,000,000	-	112
Total Parkland	\$3,762,000	\$238,000	\$4,000,000	\$-	

¹The Total Investment includes all funding sources: External and City Funding, refer to Appendix 3.

Project Name	DCC Funding	City Assist Factor	Total Investment ¹	Total OBI	Ref
<i>Internal Transfers/Debt Payment</i>					
7080 River Road Repayment	2,202,072	139,312	2,341,384	-	141
Nelson Road Interchange Repayment	385,098	-	385,098	-	142
River Road/North Loop (2005) Repayment	1,334,953	-	1,334,953	-	143
Transfer funding from DCC Parks Development General to DCC Parks Development West Cambie	724,185	-	724,185	-	144
Total Internal Transfers/Debt Payment	\$4,646,308	\$139,312	\$4,785,620	\$-	
Grand Total	\$28,731,343	\$1,569,152	\$49,043,120	\$330,363	

¹The Total Investment includes all funding sources: External and City Funding, refer to Appendix 3.

The Capital Building and Infrastructure General Fund is used for facility construction and is funded from taxes and gaming revenue. The Capital Building and Infrastructure Special Sports Fund is for construction costs relating to artificial turf fields and is funded from sports field fees and other recoveries.

General Fund

Project Name	Capital Building & Infrastructure Fund	Total Investment	Total OBI	Ref
Building				
Capital Buildings Project Development Advanced Design	500,000	500,000	-	92
City Hall - Replacement of Mechanical, Life/Safety, and Envelope Components and Associated Works	2,630,000	2,630,000	-	93
Community Safety Building - Mechanical Component Replacements and Associated Works	1,350,000	1,350,000		94
Minoru Centre for Active Living - Lap Pool 1 Reconstruction	3,000,000	3,000,000	-	95
Richmond Ice Centre Infrastructure Renewals - Phase 1	6,850,000	6,850,000	-	97
Works Yard Electrical Service Upgrade and Electrical Vehicle Infrastructure	1,608,000	1,688,000	40,960	98
Total Building	\$15,938,000	\$16,018,000	\$40,960	
Grand Total	\$15,938,000	\$16,018,000	\$40,960	

Special Sports Fund

Project Name	Capital Building & Infrastructure Fund	Total Investment	Total OBI	Ref
Parks				
Minoru Oval – Artificial Turf Replacement	350,000	1,030,000	-	103
Total Parks	\$350,000	\$1,030,000	-	
Grand Total	\$350,000	\$1,030,000	-	

Infrastructure Program 2020

The City’s Infrastructure Program assets include: road, drainage and sanitary pump stations, drainage, water, and sanitary mains.

2020 Recommended Infrastructure – Roads Program

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Program:	Infrastructure Program	Sub-program:	Roads
Project Name:	Accessible Pedestrian Signal Program	Submission ID:	5676

Location: Various Locations

Cost: \$250,000 **OBI:** \$13,986

Funding Sources: Roads DCC: \$235,125
Roads City Assist: \$14,875

Scope: General Scope: Installation of accessible pedestrian signal (APS) devices at existing signalized intersections. Proposed funding level and locations would achieve the City’s goal to outfit all existing City-owned traffic signals with APS devices (remaining 36 out of 175) by 2020; this funding will complete all upgrades and will meet the 2020 goal. The standard for all new traffic signals is to include APS.

Major Cost Components: APS hardware (including push button, speaker and electrical circuits), push button sign, pedestrian interface module (located within pedestrian heads), communication interface module (located in traffic cabinet), and electrical wiring.

Funding: The City will apply for funding from ICBC grants and if successful, the City’s funding sources will be reduced accordingly.



Program:	Infrastructure Program	Sub-program:	Roads
Project Name:	Active Transportation Improvement Program	Submission ID:	5677

Location: Various Locations

Cost: \$600,000 **OBI:** \$9,859

Funding Sources: Roads DCC: \$564,300
Roads City Assist: \$35,700

Scope: General Scope: Implement cycling and rolling (e.g., wheelchairs and scooters) improvements to support: 1) the expansion of on-street cycling routes and off-street multi-use pathways; and 2) cycling and rolling initiatives and on-going enhancements to existing infrastructure.

Major Cost Components: New on-street cycling facilities, off-street multi-use pathways for transportation purposes, bike racks, pavement markings and signage, and associated road geometric improvements.

Funding: The City will apply for funding from TransLink and ICBC grants and if successful, the City's funding sources will be reduced accordingly.

The list of improvements currently planned for 2020 is:

- Westminster Highway (No. 6 Road-No. 8 Road): provision of physical separation from vehicular travel lanes; and
- Railway Avenue (Steveston Highway-Williams Road): revision of pavement markings to increase the width of the parking lane and bike lane to current standards.



Program:	Infrastructure Program	Sub-program:	Roads
Project Name:	Annual Asphalt Re-Paving Program - MRN	Submission ID:	5615

Location: Various Locations

Cost: \$1,558,050

OBI: \$ -

Funding Sources: Others: \$1,558,050

Scope: To re-pave MRN roads in alignment with the City's Ageing Infrastructure Report and Pavement Management Plan prepared by WSP Consultants. The project list has been determined for 2020 as listed in the Proposed 2020 Paving Program Report per Council meeting on October 23, 2019.

The project costs include any associated ancillary work, including but not limited to, curb and gutter repairs, road base repair, asphalt parking re-paving, manhole and valve box adjustments, line painting, staff inspection time, and similar.

The project includes the pavement component of other water, sanitary, and drainage upgrades in the Capital Program that are co-ordinated by the Engineering department as well as consultant/contractor fees related to bridge upgrades and the Pavement Management Plan.



Program:	Infrastructure Program	Sub-program:	Roads
Project Name:	Arterial Roadway Improvement Program	Submission ID:	5678

Location: Various Locations

Cost: \$800,000 **OBI:** \$28,703

Funding Sources: Roads DCC: \$752,400
Roads City Assist: \$47,600

Scope: General Scope: Implement pedestrian and traffic safety improvements along arterial roads and at arterial road intersections to address issues including those identified through requests from the public and/or Council.

Major Cost Components: New and/or enhancement of turn lanes, channelization, traffic signage, pedestrian safety measures enhancements and new/upgrade sidewalks/walkways.

Funding: The City will apply for funding from TransLink and ICBC grants and if successful, the City's funding sources will be reduced accordingly.

Locations for improvements are prioritized based on traffic safety/collision risks and level of pedestrian activities (i.e., schools, neighbourhood service centres, bus stops, recreational service centres, shopping/retail centres, etc.).

The list of improvements currently planned for 2020 is:

- Upgrade and widen existing sidewalk along east side of St Edwards Drive, from 348m east of Cambie Road to Bird Road; and
- Remove channelized right-turn islands and reconstruct curb returns at Cooney Road-Westminster Highway (northeast corner) and Garden City Road-Lansdowne Road (northwest corner) intersections.



Program:	Infrastructure Program	Sub-program:	Roads
Project Name:	Cambie Overpass Rehabilitation Project	Submission ID:	6191

Location: City Wide

Cost: \$1,355,000 **OBI:** \$ -

Funding Sources: Capital Revolving: \$677,500
Grant: \$677,500

Scope: In 2019, City of Richmond received a grant through the MRN Structures Program to implement structural rehabilitation for the Cambie Road Overpass at Knight Street. This project will include, but is not limited to, geotechnical assessment, design, and structural rehabilitation. This work is critical to maintain a safe transportation network, limit further deterioration of the overpass, and reduce future maintenance costs.



Program:	Infrastructure Program	Sub-program:	Roads
Project Name:	Cambie Road/No. 5 Road - Intersection Improvements	Submission ID:	6631

Location: Cambie Road and No. 5 Road

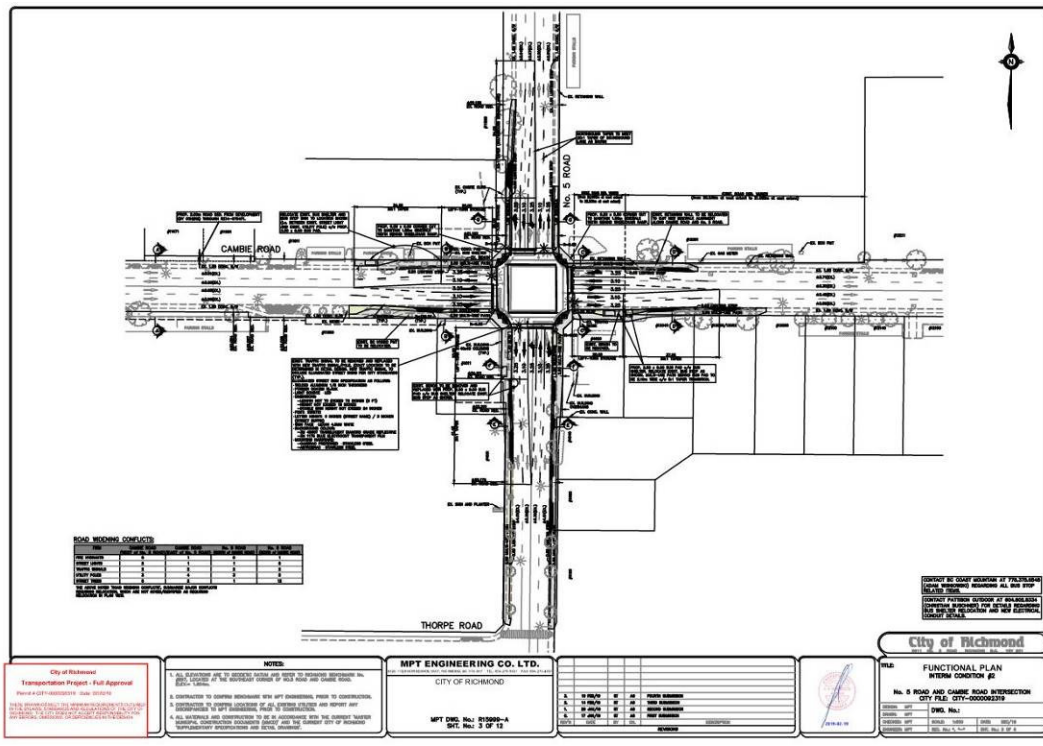
Cost: \$2,760,000 **OBI:** \$17,361

Funding Sources: Roads DCC: \$1,946,835
 Roads City Assist: \$123,165
 Grant: \$690,000

Scope: General Scope: Provide dedicated left-turn lanes on all four legs of the intersection and multi-use pathways along both sides of Cambie Road at the intersection and along both sides of No. 5 Road from Cambie Road to Thorpe Road to enhance safety of road users, as described in the staff report titled "Proposed Intersection Improvements on Cambie Road at No. 5 Road and Jacombs Road" approved by Council on Monday June 24, 2019.

Major Cost Components: Road widening, relocation of curb and gutter, pavement markings and signage, new landscaped boulevard/lighting strip, street tree removal/relocation, relocation/widening existing sidewalk, new accessible bus stop landing pads and transit shelters, upgrade of existing traffic signals including overhead LED illuminated street name signs, traffic cameras and accessible pedestrian signal features, relocation of existing infrastructure (i.e., hydrants, streetlighting, utility poles, catch basins, private utility kiosks, etc.) and property acquisition.

Funding: The City will apply for funding from TransLink and ICBC grants and if successful, the City's funding sources will be reduced accordingly.



Program:	Infrastructure Program	Sub-program:	Roads
Project Name:	Capstan Station Construction	Submission ID:	6821

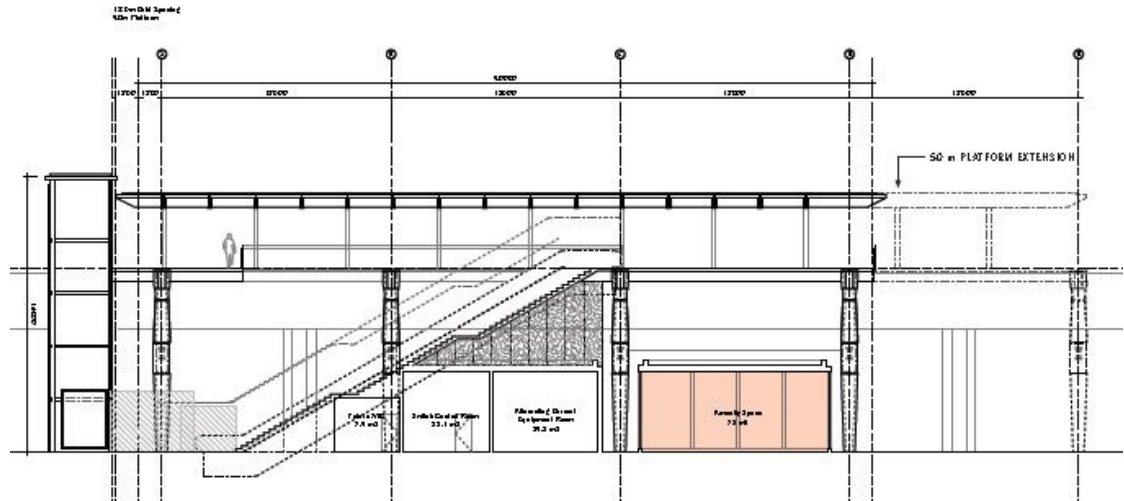
Location: No 3 Road, Capstan Way to Sea Island Way

Cost: \$27,500,000 **OBI:** \$ -

Funding Sources: Capstan Station: \$27,500,000

Scope: General Scope: Release of funding to TransLink to initiate construction of the base case station design for the Canada Line Capstan Station similar to the Aberdeen Station or the Lansdowne Station. This Station is a critical transportation feature of the City Centre Area Plan and its timely implementation will support transit-oriented development and maximize the use of the Canada Line. As per the Capstan Station Funding Agreement, station construction will be completed within 30 months upon release of the funding.

Major Cost Components: Design and construction.



Program:	Infrastructure Program	Sub-program:	Roads
Project Name:	Capstan Station Integration Design	Submission ID:	6642

Location: No 3 Road, Capstan Way to Sea Island Way

Cost: \$500,000

OBI: \$ -

Funding Sources: Capstan Station: \$500,000

Scope: General Scope: The development of the conceptual, preliminary and detailed designs of the Capstan Station integration features based on four general directions, i.e., Mobility Belt, Signature Elements, Supportive Infrastructure, and Coordinated Activation Zones. The designs will integrate the public realm, transit plaza, guideway park, City-owned park and neighbourhood park, etc. with the proposed Canada Line Capstan Station. Upon selection of the Capstan Station design option, the project is anticipated to be presented to Council for consideration in Q4 2020.

Major Cost Components: Consultant costs for design.



Program:	Infrastructure Program	Sub-program:	Roads
Project Name:	Citywide Connector Walkways Rehabilitation Program	Submission ID:	6764

Location: Various Locations

Cost: \$250,000

OBI: \$ -

Funding Sources: Capital Revolving: \$250,000

Scope: This project involves the replacement or rehabilitation of connector walkways located in various neighbourhoods around Richmond. The assessments conducted confirm that the walkway surface conditions have deteriorated over time due to tree root ingress, asphalt cracking, etc. The project cost includes, but is not limited to, costs associated with tree root pruning, asphalt re-paving, and other ancillary work.

Connector walkways are heavily used by pedestrians and their current condition in certain areas may pose a tripping hazard for the users. This project would allow the City to mitigate potential risks to public safety and promote eco-friendly modes of transportation like walking and biking.

This project is being submitted with the support of Risk Management.



Program:	Infrastructure Program	Sub-program:	Roads
Project Name:	Citywide Sidewalk and Street Light Replacement Program	Submission ID:	6189

Location: Various Locations

Cost: \$500,000

OBI: \$ -

Funding Sources: Capital Revolving: \$500,000

Scope: Over time, street lighting infrastructure deteriorates and can become a hazard to residents and traffic without proper maintenance and replacement programs. As per the City's ageing infrastructure assessment program, several of the street lights and street light service panels are at the end of their design life and need to be replaced. Sidewalks that have subsided, are damaged from tree roots, or have become misaligned pose tripping hazards to pedestrians. Replacing these sidewalks will improve pedestrian safety and encourage non-vehicular forms of transportation.

This project includes removal and replacement of streetlight poles, service panels, and luminaires that have reached the end of their service life, retrofit of deteriorated concrete bases and the associated ancillary works, inspection of streetlights that are nearing the end of their service life, installation of new streetlights to eliminate gaps in the street lighting network, and repairing deteriorated sidewalks.

This project is being submitted with the support of Risk Management.



Program:	Infrastructure Program		Sub-program:	Roads
Project Name:	LED Street Name Sign Program		Submission ID:	6154
Location:	Various Locations			
Cost:	\$300,000		OBI:	\$5,355
Funding Sources:	Roads DCC:	\$282,150		
	Roads City Assist:	\$17,850		
Scope:	<p>General Scope: Installation of overhead LED street name signs at various signalized intersections to enhance visibility and legibility for drivers. Currently, 95 of 175 locations have been upgraded (18 sites were upgraded in 2019) with the remaining intersections to be upgraded over the next 5 to 10 years (i.e. 15-20 per year).</p> <p>Major Cost Components: LED street name sign, mounting hardware and electrical wiring.</p> <p>Funding: The City will apply for funding from TransLink and ICBC grants and if successful, the City's funding sources will be reduced accordingly.</p> <p>Locations are prioritized based on major, gateway and high-volume intersections and in tourist areas.</p> <p>The preliminary list for 2020 includes the following 20 locations:</p> <ol style="list-style-type: none"> 1. Cooney Rd and Westminster Hwy; 2. Gilbert Rd and Westminster Hwy; 3. Buswell St and Granville Ave; 4. Hollybridge Way and Elmbridge Way; 5. Oval Way and River Rd; 6. Russ Baker Way and Inglis Dr; 7. Russ Baker Way and Cessna Dr; 8. Russ Baker Way and Hudson Ave; 9. Garden City Rd and Cambie Rd; 10. Garden City Rd and Capstan Way; 11. Gilbert Rd and Blundell Rd; 12. Gilbert Rd and Francis Rd; 13. Gilbert Rd and Williams Rd; 14. No. 3 Rd and Francis Rd; 15. No. 3 Rd and Williams Rd; 16. No. 3 Rd and Blundell Rd; 17. No. 1 Rd and Chatham St; 18. No. 1 Rd and Williams Rd; 19. No. 1 Rd and Osmond Rd; and 20. No. 1 Rd and Francis Rd. 			



Program:	Infrastructure Program	Sub-program:	Roads
Project Name:	Neighbourhood Walkway Program	Submission ID:	5680

Location: Various Locations

Cost: \$750,000

OBI: \$44,171

Funding Sources: Roads DCC: \$705,375
Roads City Assist: \$44,625

Scope: General Scope: Construction of new and/or enhancement of existing neighbourhood walkways/sidewalks.

Major Cost Components: Construction of new or upgrade of existing sidewalks, pathways, wheelchair ramps, minor curb cuts, and boulevard modifications.

Funding: The City will apply for funding from TransLink and ICBC grants and if successful, the City's funding sources will be reduced accordingly.

Locations are prioritized based on level of pedestrian activities (i.e., proximity to schools, bus stops, recreational centres, parks, shopping/retail centres, etc.), traffic safety/collision risks, and requests from Council and the public.

The preliminary list for 2020 includes the following 2 locations:

1. Construct walkway along north side of Westminster Highway North, from Muir Drive to 22411 Westminster Highway; and
2. Construct sidewalk along west side of Viking Way, from Cambie Road to Bridgeport Road.



Program:	Infrastructure Program	Sub-program:	Roads
Project Name:	Special Crosswalk Program	Submission ID:	5681

Location: Various Locations

Cost: \$200,000 **OBI:** \$7,468

Funding Sources: Roads DCC: \$188,100
Roads City Assist: \$11,900

Scope: General Scope: Upgrade of existing crosswalks on arterial roads (typically four-lane) to new traffic control standards that have been endorsed by Council.

