



Public Works & Transportation Committee

Anderson Room, City Hall
6911 No. 3 Road

Wednesday, June 22, 2011
4:00 p.m.

Pg. # ITEM

MINUTES

PWT-5 *Motion to adopt the minutes of the meeting of the Public Works & Transportation Committee held on Wednesday, May 18, 2011.*



NEXT COMMITTEE MEETING DATE

Wednesday, July 20, 2011 (tentative date) at 4:00 p.m. in the Anderson Room

ENGINEERING AND PUBLIC WORKS DEPARTMENT

PWT-13 1. **REVISED WATER SHORTAGE RESPONSE PLAN (SPRINKLING RESTRICTIONS) – BYLAW AMENDMENTS**
(File Ref. No. 10-6650-09-01) (REDMS No. 3222936)

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See Page **PWT-13** of the Public Works & Transportation agenda for full hardcopy report

Designated Speaker: Lloyd Bie

STAFF RECOMMENDATION

That Metro Vancouver's 2011 Water Shortage Response Plan, which includes revised water use restrictions, be endorsed and the following amendment bylaws be introduced and given first, second and third readings:

- (1) *Water Use Restriction Bylaw No. 7784, Amendment Bylaw No. 8766;*
- (2) *Municipal Ticket Information Authorization Bylaw No. 7321, Amendment Bylaw No. 8774; and*
- (3) *Notice of Bylaw Violation Dispute Adjudication Bylaw No. 8122, Amendment Bylaw No. 8775.*



PWT-41 2. SUBDIVISION AND DEVELOPMENT BYLAWS

(File Ref. No. 10-6060-01) (REDMS No. 3191830)

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See Page **PWT-41** of the Public Works & Transportation agenda for full hardcopy report

Designated Speaker: Lloyd Bie

STAFF RECOMMENDATION

- (1) *That Subdivision and Development Bylaw No. 8751 be introduced and given 1st, 2nd and 3rd readings; and*
- (2) *That Works and Services Cost Recovery Bylaw No. 8752 be introduced and given 1st, 2nd and 3rd readings.*



PWT-69 3. CANADA LINE: PROGRESS REPORT ON OPPORTUNITIES FOR RETAIL OPERATIONS AND LITTER COLLECTION/CLEANING ACTIVITIES

(File Ref. No. 10-6405-01) (REDMS No. 3229016)

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See Page **PWT-69** of the Public Works & Transportation agenda for full hardcopy report

Designated Speakers: Suzanne Bycraft & Robert Kates

STAFF RECOMMENDATION

That:

- (1) *an additional personnel complement control position be approved for a permanent litter attendant position for waste and litter removal along No. 3 Road for service in relation to the Canada Line;*
- (2) *in relation to the potential for retail opportunities at or near Canada Line stations, that staff;*
 - (a) *bring forward for Council's consideration a report recommending amendment to the Business Licence Bylaw to permit vendors on City owned or controlled property;*

- (b) *work with Translink to encourage Translink to permit such retail opportunities near Canada Line stations, particularly at Brighthouse Station; and*
- (c) *move forward with a pilot request for proposal for retail activity for locations at the intersection of No. 3 Road and Westminster Highway.*



PWT-81 4. AGEING INFRASTRUCTURE PLANNING – 2011 UPDATE

(File Ref. No. 10-6060-01) (REDMS No. 3170477)

TO VIEW eREPORT CLICK HERE

See Page **PWT-81** of the Public Works & Transportation agenda for full hardcopy report

Designated Speakers: Lloyd Bie and Andy Bell

STAFF RECOMMENDATION

That staff review the report dated June 7, 2011 from the Director, Engineering in conjunction with the Long Term Financial Management Strategy and bring forward recommendations to Finance Committee.



5. MANAGER'S REPORT

ADJOURNMENT





Public Works & Transportation Committee

Date: Wednesday, May 18, 2011

Place: Anderson Room
Richmond City Hall

Present: Councillor Linda Barnes, Chair
Councillor Sue Halsey-Brandt, Vice-Chair
Councillor Derek Dang
Councillor Ken Johnston
Councillor Harold Steves

Call to Order: The Chair called the meeting to order at 4:00 p.m.

MINUTES

It was moved and seconded

That the minutes of the meeting of the Public Works & Transportation Committee held on Wednesday, April 20, 2011, be adopted as circulated.

CARRIED

NEXT COMMITTEE MEETING DATE

Wednesday, June 22, 2011 (tentative date) at 4:00 p.m. in the Anderson Room

PLANNING AND DEVELOPMENT DEPARTMENT

1. **TRAFFIC BYLAW AMENDMENT – AMENDMENTS TO SCHEDULE A OF BYLAW 5870 TO ADD WEIGHT LIMITS TO THE DELEGATED AUTHORITY OF THE GENERAL MANAGER, ENGINEERING & PUBLIC WORKS AND TO SCHEDULE C OF BYLAW 5870 TO AMEND THE SPEED LIMIT ON WESTMINSTER HIGHWAY BETWEEN NO. 6 ROAD AND NELSON ROAD FROM 60 KM/H TO 50 KM/H**

(File Ref. No.: 10-6450-15-01) (REDMS No. 3162511)

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Victor Wei, Director, Transportation, provided background information and noted that the implementation of the speed reduction and weight limit is anticipated to coincide with the opening of the Nelson Road-Highway 91 Interchange, approximately at the end of June 2011.

In reply to queries from Committee, Mr. Wei advised that (i) staff have advised the RCMP of the proposed changes; (ii) the proposed increase in weight restriction is intended to distinguish between different types of commercial vehicles, i.e, trucks and semi-trailers; and (iii) the Agricultural Advisory Committee is well aware of the proposed amendments.

It was moved and seconded

That Traffic Bylaw No. 5870, Amendment Bylaw No. 8730, which:

- (1) establishes a 50 km/h speed limit on Westminster Highway between No. 6 Road and Nelson Road; and*
- (2) delegates the authority to order weight limits for vehicles operating on City roads to the General Manager, Engineering & Public Works, be introduced and given first, second and third reading.*

CARRIED

2. **NO. 1 ROAD AND MONCTON STREET – PROPOSED INTERSECTION AND SURROUNDING PEDESTRIAN CROSSWALK IMPROVEMENTS**

(File Ref. No.:) (REDMS No. 3209892)

Mr. Wei distributed a revised Page 12 to the staff report dated April 21, 2011, entitled “No. 1 Road and Moncton Street – Proposed Intersection and Surrounding Pedestrian Crosswalk Improvements” (Schedule 1). He drew Committee’s attention to the anticipated completion of the proposed improvements, noting that staff anticipate the project to be completed by the end of October 2011.

Mr. Wei played before and after video clips that illustrated traffic and pedestrian flow patterns at the No. 1 Road and Moncton Street intersection.

He spoke of the proposed functional design of the traffic signal and intersection enhancements, and noted that the proposed changes are anticipated to accomplish the following objectives:

- enhance the safety of the intersection for pedestrian by alerting motorist to slow down as they approach the intersection;
- reduce confusion regarding the right-of-way of pedestrians, cyclists and motorists at the intersection;
- reinforce the unique heritage character of Steveston Village; and
- create a special place at a landmark intersection of which the community can be proud of.

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In reply to queries from Committee, Mr. Wei and Sonali Hingorani, Transportation Engineer, provided the following information:

- the proposed enhancements include the installation of Accessible Pedestrian Signals, which facilitate the visually impaired by providing audible sounds, tactile features, and spoken messages to indicate an active walk light;
- traffic at the intersection is approximately 30% higher during the peak summer season, however traffic continues to be high in the off-season at peak times;
- the proposed raised pedestrian crosswalks will have gradual approach ramps of 5% maximum gradient;
- the intersection cycle will have an additional phase in order to facilitate the proposed pedestrian scramble;
- staff anticipate conducting a strong public campaign to inform Richmond residents of the proposed changes; and
- curb extensions along Chatham Street at 1st, 2nd, 3rd, and 4th Avenues are proposed to supplement the pedestrian improvements at the No. 1 Road and Moncton Street intersection and to facilitate cyclists crossing Chatham Street.

Jim Kojima, President of the Steveston Community Society, thanked staff for their comprehensive consultation with the Society in relation to the proposed changes at No. 1 Road and Moncton Street.

It was moved and seconded

- (1) *That the proposed intersection and pedestrian crosswalk improvements at the following locations in the Steveston Village area, as described in the attached report dated April 21, 2011, be approved for implementation:*
 - (a) *No. 1 Road/Moncton Street - signalization with "pedestrian scramble" phase and raising of pavement with artistic design of crosswalk markings;*
 - (b) *Moncton Street/Hayashi Court, No. 1 Road/Chatham Street, Moncton Street/Easthope Avenue – raising of crosswalk pavement; and*
 - (c) *Chatham Street between 1st Avenue and 4th Avenue - introduction of temporary curb extensions for a test period of 12 months followed by permanent installation if supported by area stakeholders;*
- (2) *That staff monitor the effectiveness of the above pilot "pedestrian scramble" feature at No.1 Road/Moncton Street intersection and report back to Council after one year of implementation; and*

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- (3) *That a public information process for the above improvements be carried out during Summer 2011 prior to the start of construction and activation of the traffic signals at the No. 1 Road/ Moncton Street intersection.*

CARRIED

COMMUNITY SERVICES DEPARTMENT

3. **PESTICIDE USE CONTROL AMENDMENT BYLAW 8745**

(File Ref. No.: 10-6125-04-01) (REDMS No. 3188477v.4)

Cecilia Achiam, Interim Director, Sustainability and District Energy Senior Program Manager, requested that the staff report entitled "Pesticide Use Control Amendment Bylaw 8745" dated April 29, 2011 be referred back to staff.

Ms. Achiam referenced two pieces of correspondence in relation to the proposed bylaw amendments (copy on file, City Clerk's Office) and noted that staff have recently learned of a misunderstanding with pesticide use advocacy groups.

It was moved and seconded

That the Pesticide Use Control Bylaw No. 8514, Amendment Bylaw No. 8745 be referred back to staff.

CARRIED

ENGINEERING AND PUBLIC WORKS DEPARTMENT

4. **WILLIAMS ROAD AREA LANE UPGRADES**

(File Ref. No.: 10-6340-01) (REDMS No. 3203999)

It was moved and seconded

That the Williams Road Area Lane Upgrade projects (Attachment 1) be funded through the Asphalt Capping Provision account and the 2011 Asphalt Capping Program and that these adjustments be included as amendments to the 2011 – 2015 Five Year Financial Plan.

