City of Richmond

Report to Committee

To:	Finance Committee	**Date:**	January 23, 2017
From:	Jerry Chong Director, Finance	**File:**	03-0900-01/2016-Vol 01
Re:	**Development Cost Charges Imposition Bylaw No. 9499**		

Staff Recommendation

That Development Cost Charges (DCC) Imposition Bylaw No. 9499 be introduced and given first, second and third readings.

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

REPORT CONCURRENCE		
ROUTED TO:	**CONCURRENCE**	**CONCURRENCE OF GENERAL MANAGER**
Law	☑	
Parks Services	☑	
Engineering	☑	
Development Applications	☑	
Policy Planning	☑	
Transportation	☑	
REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE	**INITIALS:** DW	**APPROVED BY CAO**

Staff Report

Origin

During the September 26, 2016 Council Meeting, Council endorsed the staff report titled Proposed City-Wide DCC Capital Programs (2016-2041) and Updated City-Wide DCC Rates dated August 25, 2016 from the Director of Finance, as the basis for further public consultation in establishing the updated DCC Bylaw.

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.

Background

The City's current Development Cost Charges Bylaw was amended and adopted by Council at the September 14, 2009 Council Meeting and the amended DCC rate bylaw became effective on September 15, 2010.

At the February 11, 2014 Council Meeting, Council adopted the following resolution in relation to 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.*

In response to the above Council referral and to follow the DCC Best Practice Guide published by the Development Finance Review Committee which states that major amendments to the DCC bylaws should be completed at least once every five years, staff have performed a major DCC bylaw amendment which involves a full review of the DCC methodology including the review and update of:

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

Analysis

Proposed DCC Bylaw Changes

The proposed Development Cost Charges Imposition Bylaw No. 9499 (see Attachment 1) has been updated to reflect administrative changes that are aimed to increase the clarity of the City's DCC Bylaw and implement current best practices and the latest DCC legislations of the *Local Government Act*.

A summary of the proposed changes is presented in Attachment 2 of this report. Some of the key amendments made include:

- Various administrative changes to increase the clarity of the bylaw and to ensure adherence with the latest provisions in the *Local Government Act*.
- Revision of definitions of various development-related terms to enhance clarity of the bylaw and to ensure consistency with the City's Zoning Bylaw 8500.
- Changing from the current use of BC Assessment Authority Prescribed Classes of Property Regulation to using the City's zoning and permitted uses in classifying development types for the purpose of assessing DCC payable.
- Changing from the current measure of rate per square foot of building area to using rate per square foot of dwelling unit to assess DCC payable for townhouse and apartment developments (i.e. excluding non-habitable areas from the DCC calculations).
- Reassessing the applicability of parkland DCC's to non-residential land use, which has resulted in significant reductions in park acquisition DCC and park development DCC for commercial and institutional developments from the current rates.
- Updating city-wide DCC rates due to changes in costs and growth assumptions of the updated DCC program, as follows:

	Unit	Proposed DCC Rates (2017)	Current DCC Rates (2009)	% Change
Single Family	per lot	$39,494.10	$24,859.53	59%
Townhouse	per ft^2	$21.48	$14.28	50%
Apartment	per ft^2	$22.61	$15.09	50%
Commercial/ Institutional	per ft^2	$14.52	$11.22	29%
Light Industrial	per ft^2	$11.33	$8.96	26%
Major Industrial	per acre	$97,716.39	$83,837.56	17%

As a result of the amendments to the existing Development Cost Charges Imposition Bylaw No. 8024, staff are proposing that the existing bylaw be repealed and be replaced by the proposed Development Cost Charges Imposition Bylaw No. 9499.

Public Consultation Results

A consultation session was held on October 18, 2016 with members of the Urban Development Institute (UDI), Greater Vancouver Home Builders' Association and the small home builders group, a public open house was held on November 3, 2016 and a consultation session with NAIOP (Commercial Real Estate Development Association) was held on January 31, 2017. These consultation sessions provided the industry groups and the general public an opportunity to review and to provide feedback on the DCC programs and the proposed DCC rates.

The primary concerns expressed by the industry groups were:

1. The proposed increases in DCC rates are substantial, which affects housing affordability.
2. They prefer to see the DCC rate increase being phased in over a period of 3 years.
3. The 1-year in-stream protection provision under the *Local Government Act* does not provide enough time for developments to get to the building permit issuance stage for the more complex developments.
4. They have concerns that both Metro Vancouver DCC and Municipal DCC increases will put a large burden on new developments.
5. Uncertainty of how senior government policies and foreseen changes in the political climate would affect the housing market.

UDI's comments and NAIOP's comments are included in Attachment 3 and Attachment 3.1 of this report. Staff response is found in Attachment 4 and is summarized as follows:

Staff Response

1. Proposed increases in DCC rates are substantial.

   The costs in the current DCC program were determined prior to 2008. Since then, land and construction costs have increased significantly. The proposed DCC rates are increasing by between 17% and 59% for the various development types for the first time in the past 8 years, while in comparison the average home resale value of Richmond has increased by almost 150% during the same timeframe.

   Despite the corresponding market increase in costs components within the City's DCC program, no adjustments had been made to either the DCC program or the DCC rates for the past 8 years. The City therefore has to make this adjustment to truly reflect the current cost of providing the required capital infrastructure to support growth.

   To help mitigate rate increases in future DCC bylaw major amendments, staff will ensure the DCC bylaw will be updated annually by the consumer price index as set out in the Provincial Regulation: Development Cost Charge Amendment Bylaw Approval Exemption Regulation 130/2010. The annual DCC update should help mitigate DCC rate increases in future major DCC amendments.

2. Proposed DCC rate increase to be phased over a period of 3 years.

   UDI has requested that the new DCC rates be implemented in phases over 3 years to allow the development industry to adjust plans and cost structures of their projects. NAIOP has made a similar request over phasing of the proposed DCC rates.

   Phasing of the DCC rates was proposed as an alternative to Council in the staff report titled *Proposed City-Wide DCC Capital Programs (2016-2041) and Updated City-Wide DCC Rates* dated August 25, 2016 from the Director of Finance. The phasing option was not recommended on the basis that the administration requirement to implement the immediate roll out of the proposed rate (without phasing) is far more simplified than a phased approach for both the City and the development industry. Phasing of the rates will only further prolong the cost adjustment period, causing the City's DCC program costs to continue to be

behind the true cost of providing the required capital infrastructure, which is currently over 8 years behind.

In addition, benchmark analysis shows that the resulting cost burden impact (DCC dollar as a percentage of average home price) to developers will be favourable for both single family homes and townhouse when compared to historical ratios. The DCC as the percentage of home sale price ratio for apartments will increase slightly under the proposed rate but it is still considered favourable when being compared to the same ratio of comparable municipalities.

To ensure that growth fairly pays for growth, staff recommend no further delay in implementing the new rates and thus recommend that the proposed DCC rates be rolled out in full without phasing. This one-time adjustment as proposed is equivalent to an average of approximately 3.5% annualized rate increase per year for the past 8 years, where DCC rates paid by developers had remained unchanged despite the substantial increase in market value of land and construction costs in delivering the DCC capital projects.

3. In-Stream Protection for 12 months is not enough.

   The industry was first made aware of the City's intention to update its DCC rates when Council made a referral to update the DCC rates upon adoption of the Hamilton Area Plan on February 11, 2014. Assuming that the final adoption date of the proposed DCC Bylaw No. 9499 (which is still subject to Inspector's Approval) will be in Spring 2017, the industry has in essence been given over 3 years of notification period since the DCC rate update referral was made in early 2014. Along with the 1-year in-stream protection for qualifying applications under the *Local Government Act*, this will provide an additional year of protection to the development industry before the new rates become effective. Thus, it was determined that further or extended grace period is not warranted.

   Staff have reassured the development industry that, similar to the previous DCC Bylaw update in 2009, City staff will form cross functional groups to ensure all qualified in-stream applications will be processed and expedited within the grandfathering provision period.

4. Both Metro Vancouver DCC and Municipal DCC increases will put a large burden on new developments.

   Metro Vancouver's DCC program includes capital infrastructure costs for treatment plants and sewer inceptors that receive flows from municipal trunk sewers. Their collection from growth is independent from that of the City's DCC's and any such changes in Metro Vancouver's DCC are mandated by the regional government that is beyond the City's control. Both Metro Vancouver and Richmond are required to update their outdated capital program costs to reflect the true cost of providing the required capital infrastructure to support growth.

5. Uncertainty of how senior government policies and foreseen changes in political climate would affect the housing market.

   Should conditions exist in the real estate market that would change and affect future land values and/or construction costs, any such cost adjustments would be reflected in the annual DCC update when such market adjustments would be embedded in the referenced consumer price index. In addition, annually staff will review the impact to the DCC program costs and if significant events occur that warrant a major DCC review, staff will reflect these market changes and will present to Council at a minimum once every 5 years or more often as deemed appropriate.

Next Steps

Once the proposed DCC Bylaw is approved by Council for first, second and third readings, the DCC Bylaw and all supporting documentation (including the 2016 DCC Update Report in Attachment 5 which validates that all the works performed by staff to support the proposed major DCC amendment are done in accordance with legislation) will be submitted to the Ministry of Community, Sport & Cultural Development ("Ministry") for review and statutory approval.

If the Ministry recommends changes to the DCC Bylaw, staff will need to revise the bylaw and re-present it to Council for approval. The DCC Bylaw, if approved by the Ministry, will be presented to Council for final adoption.

Implementation Guidelines

Sections 511 and 568 of the *Local Government Act* that provide 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 applications or the precursor applications must have been submitted in satisfactory form to and accepted by the City, and that all application fees have been paid.

For in-stream applications to be grandfathered, the subdivision must be completed within 12 months after the bylaw is adopted. For in-stream precursor applications, 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).

Financial Impact

The proposed DCC rates will ensure that development does not burden taxpayers. The amount of increase will depend on the amount of new development activities and the types of development activities upon the effective date of the Bylaw. The DCC collected will provide funding to pay for the cost of the proposed capital infrastructure works to support growth, such as parkland purchase, park development, traffic improvements and engineering infrastructures.

Conclusion

To ensure that the City's DCC programs and DCC rates are updated to reflect the current costs of providing the required infrastructure to support growth, staff are recommending that the proposed Development Cost Charges Imposition Bylaw No. 9499 be approved by Council.

Venus Ngan
Manager, Treasury and Financial Services
(604-276-4217)

Att. 1: Proposed Development Cost Charges Imposition Bylaw No. 9499
2: Summary of Amendments to the Development Cost Charges Imposition Bylaw
3: Letter from UDI
3.1: Letter from NAIOP
4: Staff response to UDI
5: 2016 DCC Update Report

CITY OF RICHMOND

DEVELOPMENT COST CHARGES IMPOSITION

BYLAW NO. 9499

EFFECTIVE DATE –

CITY OF RICHMOND

DEVELOPMENT COST CHARGES IMPOSITION

BYLAW NO. 9499

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City of Richmond

Bylaw 9499

DEVELOPMENT COST CHARGES IMPOSITION BYLAW NO. 9499

The Council of the City of Richmond enacts as follows:

PART ONE: GENERAL PROVISIONS

1.1 Establishment of Development Cost Areas

1.1.1 For the purposes of imposing development cost charges, the **City** is not divided into areas, except in respect of supplementary development cost charges for **development** in the Alexandra area as shown on Schedule A.

1.2 Imposition of Development Cost Charges

1.2.1 In accordance with Division 19, "Development Costs Recovery", of the ***Local Government Act***, development cost charges are imposed for the purpose of providing funds to assist the **City** in paying the capital costs of providing, constructing, altering or expanding sewage, water, drainage and highway facilities, other than off-street parking facilities, and providing and improving park land to service, directly or indirectly, the **development** for which the charge is being imposed. Subject to the provisions of subsection 1.3.1 of this Bylaw and in accordance the ***Local Government Act***, development cost charges are imposed on every person who obtains:

(a) approval of a subdivision of a **parcel**; or

(b) a **building permit** authorizing the **construction**, alteration or extension of a building or part of a building that will, after the **construction**, alteration or extension, contain one or more self-contained dwelling units, as established in accordance with section 561(6) of the ***Local Government Act***.

1.2.2 Every person who obtains approval of a subdivision of a **parcel** or a **building permit** must pay development cost charges in accordance with Schedule B and Schedule C if the supplementary development cost charges apply.

1.2.3 Where a type of **development** is not identified in Schedule B and Schedule C, the development cost charges for the most comparable type of **development**, as determined by the **City**, are to be used to determine the amount payable.

1.2.4 For **developments** with two or more types of **developments**, the development cost charge payable shall be calculated separately for each portion of the **development** contained in the **building permit** or subdivision application in accordance with the development cost charges for each **development** type in Schedule B and Schedule C.

1.3 Exemption from Development Cost Charges

1.3.1 The development cost charges imposed under section 1.2 apply only to the extent specified, and are subject to the restrictions specified the ***Local Government Act***. In accordance with provisions of Section 561 of the ***Local Government Act***, development cost charge is not payable if any of the following applies in relation to a **development** authorized by a **building permit**:

(a) where the permit authorizes the **construction**, alteration or extension of a building or part of a building that is, or will be, after the **construction**, alteration or extension, exempt from taxation under Section 220(1)(h) or Section 224(2)(f) of the *Community Charter*;

(b) where the aggregate value of the work authorized by a **building permit** does not exceed $50,000; or

(c) where the area of the self-contained dwelling unit in a building authorized under a **building permit** is no larger in area than 29 square metres and the unit is to be put to no other use other than a **residential** use in those dwelling units.

1.4 Payment of Development Cost Charges

1.4.1 The development cost charges imposed under subsection 1.2 must be paid to the **City** in full as follows:

(a) in the cases of the **single family** or **major industrial** subdivision of a **parcel**, at the time of the approval of the subdivision;

(b) for all cases other than that described in subsection 1.4.1(a), at the time of the issuance of the **building permit**.

1.4.2 Development cost charges that would otherwise be payable in full at the times specified in subsection 1.4.1 may be paid by instalments in accordance with all terms and conditions of the Development Cost Charge (Instalments) Regulation (B.C. Reg. 166/84) of the ***Local Government Act***.

PART TWO: INTERPRETATION

2.1 All terms in this bylaw will follow the **Richmond Zoning Bylaw**, except otherwise defined herein:

APARTMENT means a **residential** dwelling unit which is or will be situated in a building consisting of two or more dwellings in which the dwellings are arranged in any horizontal or vertical configuration and have access from a common interior corridor. This also includes congregate housing which is a multi-unit residential building that contains two or more independent or semi-independent units which shall be supplemented by professional medical care, lay supervision and care, communal dining facilities and housekeeping services.

BUILDING AREA (BA) means the total area of all storeys measured to the outer limits of the building, which is the sum of:

(i) The floor area of the building(s) on-site used for Floor Area Ratio calculations as defined in the **Richmond Zoning Bylaw**; plus

(ii) All common utility areas provided for the building, such as mechanical, electrical, telephone, cable and district energy utility rooms, electrical and mechanical conduit shafts etc.; plus

(iii) All common service rooms provided for the building, such garbage and recycling rooms and storage rooms etc.

But excludes the sum of:

a) Bicycle parking rooms; plus

b) Vehicle parking, circulation and loading areas; plus

c) Covered open areas of the building(s) on the site intended to provide public access to **commercial** spaces (i.e. covered areas such as verandas, colonnades etc.)

BUILDING PERMIT means permission or authorization in writing by a building inspector under the current Building Regulation Bylaw of the **City** to perform construction regulated by such bylaw.

CITY	means the City of Richmond and includes the land, air space and surface of water which comprise the City of Richmond.
COMMERCIAL	means all **developments** zoned **commercial** and all **developments** having **commercial** uses undertaken in buildings or on land where zoning designation is other than **commercial**. **Commercial** use means the carrying on of any business, including the sale or provision of goods, accommodation, entertainment, meals or services, but excludes **industrial** uses, as defined in the **Richmond Zoning Bylaw**.
CONSTRUCTION	means to build, erect, install, repair, alter, add, enlarge, move, locate, relocate, reconstruct, demolish, remove, excavate or shore.
COUNCIL	means the Council of the **City**.
DEVELOPMENT(S)	means approval of a subdivision of a **parcel** or the issuance of a **building permit** for which a development cost charge may be imposed, as defined in the ***Local Government Act***.
INSTITUTIONAL	means **development** which is created and that exists by law or public authority for the benefit of the public in general, and includes public hospitals, public and private schools, and facilities used primarily for public services.
LIGHT INDUSTRIAL	means **development** zoned industrial, general, except where the use is other than industrial, general as defined in the **Richmond Zoning Bylaw**.
LOCAL GOVERNMENT ACT	means the ***Local Government Act***, R.S.B.C. 2015 as amended from time to time.
MAJOR INDUSTRIAL	means **development** zoned industrial, heavy, except where the use is other than industrial, heavy, as defined in the **Richmond Zoning Bylaw**.

PARCEL	means a lot, block, or other area in which land is held, or into which land is legally subdivided.
RESIDENTIAL	means **development** of a **parcel** which falls under **residential** zoning as defined in the **Richmond Zoning Bylaw**, including congregate housing, but excludes nursing homes and rest homes, which are deemed to be **institutional development**.
RICHMOND ZONING BYLAW	means Richmond Zoning Bylaw 8500, as amended from time to time.
SINGLE FAMILY	means single **residential** detached housing that has a maximum of one principal dwelling unit and a secondary suite or coach house as defined in the **Richmond Zoning Bylaw**. This rate also applies to each dwelling unit of two-unit dwellings as defined in the **Richmond Zoning Bylaw**.
SQUARE FOOTAGE OF DWELLING UNIT (sq. ft. of DU)	means the total floor area of the building or structure contained within the exterior face of the structural system of the exterior and basement walls and, where applicable, the centre line of the common walls dividing the dwelling units and shall include all the internal walls within each dwelling unit excluding parking areas, crawl spaces, balconies, canopies, terraces and sun decks.
TOWNHOUSE	refers to the definition of Housing, town, of the **Richmond Zoning Bylaw**.

PART THREE: PREVIOUS BYLAW REPEAL

3.1 Development Cost Charges Imposition Bylaw 8024 and all amendments thereto is hereby repealed except to the extent that sections 511 and/or 568 of the Local Government Act apply.

PART FOUR: SEVERABILITY AND CITATION

4.1 The provisions of this bylaw are severable, and if for any reasons, any part, section, subsection, clause, or sub-clause, or other words in this bylaw are found to be invalid or unenforceable by the decision of a Court of competent jurisdiction, such decision does not affect the validity of the remaining portions of this bylaw.

4.2 This bylaw is cited as **"Development Cost Charges Imposition Bylaw No. 9499"**

FIRST READING	
SECOND READING	
THIRD READING	
ADOPTED	

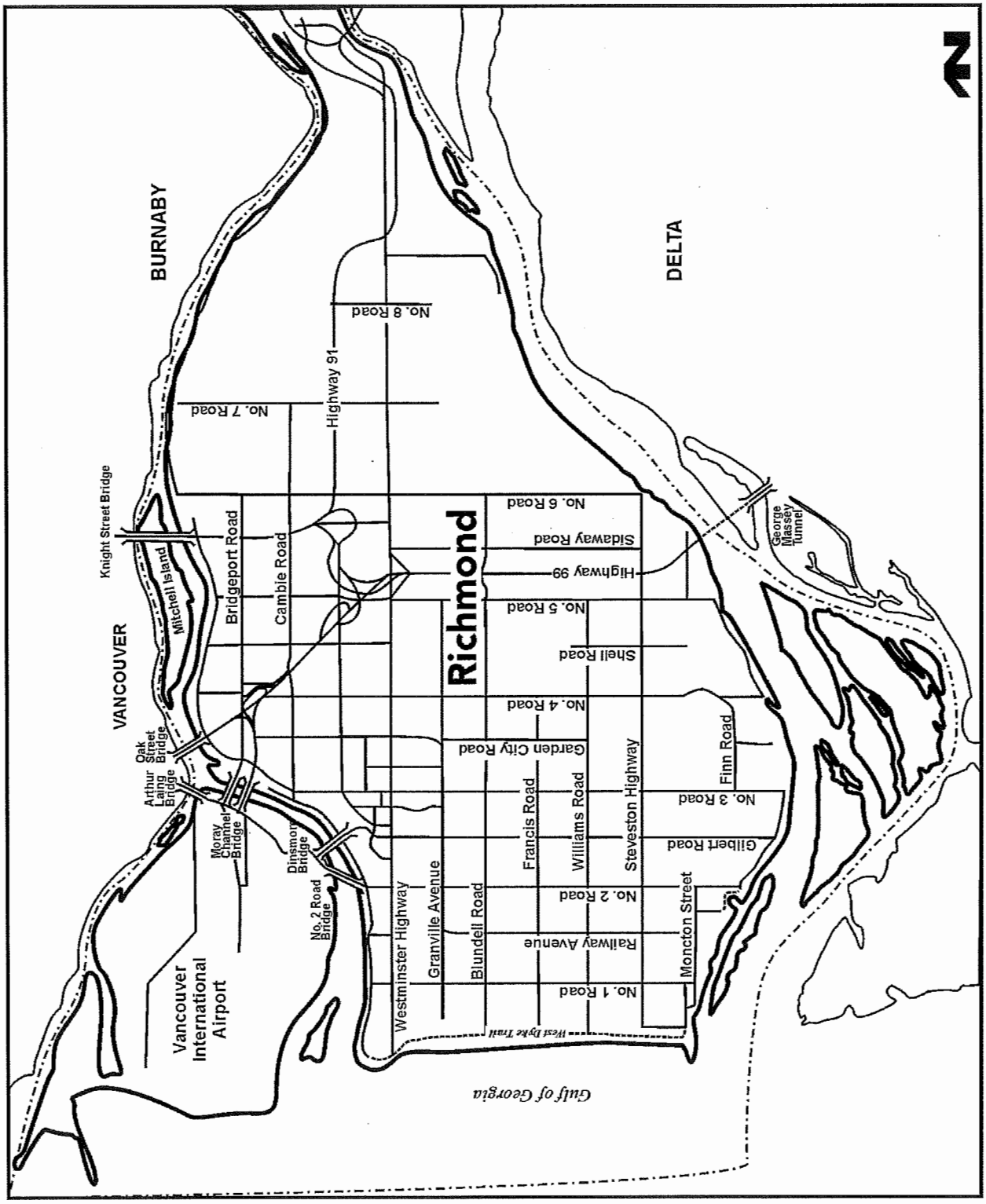
CITY OF RICHMOND
APPROVED for content by originating dept.
VN
APPROVED for legality by Solicitor
DL

MAYOR

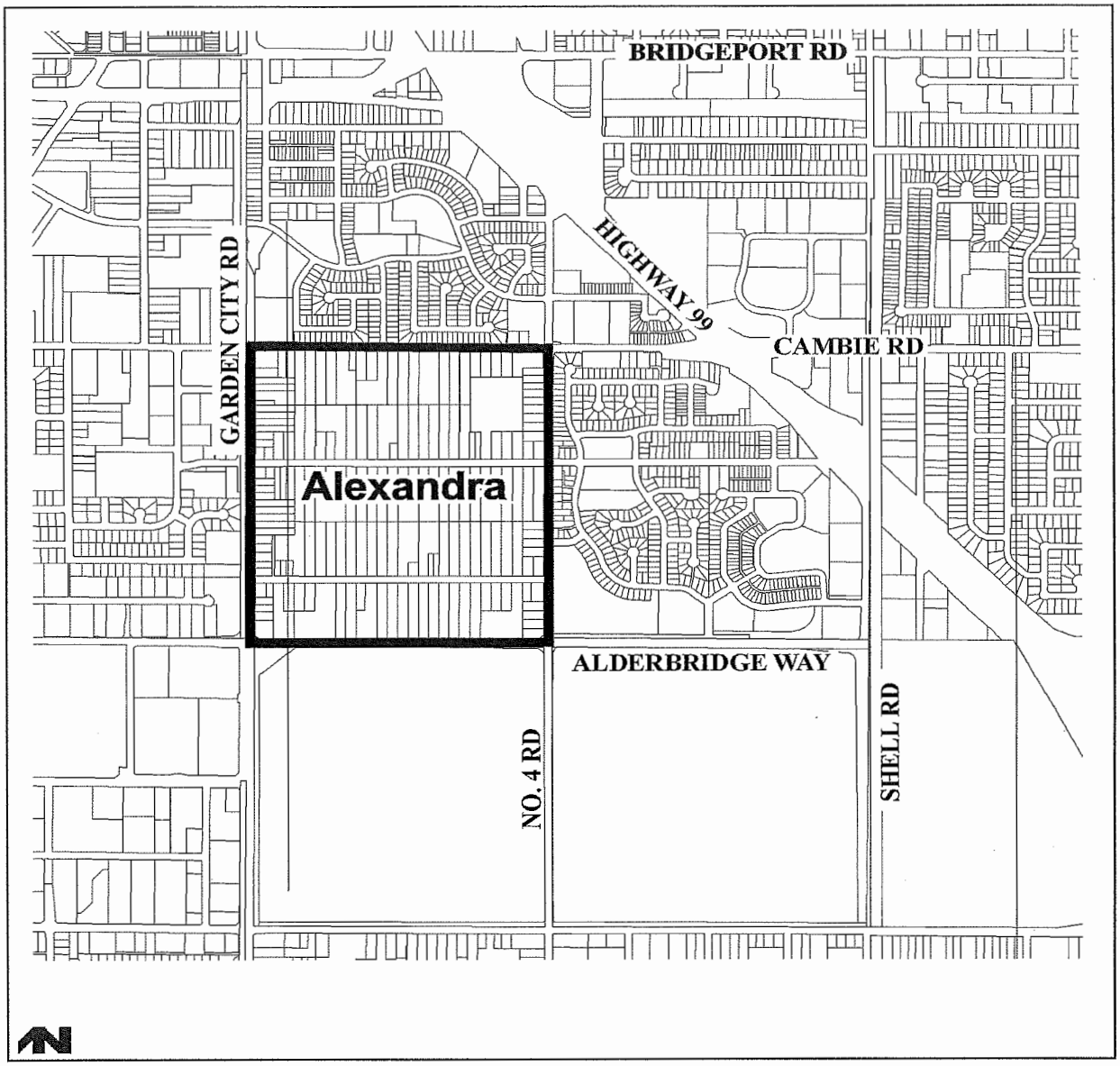
CORPORATE OFFICER

SCHEDULE A to BYLAW NO. 9499

CITY MAP AND ALEXANDRA AREA



SCHEDULE A to BYLAW NO. 9499



West Cambie Area Plan

SCHEDULE B to BYLAW NO. 9499
City-Wide Development Cost Charge

Description	Richmond Zoning Bylaw 8500 Standard Zones	Site Specific Zones	Site Specific Mixed Use Zones (1)	Road Works	Drainage Works	Water Works	Sanitary Sewer	Parks Acquisition	Parks Development	Total DCC	Units for each column
Agricultural Marina (2)	AG, CR, GC MA	ZA		$ -	$ -	$ -	$ -	$ -	$ -	$ -	-
Single Family	RS, RC, RCH, RD, RI, RE, RCC	ZS, ZD		$15,661.33	$ 7,066.69	$ 1,068.03	$ 2,512.85	$ 7,582.39	$ 5,602.81	$39,494.10	per lot
Townhouse	RTL, RTM, RTH, RTP	ZT		$ 7.51	$ 3.04	$ 0.70	$ 1.64	$ 4.94	$ 3.65	$ 21.48	per sq. ft. of DU
Apartment	RAL, RAM, RAH	ZLR, ZHR	ZR, RCL, ZMU, CS, ZC	$ 9.22	$ 2.16	$ 0.72	$ 1.68	$ 5.08	$ 3.75	$ 22.61	per sq. ft. of DU
Commercial (3)	CL, CC, CA, CDT, CEA, CG, CN, CP, CV IB, IL, IR, IS	ZC ZI	ZR, RCL, ZMU, CS, ZC	$ 11.18	$ 2.10	$ 0.27	$ 0.64	$ 0.19	$ 0.14	$ 14.52	per sq. ft. of BA
Light Industrial (4)	IB, IL, IR, IS	ZI		$ 7.99	$ 2.10	$ 0.27	$ 0.64	$ 0.19	$ 0.14	$ 11.33	per sq. ft. of BA
Major Industrial	I			$41,754.90	$ 41,823.62	$ 3,830.94	$ 9,013.41	$ 743.86	$ 549.66	$97,716.39	per acre of gross site area
Institutional	AIR, SI, ASY, HC	ZIS		$ 11.18	$ 2.10	$ 0.27	$ 0.64	$ 0.19	$ 0.14	$ 14.52	per sq. ft. of BA

(1) For site specific mixed used residential and commercial zones, the development cost charge (DCC) payable shall be calculated separately for reach portion of the development. DCC for residential uses are charged at the appropriate multi-family residential rate, and any commercial space is charged at the appropriate commercial rate.

(2) Waterborne residential development permitted under MA zone is exempt from DCC. Any upland buildings in this zone are required to pay the Commercial DCC Rate.

(3) Commercial rate is applicable to all uses permitted in these zones, except for the following, which will be charged the industrial rate: (i) general industrial, (ii) custom indoor manufacturing, (iii) minor utility, (iv) transportation depot, and (v) truck or railroad terminal.

(4) For industrial developments with a mix of commercial and industrial permitted uses (including site-specific industrial zones), the DCC payable shall be calculated separately for each portion of development contained in the building permit or subdivision application in accordance with actual uses. The total payable will be the sum of the DCC for each portion of the development at the applicable DCC rates.

SCHEDULE C to BYLAW NO. 9499
Supplementary Development Cost Charge in Alexandra Area

In addition to the development cost charge applicable city-wide in Richmond, **development** in the Alexandra Area shall pay the following additional supplementary development cost charges.

Description	Standard Zones	Site Specific Zones	Site Specific Mixed Use Zones	Road Works	Drainage Works	Water Works	Sanitary Sewer	Parks Acquisition	Parks Development	Total DCC	Units for each column
Townhouse	RTL, RTM, RTH, RTP	ZT		$ 2.35	$ 0.51	$ 0.07	$ 0.15	$ 3.31	$ 0.42	$ 6.81	per sq. ft. of DU
Apartment	RAL, RAM, RAH	ZLR, ZHR	ZR, RCL, ZMU, CS, ZC	$ 3.14	$ 0.36	$ 0.07	$ 0.15	$ 3.41	$ 0.43	$ 7.56	per sq. ft. of DU
Commercial	CL, CC, CA, CDT, CEA, CG, CN, CP, CV IB, IL, IR, IS	ZC ZI	ZR, RCL, ZMU, CS, ZC	$ 6.26	$ 0.35	$ 0.03	$ 0.06	$ 0.64	$ 0.08	$ 7.42	per sq. ft. of BA

Summary of Amendments to the Development Cost Charges Imposition Bylaw

New Section(s) Bylaw No.9499	New/Amended Provision	Reason for Amendment	Old Section(s) Bylaw No. 8024
s. 1.1.1 s. 1.2.1 s. 1.2.3	Establishment of Development Cost Areas Imposition of Development Cost Charges	Minor administrative changes to enhance clarity of language over the general provisions of the bylaw and to ensure adherence with the *Local Government Act*.	s. 1.1.1 s. 1.2.1 s. 1.2.3
s. 1.2.2	Amended reference to the consolidated City-Wide DCC Rates in Schedule B and moved supplementary DCC Rates for Alexandra Area to Schedule C.	Replaced City-Wide DCC Rate Schedules B, C, D and E with one consolidated City-Wide DCC Rate Schedule B (updated) that contains all development types. Supplementary DCC Rates for the Alexandra Area (no change) is moved to Schedule C	s. 1.2.2 s. 1.2.4
s. 1.2.4	Developments with two or more types of developments	Minor administrative changes to enhance clarity of language over the DCC calculation of developments with two or more types of developments (formerly known as combination developments).	s. 2.2
s. 1.3.1	Exemption from Development Cost Charges	Included specific conditions where DCC is exempt under section 561 of the *Local Government Act* (bylaw section has been renamed from "Restrictions on Requirement to Pay DCC" to "Exemption from Development Cost Charges").	s. 1.3.1
s. 1.4.1 s. 1.4.2	Payment of Development Cost Charges	Administrative changes to enhance clarity of language over the payment of DCC. Section 1.4.2 was added to clarify instalment payment of DCC is acceptable under Development Cost Charge (Instalments) Regulation (B.C. Reg. 166/84) of the *Local Government Act.*	s.1.4.1
n/a	Parcels Covered by Water and Marinas	Sections deleted and replaced by footnote in Schedule B in relations to parcels covered by water and marinas.	s. 2.1 s. 2.3

New Section(s) Bylaw No.9499	New/Amended Provision	Reason for Amendment	Old Section(s) Bylaw No. 8024
s. 2.1	The following terms were removed as these terms will follow Richmond Zoning Bylaw 8500's definitions: • Building • Storey • Structure The following defined terms were added: • Square Footage of Dwelling Unit (sq. ft. of DU) • Local Government Act • Richmond Zoning Bylaw The following defined terms were amended: • Apartment (renamed from Multi-Family Dwelling) • Building Area (BA) (renamed from Building Area) • Commercial (renamed from Commercial Development) • Development(s) (renamed from Development) • Institutional (renamed from Institutional Development) • Light Industrial (renamed from Light Industrial Development) • Major Industrial (renamed from Major Industrial Development) • Residential (renamed from Residential Development) • Single Family (renamed from Dwelling, One-Family) • Townhouse	New and amended definitions for the following changes to the DCC bylaw: <u>#1. Classification of Development Types</u> Changing from the current use of "BC Assessment Authority Prescribed Classes of Property Regulation" to classify development type to using "Permitted Uses in accordance with the City's Zoning Bylaw". Rationales for change: • BC Assessment's classification of property in some cases do not reflect the actual zoning or permitted use allowed by the City. • To be consistent with the market where major municipalities use zoning and permitted use to classify development types for DCC purposes. <u>#2. Unit Rate for DCC Calculations</u> Changing from the current measure of "rate per square foot of building area" to using "rate per square foot of dwelling unit" to assess DCC payable for townhouse and apartment units. Rationales for change: • The use of building area calculation is not consistent with floor area calculation used in the City's Zoning Bylaw. • Square foot of dwelling unit is a clear and defined measurement in calculating DCC's for multi-family residential developments. • This measurement is consistent with industry practice.	s. 3.1
s. 3.1	Previous Bylaw Repeal	Previous bylaw repealed with the exception to situations where in-stream protection provisions of the *Local Government Act* apply.	s. 4.1
s. 4.1 s. 4.2	Severability and Citation	New bylaw number cited.	s. 5.1 s. 5.2

New Section(s) Bylaw No.9499	New/Amended Provision	Reason for Amendment	Old Section(s) Bylaw No. 8024
Schedule A	City Map and Alexandra Area	No change	Schedule A
Schedule B	City-Wide Development Cost Charges	<u>Agricultural, Marina</u> • Exempt from DCC, unless otherwise noted. <u>Single-Family</u> • Change in rates. <u>Townhouse</u> • Change in rates, and • Change in unit of measurement from rate per square foot of building area to rate per square foot of dwelling unit <u>Apartment</u> • Change in rates, and • Change in unit of measurement from rate per square foot of building area to rate per square foot of dwelling unit <u>Commercial</u> • Change in rates, including reduction in park related DCC for non-residential use <u>Light Industrial</u> • Change in rates, including reduction in park related DCCs for non-residential use <u>Major Industrial</u> • Change in rates <u>Institutional</u> • New category	Schedules B, C, D, E
Schedule C	Supplementary Development Cost Charges in Alexandra Area	Reformatted DCC rate table and updated unit of measurements for townhouse and apartment developments (no change in rates)	Schedule F

URBAN DEVELOPMENT INSTITUTE – PACIFIC REGION
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December 16, 2016

Wayne Craig
CC: Jerry Chong, Venus Ngan
City of Richmond
6911 No. 3 Road
Richmond, BC V6Y 2C1

UDI Feedback re: City of Richmond Development Cost Charges Bylaw Review

On behalf of the Urban Development Institute, I thank you for meeting with a focus group of our members on October 18th to discuss the DCC Bylaw review. At that meeting we requested rate tables and benefit factor estimations, which were kindly provided on November 25th.

We have circulated the information and gathered feedback from members of the UDI/Richmond Liaison committee, which is summarized below:

Consultation Timelines:

While we appreciate the consultation opportunities and information that has been shared with us thus far in process of updating the DCC bylaw, we feel that earlier notice to the industry was necessary for increases this substantial. The industry was surprised by the large increases, and recommends that future fee increases involve a lengthier and more transparent discussion with developers.

Phasing period:

Unexpected DCC increases can have enormous impacts on the viability of development projects currently underway. This can be mitigated by phasing the DCC increases in over time.

If there are concerns about revenue losses during the phasing period, additional rate increases could follow the phasing period for the remaining years of the DCC program, or until the losses from the phasing period are recuperated. We recommend phasing the rates in incrementally over 3 years.

Complex projects involve lengthy approval times and therefore should also have lengthy grandfathering periods for fee changes.

UDI would gladly organize another meeting to further explain the phasing approach, or discuss other options such as an extended grace period.

Metro Vancouver DCC increases:

Metro Vancouver is also in the process of increasing their Development Cost Charges, and are aiming for board approval in Spring 2017. These charges, when compiled with local municipal charges, will put a large burden on new developments, and ultimately homebuyers. We ask that all rate increases, such as affordable housing contributions and district energy costs, be examined holistically to determine their combined impact on the market.

DCC Rates:

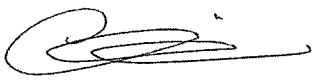
Richmond's existing DCC rates across all asset classes are already high when compared to other municipalities, as noted in the presentation slides from the November 3rd DCC public meeting. UDI members feel the proposed rates are too high and will discourage development, particularly in the industrial sector. The existing industrial rates were already more than double the rates of most other municipalities in Metro Vancouver. The proposed increases (to $11.33/sq ft) will make Richmond's industrial DCC rates triple what they are in other comparable municipalities.

We ask that the industrial rates be re-examined and adjusted, and would also appreciate a justification as to why Richmond's industrial development cost charges already far exceed neighbouring municipalities. Industrial properties already pay high property taxes, and the City should be careful not to overburden and discourage development of this sector which directly provides jobs and stimulates the local economy.

Finally, we would be interested to see a breakdown of how DCCs collected from various asset classes are attributed to specific projects in the DCC program. If you could provide a table that indicates which asset classes fund which projects that would be appreciated.

We look forward to continuing to work with the City of Richmond on this issue and others.

Best Regards,



Anne McMullin
President and CEO
Urban Development Institute

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NAIOP
COMMERCIAL REAL ESTATE DEVELOPMENT ASSOCIATION
VANCOUVER CHAPTER

January 19, 2017

Mr. Jerry Chong
Director of Finance
City of Richmond
6911 No. 3 Road
Richmond, B.C.
V6Y 2C1

Re: City of Richmond, Proposed Development Cost Charge Increase

Dear Mr. Chong;

Introduction:

The Vancouver Chapter of NAIOP ("NAIOP") is one of 50 chapters throughout North America, with memberships totaling over 16,000. NAIOP provides communication, networking and business opportunities for real estate related professionals within the local commercial market and represents commercial real estate developers, owners and investors of office, industrial, retail and mixed-use properties. NAIOP is very active in the Metro Vancouver market and provides strong advocacy, education and business opportunities while connecting its members through its North American network. The Association also provides a forum for continuing education and the promotion of effective public policy at all levels of government.

Purpose

NAIOP was first introduced to the City of Richmond's Development Cost Charges ("DCC") Bylaw Review by the Urban Development Institute ("UDI"), shortly after the November 30th UDI Liaison Committee meeting. Given the timing of this information, NAIOP was advised that although the November 3rd public consultation period had passed, the opportunity to provide comments was extended to stakeholders. Additionally, NAIOP submitted an email to the City's Director of Finance on December 8th, requesting that the City allow NAIOP to be engaged as part of the DCC's consultative process. To date we have not received feedback on our request, as such, the following questions and comments are based upon the DCC Bylaw Review material available on the City's website.

DCC Rates and Municipal Fees

In the Fall of 2015 and 2016 NAIOP published its 16th and 17th Annual Cost of Business Survey for Metro Vancouver. The intent of the annual surveys is to provide NAIOP's membership and the business community as a whole with a reference tool that quantifies the costs and processing times associated with typical development

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projects within Metro Vancouver municipal jurisdictions. The results are publicly available and can be utilized by municipalities, whose active participation makes this survey possible, as a gauge for their own development costs and approval processes. For practicality, the survey alternates annually between industrial and office development scenarios. For reference, please find a copy of the survey appended to this letter. An electronic version can also be downloaded here: www.naiopvcr.com/media/27657/2015-Cost-of-Business-Survey.pdf and www.naiopvcr.com/media/39946/NAIOP_Fall-2016-COBS.pdf .

Although the City's DCC rates have not increased since 2009, NAIOP notes that Richmond's existing industrial DCC rate remains the highest in Metro Vancouver and third highest DCC for office/commercial development. 2016 industrial and office DCC rates are summarized in the following tables. Both the office and industrial DCC's are converted to a per square foot value for purposes of comparison.

		2016 Industrial DCC (PSF)	Richmond Proposed (PSF)
1.	City of Richmond	$8.96	$11.33
2.	City of Surrey (Campbell Heights area specific DCC)	*$6.65	
3.	City of Vancouver	$5.55	
4.	City of Surrey (Area wide)	*$3.56	
5.	City of Coquitlam	$6.47	
6.	City of Langley	$6.07	
7.	City of Abbotsford	$4.48	
8.	District of Mission	$4.40	
9.	Township of Langley	$3.59	
10.	City of North Vancouver	$3.13	
11.	City of Port Coquitlam	$3.01	
12.	District of North Vancouver	$2.56	
13.	City of New Westminster	$2.44	
14.	City of Maple Ridge	$2.25	
15.	City of Pitt Meadows	$2.01	
16.	Corporation of Delta	$1.84	
17.	City of Port Moody	$0.96	
18.	City of Burnaby	**N/A	
19.	City of White Rock	***N/A	
20.	District of West Vancouver	***N/A	

** Assumes 50% site coverage to convert per acre DCC to a per square foot value.*
*** No DCCs charged for industrial development.*
**** No industrial lands within jurisdiction.*

NAIOP
COMMERCIAL REAL ESTATE DEVELOPMENT ASSOCIATION
VANCOUVER CHAPTER

In addition to the current DCC rates which are normally the largest component of overall costs of development, Richmond also had the highest total municipal fees in 2015 and 2016, nearly 33% higher than the next municipality (the City of Vancouver) as summarized on page 7 of the 2015 Annual Cost of Business Survey and page 10 of the 2016 Annual Cost of Business Survey. The proposed DCC rate increase will create an even greater spread between Richmond and the next ranked municipality's development fees and move Richmond's office DCC ahead of the City of Vancouver to the second highest DCC in Metro Vancouver.

		2016 Office DCC (PSF)	Richmond Proposed (PSF)
1.	City of Port Coquitlam	$20.42	
2.	City of Vancouver	$13.31	
3.	City of Richmond	$11.22	$14.53
4.	City of Abbotsford	$8.41	
5.	City of Surrey	$7.98	
6.	District of Mission	$7.69	
7.	City of Langley	$6.83	
8.	City of White Rock	$5.60	
9.	City of Coquitlam	$5.57	
10.	District of North Vancouver	$5.49	
11.	City of North Vancouver	$5.39	
12.	Township of Langley	$5.12	
13.	District of West Vancouver	$4.60	
14.	Corporation of Delta	$3.36	
15.	City of New Westminster	$2.06	
16.	City of Pitt Meadows	$1.97	
17.	City of Maple Ridge	$1.30	
18.	City of Port Moody	$1.10	
19.	City of Burnaby	*N/A	

** No City-wide DCCs are charged for office development.*

Implementation

NAIOP's position is that the proposed increase to all DCCs requires a phased approach to implementation and should take place over a period of years, not months, to mitigate impacts to development projects in the planning stage. While we understand that a grandfathering period of 12 months is under consideration, the timeframe to design, review and develop high quality real estate in Metro Vancouver is complex and requires

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years of time and investment. We understand the importance of appropriately financing the City's growth; however, a dramatic increase to the rate implemented over a 12 month period will not be enough time for the market to adequately absorb the new rates. NAIOP, would also like the City of Richmond to consider the new TransLink DCC which will be introduced shortly and the compounded impact to the development community if a phased approach is not taken.

Next Steps

As per our December 8th email, NAIOP is requesting that the City of Richmond considers holding a stakeholder engagement session with NAIOP prior to advancing the proposed DCC Bylaw to Council for 1st, 2nd, and 3rd reading. We look forward to this constructive meeting and working closely with the City on the proposed DCC rate increase and to provide our feedback.

Jarvis Rouillard
President
NAIOP Vancouver

City of Richmond

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January 13, 2017
File: 03-0900-01/2017-Vol 01

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Anne McMullin
President and CEO
Urban Development Institute
#200-602 West Hastings Street
Vancouver, BC V6B 1P2

Dear Anne:

Re: City of Richmond Development Cost Charges Bylaw Review

Thank you for UDI's feedback on the City of Richmond's Development Cost Charges Bylaw Review in the letter dated December 16, 2016. Please find below our response to your letter.

Consultation Timelines
It is undisputable that the costs of land and construction in the Lower Mainland have increased significantly over the past decade. Despite the price increase in the various costs components within the City's DCC program, the DCC rates paid by developments have remained unchanged since the last DCC update in 2009. In addition, as a best practice recommended by the Development Finance Review Committee, municipalities should conduct a major amendment to the DCC bylaw at least once every five years. The development industry should have a reasonable expectation that Richmond's DCC rates would require to be adjusted upward from its 2009 adopted rates.

The industry was first made aware of the City's intention to update its DCC rates when Council adopted the Hamilton Area Plan Update on February 11, 2014. At the meeting, Council made a staff referral to have staff update the city-wide DCC program and DCC rates on or before the end of 2015. The major amendment to the City's DCC program was a comprehensive undertaking by staff from multi-disciplinary areas and by external consultants that specialized in the area of municipal DCC. The proposed DCC program and the rates have in effect been phased in since 2014 and were finally concluded and endorsed by Council on September 26, 2016. Information relating to the proposed DCC rates was open and transparent to both Council and the general public.

Phasing Period
Both the phasing of the proposed DCC rates and the extended grace period were presented to Council as an option of implementation in the staff report titled *Proposed City-Wide DCC Capital Programs (2016-2041) and Updated City-Wide DCC Rates* dated August 25, 2016 from the

Director of Finance, but these options were not endorsed by Council. It was determined that phasing of the rates will only further prolong the cost adjustment period, causing the City's DCC program costs continued to be behind the true cost of providing the required capital infrastructure, which is currently over 8 years behind.

It should be noted that the proposed DCC rates are increasing by between 17% and 59% for the various development types for the first time in the past 8 years, while in comparison the average home resale value of Richmond has increased by almost 150% during the same timeframe. This one-time adjustment as proposed is equivalent to an approximately 3.5% annualized rate increase per year for the past 8 years, where DCC rates had remained unchanged despite the substantial increase in market value of land and construction costs in delivering the DCC capital projects.

Three years lapsed since Richmond Council made its first staff referral to update the DCC rates in February 2014. Also taking into consideration that additional time will be required to obtain approval from the Province before bylaw adoption, along with the mandatory 12-month in stream protection available to qualified in-stream applications. This extended notification period of over four years since 2014 represents ample of time for the development industry.

As was discussed during the focus group meeting on October 18, 2016, that similar to the previous DCC Bylaw update in 2009, City staff will form cross functional groups to ensure all in-stream applications will be expedited and processed in prioritized manner to ensure the applications that meet the in-stream protection requirements will be processed within the grandfathering provision period.

Metro Vancouver DCC Increases

Metro Vancouver's DCC program includes capital infrastructure costs for treatment plants and sewer inceptors that receive flows from municipal trunk sewers. Metro Vancouver's collection from growth is independent from the City's DCC's. Any such changes in Metro Vancouver's DCC are mandated by the regional government that is beyond the City's control. Your response also raises concerns over other municipal rate increases such as affordable housing and district energy costs. This concern has been forwarded to the appropriate staff in those areas for their consideration. DCC's, in accordance with the *Local Government Act*, are calculated based on a defined formulae and can only be charged and used on specific works such as roads, drainage, water, sewerage, park acquisition and park development. DCC must be assessed and charged based on existing DCC legislation to ensure that growth properly pays for growth.

DCC Rates

Staff are aware that commercial and industrial developments play an important role in creating employment and stimulating the local economy.

During the process in deriving the proposed DCC rates, staff assessed the applicability of parkland DCC's to non-residential land use. The assessment has resulted in the non-residential park acquisition DCC rate and the park development DCC rate being reduced by 82% and 69% respectively from the current rates. The decreases in the park DCC rates were offset by the increases in other DCC components. As mentioned previously, the overall DCC rate increase was primarily attributed to Richmond's high land costs (associated with parkland acquisition and road dedications) and increased DCC project costs. It is worth mentioning that Richmond's construction costs of capital infrastructure is typically higher relative to other comparing municipalities because of its unique soil conditions and dewatering requirements. The proposed changes in DCC program costs and growth projection assumptions have caused the overall increase in DCC rates for all development types.

Recognizing the importance of supporting economic development, the light industrial developments' DCC rate, as endorsed by Council, is proposed to increase only by 26% from the existing rate, as compared to 50%-59% increase from the existing rates for residential developments.

Annual DCC Report

Finally, UDI requested additional information regarding past DCC collection and allocation. In accordance with requirement under section 569 of the *Local Government Act*, the City has annually published its Annual Development Cost Charges Report on or before June 30 of the following year. The latest copy of the report can be found under this path on the City's website: Home > Planning, Building & Development > Development & Rezoning > Application Forms & Information > Development Cost Charges (DCC's).

DCC Bylaw – Next Steps

Staff intend to bring a staff report to introduce the updated DCC Bylaw at the next Finance Committee Meeting. The feedback from UDI and the City's response will be attached to the staff report. Upon approval by Council, the corresponding Bylaw will be submitted to the Province for review and comments. It is anticipated that the process will take the Province approximately 6 to 8 weeks to complete.

If you have any questions, please contact me directly.

Yours truly,

Jerry Chong
Director, Finance
604-276-4064

JC:vn

prepared for

Richmond

final report

2016 DCC Update

January 23rd, 2017

URBAN systems

Submitted to

City of Richmond

Attention

Jerry Chong
Director of Finance

Finance and Corporate Services
6911 No. 3 Road
Richmond, V6Y 2C1

Submitted by

Urban Systems

550 - 1090 Homer Street
Vancouver, BC V6B 2W9
T: 250.220.7060

January 23rd, 2017

USL File:1123.0040.01

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APPENDICES

EXECUTIVE SUMMARY

This report presents proposed Development Cost Charges (DCCs) that reflect growth projections and DCC capital programs for the City of Richmond. The report consists of the following parts.

- **Part 1** of the report outlines the purpose of the DCC review and includes information on the legislation enabling DCCs, DCCs levied by other jurisdictions, and the use of the DCC Best Practices Guide.
- In **Part 2**, the public consultation process is reviewed.
- **Part 3** outlines the guiding principles used to develop the DCC program and identify DCC recoverable costs. This part discusses the time frame for the DCC program, the explanation for applying DCCs on a community-wide or area-wide basis, the allocation of costs between existing and new development, the municipal assist factor, grant assistance and interim financing.
- In **Part 4**, growth projections for the City of Richmond are presented.
- **Parts 5 to 9** summarize the costs of each DCC program (i.e. transportation, drainage, sanitary sewer, water, park acquisition and development). The total capital costs for each service and the total DCC program costs are as follows:

Table 1
Total DCC Program Recoverable Costs

Service	Total Capital Costs (Millions)	External Funding (Millions)	DCC Recoverable Program Costs (Millions)	Municipal Costs [1] (Millions)
Transportation	$545.9	$ 9.7	$504.3	$31.9
Water	$40.1	$ -	$38.3	$1.8
Sanitary Sewer	$93.3	$ -	$88.7	$4.7
Drainage	$322.2	$ -	$167.4	$154.9
Park Acquisition	$261.0	$ -	$245.5	$15.5
Park Development	$189.7	$ -	$178.4	$11.3
Total	**$1,452.2 M**	**$9.7 M**	**$1,222.6 M**	**$220 M**

Note: [1] Includes municipal assist factor

Parts 5 to 9 also show how the DCC rates are calculated using the information from Parts 3 and 4. The proposed DCC rates are shown in Table 2.

- **Part 10** includes information on implementation issues such as exemptions to the bylaw, DCC rebates and credits, as well as suggestions for monitoring and accounting related to the DCC bylaw.

Table 2
City of Richmond
Proposed DCC Rate Summary

	Transportation	Water	Sanitary	Drainage	Park Acquisition	Park Development	Total Development Cost Charge	
Single Family	$15,661.33	$1,068.03	$2,512.85	$7,066.69	$7,582.39	$5,602.81	$39,494.10	per lot
Townhouse	$7.51	$0.70	$1.64	$3.04	$4.94	$3.65	$21.48	per ft^2 of dwelling unit
Apartment	$9.22	$0.72	$1.68	$2.16	$5.08	$3.75	$22.61	per ft^2 of dwelling unit
Commercial	$11.18	$0.27	$0.64	$2.10	$0.19	$0.14	$14.52	per ft^2 of building area
Institutional	$11.18	$0.27	$0.64	$2.10	$0.19	$0.14	$14.52	per ft^2 of building area
Light Industrial	$7.99	$0.27	$0.64	$2.10	$0.19	$0.14	$11.33	per ft^2 of building area
Major Industrial	$41,754.90	$3,830.94	$9,013.41	$41,823.62	$743.86	$549.66	$97,716.39	per acre of site area

PART 1. BACKGROUND

Points Covered

- Purpose of this Review
- Legislative and Regulatory Background
- Recent Legislative Changes
- DCCs Levied by Other Authorities
- DCC Best Practices Guide

1.1 Background and Purpose of this Review

The last major review of the City of Richmond's Development Cost Charge (DCC) Bylaw was completed in 2009. At that time, only City-Centre Area Plan projects were updated. Since then, the City has completed new infrastructure planning to support its OCP Neighbourhood Centres and the Hamilton Area Plan. Since 2009, the City has also adopted a new OCP and completed an Employment Lands Strategy, both of which have generated new growth estimates. This review incorporates this new information on infrastructure, reflects new growth estimates, and also updates all project cost estimates to reflect current construction and land costs.

The proposed DCC bylaw levies DCCs for transportation, water, drainage, sanitary sewer, park acquisition and development. DCCs are levied community-wide (with additional DCCs in the Alexandra area – Alexandra area DCCs have not been updated as part of this review) and apply to residential, commercial, industrial, and institutional land uses.

The proposed programs ensure that the people who will use and benefit from the services provided pay their share of the costs in a fair and equitable manner. The proposed DCC programs create certainty by providing stable charges to the development industry and by allowing the orderly and timely construction of infrastructure.

It should be noted that the material provided in the background report is meant for information only. Reference should be made to Bylaw No. 9499, 2016 for the specific DCC rate for all development within the City.