Major Cost Components: Illuminated overhead crosswalk signs with amber flashers, strobe lights, poles, pole bases, underground conduit, junction boxes, pole-mount cabinet, controller, hydro service panel, APS push buttons, pavement markings, and site restoration.

Funding: The City will apply for funding from TransLink and ICBC grants and if successful, the City's funding sources will be reduced accordingly.

The preliminary list for 2020 includes the following 4 locations:

1. Shell Rd and Maddocks Rd;
2. Van Horne Way and River Rd;
3. Shell Road Trail and Granville Ave; and
4. Shell Road Trail and Blundell Rd.



Program:	Infrastructure Program	Sub-program:	Roads
Project Name:	Steveston Highway Multi-Use Pathway, Mortfield Gate to No. 2 Road	Submission ID:	6639

Location: South Side of Steveston Highway from Mortfield Gate to No. 2 Road

Cost: \$6,000,000 **OBI:** \$33,137

Funding Sources: Roads DCC: \$2,821,500
 Roads City Assist: \$178,500
 Grant: \$3,000,000

Scope: General Scope: Provision of a 2.5m (minimum) to 3.0m (preferred) wide paved multi-use pathway (MUP) along the south side of Steveston Highway from No. 2 Road to Mortfield Gate. This project will provide a westward extension of the MUP along Steveston Highway from Mortfield Gate to Shell Road (2019 project approved by Council).

Upon completion, a new east/west cycling-pedestrian connection will be established linking the existing MUPs along No. 2 Road and Shell Road. The project will add 2.7 km of new active transportation infrastructure. This project is to be carried out in two phases: (1) prepare detailed design and consultation with affected property owners/business operators in 2020 (\$600,000); and (2) MUP construction to start in 2021 (\$5,400,000).

Major Cost Components: Phase 1 - Consultant costs for design and associated cost estimate. Phase 2 - Realignment/installation of curb and gutter, modifications to traffic lanes, multi-use pathway, pavement markings and signage, pedestrian crossing enhancements, relocation of above ground infrastructure (i.e., streetlight poles, hydrants, power poles, etc.), bus stops and modifications to private property (i.e., re-grade driveways, landscaping, etc.).

Funding: The City will apply for funding from TransLink and ICBC grants and if successful, the City's funding sources will be reduced accordingly.



Program:	Infrastructure Program	Sub-program:	Roads
Project Name:	Top 20 Collision Prone Intersections- Preliminary Designs for Medium/Long-term improvements	Submission ID:	6632

Location: Various Locations

Cost: \$600,000

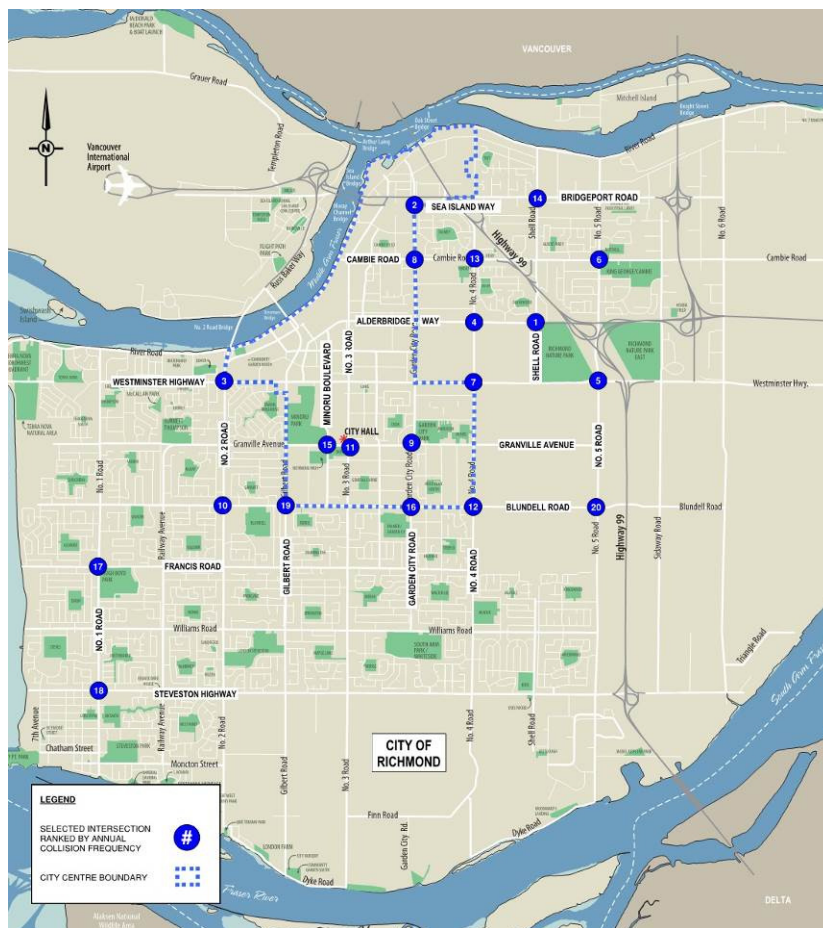
OBI: \$ -

Funding Sources: Roads DCC: \$564,300
Roads City Assist: \$35,700

Scope: General Scope: Prepare preliminary design and cost estimates for each of the top 20 collision prone signalized intersections to confirm the scope of medium/long-term improvements, as described in the staff report titled "Review of Collision Prone Intersections" presented to Council on June 24, 2019. Based on the outcome of the project, an implementation strategy to advance the safety improvements at the 20 locations will be developed and presented to Council for consideration.

Major Cost Components: Consultant costs for design for each of the top 20 collision prone intersections and associated cost estimate.

Funding: The City will apply for funding from TransLink and ICBC grants and if successful, the City's funding sources will be reduced accordingly.



Program:	Infrastructure Program	Sub-program:	Roads
Project Name:	Top 20 Collision Prone Intersections- Short-term Improvements	Submission ID:	6630

Location: Various Locations

Cost: \$500,000

OBI:

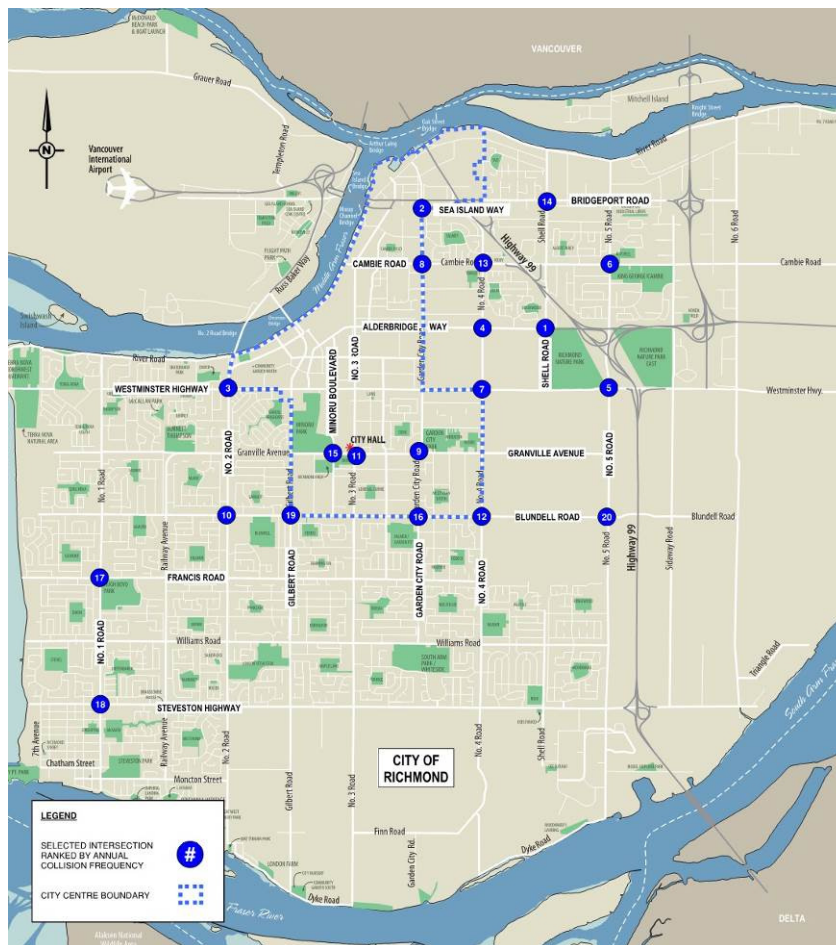
\$12,484

Funding Sources: Roads DCC: \$470,250
Roads City Assist: \$29,750

Scope: General Scope: Implement short-term improvements to enhance intersection safety at top 20 collision prone signalized intersections, as described in the staff report titled "Review of Collision Prone Intersections" approved by Council on Monday June 24, 2019.

Major Cost Components: Varying improvements at each of the 20 locations which include some or all of the following: pedestrian crossing enhancements, new traffic/parking signage and pavement markings, provision of barriers, sightline improvement with foliage trimming, larger traffic signal lenses, and design and implementation of change in signal operation to assign priority to vulnerable road users.

Funding: The City will apply for funding from TransLink and ICBC grants and if successful, the City's funding sources will be reduced accordingly.



Program:	Infrastructure Program	Sub-program:	Roads
Project Name:	Traffic Calming Program	Submission ID:	5682

Location: Various Locations

Cost: \$300,000 **OBI:** \$24,434

Funding Sources: Roads DCC: \$282,150
Roads City Assist: \$17,850

Scope: General Scope: Retrofitting existing local roads with traffic calming measures to enhance safety for road users and livability for residents by reducing speed and deterring short-cutting traffic within neighbourhoods.

Major Cost Components: Road works to construct traffic calming measures such as curb bulges, curb ramps, traffic circles, speed humps, delineated walkways, traffic signage, pavement marking, and streetscape features (i.e., trees and/or other landscaping improvements).

Funding: The City will apply for funding from TransLink and ICBC grants and if successful, the City's funding sources will be reduced accordingly.

Locations will be prioritized based on Council and/or public request.



Program:	Infrastructure Program	Sub-program:	Roads
Project Name:	Traffic Signal Power Backup System (UPS)	Submission ID:	6444

Location: Various Locations

Cost: \$100,000 **OBI:** \$1,943

Funding Sources: Roads DCC: \$94,050
Roads City Assist: \$5,950

Scope: General Scope: Installation of Uninterruptible Power Supply (UPS) system at signalized intersections to provide continual power during disruption. UPS protects electronic hardware from power surges. It is anticipated that the remaining signalized intersections (111 out of 175) can be upgraded over the next 20-25 years (i.e. 3-5 per year).

Major Cost Components: UPS cabinet and base, controller, batteries, underground conduit, and site restoration.

Funding: The City will apply for funding from TransLink and ICBC grants and if successful, the City's funding sources will be reduced accordingly.

The preliminary list for 2020 includes 3 locations as follows:

1. No. 2 Rd and Francis Rd;
2. No. 2 Rd and Williams Rd; and
3. Gilbert Rd and Westminster Hwy.



Program:	Infrastructure Program	Sub-program:	Roads
Project Name:	Traffic Signal Program	Submission ID:	5683

Location: Various Locations

Cost: \$800,000 **OBI:** \$16,176

Funding Sources: Roads DCC: \$752,400
Roads City Assist: \$47,600

Scope: General Scope: Installation of new/upgrade of existing traffic signals to accommodate traffic growth, respond to public requests, better manage movements of all road users, and address traffic safety concerns.

Major Cost Components: Traffic controller, cabinet, poles, bases, junction boxes, underground conduit, in ground and camera video detection, enhanced accessible pedestrian signals, traffic signal heads, electrical wiring, traffic signal communications, LED street name signs, pavement markings, minor corner property acquisition, minor curb cuts, boulevard modifications, and site restoration.

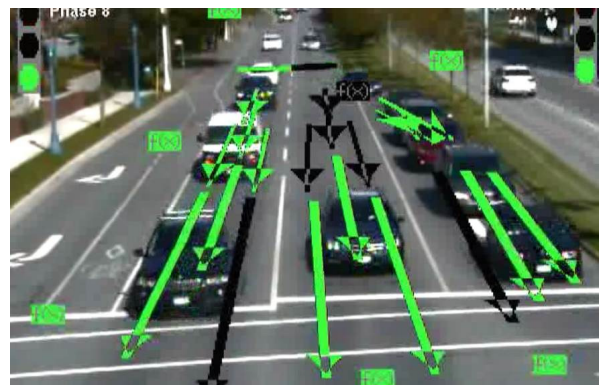
Funding: The City will apply for funding from TransLink and ICBC grants and if successful, the City’s funding sources will be reduced accordingly.

The preliminary list for 2020 includes 2 locations as follows with a further location to be determined:

1. Moffatt Road and Blundell Road (upgrade from pedestrian to full traffic signal); and
2. Lassam Road and Steveston Highway.



Program:	Infrastructure Program		Sub-program:	Roads
Project Name:	Traffic Video and Communication Program		Submission ID:	5904
Location:	Various Locations			
Cost:	\$400,000		OBI:	\$3,481
Funding Sources:	Roads DCC:	\$376,200		
	Roads City Assist:	\$23,800		
Scope:	<p>General Scope:</p> <ol style="list-style-type: none"> 1. Install video detection cameras at signalized intersections to enhance cyclist and vehicle detection, optimize traffic operations, measure traffic speed, and provide real time video of traffic conditions to the Traffic Management Centre (TMC) for observing and enhancing operations and provide photos (in one minute intervals) of approaching traffic conditions for public access on the City website. This program is separate from the Richmond RCMP security camera program. It is anticipated that the remaining intersections (108 out of 175) can be upgraded over the next 7 to 10 years (i.e. 10-15 per year). 2. Upgrade conduit and cable infrastructure to install higher capacity fibre optic cable and electronics for Ethernet (computer networking technology) to communicate with multiple remote programmable devices at traffic signals. It is anticipated that the entire city can be upgraded over the next 15 to 20 years based on the current level of funding. <p>Major Cost Components: Video detection camera hardware and installation, fibre optic cable, fibre splicing and underground enclosures and fibre network switches are required to communicate to the TMC.</p> <p>Funding: The City will apply for funding from TransLink and ICBC grants and if successful, the City's funding sources will be reduced accordingly.</p> <p>The preliminary list for 2020 includes 13 locations as follows:</p> <ol style="list-style-type: none"> 1. Oval Way and River Rd; 2. Hollybridge Way and Elmbridge Way; 3. No. 3 Rd and Granville Ave; 4. Great Canadian Way and River Rd; 5. Great Canadian Way and Bridgeport Transit Exchange; 6. No. 3 Rd and Leslie Rd; 7. No. 3 Rd and Capstan Way; 8. No. 3 Rd and Williams Rd; 9. No. 8 Rd and Westminster Hwy; 10. No. 6 Rd and Commerce Pkwy; 11. Graybar Rd and Westminster Hwy; 12. Fraserwood Way and Westminster Hwy; and 13. Westminster Hwy, No. 6 Rd to No. 8 Rd (Fibre Optic Cable). 			



Program:	Infrastructure Program	Sub-program:	Roads
Project Name:	Transit-Related Amenity Improvement Program	Submission ID:	5684

Location: Various Locations

Cost: \$25,000 **OBI:** \$1,337

Funding Sources: Roads DCC: \$23,512
Roads City Assist: \$1,488

Scope: General Scope: Transit-related amenity improvements within the road right-of-way to support transit service and infrastructure.

Major Cost Components: Non-advertising transit shelters and benches, and other supplementary amenity improvements to facilitate transit passengers.

Funding: The City will apply for funding from TransLink and ICBC grants and if successful, the City's funding sources will be reduced accordingly.

Locations for bus stop shelters are prioritized based on boarding activity, customer requests and availability of right-of-way.

For 2020, approximately 15-20 locations are proposed for upgrade. The actual locations will be determined in early 2020 in consultation with Pattison Outdoor, the City's street furniture contractor.



Program:	Infrastructure Program	Sub-program:	Roads
Project Name:	Transit-Related Roadway Improvement Program	Submission ID:	5685

Location: Various Locations

Cost: \$500,000 **OBI:** \$12,526

Funding Sources: Roads DCC: \$376,200
 Roads City Assist: \$23,800
 Grant: \$100,000

Scope: General Scope: Road and traffic improvements to support transit service improvements and existing transit infrastructure. Currently, approximately 80% of 721 existing bus stops are accessible (7 bus stops were upgraded in 2019).

Major Cost Components: Bus stop landing pads and ramps for wheelchair accessibility, intersection geometric/corner improvements, sidewalk/walkway construction connecting to bus stops, etc. to facilitate transit passengers.

Funding: The City will apply for funding from TransLink and ICBC grants and if successful, the City's funding sources will be reduced accordingly.

Locations for bus stop accessibility improvements are prioritized based on boarding/alighting activity, customer requests and availability of right-of-way.

For 2020, approximately 10-15 locations are proposed for upgrade. The actual locations will be determined in early 2020 in consultation with Coast Mountain Bus Company (CMBC) and through public feedback.



Program:	Infrastructure Program	Sub-program:	Roads
Project Name:	Transportation Planning, Functional and Preliminary Design	Submission ID:	5679
Location:	Various Locations		
Cost:	\$257,000	OBI:	\$ -
Funding Sources:	Roads DCC: \$241,708 Roads City Assist: \$15,292		
Scope:	<p>General Scope:</p> <ol style="list-style-type: none"> 1. Project Design - Prepare functional/preliminary designs and cost estimates required for transportation capital projects identified within the Capital Program. Design to identify road elements, horizontal alignment, cross-section, property impacts, etc. and high level cost estimates to carry out further detailed engineering design. 2. Project Planning and Coordination - Assist in the development, leading, coordinating and administering the planning, engineering, and design work on transportation capital projects approved as part of the Capital Program and off-site improvements for new developments. <p>Cost based on 5% of the cost estimate of capital projects included within annual capital programs that require functional designs; design funds for projects with more significant scope are included separately within those projects.</p> <p>Major Cost Components: Consultant and/or staff costs for Project design and staff costs for Project planning and coordination.</p>		

Program:	Infrastructure Program	Sub-program:	Roads
Project Name:	West Richmond Sidewalk Rehabilitation Program - Phase 1	Submission ID:	6729

Location: Various Locations

Cost: \$350,000

OBI: \$ -

Funding Sources: Capital Revolving: \$350,000

Scope: This project involves the replacement or rehabilitation of sidewalks in West Richmond area that have deteriorated over time due to tree root ingress or settlement. The project includes, but is not limited to, costs associated with sidewalk panel replacement, tree removal and replacement, root pruning, curb and gutter repairs, and other ancillary work.

The current condition of sidewalks in certain areas may pose a tripping hazard for pedestrians. This project would allow the City to address these issues and mitigate potential risks to public safety.

This project is being submitted with the support of Risk Management.




Drainage Program 2020

The City’s Drainage and Diking Program supports critical improvements for drainage and flood protection infrastructure. In addition to replacing ageing infrastructure, these projects include drainage and diking upgrades to proactively address climate change - induced impacts such as higher intensity storms and sea level rise. Consistent with Council’s Strategic Plan, completion of these projects will help the City become safer and more resilient to climate change.