CARRIED

5. **REVISED WATER SHORTAGE RESPONSE PLAN (SPRINKLING RESTRICTIONS)**

(File Ref. No.: 10-6650-09-01) (REDMS No. 3208786)

It was moved and seconded

That staff bring forward amendments to Water Use Restriction Bylaw No. 7784 in accordance with the "Revised Water Shortage Response Plan (Sprinkling Restrictions)" report from the Director, Engineering.

CARRIED

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6. ECO CENTRE CONCEPT

(File Ref. No.: 10-6370-04-01) (REDMS No. 3143090)

Suzanne Bycraft, Manager, Fleet & Environmental Programs, provided background information and in reply to queries from Committee, advised the following:

- an Eco Centre could provide for a much broader range of services to encourage greater reuse and recycling as well as enhanced convenience for residents;
- costs associated with relocating the Recycling Depot or establishing an Eco Centre would be reported to Council as the concept is developed in consultation with Metro Vancouver as there is potential opportunity for cost sharing;
- Metro Vancouver staff are currently preparing a draft Regional Eco-Centres Implementation Strategy that outlines suggested terms and conditions, and includes potential cost sharing opportunities between Metro Vancouver and municipalities;
- the City's current Recycling Depot site is approximately two acres in size, and could not accommodate an Eco Centre; and
- staff do not recommend that a proposed Eco Centre or the City's current Recycling Depot accept non-recyclable commodities.

It was moved and seconded

- (1) *That the Eco Centre concept, as outlined in the staff report dated May 5, 2011, be reviewed and explored for consideration and further discussion;*
- (2) *That staff report back on potential Eco Centre site alternatives, a conceptual layout and a draft business and operating model; and*
- (3) *That staff liaise with Metro Vancouver to identify potential terms and conditions, as part of the draft business model, in relation to responsibility for funding and operating a Richmond-based Eco Centre.*

CARRIED

7. FOOD SCRAPS/ORGANICS COLLECTION PROGRAM UPDATE

(File Ref. No.: 10-6370-10-05) (REDMS No. 3206759)

In reply to queries from Committee, Ms. Bycraft advised that (i) staff are aware that the weight of the food scraps/organics container is a concern; (ii) backyard composting continues to be encouraged as it is the best way a single-family home can reduce its waste; and (iii) staff will continue to promote the food scraps/organics collection program by means of the City's website, advertisements in local newspapers and so forth.

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Discussion ensued and it was noted that statistical information related to food scraps/organics collection may pique residents' interest in the program. It was mentioned that this data could demonstrate to residents the City's annual savings in waste collection – savings that directly affect property owners. A suggestion was made that this type of information be communicated to residents as part of the annual tax notices.

It was moved and seconded

That the Food Scraps/Organics Collection Program Update as provided in the staff report dated May 1, 2011, from the Director, Public Works Operations, be received for information.

CARRIED

8. **REPORT 2010: TOWARDS EXCELLENCE IN RECYCLING AND SOLID WASTE MANAGEMENT**

(File Ref. No.: 10-6370-01) (REDMS No. 3199929)

In reply to a query from Committee, Ms. Bycraft advised that Styrofoam is not recyclable.

Discussion ensued regarding the Report 2010: Towards Excellence In Recycling and Solid Waste Management and it was noted that the report be sent to the Metro Vancouver Waste Management Committee for information.

It was moved and seconded

That the "Report 2010: Towards Excellence in Recycling and Solid Waste Management", be:

- (1) endorsed and made available to the community through the City's website and other communications medium;*
- (2) used as the basis to prepare the Solid Waste Sustainability Strategic Program as a component of the City's Sustainability Framework; and*
- (3) forwarded to the Metro Vancouver Waste Management Committee for information.*

CARRIED

Discussion ensued regarding the failure of the Lansdowne Road Sanitary Sewer Forcemain. As a result of the discussion, the following **referral** was introduced:

It was moved and seconded

That staff further investigate initiatives around the elimination of grease in sewer pipes.

The question on the **referral** was not called as Committee requested that staff also update Council on the various types of waste collection bins.

The question on the **referral** was then called and it was **CARRIED**.

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9. MANAGER'S REPORT

(1) Freshet 2011 and Spring Rainfall Patterns

John Irving, Director, Engineering, spoke of 2011 freshet and spring rainfall patterns.

(2) Interpretive Panels for the No. 4 Road Pump Station

Mr. Irving distributed renderings of the interpretive panels for the No. 4 Road pump station (copy on file, City Clerk's Office) and commented on the panels' concept, highlighting that the images are of typical historic working river activities from diverse areas around Richmond.

ADJOURNMENT

It was moved and seconded

That the meeting adjourn (5:29 p.m.).

CARRIED

Certified a true and correct copy of the Minutes of the meeting of the Public Works & Transportation Committee of the Council of the City of Richmond held on Wednesday, May 18, 2011.

Councillor Linda Barnes
Chair

Hanieh Floujeh
Committee Clerk

9. Next Steps

The following implementation actions would be undertaken upon Council approval of the improvements recommended in this report:

- complete detailed design of the No. 1 Road and Moncton Street intersection and other crosswalk improvements;
- carry out a public information program during Summer 2011 to inform and educate the public about the various new improvements at the No.1 Road and Moncton Street intersection (especially the operation of “pedestrian scramble”) including public display of information boards at Steveston Community Centre, temporary poster boards at the intersection, distribution of brochures, notices in local newspapers, and website notifications prior to the installation of the traffic signals; and
- construction will commence in mid September with the installation of the traffic signals and completion of other improvements by the end of October 2011. A detailed traffic management plan will be developed for the construction period to minimize any business impacts.

Financial Impact

Table 3 provides the construction cost estimate breakdown for the various components of the project as well as the individual funding sources, all of which have been previously approved as part of the annual capital budget process. The permanent installation of the remaining sets of curb extensions on Chatham Street would be considered as part of the 2012 Capital Budget process, which is subject to Council approval.

Table 3: Construction Cost Breakdown (includes 20% contingency)

Improvement	Amount	Funding Source
No.1 Road and Moncton Street signalization, raised intersection and artistic crosswalk marking design (Duratherm)	\$600,000	2011 – No.1 Road and Moncton Street – Signalization and Improvements Project
Three raised crosswalks: <ul style="list-style-type: none"> • No. 1 Road at Chatham Street • Moncton Street at Easthope Avenue • Moncton Street and Hayashi Court 	\$46,000	2011 – No.1 Road and Moncton Street – Signalization and Improvements Project
Chatham Street Temporary Curb Extensions at 4 th Ave	\$6,000	2010 PW Minor Capital Traffic

With respect to annual operating costs, the maintenance of the traffic signal equipment has been included in the 2011 annual operating costs for the No .1 Road and Moncton Street Capital Project. Associated maintenance of the special Duratherm surface treatment would be negligible as the life of the material is the same as that of the asphalt underneath it. There is no anticipated utility maintenance work required at this intersection within the next five years. In the event any unexpected underground work arises, replacement of the Duratherm material would cost approximately \$250 to \$300 per m² depending on the length of the trench and degree of impact to the surface treatment. This cost is in addition to the pavement repair that would need to be undertaken regardless. The repair work would need to be contracted out as special equipment and training are required for the Duratherm installation.



City of Richmond

Report to Committee

To: Public Works and Transportation Committee

Date: May 31, 2011

From: John Irving, P.Eng. MPA
Director, Engineering

File: 10-6650-09-01/2011-
Vol 01

Re: **Revised Water Shortage Response Plan (Sprinkling Restrictions) – Bylaw Amendments**

Staff Recommendation

That Metro Vancouver's 2011 Water Shortage Response Plan, which includes revised water use restrictions, be endorsed and the following amendment bylaws be introduced and given first, second and third readings:

- (a) Water Use Restriction Bylaw No. 7784, Amendment Bylaw No. 8766;
- (b) Municipal Ticket Information Authorization Bylaw No. 7321, Amendment Bylaw No. 8774; and
- (c) Notice of Bylaw Violation Dispute Adjudication Bylaw No. 8122, Amendment Bylaw No. 8775.

John Irving, P.Eng. MPA
Director, Engineering
(604-276-4140)

Att. 1

FOR ORIGINATING DEPARTMENT USE ONLY			
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER	
Water Services	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		
Community Bylaws	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		
Law	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		
Parks	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		
Recreation	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		
REVIEWED BY TAG	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	REVIEWED BY CAO	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>

Staff Report

Origin

At the May 24, 2011 Regular Council Meeting, Council adopted the following motion:

“That staff bring forward amendments to Water Use Restriction Bylaw No. 7784 in accordance with the “Revised Water Shortage Response Plan (Sprinkling Restrictions)” report from the Director, Engineering.”

The Water Shortage Response Plan (“the Plan”) was prepared by Metro Vancouver (formerly the Greater Vancouver Regional District) and adopted by the City of Richmond as the Water Use Restriction Bylaw. The bylaw restricts water use during the summer months and in the event of water shortages due to unforeseen emergency situations at any time of the year. The most familiar component of the Plan is the lawn sprinkling regulations. The Plan is intended to manage discretionary uses of water while minimizing the impact on residents and avoiding unnecessary economic hardships on businesses.

Each Metro Vancouver municipality implements the Plan through its bylaw, which enables municipal staff to enforce the water restrictions. Metro Vancouver has recommended that these bylaws be updated to reflect the revised Plan.

Analysis

The 2011 Plan (see Attachment 4) was approved by the Board of the Greater Vancouver Water District (GVWD) at its meeting on March 18, 2011. The proposed Water Use Restriction Bylaw No. 7784, Amendment Bylaw No. 8766 (see Attachment 1), implements changes required to correspond with the Plan.

Key changes from the 2004 Plan to the 2011 Plan include:

- Introducing different restrictions for residential and non-residential properties.
- Lawn sprinkling will only be permitted during mornings; sprinkling in the evening will no longer be permitted, in order to reduce evaporation.
- Revising the days and times for Stage 1 and Stage 2 Water Use Restrictions.

