



City of Richmond

Report to Committee

To: General Purposes Committee **Date:** August 25, 2016
From: Jerry Chong **File:** 03-0900-01/2016-Vol
 Director, Finance 01
Re: **Proposed City-Wide DCC Capital Programs (2016-2041) and Updated City-Wide DCC Rates**

Staff Recommendation

That the proposed DCC program and DCC rates, as outlined under Option 1 in the staff report dated August 25, 2016 titled Proposed City-Wide DCC Capital Programs (2016-2041) and Updated City-Wide DCC Rates from the Director, Finance, be endorsed as the basis for further public consultation in establishing the updated DCC Rates Bylaw.

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

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Parks Services	<input checked="" type="checkbox"/>	
Engineering	<input checked="" type="checkbox"/>	
Development Applications	<input checked="" type="checkbox"/>	
Policy Planning	<input checked="" type="checkbox"/>	
Transportation	<input checked="" type="checkbox"/>	
REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE	INITIALS: DW	APPROVED BY CAO

Staff Report

Origin

During the February 11, 2014 Council Meeting, Council introduced the following referral for the Hamilton Area Plan Update Report:

That staff bring forward amendments to Development Cost Charges Imposition Bylaw 8024, no later than 2015 in order to add Hamilton Area Plan DCCs to the City-wide DCC review process.

This report supports Council's 2014-2018 Term Goals #3 – A Well-Planned Community:

3.1 Growth and development that reflects the OCP and related policies and bylaws.

This report supports Council's 2014-2018 Term Goals #7 – Strong Financial Stewardship:

7.1 Relevant and effective budget processes and policies.

7.2 Well-informed and sustainable financial decision making.

7.3 Transparent financial decisions that are appropriately communicated to the public.

Findings of Facts

The City's Development Cost Charges Bylaw No. 8024, Amendment Bylaw No. 8396 was adopted by Council during the September 14, 2009 Council Meeting, and the bylaw became effective on September 14, 2010.

In accordance with the Development Cost Charge (DCC) Best Practice Guide published by the Development Finance Review Committee, it is recommended that "major amendments to the DCC bylaws should be completed at least once every five years and involves a full review of DCC issues and methodology".

A major bylaw amendment involves a full review of the DCC methodology including:

- Underlying DCC assumptions
- Broad policy considerations
- Development projections
- DCC program costs
- Timing of proposed capital projects
- Addition of new projects to the DCC program
- Deletion from the DCC program of those capital projects that have been completed or are no longer required

The DCC Approval Process is illustrated in Attachment 1.

To develop the amended DCC program, the proposed capital infrastructure programs required to support new development must be identified. Staff performed a major review of the City-Wide DCC Program (Alexandra Area Supplementary DCC program review is not in scope of this review due to the substantial build-out status of this supplementary area). The following sources

of data and background documents are used in the process of compiling the proposed updated City-Wide DCC program:

- Development Cost Charges Best Practices Guide
- City of Richmond 2041 Official Community Plan (OCP)
- City of Richmond Building Permit Records, January 1, 2009 to November 6, 2015
- 2010 Employment Lands Strategy
- Community-Level Projections of Population, Housing & Employment (Urban Futures May 2010)
- Projecting Community Change in Richmond City Centre – A Community Lifecycle Approach (Urban Futures May 2007)
- 2009 City Centre Area Plan
- 2014 Hamilton Area Plan Update
- City Centre Transportation Plan
- Interim and Long Term Action Plan for the 16,000-block of River Road
- Parks and Open Space Strategy
- Richmond Trail Strategy

What is included in the DCC Program?

DCC's are monies that municipalities collect from developers to offset the portion of costs related to the services that are incurred as a direct result of new developments. The *Local Government Act* permits DCCs to be established for providing, constructing, altering or expanding facilities related only to roads, water, sanitary, drainage, parkland acquisition and park development.

- Roads – examples include master transportation planning work, roads, sidewalks and pedestrian facilities, traffic signals and controls, boulevards and boulevard landscaping, noise attenuation structures, medians, curb and gutter, street lighting, underground wiring to support traffic devices, drainage facilities within roadways, pedestrian and highway bridges, intersection channelization, transit provisions such as bus pull-ins and bicycle/pedestrian infrastructure etc.
- Water – examples include water distribution modeling, water rights-of-way and easement acquisition, trunk or grid watermains, facility oversizing, booster pump stations, reservoirs, water treatment facilities and pressure reducing valve (PRV) stations etc.
- Sanitary – examples include master sewerage planning, sanitary rights-of-way and easement acquisition, trunk sanitary sewer, relief sewers, facility oversizing, sewage lift stations and sewage treatment facilities etc.
- Drainage – examples include preparation of master storm water management plans, drainage rights-of-way and easement acquisition, large diameter storm sewer, major culvert crossings, overland flow routing systems, community retention/detention facilities, watercourse erosion protection works, lowland drainage improvements (including dyking) and pump stations etc.
- Parkland acquisition and improvement – examples of parkland improvements include fencing, landscaping, drainage and irrigation, trails, restrooms, changing rooms, playground equipment and playing field equipment etc.

Executive Summary

Proposed DCC Program

The capital infrastructure programs required to support new development between 2016 and 2041 have been developed and included in Attachments 2 to 6 of this report. Table 1 below summarizes the total proposed DCC program by servicing types.

Table 1. Proposed 2016-2041 DCC Program

Servicing Types	DCC Recoverable Value	% of Total
Transportation	\$504,321,687	41.2%
Park Acquisition	\$248,120,966	20.3%
Park Development	\$178,383,901	14.6%
Drainage	\$167,383,669	13.7%
Sanitary	\$88,650,258	7.1%
Water	\$38,308,976	3.1%
Total DCC Program Costs	\$1,225,169,457	

Cost Drivers

The main cost drivers of the City's DCC program are land costs and construction costs. Land acquisition costs for both park sites and road dedication account for approximately 40% of the City's DCC program costs, with the remaining 60% of the City's DCC program being construction and/or material costs driven. Based on statistics published by the Real Estate Board of Greater Vancouver and Statistics Canada, Table 2 below illustrates the trends of land and construction cost increases since the last DCC update that was completed in 2009.

Table 2. Richmond detached home values and construction costs trends

	2016 Update	2009 Update	% increase
Richmond Detached Home Average Value	\$1,704,200	\$688,500	148%
Vancouver Home Construction Price Index	152.6	139.4	9%

Proposed DCC Rates

The escalating increase in land costs and the inflationary increase in construction value have inevitably put upward pressure to the proposed DCC rates. Table 3 summarizes the proposed DCC rates under the two implementation alternatives.

Table 3. Proposed DCC rates

	Current DCC Rates	Unit	1-year implementation		2-year implementation	
			Proposed DCC Rates <i>(Recommended)</i>	% Change	Proposed DCC Rates <i>(Not Recommended)</i>	% Change
Single Family	\$24,859.53	per lot	\$39,582.87	59%	\$32,690.54	32%
Townhouse	\$14.28	per ft ²	\$21.51	51%	\$17.79	25%
Apartment	\$15.09	per ft ²	\$22.67	50%	\$18.89	25%
Commercial	\$11.22	per ft ²	\$14.53	29%	\$12.71	13%
Light Industrial	\$8.96	per ft ²	\$11.33	26%	\$9.87	10%
Major Industrial	\$83,837.56	per acre	\$97,725.09	17%	\$88,275.19	5%
Average Increase				39%		18%

Impact to Development

Table 4 shows a comparison of residential DCC rates as a percentage of average sale price under the current DCC rates and the proposed DCC rates. Under the recommended implementation approach, with the exception of apartment units, the relative cost of the proposed DCC's in comparison to sale price of residential units will remain favourable.

Table 4. Residential DCC rate as a percentage of average home sale price

	Current <i>(Current rates/2010 Price)</i>	Proposed - no phasing <i>(Proposed rates/Latest Price)</i>	Proposed – 2-year phasing <i>(Proposed rates/Latest Price)</i>
		<i>(Recommended)</i>	<i>(Not Recommended)</i>
Single Family	2.92%	2.32%	1.92%
Townhouse	4.04%	3.96%	3.28%
Apartment	4.03%	4.89%	4.08%

Grand-Fathering Provision

The Local Government Act that provides in-stream protection to subdivision applications and precursor applications (e.g. rezoning application, development permit application, building permit application) for a period of one year from the effective date of the adopted DCC bylaw.

To qualify for in-stream protection (i.e. in order for the development to be grandfathered to the current DCC rates instead of the new DCC rates in the amended DCC Bylaw), prior to the effective date of the DCC bylaw, the subdivision application, precursor applications, and building permit applications must have been submitted in satisfactory form to and accepted by the City, and that all application fees have been paid. In addition, the building permit related to these applications must be issued within 12 months of the effective date of the bylaw in order for the grand-fathering provision to be applicable.

Under the legislation, if any of the above applications are submitted to and accepted by the City after the effective date of the adopted DCC bylaw, the application will be subject to the new DCC rates (i.e. not eligible for in-stream protection).

Under the recommended approach, the effective date of the proposed DCC bylaw will be on the adoption date of the bylaw, thus no further grace period is granted in addition to the in-stream application protection required by the Local Government Act.

Conclusion

To ensure that the required infrastructure will be available to support the anticipated growth and to ensure that capital costs directly attributed to growth are fairly and equitably allocated, the proposed increased DCC rates are recommended.

Analysis

In order to derive the proposed DCC rates, the master DCC program, as well as the updated program costs and growth projections have been established to align with the proposed DCC timeframe. The sections below summarized the major steps involved in the DCC amendment process.

Step 1: Revision of the Master DCC Program

During the DCC program review process, staff have incorporated the identified future infrastructure needs to support the anticipated growth of the City inclusive of Hamilton Area Plan DCC up to 2041 (time frame is in alignment with the latest Council approved OCP). The review involves removing completed projects, as well as reassessing timing of capital requirements of projects by removing and adding projects to the proposed DCC program. The proposed program may still be subject to further changes during the public consultation process.

Highlights of DCC projects completed since the last DCC update (costs noted are DCC program values where actual project costs may vary from such):

- 218.5 acres of DCC park land acquired, including Garden City Lands, Grauer Lands and Railway Ave. CP Rail (\$69.7M)
- Railway Greenway, Terra Nova Play Environment, Thompson Youth Park, Oval West Waterfront Park (\$21.1M)
- No. 2 Road Bridge Debt Repayment (\$18.3M)
- No. 3 Road, Cook Road to Bridgeport Road streetscape enhancement associated with Canada Line (\$14.2M)
- No. 4 Road North pump station (\$6.6M)
- River Road, No.2 Road to Hollybridge Way realignment (\$6.0M)
- East Richmond Planning Area watermain upgrade (\$2.3M)
- Westminster Highway (Nelson Road to Hamilton Interchange) widening (\$2.0M)

Highlights of DCC projects being deleted or deferred due to changes in program requirements:

- Road construction and provision of new or enhancement of existing traffic signals in the City Centre area east of Great Canadian Way and north of Beckwith Road (\$30.4M)
- Upgrade and extension of Blundell Road from No. 4 Road to Savage Road (\$17.3M)
- Pedestrian/cycling crossing enhancements/overpass in the City Centre (\$16.8M)
- Highway 99 Interchange at Blundell Road (\$13.0M)
- McLennan Sanitary Area pump stations (\$12.8M)
- Middle Arm Pedestrian-Cycling Bridge (\$12.1 M)
- Fraserport Sanitary Area pump stations (\$5.7M)
- Fraser Sanitary Area forcemains (\$2.8M)
- No. 3 Road drainage main, from Lansdowne Road to Granville Avenue \$2.3M)
- Highway 99 Interchange at Steveston Highway (\$2.1M)
- No. 4 Road box culvert, from Highway 99 to Tuttle Ave (\$2.1M)
- City Center Sanitary Area pump stations (\$2.0M)

Highlights of new DCC projects that are added to the proposed DCC program:

- Various City Centre Park Acquisitions (\$64.9M)

- Garden City Land Park Acquisition repayment (\$55.6M)
- City Centre Middle Arm Park Development (\$33.2M)
- Hamilton Area Plan¹ (\$23.0M)
- Garden City Lands Park Development (\$20.7M)
- Minoru Park Development (\$10.3M)
- City Centre Park Development (\$9.4M)
- Broadmoor and Cambie Neighbourhood Centre enhancements (\$9.1M)
- Garry Point Park Development (\$7.1M)
- Garden City Road box culvert – Demorest Drive to Williams Road (\$5.6M)
- No. 3 Road box culvert – Granville Avenue to Blundell Avenue (\$5.3M)
- Cambie Road box culvert – Sexsmith Road to No. 3 Road (\$5.1M)
- 16,000-block River Road for new road access east of No. 7 Road (\$4.6M)
- New pump station and forcemain near Williams Road and Triangle Road (\$3.7M)
- Blundell Road box culvert, from Dalemore Road to Bundell Road West pump station (\$3.6M)
- McCallan Road box culvert, from Blundell Road to Linfield Gate (\$2.6M)

Additional and specific details of the Roads, Water, Sanitary, Drainage, Parks Acquisition and Parks Development DCC programs can be found in Attachments 2 to 6.

Step 2: Update of the DCC Program Costs

The revised DCC program is required to reflect the updated cost of providing and constructing the required DCC capital infrastructure. The main cost drivers of the City's DCC program are land costs and construction costs. Land acquisition costs for both park sites and road dedication account for approximately 40% of the City's DCC program costs, with the remaining 60% of the City's DCC program being construction costs driven.

The DCC rate bylaw that was last amended in 2009 was reviewed and adopted shortly after the 2008 global financial crisis. Prior to Council adoption of the DCC bylaw in 2009, there was indication that a potential recession was foreseeable and that future development activities would be negatively affected by the financial crisis. As a result of this speculation, prior to adoption of the current DCC rate bylaw in 2009, an overall 10% DCC program cost reduction was applied to the entire DCC program in anticipation of the possible decrease in land and construction costs.

Despite the volatility in the global economy from the impact of the financial crisis in 2008 and various major economic events and global economic downturn since 2009, real estate and development activities in Richmond did not show signs of weakening but instead continued to prosper and grow. Since the last DCC Rate Amendment in 2009, there have been notable increases in the City's costs of delivering the required infrastructure needs, especially as a result of the significant increase in land value. These costs increases are due to market driven demand, inflation and other external factors.

¹ Includes land acquisition and development for the proposed Waterfront Park, improvement to VLA Park, Hamilton Highway Park, the Queen Canal and other trails and greenway elements, and road works for the new Westminster Highway improvements.

Based on statistics published by the Real Estate Board of Greater Vancouver and Statistics Canada, Table 5 illustrates the trends of land and construction cost increases since the last DCC update that was completed in 2009.

Table 5. Richmond detached home values and construction costs trends

	2016 Update	2009 Update	% increase
Richmond Detached Home Average Value	\$1,704,200	\$688,500	148%
Vancouver Home Construction Price Index	152.6	139.4	9%

Through this DCC program review, staff have updated the DCC program costs to reflect the updated land and construction prices in delivering the DCC capital infrastructures. As part of the administrative changes to the updated DCC Bylaw, the City will include an automatic annual increase to the DCC Bylaw as permitted under the Development Cost Charge Amendment Bylaw Approval Exemption Regulation (B.C. Reg. 130/2010) of the *Community Charter*.

Step 3: Update of the 2016-2041 Growth Projection

The growth projection is updated to reflect the proposed DCC timeframe of 2016-2041. The City undertook an extensive growth study subsequent to the 2009 DCC update in developing the 2011 Employment Lands Strategy (prepared by external consulting firm AECOM, based on 2010 Urban Futures study on Community-Level Projections of Population, Housing and Employment). The assumptions of the study have been used to deriving the growth projections for the 2016 DCC update (2016 to 2041 timeframe). The revised growth projection is consistent with the OCP, City Centre Area Plan and the Metro Vancouver Regional Growth Strategy.

Step 4: Calculation of the Proposed DCC Rates

Based on the revised DCC program, and the updated costs and growth projection, the revised DCC rates are recalculated and presented in Table 6:

Table 6. Comparison of Proposed and Current DCC Rates

	Unit	Proposed DCC Rates (2016)	Current DCC Rates (2009)	% Change
Single Family	per lot	\$39,582.87	\$24,859.53	59%
Townhouse	per lot	\$21.51	\$14.28	51%
Apartment	per ft ²	\$22.67	\$15.09	50%
Commercial/ Institutional	per ft ²	\$14.53	\$11.22	29%
Light Industrial	per ft ²	\$11.33	\$8.96	26%
Major Industrial	per acre	\$97,725.09	\$83,837.56	17%

Implementation Options

The escalating increase in land costs and the inflationary increase in construction value since the last DCC update have inevitably put upward pressure to the proposed DCC rates. Staff have identified and presented in Table 7 three implementation options and the resulting DCC rates for each option in Table 8.

Staff are recommending Option 1 in rolling out the proposed DCC rates.

Table 7. Implementation Options

Implementation Factors	Option 1 <i>(Recommended)</i>	Option 2 <i>(Not Recommended)</i>	Option 3 <i>(Not Recommended)</i>
Grace Period	None	6 months from adoption date	None
Phasing of DCC Rates	None	None	Phased over 2 years

Table 8. Proposed DCC rates

	Current DCC Rates	Unit	1-year implementation (Option 1 and Option 2)		2-year implementation (Option 3)	
			Proposed DCC Rates <i>(Recommended)</i>	% Change	Proposed DCC Rates <i>(Not Recommended)</i>	% Change
Single Family	\$24,859.53	per lot	\$39,582.87	59%	\$32,690.54	32%
Townhouse	\$14.28	per ft ²	\$21.51	51%	\$17.79	25%
Apartment	\$15.09	per ft ²	\$22.67	50%	\$18.89	25%
Commercial	\$11.22	per ft ²	\$14.53	29%	\$12.71	13%
Light Industrial	\$8.96	per ft ²	\$11.33	26%	\$9.87	10%
Major Industrial	\$83,837.56	per acre	\$97,725.09	17%	\$88,275.19	5%
Average Increase				39%		18%

Implementation Factor #1: Grace Period

The Local Government Act that provides in-stream protection to subdivision applications as well as precursor applications (e.g. rezoning application, development permit application, building permit application) for a period of one year from the effective date of the adopted DCC bylaw. Table 9 below summarizes all the conditions that must be met by the different types of applications in order for the development to be grandfathered to the current DCC rates instead of the new DCC rates in the amended DCC Bylaw.

Table 9. Conditions for grandfathering provision for different types of applications

	Subdivision Application	Rezoning Application	Development Permit Application	Building Permit Application
Prior to the effective date of the bylaw, application has been submitted to the City’s designated officer	✓	✓	✓	✓
Prior to the effective date of the bylaw, application is accepted and considered in satisfactory form by the designated local government officer	✓	✓	✓	✓
Prior to the effective date of the bylaw, applicable application fee has been paid	✓	✓	✓	✓
Building permit is issued within 12 months of the effective date of the bylaw	✓	✓	✓	✓

Under the legislation, if any of the above applications are submitted to and accepted by the City after the effective date of the adopted DCC bylaw, the application will be subject to the new DCC rates (i.e. not eligible for in-stream protection).

The DCC Amendment Bylaw process typically takes between 4 to 6 months (or longer) to complete as it is subject to additional scrutiny from the development industry and approval is required from the Ministry of Community, Sport and Cultural Development prior to adoption. Along with the mandatory 1-year protection of the Local Government for all in-stream applications, it is considered that there is ample of time for the development industry to react to the proposed changes in the DCC rates even without granting additional grace period.

It is therefore recommended that no grace period is required before the effective date of the bylaw.

Implementation Factor #2: Phasing of DCC Rates

The substantial increase in the proposed DCC rates are mainly attributed to significant changes in the underlying DCC program cost and growth assumptions. The proposed increase in DCC rates will ensure that adequate DCC funding will be available to support the capital requirement of the anticipated growth, and will ensure that capital costs directly attributed to growth are fairly and equitably allocated between growth and the existing population.

The proposed DCC rates should be compared to the current average home sale price in order to provide context to the increase. Using the published statistics obtained from the Real Estate Board of Greater Vancouver, a comparison is made in Table 10 to compare the residential DCC rates as a percentage of average home sale prices under the current DCC bylaw rates and the proposed DCC rates.

Table 10. Comparison of residential DCC as a percentage of home sale price

Year	DCC as % of Sale price	Single Family	Townhouse	Apartment
2010 (current)	Current DCC Payable	\$24,859.53	\$19,278.00	\$14,335.50
	2010 Average Sale Price	\$850,600.00	\$476,700.00	\$355,700.00
	DCC as a % of Sale Price	2.92%	4.04%	4.03%
2016 (Option 1 & 2) Option 1 Recommended	Proposed DCC Payable	\$39,582.87	\$29,038.50	\$21,536.50
	Average Sale Price*	\$1,704,200.00	\$732,400.00	\$440,200.00
	DCC as a % of Sale Price	2.32%	3.96%	4.89%
2016 (Option 3)	Proposed DCC Payable	\$32,690.54	\$24,016.50	\$17,945.50
	Average Sale Price*	\$1,704,200.00	\$732,400.00	\$440,200.00
	DCC as a % of Sale Price	1.92%	3.28%	4.08%

*Based on latest Aug 2016 MLS Average Sale Price

Under the recommended implementation approach (Option 1), with the exception of apartment units, the relative cost of the proposed DCC's in comparison to sale price of residential units will remain favourable. Based on the above analysis, staff is recommending that the proposed DCC rates be implemented in full upon adoption, on the basis that:

- the resulting cost burden impact (as a percentage of project value) to the developers will still be within a range that is consistent with the historical ratios; and

- the administration requirement to implement the immediate roll out of the proposed rate (without phasing) is far more simplified than the 2-year phasing approach for both the City and the development industry.

Recommendation

Staff recommend that the proposed DCC rates be implemented under option 1, where the full rate increase is effective upon adoption of the amended DCC Rate Bylaw (no phasing and no grace period). A complete comparison of the City's current and proposed DCC rates with other municipalities can be found in Attachment 7.

Next Steps

Once the implementation approach is endorsed by Council, staff will:

- seek stakeholder input by means of public consultation, where comments from relevant stakeholders such as the Urban Development Institute, developers, home builders etc. will be received for consideration;
- considering stakeholder input, present the proposed DCC Bylaw to Council for first, second and third readings;
- submit the DCC Bylaw and all supporting documentation to the Ministry of Community, Sport and Cultural Development for review and statutory approval;
- the DCC Bylaw, if rejected by the Ministry, will need to be revised by staff and re-presented to Council for approval; and
- the DCC Bylaw, if approved by the Ministry, will be presented back to Council for adoption of the Bylaw.

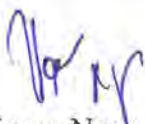
The amount of time required to complete the above steps internally and for the steps to be completed by the Ministry will take approximately 4 to 6 months.

Financial Impact

None.

Conclusion

A review of the City's DCC Bylaw has been performed 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. Once the proposed DCC program and the proposed implementation approach is endorsed by Council, staff will proceed with the necessary steps in order to present to Council an amendment DCC Bylaw for consideration.

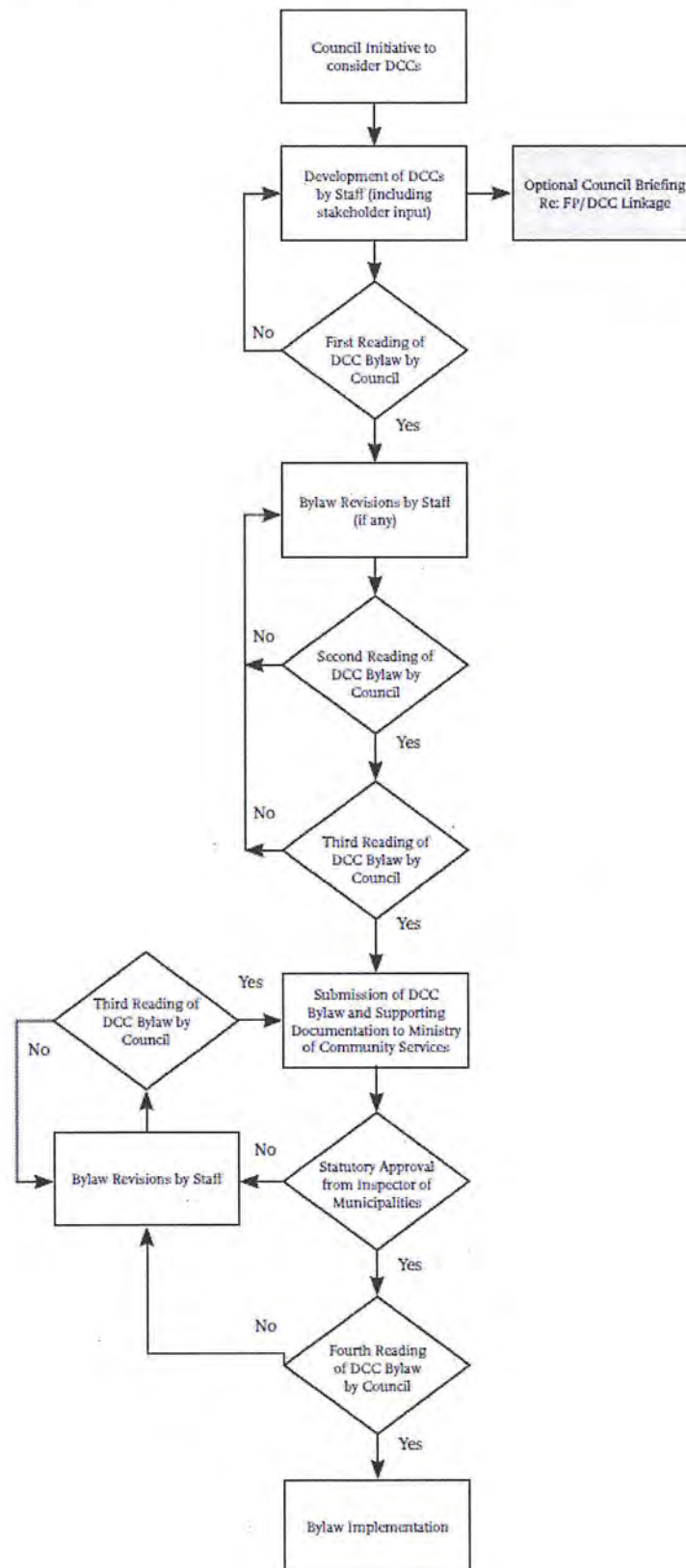


Venus Ngan
Manager, Treasury and Financial Services
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Attachment 1

DCC Bylaw Approval Process

DCC Bylaw Approval Process
Source: *Development Cost Charge Best Practice Guide*



Attachment 2

Roads – Proposed DCC Program

ROAD WORKS

Overview of Proposed Program Changes

	Roads DCC Program Recoverable Value	Number of Projects
Existing DCC Program	\$505,707,426	283
Less: Completed Projects	(\$46,569,784)	(52)
Less: Deleted/Deferred Projects	(\$100,709,681)	(26)
Add: Inflationary Adjustment	\$56,410,271	N/A
Add: New / Enhanced Existing Projects	\$55,678,506	44
Add: Construction Contingency Adjustment	\$33,804,949	N/A
Proposed DCC Program	\$504,321,687	249

Purpose of Program

The Roads DCC program provides a dedicated source of capital funding for upgrading existing, and providing new, transportation infrastructure including arterial roads, traffic signals, sidewalks and pathways, crosswalks, cycling and rolling improvements (active transportation), transit-related road infrastructure (e.g., accessible bus stops) and traffic safety projects (e.g., traffic calming measures).

Overview of Proposed Program

In correspondence with the goals and objectives of the Official Community Plan, these projects focus on accommodating and encouraging sustainable transportation.

Project Type	Description of Project Type	Proposed DCC Program Allocation by Project Type
Complete Streets ⁽¹⁾	Roadworks: new multi-modal roads	34.2%
	Roadworks: upgrades to existing roads to accommodate all modes	32.5%
	Total Complete Streets	66.7%
Sustainable Transportation	Active Transportation Infrastructure	8.5%
	Arterial Road Crosswalk Improvement	1.7%
	Sidewalk Infrastructure	4.7%
	Transit Plan Infrastructure	0.9%
	Total Sustainable Transportation	15.8%
Road Safety	Major Intersection Improvements	4.9%
	Minor Traffic Safety Improvements	0.2%
	Neighbourhood Traffic Calming	0.7%
	Traffic Signals	9.4%
	Total Road Safety	15.2%
Others	Project Partnership Funding	1.9%
	Transportation Modelling	0.4%
	Total Others	2.3%
Total Proposed Roads DCC Program		100.0%

(1) Roadworks projects reflect a “complete streets” approach whereby pedestrian and cycling facilities are included as part of the project.

Breakdown of Program by Benefitting Areas

	Roads DCC Proposed (2016)	Roads DCC Existing (2009)	Change (Decrease)
Total DCC Program Costs	\$ 504,321,687	\$ 505,707,426	(\$1.4 million)
Comprised of:			or
City-Wide	32%	43%	(0.27%)
City-Centre	49%	45%	
Neighbourhood Centres	2%	0%	
General	17%	12%	
Total Number of Projects	249	283	(34 projects)
Comprised of:			or
City-Wide	21%	35%	(12%)
City-Centre	62%	63%	
Neighbourhood Centres	13%	0%	
General	4%	2%	

Explanation of Change in Program Value (\$)

While there is an increase program cost due to new projects added as well as the inflationary and contingency adjustments made since the last update of the program in 2008/2009, such an increase has been entirely offset with the completion, deletion, and/or deferral of some notable projects as described below. Overall, there is a slight decrease in the overall value of the program by \$1.4 million.

Completed Roads DCC Projects

Approximately \$46 million has been removed from the proposed DCC program comprising DCC projects completed since 2009. Some examples of the completed projects and their associated Roads DCC program values include the following:

- No. 2 Road Bridge: funding repayment (\$18,300,000)
- No. 3 Road (Cook Road to Bridgeport Road): streetscape enhancements associated with the Canada Line (\$14,200,000)
- River Road (No. 2 Road to Hollybridge Way): realignment of roadway (\$6,000,000)
- Westminster Highway (Nelson Rd to Hamilton Interchange): widening of roadway (\$2,000,000)
- Nelson Road (Blundell Road to McCartney Way): upgrade of roadway (\$1,860,000)
- Cook Road (Garden City Road to Katsura Street): extension of roadway (\$1,400,000)
- No. 6 Road (No. 7 Fire Hall to Commerce Parkway): widening of roadway (\$760,000)
- Computerized Traffic Signal System Replacement project (\$443,000)
- Van Horne Way (River Drive to Great Canadian Way): cycling connection (multi-use path) to Canada Line Bridge (\$188,000)
- 4th Avenue (Steveston Highway to Chatham Street): provision of sidewalk/pathway (\$100,000)

Note that the actual construction cost may vary from the Roads DCC Program values as noted above.

Existing Highway-Related Roads DCC Projects to be Deleted or Deferred

The George Massey Tunnel Replacement (GMTR) Project Definition Report (PDR) released by the Ministry of Transportation & Infrastructure (MoTI) identifies a new interchange at Steveston Highway rather than an upgrade to the existing interchange (as noted in the existing DCC program), as well as a new overpass at Blundell Road rather than an interchange (also noted in the existing DCC program).

Accordingly, the following individual projects currently included in the Roads DCC Program are proposed to be removed, as the projects are no longer expected to be required to be implemented nor funded from the City's Roads DCC Program:

- Highway 99 Interchange at Steveston Highway (\$2.1 million)
- Highway 99 Interchange at Blundell Road (\$13 million)
- Upgrade and extension of Blundell Road from No. 4 Road to Savage Road (\$17.3 million)

Existing Municipal-related Roads DCC Projects to be Deleted or Deferred

Several projects are proposed to be removed from the program, as the projects are deemed no longer relevant and/or required for upgrades prior to 2041. The key projects in this category are:

- Road construction and provision of new or enhancement of existing traffic signals in the City Centre area east of Great Canadian Way and north of Beckwith Road (\$30.4 million), which includes a new major street located between No. 4 Road and Highway 99 from Bridgeport Road to Van Horne Way, and upgrades of River Drive, Van Horne Way and various traffic signals and trails in the area.
- Pedestrian/cycling crossing enhancements/overpass in the City Centre (\$16.8 million)
- Middle Arm Pedestrian-Cycling Bridge (\$12.1 million)

Increase in Land Costs

An increase of \$56 million in the proposed program reflects the increase in land costs (e.g., in the City Centre, land costs have increased from \$67.50 to \$120 per square foot for non-residential and from \$135 to \$280 per square foot for residential). Most of the land costs in the proposed DCC program occur with City Centre projects where land is necessary to implement new and/or widen an existing Major Street or Major Thoroughfare. Examples of these projects are:

- new Cooney Road extension between Alderbridge Way and Lansdowne Road,
- extension of Minoru Boulevard from Alderbridge Way to River Parkway, and
- enhancement/extension of Odlin Road, between Brown Road and Odlin Crescent.

In the current program, the relative allocation between land and construction costs is approximately 20 percent for land and 80 percent for construction. Under the proposed program, this relative allocation would shift to approximately 32 percent for land and 68 percent for construction.