1.2 Legislative and Regulatory Background

Development cost charges are special charges collected by local governments to help pay for infrastructure expenditures required to service growth. The *Local Government Act (LGA)* provides the authority for municipalities to levy DCCs. The purpose of a DCC is to assist the municipality with accommodating development by providing a dedicated source of funding for the capital costs of:

- Providing, constructing, altering or expanding sewage, water, drainage and transportation facilities (other than off-street parking); and
- Providing and improving parkland.

Municipalities wanting to collect DCCs must adopt a DCC bylaw that specifies the amount of the DCCs that will be collected. The charges may vary with respect to:

- Different zones or different defined or specific areas;
- Different uses;
- Different capital costs as they relate to different classes of development; and

- Different sizes or different numbers of lots or units in a development.

Funds collected through DCCs must be deposited in separate reserve accounts. These funds may only be used to pay for the capital costs of the works and short-term financing costs of a debt incurred for capital works identified in the DCC program. The costs for capital works include not only the actual construction of the works but also the planning, engineering and legal costs which are directly related to the works, as well as improving parkland if a parkland acquisition and improvement DCC is established.

1.3 Recent Legislative Changes

In 2008 the Provincial Government revised the legislation pertaining to DCCs, which provided the option for municipalities to exempt or waive DCCs for the following classes of "eligible development":

- Not-for-profit rental housing, including supportive living housing (similar provisions were in the previous legislation, but did not require a bylaw to waive or reduce DCCs for not-for-profit rental housing);
- For-profit affordable rental housing;
- Subdivisions of small lots designed to result in low greenhouse gas emissions; and
- Developments designed to result in a low environmental impact.

More recently, in 2014, the *Local Government Act* was amended to provide "in-stream" protection to applicants at time of building permit, to provide developers with 12 months' protection from increases to DCCs. The same level of protection currently exists for "in-stream" subdivision applications with a similar protection period of 12 months. In addition, the legislation also protects "precursor applications" for rezoning and/or development permits which are linked to building permits, with the same 12-month protection period.

1.4 DCCs Levied by Other Authorities

In addition to the DCCs levied by the municipality, developers are often also required to pay regional DCCs. In Richmond, the City is required to collect regional DCCs on behalf of the Greater Vancouver Regional District. Currently, the Greater Vancouver Regional District charges DCCs for sewerage and drainage (Table 3).

Table 3
Greater Vancouver Sewerage and Drainage DCCs

Land Use	Rate
Single Detached Residential Use (per unit)	$1,077
Townhouse Residential Use (per unit)	$942
Apartment Residential Use (per unit)	$673
Non-Residential Use (per sq. ft. of floor area)	$0.505

*Source: Greater Vancouver Regional District, Development Cost Charge Bylaw No. 254.

1.5 Use of DCC Best Practices Guide

The Ministry of Community, Sport and Cultural Development (the "Ministry") has prepared a Development Cost Charge Best Practices Guide (the "Best Practices Guide"). The purpose of this document is to outline an accepted process to develop a DCC program. Municipalities that follow this recommended process qualify for streamlined Ministry review of their DCC program.

This report was developed in consideration of the Best Practices Guide.

PART 2. PUBLIC PARTICIPATION

Points Covered

- Public Participation Process

2.1 Public Participation Process

Although the *LGA* does not require a public participation process, the Best Practices Guide does suggest that an opportunity for public participation be included as part of the formulation of the DCC program. The purpose of such a process is to allow those who are interested in or affected by the proposed DCCs to offer comments and input. The Best Practices Guide does not set a recommended format to be followed for public participation; instead, the type of public participation to be used is decided by the municipality itself.

The City invited input from the development community by hosting a meeting with Industry Stakeholders (UDI, GVHBA, small builder's group) on October 18th, 2016. Twelve members of the development community attended. The DCC program, growth estimates, and proposed rates were presented at that meeting. At that time, the City invited UDI to provide written comments on the proposed rates.

The February 2017 Staff Report to the City of Richmond Finance Committee includes UDI's written comments regarding the proposed rates and the City's response.

The City also advertised for a public meeting on November 3rd, 2016. One member of the real estate profession attended and was provided with an overview of the proposed DCC program and rates.

PART 3. DEVELOPING THE DCC PROGRAM AND COSTS - GUIDING PRINCIPLES

Points Covered

- Relationship to Other Municipal Documents
- DCC Time Frame
- Community-Wide and Area-Specific DCCs
- Recoverable Costs
- Other Funding Sources
- Interim Financing
- Allocation of Costs
- Municipal Assist Factor
- Units of Charge

3.1 Relationship to Other Municipal Documents

This DCC program has been developed to be consistent with the following legislation, plans, and policy guides:

- Local Government Act
- Development Cost Charges Best Practices Guide
- City of Richmond Development Cost Charge Bylaw No. 8024, 2006
- City of Richmond Development Cost Charge Bylaw Amendment No. 8060, 2006
- City of Richmond Development Cost Charge Bylaw Amendment No. 8049, 2007
- City of Richmond Development Cost Charge Bylaw Amendment No. 8396, 2010
- City of Richmond City Centre Area Plan, 2009
- City of Richmond Building Permit Records, January 1, 2009 to November 6, 2015
- City of Richmond Employment Lands Strategy, 2010
- Community-Level Projections of Population, Housing & Employment (Urban Futures) – 2010
- City of Richmond Hamilton Area Plan Update, 2014
- City of Richmond City Centre Transportation Plan
- City of Richmond Interim and Long Term Action Plan for the 16,000-block of River Road
- City of Richmond 2041 Official Community Plan (OCP)
- City of Richmond Parks and Open Space Strategy
- City of Richmond Trail Strategy

3.2 DCC Time Frame

The first step in determining DCC costs is to set a time frame for the DCC program. The time frame for the City of Richmond DCC program is to 2041 to match the OCP time frame. The capital expenditure forecasts include all of the DCC projects that need to be constructed to allow for anticipated development within this time frame.

3.3 Community-Wide and Area-Specific DCC Charges

In a community-wide DCC, the same DCC rate is applied for each land use deemed to generate a similar or same capital cost burden regardless of the location of the development. An area-specific DCC typically divides the community into different areas according to geographic or other distinctive areas based on technical reasons. For example, it would be appropriate to establish an area-specific DCC for an area that is uniquely serviced by a series of specific water works, which can only service that particular area due to the unique location and circumstances of the area.

The following questions are typically used to assist in determining whether to use a community-wide or area-specific approach:

1. What does the Provincial DCC Best Practice Guide (BPG) recommend?
2. How is the existing DCC bylaw applied?
3. Who benefits from the capital works in a direct or indirect manner?
4. Is a community-wide DCC a fair manner to distribute the costs in relationship to the development of land throughout the City?
5. What are the cash flow implications of collecting area-specific DCCs vs. community-wide DCCs on a community the size of City of Richmond with the City's specific DCC capital program? How will the manner of DCC collection affect the City's ability to get the DCC program built?
6. What are the typical complexities and costs of establishing the community-wide vs. area-specific DCC?
7. Does a community-wide DCC support growth throughout the City in a more cost effective manner?

The answers to the questions above led to the conclusion that a community-wide DCC rate structure is the best alternative to implement the DCC capital program, with a supplemental DCC in the Alexandra area to reflect unique servicing in that area. (Note: This DCC update does not adjust the DCC rates for Alexandra).

The community-wide DCCs give the City the most flexibility in terms of accumulating and spending DCC revenues. Area-specific DCCs can limit the amount of DCCs available to fund works throughout the City by having multiple DCC reserves with a small amount in different reserves. This can result in long time frames to collect a significant amount of DCCs to build any works in a timely manner.

Having DCCs collected community-wide for capital works gives the City the flexibility to construct DCC works anywhere in the City. This approach can be beneficial should development shift from one area in the City to another area over time. If all areas develop in a slow manner the DCCs available in a community-wide DCC program will allow the City to respond to changes in development patterns throughout the City.

Having a community-wide DCC can reduce the complexity of collecting the DCC and cost of administering the DCC reserves. A community-wide DCC bylaw is often a simpler document to apply by front counter staff as well and can reduce the staff time required to assess, collect and expend the DCCs. We believe the reduced administration effort from having a community-wide DCC can be significant.

3.4 DCC Recoverable Costs

As specified by the *Local Government Act*, the DCC recoverable costs for the projects include construction costs, contingency, engineering and administration. The capital costs included in this report do not include charges for interim financing or interest on long-term debt financing.

As stated in the Ministry's *Development Cost Charge Best Practices Guide*, the Inspector of Municipalities will consider allowing interest costs in relation to:

- Fixed-capacity infrastructure;
- Out-of-sequence projects; and
- Greenfield development.

At this time the City of Richmond has not identified any projects that require long-term debt financing that meet the Ministry guidelines.

3.5 Other Funding Sources

Two projects included in the transportation program would be cost-shared between the City of Richmond and Port Metro Vancouver. These projects would only proceed based on the cost-sharing arrangements illustrated in the DCC program details.

3.6 Interim Financing

The capital costs shown in the report do not include interim financing.

3.7 Allocation of Costs

For each proposed infrastructure project, costs are allocated between the existing development and new growth. To determine the proper allocation for each project, individual projects can be divided into two broad categories:

1. Projects that upgrade the level of service and resolve existing deficiencies; and
2. Projects that are required solely to accommodate new growth.

Projects in the first category provide some benefit to existing development, but they also benefit new growth. In order to allocate the degree of benefit equitably between the existing population and new growth, only a portion of project costs are allocated to new growth.

Projects in the second category benefit new growth only. In other words, they would not be contemplated if no new growth were forecasted.

As for new projects in the first category, the City considers the following factors when determining what percentage to allocate to new growth:

- Current standards of servicing required by the City.
- Whether the work on the project is primarily for upgrading deficiencies and upkeep of the system or whether it is primarily for increasing capacity.
- A comparison of what the size of the project would be if the project was for the existing population, versus what the size of the project would be if the project was expanded to accommodate the new growth as well.
- The proximity of the project in relation to where development is anticipated to occur within the City and the degree to which the development depends on the project in order to ensure that development occurs.

The following table indicates, in general terms, the percentage of the costs that are attributable to new growth according to the type of service.

Table 4
Allocation of Costs Attributable to New Growth

DCC Type	Benefit Factor %
Transportation	95%
Drainage	10 -100%
Sanitary Sewer	26 -100%
Water	95 -100%
Park Acquisition	95%
Park Development	95%

In each of the DCC programs (Appendix A - F), the exact percentage of the benefit that can be attributed to new growth is indicated in the column entitled "Benefit Factor." That benefit factor is applied to the estimated costs to arrive at the amount that can be recovered by DCCs before the municipal assist factor is applied. That information can be found in the column entitled "Benefit to New Development" in all of the DCC programs.

3.8 Municipal Assist Factor

The *LGA* recognizes that it would be unfair to impose on new development all of the costs that are attributable to new development. As such, the *LGA* stipulates that an assist factor will be included as part of the calculation of the DCCs. An assist factor represents the City's contribution towards the capital costs for the projects that are attributed to new development. This contribution is in addition to the costs that were allocated in the calculations to the existing population and that are to be paid by the City. The portion of the costs that the City will have to cover because of the assist factor will have to be financed through other means available to the City.

The actual level of the assist factor is determined by the City. While the City can have a different assist factor for each type of capital works, i.e. water and sanitary, the City cannot have a municipal assist factor that varies for different land uses within the City, i.e. single family residential, townhouse residential, commercial, etc.

According to the *LGA*, the City should consider the following factors when setting DCC rates:

- Future land use patterns and development;
- The phasing of works and services;
- Whether the charges are excessive in relation to the capital costs of prevailing standards of service;
- Whether the costs will deter development; or
- Whether the charges will discourage the construction of reasonably-priced housing or the provision of reasonably-priced serviced land.

In consideration of all of the above matters, the assist factor has been set at the following rates for each type of DCC:

Table 5
Municipal Assist Factor by DCC Type

DCC Type	Municipal Assist Factor
Transportation	1%
Drainage	1%
Sanitary	1%
Water	1%
Park Acquisition	1%
Park Development	1%

3.9 Units of Charge and Time of Collection

Residential DCCs are levied per lot at time of subdivision for new single detached development and per square foot of dwelling unit at time of building permit for townhouses and apartments. Collection of charges at time of building permit allows the City to collect DCCs when the size and the number of dwelling units are known. This approach helps ensure that the DCCs charged closely reflects impact on parks/infrastructure.

Commercial and Light Industrial DCCs are charged at building permit stage on a building area basis. Heavy Industrial DCCs are charged based on site area.

PART 4. GROWTH PROJECTIONS

Points Covered

- Residential
- Commercial, Industrial and Institutional

4.1 Residential

Table 6 shows development potential to 2041. The growth projections are based on the Official Community Plan and they were confirmed with City of Richmond staff.

To calculate DCC rates for multi-family development based on floor space, per unit DCC rates were translated assuming an average unit size (square feet).

Table 6
Distribution of Population Growth by Dwelling Type (2016 to 2041)

Dwelling Type	New Units
Single Family	1,982
Townhouse	17,834
Apartment	19,091
Total New Units	38,907

4.2 Commercial, Industrial and Institutional

Estimated future growth for non-residential land uses is noted in Table 7. All growth projections were based on the City's Employment Lands Strategy and were confirmed with City of Richmond staff.

Table 7
Non-Residential Growth Projections (2016 to 2041)

Land Use	New Development	
Commercial	317,562	square metres building area
Institutional	272,883	square metres building area
Light Industrial	390,862	square metres building area
Major Industrial	13	hectares

PART 5. TRANSPORTATION DCCS

Points Covered

- Transportation DCC Program
- Traffic Generation and Calculation of Roads Impact
- Transportation DCC Calculation

5.1 Transportation DCC Program

The Transportation DCC program includes a variety of capital works including: cross section upgrades, traffic signals, pedestrian/bike corridor improvements, sidewalk and street improvements, and transit-related road infrastructure and traffic safety projects. Program costs include the construction of new transportation infrastructure plus engineering, contingency, project administration, and land costs where applicable. The program and calculations are shown in **Appendix A**.

The Transportation DCC Program identifies the proportion of the costs attributable to future growth and to the existing residents for each project. A municipal assist factor of 1% was applied to that amount in order to determine the amount recoverable by DCCs.

5.2 Traffic Generation and Calculation of Road Impact

For transportation works, the cost of development is distributed based on the trips generated by each land use. Relative impacts and equivalent units have been calculated as follows:

Table 8
Equivalent Units for Transportation

Land Use	Base Unit	Weighted Trip Rate
Single Family	Lot	1.275
Townhouse	Per unit	0.825
Apartment	Per unit	0.713
Commercial	Per m^2 of building area	0.0098
Institutional	Per m^2 of building area	0.0098
Light Industrial	Per m^2 of building area	0.007
Major Industrial	Per hectare	8.4

5.3 Transportation DCC Calculation

The Transportation DCC rates have been calculated according to the various principles and assumptions discussed earlier in this report. The basic calculation is shown in Equation 1.

Equation 1
Transportation DCC Calculation

Total New Growth (by land use) x Trip Ends per Land Use = Total Trip Ends

↓

DCC Recoverable Costs / Total Trip Ends = DCC Costs per Trip End

↓

DCC Costs per Trip End x Trip End per Land Use = DCC Costs per Land Use

PART 6. DRAINAGE DCCS

Points Covered

- Drainage DCC Program
- Drainage Demand and Calculation of Equivalent Population
- Drainage DCC Calculation

6.1 Drainage DCC Program and Rates

The Drainage DCC program includes storm sewer system upgrades such as box culverts and pump station capacity upgrades. Program costs include the construction of new drainage infrastructure plus engineering, contingency, project administration, and land costs where applicable. The program and calculations are shown in **Appendix B**.

The Drainage DCC Program identifies the proportion of the costs attributable to future growth and to the existing residents for each project. A municipal assist factor of 1% was applied to that amount in order to determine the amount recoverable by DCCs.

6.2 Calculation of Equivalent Units for Drainage

In general terms, the impact on the storm drainage system of developing a parcel of land is expressed as the amount of stormwater run-off that must be accommodated by the system. The accepted parameter for expressing imperviousness in stormwater run-off calculations is the "run-off coefficient". Generally speaking, the run-off coefficient reflects the ratio between the impervious area on a parcel and the total area of the parcel. Run-off coefficients are then used to determine equivalency factors necessary to develop Equivalent Drainage Units (EDUs), the basis for calculating drainage DCCs.

Equivalent drainage units are calculated based on the run-off coefficients and are shown in Table 9.

Table 9
Equivalent Units for Drainage

Land Use	Base Unit	Equivalent Drainage Unit Per Base Unit
Single Family	Lot	1
Townhouse	Per unit	0.58
Apartment	Per unit	0.29
Commercial	Per m^2 of building area	0.0032
Institutional	Per m^2 of building area	0.0032
Light Industrial	Per m^2 of building area	0.0032
Major Industrial	Per hectare	14.625

6.3 Drainage DCC Calculation

The Drainage DCC rates have been calculated according to the various principles and assumptions discussed earlier in this report. The basic calculation is shown in Equation 2.

Equation 2
Drainage DCC Calculation

Total New Growth (by unit or sq. m.) x Equivalent Unit (per unit or sq. m.) = Total Equivalent Unit

↓

DCC Recoverable Costs / Total Equivalent Units = DCC Costs per Equivalent Unit

↓

DCC Costs per Equivalent Unit x Equivalent Units (per unit, lot or sq. m.) = DCC Costs per Unit, Lot or sq. m.

PART 7. SANITARY SEWER DCCS

Points Covered

- Sanitary Sewer DCC Program
- Sanitary Sewer Demand and Calculation of Equivalent Population
- Sanitary Sewer DCC Calculation

7.1 Sanitary Sewer DCC Program

The Sanitary Sewer DCC Program includes upgraded sewer mains and new/upgraded pump stations. Program costs include the construction of new sanitary sewer infrastructure plus engineering, contingency, project administration, and land costs where applicable. The program and calculations are shown in **Appendix C**.

The Sanitary Sewer DCC Program identifies the proportion of the costs attributable to future growth and to the existing residents for each project. A municipal assist factor of 1% was applied to that amount in order to determine the amount recoverable by DCCs.

7.2 Sanitary Sewer Demand and Calculation of Equivalent Population

By using the estimated number of persons per unit for residential growth and equivalent population for non-residential growth, the relative degree of impact that the new development would have on the capital projects can be ascertained. For this purpose, the following table sets the equivalents that were used to determine the relative impact of each land use type.

Table 10
Equivalent Units for Sanitary Sewer

Land Use	Base Unit	Equivalent Population
Single Family	Lot	3.3
Townhouse	Per unit	2.9
Apartment	Per unit	2.1
Commercial	Per m^2 of building area	0.009
Institutional	Per m^2 of building area	0.009
Light Industrial	Per m^2 of building area	0.009
Major Industrial	Per hectare	29.25

7.3 Sanitary Sewer DCC Calculation

The Sanitary Sewer DCC rates have been calculated according to the various principles and assumptions discussed earlier in this report. The basic calculation is shown in Equation 3.

Equation 3
Sanitary Sewer DCC Calculation

Total New Growth (by unit or sq. m.) x Equivalent Unit (per unit or sq. m.) = Total Equivalent Unit

↓

DCC Recoverable Costs / Total Equivalent Units = DCC Costs per Equivalent Unit

↓

DCC Costs per Equivalent Unit x Equivalent Units (per unit, lot or sq. m.) = DCC Costs per Unit, Lot or sq. m.

PART 8. WATER DCCS

Points Covered

- Water DCC Program
- Water Demand and Calculation of Equivalent Population
- Water DCC Calculation

8.1 Water DCC Program

The Water DCC Program includes capacity upgrades for watermains and pressure reducing valve (PRV) stations. Program costs include the construction of new water infrastructure plus engineering, contingency, project administration, and land costs where applicable. The program and calculations are shown in **Appendix D**.

The Water DCC Program identifies the proportion of the costs attributable to future growth and to the existing residents for each project. A municipal assist factor of 1% was applied to that amount in order to determine the amount recoverable by DCCs.

8.2 Water Demand and Calculation of Equivalent Population

By using the estimated number of persons per unit for residential growth and equivalent population for non-residential growth, the relative degree of impact that new development will have on the capital projects can be ascertained. For this purpose, the following table sets the equivalents that were used to determine the relative impact of each land use type.

Table 11
Equivalent Units for Water

Land Use	Base Unit	Equivalent Population
Single Family	Lot	3.3
Townhouse	Per unit	2.9
Apartment	Per unit	2.1
Commercial	Per m^2 of building area	0.009
Institutional	Per m^2 of building area	0.009
Light Industrial	Per m^2 of building area	0.009
Major Industrial	Per hectare	29.25

8.3 Water DCC Calculation

The Water DCC rates have been calculated according to the various principles and assumptions discussed earlier in this report. The basic calculation is shown in Equation 4.

Equation 4
Water DCC Calculation

Total New Growth (by unit or sq. m.) x Equivalent Population (per unit or sq. m.) = Total Equivalent Population

↓

DCC Recoverable Costs / Total Equivalent Population = DCC Costs per Equivalent Population

↓

DCC Costs per Equivalent Population x Equivalent Population (per unit or sq. m.) = DCC Costs per Unit or sq. m.

PART 9. PARK ACQUISITION DCCS

Points Covered

- Park Acquisition DCC Program
- Park Acquisition Equivalent Units
- Park Acquisition DCC Calculation

9.1 Park Acquisition DCC Program

The Park Acquisition DCC program includes acquiring parkland for various neighbourhood parks, community parks, city-wide parks, and natural areas throughout the City. Program costs include the acquisition of parkland plus planning, engineering, contingency, and project administration. The program and calculations are shown in **Appendix E**.

9.2 Calculation of Equivalent Units for Park Acquisition

In general terms, the need for new parkland is determined by population increases. Therefore, the impact on parkland is expressed in terms of population equivalents. New residential uses imply population increases, and, therefore, increased parkland requirements. Commercial, industrial and institutional land uses have been shown to increase the need for new parkland acquisition in the City and therefore are levied park acquisition DCCs.

Table 12
Equivalent Units for Park Acquisition

Land Use	Base Unit	Equivalent Population
Single Family	Lot	3.3
Townhouse	Per unit	2.9
Apartment	Per unit	2.1
Commercial	Per m^2 of building area	0.0009
Institutional	Per m^2 of building area	0.0009
Light Industrial	Per m^2 of building area	0.0009
Major Industrial	Per hectare	0.8

9.3 Park Acquisition DCC Calculation

The Park Acquisition DCC rates have been calculated according to the various principles and assumptions discussed earlier in this report. The basic calculation is shown in Equation 5.

Equation 5
Park Acquisition DCC Calculation

Total New Growth (by unit or sq. m.) x Equivalent Unit (per unit or sq. m.) = Total Equivalent Unit

↓

DCC Recoverable Costs / Total Equivalent Units = DCC Costs per Equivalent Unit

↓

DCC Costs per Equivalent Unit x Equivalent Units (per unit, lot or sq. m.) = DCC Costs per Unit, Lot or sq. m.

PART 10. PARK DEVELOPMENT DCCS

Points Covered

- Park Development DCC Program
- Park Development Equivalent Units
- Park Development DCC Calculation

10.1 Park Development DCC Program

The Park Development DCC program includes parkland development costs for various neighbourhood parks, community parks, city-wide parks, and natural areas throughout the City. Program costs include the development of parkland plus planning, engineering, contingency, and project administration. The program and calculations are shown in **Appendix F**.

10.2 Calculation of Equivalent Units for Park Development

In general, the need for development of new parkland is determined by population increases. Therefore, the impact on parkland is expressed in terms of population equivalents. The impact of residential growth is tied to occupancy rates. Commercial, industrial and institutional land uses have also been shown to increase the need for new parkland and development in the City; the impact of these uses is expressed in terms of equivalent population.

Table 13
Equivalent Units for Park Development

Land Use	Base Unit	Equivalent Population
Single Family	Lot	3.3
Townhouse	Per unit	2.9
Apartment	Per unit	2.1
Commercial	Per m^2 of building area	0.0009
Institutional	Per m^2 of building area	0.0009
Light Industrial	Per m^2 of building area	0.0009
Major Industrial	Per hectare	0.8

10.3 Park Development DCC Calculation

The Park Development DCC rates have been calculated according to the various principles and assumptions discussed earlier in this report. The basic calculation is shown in Equation 6.

Equation 6
Park Development DCC Calculation

Total New Growth (by unit or sq. m.) x Equivalent Unit (per unit or sq. m.) = Total Equivalent Unit

↓

DCC Recoverable Costs / Total Equivalent Units = DCC Costs per Equivalent Unit

↓

DCC Costs per Equivalent Unit x Equivalent Units (per unit, lot or sq. m.) = DCC Costs per Unit, Lot or sq. m.

PART 11. DCC RATES SUMMARY AND IMPLEMENTATION

Points Covered

- DCC Rates Summary
- Bylaw Exemptions
- Collection of Charges – Building Permit and Subdivision
- In-Stream Applications
- DCC Rebates and Credits
- DCC Monitoring and Accounting
- DCC Reviews

11.1 Summary of Proposed DCC Rates

Table 14 summarizes the proposed City of Richmond DCC rates. The proposed DCC rates are levied per lot on single family development at the time of subdivision. Multi-family residential development will be levied DCCs per square foot of dwelling unit at the time of building permit. Commercial, institutional and light industrial DCCs are levied per square foot of building area at the time of building permit while major industrial DCCs are levied per acre of site area.

11.2 Bylaw Exemptions

The *Local Government Act (LGA)* is quite clear that a DCC cannot be levied if the proposed development does not impose new capital cost burdens on the City, or if a DCC has already been paid in regard to the same development. However, if additional further expansion for the same development creates new capital cost burdens or uses up capacity, the DCCs can be levied for the additional costs.

The *LGA* further restricts the levying of the DCC at the time of application for a building permit if:

- The building permit is for a church or place of worship; and
- The value of the work authorized by the building permit does not exceed $50,000 or an amount as prescribed by bylaw.

Changes to the legislation now allow local governments to charge DCCs on residential developments of fewer than four self-contained dwelling units, as long as such a charge is provided for in the local government's DCC bylaw. The City of Richmond charges DCCs for residential developments of fewer than four self-contained dwelling units as expressed in its proposed DCC bylaw.

In addition, changes to the *Local Government Act* in 2008, as discussed in Section 1.3, have given local governments the discretionary authority to waive or reduce DCCs for certain types of development to promote affordable housing and low impact development. The City of Richmond does not currently provide for waivers or reductions.

Table 14
City of Richmond
Proposed DCC Rate Summary

	Transportation	Water	Sanitary	Drainage	Park Acquisition	Park Development	Total Development Cost Charge	
Single Family	$15,661.33	$1,068.03	$2,512.85	$7,066.69	$7,582.39	$5,602.81	$39,494.10	per lot
Townhouse	$7.51	$0.70	$1.64	$3.04	$4.94	$3.65	$21.48	per ft^2 of dwelling unit
Apartment	$9.22	$0.72	$1.68	$2.16	$5.08	$3.75	$22.61	per ft^2 of dwelling unit
Commercial	$11.18	$0.27	$0.64	$2.10	$0.19	$0.14	$14.52	per ft^2 of building area
Institutional	$11.18	$0.27	$0.64	$2.10	$0.19	$0.14	$14.52	per ft^2 of building area
Light Industrial	$7.99	$0.27	$0.64	$2.10	$0.19	$0.14	$11.33	per ft^2 of building area
Major Industrial	$41,754.90	$3,830.94	$9,013.41	$41,823.62	$743.86	$549.66	$97,716.39	per acre of site area

11.3 Collection of Charges – Building Permit and Subdivision

Municipalities can choose to collect DCCs at subdivision approval or building permit issuance. The City of Richmond will collect DCCs for residential development at time of subdivision approval or building permit, whichever is applicable.

Commercial, industrial and institutional DCCs will be collected at building permit, which is when the size and number of buildings to be constructed will be known. Collecting DCCs based on this more accurate information will result in more equitable distribution of growth costs.

11.4 Collection of DCCs on Redeveloped or Expanded Developments

When an existing building or development undergoes an expansion or redevelopment there is usually a need for additional DCC related infrastructure. The new developer/ builder should pay the applicable DCCs based on the additional floor area for commercial land uses and additional developed area for industrial land uses at the DCC rates in the current DCC bylaw. In essence, the City is giving a DCC credit for the existing development or building. DCCs are only levied on the new development/building area.

11.5 In-Stream Applications

The *LGA* requires that subdivision applications be provided a one-year protection from the proposed DCC rates, as long as the application is complete and application fees have been paid. These in-stream active subdivision applications will be exempted from any increase in DCCs for one year from the date of implementation of the new DCC bylaw.

Effective January 1, 2011, Building Permits are also given the same in-stream protection as subdivision applications under the *LGA*. Complete Building Permit applications will be exempt from any increase in DCCs for one year from the date of implementation of the new DCC bylaw. The one-year protection also extends to "precursor applications", meaning rezoning and development applications that will result in building permit applications within the year.

11.6 DCC Rebates and Credits

The *LGA* stipulates that should an owner pay for specific services inside or outside of the boundaries of the land being subdivided or developed and these services are included in the calculation to determine the DCC, then the amount paid must be deducted from the class of DCC that is applicable to the service. In practice, if an owner were to build a transportation project outside their development and the project is in the DCC program, the City will provide a DCC credit to the owner for the cost of the project up to the transportation DCCs paid.

The City should establish a policy or practise to guide staff in the collection of DCCs and the use of DCC credits. There may be situations in which it is not in the best interests of the City to allow an owner to build DCC services outside of their subdivision or development. Building such services may start or accelerate development in areas where the City is not prepared to support.

The City may establish a DCC rebate policy to fund DCC works advanced by owners and developers prior to the City building such services. For example, an owner may be required to service their property to the local road standard but the City would request that this road be upsized to an arterial road. The incremental portion of costs beyond the local requirement may be offered as a DCC rebate from DCC reserves. Again, a City policy or practise is recommended to ensure consistent application of the DCC rebate principle. Often policies for DCC credits, rebates and latecomer agreements are drafted to assist staff in development financing.

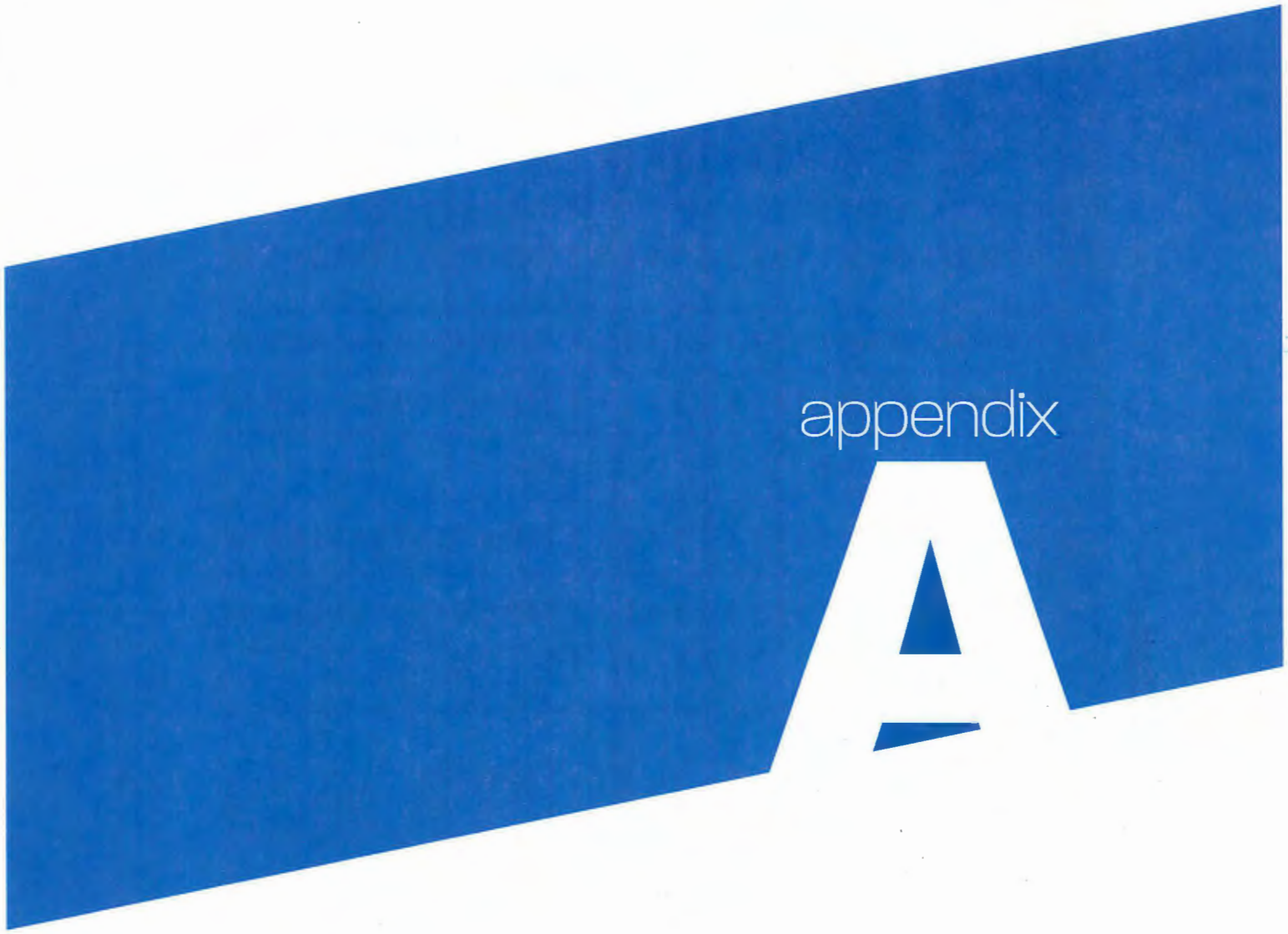
11.7 DCC Monitoring and Accounting

In order to monitor the DCC Program, the City should enter all of the projects contained in the DCC program into its tracking system. The tracking system would monitor the status of the project from the conceptual stage through to its final construction. The tracking system would include information about the estimated costs, the actual construction costs, and the funding sources for the projects. The construction costs would be based on the tender prices received, and the land costs based on the actual price of utility areas and or other land and improvements required for servicing purposes. The tracking system would indicate when projects are completed, their actual costs, and would include new projects that are added to the program.

11.8 DCC Reviews

To keep the DCC program as current as possible, the City should review its program annually. Based on its annual review, the City may make minor amendments to the DCC rates. Minor amendments may include the deletion of completed projects, the addition of new projects, the deletion of estimated construction costs, with the inclusion of actual construction costs and time frame adjustments. This also requires a DCC bylaw amendment.

Major amendments of the DCC program and rates will occur when significant land use changes are made, when new servicing plans are prepared or when the information upon which the DCCs are calculated has become significantly outdated or requires significant revision. Based on experience, a major amendment to the DCC program and rates is needed every 2 to 5 years.



Transportation Program and Calculations

City of Richmond
Transportation DCC Program

Old Project Code	New Project Code	Project Discription	Project Location Primary Roadway	Project Location Cross-Street or Road Segment	2015 Land Cost (in thousands)	2015 Construction Estimate (in thousands)	2015 Total Costs (in thousands)	External Funding	Net Project Costs	Benefit Factor	Benefit to New Development (in thousands)	Municipal Assist Factor 1% (in thousands)	DCC Recoverable (in thousands)	Total Municipal Responsibility (in thousands)
A9P13	CW- 01	Roadworks - Local, Residential Cross-section	Alberta Road	Katsura St to No 4 Rd		$47	$47		$47	95%	$44	$0.44	$43.80	$2.77
	CW- 54	Roadworks - Left turn bay	Alderbridge Way	Alderbridge Way (E/B) at May Drive		$343	$343		$343	95%	$326	$3.26	$322.28	$20.39
	CW- 53	Roadworks - Left turn bay	Alderbridge Way	Alderbridge Way (E/B) at McClelland Rd		$343	$343		$343	95%	$326	$3.26	$322.28	$20.39
	CW- 50	Traffic Signal - New	Alderbridge Way	Alderbridge Way at May Drive		$193	$193		$193	95%	$183	$1.83	$181.26	$11.47
	CW- 49	Traffic Signal - New	Alderbridge Way	Alderbridge Way at McClelland Road		$193	$193		$193	95%	$183	$1.83	$181.26	$11.47
	CW- 55	Roadworks - Off Street bike way	Alderbridge Way	Alderbridge Way Bike Lane N/side		$209	$209		$209	95%	$199	$1.99	$196.60	$12.44
	CW- 56	Roadworks - Off Street bike way	Alderbridge Way	Alderbridge Way Bike Lane S/side		$209	$209		$209	95%	$199	$1.99	$196.60	$12.44
New	CC-1	Roadworks, Urban Greenway incl S/W and Blvd	Alderbridge Way	Garden City Rd to Minoru Blvd		$4,322	$4,322		$4,322	95%	$4,106	$41.06	$4,065.29	$257.19
New	CC-2	Roadworks, Sidewalk Improvements	Alderbridge Way	Minoru Blvd to Elmbridge Way		$738	$738		$738	95%	$701	$7.01	$694.47	$43.93
A11P9	CW- 02	Roadworks - Sidewalk Installation	Alderbridge Way	No 4 Rd to Fisher Dr		$446	$446		$446	95%	$424	$4.24	$419.88	$26.58
GEN-12	Gen-06	Arterial Road Crosswalk Improvement Program	Arterial Road Crosswalk Improvement Program	various locations		$7,500	$7,500		$7,500	95%	$7,125	$71.25	$7,053.75	$446.25
22002	CC-3	Roadworks, Widen to 4 lanes	Beckwith St	Great Canadian to Major-22-1	$ 1,690	$4,293	$5,983		$5,983	95%	$5,684	$56.84	$5,626.96	$355.99
New	CC-4	Roadworks, Widen to 4 lanes	Beckwith St	No. 3 Road to Great Canadian Way		$3,285	$3,285		$3,285	95%	$3,121	$31.21	$3,089.84	$195.48
A13P29	CW- 03	Roadworks - Collector, Commercial Cross-section	Blundell Rd	Nelson Rd to Graybar Rd		$15,007	$15,007	$7,503	$7,503	95%	$7,128	$71.28	$7,056.83	$446.45
A13P4	CW- 04	Roadworks - Collector, Commercial Cross-section	Blundell Rd	Savage Road to No 7 Rd		$14,955	$14,955		$14,955	95%	$14,208	$142.08	$14,065.59	$889.85
A12P20	CW- 05	Roadworks - Arterial, Undivided, Widening	Bridgeport Rd	St Edwards to Knight St		$1,507	$1,507		$1,507	95%	$1,432	$14.32	$1,417.78	$89.69
33012	CC-5	Roadworks, Extension of Major Street, with Cycling	Brown Rd	Alderbridge Way to Leslie Rd	$ 5,050	$1,687	$6,737		$6,737	95%	$6,400	$64.00	$6,336.11	$400.85
28011	CC-6	Roadworks, Extension of Major Street, with Cycling	Brown Rd	Cambie Rd to Capstan Way / Sexsmith Rd	$ 4,090	$4,384	$8,474		$8,474	95%	$8,050	$80.50	$7,969.63	$504.19
33013	CC-7	Roadworks, Widen, Add cycling Lanes, new S/W	Brown Rd	Cambie Rd to Leslie Rd	$ 7,120	$4,459	$11,579		$11,579	95%	$11,000	$110.00	$10,889.86	$688.94
33020	CC-8	Roadworks, Widen, Add cycling Lanes, new S/W	Browngate Rd	Brown Rd to Hazelbridge Way	$ 2,450	$1,601	$4,051		$4,051	95%	$3,848	$38.48	$3,809.61	$241.01
A11P25	CW- 06	Roadworks - Local, Residential Cross-section	Browngate Rd	No 3 Rd to Hazelbridge Way		$182	$182		$182	95%	$173	$1.73	$170.95	$10.81
32001a	CC-9	Roadworks, New Major Street Segment with Cycling	Browngate Rd	River Parkway to No. 3 Road	$ 8,180	$1,587	$9,767		$9,767	95%	$9,279	$92.79	$9,185.86	$581.14
33001	CC-10	Roadworks, Urban Greenway incl S/W and Blvd	Cambie Rd	Garden City Rd to No. 3 Road		$909	$909		$909	95%	$863	$8.63	$854.73	$54.07
32002	CC-11	Roadworks, Major street w/median in new corridor	Cambie Rd	River Parkway to No. 3 Road	$ 3,080	$279	$3,359		$3,359	95%	$3,191	$31.91	$3,159.57	$199.89
28013	CC-12	Roadworks, Widen, Add cycling Lanes, new S/W	Capstan Way	River Parkway to Garden City Rd	$ 8,300	$3,658	$11,958		$11,958	95%	$11,360	$113.60	$11,246.42	$711.50
GEN-05	CW- 07	Roadworks - Sidewalk Installation	Ceadarbridge Way - Sidewalk	Alderbridge to Elmbridge Way		$519	$519		$519	95%	$493	$4.93	$488.26	$30.89
	CCS- 2	Traffic Signal- Upgrade	City Centre Traffic Signal Enhancement Program	Various locations in City Centre		$5,600	$5,600		$5,600	95%	$5,320	$53.20	$5,266.80	$333.20
	CCS- 1	Traffic Signal- New	City Centre Traffic Signal Installation Program	Various locations in City Centre		$18,095	$18,095		$18,095	95%	$17,190	$171.90	$17,018.35	$1,076.65
	CCS- 3	Traffic Signal- add 4th leg	City Centre Traffic Signal Upgrade Program	Various locations in City Centre		$960	$960		$960	95%	$912	$9.12	$902.88	$57.12
9011	CC-13	Roadworks, Cycling Lanes	Cook Rd	Garden City Rd to No. 3 Road		$3,325	$3,325		$3,325	95%	$3,159	$31.59	$3,127.23	$197.84
4010	CC-14	Roadworks, Extension of Major Street, with Cycling	Cooney Rd	Alderbridge Way to Lansdowne Rd	$ 16,350	$2,236	$18,586		$18,586	95%	$17,656	$176.56	$17,479.80	$1,105.85
New	CC-15	Roadworks, Cycling Lanes	Cooney Rd	Granville Ave to Lansdowne Rd		$4,193	$4,193		$4,193	95%	$3,983	$39.83	$3,943.49	$249.48
A12P39	CW- 08	Roadworks - Local, Residential Cross-section Construction	Corvette Way	Capstan Way to Sea Island Way		$1,501	$1,501		$1,501	95%	$1,426	$14.26	$1,411.37	$89.29
GEN-04	Gen-02	Cycling Infrastructure Improvement Program	Cycling Infrastructure Improvement Program	various locations		$7,500	$7,500		$7,500	95%	$7,125	$71.25	$7,053.75	$446.25
	CW- 09	Roadworks - Overpass Structure	Dover Crossing Pedestrian Overpass: No 2 Road	No 2 Road		$500	$500		$500	95%	$475	$4.75	$470.25	$29.75
A9P12	CW- 10	Roadworks - Collector, Residential, Cross-section Construction	Ferndale Road	Garden City Rd to No 4 Rd		$700	$700		$700	95%	$665	$6.65	$658.14	$41.64
A6P5	CW- 11	Roadworks - Arterial, Undivided, Widening	Francis Road	No 3 Road to Garden City Road		$2,163	$2,163		$2,163	95%	$2,055	$20.55	$2,034.25	$128.70
A13P30	CW- 12	Roadworks - Local, Commercial/Industrial, Construction	Fraserwood Way	Dyke Rd to Boundary Rd		$10,509	$10,509		$10,509	95%	$9,984	$99.84	$9,883.84	$625.29
GEN-05	CW- 13	Roadworks - Sidewalk Installation	Garden City	Sea Island to Cambie Rd		$853	$853		$853	95%	$810	$8.10	$802.37	$50.76
4020	CC-16	Roadworks, Ped/cyc crossing enhancements, on Garden City, between Alderbridge and Westminster	Garden City Rd	Alderbridge Way to Westminster Hwy		$300	$300		$300	95%	$285	$2.85	$282.15	$17.85
	CW- 52	Roadworks - Left turn bay	Garden City Rd	Garden City (S/B) at Future Leslie Rd		$343	$343		$343	95%	$326	$3.26	$322.28	$20.39
	CW- 51	Roadworks - Left turn bay	Garden City Rd	Garden City (S/B) at Odlin Rd		$343	$343		$343	95%	$326	$3.26	$322.28	$20.39

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Old Project Code	New Project Code	Project Discription	Project Location Primary Roadway	Project Location Cross-Street or Road Segment	2015 Land Cost (in thousands)	2015 Construction Estimate (in thousands)	2015 Total Costs (in thousands)	External Funding	Net Project Costs	Benefit Factor	Benefit to New Development (in thousands)	Municipal Assist Factor 1% (in thousands)	DCC Recoverable (in thousands)	Total Municipal Responsibility (in thousands)
28034	CC-18	Roadworks, Ped/cyc crossing enhancements, on Garden City, between Sea Island and Cambie	Garden City Rd	Sea Island Way to Cambie Rd		$300	$300		$300	95%	$285	$2.85	$282.15	$17.85
A10P9	CW- 14	Roadworks - Arterial, Divided, Widening	Garden City Rd	Westminster Hwy to Granville Ave		$3,210	$3,210		$3,210	95%	$3,050	$30.50	$3,019.32	$191.01
9028	CC-17	Roadworks, Ped/cyc crossing enhancements, on Garden City, between Westminster and Granville	Garden City Rd	Westminster Hwy to Granville Avenue		$300	$300		$300	95%	$285	$2.85	$282.15	$17.85
5001	CC-19	Roadworks, Upgrade Cycling, Add Urban Greenway	Gilbert Rd	Dinsmore Bridge to River Parkway		$151	$151		$151	95%	$144	$1.44	$142.10	$8.99
5003	CC-20	Roadworks, Urban Greenway incl S/W and Blvd	Gilbert Rd	Elmbridge Way to Westminster Hwy		$526	$526		$526	95%	$500	$5.00	$494.67	$31.30
8001	CC-21	Roadworks, Urban Greenway incl S/W and Blvd	Gilbert Rd	Granville Avenue to Westminster Hwy		$1,819	$1,819		$1,819	95%	$1,728	$17.28	$1,710.52	$108.21
5029	CC-22	Roadworks, Ped/cyc crossing enhancements, on Gilbert Road at Lansdowne	Gilbert Rd	Lansdowne Rd		$300	$300		$300	95%	$285	$2.85	$282.15	$17.85
5002	CC-23	Roadworks, Widen to 4 lanes, Upgr. Cycling, Urban Greenway	Gilbert Rd	River Parkway to Elmbridge Way	$ 2,910	$1,704	$4,614		$4,614	95%	$4,383	$43.83	$4,339.47	$274.53
A9P1	CW- 15	Roadworks - Arterial, Undivided (widening)	Granville Ave	Garden City Rd to No 4 Rd		$2,884	$2,884		$2,884	95%	$2,740	$27.40	$2,712.47	$171.60
New	CC-24	Roadworks, Urban Greenway incl S/W and Blvd	Granville Avenue	Garden City Rd to Gilbert Rd		$3,049	$3,049		$3,049	95%	$2,897	$28.97	$2,867.61	$181.42
21007	CC-25	Roadworks, Urban Greenway	Great Canadian Way	Beckwith St to River Rd		$94	$94		$94	95%	$90	$0.90	$88.68	$5.61
A11P32	CW- 18	Roadworks - Collector, Commercial	Hazelbridge Way	Cambie Road to Browngate		$126	$126		$126	95%	$120	$1.20	$118.59	$7.50
28024	CC-26	Roadworks, Extend Minor Street - Commercial	Hazelbridge Way	Capstan Rd to Sexsmith Rd		$1,948	$1,948		$1,948	95%	$1,851	$18.51	$1,832.32	$115.92
A11P33	CW- 19	Roadworks - Bike Lane	Jacombs Rd	Westminster Hwy to Bathgate		$64	$64		$64	95%	$60	$0.60	$59.83	$3.79
GEN-05	CW- 20	Roadworks - Sidewalk Installation	Jacombs Road	Jacombs Rd: Cambie Rd to Bathgate Rd		$225	$225		$225	95%	$214	$2.14	$211.54	$13.38
A12P40	CW- 21	Roadworks - New Local, Commercial/Industrial, Construction	Knox Rd	No 6 Rd to No 7 Rd		$9,076	$9,076		$9,078	95%	$8,622	$86.22	$8,535.51	$539.99
A10P26	CW- 22	Roadworks - Local, Commercial, Widening	Kwantlen St	Alderbridge Way to Alexandra Road	$2,593	$508	$3,101		$3,101	95%	$2,946	$29.46	$2,916.38	$184.50
4013	CC-27	Roadworks, Cycling, Urban Greenway	Lansdowne Rd	Garden City Rd to No. 3 Road	$ 3,570	$2,797	$6,367		$6,367	95%	$6,048	$60.48	$5,988.01	$378.83
5016	CC-28	Roadworks, Extend Major Street, Include Cycling, Urban Greenway	Lansdowne Rd	Gilbert Rd to Minoru Blvd	$ 7,540	$3,306	$10,846		$10,846	95%	$10,303	$103.03	$10,200.44	$645.32
5017	CC-29	Roadworks, Cycling, Urban Greenway	Lansdowne Rd	Minoru Blvd to No. 3 Road	$ 2,810	$1,060	$3,870		$3,870	95%	$3,676	$36.76	$3,639.63	$230.28
6012	CC-30	Roadworks, Extend Major Street, Include Cycling, Urban Greenway	Lansdowne Rd	River Parkway to Gilbert Rd	$ 3,130	$1,578	$4,708		$4,708	95%	$4,473	$44.73	$4,427.78	$280.12
33023	CC-31	Roadworks, Widen, new S/W, Bicycle Friendly Street (Shared Lane)	Leslie Rd	Brown Rd to Garden City Rd	$ 520	$2,352	$2,872		$2,872	95%	$2,728	$27.28	$2,700.66	$170.86
33021	CC-32	Roadworks, Realign and upgrade, Bicycle Friendly Street (Shared lane)	Leslie Rd	Brown Rd to Hazelbridge Way	$ 510	$1,463	$1,973		$1,973	95%	$1,875	$18.75	$1,855.76	$117.40
33022	CC-33	Roadworks, Sidewalk Improvements, Bicycle Friendly Street	Leslie Rd	Hazelbridge Way to No. 3 Road		$619	$619		$619	95%	$588	$5.88	$582.28	$36.84
32012	CC-34	Roadworks, Widen, new S/W, Bicycle Friendly Street (Shared Lane)	Leslie Rd	River Parkway to No. 3 Road	$ 2,810	$2,152	$4,962		$4,962	95%	$4,714	$47.14	$4,666.37	$295.21
A5P14	CW- 23	Roadworks - New Local, Full construction	Lynas Lane Extension	Granville Ave to Lynnwood Dr		$1,621	$1,621		$1,621	95%	$1,540	$15.40	$1,524.62	$96.45
	Gen-09	Major Intersection Improvements	Major Intersection Improvements	various locations		$25,000	$25,000		$25,000	95%	$23,750	$237.50	$23,512.50	$1,487.50
	Gen-07	Minor Traffic Safety Improvements	Minor Traffic Safety Improvements	various locations		$1,000	$1,000		$1,000	95%	$950	$9.50	$940.50	$59.50
5021	CC-37	Roadworks, Extend Major Street, Include Cycling, Urban Greenway	Minoru Blvd	Alderbridge Way to River Parkway	$ 8,380	$1,886	$10,266		$10,266	95%	$9,752	$97.52	$9,654.95	$610.81
17003	CC-38	Roadworks, Sidewalk Improvements	Minoru Blvd	Blundell Road to Granville Avenue		$683	$683		$683	95%	$649	$6.49	$642.11	$40.62
New	CC-39	Roadworks, Cycling, Urban Greenway	Minoru Blvd	Granville Avenue to Alderbridge Way		$1,492	$1,492		$1,492	95%	$1,417	$14.17	$1,402.82	$88.75
A15P1	CW- 24	Roadworks - New Local, Commercial/Industrial, Construction	Mitchell Rd	Tipping Rd to east		$4,502	$4,502		$4,502	95%	$4,277	$42.77	$4,234.10	$267.87
	NSC-5	Neighbourhood Centre Active Transportation Improvements	Neighbourhood Centre Active Transportation Improvements	Broadmoor/Garden City		$3,639	$3,639		$3,639	95%	$3,457	$34.57	$3,422.38	$216.51
	NSC-7	Neighbourhood Centre Active Transportation Improvements	Neighbourhood Centre Active Transportation Improvements	Cambie		$5,503	$5,503		$5,503	95%	$5,228	$52.28	$5,175.37	$327.42
GEN-10	Gen-05	Neighbourhood Traffic Calming Program	Neighbourhood Traffic Calming Program	various locations		$4,000	$4,000		$4,000	95%	$3,800	$38.00	$3,762.00	$238.00
A13P19a	CW- 25	Roadworks - Arterial, Undivided, Widening	Nelson Rd	Westminster Hwy to Blundell Rd		$4,418	$4,416	$2,208	$2,208	95%	$2,097	$20.97	$2,076.45	$131.37
A4P3 / A4P4	CW- 26	Roadworks - Arterial, Undivided, Widening	No 2 Road Widening	Steveston Hwy to Dyke Road			$0			95%	$0	$0.00	$0.00	$0.00
A7P2	CW- 27	Roadworks - Minor Arterial, Commercial, Widening	No 5 Rd	Jacobson Rd (formerly Hartnell Rd) to Dyke Rd		$2,249	$2,249		$2,249	95%	$2,137	$21.37	$2,115.45	$133.83