Other bylaw amendments to correspond with the Plan:

- Hydrant flushing will not be permitted starting at Stage 1, except for public health and safety reasons.
- At Stage 4, City outdoor pools will be closed as well as public faucets and drinking fountains without an automatic shut-off device.
- Watering of City parks will be permitted at Stage 1.
- Filling of garden ponds, hot tubs and swimming pools will be permitted at Stages 1 and 2.
- Operating City water play parks with user-activated switches will be permitted at Stages 1, 2, and 3.

Fines and Bylaw Enforcement

Water Use Restriction Bylaw No. 7784 is currently enforced under Municipal Ticket Information Authorization Bylaw No. 7321 and the fines for an offence are as follows:

Offence	Fine
Watering contrary to Stage 1 Restrictions	\$100
Watering contrary to Stage 2 Restrictions	\$200
Watering contrary to Stage 3 Restrictions	\$500
Watering contrary to Stage 4 Restrictions	\$1,000
Watering contrary to the terms of a permit	\$100
Failure to display permit	\$100

In order to expedite the process of enforcement for violations of Water Use Restriction Bylaw No. 7784, staff also recommend that enforcement of this bylaw, with the exception of Stage 4 Restrictions, be removed from Municipal Ticket Information Authorization Bylaw No. 7321 and added to Notice of Bylaw Violation Dispute Adjudication Bylaw No. 8122.

Notice of Bylaw Violation Dispute Adjudication Bylaw No. 8122 involves a more efficient process for resolving disputes by allowing the opportunity to dispute violations out of court via an independent adjudicator who hears all disputes. Through the Bylaw Adjudication Process, a ticket dispute may be resolved in as little as six weeks compared to up to six months through the Provincial Courts.

Violation of Stage 4 Restrictions, which carries a fine of \$1000, cannot be added to Notice of Bylaw Violation Dispute Adjudication Bylaw No. 8122, as the Local Government Bylaw Notice Enforcement Act that governs this bylaw limits penalties to \$500.


Financial Impact

None at this time.

Conclusion

The Plan has been an important and effective tool for managing demand for water during times of shortages or emergencies. The revised Plan further improves demand management and promotes water conservation.

Staff recommend that Metro Vancouver's 2011 Water Shortage Response Plan, which includes revised water use restrictions, be endorsed and the associated bylaws be adjusted accordingly.


Lloyd Bie, P.Eng.
Manager, Engineering Planning
(4075)


Jason Ho, P.Eng.
Project Engineer
(1281)

JH:jh



**Water Use Restriction Bylaw No. 7784,
Amendment Bylaw No. 8766**

The Council of the City of Richmond enacts as follows:

1. The **Water Use Restriction Bylaw No. 7784**, as amended, is further amended:
 - (a) by deleting subsection 2.1.1 in its entirety and substituting the following:

“2.1.1 Subject to the provisions of section 2.5, when **Stage 1 Restrictions** are in force, a **person** must not:

 - (a) **water** lawns or operate a lawn sprinkler, except in accordance with the following:
 - (i) on **residential lots**:
 - (A) with even-numbered addresses, on Monday, Wednesday and Saturday between 4:00 a.m. and 9:00 a.m.; and
 - (B) with odd-numbered addresses, on Tuesday, Thursday and Sunday between 4:00 a.m. and 9:00 a.m.; and
 - (ii) on **non-residential lots**:
 - (A) with even-numbered addresses, on Monday and Wednesday between 1:00 a.m. and 6:00 a.m., and Friday between 4:00 a.m. and 9:00 a.m.;
 - (B) with odd-numbered addresses, on Tuesday and Thursday between 1:00 a.m. and 6:00 a.m., and Friday between 4:00 a.m. and 9:00 a.m.;
 - (b) use a hose providing **water** to wash boats or motor vehicles, unless the hose is equipped with an **automatic shut-off device**; or
 - (c) perform hydrant flushing, except unscheduled flushing required for safety or public health reasons.”

- (b) by deleting paragraph 2.2.1(a) and substituting the following:
 - “(a) **water** lawns or operate a lawn sprinkler, except in accordance with the following:
 - (i) **on residential lots:**
 - (A) with even-numbered addresses, on Monday between 4:00 a.m. and 9:00 a.m.; and
 - (B) with odd-numbered addresses, on Thursday between 4:00 a.m. and 9:00 a.m.; and
 - (ii) **on non-residential lots:**
 - (A) with even-numbered addresses, on Wednesday between 1:00 a.m. and 6:00 a.m.; and
 - (B) with odd-numbered addresses, on Tuesday between 1:00 a.m. and 6:00 a.m.”
- (c) by deleting the period at the end of paragraph 2.2.1(c) and adding “; or” and adding the following afterwards:
 - “(d) perform hydrant flushing, except unscheduled flushing required for safety or public health reasons.”
- (d) by deleting clause 2.3.1(a)(i) and (ii) and substituting the following:
 - “(i) any lawn or operate a lawn sprinkler; or
 - (ii) flower gardens, vegetable gardens, decorative planters, shrubs or trees, unless such **watering** is carried out by hand with a container or a hose equipped with an **automatic shut-off device** or using a drip irrigation system, and is not carried out using sprinklers or soaker hoses;”
- (e) by deleting paragraph 2.3.1(c) and substituting the following:
 - “(c) **water** as prohibited in clauses (b), (c) and (d) of subsection 2.2.1; or”
- (f) by deleting “; or” at then end of paragraph 2.3.1(d), adding a period and deleting paragraph 2.3.1(e) in its entirety;
- (g) by deleting clause 2.4.1(a)(i) and substituting the following:
 - “(i) clauses (c) and (d) of subsection 2.2.1; and”

- (h) by adding the following after subsection 2.4.2:
 - “2.4.3 Subject to the provisions of section 2.8, when **Stage 4 Restrictions** are in force, the **City** will:
 - (a) close all outdoor pools operated by the **City**;
 - (b) shut down all faucets in **City** parks and public places, except drinking fountains with an **automatic shut-off device**; and
 - (c) not winterize outdoor pools.”
- (i) by adding the following after clause 2.5.1(b)(vi):
 - “(vii) **City** parks;”
- (j) by deleting the period at the end of paragraph 2.5.1(c) and adding “; or” and adding the following afterwards:
 - “(d) use of **water** to fill or re-fill a garden pond, hot-tub, swimming pool or **water play park**.”
- (k) by deleting paragraph 2.6.1(b) and substituting the following:
 - “(b) **watering**:
 - (i) as permitted in clauses (b)(i) through (v), (c) and (d) of subsection 2.5.1; and
 - (ii) the tee-off areas and putting greens of golf courses; and”
- (l) by adding the following after paragraph 2.6.1(b):
 - “(c) **water play parks** with user-activated switches.”
- (m) by deleting paragraphs 2.7.1(b) and (c) and substituting the following:
 - “(b) flowers and vegetables at commercial gardens;
 - (c) **water play parks** with user-activated switches; and”
- (n) by deleting subsection 3.1.4 and substituting the following:
 - “3.1.4 Notwithstanding **Stage 1 Restrictions** or **Stage 2 Restrictions**, the holder of a valid **permit** is authorized to **water** new lawn and new landscaping at the premises described in the **permit** during the times and for the period specified in the **permit**.”

- (o) at section 5.1 by deleting the definitions of **AUTOMATIC SHUT-OFF DEVICE** and **WATER PLAY PARK** and substituting the following, in alphabetical order:

**AUTOMATIC SHUT-OFF
DEVICE**

means a device that is spring-loaded and shuts off the supply of water automatically unless hand pressure is applied to allow the supply of water.

WATER PLAY PARK

means an outdoor recreational facility, owned or operated by the **City**, which incorporates water play features, including wading pools and spray parks.

- (p) at section 5.1 by adding the following definitions, in alphabetical order:

NON-RESIDENTIAL LOT

means a parcel of land used for commercial, industrial, agricultural or mixed use purposes, including without limitation where a residential use is included on the same parcel as a commercial, industrial or agriculture use

RESIDENTIAL LOT

means a parcel of land used solely for residential purposes.

- (q) at Part Six by adding the following after section 6.3:

6.4 A violation of the provisions identified in this bylaw, except the **Stage 4 Restrictions** set-out in section 2.4, shall result in liability for penalties and late payment amounts established in Schedule A of the *Notice of Bylaw Violation Dispute Adjudication Bylaw No. 8122*.

6.5 A violation of the provisions identified in this bylaw, except the **Stage 4 Restrictions** set-out in section 2.4, shall be subject to the procedures, restrictions, limits, obligations and rights established in the *Notice of Bylaw Violation Dispute Adjudication Bylaw No. 8122* in accordance with the *Local Government Bylaw Notice Enforcement Act, SBC 2003, c. 60*.

6.6 A violation of the **Stage 4 Restrictions** identified in section 2.4 of this bylaw shall be subject to the penalty and procedures established in the *Municipal Ticket Information Authorization Bylaw No. 7321*.

2. This Bylaw is cited as “**Water Use Restriction Bylaw No. 7784, Amendment Bylaw No. 8766**”.

FIRST READING

SECOND READING

THIRD READING

ADOPTED

MAYOR

CORPORATE OFFICER

CITY OF RICHMOND
APPROVED for content by originating dept. <i>LS</i>
APPROVED for legality by Solicitor <i>hy</i>

JH



**Municipal Ticket Information Authorization Bylaw No. 7321,
Amendment Bylaw No. 8774**

The Council of the City of Richmond enacts as follows:

1. Municipal Ticket Information Authorization Bylaw No. 7321, as amended, is further amended by deleting item 16 under Schedule A and substituting the following:

16. Water Use Restriction Bylaw No. 7784 - **Bylaw Enforcement Officer**

2. Municipal Ticket Information Authorization Bylaw No. 7321, as amended, is further amended by deleting Schedule B 16 and substituting the following:

SCHEDULE B 16

WATER USE RESTRICTION BYLAW NO. 7784

Column 1	Column 2	Column 3
Offence	Bylaw Section	Fine
Watering contrary to Stage 4 Restrictions	2.4.1	\$1,000

3. This Bylaw is cited as "**Municipal Ticket Information Authorization Bylaw No. 7321,
Amendment Bylaw No. 8774**".

FIRST READING

SECOND READING

THIRD READING

ADOPTED

MAYOR

CORPORATE OFFICER

CITY OF RICHMOND
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APPROVED for legality by Solicitor M

JH



**Notice of Bylaw Violation Dispute Adjudication Bylaw No. 8122,
Amendment Bylaw No. 8775**

The Council of the City of Richmond enacts as follows:

1. Notice of Bylaw Violation Dispute Adjudication Bylaw No. 8122, as amended, is further amended at Part One – Application by adding the following after section 1.1(h):

 “(i) Water Use Restriction Bylaw No. 7784, as amended,”
2. Notice of Bylaw Violation Dispute Adjudication Bylaw No. 8122, as amended, is further amended by adding to the end of the table in Schedule A of Bylaw No. 8122 the content of the table in Schedule A attached to and forming part of this bylaw.
3. This Bylaw is cited as **“Notice of Bylaw Violation Dispute Adjudication Bylaw No. 8122, Amendment Bylaw No. 8775”**.