Increase in Construction Costs

Approximately \$34 million of the proposed increase is due to the updated construction costs since the previous DCC review along with an increase in contingency allowances for construction from 10% to 25% (This increase in contingency allowances would be consistent with typical industry standards for preliminary cost estimates prepared for construction projects). The overall updated construction costs will allow the City to collect Roads DCCs that more closely reflect actual construction costs, thus minimizing the potential that the project will be underfunded at the time of implementation by the City.

Highlights of New DCC Projects

New Roads DCC Projects

The following new key projects are proposed to be added to the Roads DCC program to reflect the update of the Hamilton Area Plan and the Official Community Plan as well as other City policies and strategies.

- Hamilton Area Plan: the area plan identifies new upgrades to Westminster Highway and Willett Road in the Hamilton area (\$8.78 million).
- Official Community Plan: the Mobility & Access section identifies enhancements to be implemented within 400 metres of each neighbourhood centre to better support walking, rolling, and cycling (e.g., wider and uninterrupted sidewalks, improved lighting, marked crosswalks, enhanced audible signals, more street benches). Two such neighbourhood centres, Broadmoor and Cambie, are included in the current update (\$9.1 million). Enhancements to other neighbourhood centres, which are anticipated to be longer-term improvements, will be subject to further detailed area plan process and be added in the DCC program as part of future updates.
- 16,000-block River Road: the Interim and Long Term Action Plan for the 16,000-block of River Road outlines guidelines for reviewing commercial vehicle truck parking and storage rezoning applications in the area. The Long Term Action Plan includes the establishment of a new road access east of No. 7 Road to serve as the future vehicle access to potential light industrial activities (\$4.6 million).
- Project Partnership Funding Program: this new general program would address unforeseen transportation-related projects led by external agencies that may require City funding contributions (e.g., No. 3 Road Streetscape project that was triggered by the Canada Line project). The amount of the program is based on past historical funding required and projected out to the planning horizon of 2041 (\$10.0 million).

Top 20 DCC Projects – See Attachment 2.1

All DCC Projects – See Attachment 2.2

Map of City-Wide Roads DCC Projects – See Attachment 2.3

Map of City-Centre Roads DCC Projects – See Attachment 2.4

ROAD WORKS - TOP 20 PROPOSED PROJECTS

Ranking #	DCC Project ID	Description of Infrastructure	Project Location	Description (from/to)	DCC Recoverable Costs (in thousands)
1	Gen-09	Major Intersection Improvements	Major Intersection Improvements	various locations	\$ 23,513
2	Gen-01	Traffic Signal Installation Program	Traffic Signal Installation Program	various locations	\$ 23,513
3	CC-14	Roadworks, Extension of Major Street, with Cycling	Cooney Rd	Alderbridge Way to Lansdowne Rd	\$ 17,480
4	CCS- 1	Traffic Signal- New	City Centre Traffic Signal Installation Program	Various locations in City Centre	\$ 17,018
5	CW- 32	Land Acquisition (CP Road)	River Parkway	No 2 to Capstan Way	\$ 14,296
6	CW- 04	Roadworks - Collector, Commercial Cross-section	Blundell Rd	Savage Rd to No 7 Rd	\$ 14,066
7	CC-12	Roadworks, Widen, Add cycling Lanes, new S/W	Capstan Way	River Parkway to Garden City Rd	\$ 11,246
8	CW- 35	Roadworks - Arterial, Undivided, Widening	Shell Rd	Bridgeport Rd to Cambie Rd	\$ 11,166
9	CC-7	Roadworks, Widen, Add cycling Lanes, new S/W	Brown Rd	Cambie Rd to Leslie Rd	\$ 10,890
10	CC-45	Roadworks, Realign and upgrade to major street with cycling	Odlin Rd	Brown Rd to Odlin Cr.	\$ 10,851
11	CC-51	Roadworks, Road extension to interim standards	River Parkway	Cambie Rd to Gilbert Rd	\$ 10,628
12	CC-28	Roadworks, Extend Major Street, Include Cycling, Urban Greenway	Lansdowne Rd	Gilbert Rd to Minoru Blvd	\$ 10,200
13	CC-48	Roadworks, Major street w/median in new corridor	River Parkway	Cambie Rd to Capstan Way	\$ 9,894
14	CW- 12	Roadworks - Local, Commercial/Industrial, Construction	Fraserwood Way	Dyke Rd to Boundary Rd	\$ 9,884
15	CC-37	Roadworks, Extend Major Street, Include Cycling, Urban Greenway	Minoru Blvd	Alderbridge Way to River Parkway	\$ 9,655
16	CW- 46	Roadworks - Arterial, Undivided, Widening	Westminster Hwy	Gilley Rd to Boundary Rd	\$ 9,411
17	Gen-08	Project Partnership Funding	Project Partnership Funding	various locations	\$ 9,405
18	CC-9	Roadworks, New Major Street Segment with Cycling	Browngate Rd	River Parkway to No. 3 Rd	\$ 9,186
19	CW- 21	Roadworks - New Local, Commercial/Industrial, Construction	Knox Rd	No 6 Rd to No 7 Rd	\$ 8,536
20	CC-6	Roadworks, Extension of Major Street, with Cycling	Brown Rd	Cambie Rd to Capstan Way / Sexsmith Rd	\$ 7,970

Top 20 Roads DCC Projects DCC Recoverable Amount \$ 248,805

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Top 20 Roads Projects DCC Recoverable Amount \$ 504,322

Top 20 Projects as a Percentage of Total Program Value 49%

ROAD WORKS - ALL PROPOSED PROJECTS

DCC Project ID	Description of Infrastructure	Project Location	Description (from / to)	DCC Recoverable (in thousands)
CW- 01	Roadworks - Local, Residential Cross-section	Alberta Rd	Katsura St to No 4 Rd	\$ 44
CW- 54	Roadworks - Left turn bay	Alderbridge Way	Alderbridge Way (eastbound) at May Drive	\$ 322
CW- 53	Roadworks - Left turn bay	Alderbridge Way	Alderbridge Way (eastbound) at McClelland Rd	\$ 322
CW- 50	Traffic Signal - New	Alderbridge Way	Alderbridge Way at May Drive	\$ 181
CW- 49	Traffic Signal - New	Alderbridge Way	Alderbridge Way at McClelland Rd	\$ 181
CW- 55	Roadworks - Off Street bike way	Alderbridge Way	Alderbridge Way Bike Lane north side	\$ 197
CW- 56	Roadworks - Off Street bike way	Alderbridge Way	Alderbridge Way Bike Lane south side	\$ 197
CC-1	Roadworks, Urban Greenway	Alderbridge Way	Garden City Rd to Minoru Blvd	\$ 4,065
CC-2	Roadworks, Sidewalk Improvements	Alderbridge Way	Minoru Blvd to Elmbridge Way	\$ 694
CW- 02	Roadworks - Sidewalk Installation	Alderbridge Way	No 4 Rd to Fisher Drive	\$ 420
Gen-06	Arterial Road Crosswalk Improvement Program	Arterial Road Crosswalk Improvement Program	various locations	\$ 7,054
CC-3	Roadworks, Widen to 4 lanes	Beckwith St	Great Canadian to Major-22-1	\$ 5,627
CC-4	Roadworks, Widen to 4 lanes	Beckwith St	No. 3 Rd to Great Canadian Way	\$ 3,090
CW- 03	Roadworks - Collector, Commercial Cross-section	Blundell Rd	Nelson Rd to Graybar Rd	\$ 7,057
CW- 04	Roadworks - Collector, Commercial Cross-section	Blundell Rd	Savage Rd to No 7 Rd	\$ 14,066
CW- 05	Roadworks - Arterial, Undivided, Widening	Bridgeport Rd	St Edwards to Knight St	\$ 1,418
CC-5	Roadworks, Extension of Major Street, with Cycling	Brown Rd	Alderbridge Way to Leslie Rd	\$ 6,336
CC-6	Roadworks, Extension of Major Street, with Cycling	Brown Rd	Cambie Rd to Capstan Way / Sexsmith Rd	\$ 7,970
CC-7	Roadworks, Widen, Add cycling Lanes, new S/W	Brown Rd	Cambie Rd to Leslie Rd	\$ 10,890
CC-8	Roadworks, Widen, Add cycling Lanes, new S/W	Browngate Rd	Brown Rd to Hazelbridge Way	\$ 3,810
CW- 06	Roadworks - Local, Residential Cross-section	Browngate Rd	No 3 Rd to Hazelbridge Way	\$ 171
CC-9	Roadworks, New Major Street Segment with Cycling	Browngate Rd	River Parkway to No. 3 Rd	\$ 9,186
CC-10	Roadworks, Urban Greenway	Cambie Rd	Garden City Rd to No. 3 Rd	\$ 855
CC-11	Roadworks, Major street w/median in new corridor	Cambie Rd	River Parkway to No. 3 Rd	\$ 3,160
CC-12	Roadworks, Widen, Add cycling Lanes, new S/W	Capstan Way	River Parkway to Garden City Rd	\$ 11,246
CW- 07	Roadworks - Sidewalk Installation	Cedarbridge Way - Sidewalk	Alderbridge to Elmbridge Way	\$ 488
CCS- 2	Traffic Signal- Upgrade	City Centre Traffic Signal Enhancement Program	Various locations in City Centre	\$ 5,267

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Note: Line items may represent multiple projects

DCC Project ID	Description of Infrastructure	Project Location	Description (from / to)	DCC Recoverable (in thousands)
CCS- 1	Traffic Signal- New	City Centre Traffic Signal Installation Program	Various locations in City Centre	\$ 17,018
CCS- 3	Traffic Signal- add 4th leg	City Centre Traffic Signal Upgrade Program	Various locations in City Centre	\$ 903
CC-13	Roadworks, Cycling Lanes	Cook Rd	Garden City Rd to No. 3 Rd	\$ 3,127
CC-14	Roadworks, Extension of Major Street, with Cycling	Cooney Rd	Alderbridge Way to Lansdowne Rd	\$ 17,480
CC-15	Roadworks, Cycling Lanes	Cooney Rd	Granville Ave to Lansdowne Rd	\$ 3,943
CW- 08	Roadworks - Local, Residential Cross-section Construction	Corvette Way	Capstan Way to Sea Island Way	\$ 1,411
Gen-02	Cycling Infrastructure Improvement Program	Cycling Infrastructure Improvement Program	various locations	\$ 7,054
CW- 09	Roadworks - Overpass Structure	Dover Crossing Pedestrian Overpass: No 2 Rd	No 2 Rd	\$ 470
CW- 10	Roadworks - Collector, Residential, Cross-section Construction	Ferndale Rd	Garden City Rd to No 4 Rd	\$ 658
CW- 11	Roadworks - Arterial, Undivided, Widening	Francis Rd	No 3 Rd to Garden City Rd	\$ 2,034
CW- 12	Roadworks - Local, Commercial/Industrial, Construction	Fraserwood Way	Dyke Rd to Boundary Rd	\$ 9,884
CW- 13	Roadworks - Sidewalk Installation	Garden City	Sea Island to Cambie Rd	\$ 802
CC-16	Roadworks, Pedestrian/cyclist crossing enhancements, on Garden City, between Alderbridge and Westminster	Garden City Rd	Alderbridge Way to Westminster Hwy	\$ 282
CW- 52	Roadworks - Left turn bay	Garden City Rd	Garden City (southbound) at Future Leslie Rd	\$ 322
CW- 51	Roadworks - Left turn bay	Garden City Rd	Garden City (southbound) at Odlin Rd	\$ 322
CC-18	Roadworks, Pedestrian/cyclist crossing enhancements, on Garden City, between Sea Island and Cambie	Garden City Rd	Sea Island Way to Cambie Rd	\$ 282
CW- 14	Roadworks - Arterial, Divided, Widening	Garden City Rd	Westminster Hwy to Granville Ave	\$ 3,019
CC-17	Roadworks, pedestrian/cyclist crossing enhancements, on Garden City, between Westminster and Granville	Garden City Rd	Westminster Hwy to Granville Avenue	\$ 282
CC-19	Roadworks, Upgrade Cycling, Add Urban Greenway	Gilbert Rd	Dinsmore Bridge to River Parkway	\$ 142
CC-20	Roadworks, Urban Greenway	Gilbert Rd	Elmbridge Way to Westminster Hwy	\$ 495
CC-21	Roadworks, Urban Greenway	Gilbert Rd	Granville Avenue to Westminster Hwy	\$ 1,711
CC-22	Roadworks, pedestrian/cyclist crossing enhancements, on Gilbert Road at Lansdowne	Gilbert Rd	Lansdowne Rd	\$ 282
CC-23	Roadworks, Widen to 4 lanes, upgrade. Cycling, Urban Greenway	Gilbert Rd	River Parkway to Elmbridge Way	\$ 4,339
CW- 15	Roadworks - Arterial, Undivided (widening)	Granville Ave	Garden City Rd to No 4 Rd	\$ 2,712
CC-24	Roadworks, Urban Greenway	Granville Avenue	Garden City Rd to Gilbert Rd	\$ 2,868
CC-25	Roadworks, Urban Greenway	Great Canadian Way	Beckwith St to River Rd	\$ 89

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Note: Line items may represent multiple projects

DCC Project ID	Description of Infrastructure	Project Location	Description (from / to)	DCC Recoverable (in thousands)
CW- 18	Roadworks - Collector, Commercial	Hazelbridge Way	Cambie Rd to Browngate	\$ 119
CC-26	Roadworks, Extend Minor Street - Commercial	Hazelbridge Way	Capstan Rd to Sexsmith Rd	\$ 1,832
CW- 19	Roadworks - Bike Lane	Jacombs Rd	Westminster Hwy to Bathgate	\$ 60
CW- 20	Roadworks - Sidewalk Installation	Jacombs Rd	Jacombs Rd: Cambie Rd to Bathgate Rd	\$ 212
CW- 21	Roadworks - New Local, Commercial/Industrial, Construction	Knox Rd	No 6 Rd to No 7 Rd	\$ 8,536
CW- 22	Roadworks - Local, Commercial, Widening	Kwantlen St	Alderbridge Way to Alexandra Rd	\$ 2,916
CC-27	Roadworks, Cycling, Urban Greenway	Lansdowne Rd	Garden City Rd to No. 3 Rd	\$ 5,988
CC-28	Roadworks, Extend Major Street, Include Cycling, Urban Greenway	Lansdowne Rd	Gilbert Rd to Minoru Blvd	\$ 10,200
CC-29	Roadworks, Cycling, Urban Greenway	Lansdowne Rd	Minoru Blvd to No. 3 Rd	\$ 3,640
CC-30	Roadworks, Extend Major Street, Include Cycling, Urban Greenway	Lansdowne Rd	River Parkway to Gilbert Rd	\$ 4,428
CC-31	Roadworks, Widen, new S/W, Bicycle Friendly Street (Shared Lane)	Leslie Rd	Brown Rd to Garden City Rd	\$ 2,701
CC-32	Roadworks, Realign and upgrade, Bicycle Friendly Street (Shared lane)	Leslie Rd	Brown Rd to Hazelbridge Way	\$ 1,856
CC-33	Roadworks, Sidewalk Improvements, Bicycle Friendly Street	Leslie Rd	Hazelbridge Way to No. 3 Rd	\$ 582
CC-34	Roadworks, Widen, new S/W, Bicycle Friendly Street (Shared Lane)	Leslie Rd	River Parkway to No. 3 Rd	\$ 4,666
CW- 23	Roadworks - New Local, Full construction	Lynas Lane Extension	Granville Ave to Lynnwood Dr	\$ 1,525
Gen-09	Major Intersection Improvements	Major Intersection Improvements	various locations	\$ 23,513
Gen-07	Minor Traffic Safety Improvements	Minor Traffic Safety Improvements	various locations	\$ 941
CC-37	Roadworks, Extend Major Street, Include Cycling, Urban Greenway	Minoru Blvd	Alderbridge Way to River Parkway	\$ 9,655
CC-38	Roadworks, Sidewalk Improvements	Minoru Blvd	Blundell Rd to Granville Avenue	\$ 642
CC-39	Roadworks, Cycling, Urban Greenway	Minoru Blvd	Granville Avenue to Alderbridge Way	\$ 1,403
CW- 24	Roadworks - New Local, Commercial/Industrial, Construction	Mitchell Rd	Tipping Rd to east	\$ 4,234
NSC-5	Neighbourhood Centre Active Transportation Improvements	Neighbourhood Centre Active Transportation Improvements	Broadmoor/Garden City	\$ 3,422
NSC-7	Neighbourhood Centre Active Transportation Improvements	Neighbourhood Centre Active Transportation Improvements	Cambie	\$ 5,175
Gen-05	Neighbourhood Traffic Calming Program	Neighbourhood Traffic Calming Program	various locations	\$ 3,762
CW- 25	Roadworks - Arterial, Undivided, Widening	Nelson Rd	Westminster Hwy to Blundell Rd	\$ 2,076
CW- 27	Roadworks - Minor Arterial, Commercial, Widening	No 5 Rd	Jacobson Rd (formerly Hartnell Rd) to Dyke Rd	\$ 2,115
CW- 28	Roadworks - Arterial, Undivided, Widening	No 6 Rd	Bridgeport Rd to Cambie Rd	\$ 3,835
CW- 29	Roadworks - Arterial, Undivided, Widening	No 6 Rd	Cambie Rd to Hwy 91	\$ 837

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Note: Line items may represent multiple projects

DCC Project ID	Description of Infrastructure	Project Location	Description (from / to)	DCC Recoverable (in thousands)
CW- 30	Roadworks - Arterial, Undivided, Widening	No 6 Rd	Triangle Rd to Steveston Hwy	\$ 2,284
CC-40	Roadworks, Realign and upgrade - Urban Greenway (include future widening for raised bikelane on west side)	No. 3 Rd	Alderbridge Way to Cambie Rd	\$ 841
CC-41	Roadworks, Urban Greenway	No. 3 Rd	Alderbridge Way to Westminster Hwy	\$ 572
CC-42	Roadworks, Realign and upgrade - Urban Greenway incl S/W and Blvd west side. (include future widening for raised bikelane on west side)	No. 3 Rd	Bridgeport Rd to Cambie Rd	\$ 3,254
CC-43	Roadworks, Realign and upgrade (Future widening / realignment)	No. 3 Rd	Bridgeport Rd to River Rd	\$ 2,646
CC-44	Roadworks, Urban Greenway	No. 3 Rd	Granville Avenue to Westminster Hwy	\$ 1,299
CC-45	Roadworks, Realign and upgrade to major street with cycling	Odlin Rd	Brown Rd to Odlin Cr.	\$ 10,851
CC-46	Roadworks, Realign and upgrade to major street with cycling	Odlin Rd	Garden City Rd to Odlin Cr.	\$ 2,172
CW- 31	Roadworks - Local, Residential Cross-section Construction	Princess St, Princess Lane, London Rd area	Princess St, Princess Lane, London Rd area	\$ 533
Gen-08	Project Partnership Funding	Project Partnership Funding	various locations	\$ 9,405
CC-48	Roadworks, Major street w/median in new corridor	River Parkway	Cambie Rd to Capstan Way	\$ 9,894
CC-49	Roadworks, Road extension to interim standards	River Parkway	Cambie Rd to Capstan Way	\$ 6,856
CC-50	Roadworks, Major street w/median in new corridor	River Parkway	Cambie Rd to Gilbert Rd	\$ 7,914
CC-51	Roadworks, Road extension to interim standards	River Parkway	Cambie Rd to Gilbert Rd	\$ 10,628
CC-52	Roadworks, Major street w/median in new corridor	River Parkway	Gilbert Rd to Hollybridge Way	\$ 2,057
CC-53	Roadworks, Widen to 4 lanes + cycling + median	River Parkway	Hollybridge Way to No. 2 Rd	\$ 3,374
CW- 32	Land Acq (CP Road)	River Parkway	No 2 to Capstan Way	\$ 14,296
CW- 33	Roadworks - Sidewalk Installation	River Rd Sidewalk	No 4 Rd to Shell Rd	\$ 1,646
CW- 34	Roadworks - Local, Commercial/Industrial, Construction	Savage Rd	Knox Way to River Rd	\$ 1,317
CC-54	Roadworks, Widen to 4 lanes, Shared Cycling	Sexsmith Rd	Beckwith St to Bridgeport Rd	\$ 1,422
CC-55	Roadworks, Extension of Major Street, with Cycling	Sexsmith Rd	Beckwith St to Charles St	\$ 1,072
CC-56	Roadworks, Widen, Add cycling Lanes, new S/W	Sexsmith Rd	Sea Island Way to Capstan Way	\$ 6,744
CW- 35	Roadworks - Arterial, Undivided, Widening	Shell Rd	Bridgeport Rd to Cambie Rd	\$ 11,166
CW- 36	Roadworks - Arterial, Undivided, Widening	Shell Rd	Bridgeport Rd to River Rd	\$ 4,640
CW- 37	Roadworks - Arterial, Undivided, Widening	Shell Rd	Cambie Rd to Alderbridge	\$ 236
CW- 38	Roadworks - Arterial, Undivided, Widening	Shell Rd (west)	Williams Rd to Steveston Hwy	\$ 5,496

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Note: Line items may represent multiple projects

DCC Project ID	Description of Infrastructure	Project Location	Description (from / to)	DCC Recoverable (in thousands)
Gen-03	Sidewalk, annual program	Sidewalk, annual program	various locations (non-development frontage)	\$ 4,703
CC-57	Roadworks, Extend Minor Street - Residential	Sorenson Cr	Alexandra Rd to Leslie Rd	\$ 928
CW- 39	Roadworks - Local, Residential Cross-section Construction	South McLennan	east-west ring road	\$ 6,406
CW- 40	Roadworks - Arterial, Rural Undivided, Widening	Steveston Hwy widening	Hwy 99 to Palmberg Rd	\$ 7,550
Gen-01	Traffic Signal Installation Program	Traffic Signal Installation Program	various locations	\$ 23,513
Gen-04	Transit Plan Infrastructure Improvements	Transit Plan Infrastructure Improvements	various locations	\$ 4,703
Gen-10	Transportation Modelling	Transportation Modelling	various locations	\$ 1,881
CW- 41	Roadworks - Local, Commercial/Industrial, Construction to new Cross-section	Triangle Rd	No 6 Rd to Williams Rd	\$ 5,198
CW- 42	Roadworks - Collector, Commercial, Construction to Cross-section	Viking Way	Vulcan Way to Viking Place	\$ 1,742
CW- 43	Roadworks - New Collector, Commercial Cross-section	Vulcan Way	No 7 Rd to Kartner Rd right of way	\$ 4,312
CW- 44	Roadworks - New Collector, Commercial Cross-section	Vulcan Way	Shell Rd to No 5 Rd	\$ 4,312
CW- 45	Roadworks - Arterial, Divided, Widening	Westminster Hwy	Garden City to No 4 Rd	\$ 2,844
CW- 46	Roadworks - Arterial, Undivided, Widening	Westminster Hwy	Gilley Rd to Boundary Rd	\$ 9,411
CW- 47	Roadworks - Arterial, Undivided, Widening	Westminster Hwy	Hamilton Interchange to Gilley Rd	\$ 2,256
CC-60	Roadworks, Urban Greenway	Westminster Hwy	No. 2 Rd to No. 3 Rd	\$ 1,434
CC-61	Roadworks, pedestrian/cyclist crossing enhancements, on Westminster, between No. 3 and Garden City	Westminster Hwy	No. 3 Rd to Garden City Rd	\$ 282
CC-62	Roadworks, Urban Greenway	Westminster Hwy	No. 3 Rd to No. 4 Rd	\$ 1,480
CW- 48	Roadworks - New Local, to Residential Cross-section Construction.	Willet Ave	Westminster Hwy to River Rd	\$ 1,638

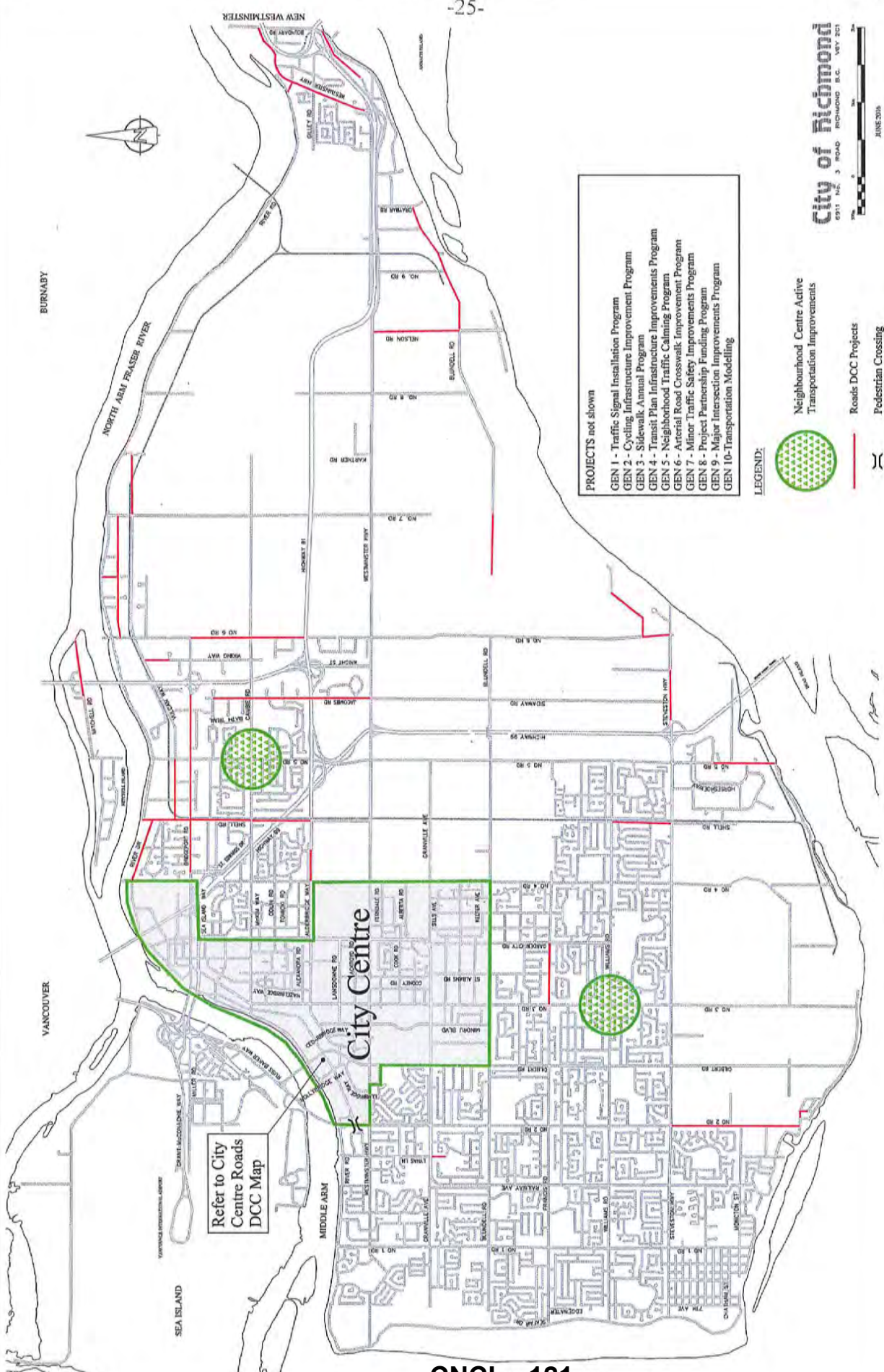
Total Proposed Roads DCC Recoverable Amount \$ 504,322



- PROJECTS not shown
- GEN 1 - Traffic Signal Installation Program
 - GEN 2 - Cycling Infrastructure Improvement Program
 - GEN 3 - Sidewalk Annual Program
 - GEN 4 - Transit Plan Infrastructure Improvements Program
 - GEN 5 - Neighborhood Traffic Calming Program
 - GEN 6 - Arterial Road Crosswalk Improvements Program
 - GEN 7 - Minor Traffic Safety Improvements Program
 - GEN 8 - Project Partnership Funding Program
 - GEN 9 - Major Intersection Improvements Program
 - GEN 10 - Transportation Modelling

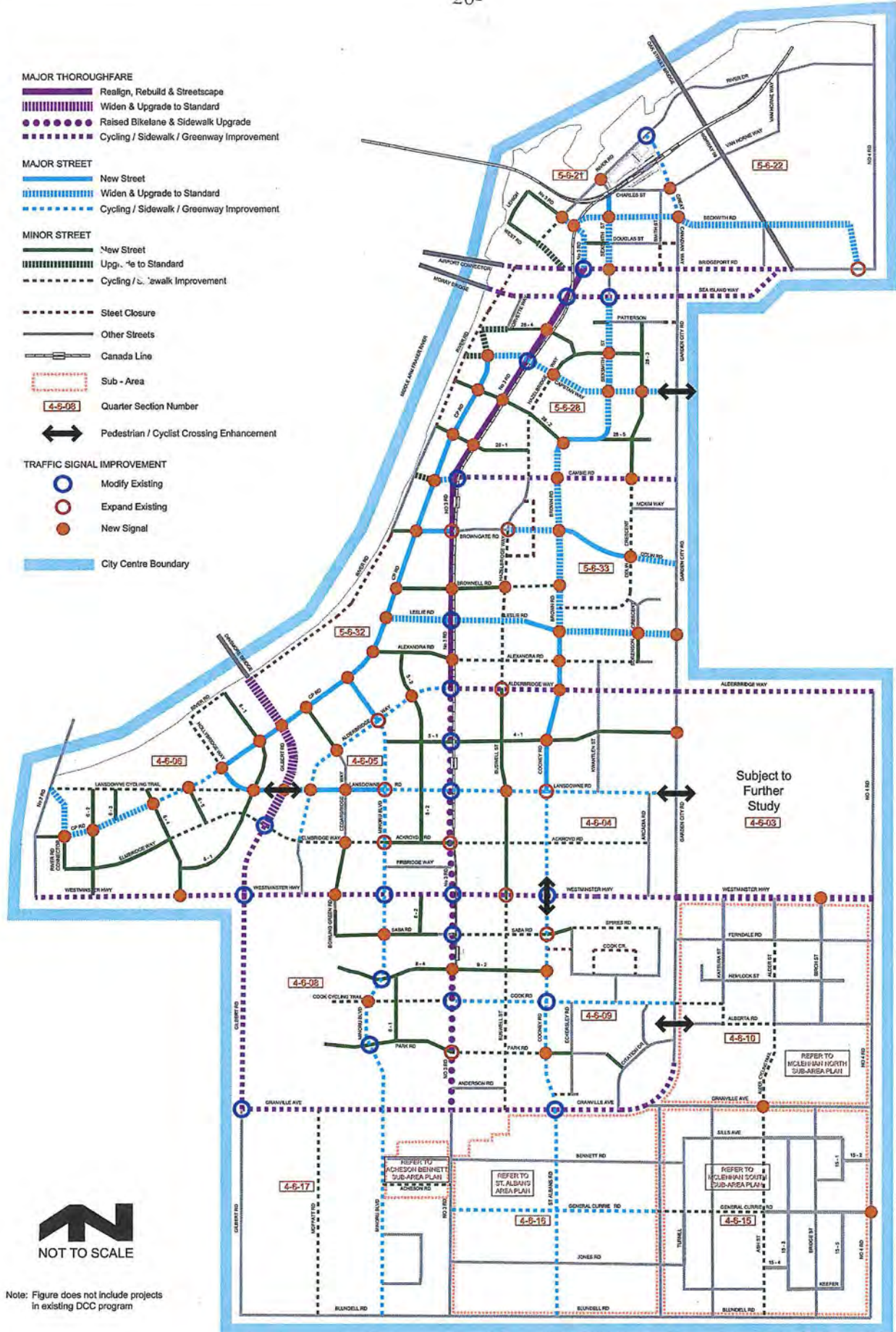
LEGEND:

- Neighbourhood Centre Active Transportation Improvements
- Roads DCC Projects
- Pedestrian Crossing



Richmond City-Wide Roads DCC Projects

- MAJOR THOROUGHFARE**
 - Realign, Rebuild & Streetscape
 - Widen & Upgrade to Standard
 - Raised Bikeway & Sidewalk Upgrade
 - Cycling / Sidewalk / Greenway Improvement
- MAJOR STREET**
 - New Street
 - Widen & Upgrade to Standard
 - Cycling / Sidewalk / Greenway Improvement
- MINOR STREET**
 - New Street
 - Upgr. to Standard
 - Cycling / Sidewalk Improvement
 - Street Closure
 - Other Streets
 - Canada Line
 - Sub - Area
 - Quarter Section Number
 - Pedestrian / Cyclist Crossing Enhancement
- TRAFFIC SIGNAL IMPROVEMENT**
 - Modify Existing
 - Expand Existing
 - New Signal
- City Centre Boundary



Note: Figure does not include projects in existing DCC program

Revised: June 2016

Richmond City-Centre Roads DCC Projects

Attachment 3

Water – Proposed DCC Program

WATER WORKS

Overview of Proposed Program Changes

	Water DCC Program Recoverable Value	Number of Projects
Existing DCC Program	\$34,123,682	419
Less: Completed Projects	(\$9,654,542)	(97)
Less: Deleted Projects	(\$8,893,736)	(122)
Add: Inflationary Adjustment	\$16,961,253	N/A
Add: New Projects	\$5,772,319	15
Proposed DCC Program	\$38,308,976	215

Purpose of Program

The Water DCC Program provides a dedicated source of funding for upgrading existing infrastructure as well as installing new infrastructure to support growth. The water system takes the water delivered by Metro Vancouver and distributes it to individual properties across the City. As population density increases with redevelopment, water demand increases, thereby requiring infrastructure with increased capacity.