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Program:	Infrastructure Program	Sub-program:	Drainage
Project Name:	Box Culvert Repair	Submission ID:	6499
Location:	City Wide		
Cost:	\$1,000,000	OBI:	\$ -
Funding Sources:	Drainage Utility: \$1,000,000		
Scope:	<p>The City of Richmond’s Box Culvert Inspection Program identifies locations where settlement, cracking, and infiltration occur due to failing box culverts.</p> <p>The scope of work for this project includes the repair and rehabilitation of concrete storm box culverts throughout Richmond. Repair work will include, but is not limited to, patching, grouting, and structural lining. Additionally, this funding will be used to perform point repairs as identified by the City Box Culvert Inspection Program throughout the year.</p>		
			

Program:	Infrastructure Program	Sub-program:	Drainage
Project Name:	Burkeville Utility Improvements Drainage	Submission ID:	5606

Location: Burkeville Area

Cost: \$2,236,000 **OBI:** \$25,000

Funding Sources: Drainage Utility: \$1,000,000
 Water Utility: \$736,000
 Sanitary Utility: \$500,000

Scope: Burkeville's drainage system was designed using shallow ditches and small diameter road cross culverts. As the area redevelops, ditch infills are becoming common. Ditch infills change the nature of the drainage system and reduce drainage capacity. A new, larger drainage system is therefore needed to accommodate these changes.

In addition, sanitary and water infrastructure will be upgraded where the scope overlaps with the upgrade of the drainage infrastructure.

The current gravity sanitary sewer system is made up of vitrified clay and approaching the end of its service life. Replacing it at the same time as the drainage system upgrade will be more cost-effective for the City. This project will also coordinate the installation of 736 metres of 200mm diameter watermain to replace or rehabilitate existing ageing infrastructure

Engineering and construction efficiencies will be achieved, and public disruptions will be minimized by coordinating the utility improvements.



Program:	Infrastructure Program	Sub-program:	Drainage
Project Name:	Disaster Mitigation and Adaptation Fund Infrastructure Upgrades	Submission ID:	6700

Location: Various Locations

Cost: \$4,516,000 **OBI:** \$10,000

Funding Sources: Drainage Utility: \$2,709,600
Grant: \$1,806,400

Scope: The City was awarded the Infrastructure Canada Disaster Mitigation and Adaptation Fund in 2019, with grant funding in the amount of \$13,780,000. This project improves flood protection for the City, supporting the Flood Protection Management Strategy, and is required to be completed to receive the grant funding.

This project includes the design, construction, contract administration, and project management of drainage pump station upgrades and perimeter dike raising as per the awarded Disaster Mitigation and Adaptation Fund.

This project is the first of five phases to complete drainage and dike upgrades.



Program:	Infrastructure Program	Sub-program:	Drainage
Project Name:	Drainage Network Ecological Enhancement	Submission ID:	6704

Location: City Wide

Cost: \$200,000

OBI: \$ -

Funding Sources: Drainage Utility: \$200,000

Scope: The main objective of this project is to assess, monitor, enhance and protect the Ecological Network by identifying opportunities on City-owned land to improve ecosystem services. This project aims to increase the environmental resiliency and quality of the City's Ecological Network, closely aligning it with the goals of the City's Ecological Network Management Strategy, the Integrated Rainwater Resource Management Plan, Riparian Response Strategy and various pollution prevention undertakings including the Mitchell Island Environmental Stewardship Initiatives.



Program:	Infrastructure Program	Sub-program:	Drainage
Project Name:	Drainage Pump Station Rehabilitation and Generator Upgrade	Submission ID:	5885

Location: Miller Road

Cost: \$250,000 **OBI:** \$10,000

Funding Sources: Drainage Utility: \$250,000

Scope: The hardware of some drainage pump stations is at the end of its life expectancy and continually has numerous breakdowns. This project will improve the reliability and efficiency of our drainage pump stations.

The scope of work for this project includes rehabilitation upgrades at Miller Road drainage pump stations. Rehabilitation will include, but is not limited to, the upgrade and installation of a motor control centre, transfer switch, sonar level controls, and the rebuild of the existing two pumps at Miller Road pump station.

Additionally, this project will include the purchase and installation of a 200 kW generator. The generator will be connected using a new transfer switch. Construction of a concrete pad with a fenced surround may be undertaken dependant on site conditions.



Program:	Infrastructure Program	Sub-program:	Drainage
Project Name:	Laneway Drainage Upgrade	Submission ID:	6655

Location: Various Locations

Cost: \$1,460,000 **OBI:** \$15,000

Funding Sources: Drainage Utility: \$1,460,000

Scope: The scope of work for this project includes installation of drainage infrastructure in the following areas:

- 203m of laneway drainage east of Greenlees Road between 7651 Bates Road and 7511 Greenlees Road;
- 480m of laneway drainage east of Bates Road and west of No. 3 Road between 7660 Bates Road and 9640 Bates Road; and
- 387m of laneway drainage south of Bates Road between 7240 Bates Road and 9951 Greenlees Road.

This project does not include the addition of street lighting, curbs, or gutters. Costs may be recovered through City Bylaw 8752 as development occurs.



Program:	Infrastructure Program	Sub-program:	Drainage
Project Name:	SCADA System Improvements	Submission ID:	6705

Location: Various Locations

Cost: \$150,000

OBI: \$ -

Funding Sources: Sanitary Utility: \$150,000

Scope: Through its SCADA system, the City monitors and controls various equipment over the sanitary sewer, drainage, and water network. This project involves rehabilitating, upgrading, and installing computers, instruments, and electrical systems throughout the SCADA system. This project will maintain and improve the sanitary sewer, drainage, and water network operation, as well as maintain system security and technological viability.

Failure to complete the work will result in increased risk of sanitary system and drainage system failure, thereby reducing service levels and increasing cost and disruption of unplanned maintenance and emergency repairs.



Program:	Infrastructure Program	Sub-program:	Drainage
Project Name:	Storm Main Drainage Upgrade	Submission ID:	6500

Location: Various Locations

Cost: \$1,020,000 **OBI:** \$10,000

Funding Sources: Drainage Utility: \$1,020,000

Scope: This project will upgrade storm sewers in the Bath Slough drainage catchment to improve drainage capacity and system performance during higher intensity storm events. Upgrades include, but are not limited to, updating the drainage model, upsizing existing storm sewers and culverts, installing new drainage pipes, and converting existing culvert connections into a twin culvert system to increase drainage capacity.

Specific areas include the Aztec, Woodhead, and Montego neighbourhoods.



Program:	Infrastructure Program	Sub-program:	Drainage
Project Name:	Watercourse Crossing Rehabilitation & Replacement	Submission ID:	6498

Location: City Wide

Cost: \$300,000

OBI: \$ -

Funding Sources: Drainage Utility: \$300,000


Scope: This project will repair and replace watercourse crossings throughout Richmond that pose safety risks to vehicles and pedestrians. Rehabilitation and replacement work includes, but is not limited to, replacing failed headwalls and culvert crossings. Additionally, this project includes infilling of non-Riparian Management Area watercourses and extending lengths of existing ditch infills that pose safety risks to the public.



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Program:	Infrastructure Program	Sub-program:	Water
Project Name:	Development Coordinated Works - Water	Submission ID:	5654
Location:	City Wide		
Cost:	\$250,000	OBI:	\$20,000
Funding Sources:	Water Utility: \$250,000		
Scope:	<p>This project will enable the City to leverage development over the next year to design and construct water infrastructure outside of what would be required as part of their development.</p> <p>These are upgrades and replacement of ageing infrastructure that the City would complete separately but economic and engineering efficiencies can be achieved by having the developer complete this work at the same time the development takes place.</p>		
			

Program:	Infrastructure Program	Sub-program:	Water
Project Name:	Thompson Gate Pressure Reducing Valve Station	Submission ID:	6757

Location: Thompson Gate and Boundary Road

Cost: \$1,500,000

OBI: \$15,000

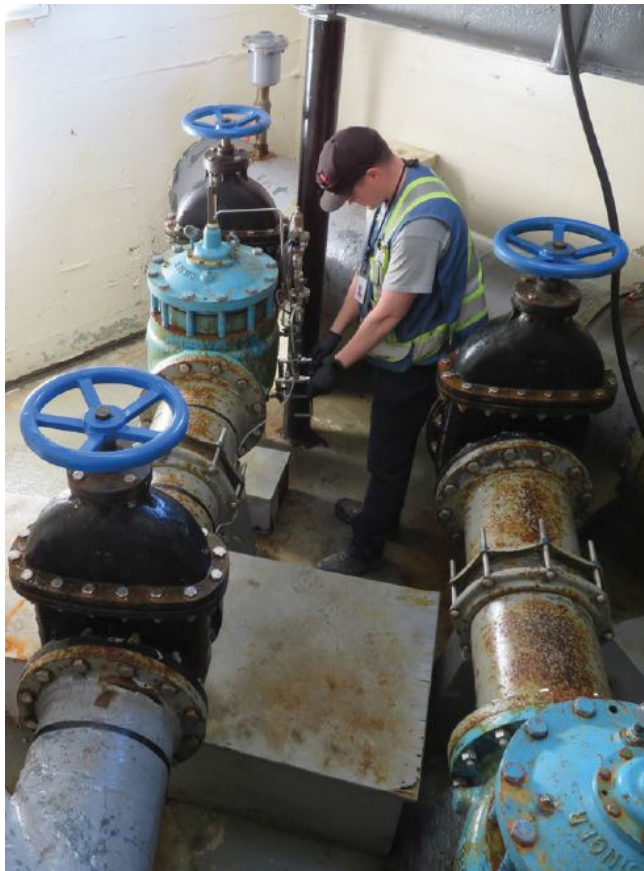
Funding Sources: Water Utility: \$1,500,000

Scope: This project involves the installation of a new Pressure Reducing Valve (PRV) station at Thompson Gate and Boundary Road and the associated tie-ins to connect the neighbourhood's watermain system to Metro Vancouver's Annacis No. 4 transmission main. Completion of the project is required to provide adequate flows to support upcoming development.

Costs will be recovered through rezoning cash-in-lieu contributions or the Works and Services Cost Recovery Bylaw No. 8752. Costs collected for this purpose shall be returned to the Watermain Replacement Reserve.

Land required for the station shall be acquired through development rezoning.

Project costs include, but are not limited to, allowance for potential groundwater contamination, a raised structure with pile supports to accommodate for existing ground conditions, and pipe installation aligned with future transmission main upgrades.



Program:	Infrastructure Program	Sub-program:	Water
Project Name:	Watermain Replacement Upgrades Program	Submission ID:	5858

Location: City Wide

Cost: \$5,792,500 **OBI:** \$ -

Funding Sources: Water Utility: \$5,645,877
 Water DCC: \$137,899
 Water City Assist: \$8,724

Scope: This project replaces ageing watermains that are at the end of their service life and is in alignment with the City's Ageing Infrastructure Replacement Strategy. Watermain replacement minimizes unplanned maintenance and improves fire protection.

This project includes installation of 1880 metres of 200 mm diameter watermain, and 3081 metres of 300 mm diameter watermain to replace existing ageing infrastructure.

The watermain replacement upgrade program is informed by watermain age, material and break history.



Program:	Infrastructure Program	Sub-program:	Water
Project Name:	Watermain Tie-in and Restoration	Submission ID:	5859

Location: Various Locations

Cost: \$400,000

OBI: \$ -

Funding Sources: Water Utility: \$400,000

Scope: This project involves tie-in and restoration work for watermain and water service installations, including restoration for watermain replacements completed as part of prior years' capital programs and restoration of water utility cuts.



2020 Recommended Infrastructure – Sanitary Sewer Program

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Program:	Infrastructure Program	Sub-program:	Sanitary Sewer
Project Name:	Eckersley B Sanitary Pump Station Replacement and Spires Utility Servicing	Submission ID:	6741

Location: Intersection of Cook Gate and Cook Road

Cost: \$5,100,000 **OBI:** \$-

Funding Sources: Sanitary Utility: \$4,506,249
 Sewer DCC: \$587,813
 Sewer City Assist: \$5,938

Scope: The existing Eckersley B sanitary pump station, located on the Cook Elementary School site, serves the rapidly growing City Centre and is currently nearing its design capacity.

This project involves construction of a new pump station to replace the existing pump station, including construction of a new wet well, variable frequency drive pumps, electrical kiosk and the associated gravity pipe and forcemain to connect to the existing sanitary system and recent Spires area upgrades.

The Richmond School District has recently started school seismic upgrades and building reconstruction project on the school site. The City is working closely with the School District to increase efficiencies in the pump station construction where possible, and this involves relocating the pump station within school property. Additional lengths of deep gravity sewer and the forcemain will be installed to accommodate the school’s request of the new location of the pump station. The new pump station location will facilitate safe access to the school, as well as it will provide much improved access to City’s staff for the pump station maintenance.

The Eckersley B Pump Station project was previously approved in 2018 at an estimate of \$2.65M. Since that time, costs have increased as a result of market conditions, such as higher bids received when tendering contracts and other drivers including:

- School Board requirements resulting in the redesign and extension of deep gravity sewers, forcemain, and pump station in coordination with the school upgrade;
- Compliance with recently revised soil disposal regulations and deep groundwater management;
- Additional ground settlement protection measures to minimize impacts to nearby buildings; and
- Provisions to maintain safe pedestrian and vehicle access, and minimize impacts on the school, residents, and commuters to the area during construction.

The previously approved Capital 2018 submission will be closed and funds returned to reserves. This re-submission is based on additional scope, recent procurements and updated construction costs.



Program:	Infrastructure Program	Sub-program:	Sanitary Sewer
Project Name:	Gravity Sewer Assessment Program	Submission ID:	5653

Location: Various Locations

Cost: \$150,000

OBI: \$ -

Funding Sources: Sanitary Utility: \$150,000

Scope: This project is part of a multi-year program to assess gravity sewers on a 20-year cycle. The City currently performs grease cutting and flushing on its gravity sewer system as part of its grease management program. The program will complete CCTV inspections following grease cleaning efforts, identify defects in the sanitary system, complete minor repairs identified as part of the assessment, and facilitate the archiving of CCTV inspection videos for record-keeping purposes.



Program:	Infrastructure Program	Sub-program:	Sanitary Sewer
Project Name:	Hamilton Area Sanitary Sewer and Pump Station	Submission ID:	6875

Location: Hamilton Area

Cost: \$2,800,000 **OBI:** \$-

Funding Sources: Sanitary Utility: \$924,999
 Sewer DCC: \$1,763,438
 Sewer City Assist: \$111,563

Scope: This project includes the construction of a new pump station including wet well, Variable Frequency Drive (VFD) pumps, electrical kiosk, 140 metres of 200 mm forcemain and 12 metres of 300 mm gravity main. This project does not require land acquisition, as it will be constructed on City-owned land.

The purpose of the project is to provide sanitary service for the Willett sanitary catchment in order to support population densities projected by the Hamilton Official Community Plan Update. This area does not have an existing City sanitary system and is currently serviced by septic systems.

The Willett pump station project was previously approved in 2017 at an estimate of \$1.7M. Since that time, costs have increased as a result of market conditions, such as higher bids received when tendering contracts and other factors including:

- The challenging soil and groundwater conditions for deep sanitary installation in East Richmond;
- Compliance with recently revised soil disposal regulations and deep groundwater management; and
- The coordination required to minimize impacts to the local residents and commuters due to the numerous concurrent construction projects in the area.

The previously approved 2017 Capital submission will be closed and funds returned to reserves. This resubmission is based on recent procurements and updated construction costs.

Where possible, costs will be recovered through rezoning cash-in-lieu contributions or the Works and Services Cost Recovery Bylaw No. 8752. Costs collected for this purpose shall be returned to the Sanitary Sewer Reserve.



Program:	Infrastructure Program	Sub-program:	Sanitary Sewer
Project Name:	Leslie Pump Station Replacement	Submission ID:	6278

Location: Leslie Road, East of No. 3 Road

Cost: \$2,913,000

OBI: \$25,000

Funding Sources: Sanitary Utility: \$1,725,500
 Sewer DCC: \$1,175,625
 Sewer City Assist: \$11,875

Scope: The Leslie sanitary pump station is at the end of its service life and requires replacement. In addition, the existing station does not have sufficient capacity to support local development according to the Official Community Plan and requires an upgrade to support local development. This project involves construction of a new pump station complete with wet well, variable frequency drive pumps, kiosk, back-up generator, antenna, valve chamber, and BC Hydro transformer to replace the existing station. Construction of the pump station will be coordinated with adjacent developments.



Program:	Infrastructure Program	Sub-program:	Sanitary Sewer
Project Name:	Sanitary Pump Station & Forcemain Assessments, Upgrades, and Grease Management	Submission ID:	4833

Location: Various Locations

Cost: \$600,000

OBI: \$5,000

Funding Sources: Sanitary Utility: \$600,000

Scope: This project will assess and improve access to the sanitary forcemain system. A critical part of the assessments will be a quantification of fats, oils, and grease (FOG) issues associated with forcemains and pump stations. Improvements include, but are not limited to, the installation of valves, access chambers, bypass receptacles, and replacement sensors.



Program:	Infrastructure Program	Sub-program:	Sanitary Sewer
Project Name:	Sanitary Pump Station Rehabilitation	Submission ID:	5634

Location: Various Locations

Cost: \$300,000

OBI: \$ -

Funding Sources: Sanitary Utility: \$300,000

Scope: This project involves the rehabilitation of existing sanitary pump stations. Scope of work includes electrical kiosk replacement, power supply upgrade, new motor control centre (MCC) installation, pump rewinding, and concrete slab and aluminum hatch installation.



Program:	Infrastructure Program	Sub-program:	Sanitary Sewer
Project Name:	Sanitary Sewer Tie-in and Restoration	Submission ID:	6106

Location: Various Locations

Cost: \$150,000 **OBI:** \$ -

Funding Sources: Sanitary Utility: \$150,000

Scope: This project involves tie-in and restoration work for sanitary sewer projects completed as part of prior years' capital programs.



Program:	Infrastructure Program	Sub-program:	Sanitary Sewer
Project Name:	Steveston Gravity Sewer Replacement and Rehabilitation	Submission ID:	6739

Location: Various Locations

Cost: \$1,200,000 **OBI:** \$35,000

Funding Sources: Sanitary Utility: \$1,200,000

Scope: Several sections of gravity sewers within the City are at the end of their service life. As fibreglass pipes age, they become brittle and have an increased risk of failure. These mains have been prone to breaks in recent years, priority areas include but are not limited to, Steveston and Broadmoor, amongst others. This project will replace sections of such pipes that are at the end of their service life as part of the City’s ageing infrastructure replacement program.



2020 Recommended Infrastructure – Infrastructure Advanced Design and Minor Public Works Program

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Program:	Infrastructure Program	Sub-program:	Minor Capital
Project Name:	Fleet Minor Capital	Submission ID:	6694

Location: City Wide

Cost: \$280,000 **OBI:** \$ -

Funding Sources: Public Works Equipment: \$280,000

Scope: Minor Capital funding requested to purchase equipment needed for the Fleet department to increase the level of customer service and efficiency with projects required by the welding department and main garage and small equipment area.

The following are what will be included in this project:

- Welding Equipment - cutting/drilling machine;
- Lathe & Milling Machine;
- The storage for equipment repairs and replacements, including lower emissions equipment with Tier 4 rating, and Electric motor units support Council's Green Fleet Policy 2020; and
- Electric Vehicle Autonomous Renewable Charger (Public Area).



Program:	Infrastructure Program	Sub-program:	Minor Capital
Project Name:	Public Works Infrastructure Advanced Design	Submission ID:	5650

Location: City Wide

Cost: \$2,550,000 **OBI:** \$ -

Funding Sources: Drainage Utility: \$1,000,000
 Water Utility: \$350,000
 Sanitary Utility: \$800,000
 Roads DCC: \$376,200
 Roads City Assist: \$23,800

Scope: The scope of work includes hiring consultants and contractors to plan and design the 2021 Capital Plan and deliver reports that define long-term infrastructure upgrades.