FIRST READING

SECOND READING

THIRD READING

ADOPTED

MAYOR

CORPORATE OFFICER

CITY OF RICHMOND
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SCHEDULE A to BYLAW NO. 8775

SCHEDULE A to BYLAW NO. 8122

Designated Bylaw Contraventions and Corresponding Penalties

A1 Bylaw	A2 Description of Contravention	A3 Section	A4 Compliance Agreement Available	A5 Penalty	A6 Early Payment Option	A7 Late Payment Amount	A8 Compliance Agreement Discount
	Period of Time from Receipt (inclusive)		n/a	29 to 60 days	1 to 28 days	61 days or more	n/a
Water Use Restriction Bylaw No. 7784 (2004)	Watering contrary to Stage 1 Restrictions	2.1.1	No	\$ 100.00	\$ 75.00	\$ 125.00	n/a
	Watering contrary to Stage 2 Restrictions	2.2.1	No	\$ 200.00	\$ 175.00	\$ 225.00	n/a
	Watering contrary to Stage 3 Restrictions	2.3.1	No	\$ 500.00	\$ 450.00	\$ 525.00	n/a
	Watering contrary to the terms of a permit	3.1.4	No	\$ 100.00	\$ 75.00	\$ 125.00	n/a
	Failure to display a permit	3.1.6	No	\$ 100.00	\$ 75.00	\$ 125.00	n/a

APR 15 2011

Mayor Malcolm Brodie and Council
City of Richmond
Mayor's Office
6911 No. 3 Road
Richmond, BC V6Y 2C1

Dear Mayor Brodie and Council:

Re: Revised Water Shortage Response Plan

At its meeting on March 18, 2011 the Board of the Greater Vancouver Water District (GVWD) approved a new version of the Water Shortage Response Plan. In particular, the 2011 Water Shortage Response Plan includes revised Lawn Sprinkling Regulations.

As you are aware, each municipality has a bylaw that implements the Water Shortage Response Plan (WSRP) and the Lawn Sprinkling Regulations. It is important that these municipal bylaws are updated to reflect the new WSRP. To assist you, enclosed are the following documents:

- the 2011 Water Shortage Response Plan dated February 21, 2011 (Attachment 1);
- the Water Shortage Response Plan Stages 1 to 4 – At a Glance summary tables (Attachment 2).
- an overview of the 2011 Water Shortage Response Plan Communication Strategy.

In adopting the 2011 WSRP the GVWD Board also resolved that enforcement is to begin June 1, 2012. The expectation is that municipalities will update their bylaws to implement the 2011 WSRP now and manage the enforcement in a transition period for the 2011 summer season with full enforcement commencing June 1, 2012.

If you or your staff have any questions, please contact Stan Woods (604-436-6909) with regards to technical questions about the WSRP, or David Hocking (604-451-6673) with regards to the WSRP Communications Strategy.

Respectfully I remain,

Lois E. Jackson
Chair, Metro Vancouver Board

LEJ/TA/ms

cc: Johnny Carline, Commissioner/Chief Administrative Officer
Municipalities of Bowen Island, Lions Bay & White Rock (Information only)

Attachments:

- 1 2011 Water Shortage Response Plan dated February 21, 2011 (4879611)
2 Water Shortage Response Plan Stages 1 to 4 – At a Glance summary tables (4879611)
3 2011 Water Shortage Response Plan Communication Strategy (4991879)

4991329

DC: GM-Eng. + AW
for appropriate
action

File: WA-07-01- WSRP-004
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2011 WATER SHORTAGE RESPONSE PLAN

February 21, 2011

Preface

The purpose of the Water Shortage Response Plan (WSRP) is to manage demand for drinking water during the summer months, and if necessary during times of emergencies. This is important because:

- rainfall is lowest and demand is highest in the summer
- storage, transmission and distribution system capacities are limited
- continued population and industrial growth have led to increased demand
- water shortages may result from unforeseen emergency situations (e.g. earthquakes, major service disruptions, etc.)

The WSRP focuses on reducing demand for outdoor water use. If persistent drought conditions occur, the WSRP contains actions that will produce significant reductions in daily water demand in the region.

The WSRP uses a staged approach, ranging from an initial standard level of water restrictions combined with timely and effective public notification to be automatically implemented each summer season, through to a highest level of restrictions intended for emergencies affecting the delivery of water.

The WSRP defines water shortage assessment general guidelines which would trigger each stage. However, water supply systems are complex and cannot always be measured by a single set of numbers. For example, a WSRP action may be needed to respond to a deficiency in the supply system such as local transmission capacity limitations, a failure of a major transmission line or other unforeseen problems with water treatment and supply infrastructure. Therefore, if the GVWD Commissioner deems it necessary, any stage of the WSRP may be enacted or delayed at any time or enacted in any order as the Commissioner deems necessary.

In cases where summer drought conditions strain the source water storage capacity of the Capilano and Seymour watersheds, a more restrictive stage of the WSRP may be activated. The factors to be monitored and considered in determining if a WSRP action (e.g., moving from Stage 1 to Stage 2) might be warranted under summer drought conditions include the following:

- storage capacity of Capilano and Seymour watersheds and draw down rates. Most of this information is reflected in the Capilano and Seymour storage graphic;
- forecasts of Capilano and Seymour storage, based on assumptions about: inflows to the watersheds, weather, supply volumes from the Coquitlam source, and GVWD water demand;
- recent trends, and forecasts of the GVWD water demand taking into account customer compliance with current restrictions;
- trends and forecasts of precipitation, snowmelt, and climatic conditions and how they may influence inflows to the source watersheds and source reservoirs;
- current levels, and recent trends in water storage (usable, emergency, total) for the Coquitlam source and how they relate to the GVWD's nominations for Coquitlam water;
- expected reduction in GVWD demand associated with taking a WSRP action.

The WSRP applies only to the use of treated drinking water. The WSRP restrictions do not apply to the use of rain water, gray water, any forms of recycled water, or other sources of water outside the GVWD municipal water supply system.

Stage 1 Water Use Restrictions

Activated automatically on June 1 of each year, or at the discretion of the GVWD Commissioner, and remains in effect until September 30. This end date may be extended by direction of the GVWD Commissioner.

The WSRP restrictions do not apply to the use of rain water, gray water, any forms of recycled water, or other sources of water outside the GVWD/municipal water supply system.

Under Stage 1 of the WSRP:

- Municipalities will suspend hydrant flushing except for unscheduled safety or public health reasons. Routine system flushing will be scheduled outside the WSRP time frame.
- Lawn sprinkling will be restricted to three periods a week, mornings only, enforced by the member municipalities. Outdoor sprinkling of lawns using hose-connected or automatic in-ground sprinklers will be permitted only as follows:

Residential Addresses¹;

Even-numbered addresses - Monday, Wednesday and Saturday mornings (4 - 9 am)

Odd-numbered addresses - Tuesday, Thursday and Sunday mornings (4 - 9 am)

Non-residential Addresses¹,

Even numbered addresses – Monday and Wednesday mornings (1 - 6 am)

Odd numbered addresses – Tuesday and Thursday mornings (1 - 6 am)

All non-residential addresses -- Friday mornings (4 - 9 am)

Cemetery lawns, ornamental lawns belonging to municipal facilities, and grassed boulevards will not be exempt and may be watered only within the three-weekly times noted above. Operation of sprinklers for children's play will not be exempt from these restrictions. Automated lawn sprinkler systems will not be exempt.

EXEMPTIONS:

- Sports playing fields and school yards, because their size makes them difficult to irrigate within the time limits, they are generally built on sand bases which do not hold moisture, and because replacement costs are high. Some artificial turf also needs to be watered for safety reasons.
- Municipal parks, because their size makes them difficult to irrigate within the time limits. However, municipalities will reduce sprinkling of parks, playing fields, etc. to minimum levels required to maintain these areas in useable condition. E.g. sand-based fields may require more frequent watering.
- Lawns at golf courses and turf farms, because the restrictions are not intended to cause undue economic hardship or disruption to a business for which lawns are the primary product or service being provided. However, municipalities will request that golf course operators cut water use on fairways by as much as possible.

¹ In cases of mixed zoning or mixed use, where commercial or industrial components are included on the same property along with residential and subject to the landscaping being watered by an in-ground sprinkling system, the designation shall then be classified as "Non-residential".

- Artificial turf requiring wetting and outdoor tracks requiring hosing for dust control or safety.
 - Newly-planted lawns will be allowed to be watered outside of restricted times, but will be required to obtain a municipal permit to be displayed on the lawn.²
 - Watering of flower and vegetable gardens, decorative planters, shrubs and trees will be allowed.
 - Filling of pools, spas, water play parks, and fountains will be allowed.
 - Washing of cars or boats will be permitted, but prudent use of water will be encouraged. Washing must be done using a spring-loaded shutoff nozzle.
-

Stage 2 Water Use Restrictions

The GVWD Commissioner has the discretion to enact or delay this stage under different conditions if deemed necessary.

This stage remains in effect until September 30. However, this end date may be extended by direction of the GVWD Commissioner.

The WSRP restrictions do not apply to the use of rain water, gray water, any forms of recycled water, or other sources of water outside the GVWD/municipal water supply system.

Under Stage 2 of the WSRP:

- Lawn sprinkling will be restricted to one morning a week only, enforced by the municipalities. Outdoor sprinkling of lawns using hose-connected or automatic in-ground sprinklers will be permitted only as follows:

Residential Addresses¹;

Even-numbered addresses - Monday morning only (4 – 9 am)

Odd-numbered addresses - Thursday morning only (4 – 9 am)

Non-residential Addresses¹;

Even-numbered addresses – Wednesday morning only (1 – 6 am)

Odd-numbered addresses – Tuesday mornings only (1 – 6 am)

Municipal parks, cemetery lawns, ornamental lawns belonging to municipal facilities, and grassed boulevards will not be exempt and may be watered only within the once-weekly times noted above.