Overview of Proposed Program

The Water DCC Program corresponds with the 2041 Official Community Plan, Section 12.3, Water Supply and Distribution, Objective 2, proactive planning and implementation of infrastructure upgrades and replacements due to age and growth. The program consists of upgrades for watermains and pressure reducing valve (PRV) stations.

Breakdown of Program by Benefiting Area

	Water DCC Proposed (2016)	Water DCC Existing (2009)	Change Increase/ (Decrease)
Total DCC Program Costs	\$ 38,308,976	\$ 34,123,682	\$4.2 million or 12%
Comprised of:			
City-Wide	74%	90%	
City-Centre	26%	10%	
Total Number of Projects	215	415	(200 projects) or (48%)
Comprised of:			
City-Wide	79%	86%	
City-Centre	21%	14%	

Explanation of Changes in Program Value (\$)

Revised cost estimates for the water projects accounted for the cost increase in the proposed Water DCC program.

Highlights of DCC Projects

Completed Water DCC Projects

Projects completed since the previous DCC program review in 2009 have been removed from the proposed DCC program and have a total value of \$9.65 million. Examples of the completed projects and their associated Water DCC program values include the following watermain upgrades:

- Steveston Planning Area (\$1,573,661)
- East Richmond Planning Area (\$2,294,388)
- Broadmoor Planning Area (\$1,870,959)
- Shellmont Planning Area (\$513,941)
- Fraser Lands Planning Area (\$852,517)
- Blundell Planning Area (\$357,063)

Deleted Water DCC Projects

With the recent Metro Vancouver upgrade to the Angus Drive water supply main, some of the projects on the existing DCC program are proposed to be removed, as there is no longer an immediate need to upgrade capacity in certain areas. The following are some of the projects proposed to be removed from the existing Water DCC program:

- Blundell Planning Area (\$795,988)
- Bridgeport Planning Area (\$474,871)
- Seafair Planning Area (\$916,236)
- East Richmond Planning Area (\$1,885,222)
- Broadmoor Planning Area (\$1,117,706)

New Water DCC Projects

The following are some of the new projects proposed to be added to the Water DCC program to reflect increased demand conditions of the 2041 OCP:

- Shell Road and Westminster Highway PRV station upgrade (\$495,000)
- Shell Road and Blundell Road PRV station upgrade (\$495,000)
- Shell Road and Williams Road PRV station upgrade (\$470,250)
- Blundell Road watermain upgrade, from No. 4 Road to Shell Road (\$1,403,325)
- Blundell Road watermain upgrade, from Seafair Driver to No. 1 Road (\$952,875)

Top 20 DCC Projects – See Attachment 3.1

All DCC Projects – See Attachment 3.2

WATER WORKS - TOP 20 PROPOSED PROJECTS

Ranking #	DCC Project ID	Area	Description of Infrastructure	Project Location	DCC Recoverable Costs (in thousands)
1	2006-WC-409	West Cambie	Watermain	Westminster Hwy b/w No 4 Road and Shell Road	\$ 1,420
2	2015-OCP-12	Others	Watermain	Blundell Road	\$ 1,403
3	2008-CCAP-435	City Centre	Watermain	Gilbert Road	\$ 994
4	2015-OCP-8	Others	Watermain	Blundell Road	\$ 953
5	2006-SH-271	Shellmont	Watermain	Francis Road	\$ 812
6	2015-OCP-13	Others	PRV Station Upgrade	Shell & Westminster PRV Station Upgrade	\$ 495
7	2015-OCP-14	Others	PRV Station Upgrade	Shell & Blundell PRV Station Upgrade	\$ 495
8	2015-OCP-15	Others	PRV Station Upgrade	Shell & Williams PRV Station Upgrade	\$ 470
9	2006-WC-361	West Camibe	Watermain	Patterson Road	\$ 469
10	2015-OCP-2	Others	Watermain	Garry Street	\$ 371
11	2006-SH-275	Shellmont	Watermain	King Road	\$ 354
12	2006-SH-276	Shellmont	Watermain	King Road	\$ 342
13	2006-SF-248	Seafair	Watermain	Francis Road	\$ 298
14	2006-SF-247	Seafair	Watermain	Francis Road	\$ 253
15	2006-SF-398	Seafair	Watermain	Francis Road	\$ 226
16	2006-WC-360	West Cambie	Watermain	Patterson Road	\$ 180
17	2006-SF-399	Seafair	Watermain	Francis Road	\$ 145
18	2006-SH-278	Shellmont	Watermain	King Road	\$ 121
19	2006-SF-249	Seafair	Watermain	Francis Road	\$ 100
20	2006-SH-277	Shellmont	Watermain	King Road	\$ 75
Top 20 Water Projects DCC Recoverable Amount					\$ 9,978
Total Water Projects DCC Recoverable Amount					\$ 38,309
Top 20 Projects as a Percentage of Total Program Value					26%

WATER WORKS - ALL PROPOSED PROJECTS

DCC Project ID	Area	Description of Infrastructure	Project Location	DCC Recoverable Costs (in thousands)
2006-BL-16	Blundell	Watermain	Ledway Rd	\$ 76
2006-BL-17	Blundell	Watermain	Ludlow Rd	\$ 145
2006-BL-22	Blundell	Watermain	Livingstone Pl	\$ 74
2006-BL-23	Blundell	Watermain	Comstock Rd	\$ 72
2006-BL-24	Blundell	Watermain	Comstock Rd	\$ 190
2006-BL-25	Blundell	Watermain	Comstock Rd	\$ 145
2006-BL-26	Blundell	Watermain	Grandy Rd	\$ 69
2006-BL-28	Blundell	Watermain	Chelmsford St	\$ 83
2006-BL-29	Blundell	Watermain	Dorval Rd	\$ 97
2006-BL-30	Blundell	Watermain	Dorval Rd	\$ 10
2006-BL-31	Blundell	Watermain	Dorval Rd	\$ 64
2006-BL-32	Blundell	Watermain	Dorval Rd	\$ 95
2006-BL-35	Blundell	Watermain	Dorval Rd	\$ 48
2006-BL-36	Blundell	Watermain	Dunsany Pl	\$ 10
2006-BL-37	Blundell	Watermain	Dorval Rd	\$ 79
2006-BL-40	Blundell	Watermain	Woodwards Rd	\$ 161
2006-BL-41	Blundell	Watermain	Woodwards Rd	\$ 273
2006-BL-42	Blundell	Watermain	Woodwards Rd	\$ 166
2006-BL-43	Blundell	Watermain	Woodwards Rd	\$ 22
2006-BL-48	Blundell	Watermain	Lynnwood Rd	\$ 302
2006-BL-49	Blundell	Watermain	Ledway Rd	\$ 267
2006-BL-50	Blundell	Watermain	Ledway Rd	\$ 23
2006-BL-51	Blundell	Watermain	Cheviot Pl	\$ 138
2006-BL-52	Blundell	Watermain	Blundell Rd	\$ 290
2006-BL-53	Blundell	Watermain	No. 2 Rd	\$ 207
2006-BL-363	Blundell	Watermain	Cathay Rd	\$ 124
2006-BL-364	Blundell	Watermain	Clearwater Dr	\$ 185
2006-BL-366	Blundell	Watermain	Cantley Rd	\$ 61
2006-BL-367	Blundell	Watermain	Cathay Rd	\$ 187
2006-BL-368	Blundell	Watermain	Cantley Rd	\$ 64
2006-BL-369	Blundell	Watermain	Lancing Rd	\$ 150
2006-BL-370	Blundell	Watermain	Lancing Rd	\$ 150
2006-BL-371	Blundell	Watermain	Woodwards Rd	\$ 101
2006-BL-372	Blundell	Watermain	Woodwards Rd	\$ 79
2006-BL-373	Blundell	Watermain	Woodwards Rd	\$ 98
2006-BP-54	Bridgeport	Watermain	Finlayson Dr	\$ 69
2006-BP-60	Bridgeport	Watermain	Gage Rd	\$ 127
2006-BP-61	Bridgeport	Watermain	Beckwith Rd	\$ 220
2006-BP-375	Bridgeport	Watermain	Finlayson Rd	\$ 103
2006-BM-77	Broadmoor	Watermain	Lucas Rd	\$ 126
2006-BM-78	Broadmoor	Watermain	Lucas Rd	\$ 63
2006-BM-79	Broadmoor	Watermain	Lucas Rd	\$ 125
2006-BM-80	Broadmoor	Watermain	Sunnycroft Rd	\$ 87
2006-BM-81	Broadmoor	Watermain	Sunnycroft Rd	\$ 68

DCC Project ID	Area	Description of Infrastructure	Project Location	DCC Recoverable Costs (in thousands)
2006-BM-82	Broadmoor	Watermain	Sunnycroft Rd	\$ 73
2006-BM-83	Broadmoor	Watermain	Sunneymede Cr	\$ 175
2006-BM-84	Broadmoor	Watermain	Sunneymede Cr	\$ 142
2006-BM-85	Broadmoor	Watermain	Sunneymede Gate	\$ 71
2006-BM-102	Broadmoor	Watermain	Rideau Dr	\$ 159
2006-BM-103	Broadmoor	Watermain	Saunders Rd	\$ 278
2006-BM-104	Broadmoor	Watermain	Pigott Rd	\$ 86
2006-BM-105	Broadmoor	Watermain	Saunders Rd	\$ 335
2006-BM-106	Broadmoor	Watermain	Saunders Rd	\$ 45
2006-BM-107	Broadmoor	Watermain	Saunders Rd	\$ 185
2006-BM-115	Broadmoor	Watermain	Francis Rd	\$ 12
2006-BM-116	Broadmoor	Watermain	Ash St	\$ 60
2006-BM-117	Broadmoor	Watermain	Ash St	\$ 103
2006-BM-118	Broadmoor	Watermain	Ash St	\$ 150
2006-CC-128	City Centre	Watermain	Brown Rd	\$ 28
2006-CC-129	City Centre	Watermain	Brown Rd	\$ 104
2006-CC-130	City Centre	Watermain	Odlin Cres	\$ 203
2006-CC-131	City Centre	Watermain	Odlin Cres	\$ 102
2006-CC-132	City Centre	Watermain	Sexsmith Rd	\$ 405
2006-CC-133	City Centre	Watermain	Lansdowne/Minoru Connector	\$ 15
2006-CC-136	City Centre	Watermain	Bennett Rd	\$ 134
2006-CC-137	City Centre	Watermain	Park Rd	\$ 271
2006-CC-143	City Centre	Watermain	Cooney Rd	\$ 149
2006-CC-144	City Centre	Watermain	Cooney Rd to Granville Connector	\$ 82
2006-CC-147	City Centre	Watermain	Eckersley Rd	\$ 145
2006-CC-148	City Centre	Watermain	Cook Gate	\$ 81
2006-CC-149	City Centre	Watermain	Spires Rd	\$ 64
2006-CC-150	City Centre	Watermain	Spires Rd	\$ 59
2006-CC-151	City Centre	Watermain	Pimlico Way	\$ 139
2006-CC-152	City Centre	Watermain	Odlin Rd (Odlin Cr west to Brown Rd)	\$ 322
2006-CC-155	City Centre	Watermain	Cook Rd	\$ 116
2006-CC-156	City Centre	Watermain	Cook Rd	\$ 97
2006-CC-157	City Centre	Watermain	Cook Rd	\$ 107
2006-CC-158	City Centre	Watermain	Cook Rd	\$ 135
2006-CC-159	City Centre	Watermain	Cook Rd	\$ 150
2006-CC-381	City Centre	Watermain	Spires Gate	\$ 80
2006-CC-382	City Centre	Watermain	Cooney Rd	\$ 37
2006-CC-383	City Centre	Watermain	River Rd	\$ 113
2008-CCAP-411	City Centre	Watermain	Capstan Way	\$ 449
2008-CCAP-416	City Centre	Watermain	Brown Rd	\$ 27
2008-CCAP-418	City Centre	Watermain	Minoru Blvd	\$ 147
2008-CCAP-421	City Centre	Watermain	Cheson Rd	\$ 217

DCC Project ID	Area	Description of Infrastructure	Project Location	DCC Recoverable Costs (in thousands)
2008-CCAP-422	City Centre	Watermain	Bennett Rd	\$ 79
2008-CCAP-431	City Centre	Watermain	South of Granville Ave (b/w St. Albans & Garden City)	\$ 162
2008-CCAP-433	City Centre	Watermain	No. 4 Rd	\$ 965
2008-CCAP-435	City Centre	Watermain	Gilbert Rd	\$ 994
2008-CCAP-436	City Centre	Watermain	Spires Rd	\$ 157
2008-CCAP-437	City Centre	Watermain	Cook Cr	\$ 280
2008-CCAP-439	City Centre	Watermain	Citation Dr	\$ 336
2008-CCAP-441	City Centre	Watermain	Cook Rd	\$ 456
2008-CCAP-443	City Centre	Watermain	No. 3 Rd	\$ 613
2008-CCAP-444	City Centre	Watermain	Hazelbridge Way	\$ 207
2008-CCAP-445	City Centre	Watermain	Leslie Rd	\$ 339
2008-CCAP-446	City Centre	Watermain	Leslie Rd	\$ 237
2008-CCAP-447	City Centre	Watermain	Sorenson Cr	\$ 117
2008-CCAP-448	City Centre	Watermain	Brown Rd	\$ 75
2008-CCAP-449	City Centre	Watermain	Brown Rd	\$ 229
2006-EC-161	East Cambie	Watermain	Bird Rd	\$ 296
2006-EC-162	East Cambie	Watermain	Bird Rd	\$ 290
2006-EC-163	East Cambie	Watermain	Bird Rd	\$ 45
2006-EC-166	East Cambie	Watermain	Daniels Rd	\$ 73
2006-EC-167	East Cambie	Watermain	Daniels Rd	\$ 55
2006-EC-168	East Cambie	Watermain	Daniels Rd	\$ 82
2006-EC-169	East Cambie	Watermain	Daniels Rd	\$ 52
2006-EC-170	East Cambie	Watermain	Daniels Rd	\$ 153
2006-EC-171	East Cambie	Watermain	Bamfield Dr	\$ 161
2006-EC-172	East Cambie	Watermain	Bamfield Dr	\$ 203
2006-EC-173	East Cambie	Watermain	Mellis Dr	\$ 151
2006-EC-174	East Cambie	Watermain	Mellis Dr	\$ 37
2006-EC-175	East Cambie	Watermain	Mellis Dr	\$ 160
2006-EC-176	East Cambie	Watermain	Mellis Dr	\$ 42
2006-EC-180	East Cambie	Watermain	Dewsbury Dr	\$ 200
2006-EC-181	East Cambie	Watermain	Dewsbury Dr	\$ 63
2006-EC-182	East Cambie	Watermain	Dewsbury Dr	\$ 65
2006-EC-184	East Cambie	Watermain	Bath Rd	\$ 266
2006-EC-185	East Cambie	Watermain	Bamfield Gate	\$ 106
2006-EC-186	East Cambie	Watermain	Bamfield Gate	\$ 18
2006-EC-187	East Cambie	Watermain	Bargen Dr	\$ 135
2006-EC-188	East Cambie	Watermain	Cambie Connector	\$ 11
2006-EC-189	East Cambie	Watermain	Cambie Rd	\$ 63
2006-EC-190	East Cambie	Watermain	Dallyn Rd	\$ 172
2006-EC-191	East Cambie	Watermain	Dallyn Rd	\$ 120
2006-EC-192	East Cambie	Watermain	Sparwood Pl	\$ 365
2006-HA-210	Hamilton	Watermain	Smith Cr	\$ 239
2006-HA-214	Hamilton	Watermain	Willet Ave	\$ 145

DCC Project ID	Area	Description of Infrastructure	Project Location	DCC Recoverable Costs (in thousands)
2006-HA-215	Hamilton	Watermain	Smith Dr	\$ 256
2006-SF-234	Seafair	Watermain	Colonial Dr	\$ 335
2006-SF-235	Seafair	Watermain	Colonial Dr	\$ 134
2006-SF-240	Seafair	Watermain	Palmer Rd	\$ 67
2006-SF-241	Seafair	Watermain	Mahood Dr	\$ 201
2006-SF-242	Seafair	Watermain	Groat Ave	\$ 58
2006-SF-243	Seafair	Watermain	Geal Rd	\$ 103
2006-SF-244	Seafair	Watermain	Francis Rd	\$ 39
2006-SF-246	Seafair	Watermain	Francis Rd	\$ 45
2006-SF-247	Seafair	Watermain	Francis Rd	\$ 253
2006-SF-248	Seafair	Watermain	Francis Rd	\$ 298
2006-SF-249	Seafair	Watermain	Francis Rd	\$ 100
2006-SF-398	Seafair	Watermain	Francis Rd	\$ 226
2006-SF-399	Seafair	Watermain	Francis Rd	\$ 145
2006-SF-401	Seafair	Watermain	Pendleton Rd	\$ 301
2006-SH-260	Shellmont	Watermain	Shell Rd	\$ 70
2006-SH-264	Shellmont	Watermain	Kingcome Ave	\$ 186
2006-SH-265	Shellmont	Watermain	Kingcome Ave	\$ 151
2006-SH-266	Shellmont	Watermain	Kingswood Dr	\$ 103
2006-SH-267	Shellmont	Watermain	Kingcome Ave/Kingswood Dr Connector	\$ 25
2006-SH-268	Shellmont	Watermain	Seacote Rd	\$ 70
2006-SH-271	Shellmont	Watermain	Francis Rd	\$ 812
2006-SH-272	Shellmont	Watermain	Kingsbridge Dr	\$ 85
2006-SH-273	Shellmont	Watermain	Kingsbridge Dr	\$ 204
2006-SH-274	Shellmont	Watermain	Kingsbridge Dr	\$ 175
2006-SH-275	Shellmont	Watermain	King Rd	\$ 354
2006-SH-276	Shellmont	Watermain	King Rd	\$ 342
2006-SH-277	Shellmont	Watermain	King Rd	\$ 75
2006-SH-278	Shellmont	Watermain	King Rd	\$ 121
2006-ST-289	Steveston	Watermain	Springfield Dr	\$ 106
2006-ST-290	Steveston	Watermain	Springfield Dr	\$ 195
2006-ST-291	Steveston	Watermain	Springfield Dr	\$ 59
2006-ST-296	Steveston	Watermain	Fortune Ave	\$ 105
2006-ST-297	Steveston	Watermain	Fortune Ave	\$ 44
2006-ST-298	Steveston	Watermain	Fundy Dr	\$ 91
2006-ST-299	Steveston	Watermain	Fundy Dr	\$ 153
2006-ST-300	Steveston	Watermain	Fundy Dr	\$ 179
2006-ST-302	Steveston	Watermain	Fundy Dr	\$ 58
2006-ST-303	Steveston	Watermain	Fundy Dr	\$ 61
2006-ST-304	Steveston	Watermain	Fundy Dr	\$ 48
2006-ST-305	Steveston	Watermain	Bonavista Dr	\$ 129
2006-ST-310	Steveston	Watermain	Garry St	\$ 77
2006-ST-311	Steveston	Watermain	Garry St	\$ 101

DCC Project ID	Area	Description of Infrastructure	Project Location	DCC Recoverable Costs (in thousands)
2006-ST-312	Steveston	Watermain	Windward Gate	\$ 60
2006-ST-313	Steveston	Watermain	Garry St	\$ 101
2006-ST-314	Steveston	Watermain	Garry St	\$ 132
2006-ST-315	Steveston	Watermain	Leeward Gate	\$ 71
2006-ST-324	Steveston	Watermain	Kingfisher Dr	\$ 206
2006-ST-325	Steveston	Watermain	Kingfisher Dr	\$ 57
2006-ST-326	Steveston	Watermain	Plover Dr	\$ 109
2006-ST-327	Steveston	Watermain	Pintail Dr	\$ 483
2006-ST-330	Steveston	Watermain	Kittiwake Dr	\$ 93
2006-ST-331	Steveston	Watermain	Kittiwake Dr	\$ 142
2006-ST-332	Steveston	Watermain	Kittiwake Dr	\$ 96
2006-TH-341	Thompson	Watermain	Westminster Hwy/Lynas Lane	\$ 34
2006-TH-343	Thompson	Watermain	Garrison Rd	\$ 31
2006-TH-344	Thompson	Watermain	Garrison Rd	\$ 49
2006-TH-345	Thompson	Watermain	Garrison Rd	\$ 52
2006-TH-346	Thompson	Watermain	Garrison Rd	\$ 2
2006-TH-347	Thompson	Watermain	Garrison Rd	\$ 54
2006-TH-349	Thompson	Watermain	Skaha Cr	\$ 43
2006-TH-353	Thompson	Watermain	Tiffany Blvd	\$ 196
2006-TH-354	Thompson	Watermain	Tiffany Blvd	\$ 130
2006-TH-355	Thompson	Watermain	Tiffany Blvd	\$ 68
2006-TH-356	Thompson	Watermain	Tiffany Blvd	\$ 125
2006-TH-358	Thompson	Watermain	Granville Cr	\$ 361
2006-TH-408	Thompson	Watermain	Redfern Cr	\$ 127
2006-WC-360	West Cambie	Watermain	Patterson Rd	\$ 180
2006-WC-361	West Cambie	Watermain	Patterson Rd	\$ 469
2006-WC-409	West Cambie	Watermain	Westminster Hwy b/w No. 4 Rd and Shell Rd	\$ 1,420
Modelling	Others	Watermain		\$ 743
2015-OCP-1	Others	Watermain	Dunford Rd	\$ 80
2015-OCP-2	Others	Watermain	Garry St (Section not covered in list above)	\$ 371
2015-OCP-3	Others	Watermain	Windjammer Dr	\$ 434
2015-OCP-4	Others	Watermain	Beckwith Rd	\$ 314
2015-OCP-5	Others	Watermain	Kingcome Ave	\$ 273
2015-OCP-6	Others	Watermain	Colville Rd	\$ 88
2015-OCP-7	Others	Watermain	East of No. 4 Rd & Saunders Rd Intersection	\$ 88
2015-OCP-8	Others	Watermain	Blundell Rd	\$ 953
2015-OCP-9	Others	Watermain	Bowen Gate	\$ 64
2015-OCP-10	Others	Watermain	Gabrolia Gate	\$ 80
2015-OCP-11	Others	Watermain	Ruskin Rd loop to Ryan	\$ 161

DCC Project ID	Area	Description of Infrastructure	Project Location	DCC Recoverable Costs (in thousands)
2015-OCP-12	Others	Watermain	Blundell Rd	\$ 1,403
2015-OCP-13	Others	Pressure Reducing Valve (PRV) Station	Shell & Westminster PRV Station Upgrade	\$ 495
2015-OCP-14	Others	PRV Station	Shell & Blundell PRV Station Upgrade	\$ 495
2015-OCP-15	Others	PRV Station	Shell & Williams PRV Station Upgrade	\$ 470

Total Proposed Water DCC Recoverable Amount \$ 38,309

Attachment 4

Sanitary – Proposed DCC Program

SANITARY SEWER WORKS

Overview of Proposed Program Changes

	Sanitary DCC Program Recoverable Value	Number of Projects
Existing DCC Program	\$84,663,842	325
Less: Completed Projects	(\$1,610,995)	(22)
Less: Deleted Projects	(\$24,779,081)	(23)
Add: Inflationary Adjustment	\$24,942,295	N/A
Add: New Projects	\$5,434,197	13
Proposed DCC Program	\$88,650,258	293

Purpose of Program

The Sanitary DCC Program provides a dedicated source of funding for upgrading existing infrastructure as well as installing new infrastructure to support growth. The sanitary sewer system collects sewage from properties and conveys it to the wastewater treatment plants. As population density increases with redevelopment, sewage flow increases, thereby requiring infrastructure with increased capacity.

Overview of Proposed Program

The Sanitary DCC Program corresponds with the 2041 Official Community Plan, Section 12.1, Sanitary Sewers, Objective 2, proactive planning of infrastructure upgrades and replacements due to age and growth. The program consists of new installations and upgrades for gravity mains, forcemains, and pump stations.

Breakdown of Program by Benefitting Area

	Sanitary DCC Proposed (2016)	Sanitary DCC Existing (2009)	Change Increase/ (Decrease)
Total DCC Program Costs	\$ 88,650,258	\$ 84,663,842	\$3.98 million or 4.7%
Comprised of:			
City-Wide	63%	72%	
City-Centre	37%	28%	
Total Number of Projects	293	325	(32) projects or (10%)
Comprised of:			
City-Wide	56%	65%	
City-Centre	44%	45%	

Explanation of Changes in Program Value (\$)

Revised cost estimates for the sanitary projects accounted for the cost increase in the proposed Sanitary DCC program.

Highlights of DCC Projects

Completed Sanitary DCC Projects

Projects completed since the previous DCC program review in 2009 have been removed from the proposed DCC program and have a total value of \$1.6 million. Below are examples of the completed projects and their associated Sanitary DCC program values:

- Gravity main upgrade on McLennan Avenue from River Drive to Finlayson Pump Station (\$300,772)
- Gravity main upgrade near 6111 River Road (\$102,032)
- St. Albans Road forcemain upgrade (\$761,102)
- Jones Pump Station forcemain upgrade (\$71,205)

Deleted Sanitary DCC Projects

The following are some of the projects proposed to be removed from the existing Sanitary DCC program, primarily as a result of updated conditions in the 2041 OCP:

- McLennan Sanitary Area pump stations (\$12,825,867)
- East Richmond Sanitary Area pump stations (\$1,425,096)
- Fraserport Sanitary Area pump stations (\$5,700,386)
- City Center Sanitary Area pump stations (\$2,036,421)
- Fraser Sanitary Area forcemains (\$2,791,310)

New Sanitary DCC Projects

The following are some of the new projects proposed to be added to the Sanitary DCC program to reflect increased sanitary flow conditions of the 2041 OCP:

- Parsons Pump Station upgrade (\$1,051,875)
- New pump station and forcemain near Williams Road and Triangle Road (\$3,650,625)
- City Center gravity mains (\$731,697)

Top 20 DCC Projects – See Attachment 4.1

All DCC Projects – See Attachment 4.2

SANITARY SEWER WORKS - TOP 20 PROPOSED PROJECTS

Ranking #	DCC Project ID	Area	Description of Infrastructure	Project Location and Description	DCC Recoverable Costs (in thousands)
1	2006-CC-1056	City Centre	Pump Station	New Pump station at Lansdowne	\$ 1,763
2	2006-CC-1051	City Centre	Pump Station	Pump Station - upgrade Lancing pump station	\$ 1,117
3	2008-SH-1746	Shellmont	Pump Station	Upgrade Sherman pump station	\$ 619
4	2008-BM-1763	Broadmoor	Pump Station	Upgrade Oeser pump station	\$ 619
5	2008-BM-1764	Broadmoor	Pump Station	Upgrade Saunders pump station	\$ 619
6	2008-BM-1765	Broadmoor	Pump Station	Upgrade Woodward's pump station	\$ 619
7	2008-ST-1652	Steveston	Pump Station	Upgrade Steveston pump station	\$ 619
8	2008-ST-1653	Steveston	Pump Station	Upgrade Richmond Park pump station	\$ 619
9	2008-ST-1654	Steveston	Pump Station	Upgrade Trites pump station	\$ 619
10	2008-ST-1655	Steveston	Pump Station	Upgrade Boyd pump station	\$ 619
11	2006-CC-1040	City Centre	Pump Station	Pump Station - upgrade Acheson pump station	\$ 588
12	2006-CC-1041	City Centre	Pump Station	Pump Station - upgrade Ackroyd pump station	\$ 588
13	2006-CC-1042	City Centre	Pump Station	Pump Station - reduce horse power of pumps in Alberta pump station to improve efficiency	\$ 588
14	2006-CC-1044	City Centre	Pump Station	Pump Station - upgrade Arcadia pump station	\$ 588
15	2006-CC-1045	City Centre	Pump Station	Pump Station - upgrade Brighthouse	\$ 588
16	2006-CC-1047	City Centre	Pump Station	Pump Station - reduce HP of pumps in Ferndale pump station to improve efficiency	\$ 588
17	2006-CC-1048	City Centre	Pump Station	Pump Station - upgrade Foster North pump station	\$ 588
18	2006-CC-1049	City Centre	Pump Station	Pump Station - upgrade Alderbridge West	\$ 588
19	2006-CC-1050	City Centre	Pump Station	Pump Station - upgrade Jones pump station	\$ 588
20	2006-CC-1053	City Centre	Pump Station	Pump Station - upgrade Moffatt pump station	\$ 588

Top 20 Sanitary Sewer DCC Recoverable Amount	\$ 13,708
Total Sanitary Sewer DCC Recoverable Amount	\$ 88,650
Top 20 Projects as a Percentage of Total Program Value	15%

SANITARY SEWER WORKS - ALL PROPOSED PROJECTS

DCC Project ID	Area	Description of Infrastructure	Project Location	DCC Recoverable Costs (in thousands)
2006-BP-1066	Bridgeport	Gravity Mains-right of way	Gravity Main - Rear of 4640 No. 3 Rd to Leslie pump station	\$ 89
2006-BP-1067	Bridgeport	Gravity Mains	Gravity Main - 8140 Leslie Rd to 8380 Leslie Rd	\$ 350
2006-BP-1074	Bridgeport	Gravity Mains	Gravity Main - Crossing Charles St (8980 Charles St to 8891 Charles St)	\$ 31
2006-BP-1083	Bridgeport	Gravity Mains	Gravity Main - 3433 Regina Ave to 3291 Regina Ave	\$ 110
2006-BP-1084	Bridgeport	Gravity Mains	Gravity Main - 3291 Regina Ave to 3251 Regina Ave	\$ 60
2006-BP-1085	Bridgeport	Gravity Mains	Gravity Main - 3251 Regina Ave to Walford PS	\$ 59
2006-BP-1087	Bridgeport	Gravity Mains-right of way	Gravity Main - through 3111 Beckman Pl	\$ 70
2006-BP-1088	Bridgeport	Gravity Mains	Gravity Main - 10191 Hall Ave to 10271 Odlin Rd	\$ 167
2006-BP-1089	Bridgeport	Gravity Mains	Gravity Main - 10233 Hayne Crt to 10411 Odlin Rd	\$ 199
2006-BP-1090	Bridgeport	Gravity Mains-right of way	Gravity Main - Rear of 10148 Carter Crt to 10233 Hayne Crt	\$ 189
2006-BP-1091	Bridgeport	Gravity Mains-right of way	Gravity Main - Rear of 10482 Odlin Rd to Odlin PS	\$ 48
2006-BP-1092	Bridgeport	Gravity Mains	Gravity Main - Lane b/w Shepherd Dr & Odlin Rd from SW corner of 10482 Odlin Rd to Hall Ave	\$ 112
2006-BP-1093	Bridgeport	Gravity Mains	Gravity Main - 12751 Vulcan Way to 12631 Vulcan Way	\$ 191
2006-BP-1094	Bridgeport	Gravity Mains	Gravity Main - 12631 Vulcan Way to Vulcan PS	\$ 52
2006-BP-1095	Bridgeport	Gravity Mains	Gravity Main - 2700 Sweden Way to 13200 Vulcan Way	\$ 277
2006-BP-1096	Bridgeport	Gravity Mains	Gravity Main - 13300 Vulcan Way to 13400 Vulcan Way	\$ 159
2006-BP-1097	Bridgeport	Gravity Mains	Gravity Main - 13400 Vulcan Way	\$ 16
2006-BP-1098	Bridgeport	Gravity Mains	Gravity Main - right of way along NPL of 2471 Viking Way	\$ 105
2006-BP-1099	Bridgeport	Gravity Mains	Gravity Main - right of way along SPL of 13511 Vulcan Way	\$ 81
2006-BP-1100	Bridgeport	Gravity Mains-right of way	Gravity Main - right of way b/w 12606/12620 Greenland Dr	\$ 25
2006-BP-1102	Bridgeport	Gravity Mains	Gravity Main - Jacombs Rd from Delf Pl to Worster Crt	\$ 203
2006-BP-1103	Bridgeport	Gravity Mains	Gravity Main - Jacombs Rd from Parkwood Way to 4680 Wyne Cr	\$ 427