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A11P12	CW- 28	Roadworks - Arterial, Undivided, Widening	No 6 Rd	Bridgeport Rd to Cambie Rd		$4,077	$4,077		$4,077	95%	$3,873	$38.73	$3,834.52	$242.59
A11P13	CW- 29	Roadworks - Arterial, Undivided, Widening	No 6 Rd	Cambie Rd to Hwy 91		$889	$889		$889	95%	$845	$8.45	$836.56	$52.92
A13P17	CW- 30	Roadworks - Arterial, Undivided, Widening	No 6 Rd	Triangle Rd to Steveston Hwy		$2,429	$2,429		$2,429	95%	$2,307	$23.07	$2,284.26	$144.51
33005	CC-40	Roadworks, Realign and upgrade - Urban Greenway incl S/W and Blvd west side. (include future widening for raised bikelane on west side)	No. 3 Road	Alderbridge Way to Cambie Rd		$894	$894		$894	95%	$849	$8.49	$840.84	$53.19
4005	CC-41	Roadworks, Urban Greenway incl S/W and Blvd, west side	No. 3 Road	Alderbridge Way to Westminster Hwy		$608	$608		$608	95%	$577	$5.77	$571.60	$36.16
28002	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 Road	Bridgeport Road to Cambie Rd	$ 1,700	$1,760	$3,460		$3,460	95%	$3,287	$32.87	$3,253.81	$205.85
21011	CC-43	Roadworks, Realign and upgrade (Future widening / realignment)	No. 3 Road	Bridgeport Road to River Rd	$ 980	$1,834	$2,814		$2,814	95%	$2,673	$26.73	$2,646.10	$167.40
9002	CC-44	Roadworks, Urban Greenway incl S/W and Blvd, west side	No. 3 Road	Granville Avenue to Westminster Hwy		$1,381	$1,381		$1,381	95%	$1,312	$13.12	$1,299.18	$82.19
33025	CC-45	Roadworks, Realign and upgrade to major street with cycling	Odlin Rd	Brown Rd to Odlin Cr.	$ 8,600	$2,938	$11,538		$11,538	95%	$10,961	$109.61	$10,851.20	$686.49
33026	CC-46	Roadworks, Realign and upgrade to major street with cycling	Odlin Rd	Garden City Rd to Odlin Cr.	$ 2,010	$300	$2,310		$2,310	95%	$2,194	$21.94	$2,172.46	$137.44
A4P10	CW- 31	Roadworks - Local, Residential Cross-section Construction	Princess St, Princess Lane, London Rd area	Princess St, Princess Lane, London Rd area		$567	$567		$567	95%	$539	$5.39	$533.14	$33.73
	Gen-08	Project Partnership Funding	Project Partnership Funding	various locations		$10,000	$10,000		$10,000	95%	$9,500	$95.00	$9,405.00	$595.00
28017	CC-48	Roadworks, Major street w/median in new corridor	River Parkway	Cambie Rd to Capstan Way	$ 5,930	$4,589	$10,519		$10,519	95%	$9,993	$99.93	$9,893.53	$625.91
New	CC-49	Roadworks, Road extension to interim standards	River Parkway	Cambie Rd to Capstan Way		$7,290	$7,290		$7,290	95%	$6,926	$69.26	$6,856.25	$433.76
New	CC-50	Roadworks, Major street w/median in new corridor	River Parkway	Cambie Rd to Gilbert Rd		$8,414	$8,414		$8,414	95%	$7,994	$79.94	$7,913.70	$500.65
New	CC-51	Roadworks, Road extension to interim standards	River Parkway	Cambie Rd to Gilbert Rd		$11,300	$11,300		$11,300	95%	$10,735	$107.35	$10,627.65	$672.35
6003	CC-52	Roadworks, Major street w/median in new corridor	River Parkway	Gilbert Rd to Hollybridge Way		$2,187	$2,187		$2,187	95%	$2,078	$20.78	$2,056.87	$130.13
6005	CC-53	Roadworks, Widen to 4 lanes + cycling + median	River Parkway	Hollybridge Way to No. 2 Road		$3,587	$3,587		$3,587	95%	$3,408	$34.08	$3,374.03	$213.46
New	CW- 32	Land Acq (CP Road)	River Parkway	No 2 to Capstan Way	$15,200	$0	$15,200		$15,200	95%	$14,440	$144.40	$14,295.60	$904.40
A12P8	CW- 33	Roadworks - Sidewalk Installation	River Rd Sidewalk	No 4 Rd to Shell Rd		$1,751	$1,751		$1,751	95%	$1,663	$16.63	$1,646.42	$104.16
A13P9	CW- 34	Roadworks - Local, Commercial/Industrial, Construction	Savage Rd	Knox Way to River Rd		$1,401	$1,401		$1,401	95%	$1,331	$13.31	$1,317.35	$83.34
21014	CC-54	Roadworks, Widen to 4 lanes, Shared Cycling	Sexsmith Rd	Beckwith St to Bridgeport Road		$1,512	$1,512		$1,512	95%	$1,436	$14.36	$1,422.05	$89.96
21013	CC-55	Roadworks, Extension of Major Street, with Cycling	Sexsmith Rd	Beckwith St to Charles St		$1,139	$1,139		$1,139	95%	$1,082	$10.82	$1,071.61	$67.79
28021	CC-56	Roadworks, Widen, Add cycling Lanes, new S/W	Sexsmith Rd	Sea Island Way to Capstan Way	$ 3,850	$3,321	$7,171		$7,171	95%	$6,812	$68.12	$6,743.88	$426.65
A11P15	CW- 35	Roadworks - Arterial, Undivided, Widening	Shell Rd	Bridgeport Rd to Cambie Rd		$11,872	$11,872		$11,872	95%	$11,279	$112.79	$11,165.93	$706.40
A12P4	CW- 36	Roadworks - Arterial, Undivided, Widening	Shell Rd	Bridgeport Rd to River Rd		$4,934	$4,934		$4,934	95%	$4,687	$46.87	$4,640.10	$293.55
A11P16	CW- 37	Roadworks - Arterial, Undivided, Widening	Shell Rd	Cambie Rd to Alderbridge		$251	$251		$251	95%	$239	$2.39	$236.12	$14.94
A8P8	CW- 38	Roadworks - Arterial, Undivided, Widening	Shell Rd (west)	Williams Rd to Steveston Hwy		$5,844	$5,844		$5,844	95%	$5,551	$55.51	$5,495.89	$347.69
GEN-05	Gen-03	Sidewalk, annual program	Sidewalk, annual program	various locations (non-development frontage)		$5,000	$5,000		$5,000	95%	$4,750	$47.50	$4,702.50	$297.50
33035	CC-57	Roadworks, Extend Minor Street - Residential	Sorenson Cr	Alexandra Rd to Leslie Rd		$987	$987		$987	95%	$938	$9.38	$928.45	$58.74
A9P19	CW- 39	Roadworks - Local, Residential Cross-section Construction	South McLennan	east-west ring road	$3,010	$3,601	$6,611		$6,611	95%	$6,471	$64.71	$6,406.09	$405.28
A13P13	CW- 40	Roadworks - Arterial, Rural Undivided, Widening	Steveston Hwy widening	Hwy 99 to Palmberg Road		$8,028	$8,028		$8,028	95%	$7,627	$76.27	$7,550.44	$477.67
GEN-03	Gen-01	Traffic Signal Installation Program	Traffic Signal Installation Program	various locations		$25,000	$25,000		$25,000	95%	$23,750	$237.50	$23,512.50	$1,487.50

City of Richmond
Transportation DCC Program

Old Project Code	New Project Code	Project Discription	Project Location Primary Roadway	Project Location Cross-Street or Road Segment	2016 Land Cost (in thousands)	2016 Construction Estimate (in thousands)	2016 Total Costs (in thousands)	External Funding	Net Project Costs	Benefit Factor	Benefit to New Development (in thousands)	Municipal Assist Factor 1% (in thousands)	DCC Recoverable (in thousands)	Total Municipal Responsibility (in thousands)
GEN-05	Gen-04	Transit Plan Infrastructure Improvements	Transit Plan Infrastructure Improvements	various locations		$5,000	$5,000		$5,000	95%	$4,750	$47.50	$4,7[illegible]	$[illegible]
	Gen-10	Transportation Modelling	Transportation Modelling	various locations		$2,000	$2,000		$2,000	95%	$1,900	$19.00	$1,881.00	$119.00
A13P31	CW- 41	Roadworks - Local, Commercial/Industrial, Construction to new Cross-section	Triangle Rd	No 6 Rd to Williams Rd		$5,527	$5,527		$5,527	95%	$5,250	$52.50	$5,197.80	$328.84
A12P14	CW- 42	Roadworks - Collector, Commercial, Construction to Cross-section	Viking Way	Vulcan Way to Viking Place		$1,852	$1,852		$1,852	95%	$1,759	$17.59	$1,741.51	$110.17
NewProject	CW- 43	Roadworks - New Collector, Commercial Cross-section	Vulcan Way	No 7 Rd to Kartner Rd ROW		$4,585	$4,585		$4,585	95%	$4,356	$43.56	$4,312.09	$272.80
A12P37	CW- 44	Roadworks - New Collector, Commercial Cross-section	Vulcan Way	Shell Rd to No 5 Rd		$4,585	$4,585		$4,585	95%	$4,356	$43.56	$4,312.09	$272.80
A11P3	CW- 45	Roadworks - Arterial, Divided, Widening	Westminster Hwy	Garden City to No 4 Rd		$3,024	$3,024		$3,024	95%	$2,873	$28.73	$2,844.10	$179.93
A14P2	CW- 46	Roadworks - Arterial, Undivided, Widening	Westminster Hwy	Gilley Rd to Boundary Rd		$10,006	$10,006		$10,006	95%	$9,506	$95.06	$9,410.94	$595.35
A14P1	CW- 47	Roadworks - Arterial, Undivided, Widening	Westminster Hwy	Hamilton Interchange to Gilley Road		$2,399	$2,399		$2,399	95%	$2,279	$22.79	$2,256.48	$142.75
New	CC-60	Roadworks, Urban Greenway incl S/W and Blvd	Westminster Hwy	No. 2 Road to No. 3 Road		$1,525	$1,525		$1,525	95%	$1,448	$14.48	$1,433.80	$90.71
4019	CC-61	Roadworks, Ped/cyc crossing enhancements, on Westminster, between No. 3 and Garden City	Westminster Hwy	No. 3 Road to Garden City Rd		$300	$300		$300	95%	$285	$2.85	$282.15	$17.85
New	CC-62	Roadworks, Urban Greenway incl S/W and Blvd	Westminster Hwy	No. 3 Road to No. 4 Road		$1,573	$1,573		$1,573	95%	$1,495	$14.95	$1,479.75	$93.61
New Hamilton	CW- 48	Roadworks - New Local, to Residential Cross-section Construction	Willet Ave	Westminster Hwy to River Rd		$1,741	$1,741		$1,741	95%	$1,654	$16.54	$1,637.87	$103.62
				TOTAL	$132,363	$413,575	$545,938	$9,711	$536,227		$509,416	$5,094	$504,322	$31,906
				Total (actual)	$132,363,377	$413,574,624	$545,938,001	$9,711,056	$536,227,205		$509,415,845	$5,094,158	$504,321,687	$31,905,519

City of Richmond
Transportation DCC Calculations

A: Traffic Generation Calculation (2041)						
Land Use		Col. (1) Estimated New Development		Col. (2) Unit	Col. (3) Wt. Trip Rate	Col. (4) = (1) x (3) Trip Ends	
Single Family Residential		1,982		lots	1.275	2,527	2,460
Multi Family Residential							
	Townhouse	17,834		dwelling units	0.825	14,713	6,941
	Apartment	19,091		dwelling units	0.713	13,612	14,967
Commercial		317,562		per square metre building area	0.0098	3,112	18,583
Institutional		272,883		per square metre building area	0.0098	2,674	
Light Industrial		390,862		per square metre building area	0.007	2,736	34,457
Major Industrial		13.00		hectares	8.4	109	5,146
					Total Trip Ends	39,484 (a)	-49.4%
B: Unit Road DCC Calculation							
Net Road DCC Program Recoverable				$504,321,687	(b)		
Existing DCC Reserve Monies				$19,329,266	(c)		
Net Amount to be Paid by DCCs				$484,992,421	(d) = (b) - (c)		
DCC per Trip End				$12,283.40	(e) = (d)/(a)		
C: Resulting Road DCCs							
Single Family Residential				$15,661.33	per lot	(e) x Col. (3)	
Multi Family Residential	Townhouse			$10,133.80	per dwelling unit	(e) x Col. (3)	$7.51 per sq. ft.
	Apartment			$8,758.06	per dwelling unit	(e) x Col. (3)	$9.22 per sq. ft.
Commercial				$120.38	per square metre building area	(e) x Col. (3)	$11.18 per sq. ft.
Institutional				$120.38	per square metre building area	(e) x Col. (3)	$11.18 per sq. ft.
Light Industrial				$85.98	per square metre building area	(e) x Col. (3)	$7.99 per sq. ft.
Major Industrial				$103,180.53	per hectare gross site area	(e) x Col. (3)	$41,754.90 per acre

appendix B

Drainage Program and Calculations

City of Richmond
Drainage DCC Program

DCC Project ID	Catchment	Location	From	To	From Node	To Node	Length (m)	Recommended Size (mm)	2015	2015 Cost Estimate w/o Contingency, Engineering & Contract Admin	Col.(1) Cost Estimate w/ Cont., Eng., & Admin.	Col. (2) Benefit Factor %	Col. (3) =Col. (1) x Col. (2) Benefit to New Development	Col. (4) Municipal Assist Factor 1%	Col. (5) = Col. (3) - Col. (4) DCC Recoverable	Col. (6) = Col.(1) - Col. (5) Total Municipal Responsibility
2006 Projects									2015 Unit Rate							
MAJOR DRAINAGE - CURRENT (2006 DCC REVIEW)																
TERRA NOVA																
2006-TN-2002	Francis Road West	Francis Road	Francis Rd. West DDS	No. 1 Road	A2738	M383	1,000	Twin w/ 1800X1200 Box	$5,000	$5,000,000	$ 6,250,000	25%	$ 1,569,375	$ 15,694	$ 1,553,681	$ 4,696,319
2006-TN-2005	No. 1 Road North	No. 1 Road	Blundell Road	S. of Williams	A223	M369	1,633.0	Twin w/ 1800X1200 Box	$5,000	$8,165,000	$ 10,206,250	25%	$ 2,562,789	$ 25,628	$ 2,537,161	$ 7,669,089
2006-TN-2006	McCallan Road	Upgrade McCallan Rd DDS to 3.0 cms and adjust operating levels					1.0	Pump Station Upgrade	$3,400,000	$3,400,000	$ 4,250,000	25%	$ 1,067,175	$ 10,672	$ 1,056,503	$ 3,193,497
2006-TN-2007	McCallan Road	McCallan Road	Westminster Hwy	Linfield Gate	A90	M263	810.0	2290X1370 Box	$5,600	$4,536,000	$ 5,670,000	25%	$ 1,423,737	$ 14,237	$ 1,409,500	$ 4,260,500
2006-TN-2008	McCallan Road	Francis Road	No. 1 Rd.	Railway Ave.	M383	M353	815.0	Twin w/ 1800X1200 Box	$5,000	$4,075,000	$ 5,093,750	25%	$ 1,279,041	$ 12,790	$ 1,266,250	$ 3,827,500
2006-TN-2009	McCallan Road	Francis Road	Crossing of Railway Ave.		M355	M351	49.0	2400x1200 Box	$5,500	$269,500	$ 336,875	25%	$ 84,589	$ 846	$ 83,743	$ 253,132
2006-TN-2012	No. 2 Road North	Lynas Lane	River Road	Westminster Hwy	M506	M551	375.0	1050	$1,500	$562,500	$ 703,125	25%	$ 176,555	$ 1,766	$ 174,789	$ 528,336
2006-TN-2013	No. 2 Road North	Granville	Lynas Lane	No. 2 Road	M658 to M616	M592	470.0	1050	$1,500	$705,000	$ 881,250	25%	$ 221,282	$ 2,213	$ 219,069	$ 662,181
	Total									$ 26,713,000	$ 33,391,250		$ 8,384,543	$ 83,845	$ 8,300,697	$ 25,090,553
STEVESTON																
2006-ST-2015	No. 2 Road South	Steveston Highway	No. 1 Road	No. 2 Road	M160	M762	1,650.0	Twin w/ 1800x1200 Box	$5,000	$8,250,000	$ 10,312,500	19%	$ 1,993,406	$ 19,934	$ 1,973,472	$ 8,339,028
2006-ST-2016	No. 2 Road South	Williams Road	Fortune Ave.	Lassam Road	M897	M937	853.0	Twin w/ 1050x800 Box	$3,200	$2,729,600	$ 3,412,000	19%	$ 659,540	$ 6,595	$ 652,944	$ 2,759,056
2006-ST-2017	No. 2 Road South	No. 2 Road	Steveston Hwy	Williams Road	M761	A1633	814.0	3400x1370 Box	$7,000	$5,838,000	$ 7,297,500	19%	$ 1,410,607	$ 14,106	$ 1,396,501	$ 5,900,999
2006-ST-2018	No. 2 Road South	No. 2 Road	Williams Road	Woodward	A1633	M640	305.0	2300x1370 Box	$5,600	$1,708,000	$ 2,135,000	19%	$ 412,696	$ 4,127	$ 408,569	$ 1,726,431
2006-ST-2019	No. 2 Road South	No. 2 Road	Woodward	Francis Road	M640	A339	513.0	1520x1370 Box	$4,800	$2,462,400	$ 3,078,000	19%	$ 594,977	$ 5,950	$ 589,028	$ 2,488,972
2006-ST-2020	No. 2 Road South	Railway Ave.	Crossing of Moncton St.		M691	M693	15.0	1800x1200 Box	$5,000	$75,000	$ 93,750	19%	$ 18,122	$ 181	$ 17,941	$ 75,809
2006-ST-2022	No. 1 Road South	Garry St.	No. 1 Road	Windward Gate	A98	M179	380.0	1200	$1,800	$684,000	$ 855,000	19%	$ 165,272	$ 1,653	$ 163,619	$ 691,381
2006-ST-2023	No. 1 Road South	Garry St.	Windward Gate	Railway Ave.	M179	M709	460.0	750	$1,200	$552,000	$ 690,000	19%	$ 133,377	$ 1,334	$ 132,043	$ 557,957
2006-ST-2024	Steveston Hwy West	Steveston Hwy	No. 1 Road	Steveston Hwy West D	M160	A2718	930.0	Twin w/ 1200x1200 Box	$3,600	$3,348,000	$ 4,185,000	19%	$ 808,961	$ 8,090	$ 800,871	$ 3,384,129
2006-ST-2027	Williams Rd. West	S. of Williams Road	S. of Williams Rd. DDS	No. 1 Road	A459	M369	965.0	Twin w/ 1800X1200 Box	$5,000	$4,825,000	$ 6,031,250	19%	$ 1,165,841	$ 11,658	$ 1,154,182	$ 4,877,068
	Total									$ 30,472,000	$ 38,090,000		$ 7,362,797	$ 73,628	$ 7,289,169	$ 30,800,831
WOODWARD'S SLOUGH																
2006-WW-2044	Woodwards Slough	No. 4 Rd.	Dayton Road	S. of Steveston Hwy	M1715	A2624	2,755.0	eplace w/ 4300x1500 Bo	$9,000	$24,795,000	$ 30,993,750	18%	$ 5,516,888	$ 55,169	$ 5,461,719	$ 25,532,031
2006-WW-2045	Woodwards Slough	Garden City	Francis Road	N. of Glenallan Gate	M3538	A2472	210.0	2300x1400 Box	$5,600	$1,176,000	$ 1,470,000	18%	$ 261,660	$ 2,617	$ 259,043	$ 1,210,957
2006-WW-2047	No. 3 Road South	No. 3 Rd. Canal	Steveston Highway	No. 3 Rd DDS	A1491	A6964	2,540.0	5 m base, 3:1 sideslopes, 2 to 3 m depth	$1,000	$2,540,000	$ 3,175,000	18%	$ 565,150	$ 5,652	$ 559,499	$ 2,615,502
2006-WW-2048	No. 3 Road South	Gilbert Rd./No. 3 Rd. Connection	Gilbert Road	No. 3 Road	A6383	A6319	815.0	5 m base, 3:1 sideslopes, 2 to 3 m depth	$1,000	$815,000	$ 1,018,750	18%	$ 181,338	$ 1,813	$ 179,524	$ 839,226
2006-WW-2056	Gilbert South	Steveston Hwy Culvert	No. 2 Road	Gilbert	M762	M1819	810.0	3100x1500 Box	$7,000	$5,670,000	$ 7,087,500	18%	$ 1,261,575	$ 12,616	$ 1,248,959	$ 5,838,541
2006-WW-2059	Gilbert South	Gilbert Canal	Steveston Highway	Gilbert Rd. South DDS	A6411	A6383	2,280.0	5 m base, 3:1 sideslopes, 2 to 3 m depth	$1,000	$2,280,000	$ 2,850,000	18%	$ 507,300	$ 5,073	$ 502,227	$ 2,347,773
	Total									$ 37,276,000	$ 46,595,000		$ 8,293,910	$ 82,939	$ 8,210,971	$ 38,384,029
PEACE ARCH																
2006-PA-2061	Horseshoe Slough	Shell Road Canal	Steveston Highway	Hammersmith Gate	A10510	A10492	790.0	9 m base, 1:1 sideslopes, 2 m depth	$2,000	$1,580,000	$ 1,975,000	18%	$ 349,970	$ 3,500	$ 346,470	$ 1,628,530
2006-PA-2065	Horseshoe Slough	Williams Road - south side	Seacote Road	E of Seacote Road	M100548	M100541	156.6	675	$1,000	$156,610	$ 195,763	18%	$ 34,689	$ 347	$ 34,342	$ 161,420
2006-PA-2072	Horseshoe Slough	Shell Road	Kingcome Ave.	Shell Road Canal	A12930	A12867	20.0	1200x400 Box		$0	$ -	18%	$ -	$ -	$ -	$ -
	Total									$ 1,736,610	$ 2,170,763		$ 384,659	$ 3,847	$ 380,813	$ 1,789,950
Total Major Drainage - Current (2006 DCC Review)										$ 96,197,610	$ 120,247,013		$ 24,425,909	$ 244,259	$ 24,181,650	$ 96,065,363
MAJOR DRAINAGE - DCP (2006 DCC REVIEW)																
TERRA NOVA																
2006-TN-2073	McCallan Road	Railway Ave.	Francis	Blundell	M351	M349	810.0	750	$1,200	$972,000	$ 1,215,000	100%	$ 1,215,000	$ 12,150	$ 1,202,850	$ 12,150
2006-TN-2074	McCallan Road	Blundell	Crossing of Railway Ave.		M349	M287	40.0	750	$1,200	$48,000	$ 60,000	100%	$ 60,000	$ 600	$ 59,400	$ 600
	Total									$ 1,020,000	$ 1,275,000		$ 1,275,000	$ 12,750	$ 1,262,250	$ 12,750
STEVESTON																
2006-ST-2075	No 2. Road South	Housman Street	Crossing of Steveston Hwy		M1589	M1611	25.0	900	$1,300	$32,500	$ 40,625	100%	$ 40,625	$ 406	$ 40,219	$ 406
2006-ST-2076	No 2. Road South	Railway Ave.	Woodwards	Steveston Hwy	M871 (18.5m S)	M733	1,122.0	2400x1200 Box	$5,500	$6,171,000	$ 7,713,750	100%	$ 7,713,750	$ 77,138	$ 7,636,613	$ 77,138
2006-ST-2077	No 2. Road South	Railway Ave. and Moncton St.	Garry St.	No. 2 Road	M4176	M1198	1,300.0	1800x1200 Box	$5,000	$6,500,000	$ 8,125,000	100%	$ 8,125,000	$ 81,250	$ 8,043,750	$ 81,250
2006-ST-2078	No 2. Road South	Upgrade No. 2 Rd S DDS to 4.5 cms and adjust operating levels					1.0		$6,000,000	$6,000,000	$ 7,500,000	10%	$ 750,000	$ 7,500	$ 742,500	$ 6,757,500
2006-ST-2079	No. 1 Road South	Upgrade No. 1 Rd S DDS to 4.5 cms and adjust operating levels					1.0		$3,200,000	$3,200,000	$ 4,000,000	25%	$ 1,000,000	$ 10,000	$ 990,000	$ 3,010,000
	Total									$ 21,903,500	$ 27,379,375		$ 17,629,375	$ 176,294	$ 17,453,081	$ 9,926,294
WOODWARD'S SLOUGH																
2006-WW-2094	Woodwards Slough	Garden City (incl. all connections to parallel system)	Blundell	Francis Road	M1102	M3538	815.3	3600x1500 Box	$8,000	$6,522,400	$ 8,153,000	100%	$ 8,153,000	$ 81,530	$ 8,071,470	$ 81,530

City of Richmond
Drainage DCC Program

DCC Project ID	Catchment	Location	From	To	From Node	To Node	Length (m)	Recommended Size (mm)		2015 Cost Estimate w/o Contingency, Engineering & Contract Admin	Col. (1) Cost Estimate w/ Cont., Eng., & Admin.	Col. (2) Benefit Factor %	Col. (3) =Col. (1) x Col. (2) Benefit to New Development	Col. (4) Municipal Assist Factor 1%	Col. (5) = Col. (3) - Col. (4) DCC Recoverable	Col. (6) = Col. (1) - Col. (5) Total Municipal Responsibility
2006-WW-2095	No. 3 Road South	No. 3 Rd	Francis Road	Steveston Hwy	M6476	A1491	1,670.0	4300x1500 Box	$9,000	$15,030,000	$ 18,787,500	100%	$ 18,787,500	$ 187,875	$ 18,599,625	$ 187,875
2006-WW-2088	Gilbert South	Constable Gate	Crossing of Steveston Hwy		A1356	M1616	26.0	900	$1,300	$33,800	$ 42,250	100%	$ 42,250	$ 423	$ 41,828	$ 423
2006-WW-2097	Gilbert South	Gilbert Road (incl. connections to parallel system at Gilhurst Gate and Gainsborough Dr.)	Francis Road	Steveston Hwy	M834	M1819	1,659.0	3100x1200 Box	$6,100	$10,119,900	$ 12,649,875	100%	$ 12,649,875	$ 126,499	$ 12,523,376	$ 126,499
	Total									$ 31,706,100	$ 39,632,625		$ 39,632,625	$ 396,326	$ 39,236,299	$ 396,326
[illegible]										[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]
MINOR DRAINAGE - CURRENT (2006 DCC REVIEW)																
[illegible]																
2006-ST-2233					A488	M801	10.7	1050	$1,500	$15,984	$ 19,980	19%	$ 3,862	$ 39	$ 3,824	$ 16,156
2006-ST-2358					M9514	M195	14.1	750	$1,200	$16,948	$ 21,185	19%	$ 4,095	$ 41	$ 4,054	$ 17,130
2006-ST-2288					M5355	M5359	23.1	1050	$1,500	$34,710	$ 43,388	19%	$ 8,387	$ 84	$ 8,303	$ 35,085
2006-ST-2265					M5359	M902	35.6	1050	$1,500	$53,393	$ 66,741	19%	$ 12,901	$ 129	$ 12,772	$ 53,969
2006-ST-2216					M9126	M5143	42.3	1050	$1,500	$63,411	$ 79,264	19%	$ 15,322	$ 153	$ 15,168	$ 64,095
2006-ST-2287					M5340	M5355	47.2	1050	$1,500	$70,794	$ 88,493	19%	$ 17,106	$ 171	$ 16,935	$ 71,558
2006-ST-2321					M5334	M5333	50.5	750	$1,200	$60,653	$ 75,816	19%	$ 14,655	$ 147	$ 14,509	$ 61,307
2006-ST-2364					M5144	M5140	57.6	900	$1,300	$74,858	$ 93,572	19%	$ 18,088	$ 181	$ 17,907	$ 75,666
2006-ST-2314					M5140	M5126	67.5	1050	$1,500	$101,238	$ 126,548	19%	$ 24,462	$ 245	$ 24,217	$ 102,330
2006-ST-2199					M5333	M5340	77.0	750	$1,200	$92,441	$ 115,551	19%	$ 22,336	$ 223	$ 22,113	$ 93,438
	Total									$ 584,429	$ 730,536		$ 141,213	$ 1,412	$ 139,800	$ 590,735
[illegible]																
2006-GN-2410					A12722	A12721	2.4	900	$1,300	$3,163	$ 3,954	47%	$ 1,877	$ 19	$ 1,858	$ 2,095
2006-GN-2203					A2237	M3612	2.7	900	$1,300	$3,509	$ 4,386	47%	$ 2,082	$ 21	$ 2,062	$ 2,324
2006-GN-2207					A2237	A2928	6.7	900	$1,300	$8,697	$ 10,871	47%	$ 5,162	$ 52	$ 5,110	$ 5,761
2006-GN-2196					M3656	M1161	15.1	900	$1,300	$19,633	$ 24,541	47%	$ 11,652	$ 117	$ 11,535	$ 13,005
2006-GN-2266					M3775	A2352	15.7	900	$1,300	$20,436	$ 25,545	47%	$ 12,129	$ 121	$ 12,007	$ 13,538
2006-GN-2171					A2155	M3381	22.1	900	$1,300	$28,678	$ 35,848	47%	$ 17,020	$ 170	$ 16,850	$ 18,997
2006-GN-2376					M3776	A2353	24.1	900	$1,300	$31,335	$ 39,169	47%	$ 18,597	$ 186	$ 18,411	$ 20,758
2006-GN-2438					M4415	M4414	24.1	900	$1,300	$31,370	$ 39,213	47%	$ 18,618	$ 186	$ 18,432	$ 20,781
2006-GN-2206					M5341	A2928	24.1	900	$1,300	$31,374	$ 39,218	47%	$ 18,621	$ 186	$ 18,434	$ 20,783
2006-GN-2374					A2354	M3778	28.6	900	$1,300	$37,115	$ 46,394	47%	$ 22,028	$ 220	$ 21,807	$ 24,586
2006-GN-2223					M3766	M3321	29.3	900	$1,300	$38,142	$ 47,678	47%	$ 22,637	$ 226	$ 22,411	$ 25,267
2006-GN-2430					M4414	M4413	30.2	900	$1,300	$39,209	$ 49,012	47%	$ 23,271	$ 233	$ 23,038	$ 25,974
2006-GN-2380					A2333	A2354	31.7	900	$1,300	$41,272	$ 51,591	47%	$ 24,495	$ 245	$ 24,250	$ 27,340
2006-GN-2370					M3778	M3777	38.4	750	$1,200	$46,066	$ 57,582	47%	$ 27,340	$ 273	$ 27,067	$ 30,515
2006-GN-2419					M5346	M5345	54.4	900	$1,300	$70,706	$ 88,382	47%	$ 41,964	$ 420	$ 41,544	$ 46,838
2006-GN-2368					M5345	M5344	56.2	900	$1,300	$73,031	$ 91,289	47%	$ 43,344	$ 433	$ 42,911	$ 48,379
2006-GN-2205					M5344	M5341	59.8	900	$1,300	$77,774	$ 97,217	47%	$ 46,159	$ 462	$ 45,697	$ 51,520
2006-GN-2440					M744	M743	61.6	900	$1,300	$80,063	$ 100,079	47%	$ 47,517	$ 475	$ 47,042	$ 53,037
2006-GN-2342					M746	M748	66.4	900	$1,300	$86,334	$ 107,918	47%	$ 51,239	$ 512	$ 50,727	$ 57,191
2006-GN-2282					M727	M728	67.6	750	$1,200	$81,090	$ 101,363	47%	$ 48,127	$ 481	$ 47,646	$ 53,717
2006-GN-2293					M3777	M3776	69.9	750	$1,200	$83,905	$ 104,882	47%	$ 49,798	$ 498	$ 49,300	$ 55,582
2006-GN-2324					M3660	M3659	70.2	750	$1,200	$84,236	$ 105,298	47%	$ 49,994	$ 500	$ 49,494	$ 55,801
2006-GN-2318					M3659	M3658	70.2	750	$1,200	$84,241	$ 105,302	47%	$ 49,997	$ 500	$ 49,497	$ 55,804
2006-GN-2360					M3658	M3657	80.9	900	$1,300	$105,162	$ 131,453	47%	$ 62,414	$ 624	$ 61,790	$ 69,663
2006-GN-2423					M4413	M1006	101.7	900	$1,300	$132,233	$ 165,292	47%	$ 78,481	$ 785	$ 77,696	$ 87,596
2006-GN-2214					M726	M727	107.0	750	$1,200	$128,448	$ 160,560	47%	$ 76,234	$ 762	$ 75,472	$ 85,088
2006-GN-2267					A2352	M3766	114.5	900	$1,300	$148,864	$ 186,080	47%	$ 88,351	$ 884	$ 87,467	$ 98,613
2006-GN-2193					M3657	M3656	127.9	900	$1,300	$166,309	$ 207,886	47%	$ 98,704	$ 987	$ 97,717	$ 110,169
	Total									$ 1,782,397	$ 2,227,997		$ 1,057,853	$ 10,579	$ 1,047,274	$ 1,180,722
[illegible]																
2006-WW-2156					M4073	A2469	3.8	900	$1,300	$4,915	$ 6,144	18%	$ 1,094	$ 11	$ 1,083	$ 5,061
2006-WW-2336					A3559	M6489	4.4	900	$1,300	$5,710	$ 7,137	18%	$ 1,270	$ 13	$ 1,258	$ 5,879
2006-WW-2200					A1462	A1399	4.5	900	$1,300	$5,850	$ 7,313	18%	$ 1,302	$ 13	$ 1,289	$ 6,024
2006-WW-2466					M5458	A2965	5.9	900	$1,300	$7,696	$ 9,620	18%	$ 1,712	$ 17	$ 1,695	$ 7,925
2006-WW-2150					A3253	M5988	8.2	750	$1,200	$9,870	$ 12,338	18%	$ 2,196	$ 22	$ 2,174	$ 10,163
2006-WW-2331					M5395	M5424	10.6	900	$1,300	$13,716	$ 17,145	18%	$ 3,052	$ 31	$ 3,021	$ 14,124
2006-WW-2280					M6492	M6493	12.6	750	$1,200	$15,124	$ 18,905	18%	$ 3,365	$ 34	$ 3,331	$ 15,573
2006-WW-2317					M2798	M2800	13.2	750	$1,200	$15,802	$ 19,752	18%	$ 3,516	$ 35	$ 3,481	$ 16,271
2006-WW-2138					A1883	M2847	13.5	750	$1,200	$16,201	$ 20,252	18%	$ 3,605	$ 36	$ 3,569	$ 16,683
2006-WW-2115					M2803	M2902	13.7	750	$1,200	$16,481	$ 20,601	18%	$ 3,667	$ 37	$ 3,630	$ 16,971
2006-WW-2249					A2173	M3468	14.1	750	$1,200	$16,880	$ 21,101	18%	$ 3,756	$ 38	$ 3,718	$ 17,382
2006-WW-2353					M4955	M4947	14.5	900	$1,300	$18,790	$ 23,488	18%	$ 4,181	$ 42	$ 4,139	$ 19,349
2006-WW-2272					M6496	M6480	19.1	750	$1,200	$22,861	$ 28,577	18%	$ 5,087	$ 51	$ 5,036	$ 23,541
2006-WW-2270					M6497	M6496	19.1	750	$1,200	$22,862	$ 28,578	18%	$ 5,087	$ 51	$ 5,036	$ 23,542
2006-WW-2251					M1726	A2151	19.2	900	$1,300	$24,948	$ 31,185	18%	$ 5,551	$ 56	$ 5,495	$ 25,690
2006-WW-2347					M5455	M4312	19.5	900	$1,300	$25,360	$ 31,701	18%	$ 5,643	$ 56	$ 5,586	$ 26,114

City of Richmond
Drainage DCC Program

										2015	Col. (1)	Col. (2)	Col. (3) =Col. (1) x Col. (2)	Col. (4)	Col. (5) = Col. (3) - Col. (4)	Col. (6) = Col.(1) - Col. (5)
DCC Project ID	Catchment	Location	From	To	From Node	To Node	Length (m)	Recommended Size (mm)		Cost Estimate w/o Contingency, Engineering & Contract Admin	Cost Estimate w/ Cont., Eng., & Admin.	Benefit Factor %	Benefit to New Development	Municipal Assist Factor 1%	DCC Recoverable	Total Municipal Responsibility
2006-WW-2106					M5757	A2975	20.0	900	$1,300	$25,953	$ 32,442	18%	$ 5,775	$ 58	$ 5,717	$ 26,725
2006-WW-2202					A1399	M1714	20.0	900	$1,300	$26,021	$ 32,528	18%	$ 5,790	$ 58	$ 5,732	$ 26,794
2006-WW-2218					M2847	A1881	20.1	900	$1,300	$26,094	$ 32,617	18%	$ 5,806	$ 58	$ 5,748	$ 26,869
2006-WW-2328					M4947	M6457	26.9	900	$1,300	$34,971	$ 43,714	18%	$ 7,781	$ 78	$ 7,703	$ 36,011
2006-WW-2169					M6002	M6001	27.3	900	$1,300	$35,487	$ 44,358	18%	$ 7,896	$ 79	$ 7,817	$ 36,542
2006-WW-2343					M6317	M6318	29.6	750	$1,200	$35,537	$ 44,421	18%	$ 7,907	$ 79	$ 7,828	$ 36,593
2006-WW-2435					M6444	A3555	35.6	900	$1,300	$46,309	$ 57,886	18%	$ 10,304	$ 103	$ 10,201	$ 47,685
2006-WW-2277					M6480	M6492	38.1	750	$1,200	$45,743	$ 57,179	18%	$ 10,178	$ 102	$ 10,076	$ 47,103
2006-WW-2139					M5755	M5757	38.4	900	$1,300	$49,902	$ 62,377	18%	$ 11,103	$ 111	$ 10,992	$ 51,385
2006-WW-2107					M5752	M5755	41.4	750	$1,200	$49,681	$ 62,102	18%	$ 11,054	$ 111	$ 10,944	$ 51,158
2006-WW-2154					M5711	M4073	41.4	900	$1,300	$53,833	$ 67,291	18%	$ 11,978	$ 120	$ 11,858	$ 55,433
2006-WW-2191					M5672	M4077	43.0	900	$1,300	$55,897	$ 69,872	18%	$ 12,437	$ 124	$ 12,313	$ 57,559
2006-WW-2437					A3555	M4955	43.2	900	$1,300	$56,137	$ 70,171	18%	$ 12,490	$ 125	$ 12,365	$ 57,805
2006-WW-2148					M5988	M5985	43.3	900	$1,300	$56,316	$ 70,395	18%	$ 12,530	$ 125	$ 12,405	$ 57,990
2006-WW-2147					M6022	A3253	44.6	750	$1,200	$53,530	$ 66,912	18%	$ 11,910	$ 119	$ 11,791	$ 55,121
2006-WW-2399					M5398	M5760	48.5	900	$1,300	$63,098	$ 78,873	18%	$ 14,039	$ 140	$ 13,899	$ 64,974
2006-WW-2143					M6023	M6022	49.4	750	$1,200	$59,232	$ 74,040	18%	$ 13,179	$ 132	$ 13,047	$ 60,993
2006-WW-2137					A2995	A1883	49.7	750	$1,200	$59,585	$ 74,481	18%	$ 13,258	$ 133	$ 13,125	$ 61,356
2006-WW-2340					M6318	M6319	50.2	750	$1,200	$60,233	$ 75,291	18%	$ 13,402	$ 134	$ 13,268	$ 62,023
2006-WW-2219					M2861	A1881	54.6	900	$1,300	$70,919	$ 88,649	18%	$ 15,779	$ 158	$ 15,622	$ 73,027
2006-WW-2153					M5985	A3240	55.7	900	$1,300	$72,366	$ 90,457	18%	$ 16,101	$ 161	$ 15,940	$ 74,517
2006-WW-2192					M6485	M6483	55.9	900	$1,300	$72,721	$ 90,901	18%	$ 16,180	$ 162	$ 16,019	$ 74,882
2006-WW-2172					M6001	M1885	56.4	900	$1,300	$73,359	$ 91,699	18%	$ 16,322	$ 163	$ 16,159	$ 75,540
2006-WW-2371					M2863	M2866	59.0	900	$1,300	$76,642	$ 95,802	18%	$ 17,053	$ 171	$ 16,882	$ 78,920
2006-WW-2387					M6364	M3490	63.1	750	$1,200	$75,683	$ 94,604	18%	$ 16,839	$ 168	$ 16,671	$ 77,932
2006-WW-2114					M2801	M2803	64.0	750	$1,200	$76,856	$ 96,071	18%	$ 17,101	$ 171	$ 16,930	$ 79,141
2006-WW-2335					M3511	M3470	64.2	750	$1,200	$77,018	$ 96,273	18%	$ 17,137	$ 171	$ 16,965	$ 79,308
2006-WW-2149					M2981	A1536	65.0	750	$1,200	$78,042	$ 97,553	18%	$ 17,364	$ 174	$ 17,191	$ 80,362
2006-WW-2248					A2151	M3471	65.7	900	$1,300	$85,372	$ 106,715	18%	$ 18,995	$ 190	$ 18,805	$ 87,910
2006-WW-2253					M2979	M2980	66.1	750	$1,200	$79,306	$ 99,132	18%	$ 17,645	$ 176	$ 17,469	$ 81,663
2006-WW-2257					M2980	M2981	67.2	750	$1,200	$80,612	$ 100,766	18%	$ 17,936	$ 179	$ 17,757	$ 83,009
2006-WW-2299					M2800	M2801	68.7	750	$1,200	$82,440	$ 103,050	18%	$ 18,343	$ 183	$ 18,159	$ 84,891
2006-WW-2201					M9394	A3480	68.8	900	$1,300	$89,427	$ 111,784	18%	$ 19,898	$ 199	$ 19,699	$ 92,085
2006-WW-2250					M3490	A2173	68.8	750	$1,200	$82,598	$ 103,248	18%	$ 18,378	$ 184	$ 18,194	$ 85,054
2006-WW-2323					M2796	M2798	70.4	750	$1,200	$84,535	$ 105,669	18%	$ 18,809	$ 188	$ 18,621	$ 87,048
2006-WW-2434					M5042	M5043	72.0	900	$1,300	$93,566	$ 116,958	18%	$ 20,818	$ 208	$ 20,610	$ 96,347
2006-WW-2344					M5454	M5455	73.3	900	$1,300	$95,238	$ 119,048	18%	$ 21,190	$ 212	$ 20,979	$ 98,069
2006-WW-2330					M6457	A3559	76.5	900	$1,300	$99,415	$ 124,269	18%	$ 22,120	$ 221	$ 21,899	$ 102,370
2006-WW-2377					M5043	M5044	77.8	900	$1,300	$101,171	$ 126,464	18%	$ 22,511	$ 225	$ 22,285	$ 104,179
2006-WW-2377					M5043	M5044	77.8	900	$1,300	$101,171	$ 126,464	18%	$ 22,511	$ 225	$ 22,285	$ 104,179
2006-WW-2463					M5628	A2965	78.0	900	$1,300	$101,405	$ 126,757	18%	$ 22,563	$ 226	$ 22,337	$ 104,419
2006-WW-2268					M4160	M4106	78.3	900	$1,300	$101,771	$ 127,213	18%	$ 22,644	$ 226	$ 22,417	$ 104,796
2006-WW-2221					M2861	M2868	78.7	900	$1,300	$102,301	$ 127,876	18%	$ 22,762	$ 228	$ 22,534	$ 105,342
2006-WW-2381					M5044	M5045	80.7	900	$1,300	$104,974	$ 131,217	18%	$ 23,357	$ 234	$ 23,123	$ 108,094
2006-WW-2269					M6498	M6497	90.5	750	$1,200	$108,600	$ 135,750	18%	$ 24,164	$ 242	$ 23,922	$ 111,828
2006-WW-2120					M6286	A3471	91.0	900	$1,300	$118,300	$ 147,875	18%	$ 26,322	$ 263	$ 26,059	$ 121,816
2006-WW-2397					M5452	M5454	94.5	900	$1,300	$122,850	$ 153,563	18%	$ 27,334	$ 273	$ 27,061	$ 126,502
2006-WW-2234					M6489	A3563	95.0	900	$1,300	$123,500	$ 154,375	18%	$ 27,479	$ 275	$ 27,204	$ 127,171
2006-WW-2194					M2123	M2124	98.0	900	$1,300	$127,400	$ 159,250	18%	$ 28,347	$ 283	$ 28,063	$ 131,187
2006-WW-2413					M5460	M5461	98.7	900	$1,300	$128,271	$ 160,339	18%	$ 28,540	$ 285	$ 28,255	$ 132,084
2006-WW-2204					M9394	A10460	101.2	900	$1,300	$131,496	$ 164,370	18%	$ 29,258	$ 293	$ 28,965	$ 135,405
2006-WW-2247					M3471	M3470	104.3	900	$1,300	$135,563	$ 169,453	18%	$ 30,163	$ 302	$ 29,861	$ 139,592
	Total									$ 4,291,513	$ 5,364,392		$ 954,862	$ 9,549	$ 945,313	$ 4,419,079
PEACE ARCH																
2006-PA-2355					M2253	M2255	8.1	750	$1,200	$9,709	$ 12,137	18%	$ 2,151	$ 22	$ 2,129	$ 10,007
2006-PA-2166					A2547	M2742	9.2	900	$1,300	$12,016	$ 15,020	18%	$ 2,662	$ 27	$ 2,635	$ 12,385
2006-PA-2167					M3073	M2754	12.2	1050	$1,500	$18,242	$ 22,802	18%	$ 4,040	$ 40	$ 4,000	$ 18,802
2006-PA-2307					M2344	M2355	12.2	1050	$1,500	$18,269	$ 22,836	18%	$ 4,046	$ 40	$ 4,006	$ 18,830
2006-PA-2188					M2739	M2597	15.4	900	$1,300	$20,045	$ 25,056	18%	$ 4,440	$ 44	$ 4,396	$ 20,660
2006-PA-2124					A1699	A1680	19.8	750	$1,200	$23,794	$ 29,742	18%	$ 5,270	$ 53	$ 5,218	$ 24,524
2006-PA-2130					A2114	A2113	20.2	900	$1,300	$26,315	$ 32,893	18%	$ 5,829	$ 58	$ 5,770	$ 27,123
2006-PA-2212					M7281	M7283	25.4	750	$1,200	$30,499	$ 38,124	18%	$ 6,756	$ 68	$ 6,688	$ 31,436
2006-PA-2407					A2023	M3047	28.7	900	$1,300	$37,266	$ 46,582	18%	$ 8,254	$ 83	$ 8,172	$ 38,410
2006-PA-2471					A2032	M3073	18.0	1050	$1,500	$27,000	$ 33,750	18%	$ 5,981	$ 60	$ 5,921	$ 27,829
2006-PA-2131					A4523	M7304	34.4	900	$1,300	$44,672	$ 55,840	18%	$ 9,895	$ 99	$ 9,796	$ 46,044
2006-PA-2305					M3042	M3041	34.5	900	$1,300	$44,789	$ 55,986	18%	$ 9,921	$ 99	$ 9,822	$ 46,165
2006-PA-2319					M2340	M2255	34.9	750	$1,200	$41,906	$ 52,383	18%	$ 9,282	$ 93	$ 9,189	$ 43,194
2006-PA-2123					M2255	A1699	35.1	750	$1,200	$42,133	$ 52,667	18%	$ 9,333	$ 93	$ 9,239	$ 43,427
2006-PA-2155					M7238	M7240	43.0	900	$1,300	$55,962	$ 69,953	18%	$ 12,396	$ 124	$ 12,272	$ 57,681

City of Richmond
Drainage DCC Program

DCC Project ID	Catchment	Location	From	To	From Node	To Node	Length (m)	Recommended Size (mm)		2015 Cost Estimate w/o Contingency, Engineering & Contract Admin	Col.(1) Cost Estimate w/ Cont., Eng., & Admin.	Col. (2) Benefit Factor %	Col. (3) =Col. (1) x Col. (2) Benefit to New Development	Col. (4) Municipal Assist Factor 1%	Col. (5) = Col. (3) - Col. (4) DCC Recoverable	Col. (6) = Col.(1) - Col. (5) Total Municipal Responsibility
2006-PA-2222					A2014	A2015	48.3	900	$1,300	$62,735	$ 78,419	18%	$ 13,896	$ 139	$ 13,757	$ 64,662
2006-PA-2433					M2408	M2407	54.3	900	$1,300	570,634	$ 88,293	18%	$ 15,645	$ 156	$ 15,489	$ 72,804
2006-PA-2129					M7304	A2114	55.7	900	$1,300	$72,461	$ 90,576	18%	$ 16,050	$ 161	$ 15,890	$ 74,686
2006-PA-2220					M3048	A2014	55.8	900	$1,300	$72,569	$ 90,711	18%	$ 16,074	$ 161	$ 15,913	$ 74,798
2006-PA-2356					M2740	M2739	61.8	900	$1,300	$80,386	$ 100,482	18%	$ 17,805	$ 178	$ 17,627	$ 82,855
2006-PA-2383					M2406	A1676	62.8	900	$1,300	$81,632	$ 102,040	18%	$ 18,082	$ 181	$ 17,901	$ 84,140
2006-PA-2409					M3047	M3048	63.3	900	$1,300	$82,336	$ 102,919	18%	$ 18,237	$ 182	$ 18,055	$ 84,864
2006-PA-2134					M2417	M2369	73.0	900	$1,300	$94,900	$ 118,625	18%	$ 21,020	$ 210	$ 20,810	$ 97,815
2006-PA-2184					M7630	M7521	68.2	900	$1,300	$88,651	$ 110,814	18%	$ 19,636	$ 196	$ 19,440	$ 91,374
2006-PA-2215					M7353	M7362	71.7	1050	$1,500	$107,499	$ 134,374	18%	$ 23,811	$ 238	$ 23,573	$ 110,801
2006-PA-2428					M2407	M2406	72.1	900	$1,300	$93,683	$ 117,104	18%	$ 20,751	$ 208	$ 20,543	$ 96,561
2006-PA-2454					M2611	M2609	75.7	900	$1,300	$98,469	$ 123,086	18%	$ 21,811	$ 218	$ 21,593	$ 101,493
2006-PA-2458					M2609	M2608	78.3	900	$1,300	$101,747	$ 127,184	18%	$ 22,537	$ 225	$ 22,312	$ 104,872
2006-PA-2337					M7364	M7363	81.0	1050	$1,500	$121,454	$ 151,817	18%	$ 26,902	$ 269	$ 26,633	$ 125,184
2006-PA-2318					M7363	M7362	81.0	1050	$1,500	$121,457	$ 151,821	18%	$ 26,903	$ 269	$ 26,634	$ 125,187
2006-PA-2119					M7353	M7395	91.0	1050	$1,500	$136,500	$ 170,625	18%	$ 30,235	$ 302	$ 29,932	$ 140,693
2006-PA-2464					M2608	M2606	92.0	900	$1,300	$119,600	$ 149,500	18%	$ 26,491	$ 265	$ 26,226	$ 123,274
2006-PA-2157					M7240	M7241	98.0	1050	$1,500	$147,000	$ 183,750	18%	$ 32,561	$ 326	$ 32,235	$ 151,515
2006-PA-2229					M7223	M7237	98.0	750	$1,200	$117,600	$ 147,000	18%	$ 26,048	$ 260	$ 25,788	$ 121,212
2006-PA-2113					M7241	M7242	99.0	1050	$1,500	$148,500	$ 185,625	18%	$ 32,893	$ 329	$ 32,564	$ 153,061
2006-PA-2447					M2612	M2611	100.0	900	$1,300	$130,000	$ 162,500	18%	$ 28,795	$ 288	$ 28,507	$ 133,993
2006-PA-2136					M7540	M7521	100.0	750	$1,200	$120,000	$ 150,000	18%	$ 26,580	$ 266	$ 26,314	$ 123,686
2006-PA-2405					M2585	M104159	17.7	900	$1,300	$23,010	$ 28,763	18%	$ 5,097	$ 51	$ 5,046	$ 23,717
2006-PA-2445					M2420	A1701	99.5	900	$1,300	$129,288	$ 161,610	18%	$ 28,637	$ 286	$ 28,351	$ 133,259
2006-PA-2142					M7521	A4720	99.5	1200	$1,800	$179,028	$ 223,785	18%	$ 39,655	$ 397	$ 39,258	$ 184,527
2006-PA-2357					M2250	M2253	102.4	750	$1,200	$122,906	$ 153,633	18%	$ 27,224	$ 272	$ 26,952	$ 126,681
2006-PA-2359					M2249	M2250	102.4	750	$1,200	$122,918	$ 153,648	18%	$ 27,226	$ 272	$ 26,954	$ 126,694
2006-PA-2432					M7550	M7521	102.6	900	$1,300	$133,423	$ 166,779	18%	$ 29,553	$ 296	$ 29,258	$ 137,521
2006-PA-2320					M6296	M6289	109.3	900	$1,300	$142,028	$ 177,535	18%	$ 31,459	$ 315	$ 31,145	$ 146,390
2006-PA-2190					M6297	M6296	109.3	750	$1,200	$131,102	$ 163,878	18%	$ 29,039	$ 290	$ 28,749	$ 135,129
2006-PA-2339					M7283	M7282	109.4	900	$1,300	$142,236	$ 177,795	18%	$ 31,505	$ 315	$ 31,190	$ 146,604
2006-PA-2135					M7270	M7242	110.3	900	$1,300	$143,328	$ 179,160	18%	$ 31,747	$ 317	$ 31,430	$ 147,730
2006-PA-2209					M7280	M7281	112.1	750	$1,200	$134,567	$ 168,209	18%	$ 29,807	$ 298	$ 29,508	$ 138,700
	Total									$ 4,126,260	$ 5,157,825		$ 913,967	$ 9,140	$ 904,827	$ 4,252,998
Total Minor Drainage -Current (2006 DCC Review)										$ 10,784,599	$ 13,480,749		$ 3,067,894	$ 30,679	$ 3,037,215	$ 10,443,534
MINOR DRAINAGE - OCP (2006 DCC REVIEW)																
[illegible]																
2006-WW-2477					M5424	M4318	18.9	900	$1,300	$24,600	$ 30,750	100%	$ 30,750	$ 307	$ 30,442	$ 307
2006-WW-2499					M5457	M4311	19.6	900	$1,300	$25,440	$ 31,800	100%	$ 31,800	$ 318	$ 31,482	$ 318
2006-WW-2494					M5760	M5397	26.7	900	$1,300	$34,679	$ 43,349	100%	$ 43,349	$ 433	$ 42,915	$ 433
2006-WW-2479					M6449	A1509	53.5	900	$1,300	$69,498	$ 86,873	100%	$ 86,873	$ 869	$ 86,004	$ 869
2006-WW-2498					M5461	M5457	65.4	900	$1,300	$85,036	$ 106,295	100%	$ 106,295	$ 1,063	$ 105,232	$ 1,063
2006-WW-2487					M5397	M5395	97.0	900	$1,300	$126,100	$ 157,625	100%	$ 157,625	$ 1,576	$ 156,049	$ 1,576
	Total									$ 365,352	$ 456,690		$ 456,690	$ 4,567	$ 452,123	$ 4,567
[illegible]																
2006-PA-2478					A1694	M2355	4.9	1200	$1,800	$8,896	$ 11,120	100%	$ 11,120	$ 111	$ 11,008	$ 111
2006-PA-2474					A4720	M7522	6.4	1200	$1,800	$11,567	$ 14,459	100%	$ 14,459	$ 145	$ 14,314	$ 145
2006-PA-2495					M4604	M2351	11.6	900	$1,300	$15,122	$ 18,902	100%	$ 18,902	$ 189	$ 18,713	$ 189
2006-PA-2483					M3044	A2140	35.0	900	$1,300	$45,514	$ 56,893	100%	$ 56,893	$ 569	$ 56,324	$ 569
2006-PA-2482					M2351	M2343	69.5	900	$1,300	$90,301	$ 112,876	100%	$ 112,876	$ 1,129	$ 111,747	$ 1,129
2006-PA-2476					M7512	M7514	70.8	750	$1,200	$85,019	$ 106,274	100%	$ 106,274	$ 1,063	$ 105,211	$ 1,063
2006-PA-2475					M7522	M7523	104.2	1200	$1,800	$187,470	$ 234,338	100%	$ 234,338	$ 2,343	$ 231,994	$ 2,343
	Total									$ 443,888	$ 554,860		$ 554,860	$ 5,549	$ 549,311	$ 5,549
Total Minor Drainage - OCP (2006 DCC Review)										$ 809,240	$ 1,011,550		$ 1,011,550	$ 10,115	$ 1,001,434	$ 10,115
[illegible]										$ 152,421,048	$ 205,025,311		$ 87,942,352	$ 870,424	$ 86,171,929	$ 118,853,382
2009 Projects																
Model Update Current Condition																
2009-CCAP-2600	Gilbert North	ROW b/w 7400 Minoru Blvd and 7500 Minoru Blvd (going east)	Minoru Blvd	150m east	M4374	M4454	150.6	750	$1,200	$180,684	$ 225,855	47%	$ 107,236	$ 1,072	$ 106,164	$ 119,691
2009-CCAP-2602	Gilbert North	Ackroyd Rd - south side	8400 Ackroyd Rd	Arcadia Rd	M5838	M4810	342.8	750	$1,200	$411,360	$ 514,200	47%	$ 244,142	$ 2,441	$ 241,701	$ 272,499
2009-CCAP-2603	Gilbert North	Ackroyd Rd - north side	5880 No. 3 Rd	8411 Ackroyd Rd	M5880	M5828	283.8	750	$1,200	$316,560	$ 395,700	47%	$ 187,878	$ 1,879	$ 186,000	$ 209,700
2009-CCAP-2604	Gilbert North	Ackroyd Rd - south side	5811 Cooney Rd	8400 Ackroyd Rd	M5865	M5838	101.2	750	$1,200	$121,440	$ 151,800	47%	$ 72,075	$ 721	$ 71,354	$ 80,446
2009-CCAP-2605	Gilbert North	Ackroyd Rd - south side	5880 No. 3 Rd	5811 Cooney Rd	M4502	M5865	236.0	750	$1,200	$283,200	$ 354,000	47%	$ 168,079	$ 1,681	$ 166,398	$ 187,602
2009-CCAP-2606	Gilbert North	Ackroyd Rd - north side	8411 Ackroyd Rd	Arcadia Rd	M5828	M4809	363.5	750	$1,200	$436,200	$ 545,250	47%	$ 258,885	$ 2,589	$ 256,296	$ 288,954
2009-CCAP-2611	Gilbert North	Blundell Rd - north side	Gilbert Rd	Minoru Blvd	M786	M793	545.4	1350	$2,100	$1,145,340	$ 1,431,675	47%	$ 679,759	$ 6,798	$ 672,962	$ 758,713
2009-CCAP-2621		Blundell Rd - north side	Minoru Blvd	No.3 Rd	M793	M803	253.4	1350	$2,100	$532,140	$ 665,175	47%	$ 315,825	$ 3,158	$ 312,667	$ 352,508