Hosing of outdoor surfaces (e.g. driveways, sidewalks, roofs) will not be allowed unless required to avoid public health and safety concerns or to prepare a surface for painting/sealing or similar treatment, and must be done using a spring-loaded shutoff nozzle.

Pressure washing is equivalent to hosing of an outdoor surface, and will not be permitted except to prepare a surface for painting, sealing or similar treatment. Pressure washing for the purpose of aesthetic cleaning will not be permitted. This will apply to both private and commercial pressure washing.

¹ In cases of mixed zoning or mixed use, where commercial or industrial components are included on the same property along with residential and subject to the landscaping being watered by an in-ground sprinkling system, the designation shall then be classified as "Non-residential"

Ornamental fountains must be shut down. This includes residential, commercial, institutional and government fountains.

Only water play parks with user-activated switches will be permitted to operate.

EXEMPTIONS:

- Golf courses may water greens and tee areas normally; fairways may only be watered once weekly. Where applicable, signage indicating the use of non-GVWD water will be encouraged.
 - Sports playing fields, school yards and sand-based playing fields may be watered at minimum levels required to maintain areas in useable condition.
 - Artificial turf requiring wetting and outdoor tracks requiring hosing for health or safety reasons.
 - Newly-planted lawns will be allowed to be watered outside of restricted times, but will be required to obtain a municipal permit to be displayed on the lawn.
 - Watering of flower and vegetable gardens, decorative planters, shrubs and trees and turf at commercial turf farms will be allowed.
 - Washing of cars or boats will be permitted, but prudent use of water will be encouraged. Washing must be done using a spring-loaded shutoff nozzle.
-

Stage 3 Water Use Restrictions

The GVWD Commissioner has the discretion to enact or delay this stage under any condition as deemed necessary.

The WSRP restrictions do not apply to the use of rain water, gray water, any forms of recycled water, or other sources of water outside the GVWD/municipal water supply system.

This stage remains in effect until September 30. However, this end date may be extended by direction of the GVWD Commissioner.

Under Stage 3 of the WSRP:

All forms of lawn watering using treated drinking water will be banned completely, for sprinklers of any type. New lawns, cemetery lawns, ornamental lawns belonging to municipal buildings, and grassed boulevards will not be exempt.

Watering of shrubs and trees, flower and vegetable gardens, and decorative planters will not be permitted unless done by hand using a spring-loaded shutoff nozzle, containers or drip irrigation systems. Watering of gardens and planters using sprinklers or soaker hoses is prohibited.

Pressure washing is equivalent to hosing of an outdoor surface. Only commercial pressure washing to prepare a surface for painting, sealing or similar treatment will be permitted. Pressure washing for the purpose of aesthetic cleaning will not be permitted. Private pressure washing will be prohibited.

Exterior washing of vehicles (e.g. cars, motorcycles, recreational vehicles, trucks, boats and other marine vessels) will be prohibited, except for safety (windows, lights, licenses) and only then if using a spring-loaded shutoff nozzle. This includes residential, commercial, institutional and government vehicles.

Ornamental fountains must be shut down. This includes residential, commercial, institutional and government fountains.

Only water play parks with user-activated switches will operate.

Filling or refilling of garden ponds, hot tubs, or swimming pools will be prohibited.

EXEMPTIONS:

- Watering of turf at turf farms and flowers and vegetable at commercial gardens.
 - Commercial car washes may continue to operate in this stage, as studies have shown that commercial car washes use significantly less water per vehicle than manual washing.
 - Golf courses may water greens and tee areas at minimum levels required to maintain areas in useable condition; fairways may not be watered.
 - Sports playing fields (including sand-based) and school yards may be watered at minimum levels required to maintain areas in useable condition.
 - Artificial turf requiring wetting and outdoor tracks if required for dust control or safety reasons.
 - Hosing of outdoor surfaces (e.g. driveways, sidewalks, roofs) only if required to avoid public health and safety concerns or to prepare a surface for painting/sealing or similar treatment.
-

Stage 4 Emergency Water Use Restrictions

The measures listed in this Stage are intended for cases of EMERGENCY water shortages. The GVWD Commissioner has the discretion to enact or delay this stage under any condition as deemed necessary.

This stage remains in effect until September 30. However, this end date may be extended by direction of the GVWD Commissioner.

The WSRP restrictions do not apply to the use of rain water, gray water, any forms of recycled water, or other sources of water outside the GVWD/municipal water supply system.

Under Stage 4 of the WSRP:

Restrictions are the same as Stage 3 except for:

- Any form of watering (even if done by hand, containers, soaker hoses or drip irrigation) using treated drinking water will be prohibited for:
 - commercial flower gardens
 - residential flower gardens
 - residential vegetable gardens
 - trees and shrubs

- golf courses
 - turf farms
 - new lawns
 - sports playing fields (including sand-based)
 - municipal parks
 - cemeteries
 - ornamental lawns belonging to municipal buildings, residences or businesses
 - school yards
 - artificial turf
 - outdoor tracks
 - grassed boulevards
- Municipal permits for watering new lawns will be discontinued.
 - Commercial or private pressure washing and hosing of any outdoor surfaces will not be allowed unless ordered by a regulatory authority (e.g. WCB, public health inspectors) for health and safety reasons.
 - Filling or refilling of garden ponds, hot tubs, or swimming pools will be prohibited.
 - Municipal and commercial water parks will be shut down.
 - Municipal outdoor pools will be closed, and winterization of those pools will be deferred until Stage 4 is lifted by the GVWD Commissioner.
 - All commercial car washes will be shut down.
 - Municipalities will shut down faucets in parks and public spaces (does not apply to drinking fountains with spring-loaded shutoff nozzle).
 - In addition to the outdoor water restrictions of this stage, the GVWD will request that industries that consume large amounts of indoor water implement voluntary reductions/postponements in production during Stage 4.
 - Municipalities will increase their respective enforcement and penalties for violations of the water restrictions with each successive stage of the WSRP.
-

Communication of the Water Shortage Response Plan:

The GVWD supports the WSRP with region-wide communications initiatives. Advertising in the daily newspapers will be arranged by GVWD; advertising in community papers will be arranged by member municipalities. The GVWD and its member municipalities will coordinate annual public notification in newspapers, radio and other media as appropriate, including information on the frequency and amount of lawn sprinkling.

Public communications and notices by the GVWD and municipalities regarding water restrictions will be carried out in English and other languages as appropriate and increased with each successive stage of the WSRP.

Outdoor and indoor water use efficiency information and resource materials will be produced and distributed by the GVWD on behalf of the municipalities. This information will be in the most appropriate formats and media.

A staffed water conservation information service will be provided by the GVWD. Member municipalities will provide information services for inquiries on matters of enforcement and municipality-specific water issues using telephones and/or other media as appropriate.

Implementation of the Water Shortage Response Plan

The GVWD Commissioner is responsible for activating different stages of the WSRP and will notify member municipalities of the need for implementing or discontinuing each of the successive phases of the plan through the regular WSRP update bulletins.

As much notice will be provided as practically possible.

The WSRP is adopted into bylaws by each GVWD member municipality to enable consistent implementation throughout the region. Municipalities are responsible for enforcement of the WSRP in their communities. Municipalities utilize a variety of measures for enforcement, including advisory letters, ticketing and water supply restrictions.

Water Shortage Response Plan Stage 1 - At a Glance

NOTE: These restrictions apply only to the use of treated drinking water. The WSRP restrictions do not apply to the use of rain water, gray water, any forms of recycled water, or other sources of water outside the GVWD.

	ACTIVITY	RESTRICTION DETAILS
RESIDENTIAL	Lawn sprinkling	June 1-Sept. 30, even-numbered addresses - Monday, Wednesday and Saturday mornings (4 - 9 am), odd-numbered addresses - Tuesday, Thursday and Sunday mornings (4 - 9 am)
	New (unestablished) lawns.	Sprinkling outside restricted times allowed only with municipal permits to be displayed on lawn.
	Flowers, vegetables, planters, shrubs & trees	No restrictions
	Pools, spas, garden ponds	No restrictions
	Private outdoor impermeable surfaces (i.e., driveways, sidewalks)	No restrictions on hosing of outdoor impermeable surfaces
	Private pressure washing	No restrictions on pressure washing
	Outdoor car washing, boat washing	Only with hose equipped with spring-loaded shut off.
NON-RESIDENTIAL	Lawn sprinkling (including cemeteries)	June 1-Sept. 30, even numbered addresses - Monday and Wednesday mornings (1 - 6 am), odd numbered addresses - Tuesday and Thursday mornings (1 - 6am), all non-residential addresses - Friday mornings (4 - 9 am)
	New (unestablished) lawns.	Sprinkling outside restricted times allowed only with municipal permits to be displayed on lawn.
	Flowers, vegetables, decorative planters, shrubs & trees	No restrictions on watering of flowers, vegetables, planters, shrubs and trees
	Flower and vegetable gardens	No restrictions on watering of flower and vegetable gardens
	Pools, spas, garden ponds	No restrictions
	Fountains and water features	No restrictions
	Outdoor impermeable surfaces (i.e., driveways, sidewalks and parkades)	No restrictions on hosing of outdoor impermeable surfaces
	Pressure washing	No restrictions on pressure washing
	Outdoor car washing, boat washing	Only with hose equipped with spring-loaded shut off.
	Indoor commercial carwashes	No restrictions on the car washing operation
	Golf courses	Municipalities request golf course operators cut water use on fairways by as much as possible.
	Turf farms	No restrictions on watering of commercial turf
	Artificial turf and outdoor tracks (i.e., bicycle, motorcycle & running tracks)	Hosing for health and safety only.
PUBLIC	School yards, sports and sand-based playing fields	No restrictions
	Water play parks and pools	No restrictions
	Fountains and water features	No restrictions
	Municipal parks	No restrictions
	Municipal ornamental lawns, grassed boulevards.	June 1-Sept. 30, even numbered addresses - Monday and Wednesday mornings (1 - 6 am), odd numbered addresses - Tuesday and Thursday mornings (1 - 6am), all non-residential addresses - Friday mornings (4 - 9 am)
	Municipal hydrant flushing	Only for unscheduled safety or public health reason. Routine flushing to be scheduled outside WSRP timeframe.