DCC Project ID	Area	Description of Infrastructure	Project Location	DCC Recoverable Costs (in thousands)
2006-BP-1104	Bridgeport	Gravity Mains	Gravity Main -Viking Way along 13680 Bridgeport Rd	\$ 133
2006-BP-1105	Bridgeport	Gravity Mains	Gravity Main - Burrows Rd along SPL of 2080 Van Dyke Pl	\$ 98
2006-BP-1106	Bridgeport	Gravity Mains	Gravity Main - Van Dyke Pl from Burrows Rd to end of Cul-de-sac	\$ 121
2006-BP-1107	Bridgeport	Gravity Mains	Gravity Main - No. 6 Rd from 4455 to 13988 Maycrest Way	\$ 503
2006-BP-1108	Bridgeport	Gravity Mains	Gravity Main - No. 6 Rd from 13988 Maycrest Way to Gilley East PS	\$ 79
2006-BP-1109	Bridgeport	Gravity Mains	Gravity Main - No. 6 Rd from SE corner 13799 Commerce Pkwy to Gilley East PS	\$ 270
2006-BP-1110	Bridgeport	Gravity Mains	Gravity Main - No. 6 Rd from 13800 Commerce Pkwy to 13799 Commerce Pkwy	\$ 260
2006-BP-1111	Bridgeport	Gravity Mains	Gravity Main - No. 6 Rd from NE corner of 13700 International Pl to SE corner of 13800 Commerce Pkwy	\$ 120
2006-BP-1112	Bridgeport	Gravity Mains	Gravity Main - No. 6 Rd along 13700 International Pl	\$ 71
2006-BP-1009	Bridgeport	Pump Stations	Pumps near capacity	\$ 588
2006-BP-1010	Bridgeport	Pump Stations	Pumps near capacity	\$ 588
2006-BP-1011	Bridgeport	Pump Stations	Pumps near capacity	\$ 588
2006-BP-1012	Bridgeport	Pump Stations	Pumps near capacity	\$ 1,176
2006-BP-1013	Bridgeport	Pump Stations	Pumps near capacity	\$ 1,117
2006-BP-1014	Bridgeport	Pump Stations	Pumps near capacity	\$ 588
2006-BP-1015	Bridgeport	Pump Stations	Pumps near capacity	\$ 588
2006-BP-1017	Bridgeport	Pump Stations	Pumps near capacity	\$ 588
2006-BP-1018	Bridgeport	Pump Stations	Pumps near capacity	\$ 588
2006-BP-1019	Bridgeport	Pump Stations	Pumps near capacity	\$ 588
2006-BP-1023	Bridgeport	Pump Stations	New pump station at Pinnacle	\$ 1,763
2006-BP-1024	Bridgeport	Pump Stations	New pump station at West Cambie	\$ 1,763
2006-CC-1119	City Centre	Gravity Mains	Gravity Main - along 8500 Ackroyd Rd to 3m West of EPL	\$ 20
2006-CC-1122	City Centre	Gravity Mains-right of way	Gravity Main - from 8040/8120 Cook Rd to 6300 No. 3 Rd (65m East of WPL)	\$ 129
2006-CC-1123	City Centre	Gravity Mains-right of way	Gravity Main - Crossing No. 3 Rd NE corner of 6551 No. 3 Rd to 65m East of WPL of 6300 No. 3 Rd	\$ 120
2006-CC-1136	City Centre	Gravity Mains	Gravity Main - from 6931 Anderson Rd to 8371 Anderson Rd	\$ 46
2006-CC-1139	City Centre	Gravity Mains-right of way	Gravity Main - 7120 St. Albans Rd, right of way along EPL	\$ 30

DCC Project ID	Area	Description of Infrastructure	Project Location	DCC Recoverable Costs (in thousands)
2006-CC-1140	City Centre	Gravity Mains-right of way	Gravity Main - right of way along 7295 Gilbert Rd & 7437 Moffatt Rd	\$ 96
2006-CC-1141	City Centre	Gravity Mains-right of way	Gravity Main - Moffatt Rd, right of way at rear from 7571 Moffatt Rd to 7459 Moffatt Rd	\$ 81
2006-CC-1142	City Centre	Gravity Mains	Gravity Main - 8191 Jones Rd to 8333 Jones Rd	\$ 195
2006-CC-1036	City Centre	Forcemains	Forcemain - Lucas Rd from Minler pump station to Gilbert Rd	\$ 104
2006-CC-1037	City Centre	Pump Stations	Pump Station - upgrade Eckersley A pump station (EarthTech recommendation)	\$ 588
2006-CC-1038	City Centre	Pump Stations	Pump Station - upgrade Heather North pump station (EarthTech recommendation)	\$ 588
2006-CC-1039	City Centre	Pump Stations	Pump Station - upgrade Eckersley B pump station (EarthTech recommendation)	\$ 588
2006-CC-1040	City Centre	Pump Stations	Pump Station - upgrade Acheson PS	\$ 588
2006-CC-1041	City Centre	Pump Stations	Pump Station - upgrade Ackroyd pump station	\$ 588
2006-CC-1042	City Centre	Pump Stations	Pump Station - reduce HP of pumps in Alberta pump station to improve efficiency	\$ 588
2006-CC-1044	City Centre	Pump Stations	Pump Station - upgrade Arcadia pump station (to be completed in 05/06)	\$ 588
2006-CC-1045	City Centre	Pump Stations	Pump Station - upgrade Brighthouse	\$ 588
2006-CC-1047	City Centre	Pump Stations	Pump Station - reduce HP of pumps in Ferndale pump station to improve efficiency	\$ 588
2006-CC-1048	City Centre	Pump Stations	Pump Station - upgrade Foster North PS	\$ 588
2006-CC-1049	City Centre	Pump Stations	Pump Station - upgrade Alderbridge West	\$ 588
2006-CC-1050	City Centre	Pump Stations	Pump Station - upgrade Jones PS	\$ 588
2006-CC-1051	City Centre	Pump Stations	Pump Station - upgrade Lancing PS	\$ 1,117
2006-CC-1053	City Centre	Pump Stations	Pump Station - upgrade Moffatt PS	\$ 588
2006-CC-1056	City Centre	Pump Stations	New Pump station at Lansdowne	\$ 1,763
2006-ER-1211	East Richmond	Pump Stations	New P/S in Section 36-5-4 (includes forcemain component)	\$ 1,763
2006-ER-1213	East Richmond	Pump Stations	New P/S in Section 36-5-4 (includes forcemain component)	\$ 1,763
2006-ER-1214	East Richmond	Pump Stations	New P/S in Section 36-5-4 (includes forcemain component)	\$ 1,763

DCC Project ID	Area	Description of Infrastructure	Project Location	DCC Recoverable Costs (in thousands)
2008-CCAP-1303	City Centre	Gravity Mains-right of way	160m East of Gilbert Rd	\$ 420
2008-CCAP-1304	City Centre	Gravity Mains-right of way	160m West of Minoru Blvd	\$ 46
2008-CCAP-1309	City Centre	Gravity Mains	7200 Minoru Blvd	\$ 12
2008-CCAP-1310	City Centre	Gravity Mains-right of way	7480 Gilbert Rd	\$ 89
2008-CCAP-1312	City Centre	Gravity Mains-right of way	7435 Gilbert Rd	\$ 123
2008-CCAP-1313	City Centre	Gravity Mains-right of way	Along EPL of 7571 Moffatt Rd	\$ 84
2008-CCAP-1314	City Centre	Gravity Mains-right of way	North side of 7459 Moffatt Rd	\$ 75
2008-CCAP-1315	City Centre	Gravity Mains-right of way	7311 Moffatt Rd	\$ 147
2008-CCAP-1316	City Centre	Gravity Mains	Minoru Blvd	\$ 19
2008-CCAP-1317	City Centre	Gravity Mains	9211 Beckwith Rd	\$ 215
2008-CCAP-1318	City Centre	Gravity Mains	50m West of Smith St	\$ 260
2008-CCAP-1319	City Centre	Gravity Mains	Leslie Rd	\$ 81
2008-CCAP-1320	City Centre	Gravity Mains-right of way	Intersection of Brown Rd & Cambie Rd	\$ 211
2008-CCAP-1321	City Centre	Gravity Mains	Sexsmith Rd	\$ 346
2008-CCAP-1322	City Centre	Gravity Mains	Hazelbridge Way	\$ 343
2008-CCAP-1323	City Centre	Gravity Mains	15m West of EPL of 8200 Capstan Way	\$ 31
2008-CCAP-1324	City Centre	Gravity Mains	NW corner of 8100 Capstan Way	\$ 103
2008-CCAP-1325	City Centre	Gravity Mains-right of way	NW corner of 3331 No 3 Rd	\$ 67
2008-CCAP-1326	City Centre	Gravity Mains	8991 Charles St	\$ 77
2008-CCAP-1328	City Centre	Gravity Mains	9011 Garden City	\$ 56
2008-CCAP-1329	City Centre	Gravity Mains	NW corner of 8091 Capstan Way	\$ 198
2008-CCAP-1331	City Centre	Gravity Mains	Capstan Way	\$ 330
2008-CCAP-1333	City Centre	Gravity Mains	SE corner of 4551 No. 3 Rd	\$ 155

DCC Project ID	Area	Description of Infrastructure	Project Location	DCC Recoverable Costs (in thousands)
2008-CCAP-1336	City Centre	Gravity Mains	SE corner of 4551 No. 3 Rd	\$ 177
2008-CCAP-1337	City Centre	Gravity Mains	NW corner of 4200 No. 3 Rd	\$ 366
2008-CCAP-1338	City Centre	Gravity Mains-right of way	Odlin Cres	\$ 191
2008-CCAP-1339	City Centre	Gravity Mains	Van Horne Way	\$ 106
2008-CCAP-1340	City Centre	Gravity Mains	Intersection of No. 3 Rd & Beckwith Rd	\$ 244
2008-CCAP-1342	City Centre	Gravity Mains	Capstan Way	\$ 83
2008-CCAP-1344	City Centre	Gravity Mains	Van Horne Way	\$ 304
2008-CCAP-1345	City Centre	Gravity Mains-right of way	SW corner of 9800 Van Horne Way	\$ 173
2008-CCAP-1348	City Centre	Gravity Mains	35m East of Alderbridge West PS	\$ 104
2008-CCAP-1350	City Centre	Gravity Mains-right of way	West side of City Hall	\$ 112
2008-CCAP-1351	City Centre	Gravity Mains-right of way	6251 Minoru Blvd	\$ 60
2008-CCAP-1353	City Centre	Gravity Mains-right of way	7340 Westminster Hwy	\$ 295
2008-CCAP-1354	City Centre	Gravity Mains-right of way	right of way along the East side of 7000 Westminster Hwy	\$ 125
2008-CCAP-1355	City Centre	Gravity Mains-right of way	1st Pipe segment North of Richmond Centre PS	\$ 9
2008-CCAP-1358	City Centre	Gravity Mains-right of way	10m West of Buswell PS	\$ 256
2008-CCAP-1361	City Centre	Gravity Mains-right of way	5111 Hollybridge Way	\$ 100
2008-CCAP-1363	City Centre	Gravity Mains	5900 No. 2 Rd	\$ 173
2008-CCAP-1364	City Centre	Gravity Mains	20m West of WPL of 6751 Westminster Hwy	\$ 328
2008-CCAP-1365	City Centre	Gravity Mains	NW corner of 6951 Elmbridge Way	\$ 113
2008-CCAP-1366	City Centre	Gravity Mains	Middle of 6211 Gilbert Rd	\$ 109
2008-CCAP-1367	City Centre	Gravity Mains	6799 Azure Rd	\$ 83
2008-CCAP-1368	City Centre	Gravity Mains-right of way	175m North of Granville St	\$ 61
2008-CCAP-1369	City Centre	Gravity Mains-right of way	Along frontage of 6211 Gilbert Rd	\$ 109

DCC Project ID	Area	Description of Infrastructure	Project Location	DCC Recoverable Costs (in thousands)
2008-CCAP-1370	City Centre	Gravity Mains-right of way	6240 Mara Cr	\$ 339
2008-CCAP-1371	City Centre	Gravity Mains-right of way	6180 Skaha Cr	\$ 263
2008-CCAP-1372	City Centre	Gravity Mains-right of way	Near WPL of 6211 Gilbert Rd (150m South of NPL)	\$ 260
2008-CCAP-1373	City Centre	Gravity Mains-right of way	6251 Minoru Blvd	\$ 651
2008-CCAP-1374	City Centre	Gravity Mains-right of way	14m North of Brighthouse PS	\$ 28
2008-CCAP-1375	City Centre	Gravity Mains	General Currie Rd	\$ 89
2008-CCAP-1376	City Centre	Gravity Mains	7480 Heather St	\$ 11
2008-CCAP-1378	City Centre	Gravity Mains	North side of 7351 Elmbridge	\$ 145
2008-CCAP-1379	City Centre	Gravity Mains-right of way	NE corner of 7360 Elmbridge Way	\$ 80
2008-CCAP-1382	City Centre	Gravity Mains	SW corner of 5540 Hollybridge Way	\$ 153
2008-CCAP-1383	City Centre	Gravity Mains	5300 No. 3 Rd	\$ 125
2008-CCAP-1386	City Centre	Gravity Mains	3m West of EPL of 8500 Ackroyd	\$ 103
2008-CCAP-1387	City Centre	Gravity Mains	NE corner of 5880 No 3 Rd	\$ 20
2008-CCAP-1390	City Centre	Gravity Mains	Along the frontage of 7811 Alderbridge Way	\$ 101
2008-CCAP-1391	City Centre	Gravity Mains	7080 River Rd	\$ 435
2008-CCAP-1393	City Centre	Gravity Mains	5003 Minoru Blvd	\$ 119
2008-CCAP-1394	City Centre	Gravity Mains	No. 3 Rd	\$ 87
2008-CCAP-1396	City Centre	Gravity Mains	NW corner of 5333 No. 3 Rd	\$ 393
2008-CCAP-1397	City Centre	Gravity Mains-right of way	Gilbert Rd	\$ 253
2008-CCAP-1399	City Centre	Gravity Mains	Centre of Ferndale Rd	\$ 12
2008-CCAP-1400	City Centre	Gravity Mains	6233 Katsura St	\$ 71
2008-CCAP-1403	City Centre	Gravity Mains-right of way	8151 Bennett Rd	\$ 49
2008-CCAP-1404	City Centre	Gravity Mains	8151 & 8220 Bennett Rd	\$ 53

DCC Project ID	Area	Description of Infrastructure	Project Location	DCC Recoverable Costs (in thousands)
2008-CCAP-1405	City Centre	Gravity Mains-right of way	8520 Granville St	\$ 88
2008-CCAP-1406	City Centre	Gravity Mains	8640 Bennett Rd	\$ 26
2008-CCAP-1407	City Centre	Gravity Mains-right of way	NPL of 6831 Cooney (at rear)	\$ 45
2008-CCAP-1409	City Centre	Gravity Mains-right of way	8580 Cook Rd	\$ 657
2008-CCAP-1410	City Centre	Gravity Mains-right of way	SE corner of 6560 Eckersley Rd	\$ 32
2008-CCAP-1411	City Centre	Gravity Mains	8720 Spires St	\$ 99
2008-CCAP-1412	City Centre	Gravity Mains-right of way	8780 Spires Rd	\$ 62
2008-CCAP-1413	City Centre	Gravity Mains-right of way	8431 Cook Rd	\$ 157
2008-CCAP-1414	City Centre	Gravity Mains-right of way	Middle of 8088 Spires Gate	\$ 89
2008-CCAP-1415	City Centre	Gravity Mains-right of way	8140 Spires Rd	\$ 174
2008-CCAP-1419	City Centre	Gravity Mains	8700 & 8711 Jones Rd	\$ 89
2008-CCAP-1420	City Centre	Gravity Mains	8600 & 8655 Jones Rd	\$ 117
2008-CCAP-1421	City Centre	Gravity Mains-right of way	NW corner of 8535 Jones Rd	\$ 39
2008-CCAP-1422	City Centre	Gravity Mains	8600 Jones Rd	\$ 15
2008-CCAP-1426	City Centre	Forcemains	River Rd	\$ 238
2008-CCAP-1427	City Centre	Forcemains	River Rd	\$ 191
2008-CCAP-1428	City Centre	Forcemains	Railway Tracks	\$ 264
2008-CCAP-1429	City Centre	Forcemains	NE corner of 4551 No. 3 Rd	\$ 185
2008-CCAP-1430	City Centre	Forcemains	Elmbridge PS	\$ 457
2008-CCAP-1431	City Centre	Forcemains	Brighthouse PS	\$ 114
2008-CCAP-1432	City Centre	Forcemains	Minoru PS	\$ 157
2008-CCAP-1433	City Centre	Forcemains	Cedarbridge Way	\$ 759
2008-CCAP-1434	City Centre	Forcemains	8120 Lansdowne Rd	\$ 495

DCC Project ID	Area	Description of Infrastructure	Project Location	DCC Recoverable Costs (in thousands)
2008-CCAP-1441	City Centre	Pump Stations (Major)	Upgrade Alderbridge pump station	\$ 1,856
2008-CCAP-1444	City Centre	Pump Stations	Pump station - upgrade Elmbridge PS	\$ 619
2008-CCAP-1445	City Centre	Pump Stations (Major)	Pump station - upgrade Alderbridge PS	\$ 1,856
2008-CCAP-1448	City Centre	Pump Stations	Pump station - upgrade Van Horne PS	\$ 726
2015-OCP-1000	City Centre	Pump Stations		\$ 1,052
2015-OCP-1001	City Centre	Pump Stations and Forcemain	Pump station near Williams Rd and Triangle Rd; 2000 m forcemain from Williams Rd to Blundell Rd	\$ 3,651
2015-OCP-1002	City Centre	Gravity Mains	8971 Beckwith Rd to 8960 Charles St	\$ 119
2015-OCP-1003	City Centre	Gravity Mains	Gilbert and Elmbridge Way	\$ 74
2015-OCP-1004	City Centre	Gravity Mains	7111 Elmbridge Way	\$ 120
2015-OCP-1005	City Centre	Gravity Mains	6551 No. 3 Rd	\$ 164
2015-OCP-1006	City Centre	Gravity Mains	8120 Cook Rd	\$ 84
2015-OCP-1007	City Centre	Gravity Mains	8121 Cook Rd	\$ 10
2015-OCP-1008	City Centre	Gravity Mains	6091 No. 3 Rd	\$ 41
2015-OCP-1009	City Centre	Gravity Mains	6092 No. 3 Rd	\$ 59
2015-OCP-1010	City Centre	Gravity Mains	6093 No. 3 Rd	\$ 8
2015-OCP-1011	City Centre	Gravity Mains	6094 No. 3 Rd	\$ 35
2015-OCP-1012	City Centre	Gravity Mains	6095 No. 3 Rd	\$ 17
2008-TN-1501	Terra Nova	Gravity Mains	6571 Barnard Dr	\$ 76
2008-TN-1502	Terra Nova	Gravity Mains	5888 Dover Cr	\$ 94
2008-TN-1505	Terra Nova	Gravity Mains	5771 Granville Ave	\$ 193
2008-TN-1506	Terra Nova	Gravity Mains	North of 5360 Granville Ave (at Lynas Lane & Granville Ave)	\$ 182
2008-TN-1507	Terra Nova	Gravity Mains	6591 Lynas Ave (at Lynas Lane & Garrison Rd)	\$ 210
2008-TN-1508	Terra Nova	Gravity Mains	5599 Lynas Lane	\$ 26
2008-TN-1509	Terra Nova	Gravity Mains	5862 Dover Cr	\$ 92
2008-TN-1510	Terra Nova	Gravity Mains	6171 Tiffany Blvd	\$ 202
2008-TN-1511	Terra Nova	Gravity Mains	6237 Tiffany Blvd	\$ 200
2008-TN-1512	Terra Nova	Gravity Mains-right of way	4760 Blundell Rd	\$ 114
2008-TN-1513	Terra Nova	Gravity Mains-right of way	8020 Colonial Dr	\$ 167
2008-TN-1514	Terra Nova	Gravity Mains	8171 Colonial Dr	\$ 267
2008-TN-1515	Terra Nova	Gravity Mains	4111 Francis Rd	\$ 76
2008-TN-1516	Terra Nova	Gravity Mains-right of way	4211 Francis Rd	\$ 121
2008-TN-1517	Terra Nova	Gravity Mains-right of way	SE corner of 3840 Anvil Cr	\$ 376
2008-TN-1518	Terra Nova	Gravity Mains-right of way	7520 Decourcy Dr	\$ 120

DCC Project ID	Area	Description of Infrastructure	Project Location	DCC Recoverable Costs (in thousands)
2008-TN-1519	Terra Nova	Gravity Mains	6020/6028 Richard Dr	\$ 120
2008-TN-1520	Terra Nova	Gravity Mains	6411 Barnard Dr	\$ 128
2008-TN-1521	Terra Nova	Gravity Mains	6631 Barnard Dr	\$ 18
2008-TN-1522	Terra Nova	Gravity Mains-right of way	5551 Barnard Dr	\$ 51
2008-TN-1523	Terra Nova	Pump Stations	Pump station - Barnard PS	\$ 619
2008-TN-1524	Terra Nova	Pump Stations	Pump station - Claysmith PS	\$ 619
2008-TN-1525	Terra Nova	Pump Stations	Pump station - Lynas PS	\$ 619
2008-TN-1526	Terra Nova	Pump Stations	Pump station - Terra Nova East PS	\$ 619
2008-TN-1527	Terra Nova	Pump Stations	Pump Station - Works Yard PS	\$ 619
2008-ST-1602	Steveston	Gravity Mains	Pacemore Ave	\$ 540
2008-ST-1603	Steveston	Gravity Mains	Ullsmore Ave	\$ 232
2008-ST-1604	Steveston	Gravity Mains	3491 Francis Rd	\$ 79
2008-ST-1609	Steveston	Gravity Mains	3031 Sedgemond Pl	\$ 595
2008-ST-1610	Steveston	Gravity Mains-right of way	9071 Wellmond Rd	\$ 144
2008-ST-1611	Steveston	Gravity Mains	9160 Wellmond Rd	\$ 43
2008-ST-1612	Steveston	Gravity Mains	9120 Wellmond Rd	\$ 92
2008-ST-1613	Steveston	Gravity Mains	Cul-de-sac at Wellmond Rd & Barmond Ave	\$ 76
2008-ST-1614	Steveston	Gravity Mains	3351 Barmond Ave	\$ 135
2008-ST-1615	Steveston	Gravity Mains	3451 Barmond Ave	\$ 203
2008-ST-1616	Steveston	Gravity Mains	10677 Truro Dr	\$ 192
2008-ST-1617	Steveston	Gravity Mains-right of way	NE corner of 3391 Springmont Dr	\$ 57
2008-ST-1618	Steveston	Gravity Mains-right of way	60m North of SPL of 10760 Springmont Dr	\$ 147
2008-ST-1619	Steveston	Gravity Mains	50m South of NPL of 11671 7th Ave	\$ 145
2008-ST-1620	Steveston	Gravity Mains	11740 7th Ave	\$ 472
2008-ST-1621	Steveston	Gravity Mains	3411 Richmond St	\$ 186
2008-ST-1622	Steveston	Gravity Mains	Barmond Ave	\$ 61
2008-ST-1623	Steveston	Gravity Mains	9031 Kirkmond Rd	\$ 28
2008-ST-1625	Steveston	Gravity Mains-right of way	10200/10300 4th Ave	\$ 283
2008-ST-1627	Steveston	Gravity Mains-right of way	4791 Princeton Ave	\$ 150
2008-ST-1628	Steveston	Gravity Mains-right of way	20m South of SPL of 9291 Parksville Dr	\$ 82
2008-ST-1629	Steveston	Gravity Mains-right of way	11191 Kingfisher Dr	\$ 249
2008-ST-1632	Steveston	Gravity Mains	Moncton St	\$ 112
2008-ST-1634	Steveston	Gravity Mains	3260/3280 Blundell Rd	\$ 72
2008-ST-1635	Steveston	Gravity Mains	Pacemore Ave	\$ 231
2008-ST-1636	Steveston	Gravity Mains	Dalemore Rd	\$ 86
2008-ST-1637	Steveston	Gravity Mains-right of way	3440 Springfield Dr	\$ 36

DCC Project ID	Area	Description of Infrastructure	Project Location	DCC Recoverable Costs (in thousands)
2008-ST-1638	Steveston	Gravity Mains	3400 Springfield Dr	\$ 197
2008-ST-1640	Steveston	Gravity Mains	9331 Kirkmond Cr	\$ 70
2008-ST-1641	Steveston	Gravity Mains	Gormond Rd	\$ 362
2008-ST-1642	Steveston	Gravity Mains	Kelmore Rd	\$ 279
2008-ST-1644	Steveston	Gravity Mains	3511 Francis Rd	\$ 34
2008-ST-1645	Steveston	Gravity Mains-right of way	SW corner of 9780 Pendleton Rd	\$ 51
2008-ST-1647	Steveston	Gravity Mains	Pleasant St	\$ 57
2008-ST-1648	Steveston	Forcemains	4120 Regent St	\$ 76
2008-ST-1649	Steveston	Pump Stations	Pump station - Ivy PS	\$ 619
2008-ST-1650	Steveston	Pump Stations	Pump station - Pendlebury PS	\$ 619
2008-ST-1651	Steveston	Pump Stations	Pump station - Ransford PS	\$ 619
2008-ST-1652	Steveston	Pump Stations	Pump station - Regent PS	\$ 619
2008-ST-1653	Steveston	Pump Stations	Pump station - Richmond Park PS	\$ 619
2008-ST-1654	Steveston	Pump Stations	Pump station - Trites PS	\$ 619
2008-ST-1655	Steveston	Pump Stations	Pump station - Boyd PS	\$ 619
2008-SH-1702	Shellmont	Gravity Mains	NW corner of 11300 Seaport Rd	\$ 124
2008-SH-1704	Shellmont	Gravity Mains	SE corner of 11911 No. 5 Rd	\$ 103
2008-SH-1705	Shellmont	Gravity Mains	Forge Pl	\$ 606
2008-SH-1706	Shellmont	Gravity Mains	No. 5 Rd	\$ 380
2008-SH-1707	Shellmont	Gravity Mains	Coppersmith Way	\$ 68
2008-SH-1708	Shellmont	Gravity Mains	8m East of WPL of 12431 Horseshoe Way	\$ 263
2008-SH-1709	Shellmont	Gravity Mains	Horseshoe Way	\$ 97
2008-SH-1710	Shellmont	Gravity Mains-right of way	Horseshoe PS	\$ 166
2008-SH-1711	Shellmont	Gravity Mains	NE corner of 11780 Hammersmith Way	\$ 183
2008-SH-1712	Shellmont	Gravity Mains	11471 Blacksmith Pl	\$ 17
2008-SH-1713	Shellmont	Gravity Mains	11920 Horseshoe Way	\$ 310
2008-SH-1714	Shellmont	Gravity Mains	11420 Horseshoe Way	\$ 218
2008-SH-1715	Shellmont	Gravity Mains-right of way	Middle of 9420 Glenacres Dr	\$ 173
2008-SH-1716	Shellmont	Gravity Mains-right of way	9540 Glenacres Dr	\$ 287
2008-SH-1717	Shellmont	Gravity Mains	5m East of EPL of 9371 Ash St	\$ 186
2008-SH-1718	Shellmont	Gravity Mains	Saunders Rd	\$ 137
2008-SH-1719	Shellmont	Gravity Mains	Pinewell Cr	\$ 140
2008-SH-1720	Shellmont	Gravity Mains	9931 Ash St	\$ 212
2008-SH-1721	Shellmont	Gravity Mains-right of way	103391 Severn Dr	\$ 434
2008-SH-1723	Shellmont	Gravity Mains-right of way	NW corner of 10771 Ryan Rd	\$ 201
2008-SH-1725	Shellmont	Gravity Mains-right of way	10920/10971 Ryan Rd (112m North of Mortfield Gate)	\$ 301
2008-SH-1726	Shellmont	Gravity Mains-right of way	Middle of 9111 Kingsbridge Dr (SPL)	\$ 54

DCC Project ID	Area	Description of Infrastructure	Project Location	DCC Recoverable Costs (in thousands)
2008-SH-1727	Shellmont	Gravity Mains-right of way	At SPL of 9111 Kingsbridge Dr & WPL of 11751 King Rd	\$ 429
2008-SH-1728	Shellmont	Gravity Mains	9580 Seacote Rd	\$ 121
2008-SH-1729	Shellmont	Gravity Mains-right of way	9640 Seacote Rd	\$ 157
2008-SH-1730	Shellmont	Gravity Mains	9791 Seacote Rd	\$ 98
2008-SH-1731	Shellmont	Gravity Mains	9871 Seacote Rd	\$ 251
2008-SH-1732	Shellmont	Gravity Mains	11351 Williams Rd	\$ 310
2008-SH-1733	Shellmont	Gravity Mains	10440 Seacote Rd	\$ 142
2008-SH-1734	Shellmont	Gravity Mains-right of way	10611 Seaway Rd	\$ 136
2008-SH-1735	Shellmont	Gravity Mains-right of way	9500 Aquila Rd	\$ 150
2008-SH-1736	Shellmont	Gravity Mains-right of way	9640 Aquila Rd	\$ 399
2008-SH-1738	Shellmont	Gravity Mains	NW corner of 10411 Williams Rd	\$ 572
2008-SH-1739	Shellmont	Gravity Mains	10091 Aintree Cr	\$ 106
2008-SH-1740	Shellmont	Gravity Mains	130m East of WPL of 12291 Jacobson Way	\$ 170
2008-SH-1741	Shellmont	Gravity Mains	46m North of SPL of 12111 Riverside Way	\$ 24
2008-SH-1742	Shellmont	Pump Stations	Pump station - Edgemere PS	\$ 619
2008-SH-1743	Shellmont	Pump Stations	Pump station - Horseshoe PS	\$ 619
2008-SH-1744	Shellmont	Pump Stations	Pump station - Riverside PS	\$ 619
2008-SH-1745	Shellmont	Pump Stations	Pump station - Riverside East PS	\$ 619
2008-SH-1746	Shellmont	Pump Stations	Upgrade Sherman pump station	\$ 619
2008-BM-1761	Broadmoor	Pump Stations	Upgrade Maple pump station	\$ 619
2008-BM-1762	Broadmoor	Pump Stations	Upgrade Montrose pump station	\$ 619
2008-BM-1763	Broadmoor	Pump Stations	Upgrade Oeser pump station	\$ 619
2008-BM-1764	Broadmoor	Pump Stations	Upgrade Saunders pump station	\$ 619
2008-BM-1765	Broadmoor	Pump Stations	Upgrade Woodward's pump station	\$ 619
Modelling	General	Modelling	City wide	\$ 743

Total Proposed Sanitary Sewer DCC Recoverable Amount \$ 88,650

Attachment 5

Drainage – Proposed DCC Program

DRAINAGE

Overview of Proposed Program Changes

	Drainage DCC Program Recoverable Value	Number of Projects
Existing DCC Program	\$155,193,322	547
Less: Completed Projects	(\$13,893,043)	(40)
Less: Deleted Projects	(\$12,977,790)	(162)
Add: Inflationary Adjustment	\$14,867,560	N/A
Add: New Projects	\$24,193,620	8
Proposed DCC Program	\$167,383,669	353

Purpose of Program

The Drainage DCC Program provides a dedicated source of funding for upgrading existing infrastructure as well as installing new infrastructure to support growth. The drainage system collects storm water and conveys it to the surrounding bodies of water. As population density increases with redevelopment, the impervious land area increases, thereby increasing the amount of surface runoff into the drainage system. As such, infrastructure with increased capacity would be required.

Overview of Proposed Program

The Drainage DCC Program corresponds with the 2041 Official Community Plan, Section 12.2, Irrigation and Drainage, Objective 1, maintain and improve urban drainage systems to meet the public's needs and regional requirements, with the policies to service existing and future development, as well as to ensure that development-related drainage system upgrades are funded through development Servicing Agreements, drainage DCC's, and senior government funding.

Breakdown of Program by Benefitting Area

	Drainage DCC Proposed (2016)	Drainage DCC Existing (2009)	Change Increase/ (Decrease)
Total DCC Program Costs	\$ 167,383,669	\$ 155,193,322	\$12.2 million or 7.85%
Comprised of:			
City-Wide	82%	88%	
City-Centre	18%	12%	
Total Number of Projects	353	547	(194 projects) or (35.5%)
Comprised of:			
City-Wide	70%	79%	
City-Centre	30%	21%	

Explanation of Changes in Program Value (\$)

Revised cost estimates for the drainage projects accounted for the cost increase in the proposed Drainage DCC program.