City of Richmond
Drainage DCC Program

										2015	Col.(1)	Col. (2)	Col. (3) =Col. (1) x Col. (2)	Col. (4)	Col. (5) = Col. (3) - Col. (4)	Col. (6) = Col.(1) - Col. (5)
DCC Project ID	Catchment	Location	From	To	From Node	To Node	Length (m)	Recommended Size (mm)		Cost Estimate w/o Contingency, Engineering & Contract Admin	Cost Estimate w/ Cont., Eng., & Admin.	Benefit Factor %	Benefit to New Development	Municipal Assist Factor 1%	DCC Recoverable	Total Municipal Responsibility
2008-CCAP-2612	Woodward's Slough	Blundell Rd	Garden City Rd	Ash St	A1103	M1293	405.6	1350	$2,100	$851,760	$ 1,064,700	18%	$ 189,517	$ 1,895	$ 187,621	$ 877,079
2008-CCAP-2613	Gilbert North	Bridge St - west side	7151 Bridge St	Granville Ave	M5135	M1471	162.6	750	$1,200	$195,120	$ 243,900	47%	$ 115,804	$ 1,158	$ 114,646	$ 129,254
2008-CCAP-2616	Gilbert North	Cooney Rd	Ackroyd Rd	Lansdowne Rd	M5845	M5852	205.0	750	$1,200	$246,000	$ 307,500	47%	$ 146,001	$ 1,460	$ 144,541	$ 162,959
2008-CCAP-2617	Gilbert North	Cooney Rd (east side) & Westminster Hwy (south side) (twin ex. box culvert)	Spires Gate	No. 3 Rd & Westmins	offset from M6103	et from M4	571.7	1050	$1,500	$857,550	$ 1,071,938	47%	$ 508,956	$ 5,090	$ 503,866	$ 568,071
2008-CCAP-2621	Gilbert North	Gilbert Rd - ROW approx. 185m north of Blundell Rd	Rear of 7811 Moffatt	Gilbert Rd	M4537	M855	55.4	750	$1,200	$66,504	$ 83,130	47%	$ 39,470	$ 395	$ 39,075	$ 44,055
2008-CCAP-2630	Woodward's Slough	Garden City Rd - east side	Blundell Rd	7800 Garden City	M1103	M1093	48.3	900	$1,300	$60,190	$ 75,238	18%	$ 13,392	$ 134	$ 13,258	$ 61,979
2008-CCAP-2633	Woodward's Slough	General Currie - south side	39.7m east of St. Albans	St Albans Rd	A2654	M4599	39.7	750	$1,200	$47,640	$ 59,550	18%	$ 10,600	$ 106	$ 10,494	$ 49,056
2008-CCAP-2636	Gilbert North	Elmbridge Way	South PL of 6851 Elmbridge	Westminster Hwy	M3485	M3241	130.8	675	$1,000	$130,800	$ 163,500	47%	$ 77,630	$ 776	$ 76,854	$ 86,646
2008-CCAP-2637	Gilbert North	Elmbridge Way	6791 Elmbridge Way	Hollybridge Way	M3368	M3478	209.0	900	$1,100	$271,700	$ 339,625	47%	$ 161,254	$ 1,613	$ 159,641	$ 179,984
2008-CCAP-2644	Gilbert North	Gilbert Rd	Blundell Rd	Granville Ave	M786	A492	782.0	1.37X2.79	$6,200	$4,848,400	$ 6,060,500	47%	$ 2,877,525	$ 28,775	$ 2,848,750	$ 3,211,750
2008-CCAP-2645	Gilbert North	Gilbert Rd North PS outfall					28.0	1200	$1,800	$50,400	$ 63,000	47%	$ 29,912	$ 299	$ 29,613	$ 33,387
2008-CCAP-2648	Gilbert North	Granville Ave - south side	Heather St	Garden City Rd	M1380	M1053	216.0	750	$1,200	$259,196	$ 323,996	47%	$ 153,833	$ 1,538	$ 152,295	$ 171,701
2008-CCAP-2650	Gilbert North	Granville Ave - additional new pipe	7840 Granville	No 3 Rd	offset from M1004	et from M1	181.4	750	$1,200	$217,680	$ 272,100	47%	$ 129,193	$ 1,292	$ 127,901	$ 144,199
2008-CCAP-2651	Gilbert North	Granville Ave - south side	St Albans Rd	Garden City Rd	M1046	M1053	420.3	1050	$1,500	$630,450	$ 788,063	47%	$ 374,172	$ 3,742	$ 370,430	$ 417,632
2008-CCAP-2652	Gilbert North	Granville Ave - south side	Gilbert Rd	St Albans Rd	M1154	M1046	1,208.7	1350	$2,100	$2,538,270	$ 3,172,838	47%	$ 1,506,463	$ 15,065	$ 1,491,399	$ 1,681,439
2008-CCAP-2653	Gilbert North	Granville Ave - north side	No 3 Rd	8520 Anderson Rd - V	M4323 (5.5m W)		M1054	511.5	900 x 2100	$4,500	$2,301,750	$ 2,877,188	47%	$ 1,366,089	$ 13,661	$ 1,352,428	$ 1,524,760
2008-CCAP-2651	Woodward's Slough	Heather St	Granville Ave.	7620 Heather St.	M1380	A100883	599.6	675	$1,000	$599,600	$ 749,500	18%	$ 133,411	$ 1,334	$ 132,077	$ 617,423
2008-CCAP-2652	Woodward's Slough	Heather St	7620 Heather St.	Blundell Rd	A100883	A1199	190.2	750	$1,200	$228,240	$ 285,300	18%	$ 50,783	$ 508	$ 50,276	$ 235,024
2008-CCAP-2665	Gilbert North	Lansdowne Rd & ROW - additional new pipe	No 3 Rd	Hollybridge Way	offset from M4907	et from M3	825.6	1500	$2,400	$1,981,440	$ 2,476,800	47%	$ 1,175,985	$ 11,760	$ 1,164,225	$ 1,312,575
2008-CCAP-2666	Gilbert North	Minoru Blvd	7811 Granville Ave	6391 Minoru Blvd - No	M8853	M6898	472.3	1200	$1,800	$850,140	$ 1,062,675	47%	$ 504,558	$ 5,046	$ 499,513	$ 563,162
2008-CCAP-2667	Gilbert North	Minoru Blvd - replace and new segment	Westminster Hwy	6391 Minoru Blvd - No	M3952	M6898	154.0	750	$1,200	$184,800	$ 231,000	47%	$ 109,679	$ 1,097	$ 108,582	$ 122,418
2008-CCAP-2669	Woodward's Slough	Minoru Blvd at Acheson Rd	Acheson Rd - north side	Acheson Rd - south s	M4406	M4407	16.2	750	$1,200	$19,440	$ 24,300	18%	$ 4,325	$ 43	$ 4,282	$ 20,018
2008-CCAP-2670	Woodward's Slough	Minoru Blvd	Acheson Rd - south side	7400 Minoru Blvd - No	M4407	M4378	95.4	900	$1,300	$124,020	$ 155,025	18%	$ 27,594	$ 276	$ 27,319	$ 127,706
2008-CCAP-2671	Woodward's Slough	Minoru Blvd	7400 Minoru Blvd - North PL	7660 Minoru Blvd - No	M4378	M4340	252.7	750	$1,200	$303,240	$ 379,050	18%	$ 67,471	$ 675	$ 66,796	$ 312,254
2008-CCAP-2672	Woodward's Slough	Minoru Blvd	7660 Minoru Blvd - North of Abercrombie Dr	Blundell Rd	M4340	M793	147.6	900	$1,300	$191,880	$ 239,850	18%	$ 42,693	$ 427	$ 42,266	$ 197,584
2008-CCAP-2675	Gilbert North	No 3 Rd - west side	5411 No 3 Rd - North PL	Lansdowne Rd	M4282	M9315	230.0	750	$1,200	$276,000	$ 345,000	47%	$ 163,806	$ 1,638	$ 162,168	$ 182,832
2008-CCAP-2676	Gilbert North	No 3 Rd - additional new pipe	Lansdowne Rd	Granville Ave	offset from M4907	et from M4	1,223.6	1500	$2,400	$2,936,640	$ 3,670,800	47%	$ 1,742,896	$ 17,429	$ 1,725,467	$ 1,945,333
2008-CCAP-2683	Gilbert North	Westminster Hwy - north side	Alderbridge Way	Minoru Blvd	M3922	M3941	321.1	675	$1,000	$321,100	$ 401,375	47%	$ 190,573	$ 1,906	$ 188,667	$ 212,708
2008-CCAP-2684	Gilbert North	Park Rd - north side	Ecksersley Rd	8587 Citation Dr	M8147	M8351	190.0	675	$1,000	$190,000	$ 237,500	47%	$ 112,765	$ 1,128	$ 111,637	$ 125,863
2008-CCAP-2686	Gilbert North	Pimlico Way/Citation Dr	Cook Rd	8587 Citation	M8342	M8351	295.1	675	$1,000	$295,052	$ 368,815	47%	$ 175,113	$ 1,751	$ 173,362	$ 195,453
2008-CCAP-2690	Gilbert North	Railway ROW near Browngate Rd ROW and No 3 Rd	Browngate Rd ROW	4411 No 3 Rd	M5419	M5423	106.3	675	$1,000	$106,340	$ 132,925	47%	$ 63,113	$ 631	$ 62,482	$ 70,443
2008-CCAP-2694	Gilbert North	River Rd - south side	Van Horne Way	East on Van Horne W	A12749	M8307	67.0	900	$1,300	$87,100	$ 108,875	47%	$ 51,694	$ 517	$ 51,177	$ 57,698
2008-CCAP-2699	Gilbert North	River Rd	River Rd and Hollybridge Way		A2290	A12210	3.8	900	$1,300	$4,940	$ 6,175	47%	$ 2,932	$ 29	$ 2,903	$ 3,272
2008-CCAP-2700	Gilbert North	River Rd	River Rd and Hollybridge Way		M3684	A2290	15.7	1350	$2,100	$32,970	$ 41,213	47%	$ 19,568	$ 196	$ 19,372	$ 21,840
2008-CCAP-2701	Gilbert North	River Rd	Hollybridge Way	Gilbert Rd	M3684	M3612	288.2	900	$1,300	$348,660	$ 435,825	47%	$ 206,930	$ 2,069	$ 204,860	$ 230,965
2008-CCAP-2830	Gilbert North	River Rd	7080 River Rd	NE PL of 7400 River F	M5348	M5365	447.8	900	$1,300	$582,140	$ 727,675	47%	$ 345,500	$ 3,455	$ 342,045	$ 385,630
2008-CCAP-2702	Gilbert North	River Rd	NE PL of 7400 River Rd	7560 River Rd	M5365	M5371	65.7	750	$1,200	$78,840	$ 98,550	47%	$ 46,792	$ 468	$ 46,324	$ 52,226
2008-CCAP-2704	Gilbert North	Saxsmith Rd near Sea Island Way - connect East to West drainage system, additional new pipe	3160 Saxsmith Rd	3131 Saxsmith Rd	M100479	M10033	15.1	750	$1,200	$18,120	$ 22,650	47%	$ 10,754	$ 108	$ 10,647	$ 12,003
2008-CCAP-2706	Gilbert North	Westminster Hwy - additional new pipe	Bowling Green Rd	Gilbert Rd	offset from M6723	et from A2	357.0	900	$1,300	$464,100	$ 580,125	47%	$ 275,443	$ 2,754	$ 272,689	$ 307,436
2008-CCAP-2714	Woodward's Slough	Garden City Rd - west side	Bennett Rd	7211 Garden City	M1114	M1115	59.7	750	$1,200	$71,640	$ 89,550	18%	$ 15,940	$ 159	$ 15,781	$ 73,769
2008-CCAP-2716	Woodward's Slough	Garden City Rd - west side	General Currie	Bennett Rd	M1111	M1098	190.6	1050	$1,500	$286,140	$ 357,675	18%	$ 63,666	$ 637	$ 63,029	$ 294,646
2008-CCAP-2717	Woodward's Slough	Garden City Rd - west side	Blundell Rd	General Currie	M1105	M1111	395.3	1350	$2,100	$830,130	$ 1,037,663	18%	$ 184,704	$ 1,847	$ 182,857	$ 854,806
2008-CCAP-2720	Woodward's Slough	St. Albans Rd - west side	Blundell Rd	7433 St. Albans Rd - S	M4633	M4603	300.2	750	$1,200	$360,240	$ 450,300	18%	$ 80,153	$ 802	$ 79,352	$ 370,948
Total Model Update - Current											$ 28,773,286	$ 35,966,608		$ 15,602,532	$ 156,025	$ 15,446,507	$ 20,520,101
TZM/CCAP Condition																
2008-CCAP-2726		Acheson Rd - south side	No 3 Rd	Minoru Blvd	M1026	M4377	254.0	900	$1,300	$330,200	$ 412,750	100%	$ 412,750	$ 4,128	$ 408,623	$ 4,128
2008-CCAP-2730		Acheson Rd - north side	Minoru Blvd	7531 Acheson	M4406	A2582	23.0	750	$1,200	$27,600	$ 34,500	100%	$ 34,500	$ 345	$ 34,155	$ 345
2008-CCAP-2731		Acheson Rd - north side (existing culverts only)	7591 Acheson	7671 Acheson	A10145	A10151	66.3	750	$1,200	$79,560	$ 99,450	100%	$ 99,450	$ 995	$ 98,456	$ 995
2008-CCAP-2733		Acheson Rd - north side	7691 Acheson	7731 Acheson	A101060	M100453	45.4	750	$1,200	$54,480	$ 68,100	100%	$ 68,100	$ 681	$ 67,419	$ 681

City of Richmond
Drainage DCC Program

										2015	Col. (1)	Col. (2)	Col. (3) =Col. (1) x Col. (2)	Col. (4)	Col. (5) = Col. (3) - Col. (4)	Col. (6) = Col. (1) - Col. (5)
DCC Project ID	Catchment	Location	From	To	From Node	To Node	Length (m)	Recommended Size (mm)		Cost Estimate w/o Contingency, Engineering & Contract Admin	Cost Estimate w/ Cont., Eng., & Admin.	Benefit Factor %	Benefit to New Development	Municipal Assist Factor 1%	DCC Recoverable	Total Municipal Responsibility
2008-CCAP-2740		Alderbridge Way	5 Crossings of Alderbridge Way b/w No 4/Garden City Rd		A1398	M1636	14.4	900	$1,300	$18,720	$ 23,400	100%	$ 23,400	$ 234	$ 23,166	$ 234
2008-CCAP-2748		Anderson Rd	No 3 Rd	8051 Anderson Rd	4343	4345	39.7	750	$1,200	$47,640	$ 59,550	100%	$ 59,550	$ 596	$ 58,955	$ 596
2008-CCAP-2748		Ash St	Granville Ave	7120 Ash St	M1432	M1428	104.7	675	$1,000	$104,700	$ 130,875	100%	$ 130,875	$ 1,309	$ 129,566	$ 1,309
2008-CCAP-2749		Ash St	7220 Ash St	General Currie Rd	M5094	M5029	201.8	675	$1,000	$201,800	$ 252,250	100%	$ 252,250	$ 2,523	$ 249,728	$ 2,523
2008-CCAP-2823		Ash St	General Currie Rd	7560 Ash St	M5029	M5090	108.1	675	$1,000	$108,100	$ 135,125	100%	$ 135,125	$ 1,351	$ 133,774	$ 1,351
2008-CCAP-2750		Ash St	7560 Ash St	Blundell Rd	M5090	M1293	242.3	750	$1,200	$290,760	$ 363,450	100%	$ 363,450	$ 3,635	$ 359,816	$ 3,635
2008-CCAP-2752		Ash St - west side	Blundell Rd	7833 Ash	A1202	M1292	28.9	750	$1,200	$34,680	$ 43,350	100%	$ 43,350	$ 434	$ 42,917	$ 434
2008-CCAP-2753		Heather St - west side	Blundell Rd	7833 Heather St.	M1288	M107855	16.1	750	$1,200	$19,320	$ 24,150	100%	$ 24,150	$ 242	$ 23,909	$ 242
2008-CCAP-2755		Bridge St - west side	7151 Bridge	Blundell Rd	M5135	M1298	350.0	750	$1,200	$420,000	$ 525,000	100%	$ 525,000	$ 5,250	$ 519,750	$ 5,250
2008-CCAP-2756		Sills Ave	9560 Sills Ave	Bridge St	M100991	M100399	97.7	750	$1,200	$117,240	$ 146,550	100%	$ 146,550	$ 1,466	$ 145,085	$ 1,466
2008-CCAP-2758		Bridge St - east side	7280 Bridge	Blundell Rd	M5174	M1299	509.6	675	$1,000	$509,600	$ 637,000	100%	$ 637,000	$ 6,370	$ 630,630	$ 6,370
2008-CCAP-2759		General Currie Rd - north side	7380 Bridge St	Bridge St	A2868	M5173	5.0	900	$1,300	$6,500	$ 8,125	100%	$ 8,125	$ 81	$ 8,044	$ 81
2008-CCAP-2760		Buswell St	Park Rd	Anderson Rd	M6178	M6253	122.0	750	$1,200	$146,400	$ 183,000	100%	$ 183,000	$ 1,830	$ 181,170	$ 1,830
2008-CCAP-2761		Cambie Rd P5 outfall					28.0	1350	$2,100	$58,800	$ 73,500	100%	$ 73,500	$ 735	$ 72,765	$ 735
2008-CCAP-2764		Cooney Rd	Acroyd Rd	Westminster Hwy	M5845	M4582	187.8	750	$1,200	$225,360	$ 281,700	100%	$ 281,700	$ 2,817	$ 278,883	$ 2,817
2008-CCAP-2767		Gilbert Rd - ROW at rear	7640 Gilbert Rd	7600 Gilbert Rd	M4538	M4537	41.8	750	$1,200	$50,160	$ 62,700	100%	$ 62,700	$ 627	$ 62,073	$ 627
2008-CCAP-2768		Keefer Ave	Heather St	South side of 7720 Heatl	M1411	M100402	69.6	750	$1,200	$83,520	$ 104,400	100%	$ 104,400	$ 1,044	$ 103,356	$ 1,044
2008-CCAP-2769		Garden City Rd	6488 Garden City	Ferndale Rd	M1627	M9481	318.6	1350	$2,100	$669,060	$ 836,325	100%	$ 836,325	$ 8,363	$ 827,962	$ 8,363
2008-CCAP-2770		Garden City Rd	6488 Garden City	Granville Ave	M1627	M1317	319.7	750	$1,200	$383,640	$ 479,550	100%	$ 479,550	$ 4,796	$ 474,755	$ 4,796
2008- CCAP-2771		Garden City Rd	Garden City Rd	6120 Garden City	M1669	A1376	5.5	750	$1,200	$6,600	$ 8,250	100%	$ 8,250	$ 83	$ 8,168	$ 83
2008- CCAP-2772		Garden City Rd	Westminster Hwy	9171 Ferndale Rd	M1684	M1682	70.7	1350	$2,100	$148,470	$ 185,588	100%	$ 185,588	$ 1,856	$ 183,732	$ 1,856
2008-CCAP-2773		General Currie Rd	Heather St	Garden City Rd	M5025	M1094	198.9	900	$1,300	$258,570	$ 323,213	100%	$ 323,213	$ 3,232	$ 319,980	$ 3,232
2008-CCAP-2774		General Currie Rd	Ash St	Bridge St	M5029	M5035	201.4	675	$1,000	$201,400	$ 251,750	100%	$ 251,750	$ 2,518	$ 249,233	$ 2,518
2008-CCAP-2775		General Currie Rd	Bridge St	No 4 Road	M5036	A1297	200.4	900	$1,300	$260,520	$ 325,650	100%	$ 325,650	$ 3,257	$ 322,394	$ 3,257
2008-CCAP-2777		Granville Ave	Garden City Rd	8790 Citation Dr	M1085	A1472	67.8	750	$1,200	$81,360	$ 101,700	100%	$ 101,700	$ 1,017	$ 100,683	$ 1,017
2008-CCAP-2778		Granville Ave	At St Albans Rd/Granville Ave		A1030	M1054	3.7	750	$1,200	$4,440	$ 5,550	100%	$ 5,550	$ 56	$ 5,495	$ 56
2008-CCAP-2779		Granville Ave	At No 3 Rd/Granville Ave		A3903	M1021	6.0	750	$1,200	$7,200	$ 9,000	100%	$ 9,000	$ 90	$ 8,910	$ 90
2008-CCAP-2781		Abercrombie Dr	Minoru Blvd	Middle of 7740 of Abe	A2605	M4441	70.1	675	$1,000	$70,100	$ 87,625	100%	$ 87,625	$ 876	$ 86,749	$ 876
2008-CCAP-2783		Minoru Blvd	Acheson Rd	Bennett Rd	M4406	M4415	98.1	900	$1,300	$127,530	$ 159,413	100%	$ 159,413	$ 1,594	$ 157,818	$ 1,594
2008-CCAP-2784		Granville Ave - north side	9533 Granville Ave	9171 Granville Ave	M10081	M10030	395.3	675	$1,000	$395,300	$ 494,125	100%	$ 494,125	$ 4,941	$ 489,184	$ 4,941
2008-CCAP-2785		Granville Ave - north side	9171 Granville Ave	Garden City Rd	M10030	M1317	103.5	750	$1,200	$124,200	$ 155,250	100%	$ 155,250	$ 1,553	$ 153,698	$ 1,553
2008-CCAP-2786		Bennett Rd - north side	7288 No 3 Rd	Garden City Rd	M4698	M1114	778.7	750	$1,200	$934,440	$ 1,168,050	100%	$ 1,168,050	$ 11,681	$ 1,156,370	$ 11,681
2008-CCAP-2787		Bennett Rd - north side	Minoru Blvd	No 3 Rd	M4415	M1029	134.0	750	$1,200	$160,740	$ 200,925	100%	$ 200,925	$ 2,009	$ 198,916	$ 2,009
2008-CCAP-2788		General Currie Rd - north side	8251 General Currie	8291 General Currie	M4613	M4614	112.8	750	$1,200	$135,360	$ 169,200	100%	$ 169,200	$ 1,692	$ 167,508	$ 1,692
2008-CCAP-2790		General Currie Rd - north side	St Albans Rd	8611 General Currie	M4600	M4645	195.0	750	$1,200	$234,000	$ 292,500	100%	$ 292,500	$ 2,925	$ 289,575	$ 2,925
2008-CCAP-2793		General Currie Rd - north side	8031 General Currie	8131 General Currie	M1033	M4616	121.6	750	$1,200	$145,920	$ 182,400	100%	$ 182,400	$ 1,824	$ 180,576	$ 1,824
2008-CCAP-2794		General Currie Rd - north side	Garden City Rd	9051 General Currie R	M1095	A2828	59.8	675	$1,000	$59,800	$ 74,750	100%	$ 74,750	$ 748	$ 74,003	$ 748
2008-CCAP-2798		Westminster Hwy - north side	NE corner of Garden City & Westminster Hwy		A11191	M1688	8.6	750	$1,200	$10,320	$ 12,900	100%	$ 12,900	$ 129	$ 12,771	$ 129
2008-CCAP-2799		Westminster Hwy - north side	Across from 9460 Westminster Hwy	Garden City Rd	A11204	A11203	6.2	900	$1,300	$8,060	$ 10,075	100%	$ 10,075	$ 101	$ 9,974	$ 101
2008-CCAP-2801		Granville Ave - south side	Heather St	Ash St	M1380	M1432	204.2	750	$1,200	$245,040	$ 306,300	100%	$ 306,300	$ 3,063	$ 303,237	$ 3,063
2008-CCAP-2802		Granville Ave - south side	Ash St	Bridge St	M1432	M1471	190.0	750	$1,200	$228,000	$ 285,000	100%	$ 285,000	$ 2,850	$ 282,150	$ 2,850
2008-CCAP-2804		Bennett Rd - south side	7288 No 3 Rd	Garden City Rd	M4698	M1098	764.4	750	$1,200	$917,280	$ 1,146,600	100%	$ 1,146,600	$ 11,466	$ 1,135,134	$ 11,466
2008-CCAP-2805		Bennett Rd - south side	No 3 Rd	7288 No 3 Rd	M1028	M4698	50.6	1350	$2,100	$106,260	$ 132,825	100%	$ 132,825	$ 1,328	$ 131,497	$ 1,328
2008-CCAP-2807		Bennett Rd - south side	Minoru Blvd	No 3 Rd	M4416	A1013	185.5	750	$1,200	$222,600	$ 278,250	100%	$ 278,250	$ 2,783	$ 275,468	$ 2,783
2008-CCAP-2809		General Currie Rd - south side	8500 General Currie	8600 General Currie	A2654	M4652	153.2	750	$1,200	$183,840	$ 229,800	100%	$ 229,800	$ 2,298	$ 227,502	$ 2,298
2008-CCAP-2810		General Currie Rd - south side	No 3 Rd	8400 General Currie R	M1025	M4634	382.2	750	$1,200	$458,640	$ 573,300	100%	$ 573,300	$ 5,733	$ 567,567	$ 5,733
2008-CCAP-2813		Jones Rd - south side	8180 Jones Rd	8380 Jones Rd	M4557	M4558	93.1	675	$1,000	$93,100	$ 116,375	100%	$ 116,375	$ 1,164	$ 115,211	$ 1,164
2008-CCAP-2814		Jones Rd - south side	No 3 Rd	8180 Jones Rd	M1023	M4457	228.0	750	$1,200	$273,600	$ 342,000	100%	$ 342,000	$ 3,420	$ 338,580	$ 3,420
2008-CCAP-2822		Blundell Rd	Ash St	No. 4 Rd	M1283	M1351	395.0	1350	$2,100	$829,500	$ 1,036,875	47%	$ 492,308	$ 4,923	$ 487,385	$ 549,490
2008-CCAP-2833		Cambie Rd - south side	Middle of 8880 Cambie Rd	Middle of 8888 Odlin (	M2567	M2763	83.8	1520 X 1200 Box	$4,500	$377,100	$ 471,375	100%	$ 471,375	$ 4,714	$ 466,661	$ 4,714
2008-CCAP-2834		Cambie Rd - south side	Middle of 8888 Odlin Cr (Cambie frontage)	Sexsmith Rd	M2763	M2706	146.2	1520 X 1370 Box	$4,800	$701,760	$ 877,200	100%	$ 877,200	$ 8,772	$ 868,428	$ 8,772
Total CCAP										$ 11,998,890	$ 14,998,613		$ 14,454,046	$ 144,540	$ 14,309,505	$ 689,107
Modelling										$ 750,000	$ 750,000	100%	$ 750,000	$ 7,500	$ 742,500	$ 7,500
WEST CAMBIE																
2008-WCAP-2828		Cambie Rd West of Garden City Rd - south side	Garden City Rd	Middle of 8880 Cambi	M2194	M2567	23.0	1200	$1,800	$41,400	$ 51,750	100%	$ 51,750	$ 518	$ 51,233	$ 518
Total West Cambie Area Plan										$ 41,400	$ 51,750	100%	$ 51,750	$ 518	$ 51,233	$ 518
Bath Slough Projects (detailed projects from ET report)																
Bath Slough CURRENT CONDITION																

City of Richmond
Drainage DCC Program

										2015	Col.(1)	Col. (2)	Col. (3) =Col. (1) x Col. (2)	Col. (4)	Col. (5) = Col. (3) - Col. (4)	Col. (6) = Col.(1) - Col. (5)
DCC Project ID	Catchment	Location	From	To	From Node	To Node	Length (m)	Recommended Size (mm)		Cost Estimate w/o Contingency, Engineering & Contract Admin	Cost Estimate w/ Cont., Eng., & Admin.	Benefit Factor %	Benefit to New Development	Municipal Assist Factor 1%	DCC Recoverable	Total Municipal Responsibility
Shell Rd																
2008-BS6-2901		Dallyn Rd	Cambie Rd	Dallyn Rd	M2261	A1646	12.0	900	$1,300	$15,600	$ 19,500	46%	$ 8,918	$ 89	$ 8,829	$ 10,671
2008-BS6-2902		Dallyn Rd	Dallyn Rd	Montego Rd	A1646	M7180	447.0	900	$1,300	$581,100	$ 726,375	46%	$ 332,201	$ 3,322	$ 328,879	$ 397,496
2008-BS6-2904		Danforth Dr	Cambie Rd	Danforth Dr	M2270	M7254	57.2	750	$1,200	$68,640	$ 85,800	46%	$ 39,240	$ 392	$ 38,847	$ 46,953
2008-BS6-2911		River Rd	Shell Rd	Simpson Rd	A8768	M4495	266.8	900	$1,300	$346,840	$ 433,550	46%	$ 198,280	$ 1,983	$ 196,298	$ 237,252
2008-BS6-2913		St Edwards Dr	Shellbridge Gate	St Edwards Dr	M2939	M2859	156.0	750	$1,200	$187,200	$ 234,000	46%	$ 107,018	$ 1,070	$ 105,948	$ 128,052
2008-BS6-2915		Bridgeport Rd North Side	Shell Rd	Simpson Rd	M3188	M3104	251.5	900	$1,300	$326,950	$ 408,688	46%	$ 186,910	$ 1,869	$ 185,041	$ 223,647
Bath Slough																
2008-BS6-2919		Cambie Rd	Bath Slough	No 5 Rd W	A1789	M2447	626.7	1800 X 900 Box	$4,000	$2,506,800	$ 3,133,500	46%	$ 1,433,079	$ 14,331	$ 1,418,748	$ 1,714,752
2008-BS6-2920		No 5 Rd	Cambie Rd	Dewsbury Dr	M2447	M6923	684.0	900	$1,300	$889,200	$ 1,111,500	46%	$ 508,335	$ 5,083	$ 503,252	$ 608,248
2008-BS6-2923		Bathgate Way	Bath Slough	Jacombs Rd	A2907	M5256	343.9	900	$1,300	$447,070	$ 558,838	46%	$ 255,579	$ 2,556	$ 253,024	$ 305,814
2008-BS6-2925		River Rd	River Rd	No 5 Rd	M4464	M4446	210.8	900	$1,300	$274,040	$ 342,550	46%	$ 156,662	$ 1,567	$ 155,096	$ 187,454
2008-BS6-2926		Bath Slough	Bath Slough	Vauxhall Pl	A2858	M5120	205.7	1050	$1,500	$308,550	$ 385,688	46%	$ 176,391	$ 1,764	$ 174,627	$ 211,061
2008-BS6-2927		Vulcan Way	Vauxhall Pl	Vulcan Way	M5120	M5157	725.5	900	$1,300	$943,150	$ 1,178,938	46%	$ 539,177	$ 5,392	$ 533,785	$ 645,152
2008-BS6-2929		Bridgeport	Olafsen Dr	No 5 Rd	M3110	M3115	309.6	900	$1,300	$402,480	$ 503,100	46%	$ 230,088	$ 2,301	$ 227,788	$ 275,312
No 6 Rd																
2008-BS6-2932		Viking Way (with new connection)	Bridgeport Rd S	Verdun Pl	M3787	M5079	173.0	900	$1,300	$224,900	$ 281,125	46%	$ 128,570	$ 1,286	$ 127,284	$ 153,841
2008-BS6-2936		No. 6 Rd. North PS Upgrade					1.0		$3,200,000	$3,200,000	$ 4,000,000	25%	$ 1,000,000	$ 10,000	$ 990,000	$ 3,010,000
2008-BS6-2938		Burrows Rd	No 5 Rd	Van Dyke Pl	M3978	M7917	403.8	900	$1,300	$524,940	$ 656,175	46%	$ 300,096	$ 3,001	$ 297,095	$ 359,080
Total Bath Slough Current Condition										$ 11,247,460	$ 14,059,325		$ 5,600,545	$ 56,005	$ 5,544,540	$ 8,514,785
Bath Slough DCP CONDITION																
Shell Rd																
2008-BS6-2940		Shell Rd	River Rd	Bridgeport RD	M3012	A1957	667.6	3600 X 1400	$7,500	$5,007,000	$ 6,258,750	100%	$ 6,258,750	$ 62,588	$ 6,196,163	$ 62,588
2008-BS6-2941		Shell Rd	Shellbridge Rd N	Shellbridge Rd S	A4732	A4737	18.3	3600 X 1400	$7,500	$137,250	$ 171,563	100%	$ 171,563	$ 1,716	$ 169,847	$ 1,716
2008-BS6-2942		Shell Rd	Cambie St N	Cambie St S	A2468	A1557	70.2	3600 X 1400	$7,500	$526,500	$ 658,125	100%	$ 658,125	$ 6,581	$ 651,544	$ 6,581
2008-BS6-2943		Cambie St	Shell Rd	Dallyn Rd	A1557	M2261	342.0	1800 X 900	$4,000	$1,368,000	$ 1,710,000	100%	$ 1,710,000	$ 17,100	$ 1,692,900	$ 17,100
2008-BS6-2944		Bird Rd	Bargen Dr	Shell Rd	M7635	A100766	445.8	1800 X 900	$4,000	$1,783,200	$ 2,229,000	100%	$ 2,229,000	$ 22,290	$ 2,206,710	$ 22,290
2008-BS6-2945		Bargen Dr	Bird Rd	Daniels Rd	M7635	M7624	122.0	900	$1,300	$158,600	$ 198,250	100%	$ 198,250	$ 1,983	$ 196,268	$ 1,983
2008-BS6-2946		Shell Rd Pump Station Upgrade					1.0		$3,200,000	$3,200,000	$ 4,000,000	50%	$ 2,000,000	$ 20,000	$ 1,980,000	$ 2,020,000
Bath Slough																
2008-BS6-2948		Bath Slough	Vulcan Way N	Vulcan Way S	A2638	A2705	34.5	4300 X 1500	$9,000	$310,500	$ 388,125	100%	$ 388,125	$ 3,881	$ 384,244	$ 3,881
2008-BS6-2949		Bath Slough	Channel upgrading downstream of Vulcan Way				41.0		$1,000	$41,000	$ 51,250	100%	$ 51,250	$ 513	$ 50,738	$ 513
2008-BS6-2950		Bath Slough	Bridgeport Rd N	Bridgeport Rd S	A2094	A2139	22.1	4300 X 1500	$9,000	$198,900	$ 248,625	100%	$ 248,625	$ 2,486	$ 246,139	$ 2,486
2008-BS6-2951		Bath Slough	Channel upgrading at Bridgeport Rd				36.0		$1,000	$36,000	$ 45,000	100%	$ 45,000	$ 450	$ 44,550	$ 450
2008-BS6-2952		Bath Slough	Vickers Way	Vickers Way	A2954	A2955	22.0	4300 X 1500	$9,000	$198,000	$ 247,500	100%	$ 247,500	$ 2,475	$ 245,025	$ 2,475
2008-BS6-2953		Bath Slough	Channel upgrading at Vickers Way				31.0		$1,000	$31,000	$ 38,750	100%	$ 38,750	$ 388	$ 38,363	$ 388
2008-BS6-2954		Bath Slough	Cambie Rd S	Cambie Rd S	A14600	A1814	32.3	4300 X 1500	$9,000	$290,700	$ 363,375	100%	$ 363,375	$ 3,634	$ 359,741	$ 3,634
2008-BS6-2955		No 5 Rd (New Connection)	Cambie St N	Cambie St S	M2500	M2449	15.0	900	$1,300	$19,500	$ 24,375	100%	$ 24,375	$ 244	$ 24,131	$ 244
No 6 Rd																
2008-BS6-2957		No 6 Rd North	Vulcan Way	Bridgeport Rd	M3861	M3730	782.0	1800 X 1200	$5,000	$3,910,000	$ 4,887,500	100%	$ 4,887,500	$ 48,875	$ 4,838,625	$ 48,875
2008-BS6-2958		Bridgeport Rd - south side and cross over to north at Viking Way	No 6 Rd	Viking Way	M3730	M3786	323.0	1800 X 900	$4,000	$1,292,000	$ 1,615,000	100%	$ 1,615,000	$ 16,150	$ 1,598,850	$ 16,150
Total Bath Slough DCP Condition										$ 18,508,150	$ 23,135,188		$ 21,135,188	$ 211,352	$ 20,923,836	$ 2,211,352
Total Bath Slough (PT report)										$ [illegible]	$ [illegible]		$ [illegible]	$ 287,357	$ [illegible]	$ 10,726,137
[illegible] DCC PROJECTS										$ [illegible]	$ [illegible]		$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]
2014 DCC REVIEW ([illegible] Project based on 2011 OCP Study by KWL)																
2015-OCP-BW1	Blundell Rd West	Blundell Rd	Dalemore Rd	Blundell Rd West PS	M339	A2794	600.0	1520x1370 Box	$4,800	$2,880,000	$ 3,600,000	100%	$ 3,600,000	$ 36,000	$ 3,564,000	$ 36,000
2015-OCP-MC1	Mccallan Rd North	Mccallan Rd	Blundell Rd	Linfield Gate	M287	M282	444.0	1520x1370 Box	$4,800	$2,131,200	$ 2,664,000	100%	$ 2,664,000	$ 26,640	$ 2,637,360	$ 26,640
2015-OCP-3S1	No 3 Rd South	No 3 Rd	Granville Ave	Blundell Rd	M1010	M603	772.0	2290X1370 Box	$5,600	$4,323,200	$ 5,404,000	100%	$ 5,404,000	$ 54,040	$ 5,349,960	$ 54,040
2015-OCP-WS2	Woodward Slough	Garden City	Demorest Dr	Williams Rd			652.0	3400x1370 Box	$7,000	$4,564,000	$ 5,705,000	100%	$ 5,705,000	$ 57,050	$ 5,647,950	$ 57,050
2015-OCP-CN1	Cambie Road West	Cambie Road	Sexsmith Rd	No 3 Rd			586.0	3400x1370 Box	$7,000	$4,102,000	$ 5,127,500	100%	$ 5,127,500	$ 51,275	$ 5,076,225	$ 51,275
Pump Stations Upgrades																
2015-OCP-3S3		No 3 Rd South PS Upgrade					1.0		$3,200,000	$3,200,000	$ 4,000,000	25%	$ 1,000,000	$ 10,000	$ 990,000	$ 3,010,000
2015-OCP-3S2		No 3 Rd & Steveston Hwy PS Upgrade					1.0		$1,500,000	$1,500,000	$ 1,875,000	25%	$ 468,750	$ 4,688	$ 464,063	$ 1,410,938
2015-OCP-GS1		Gilbert and Steveston Hwy					1.0		$1,500,000	$1,500,000	$ 1,875,000	25%	$ 468,750	$ 4,688	$ 464,063	$ 1,410,938
TOTAL 2014 DCC REVIEW										$24,200,400	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]
[illegible]										$ [illegible]	$ [illegible]		$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]

City of Richmond
Drainage DCC Calculations

A: Drainage DCC Calculation (2041)					
Land Use		**Col. (1)** Estimated New Development	**Col. (2)** Unit	**Col. (3)** Equivalence Factor	**Col. (4) = (1) x (3)** Multiple	
Single Family Residential		1,982	lots	1	1,982	
Multi Family Residential						
	Townhouse	17,834	dwelling units	0.58	10,344	
	Apartment	19,091	dwelling units	0.29	5,536	
Commercial		317,562	per square metre building area	0.0032	1,016	
Institutional		272,883	per square metre building area	0.0032	873	
Light Industrial		390,862	per square metre building area	0.0032	1,251	
Major Industrial		13.00	hectares	14.625	190	
				Total Equivalent Population	21,192 (a)	-28.6%
B: Unit Drainage DCC Calculation						
Net Drainage DCC Program Recoverable			$167,383,669	(b)		
Existing DCC Reserve Monies			$17,622,404	(c)		
Net Amount to be Paid by DCCs			$149,760,265	(d) = (b) - (c)		
DCC per person			$7,066.69	(e) = (d)/(a)		
C: Resulting Drainage DCCs						
Single Family Residential			$7,066.69	per lot	(e) x Col. (3)	
Multi Family Residential	Townhouse		$4,098.68	per dwelling unit	(e) x Col. (3)	$3.04 per sq. ft.
	Apartment		$2,049.34	per dwelling unit	(e) x Col. (3)	$2.16 per sq. ft.
Commercial			$22.61	per square metre building area	(e) x Col. (3)	$2.10 per sq. ft.
Institutional			$22.61	per square metre building area	(e) x Col. (3)	$2.10 per sq. ft.
Light Industrial			$22.61	per square metre building area	(e) x Col. (3)	$2.10 per sq. ft.
Major Industrial			$103,350.36	per hectare	(e) x Col. (3)	$41,823.62 per acre

appendix

C

Sanitary Sewer Program and Calculations

City of Richmond
Sanitary DCC Program

DCC UPGRADE ID	Type of Infrastructure	Location	Upgrades Recommended (for 2006 DCC Projects)/ From (for new City Centre Projects)	Catchment (for 2006 DCC Projects)/ To (for new City Centre Projects)	From Node	To Node	Length (m)	Recommended Size (mm)	2015 Unit Rates	Cost Estimate w/o Contingency, Engineering & Contract Admin	Col.(1) Cost Estimate w/ Cont., Eng., & Admin.	Col. (2) Benefit Factor %	Col. (3) =Col. (1) x Col. (2) Benefit to New Development	Col. (4) Municipal Assist Factor 1%	Col. (5) = Col. (3) - Col. (4) DCC Recoverable	Col. (6) = Col.(1) - Col. (5) Total Municipal Responsibility
2006 Projects																
MINOR SYSTEM (2006 DCC REVIEW)																
BRIDGEPORT SANITARY AREA																
2006-BP-1066	Gravity Mains- ROW		Gravity Main -Rear of #4640 No 3 Rd to Leslie PS	Leslie	M4885	PS	63	450	$1,200	$ 75,600	$ 94,500	95%	$ 89,775	$ 898	$ 88,877	$ 5,623
2006-BP-1067	Gravity Mains		Gravity Main -8140 Leslie Rd to 8380 Leslie Rd	Leslie	M4884	M4885	271	375	$1,100	$ 298,100	$ 372,625	95%	$ 353,994	$ 3,540	$ 350,454	$ 22,171
2006-BP-1074	Gravity Mains		Gravity Main - Crossing Charles St (8980 Charles St to 8891 Charles St)	Vanhorne	M5781	M5795	24	375	$1,100	$ 26,400	$ 33,000	95%	$ 31,350	$ 314	$ 31,037	$ 1,964
2006-BP-1083	Gravity Mains		Gravity Main -3433 Regina Ave to 3291 Regina Ave	Walford	M5547	M5540	110	300	$850	$ 93,500	$ 116,875	95%	$ 111,031	$ 1,110	$ 109,921	$ 6,954
2006-BP-1084	Gravity Mains		Gravity Main -3291 Regina Ave to 3251 Regina Ave	Walford	M5540	M5556	60	300	$850	$ 51,000	$ 63,750	95%	$ 60,563	$ 606	$ 59,957	$ 3,793
2006-BP-1085	Gravity Mains		Gravity Main -3251 Regina Ave to Walford PS	Walford	M5556	PS	46	375	$1,100	$ 50,600	$ 63,250	95%	$ 60,088	$ 601	$ 59,487	$ 3,763
2006-BP-1087	Gravity Mains- ROW		Gravity Main -thru 3111 Beckman Pl	McLennan	M6174	M5875	70	300	$850	$ 59,500	$ 74,375	95%	$ 70,656	$ 707	$ 69,950	$ 4,425
2006-BP-1088	Gravity Mains		Gravity Main -10191 Hall Ave to 10271 Odlin Rd	Odlin	M6579	M6680	167	300	$850	$ 141,950	$ 177,438	95%	$ 168,566	$ 1,686	$ 166,880	$ 10,558
2006-BP-1089	Gravity Mains		Gravity Main -10233 Hayne Crt to 10411 Odlin Rd	Odlin	M6679	M6852	199	300	$850	$ 169,150	$ 211,438	95%	$ 200,866	$ 2,009	$ 198,857	$ 12,581
2006-BP-1090	Gravity Mains- ROW		Gravity Main -Rear of 10148 Carter Crt to 10233 Hayne Crt	Odlin	M6639	M6679	189	300	$850	$ 160,650	$ 200,813	95%	$ 190,772	$ 1,908	$ 188,864	$ 11,948
2006-BP-1091	Gravity Mains- ROW		Gravity Main -Rear of 10482 Odlin Rd to Odlin PS	Odlin	M7272	PS	37	375	$1,100	$ 40,700	$ 50,875	95%	$ 48,331	$ 483	$ 47,848	$ 3,027
2006-BP-1092	Gravity Mains		Gravity Main - Lane btwn Shepherd Dr & Odlin Rd fr SW corner of 10482 Odlin Rd to Hall Ave	Odlin	M7272	M7271	112	300	$850	$ 95,200	$ 119,000	95%	$ 113,050	$ 1,131	$ 111,920	$ 7,081
2006-BP-1093	Gravity Mains		Gravity Main -12751 Vulcan Way to 12631 Vulcan Way	Viscount	M6088	M6042	191	300	$850	$ 162,350	$ 202,938	95%	$ 192,791	$ 1,928	$ 190,863	$ 12,075
2006-BP-1094	Gravity Mains		Gravity Main -12631 Vulcan Way to Vulcan PS	Viscount	M6042	PS	40	375	$1,100	$ 44,000	$ 55,000	95%	$ 52,250	$ 523	$ 51,728	$ 3,273
2006-BP-1095	Gravity Mains		Gravity Main -2700 Sweden Way to 13200 Vulcan Way	Dominion	A1592	M6138	196	450	$1,200	$ 235,200	$ 294,000	95%	$ 279,300	$ 2,793	$ 276,507	$ 17,493
2006-BP-1096	Gravity Mains		Gravity Main -13300 Vulcan Way to 13400 Vulcan Way	Dominion	M6139	M6172	113	450	$1,200	$ 135,600	$ 169,500	95%	$ 161,025	$ 1,610	$ 159,415	$ 10,085
2006-BP-1097	Gravity Mains		Gravity Main -13400 Vulcan Way	Dominion	M6172	M6134	11	450	$1,200	$ 13,200	$ 16,500	95%	$ 15,675	$ 157	$ 15,518	$ 982
2006-BP-1098	Gravity Mains		Gravity Main - ROW along NPL of 2471 Viking Way	Dominion	M6130	M6131	81	375	$1,100	$ 89,100	$ 111,375	95%	$ 105,806	$ 1,058	$ 104,748	$ 6,627
2006-BP-1099	Gravity Mains		Gravity Main - ROW along SPL of 13511 Vulcan Way	Dominion	M6124	M6132	63	375	$1,100	$ 69,300	$ 86,625	95%	$ 82,294	$ 823	$ 81,471	$ 5,154
2006-BP-1100	Gravity Mains- ROW		Gravity Main - ROW btwn 12606/12620 Greenland Dr	Knightsbridge	M5349	M5348	25	300	$850	$ 21,250	$ 26,563	95%	$ 25,234	$ 252	$ 24,982	$ 1,580
2006-BP-1102	Gravity Mains		Gravity Main -Jacombs Rd fr Delf Pl to Worster Crt	Gilley West	M5776	M5772	203	300	$850	$ 172,550	$ 215,688	95%	$ 204,903	$ 2,049	$ 202,854	$ 12,833
2006-BP-1103	Gravity Mains		Gravity Main -Jacombs Rd fr Parkwood Way to 4680 Wyne Cr	Gilley West	M6402	M5783	330	375	$1,100	$ 363,000	$ 453,750	95%	$ 431,063	$ 4,311	$ 426,752	$ 26,998
2006-BP-1104	Gravity Mains		Gravity Main -Viking Way along 13680 Bridgeport Rd	Crestwood	M6047	M6030	103	375	$1,100	$ 113,300	$ 141,625	95%	$ 134,544	$ 1,345	$ 133,198	$ 8,427
2006-BP-1105	Gravity Mains		Gravity Main - Burrows Rd, along SPL of 2080 Van Dyke Pl	Burrows	M5622	M5623	98	300	$850	$ 83,300	$ 104,125	95%	$ 98,919	$ 989	$ 97,930	$ 6,195
2006-BP-1106	Gravity Mains		Gravity Main -Van Dyke Pl, fr Burrows Rd to end of Cul-de-sac	Burrows	M5623	M5604	121	300	$850	$ 102,850	$ 128,563	95%	$ 122,134	$ 1,221	$ 120,913	$ 7,649
2006-BP-1107	Gravity Mains		Gravity Main -No 6 Rd fr #4455 to 13988 Maycrest Way	Gilley East	M5807	M5786	503	300	$850	$ 427,550	$ 534,438	95%	$ 507,716	$ 5,077	$ 502,638	$ 31,799
2006-BP-1108	Gravity Mains		Gravity Main -No 6 Rd fr 13988 Maycrest Way to Gilley E PS	Gilley East	M5786	PS	61	375	$1,100	$ 67,100	$ 83,875	95%	$ 79,681	$ 797	$ 78,884	$ 4,991
2006-BP-1109	Gravity Mains		Gravity Main -No 6 Rd fr SE corner 13799 Commerce Pkwy to Gilley E PS	Gilley East	M6411	PS	209	375	$1,100	$ 229,900	$ 287,375	95%	$ 273,006	$ 2,730	$ 270,276	$ 17,099
2006-BP-1110	Gravity Mains		Gravity Main -No 6 Rd fr 13800 Commerce Pkwy to 13799 Commerce Pkwy	Gilley East	M6409	M6411	201	375	$1,100	$ 221,100	$ 276,375	95%	$ 262,556	$ 2,626	$ 259,931	$ 16,444
2006-BP-1111	Gravity Mains		Gravity Main -No 6 Rd fr NE corner of 13700 International Pl to SE corner of 13800 Commerce Pkwy	Gilley East	M6407	M6409	120	300	$850	$ 102,000	$ 127,500	95%	$ 121,125	$ 1,211	$ 119,914	$ 7,586
2006-BP-1112	Gravity Mains		Gravity Main -No 6 Rd along 13700 International Pl	Gilley East	M6406	M6407	71	300	$850	$ 60,350	$ 75,438	95%	$ 71,666	$ 717	$ 70,949	$ 4,489
	Total									$ 3,975,350	$ 4,969,188		$ 4,720,728	$ 47,207	$ 4,673,521	$ 295,667
CITY CENTRE SANITARY AREA																
2006-CC-1119	Gravity Mains		Gravity Main -along 8500 Ackroyd Rd to 3m W of EPL	Arcadia	M3274	A177	20	300	$850	$ 17,000	$ 21,250	95%	$ 20,188	$ 202	$ 19,986	$ 1,264
2006-CC-1122	Gravity Mains- ROW		Gravity Main - fr 8040/8120 Cook Rd to 5300 No 3 Rd (65m E of WPL)	Richmond Centre	M842	M775	146	250	$750	$ 109,500	$ 136,875	95%	$ 130,031	$ 1,300	$ 128,731	$ 8,144
2006-CC-1123	Gravity Mains- ROW		Gravity Main - Crossing No 3 Rd, NE corner of 5551 No 3 Rd to 65m E of WPL of 5300 No 3 Rd	Richmond Centre	M776	M568	93	375	$1,100	$ 102,300	$ 127,875	95%	$ 121,481	$ 1,215	$ 120,266	$ 7,609
2006-CC-1136	Gravity Mains		Gravity Main -fr 8931 Anderson Rd to 8371 Anderson Rd	Eckersley A	M868	M866	52	250	$750	$ 39,000	$ 48,750	95%	$ 46,313	$ 463	$ 45,849	$ 2,901