For information regarding enforcement of the WSRP, please contact your municipality.

For general WSRP information, please contact the METRO VANCOUVER Information Centre at 604-432-6200.

Water Shortage Response Plan Stage 2 - At a Glance

NOTE: These restrictions apply only to the use of treated drinking water. The WSRP restrictions do not apply to the use of rain water, gray water, any forms of recycled water, or other sources of water outside the GVWD.

	ACTIVITY	RESTRICTION DETAILS
RESIDENTIAL	Lawn sprinkling	Only once weekly. even numbered addresses - Monday morning only (4 - 9 am), odd-numbered addresses - Thursday morning only (4 - 9 am)
	New (unestablished) lawns.	Sprinkling outside restricted times allowed only with municipal permits to be displayed on lawn.
	Flowers, vegetables, planters, shrubs & trees	No restrictions on watering of flowers, vegetables, planters, shrubs and trees
	Pools, spas, garden ponds	No restrictions
	Private outdoor impermeable surfaces (i.e., driveways, sidewalks)	Hosing only for health and safety purposes or to prepare a surface for painting or similar treatment. Washing for aesthetic purposes is prohibited.
	Private pressure washing	Only for health and safety purposes or to prepare a surface for painting or similar treatment. Washing for aesthetic purposes is prohibited.
	Outdoor car washing, boat washing	Only with hose equipped with spring-loaded shut off.
NON-RESIDENTIAL	Lawn sprinkling (including cemeteries)	Only once weekly. even-numbered addresses - Wednesday morning only (1 - 6 am), odd-numbered addresses - Tuesday mornings only (1 - 6 am)
	New (unestablished) lawns.	Sprinkling outside restricted times allowed only with municipal permits to be displayed on lawn.
	Flowers, vegetables, decorative planters, shrubs & trees	No restrictions on watering of flowers, vegetables, planters, shrubs and trees
	Flower and vegetable gardens	No restrictions on watering of flower and vegetable gardens
	Pools, spas, garden ponds	No restrictions
	Fountains and water features	All shut down
	Outdoor impermeable surfaces (i.e., driveways, sidewalks and parkades)	Hosing only for health and safety purposes or to prepare a surface for painting or similar treatment. Washing for aesthetic purposes is prohibited.
	Pressure washing	Only for health and safety purposes or to prepare a surface for painting or similar treatment. Washing for aesthetic purposes is prohibited.
	Outdoor car washing, boat washing	Only with hose equipped with spring-loaded shut off.
	Indoor commercial carwashes	No restrictions on the car washing operation
	Golf courses	Water greens and tee areas normally; fairways only once weekly. Signage indicating the use of non-GVWD water is encouraged.
	Turf farms	No restrictions on watering of commercial turf
	Artificial turf and outdoor tracks (i.e., bicycle, motorcycle & running tracks)	Hosing for health and safety only.
PUBLIC	School yards, sports and sand-based playing fields	Minimum levels required to maintain areas in useable condition.
	Water play parks and pools	Only water play parks with user-activated switches will be operated.
	Fountains and water features	All shut down
	Municipal parks	Only once weekly. even-numbered addresses - Wednesday morning only (1 - 6 am), odd-numbered addresses - Tuesday mornings only (1 - 6 am)
	Municipal ornamental lawns, grassed boulevards.	Only once weekly. even-numbered addresses - Wednesday morning only (1 - 6 am), odd-numbered addresses - Tuesday mornings only (1 - 6 am)
	Municipal hydrant flushing	Only for unscheduled safety or public health reason. Routine flushing to be scheduled outside WSRP timeframe.

For information regarding enforcement of the WSRP, please contact your municipality.

For general WSRP information, please contact the METRO VANCOUVER Information Centre at 604-432-6200.

Water Shortage Response Plan Stage 3 - At a Glance

NOTE: These restrictions apply only to the use of treated drinking water. The WSRP restrictions do not apply to the use of rain water, gray water, any forms of recycled water, or other sources of water outside the GVWD.

	ACTIVITY	RESTRICTION DETAILS
RESIDENTIAL	Lawn sprinkling	All forms of watering using treated drinking water are prohibited.
	New (unestablished) lawns.	No new permits issued or renewed. All forms of watering using treated drinking water are prohibited.
	Flowers, vegetables, planters, shrubs & trees	Only if done by hand using a spring-loaded shut off nozzle, or using containers or drip irrigation. Use of sprinklers or soaker hoses is prohibited.
	Pools, spas, garden ponds	Refilling is prohibited.
	Private outdoor impermeable surfaces (i.e., driveways, sidewalks)	Hosing only for health and safety purposes or to prepare a surface for sealing or similar treatment. Washing for aesthetic purposes is prohibited.
	Private pressure washing	Private pressure washing is prohibited.
	Outdoor car washing, boat washing	No outdoor washing or rinsing of vehicles and pleasure crafts, except for safety (windows, lights and licenses only).
NON-RESIDENTIAL	Lawn sprinkling (including cemeteries)	All forms of watering using treated drinking water are prohibited.
	New (unestablished) lawns.	No new permits issued or renewed. All forms of watering using treated drinking water are prohibited.
	Flowers, vegetables, decorative planters, shrubs & trees	Only if done by hand using a spring-loaded shut off nozzle, or using containers or drip irrigation. Use of sprinklers or soaker hoses is prohibited.
	Flower and vegetable gardens	No restrictions on watering of flower and vegetable gardens
	Pools, spas, garden ponds	Refilling is prohibited.
	Fountains and water features	All shut down
	Outdoor impermeable surfaces (i.e., driveways, sidewalks and parkades)	Hosing only for health and safety purposes or to prepare a surface for sealing or similar treatment. Washing for aesthetic purposes is prohibited.
	Pressure washing	Only for health and safety purposes or to prepare a surface for painting or similar treatment. Washing for aesthetic purposes is prohibited.
	Outdoor car washing, boat washing	No outdoor washing or rinsing of vehicles and pleasure crafts, except for safety (windows, lights and licenses only).
	Indoor commercial carwashes	No restrictions on the car washing operation
	Golf courses	Water greens and tee areas at minimum levels required to maintain areas in useable condition; fairways may not be watered.
	Turf farms	No restrictions on watering of commercial turf
	Artificial turf and outdoor tracks (i.e., bicycle, motorcycle & running tracks)	Hosing for health and safety only.
PUBLIC	School yards, sports and sand-based playing fields	Minimum levels required to maintain areas in useable condition.
	Water play parks and pools	Only water play parks with user-activated switches will be operated.
	Fountains and water features	All shut down
	Municipal parks	All forms of watering using treated drinking water are prohibited.
	Municipal ornamental lawns, grassed boulevards.	All forms of watering using treated drinking water are prohibited.
	Municipal hydrant flushing	Only for unscheduled safety or public health reason. Routine flushing to be scheduled outside WSRP timeframe.

For information regarding enforcement of the WSRP, please contact your municipality.

For general WSRP information, please contact the METRO VANCOUVER Information Centre at 604-432-6200.

Water Shortage Response Plan Stage 4 - At a Glance

NOTE: These restrictions apply only to the use of treated drinking water. The WSRP restrictions do not apply to the use of rain water, gray water, any forms of recycled water, or other sources of water outside the GVWD.

	ACTIVITY	RESTRICTION DETAILS
RESIDENTIAL	Lawn sprinkling	All forms of watering using treated drinking water are prohibited.
	New (unestablished) lawns.	No new permits issued or renewed. All forms of watering using treated drinking water are prohibited.
	Flowers, vegetables, planters, shrubs & trees	All forms of watering using treated drinking water are prohibited.
	Pools, spas, garden ponds	Refilling is prohibited.
	Private outdoor impermeable surfaces (i.e., driveways, sidewalks)	All forms of hosing of outdoor surfaces are prohibited unless ordered by a regulatory authority (i.e., WCB, public health inspector, etc...).
	Private pressure washing	All forms of hosing of outdoor surfaces are prohibited unless ordered by a regulatory authority for health and safety reasons (i.e., WCB, public health inspector, etc...).
	Outdoor car washing, boat washing	No outdoor washing or rinsing of vehicles and pleasure crafts, except for safety (windows, lights and licenses only).
NON-RESIDENTIAL	Lawn sprinkling (including cemeteries)	All forms of watering using treated drinking water are prohibited.
	New (unestablished) lawns.	No new permits issued or renewed. All forms of watering using treated drinking water are prohibited.
	Flowers, vegetables, decorative planters, shrubs & trees	All forms of watering using treated drinking water are prohibited.
	Flower and vegetable gardens	All forms of watering using treated drinking water are prohibited.
	Pools, spas, garden ponds	Refilling is prohibited.
	Fountains and water features	All shut down
	Outdoor impermeable surfaces (i.e., driveways, sidewalks and parkades)	All forms of hosing of outdoor surfaces are prohibited unless ordered by a regulatory authority for health and safety reasons (i.e., WCB, public health inspector, etc...).
	Pressure washing	All forms of hosing of outdoor surfaces are prohibited unless ordered by a regulatory authority for health and safety reasons (i.e., WCB, public health inspector, etc...).
	Outdoor car washing, boat washing	No outdoor washing or rinsing of vehicles and pleasure crafts, except for safety (windows, lights and licenses only).
	Indoor commercial carwashes	All shut down
	Golf courses	All forms of watering using treated drinking water are prohibited.
	Turf farms	All forms of watering using treated drinking water are prohibited.
	Artificial turf and outdoor tracks (i.e., bicycle, motorcycle & running tracks)	All forms of watering using treated drinking water are prohibited.
PUBLIC	School yards, sports and sand-based playing fields	All forms of watering using treated drinking water are prohibited.
	Water play parks and pools	All water parks shut down. Municipal outdoor pools closed. Winterization deferred until Stage 4 is lifted by GVWD.
	Fountains and water features	All shut down
	Municipal parks	All forms of watering using treated drinking water are prohibited.
	Municipal ornamental lawns, grassed boulevards.	All forms of watering using treated drinking water are prohibited.
	Municipal hydrant flushing	Only for unscheduled safety or public health reason. Routine flushing to be scheduled outside WSRP timeframe.