Highlights of DCC Projects

Completed Drainage DCC Projects

Projects completed since the previous DCC program review in 2009 have been removed from the proposed DCC program and have a total value of \$13.4 million. Examples of the completed projects and their associated Drainage DCC program values include the following drainage upgrades:

- Williams Road West pump station (\$373,166)
- Cambie Road pump station (\$762,470)
- No. 4 Road North pump station (\$6,643,237)
- Garden City Road drainage main, from Cambie Road to Leslie Road (\$1,192,975)
- Blundell Road drainage main, from Ash Street to No. 4 Road (\$291,305)
- Minoru Boulevard drainage main, from 7811 Granville Avenue to 6391 Minoru Boulevard (\$315,169)

Deleted Drainage DCC Projects

The following are some of the projects proposed to be removed from the existing Drainage DCC program, primarily as a result of a DCC program review as well as updated conditions in the 2041 OCP:

- No. 3 Road South pump station (\$1,489,059)
- No. 3 Road drainage main, from Lansdowne Road to Granville Avenue (\$2,320,101)
- No. 4 Road box culvert, from Highway 99 to Tuttle Ave (\$2,054,052)

New Drainage DCC Projects

The following are some of the new projects proposed to be added to the Drainage DCC program to reflect increased drainage requirements due to conditions of the 2041 OCP:

- Blundell Road box culvert, from Dalemore Road to Blundell Road West pump station (\$3,564,000)
- McCallan Road box culvert, from Blundell Road to Linfield Gate (\$2,637,360)
- No. 3 Road box culvert, from Granville Avenue to Blundell Road (\$5,349,960)
- Garden City Road box culvert, from Demorest Drive to Williams Road (\$5,647,950)
- Cambie Road box culvert, from Sexsmith Road to No. 3 Road (\$5,076,225)
- No. 3 Road South pump station upgrade (\$990,000)
- No. 3 Road and Steveston Highway pump station upgrade (\$464,063)
- Gilbert and Steveston Highway pump station upgrade (\$464,063)

Top 20 DCC Projects – See Attachment 5.1

All DCC Projects – See Attachment 5.2

DRAINAGE WORKS - TOP 20 PROPOSED PROJECTS

Ranking #	DCC Project ID	Area	Description of Infrastructure	Project Location	Description (from)	Description (to)	DCC Recoverable Costs (in thousands)
1	2006-WW-2095	No. 3 Rd South	Box Culvert	No. 3 Rd	Francis Rd	Steveston Hwy	\$ 18,600
2	2006-WW-2097	Gilbert Rd South	Box Culvert	Gilbert Rd (incl. connections to parallel system at Gilhurst Gate and Gainsborough Dr.)	Francis Rd	Steveston Hwy	\$ 12,523
3	2006-WW-2094	Woodwards Slough	Box Culvert	Garden City (incl. all connections to parallel system)	Blundell	Francis Rd	\$ 8,071
4	2006-ST-2077	No. 2 Rd South	Box Culvert	Railway Ave and Moncton St	Garry St	No. 2 Rd	\$ 8,044
5	2006-ST-2076	No. 2 Rd South	Box Culvert	Railway Ave	Woodwards Rd	Steveston Hwy	\$ 7,637
6	2008-BS6-2940	Shell Rd North	Box Culvert	Shell Rd	River Rd	Bridgeport Rd	\$ 6,196
7	2015-OCF-WS2	Woodward Slough	Box Culvert	Garden City Rd	Demorest Dr	Williams Rd	\$ 5,648
8	2006-WW-2044	Woodwards Slough	Box Culvert	No. 4 Rd	Dayton Rd	South of Steveston Hwy	\$ 5,462
9	2015-OCF-3S1	No. 3 Rd South	Box Culvert	No. 3 Rd	Granville Ave	Blundell Rd	\$ 5,350
10	2015-OCF-CN1	Cambie Rd West	Box Culvert	Cambie Rd	Sexsmith Rd	No. 3 Rd	\$ 5,076
11	2008-BS6-2957	No. 6 Rd North	Box Culvert	No. 6 Rd North	Vulcan Way	Bridgeport Rd	\$ 4,839
12	2015-OCF-BW1	Blundell Rd West	Box Culvert	Blundell Rd	Dalemore Rd	Blundell Rd West PS	\$ 3,564
13	2008-CCAP-2644	Gilbert Rd North	Box Culvert	Gilbert Rd	Blundell Rd	Granville Ave	\$ 2,849
14	2015-OCF-MC1	McCallan Rd North	Box Culvert	Mccallan Rd	Blundell Rd	Linfield Gate	\$ 2,637
15	2006-TN-2005	No. 1 Rd North	Box Culvert	No. 1 Rd	Blundell Rd	S of Williams Rd	\$ 2,537
16	2008-BS6-2944	Shell Rd North	Box Culvert	Bird Rd	Bargen Dr	Shell Rd	\$ 2,207
17	2008-BS6-2946	Shell Rd North	Pump station	Shell Rd Pump Station Upgrade	River Rd	River Rd	\$ 1,980
18	2006-ST-2015	No. 2 Rd South	Box Culvert	Steveston Highway	No. 1 Rd	No. 2 Rd	\$ 1,973
19	2008-CCAP-2676	Gilbert Rd North	Drainage Main	No 3 Rd - additional new pipe	Lansdowne Rd	Granville Ave	\$ 1,725
20	2008-BS6-2943	Shell Rd North	Box Culvert	Cambie Rd	Shell Rd	Dallyn Rd	\$ 1,693
Top 20 Drainage Projects DCC Recoverable Amount							\$ 108,611
Total Drainage Projects DCC Recoverable Amount							\$ 167,384
Top 20 Projects as a Percentage of Total Program Value							65%

DRAINAGE WORKS - ALL PROPOSED PROJECTS

DCC Project ID	Area	Description of Infrastructure	Project Location	Description (from)	Description (to)	DCC Recoverable Costs (in thousands)
2006-TN-2002	Francis Rd West	Box Culvert	Francis Rd	Francis Rd West DDS	No. 1 Rd	\$ 1,554
2006-TN-2005	No. 1 Rd North	Box Culvert	No. 1 Rd	Blundell Rd	South of Williams	\$ 2,537
2006-TN-2006	McCallan Rd	Pump Station	Upgrade McCallan Rd DDS to 3.0 cms and adjust operating levels	McCallan Rd at River Road	McCallan Rd at River Road	\$ 1,057
2006-TN-2007	McCallan Rd	Box Culvert	McCallan Rd	Westminster Hwy	Linfield Gate	\$ 1,409
2006-TN-2008	McCallan Rd	Box Culvert	Francis Rd	No. 1 Rd	Railway Ave	\$ 1,266
2006-TN-2009	McCallan Rd	Box Culvert	Francis Rd	West of Railway Ave.	Railway Ave	\$ 84
2006-TN-2012	No. 2 Rd North	Drainage Main	Lynas Lane	River Rd	Westminster Hwy	\$ 175
2006-TN-2013	No. 2 Rd North	Drainage Main	Granville Rd	Lynas Lane	No. 2 Rd	\$ 219
2006-ST-2015	No. 2 Rd South	Box Culvert	Steveston Highway	No. 1 Rd	No. 2 Rd	\$ 1,973
2006-ST-2016	No. 2 Rd South	Box Culvert	Williams Rd	Fortune Ave	Lassam Rd	\$ 653
2006-ST-2017	No. 2 Rd South	Box Culvert	No. 2 Rd	Steveston Hwy	Williams Rd	\$ 1,397
2006-ST-2018	No. 2 Rd South	Box Culvert	No. 2 Rd	Williams Rd	Woodwards Rd	\$ 409
2006-ST-2019	No. 2 Rd South	Box Culvert	No. 2 Rd	Woodwards Rd	Francis Rd	\$ 589
2006-ST-2020	No. 2 Rd South	Box Culvert	Railway Ave	Garry St	Moncton St	\$ 18
2006-ST-2022	No. 1 Rd South	Drainage Main	Garry St	No. 1 Rd	Windward Gate	\$ 164
2006-ST-2023	No. 1 Rd South	Drainage Main	Garry St	Windward Gate	Railway Ave	\$ 132
2006-ST-2024	Steveston Hwy West	Box Culvert	Steveston Hwy	No. 1 Rd	Steveston Hwy West DDS	\$ 801
2006-ST-2027	Williams Rd. West	Box Culvert	South of Williams Rd	South of Williams Rd. DDS	No. 1 Rd	\$ 1,154
2006-WW-2044	Woodwards Slough	Box Culvert	No. 4 Rd	Dayton Rd	South of Steveston Hwy	\$ 5,462
2006-WW-2045	Woodwards Slough	Box Culvert	Garden City Rd	Francis Rd	North of Glenallan Gate	\$ 259
2006-WW-2047	No. 3 Rd South	Channel	No. 3 Rd Canal	Steveston Highway	No. 3 Rd DDS	\$ 559
2006-WW-2048	No. 3 Rd South	Channel	Gilbert Rd/No. 3 Rd Connection	Gilbert Rd	No. 3 Rd	\$ 180
2006-WW-2056	Gilbert Rd South	Box Culvert	Steveston Hwy Culvert	No. 2 Rd	Gilbert Rd	\$ 1,249
2006-WW-2059	Gilbert Rd South	Channel	Gilbert Canal	Steveston Highway	Gilbert Rd South DDS	\$ 502
2006-PA-2061	Horseshoe Slough	Channel	Shell Rd Canal	Steveston Highway	Hammersmith Gate	\$ 346

DCC Project ID	Area	Description of Infrastructure	Project Location	Description (from)	Description (to)	DCC Recoverable Costs (in thousands)
2006-PA-2065	Horseshoe Slough	Drainage Main	Williams Rd - south side	Seacote Rd	East of Seacote Rd	\$ 34
2006-TN-2073	McCallan Rd	Drainage Main	Railway Ave	Francis Rd	Blundell Rd	\$ 1,203
2006-TN-2074	McCallan Rd	Drainage Main	Blundell Rd	34908 Blundell Rd	5020 Blundell Rd	\$ 59
2006-ST-2075	No 2. Rd South	Drainage Main	Housman Street	10960 Housman Street	6260 Steveston Hwy	\$ 40
2006-ST-2076	No 2. Rd South	Box Culvert	Railway Ave	Woodwards Rd	Steveston Hwy	\$ 7,637
2006-ST-2077	No 2. Rd South	Box Culvert	Railway Ave. and Moncton St	Garry St	No. 2 Rd	\$ 8,044
2006-ST-2078	No 2. Rd South	Pump Station	No. 2 Rd	London Rd	London Rd	\$ 743
2006-ST-2079	No. 1 Rd South	Pump Station	No. 1 Rd	Bayview St	Bayview St	\$ 990
2006-WW-2094	Woodwards Slough	Box Culvert	Garden City (incl. all connections to parallel system)	Blundell Rd	Francis Rd	\$ 8,071
2006-WW-2095	No. 3 Rd South	Box Culvert	No. 3 Rd	Francis Rd	Steveston Hwy	\$ 18,600
2006-WW-2096	Gilbert Rd South	Drainage Main	Constable Gate	10951 Constable Gate	6640 Steveston Hwy	\$ 42
2006-WW-2097	Gilbert Rd South	Box Culvert	Gilbert Rd (incl. connections to parallel system at Gilhurst Gate and Gainsborough Dr.)	Francis Rd	Steveston Hwy	\$ 12,523
2006-ST-2233	No. 1 Rd South	Drainage Main	Ransford Gate	A488	M801	\$ 4
2006-ST-2358	Steveston Hwy West	Drainage Main	4th Ave	M9514	M195	\$ 4
2006-ST-2288	No. 1 Rd South	Drainage Main	Fortune Ave	M5355	M5359	\$ 8
2006-ST-2265	No. 1 Rd South	Drainage Main	Fortune Ave	M5359	M902	\$ 13
2006-ST-2216	No. 1 Rd South	Drainage Main	Bonavista Dr	M5126	M5143	\$ 15
2006-ST-2287	No. 1 Rd South	Drainage Main	Fortune Ave	M5340	M5355	\$ 17
2006-ST-2321	No. 1 Rd South	Drainage Main	Fortune Ave	M5334	M5333	\$ 15
2006-ST-2364	No. 1 Rd South	Drainage Main	Bonavista Dr	M5144	M5140	\$ 18
2006-ST-2314	No. 1 Rd South	Drainage Main	Bonavista Dr	M5140	M5126	\$ 24
2006-ST-2199	No. 1 Rd South	Drainage Main	Fortune Ave	M5333	M5340	\$ 22
2006-GN-2410	Gilbert Rd North	Drainage Main	Gilbert Rd	A12722	A12721	\$ 2
2006-GN-2203	Gilbert Rd North	Drainage Main	Gilbert Rd	A2237	M3612	\$ 2
2006-GN-2207	Gilbert Rd North	Drainage Main	Gilbert Rd	A2237	A2928	\$ 5

DCC Project ID	Area	Description of Infrastructure	Project Location	Description (from)	Description (to)	DCC Recoverable Costs (in thousands)
2006-GN-2196	Gilbert Rd North	Drainage Main	Gilbert Rd	M3656	M1161	\$ 12
2006-GN-2266	Gilbert Rd North	Drainage Main	Azure Rd	M3775	A2352	\$ 12
2006-GN-2171	Gilbert Rd North	Drainage Main	Elmbridge Way	A2155	M3381	\$ 17
2006-GN-2376	Gilbert Rd North	Drainage Main	Azure Rd	M3776	A2353	\$ 18
2006-GN-2438	Gilbert Rd North	Drainage Main	Minoru Blvd	M4415	M4414	\$ 18
2006-GN-2206	Gilbert Rd North	Drainage Main	Gilbert Rd	M5341	A2928	\$ 18
2006-GN-2374	Gilbert Rd North	Drainage Main	Azure Rd	A2354	M3775	\$ 22
2006-GN-2223	Gilbert Rd North	Drainage Main	Azure Rd	M3766	M3321	\$ 22
2006-GN-2430	Gilbert Rd North	Drainage Main	Minoru Blvd	M4414	M4413	\$ 23
2006-GN-2380	Gilbert Rd North	Drainage Main	Azure Rd	A2353	A2354	\$ 24
2006-GN-2370	Gilbert Rd North	Drainage Main	Azure Rd	M3778	M3777	\$ 27
2006-GN-2419	Gilbert Rd North	Drainage Main	River Rd	M5346	M5345	\$ 42
2006-GN-2365	Gilbert Rd North	Drainage Main	River Rd	M5345	M5344	\$ 43
2006-GN-2205	Gilbert Rd North	Drainage Main	River Rd	M5344	M5341	\$ 46
2006-GN-2440	Gilbert Rd North	Drainage Main	Blundell Rd	M744	M743	\$ 47
2006-GN-2342	Gilbert Rd North	Drainage Main	Blundell Rd	M746	M748	\$ 51
2006-GN-2282	Gilbert Rd North	Drainage Main	Blundell Rd	M727	M728	\$ 48
2006-GN-2293	Gilbert Rd North	Drainage Main	Azure Rd	M3777	M3776	\$ 49
2006-GN-2324	Gilbert Rd North	Drainage Main	Azure Rd	M3660	M3659	\$ 49
2006-GN-2318	Gilbert Rd North	Drainage Main	Azure Rd	M3659	M3658	\$ 49
2006-GN-2360	Gilbert Rd North	Drainage Main	Azure Rd	M3658	M3657	\$ 62
2006-GN-2423	Gilbert Rd North	Drainage Main	Minoru Blvd	M4413	M1006	\$ 78
2006-GN-2214	Gilbert Rd North	Drainage Main	Blundell Rd	M726	M727	\$ 75
2006-GN-2267	Gilbert Rd North	Drainage Main	Azure Rd	A2352	M3766	\$ 87
2006-GN-2193	Gilbert Rd North	Drainage Main	Azure Rd	M3657	M3656	\$ 98
2006-WW-2156	Woodwards Slough	Drainage Main	Garden City Rd	M4073	A2469	\$ 1
2006-WW-2336	Woodwards Slough	Drainage Main	Amethyst Ave	A3559	M6489	\$ 1

DCC Project ID	Area	Description of Infrastructure	Project Location	Description (from)	Description (to)	DCC Recoverable Costs (in thousands)
2006-WW-2200	Woodwards Slough	Drainage Main	No. 4 Rd	A1462	A1399	\$ 1
2006-WW-2466	Woodwards Slough	Drainage Main	Heather St	M5458	A2965	\$ 2
2006-WW-2150	No. 3 Rd South	Drainage Main	Tweedsmuir Ave	A3253	M5988	\$ 2
2006-WW-2331	Woodwards Slough	Drainage Main	Dixon Ave	M5395	M5424	\$ 3
2006-WW-2280	Woodwards Slough	Drainage Main	Bakerview Dr	M6492	M6493	\$ 3
2006-WW-2317	Woodwards Slough	Drainage Main	Steveston Hwy	M2798	M2800	\$ 3
2006-WW-2138	No. 3 Rd South	Drainage Main	Greenless Rd	A1883	M2847	\$ 4
2006-WW-2115	Woodwards Slough	Drainage Main	Steveston Hwy	M2803	M2902	\$ 4
2006-WW-2249	Woodwards Slough	Drainage Main	Ash St	A2173	M3468	\$ 4
2006-WW-2353	No. 3 Rd South	Drainage Main	Francis Rd	M4955	M4947	\$ 4
2006-WW-2272	Woodwards Slough	Drainage Main	Bakerview Dr	M6496	M6480	\$ 5
2006-WW-2270	Woodwards Slough	Drainage Main	Bakerview Dr	M6497	M6496	\$ 5
2006-WW-2251	Woodwards Slough	Drainage Main	Francis Rd	M1726	A2151	\$ 5
2006-WW-2347	Woodwards Slough	Drainage Main	Dolphin Ave	M5455	M4312	\$ 6
2006-WW-2106	No. 3 Rd South	Drainage Main	Saunders Rd	M5757	A2975	\$ 6
2006-WW-2202	Woodwards Slough	Drainage Main	No. 4 Rd	A1399	M1714	\$ 6
2006-WW-2218	No. 3 Rd South	Drainage Main	Williams Rd	M2847	A1881	\$ 6
2006-WW-2328	No. 3 Rd South	Drainage Main	Francis Rd	M4947	M6457	\$ 8
2006-WW-2169	Woodwards Slough	Drainage Main	Amethyst Ave	M6002	M6001	\$ 8
2006-WW-2343	Woodwards Slough	Drainage Main	Rosehill Dr	M6317	M6318	\$ 8
2006-WW-2435	No. 3 Rd South	Drainage Main	Francis Rd	M6444	A3555	\$ 10
2006-WW-2277	Woodwards Slough	Drainage Main	Bakerview Dr	M6480	M6492	\$ 10
2006-WW-2139	No. 3 Rd South	Drainage Main	Saunders Rd	M5755	M5757	\$ 11
2006-WW-2107	No. 3 Rd South	Drainage Main	Saunders Rd	M5752	M5755	\$ 11
2006-WW-2154	Woodwards Slough	Drainage Main	Greenfield Dr	M5711	M4073	\$ 12
2006-WW-2191	Woodwards Slough	Drainage Main	Wagner Dr	M5672	M4077	\$ 12
2006-WW-2437	No. 3 Rd South	Drainage Main	Francis Rd	A3555	M4955	\$ 12

DCC Project ID	Area	Description of Infrastructure	Project Location	Description (from)	Description (to)	DCC Recoverable Costs (in thousands)
2006-WW-2148	No. 3 Rd South	Drainage Main	Goldstream Dr	M5988	M5985	\$ 12
2006-WW-2147	No. 3 Rd South	Drainage Main	Tweedsmuir Ave	M6022	A3253	\$ 12
2006-WW-2399	Woodwards Slough	Drainage Main	Dixon Ave	M5398	M5760	\$ 14
2006-WW-2143	No. 3 Rd South	Drainage Main	Tweedsmuir Ave	M6023	M6022	\$ 13
2006-WW-2137	No. 3 Rd South	Drainage Main	Greenless Rd	A2995	A1883	\$ 13
2006-WW-2340	Woodwards Slough	Drainage Main	Rosehill Dr	M6318	M6319	\$ 13
2006-WW-2219	No. 3 Rd South	Drainage Main	Williams Rd	M2861	A1881	\$ 16
2006-WW-2153	No. 3 Rd South	Drainage Main	Goldstream Dr	M5985	A3240	\$ 16
2006-WW-2192	No. 3 Rd South	Drainage Main	Francis Rd	M6485	M6483	\$ 16
2006-WW-2172	Woodwards Slough	Drainage Main	Amethyst Ave	M6001	M1885	\$ 16
2006-WW-2371	No. 3 Rd South	Drainage Main	Williams Rd	M2863	M2866	\$ 17
2006-WW-2387	Woodwards Slough	Drainage Main	Ash St	M6364	M3490	\$ 17
2006-WW-2114	Woodwards Slough	Drainage Main	Steveston Hwy	M2801	M2803	\$ 17
2006-WW-2335	Woodwards Slough	Drainage Main	Francis Rd	M3511	M3470	\$ 17
2006-WW-2149	Woodwards Slough	Drainage Main	Steveston Hwy	M2981	A1536	\$ 17
2006-WW-2248	Woodwards Slough	Drainage Main	Francis Rd	A2151	M3471	\$ 19
2006-WW-2253	Woodwards Slough	Drainage Main	Steveston Hwy	M2979	M2980	\$ 17
2006-WW-2257	Woodwards Slough	Drainage Main	Steveston Hwy	M2980	M2981	\$ 18
2006-WW-2299	Woodwards Slough	Drainage Main	Steveston Hwy	M2800	M2801	\$ 18
2006-WW-2201	Woodwards Slough	Drainage Main	Ryan Rd	M9394	A3480	\$ 20
2006-WW-2250	Woodwards Slough	Drainage Main	Ash St	M3490	A2173	\$ 18
2006-WW-2323	Woodwards Slough	Drainage Main	Steveston Hwy	M2796	M2798	\$ 19
2006-WW-2434	No. 3 Rd South	Drainage Main	St. Albans Rd	M5042	M5043	\$ 21
2006-WW-2344	Woodwards Slough	Drainage Main	Dolphin Ave	M5454	M5455	\$ 21
2006-WW-2330	No. 3 Rd South	Drainage Main	Francis Rd	M6457	A3559	\$ 22
2006-WW-2377	No. 3 Rd South	Drainage Main	St Albans Rd	M5043	M5044	\$ 22
2006-WW-2377	Woodwards Slough	Drainage Main	St. Albans Rd	M5043	M5044	\$ 22

DCC Project ID	Area	Description of Infrastructure	Project Location	Description (from)	Description (to)	DCC Recoverable Costs (in thousands)
2006-WW-2463	Woodwards Slough	Drainage Main	Heather St	M5628	A2965	\$ 22
2006-WW-2268	Woodwards Slough	Drainage Main	Glenallan Gate	M4160	M4106	\$ 22
2006-WW-2221	No. 3 Rd South	Drainage Main	Williams Rd	M2861	M2868	\$ 23
2006-WW-2381	Woodwards Slough	Drainage Main	St. Albans Rd	M5044	M5045	\$ 23
2006-WW-2269	Woodwards Slough	Drainage Main	Bakerview Dr	M6498	M6497	\$ 24
2006-WW-2120	No. 3 Rd South	Drainage Main	Rosewell Ave	M6286	A3471	\$ 26
2006-WW-2397	Woodwards Slough	Drainage Main	Dolphin Ave	M5452	M5454	\$ 27
2006-WW-2234	No. 3 Rd South	Drainage Main	Francis Rd	M6489	A3563	\$ 27
2006-WW-2194	Woodwards Slough	Drainage Main	Williams Rd	M2123	M2124	\$ 28
2006-WW-2413	Woodwards Slough	Drainage Main	Dolphin Ave	M5460	M5461	\$ 28
2006-WW-2204	Woodwards Slough	Drainage Main	Ryan Rd	M9394	A10460	\$ 29
2006-WW-2247	Woodwards Slough	Drainage Main	Francis Rd	M3471	M3470	\$ 30
2006-PA-2355	Horseshoe Slough	Drainage Main	Williams Rd	M2253	M2255	\$ 2
2006-PA-2166	Peace Arch (Hwy 99)	Drainage Main	No. 5 Rd	A2547	M2742	\$ 3
2006-PA-2167	Peace Arch (Hwy 99)	Drainage Main	Steveston Hwy	M3073	M2754	\$ 4
2006-PA-2307	Horseshoe Slough	Drainage Main	Williams Rd	M2344	M2355	\$ 4
2006-PA-2188	Peace Arch (Hwy 99)	Drainage Main	No. 5 Rd	M2739	M2597	\$ 4
2006-PA-2124	Horseshoe Slough	Drainage Main	Williams Rd	A1699	A1680	\$ 5
2006-PA-2130	Horseshoe Slough	Drainage Main	Shell Rd	A2114	A2113	\$ 6
2006-PA-2212	Horseshoe Slough	Drainage Main	Coppersmith Way	M7281	M7283	\$ 7
2006-PA-2407	Peace Arch (Hwy 99)	Drainage Main	Steveston Hwy	A2023	M3047	\$ 8
2006-PA-2471	Peace Arch (Hwy 99)	Drainage Main	No. 5 Rd	A2032	M3073	\$ 6
2006-PA-2131	Horseshoe Slough	Drainage Main	Shell Rd	A4523	M7304	\$ 10
2006-PA-2305	Horseshoe Slough	Drainage Main	Steveston Hwy	M3042	M3041	\$ 10
2006-PA-2319	Horseshoe Slough	Drainage Main	Williams Rd	M2340	M2255	\$ 9
2006-PA-2123	Horseshoe Slough	Drainage Main	Williams Rd	M2255	A1699	\$ 9
2006-PA-2155	Horseshoe Slough	Drainage Main	Horseshoe Way	M7238	M7240	\$ 12

DCC Project ID	Area	Description of Infrastructure	Project Location	Description (from)	Description (to)	DCC Recoverable Costs (in thousands)
2006-PA-2222	Peace Arch (Hwy 99)	Drainage Main	Steveston Hwy	A2014	A2015	\$ 14
2006-PA-2433	Horseshoe Slough	Drainage Main	Williams Rd	M2408	M2407	\$ 15
2006-PA-2129	Horseshoe Slough	Drainage Main	Shell Rd	M7304	A2114	\$ 16
2006-PA-2220	Peace Arch (Hwy 99)	Drainage Main	Steveston Hwy	M3048	A2014	\$ 16
2006-PA-2356	Peace Arch (Hwy 99)	Drainage Main	No. 5 Rd	M2740	M2739	\$ 18
2006-PA-2383	Horseshoe Slough	Drainage Main	Williams Rd	M2406	A1676	\$ 18
2006-PA-2409	Peace Arch (Hwy 99)	Drainage Main	Steveston Hwy	M3047	M3048	\$ 18
2006-PA-2134	Horseshoe Slough	Drainage Main	Williams Rd	M2417	M2369	\$ 21
2006-PA-2184	Horseshoe Slough	Drainage Main	Seacote Rd	M7630	M7521	\$ 19
2006-PA-2215	Horseshoe Slough	Drainage Main	Horseshoe Way	M7353	M7362	\$ 24
2006-PA-2428	Horseshoe Slough	Drainage Main	Williams Rd	M2407	M2406	\$ 21
2006-PA-2454	Peace Arch (Hwy 99)	Drainage Main	No. 5 Rd	M2611	M2609	\$ 22
2006-PA-2458	Peace Arch (Hwy 99)	Drainage Main	No. 5 Rd	M2609	M2608	\$ 22
2006-PA-2337	Horseshoe Slough	Drainage Main	Horseshoe Way	M7364	M7363	\$ 27
2006-PA-2338	Horseshoe Slough	Drainage Main	Horseshoe Way	M7363	M7362	\$ 27
2006-PA-2119	Horseshoe Slough	Drainage Main	Horseshoe Pl	M7353	M7395	\$ 30
2006-PA-2464	Peace Arch (Hwy 99)	Drainage Main	No. 5 Rd	M2608	M2606	\$ 26
2006-PA-2157	Horseshoe Slough	Drainage Main	Horseshoe Way	M7240	M7241	\$ 32
2006-PA-2229	Horseshoe Slough	Drainage Main	Horseshoe Way	M7223	M7237	\$ 26
2006-PA-2113	Horseshoe Slough	Drainage Main	Horseshoe Way	M7241	M7242	\$ 33
2006-PA-2447	Peace Arch (Hwy 99)	Drainage Main	No. 5 Rd	M2612	M2611	\$ 29
2006-PA-2136	Horseshoe Slough	Drainage Main	Seacote Rd	M7540	M7521	\$ 26
2006-PA-2405	Peace Arch (Hwy 99)	Drainage Main	No. 5 Rd	M2585	M104159	\$ 5
2006-PA-2445	Peace Arch (Hwy 99)	Drainage Main	Williams Rd	M2420	A1701	\$ 28
2006-PA-2142	Horseshoe Slough	Drainage Main	King Rd	M7521	A4720	\$ 39
2006-PA-2357	Horseshoe Slough	Drainage Main	Williams Rd	M2250	M2253	\$ 27
2006-PA-2359	Horseshoe Slough	Drainage Main	Williams Rd	M2249	M2250	\$ 27

DCC Project ID	Area	Description of Infrastructure	Project Location	Description (from)	Description (to)	DCC Recoverable Costs (in thousands)
2006-PA-2432	Horseshoe Slough	Drainage Main	King Rd	M7550	M7521	\$ 29
2006-PA-2320	Horseshoe Slough	Drainage Main	Albion Rd	M6296	M6289	\$ 31
2006-PA-2190	Horseshoe Slough	Drainage Main	Albion Rd	M6297	M6296	\$ 29
2006-PA-2339	Horseshoe Slough	Drainage Main	Coppersmith Way	M7283	M7282	\$ 31
2006-PA-2135	Horseshoe Slough	Drainage Main	Horseshoe Way	M7270	M7242	\$ 31
2006-PA-2209	Horseshoe Slough	Drainage Main	Coppersmith Way	M7280	M7281	\$ 30
2006-WW-2477	Woodwards Slough	Drainage Main	Dixon Ave	M5424	M4318	\$ 30
2006-WW-2499	Woodwards Slough	Drainage Main	Dolphin Ave	M5457	M4311	\$ 31
2006-WW-2494	Woodwards Slough	Drainage Main	Dixon Ave	M5760	M5397	\$ 43
2006-WW-2479	Woodwards Slough	Drainage Main	Glendower Gate	M6449	A1509	\$ 86
2006-WW-2498	Woodwards Slough	Drainage Main	Dolphin Ave	M5461	M5457	\$ 105
2006-WW-2487	Woodwards Slough	Drainage Main	Dixon Ave	M5397	M5395	\$ 156
2006-PA-2478	Horseshoe Slough	Drainage Main	Williams Rd	A1694	M2355	\$ 11
2006-PA-2474	Horseshoe Slough	Drainage Main	King Rd	A4720	M7522	\$ 14
2006-PA-2495	Horseshoe Slough	Drainage Main	Shell Rd	M4604	M2351	\$ 19
2006-PA-2483	Peace Arch (Hwy 99)	Drainage Main	Steveston Hwy	M3044	A2140	\$ 56
2006-PA-2482	Horseshoe Slough	Drainage Main	Shell Rd	M2351	M2343	\$ 112
2006-PA-2476	Horseshoe Slough	Drainage Main	Sealord Rd	M7512	M7514	\$ 105
2006-PA-2475	Horseshoe Slough	Drainage Main	King Rd	M7522	M7523	\$ 232
2008-CCAP-2600	Gilbert Rd North	Drainage Main	right of way b/w 7400 Minoru Blvd and 7500 Minoru Blvd (going east)	Minoru Blvd	150m East	\$ 106
2008-CCAP-2602	Gilbert Rd North	Drainage Main	Ackroyd Rd - south side	8400 Ackroyd Rd	Arcadia Rd	\$ 242
2008-CCAP-2603	Gilbert Rd North	Drainage Main	Ackroyd Rd - north side	5880 No. 3 Rd	8411 Ackroyd Rd	\$ 186
2008-CCAP-2604	Gilbert Rd North	Drainage Main	Ackroyd Rd - south side	5811 Cooney Rd	8400 Ackroyd Rd	\$ 71
2008-CCAP-2605	Gilbert Rd North	Drainage Main	Ackroyd Rd - south side	5880 No. 3 Rd	5811 Cooney Rd	\$ 166
2008-CCAP-2606	Gilbert Rd North	Drainage Main	Ackroyd Rd - north side	8411 Ackroyd Rd	Arcadia Rd	\$ 256
2008-CCAP-2611	Gilbert Rd North	Drainage Main	Blundell Rd - north side	Gilbert Rd	Minoru Blvd	\$ 673

DCC Project ID	Area	Description of Infrastructure	Project Location	Description (from)	Description (to)	DCC Recoverable Costs (in thousands)
2008-CCAP-2821	No. 3 Rd South	Drainage Main	Blundell Rd - north side	Minoru Blvd	No.3 Rd	\$ 313
2008-CCAP-2612	Woodward's Slough	Drainage Main	Blundell Rd	Garden City Rd	Ash St	\$ 188
2008-CCAP-2613	Gilbert Rd North	Drainage Main	Bridge St - west side	7151 Bridge St	Granville Ave	\$ 115
2008-CCAP-2616	Gilbert Rd North	Drainage Main	Cooney Rd	Ackroyd Rd	Lansdowne Rd	\$ 145
2008-CCAP-2617	Gilbert Rd North	Drainage Main	Cooney Rd (east side) & Westminster Hwy (south side) (twin ex. box culvert)	Spires Gate	No. 3 Rd & Westminster	\$ 504
2008-CCAP-2621	Gilbert Rd North	Drainage Main	Gilbert Rd - right of way approx. 185m north of Blundell Rd	Rear of 7611 Moffatt	Gilbert Rd	\$ 39
2008-CCAP-2630	Woodward's Slough	Drainage Main	Garden City Rd - east side	Blundell Rd	7600 Garden City	\$ 13
2008-CCAP-2633	Woodward's Slough	Drainage Main	General Currie - south side	39.7m East of St. Albans	St. Albans Rd	\$ 10
2008-CCAP-2636	Gilbert Rd North	Drainage Main	Elmbridge Way	South PL of 6651 Elmbridge	Westminster Hwy	\$ 77
2008-CCAP-2637	Gilbert Rd North	Drainage Main	Elmbridge Way	6791 Elmbridge Way	Hollybridge Way	\$ 160
2008-CCAP-2644	Gilbert Rd North	Box Culvert	Gilbert Rd	Blundell Rd	Granville Ave	\$ 2,849
2008-CCAP-2645	Gilbert Rd North	Drainage Main	Gilbert Rd North PS outfall	River Rd	River Rd	\$ 30
2008-CCAP-2648	Gilbert Rd North	Drainage Main	Granville Ave - south side	Heather St	Garden City Rd	\$ 152
2008-CCAP-2650	Gilbert Rd North	Drainage Main	Granville Ave - additional new pipe	7840 Granville	No. 3 Rd	\$ 128
2008-CCAP-2651	Gilbert Rd North	Drainage Main	Granville Ave - south side	St. Albans Rd	Garden City Rd	\$ 370
2008-CCAP-2652	Gilbert Rd North	Drainage Main	Granville Ave - south side	Gilbert Rd	St. Albans Rd	\$ 1,491
2008-CCAP-2653	Gilbert Rd North	Box Culvert	Granville Ave - north side	No. 3 Rd	8520 Anderson Rd - West PL	\$ 1,352
2008-CCAP-2661	Woodward's Slough	Drainage Main	Heather St	Granville Ave	7620 Heather St	\$ 132
2008-CCAP-2662	Woodward's Slough	Drainage Main	Heather St	7620 Heather St	Blundell Rd	\$ 50
2008-CCAP-2665	Gilbert Rd North	Drainage Main	Lansdowne Rd & right of way - additional new pipe	No. 3 Rd	Hollybridge Way	\$ 1,164
2008-CCAP-2666	Gilbert Rd North	Drainage Main	Minoru Blvd	7811 Granville Ave	6391 Minoru Blvd - North PL	\$ 500
2008-CCAP-2667	Gilbert Rd North	Drainage Main	Minoru Blvd - replace and new segment	Westminster Hwy	6391 Minoru Blvd - North PL	\$ 109
2008-CCAP-2669	Woodward's Slough	Drainage Main	Minoru Blvd - Acheson Rd	Acheson Rd - north side	Acheson Rd - south side	\$ 4