Sanitary Project Design, Planning and System Modelling	\$800,000
Water Project Design, Planning and System Modelling	\$350,000
Drainage Project Design, Planning and System Modelling	\$1,000,000
Roads	\$400,000
Total	\$2,550,000



Program:	Infrastructure Program	Sub-program:	Minor Capital
Project Name:	Public Works Minor Capital - Drainage	Submission ID:	5608

Location: City Wide

Cost: \$400,000

OBI: \$ -

Funding Sources: Drainage Utility: \$400,000

Scope: This project involves minor work related to drainage infrastructure, including installation of inspection chambers, rehabilitation of sewer pipes and manholes, minor repair of pump stations, installation of monitoring equipment, safety upgrades, testing of new technologies to improve efficiencies, and responding to resident complaints that require site specific repairs. Additionally, this project involves environmental monitoring and restoration for the construction of new drainage infrastructure, and environmental restoration for completed projects as part of prior years capital programs.

Every year, Engineering and Public Works receives a number of requests for minor projects. The Minor Capital program allows the department to respond to these requests in a timely and cost effective manner.



Program:	Infrastructure Program	Sub-program:	Minor Capital
Project Name:	Public Works Minor Capital - Sanitary	Submission ID:	5638

Location: Various Locations

Cost: \$400,000

OBI: \$ -

Funding Sources: Sanitary Utility: \$400,000

Scope: This project involves minor work related to the sanitary infrastructure, including pump station upgrades, sanitary pump replacements, modifications to improve operational efficiency and functionality, testing of new technologies, forcemain repairs, site-specific repairs in response to resident complaints, and manhole and valve box repairs.

Every year, Engineering and Public Works receives a number of requests for minor projects. The Minor Capital program allows the department to respond to these requests in a timely and cost effective manner.



Program:	Infrastructure Program	Sub-program:	Minor Capital
Project Name:	Public Works Minor Capital - Sanitation & Recycling	Submission ID:	6002

Location: City Wide

Cost: \$350,000

OBI: \$ -

Funding Sources: Solid Waste and Recycling: \$350,000

Scope: This project is used to:

1. Replace our city streetscape recycling containers that lose functionality, become damaged and worn due to exposure to weather conditions. Our goal is to replace on a 3-year cycle.
2. Undertake repairs or minor upgrades at the Recycling Depot. This could include building or acquiring small sheds, cages or structures to hold hazardous materials. Acquire new container types, etc. to ensure compliance with hazardous waste storage requirements. Undertake improvements to comply with safety — prepare and post signs, replace concrete blocks that become damaged from equipment used to move large items as part of regular operations, etc.
3. Acquire various equipment items that may be needed to support operations, including stairs to assist safe drop off of items into taller recycling bins. May also include items to support illegal dumping clean ups and clean-up of homeless camps, including carrying aids (dolly's, cutting tools, etc.).



Program:	Infrastructure Program	Sub-program:	Minor Capital
Project Name:	Public Works Minor Capital - Traffic	Submission ID:	5688

Location: Various Locations

Cost: \$250,000

OBI: \$8,106

Funding Sources: Others: \$250,000

Scope: General Scope: Minor work related to traffic operations and traffic signals infrastructure including installation, repairs, or replacement of traffic/parking signage, pavement marking, traffic measure and signal device, upgrades to meet changes in safety requirements, testing of new technologies to improve efficiencies, and response to unforeseen public requests for minor upgrades. These are separate from DCC programs which fund specific projects/locations.

Transportation receives public requests throughout the year for minor transportation projects. The Minor Capital program allows the department to respond to these requests in a timely and cost effective manner.

Funding: The City will apply for funding from TransLink and ICBC grants and if successful, the City's funding sources will be reduced accordingly.



Program:	Infrastructure Program	Sub-program:	Minor Capital
Project Name:	Public Works Minor Capital - Water	Submission ID:	5655

Location: Various Locations

Cost: \$500,000

OBI: \$ -

Funding Sources: Water Utility: \$500,000

Scope: This project involves minor work related to the water infrastructure, including minor watermain repairs and replacements, operational efficiencies, changes to safety requirements, testing of new technologies, and response to resident complaints that require minor upgrades.

Every year, Engineering and Public Works receives a number of requests for minor projects. The Minor Capital program allows the department to respond to these requests in a timely and cost effective manner.



Building Program 2020

The Building Program includes major building construction and renovation projects as well as minor facility upgrades and repairs. The City’s building assets include: arenas, pools, community centres, libraries, heritage buildings, police stations, fire halls and other government facilities.

2020 Recommended Building – Building Program

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Program:	Building Program	Sub-program:	Building
Project Name:	Capital Buildings Project Development Advanced Design	Submission ID:	6654

Location: City Wide

Cost: \$500,000

OBI: \$ -

Funding Sources: Building and Infrastructure: \$500,000

Scope: This funding will be used to provide feasibility and concept level consulting service required to complete the following:

- To respond to requests for feasibility and concept level design and costing services added to the 2020 work plan. Throughout the course of 2018 and 2019 there were approximately 43 such requests, examples of which include Rod & Gun Club relocation investigation, Minoru Place Activity Centre re-purposing feasibility/concept level design, and the Richmond Centre for Disability (RCD) program and design specification development. The same level of requests are anticipated for 2020; and
- Building and feasibility assessments required to develop the 2021 Capital Plan. Staff receive on average approximately 150 projects from User Groups on an annual basis by May of each year that require feasibility level review and costing in time for the Capital project process. Examples for the 2020 program include feasibility and costing for London Farm House Envelope Renewals, Library Cultural Centre Conveyance Renewals and the East Richmond Community Hall Envelope and Mechanical System Renewals, etc.

Without this funding, consulting on the feasibility and concept level design work could not be provided and project estimations would be impacted.



Program:	Building Program	Sub-program:	Building
Project Name:	City Hall - Replacement of Mechanical, Life/Safety, and Envelope Components and Associated Works	Submission ID:	6257

Location: 6911 No. 3 Road

Cost: \$2,630,000

OBI: \$ -

Funding Sources: Building and Infrastructure: \$2,630,000

Scope: Multiple building components in this facility constructed in 2000 have reached the end of their life expectancy and will be replaced with modern energy efficient systems (where possible). These system renewals will also include associated miscellaneous items that will serve to prolong the life of the building and ensure the health and safety of its users/inhabitants.

All of these works are planned to be completed at the same time to maximize savings in schedule and costs for mobilization and demobilization.

Life/Safety (\$640,000):

The fire system devices and parkade carbon monoxide monitoring systems have reached the end of their serviceable life spans and will be replaced. Both systems were installed in the year 2000 with the anticipated life span of 10 years; they were assessed in 2018 and recommended for replacement in 2020 to ensure continued reliability of these life/safety systems.

Mechanical (\$1,360,000):

Air cooled condensing units, piping distribution systems, sewage ejector pumps, and split AC systems serving various areas of City Hall have exceeded their serviceable life span and will be replaced. All units were installed in the year 2000 with the anticipated life spans ranging from 15 - 20 years; they were assessed in 2018 and recommended for replacement in 2020 to ensure reliable continuity of service.

Envelope (\$530,000):

Multiple roof systems have prematurely deteriorated as confirmed by building condition assessments and will be renewed/replaced as needed. The waterproof roofing membrane was installed in the year 2000 with the anticipated life span of 20 years; it was assessed in 2018 and recommended for replacement in 2020 to ensure a watertight envelope that prevents leaks and interior water damage.

Interior (\$100,000):

Painted surfaces will be renewed to continue protecting concrete structures. The painted concrete surfaces are original to the building with the anticipated life span of 20 years. Assessed in 2018 it was recommended to re-paint these surfaces to ensure visibility and protection.

By proactively replacing/renewing the aforementioned assets we are ensuring continued service and functionality of the building.



Program:	Building Program	Sub-program:	Building
Project Name:	Community Safety Building - Mechanical Component Replacements and Associated Works	Submission ID:	6567
Location:	11411 No.5 Road		
Cost:	\$1,350,000	OBI:	\$ -
Funding Sources:	Building and Infrastructure: \$1,350,000		
Scope:	<p>The heat pump system, in this building, has reached the end of its life expectancy.</p> <p>The system is unreliable with frequent repairs, and replacement of parts are becoming obsolete and/or some components are not available locally.</p> <p>To date, two of the four heat pumps have been replaced, heat pump #4 was replaced with emergency funding and heat pump #1 was replaced with Capital funding.</p> <p>Heat pump #3 has failed with heat pump #2 expected to follow suit in short order. This is the last phase of heat pump replacements works, which also requires additional piping, and associated ancillary mechanical works to support the system.</p> <p>All of these works are planned to be completed at the same time to maximize savings in schedule and costs for mobilization and demobilization.</p> <p>The RCMP operates every day of the year, as such; there is increased risk of unit failure due to constant use. If not addressed, there is a high risk of unit failure causing service disruptions and potential closures.</p> <p>The system renews and associated miscellaneous equipment will be replaced with modern, energy-efficient systems (where feasible), which will prolong the life of the building and ensure the health and safety of its occupants.</p>		
			

Program:	Building Program	Sub-program:	Building
Project Name:	Minoru Centre for Active Living - Lap Pool 1 Reconstruction	Submission ID:	6809

Location: 7191 Granville Ave.

Cost: \$3,000,000

OBI: \$ -

Funding Sources: Building and Infrastructure: \$3,000,000

Scope: Temporary funding allocation for the reconstruction of Lap Pool #1. It is anticipated that these funds will be repaid to the City from the project's insurers.



Program:	Building Program	Sub-program:	Building
Project Name:	Richmond Courthouse - Mechanical Components Replacements, Envelope Renewals, Electrical Replacements, Structural Renewals and Associated Works	Submission ID:	6606

Location: 7577 Elmbridge Way

Cost: \$1,601,500

OBI: \$ -

Funding Sources: Others: \$1,601,500


Scope: Multiple building components in this facility constructed in 1975 have reached the end of their life expectancy and will be replaced with modern energy efficient systems (where possible). These system renewals will also include associated miscellaneous items that will serve to prolong the life of the building and ensure the health and safety of its users/inhabitants.

All of these works are planned to be completed at the same time to maximize savings in schedule and costs for mobilization and demobilization.

By completing these system renewals, the City will be inline with the B.C. Environmental Management Act - Ozone Depleting Substances and Other Halocarbons Regulations which state the production and importation of R22 refrigerant will continually be reduced by law until 2020, when all production and importation will be banned.

\$2.035M was approved by Council on July 22, 2019 for building improvements, repairs, and maintenance in a Closed Report to Council regarding Lease Renewals of Office/Courthouse Premises to the Province of BC. \$433,500 was allocated through the 2019 Budget amendment and the rest is being sought through this capital submission.



Program:	Building Program	Sub-program:	Building
Project Name:	Richmond Ice Centre Infrastructure Renewals - Phase 1	Submission ID:	6264
Location:	14140 Triangle Road		
Cost:	\$6,850,000	OBI:	\$-
Funding Sources:	Building and Infrastructure: \$6,850,000		
Scope:	<p>Multiple building components in this facility constructed in 1994 have reached the end of their life expectancy and will be replaced with modern energy efficient systems (where possible). These system renewals will also include associated miscellaneous items that will service to prolong the life of the building and ensure the health and safety of its users/inhabitants.</p> <p>This project is estimated at a total of \$13.7M, comprising of \$6.85M expenditure in 2020 and an additional \$6.85M expenditure in 2021. All of these works are planned to be completed at the same time to maximize savings in schedule and costs for mobilization and demobilization.</p> <p>Life/Safety (\$1,215,000):</p> <p>The fire system has reached the end of its serviceable life span and will be replaced with new. This system is original to the building, dating back to 1994 with the anticipated life expectancy of 10 years. Assessed in 2018, this system was recommended for replacement as soon as possible. Additionally, due to unavoidable condensation issues, a vapor barrier wall will be constructed throughout the facility to prevent potential mold growth and eliminate related health concerns.</p> <p>Envelope (\$3,527,000):</p> <p>The roof system is original to the building, dating back to 1994 and has reached the end of its serviceable life span of 25 years, it will be renewed/replaced as needed. This system was assessed in 2018 and recommended for replacement as soon as possible to prevent any further leaks and envelope damage.</p> <p>Refrigeration Systems (\$2,108,000):</p> <p>Multiple Mechanical Systems such as: compressors, control panels, oil separators, storage tanks and piping systems are original to the building, dating back to 1994 and have all reached the end of their serviceable life span of 25 years. These units will be replaced with new ones to ensure reliable continuity and efficiency of service.</p>		
			

Program:	Building Program	Sub-program:	Building
Project Name:	Works Yard Electrical Service Upgrade and Electrical Vehicle Infrastructure	Submission ID:	6697

Location: Works Yard 5599 Lynas Lane

Cost: \$1,688,000

OBI: \$40,960

Funding Sources: Public Works Equipment: \$80,000
 Building and Infrastructure: \$1,608,000

Scope: Upgrade the Works Yard's current electrical infrastructure with the installation of a 2MVA BC Hydro unit substation on site. Work includes construction of a new electrical room or building to house the new distribution, kiosks and other electrical infrastructure, also to make an allowance to install 10 Level 2 EV Charging Stations.



Parks Program 2020

Richmond is renowned for its high quality parks, trails, natural areas and its vibrant urban realm. The City's park system consists of 133 parks that total approximately 1,950 acres serving the wellness and recreation needs of a diverse and growing community. More than 70 kilometres of trails support walking, rolling and cycling, bringing people to the city's many iconic parks and waterfront destinations. New parks and trails along with new amenities will ensure that Richmond residents continue to receive excellent service and that Richmond continues to be a regional and tourism destination.

2020 Recommended Parks – Parks Program

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Program:	Parks Program	Sub-program:	Parks
Project Name:	Lang Park Completion	Submission ID:	6173

Location: Saba Road and Buswell Street

Cost: \$250,000

OBI: \$12,092

Funding Sources: Parks Development DCC: \$235,250
 Parks Development City Assist: \$14,750

Scope: This capital submission is for Phase 3 park elements that are part of the Lang Park Redevelopment Plan, which include an overhead shelter, table tennis tables and a book kiosk. The recent redevelopment of Lang Park was completed and officially reopened to the public in July 2017. The park was redeveloped based upon public consultation in 2015/2016 which highlighted the need for a covered area for use of the park during inclement weather and a desire for more opportunities for interaction.



Program:	Parks Program	Sub-program:	Parks
Project Name:	London Steveston Park Phase 3 Construction	Submission ID:	6610

Location: London Steveston Park

Cost: \$400,000

OBI: \$22,162

Funding Sources: Parks Development DCC: \$376,200
Parks Development City Assist: \$23,800

Scope: This is the final phase of the park enhancement works of the London/Steveston Park Phase 3 construction project and includes an off-leash dog park, covered plaza, basketball court and site furnishings.

The concept plan for London/Steveston Park, which was developed based on feedback received at a series of public open houses, was approved by Council in May 2015. The park plan has been implemented in phases. Phase One Construction, which is nearing completion, includes site grading, new trails and tree planting. Phase Two Construction, which is well underway, includes expansion of the playground and will address a strong desire by local residents to increase the range of play offered in this growing and densifying neighbourhood. Phase 3 Construction will be the final phase towards implementation of the concept plan that will increase in park level service in in response to the growing neighbourhood.



Program:	Parks Program	Sub-program:	Parks
Project Name:	Minoru Lakes Renewal Upgrades – Phase 1 of 2	Submission ID:	6663

Location: Minoru Park

Cost: \$4,060,000 **OBI:** \$ -

Funding Sources: Parks Development DCC: \$3,818,430
Parks Development City Assist: \$241,570

Scope: The scope of work for Minoru Lakes Renewal Phase 1 of 2: includes site preparation works (e.g. tree protection, demolition, dewatering, excavation and treatment of hazardous materials) and replacement of lakes infrastructure including the pump, liner, waterfall, weir and mechanical system. These works are required because the infrastructure that currently services Minoru Lakes including the pump, liner and mechanical system have failed and are in need of replacement. Failure to replace the Minoru Lakes infrastructure will result in continued degradation of water quality, posing health and safety concerns, and increased allocation of resources, such as staff time and use of potable water. Via the Minoru Park Vision Plan process, the community expressed a strong desire to retain Minoru Lakes as a key park feature that is similar to its current size and character. The new lakes infrastructure will improve water quality, be more robust, longer lasting, easier to service and result in decreased reliance on potable water and staff time.



Program:	Parks Program	Sub-program:	Parks
Project Name:	Minoru Oval - Artificial Turf Replacement	Submission ID:	6352

Location: 7191 Granville Avenue

Cost: \$1,030,000

OBI: \$ -

Funding Sources: Capital Revolving: \$680,000
Special Sports: \$350,000

Scope: The purpose of this project is to replace the artificial turf field at Minoru Park originally installed in 2008. The projected lifespan of synthetic sports fields is between 8 to 12 years depending on the usage and maintenance. Minoru Oval field, one of the busiest artificial turf fields, is booked for up to 38 hours per week during the peak fall/winter season. The field is tested annually for shock attenuation performance, known as the G-Max rating, and is currently reaching the limit of what is acceptable for safe operation of an artificial turf field. Prior to replacement, staff will review environmentally friendly products and technology available within the industry. The operating and replacement costs of the field are partially offset by the user fees collected through the Sports User Fee program and there is no increase in operating costs generated by this request.

Minoru Park field serves as a multi-use open space that accommodates sports, special events and tournaments. Its location between the Minoru Ice Arena, the Minoru Centre for Active Living, and the running track makes it one of the most active destinations in the City.



Program:	Parks Program	Sub-program:	Parks
Project Name:	Parks Advance Planning and Design	Submission ID:	5578

Location: Various Locations

Cost: \$300,000 **OBI:** \$ -

Funding Sources: Parks Development DCC: \$282,150
Parks Development City Assist: \$17,850

Scope: This annual project submission for Parks Advance Planning and Design will provide resources for planning, research, public and stakeholder consultation, design and project management for a range of purposes, strategic planning projects, reports to City Council, meeting regulatory agency requirements (e.g. Vancouver Coastal Health, Provincial ministries), conceptual park design and technical reports for projects that require particular areas of expertise (e.g. environmental assessments).

2020 Projects include:

- researching best practices;
- collecting data, topographical surveys and geographical information; and
- securing consultation for landscape architectural and engineering services as part of a planning and design process.

The design process includes preparing and producing concept designs, reports, presentations and detailed construction drawings for upcoming Major Capital projects. Projects may be community initiated or support a redeveloping area of the City.

Why are we here today?

This workshop is the first step towards developing a Terra Nova Resource Management Plan.

<p>The goals of the workshop are to:</p> <ul style="list-style-type: none"> • Share knowledge and background information about Terra Nova, • Revisit the 2004 park Vision and Goals, • Identify existing issues and opportunities, and • Identify goals for the management of Terra Nova moving forward. 	<p>The outcomes of this workshop will inform the direction of the Terra Nova Resource Management Plan and ultimately how this unique and complex park site is managed in the future.</p>
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Terra Nova =



Program:	Parks Program	Sub-program:	Parks
Project Name:	Parks Ageing Infrastructure Replacement Program	Submission ID:	5581

Location: Various Locations

Cost: \$590,000

OBI: \$ -

Funding Sources: Capital Revolving: \$590,000

Scope: This program targets the replacement of ageing parks and open space infrastructure. The types of infrastructure include waterparks, waterfront assets, trails and pathways, drainage systems, outdoor sport courts, sports field fencing and equipment (e.g. lighting, bleachers) as well as the replacement of other assets which cannot be funded through the Parks Development Cost Charges program. Assets have been identified that have surpassed their respective life cycles resulting in the loss of structural and/or functional integrity due to wear and age and may present public safety issues. If not addressed these issues may lead to closure of some parks or park amenities, and an increase in service requests to address safety concerns from the public and sports groups.

At the July 24, 2017 Council Meeting, the Parks Ageing Infrastructure Plan - 2017 Update Report was presented. The report outlined the high priority assets that require immediate attention and proposed the development of an Infrastructure Replacement Strategy and Financial Plan, which is underway. The recommendations of the report were endorsed by Council.

2020 Projects include:

- sandfield upgrades;
- sport court surfacing repairs (tennis, basketball, lacrosse, etc.);
- fencing replacement; and
- drainage system replacement.