For information regarding enforcement of the WSRP, please contact your municipality.

For general WSRP information, please contact the METRO VANCOUVER Information Centre at 604-432-6200.

2011 Water Shortage Response Plan Communication Strategy

Discussion of Communication Strategy during Adoption of 2011 WSRP

On March 18th, 2011, the GVWD Board adopted the following motion;

That the Board adopt the 2011 Water Shortage Response Plan, as presented in the report titled "Proposed Revisions to the Water Shortage Response Plan", dated February 21, 2011 with enforcement to begin June 1, 2012.

At its March 9, 2011 meeting, the Water Committee considered the report presenting the 2011 Water Shortage Response Plan and amended the recommendation by adding the text "with enforcement to begin June 1, 2012".

In discussing the new lawn sprinkling regulations the Water Committee and staff committees (e.g., REAC and REAC Water sub-committee) noted the following:

- Some municipalities have already published calendars and other municipal materials with the old sprinkling regulations and it will be difficult to reach all of the public and educate them about the new lawn sprinkling regulations;
- Given the change to the new regulations, the focus in summer 2011 should be on education and communication about wise water use and the new sprinkling regulations and hours;
- As some public may be unaware of the new sprinkling regulations, municipalities should focus on education and awareness with public watering outside of the permitted times. In previous years, municipalities have typically used a phased multi-stage program aimed at education and awareness with first and second offenders and such an approach should be continued in summer 2011.

Metro Vancouver's Role In Communicating the Revised WSRP

Metro Vancouver is responsible for communication of the water shortage response plan. This includes notification to businesses and residents regarding the implementation of the restrictions (usually in effect from June 1st to September 30th) and, if required, subsequent notifications of escalation in the restriction levels during the duration of the implementation.

This document is an overview of the Metro Vancouver communication strategy to deliver notification and information messages pertaining to the WSRP. In order to effectively reach as many water users as possible in a short amount of time, dissemination of information is mainly achieved through media relations, advertising, partners and both formal and informal networks.

Specific **communications activities** implemented by Metro Vancouver are:

1. development and placement of initial advertisement in the daily, community and ethnic papers
2. coordination of media relations
3. publishing of above information plus related materials on the Metro Vancouver Web site
4. distribution of above information plus related materials to municipalities
5. development of 'front-line staff' information for municipalities and Metro Vancouver Information Centre
6. proactive information outreach to Metro Vancouver permit holders and ICI businesses

7. proactive information outreach through community networks and stakeholder groups
8. proactive communications to the affected non-residential sector through contact with irrigation and landscaping associations, property managers and other affected business groups.

WSRP-specific activities are complemented by on-going public education and outreach initiatives targeted to residential adult- and school-aged audiences and business sectors. The Metro Vancouver works collaboratively to promote water use efficiency and conservation with partners including:

- ❖ municipal staff (i.e., Municipal Water Conservation Coordinators);
- ❖ municipal outreach groups (i.e., Sustainable Home and Garden Education Network, Compost Hotline, North Shore Recycling Program).

WSRP - Key Audiences

- Metro Vancouver residents (ads published in English, Traditional Chinese and Punjabi) of multi-family (apartment, condos, etc...) and detached dwellings
- Educational institutions and other levels of government
- Commercial building owners and operators
- Businesses and industrial large water users

WSRP - Key Messages

Key messages used for all outreach during the implementation of the WSRP are set by Metro Vancouver senior management representatives from various departments. Final approval is given by the GVWD Commissioner.

With increasing focus on sustainability, the primary message of the summer lawn sprinkling campaign has become: **"Don't Waste Water on Your Lawn"** along with messages such as:

- Let your lawn go dormant during the summer. Brown is the new green in lawn care;
- Don't waste our world-class drinking water on grass that will green up again in the fall;
- Established lawns only require one inch (2.5 cm) of water, once a week to stay healthy, only water for one hour, once a week – or less if it rains;
- Sprinkling in the early morning period reduces evaporation and is more water efficient;
- Conserving water will allow Metro Vancouver to build less infrastructure – minimizing additional costs to the taxpayer and the environment.

As noted above the primary message of the summer lawn sprinkling campaign is **"Don't Waste Water on Your Lawn"** with the statement "But if you must water..." followed by a note that lawn sprinkling regulations are in effect from June 1 to September 30 and the specifics of the days and times when lawn sprinkling is permitted.

DETAILED TABLE OF WSRP COMMUNICATION ACTIVITIES

ACTIVITY	CURRENT DELIVERABLES AND NEW INITIATIVES FOR 2011
1. Newspaper advertising	<ul style="list-style-type: none"> - Information about relevant restrictions, promotion of the HomePages insert and RCBC Recycling Hotline for water use efficiency and conservation ideas - Publish English ad in daily and community papers; Traditional Chinese ad; Punjabi ad in ethnic papers
2. Media Relations	<ul style="list-style-type: none"> - Develop news release and Q&A - If necessary, coordinate media briefing event and support Metro Vancouver Board spokesperson - Messaging regarding water use efficiency and conservation
3. Web publishing	<ul style="list-style-type: none"> - Post media materials and advertisement on Metro Vancouver Web site - Post current reservoir storage levels with weekly updates - Post 'at-a-glance' table
4. Support to member municipalities	<ul style="list-style-type: none"> - Official correspondence between GVWD Commissioner and City Managers to announce WSRP implementation period - On-going staff-level communication to provide municipalities with relevant media materials, and education and outreach materials (brochure, magnets, etc...)
5. Support to front-line staff	<ul style="list-style-type: none"> - Distribute "at-a-glance" document of WSRP highlights to support front-line staff in dealing with public calls in an efficient and consistent manner. This document also provides contacts for media and enforcement issues.
6. Proactive outreach to Metro Vancouver permit holders and ICI businesses	<ul style="list-style-type: none"> - Outreach through direct contact or in partnership with business, industry trade or professional associations - Direct contact with large water users if restriction levels escalate - communications to the affected non-residential sector through contact with irrigation and landscaping associations, property managers and other affected business groups.
7. Proactive outreach to community networks and stakeholder groups	<ul style="list-style-type: none"> - Outreach through various community networks and water conservation stakeholder groups



City of Richmond

Report to Committee

To: Public Works and Transportation Committee
From: John Irving, P.Eng. MPA
Director, Engineering
Re: Subdivision and Development Bylaws

Date: June 7, 2011
File: 10-6060-01/2011-Vol 01

Staff Recommendation

1. That Subdivision and Development Bylaw No. 8751 be introduced and given 1st, 2nd and 3rd readings.
2. That Works and Services Cost Recovery Bylaw No. 8752 be introduced and given 1st, 2nd and 3rd readings.

John Irving, P.Eng., MPA
Director, Engineering
(604-276-4140)

Att. 3

FOR ORIGINATING DEPARTMENT USE ONLY					
ROUTED TO:	CONCURRENCE		CONCURRENCE OF GENERAL MANAGER		
Roads and Construction	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>				
Sewerage and Drainage	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>				
Water Services	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>				
Law	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>				
Development Applications	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>				
REVIEWED BY TAG	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	REVIEWED BY CAO	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>

Staff Report

Origin

Section 938 of the Local Government Act ("LGA") provides the authority for local governments to regulate and require the provision of works and services with respect to subdivision of land by bylaw.

Section 194 of the Community Charter ("Charter") permits the City to charge fees for City services.

The City of Richmond relies on two bylaws to construct and fund site services that support new developments:

- Richmond Off-Site Works and Services Bylaw No. 5720 identifies provisions for the City to require the construction of frontage improvements as a condition of subdivision or building permit, or to collect cash-in-lieu of providing required works and services. This bylaw was adopted by Council in June 1991.
- Subdivision Bylaw No. 6530 identifies provisions for the City to require works and services as set out in bylaw as part of a subdivision approval and specifies the minimum specifications the works and services are to be built to. This bylaw was adopted by Council in September 1996.

A prescribed form of Servicing Agreement (the "SA") is attached to and forms part of the existing Bylaw No. 6530. The prescribed SA was created when development in the City typically was green field subdivision and therefore is not reflective of current or future development in Richmond. Further, as the SA is part of the existing Bylaw No. 6350 modification is not possible, without a specific bylaw amendment.

Changes in the LGA and Charter are not reflected in Bylaw No. 5720 and Bylaw 6530. Bylaw No. 5720 is based on the Municipal Act, which has since been replaced by the LGA and the Charter. Additionally, both of these bylaws require updating to reflect these legislative changes.

Bylaw No. 6530 also includes minimum infrastructure standards that are not up to date with the current engineering practice, and an update is required to remedy these discrepancies.

Analysis

Staff propose repealing Bylaw No. 5720 and Bylaw No. 6530 and replacing them with two new bylaws, No.'s 8751 and 8752. These new bylaws will retain the intent of the bylaws they replace.

Proposed Subdivision and Development Bylaw No. 8751 Summary

This bylaw will define developers' responsibilities for the provision of works and services in connection with the subdivision and development of land. The intent of this bylaw is to act as an

updated replacement and consolidation of elements of Bylaw No. 5720 and Bylaw No. 6530. Key terms of the proposed bylaw include:

- Updated engineering performance standards;
- Removal of the prescribed SA;
- Provision for the City to accept cash-in-lieu of constructing or altering works and services required by the bylaw, on the basis of sound civil engineering practice;
- Delegation of authority to the General Manager, Engineering and Public Works to require excess or extended services, determine benefiting properties and impose Latecomers charges; and
- Clarity and reference updates.

Proposed Works and Services Cost Recovery Bylaw No. 8752 Summary

This bylaw will facilitate recovery of construction costs associated with works and services that have been constructed and financed by the City. Key terms in the proposed bylaw include:

- A charge on properties that obtain subdivision approval and are identified as benefiting from a City funded (in whole or in part) improvement project;
- A maximum term for cost recovery to be 15 years after the completion date of the works or services;
- The cost recovery on actual construction cost;
- Each improvement project will be included as a schedule to the bylaw that will identify developers' responsibilities for specific parcels associated with works or services improvements; and
- Clarity and reference updates.