BCC Project ID	Area	Description of Infrastructure	Project Location	Description (from)	Description (to)	DCC Recoverable Costs (in thousands)
2008-CCAP-2670	Woodward's Slough	Drainage Main	Minoru Blvd	Acheson Rd - south side	7400 Minoru Blvd - North PL	\$ 27
2008-CCAP-2671	Woodward's Slough	Drainage Main	Minoru Blvd	7400 Minoru Blvd - North PL	7660 Minoru Blvd - North of Abercrombie Dr	\$ 67
2008-CCAP-2672	Woodward's Slough	Drainage Main	Minoru Blvd	7660 Minoru Blvd - North of Abercrombie Dr	Blundell Rd	\$ 42
2008-CCAP-2675	Gilbert Rd North	Drainage Main	No 3 Rd - west side	5411 No 3 Rd - North PL	Lansdowne Rd	\$ 162
2008-CCAP-2676	Gilbert Rd North	Drainage Main	No 3 Rd - additional new pipe	Lansdowne Rd	Granville Ave	\$ 1,725
2008-CCAP-2683	Gilbert Rd North	Drainage Main	Westminster Hwy - north side	Alderbridge Way	Minoru Blvd	\$ 189
2008-CCAP-2684	Gilbert Rd North	Drainage Main	Park Rd - north side	Eckersley Rd	8567 Citation Dr	\$ 112
2008-CCAP-2688	Gilbert Rd North	Drainage Main	Pimliko Way/Citation Dr	Cook Rd	8567 Citation	\$ 173
2008-CCAP-2690	Gilbert Rd North	Drainage Main	Railway right of way near Browngate Rd right of way and No 3 Rd	Browngate Rd right of way	4411 No. 3 Rd	\$ 62
2008-CCAP-2694	Gilbert Rd North	Drainage Main	River Rd - south side	Van Horne Way	East on Van Horne Way	\$ 51
2008-CCAP-2699	Gilbert Rd North	Drainage Main	River Rd	Hollybridge Way	Hollybridge Way	\$ 3
2008-CCAP-2700	Gilbert Rd North	Drainage Main	River Rd	Hollybridge Way	Hollybridge Way	\$ 19
2008-CCAP-2701	Gilbert Rd North	Drainage Main	River Rd	Hollybridge Way	Gilbert Rd	\$ 205
2008-CCAP-2830	Gilbert Rd North	Drainage Main	River Rd	7080 River Rd	NE PL of 7400 River Rd	\$ 342
2008-CCAP-2702	Gilbert Rd North	Drainage Main	River Rd	NE PL of 7400 River Rd	7560 River Rd	\$ 46
2008-CCAP-2704	Gilbert Rd North	Drainage Main	Sexsmith Rd near Sea Island Way - connect East to West drainage system, additional new pipe	3160 Sexsmith Rd	3131 Sexsmith Rd	\$ 11
2008-CCAP-2706	Gilbert Rd North	Drainage Main	Westminster Hwy - additional new pipe	Bowling Green Rd	Gilbert Rd	\$ 273
2008-CCAP-2714	Woodward's Slough	Drainage Main	Garden City Rd - west side	Bennett Rd	7211 Garden City	\$ 16
2008-CCAP-2716	Woodward's Slough	Drainage Main	Garden City Rd - west side	General Currie	Bennett Rd	\$ 63
2008-CCAP-2717	Woodward's Slough	Drainage Main	Garden City Rd - west side	Blundell Rd	General Currie	\$ 183
2008-CCAP-2720	Woodward's Slough	Drainage Main	St. Albans Rd - west side	Blundell Rd	7433 St. Albans Rd - South PL	\$ 79
2008-CCAP-2726	No. 3 Rd South	Drainage Main	Acheson Rd - south side	No 3 Rd	Minoru Blvd	\$ 409

DCC Project ID	Area	Description of Infrastructure	Project Location	Description (from)	Description (to)	DCC Recoverable Costs (in thousands)
2008-CCAP-2730	Gilbert Rd North	Drainage Main	Acheson Rd - north side	Minoru Blvd	7551 Acheson	\$ 34
2008-CCAP-2731	Gilbert Rd North	Drainage Main	Acheson Rd - north side (existing culverts only)	7591 Acheson	7671 Acheson	\$ 98
2008-CCAP-2733	No. 3 Rd South	Drainage Main	Acheson Rd - north side	7691 Acheson	7731 Acheson	\$ 67
2008-CCAP-2740	No. 4 Rd North	Drainage Main	Alderbridge Way	4751 McClelland Rd/ 9251 Alderbridge Way / 9680-9728 Alexandra Rd	5555 No. 4 Rd	\$ 23
2008-CCAP-2746	Gilbert Rd North	Drainage Main	Anderson Rd	No. 3 Rd	8051 Anderson Rd	\$ 59
2008-CCAP-2748	Woodwards Slough	Drainage Main	Ash St	Granville Ave	7120 Ash St	\$ 130
2008-CCAP-2749	Woodwards Slough	Drainage Main	Ash St	7220 Ash St	General Currie Rd	\$ 250
2008-CCAP-2823	Woodwards Slough	Drainage Main	Ash St	General Currie Rd	7560 Ash St	\$ 134
2008-CCAP-2750	Woodwards Slough	Drainage Main	Ash St	7560 Ash St	Blundell Rd	\$ 360
2008-CCAP-2752	Woodwards Slough	Drainage Main	Ash St - west side	Blundell Rd	7833 Ash	\$ 43
2008-CCAP-2753	Woodwards Slough	Drainage Main	Heather St - west side	Blundell Rd	7833 Heather St.	\$ 24
2008-CCAP-2755	No. 4 Rd North	Drainage Main	Bridge St - west side	7151 Bridge	Blundell Rd	\$ 520
2008-CCAP-2756	No. 4 Rd North	Drainage Main	Sills Ave	9560 Sills Ave	Bridge St	\$ 145
2008-CCAP-2758	No. 4 Rd North	Drainage Main	Bridge St - east side	7280 Bridge	Blundell Rd	\$ 631
2008-CCAP-2759	No. 4 Rd North	Drainage Main	General Currie Rd - north side	7380 Bridge St	Bridge St	\$ 8
2008-CCAP-2760	Gilbert Rd North	Drainage Main	Buswell St	Park Rd	Anderson Rd	\$ 181
2008-CCAP-2761	Cambie Rd	Drainage Main	Cambie Rd PS outfall	River Rd	River Rd	\$ 73
2008-CCAP-2764	Gilbert Rd North	Drainage Main	Cooney Rd	Ackroyd Rd	Westminster Hwy	\$ 279
2008-CCAP-2767	Gilbert Rd North	Drainage Main	Gilbert Rd - right of way at rear	7640 Gilbert Rd	7600 Gilbert Rd	\$ 62
2008-CCAP-2768	Woodwards Slough	Drainage Main	Keefer Ave	Heather St	South side of 7720 Heather St	\$ 103
2008-CCAP-2769	Gilbert Rd North	Drainage Main	Garden City Rd	6488 Garden City	Ferndale Rd	\$ 828
2008-CCAP-2770	Gilbert Rd North	Drainage Main	Garden City Rd	6488 Garden City	Granville Ave	\$ 475
2008-CCAP-2771	Gilbert Rd North	Drainage Main	Garden City Rd	Garden City Rd	6120 Garden City	\$ 8
2008-CCAP-2772	Gilbert Rd North	Drainage Main	Garden City Rd	Westminster Hwy	9171 Ferndale Rd	\$ 184
2008-CCAP-2773	Woodwards Slough	Drainage Main	General Currie Rd	Heather St	Garden City Rd	\$ 320

DCC Project ID	Area	Description of Infrastructure	Project Location	Description (from)	Description (to)	DCC Recoverable Costs (in thousands)
2008-CCAP-2774	No. 4 Rd North	Drainage Main	General Currie Rd	Ash St	Bridge St	\$ 249
2008-CCAP-2775	No. 4 Rd North	Drainage Main	General Currie Rd	Bridge St	No. 4 Rd	\$ 322
2008-CCAP-2777	Gilbert Rd North	Drainage Main	Granville Ave	Garden City Rd	8790 Citation Dr	\$ 101
2008-CCAP-2778	Gilbert Rd North	Drainage Main	Granville Ave	St. Albans Rd	St. Albans Rd	\$ 5
2008-CCAP-2779	Gilbert Rd North	Drainage Main	Granville Ave	No. 3 Rd	No. 3 Rd	\$ 9
2008-CCAP-2781	No. 3 Rd South	Drainage Main	Abercrombie Dr	Minoru Blvd	Middle of 7740 of Abercrombie Dr	\$ 87
2008-CCAP-2783	Gilbert Rd North	Drainage Main	Minoru Blvd	Acheson Rd	Bennett Rd	\$ 158
2008-CCAP-2784	Gilbert Rd North	Drainage Main	Granville Ave - north side	9533 Granville Ave	9171 Granville Ave	\$ 489
2008-CCAP-2785	Gilbert Rd North	Drainage Main	Granville Ave - north side	9171 Granville Ave	Garden City Rd	\$ 154
2008-CCAP-2786	No. 3 Rd South	Drainage Main	Bennett Rd - north side	7288 No 3 Rd	Garden City Rd	\$ 1,156
2008-CCAP-2787	No. 3 Rd South	Drainage Main	Bennett Rd - north side	Minoru Blvd	No. 3 Rd	\$ 199
2008-CCAP-2789	No. 3 Rd South	Drainage Main	General Currie Rd - north side	8251 General Currie	8291 General Currie	\$ 168
2008-CCAP-2790	No. 3 Rd South	Drainage Main	General Currie Rd - north side	St Albans Rd	8611 General Currie	\$ 290
2008-CCAP-2793	No. 3 Rd South	Drainage Main	General Currie Rd - north side	8031 General Currie	8131 General Currie	\$ 181
2008-CCAP-2794	Woodwards Slough	Drainage Main	General Currie Rd - north side	Garden City Rd	9051 General Currie Rd	\$ 74
2008-CCAP-2798	Gilbert Rd North	Drainage Main	Westminster Hwy - north side	NE corner of Garden City & Westminster Hwy	NE corner of Garden City & Westminster Hwy	\$ 13
2008-CCAP-2799	Gilbert Rd North	Drainage Main	Westminster Hwy - north side	Across from 9460 Westminster Hwy	Garden City Rd	\$ 10
2008-CCAP-2801	Gilbert Rd North	Drainage Main	Granville Ave - south side	Heather St	Ash St	\$ 303
2008-CCAP-2802	No. 4 Rd North	Drainage Main	Granville Ave - south side	Ash St	Bridge St	\$ 282
2008-CCAP-2804	No. 3 Rd South	Drainage Main	Bennett Rd - south side	7288 No. 3 Rd	Garden City Rd	\$ 1,135
2008-CCAP-2805	No. 3 Rd South	Drainage Main	Bennett Rd - south side	No. 3 Rd	7288 No. 3 Rd	\$ 131
2008-CCAP-2807	Gilbert Rd North	Drainage Main	Bennett Rd - south side	Minoru Blvd	No. 3 Rd	\$ 275
2008-CCAP-2809	No. 3 Rd South	Drainage Main	General Currie Rd - south side	8500 General Currie	8600 General Currie	\$ 228
2008-CCAP-2810	No. 3 Rd South	Drainage Main	General Currie Rd - south side	No. 3 Rd	8400 General Currie Rd	\$ 568
2008-CCAP-2813	No. 3 Rd South	Drainage Main	Jones Rd - south side	8180 Jones Rd	8380 Jones Rd	\$ 115
2008-CCAP-2814	No. 3 Rd South	Drainage Main	Jones Rd - south side	No. 3 Rd	8180 Jones Rd	\$ 339

DCC Project ID	Area	Description of Infrastructure	Project Location	Description (from)	Description (to)	DCC Recoverable Costs (in thousands)
2008-CCAP-2822	Woodwards Slough	Drainage Main	Blundell Rd	Ash St	No. 4 Rd	\$ 487
2008-CCAP-2833	Cambie Rd	Box Culvert	Cambie Rd - south side	Middle of 8880 Cambie Rd	Middle of 8888 Odlin Cr (Cambie frontage)	\$ 467
2008-CCAP-2834	Cambie Rd	Box Culvert	Cambie Rd - south side	Middle of 8888 Odlin Cr (Cambie frontage)	Sexsmith Rd	\$ 868
Modelling	City-wide	Model	City-wide	City-wide	City-wide	\$ 743
2008-WCAP-2828	Cambie Rd	Drainage Main	Cambie Rd West of Garden City Rd - south side	Garden City Rd	Middle of 8880 Cambie Rd	\$ 51
2008-BS6-2901	Shell Rd North	Drainage Main	Dallyn Rd	Cambie Rd	Dallyn Rd	\$ 9
2008-BS6-2902	Shell Rd North	Drainage Main	Dallyn Rd	Dallyn Rd	Montego Rd	\$ 329
2008-BS6-2904	Shell Rd North	Drainage Main	Danforth Dr	Cambie Rd	Danforth Dr	\$ 39
2008-BS6-2911	Shell Rd North	Drainage Main	River Rd	Shell Rd	Simpson Rd	\$ 196
2008-BS6-2913	Shell Rd North	Drainage Main	St. Edwards Dr	Shellbridge Gate	St. Edwards Dr	\$ 106
2008-BS6-2915	Shell Rd North	Drainage Main	Bridgeport Rd North Side	Shell Rd	Simpson Rd	\$ 185
2008-BS6-2919	Bath Slough	Box Culvert	Cambie Rd	Bath Slough	No. 5 Rd W	\$ 1,419
2008-BS6-2920	Bath Slough	Drainage Main	No. 5 Rd	Cambie Rd	Dewsbury Dr	\$ 503
2008-BS6-2923	Bath Slough	Drainage Main	Bathgate Way	Bath Slough	Jacombs Rd	\$ 253
2008-BS6-2925	Bath Slough	Drainage Main	River Rd	River Rd	No. 5 Rd	\$ 155
2008-BS6-2926	Bath Slough	Drainage Main	Bath Slough	Bath Slough	Vauxhall Pl	\$ 175
2008-BS6-2927	Bath Slough	Drainage Main	Vulcan Way	Vauxhall Pl	Vulcan Way	\$ 534
2008-BS6-2929	Bath Slough	Drainage Main	Bridgeport	Olafsen Dr	No. 5 Rd	\$ 228
2008-BS6-2932	No. 6 Rd North	Drainage Main	Viking Way (with new connection)	Bridgeport Rd S	Verdun Pl	\$ 127
2008-BS6-2936	No. 6 Rd North	Pump Station	No. 6 Rd. North PS Upgrade	River Rd	River Rd	\$ 990
2008-BS6-2938	No. 6 Rd North	Drainage Main	Burrows Rd	No. 6 Rd	Van Dyke Pl	\$ 297
2008-BS6-2940	Shell Rd North	Box Culvert	Shell Rd	River Rd	Bridgeport RD	\$ 6,196
2008-BS6-2941	Shell Rd North	Box Culvert	Shell Rd	Shellbridge Way North	Shellbridge Way South	\$ 170
2008-BS6-2942	Shell Rd North	Box Culvert	Shell Rd	Cambie Rd North	Cambie Rd South	\$ 652
2008-BS6-2943	Shell Rd North	Box Culvert	Cambie St	Shell Rd	Dallyn Rd	\$ 1,693
2008-BS6-2944	Shell Rd North	Box Culvert	Bird Rd	Bargen Dr	Shell Rd	\$ 2,207
2008-BS6-2945	Shell Rd North	Drainage Main	Bargen Dr	Bird Rd	Daniels Rd	\$ 196
2008-BS6-2946	Shell Rd North	Pump Station	Shell Rd Pump Station Upgrade	River Rd	River Rd	\$ 1,980
2008-BS6-2948	Bath Slough	Box Culvert	Bath Slough	Vulcan Way North	Vulcan Way South	\$ 384

DCC Project ID	Area	Description of Infrastructure	Project Location	Description (from)	Description (to)	DCC Recoverable Costs (in thousands)
2008-BS6-2949	Bath Slough	Channel	Bath Slough	Channel upgrading downstream of Vulcan Way	Vulcan Way	\$ 51
2008-BS6-2950	Bath Slough	Box Culvert	Bath Slough	Bridgeport Rd North	Bridgeport Rd South	\$ 246
2008-BS6-2951	Bath Slough	Channel	Bath Slough	South of Bridgeport Rd	Bridgeport Rd	\$ 45
2008-BS6-2952	Bath Slough	Box Culvert	Bath Slough	Vickers Way	Vickers Way	\$ 245
2008-BS6-2953	Bath Slough	Channel	Bath Slough	North of Vickers Way	Vickers Way	\$ 38
2008-BS6-2954	Bath Slough	Box Culvert	Bath Slough	Cambie Rd South	Cambie Rd South	\$ 360
2008-BS6-2955	Bath Slough	Drainage Main	No 5 Rd (New Connection)	Cambie Rd North	Cambie Rd South	\$ 24
2008-BS6-2957	No. 6 Rd North	Box Culvert	No 6 Rd North	Vulcan Way	Bridgeport Rd	\$ 4,839
2008-BS6-2958	No. 6 Rd North	Box Culvert	Bridgeport Rd - south side and cross over to north at Viking Way	No. 6 Rd	Viking Way	\$ 1,599
2015-OCP-BW1	Blundell Rd West	Box Culvert	Blundell Rd	Dalemore Rd	Blundell Rd West PS	\$ 3,564
2015-OCP-MC1	Mccallan Rd North	Box Culvert	Mccallan Rd	Blundell Rd	Linfield Gate	\$ 2,637
2015-OCP-3S1	No 3 Rd South	Box Culvert	No. 3 Rd	Granville Ave	Blundell Rd	\$ 5,350
2015-OCP-WS2	Woodward Slough	Box Culvert	Garden City Rd	Demorest Dr	Williams Rd	\$ 5,648
2015-OCP-CN1	Cambie Rd West	Box Culvert	Cambie Rd	Sexsmith Rd	No. 3 Rd	\$ 5,076
2015-OCP-3S3	No. 3 Rd South	Pump Station	No. 3 Rd South PS Upgrade	River Rd	River Rd	\$ 990
2015-OCP-3S2	No. 3 Rd South	Pump Station	No. 3 Rd & Steveston Hwy PS Upgrade	Steveston Hwy	Steveston Hwy	\$ 464
2015-OCP-GS1	Gilbert Rd South	Pump Station	Gilbert Rd and Steveston Hwy	Steveston Hwy	Steveston Hwy	\$ 464

Total Proposed Drainage DCC Recoverable Amount \$ 167,384

Attachment 6

Park Acquisition and Park Development –
Proposed DCC Program and Parks DCC Program Maps

PARKS ACQUISITION

Overview of Proposed Program Changes

	Parks Acquisition DCC Program Recoverable Value	Acres of Land
Existing DCC Program	\$302,548,915	358.7
Less: Completed Land Acquisition	(\$190,576,500)	(218.6)
Add: Net New Land Acquisition	\$136,148,551	59.9
Proposed DCC Program	\$248,120,966	200.0

Since 2009, a substantial amount of progress has been made in the acquisition of new park land in response to the growth that has occurred. Therefore, the amount required in the updated DCC program has been substantially reduced from 145.15 hectares (358.68 acres) in the current program to 81 hectares (200 acres) in the updated DCC program. The land values assigned to the properties identified for acquisition are current market values as estimated by an independent land economics consultant on behalf of the City.

Purpose of Program

The Parks Acquisition DCC program enables the City expand parks services and provides a dedicated source of funding to increase the size of the parks and open space system in response to population growth.

The objectives of this update are to:

- accommodate the projected population growth to 2041 according to the City’s standards for the provision of parks and open space;
- support the Planning Directions and the Open Space and Public Realm Objectives of the OCP;
- address the gaps, both current and future, identified in the Parks and Open Space Strategy;
- remove completed land acquisition projects from the program; and
- update the costs related to changes in land values and construction costs since 2009.

OCP Population Growth and Parks and Open Space Provision Standards

The projected population increase to 280,000 by year 2041 will mean that additional land acquisition projects need to be added to the DCC program to meet the City’s policies for provision of park services. The City’s standards for quantity of park area are as follows:

Quantity Standards	
City Wide 3.1 Ha. (7.66 acres)/1000 population	City Centre* 1.3 Ha. (3.25 acres)/1000 population

*The higher population densities in City Centre mean that the standard of 3.25 acres/1000 population will be located within City Centre while the balance of open space will be located elsewhere to meet the city-wide quantity standard.

Of equal importance is the distribution of park land. The City has established standards for achieving convenient, equitable access to parks to effectively meet community need. New parks and trails identified in the DCC program are located according to the following standards:

Distribution Standards			
Parks	<u>City-wide Parks</u> - Location determined by unique site attributes (e.g., waterfront)	<u>Community Parks</u> - Serve a 1.5 km radius	<u>Neighbourhood Parks</u> - Serve an 800 m. radius - 400 m. radius in City Centre*
	<u>Trails</u>	<u>City-wide Trails/Greenways</u> -serve a 1 km radius	<u>Neighbourhood Links</u> -no standard

*The higher population densities in City Centre mean that residents will have access to parks and public open spaces within 400 metres of where they live.

OCP Planning Directions and Open Space and Public Realm Objectives

The Planning Directions and the Open Space and Public Realm Objectives of the OCP provide further guidance. There are a number of the Planning Directions that are relevant to this update.

In the City Centre:

- Build a mix of large and small urban parks to provide diverse environments and year round activities;
- Evolve an urban landscape that encourages and enables physical activity and social connections in everyday living.

Outside the City Centre:

- Enhance the existing parks and continue to develop the City-wide trail system;
- Protect the City’s Ecological Network and environmentally sensitive lands.

The OCP includes eight objectives for the Open Space and Public Realm each supported by a number of policies. Key to this update is the following:

- Ensure equitable access to parks and open spaces across the city;
- Protect the current inventory of dedicated City park land and ensure no net loss of dedicated park land where changes occur;
- Secure additional dedicated park land through the acquisition of new park sites in growing areas of the city;

Other OCP Policies

There are a number of other OCP policies that provide specific direction as to where population growth will occur, for example the area plans for the City Centre, Hamilton and West Cambie. In addition, the Neighbourhood Shopping Centre policies and the Arterial Road policy will also influence where investments in parks will occur. The updated Parks DCC program is shaped by these policies, with land acquisition and park development targeted to those areas of growth.

Current Gaps in the Parks and Open Space System

The 2022 Parks and Open Space Strategy included an analysis of gaps in the system according to the parks and open space provision standards described above.

- Neighbourhood Parks - At the neighbourhood park level gaps exist, temporarily, in the City Centre in areas that are being redeveloped according to the City Centre Area Plan. As these areas redevelop, new neighbourhood parks will be constructed.
- Community Parks – While no new community parks are included in the program, other parks included in the program will fulfill the role of community parks where gaps exist. For example, neighbourhood parks such as London-Steveston Park, where urban development is occurring, will be further developed to incorporate some of services provided by a community park. Some city-wide parks, such as the future Middle Arm Waterfront Park, will also function as community parks filling a gap in the City Centre.
- Trails – The 2010 Trail Strategy laid out the long term vision for the City's trails network and the 2022 Parks and Open Space Strategy introduced a new standard for provision of trails. The gaps that currently exist are primarily in the residential neighbourhoods surrounding No. 3 Road and within the City Centre.

This gap analysis provides further guidance for the location of new parks and the location and type of improvements to existing parks.

Overview of Proposed Program

The update to the program will include some projects currently in the program and some new projects that have arisen as a result of the OCP and other City policies.

As presented in the table in the next section, the City Centre, projected to receive the largest portion of the projected growth, is where land values are highest and where the majority of the gaps in parks services exist. Therefore, the value of land acquisition in the City Centre is highest. The majority of the City Centre properties proposed to be included in the updated program are also in the current program except for four locations that were added as a result of the extended time horizon of the updated program from 2031 to 2041. In addition, the value of the acquisition of the Garden City Lands is included in the program in order to fund the repayment.

There are several planning areas where no land acquisition has been identified. While there are modest levels of growth anticipated in these areas, the proposed approach is to invest in park improvements in existing parks to increase the capacity of these parks to accommodate a growing population.

Breakdown of Program by Benefitting Area

The following table summarizes the Parks Acquisition DCC Program by planning area:

Planning Area	Acres by Park Type*				DCC Recoverable Cost
	N	C	CW	NA	
Blundell					\$ -
Bridgeport					\$ -
Broadmoor	0.9				\$ 2,543,648
City Centre	5.12	1.887	169.45		\$ 186,265,198
East Cambie		0.258		5.80	\$ 2,383,227
East Richmond				79.06	\$ 14,871,186
Fraser Lands					\$ -
Gilmore				19.78	\$ 3,477,662
Hamilton	4.19			2.4	\$ 12,554,097
Sea Island					\$ -
Seafair					\$ -
Shellmont					\$ -
Steveston					\$ -
Thompson		0.182	1.025		\$ 4,159,322
West Cambie					\$ -
General				46.25	\$ 21,866,626
Total	10.210	2.327	170.475	153.290	\$ 248,120,966

*Park Type: N=Neighbourhood, C=Community, CW=City-Wide, NA=Natural Area

Explanation of Change in Program Value (\$)

Currently, the amount of park land relative to Richmond's population exceeds the park quantity standard at 8.9 acres/1000 population. This is an important measure according to the Provincial DCC legislation, ensuring that future land acquisition included in the DCC Program will be made in response to growth rather than to make up for past deficits.

In preparation for this update to the DCC Program, the existing program was reviewed to remove projects that have been completed. Since 2009, substantial progress has been made. A total of 335 acres of park land have been acquired (of which 218.6 acres were identified in the existing DCC program), including the Garden City Lands, the Grauer Lands, and the Railway Ave. CP Rail corridor.

Highlights of DCC Projects

In order to meet the growth projected by the Official Community Plan (OCP) by 2041, the proposed DCC program will enable the City to meet the park quantity standard of the OCP at 3.1 hectares/1000 population (7.66 acres/100 population). The following are highlights of the projects proposed in the updated Parkland Acquisition program:

Current Land Acquisition Projects to be Carried Forward

There are a number of projects included in the later phases of the current program that will be carried forward in the new DCC program:

- City Centre: the completion of land acquisition for the Middle Arm Waterfront Park (17.28 acres) and the acquisition of park land at the Lansdowne Mall site (10 acres) serving the dual purpose of city-wide and community level parks, addressing one of the gaps identified in the Parks and Open Space Strategy. There are also several neighbourhood park projects such as the expansion of Cook School Park.
- There are a number of properties related to existing community and neighbourhood parks outside of the City Centre that remain in the DCC program to address the growth projected according to the Neighbourhood Shopping Centre and Arterial Road policies such as Debeck School Park and Thompson Community Park.

New Land Acquisition Projects

- City Centre: new City Centre neighbourhood park properties are included in the DCC program that address projected population growth and the distribution standard including at Cook School Park, an additional neighbourhood park in the SE quadrant of Capstan Village and a new neighbourhood park between Buswell and Cooney Roads at Anderson Road.
- Hamilton: the Hamilton Area Plan introduced a new 5.6 acre waterfront park of which 4.2 acres will be added to the DCC program for land acquisition.

As mentioned in the above section, the Grauer Lands, and the Railway Ave. CP Rail corridor are examples of major parkland acquisitions that were completed since the last DCC update.

Top 20 DCC Projects – not applicable due to data sensitivity of future park properties

All DCC Projects – See Attachment 6.1

Parks DCC Program Maps (by planning area) – See Attachment 6.2

PARKS DEVELOPMENT

Overview of Proposed Program Changes

	Parks Development DCC Program Recoverable Value	Number of Projects
Existing DCC Program	\$125,645,386	105
Less: Completed Projects	(\$28,104,916)	(34)
Add: New Projects	\$80,843,431	24
Proposed DCC Program	\$178,383,901	95

The parks and open space system in Richmond currently consists of over 772 ha. (1,909 acres) of park land and over 70 km. of trails. This includes a number of new parks as well as properties that have not yet been developed for park purposes.

Substantial DCC funded investments in park development have been made since 2009 totalling \$21,053,165 (not including projects funded by other sources). Some of the major projects that have been completed include the Railway Greenway, the Terra Nova Play Environment, Thompson Youth Park and the first phase of the Oval West Waterfront Park. Development of three new parks, West Cambie Neighbourhood Park, Capstan Neighbourhood Park at Hazelbridge Way and Cambie Rd., and The Gardens Agricultural Park, has begun and will continue for the next two years.

Purpose of Program

The Parks Development DCC program enables the City to increase and to improve parks services in response to city growth. The Parks Development DCC program provides a dedicated source of funding to fund the construction of new parks and add new facilities to existing parks required due to growth.

Overview of Proposed Program

The number of proposed park development projects is somewhat less than the current program, and includes construction of new parks as well as improvements to existing parks to address the projected population growth. The value of park development has increased due to increases in construction costs since the last update in 2009 and the inclusion of major works in some of the city's most significant parks (e.g., Garden City Lands). The costs assigned to each park development project are based on current park construction costs in the city.

There is a total of 95 park development projects proposed to be included in the DCC Program update compared to 105 in the current program. Of the proposed projects, 18 are in the City Centre.

Each of the City's Community Parks is included as are most of the city wide parks: Minoru Park, Garry Point Park, Terra Nova Rural Park and Natural Area, Nature Park East and West, Britannia Shipyards National Historic Site, the Garden City Lands and the future Middle Arm Waterfront Park.

Breakdown of Program by Benefitting Area

The following table summarizes the Parks Development DCC Program by planning area:

Planning Area	Park Development (acres)	DCC Recoverable Cost by Park Type*					Total DCC Recoverable Cost
		N	C	CW	NA	T/GW	
Blundell	106.3	\$2,198,677					\$2,198,677
Bridgeport	10.35	\$1,553,518					\$1,553,518
Broadmoor	134.53	\$1,462,966	\$3,202,403				\$4,665,369
City Centre	155.03	\$4,453,268	\$1,847,871	\$89,253,449			\$95,554,588
East Cambie	260.69	\$ 68,092	\$2,193,321		\$4,002,768		\$6,264,181
East Richmond	91.26			\$2,896,740			\$2,896,740
Fraser Lands	36.55				\$245,612	\$115,869	\$361,481
Gilmore	94.42				\$2,794,602		\$2,794,602
Hamilton	79.93	\$2,845,012	\$881,719		\$2,248,171	\$372,438	\$6,347,340
Sea Island	26.14				\$983,462		\$983,462
Seafair	91.93	\$934,669	\$1,489,752				\$2,424,421
Shellmont	48.08	\$777,605			\$253,559	\$2,139,638	\$3,170,802
Steveston	193.43	\$1,510,255	\$1,692,900	\$10,116,018			\$13,319,173
Thompson	251.06	\$4,894,550	\$1,545,166	\$771,210	\$1,196,334		\$8,407,260
West Cambie	30.62	\$2,577,534			\$176,626		\$2,754,160
City-Wide Trails						\$5,878,127	\$5,878,127
General				\$18,810,000			\$18,810,000
Total	1,610.32	\$23,276,146	\$12,853,132	\$121,847,417	\$11,901,134	\$8,506,072	\$178,383,901

*Park Type: N=Neighbourhood, C=Community, CW=City-Wide, NA=Natural Area, T/GW=Trail/Greenway

Highlights of DCC Projects

The following are highlights of the projects proposed in the updated DCC Parks Development program:

Park Name	Parks Development DCC Program Value	Size (Acres)
City Centre Middle Arm Park	\$ 33,190,245	35.29
Garden City Lands	\$ 20,691,000	136.50
Minoru Park	\$ 10,345,500	65.42
City Centre Park	\$ 9,405,000	10.00
Garry Point Park	\$ 7,053,750	75.00
Nature Park East and West	\$ 4,002,768	212.40
Oval East Waterfront (at River Green Village)	\$ 3,573,900	1.60
New Hamilton Area Waterfront Park	\$ 2,299,522	4.89
Cook School Park	\$ 800,600	10.38

As mentioned in the above section, some of the major projects that have been completed since the last DCC update include the Railway Greenway, the Terra Nova Play Environment, Thompson Youth Park and the first phase of the Oval West Waterfront Park.