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DCC UPGRADE ID	Type of Infrastructure	Location	Upgrades Recommended (for 2006 DCC Projects)/ From (for new City Centre Projects)	Catchment (for 2006 DCC Projects)/ To (for new City Centre Projects)	From Node	To Node	Length (m)	Recommended Size (mm)	2015 Unit Rates	Cost Estimate w/o Contingency, Engineering & Contract Admin	Col.(1) Cost Estimate w/ Cont., Eng., & Admin.	Col. (2) Benefit Factor %	Col. (3) =Col. (1) x Col. (2) Benefit to New Development	Col. (4) Municipal Assist Factor 1%	Col. (5) = Col. (3) - Col. (4) DCC Recoverable	Col. (6) = Col.(1) - Col. (5) Total Municipal Responsibility
2006-CC-1138	Gravity Mains- ROW		Gravity Main - 7120 St Albans Rd, ROW along EPL	Bennett W	M2498	M2491	34	250	$750	$ 25,500	$ 31,875	95%	$ 30,281	$ 303	$ 29,978	$ 1,897
2006-CC-1140	Gravity Mains- ROW		Gravity Main - ROW along 7295 Gilbert Rd & 7437 Moffatt Rd	Moffatt	M2772	M2774	109	250	$750	$ 81,750	$ 102,188	95%	$ 97,078	$ 971	$ 96,107	$ 6,080
2006-CC-1141	Gravity Mains- ROW		Gravity Main - Moffatt Rd, ROW at rear fr 7571 Moffatt Rd to 7459 Moffatt Rd	Moffatt	M2787	M2778	92	250	$750	$ 69,000	$ 86,250	95%	$ 81,938	$ 819	$ 81,118	$ 5,132
2006-CC-1142	Gravity Mains		Gravity Main - 8191 Jones Rd to 8333 Jones Rd	Jones	M6346	M6348	221	250	$750	$ 165,750	$ 207,188	95%	$ 196,828	$ 1,968	$ 194,860	$ 12,328
	Total									$ 609,600	$ 762,250		$ 724,138	$ 7,241	$ 716,896	$ 45,354
Total - Minor System										$ 4,585,150	$ 5,731,438		$ 5,444,866	$ 54,449	$ 5,390,417	$ 341,021
MAJOR SYSTEM (2006 DCC REVIEW)																
BRIDGEPORT SANITARY AREA																
2006-BP-1009	Pump Stations		Pumps that cycle considerably more frequently than model predicts and Pumps that cycled more than 15 times/hr	Burrows				1		$ 500,000	$ 625,000	95%	$ 593,750	$ 5,938	$ 587,813	$ 37,188
2006-BP-1010	Pump Stations		Pumps that cycle considerably more frequently than model predicts and Pumps that cycled more than 15 times/hr	Dominion				1		$ 500,000	$ 625,000	95%	$ 593,750	$ 5,938	$ 587,813	$ 37,188
2006-BP-1011	Pump Stations		Pumps that cycle considerably more frequently than model predicts and Pumps that cycled more than 15 times/hr	Odlin				1		$ 500,000	$ 625,000	95%	$ 593,750	$ 5,938	$ 587,813	$ 37,188
2006-BP-1012	Pump Stations		Pumps that cycle considerably more frequently than model predicts and Pumps operating both pumps or operating greater than 45 mins/hr	Leslie				1		$ 1,000,000	$ 1,250,000	95%	$ 1,187,500	$ 11,875	$ 1,175,625	$ 74,375
2006-BP-1013	Pump Stations		Pumps that cycle considerably more frequently than model predicts	Skyline				1	Updated Estimate/2011 OCP Project by KWL	$ 950,000	$ 1,187,500	95%	$ 1,128,125	$ 11,281	$ 1,116,844	$ 70,656
2006-BP-1014	Pump Stations		Pumps operating both pumps or operating greater than 45 mins/hr	Burkeville				1		$ 500,000	$ 625,000	95%	$ 593,750	$ 5,938	$ 587,813	$ 37,188
2006-BP-1015	Pump Stations		Pumps operating both pumps or operating greater than 45 mins/hr	Woodhead				1		$ 500,000	$ 625,000	95%	$ 593,750	$ 5,938	$ 587,813	$ 37,188
2006-BP-1017	Pump Stations		Pumps operating both pumps or operating greater than 45 mins/hr	Woodhead East				1		$ 500,000	$ 625,000	95%	$ 593,750	$ 5,938	$ 587,813	$ 37,188
2006-BP-1018	Pump Stations		Pumps operating both pumps or operating greater than 45 mins/hr	Kilby				1		$ 500,000	$ 625,000	95%	$ 593,750	$ 5,938	$ 587,813	$ 37,188
2006-BP-1019	Pump Stations		Pumps that cycled more than 15 times/hr	Gilley East				1		$ 500,000	$ 625,000	95%	$ 593,750	$ 5,938	$ 587,813	$ 37,188
2006-BP-1023	Pump Stations		New pump station at Pinnacle					1		$ 1,500,000	$ 1,875,000	95%	$ 1,781,250	$ 17,813	$ 1,763,438	$ 111,563
2006-BP-1024	Pump Stations		New pump station at West Cambie	Gilley Rd West				1		$ 1,500,000	$ 1,875,000	95%	$ 1,781,250	$ 17,813	$ 1,763,438	$ 111,563
	Total									$ 8,950,000	$ 11,187,500		$ 10,628,125	$ 106,281	$ 10,521,844	$ 665,656
CITY CENTRE SANITARY AREA																
2006-CC-1036	Forcemains		Forcemain - Lucas Rd fr Minler PS to Gilbert Rd	Minler			136	200	5650	$ 88,400	$ 110,500	95%	$ 104,975	$ 1,050	$ 103,925	$ 6,575
2006-CC-1037	Pump Stations		PumpStation -upgrade Eckersley A PS (EarthTech recommendation)	Eckersley A				1		$ 500,000	$ 625,000	95%	$ 593,750	$ 5,938	$ 587,813	$ 37,188
2006-CC-1038	Pump Stations		PumpStation -upgrade Heather N PS (EarthTech recommendation)	Heather N				1		$ 500,000	$ 625,000	95%	$ 593,750	$ 5,938	$ 587,813	$ 37,188
2006-CC-1039	Pump Stations		PumpStation -upgrade Eckersley B PS (EarthTech recommendation)	Eckersley B				1		$ 500,000	$ 625,000	95%	$ 593,750	$ 5,938	$ 587,813	$ 37,188
2006-CC-1040	Pump Stations		PumpStation -upgrade Acheson PS	Acheson				1		$ 500,000	$ 625,000	95%	$ 593,750	$ 5,938	$ 587,813	$ 37,188
2006-CC-1041	Pump Stations		PumpStation -upgrade Ackroyd PS (to be completed in 05/06)	Ackroyd				1		$ 500,000	$ 625,000	95%	$ 593,750	$ 5,938	$ 587,813	$ 37,188
2006-CC-1042	Pump Stations		PumpStation -reduce HP of pumps in Alberta PS to improve efficiency	Alberta				1		$ 500,000	$ 625,000	95%	$ 593,750	$ 5,938	$ 587,813	$ 37,188
2006-CC-1044	Pump Stations		PumpStation -upgrade Arcadia PS (to be completed in 05/06)	Arcadia				1		$ 500,000	$ 625,000	95%	$ 593,750	$ 5,938	$ 587,813	$ 37,188
2006-CC-1045	Pump Stations		PumpStation -upgrade Brighouse	Brighouse				1		$ 500,000	$ 625,000	95%	$ 593,750	$ 5,938	$ 587,813	$ 37,188
2006-CC-1047	Pump Stations		PumpStation -reduce HP of pumps in Ferndale PS to improve efficiency	Ferndale				1		$ 500,000	$ 625,000	95%	$ 593,750	$ 5,938	$ 587,813	$ 37,188
2006-CC-1048	Pump Stations		PumpStation -upgrade Foster N PS	Foster N				1		$ 500,000	$ 625,000	95%	$ 593,750	$ 5,938	$ 587,813	$ 37,188
2006-CC-1049	Pump Stations		PumpStation -upgrade Alderbridge West	Alderbridge West				1		$ 500,000	$ 625,000	95%	$ 593,750	$ 5,938	$ 587,813	$ 37,188
2006-CC-1050	Pump Stations		PumpStation - upgrade Jones PS	Jones				1		$ 500,000	$ 625,000	95%	$ 593,750	$ 5,938	$ 587,813	$ 37,188
2006-CC-1051	Pump Stations		PumpStation -upgrade Lancing PS	Lancing				1	Updated Estimate/2011 OCP Project by KWL	$ 950,000	$ 1,187,500	95%	$ 1,128,125	$ 11,281	$ 1,116,844	$ 70,656
2006-CC-1053	Pump Stations		PumpStation -upgrade Moffatt PS	Moffatt				1		$ 500,000	$ 625,000	95%	$ 593,750	$ 5,938	$ 587,813	$ 37,188
2006-CC-1056	Pump Stations		New Pumpstation at Lansdowne					1		$ 1,500,000	$ 1,875,000	95%	$ 1,781,250	$ 17,813	$ 1,763,438	$ 111,563
	Total									$ 9,038,400	$ 11,298,000		$ 10,733,100	$ 107,331	$ 10,625,769	$ 672,231
EAST RICHMOND SANITARY AREA																

City of Richmond
Sanitary DCC Program

DCC UPGRADE ID	Type of Infrastructure	Location	Upgrades Recommended (for 2006 DCC Projects)/ From (for new City Centre Projects)	Catchment (for 2006 DCC Projects)/ To (for new City Centre Projects)	From Node	To Node	Length (m)	Recommended Size (mm)	2015 Unit Rates	Cost Estimate w/o Contingency, Engineering & Contract Admin	Col.(1) Cost Estimate w/ Cont., Eng., & Admin.	Col. (2) Benefit Factor %	Col. (3) =Col. (1) x Col. (2) Benefit to New Development	Col. (4) Municipal Assist Factor 1%	Col. (5) = Col. (3) - Col. (4) DCC Recoverable	Col. (6) = Col.(1) - Col. (5) Total Municipal Responsibility
2006-ER-1211	Pump Stations	TBD	New P/S in Section 36-5-4 (includes forcemain component)							$ 1,500,000	$ 1,875,000	95%	$ 1,781,250	$ 17,813	$ 1,763,438	$ 111,563
2006-ER-1213	Pump Stations	TBD	New P/S in Section 36-5-4 (includes forcemain component)							$ 1,500,000	$ 1,875,000	95%	$ 1,781,250	$ 17,813	$ 1,763,438	$ 111,563
2006-ER-1214	Pump Stations	TBD	New P/S in Section 36-5-4 (includes forcemain component)							$ 1,500,000	$ 1,875,000	95%	$ 1,781,250	$ 17,813	$ 1,763,438	$ 111,563
	Total									$ 4,500,000	$ 5,625,000		$ 5,343,750	$ 53,438	$ 5,290,313	$ 334,688
Total - Major System										$ 22,488,400	$ 28,110,500		$ 26,704,975	$ 267,050	$ 26,437,925	$ 1,672,575
TOTAL - 2006 DCC REVIEW										$ 27,073,550	$ 33,841,938		$ 32,149,841	$ 321,498	$ 31,828,342	$ 2,013,696
2008 Projects																
MINOR SYSTEM (2008 DCC REVIEW)																
CCAP MODEL UPDATE																
2008-CCAP-1303	Gravity Mains- ROW	Minoru Park behind 6611 Minoru Blvd	160m E of Gilbert Rd	175m N of Granville St	M634	M496	399	300	$850	$ 339,150	$ 423,938	100%	$ 423,938	$ 4,239	$ 419,698	$ 4,238
2008-CCAP-1304	Gravity Mains- ROW	Minoru Park, 85m N of Granville Ave	160m W of Minoru Blvd	315m E of Gilbert Rd	M532	M633	50	250	$750	$ 37,500	$ 46,875	100%	$ 46,875	$ 469	$ 46,406	$ 469
2008-CCAP-1309	Gravity Mains	Minoru Blvd	7200 Minoru Blvd	Acheson PS	M2642	PS	11	300	$850	$ 9,350	$ 11,688	100%	$ 11,688	$ 117	$ 11,571	$ 117
2008-CCAP-1310	Gravity Mains- ROW	ROW btwn 7400 Gilbert Rd & 7437 Moffatt Rd	7480 Gilbert Rd	7400 Gilbert Rd	M2806	M2772	96	250	$750	$ 72,000	$ 90,000	100%	$ 90,000	$ 900	$ 89,100	$ 900
2008-CCAP-1312	Gravity Mains- ROW	ROW btwn 7437 & 7297 Moffatt Rd	7435 Gilbert Rd.	Moffatt PS	M2774	PS	90	375	$1,100	$ 99,000	$ 123,750	100%	$ 123,750	$ 1,238	$ 122,513	$ 1,238
2008-CCAP-1313	Gravity Mains- ROW	ROW at 7571 Moffatt Rd	Along EPL of 7571 Moffatt Rd	Along NPL of 7571 Moffatt Rd	M2789	M2787	91	250	$750	$ 66,250	$ 85,313	100%	$ 85,313	$ 853	$ 84,459	$ 853
2008-CCAP-1314	Gravity Mains- ROW	ROW btwn Moffatt Rd & Gilbert Rd	N side of 7459 Moffatt Rd.	Moffatt PS	M2778	PS	55	375	$1,100	$ 60,500	$ 75,625	100%	$ 75,625	$ 756	$ 74,869	$ 756
2008-CCAP-1315	Gravity Mains- ROW	ROW btwn Moffatt Rd & Gilbert Rd	7311 Moffatt Rd.	Moffatt PS	M2775	PS	108	375	$1,100	$ 118,800	$ 148,500	100%	$ 148,500	$ 1,485	$ 147,015	$ 1,485
2008-CCAP-1316	Gravity Mains	7680 Minoru Blvd - SW corner			M2727	M2701	21	250	$750	$ 15,750	$ 19,688	100%	$ 19,688	$ 197	$ 19,491	$ 197
2008-CCAP-1317	Gravity Mains	Beckwith Rd	9211 Beckwith Rd	Intersection of Garden City Rd & Great Canadian Way	M5870	M5874	232	250	$750	$ 174,000	$ 217,500	100%	$ 217,500	$ 2,175	$ 215,325	$ 2,175
2008-CCAP-1318	Gravity Mains	Beckwith Rd	50m West of Smith St	No 3 Rd	M5780	M5786	247	300	$850	$ 209,950	$ 262,438	100%	$ 262,438	$ 2,624	$ 259,813	$ 2,624
2008-CCAP-1319	Gravity Mains	Brown Rd	Leslie Rd	SW corner of 8400 Leslie Rd	M4885	M4965	87	250	$750	$ 65,250	$ 81,563	100%	$ 81,563	$ 816	$ 80,747	$ 816
2008-CCAP-1320	Gravity Mains- ROW	Cambie Rd & Hazelbridge Way	Intersection of Brown Rd & Cambie Rd	NE corner of 8271 Cambie Rd	M7134	M5516	227	250	$750	$ 170,250	$ 212,813	100%	$ 212,813	$ 2,128	$ 210,684	$ 2,128
2008-CCAP-1321	Gravity Mains	Capstan Way	Sexsmith Rd	Hazelbridge Way	M7297	M7475	233	450	$1,200	$ 279,600	$ 349,500	100%	$ 349,500	$ 3,495	$ 346,005	$ 3,495
2008-CCAP-1322	Gravity Mains	Capstan Way	Hazelbridge Way	15m W of EPL of 8200 Capstan Way	M7475	M5508	198	525	$1,400	$ 277,200	$ 346,500	100%	$ 346,500	$ 3,465	$ 343,035	$ 3,465
2008-CCAP-1323	Gravity Mains	Crossing Capstan Way	15m W of EPL of 8200 Capstan Way	Skyline PS	M5508	PS	18	525	$1,400	$ 25,200	$ 31,500	100%	$ 31,500	$ 315	$ 31,185	$ 315
2008-CCAP-1324	Gravity Mains	Capstan Way	NW corner of 8100 Capstan Way	15m W of EPL of 8200 Capstan Way	M5460	M5508	76	375	$1,100	$ 83,600	$ 104,500	100%	$ 104,500	$ 1,045	$ 103,455	$ 1,045
2008-CCAP-1325	Gravity Mains- ROW	ROW btwn 8151 Capstan Way & 3331 No 3 Rd	NW corner of 3331 No 3 Rd	Skyline PS	M5413	PS	45	450	$1,200	$ 54,000	$ 67,500	100%	$ 67,500	$ 675	$ 66,825	$ 675
2008-CCAP-1326	Gravity Mains	Charles St	8991 Charles St	Charles St & Smith St	M5795	M7431	52	450	$1,200	$ 62,400	$ 78,000	100%	$ 78,000	$ 780	$ 77,220	$ 780
2008-CCAP-1328	Gravity Mains	Garden City Rd	9011 Garden City	Van Horne PS	M5820	PS	53	300	$850	$ 45,050	$ 56,313	100%	$ 56,313	$ 563	$ 55,749	$ 563
2008-CCAP-1329	Gravity Mains	Corvette Way	NW corner of 8091 Capstan Way	75m South of Capstan Way	M5453	M5467	188	300	$850	$ 159,800	$ 199,750	100%	$ 199,750	$ 1,998	$ 197,753	$ 1,998
2008-CCAP-1331	Gravity Mains	Hazelbridge Way	Capstan Way	NE corner of 8271 Cambie Rd	M5515	M7475	314	300	$850	$ 266,900	$ 333,625	100%	$ 333,625	$ 3,336	$ 330,289	$ 3,336
2008-CCAP-1333	Gravity Mains	Leslie Rd	SE corner of 4551 No 3 Rd	114m W of No 3 Rd	M4838	M4839	114	375	$1,100	$ 125,400	$ 156,750	100%	$ 156,750	$ 1,568	$ 155,183	$ 1,568
2008-CCAP-1336	Gravity Mains	No 3 Rd	SE corner of 4551 No 3 Rd	Middle of 4411 No 3 Rd	M4838	M4836	168	300	$850	$ 142,800	$ 178,500	100%	$ 178,500	$ 1,785	$ 176,715	$ 1,785
2008-CCAP-1337	Gravity Mains	No 3 Rd - ROW along E	NW corner of 4200 No 3 Rd	NE corner of 4640 No 3 Rd	M4967	M4980	394	250	$750	$ 295,500	$ 369,375	100%	$ 369,375	$ 3,694	$ 365,681	$ 3,694
2008-CCAP-1338	Gravity Mains- ROW	8671 Odlin Cres - ROW along SPL	Odlin Cres.	Northey Rd	M4949	M4952	206	250	$750	$ 154,500	$ 193,125	100%	$ 193,125	$ 1,931	$ 191,194	$ 1,931
2008-CCAP-1339	Gravity Mains	River Dr	VanHorne Way	9460 River Rd	M5851	M5853	101	300	$850	$ 85,850	$ 107,313	100%	$ 107,313	$ 1,073	$ 106,239	$ 1,073
2008-CCAP-1340	Gravity Mains	River Rd	Intersection of No 3 Rd & Beckwith Rd	West Rd	M5766	M5758	263	250	$750	$ 197,250	$ 246,563	100%	$ 246,563	$ 2,466	$ 244,097	$ 2,466
2008-CCAP-1342	Gravity Mains	Sexsmith Rd - ROW along W side	Capstan Way	3551 Sexsmith Rd	M7297	M7296	79	300	$850	$ 67,150	$ 83,938	100%	$ 83,938	$ 839	$ 83,098	$ 839
2008-CCAP-1344	Gravity Mains	9800 Van Horne Way	Van Horne Way	SW corner of 9800 Van Horne Way	M5851	M5847	223	375	$1,100	$ 245,300	$ 306,625	100%	$ 306,625	$ 3,066	$ 303,559	$ 3,066
2008-CCAP-1345	Gravity Mains- ROW	ROW btwn 9500 & 9800 Van Horne Way	SW corner of 9800 Van Horne Way	SE corner of 9800 Van Horne Way	M5847	M5865	188	250	$750	$ 139,500	$ 174,375	100%	$ 174,375	$ 1,744	$ 172,631	$ 1,744
2008-CCAP-1348	Gravity Mains	ROW btwn 7360 Elmbridge Way & 7371 Westminster Hwy	35m E of Alderbridge West PS	15m E of WPL of 7360 Elmbridge Way	M50699	M7225	112	250	$750	$ 84,000	$ 105,000	100%	$ 105,000	$ 1,050	$ 103,950	$ 1,050
2008-CCAP-1350	Gravity Mains- ROW	90m North of Granville Ave	W side of City Hall	85m West of Minoru Blvd	M629	M631	121	250	$750	$ 90,750	$ 113,438	100%	$ 113,438	$ 1,134	$ 112,303	$ 1,134
2008-CCAP-1351	Gravity Mains- ROW	Minoru Park	6251 Minoru Blvd.	6391 Minoru Blvd.	M558	M514	66	250	$750	$ 48,750	$ 60,938	100%	$ 60,938	$ 609	$ 60,328	$ 609
2008-CCAP-1353	Gravity Mains- ROW	Westminster Hwy- ROW at rear	7340 Westminster Hwy,	W side of Minoru Park	M6260	M474	318	250	$750	$ 238,500	$ 298,125	100%	$ 298,125	$ 2,981	$ 295,144	$ 2,981
2008-CCAP-1354	Gravity Mains- ROW	Minoru Park	ROW along the E side of 7000 Westminster Hwy		M495	M496	119	300	$850	$ 101,150	$ 126,438	100%	$ 126,438	$ 1,264	$ 125,173	$ 1,264
2008-CCAP-1355	Gravity Mains- ROW	NE corner of 6551 No 3 Rd	1st Pipe segment N of Richmond Centre PS	Richmond Centre PS	M588	PS	6	450	$1,200	$ 7,200	$ 9,000	100%	$ 9,000	$ 90	$ 8,910	$ 90
2008-CCAP-1356	Gravity Mains- ROW	ROW btwn Cooney Rd & Buswell St	10m W of Buswell PS	NE corner of 8340 Buswell St	M17560	M817	243	300	$850	$ 206,550	$ 258,188	100%	$ 258,188	$ 2,582	$ 255,606	$ 2,582
2008-CCAP-1361	Gravity Mains- ROW	6111 River Rd - Along N side	5111 Hollybridge Way	Middle of 6111 River Rd	M4601	M4600	108	250	$750	$ 81,000	$ 101,250	100%	$ 101,250	$ 1,013	$ 100,238	$ 1,013
2008-CCAP-1363	Gravity Mains	Westminster Hwy	5900 No 2 Rd	20m West of WPL of 6751 Westminster Hwy	M4637	M4635	186	250	$750	$ 139,500	$ 174,375	100%	$ 174,375	$ 1,744	$ 172,631	$ 1,744

DCC UPGRADE ID	Type of Infrastructure	Location	Upgrades Recommended (for 2008 DCC Projects)/ From (for new City Centre Projects)	Catchment (for 2006 DCC Projects)/ To (for new City Centre Projects)	From Node	To Node	Length (m)	Recommended Size (mm)	2015 Unit Rates	Cost Estimate w/o Contingency, Engineering & Contract Admin	Col.(1) Cost Estimate w/ Cont., Eng., & Admin.	Col. (2) Benefit Factor %	Col. (3) =Col. (1) x Col. (2) Benefit to New Development	Col. (4) Municipal Assist Factor 1%	Col. (5) = Col. (3) - Col. (4) DCC Recoverable	Col. (6) = Col.(1) - Col. (5) Total Municipal Responsibility
2008-CCAP-1364	Gravity Mains	Westminster Hwy & Elmbridge Way	20m W of WPL of 6751 Westminster Hwy	NW corner of 6951 Elmbridge Way	M4635	M4577	312	300	$850	$ 265,200	$ 331,500	100%	$ 331,500	$ 3,315	$ 328,185	$ 3,315
2008-CCAP-1365	Gravity Mains	Elmbridge Way	NW corner of 6951 Elmbridge Way	Elmbridge PS	M4577	PS	76	450	$1,200	$ 91,200	$ 114,000	100%	$ 114,000	$ 1,140	$ 112,860	$ 1,140
2008-CCAP-1366	Gravity Mains	Gilbert Rd - ROW along W side	Middle of 6211 Gilbert Rd	SE corner of 6851 Azure Rd	M241	M231	104	300	$850	$ 88,400	$ 110,500	100%	$ 110,500	$ 1,105	$ 109,395	$ 1,105
2008-CCAP-1367	Gravity Mains	Azure Rd - ROW at rear	6799 Azure Rd	6851 Azure Rd	M308	M231	89	250	$750	$ 66,750	$ 83,438	100%	$ 83,438	$ 834	$ 82,603	$ 834
2008-CCAP-1368	Gravity Mains- ROW	Minoru Park behind 6811 Minoru Blvd	175m N of Granville St	6631 Minoru Blvd	M646	M634	58	300	$850	$ 49,300	$ 61,625	100%	$ 61,625	$ 616	$ 61,009	$ 616
2008-CCAP-1369	Gravity Mains- ROW	Gilbert Rd - ROW along W side	Along frontage of 6211 Gilbert Rd		M214	M241	104	300	$850	$ 88,400	$ 110,500	100%	$ 110,500	$ 1,105	$ 109,395	$ 1,105
2008-CCAP-1370	Gravity Mains- ROW	Brighouse School	6240 Mara Cr	6180 Skaha Cr	M101	M115	249	375	$1,100	$ 273,900	$ 342,375	100%	$ 342,375	$ 3,424	$ 338,951	$ 3,424
2008-CCAP-1371	Gravity Mains- ROW	Brighouse School	6180 Skaha Cr	Near WPL of 6211 Gilbert Rd (150m S of NPL)	M115	M213	177	450	$1,200	$ 212,400	$ 265,500	100%	$ 265,500	$ 2,655	$ 262,845	$ 2,655
2008-CCAP-1372	Gravity Mains- ROW	Brighouse Pump Station	Near WPL of 6211 Gilbert Rd (150m S of NPL)	14m N of Brighouse PS	M213	M509	150	525	$1,400	$ 210,000	$ 262,500	100%	$ 262,500	$ 2,625	$ 259,875	$ 2,625
2008-CCAP-1373	Gravity Mains- ROW	Minoru Park S of 7000 Westminster Hwy	6251 Minoru Blvd	14m N of Brighouse PS	M514	M509	376	525	$1,400	$ 526,400	$ 658,000	100%	$ 658,000	$ 6,580	$ 651,420	$ 6,580
2008-CCAP-1374	Gravity Mains- ROW	Minoru Park S of 7000 Westminster Hwy	14m N of Brighouse PS	Brighouse PS	M509	PS	15	600	$1,500	$ 22,500	$ 28,125	100%	$ 28,125	$ 281	$ 27,844	$ 281
2008-CCAP-1375	Gravity Mains	Heather St	General Currie Rd	7480 Heather St	M7362	M7371	85	300	$850	$ 72,250	$ 90,313	100%	$ 90,313	$ 903	$ 89,409	$ 903
2008-CCAP-1376	Gravity Mains	Heather St	7480 Heather St	Heather N PS	M7371	PS	10	300	$850	$ 8,500	$ 10,625	100%	$ 10,625	$ 106	$ 10,519	$ 106
2008-CCAP-1378	Gravity Mains	Lane N of Elmbridge Way	N side of 7351 Elmbridge	SW corner of 5791 Minoru Blvd	M50501	M4725	156	250	$750	$ 117,000	$ 146,250	100%	$ 146,250	$ 1,463	$ 144,788	$ 1,463
2008-CCAP-1379	Gravity Mains- ROW	Crossing Elmbridge Way	NE corner of 7360 Elmbridge Way	N side of 7351 Elmbridge	M6481	M50488	86	250	$750	$ 64,500	$ 80,625	100%	$ 80,625	$ 806	$ 79,819	$ 806
2008-CCAP-1382	Gravity Mains	Lansdowne Rd	SW corner of 5540 Hollybridge Way	SE corner of 7671 Alderbridge Way	M4736	M4709	165	250	$750	$ 123,750	$ 154,688	100%	$ 154,688	$ 1,547	$ 153,141	$ 1,547
2008-CCAP-1383	Gravity Mains	Kwantlen Street	5300 No 3 Rd	Alderbridge PS	M3223	PS	92	375	$1,100	$ 101,200	$ 126,500	100%	$ 126,500	$ 1,265	$ 125,235	$ 1,265
2008-CCAP-1386	Gravity Mains	Ackroyd Rd - ROW along S side	3m W of EPL of 8500 Ackroyd	Arcadia PS	A177	PS	76	375	$1,100	$ 83,600	$ 104,500	100%	$ 104,500	$ 1,045	$ 103,455	$ 1,045
2008-CCAP-1387	Gravity Mains	Crossing Ackroyd Rd	NE corner of 5880 No 3 Rd	Ackroyd PS	M3137	PS	15	375	$1,100	$ 16,500	$ 20,625	100%	$ 20,625	$ 206	$ 20,419	$ 206
2008-CCAP-1390	Gravity Mains	Alderbridge Way - ROW along N side	Along the frontage of 7811 Alderbridge Way		M4691	M4690	109	250	$750	$ 81,750	$ 102,188	100%	$ 102,188	$ 1,022	$ 101,166	$ 1,022
2008-CCAP-1391	Gravity Mains	Btwn 7771 & 7811 Alderbridge Way	7080 River Rd	Lane intersection at NW corner of 5431 Minoru Blvd	M4699	M4688	293	450	$1,200	$ 351,600	$ 439,500	100%	$ 439,500	$ 4,395	$ 435,105	$ 4,395
2008-CCAP-1393	Gravity Mains	Lane S of Alderbridge Way	5003 Minoru Blvd	Minoru PS	M4688	PS	80	450	$1,200	$ 96,000	$ 120,000	100%	$ 120,000	$ 1,200	$ 118,800	$ 1,200
2008-CCAP-1394	Gravity Mains	ROW along NPL of 5891 No 3 Rd	No 3 Rd	5900 Minoru Blvd	M4774	A280	94	250	$750	$ 70,500	$ 88,125	100%	$ 88,125	$ 881	$ 87,244	$ 881
2008-CCAP-1396	Gravity Mains	Lane West of No 3 Rd	NW corner of 5333 No 3 Rd	Lansdowne Rd	A279	M4771	289	375	$1,100	$ 317,900	$ 397,375	100%	$ 397,375	$ 3,974	$ 393,401	$ 3,974
2008-CCAP-1397	Gravity Mains- ROW	7080 River Rd - ROW at rear	Gilbert Rd	7080 & 7280 River Rd	M4738	M4745	273	250	$750	$ 204,750	$ 255,938	100%	$ 255,938	$ 2,559	$ 253,378	$ 2,559
2008-CCAP-1399	Gravity Mains	Ferndale Rd	Centre of Ferndale Rd	Ferndale PS	M10004	PS	11	300	$850	$ 9,350	$ 11,688	100%	$ 11,688	$ 117	$ 11,571	$ 117
2008-CCAP-1400	Gravity Mains	Katsura St	6233 Katsura St	Ferndale Rd	M10107	M10523	77	250	$750	$ 57,750	$ 72,188	100%	$ 72,188	$ 722	$ 71,466	$ 722
2008-CCAP-1403	Gravity Mains- ROW	8151 Bennett Rd - ROW along W side	8151 Bennett Rd	Bennett West PS	M2490	PS	47	300	$850	$ 39,950	$ 49,938	100%	$ 49,938	$ 499	$ 49,438	$ 499
2008-CCAP-1404	Gravity Mains	Bennett Rd	8151 & 8220 Bennett Rd	Bennett West PS	M2488	PS	39	375	$1,100	$ 42,900	$ 53,625	100%	$ 53,625	$ 536	$ 53,089	$ 536
2008-CCAP-1405	Gravity Mains- ROW	8631 Bennett Rd - ROW along W side	8520 Granville St.	Bennett East PS	M2531	PS	84	300	$850	$ 71,400	$ 89,250	100%	$ 89,250	$ 893	$ 88,358	$ 893
2008-CCAP-1406	Gravity Mains	Crossing Bennett Rd	8640 Bennett Rd	Bennett East PS	M2605	PS	25	300	$850	$ 21,250	$ 26,563	100%	$ 26,563	$ 266	$ 26,297	$ 266
2008-CCAP-1407	Gravity Mains- ROW	ROW btwn 6780 Buswell St & 6831 Cooney Rd and along NPL of 6931 Cooney Rd	NPL of 6831 Cooney (at rear)	6831 Cooney Rd	M869	M868	48	250	$750	$ 36,000	$ 45,000	100%	$ 45,000	$ 450	$ 44,550	$ 450
2008-CCAP-1409	Gravity Mains- ROW	Cook Rd & Eckersley Rd - ROW at rear, Park Rd and ROW btwn Park Pl & Citation Dr	8580 Cook Rd	Eckersley A PS	M943	PS	483	375	$1,100	$ 531,300	$ 664,125	100%	$ 664,125	$ 6,641	$ 657,484	$ 6,641
2008-CCAP-1410	Gravity Mains- ROW	Cook Rd & Eckersley Rd	SE corner of 6560 Eckersley Rd	6560 Eckersley Rd (at rear)	M993	M944	35	250	$750	$ 26,250	$ 32,813	100%	$ 32,813	$ 328	$ 32,484	$ 328
2008-CCAP-1411	Gravity Mains	Cook Gate	8720 Spires St.	Eckersley B PS	M1017	PS	73	375	$1,100	$ 80,300	$ 100,375	100%	$ 100,375	$ 1,004	$ 99,371	$ 1,004
2008-CCAP-1412	Gravity Mains- ROW	ROW btwn Cook Rd & Spires Rd	8780 Spires Rd.	8720 Spires Rd.	M1020	M1017	59	300	$850	$ 50,150	$ 62,688	100%	$ 62,688	$ 627	$ 62,061	$ 627
2008-CCAP-1413	Gravity Mains- ROW	ROW btwn Cook Rd & Spires Rd	8431 Cook Rd	8571 Cook Rd	M1022	M1020	169	250	$750	$ 126,750	$ 158,438	100%	$ 158,438	$ 1,584	$ 156,853	$ 1,584
2008-CCAP-1414	Gravity Mains- ROW	ROW btwn Cooney Rd & Spires Rd	Middle of 8088 Spires Gate	Middle of 8488 Cooney Rd	M1023	M1022	96	250	$750	$ 72,000	$ 90,000	100%	$ 90,000	$ 900	$ 89,100	$ 900
2008-CCAP-1415	Gravity Mains- ROW	Cook & Spires	8140 Spires Rd.	8571 Cook Rd	M1042	M1020	188	250	$750	$ 141,000	$ 176,250	100%	$ 176,250	$ 1,763	$ 174,488	$ 1,763
2008-CCAP-1419	Gravity Mains	Jones Rd	8700 & 8711 Jones Rd	8600 & 8655 Jones Rd.	M6360	M6361	96	250	$750	$ 72,000	$ 90,000	100%	$ 90,000	$ 900	$ 89,100	$ 900
2008-CCAP-1420	Gravity Mains	Jones Rd	8600 & 8655 Jones Rd.	S of Jones PS	M6361	M6335	111	300	$850	$ 94,350	$ 117,938	100%	$ 117,938	$ 1,179	$ 116,758	$ 1,179
2008-CCAP-1421	Gravity Mains- ROW	8535 Jones Rd - ROW along W side	NW corner of 8535 Jones Rd.	Jones PS	M6336	PS	37	300	$850	$ 31,450	$ 39,313	100%	$ 39,313	$ 393	$ 38,919	$ 393
2008-CCAP-1422	Gravity Mains	Crossing Jones Rd	8600 Jones Rd	Jones PS	M6335	PS	14	300	$850	$ 11,900	$ 14,875	100%	$ 14,875	$ 149	$ 14,726	$ 149
Total CCAP Model Upda	Total									$ 10,264,450	$ 12,830,563		$ 12,830,563	$ 128,306	$ 12,702,257	$ 128,306
TERRA NOVA SANITARY AREA (NEW ET 2008 REPORT)																
2008-TN-1501	Gravity Mains	Barnard Dr	6571 Barnard Dr	6631 Barnard Dr	M7010	M7008	72	300	$850	$ 61,200	$ 76,500	100%	$ 76,500	$ 765	$ 75,735	$ 765
2008-TN-1502	Gravity Mains	Dover Cr (U/S of Works Yard PS)	5888 Dover Cr	5900 Dover Cr	M4453	M4454	89	300	$850	$ 75,650	$ 94,563	100%	$ 94,563	$ 946	$ 93,617	$ 946
2008-TN-1505	Gravity Mains	Granville Ave	5771 Granville Ave	N of 5360 Granville Ave (at Lynas Lane & Granville Ave)	M4012	M4027	208	250	$750	$ 156,000	$ 195,000	100%	$ 195,000	$ 1,950	$ 193,050	$ 1,950
2008-TN-1506	Gravity Mains	Lynas Lane (U/S Lynas PS)	N of 5360 Granville Ave (at Lynas Lane & Granville Ave)	8591 Lynas Ave (at Lynas Lane & Garrison Rd)	M4027	M4035	186	250	$750	$ 147,000	$ 183,750	100%	$ 183,750	$ 1,838	$ 181,913	$ 1,838

City of Richmond
Sanitary DCC Program

DCC UPGRADE ID	Type of Infrastructure	Location	Upgrades Recommended (for 2006 DCC Projects)/ From (for new City Centre Projects)	Catchment (for 2006 DCC Projects)/ To (for new City Centre Projects)	From Node	To Node	Length (m)	Recommended Size (mm)	2015 Unit Rates	Cost Estimate w/o Contingency, Engineering & Contract Admin	Col.(1) Cost Estimate w/ Cont., Eng., & Admin.	Col. (2) Benefit Factor %	Col. (3) =Col. (1) x Col. (2) Benefit to New Development	Col. (4) Municipal Assist Factor 1%	Col. (5) = Col. (3) - Col. (4) DCC Recoverable	Col. (6) = Col.(1) - Col. (5) Total Municipal Responsibility
2008-TN-1507	Gravity Mains	Lynas Lane (South of Lynas PS)	6591 Lynas Ave (at Lynas Lane & Garrison Rd)	Lynas PS (5400 Walton Rd)	M4035	PS	200	300	$850	$ 170,000	$ 212,500	100%	$ 212,500	$ 2,125	$ 210,375	$ 2,125
2008-TN-1508	Gravity Mains	Immediately U/S of WorksYard PS	5599 Lynas Lane	Works Yard PS	M4454	PS	25	300	$850	$ 21,250	$ 26,563	100%	$ 26,563	$ 266	$ 26,297	$ 266
2008-TN-1509	Gravity Mains	Dover Cr. (U/S of Works Yard PS)	5862 Dover Cr	5888 Dover Cr	M6991	M4453	99	250	$750	$ 74,250	$ 92,813	100%	$ 92,813	$ 928	$ 91,884	$ 928
2008-TN-1510	Gravity Mains	Tiffany Blvd (U/S of Lynas PS)	6171 Tiffany Blvd	6237 Tiffany Blvd	M4247	M4283	218	250	$750	$ 163,500	$ 204,375	100%	$ 204,375	$ 2,044	$ 202,331	$ 2,044
2008-TN-1511	Gravity Mains	Tiffany Blvd (U/S of Lynas PS)	6237 Tiffany Blvd	Lynas PS	M4283	PS	190	300	$850	$ 161,500	$ 201,875	100%	$ 201,875	$ 2,019	$ 199,856	$ 2,019
2008-TN-1512	Gravity Mains- ROW	Colonial Dr & Blundell Rd	4760 Blundell Rd	8020 Colonial Dr	M5072	M5074	123	250	$750	$ 92,250	$ 115,313	100%	$ 115,313	$ 1,153	$ 114,159	$ 1,153
2008-TN-1513	Gravity Mains- ROW	Colonial Dr (U/S of Claysmith PS)	8020 Colonial Dr	8171 Colonial Dr	M5074	M5076	180	250	$750	$ 135,000	$ 168,750	100%	$ 168,750	$ 1,688	$ 167,063	$ 1,688
2008-TN-1514	Gravity Mains	Colonial Dr	8171 Colonial Dr	Claysmith PS (8200 Claybrook Dr)	M5076	PS	254	300	$850	$ 215,900	$ 269,875	100%	$ 269,875	$ 2,699	$ 267,176	$ 2,699
2008-TN-1515	Gravity Mains	Francis Rd - N side	4111 Francis Rd	4211 Francis Rd	M4186	M5239	82	250	$750	$ 61,500	$ 76,875	100%	$ 76,875	$ 769	$ 76,106	$ 769
2008-TN-1516	Gravity Mains- ROW	U/S of Youngmore PS	4211 Francis Rd	4211 Craigflower Gate	M5239	M5225	130	250	$750	$ 97,500	$ 121,875	100%	$ 121,875	$ 1,219	$ 120,656	$ 1,219
2008-TN-1517	Gravity Mains- ROW	Quilchena School Park - ROW along E side and Anvil Cr - ROW at rear	SE corner of 3840 Anvil Cr	Middle of 3760 Moresby Dr along Moresby frontage	M1243	M1298	405	250	$750	$ 303,750	$ 379,688	100%	$ 379,688	$ 3,797	$ 375,891	$ 3,797
2008-TN-1518	Gravity Mains- ROW	ROW btwn Quilchena School Park & Decourcy Cr	7520 Decourcy Dr	7620 Decourcy Dr	M1413	M1425	129	250	$750	$ 96,750	$ 120,938	100%	$ 120,938	$ 1,209	$ 119,728	$ 1,209
2008-TN-1519	Gravity Mains	Barnard & Richard Intersection	6020/6028 Richard Dr	6411 Barnard Dr	M7018	M7012	129	250	$750	$ 96,750	$ 120,938	100%	$ 120,938	$ 1,209	$ 119,728	$ 1,209
2008-TN-1520	Gravity Mains	U/S of Barnard PS	6411 Barnard Dr	6571 Barnard Dr	M7012	M7010	122	300	$850	$ 103,700	$ 129,625	100%	$ 129,625	$ 1,296	$ 128,329	$ 1,296
2008-TN-1521	Gravity Mains	Immediately U/S of Barnard PS	6631 Barnard Dr	Barnard PS (6588 Barnard Dr.)	M7008	PS	17	300	$850	$ 14,450	$ 18,063	100%	$ 18,063	$ 181	$ 17,882	$ 181
2008-TN-1522	Gravity Mains- ROW	2nd pipe U/S of Terra Nova East PS	5551 Barnard Dr	5531 Cornwall Dr	M6625	M6624	55	250	$750	$ 41,250	$ 51,563	100%	$ 51,563	$ 516	$ 51,047	$ 516
Total Terra Nova - Minor	Total									$ 2,289,150	$ 2,861,438		$ 2,861,438	$ 28,614	$ 2,832,823	$ 28,614
STEVESTON SANITARY AREA (NEW ET 2008 REPORT)																
2008-ST-1602	Gravity Mains	Elsmore Rd	Pacemore Ave	Ullsmore Ave	M620	M562	397	375	$1,100	$ 436,700	$ 545,875	100%	$ 545,875	$ 5,459	$ 540,416	$ 5,459
2008-ST-1603	Gravity Mains	Elsmore Rd	Ullsmore Ave	3511 Francis Rd.	M562	M17	156	450	$1,200	$ 187,200	$ 234,000	100%	$ 234,000	$ 2,340	$ 231,660	$ 2,340
2008-ST-1604	Gravity Mains	Kirkmond Rd	3491 Francis Rd.	9031 Kirkmond Rd.	M19	M16	53	450	$1,200	$ 63,600	$ 79,500	100%	$ 79,500	$ 795	$ 78,705	$ 795
2008-ST-1609	Gravity Mains	North-west of Ivy Pump Station	3031 Cedarwood Ct.	SE corner of 10140 Springmont Dr.	M439	M2162	566	300	$850	$ 481,100	$ 601,375	100%	$ 601,375	$ 6,014	$ 595,361	$ 6,014
2008-ST-1610	Gravity Mains- ROW	3088 Francis - ROW along E side	9071 Wellmond Rd.	9160 Wellmond Rd.	M399	M65	155	250	$750	$ 116,250	$ 145,313	100%	$ 145,313	$ 1,453	$ 143,859	$ 1,453
2008-ST-1611	Gravity Mains	Wellmond Rd	9160 Wellmond Rd.	9120 Wellmond Rd.	M64	M65	41	300	$850	$ 34,850	$ 43,563	100%	$ 43,563	$ 436	$ 43,127	$ 436
2008-ST-1612	Gravity Mains	Wellmond Rd	9120 Wellmond Rd.	Cul-de-sac at Wellmond Rd & Barmond Ave.	M48	M64	87	300	$850	$ 73,950	$ 92,438	100%	$ 92,438	$ 924	$ 91,513	$ 924
2008-ST-1613	Gravity Mains	Barmond Ave	Cul-de-sac at Wellmond Rd & Barmond Ave.	3351 Barmond Ave.	M48	M47	72	300	$850	$ 61,200	$ 76,500	100%	$ 76,500	$ 765	$ 75,735	$ 765
2008-ST-1614	Gravity Mains	Barmond Ave	3351 Barmond Ave.	3451 Barmond Ave.	M47	M49	128	300	$850	$ 108,800	$ 136,000	100%	$ 136,000	$ 1,360	$ 134,640	$ 1,360
2008-ST-1615	Gravity Mains	Barmond Ave	3451 Barmond Ave.	3591 Barmond Ave.	M49	M163	149	375	$1,100	$ 163,900	$ 204,875	100%	$ 204,875	$ 2,049	$ 202,826	$ 2,049
2008-ST-1616	Gravity Mains	Truro Dr - at rear	10677 Truro Dr.	Ranaford PS	PS	M4258	183	300	$850	$ 155,550	$ 194,438	100%	$ 194,438	$ 1,944	$ 192,49	$ 1,944
2008-ST-1617	Gravity Mains- ROW	10371 4th Ave - SW corner	N E corner of 3391 Springmont Dr.	60m N of SPL of 10760 Springmont Dr.	M2356	M2105	61	250	$750	$ 45,750	$ 57,188	100%	$ 57,188	$ 572	$ 56,61	$ 572
2008-ST-1618	Gravity Mains- ROW	10760 Springmont Dr - ROW along the EPL	60m N of SPL of 10760 Springmont Dr.	Ivy PS	M2105	PS	108	375	$1,100	$ 118,800	$ 148,500	100%	$ 148,500	$ 1,485	$ 147,015	$ 1,485
2008-ST-1619	Gravity Mains	7th Ave	50m S of NPL of 11671 7th Ave.	11491/11551 7th Ave.	M5179	M5176	138	300	$850	$ 117,300	$ 146,625	100%	$ 146,625	$ 1,466	$ 145,159	$ 1,466
2008-ST-1620	Gravity Mains	Lane btwn Richmond St & Broadway St	11740 7th Ave.	3411 Richmond St.	M5177	M5519	347	375	$1,100	$ 381,700	$ 477,125	100%	$ 477,125	$ 4,771	$ 472,354	$ 4,771
2008-ST-1621	Gravity Mains	Richmond St	3411 Richmond St.	Steveston PS	M5519	PS	125	450	$1,200	$ 150,000	$ 187,500	100%	$ 187,500	$ 1,875	$ 185,625	$ 1,875
2008-ST-1622	Gravity Mains	Kirkmond Rd	Barmond Ave	9031 Kirkmond Rd.	M19	M49	41	450	$1,200	$ 49,200	$ 61,500	100%	$ 61,500	$ 615	$ 60,885	$ 615
2008-ST-1623	Gravity Mains	Immediate U/S of Richmond Park PS	9031 Kirkmond Rd.	Richmond Park PS	PS	M19	15	600	$1,500	$ 22,500	$ 28,125	100%	$ 28,125	$ 281	$ 27,844	$ 281
2008-ST-1625	Gravity Mains- ROW	10111 4th Ave - ROW along SPL	10200/10300 4th Ave.	30m E of WPL of 10111 4th Ave	M2339	M2375	208	375	$1,100	$ 228,800	$ 286,000	100%	$ 286,000	$ 2,860	$ 283,140	$ 2,860
2008-ST-1627	Gravity Mains- ROW	Princeton Ave - ROW at rear	4791 Princeton Ave.	20m S of SPL of 9291 Parksville Dr	M3984	M3956	162	250	$750	$ 121,500	$ 151,875	100%	$ 151,875	$ 1,519	$ 150,356	$ 1,519
2008-ST-1628	Gravity Mains- ROW	9751 Parksville Dr - ROW along EPL	20m S of SPL of 9291 Parksville Dr	Boyd PS	M3956	PS	78	300	$850	$ 66,300	$ 82,875	100%	$ 82,875	$ 829	$ 82,046	$ 829
2008-ST-1629	Gravity Mains- ROW	ROW btwn Woodpecker Dr & Kingfisher Dr	11191 Kingfisher Dr.	130m S of SPL of 11251 Kingfisher Dr.	M4459	M4425	268	250	$750	$ 201,000	$ 251,250	100%	$ 251,250	$ 2,513	$ 248,738	$ 2,513
2008-ST-1632	Gravity Mains	Lane W of 3rd Ave	Moncton St	Chatham St	M5131	M5502	121	250	$750	$ 90,750	$ 113,438	100%	$ 113,438	$ 1,134	$ 112,303	$ 1,134
2008-ST-1634	Gravity Mains	Blundell Rd	3260/3280 Blundell Rd.	Blundell Rd.& Dalemore Rd	M861	M855	78	250	$750	$ 58,500	$ 73,125	100%	$ 73,125	$ 731	$ 72,394	$ 731
2008-ST-1635	Gravity Mains	DalemoreRd	Pacemore Ave	Blundell Rd	M855	M657	249	250	$750	$ 186,750	$ 233,438	100%	$ 233,438	$ 2,334	$ 231,103	$ 2,334
2008-ST-1636	Gravity Mains	Pacemore Ave	Dalemore Rd	Elsmore Rd	M657	M620	82	300	$850	$ 69,700	$ 87,125	100%	$ 87,125	$ 871	$ 86,254	$ 871
2008-ST-1637	Gravity Mains- ROW	Springfield Dr - ROW at rear	3440 Springfield Dr.	3400 Springfield Dr.	M2521	M2341	39	250	$750	$ 29,250	$ 36,563	100%	$ 36,563	$ 366	$ 36,197	$ 366
2008-ST-1638	Gravity Mains	Springfield Dr & 4th Ave.	3400 Springfield Dr.	10300 4th Ave.	M2341	M2339	212	250	$750	$ 159,000	$ 198,750	100%	$ 198,750	$ 1,988	$ 196,763	$ 1,988
2008-ST-1640	Gravity Mains	Kirkmond Cr	9331 Kirkmond Cr	Gormond Rd.	M280	M281	75	250	$750	$ 56,250	$ 70,313	100%	$ 70,313	$ 703	$ 69,609	$ 703
2008-ST-1641	Gravity Mains	Gormond Rd.	Gormond Rd.	Raymond Ave	M281	M125	344	300	$850	$ 292,400	$ 365,500	100%	$ 365,500	$ 3,655	$ 361,845	$ 3,655
2008-ST-1642	Gravity Mains	Ullsmore Ave	Kelmore Rd	Elsmore Rd	M559	M562	301	250	$750	$ 225,750	$ 282,188	100%	$ 282,188	$ 2,822	$ 279,366	$ 2,822
2008-ST-1644	Gravity Mains	Francis Rd	3511 Francis Rd.	3491 Francis Rd.	M17	M16	23	450	$1,200	$ 27,600	$ 34,500	100%	$ 34,500	$ 345	$ 34,155	$ 345
2008-ST-1645	Gravity Mains- ROW	9780 Pendleton Rd & Crossing Pendleton Rd	SW corner of 9780 Pendleton Rd.	Along SPL of 9751 Pendleton Rd (45m W of EPL of 9751 Pendleton Rd)	M3963	M3957	55	250	$750	$ 41,250	$ 51,563	100%	$ 51,563	$ 516	$ 51,047	$ 516
2008-ST-1647	Gravity Mains	Lane btwn Pleasant St & 4th Ave	Pleasant St.	SW corner of 3520 Pleasant St	M5372	M5426	54	300	$850	$ 45,900	$ 57,375	100%	$ 57,375	$ 574	$ 56,801	$ 574
Total Steveson - Minor S	Total									$ 4,669,050	$ 5,836,313		$ 5,836,313	$ 58,363	$ 5,777,949	$ 58,363