Program:	Parks Program	Sub-program:	Parks
Project Name:	Parks General Development	Submission ID:	5580

Location: Various Locations

Cost: \$400,000

OBI: \$4,383

Funding Sources: Parks Development DCC: \$376,200
 Parks Development City Assist: \$23,800

Scope: Upgrades to existing parks are required to respond to ongoing growth in the community. This program funds improvements of existing park amenities and facilities which are not part of other park capital programs, yet are required to support the increased use as a result of an increasing resident population. This funding allows the City the ability to be responsive to Council direction and appropriate public requests which align with existing strategic plans. These discrete, site-specific park enhancements will address our community’s needs for ongoing park improvements to infrastructure, equipment and landscape amenities.

Examples of projects that have been funded by the Parks Development DCC program include new community gardens, new off-leash dog areas, walkways and pathways, benches, picnic tables and new drainage systems.

For 2020, some of the projects will include:

- construction of pickleball courts at South Arm Park;
- drinking fountain at the Skatepark on River Road; and
- upgrade the entrance into London Farm.



Program:	Parks Program	Sub-program:	Parks
Project Name:	Parks Identity Signage Program - Phase 3	Submission ID:	6662

Location: Various Locations

Cost: \$100,000 **OBI:** \$12,785

Funding Sources: Parks Development DCC: \$94,050
 Parks Development City Assist: \$5,950

Scope: This project is a continuation of the initiative to inform the public of the name of the park they are visiting, amenities within the park, and wayfinding in parks.

In order to adequately provide park identity, regulatory information and wayfinding for the public and community, Phase 3 of the signage fabrication and installation program needs to be completed to ensure an ongoing, coordinated approach to site identity. Phase 3 of the fabrication and installation plan includes up to 30 neighbourhood parks and wayfinding routes as needed. Request for funding for this program is from the Parks Development DCC program.

A cost estimate on the material costs for fabrication and labour has been completed based on the design for identity and wayfinding signage. The estimate for this next phase is \$100,000.

The scope of work includes:

- Designing and completing an analysis per park identification and wayfinding location;
- Developing site plans for park ID deployment;
- Coordinating with signage vendor and/or in-house services for the fabrications of the signs;
- Coordinating installation deployment of Phase 3 with in-house services; and
- Preparing a resource management plan for the OBI.



Program:	Parks Program	Sub-program:	Parks
Project Name:	Playground Improvement Program	Submission ID:	5465

Location: Various Locations

Cost: \$600,000

OBI: \$ -

Funding Sources: Capital Revolving: \$600,000

Scope: This recurring Capital Project addresses playgrounds which are at the end of their useful life and do not meet the current safety guidelines (according to the industry standard, the Canadian Standards Association's "Children's Playspaces and Equipment"), or can no longer be maintained to meet the guidelines due to obsolescence or vandalism. The program is directed towards replacing all or part of a playground and includes replacement of playground equipment, playground infrastructure (e.g., resilient surfacing, borders, drainage) and landscape features.

Replacement of the playgrounds at Talmey Neighbourhood School Park, Garnet Neighbourhood Park, as well as portions of the playground at Steveston Community Park are a priority in 2020.



Program:	Parks Program	Sub-program:	Parks
Project Name:	Railway Granville Bike Park	Submission ID:	6646

Location: Railway and Granville Avenues

Cost: \$270,000

OBI: \$13,503

Funding Sources: Parks Development DCC: \$253,935
 Parks Development City Assist: \$16,065

Scope: This project is proposed to be located in a vacant open space on the west side of Railway Avenue at Granville Avenue. A bike park was identified in the original greenway concept plan at this location. The project will focus on beginner and intermediate riders, thus complementing the more advanced terrain at the Garden City Bike Terrain Park. The scope of construction will include the relocation of existing infrastructure, site preparation, site grading, bike park features (both timber and landforms including a pump track, ramps, teeter-totters and other features which teach and enhance essential skills), perimeter fencing, a drinking fountain, signage, plantings and importation of natural features such as boulders, logs and stumps.

Located immediately adjacent to the Railway Greenway at Granville Avenue, potential park users can easily access the Bike Park using the existing Greenway. It is also located near Burnett High School and Thompson Community Centre. Construction of this bike park supports goals and objectives set out in the Community Wellness and Parks and Open Space Strategies by providing outdoor physical activity spaces connected to existing trail networks and located near existing recreation facilities.

Mountain and BMX biking is an ongoing popular sport for young people. Current trends in the sport dictate that in order to safely enjoy the sport, regularly practicing essential bike handling techniques and skills are important to develop one's abilities. As the sport grows, additional bike parks are required to respond to community demand.



Program:	Parks Program	Sub-program:	Parks
Project Name:	Riverport and Cook Community Gardens	Submission ID:	6647

Location: Riverport Dike and Cook Neighbourhood Park

Cost: \$180,000 **OBI:** \$8,017

Funding Sources: Parks Development DCC: \$169,290
 Parks Development City Assist: \$10,710

Scope: In March 2019, Council supported the creation of new community garden plots to address the demand by Richmond residents for access to space for food production and gardening. Cook Neighbourhood Park will see 35 new plots and Riverport Waterfront will see 15 new plots. The infrastructure for the gardens, including site preparation, a water connection, perimeter fencing and gate, garden shed, pathway surface materials and signage will be provided by the City. The Richmond Food Security Society will administer the community garden sites as well as construct the garden beds, provide soil and garden tools through their own funding efforts.

Community gardens are a shared green space with individual and group garden plots which are maintained by community garden members to grow food, flowers, and other plants. The gardens provide low-barrier opportunities for residents of all ages and abilities to not only cultivate plants, but also meet new friends, share knowledge, and build a sense of community. The food, flowers, and other plants grown in each plot belong to the registered gardeners, and cannot be used or sold for any commercial purposes.



2020 Recommended Parks – Parkland Program

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Parkland Acquisition..... 112

Program:	Parks Program	Sub-program:	Parkland
Project Name:	Parkland Acquisition	Submission ID:	5641

Location: As per Parks DCC Land Acquisition Plan

Cost: \$4,000,000 **OBI:** \$ -

Funding Sources: Parks Acquisition DCC: \$3,762,000
 Parks Acquisition City Assist: \$238,000

Scope: The purpose of the Parkland Acquisition program is for the City to acquire land for park requirements to address development and population growth. The program is based on the City's population projections as per the OCP with the objective of maintaining the parks provision standard of 7.66 acres per 1000 population. The program is funded through Parkland Acquisition Developer Cost Charges (DCCs) and is guided by the Council-approved 2009 Park Land Acquisition Strategy which provides the criteria for evaluating proposed acquisitions. Funding is required each year to allow the City to be strategic and responsive as properties become available, thus avoiding the need to borrow the funding from other City sources or pass bylaws to release the funds for each acquisition.



Public Art Program 2020

The Public Art Program is a self-sustaining project funded by private development contributions to the Public Art Reserve. Council approved the updated policy (Policy 8703, adopted July 27, 2010). The Program is supported by a Council appointed Public Art Advisory Committee. The Public Art Program also supports the initiatives expressed in the Richmond Art Strategy 2019 - 2024, which was approved by Council in July 2019. The above proposal assists in its annual implementation, which is necessary to its success. Private sector, private donations and community contributions are successfully sought and received.

The Public Art Program contributes to Council's Strategic Plan 2018 – 2022. It supports One Community Together: Vibrant and diverse arts and cultural activities and opportunities for community engagement and connection. It also supports An Active and Thriving Richmond: An active and thriving community characterized by diverse social and wellness programs, services and spaces that foster health and well-being for all.

2020 Recommended Public Art Program

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Public Art Program 114

Program:	Public Art Program	Sub-program:	Public Art
Project Name:	Public Art Program	Submission ID:	5620
Location:	Various Locations		
Cost:	\$694,764	OBI:	\$10,000
Funding Sources:	Public Art Program: \$694,764		
Scope:	<p>The scope of work consists of a variety of public art projects. The following are proposed projects (with estimated costs) which may change during the project's duration based on the Public Art Program's consideration of public art opportunities and priorities and private development funding.</p> <p>Contributions by private developers totalling \$160,000, have been deposited to the Public Art Reserve and allocated as follows:</p> <p>Community public art projects (\$40,000):</p> <ul style="list-style-type: none"> ▪ No. 3 Road art columns; ▪ Art wraps; ▪ Cultural Centre Annex public art contribution; ▪ Capture Photography Festival; and ▪ Children's Art Festival. <p>Community education and promotion of the public art program (\$20,000):</p> <ul style="list-style-type: none"> ▪ Culture Days; ▪ Pianos on the Streets; ▪ Public Art Bus Tours; and ▪ Art at Work Workshop Series. <ul style="list-style-type: none"> ▪ Collaboration on educational opportunities with other City cultural facilities and programs, such as the Richmond Art Gallery, Media Lab, Cultural Centre and Richmond Museum \$20,000; ▪ Engaging Artists in Community Program: \$30,000; ▪ Community Mural Program: \$30,000; and ▪ Youth Mentorship Public Art Program: \$20,000. <p>Through the Private Development Program, developer contributions were received and deposited to the Public Art Reserve for implementation of projects integrated with new development, on either private lands or City-controlled land, with the expectation that the majority will be on City-controlled sites (parks, streets, greenways) in the city centre. The cost determined based on contributions received in 2018-2019, net of transfers to the Public Art Provision Reserve for program administration, totalling \$545,357, has been allocated as follows:</p> <ul style="list-style-type: none"> ▪ Landa Elmbridge Holdings - 7100 Elmbridge Way: \$201,267; and ▪ Keltic Development - 6340 No. 3 Road \$344,090. 		




Land Program 2020

The land acquisition program relates to the acquisition and disposition of real property for the City, as approved by Council.

2020 Recommended Land – Land Acquisition Program

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Program:	Land Program	Sub-program:	Land
Project Name:	Strategic Land Acquisition	Submission ID:	5732
Location:	Various		
Cost:	\$10,000,000	OBI:	\$ -
Funding Sources:	Capital Industrial: \$10,000,000		
Scope:	<p>Funds for land acquisition to meet the Council Approved Strategic Real Estate Investment Plan, other than DCC and other special reserve funded projects, are set aside in the Capital Reserve under the Industrial Use Fund. This capital budget submission is to use land acquisition monies from this fund as well as additional general funds approved by Council.</p> <p>\$10M to be invested in investment class real estate.</p>		
			

Affordable Housing Program 2020

The City recognizes that a diverse range of housing choices for individuals and families of different incomes and circumstances is essential in creating a liveable community in Richmond. The purpose of the City’s Affordable Housing program is to address housing affordability concerns in partnership with senior governments, the private sector, and non-profit organizations. Through various programs and policies, the City has been successful in securing over 1,400 affordable housing units, including the following highlighted developments:

- The Kiwanis Towers, which provides 296 affordable rental units for low-income seniors;
- The Storeys, which provides 129 affordable rental units for Richmond residents at risk of homelessness; and
- The Richmond Temporary Modular Housing Project, which will provide 40 supportive housing units for residents experiencing homelessness.

2020 Recommended Affordable Housing Program

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Affordable Housing 2020 Operating Initiatives.....	118
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Program:	Affordable Housing Project	Sub-program:	Affordable Housing
Project Name:	Affordable Housing 2020 Operating Initiatives	Submission ID:	6652

Location: City Wide
Cost: \$400,000 **OBI:** \$ -

Funding Sources: Affordable Housing: \$400,000

Scope: The City’s Affordable Housing Strategy 2017-2027 and Homelessness Strategy 2019-2029 guide the City’s actions regarding housing affordability and homelessness service provision to meet the needs of Richmond residents. Six operating areas have been identified to provide staff with the necessary resources to advance the implementation of these strategies. Examples include administration, data management and research, consultation and economic analysis.

1. Homelessness Support (\$15,000) - Continue supporting homelessness initiatives in the community.
2. Strategy Administration (\$250,000) - Support the implementation of short-term actions identified in the Council-adopted Affordable Housing Strategy and Homelessness Strategy.

This project also includes funding for an Affordable Housing Planner 1 position, which plays an important role in managing the City’s Low-End Market Rental program, supporting policy development initiatives, and liaising with key stakeholders. The Planner 1 position sustains staff capacity to achieve City Council’s affordable housing priorities, and enables the Affordable Housing section to provide excellent customer service to the public, development industry representatives, and other stakeholders.
3. Legal Fees (\$50,000) - Offset costs associated with legal services required with respect to affordable housing developments. All external legal services will be at the direction of the City’s Law Department.
4. Printing, Publication, Media and Advertising (\$15,000) - Offset costs associated with education regarding affordable housing and homelessness, including meeting traditional and social media needs as they arise.
5. Economic Analysis (\$20,000) - Provide economic analysis to support policy development and the review of complex development applications. Currently, staff do not have the necessary skill set to undertake detailed economic analyses.
6. Communications and Public Engagement (\$50,000) - Support communications and community engagement (i.e., translation, professional facilitation, engagement consultants) for projects that require extensive and complex engagement and education.




Equipment Program 2020

The equipment program includes machinery and vehicles for Public Works (PW), Fire Rescue Services, City Hall computer hardware, software, and other miscellaneous equipment.

2020 Recommended Equipment – Vehicle Program

Automatic Vehicle Location/Global Positioning System	120
Vehicle and Equipment Reserve Purchases (Public Works and Corporate Fleet)	121

Program:	Equipment Program	Sub-program:	Vehicle
Project Name:	Automatic Vehicle Location/Global Positioning System	Submission ID:	6682
Location:	Public Works - Fleet Operations		
Cost:	\$118,000	OBI:	\$49,870
Funding Sources:	Public Works Equipment: \$118,000		
Scope:	Working with business units, Fleet and I.T. staff to: <ul style="list-style-type: none"> ▪ establish required features of different levels of reporting; ▪ refine system specifications requirements for Power Take Off (PTO) and additional sensor capabilities; ▪ establish resource requirements for implementation and administration; ▪ prepare a Request for Proposal (RFP) and issue to the marketplace for services; ▪ evaluate submissions to prepare award documentation; and ▪ work with business units to implement. 		
			

Program:	Equipment Program		Sub-program:	Vehicle
Project Name:	Vehicle and Equipment Reserve Purchases (Public Works and Corporate Fleet)		Submission ID:	5736
Location:	Works Yard and Various City Departments			
Cost:	\$3,322,766	OBI:	\$27,160	
Funding Sources:	Public Works Equipment:	\$2,222,766		
	Solid Waste and Recycling:	\$100,000		
	Sewer Levy:	\$350,000		
	Water Levy:	\$650,000		
Scope:	<p>Vehicle and equipment purchases to replace existing units due to age and condition.</p> <p>Items in the identified scope require replacement in the year noted due to vehicles reaching the end of their life cycle and increasing maintenance costs associated with their current condition. Vehicles/equipment which present safety concerns are also included in the scope.</p> <p>This project supports Council's Green Fleet Policy 2020 which seeks to manage the corporate fleet according to green fleet objectives and performance standards. It also supports operating departments by providing the resources they require to meet their established mandates.</p> <p>Involves meeting with user groups to establish needs and develop specifications for vehicle/equipment replacements. Bid documentation is then issued to the marketplace, with purchases combined where possible to achieve best value. Submissions are evaluated with user input, and awards are made accordingly. Scope also includes vehicle outfitting as required to coincide with individual user department needs. The work commences upon receiving Council approval, with timing dependent on delivery timeframes/availability of product from successful vendors.</p> <p>This project involves replacement of the following:</p> <p>6 Parks Equipment attachments, 2 Pickup Trucks, 2 Mobile Pumps, 3 Heavy Duty Vans, 8 Electric Cars, 1 Compressor, 1 trailer, 1 Skid Steer Loader, 1 Single Axle Dump Truck with snow removal equipment, 1 Street Sweeper, 3 Vans, 1 Excavator, 2 Tractors, 1 Tractor Mower, Propane Conversions for 5 Litter Trucks , Auto Idle for 10 units, 2 additional Tandem Dump Trucks (not enough units available for hire to complete all work), 1 Forklift for Recycle Depot and unallocated allowance for unplanned replacements.</p>			
				

2020 Recommended Equipment – Fire Vehicle Program

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Fire Vehicle Replacement Reserve Purchases 123

Program:	Equipment Program	Sub-program:	Fire vehicle
Project Name:	Fire Vehicle Replacement Reserve Purchases	Submission ID:	5740

Location: Fire-Rescue

Cost: \$416,455 **OBI:** \$ -

Funding Sources: Fire Equipment: \$416,455

Scope: Front line Fire apparatus replacement follows a life cycle replacement schedule based on best practices and industry standards. In addition, a condition inspection is conducted annually to evaluate the mechanical status of the vehicles to determine replacement need. To ensure we are able to provide fire services to the community, Richmond Fire-Rescue (RFR) has a designated "Vehicle & Equipment Reserve". The replacement plan for all apparatus is funded through the reserve.

This replacement plan for 2020 are:

- Battalion Chief Vehicle;
- Specialized vehicle able to provide fire fighting ability in wildland situations;
- Chief of Fire Prevention Officer vehicle; and
- RFR pool fleet vehicle.



2020 Recommended Information Technology Program

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Data Centre Server Refresh/Update - Phase 1 of 2	126
Network Refresh for City Facilities - Phase 1 of 3	127
Office 2016 Licensing - Phase 2 of 2	128
PeopleSoft HCM 9.2 Update 2020.....	129

Program:	Equipment Program	Sub-program:	Information Technology
Project Name:	Annual Hardware Refresh	Submission ID:	5729
Location:	City Hall		
Cost:	\$362,800	OBI:	\$ -
Funding Sources:	Hardware Upgrade: \$362,800		
Scope:	This project scope is to perform the scheduled replacement of end-of-life cycle City computer hardware, which includes computer desktops, laptops, backup printers, monitors, cellular phones and iPads.		
			

Program:	Equipment Program	Sub-program:	Information Technology
Project Name:	Data Centre Server Refresh/Update - Phase 1 of 2	Submission ID:	6678

Location: City Hall and Works Yard Data Centres

Cost: \$363,000

OBI: \$ -

Funding Sources: Hardware Upgrade: \$363,000

Scope: Data Centre equipment is replaced on a seven year schedule to ensure that users do not experience system downtime and reduced productivity due to unplanned outages and impacts. Keeping equipment maintained and up to date reduces cyber security risks and operating costs.



Program:	Equipment Program	Sub-program:	Information Technology
Project Name:	Network Refresh for City Facilities - Phase 1 of 3	Submission ID:	6670

Location: All City Buildings and Facilities

Cost: \$557,950

OBI: \$31,733

Funding Sources: Hardware Upgrade: \$557,950

Scope: The network refresh project will replace the legacy/outdated system with a new reliable wired and wireless infrastructure based on the selection of a new City network vendor standard, Cisco Systems. This will enable the City to provide employees and public with dependable access to the network services, including public access to Internet.