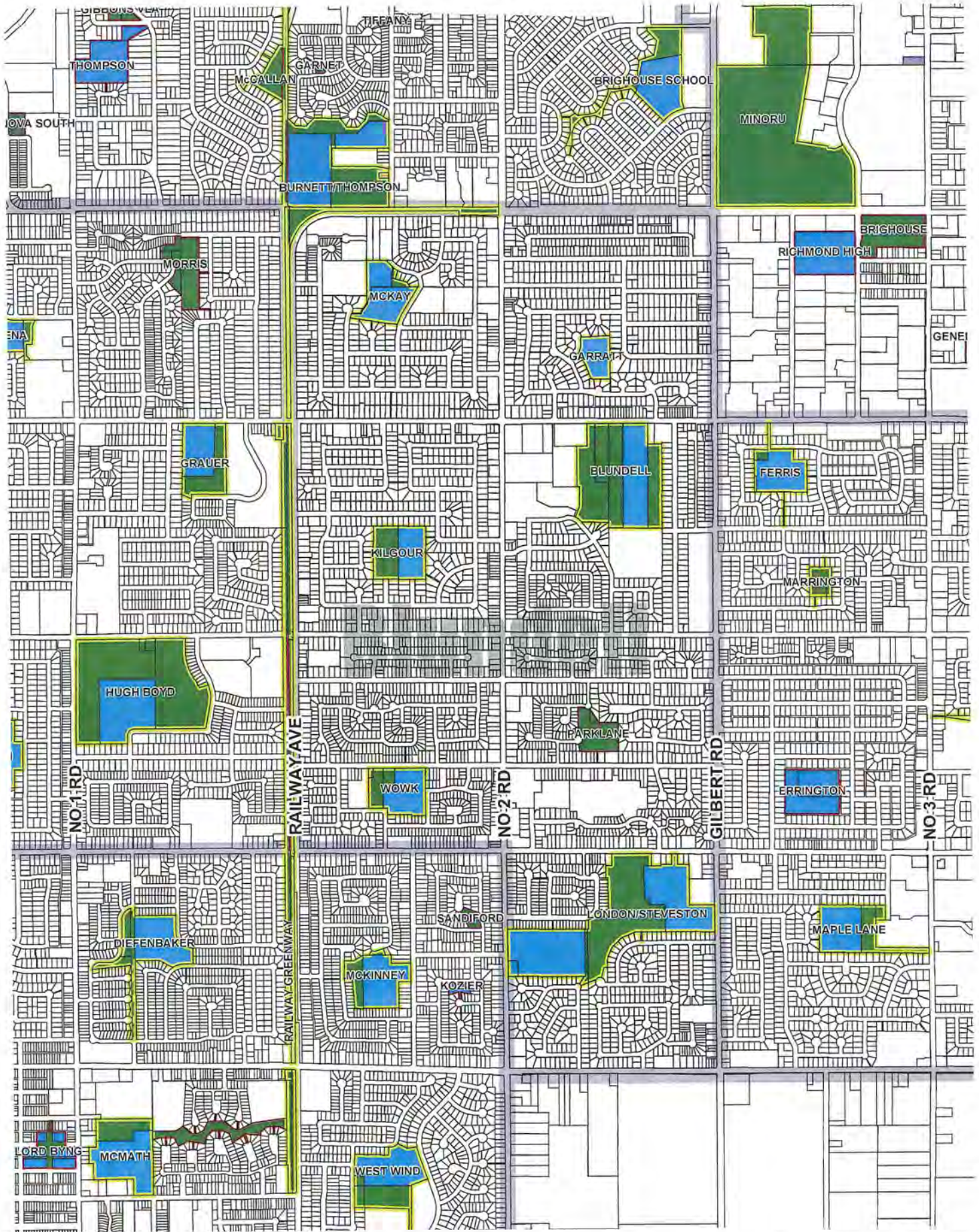
Top 20 DCC Projects – not applicable due to data sensitivity of future park properties

All DCC Projects – See Attachment 6.1

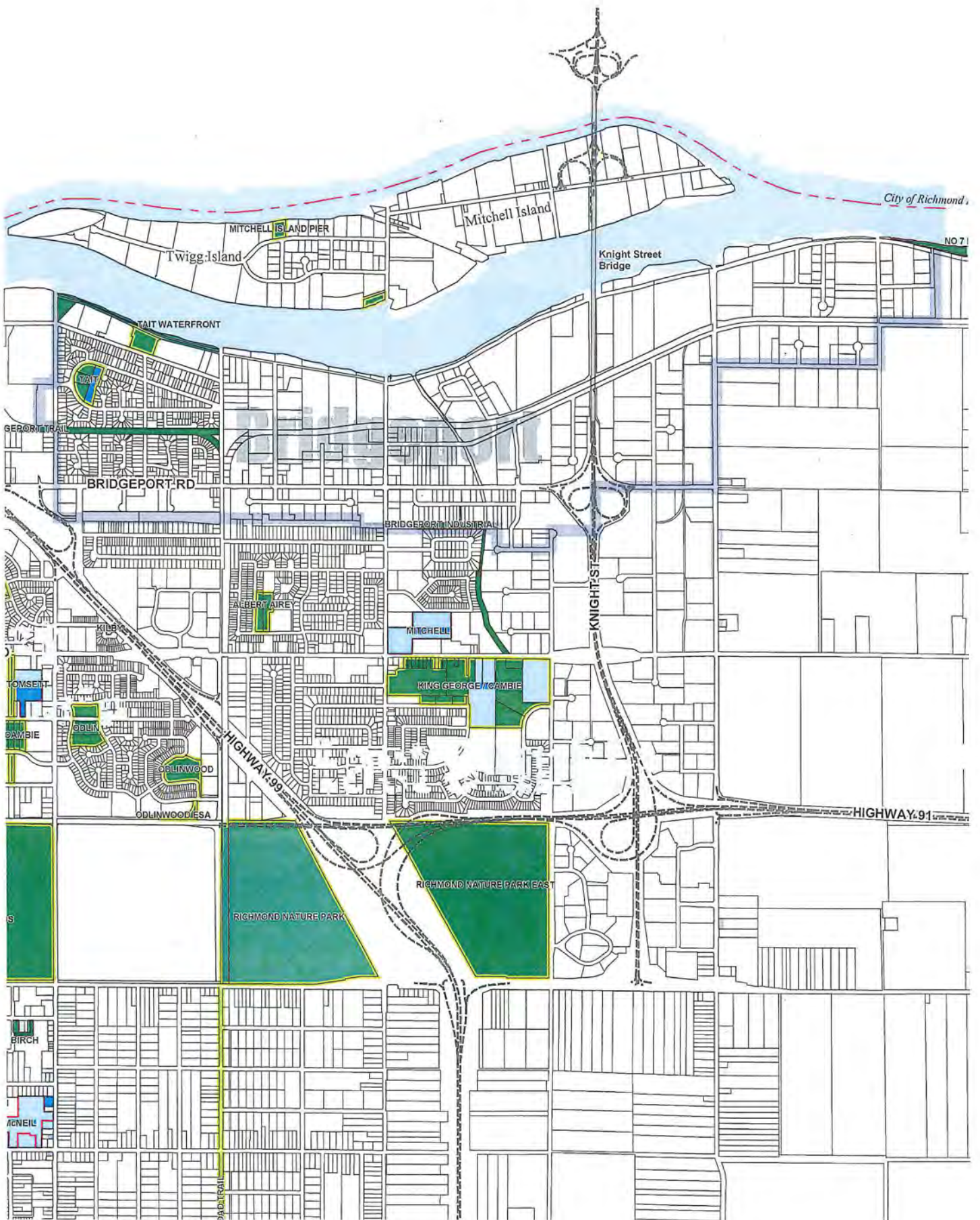
Parks DCC Program Maps (by planning area) – See Attachment 6.2

PARKS ACQUISITION AND PARKS DEVELOPMENT - ALL PROPOSED PROJECTS

Area	Project Description	Parks Acquisition DCC Recoverable Costs (in thousands)	Parks Development DCC Recoverable Costs (in thousands)
Blundell	Parks Development	\$ -	\$ 2,199
Bridgeport	Parks Development	\$ -	\$ 1,554
Broadmoor	Parks Acquisition and Development	\$ 2,544	\$ 4,665
City Centre	Parks Acquisition and Development	\$ 186,265	\$ 95,555
East Cambie	Parks Acquisition and Development	\$ 2,383	\$ 6,264
East Richmond	Parks Acquisition and Development	\$ 14,871	\$ 2,897
Fraser Lands	Parks Development	\$ -	\$ 361
Gilmore	Parks Acquisition and Development	\$ 3,478	\$ 2,795
Hamilton	Parks Acquisition and Development	\$ 12,554	\$ 6,347
Sea Island	Parks Development	\$ -	\$ 983
Seafair	Parks Development	\$ -	\$ 2,424
Shellmont	Parks Development	\$ -	\$ 3,171
Steveston	Parks Development	\$ -	\$ 13,319
Thompson	Parks Acquisition and Development	\$ 4,159	\$ 8,407
West Cambie	Parks Development	\$ -	\$ 2,754
General	City-Wide Trails	\$ -	\$ 5,878
General	Parks Acquisition and Development	\$ 21,867	\$ 18,810
Total Proposed Parks Acquisition and Development DCC Recoverable Amount		\$ 248,121	\$ 178,384