DCC UPGRADE ID	Type of Infrastructure	Location	Upgrades Recommended (for 2006 DCC Projects)/ From (for new City Centre Projects)	Catchment (for 2006 DCC Projects)/ To (for new City Centre Projects)	From Node	To Node	Length (m)	Recommended Size (mm)	2015 Unit Rates	Cost Estimate w/o Contingency, Engineering & Contract Admin	Col.(1) Cost Estimate w/ Cont., Eng., & Admin.	Col. (2) Benefit Factor %	Col. (3) =Col. (1) x Col. (2) Benefit to New Development	Col. (4) Municipal Assist Factor 1%	Col. (5) = Col. (3) - Col. (4) DCC Recoverable	Col. (6) = Col.(1) - Col. (5) Total Municipal Responsibility
SHELLMONT SANITARY AREA (NOV 27 2006 REPORT)																
2008-SH-1702	Gravity Mains	Lane btwn Sealily Pl & Seacote Rd	NW corner of 11300 Seaport Rd.	9791 Seacote Rd	M340	M362	91	375	$1,100	$ 100,100	$ 125,125	100%	$ 125,125	$ 1,251	$ 123,874	$ 1,251
2008-SH-1704	Gravity Mains	No 5 Rd - ROW along W side	SE corner of 11911 No 5 Rd	Forge Pl	M3664	M3662	98	300	$850	$ 83,300	$ 104,125	100%	$ 104,125	$ 1,041	$ 103,084	$ 1,041
2008-SH-1705	Gravity Mains	No 5 Rd - ROW along W side	Forge Pl	Horseshoe Way (N)	M3662	M3658	445	375	$1,100	$ 489,500	$ 611,875	100%	$ 611,875	$ 6,119	$ 605,756	$ 6,119
2008-SH-1706	Gravity Mains	Horseshoe Way (N) - ROW along N side	No 5 Rd	Coppersmith Way	M3658	M3648	279	375	$1,100	$ 306,900	$ 383,625	100%	$ 383,625	$ 3,836	$ 379,789	$ 3,836
2008-SH-1707	Gravity Mains	Horseshoe Way	Coppersmith Way	Riverside PS	M3648	PS	46	450	$1,200	$ 55,200	$ 69,000	100%	$ 69,000	$ 690	$ 68,310	$ 690
2008-SH-1708	Gravity Mains	Horseshoe Way - ROW along S side	8m E of WPL of 12431 Horseshoe Way	Horseshoe Pl	M3714	AN227	283	250	$750	$ 212,250	$ 265,313	100%	$ 265,313	$ 2,653	$ 262,659	$ 2,653
2008-SH-1709	Gravity Mains	Horseshoe Pl - ROW along E side	Horseshoe Way	Horseshoe PS	M3714	PS	92	300	$850	$ 78,200	$ 97,750	100%	$ 97,750	$ 978	$ 96,773	$ 978
2008-SH-1710	Gravity Mains- ROW	South of Horseshoe PS	Horseshoe PS	Private Rd	M3704	PS	179	250	$750	$ 134,250	$ 167,813	100%	$ 167,813	$ 1,678	$ 166,134	$ 1,678
2008-SH-1711	Gravity Mains	Coppersmith Way - ROW along N & S side	NE corner of 11780 Hammersmith Way	45m E of Coppersmith Pl	M6388	M6391	197	250	$750	$ 147,750	$ 184,688	100%	$ 184,688	$ 1,847	$ 182,841	$ 1,847
2008-SH-1712	Gravity Mains	Crossing Horseshoe Way (50m N of Blacksmith Pl)	11471 Blacksmith Pl	11420 Horseshoe	M3621	M3620	18	250	$750	$ 13,500	$ 16,875	100%	$ 16,875	$ 169	$ 16,705	$ 169
2008-SH-1713	Gravity Mains	Horseshoe Way	11920 Horseshoe Way	11420 Horseshoe Way	M3625	M3620	295	300	$850	$ 250,750	$ 313,438	100%	$ 313,438	$ 3,134	$ 310,303	$ 3,134
2008-SH-1714	Gravity Mains	Horseshoe Way	11420 Horseshoe Way	Riverside PS	M3620	PS	160	375	$1,100	$ 176,000	$ 220,000	100%	$ 220,000	$ 2,200	$ 217,800	$ 2,200
2008-SH-1715	Gravity Mains- ROW	Glenacres Dr - ROW at rear	Middle of 9420 Glenacres Dr	SE corner of 9600 Glenacres Dr	M1609	M1674	186	250	$750	$ 139,500	$ 174,375	100%	$ 174,375	$ 1,744	$ 172,631	$ 1,744
2008-SH-1716	Gravity Mains- ROW	9540 Glenacres Dr - along WPL	9540 Glenacres Dr	5m E of EPL of 9371 Ash St	M1608	M1730	211	375	$1,100	$ 232,100	$ 290,125	100%	$ 290,125	$ 2,901	$ 287,224	$ 2,901
2008-SH-1717	Gravity Mains	Ash St	5m E of EPL of 9371 Ash St	Saunders Rd	M1730	M1728	137	375	$1,100	$ 150,700	$ 188,375	100%	$ 188,375	$ 1,884	$ 186,491	$ 1,884
2008-SH-1718	Gravity Mains	Ash St	Saunders Rd	Pinewell Cr	M1728	M1727	92	450	$1,200	$ 110,400	$ 138,000	100%	$ 138,000	$ 1,380	$ 136,620	$ 1,380
2008-SH-1719	Gravity Mains	Ash St	Pinewell Cr	9931 Ash St	M1727	M1726	94	450	$1,200	$ 112,800	$ 141,000	100%	$ 141,000	$ 1,410	$ 139,590	$ 1,410
2008-SH-1720	Gravity Mains	Ash St & Williams Rd	9931 Ash St	Ash PS	M1726	PS	143	450	$1,200	$ 171,600	$ 214,500	100%	$ 214,500	$ 2,145	$ 212,355	$ 2,145
2008-SH-1721	Gravity Mains- ROW	Severn Dr - ROW at rear	103391 Severn Dr	10051 Severn Dr	M1938	M1932	319	375	$1,100	$ 350,900	$ 438,625	100%	$ 438,625	$ 4,386	$ 434,239	$ 4,386
2008-SH-1723	Gravity Mains- ROW	Ryan Rd - ROW at rear	NW corner of 10771 Ryan RD	NE corner of 10751 Ryan Rd	M1957	M1938	191	300	$850	$ 162,350	$ 202,938	100%	$ 202,938	$ 2,029	$ 200,908	$ 2,029
2008-SH-1725	Gravity Mains- ROW	ROW btwn Ryan Rd. & Mortfield Pl.	10920/10971 Ryan Rd (112m N of Mortfield Gate)	NW corner of 10771 Ryan RD	M1950	M1957	324	250	$750	$ 243,000	$ 303,750	100%	$ 303,750	$ 3,038	$ 300,713	$ 3,038
2008-SH-1726	Gravity Mains- ROW	ROW btwn 9111 Kingsbridge Dr & 11751King Rd	Middle of 9111 Kingsbridge Dr (SPL)	At SPL of 9111 Kingsbridge Dr & WPL of 11751 King Rd	M654	M653	58	250	$750	$ 43,500	$ 54,375	100%	$ 54,375	$ 544	$ 53,831	$ 544
2008-SH-1727	Gravity Mains- ROW	11751 King Rd - Row along WPL & King Rd - ROW at rear	At SPL of 9111 Kingsbridge Dr & WPL of 11751 King Rd	9580 Seacote Rd	M653	M276	408	300	$850	$ 346,800	$ 433,500	100%	$ 433,500	$ 4,335	$ 429,165	$ 4,335
2008-SH-1728	Gravity Mains	Seacote Rd	9580 Seacote Rd	9640 Seacote Rd.	M276	M279	89	375	$1,100	$ 97,900	$ 122,375	100%	$ 122,375	$ 1,224	$ 121,151	$ 1,224
2008-SH-1729	Gravity Mains- ROW	Seaport Ave & Seacote Rd - ROW at rear	9640 Seacote Rd	NW corner of 11300 Seaport Rd.	M279	M340	115	375	$1,100	$ 126,500	$ 158,125	100%	$ 158,125	$ 1,581	$ 156,544	$ 1,581
2008-SH-1730	Gravity Mains	Lane btwn Seaton Pl & Seacote Rd	9791 Seacote Rd	9871 Seacote Rd	M362	M489	66	450	$1,200	$ 79,200	$ 99,000	100%	$ 99,000	$ 990	$ 98,010	$ 990
2008-SH-1731	Gravity Mains	Lane btwn Seaton Pl & Seacote Rd and lane btwn Seaton Rd & Williams Rd	9871 Seacote Rd	Sherman PS	M489	PS	169	450	$1,200	$ 202,800	$ 253,500	100%	$ 253,500	$ 2,535	$ 250,965	$ 2,535
2008-SH-1732	Gravity Mains	Williams Rd, Seacote Rd & lane btwn Seacote Rd & Seabrook Cr (South of Sherman PS)	11351 Williams Rd	10140 Seacote Rd	M492	M50347	228	375	$1,100	$ 250,800	$ 313,500	100%	$ 313,500	$ 3,135	$ 310,365	$ 3,135
2008-SH-1733	Gravity Mains	10300 Seacote Rd - ROW along the WPL	10440 Seacote Rd	10300 Seacote Rd	M815	M50340	135	300	$850	$ 114,750	$ 143,438	100%	$ 143,438	$ 1,434	$ 142,003	$ 1,434
2008-SH-1734	Gravity Mains- ROW	Seaway Rd - ROW at rear	10511 Seaway Rd	NW corner of 11420 Sealord Rd	M948	A302	147	250	$750	$ 110,250	$ 137,813	100%	$ 137,813	$ 1,378	$ 136,434	$ 1,378
2008-SH-1735	Gravity Mains- ROW	Aquila Rd - ROW at rear	9500 Aquila Rd	9640 Aquila Rd	M3531	M3433	143	300	$850	$ 121,550	$ 151,938	100%	$ 151,938	$ 1,519	$ 150,418	$ 1,519
2008-SH-1736	Gravity Mains- ROW	Aquila Rd - ROW at rear	9640 Aquila Rd.	10371 Aragon Rd (Edgemere PS)	M3433	PS	293	375	$1,100	$ 322,300	$ 402,875	100%	$ 402,875	$ 4,029	$ 398,846	$ 4,029
2008-SH-1738	Gravity Mains	Lane btwn Aquila Rd & Aragon Rd and lane btwn Dennis Cr & Aintree Cr	NW corner of 10411 Williams Rd	10091 Aintree Cr	M3318	M3058	420	375	$1,100	$ 462,000	$ 577,500	100%	$ 577,500	$ 5,775	$ 571,725	$ 5,775
2008-SH-1739	Gravity Mains	Lane btwn Aquila Rd & Aragon Rd and lane btwn Dennis Cr & Aintree Cr	10091 Aintree Cr	4m N of SPL of 10011 Aintree	M3058	M3057	101	300	$850	$ 85,850	$ 107,313	100%	$ 107,313	$ 1,073	$ 106,239	$ 1,073
2008-SH-1740	Gravity Mains	Riverside Way - ROW along E side	130m E of WPL of 12291 Jacobson Way	12155 Riverside Way	M7300	M7487	183	250	$750	$ 137,250	$ 171,563	100%	$ 171,563	$ 1,716	$ 169,847	$ 1,716
2008-SH-1741	Gravity Mains	Crossing Riverside Way	46m N of SPL of 12111 Riverside Way	Riverside PS	M7301	PS	23	300	$850	$ 19,550	$ 24,438	100%	$ 24,438	$ 244	$ 24,193	$ 244
Total Shellmont - Minor	Total									$ 6,242,050	$ 7,802,563		$ 7,802,563	$ 78,026	$ 7,724,537	$ 78,026
Total - Minor System										$ 23,464,700	$ 29,330,875		$ 29,330,875	$ 293,309	$ 29,037,566	$ 293,309
MAJOR SYSTEM (2008 DCC REVIEW)																
CCAP SANITARY AREA - Major System																
2008-CCAP-1426	Forcemains	Capstan Way	River Rd	Skyline PS			160	450	$1,200	$ 192,000	$ 240,000	100%	$ 240,000	$ 2,400	$ 237,600	$ 2,400
2008-CCAP-1427	Forcemains	ROW btwn 7400 & 7600 River Rd	River Rd	Railway Tracks			140	375	$1,100	$ 154,000	$ 192,500	100%	$ 192,500	$ 1,925	$ 190,575	$ 1,925
2008-CCAP-1428	Forcemains	ROW btwn 4411 & 4551 No 3 Rd	Railway Tracks	No 3 Rd			194	375	$1,100	$ 213,400	$ 266,750	100%	$ 266,750	$ 2,668	$ 264,083	$ 2,668
2008-CCAP-1429	Forcemains	4551 No 3 Rd	NE corner of 4551 No 3 Rd	Cambie Rd			136	375	$1,100	$ 149,600	$ 187,000	100%	$ 187,000	$ 1,870	$ 185,130	$ 1,870
2008-CCAP-1430	Forcemains	Elmbridge Way	Elmbridge PS	Hollybridge Way			336	375	$1,100	$ 369,600	$ 462,000	100%	$ 462,000	$ 4,620	$ 457,380	$ 4,620
2008-CCAP-1431	Forcemains	Gilbert Rd	Brighouse PS	Gilbert Rd			77	450	$1,200	$ 92,400	$ 115,500	100%	$ 115,500	$ 1,155	$ 114,345	$ 1,155
2008-CCAP-1432	Forcemains	Cedarbridge Way	Minoru PS	Lansdowne Rd			106	450	$1,200	$ 127,200	$ 159,000	100%	$ 159,000	$ 1,590	$ 157,410	$ 1,590

City of Richmond
Sanitary DCC Program

DCC UPGRADE ID	Type of Infrastructure	Location	Upgrades Recommended (for 2006 DCC Projects)/ From (for new City Centre Projects)	Catchment (for 2006 DCC Projects)/ To (for new City Centre Projects)	From Node	To Node	Length (m)	Recommended Size (mm)	2015 Unit Rates	Cost Estimate w/o Contingency, Engineering & Contract Admin	Col.(1) Cost Estimate w/ Cont., Eng., & Admin.	Col. (2) Benefit Factor %	Col. (3) =Col. (1) x Col. (2) Benefit to New Development	Col. (4) Municipal Assist Factor 1%	Col. (5) = Col. (3) - Col. (4) DCC Recoverable	Col. (6) = Col.(1) - Col. (5) Total Municipal Responsibility
2008-CCAP-1433	Forcemains	Lansdowne Rd	Cedarbridge Way	Hollybridge Way			409	600	$1,500	$ 613,500	$ 766,875	100%	$ 766,875	$ 7,669	$ 759,206	$ 7,669
2008-CCAP-1434	Forcemains	Lansdowne Rd	8120 Lansdowne Rd	Kwantlen St			364	375	$1,100	$ 400,400	$ 500,500	100%	$ 500,500	$ 5,005	$ 495,495	$ 5,005
2008-CCAP-1441	Pump Stations (Major)	Alderbridge (Includes new wet well)	-	-			-	-		$ 1,500,000	$ 1,875,000	100%	$ 1,875,000	$ 18,750	$ 1,856,250	$ 18,750
2008-CCAP-1444	Pump Stations	Elmbridge	-	-			-	-		$ 500,000	$ 625,000	100%	$ 625,000	$ 6,250	$ 618,750	$ 6,250
2008-CCAP-1445	Pump Stations (Major)	Minoru (Includes new wet well)	-	-			-	-	2011 OCP Project by KWL	$ 1,500,000	$ 1,875,000	100%	$ 1,875,000	$ 18,750	$ 1,856,250	$ 18,750
2008-CCAP-1448	Pump Stations	Van Horne	-	-			-	-	Estimate based on 2016 Capital Project, 2011 OCP Project by KWL	$ 2,240,000	$ 2,800,000	26%	$ 733,800	$ 7,338	$ 726,264	$ 2,073,736
Total CCAP - Major System	Total									$ 6,452,900	$ 8,069,375		$ 7,318,220	$ 73,967	$ 7,244,253	$ 2,101,397
TERRA NOVA SANITARY AREA																
2008-TN-1523	Pump Stations	Barnard					-	-		$ 500,000	$ 625,000	100%	$ 625,000	$ 6,250	$ 618,750	$ 6,250
2008-TN-1524	Pump Stations	Claysmith					-	-		$ 500,000	$ 625,000	100%	$ 625,000	$ 6,250	$ 618,750	$ 6,250
2008-TN-1525	Pump Stations	Lynas					-	-		$ 500,000	$ 625,000	100%	$ 625,000	$ 6,250	$ 618,750	$ 6,250
2008-TN-1526	Pump Stations	Terra Nova East					-	-		$ 500,000	$ 625,000	100%	$ 625,000	$ 6,250	$ 618,750	$ 6,250
2008-TN-1527	Pump Stations	Works Yard					-	-		$ 500,000	$ 625,000	100%	$ 625,000	$ 6,250	$ 618,750	$ 6,250
Total Terra Nova - Major	Total									$ 2,500,000	$ 3,125,000		$ 3,125,000	$ 31,250	$ 3,093,750	$ 31,250
[illegible]																
2008-ST-1648	Forcemains	Regent Street (Downstream of Regent PS)	4120 Regent St.	4040 Regent St.(at No1 Rd & Regent St)			95	200	$650	$ 61,750	$ 77,188	100%	$ 77,188	$ 772	$ 76,416	$ 772
2008-ST-1649	Pump Stations	Ivy					-	-		$ 500,000	$ 625,000	100%	$ 625,000	$ 6,250	$ 618,750	$ 6,250
2008-ST-1650	Pump Stations	Pendlebury					-	-		$ 500,000	$ 625,000	100%	$ 625,000	$ 6,250	$ 618,750	$ 6,250
2008-ST-1651	Pump Stations	Ransford					-	-		$ 500,000	$ 625,000	100%	$ 625,000	$ 6,250	$ 618,750	$ 6,250
2008-ST-1652	Pump Stations	Regent					-	-		$ 500,000	$ 625,000	100%	$ 625,000	$ 6,250	$ 618,750	$ 6,250
2008-ST-1653	Pump Stations	Richmond Park					-	-		$ 500,000	$ 625,000	100%	$ 625,000	$ 6,250	$ 618,750	$ 6,250
2008-ST-1654	Pump Stations	Trites					-	-		$ 500,000	$ 625,000	100%	$ 625,000	$ 6,250	$ 618,750	$ 6,250
2008-ST-1655	Pump Stations	Boyd					-	-		$ 500,000	$ 625,000	100%	$ 625,000	$ 6,250	$ 618,750	$ 6,250
[illegible]																
SHELLMONT SANITARY AREA																
2008-SH-1742	Pump Stations	Edgemere					-	-		$ 500,000	$ 625,000	100%	$ 625,000	$ 6,250	$ 618,750	$ 6,250
2008-SH-1743	Pump Stations	Horseshoe					-	-		$ 500,000	$ 625,000	100%	$ 625,000	$ 6,250	$ 618,750	$ 6,250
2008-SH-1744	Pump Stations	Riverside					-	-		$ 500,000	$ 625,000	100%	$ 625,000	$ 6,250	$ 618,750	$ 6,250
2008-SH-1745	Pump Stations	Riverside East					-	-		$ 500,000	$ 625,000	100%	$ 625,000	$ 6,250	$ 618,750	$ 6,250
2008-SH-1746	Pump Stations	Sherman					-	-		$ 500,000	$ 625,000	100%	$ 625,000	$ 6,250	$ 618,750	$ 6,250
Total Shellmont - Major	Total									$ 2,500,000	$ 3,125,000		$ 3,125,000	$ 31,250	$ 3,093,750	$ 31,250
BROADMOOR SANITARY AREA																
2008-BM-1761	Pump Stations	Maple					-	-		$ 500,000	$ 625,000	100%	$ 625,000	$ 6,250	$ 618,750	$ 6,250
2008-BM-1762	Pump Stations	Montrose					-	-		$ 500,000	$ 625,000	100%	$ 625,000	$ 6,250	$ 618,750	$ 6,250
2008-BM-1763	Pump Stations	Oeser					-	-		$ 500,000	$ 625,000	100%	$ 625,000	$ 6,250	$ 618,750	$ 6,250
2008-BM-1764	Pump Stations	Saunders					-	-		$ 500,000	$ 625,000	100%	$ 625,000	$ 6,250	$ 618,750	$ 6,250
2008-BM-1765	Pump Stations	Woodwards					-	-		$ 500,000	$ 625,000	100%	$ 625,000	$ 6,250	$ 618,750	$ 6,250
Total Broadmoor - Major	Total									$ 2,500,000	$ 3,125,000		$ 3,125,000	$ 31,250	$ 3,093,750	$ 31,250
Total - Major System										$ 19,113,850	$ 23,892,313		$ 21,825,913	$ 218,259	$ 21,607,653	$ 2,284,659
Modelling										$ 750,000	$ 750,000	100%	$ 750,000	$ 7,500	$ 742,500	$ 7,500
TOTAL - 2008 DCC REVIEW										$ 43,328,550	$ 53,973,188		$ 51,906,788	$ 519,068	$ 51,387,720	$ 2,585,468
2015 DCC REVIEW Additional Project identified in 2011 OCP Study by KWL																
Pump Stations																
2015-OCP-1000	Pump Stations	Parsons							2011 OCP Project by KWL	$ 850,000	$ 1,062,500	100%	$ 1,062,500	$ 10,625	$ 1,051,875	$ 10,625
2015-OCP-1001	Pump Stations and Forcemain	Pump Station Near Williams and Triangle Rd Area: 2000m forcemain from William Rd to Blundell Rd					2000		Future Pump Station and Forcemain	$ 2,950,000	$ 3,687,500	100%	$ 3,687,500	$ 36,875	$ 3,650,625	$ 36,875
Gravity Mains																
2015-OCP-1002	Gravity Mains	8971 Beckwith Rd to 8960 Charles St		Van Horne	M5780	M5781	87.4	375	$1,100	$ 96,140	$ 120,175	100%	$ 120,175	$ 1,202	$ 118,973	$ 1,202
2015-OCP-1003	Gravity Mains	Gilbert and Elmbridge Way		Minoru	SIC 4920	SIC 1530	80.2	250	$750	$ 60,150	$ 75,188	100%	$ 75,188	$ 752	$ 74,436	$ 752
2015-OCP-1004	Gravity Mains	7111 Elmbridge Way		Minoru	M4724	SIC 4920	129.8	250	$750	$ 97,350	$ 121,688	100%	$ 121,688	$ 1,217	$ 120,471	$ 1,217
2015-OCP-1005	Gravity Mains	6551 No. 3 Rd		Brighouse	M587	M588	120.4	375	$1,100	$ 132,440	$ 165,550	100%	$ 165,550	$ 1,656	$ 163,895	$ 1,656
2015-OCP-1006	Gravity Mains	8120 Cook Rd (east side lane)		Richmond Center	M840	M842	79.8	300	$850	$ 67,830	$ 84,788	100%	$ 84,788	$ 848	$ 83,940	$ 848
2015-OCP-1007	Gravity Mains	8121 Cook Rd (east side lane)		Richmond Center	M839	M840	9.8	300	$850	$ 8,330	$ 10,413	100%	$ 10,413	$ 104	$ 10,308	$ 104
2015-OCP-1008	Gravity Mains	6091 No 3 Rd (Lane to the south west)		Richmond Center	SMH7141	SMH7142	39.1	300	$850	$ 33,235	$ 41,544	100%	$ 41,544	$ 415	$ 41,128	$ 415

City of Richmond
Sanitary DCC Program

DCC UPGRADE ID	Type of Infrastructure	Location	Upgrades Recommended (for 2006 DCC Projects)/ From (for new City Centre Projects)	Catchment (for 2006 DCC Projects)/ To (for new City Centre Projects)	From Node	To Node	Length (m)	Recommended Size (mm)	2015 Unit Rates	Cost Estimate w/o Contingency, Engineering & Contract Admin	Col.(1) Cost Estimate w/ Cont., Eng., & Admin.	Col. (2) Benefit Factor %	Col. (3) =Col. (1) x Col. (2) Benefit to New Development	Col. (4) Municipal Assist Factor 1%	Col. (5) = Col. (3) - Col. (4) DCC Recoverable	Col. (6) = Col.(1) - Col. (5) Total Municipal Responsibility
2015-OCP-1009	Gravity Mains	6092 No 3 Rd (Lane to the south west)		Richmond Center	SMH593	SMH7141	56.4	300	$850	$ 47,940	$ 59,925	100%	$ 59,925	$ 599	$ 59,326	$ 599
2015-OCP-1010	Gravity Mains	6093 No 3 Rd (Lane to the south west)		Richmond Center	SMH6812	SMH593	7.4	300	$850	$ 6,290	$ 7,863	100%	$ 7,863	$ 79	$ 7,784	$ 79
2015-OCP-1011	Gravity Mains	6094 No 3 Rd (Lane to the south west)		Richmond Center	SMH6811	SMH6812	33.2	300	$850	$ 28,220	$ 35,275	100%	$ 35,275	$ 353	$ 34,922	$ 353
2015-OCP-1012	Gravity Mains	6095 No 3 Rd (Lane to the south west)		Richmond Center	SMH6810	SMH6811	15.7	300	$850	$ 13,345	$ 16,681	100%	$ 16,681	$ 167	$ 16,514	$ 167
TOTAL 2015 DCC REVIEW										$ 4,391,270	$ 5,489,088		$ 5,489,088	$ 54,891	$ 5,434,197	$ 54,891
TOTAL (2006, 2008 AND 2015)										$ 74,793,370	$ 93,304,213		$ 89,545,716	$ 895,457	$ 88,650,258	$ 4,653,954

Notes:
ALL NEW SANITARY PUMP STATIONS - $ 1,875M
ALL MINOR PUMP STATION UPGRADES - $0.625M
MAJOR PUMP STATION UPGRADES - Cost Varies Based on Size

0.01

City of Richmond
Sanitary DCC Calculation

A: Sanitary DCC Calculation (2041)						
Land Use		Col. (1) Estimated New Development	Col. (2) Unit	Col. (3) Person per unit (residential)/ Equivalent Population/hectare (other land uses)	Col. (4) = (1) x (3) Multiple	
Single Family Residential		1,982	lots	3.3	6,541	
Multi Family Residential						
	Townhouse	17,834	dwelling units	2.9	51,719	
	Apartment	19,091	dwelling units	2.1	40,091	
Commercial		317,562	per square metre building area	0.009	2,858	
Institutional		272,883	per square metre building area	0.009	2,456	
Light Industrial		390,862	per square metre building area	0.009	3,518	
Major Industrial		13.00	hectares	29.25	380	
				Total Equivalent Population	107,562 (a)	-20.6%
B: Unit Sanitary DCC Calculation						
Net Sanitary DCC Program Recoverable			$88,650,258	(b)		
Existing DCC Reserve Monies			$6,744,662	(c)		
Net Amount to be Paid by DCCs			$81,905,596	(d) = (b) - (c)		
DCC per person			$761.47	(e) = (d)/(a)		
C: Resulting Sanitary DCCs						
Single Family Residential			$2,512.85	per lot	(e) x Col. (3)	
Multi Family Residential	Townhouse		$2,208.27	per dwelling unit	(e) x Col. (3)	$1.64 per sq. ft.
	Apartment		$1,599.09	per dwelling unit	(e) x Col. (3)	$1.68 per sq. ft.
Commercial			$6.85	per square metre building area	(e) x Col. (3)	$0.64 per sq. ft.
Institutional			$6.85	per square metre building area	(e) x Col. (3)	$0.64 per sq. ft.
Light Industrial			$6.85	per square metre building area	(e) x Col. (3)	$0.64 per sq. ft.
Major Industrial			$22,273.03	per hectare	(e) x Col. (3)	$9,013.41 per acre

appendix

D

Water Program and Calculations

City of Richmond
Water DCC Program

									Col.(1)	Col. (2)	Col. (3) =Col. (1) x Col. (2)	Col. (4)	Col. (5) = Col. (3) Col. (4)	Col. (6) = Col.(1) - Col. (5)
Project ID	Location	From	To	Removed 2015	Proposed Diameter	Length (m)	cost per m exc engineering and contigency	Cost Estimate w/o Contingency, Engineering & Contract Admin	Cost Estimate w/ Cont., Eng., & Admin.	Benefit Factor %	Benefit to New Development	Municipal Assist Factor 1%	DCC Recoverable	Total Municipal Responsibility
2006														
Major Water Current (2006 DCC Review)														
BLUNDELL PLANNING AREA														
2006-BL-16	Ledway Rd				200	99	$650	$ 64,296	$ 80,370	95%	$ 76,351	$ 764	$ 75,588	$ 4,782
2006-BL-17	Ludlow Rd				200	190	$650	$ 123,377	$ 154,221	95%	$ 146,510	$ 1,465	$ 145,045	$ 9,176
2006-BL-22	Livingstone Pl				200	97	$650	$ 63,014	$ 78,767	95%	$ 74,829	$ 748	$ 74,080	$ 4,687
2006-BL-23	Comstock Rd				200	94	$650	$ 61,323	$ 76,654	95%	$ 72,822	$ 728	$ 72,093	$ 4,561
2006-BL-24	Comstock Rd				200	249	$650	$ 161,857	$ 202,321	95%	$ 192,205	$ 1,922	$ 190,283	$ 12,038
2006-BL-25	Comstock Rd				200	190	$650	$ 123,691	$ 154,614	95%	$ 146,883	$ 1,469	$ 145,414	$ 9,200
2006-BL-26	Grandy Rd				200	90	$650	$ 58,614	$ 73,267	95%	$ 69,604	$ 696	$ 68,908	$ 4,359
2006-BL-28	Chelmsford St				200	109	$650	$ 70,802	$ 88,503	95%	$ 84,078	$ 841	$ 83,237	$ 5,266
2006-BL-29	Dorval Rd				200	127	$650	$ 82,694	$ 103,367	95%	$ 98,199	$ 982	$ 97,217	$ 6,150
2006-BL-30	Dorval Rd				200	13	$650	$ 8,450	$ 10,563	95%	$ 10,034	$ 100	$ 9,934	$ 628
2006-BL-31	Dorval Rd				200	83	$650	$ 54,089	$ 67,611	95%	$ 64,231	$ 642	$ 63,589	$ 4,023
2006-BL-32	Dorval Rd				200	124	$650	$ 80,557	$ 100,696	95%	$ 95,662	$ 957	$ 94,705	$ 5,991
2006-BL-35	Dorval Rd				200	63	$650	$ 41,201	$ 51,501	95%	$ 48,926	$ 489	$ 48,437	$ 3,064
2006-BL-36	Dunsany Pl				200	13	$650	$ 8,669	$ 10,836	95%	$ 10,294	$ 103	$ 10,191	$ 645
2006-BL-37	Dorval Rd				200	104	$650	$ 67,380	$ 84,225	95%	$ 80,013	$ 800	$ 79,213	$ 5,011
2006-BL-40	Woodwards Rd				200	211	$650	$ 137,231	$ 171,538	95%	$ 162,961	$ 1,630	$ 161,332	$ 10,207
2006-BL-41	Woodwards Rd				200	357	$650	$ 232,324	$ 290,405	95%	$ 275,885	$ 2,759	$ 273,126	$ 17,279
2006-BL-42	Woodwards Rd				200	218	$650	$ 141,533	$ 176,916	95%	$ 168,070	$ 1,681	$ 166,389	$ 10,526
2006-BL-43	Woodwards Rd				200	29	$650	$ 18,819	$ 23,523	95%	$ 22,347	$ 223	$ 22,124	$ 1,400
2006-BL-48	Lynnwood Rd				300	257	$1,000	$ 256,649	$ 320,812	95%	$ 304,771	$ 3,048	$ 301,723	$ 19,088
2006-BL-49	Ledway Rd				300	227	$1,000	$ 226,692	$ 283,365	95%	$ 269,197	$ 2,692	$ 266,505	$ 16,860
2006-BL-50	Ledway Rd				300	19	$1,000	$ 19,441	$ 24,301	95%	$ 23,086	$ 231	$ 22,855	$ 1,446
2006-BL-51	Cheviot Pl				300	117	$1,000	$ 117,298	$ 146,623	95%	$ 139,292	$ 1,393	$ 137,899	$ 8,724
2006-BL-52	Blundell Rd				300	246	$1,000	$ 246,375	$ 307,969	95%	$ 292,571	$ 2,926	$ 289,645	$ 18,324
2006-BL-53	No. 2 Rd				300	176	$1,000	$ 176,157	$ 220,196	95%	$ 209,186	$ 2,092	$ 207,094	$ 13,102
	Total							$ 2,642,534	$ 3,303,167		$ 3,138,009	$ 31,380	$ 3,106,628	$ 196,538
BRIDGEPORT PLANNING AREA														
2006-BP-54	Finlayson Dr				200	90	$650	$ 58,435	$ 73,044	95%	$ 69,392	$ 694	$ 68,698	$ 4,346
2006-BP-60	Gage Rd				200	166	$650	$ 107,770	$ 134,713	95%	$ 127,977	$ 1,280	$ 126,697	$ 8,015
2006-BP-61	Beckwith Rd				200	289	$650	$ 187,525	$ 234,406	95%	$ 222,686	$ 2,227	$ 220,459	$ 13,947
	Total							$ 353,730	$ 442,163		$ 420,054	$ 4,201	$ 415,854	$ 26,309
BROADMOOR PLANNING AREA														
2006-BM-77	Lucas Rd				200	165	$650	$ 107,200	$ 133,999	95%	$ 127,299	$ 1,273	$ 126,026	$ 7,973
2006-BM-78	Lucas Rd				200	83	$650	$ 53,799	$ 67,249	95%	$ 63,886	$ 639	$ 63,247	$ 4,001
2006-BM-79	Lucas Rd				200	164	$650	$ 106,298	$ 132,873	95%	$ 126,229	$ 1,262	$ 124,967	$ 7,906
2006-BM-80	Sunnycroft Rd				200	114	$650	$ 73,793	$ 92,242	95%	$ 87,630	$ 876	$ 86,753	$ 5,488
2006-BM-81	Sunnycroft Rd				200	89	$650	$ 58,025	$ 72,531	95%	$ 68,904	$ 689	$ 68,215	$ 4,316
2006-BM-82	Sunnycroft Rd				200	96	$650	$ 62,460	$ 78,075	95%	$ 74,171	$ 742	$ 73,430	$ 4,645
2006-BM-83	Sunneymede Cr				200	229	$650	$ 149,042	$ 186,302	95%	$ 176,987	$ 1,770	$ 175,217	$ 11,085
2006-BM-84	Sunneymede Cr				200	186	$650	$ 121,023	$ 151,279	95%	$ 143,715	$ 1,437	$ 142,278	$ 9,001
2006-BM-85	Sunneymede Gate				200	93	$650	$ 60,238	$ 75,297	95%	$ 71,533	$ 715	$ 70,817	$ 4,480
2006-BM-102	Rideau Dr				200	208	$650	$ 135,514	$ 169,392	95%	$ 160,923	$ 1,609	$ 159,313	$ 10,079

City of Richmond
Water DCC Program

									Col.(1)	Col. (2)	Col. (3) =Col. (1) x Col. (2)	Col. (4)	Col. (5) = Col. (3) - Col. (4)	Col. (6) = Col.(1) - Col. (5)
Project ID	Location	From	To	Removed 2015	Proposed Diameter	Length (m)	cost per m exc engineering and contigency	Cost Estimate w/o Contingency, Engineering & Contract Admin	Cost Estimate w/ Cont., Eng., & Admin.	Benefit Factor %	Benefit to New Development	Municipal Assist Factor 1%	DCC Recoverable	Total Municipal Responsibility
2006-BM-103	Saunders Rd				200	364	$650	$ 236,832	$ 296,040	95%	$ 281,238	$ 2,812	$ 278,425	$ 17,614
2006-BM-104	Pigott Rd				200	113	$650	$ 73,418	$ 91,773	95%	$ 87,184	$ 872	$ 86,312	$ 5,460
2006-BM-105	Saunders Rd				200	439	$650	$ 285,113	$ 356,392	95%	$ 338,572	$ 3,386	$ 335,187	$ 21,205
2006-BM-106	Saunders Rd				200	59	$650	$ 38,212	$ 47,765	95%	$ 45,377	$ 454	$ 44,923	$ 2,842
2006-BM-107	Saunders Rd				200	241	$650	$ 156,959	$ 196,198	95%	$ 186,389	$ 1,864	$ 184,525	$ 11,674
2006-BM-115	Francis Rd				200	16	$650	$ 10,213	$ 12,766	95%	$ 12,128	$ 121	$ 12,007	$ 760
2006-BM-116	Ash St				200	78	$650	$ 50,619	$ 63,274	95%	$ 60,111	$ 601	$ 59,509	$ 3,765
2006-BM-117	Ash St				200	134	$650	$ 87,306	$ 109,132	95%	$ 103,676	$ 1,037	$ 102,639	$ 6,493
2006-BM-118	Ash St				200	197	$650	$ 127,760	$ 159,701	95%	$ 151,716	$ 1,517	$ 150,198	$ 9,502
	Total							$ 1,993,825	$ 2,492,282		$ 2,367,668	$ 23,677	$ 2,343,991	$ 148,291
CITY CENTRE PLANNING AREA														
2006-CC-128	Brown Rd				200	37	$650	$ 24,101	$ 30,127	95%	$ 28,620	$ 286	$ 28,334	$ 1,793
2006-CC-129	Brown Rd				200	136	$650	$ 88,558	$ 110,698	95%	$ 105,163	$ 1,052	$ 104,111	$ 6,587
2006-CC-130	Odlin Cres				200	266	$650	$ 172,808	$ 216,010	95%	$ 205,209	$ 2,052	$ 203,157	$ 12,853
2006-CC-131	Odlin Cres				200	134	$650	$ 86,904	$ 108,631	95%	$ 103,199	$ 1,032	$ 102,167	$ 6,464
2006-CC-132	Sexsmith Rd				200	531	$650	$ 344,860	$ 431,075	95%	$ 409,521	$ 4,095	$ 405,426	$ 25,649
2006-CC-133	Lansdowne/Minoru Connector				200	20	$650	$ 13,047	$ 16,309	95%	$ 15,493	$ 155	$ 15,338	$ 970
2006-CC-136	Bennett Rd				200	175	$650	$ 113,834	$ 142,293	95%	$ 135,178	$ 1,352	$ 133,826	$ 8,466
2006-CC-137	Park Rd				200	355	$650	$ 230,715	$ 288,394	95%	$ 273,975	$ 2,740	$ 271,235	$ 17,159
2006-CC-143	Cooney Rd				200	195	$650	$ 126,533	$ 158,167	95%	$ 150,258	$ 1,503	$ 148,756	$ 9,411
2006-CC-144	Cooney Rd to Granville Connector				200	107	$650	$ 69,561	$ 86,951	95%	$ 82,603	$ 826	$ 81,777	$ 5,174
2006-CC-147	Eckersley Rd				200	190	$650	$ 123,577	$ 154,471	95%	$ 146,747	$ 1,467	$ 145,280	$ 9,191
2006-CC-148	Cook Gate				200	106	$650	$ 69,094	$ 86,368	95%	$ 82,049	$ 820	$ 81,229	$ 5,139
2006-CC-149	Spires Rd				200	84	$650	$ 54,685	$ 68,357	95%	$ 64,939	$ 649	$ 64,289	$ 4,067
2006-CC-150	Spires Rd				200	78	$650	$ 50,533	$ 63,166	95%	$ 60,008	$ 600	$ 59,408	$ 3,758
2006-CC-151	Pimlico Way				200	181	$650	$ 117,827	$ 147,284	95%	$ 139,919	$ 1,399	$ 138,520	$ 8,763
2006-CC-152	Odlin Rd (Odlin Cr west to Brown Rd)				300	274	$1,000	$ 273,586	$ 341,983	95%	$ 324,883	$ 3,249	$ 321,635	$ 20,348
2006-CC-155	Cook Rd				300	98	$1,000	$ 98,280	$ 122,850	95%	$ 116,707	$ 1,167	$ 115,540	$ 7,310
2006-CC-156	Cook Rd				300	83	$1,000	$ 82,566	$ 103,208	95%	$ 98,048	$ 980	$ 97,067	$ 6,141
2006-CC-157	Cook Rd				300	91	$1,000	$ 91,378	$ 114,223	95%	$ 108,512	$ 1,085	$ 107,427	$ 6,796
2006-CC-158	Cook Rd				300	115	$1,000	$ 114,670	$ 143,338	95%	$ 136,171	$ 1,362	$ 134,809	$ 8,529
2006-CC-159	Cook Rd				300	128	$1,000	$ 127,725	$ 159,657	95%	$ 151,674	$ 1,517	$ 150,157	$ 9,500
	Total							$ 2,474,846	$ 3,093,557		$ 2,938,879	$ 29,389	$ 2,909,490	$ 184,067
EAST CAMBIE PLANNING AREA														
2006-EC-161	Bird Rd				200	388	$650	$ 252,184	$ 315,230	95%	$ 299,469	$ 2,995	$ 296,474	$ 18,756
2006-EC-162	Bird Rd				200	379	$650	$ 246,545	$ 308,181	95%	$ 292,772	$ 2,928	$ 289,844	$ 18,337
2006-EC-163	Bird Rd				200	59	$650	$ 38,525	$ 48,156	95%	$ 45,748	$ 457	$ 45,291	$ 2,865
2006-EC-166	Daniels Rd				200	95	$650	$ 61,910	$ 77,388	95%	$ 73,519	$ 735	$ 72,783	$ 4,605
2006-EC-167	Daniels Rd				200	72	$650	$ 46,556	$ 58,195	95%	$ 55,286	$ 553	$ 54,733	$ 3,463
2006-EC-168	Daniels Rd				200	108	$650	$ 70,092	$ 87,615	95%	$ 83,234	$ 832	$ 82,402	$ 5,213
2006-EC-169	Daniels Rd				200	69	$650	$ 44,637	$ 55,797	95%	$ 53,007	$ 530	$ 52,477	$ 3,320
2006-EC-170	Daniels Rd				200	201	$650	$ 130,355	$ 162,943	95%	$ 154,796	$ 1,548	$ 153,248	$ 9,695
2006-EC-171	Bamfield Dr				200	210	$650	$ 136,553	$ 170,691	95%	$ 162,157	$ 1,622	$ 160,535	$ 10,156
2006-EC-172	Bamfield Dr				200	265	$650	$ 172,469	$ 215,586	95%	$ 204,807	$ 2,048	$ 202,759	$ 12,827
2006-EC-173	Mellis Dr				200	197	$650	$ 128,203	$ 160,254	95%	$ 152,241	$ 1,522	$ 150,719	$ 9,535

City of Richmond
Water DCC Program

									Col.(1)	Col. (2)	Col. (3) =Col. (1) x Col. (2)	Col. (4)	Col. (5) = Col. (3) - Col. (4)	Col. (6) = Col.(1) - Col. (5)
Project ID	Location	From	To	Removed 2015	Proposed Diameter	Length (m)	cost per m exc engineering and contigency	Cost Estimate w/o Contingency, Engineering & Contract Admin	Cost Estimate w/ Cont., Eng., & Admin.	Benefit Factor %	Benefit to New Development	Municipal Assist Factor 1%	DCC Recoverable	Total Municipal Responsibility
2006-EC-174	Mellis Dr				200	49	$650	$ 31,674	$ 39,593	95%	$ 37,613	$ 376	$ 37,237	$ 2,356
2006-EC-175	Mellis Dr				200	210	$650	$ 136,450	$ 170,562	95%	$ 162,034	$ 1,620	$ 160,414	$ 10,148
2006-EC-176	Mellis Dr				200	54	$650	$ 35,374	$ 44,217	95%	$ 42,006	$ 420	$ 41,586	$ 2,631
2006-EC-180	Dewsbury Dr				200	261	$650	$ 169,920	$ 212,399	95%	$ 201,779	$ 2,018	$ 199,762	$ 12,638
2006-EC-181	Dewsbury Dr				200	83	$650	$ 53,728	$ 67,160	95%	$ 63,802	$ 638	$ 63,164	$ 3,996
2006-EC-182	Dewsbury Dr				200	86	$650	$ 55,666	$ 69,582	95%	$ 66,103	$ 661	$ 65,442	$ 4,140
2006-EC-184	Bath Rd				300	226	$1,000	$ 226,261	$ 282,826	95%	$ 268,684	$ 2,687	$ 265,998	$ 16,828
2006-EC-185	Bamfield Gate				300	90	$1,000	$ 90,336	$ 112,920	95%	$ 107,274	$ 1,073	$ 106,201	$ 6,719
2006-EC-186	Bamfield Gate				300	15	$1,000	$ 15,272	$ 19,090	95%	$ 18,136	$ 181	$ 17,954	$ 1,136
2006-EC-187	Bargen Dr				300	115	$1,000	$ 114,954	$ 143,692	95%	$ 136,507	$ 1,365	$ 135,142	$ 8,550
2006-EC-188	Cambie Connector				300	9	$1,000	$ 9,042	$ 11,303	95%	$ 10,737	$ 107	$ 10,630	$ 672
2006-EC-189	Cambie Rd				300	54	$1,000	$ 53,667	$ 67,084	95%	$ 63,729	$ 637	$ 63,092	$ 3,991
2006-EC-190	Dallyn Rd				300	146	$1,000	$ 146,258	$ 182,822	95%	$ 173,681	$ 1,737	$ 171,944	$ 10,878
2006-EC-191	Dallyn Rd				300	102	$1,000	$ 102,162	$ 127,703	95%	$ 121,317	$ 1,213	$ 120,104	$ 7,598
2006-EC-192	Sparwood Pl				300	310	$1,000	$ 310,087	$ 387,609	95%	$ 368,228	$ 3,682	$ 364,546	$ 23,063
	Total							**$ 2,878,878**	**$ 3,598,598**		**$ 3,418,668**	**$ 34,187**	**$ 3,384,482**	**$ 214,117**
HAMILTON PLANNING AREA														
2006-HA-210	Smith Cr				200	313	$650	$ 203,237	$ 254,046	95%	$ 241,344	$ 2,413	$ 238,931	$ 15,116
2006-HA-214	Willett Ave				200	190	$650	$ 123,694	$ 154,618	95%	$ 146,887	$ 1,469	$ 145,418	$ 9,200
2006-HA-215	Smith Dr				300	218	$1,000	$ 218,016	$ 272,519	95%	$ 258,893	$ 2,589	$ 256,304	$ 16,215
	Total							**$ 544,947**	**$ 681,183**		**$ 647,124**	**$ 6,471**	**$ 640,653**	**$ 40,530**
SEAFAIR PLANNING AREA														
2006-SF-234	Colonial Dr				200	439	$650	$ 285,312	$ 356,639	95%	$ 338,807	$ 3,388	$ 335,419	$ 21,220
2006-SF-235	Colonial Dr				200	176	$650	$ 114,270	$ 142,838	95%	$ 135,696	$ 1,357	$ 134,339	$ 8,499
2006-SF-240	Palmer Rd				200	68	$650	$ 56,914	$ 71,142	95%	$ 67,585	$ 676	$ 66,909	$ 4,233
2006-SF-241	Mahood Dr				200	263	$650	$ 171,096	$ 213,869	95%	$ 203,176	$ 2,032	$ 201,144	$ 12,725
2006-SF-242	Groat Ave				200	76	$650	$ 49,154	$ 61,443	95%	$ 58,371	$ 584	$ 57,787	$ 3,656
2006-SF-243	Geal Rd				200	134	$650	$ 87,319	$ 109,149	95%	$ 103,691	$ 1,037	$ 102,654	$ 6,494
2006-SF-244	Francis Rd				300	33	$1,000	$ 33,029	$ 41,286	95%	$ 39,222	$ 392	$ 38,829	$ 2,457
2006-SF-246	Francis Rd				300	38	$1,000	$ 38,030	$ 47,538	95%	$ 45,161	$ 452	$ 44,709	$ 2,828
2006-SF-247	Francis Rd				300	215	$1,000	$ 214,930	$ 268,662	95%	$ 255,229	$ 2,552	$ 252,677	$ 15,985
2006-SF-248	Francis Rd				300	253	$1,000	$ 253,398	$ 316,747	95%	$ 300,910	$ 3,009	$ 297,901	$ 18,846
2006-SF-249	Francis Rd				300	85	$1,000	$ 84,883	$ 106,104	95%	$ 100,799	$ 1,008	$ 99,791	$ 6,313
	Total							**$ 1,388,334**	**$ 1,735,417**		**$ 1,648,646**	**$ 16,486**	**$ 1,632,160**	**$ 103,257**
SHELLMONT PLANNING AREA														
2006-SH-260	Shell Rd				200	92	$650	$ 59,482	$ 74,353	95%	$ 70,635	$ 706	$ 69,929	$ 4,424
2006-SH-264	Kingcome Ave				200	243	$650	$ 157,910	$ 197,388	95%	$ 187,518	$ 1,875	$ 185,643	$ 11,745
2006-SH-265	Kingcome Ave				200	198	$650	$ 128,854	$ 161,067	95%	$ 153,014	$ 1,530	$ 151,484	$ 9,583
2006-SH-266	Kingswood Dr				200	135	$650	$ 87,742	$ 109,678	95%	$ 104,194	$ 1,042	$ 103,152	$ 6,526
2006-SH-267	Kingcome Ave/Kingswood Dr Connector				200	33	$650	$ 21,314	$ 26,643	95%	$ 25,311	$ 253	$ 25,057	$ 1,585
2006-SH-268	Seacote Rd				200	91	$650	$ 59,279	$ 74,098	95%	$ 70,393	$ 704	$ 69,689	$ 4,409
2006-SH-271	Francis Rd				300	691	$1,000	$ 690,903	$ 863,629	95%	$ 820,448	$ 8,204	$ 812,243	$ 51,386
2006-SH-272	Kingsbridge Dr				300	72	$1,000	$ 72,092	$ 90,115	95%	$ 85,609	$ 856	$ 84,753	$ 5,362
2006-SH-273	Kingsbridge Dr				300	173	$1,000	$ 173,318	$ 216,647	95%	$ 205,815	$ 2,058	$ 203,757	$ 12,891
2006-SH-274	Kingsbridge Dr				300	148	$1,000	$ 148,432	$ 185,540	95%	$ 176,263	$ 1,763	$ 174,500	$ 11,040
2006-SH-275	King Rd				300	302	$1,000	$ 301,519	$ 376,899	95%	$ 358,054	$ 3,581	$ 354,473	$ 22,425

City of Richmond
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Project ID	Location	From	To	Removed 2015	Proposed Diameter	Length (m)	cost per m exc engineering and contigency	Cost Estimate w/o Contingency, Engineering & Contract Admin	Cost Estimate w/ Cont., Eng., & Admin.	Benefit Factor %	Benefit to New Development	Municipal Assist Factor 1%	DCC Recoverable	Total Municipal Responsibility
2006-SH-276	King Rd				300	291	$1,000	$ 291,295	$ 364,119	95%	$ 345,913	$ 3,459	$ 342,454	$ 21,665
2006-SH-277	King Rd				300	64	$1,000	$ 64,055	$ 80,068	95%	$ 76,065	$ 761	$ 75,304	$ 4,764
2006-SH-278	King Rd				300	103	$1,000	$ 102,765	$ 128,457	95%	$ 122,034	$ 1,220	$ 120,814	$ 7,643
	Total							$ 2,358,960	$ 2,948,700		$ 2,801,265	$ 28,013	$ 2,773,253	$ 175,448
STEVESTON PLANNING AREA														
2006-ST-289	Springfield Dr				200	139	$650	$ 90,171	$ 112,714	95%	$ 107,078	$ 1,071	$ 106,007	$ 6,706
2006-ST-290	Springfield Dr				200	255	$650	$ 165,808	$ 207,260	95%	$ 196,897	$ 1,969	$ 194,928	$ 12,332
2006-ST-291	Springfield Dr				200	78	$650	$ 50,421	$ 63,026	95%	$ 59,875	$ 599	$ 59,276	$ 3,750
2006-ST-296	Fortune Ave				200	137	$650	$ 89,030	$ 111,287	95%	$ 105,723	$ 1,057	$ 104,666	$ 6,622
2006-ST-297	Fortune Ave				200	57	$650	$ 37,050	$ 46,313	95%	$ 43,997	$ 440	$ 43,557	$ 2,756
2006-ST-298	Fundy Dr				200	119	$650	$ 77,549	$ 96,937	95%	$ 92,090	$ 921	$ 91,169	$ 5,768
2006-ST-299	Fundy Dr				200	200	$650	$ 130,234	$ 162,793	95%	$ 154,653	$ 1,547	$ 153,106	$ 9,686
2006-ST-300	Fundy Dr				200	235	$650	$ 152,620	$ 190,775	95%	$ 181,236	$ 1,812	$ 179,423	$ 11,351
2006-ST-302	Fundy Dr				200	76	$650	$ 49,362	$ 61,702	95%	$ 58,617	$ 586	$ 58,031	$ 3,671
2006-ST-303	Fundy Dr				200	80	$650	$ 51,708	$ 64,635	95%	$ 61,403	$ 614	$ 60,789	$ 3,846
2006-ST-304	Fundy Dr				200	63	$650	$ 40,928	$ 51,160	95%	$ 48,602	$ 486	$ 48,116	$ 3,044
2006-ST-305	Bonavista Dr				200	169	$650	$ 109,848	$ 137,309	95%	$ 130,444	$ 1,304	$ 129,140	$ 8,170
2006-ST-310	Garry St				200	101	$650	$ 65,742	$ 82,178	95%	$ 78,069	$ 781	$ 77,288	$ 4,890
2006-ST-311	Garry St				200	132	$650	$ 85,657	$ 107,071	95%	$ 101,718	$ 1,017	$ 100,700	$ 6,371
2006-ST-312	Windward Gate				200	78	$650	$ 50,830	$ 63,538	95%	$ 60,361	$ 604	$ 59,757	$ 3,781
2006-ST-313	Garry St				200	132	$650	$ 86,112	$ 107,640	95%	$ 102,258	$ 1,023	$ 101,235	$ 6,405
2006-ST-314	Garry St				200	173	$650	$ 112,349	$ 140,436	95%	$ 133,414	$ 1,334	$ 132,080	$ 8,356
2006-ST-315	Leeward Gate				200	93	$650	$ 60,680	$ 75,850	95%	$ 72,057	$ 721	$ 71,337	$ 4,513
2006-ST-324	Kingfisher Dr				200	270	$650	$ 175,582	$ 219,477	95%	$ 208,503	$ 2,085	$ 206,418	$ 13,059
2006-ST-325	Kingfisher Dr				200	74	$650	$ 48,389	$ 60,486	95%	$ 57,462	$ 575	$ 56,887	$ 3,599
2006-ST-326	Plover Dr				200	142	$650	$ 92,472	$ 115,591	95%	$ 109,811	$ 1,098	$ 108,713	$ 6,878
2006-ST-327	Pintail Dr				200	632	$650	$ 410,989	$ 513,736	95%	$ 488,049	$ 4,880	$ 483,169	$ 30,567
2006-ST-330	Kittiwake Dr				300	80	$1,000	$ 79,531	$ 99,414	95%	$ 94,444	$ 944	$ 93,499	$ 5,915
2006-ST-331	Kittiwake Dr				300	121	$1,000	$ 120,839	$ 151,049	95%	$ 143,497	$ 1,435	$ 142,062	$ 8,987
2006-ST-332	Kittiwake Dr				300	82	$1,000	$ 81,526	$ 101,908	95%	$ 96,812	$ 968	$ 95,844	$ 6,064
	Total							$ 2,515,427	$ 3,144,284		$ 2,987,069	$ 29,871	$ 2,957,199	$ 187,085
THOMPSON PLANNING AREA														
2006-TH-341	Westminster Hwy/Lynas Lane				200	45	$650	$ 29,340	$ 36,675	95%	$ 34,842	$ 348	$ 34,493	$ 2,182
2006-TH-343	Garrison Rd				200	41	$650	$ 26,607	$ 33,259	95%	$ 31,596	$ 316	$ 31,280	$ 1,979
2006-TH-344	Garrison Rd				200	64	$650	$ 41,343	$ 51,679	95%	$ 49,095	$ 491	$ 48,604	$ 3,075
2006-TH-345	Garrison Rd				200	68	$650	$ 44,378	$ 55,472	95%	$ 52,699	$ 527	$ 52,172	$ 3,301
2006-TH-346	Garrison Rd				200	3	$650	$ 1,949	$ 2,437	95%	$ 2,315	$ 23	$ 2,292	$ 145
2006-TH-347	Garrison Rd				200	71	$650	$ 46,249	$ 57,811	95%	$ 54,921	$ 549	$ 54,372	$ 3,440
2006-TH-349	Skaha Cr				200	57	$650	$ 36,725	$ 45,906	95%	$ 43,611	$ 436	$ 43,175	$ 2,731
2006-TH-353	Tiffany Blvd				300	167	$1,000	$ 166,795	$ 208,494	95%	$ 198,069	$ 1,981	$ 196,089	$ 12,405
2006-TH-354	Tiffany Blvd				300	110	$1,000	$ 110,422	$ 138,028	95%	$ 131,126	$ 1,311	$ 129,815	$ 8,213
2006-TH-355	Tiffany Blvd				300	58	$1,000	$ 57,527	$ 71,909	95%	$ 68,314	$ 683	$ 67,631	$ 4,279
2006-TH-356	Tiffany Blvd				300	107	$1,000	$ 106,662	$ 133,327	95%	$ 126,661	$ 1,267	$ 125,394	$ 7,933
2006-TH-358	Granville Cr				300	307	$1,000	$ 307,078	$ 383,848	95%	$ 364,655	$ 3,647	$ 361,009	$ 22,839
	Total							$ 975,077	$ 1,218,846		$ 1,157,904	$ 11,579	$ 1,146,325	$ 72,521