Program:	Equipment Program	Sub-program:	Information Technology
Project Name:	Office 2016 Licensing - Phase 2 of 2	Submission ID:	6564

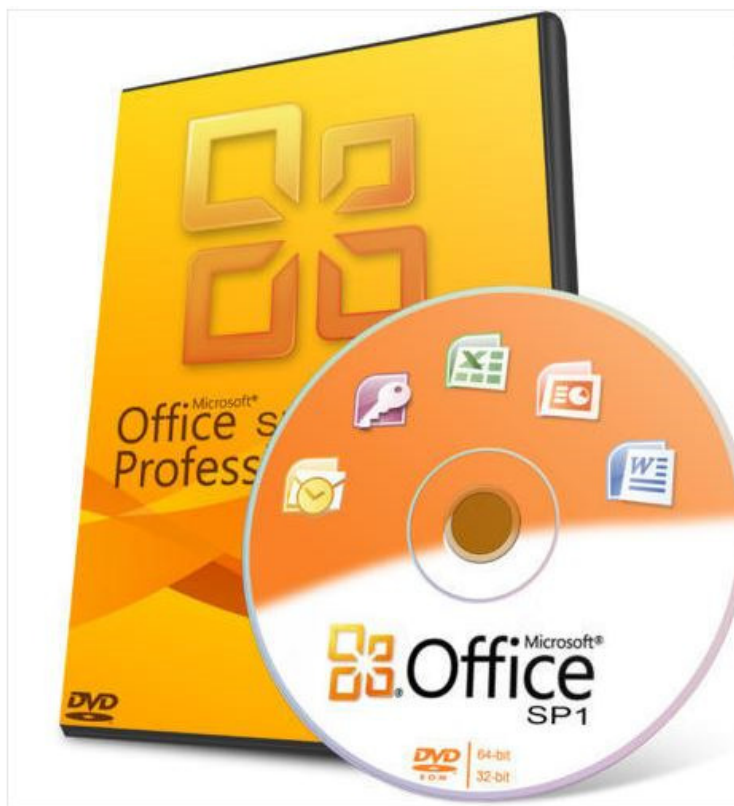
Location: City Hall

Cost: \$494,909 **OBI:** \$6,573

Funding Sources: Software: \$494,909

Scope: As part of the deployment of the new Windows 10 Corporate Desktop, Office 2016 is included as an upgrade. In order to ensure license compliancy this phase is required to support the full rollout of Office 2016 for the organization.

The first phase capital project submission was approved by Council for 2019.




Program:	Equipment Program	Sub-program:	Information Technology
Project Name:	PeopleSoft HCM 9.2 Update 2020	Submission ID:	6653
Location:	City Hall		
Cost:	\$217,440	OBI:	\$ -
Funding Sources:	Corporate: \$217,440		
Scope:	<p>This project supports the update of the Peoplesoft Human Capital System (HCM) 9.2 to the latest release with new and enhanced features. This project enables the internal team to leverage knowledge of a consultant in order to develop an ongoing, sustainable process for future updates.</p> <p>With this update, a full review of existing customizations will be conducted to assess whether these customizations are still required in the new version. New capabilities such as dynamic online Organization Charts and mobile friendly pages will be enabled.</p>		
			

2020 Recommended Equipment Program

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Fire Equipment Replacement from Reserve 131
Richmond Fire Driving Testing/Evaluation Platform 132

Program:	Equipment Program		Sub-program:	Equipment
Project Name:	Fire Equipment Replacement from Reserve		Submission ID:	6756
Location:	Fire-Rescue			
Cost:	\$258,145	OBI:	\$55,000	
Funding Sources:	Fire Equipment: \$258,145			
Scope:	<p>Richmond Fire-Rescue (RFR) provides specialized core services to the community. They include the following services:</p> <ul style="list-style-type: none"> ▪ Hazmat services are provided by RFR staff and supported by specialized equipment. This equipment was supplied by a JEPP (Joint Emergency Preparedness Program) Grant in 2009. Currently many components have come to the end of their useful life. RFR will begin a phased in program to replace this equipment over a term of 3 years and will increase the transfer to Fire equipment reserve, so that the reserve funding would be able to replace these components as they come to the end of their useful life in the future; ▪ Emergency road rescue includes a component known as auto extrication. This service requires equipment capable of cutting the metal components of a vehicle damaged in a traffic accident away from a person who is trapped within a vehicle. RFR has used equipment that requires hydraulic pumps, hoses and cord reels which are replaced on a seven year rotation. This request represents Phase 2 of the Replacement Plan, there are 3 sets of hydraulic equipment that require replacement; they are several years past their normal end of life and due to the fact that this equipment works at high pressure, failure is a significant safety risk. RFR will replace the current equipment with the new industry standard which is battery powered (opposed to hydraulic) which is cost effective, operationally efficient and safer for both the public and responders; and ▪ RFR maintains an inventory of fire hose. Fire hose is replaced annually using a multi-faceted consideration criterion. The age of the hose, the use of the hose as well as testing results are used to determine the replacement of deteriorating fire hose. Hose replacement planned and funded by the Fire Equipment Reserve for 2020 is 30 lengths of hose. The objective is to maintain an adequate inventory of fire hose to effectively maintain the services. RFR expects to continue with replacing 30 lengths of hose per year to maintain the hose inventory. 			
				

Program:	Equipment Program	Sub-program:	Equipment
Project Name:	Richmond Fire Driving Testing/Evaluation Platform	Submission ID:	6749

Location: Fire Hall No. 1/Fire Hall No. 3

Cost: \$280,000 **OBI:** \$45,000

Funding Sources: Fire Equipment: \$280,000

Scope: Driving Testing/Evaluation Platform: A technology based driver testing platform that delivers a driving experience in accurate driving situations within a realistic geographical environment. This allows trainees to accelerate their skill base in a risk free setting and safeguard the front line vehicles which are valued in excess of \$1M each. It will also reduce costs associated with fuel, maintenance, and overall wear on these vehicles.

The purchase of a driver testing/evaluation program would improve decision making and thereby reduce collisions through the use of cognitive based learning techniques, proven driving practises, and state of the art simulation. This technology based training allows for continual reinforcement of the training curriculum and consistent repetition of key training areas.

Richmond Fire-Rescue (RFR) recommends that specific best driving curriculum be adopted with this system.

The integrated curriculum and driver practice on this system is intended to successfully reduce collision incidents. Trainees using this platform would focus on the following training objectives:

- strengthen overall driving awareness by enhancing visual acuity and engagement of multiple senses;
- engage active thinking to move to proactive versus reactive driving;
- create an environment that allows experimentation with multiple strategies and plans to deal with complex driving challenges; and
- create time efficient practice sessions to maximize cycle time and positive reinforcement of correct actions.



Child Care Program 2020

Child care is an important service for Richmond residents and an essential need for many parents. The 2017-2022 Richmond Child Care Needs Assessment and Strategy was adopted by City Council on July 24, 2017 and outlines the City’s commitment to child care through the establishment and maintenance of a comprehensive child care system to help children and families thrive and to address the need for quality, affordable, accessible child care spaces in Richmond.

The City supports the creation of child care spaces by accepting voluntary contributions from developers in the form of built child care facilities or cash-in-lieu contributions to the Child Care Statutory Reserves. The City manages and maintains nine existing City-owned child care facilities and is in the process of developing two additional City-owned child care facilities and two Early Childhood Development Hubs. Dedicated City staff resources help to develop, maintain and support the child care system in Richmond. Child Care grants support the work of non-profit child care providers seeking to improve the quality or capacity of care in their facility, or non-profit societies supporting quality programming and/or providing professional development opportunities for the broader child care community in Richmond.

2020 Recommended Child Care Program

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Child Care Projects - City-wide Non-Capital Grants	136

Program:	Child Care Program	Sub-program:	Child Care
Project Name:	Child Care - Administration	Submission ID:	6677

Location: City Hall

Cost: \$110,000 **OBI:** \$ -

Funding Sources: Child Care Operating: \$110,000

Scope: A source of funding is required to support the City's Child Care section and to assist in the implementation of specific actions adopted by Council in the 2017-2022 Richmond Child Care Needs Assessment and Strategy.

The Child Care Planner 1 position, which has existed as an auxillary position since 2017 and funded through the Child Care Operating Reserve, plays an important role in supporting the ongoing work to plan, design and build new child care facilities secured as community amenity contributions. Specific job duties include working with developers, and assisting with regular review of these City facilities to ensure they meet health and safety standards. Further work includes assisting with the planning and development of four new child cares (including two Early Childhood Development Hubs), research, developing and updating City publications and working documents, and responding to requests for information from the community, parents and child care providers.

In addition, these funds will be used to pay for costs related to: expenses to support the child care work program, research, production of reports, creation of developer resources, and to support the ongoing development of three new amenities under development including two Early Childhood Development (ECD) Hubs and one child care facility as necessary.

The Child Care Operating Reserve is an appropriate source of funding for such expenses. It was established to support grants, conduct research and fund expenses to support the development of quality child care within the City.



Program:	Child Care Program	Sub-program:	Child Care
Project Name:	Child Care Projects - City-wide (Capital Grants)	Submission ID:	5704

Location: Various Locations

Cost: \$50,000 **OBI:** \$ -

Funding Sources: Child Care Development Reserve: \$50,000

Scope: To provide sufficient funding to administer the City's Child Care Capital Grants Program. These grants support non-profit child care operators with capital improvements to enhance their child care programs (e.g., minor renovations, upgrades to outdoor play areas and the purchase of equipment and furnishings).



Program:	Child Care Program	Sub-program:	Child Care
Project Name:	Child Care Projects - City-wide Non-Capital Grants	Submission ID:	6143

Location: Various Locations

Cost: \$10,000 **OBI:** \$ -

Funding Sources: Child Care Operating: \$10,000

Scope: To ensure there is sufficient funding to support the 2020 Child Care Professional and Program Development Grants (non-capital). Grants are advertised in September 2019 and then with Council approval will be awarded in February 2020.



Contingent External Contributions 2020

Contingent external contributions is an estimate of external grants that may be received throughout the year for a variety of approved capital projects.

2020 Recommended Contingent External Contributions

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Program:	Contingent External Contributions	Sub-program:	Contingent External Contributions
Project Name:	Contingent External Contribution	Submission ID:	5812
Location:	City Wide		
Cost:	\$10,000,000	OBI:	\$ -
Funding Sources:	Grant: \$10,000,000		
Scope:	The Financial Plan includes an estimate for external grants that may be received throughout the year for various projects. Spending will only be incurred if the funds are confirmed. Including an estimate in the Financial Plan will allow staff to request scope changes to existing projects without having to wait until the Bylaw Amendment, which is typically adopted in the fall.		

Internal Transfers/Debt Payment Program 2020

The internal transfers/debt program relates to the use of capital funding for repayment of capital funds borrowed from other internal sources of funding.

2020 Recommended Internal Transfers/Debt Payment Program

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River Road/North Loop (2005) Repayment	143
Transfer funding from DCC Parks Development General to DCC Parks Development West Cambie	144

Program:	Internal Transfers/Debt Payment		Sub-program:	Internal Transfers/Debt Payment		
Project Name:	12040 Horseshoe Way Repayment		Submission ID:	6323		
Location:	12040 Horseshoe Way					
Cost:	\$525,000	OBI:	\$ -			
Funding Sources:	Affordable Housing: \$525,000					
Scope:	<p>The purpose of this submission is to repay the Capital Reserve - Industrial Use Fund for the previous Affordable Housing acquisition of 12040 Horseshoe Way from the Affordable Housing Reserve.</p> <p>The 2020 payment of \$525,000 is the third of 15 payments.</p>					
	Payments	Year	Balance	Payment	Interest	Principal
	1	2018	\$6,250,000	\$(525,000)	\$187,500	\$337,500
	2	2019	5,912,500	(525,000)	177,375	347,625
	3	2020	5,564,875	(525,000)	166,946	358,054
	4	2021	5,206,821	(525,000)	156,205	368,795
	5	2022	4,838,026	(525,000)	145,141	379,859
	6	2023	4,458,167	(525,000)	133,745	391,255
	7	2024	4,066,912	(525,000)	122,007	402,993
	8	2025	3,663,919	(525,000)	109,918	415,082
	9	2026	3,248,837	(525,000)	97,465	427,535
	10	2027	2,821,302	(525,000)	84,639	440,361
	11	2028	2,380,941	(525,000)	71,428	453,572
	12	2029	1,927,369	(525,000)	57,821	467,179
	13	2030	1,460,190	(525,000)	43,806	481,194
	14	2031	978,996	(525,000)	29,370	495,630
	15	2032	483,366	(497,867)	14,501	483,366

Program:	Internal Transfers/Debt Payment		Sub-program:	Internal Transfers/Debt Payment		
Project Name:	7080 River Road Repayment		Submission ID:	6017		
Location:	7080 River Road					
Cost:	\$2,341,384	OBI:	\$ -			
Funding Sources:	Parks Acquisition DCC: \$2,202,072 Parks Acquisition City Assist: \$139,312					
Scope:	The purpose of this submission is to repay the Capital Reserve - Industrial Use Fund for previous Parkland Acquisitions from Parkland Acquisition Developer Cost Charges (DCC's). The 2020 payment of \$2,341,384 is the fourth of 8 payments.					
	Payments	Year	Balance	Payment	Interest	Principal
	1	2017	\$15,763,942	\$(2,341,384)	\$630,558	\$1,710,826
	2	2018	14,053,116	(2,341,384)	562,125	1,779,259
	3	2019	12,273,857	(2,341,384)	490,954	1,850,430
	4	2020	10,423,427	(2,341,384)	416,937	1,924,447
	5	2021	8,498,980	(2,341,384)	339,959	2,001,425
	6	2022	6,497,555	(2,341,384)	259,902	2,081,482
	7	2023	4,416,073	(2,341,384)	176,643	2,164,741
	8	2024	2,251,332	(2,341,384)	90,052	2,251,332

Program:	Internal Transfers/Debt Payment	Sub-program:	Internal Transfers/Debt Payment
Project Name:	Nelson Road Interchange Repayment	Submission ID:	5745
Location:	Nelson Road Interchange		
Cost:	\$385,098	OBI:	\$ -
Funding Sources:	Roads DCC: \$385,098		
Scope:	A total of \$2.54M is to be repaid from Roads DCC to Surplus over 8 years. The 2020 payment of \$385,098 is the seventh of 8 equal payments.		
	Payment	Year	Balance
			Payment
			Interest
			Principal
	1	2014	\$2,540,065
			\$(385,098)
			\$114,303
			\$270,795
	2	2015	2,269,270
			(385,098)
			102,117
			282,981
	3	2016	1,986,289
			(385,098)
			89,383
			295,715
	4	2017	1,690,574
			(385,098)
			76,076
			309,022
	5	2018	1,381,552
			(385,098)
			62,170
			322,928
	6	2019	1,058,624
			(385,098)
			47,638
			337,460
	7	2020	721,164
			(385,098)
			32,452
			352,646
	8	2021	368,518
			(385,098)
			16,583
			368,515

Program:	Internal Transfers/Debt Payment		Sub-program:	Internal Transfers/Debt Payment		
Project Name:	River Road/North Loop (2005) Repayment		Submission ID:	5746		
Location:	River Road/North Loop					
Cost:	\$1,334,953	OBI:	\$ -			
Funding Sources:	Roads DCC: \$1,334,953					
Scope:	<p>In 2005, \$18.2M was borrowed from surplus for the acquisition of the CP Rail land between No. 2 and No. 3 Road and for the re-alignment of River Road.</p> <p>\$17.1M was borrowed in 2005 with repayments commencing in 2006. An additional amount of \$950,000 was also borrowed with repayment starting in 2008.</p> <p>The 2020 payment of \$1,334,953 is the fifteenth of 18 payments.</p>					
	Payments	Year	Balance	Payment	Interest	Principal
	1	2006	\$17,100,000	\$(1,769,576)	\$598,500	\$1,171,076
	2	2007	15,928,924	(1,200,000)	557,512	642,488
	3	2008	16,236,436	(1,867,000)	568,275	1,298,725
	4	2009	14,937,712	(1,867,000)	522,820	1,344,180
	5	2010	13,593,532	(468,210)	475,774	(7,564)
	6	2011	13,601,095	(300,000)	476,038	(176,038)
	7	2012	13,777,133	(200,000)	482,200	(282,200)
	8	2013	14,059,333	(1,939,202)	492,077	1,447,125
	9	2014	12,612,208	(1,317,000)	441,427	875,573
	10	2015	11,736,635	(1,685,056)	410,782	1,274,274
	11	2016	10,462,361	(1,685,056)	366,183	1,318,873
	12	2017	9,143,488	(1,685,056)	320,022	1,365,034
	13	2018	7,778,454	(1,685,056)	272,246	1,412,810
	14	2019	6,365,644	(1,685,056)	222,798	1,462,258
	15	2020	4,903,386	(1,334,953)	171,618	1,163,335
	16	2021	3,740,051	(1,334,953)	130,902	1,204,051
	17	2022	2,536,000	(1,334,953)	88,760	1,246,193
	18	2023	1,289,807	(1,334,950)	45,143	1,289,807

Program:	Internal Transfers/Debt Payment	Sub-program:	Internal Transfers/Debt Payment
Project Name:	Transfer funding from DCC Parks Development General to DCC Parks Development West Cambie	Submission ID:	6876
Location:	West Cambie		
Cost:	\$724,185	OBI:	\$ -
Funding Sources:	Parks Development DCC: \$724,185		
Scope:	Transfer funding from DCC Parks Development General to DCC Parks Development West Cambie to provide funding for West Cambie Park Development.		

Infrastructure Program 2020 – Not Recommended

Due to funding constraints and higher priority projects, the following infrastructure projects are not recommended for funding.

2020 Not Recommended Infrastructure – Roads Program

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Extending City's Existing Cycling Network by 2 kilometres	146
Extending City's Existing Cycling Network by 3 kilometres	147
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NOT RECOMMENDED
FOR FUNDING IN 2020

Program:	Infrastructure Program	Sub-program:	Roads
Project Name:	Extending City's Existing Cycling Network by 2 kilometres	Submission ID:	6637

Location: City Centre Area and Steveston Area

Cost: \$5,100,000 **OBI:** \$24,712

Funding Sources: Capital Revolving: \$5,100,000

Scope: General Scope: Provision of a 2.5m (min.) to 3.0m (preferred) wide paved multi-use pathway (MUP) or directional bike lane with a buffer to provide physical protection at various locations within the City to support the expansion and provide greater coverage & connectivity of the existing cycling routes as per the Cycling Network Plan contained in the OCP. This project is to be carried out in two phases: (1) prepare detailed design and consultation with affected property owners/business operators; and (2) MUP and/or directional bike lane construction.

Three separate projects (Capital Submission ID 6637, 6673 and 6674) are submitted for consideration, which would result in expanding the existing cycling network by 2km, 3km, 5km, or up to a total of 10km combined.

Major Cost Components: Phase 1 - Consultant costs for design and cost estimate. Phase 2 - Realignment/installation of curb and gutter, modifications to traffic lanes, traffic signals, MUP, pavement markings and signage, pedestrian crossing enhancements, relocation of above ground infrastructure (i.e., streetlight poles, hydrants, power poles, etc.), bus stops, removal of parking, delineators, concrete median and modifications to private property (i.e., re-grade driveways, landscaping, etc.).

Funding: General Revenue

The preliminary list for 2020 includes 3 potential locations at:

1. Cook Rd (No. 3 Rd - Garden City Rd): Directional 2.0 m bike lanes with 0.3 m buffer for protection of either concrete median or delineators (800m);
2. No. 2 Rd (Steveston Hwy to Williams Rd): Northern extension of minimum 3.0 m MUP on east side (800m); and
3. Capstan Way (River Rd to Sexsmith Rd): 1.5 m bike lane along south side with 0.3 m buffer for protection of either concrete median or delineators (600m). Sexsmith Rd to Garden City Rd to be completed by development.



Program:	Infrastructure Program	Sub-program:	Roads
Project Name:	Extending City's Existing Cycling Network by 3 kilometres	Submission ID:	6673

Location: Bridgeport Area, East Cambie Area, Broadmoor Area and City Centre Area

Cost: \$6,200,000 **OBI:** \$39,344

Funding Sources: Capital Revolving: \$6,200,000

Scope: General Scope: Provision of a 2.5m (min.) to 3.0m (preferred) wide paved multi-use pathway (MUP) or directional bike lane with a buffer to provide physical protection at various locations within the City to support the expansion and provide greater coverage & connectivity of the existing cycling routes as per the Cycling Network Plan contained in the OCP. This project is to be carried out in two phases: (1) prepare detailed design and consultation with affected property owners/business operators; and (2) MUP and/or directional bike lane construction.