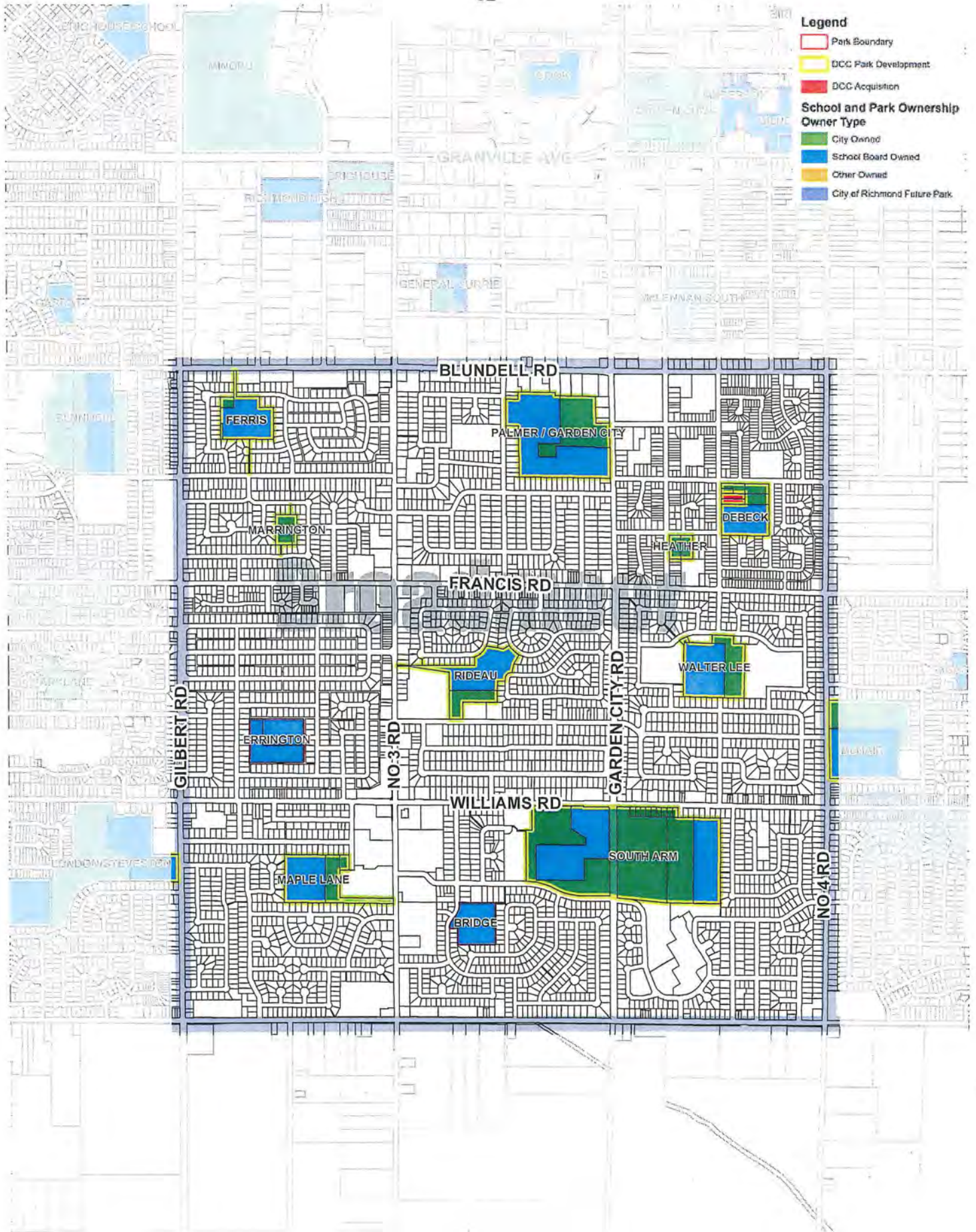


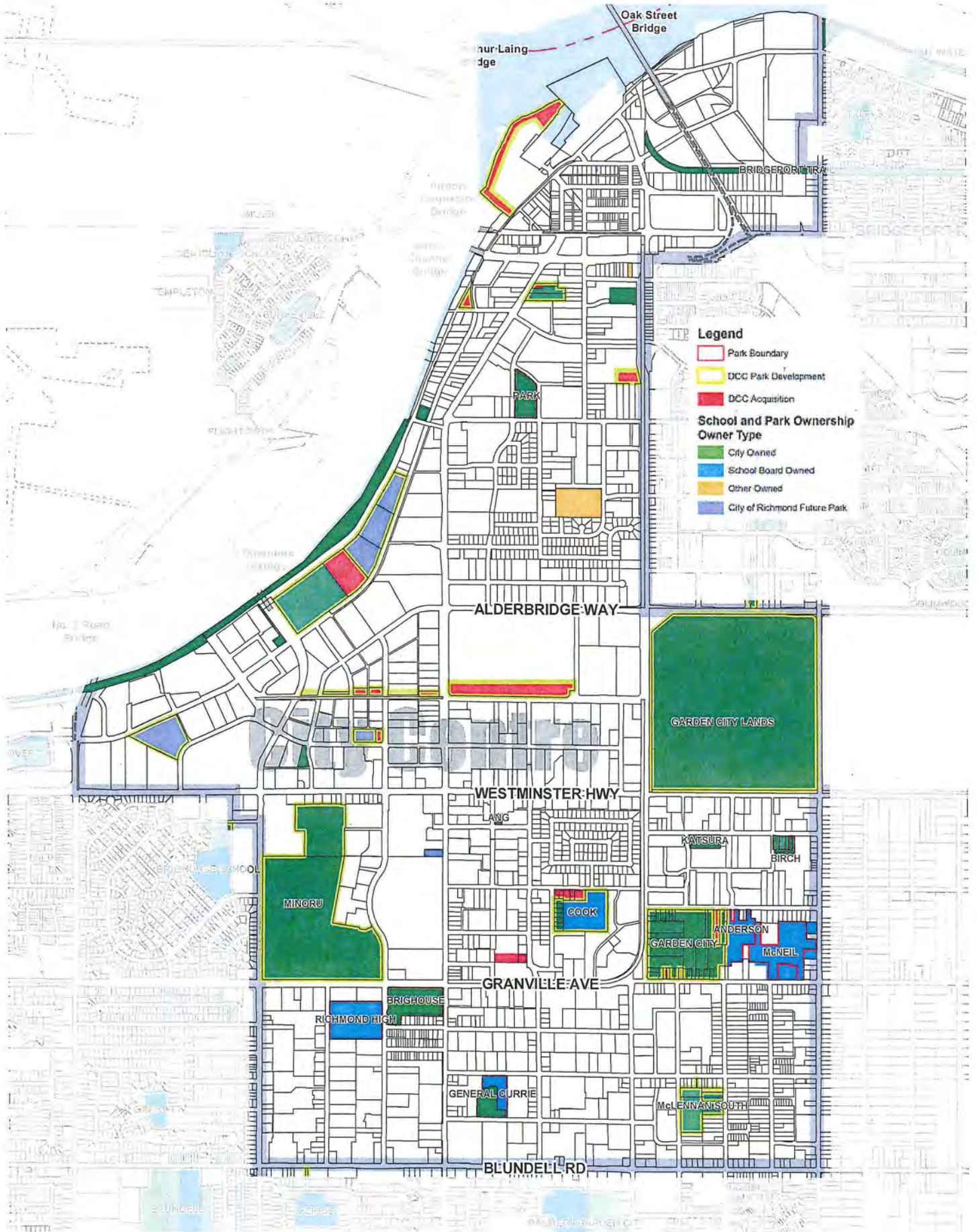
PARKS DCC PROGRAM MAP: BLUNDELL PLANNING AREA

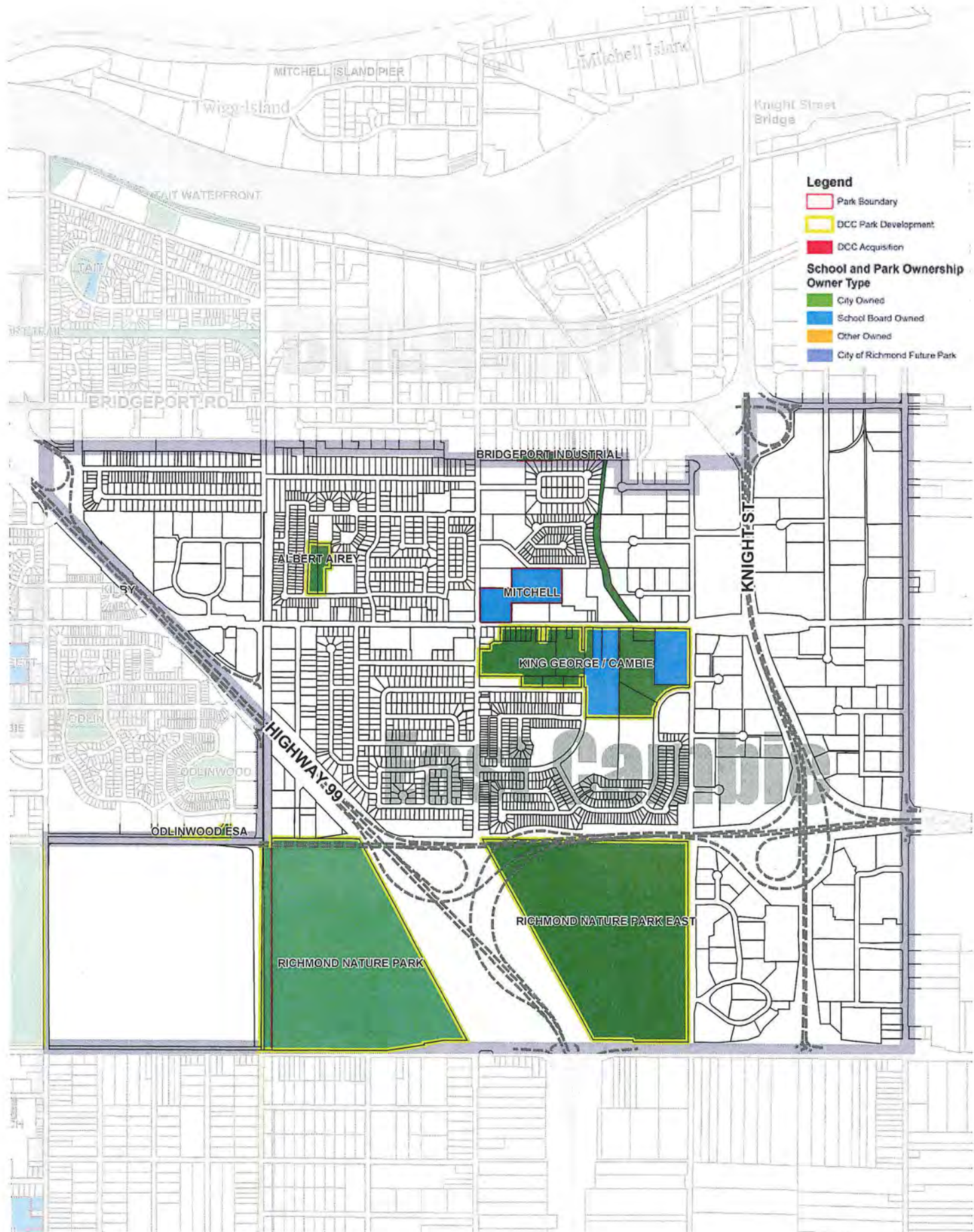


PARKS DCC PROGRAM MAP: BRIDGEPORT PLANNING AREA

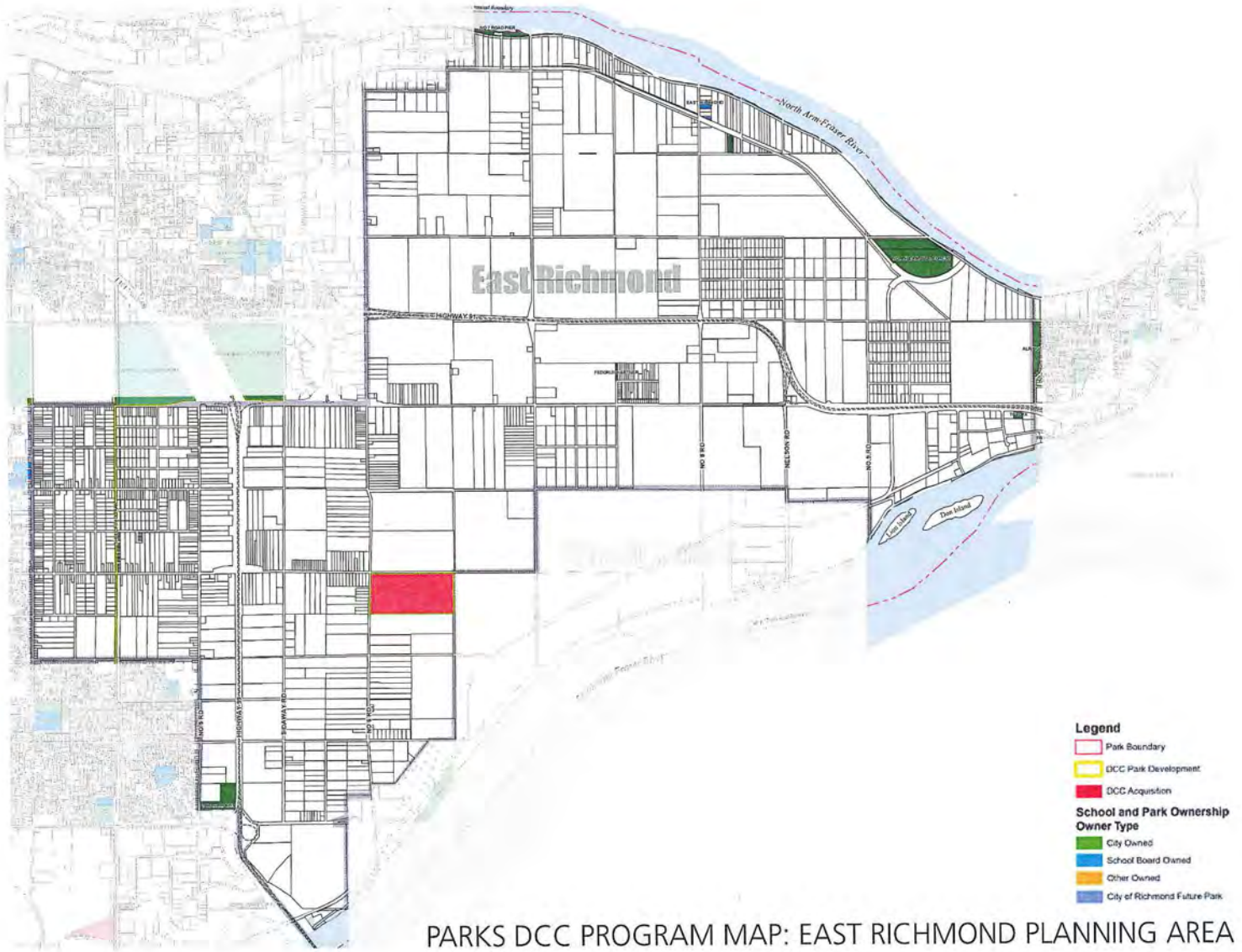
CNCL 177



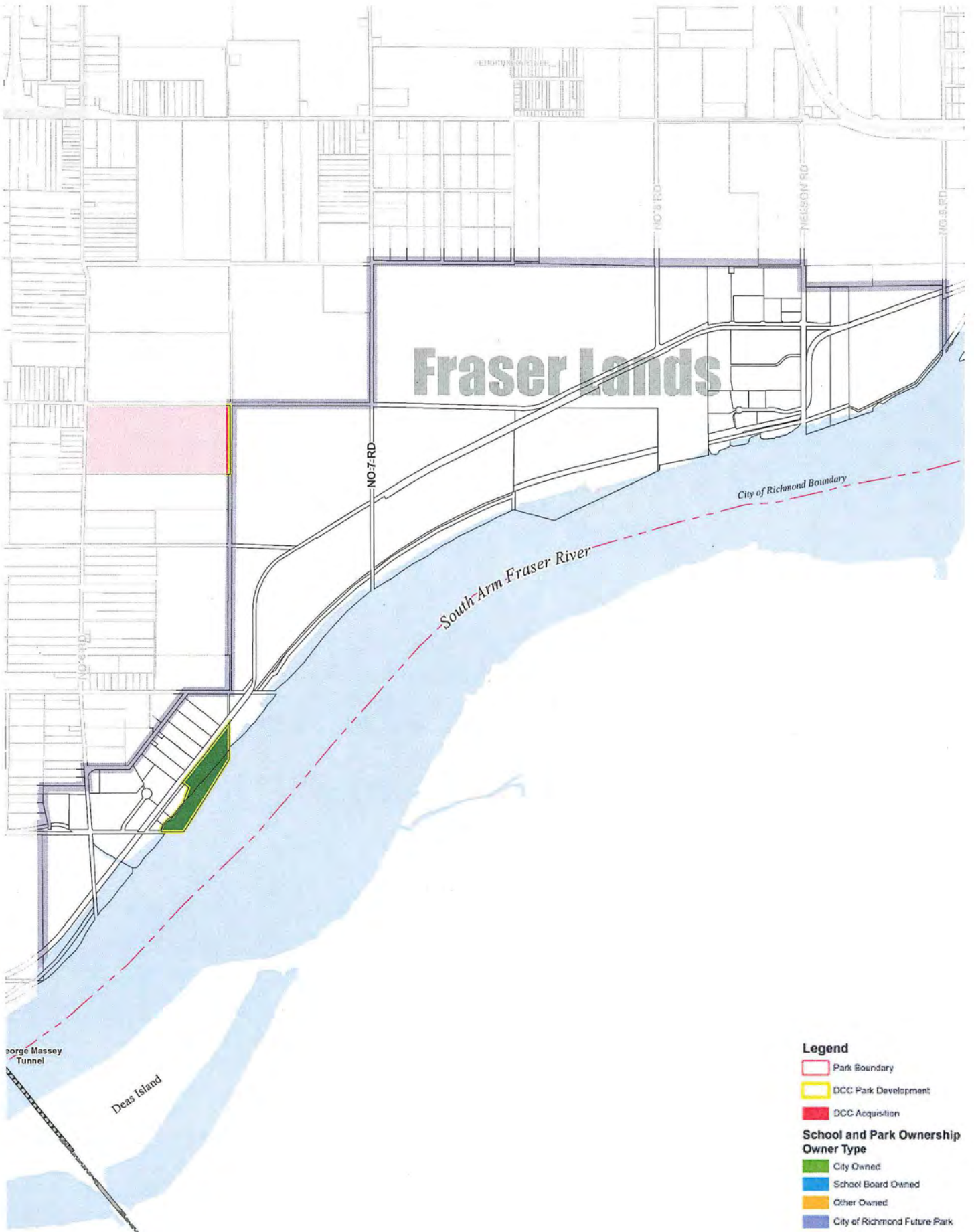


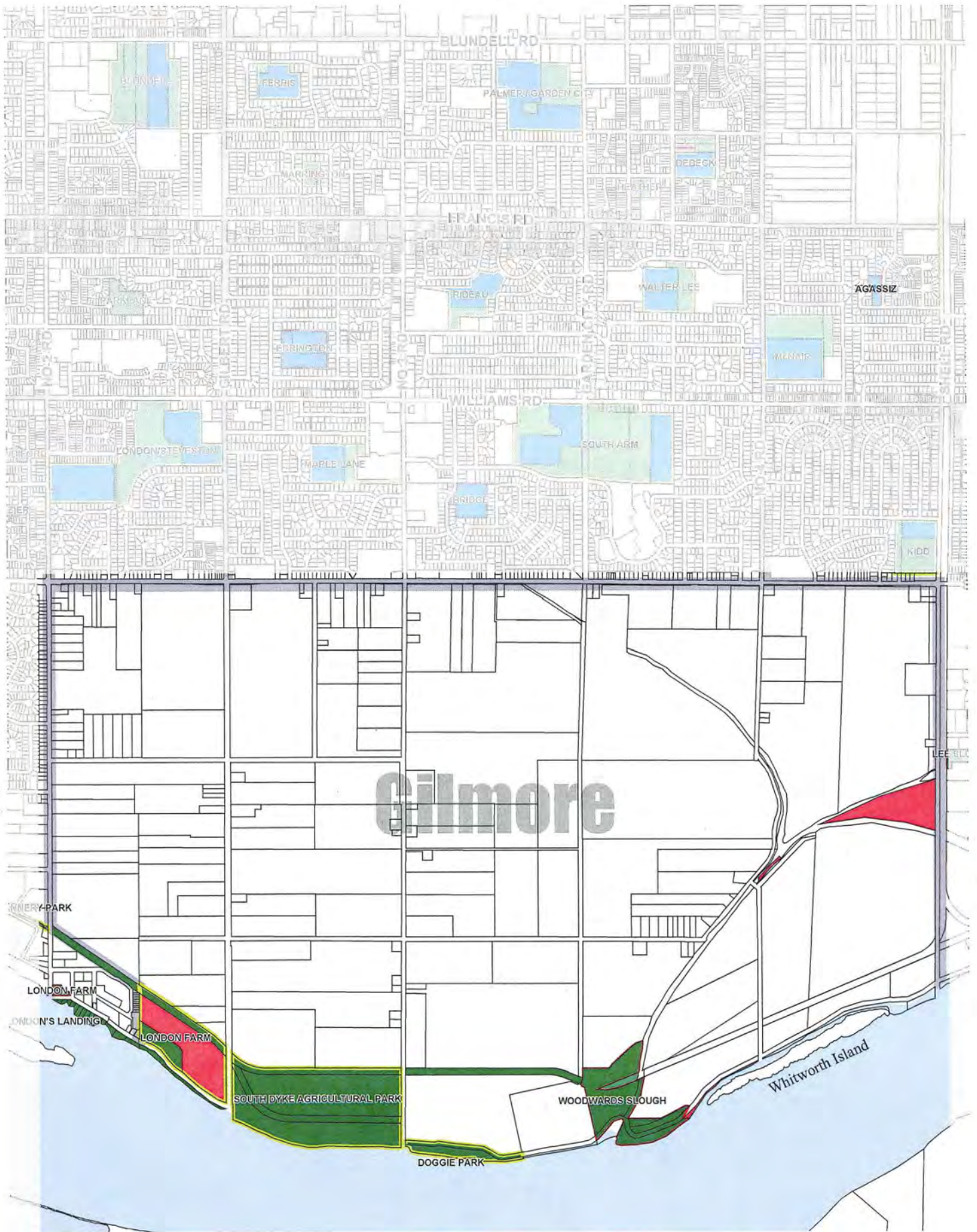


PARKS DCC PROGRAM MAP - EAST CAMBIE PLANNING AREA



PARKS DCC PROGRAM MAP: EAST RICHMOND PLANNING AREA

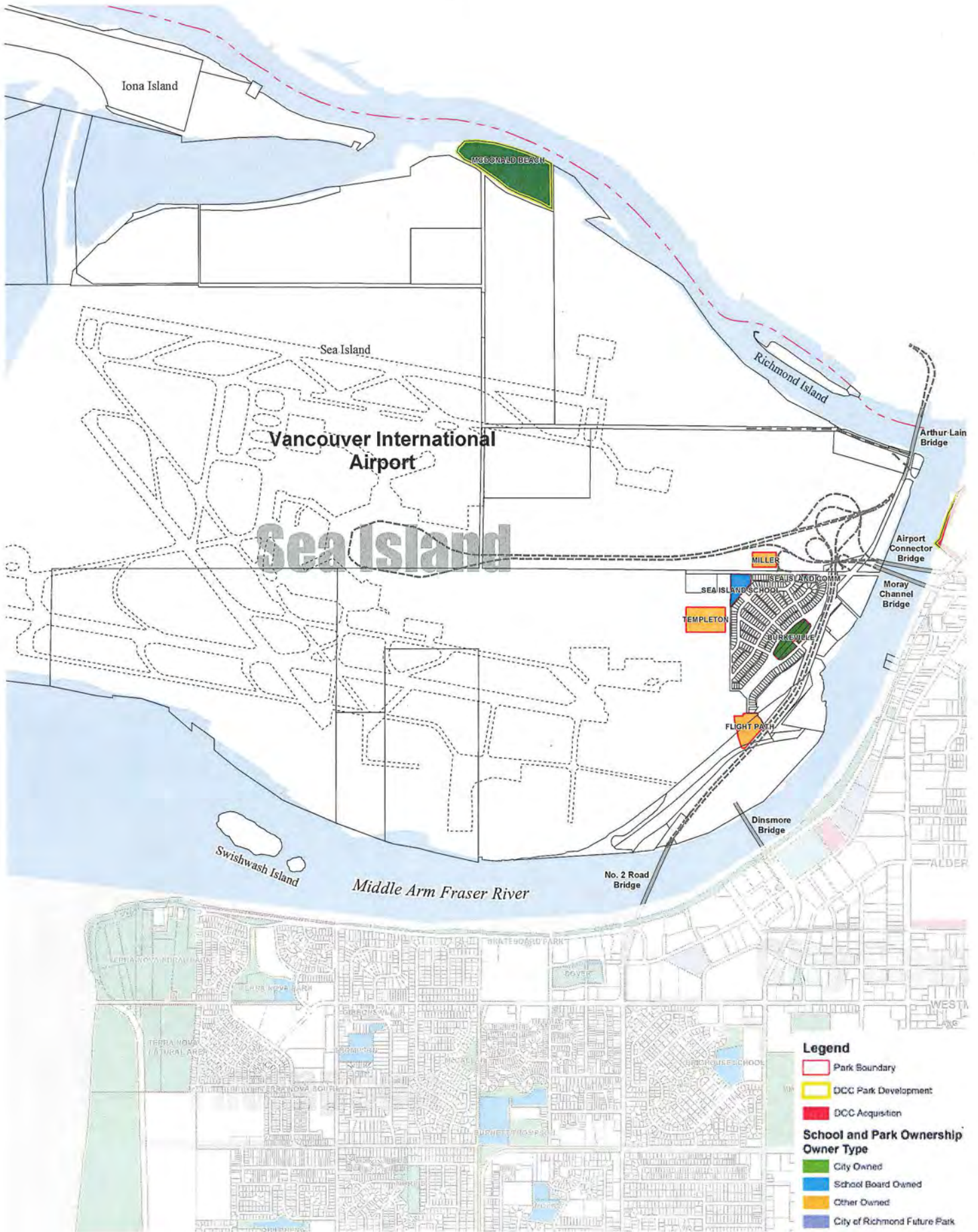


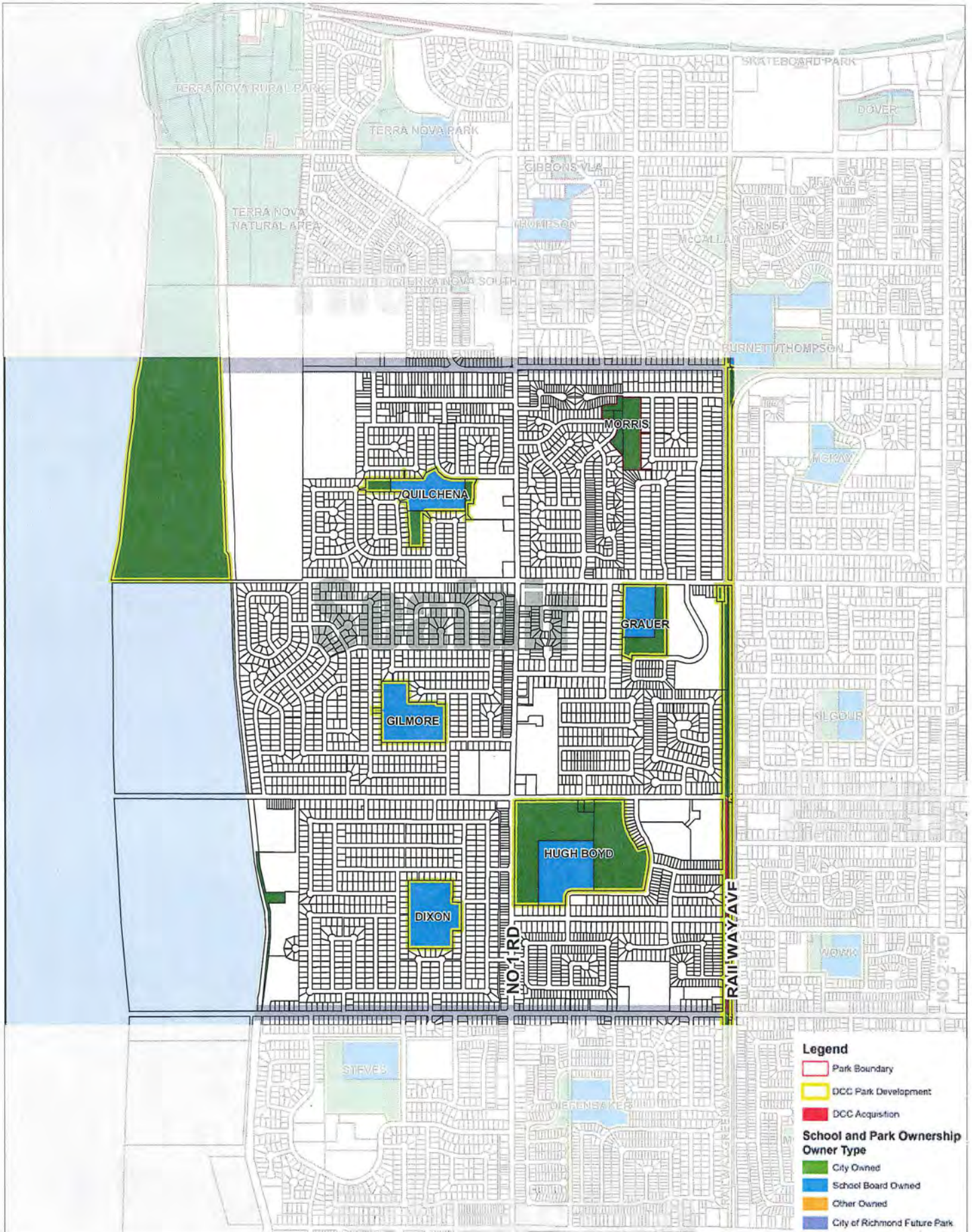




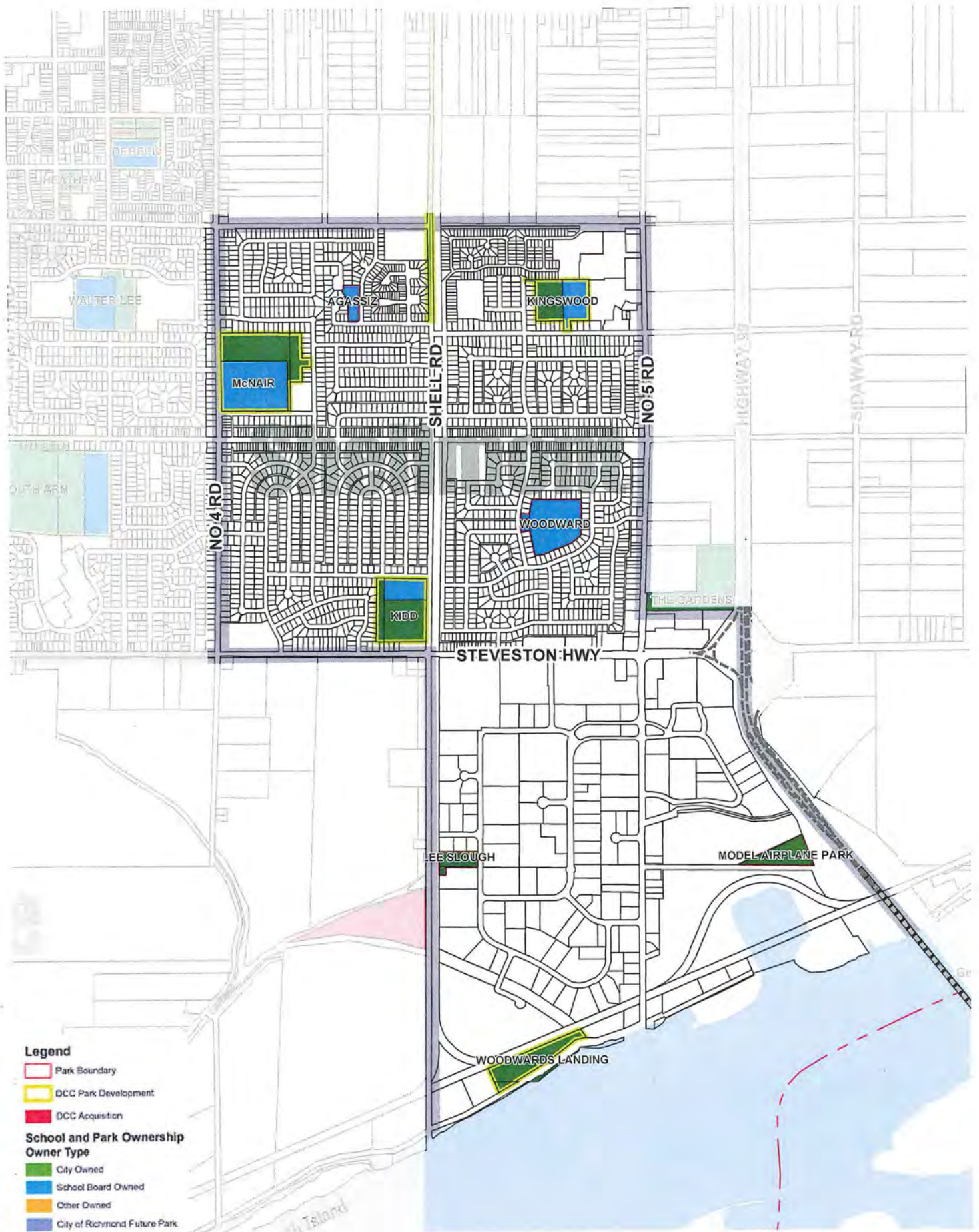
PARKS DCC PROGRAM MAP: HAMILTON PLANNING AREA

CNCL 184



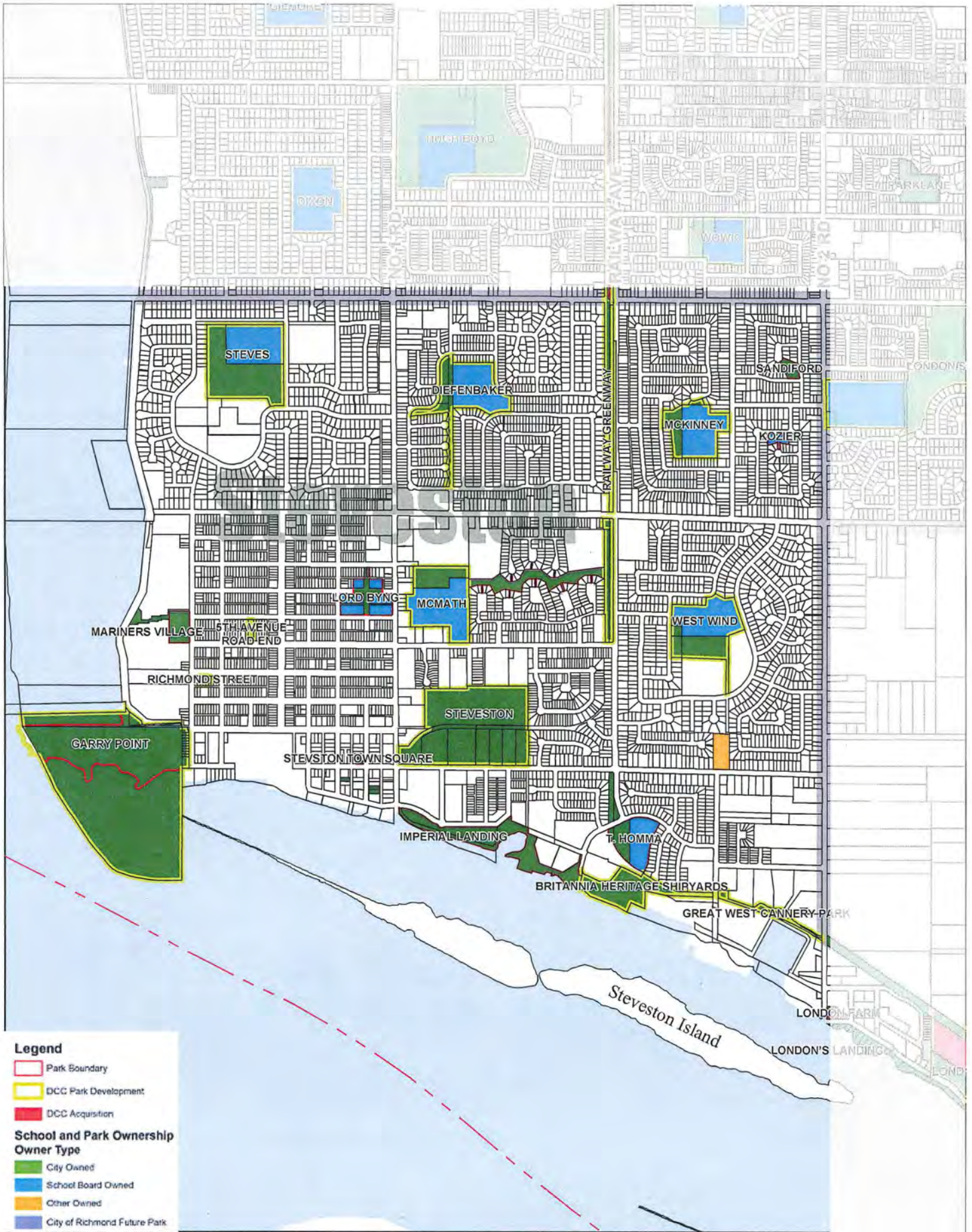


PARKS DCC PROGRAM MAP: SEAFAIR PLANNING AREA



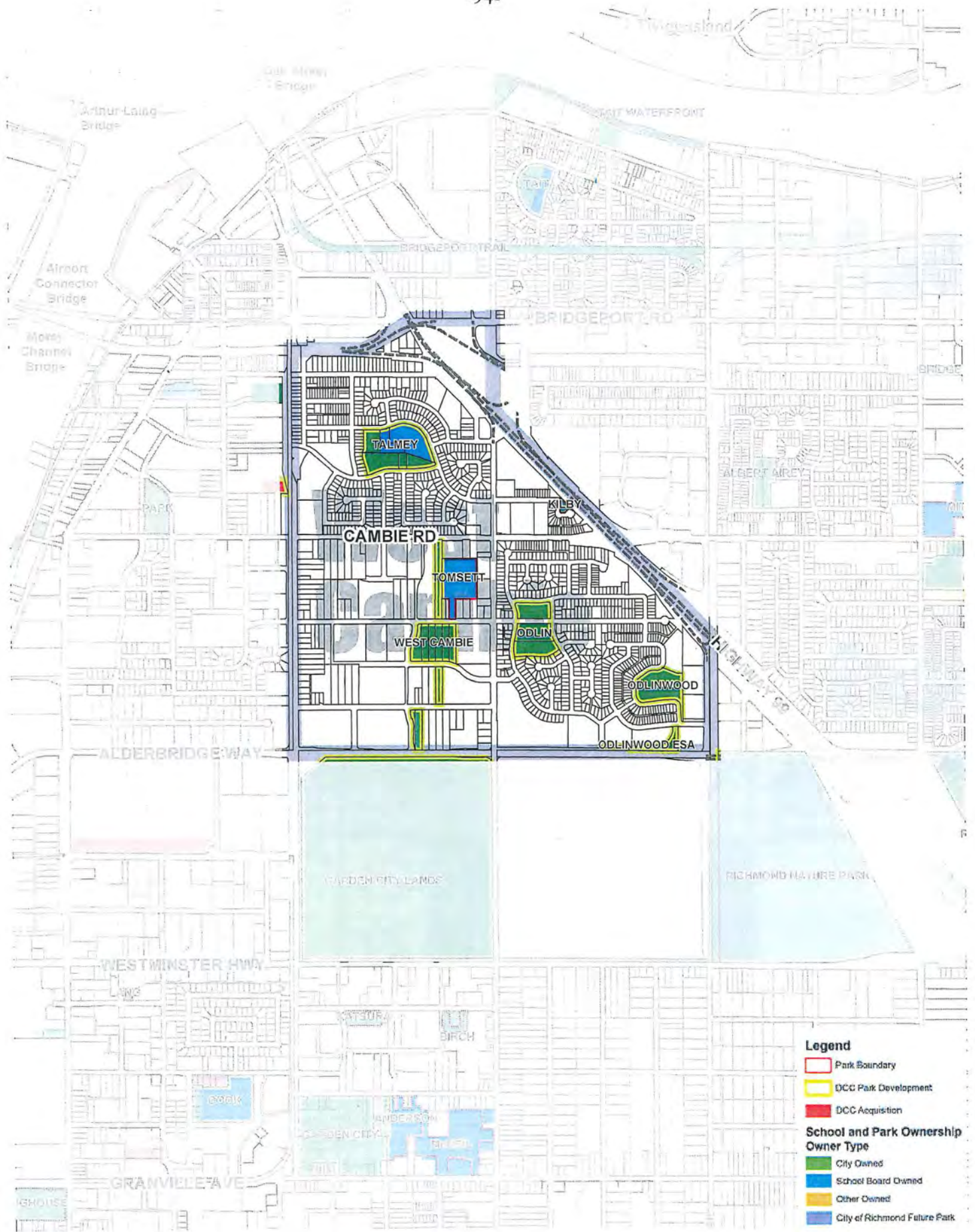
- Legend**
- Park Boundary
 - DCC Park Development
 - DCC Acquisition
 - School and Park Ownership**
 - Owner Type
 - City Owned
 - School Board Owned
 - Other Owned
 - City of Richmond Future Park

PARKS DCC PROGRAM MAP: SHELLMONT PLANNING AREA





PARKS DCC PROGRAM MAP: THOMPSON PLANNING AREA **CNCL-189**

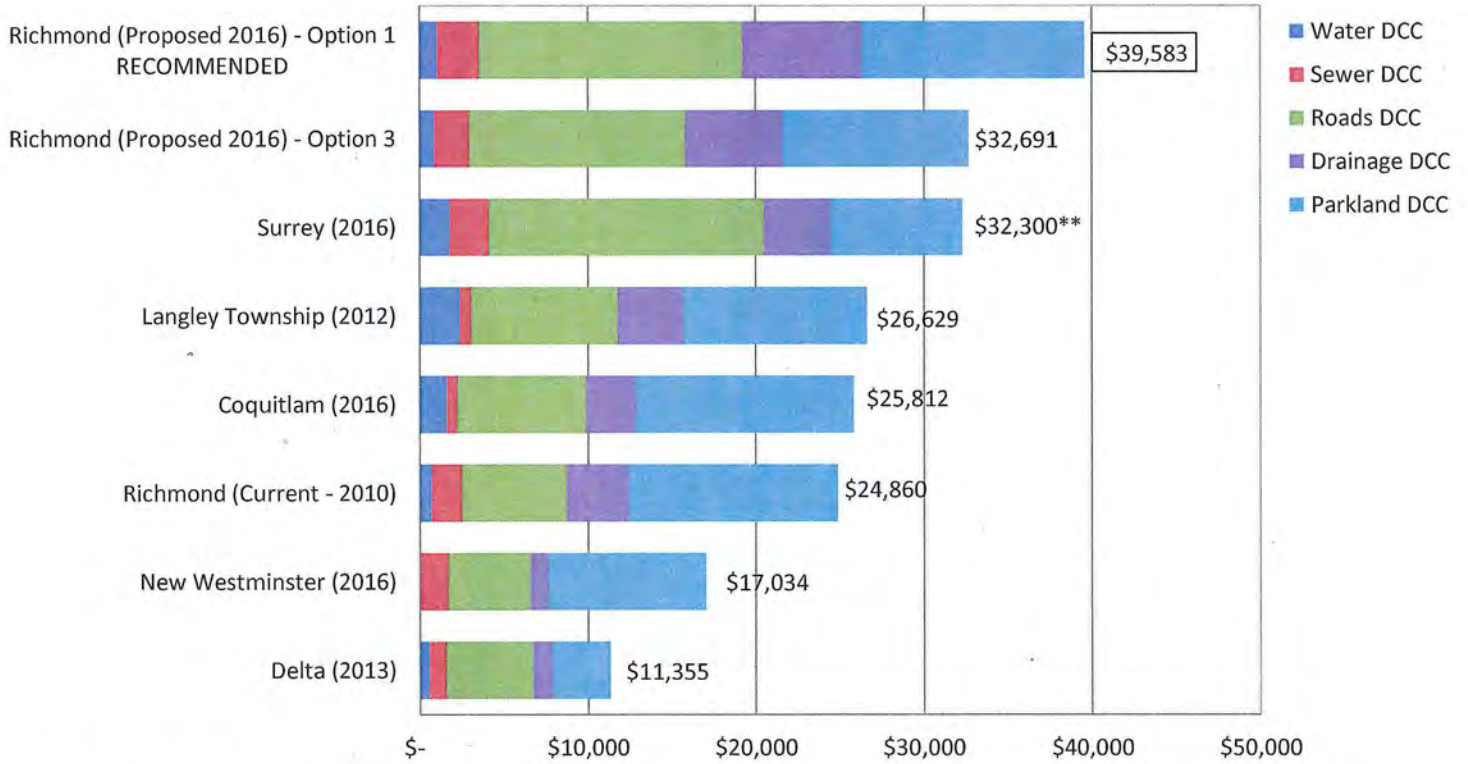


- Legend**
- Park Boundary
 - DCC Park Development
 - DCC Acquisition
 - School and Park Ownership Owner Type**
 - City Owned
 - School Board Owned
 - Other Owned
 - City of Richmond Future Park

Attachment 7

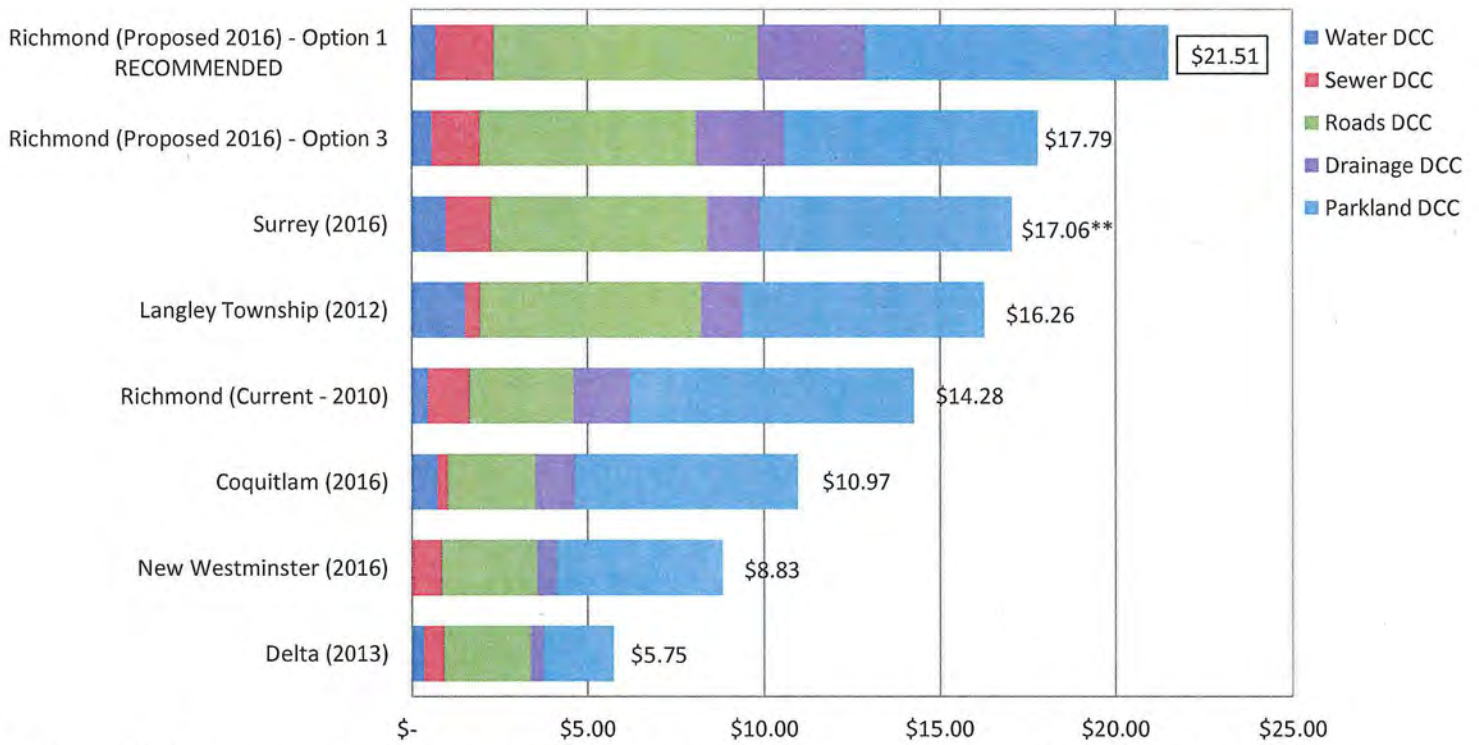
Comparison of Development Cost Charges with Other Municipalities

Single Family DCC Rates Comparison (\$/unit)



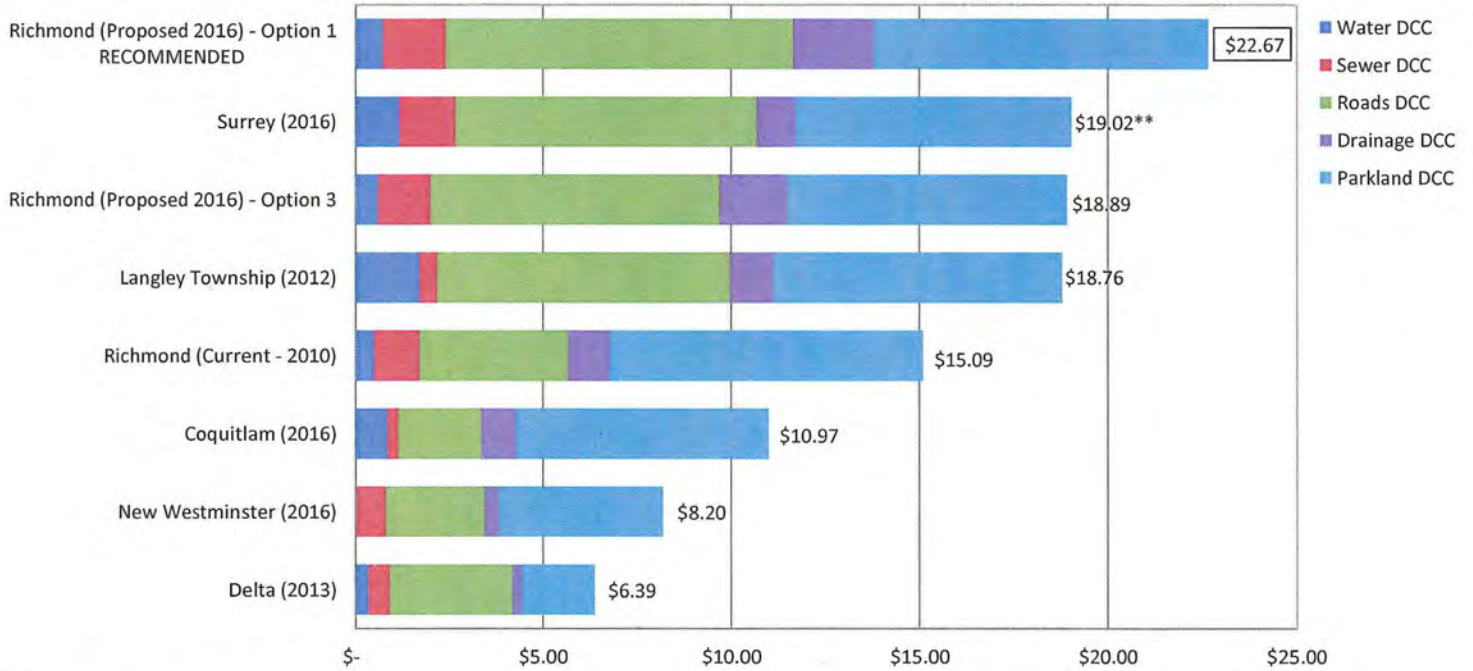
** Surrey (2016) rate is year 1 of its 3-year phased rate. Rate will increase by estimated 10% per year for the next 2 years.

Townhouse DCC Rates Comparison (\$/ft²)



** Surrey (2016) rate is year 1 of its 3-year phased rate. Rate will increase by estimated 10% per year for the next 2 years.

Apartment DCC Rates Comparison (\$/ft²)



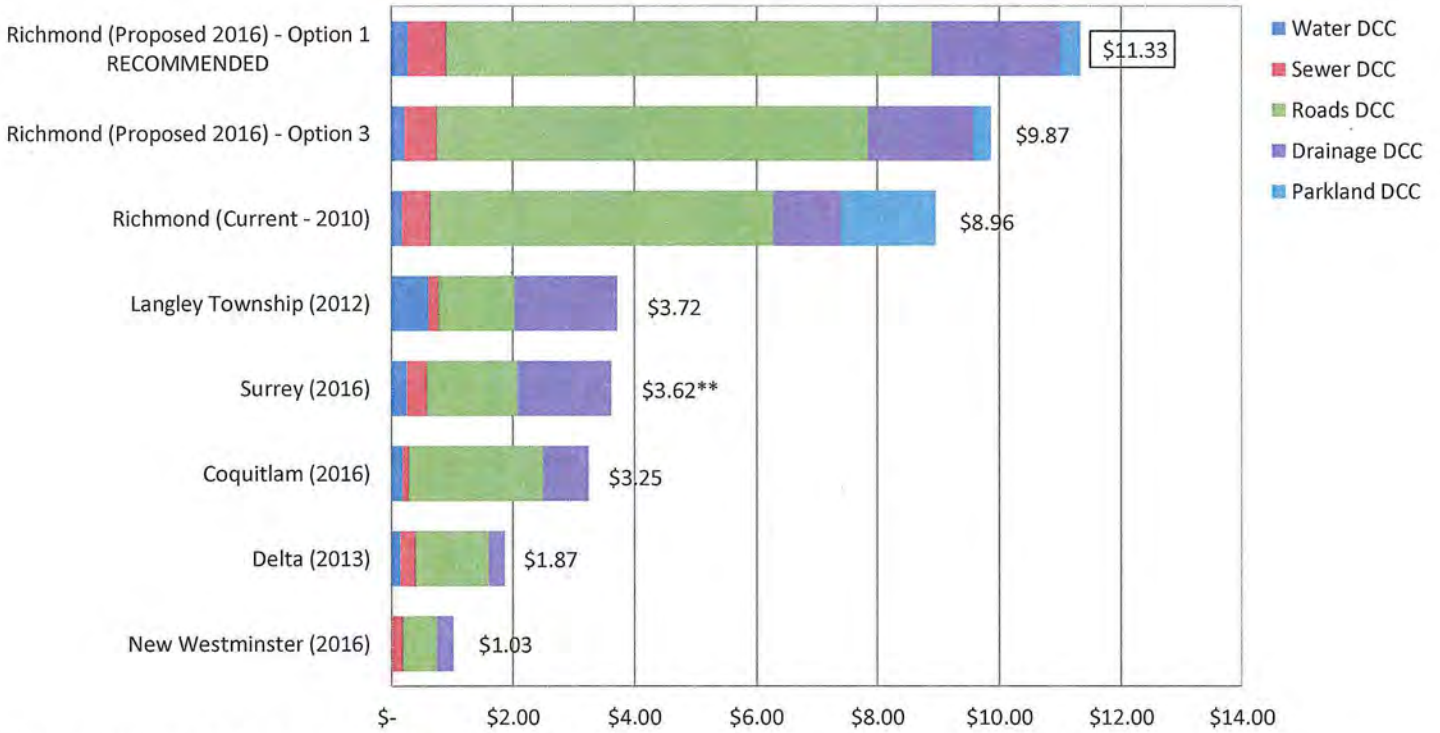
** Surrey (2016) rate is year 1 of its 3-year phased rate. Rate will increase by estimated 10% per year for the next 2 years.

Commercial DCC Rates Comparison (\$/ft²)



** Surrey (2016) rate is year 1 of its 3-year phased rate. Rate will increase by estimated 10% per year for the next 2 years.

Light Industrial DCC Rates Comparison (\$/ft²)



** Surrey (2016) rate is year 1 of its 3-year phased rate. Rate will increase by estimated 10% per year for the next 2 years.