City of Richmond
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Project ID	Location	From	To	Removed 2015	Proposed Diameter	Length (m)	cost per m exc engineering and contigency	Cost Estimate w/o Contingency, Engineering & Contract Admin	Cost Estimate w/ Cont., Eng., & Admin.	Benefit Factor %	Benefit to New Development	Municipal Assist Factor 1%	DCC Recoverable	Total Municipal Responsibility
WEST CAMBIE PLANNING AREA														
2006-WC-360	Patterson Rd				200	236	$650	$ 153,282	$ 191,603	95%	$ 182,023	$ 1,820	$ 180,203	$ 11,400
2006-WC-361	Patterson Rd				200	614	$650	$ 398,984	$ 498,730	95%	$ 473,794	$ 4,738	$ 469,056	$ 29,674
	Total							$ 552,266	$ 690,333		$ 655,816	$ 6,558	$ 649,258	$ 41,075
Major Water Current (2006 DCC Review) - Total								$ 18,678,824	$ 23,348,530		$ 22,181,103	$ 221,811	$ 21,959,292	$ 1,389,238
Major Water OCP (2006 DCC Review)														
BLUNDELL														
2006-BL-363	Cathay Rd				200	162	$650	$ 105,601	$ 132,001	95%	$ 125,401	$ 1,254	$ 124,147	$ 7,854
2006-BL-364	Clearwater Dr				200	242	$650	$ 157,099	$ 196,374	95%	$ 186,555	$ 1,866	$ 184,689	$ 11,684
2006-BL-366	Cantley Rd				200	79	$650	$ 51,520	$ 64,400	95%	$ 61,180	$ 612	$ 60,568	$ 3,832
2006-BL-367	Cathay Rd				200	244	$650	$ 158,813	$ 198,516	95%	$ 188,591	$ 1,886	$ 186,705	$ 11,812
2006-BL-368	Cantley Rd				200	83	$650	$ 54,218	$ 67,772	95%	$ 64,383	$ 644	$ 63,740	$ 4,032
2006-BL-369	Lancing Rd				200	196	$650	$ 127,695	$ 159,618	95%	$ 151,637	$ 1,516	$ 150,121	$ 9,497
2006-BL-370	Lancing Rd				200	196	$650	$ 127,616	$ 159,519	95%	$ 151,543	$ 1,515	$ 150,028	$ 9,491
2006-BL-371	Woodwards Rd				200	132	$650	$ 85,605	$ 107,006	95%	$ 101,656	$ 1,017	$ 100,639	$ 6,367
2006-BL-372	Woodwards Rd				200	103	$650	$ 67,256	$ 84,070	95%	$ 79,866	$ 799	$ 79,068	$ 5,002
2006-BL-373	Woodwards Rd				200	129	$650	$ 83,610	$ 104,513	95%	$ 99,287	$ 993	$ 98,294	$ 6,219
	Total							$ 1,019,031	$ 1,273,789		$ 1,210,100	$ 12,101	$ 1,197,999	$ 75,790
BRIDGEPORT														
2006-BP-375	Finlayson Rd				300	87	$1,000	$ 87,468	$ 109,335	95%	$ 103,868	$ 1,039	$ 102,829	$ 6,505
	Total							$ 87,468	$ 109,335		$ 103,868	$ 1,039	$ 102,829	$ 6,505
CITY CENTRE														
2006-CC-381	Spires Gate				200	105	$650	$ 68,377	$ 85,471	95%	$ 81,198	$ 812	$ 80,386	$ 5,086
2006-CC-382	Cooney Rd				200	49	$650	$ 31,649	$ 39,561	95%	$ 37,583	$ 376	$ 37,207	$ 2,354
2006-CC-383	River Rd				300	96	$1,000	$ 96,485	$ 120,607	95%	$ 114,577	$ 1,146	$ 113,431	$ 7,176
	Total							$ 196,511	$ 245,639		$ 233,357	$ 2,334	$ 231,024	$ 14,616
SEAFAIR														
2006-SF-398	Francis Rd				300	192	$1,000	$ 192,102	$ 240,128	95%	$ 228,121	$ 2,281	$ 225,840	$ 14,288
2006-SF-399	Francis Rd				300	124	$1,000	$ 123,567	$ 154,459	95%	$ 146,736	$ 1,467	$ 145,269	$ 9,190
2006-SF-401	Pendleton Rd				300	256	$1,000	$ 255,650	$ 319,563	95%	$ 303,584	$ 3,036	$ 300,549	$ 19,014
	Total							$ 571,320	$ 714,150		$ 678,442	$ 6,784	$ 671,658	$ 42,492
THOMPSON														
2006-TH-408	Redfern Cr				200	166	$650	$ 107,963	$ 134,954	95%	$ 128,207	$ 1,282	$ 126,925	$ 8,030
	Total							$ 107,963	$ 134,954		$ 128,207	$ 1,282	$ 126,925	$ 8,030
WEST CAMBIE														
2006-WC-409	Westminster Hwy b/w No 4 Rd and Shell Rd				600	805	$1,500	$ 1,207,968	$ 1,509,960	95%	$ 1,434,462	$ 14,345	$ 1,420,117	$ 89,843
	Total							$ 1,207,968	$ 1,509,960		$ 1,434,462	$ 14,345	$ 1,420,117	$ 89,843
Major Water OCP (2006 DCC Review) - Total								$ 3,190,261	$ 3,987,826		$ 3,788,435	$ 37,884	$ 3,750,551	$ 237,276
2006 DCC - Total								$ 21,869,085	$ 27,336,356		$ 25,969,538	$ 259,695	$ 25,709,843	$ 1,626,513
2008 - CCAP Projects														
2008-CCAP-411	Capstan Way	No. 3 Rd	Sexsmith Rd		300	363	$1,000	$ 362,551	$ 453,189	100%	$ 453,189	$ 4,532	$ 448,657	$ 4,532
2008-CCAP-416	Brown Rd	Hydrant at Odlin Rd	35m south		200	34	$650	$ 22,065	$ 27,582	100%	$ 27,582	$ 276	$ 27,306	$ 276

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Project ID	Location	From	To	Removed 2015	Proposed Diameter	Length (m)	cost per m exc engineering and contigency	Cost Estimate w/o Contingency, Engineering & Contract Admin	Cost Estimate w/ Cont., Eng., & Admin.	Benefit Factor %	Benefit to New Development	Municipal Assist Factor 1%	DCC Recoverable	Total Municipal Responsibility
2008-CCAP-418	Minoru Blvd	Landsdowne Rd	Elmbridge Way		200	183	$650	$ 118,969	$ 148,711	100%	$ 148,711	$ 1,487	$ 147,224	$ 1,487
2008-CCAP-421	Acheson Rd	Minoru Blvd	No. 3 Rd		200	269	$650	$ 175,039	$ 218,799	100%	$ 218,799	$ 2,188	$ 216,611	$ 2,188
2008-CCAP-422	Bennett Rd	Minoru Blvd	97m east		200	98	$650	$ 63,446	$ 79,308	100%	$ 79,308	$ 793	$ 78,515	$ 793
2008-CCAP-431	South of Granville Ave (w/ St. Albans & Garden City)	Granville Ave	Bennett		200	202	$650	$ 131,247	$ 164,059	100%	$ 164,059	$ 1,641	$ 162,418	$ 1,641
2008-CCAP-433	No. 4 Rd	Bridgeport Rd	River Dr		300	780	$1,000	$ 779,516	$ 974,395	100%	$ 974,395	$ 9,744	$ 964,651	$ 9,744
2008-CCAP-435	Gilbert Rd	Granville Ave	Westminster Hwy		300	803	$1,000	$ 803,316	$ 1,004,144	100%	$ 1,004,144	$ 10,041	$ 994,103	$ 10,041
2008-CCAP-436	Spires Rd	Spires Gate	Cook Cr		200	195	$650	$ 126,466	$ 158,082	100%	$ 158,082	$ 1,581	$ 156,501	$ 1,581
2008-CCAP-437	Cook Cr	Spires Rd	Spires Rd		200	348	$650	$ 226,422	$ 283,027	100%	$ 283,027	$ 2,830	$ 280,197	$ 2,830
2008-CCAP-439	Citation Dr	Granville Ave	Garden City Rd		200	418	$650	$ 271,387	$ 339,234	100%	$ 339,234	$ 3,392	$ 335,842	$ 3,392
2008-CCAP-441	Cook Rd	No. 3 Rd	Cooney Rd		300	369	$1,000	$ 368,563	$ 460,704	100%	$ 460,704	$ 4,607	$ 456,097	$ 4,607
2008-CCAP-443	No. 3 Rd	Bridgeport Rd	Capstan St.		350	450	$1,100	$ 495,074	$ 618,842	100%	$ 618,842	$ 6,188	$ 612,654	$ 6,188
2008-CCAP-444	Hazelbridge Way	Browndale Rd	Leslie Rd		200	257	$650	$ 167,325	$ 209,157	100%	$ 209,157	$ 2,092	$ 207,065	$ 2,092
2008-CCAP-445	Leslie Rd	No.3 Rd	Brown Rd		200	421	$650	$ 273,941	$ 342,427	100%	$ 342,427	$ 3,424	$ 339,002	$ 3,424
2008-CCAP-446	Leslie Rd	Brown Rd	Sorenson Cr		200	295	$650	$ 191,431	$ 239,289	100%	$ 239,289	$ 2,393	$ 236,896	$ 2,393
2008-CCAP-447	Sorenson Cr	Leslie Rd	Odlin Cr		200	145	$650	$ 94,412	$ 118,015	100%	$ 118,015	$ 1,180	$ 116,835	$ 1,180
2008-CCAP-448	Brown Rd	Odlin Cr	Leslie Rd		200	93	$650	$ 60,735	$ 75,919	100%	$ 75,919	$ 759	$ 75,160	$ 759
2008-CCAP-449	Brown Rd	Odlin Rd	Cambie St		200	284	$650	$ 184,712	$ 230,890	100%	$ 230,890	$ 2,309	$ 228,581	$ 2,309
2008 - CCAP Projects - Total								$ 4,916,618	$ 6,145,772		$ 6,145,772	$ 61,458	$ 6,084,315	$ 61,458
Modelling								$ 750,000	$ 750,000	100%	$ 750,000	$ 7,500	$ 742,500	$ 7,500
2015 DCC REVIEW (Additional Project based on 2011 OCP Study by KWL)														
2015-OCP-1	Dunford Rd	Garry St	South of Garry St		200	100	$650	$ 65,000	$ 81,250	100%	$ 81,250	$ 813	$ 80,438	$ 813
2015-OCP-2	Garry St (Section not covered in list above)	No 1 Rd	Railway Ave		300	300	$1,000	$ 300,000	$ 375,000	100%	$ 375,000	$ 3,750	$ 371,250	$ 3,750
2015-OCP-3	Windjammer Dr	Galleon Crt	Schooner Crt		200	540	$650	$ 351,000	$ 438,750	100%	$ 438,750	$ 4,388	$ 434,363	$ 4,388
2015-OCP-4	Beckwith Rd	Smith St	Gage Rd		200	390	$650	$ 253,500	$ 316,875	100%	$ 316,875	$ 3,169	$ 313,706	$ 3,169
2015-OCP-5	Kingcome Ave	Kingswood Dr	Kingsbridge Dr		200	340	$650	$ 221,000	$ 276,250	100%	$ 276,250	$ 2,763	$ 273,488	$ 2,763
2015-OCP-6	Colville Rd	Cantley Rd	No 2 Rd		200	110	$650	$ 71,500	$ 89,375	100%	$ 89,375	$ 894	$ 88,481	$ 894
2015-OCP-7	East of No 4 Rd & Saunders Rd Intersection				200	110	$650	$ 71,500	$ 89,375	100%	$ 89,375	$ 894	$ 88,481	$ 894
2015-OCP-8	Blundell Rd	Seafair Dr	No 1 Rd		300	770	$1,000	$ 770,000	$ 962,500	100%	$ 962,500	$ 9,625	$ 952,875	$ 9,625
2015-OCP-9	Bowen Gate	Bowen Dr	Blundell Rd		200	80	$650	$ 52,000	$ 65,000	100%	$ 65,000	$ 650	$ 64,350	$ 650
2015-OCP-10	Gabriola Gate,	Gabriola Cres	Blundell Rd		200	100	$650	$ 65,000	$ 81,250	100%	$ 81,250	$ 813	$ 80,438	$ 813
2015-OCP-11	Ruskin Rd loop to Ryan Rd	Ruskin Rd loop	Ryan Rd		200	200	$650	$ 130,000	$ 162,500	100%	$ 162,500	$ 1,625	$ 160,875	$ 1,625
2015-OCP-12	Blundell Rd	No 4 Rd	Shell Rd		500	810	$1,400	$ 1,134,000	$ 1,417,500	100%	$ 1,417,500	$ 14,175	$ 1,403,325	$ 14,175
2015-OCP-13	Shell & Westminster PRV Station Upgrade				300 & 200			$ 400,000	$ 500,000	100%	$ 500,000	$ 5,000	$ 495,000	$ 5,000
2015-OCP-14	Shell & Blundell PRV Station Upgrade				300 & 200			$ 400,000	$ 500,000	100%	$ 500,000	$ 5,000	$ 495,000	$ 5,000
2015-OCP-15	Shell & Williams PRV Station Upgrade				250 & 150			$ 380,000	$ 475,000	100%	$ 475,000	$ 4,750	$ 470,250	$ 4,750
TOTAL 2015 DCC REVIEW								$4,664,500	$5,830,625		$5,830,625	$58,306	$5,772,319	$58,306

City of Richmond
Water DCC Program

									Col.(1)	Col. (2)	Col. (3) =Col. (1) x Col. (2)	Col. (4)	Col. (5) = Col. (3) - Col. (4)	Col. (6) = Col.(1) - Col. (5)
Project ID	Location	From	To	Removed 2015	Proposed Diameter	Length (m)	cost per m exc engineering and contigency	Cost Estimate w/o Contingency, Engineering & Contract Admin	Cost Estimate w/ Cont., Eng., & Admin.	Benefit Factor %	Benefit to New Development	Municipal Assist Factor 1%	DCC Recoverable	Total Municipal Responsibility
TOTALS (2006,2008 and 2015 DCC Review)								$ 32,200,203	$ 40,062,753	$ 1	$ 38,695,936	$ 386,959	$ 38,308,976	$ 1,753,777

*** NOTE: ENGINEERING CALCULATION FIELDS ARE HIDDEN.

0.01

City of Richmond
Water DCC Calculations

A: Water DCC Calculation (2041)					
Land Use	Col. (1) Estimated New Development	Col. (2) Unit	Col. (3) Person per unit (residential)/ Equivalent Population/hectare (other land uses)	Col. (4) = (1) x (3) Multiple	
Single Family Residential	1,982	lots	3.3	6,541	
Multi Family Residential					
Townhouse	17,834	dwelling units	2.9	51,719	
Apartment	19,091	dwelling units	2.1	40,091	
Commercial	317,562	per square metre building area	0.009	2,858	
Institutional	272,883	per square metre building area	0.009	2,456	
Light Industrial	390,862	per square metre building area	0.009	3,518	
Major Industrial	13.00	hectares	29.25	380	
			Total Equivalent Population	107,562 (a)	
B: Unit Water DCC Calculation					
Net Waterworks DCC Program Recoverable		$38,308,976	(b)		
Existing DCC Reserve Monies		$3,496,926	(c)		
Net Amount to be Paid by DCCs		$34,812,050	(d) = (b) - (c)		
DCC per person		$323.65	(e) = (d)/(a)		
C: Resulting Water DCCs					
Single Family Residential		$1,068.03	per lot	(e) x Col. (3)	
Multi Family Residential	Townhouse	$938.57	per dwelling unit	(e) x Col. (3)	$0.70 per sq. ft.
	Apartment	$679.66	per dwelling unit	(e) x Col. (3)	$0.72 per sq. ft.
Commercial		$2.91	per square metre building area	(e) x Col. (3)	$0.27 per sq. ft.
Institutional		$2.91	per square metre building area	(e) x Col. (3)	$0.27 per sq. ft.
Light Industrial		$2.91	per square metre building area	(e) x Col. (3)	$0.27 per sq. ft.
Major Industrial		$9,466.63	per hectare	(e) x Col. (3)	$3,830.94 per acre

appendix

E

Park Acquisition Program and Calculations

City of Richmond
Parkland Acquisition DCC Program

Project Area	Column		Col.(1)	Col. (2)	Col. (3) =Col. (1) x Col. (2)	Col. (4)	Col. (5) = Col. (3) - Col. (4)	Col. (6) = Col.(1) - Col. (5)
	Name	Park Dev (acres)	Cost Estimate	Benefit Factor %	Benefit to New Development	Municipal Assist Factor 1%	DCC Recoverable	Total Municipal Responsibility
1	Blundell [1]	106.3	$ -	95%	$ -	$ -	$ -	$ -
2	Bridgeport[1]	10.35	$ -	95%	$ -	$ -	$ -	$ -
3	Broadmoor	134.53	$ 2,704,570	95%	$ 2,569,342	$ 25,693	$ 2,543,648	$ 160,922
4	City Centre [2]	155.03	$ 195,210,862	95%	$ 185,450,319	$ 1,854,503	$ 183,595,816	$ 11,615,046
5	East Cambie	260.69	$ 2,534,000	95%	$ 2,407,300	$ 24,073	$ 2,383,227	$ 150,773
6	East Richmond	91.26	$ 15,812,000	95%	$ 15,021,400	$ 150,214	$ 14,871,186	$ 940,814
7	Fraser Lands[1]	36.55	$ -	95%	$ -	$ -	$ -	$ -
8	Gilmore	94.42	$ 3,697,674	95%	$ 3,512,790	$ 35,128	$ 3,477,662	$ 220,012
9	Hamilton	79.93	$ 13,348,322	95%	$ 12,680,906	$ 126,809	$ 12,554,097	$ 794,225
10	Sea Island[1]	26.14	$ -	95%	$ -	$ -	$ -	$ -
11	Seafair[1]	91.93	$ -	95%	$ -	$ -	$ -	$ -
12	Shellmont[1]	48.08	$ -	95%	$ -	$ -	$ -	$ -
13	Steveston[1]	193.43	$ -	95%	$ -	$ -	$ -	$ -
14	Thompson	251.06	$ 4,422,459	95%	$ 4,201,336	$ 42,013	$ 4,159,323	$ 263,136
15	West Cambie[1]	30.62	$ -	95%	$ -	$ -	$ -	$ -
17	General [3]		$ 23,250,000	95%	$ 22,087,500	$ 220,875	$ 21,866,625	$ 1,383,375
Totals	**ADJUSTED VALUES:**		**$ 260,979,887**	95%	**$ 247,930,893**	$ 2,479,309	$ 245,451,584	$ 15,528,303

Notes

(1) Planning areas that do not currently have any park land acquisition projects but may have in the future.

(2) City Centre, with the highest population densities in the city, will have 3.25 acres/1000 population located within the City Centre with the remaining acreage to achieve the standard of 7.66 acres/1000 population located outside the City Centre. Parks within the City Centre are located to achieve the distribution standard of a 400 metre walking distance.

(3) The General category includes an estimated 46.25 acres of parkland acquisition opportunities that may arise toward 2041. Cost estimate includes acquisition carrying and closing costs.

City of Richmond
Park Acquisition Calculation

A: Parkland Acquisition Calculation (2041)					
Land Use	Col. (1) Estimated New Development	Col. (2) Unit	Col. (3) Person per unit (residential)/ Equivalent Population/hectare (other land uses)	Col. (4) = (1) x (3) Multiple	
Single Family Residential	1,982	lots	3.3	6,541	
Multi Family Residential					
Townhouse	17,834	dwelling units	2.9	51,719	
Apartment	19,091	dwelling units	2.1	40,091	
Commercial	317,562	per square metre building area	0.0009	286	
Institutional	272,883	per square metre building area	0.0009	246	
Light Industrial	390,862	per square metre building area	0.0009	352	
Major Industrial	13	hectares	0.8	10	
			Total Equivalent Population	99,244 (a)	-11.7%
B: Unit Parkland Acquisition DCC Calculation					
Net Parkland DCC Program Recoverable		$245,451,584	(b)		
Existing DCC Reserve Monies		$17,419,574	(c)		
Net Amount to be Paid by DCCs		$228,032,010	(d) = (b) - (c)		
DCC per person		$2,297.69	(e) = (d)/(a)		
C: Resulting Parkland Acquisition DCCs					
Single Family Residential		$7,582.39	per lot	(e) x Col. (3)	
Multi Family Residential	Townhouse	$6,663.31	per dwelling unit	(e) x Col. (3)	$4.94 per sq. ft.
	Apartment	$4,825.16	per dwelling unit	(e) x Col. (3)	$5.08 per sq. ft.
Commercial		$2.07	per square metre building area	(e) x Col. (3)	$0.19 per sq. ft.
Institutional		$2.07	per square metre building area	(e) x Col. (3)	$0.19 per sq. ft.
Light Industrial		$2.07	per square metre building area	(e) x Col. (3)	$0.19 per sq. ft.
Major Industrial		$1,838.15	per hectare	(e) x Col. (3)	$743.86 per acre

appendix

E

Park Development Program and Calculations

City of Richmond
Parkland Development DCC Program

Project Area	Column		Col.(1)	Col. (2)	Col. (3) =Col. (1) x Col. (2)	Col. (4)	Col. (5) = Col. (3) - Col. (4)	Col. (6) = Col.(1) - Col. (5)
	Name	Park Dev (acres)	Cost Estimate [1]	Benefit Factor %	Benefit to New Development	Municipal Assist Factor 1%	DCC Recoverable	Total Municipal Responsibility
1	Blundell	106.3	$ 2,337,775	95%	$ 2,220,886	$ 22,209	$ 2,198,677	$ 139,098
2	Bridgeport	10.35	$ 1,651,800	95%	$ 1,569,210	$ 15,692	$ 1,553,518	$ 98,282
3	Broadmoor	134.53	$ 4,960,520	95%	$ 4,712,494	$ 47,125	$ 4,665,369	$ 295,151
4	City Centre	155.03	$ 101,599,775	95%	$ 96,519,786	$ 965,198	$ 95,554,588	$ 6,045,187
5	East Cambie	260.69	$ 6,660,480	95%	$ 6,327,456	$ 63,275	$ 6,264,181	$ 396,299
6	East Richmond	91.26	$ 3,080,000	95%	$ 2,926,000	$ 29,260	$ 2,896,740	$ 183,260
7	Fraser Lands	36.55	$ 384,350	95%	$ 365,133	$ 3,651	$ 361,481	$ 22,869
8	Gilmore	94.42	$ 2,971,400	95%	$ 2,822,830	$ 28,228	$ 2,794,602	$ 176,798
9	Hamilton	79.93	$ 6,748,900	95%	$ 6,411,455	$ 64,115	$ 6,347,340	$ 401,560
10	Sea Island	26.14	$ 1,045,680	95%	$ 993,396	$ 9,934	$ 983,462	$ 62,218
11	Seafair	91.93	$ 2,577,800	95%	$ 2,448,910	$ 24,489	$ 2,424,421	$ 153,379
12	Shellmont	48.08	$ 3,371,400	95%	$ 3,202,830	$ 32,028	$ 3,170,802	$ 200,598
13	Steveston	193.43	$ 14,161,800	95%	$ 13,453,710	$ 134,537	$ 13,319,173	$ 842,627
14	Thompson	251.06	$ 8,939,120	95%	$ 8,492,164	$ 84,922	$ 8,407,242	$ 531,878
15	West Cambie	30.62	$ 2,928,400	95%	$ 2,781,980	$ 27,820	$ 2,754,160	$ 174,240
16	City Wide Trails [2]		$ 6,250,000	95%	$ 5,937,500	$ 59,375	$ 5,878,125	$ 371,875
17	General [3]		$ 20,000,000	95%	$ 19,000,000	$ 190,000	$ 18,810,000	$ 1,190,000
Totals	Adjusted values	1610.32	$ 189,669,200	95%	$ 180,185,740	$ 1,801,857	$ 178,383,883	$ 11,285,317

(1) The costs are estimated based on improvement of 1,410.52 acres of existing park land and the development of 75.66 acres of new park land through the City.
(2) The cost of City-wide Trails includes improvements to existing trails and development of new trails, greenways and neighbourhood links.
(3) The general category includes cost estimate of 46.25 acres in park development cost for servicing and improving park land city wide in response to growth to 2041.

City of Richmond
Park Development DCC Calculation

A: Park Development Calculation (2041)					
Land Use	Col. (1) Estimated New Development	Col. (2) Unit	Col. (3) Person per unit (residential)/ Equivalent Population/hectare (other land uses)	Col. (4) = (1) x (3) Multiple	
Single Family	1,982	lots	3.3	6,541	
Multi Family Residential					
Townhouse	17,834	dwelling units	2.9	51,719	
Apartment	19,091	dwelling units	2.1	40,091	
Commercial	317,562	per square metre building area	0.0009	286	
Institutional	272,883	per square metre building area	0.0009	246	
Light Industrial	390,862	per square metre building area	0.0009	352	
Major Industrial	13	hectares	0.8	10	
			Total Equivalent Population	99,244 (a)	
B: Unit Park Development DCC Calculation					
Net Parkland DCC Program Recoverable		$178,383,883	(b)		
Existing DCC Reserve Monies		$9,885,400	(c)		
Net Amount to be Paid by DCCs		$168,498,483	(d) = (b) - (c)		
DCC per person		$1,697.82	(e) = (d)/(a)		
C: Resulting Park Development DCCs					
Single Family Residential		$5,602.81	per lot	(e) x Col. (3)	
Multi Family Residential	Townhouse	$4,923.69	per dwelling unit	(e) x Col. (3)	$3.65 per sq. ft.
	Apartment	$3,565.43	per dwelling unit	(e) x Col. (3)	$3.75 per sq. ft.
Commercial		$1.53	per square metre building area	(e) x Col. (3)	$0.14 per sq. ft.
Institutional		$1.53	per square metre building area	(e) x Col. (3)	$0.14 per sq. ft.
Light Industrial		$1.53	per square metre building area	(e) x Col. (3)	$0.14 per sq. ft.
Major Industrial		$1,358.26	per hectare	(e) x Col. (3)	$549.66 per acre

appendix

G

Existing City of Richmond
Development Cost Charge Bylaw
No. 8024, 2010

CITY OF RICHMOND

DEVELOPMENT COST CHARGES IMPOSITION

BYLAW NO. 8024

EFFECTIVE DATE – FEBRUARY 27, 2006

CONSOLIDATED FOR CONVENIENCE ONLY

This is a consolidation of the bylaws below. The amendment bylaws have been combined with the original bylaw for convenience only. This consolidation is not a legal document. Certified copies of the original bylaws should be consulted for all interpretations and applications of the bylaws on this subject.

AMENDMENT BYLAW	EFFECTIVE DATE
Bylaw 8060	July 24, 2006
Bylaw 8049	July 1, 2007
Bylaw 8396	**September 15, 2010** The Revised Schedules B, C, D, and E come into effect on September 15, 2010 (unless an applicant agrees in writing that Schedules B, C, D, and E should come into effect on an earlier date).

2729228

CITY OF RICHMOND

DEVELOPMENT COST CHARGES IMPOSITION

BYLAW NO. 8024

TABLE OF CONTENTS

City of Richmond **Bylaw 8024**

DEVELOPMENT COST CHARGES IMPOSITION BYLAW NO. 8024

The Council of the City of Richmond enacts as follows:

PART ONE: GENERAL PROVISIONS

1.1 Establishment of Development Cost Areas

1.1.1 For the purposes of imposing development cost charges, the City is not divided into areas, except in respect of supplementary development cost charges for development in the Alexandra shown on Schedule A.

1.2 Imposition of Development Cost Charges

1.2.1 In accordance with the provisions of Section 933(1) of the *Local Government Act,* development cost charges are imposed, subject to the provisions of subsection 1.3.1, on every person who obtains:

(a) approval of a subdivision of a **parcel**; or

(b) a **building permit**.

1.2.2 Every person who obtains approval of a subdivision of a parcel or a building permit must pay development cost charges on the following basis:

(a) for residential development in accordance with Schedule B

(b) for commercial development in accordance with Schedule C

(c) for light industrial development in accordance with Schedule D

(d) for major industrial development in accordance with Schedule E,

(e) for development in the Alexandra area, supplementary development cost charges in accordance with Schedule F.

1.2.3 Where a type of **development** is not identified in subsection 1.2.2, the development cost charges for the most comparable type of **development** are to be used to determine the amount payable.

1.2.4 Schedules A, B, C, D, E and F are attached and form a part of this bylaw.

1.3 Restrictions on Requirement to Pay Development Cost Charges

1.3.1 The development cost charges imposed under section 1.2 apply only to the extent specified, and are subject to the restrictions specified in Division 10 of Part 26 of the *Local Government Act.*

1.4 Due Date For Payment of Development Cost Charges

1.4.1 The development cost charges imposed under subsection 1.2.1 must be paid:

(a) in the case of the subdivision of a **parcel**, prior to the approval of the subdivision; and

(b) in the case of a **building permit**, prior to the issuance of the **building permit**.

PART TWO: CALCULATION VARIATIONS

2.1 Parcels Covered By Water

2.1.1 For the purposes of calculating those portions of development cost charges based on a per acre rate, the acreage to be used in the calculations must include any portions of the **parcel** or **parcels** being subdivided or developed which are covered by water.

2.2 Combination Developments

2.2.1 In the case of an application for building permit for a combination of both residential development and commercial development, the development cost charges are to be calculated as the sum of:

(a) for the residential development the applicable rate multiplied by the number of square feet; plus

(b) for the commercial development the applicable rate multiplied by the number of square feet."

2.3 Marinas

2.3.1 Liveaboard Marinas

In the case of a marina designed and intended solely for the moorage of floating homes, development cost charges are calculated on the basis of the **residential development** charge specified in Schedule B, except for the drainage portion of the development cost charges which are calculated at the rate for **commercial development** specified in Schedule C, applied to the total square footage of the land used in conjunction with the marina.

2.3.2 Other Marinas

In the case of a marina other than a marina designed solely for the moorage of floating homes, development cost charges are calculated as the sum of:

(a) for the water area, the square foot rate for a one **storey** commercial building with a **building area** equal to the total area of all floats, wharves, docks, piers, and **buildings** on the water lot being used for the marina; plus

(b) for any land area used in conjunction with such marina, the applicable square foot rate for **commercial development** based on the number of **storeys** multiplied by the total **building area** on the land.

PART THREE: INTERPRETATION

3.1 In this bylaw, unless the context requires otherwise:

BUILDING	means a **structure** or portion of a **structure**, including foundations and supporting **structures** for equipment or machinery or both, which is used or intended to be used for supporting or sheltering a use, occupancy, persons, animals, or property.
BUILDING AREA	means the total area of all **storeys** measured to the outer limits of the **building,** but does not include any area of a **building** used exclusively for parking.
BUILDING PERMIT	means permission or authorization in writing by a building inspector under the current Building Regulation Bylaw of the **City** to perform **construction** regulated by such bylaw.
CITY	means the City of Richmond and includes the land, air space and surface of water which comprise the City of Richmond.
COMMERCIAL DEVELOPMENT	means **development** of a **parcel** which falls within the Class 6 designation in the *BC Assessment Authority Prescribed Classes of Property Regulation* and includes **institutional development**.
CONSTRUCT/CONSTRUCTION	means to build, erect, install, repair, alter, add, enlarge, move, locate, relocate, reconstruct, demolish, remove, excavate or shore.
COUNCIL	means the Council of the **City**.
DEVELOPMENT	means approval of a subdivision of a **parcel** or the issuance of a **building permit** as specified in Section 932 of the *Local Government Act*.
DWELLING, ONE-FAMILY	means a detached building used exclusively for residential purpose, containing one dwelling unit only with a maximum of two kitchens.

INSTITUTIONAL DEVELOPMENT	means any **development** which is created and exists by law or public authority for the benefit of the public in general, and includes public hospitals, public and private schools and churches.
LIGHT INDUSTRIAL DEVELOPMENT	means **development** of a **parcel** which falls within the Class 5 designation in the *BC Assessment Authority Prescribed Classes of Property Regulation.*
MAJOR INDUSTRIAL DEVELOPMENT	means **development** of a **parcel** which falls within the Class 4 designation in the *BC Assessment Authority Prescribed Classes of Property Regulation.*
MULTI-FAMILY DWELLING	means a building containing two or more dwelling units, but not including a townhouse.
PARCEL	means a lot, block, or other area in which land is held, or into which land is legally subdivided.
RESIDENTIAL DEVELOPMENT	means **development** of a **parcel** which falls within the Class 1 designation in the *BC Assessment Authority Prescribed Classes of Property Regulation*, but excludes nursing homes and rest homes, which are deemed to be **institutional development**.
STOREY	means that portion of a **building** which is situated between the top of any floor and the top of the floor next above it, and if there is no floor above it, that portion between the top of such floor and the ceiling above it, provided that for the purposes of calculation of the number of storeys a mezzanine is to be considered to be one storey.
STRUCTURE	means all or part of a **construction**, whether fixed to, supported by, sunk into, or located in, land, water or airspace, and includes freestanding sign structures over 3.0 m in height and supporting structures for such signs, and includes a sewage holding tank, but excludes landscaping, paving, a fence, or a retaining wall under 1.0 m in height.
TOWNHOUSE	means a building containing two or more dwelling units, where each unit has a separate entrance at the first level.

PART FOUR: PREVIOUS BYLAW REPEAL

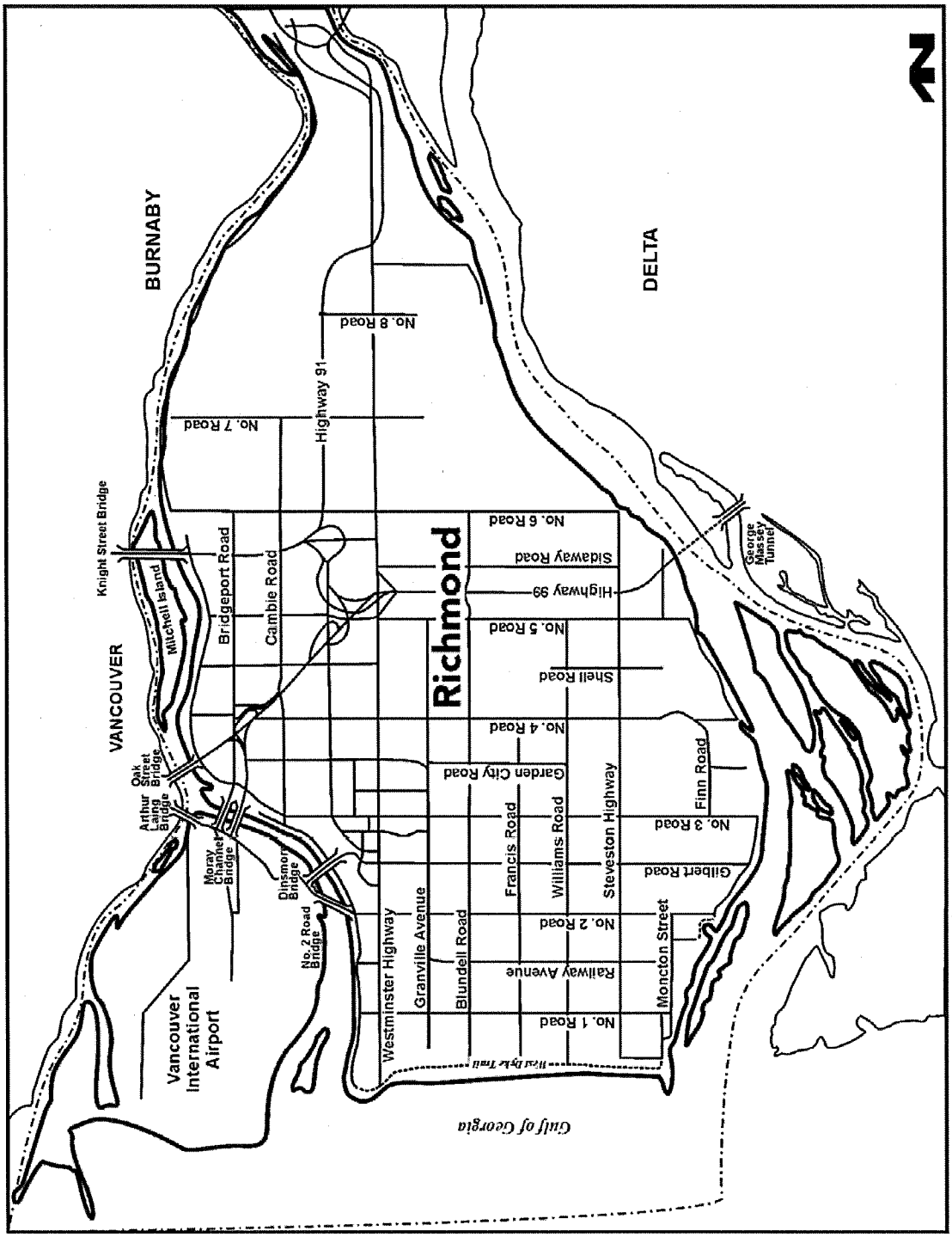
4.1 Development Cost Charges Imposition Bylaw No. 7676, adopted on May 25, 2004, is repealed.

PART FIVE: SEVERABILITY AND CITATION

5.1 If any part, section, sub-section, clause, or sub-clause of this bylaw is, for any reason, held to be invalid by the decision of a Court of competent jurisdiction, such decision does not affect the validity of the remaining portions of this bylaw.

5.2 This bylaw is cited as **"Development Cost Charges Imposition Bylaw No. 8024**

SCHEDULE A to BYLAW NO. 8024



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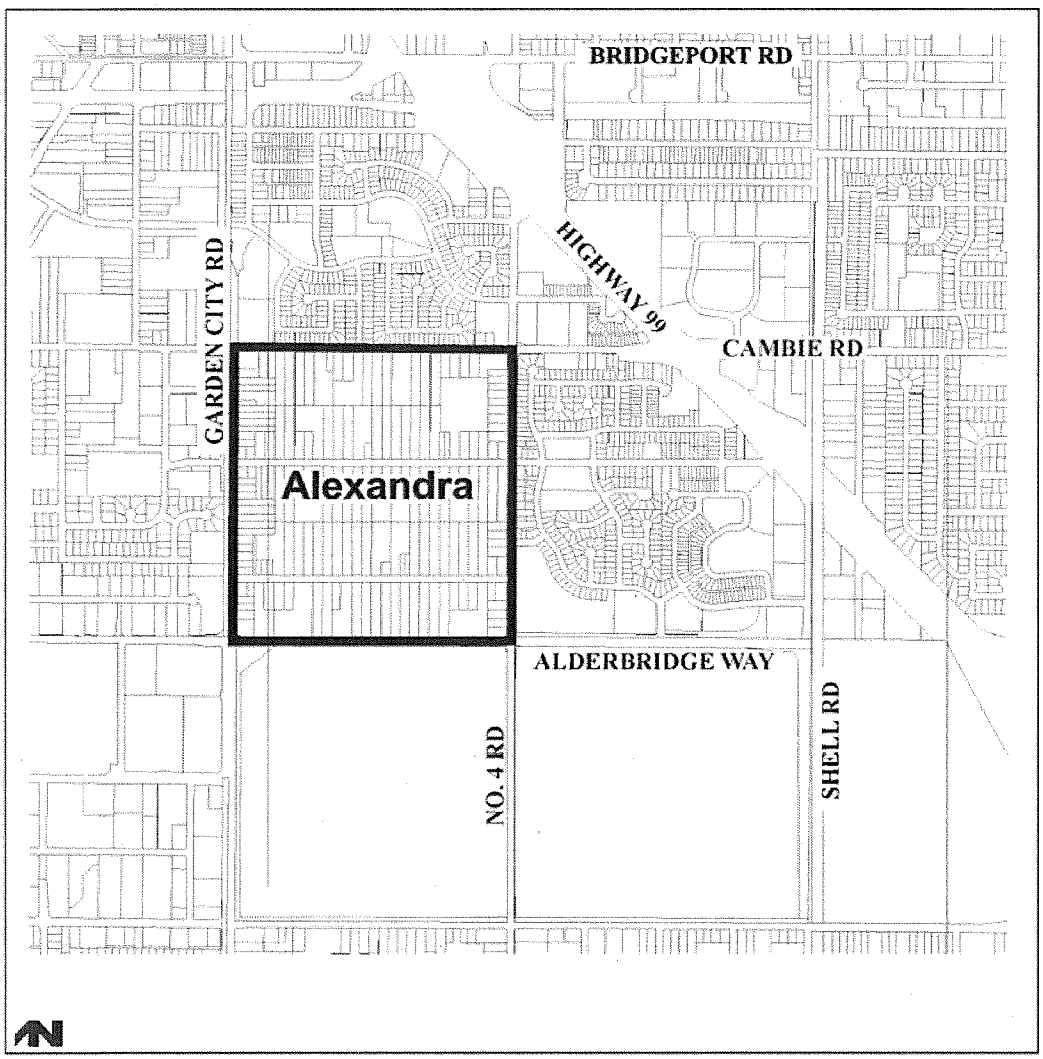
SCHEDULE A to BYLAW NO. 8024



SCHEDULE B to BYLAW NO. 8024

DEVELOPMENT COST CHARGES - RESIDENTIAL DEVELOPMENT

Single-Family Dwelling

Servicing Type	rate per lot
Road Works	$ 6,183.85
Drainage	$ 3,777.61
Water Works	$ 712.54
Sanitary Sewer	$ 1,811.99
Parks Acquisition	$ 8,715.47
Parks Development	$ 3,658.07
TOTAL	$24,859.53

Townhouse

Servicing Type	rate per square foot of the building area
Road Works	$ 2.97
Drainage	$ 1.62
Water Works	$ 0.46
Sanitary Sewer	$ 1.18
Parks Acquisition	$ 5.67
Parks Development	$ 2.38
TOTAL	$ 14.28

Multi-Family Dwelling

Servicing Type	rate per square foot of the building area
Road Works	$ 3.96
Drainage	$ 1.15
Water Works	$ 0.48
Sanitary Sewer	$ 1.21
Parks Acquisition	$ 5.84
Parks Development	$ 2.45
TOTAL	$ 15.09

SCHEDULE C to BYLAW NO. 8024

DEVELOPMENT COST CHARGES - COMMERCIAL DEVELOPMENT

Servicing Type	rate per square foot of the building area
Road Works	$ 7.89
Drainage	$ 1.13
Water Works	$ 0.18
Sanitary Sewer	$ 0.46
Parks Acquisition	$ 1.10
Parks Development	$ 0.46
TOTAL	$ 11.22

SCHEDULE D to BYLAW NO. 8024

DEVELOPMENT COST CHARGES - LIGHT INDUSTRIAL DEVELOPMENT

Servicing Type	rate per square foot of the building area
Road Works	$ 5.64
Drainage	$ 1.12
Water Works	$ 0.18
Sanitary Sewer	$ 0.46
Parks Acquisition	$ 1.10
Parks Development	$ 0.46
TOTAL	$ 8.96

SCHEDULE E to BYLAW NO. 8024

DEVELOPMENT COST CHARGES - MAJOR INDUSTRIAL DEVELOPMENT

Servicing Type	rate per acre of gross site area
Road Works	$ 29,440.83
Drainage	$ 34,396.09
Water Works	$ 3,932.04
Sanitary Sewer	$ 9,999.15
Parks Acquisition	$ 4,275.10
Parks Development	$ 1,794.35
TOTAL	$ 83,837.56

SCHEDULE F to BYLAW NO. 8024

SUPPLEMENTARY DEVELOPMENT COST CHARGES IN ALEXANDRA AREA

In addition to the development cost charges applicable city-wide in Richmond, development in the Alexandra Area shall pay the following development cost charges:

Multi-Family Dwelling

Servicing Type	rate per square foot of the building area
Roads	$3.14
Storm Drainage	$0.36
Water	$0.07
Sanitary Sewer	$0.15
Parks Acquisition	$3.41
Parks Development	$0.43
TOTAL	$7.56

Townhouse

Servicing Type	rate per square foot of the building area
Roads	$2.35
Storm Drainage	$0.51
Water	$0.07
Sanitary Sewer	$0.15
Parks Acquisition	$3.31
Parks Development	$0.42
TOTAL	$6.81

Commercial Development

Servicing Type	rate per square foot of the building area
Roads	$6.26
Storm Drainage	$0.35
Water	$0.03
Sanitary Sewer	$0.06
Parks Acquisition	$0.64
Parks Development	$0.08
TOTAL	$7.42

appendix

H

Proposed City of Richmond Development Cost Charge Bylaw No. 9499, 2016

appendix

Public Consultation Materials

2016 DCC UPDATE

City of Richmond

Meeting with Industry Stakeholders
(UDI, GVHBA, small builders' group)
October 18, 2016

Outline

- Development Cost Charges Overview
- DCC Rate Calculation
- DCC Recoverable Costs (DCC Programs)
- Estimated Growth
- Proposed DCC Rates
- DCC Rate Comparison
- Implementation

Richmond

Why do we have DCCs?

- To pay for the costs of expanding and upgrading the City's transportation and utility infrastructure to meet the needs and impacts of growth;
- To purchase and develop new parkland in developing areas to meet the needs of growth; and
- To ensure growth pays for growth

What works do DCCs pay for?

Infrastructure to support growth including:

- Arterial road upgrades
- Intersection and traffic calming road improvements
- Pedestrian and bicycle facilities
- Water mains and PRV stations
- Sewer mains and pump stations
- Drainage system improvements
- Parkland purchase and park development

What items do DCCs not pay for?

- Operation and maintenance activities
- New or upgraded works needed for the existing population
- New libraries, fire halls, police stations, or parks and recreation facilities

Who pays DCCs?

Applicants for:

- **Subdivision approval to create single family development sites**
- **Building permits to construct multi-family, commercial, industrial and institutional developments**

Why update the DCC rates?

- **Last DCC review completed in 2009**
  - Pushed down DCC program costs
  - Only City-Centre area plan projects were updated
  - DCC program costs outdated
- **Development Finance Review Committee recommends major amendments to DCC bylaw once every 5 years**
- **Hamilton Area Plan approval triggered Council's referral to update the city-wide DCC rates**
- **Population and dwelling unit projections updated to reflect OCP and Employment Land Strategy Study**

Why update the DCC rates?

- Updated capital programs based on approved plans
- Significant increase in land prices and construction costs since the last DCC update

REALTOR® Report

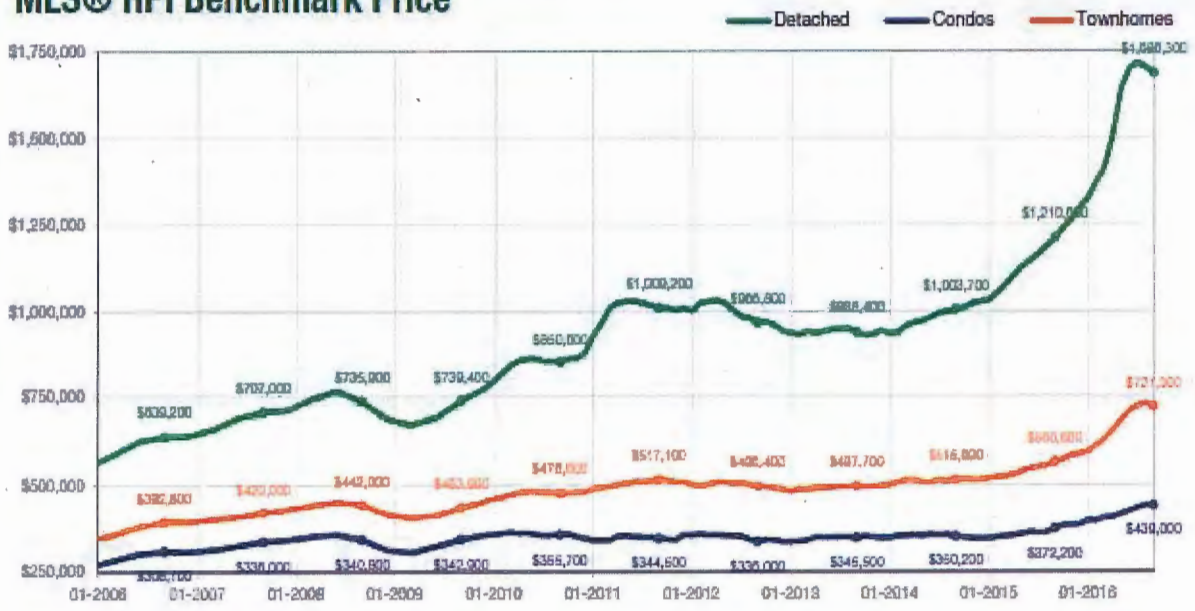
A Research Tool Provided by the Real Estate Board of Greater Vancouver

Richmond

REAL ESTATE BOARD OF GREATER VANCOUVER

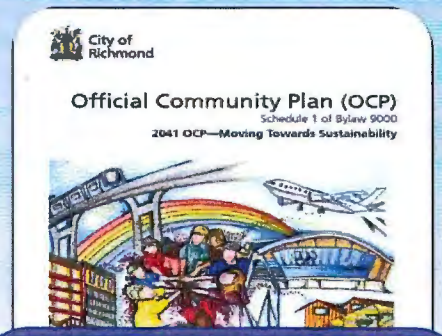
September 2016

MLS® HPI Benchmark Price



Richmond

DCC Process



Estimate Growth Projections

- OCP
- Employment Land Strategy Study

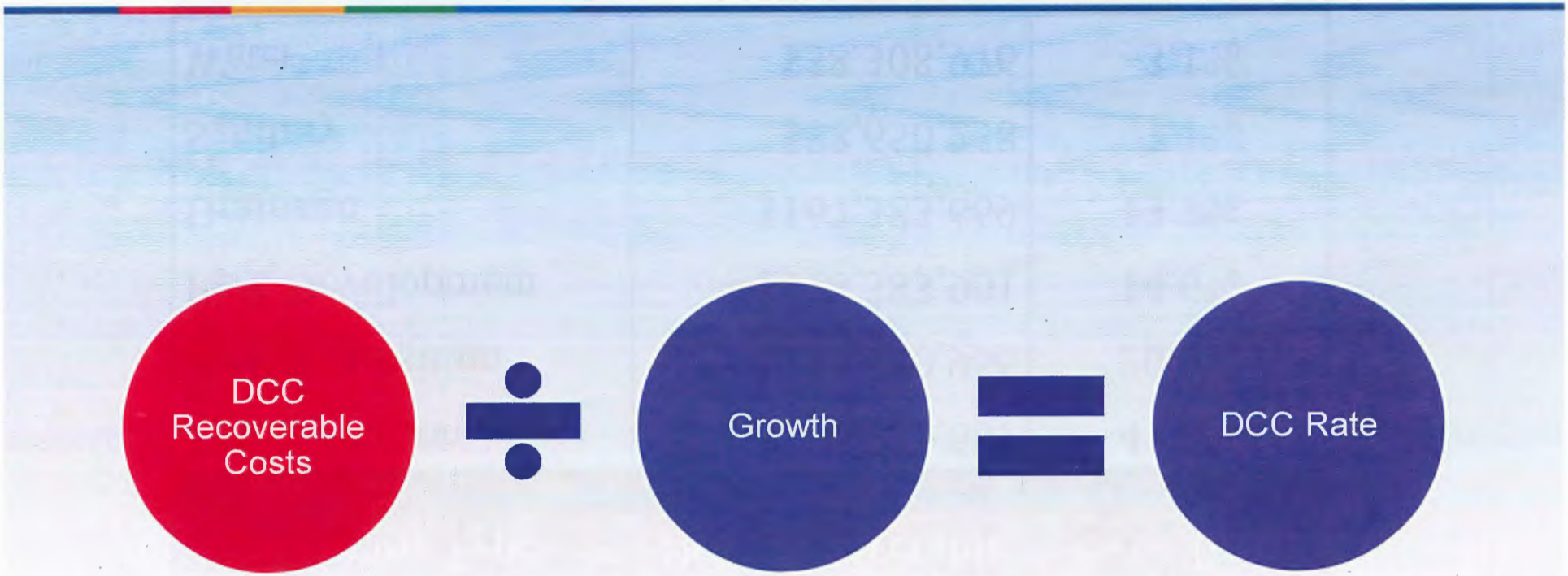
Determine Infrastructure Costs Attributed to Growth

- DCC Programs
- Benefit Factors
- Municipal Assist Factor
- Equivalent Units

Calculate DCC Rates

- Public consultation
- Council approval
- Ministry approval
- Bylaw Adoption

DCC calculation



DCC Recoverable Costs

Servicing Types	DCC Recoverable Costs	% 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	$1,225,169,457	

Proposed DCC Program (2016-2041)

Roads

Roads Program

- **Providing new and upgrading transportation infrastructure including arterial roads, traffic signals, sidewalks and pathways, crosswalks, cycling and rolling improvements, transit-related road infrastructure and traffic safety projects**

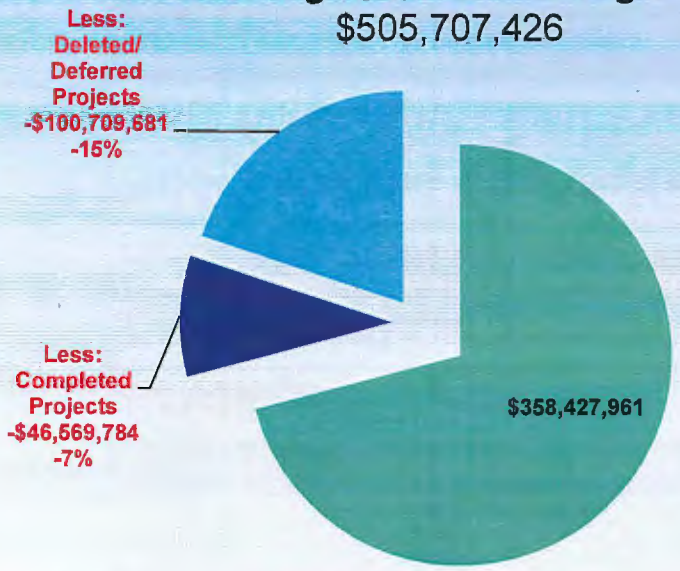
- **Key Projects**
  - Westminster Highway and Willett Road (Hamilton)
  - Enhancements to neighbourhood centres to better support walking, rolling and cycling
  - 16,000-block River Road

Overview of Changes - Roads

	Roads DCC Program Recoverable Value
Existing DCC Program	$505,707,426
Less: Completed Projects	($46,569,784)
Less: Deleted/Deferred Projects	($100,709,681)
Add: Land and Construction Cost Adjustments	$90,215,220
Add: New / Enhanced Existing Projects	$55,678,506
Proposed DCC Program	$504,321,687

Roads DCC Proposed Program (2016-2041)
Overview of Changes

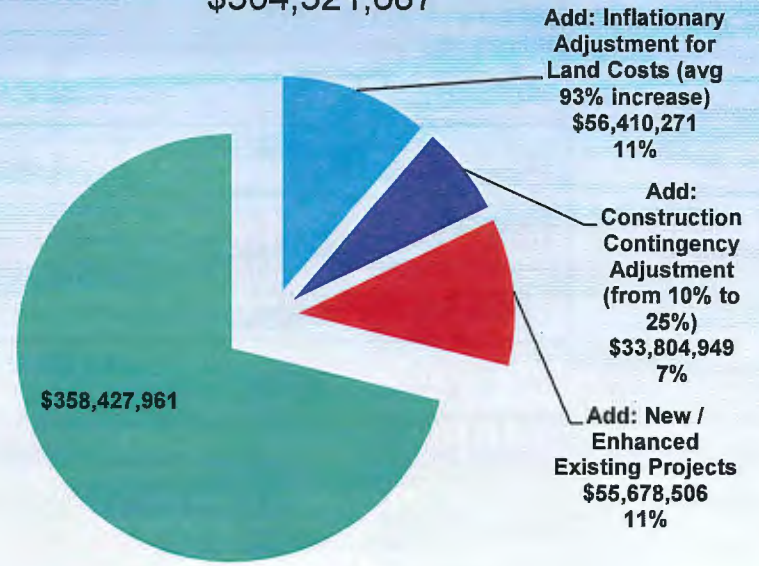
Existing Roads DCC Program:
$505,707,426



Completed Projects include:
- Repayment of No. 2 Road Bridge ($18,300,000)
- No. 3 Road Streetscape ($14,200,000)
- River Road Realignment ($6,000,000)

Deleted/Deferred Projects include:
- New or improved road and signal works in Bridgeport area ($30,400,000)
- Blundell Road Extension ($17,300,000)
- Highway 99-Blundell Road Interchange ($13,000,000)
- Highway 99-Steveston Hwy Interchange ($2,100,000)