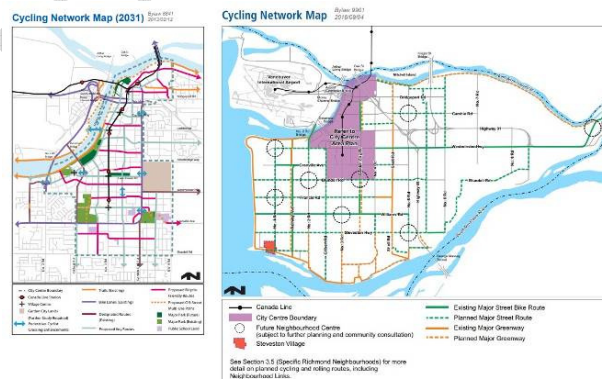
Three separate projects (Capital Submission ID 6637, 6673 and 6674) are submitted for consideration, which would result in expanding the existing cycling network by 2km, 3km, 5km, or up to a total of 10km combined.

Major Cost Components: Phase 1 - Consultant costs for design and cost estimate. Phase 2 - Realignment/installation of curb and gutter, modifications to traffic lanes, traffic signals, MUP, pavement markings and signage, pedestrian crossing enhancements, relocation of above ground infrastructure (i.e., streetlight poles, hydrants, power poles, etc.), bus stops, removal of parking, delineators, concrete median and modifications to private property (i.e., re-grade driveways, landscaping, etc.).

Funding: General Revenue

The preliminary list for 2020 includes 4 potential locations at:

1. No. 6 Rd (Commerce Pwy-Cambie Rd): Northern extension of existing 3.0 m MUP on west side (1.0km);
2. Bridgeport Rd (No. 6 Rd to Knight St Bridge): Widening of existing path & sidewalk on north side to 3.0 m MUP (450m);
3. Garden City Rd (Francis Rd-Granville Ave): Directional 1.5 m bike lanes with 0.3 m buffer for protection of either concrete median or delineators (1.6km); and
4. Browngate Rd (No. 3 Rd to Hazelbridge Way): 1.5 m bike lane along south side with 0.3 m buffer for protection of either concrete median or delineators (200m).



Building Program 2020 – Not Recommended

Due to funding constraints and higher priority projects, the following building projects are not recommended for funding.

2020 Not Recommended Building – Building Program

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NOT RECOMMENDED
FOR FUNDING IN 2020

Program:	Building Program	Sub-program:	Building
Project Name:	Community Safety Building Inventory Room and Associated Works	Submission ID:	6629

Location: 11411 No. 5 Road

Cost: \$402,850

OBI: \$ -

Funding Sources: Others: \$402,850


Scope: The RCMP detachment has grown as a result of resource increases and an inventory management system is required.


The current system does not align with current RCMP departmental security policies.

This new system would provide a safe and secure method for storage, accountability and readily accessible deployment of costly policing equipment such as radios and mobile work stations. This would also fulfill a legal requirement on the storage of firearms, tasers, pepper spray and ammunition etc.

This would also improve productivity by providing access to required equipment in a timely manner.



Program:	Building Program		Sub-program:	Building
Project Name:	Fire Hall No. 6 - Mechanical Component Replacements and Associated Works		Submission ID:	6686
Location:	9400 No. 4 Road			
Cost:	\$490,000	OBI:	\$ -	
Funding Sources:	Building and Infrastructure: \$490,000			
Scope:	<p>Multiple building components in this facility constructed in 1977 have reached the end of their life expectancy and will be replaced with modern energy efficient systems (where possible). These system renewals will also include associated miscellaneous items that will serve to prolong the life of the building and ensure the health and safety of its users/inhabitants.</p> <p>All of these works are planned to be completed at the same time to maximize savings in schedule and costs for mobilization and demobilization.</p> <p>Mechanical</p> <p>The HVAC system has reached the end of its serviceable life span. This system was installed in 2009 with the anticipated life span of 15 years, however based on an assessment conducted in 2018 this system is showing significant wear and tear due to constant usage. Without replacement this system will continue to deteriorate causing increased maintenance costs and potential failure due to unavailable parts.</p>			
				

Program:	Building Program		Sub-program:	Building
Project Name:	Library Cultural Centre - Mechanical Components, Replacements and Interior/Accessibility Renewals and Associated Works		Submission ID:	6262
Location:	7700 Minoru Gate			
Cost:	\$5,100,000	OBI:	\$ -	
Funding Sources:	Building and Infrastructure: \$5,100,000			
Scope:	<p>Multiple building components in this facility constructed in 1992 have reached the end of their life expectancy and will be replaced with modern energy efficient systems (where possible). These system renewals will also include associated miscellaneous items that will serve to prolong the life of the building and ensure the health and safety of its users/inhabitants.</p> <p>All of these works are planned to be completed at the same time to maximize savings in schedule and costs for mobilization and demobilization.</p> <p>Fire Alarm System and Exit Signs (\$415,000):</p> <p>The fire alarm system and exit signs have reached the end of the serviceable life span and will be replaced with new. Both systems were installed in 2005 with the anticipated life span of 10 years; they were assessed in 2018 and recommended for replacement in 2020 to ensure continued reliability of these building systems.</p> <p>Mechanical (\$4,235,000):</p> <p>Multiple HVAC systems have exceeded their serviceable life span and will be renewed/replaced as needed. All units are original to the building dating back to 1992 with anticipated life spans ranging from 15 - 25 years, they were assessed in 2018 and recommended for replacement in 2020 to ensure reliable continuity of service.</p> <p>Interior and Accessibility (\$450,000):</p> <p>Multiple flooring systems have exceeded their serviceable life span and will be replaced. Additionally the level 2 door leading to classrooms will be converted to a power assist accessible door. The flooring systems are original to the building dating back to 1992 with the anticipated life span of 25 years. Assessed in 2018, these systems showed significant wear and tear and were recommended for replacement in 2020.</p>			
				

Program:	Building Program	Sub-program:	Building
Project Name:	Minoru Arenas - Mechanical Components Replacements and Associated Works	Submission ID:	6607

Location: 7551 Minoru Gate

Cost: \$715,000

OBI: \$ -

Funding Sources: Building and Infrastructure: \$715,000

Scope: The hot water storage tanks and associated water distribution systems in this facility, constructed in 1984, have reached the end of their life expectancy and will be replaced with modern energy efficient systems (where possible). These system renewals will also include associated miscellaneous items that will serve to prolong the life of the building and ensure the health and safety of its users/inhabitants.

All of these works are planned to be completed at the same time to maximize savings in schedule and costs for mobilization and demobilization.

The two (2) hot water storage tanks provide hot water to the dressing rooms and zambonis.

If not addressed, there is a high risk of unit failure, causing service interruptions and potential closures.



Program:	Building Program	Sub-program:	Building
Project Name:	Steveston Martial Arts - Accessibility, Envelope Renewals	Submission ID:	6608

Location: 4251 Moncton Street

Cost: \$400,000 **OBI:** \$ -

Funding Sources: Building and Infrastructure: \$400,000

Scope: Multiple building components in this facility constructed in 1971 have reached the end of their life expectancy and will be replaced with modern energy efficient systems (where possible). These system renewals will also include associated miscellaneous items that will service to prolong the life of the building and ensure the health and safety of its users/inhabitants.

All of these works are planned to be completed at the same time to maximize savings in schedule and costs for mobilization and demobilization.

Fire and Security Systems (\$105,000):

The fire and security systems have reached their serviceable lifespan and will be replaced. The fire system is original to the building, dating back to 1971 while the security system was installed in 2003, both with the anticipated life span of 10 years. They were assessed in 2018 and recommended for replacement.

Envelope (\$65,000):

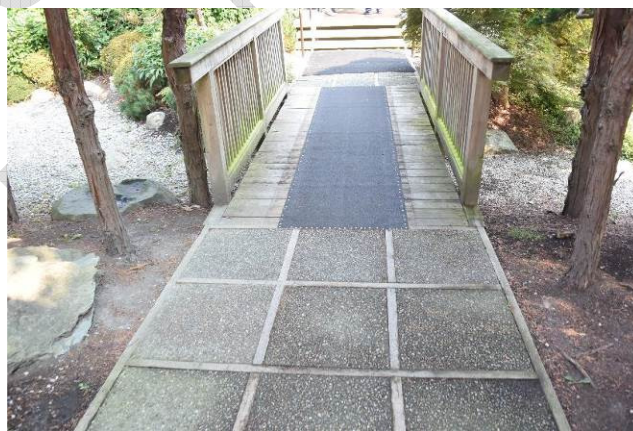
The wooden stairs and siding are splitting/cracking and will be renewed with new pieces to protect against water penetration. Additionally, the doors, soffits and roof drainage systems will be repaired/replaced as needed.

Accessibility/Interior (\$210,000):

The washrooms will be refreshed and upgraded to be fully accessible inclusive of flooring, doors, equipment and casework. Flooring and doors will also be repaired/replaced throughout the facility as needed.

Grounds/Exterior (\$20,000):

The wooden bridge leading to the main entrance is showing signs of deterioration and will be repaired/refurbished to ensure continued usage and aesthetics to the facility.



Information Technology Program 2020 – Not Recommended


Due to funding constraints and higher priority projects, the following information technology projects are not recommended for funding.

2020 Not Recommended Information Technology – Information Technology Program

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NOT RECOMMENDED
FOR FUNDING IN 2020

Program:	Equipment Program	Sub-program:	Information Technology
Project Name:	Emergency Notification System Integration to MyRichmond	Submission ID:	6651
Location:	City Hall		
Cost:	\$100,850	OBI:	\$ -
Funding Sources:	Capital Revolving: \$100,850		
Scope:	<p>The City's current Emergency Notification system is out of support. The scope of work of this request includes integrating the new Emergency notification system to MyRichmond, by providing a single profile for the public to sign up for emergency notifications and blockwatch newsletter/alerts. The MyRichmond platform will be enhanced to promote sign ups through online advertisements, and a consent journey will be enabled for users to accept the new Privacy Information agreement.</p>		
 <p>The logo features the text 'EMERGENCY ALERT SYSTEM' in white, bold, sans-serif capital letters. The text is centered on a dark red rectangular background. On either side of the text are white, stylized signal waves emanating from a central point, resembling a radio or mobile phone signal icon.</p>			

Program:	Equipment Program	Sub-program:	Information Technology
Project Name:	Enhanced Online Community Services Program Guide	Submission ID:	6726

Location: City Wide

Cost: \$295,000

OBI: \$ -

Funding Sources: Capital Revolving: \$295,000

Scope: The scope of work consists of the implementation of a customizable digital program guide on the City of Richmond website. This new enhanced online program guide would allow customers to set criteria for Community Services programs and produce a customizable and personalized PDF. It will be a customer-centric online catalogue that offers an intuitive, real-time and personalized browsing experience for residents to access programs and services. This enhanced online program guide would not only promote registration and participation, but also encourage the decommissioning of existing tools (e.g., printed copies) and allow for the reallocation of ongoing costs and staff-time to more innovative marketing strategies. Implementation includes public and stakeholder consultation to ensure the new enhanced online program guide meets the needs of the public and aligns with marketing and communication strategies and best practices.

1. Intuitive digital program guide that is more in-line with the industry's common features: product catalogue, thorough and flexible filters, sort and prioritization, predictive search, and downloading.
2. Tool to allow clients to plan their registration, such as the ability to highlight, save or pre-select programs.
3. Anonymous browsing and use of online guide (e.g., no login or account required).
4. Integration with online program registration system (e.g., click to navigate directly to program and register and buy).
5. Ability for customers to create a personalized program guide by enabling download and/or print search results in a visually appealing, organized and user-friendly format.
6. Ability for staff to develop and customize seasonal templates for the personalized program guide. Staff should be able to customize guide covers and add additional materials such as seasonal features or sections.
7. Easy, streamlined and cohesive client experience.
8. Responsive to various browsers and hardware.



CITY OF RICHMOND
5 YEAR CAPITAL PLAN SUMMARY (2020 - 2024)
(in \$000s)

	2020	2021	2022	2023	2024
Infrastructure Program					
Roads	50,843	14,821	14,867	14,527	13,480
Drainage	14,207	18,934	17,859	18,228	27,201
Water	9,143	7,779	7,792	6,906	7,751
Sanitary Sewer	13,563	11,300	15,450	13,370	10,950
Infrastructure Advanced Design and Minor Public Works	5,130	5,700	4,049	4,080	3,980
Total Infrastructure Program	\$92,886	\$58,534	\$60,017	\$57,111	\$63,362
Building Program					
Building	17,620	113,610	26,800	13,700	11,160
Total Building Program	\$17,620	\$113,610	\$26,800	\$13,700	\$11,160
Parks Program					
Parks	8,180	6,144	2,780	2,860	2,700
Parkland	4,000	4,000	4,000	4,000	4,000
Total Parks Program	\$12,180	\$10,144	\$6,780	\$6,860	\$6,700
Public Art Program	\$695	\$150	\$150	\$150	\$150
Land Program	\$10,000	\$10,000	\$5,000	\$5,000	\$10,000
Affordable Housing	\$400	\$200	\$200	\$200	\$200
Equipment Program					
Vehicle	3,441	2,528	2,334	3,995	4,434
Fire Vehicle	416	1,186	1,221	1,258	-
Information Technology	1,996	1,386	913	526	548
Equipment	538	779	580	581	32
Total Equipment Program	\$6,391	\$5,879	\$5,048	\$6,360	\$5,014
Child Care Program	\$170	\$172	\$174	\$177	\$179
Internal Transfers/Debt Payment	\$5,310	\$4,586	\$4,201	\$4,201	\$2,866
Contingent External Contributions	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
Total Capital Program	\$155,652	\$213,275	\$118,370	\$103,759	\$109,631

CITY OF RICHMOND
5 YEAR CAPITAL PLAN BY FUNDING SOURCES (2020 - 2024)
(in \$000s)

	2020	2021	2022	2023	2024
DCC Reserves					
Drainage DCC	-	1,510	-	-	2,144
Park Development DCC	6,330	3,907	1,647	1,787	1,740
Park Land Acquisition DCC	5,964	5,964	5,964	5,964	5,964
Roads DCC	12,773	8,478	8,047	8,051	5,731
Sanitary DCC	3,527	-	1,428	-	658
Water DCC	138	634	898	-	673
Total DCC	\$28,732	\$20,493	\$17,984	\$15,802	\$16,910
Statutory Reserves					
Affordable Housing	925	725	725	725	725
Capital Building and Infrastructure	16,288	72,527	6,800	13,700	10,550
Capital Reserve	15,079	45,691	28,979	8,575	14,010
Capstan Station	28,000	-	-	-	-
Child Care	170	172	174	177	179
Drainage Improvement	12,415	13,552	14,577	15,603	23,286
Equipment Replacement	3,655	3,392	3,310	4,833	4,066
Leisure Facilities	-	4,934	-	-	-
Public Art Program	694	150	150	150	150
Rate Stabilization	-	1,320	-	-	-
Sanitary Sewer	11,886	12,850	14,641	14,620	11,542
Watermain Replacement	10,591	8,820	8,466	8,407	8,480
Total Statutory Reserves	\$99,703	\$164,133	\$77,822	\$66,790	\$72,988
Other Sources					
Enterprise Fund	125	550	550	550	-
Grant and Developer Contribution	16,274	15,028	15,191	14,005	13,150
Other Sources	9,368	12,221	6,248	5,862	5,883
Sewer Levy	350	100	-	50	50
Solid Waste and Recycling	450	300	300	300	300
Water Levy	650	450	275	400	350
Total Other Sources	\$27,217	\$28,649	\$22,564	\$21,167	\$19,733
Total Capital Program	\$155,652	\$213,275	\$118,370	\$103,759	\$109,631

CITY OF RICHMOND
5 YEAR CAPITAL PLAN BY PROGRAM (2020 - 2024)
(in \$000s)

	2020	2021	2022	2023	2024
Infrastructure Program					
Roads					
Accessible Pedestrian Signal Program	250	-	-	-	-
Active Transportation Improvement Program	600	600	600	600	600
Annual Asphalt Re-Paving Program - MRN	1,558	1,558	1,558	1,558	1,558
Annual Asphalt Re-Paving Program - Non-MRN	3,288	3,288	3,288	3,288	3,288
Arterial Roadway Improvement Program	800	800	800	800	400
Bridge Rehabilitation Program		300	643	300	300
Cambie Overpass Rehabilitation Project	1,355	-	-	-	-
Cambie Road/No. 5 Road- Intersection Improvements	2,760	-	-	-	-
Capstan Station Construction	27,500	-	-	-	-
Capstan Station Integration Design	500	-	-	-	-
Citywide Connector Walkways Rehabilitation Program	250	250	250	250	250
Citywide Sidewalk and Street Light Replacement Program	500	500	500	500	500
LED Street Name Sign Program	300	300	300	300	300
Neighbourhood Walkway Program	750	750	750	750	500
Special Crosswalk Program	200	350	350	350	350
Steveston Highway Multi-Use Pathway, Mortfield Gate to No. 2 Road	6,000	-	-	-	-
Street Light LED Upgrade Program	400	490	490	490	490
Top 20 Collision Prone Intersections- Implementation of Medium-/Long-term Improvements	-	2,500	2,500	2,500	2,500
Top 20 Collision Prone Intersections- Preliminary Designs for Medium/Long-term improvements	600	-	-	-	-
Top 20 Collision Prone Intersections- Short-term Improvements	500	-	-	-	-
Traffic Calming Program	300	300	300	300	150
Traffic Signal Power Backup System (UPS)	100	200	200	200	200
Traffic Signal Program	800	1,050	1,050	1,050	800
Traffic Video and Communication Program	400	500	500	500	500
Transit-Related Amenity Improvement Program	25	25	25	25	25
Transit-Related Roadway Improvement Program	500	500	500	500	500
Transportation Planning, Functional and Preliminary Design	257	260	263	266	269
West Richmond Sidewalk Rehabilitation Program - Phase 1	350	-	-	-	-
West Richmond Sidewalk Rehabilitation Program - Phase 2	-	300	-	-	-
Total Roads	\$50,843	\$14,821	\$14,867	\$14,527	\$13,480
Drainage					
Box Culvert Repair	1,000		1,000		1,000
Burkeville Utility Improvements Drainage	2,236	2,495	1,741	2,271	2,271
Canal Stabilization	500	-	-	-	-