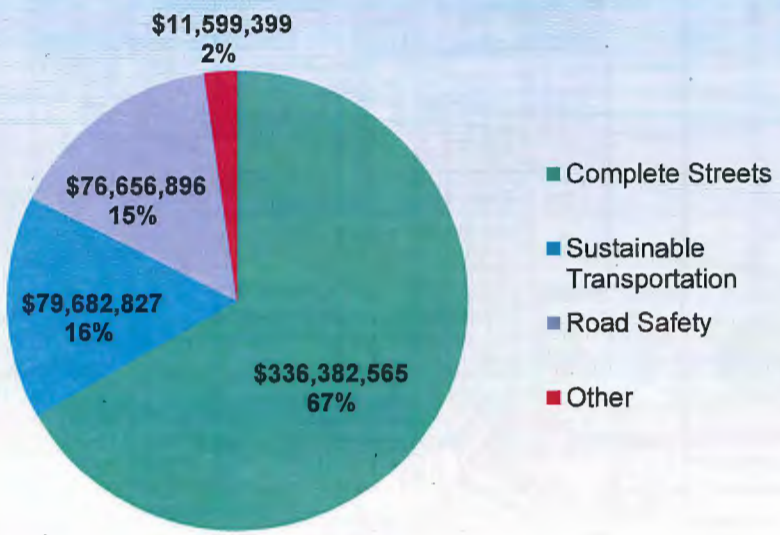
Proposed Roads DCC Program:
$504,321,687



New/Enhanced Projects include:
- Project Partnership ($10,000,000)
- OCP Neighbourhood Centres ($9,100,000)
- Hamilton Area Plan ($8,780,000)

Roads DCC Proposed Program (2016-2041) By Project Type & By Benefitting Area

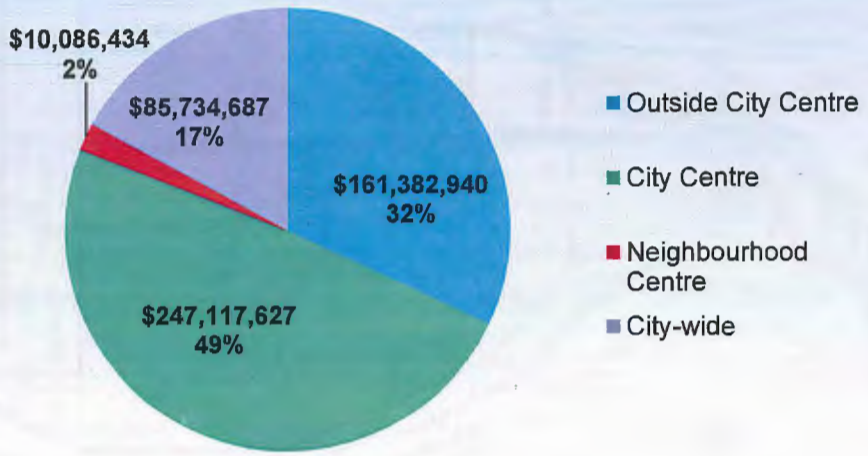
By Project Type



Projects by Type include:

- Complete Streets: Cooney Road (Alderbridge Way-Lansdowne Road), Brown Road (Cambie Road-Leslie Road)
- Sustainable Transportation: crosswalks on various arterial roads, sidewalks on Cedarbridge Way & Alderbridge Way, cycling facilities on Alderbridge Way & Jacombs Road
- Road Safety: various traffic signals, intersection improvements, neighbourhood traffic calming
- Other: project partnership funding, transportation modelling

By Benefitting Area

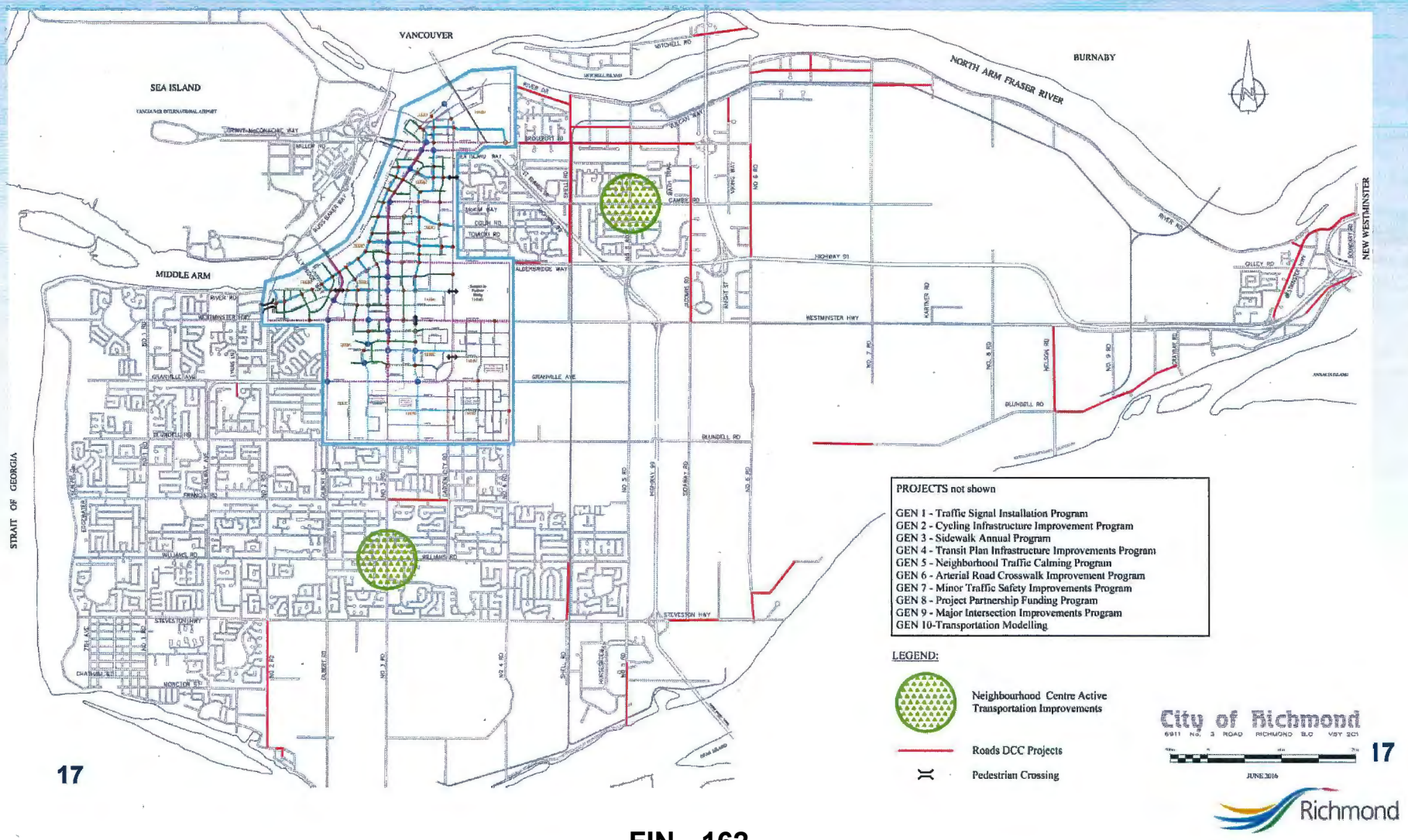


Projects by Benefitting Area include:

- Outside City Centre: Westminster Highway (Gilley Road-Boundary Road), Knox Road (No. 6 Road-No. 7 Road)
- City Centre: River Parkway (Cambie Road-Gilbert Road), Minoru Blvd (Alderbridge Way-River Parkway)
- Neighbourhood Centre: Broadmoor and Cambie
- City-wide: various locations for traffic signals, transit amenities, crosswalks, neighbourhood traffic calming

Richmond

Roads DCC Proposed Program (2016-2041)



Proposed DCC Program (2016-2041)

Parkland Acquisition

Park Acquisition Program

- **Accommodate projected growth to 2041 according to the City's standards for the provision of parks and open space**
- **City-wide standard:**
  - 7.66 acres/1,000 population
- **City-centre standard:**
  - 3.25 acres/1,000 population

- **Key Projects**
  - Various City-centre parkland acquisitions
  - Hamilton waterfront park
  - Repayment of Garden City Lands
  - Land acquisitions for neighbourhood parks, community parks and trails under the 2022 Parks and Open Space Strategy

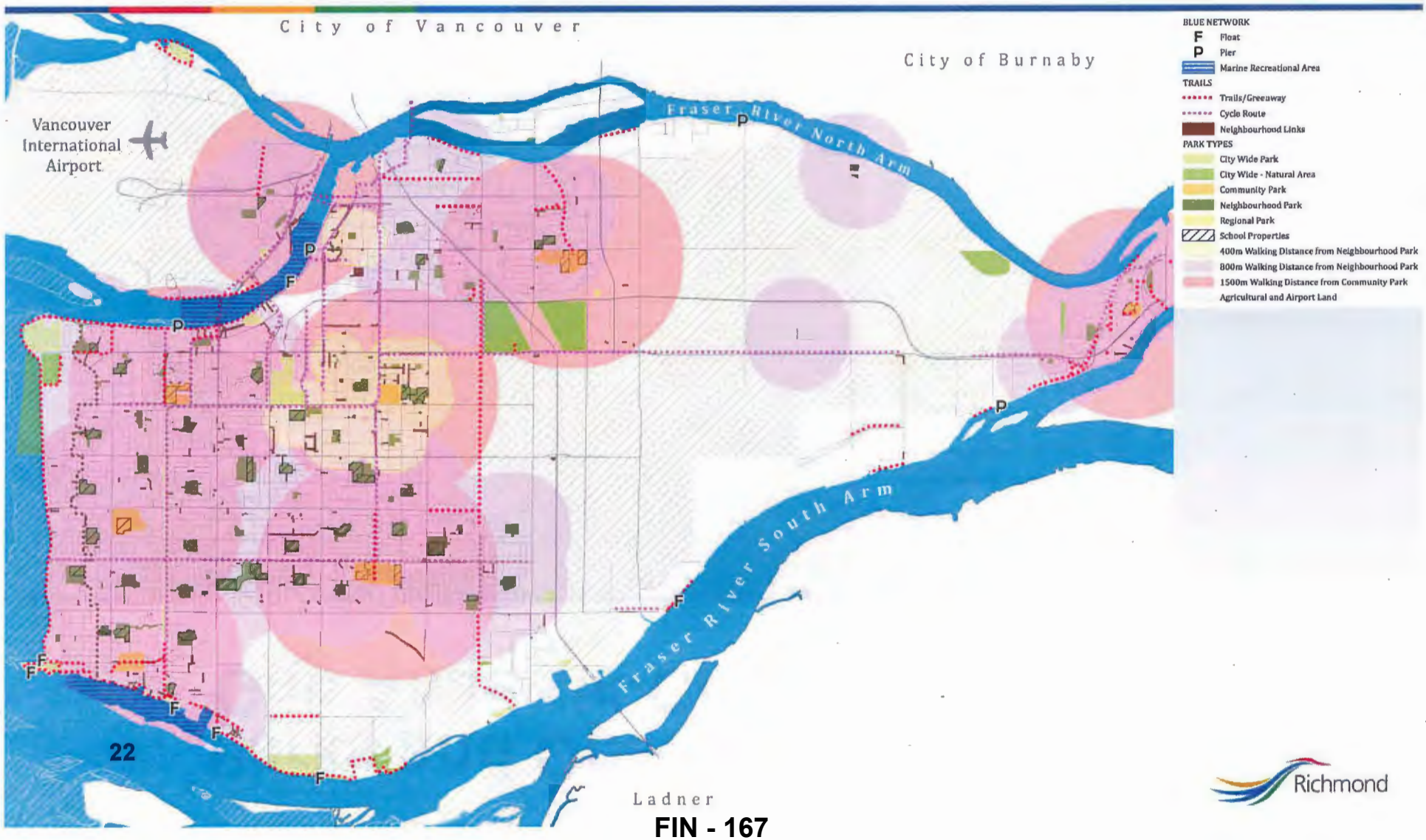
Overview of Changes – Park Acq.

	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

Parkland Acquisition - by planning area

Planning Area	Acres by Park Type				DCC Recoverable Cost
	Neighbourhood	Community	City-Wide	Natural Area	
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**

Parks and Open Space Strategy: Gap Analysis (2013)



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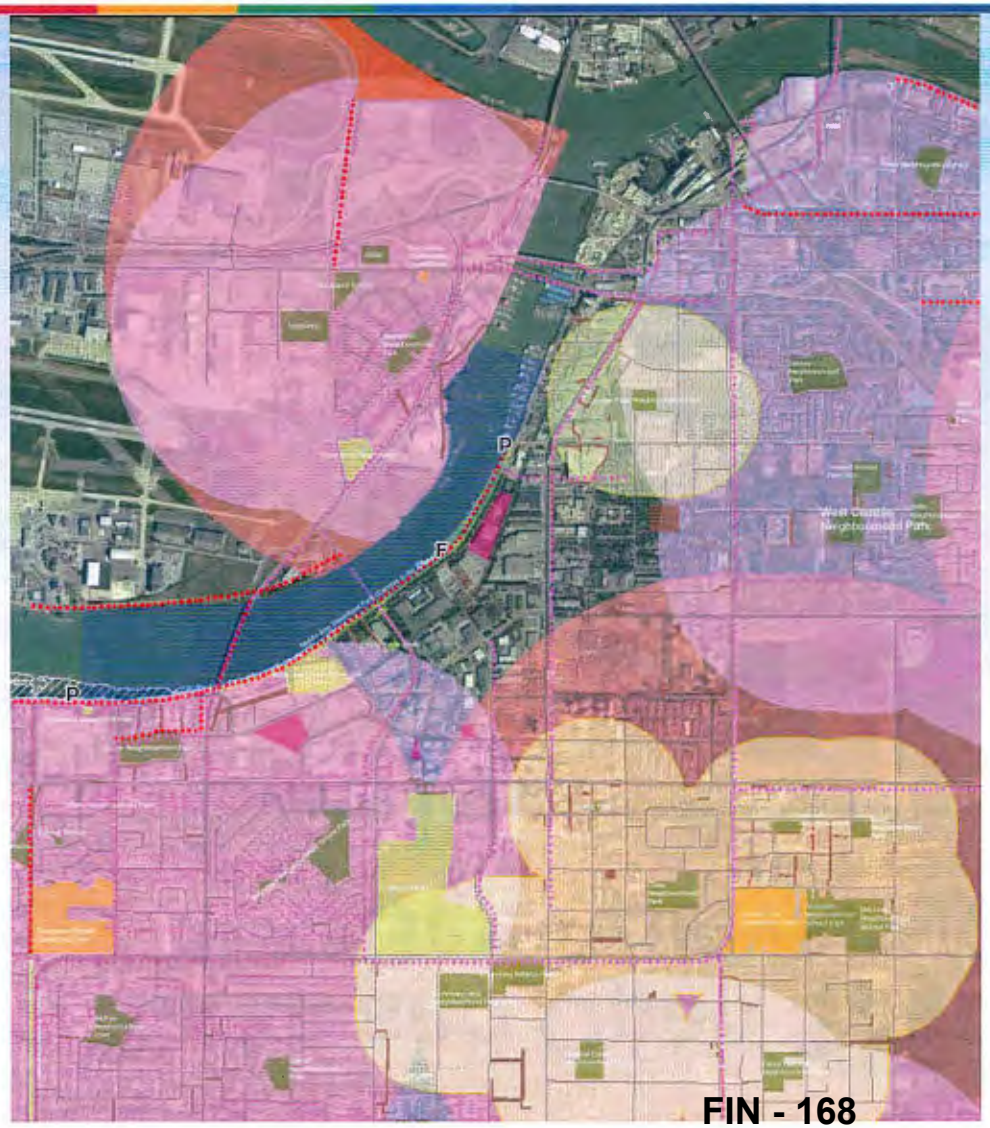
Parks and Open Space Strategy: Gap Analysis-City Centre (2013)



BLUE NETWORK
- F Float
- P Pier
- Marine Recreational Area

TRAILS
- Trails/Greenway
- Cycle Route
- Neighbourhood Links
- City Wide Park
- City Wide - Natural Area
- Community Park
- Future Park
- Neighbourhood Park
- Regional Park / Conservation Area
- 400m from Neighbourhood Parks in City Centre
- 800m from Neighbourhood Parks Outside City Centre
- 1500m from Community Parks

Richmond

Proposed DCC Program (2016-2041)

Parks Development

Park Development Program

To construct new parks and to add new facilities to existing parks required due to growth

- **Key Projects**
  - City Centre Middle Arm Park
  - Garden City Lands
  - Minoru Park
  - City Centre Park
  - Garry Point Park

Richmond

Overview of Changes – Parks Dev.

	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

Parks Development – by planning area

Planning Area	Park Dev. (acres)	DCC Recoverable Cost by Park Type					Total DCC Recoverable Cost
		Neighbourhood	Community	City-Wide	Natural Area	Trail/ Greenway	
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**

Proposed DCC Program (2016-2041)

Drainage

Richmond

Drainage Program

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.

- **Key Projects**
  - No. 3 Road box culvert
  - No. 1 Road box culvert
  - Gilbert Road box culvert
  - No. 2 Road South Pump Station capacity upgrade

Overview of Changes - Drainage

	Drainage DCC Program Recoverable Value
Existing DCC Program	$155,193,322
Less: Completed Projects	($13,893,043)
Less: Deleted Projects	($12,977,790)
Add: Cost Adjustments	$14,867,560
Add: New Projects	$24,193,620
Proposed DCC Program	**$167,383,669**

Proposed DCC Program (2016-2041)

Sanitary

Sanitary Program

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.

- **Key Projects**
  - New pump station at Lansdowne
  - New pump station and forcemain in Hamilton
  - City Center gravity mains
  - Pump station capacity upgrades in various areas

Richmond

Overview of Changes - Sanitary

	Sanitary DCC Program Recoverable Value
Existing DCC Program	$84,663,842
Less: Completed Projects	($1,610,995)
Less: Deleted Projects	($24,779,081)
Add: Cost Adjustments	$24,942,295
Add: New Projects	$5,434,197
Proposed DCC Program	**$88,650,258**

Proposed DCC Program (2016-2041)

Water

Water Program

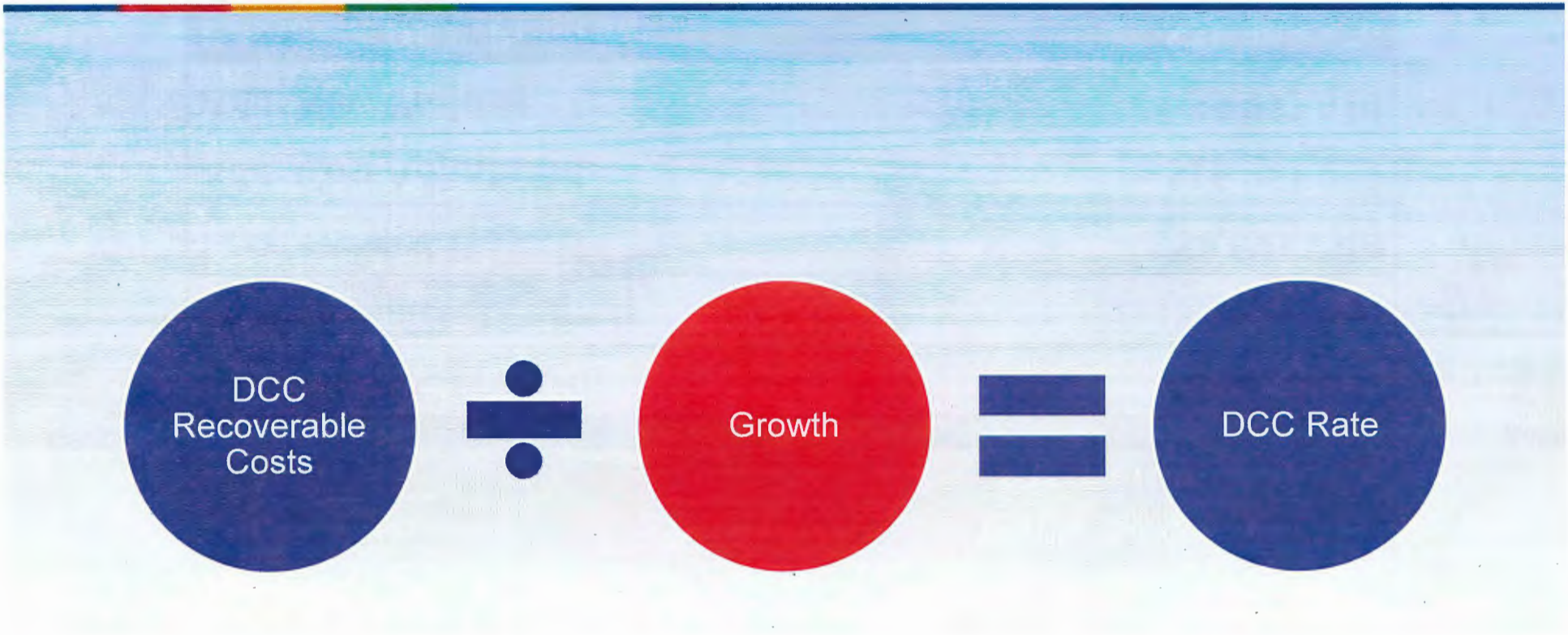
- **As population density increases with redevelopment, water demand increases, thereby requiring infrastructure with increased capacity.**
- **The program consists of capacity upgrades for watermains and pressure reducing valve (PRV) stations.**

- **Key Projects**
  - Westminster Hwy (No.4 Road and Shell Road) watermain upgrade
  - Blundell Road watermain upgrade
  - Various PRV station upgrades

Overview of Changes - Water

	Water DCC Program Recoverable Value
Existing DCC Program	$34,123,682
Less: Completed Projects	($9,654,542)
Less: Deleted Projects	($8,893,736)
Add: Cost Adjustments	$16,961,253
Add: New Projects	$5,772,319
Proposed DCC Program	**$38,308,976**

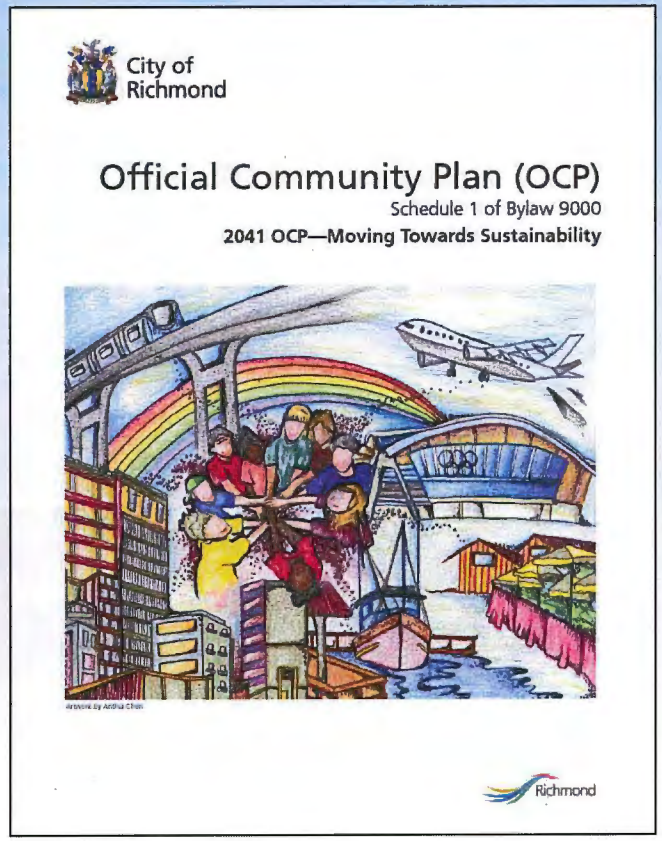
DCC calculation



Growth

Official Community Plan

- Population projection of 280,000 by 2041
- Projected Residential Dwelling Unit Growth to 2041
- Projected Industrial, Commercial, Office and Institutional Floor Area Growth to 2041 (Employment Lands Strategy)



Estimated Growth (2016-2041)

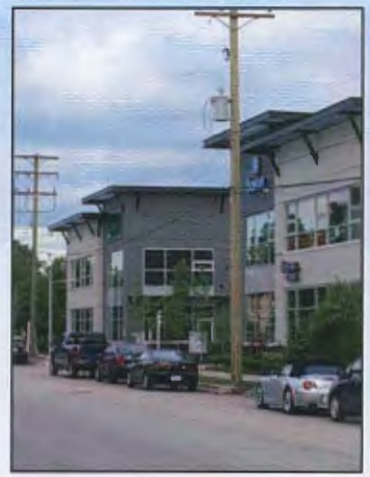
Development Type	Growth Projection*
Single Family	1,982 units
Townhouse	17,834 units
Apartment	19,091 units
Commercial/Institutional	590,445 m^2
Light Industrial	390,862 m^2
Heavy Industrial	13 hectares

*2041 OCP projection less growth to date

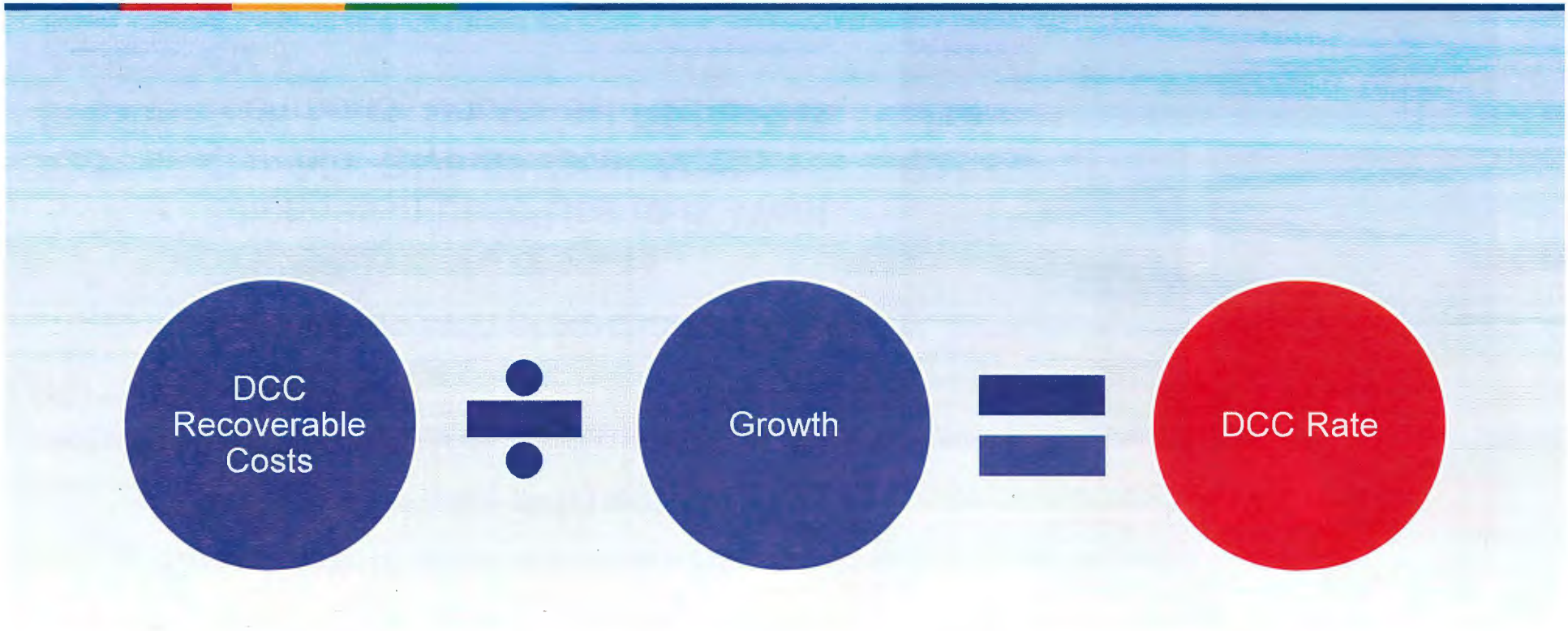
Estimated Growth (2016-2041)

Significant decrease in the revised growth projection for non-residential developments due to:

- Refined growth projection approach
- Changes in Land Use (e.g. West Cambie, Olympic Oval, North Richmond, Southeast Richmond etc.)
- Exclusion of Fraser Port Lands that were included in the previous DCC updates



DCC calculation



Proposed DCC Rates

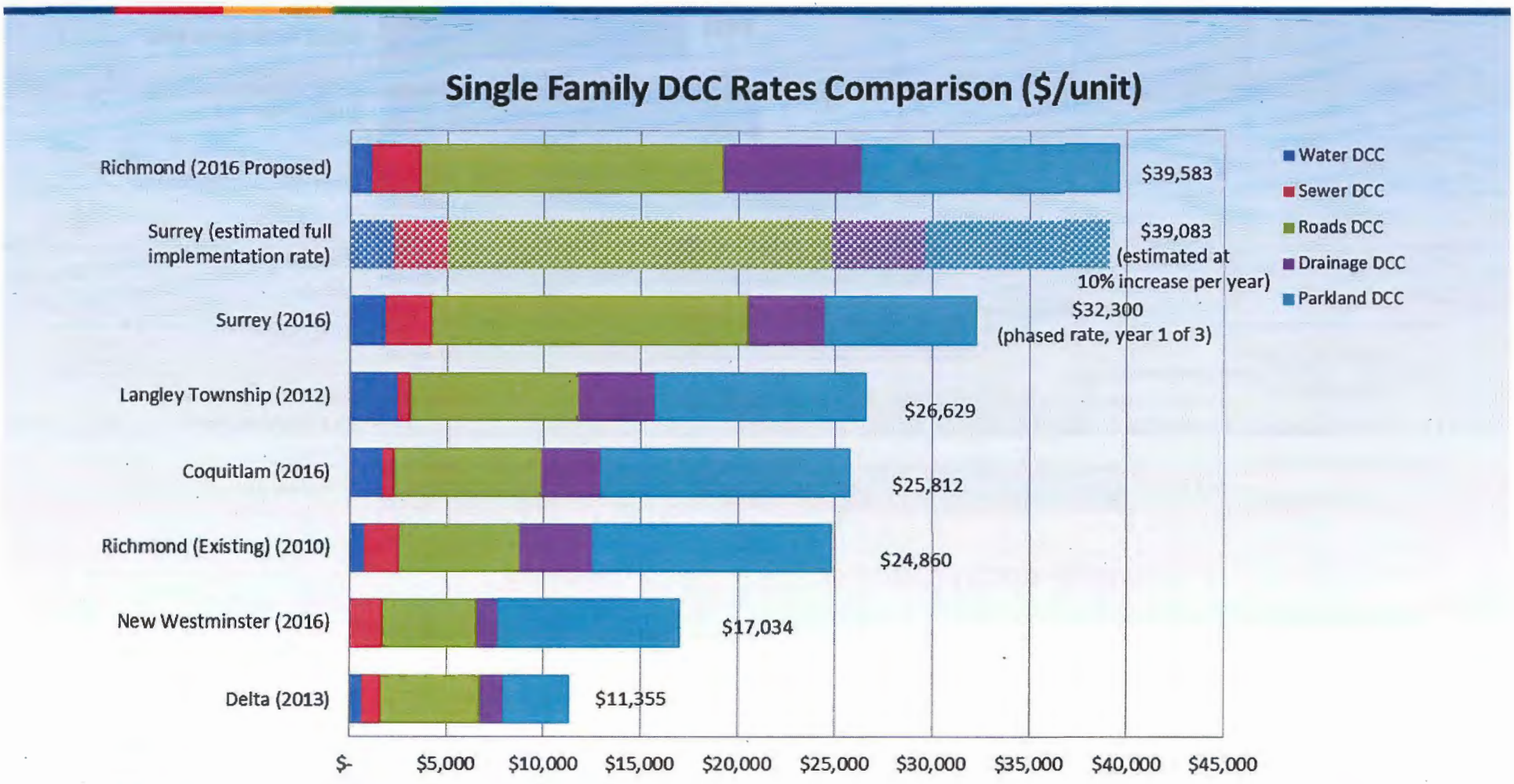
- Increasing land costs
- Increasing construction costs
- Increasing servicing plan
- Decreasing growth projection

	September 2016	December 2008	$ increase	% increase
Richmond Detached Home Average Value (MLS)	$1,684,800	$688,500	$996,300	145%

Proposed DCC Rates

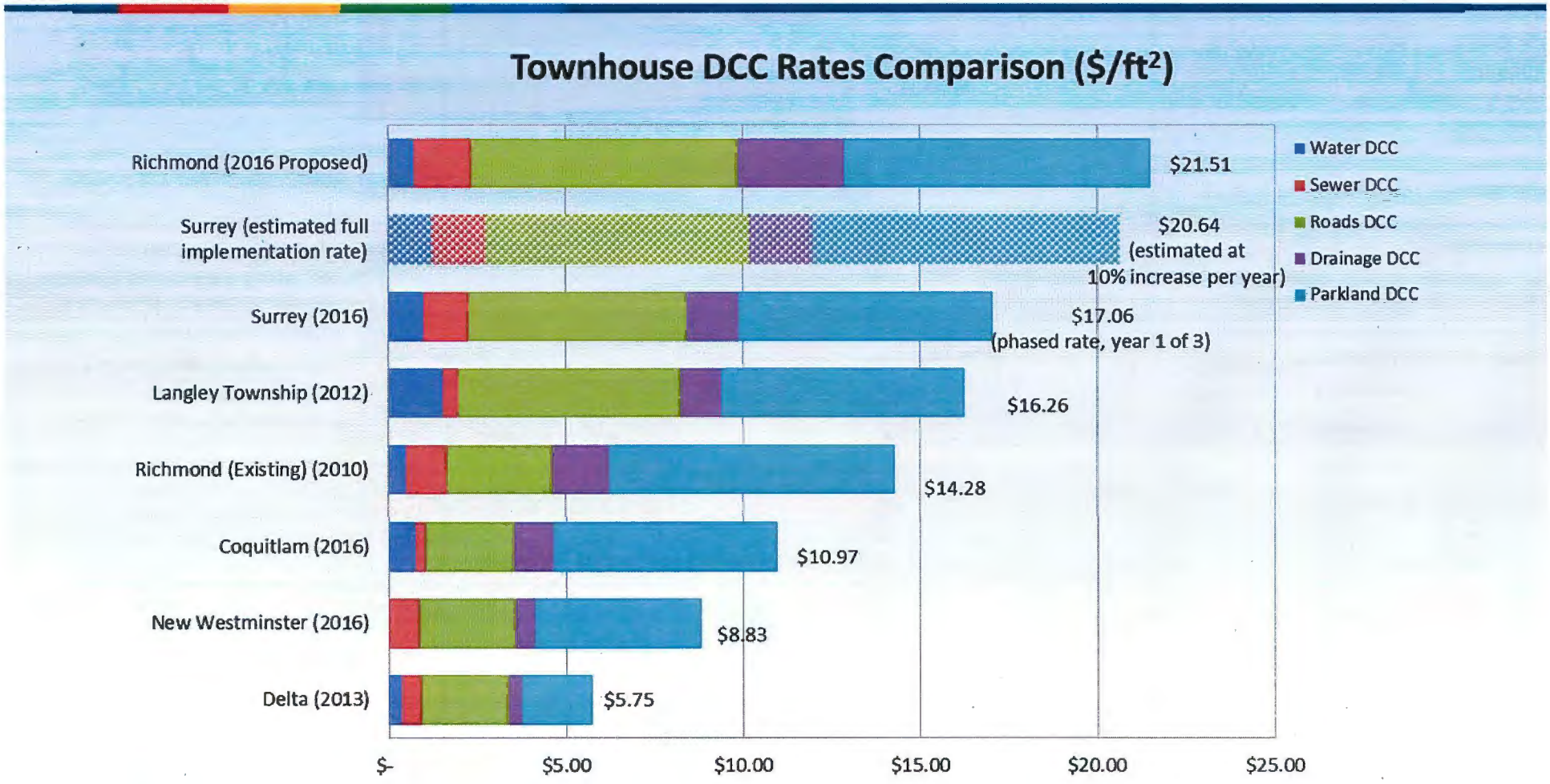
	Current DCC Rates (2009)	Unit	Proposed DCC Rates (2016)	% Change	Annualized Increase (2010-2016)
Single Family	$24,859.53	per lot	$39,582.87	59%	6.9%
Townhouse	$14.28	per ft^2	$21.51	51%	6.0%
Apartment	$15.09	per ft^2	$22.67	50%	6.0%
Commercial	$11.22	per ft^2	$14.53	29%	3.8%
Light Industrial	$8.96	per ft^2	$11.33	26%	3.4%
Major Industrial	$83,837.56	per acre	$97,725.09	17%	2.2%
Average Increase				**39%**	

Single Family DCC Comparison



Richmond

Townhouse DCC Comparison



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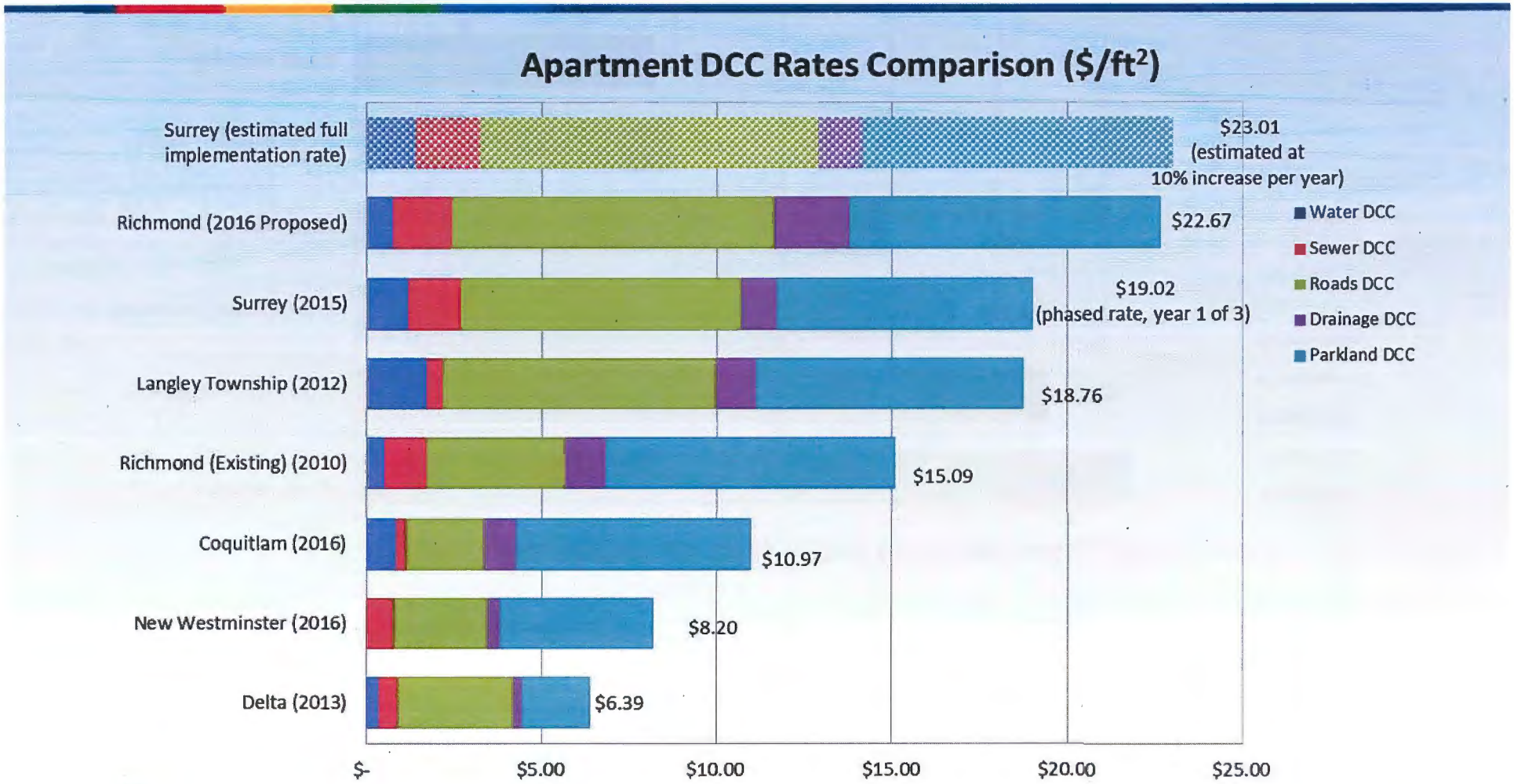
Apartment DCC Comparison



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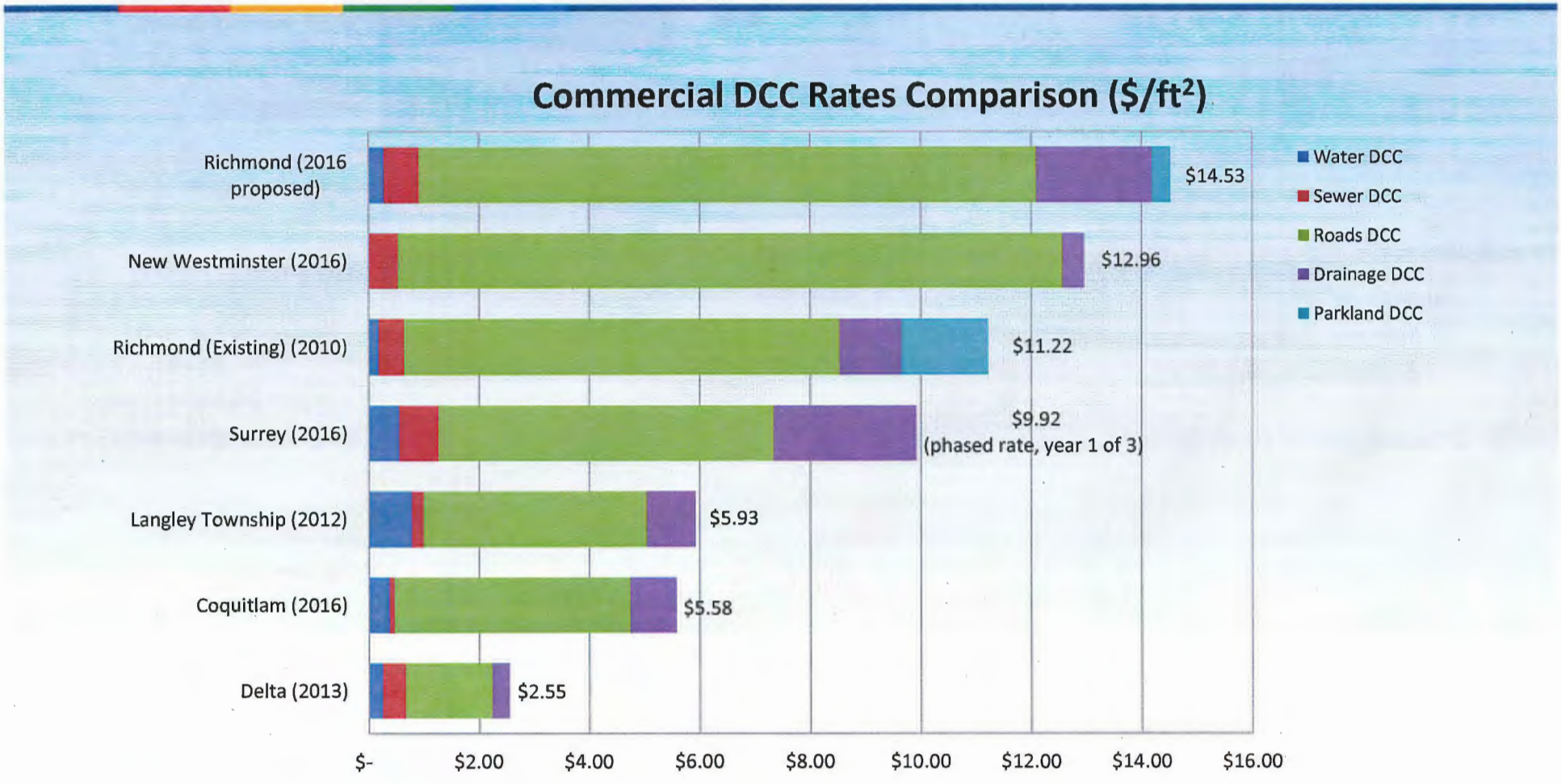
Commercial DCC Comparison



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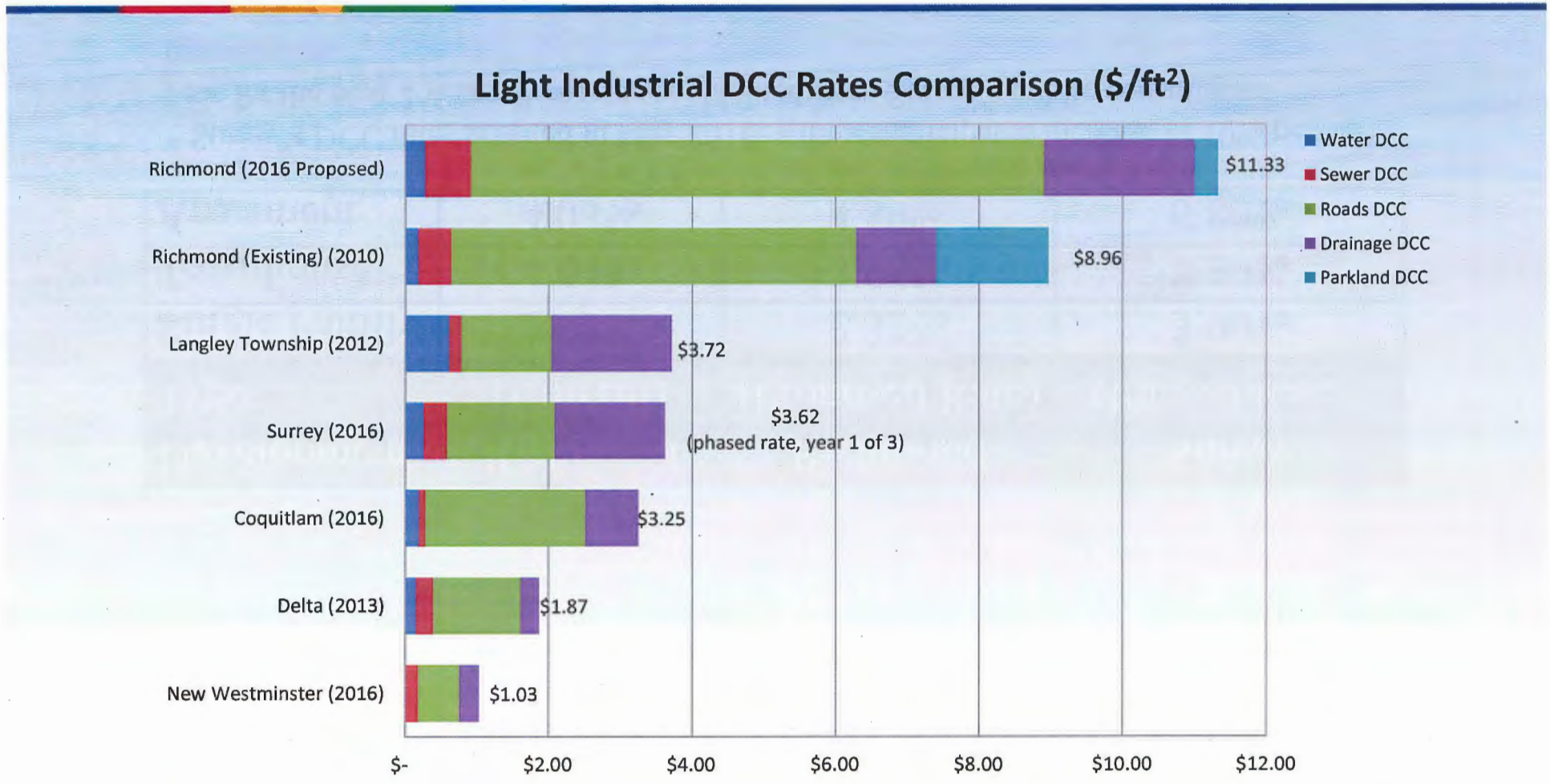
Light Industrial DCC Comparison



Richmond

Comparison of Residential DCC Rates against Home Sale Price

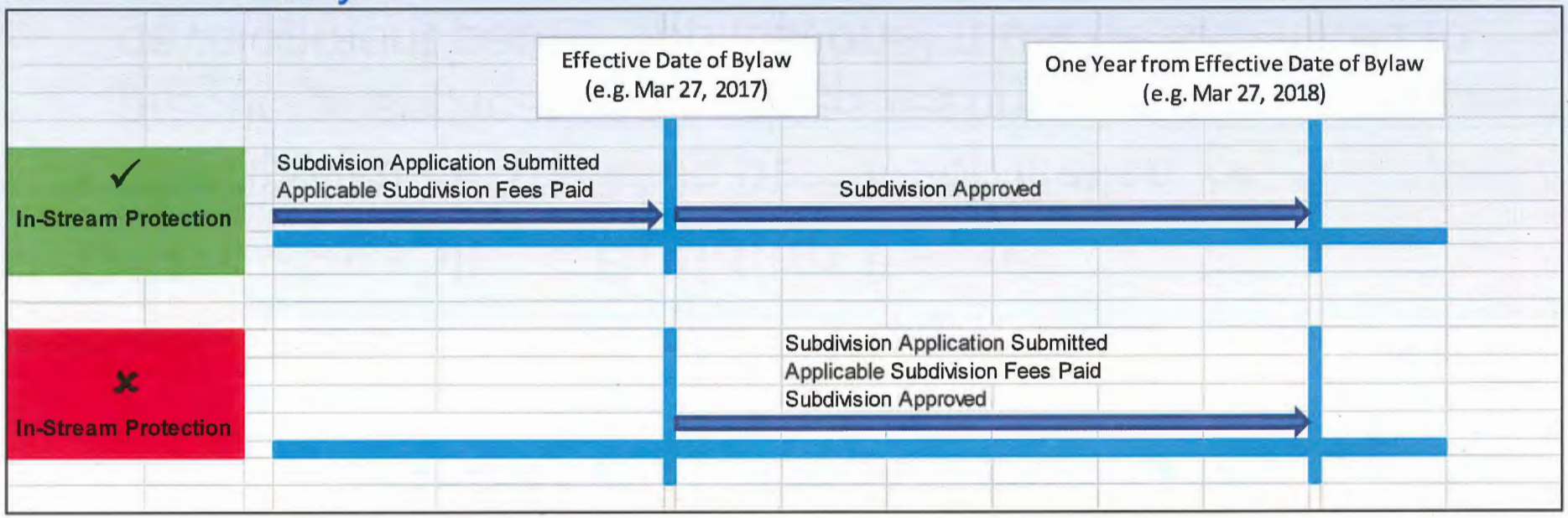
Development Type	Richmond (Current)	Richmond (Proposed Rate)	Surrey (Phased Rate)*
Single Family	2.92%	2.32%	3.90%
Townhouse	4.04%	3.96%	7.30%
Apartment	4.03%	4.89%	6.80%

* Surrey's DCC rates adopted in May 2016, with an anticipated increase of 10% per year for the next 2 years. Percentages obtained from Surrey's public consultation presentation.

In-Stream Protection

Single Family Subdivision

- An application must be completed and submitted in satisfactory form to the City on or before the effective date of the bylaw
- The subdivision is approved on or before 12 months from the effective date of the bylaw



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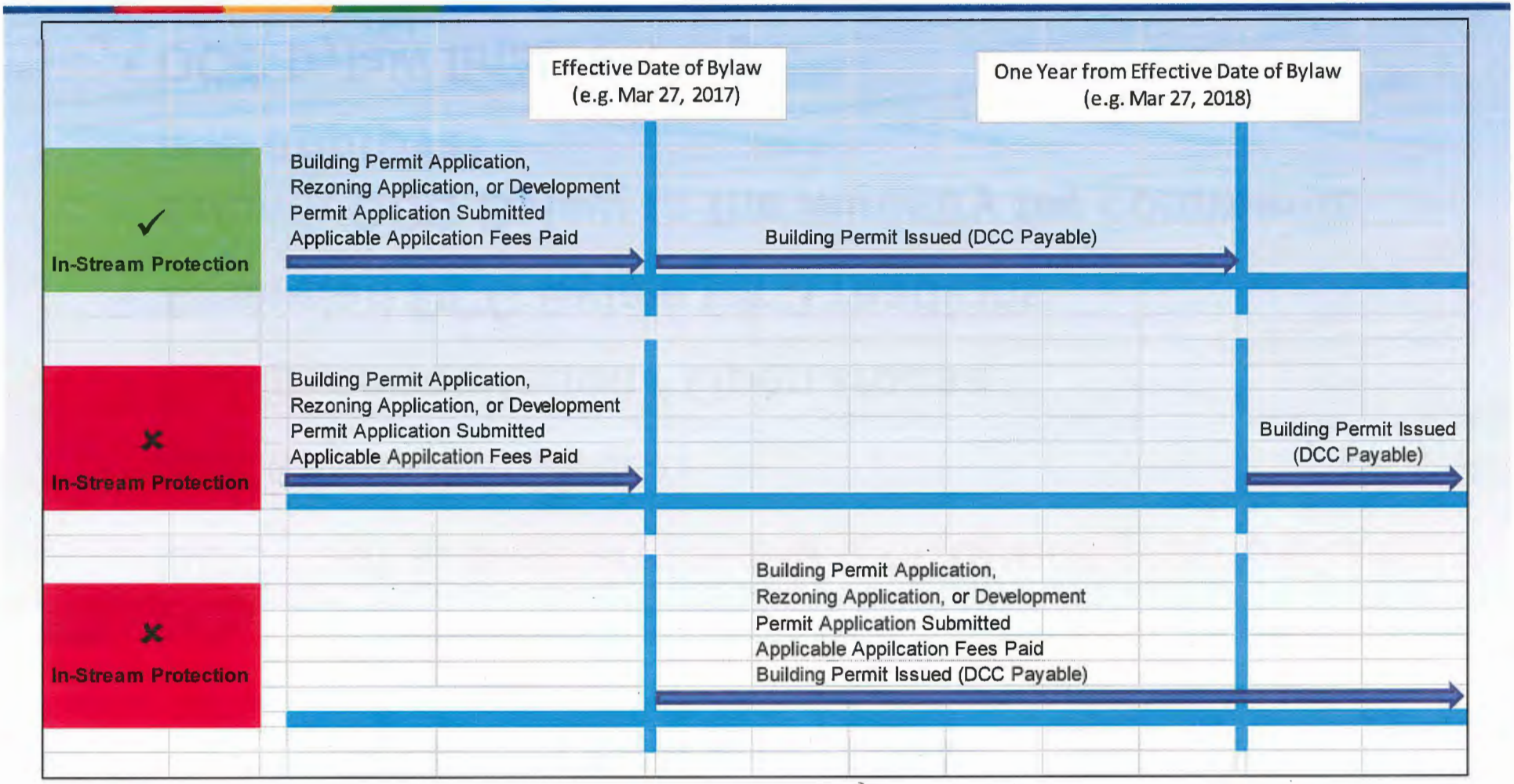
In-Stream Protection

DCCs Payable at Building Permit

- The application (building permit application, or precursor applications such as rezoning application or development permit applications) must be submitted to the City with all application fees paid
- The associated building permits are issued on or before 12 months from the effective date of the bylaw

In-Stream Protection



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Next Steps

- DCC capital plan endorsed by Council (completed)
- Industry consultation
- Public consultation / Open House
- Amended DCC Bylaw for 3 readings
- Submit DCC Bylaw to the Ministry for comments and approval
- DCC bylaw final reading
- DCC bylaw adoption

Questions or Comments?

Richmond