5 Year Capital Plan by Program (2020 - 2024)

Appendix 12

	2020	2021	2022	2023	2024
Development Coordinated Works - Drainage	250	250	250	250	250
Disaster Mitigation and Adaptation Fund Infrastructure Upgrades	4,516	9,194	9,603	6,637	4,500
Drainage Network Ecological Enhancement	200	150	150	150	150
Drainage Pump Station Rehabilitation and Generator Upgrade	250	250	250	250	250
East Richmond Drainage & Irrigation Upgrades	1,000	500	500	-	-
Flood Protection & Dike Improvements	1,000	3,000	1,000	7,000	5,000
Invasive Species Management	325	250	250	200	200
Laneway Drainage Upgrade	1,460	1,270	1,260	970	1,090
No. 3 Road South Pump Station Upgrade	-	-	-	-	9,140
SCADA System Improvements	150	-	-	-	-
Storm Main Drainage Upgrade	1,020	1,575	1,855	500	3,350
Watercourse Crossing Rehabilitation & Replacement	300	-	-	-	-
Total Drainage	\$14,207	\$18,934	\$17,859	\$18,228	\$27,201
Water					
Development Coordinated Works - Water	250	250	250	250	250
Pressure Reducing Valve Upgrades	-	-	1,000	-	-
Thompson Gate Pressure Reducing Valve Station	1,500	-	-	-	-
Water Metering Program	1,200	1,200	1,200	1,200	1,200
Watermain Replacement Upgrades Program	5,793	6,029	5,042	5,156	6,001
Watermain Tie-in and Restoration	400	300	300	300	300
Total Water	\$9,143	\$7,779	\$7,792	\$6,906	\$7,751
Sanitary Sewer					
Bennett West Pump Station Replacement	-	-	-	2,190	-
Development Coordinated Works - Sanitary	350	250	250	250	250
Eckersley B Sanitary Pump Station Replacement and Spires Utility Servicing	5,100	-	-	-	-
Gravity Sanitary Sewer Upgrade on River Road/ Beckwith Road/Charles Street	-	-	2,500	-	-
Gravity Sewer Assessment Program	150	150	150	150	150
Gravity Sewer Replacement and Rehabilitation	-	-	7,000	7,000	1,800
Hamilton Area Sanitary Sewer and Pump Station	2,800	-	-	-	-
Leslie Pump Station Replacement	2,913	-	-	-	-
Manhole and Inspection Chamber Replacement Program	-	250	-	250	-
Sanitary Pump Station and Forcemain Assessments, Upgrades and Grease Management	600	3,200	2,300	3,080	1,800
Sanitary Pump Station Rehabilitation	300	300	300	300	300
Sanitary Sewer Tie-in and Restoration	150	150	150	150	150
Steveston Gravity Sewer Replacement and Rehabilitation	1,200	7,000	-	-	-
Steveston Pump Station Replacement and Forcemain on 4th Avenue	-	-	-	-	6,500
Van Horne Pump Station Replacement	-	-	2,800	-	-
Total Sanitary Sewer	\$13,563	\$11,300	\$15,450	\$13,370	\$10,950
Infrastructure Advanced Design and Minor Public Works					

	2020	2021	2022	2023	2024
City Centre Community Centre North - Furniture, Fixtures and Equipment (FF&E) and OBI	-	1,320	-	-	-
Fleet Minor Capital	280	-	-	-	-
Public Works Infrastructure Advanced Design	2,550	2,330	1,999	1,930	1,930
Public Works Minor Capital - Drainage	400	300	300	300	300
Public Works Minor Capital - Roads	400	400	400	400	400
Public Works Minor Capital - Sanitary	400	400	400	400	400
Public Works Minor Capital - Sanitation & Recycling	350	300	300	300	300
Public Works Minor Capital - Traffic	250	250	250	250	250
Public Works Minor Capital - Water	500	400	400	500	400
Total Infrastructure Advanced Design and Minor Public Works	\$5,130	\$5,700	\$4,049	\$4,080	\$3,980
Total Infrastructure Program	\$92,886	\$58,534	\$60,017	\$57,111	\$63,362
Building Program					
Building					
Britannia Shipyards Complex System Renewals	-	-	2,200	-	-
Capital Buildings Project Development Advanced Design	500	-	-	-	-
City Hall - Replacement of Mechanical, Life/Safety, and Envelope Components and Associated Works	2,630	-	-	-	-
City Hall Annex Infrastructure Replacements	-	-	-	-	800
Citywide Caretaker Suite Renewals	-	-	-	2,500	-
Community Safety Building - Mechanical Component Replacements and Associated Works	1,350	-	-	-	-
Fire Hall Renewals	-	-	-	3,000	-
Japanese Duplex and First Nations Bunkhouse Reconstruction and Exhibit Development	-	4,150	-	-	-
Minoru Centre for Active Living - Lap Pool 1 Reconstruction	3,000	-	-	-	-
Outdoor Pool Renewals	-	-	-	-	610
Richmond Courthouse - Mechanical Components Replacements, Envelope Renewals, Electrical Replacements, Structural Renewals and Associated Works	1,602	-	-	-	-
Richmond Courthouse Roof Replacement	-	-	-	-	1,150
Richmond Ice Centre Infrastructure Renewals - Phase 1	6,850	-	-	-	-
Richmond Ice Centre Infrastructure Renewals - Phase 2	-	6,850	-	-	-
Richmond Ice Centre Infrastructure Renewals - Phase 3	-	-	1,700	-	-
Richmond Ice Centre Infrastructure Renewals - Phase 4	-	-	-	3,700	-
South Arm Community Centre - Envelope and Interior Finish Renewals	-	-	800	-	-
South Arm Hall Infrastructure Renewal	-	-	-	700	-
Steveston Community Centre and Branch Library	-	100,000	-	-	-
Thompson Community Centre - Interior Finish Renewals	-	-	-	1,800	-
Watermania Infrastructure Renewals	-	-	-	2,000	-
Watermania Mechanical and Pool Equipment Renewals	-	-	2,100	-	-
West Richmond Community Centre - Envelope and Life Safety Renewals	-	2,610	-	-	-

5 Year Capital Plan by Program (2020 - 2024)

Appendix 12

	2020	2021	2022	2023	2024
Works Yard Electrical Service Upgrade and EV Infrastructure	1,688	-	-	-	-
Works Yard Infrastructure Renewals - Phase 1	-	-	20,000	-	-
Works Yard Infrastructure Renewals - Phase 2	-	-	-	-	8,600
Total Building Program	\$17,620	\$113,610	\$26,800	\$13,700	\$11,160
Parks Program					
Parkland					
Parkland Acquisition	4,000	4,000	4,000	4,000	4,000
Total Parkland	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000
Parks					
Alexandra Park	-	1,154	-	-	-
Garden City Lands - Phase 4	-	-	500	-	-
Garden City Lands - Phase 5	-	-	-	500	-
Garden City Lands - Phase 6	-	-	-	-	500
King George Artificial Turf Sports Fields – Turf Replacement	-	790	-	-	-
Lang Park Completion	250	-	-	-	-
London Steveston Park Phase Three Construction	400	-	-	-	-
Lulu Island Park	-	-	250	500	-
Minoru Lakes Renewal Upgrades - Phase 1	4,060	-	-	-	-
Minoru Lakes Renewal Upgrades - Phase 2	-	2,000	-	-	-
Minoru Oval - Artificial Turf Replacement	1,030	-	-	-	-
Minoru Park Central Amenity Space - Playground Expansion	-	-	300	-	-
Minoru Park Central Amenity Space Detailed Design	-	-	-	-	200
Parks Advance Planning and Design	300	300	300	300	300
Parks Ageing Infrastructure Replacement Program	590	500	530	560	350
Parks General Development	400	400	300	400	400
Parks Identity Signage Program - Phase 3	100	-	-	-	-
Parks Interpretive Signage Program - Phase 1	-	-	100	-	-
Parks Interpretive Signage Program - Phase 2	-	-	-	-	100
Playground Improvement Program	600	700	500	400	500
Railway Granville Bike Park	270	-	-	-	-
Riverport and Cook Community Gardens	180	-	-	-	-
Steveston Community Park Playground Expansion	-	300	-	-	-
Trails Network Enhancements	-	-	-	200	350
Total Parks	\$8,180	\$6,144	\$2,780	\$2,860	\$2,700
Total Parks Program	\$12,180	\$10,144	\$6,780	\$6,860	\$6,700
Public Art Program					
Public Art					
Public Art Program	695	150	150	150	150
Total Public Art Program	\$695	\$150	\$150	\$150	\$150
Land Program					

5 Year Capital Plan by Program (2020 - 2024)

Appendix 12

	2020	2021	2022	2023	2024
Land					
Strategic Land Acquisition	10,000	10,000	5,000	5,000	10,000
Total Land Program	\$10,000	\$10,000	\$5,000	\$5,000	\$10,000
Affordable Housing					
Affordable Housing Operating Initiatives	400	200	200	200	200
Total Affordable Housing	\$400	\$200	\$200	\$200	\$200
Equipment Program					
Vehicle Replacement					
Automatic Vehicle Location/Global Positioning System	118	-	-	-	-
Vehicle and Equipment Reserve Purchases (PW and Corporate Fleet)	3,323	2,528	2,334	3,995	4,434
Total Vehicle Replacement	\$3,441	\$2,528	\$2,334	\$3,995	\$4,434
Fire Vehicle					
Fire Vehicle Replacement Reserve Purchases	416	1,186	1,221	1,258	-
Total Fire Vehicle	\$416	\$1,186	\$1,221	\$1,258	-
Information Technology					
Annual Hardware Refresh	363	405	522	526	548
Data Centre Server Refresh/Update - Phase 1 of 2	363	-	-	-	-
Data Centre Server Refresh/Update - Phase 2 of 2	-	360	-	-	-
Network Refresh for City Facilities - Phase 1 of 3	558	-	-	-	-
Network Refresh for City Facilities - Phase 2 of 3	-	621	-	-	-
Network Refresh for City Facilities - Phase 3 of 3	-	-	391	-	-
Office 2016 Licensing - Phase 2 of 2	495	-	-	-	-
PeopleSoft HCM 9.2 Update 2020	217	-	-	-	-
Total Information Technology	\$1,996	\$1,386	\$913	\$526	\$548
Equipment					
Energy Management Projects	-	550	550	550	-
Fire Equipment Replacement from Reserve	258	229	30	31	32
Richmond Fire Driving Testing/Evaluation Platform	280	-	-	-	-
Total Equipment	\$538	\$779	\$580	\$581	\$32
Total Equipment Program	\$6,391	\$5,879	\$5,048	\$6,360	\$5,014
Child Care Program					
Child Care					
Child Care - Administration	110	112	114	117	119
Child Care Projects - City-wide (Capital Grants)	50	50	50	50	50
Child Care Projects - City-wide Non-Capital Grants	10	10	10	10	10
Total Child Care Program	\$170	\$172	\$174	\$177	\$179
Internal Transfers/Debt Payment					
Internal Transfers/Debt Payment					
12040 Horseshoe Way Repayment	525	525	525	525	525

5 Year Capital Plan by Program (2020 - 2024)

Appendix 12

	2020	2021	2022	2023	2024
7080 River Road Repayment	2,341	2,341	2,341	2,341	2,341
Nelson Road Interchange Repayment	385	385	-	-	-
River Road/North Loop (2005) Repayment	1,335	1,335	1,335	1,335	-
Transfer funding from DCC Parks Development General to DCC Parks Development West Cambie	724	-	-	-	-
Total Internal Transfers/Debt Payment	\$5,310	\$4,586	\$4,201	\$4,201	\$2,866
Contingent External Contribution					
Contingent External Contribution					
Contingent External Contribution	10,000	10,000	10,000	10,000	10,000
Total Contingent External Contribution	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
Grand Total	\$155,652	\$213,275	\$118,370	\$103,759	\$109,631

The following is an overview of the major Capital programs proposed for the years 2021 to 2024.

INFRASTRUCTURE PROGRAM

- **Disaster Mitigation and Adaptation Fund Infrastructure Upgrades Phases 2-5 of 5 (2021-2024: \$29,934,000)**

The City of Richmond invests in major disaster mitigation infrastructure to contribute to the Province of British Columbia and Canada’s economic growth, public safety, and ability to build a community more resilient to climate change.

This project includes the design and construction of 5 drainage pump station upgrades and perimeter dike raising within the Disaster Mitigation and Adaptation Fund. The grant funded projects include:

- Steveston Highway and Gilbert Road Drainage Pump Station Upgrade,
- No. 6 Road South Drainage Pump Station Upgrade,
- Ewen Road Pump Station Upgrade,
- No. 9 Road and Westminster Highway Pump Station Upgrade,
- McCallan Road Pump Station Upgrade, and
- Dike Upgrades.

- **No. 3 Road South Pump Station Upgrade (2024: \$9,140,000)**

This project includes demolishing the existing pump station at (No. 3 Road South) and rebuilding it to a modern standard. The project will increase pumping capacity, increase station resilience, make local dike upgrades and landscape the construction area. This project is part of a larger strategy to increase the City’s drainage capacity, increase pump station reliability and reduce flooding in order to accommodate climate change and growth as outlined in the City’s Official Community Plan.

The project is estimated to take 12-16 months. Construction will be scheduled for spring 2025.

Major Cost Components:

Civil (65%)	\$5,941,000
Mechanical (19%)	\$1,736,600
Electrical (16%)	<u>\$1,462,400</u>
Total	<u><u>\$9,140,000</u></u>

- **Steveston Gravity Sewer Replacement and Rehabilitation (2021: \$7,000,000)**

Several sections of gravity sewers within the City are at the end of their service life. As fibreglass pipes age, they become brittle and have an increased risk of failure. These mains have been prone to breaks in recent years, priority areas include but are not limited to Steveston and Broadmoor, amongst others. This project will replace sections of such pipes that are at the end of their service life as part of the City’s ageing infrastructure replacement program.

- **Steveston Pump Station Replacement and Forcemain on 4th Avenue (2024: \$6,500,000)**

This project involves replacement of the Steveston sanitary sewer pump station and a new forcemain on 4th Avenue as part of the Steveston sanitary servicing plan. The Steveston sanitary pump station is at the end of its service life and requires replacement. This project involves the construction of a new sanitary pump station complete with wet well, pumps, kiosk, back-up generator, antenna, valve chamber, and BC Hydro transformer to replace the existing station.

BUILDING PROGRAM

- **Richmond Ice Centre Infrastructure Renewals Phase 2 to 4 (2021 - 2023: \$12,250,000)**

Multiple systems in the Richmond Ice Centre facility, constructed in 1994, have reached the end of their life expectancy and will be replaced with modern energy efficient systems (where possible). These system renewals will also include associated miscellaneous items that will serve to prolong the life of the building and ensure the health and safety of its users/inhabitants.

Interior:

The interior flooring systems will be replaced to prevent a tripping hazard and ensure safe mobility for all occupants throughout the facility. Washroom accessories have all exceeded their serviceable life span and will be replaced/renewed as needed.

Envelope:

The exterior paint and window seals have reached the end of their serviceable life span and will be renewed/replaced as needed.

Mechanical:

The boilers, dehumidifiers, bay heaters and water distribution system have reached the end of their serviceable life span and will be replaced/renewed as needed. Potential risk of no hot water as well as temperature controls are at risk.

Electrical:

Main electrical service systems throughout the facility have reached the end of their serviceable life cycle and require renewal. If units are not replaced, there is potential for unit failure causing fire/electrocution/power failure.

- **Works Yard Infrastructure Renewals (2022 - 2024: \$28,600,000)**

Multiple systems in multiple buildings at the works yard complex constructed in 1980 have reached the end of their life expectancy and will be replaced with modern energy efficient systems (where possible). These system renewals will also include associated miscellaneous items that will serve to prolong the life of the building and ensure the health and safety of its users. All of these works are planned to be completed at the same time to maximize savings in schedule and costs for mobilization and demobilization.

Interior:

Flooring, lighting, wall and restroom systems throughout the administration, garage workshop, stores, sanitation office, survey and dispersal buildings have all reached the end of their serviceable life span and will be renewed or replaced as needed.

Envelope:

Roofing systems inclusive of hatches, skylights and access ladders; as well as aluminum framed glass wall/window systems at the administration, garage workshop, stores, sanitation office, survey and dispersal building have all reached the end of their serviceable life span and will be replaced.

Mechanical:

Heating/cooling, water distribution, exhaust ventilation, and gas supply systems throughout the administration, garage workshop, stores, sanitation office, survey and dispersal buildings have all reached the end of their serviceable life span and will be renewed or replaced as needed.

- **Steveston Community Centre and Branch Library (2021: \$100,000,000)**

An estimated cost range for the new Steveston Community Centre and Branch Library was presented to Council on September 16, 2019. This submission will be revised accordingly in the Consolidated 5 Year Financial Plan (2021-2025).

PARKS PROGRAM

- **Alexandra Park (2021: \$1,154,000)**

This project supports further improvements and upgrades to Alexandra Neighbourhood Park (formerly West Cambie). This development will see the addition of several amenities, including a central gathering space with seating, a lawn area for active and passive recreation, and ecological enhancements to improve habitat quality. The park is being developed according to a Council-approved plan (West Cambie Neighbourhood Park Master Plan) and will expand upon its range of opportunities for social interaction and recreational activities. The final phase of the park is being constructed in coordination with the expansion of the Alexandra District Energy Utility.

- **Garden City Lands Phase 4 to 6 (2022 - 2024: \$1,500,000)**

The continuation of the development of the Garden City Lands will increase public access to the site and add a greater diversity of activities and experiences. Boardwalks and interpretive signage are planned to provide greater access and opportunities for interaction with the bog ecosystem while a network of trails, community gardens and gathering areas are planned to allow more people to access the western side of the site along with expansion of farm related uses and programs. All planned works will be subject to Council and Agricultural Land Commission approval and are consistent with the Council approved Legacy Landscape Plan.

- **Minoru Lakes Renewal Upgrades - Phase 2 (2021: \$2,000,000)**

The scope of work for Minoru Lakes Renewal: Phase 2 includes more accommodating trails, a range of seating, more robust bridges, wayfinding, lighting, native and adaptive planting, and irrigation. These works are required because the trails, furnishings, lighting and bridges within the Minoru Lakes area are nearing the end of their life cycle and do not meet the current recreational health and wellness needs of the rapidly growing population living within a five minute walking distance (400 metres) of Minoru Park. Via the Minoru Park Vision Plan process, the community noted that the Minoru Lakes area is challenging to navigate, generally unwelcoming and viewed as unsafe. Renewed trails, seating, wayfinding, lighting, irrigation and planting in the Minoru Lakes area will help to address community concerns, better meet the needs of the surrounding densifying neighbourhood while also reducing maintenance requirements and enhancing ecological benefits.

- **Playground Improvement Program (2021 - 2024: \$2,100,000)**

This capital program addresses playgrounds that are at the end of their useful life and do not meet the current safety guidelines (according to the industry standard, the Canadian Standards Association's "Children's Playspaces and Equipment"), or can no longer be maintained to meet the guidelines due to obsolescence or vandalism. The program is directed towards replacing all or part of a playground and includes replacement of playground equipment, playground infrastructure (e.g., resilient surfacing, borders, drainage) and landscape features.

LAND PROGRAM

- **Strategic Land Acquisition (2021 - 2024: \$30,000,000)**

Funds for land acquisition to meet the Council Approved Strategic Real Estate Investment Plan. Availability of funds in the capital budget provides the ability to act quickly when necessary and avoid costs incurred to repay the Revolving Fund.

EQUIPMENT PROGRAM

- **Vehicle and Equipment Reserve Purchases (Public Works and Corporate Fleet) (2021-2024: \$13,291,210)**

Annual replacement of vehicles eligible due to age and condition in accordance with Sustainable Green Fleet Policy 2020.

Process for replacement of aging fleet is to establish needs and develop specifications for vehicle/equipment replacements. Send bid information out to the marketplace, evaluate submissions and award accordingly.

2MVA	2 Mega-Volt Ampere
5YFP	5 Year Financial Plan
AC	Air Conditioning
APS	Accessible Pedestrian Signal
CCTV	Closed Circuit Television
CLCM	Contract Life-Cycle Management
CMBC	Coast Mountain Bus Company
CPI	Consumer Price Index
DCC	Development Cost Charges
EV	Electrical Vehicle
GCL	Garden City Lands
GHG	Greenhouse Gas
GPS	Global Positioning System
HPS	High Pressure Sodium
HVAC	Heating, Ventilation, and Air Conditioning
ICBC	Insurance Corporation of British Columbia
IPS	Infor Public Sector
KPI	Key Performance Indicator
LED	Light-Emitting Diodes
MPI	Municipal Price Index
MRN	Major Road Network
MUP	Multi-Use Pathway
NIC	Neighbourhood Improvement Charges
OBI	Operating Budget Impact
OCP	Official Community Plan
PDF	Portable Document Format
PRV	Pressure Reducing Valve
PW	Public Works
RCMP	Royal Canadian Mounted Police
RFP	Request for Proposal
RFR	Richmond Fire-Rescue
RPL	Richmond Public Library
RSA	Rate Stabilization Account
RWIS	Road Weather Information System
SCADA	Supervisory Control and Data Acquisition
TMC	Traffic Management Centre
UPS	Uninterruptable Power Supply