Cash-in-lieu / Cost Recovery

There are development/infrastructure scenarios that lend themselves to the City collecting cash-in-lieu of infrastructure construction from developers. Although the preference is for developers to construct the required works and services, some infrastructure elements (such as lanes or sidewalks) do not serve their intended function until a minimum level of connectivity or catchment areas are achieved. When the size or location of a development does not allow these infrastructure minimum levels to be satisfied, the City may elect to collect cash-in-lieu with the goal of constructing infrastructure in the future at a level of development that makes sense from neighbourhood, cost and engineering perspectives. These scenarios generally involve (but are not limited to) single-family residential or duplex residential development contributing to lane or sidewalk construction. Currently, the Neighbourhood Improvement Charge (NIC), originating from Bylaw 5720, is the vehicle utilized for collecting cash-in-lieu.

The proposed Subdivision and Development Bylaw No. 8751 (Section 11) enables the City to accept cash-in-lieu of construction contributions where it makes sense based on sound engineering practices or cost considerations. This bylaw will replace the cash-in lieu of construction element of the current NIC program for collection of contributions prior to the

construction of the works or services, while Bylaw No. 8752 will allow for the collection of contributions after construction.

Further, the proposed Subdivision and Development Bylaw No. 8751 (Section 11) allows for site specific estimates for infrastructure costs. Infrastructure items that were previously included in the NIC program, such as lane construction, will continue to be charged at current NIC rates, but will be adjusted for inflation annually based on the Consumer Price Index (CPI).

The proposed Works and Services Cost Recovery Bylaw No. 8752 clarifies City cost recovery terms for properties that develop after infrastructure is constructed, utilizing City funds or a combination of City funds and collected cash-in-lieu funds. The proposed bylaw limits cost recovery to the amount that was invested by the City and limits the recovery period to 15 years after the construction occurs, similar to existing latecomers legislation. It also includes schedules that identify specific properties and the amount that is to be recovered from those properties due to infrastructure construction. As new improvement projects are constructed and completed, they will be added as schedules to the bylaw, and presented to council for approval via a bylaw amendment. Proposed Bylaw No. 8752 currently includes three infrastructure improvement projects. These projects meet the following selection criteria:

- the project was completed less than 15 years ago;
- the project was partially funded by previous developer contributions (via cash-in-lieu or NIC) and partially funded by the City; and
- there are properties identified as benefiting lands that have not previously paid for the improvement project.

Developments Currently in Process

Proposed Bylaw No. 8751 Section 15 is a grandfather clause that permits all currently in stream subdivisions or building permits to be completed under existing bylaws for up to 12 months. This section further extends cost certainty on NIC for up to 24 months.

Proposed Bylaw No. 8752 Section 5 is a grandfather clause that permits in stream subdivisions up to 24 months to be completed under the existing bylaws.

Delegation of Authority With Respect to Latecomers

The proposed Subdivision and Development Bylaw No. 8751 Section 13 delegates the following authorities identified under the LGA Section 939 to the General Manager, Engineering and Public Works:

- Require a developer to construct excess or extended services;
- Determine if the costs of excess or extended services are to be borne by the developer;
- Determine the benefit of the excess or extended services that may be attributed to other parcels; and
- Impose latecomer charges to the benefiting properties.

Staff has identified an increased interest in Latecomer agreements and believes that the City will likely enter a number of these agreements in the coming years. By delegating authority to the General Manager, Engineering and Public Works, these agreements will be streamlined and will utilize less staff or Council time by eliminating the need to bring each separate latecomer agreement to Council. This delegation is typical practice in regional municipalities.

Servicing Agreement

When a development requires works and services up-grades and such works and services are not constructed by the owner/developer of the lands in advance of the rezoning adoption or issuance of a building permit or subdivision approval, the owner/developer of the lands is obligated to enter into a Servicing Agreement (SA) requiring the owner/developer to construct the necessary works and services to City standards on or before a specified date. Typically works and services are not constructed in advance of rezoning adoption the issuance of a building permit or subdivision approval and therefore the City enters into many SAs with owner/developers.

A prescribed SA is attached to and forms part of Bylaw No. 6530. The prescribed SA reflects the type of development typical at the time of the bylaw adoption, which was primarily green field subdivisions. Staff recognizes a need to revise the model SA to better suit current and anticipated development types, largely re-development and densification. Further, as the current SA is a part of the existing Bylaw No. 6530, in the context of building permit issuance and subdivision approval, modifying this SA to reflect the requirements for a particular development or development type is not, without specific bylaw amendment, possible. In the context of rezonings, the City's development process and practice has been to make use of the prescribed agreement. Given the above, while Staff anticipate that the City will develop standard forms of SAs, Staff recognise the need for the ability to tailor a SA to match the requirements of the particular development. As a result, staff recommends not attaching a prescribed SA to the new bylaw replacing Bylaw No. 6350 and developing SAs that will not only be applicable to different development stages (rezoning, building permit issuance, subdivision approval) but differing types and complexities of developments.

When works and services are not constructed prior to building permit issuance or subdivision approval, in addition to entering into a SA with the City, an owner/developer must also provide security to the City. Security is generally in the form of a letter of credit or cash. At the building permit or subdivision approval stage, the full amount of the security required by the City must be in place before building permit issuance or subdivision approval.

Security is also requested by the City if the provision of certain works and services is a rezoning consideration and such works and services have not been constructed or installed prior to rezoning adoption. As rezoning is typically earlier in the development stage than either building permit issuance or subdivision approval, because of regulatory requirements and current financing practices, financing alternatives are often more limited prior to rezoning and consequently owner/developers often have a more difficult time providing the financial security that has typically been requested by the City prior to rezoning adoption. Further, because of the nature of rezonings, unlike at the building permit issuance or subdivision approval stage, the City has more latitude to consider the type and timing of the owner/developer's security.

To address the development community's financing concerns the financial security requirements prior to rezoning will be altered by allowing financial security to be provided in phases. Full financial security for those works and services beyond a development's frontage will continue to be required prior to rezoning adoption, however, the financial security for frontage works and service may be deferred until the building permit issuance or subdivision approval. These changes to financial security requirements will not increase financial risk to the City and will not reduce infrastructure improvements provided by development.

Stakeholder Consultation

The proposed bylaws were presented to the Urban Development Institute (UDI) on March 30, 2011 and to the local homebuilders liaison group on April 26, 2011.

The local homebuilders liaison group requested assurance that in-stream applications would not be assessed higher fees due to the proposed bylaws. Infrastructure items that were previously included in the NIC program, such as lane construction, will continue to be charged at current NIC rates, but will be adjusted for inflation annually based on the Consumer Price Index (CPI), which addresses the local homebuilder's concerns.


The local homebuilders liaison group requested a mechanism that will provide stability in the medium term for cash-in-lieu contributions associated with lanes and frontage works. Staff will prepare a policy/guideline for typical construction project unit rates for those items that will commonly be assessed a cash-in-lieu of construction contribution (e.g. sidewalk, full lane construction etc.) that will be updated on a regular basis, depending on fluctuations in market rates for these types of construction.

Financial Impact


There is no financial impact at this time.

Conclusion

The proposed Subdivision and Development Bylaw No. 8751 and Works and Services Cost Recovery Bylaw No. 8752 are in alignment with current legislation, meet the current needs of the City and development community with respect to current and anticipated development, while retaining the intent of the bylaws they repeal.



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LLB:llb



SUBDIVISION AND DEVELOPMENT BYLAW NO. 8751

A bylaw to regulate and require the provision of works and services in connection with the subdivision and development of land and to establish standards for the construction and upgrading of dikes

Whereas the City may, under s. 938 of the *Local Government Act*, regulate and require the provision of works and services in respect of the subdivision of land, and require as a condition of the approval of a building permit or a subdivision that the owner of the land provide works and services on the land being developed or subdivided and on the adjacent highway, all in accordance with the works and services standards established in the bylaw; and

Whereas the City may, under s. 939 of the *Local Government Act*, require that the owner of land that is to be subdivided or developed provide excess or extended services as defined in that section; and

Whereas the City may, under s. 69 of the *Community Charter*, impose requirements on the owners of dikes or persons undertaking the construction of dikes; and

Whereas the Council of the City may, under s. 154 of the *Community Charter*, delegate its powers, duties and functions to an officer or employee of the City;

The Council of the City of Richmond, in open meeting assembled, enacts as follows:

1. In this bylaw,

APPROVING OFFICER

means the person appointed to that position under the *Land Title Act*.

BUILDING INSPECTOR

means a person appointed as a building inspector as defined in Building Bylaw No. 7230.

DEVELOPER

means, as the context requires, the owner of land in respect of which a subdivision application or building permit application has been made.

**GENERAL MANAGER,
ENGINEERING AND
PUBLIC WORKS**

means the person appointed to that position by the Council or a person designated by the

General Manager to act in his or her absence.

SECURITY

means cash or a clean, unconditional, irrevocable and automatically renewing letter of credit drawn on a chartered bank or credit union having a branch in the City at which demand may be made on the letter of credit.

2. No person shall subdivide land in the City unless the works and services required by this bylaw have been provided by the **Developer** to the satisfaction of the **General Manager, Engineering and Public Works**, or the **Developer** has entered into an agreement with the City to construct and install the required works and services by a date specified in the agreement, and provided to the City **Security** in the amount determined by the **Approving Officer** in consultation with the **General Manager, Engineering and Public Works**, having regard to the cost of installing and paying for the works and services.
3. Section 2 does not apply:
 - (a) within the area indicated on Schedule A, in relation to any works and services other than water distribution systems and sewage collection systems;
 - (b) in relation to underground wiring, conduit and vaults, in the case of any subdivision resulting in the creation of fewer than 2 additional parcels in an area zoned for single-family residential use only where the electrical and telecommunication services abutting the parcel being subdivided and all immediately abutting parcels are above-ground; or
 - (c) in relation to works and services of any type, in cases where the **General Manager, Engineering and Public Works** determines that the need for the works or services is not directly attributable to the subdivision, or to buildings likely to be constructed in the subdivision.
4. No person shall construct a building or structure in the City for which a building permit is required unless the works and services required by this bylaw have been provided by the **Developer** to the satisfaction of the **General Manager, Engineering and Public Works**, or the **Developer** has entered into an agreement with the City to construct and install the required works and services by a date specified in the agreement, and provided to the City **Security** in the amount determined by the **Building Inspector** in consultation with the **General Manager, Engineering and Public Works**, having regard to the cost of installing and paying for the works and services.

5. Section 4 does not apply:

- (a) within the area indicated on Schedule A, in relation to any works and services other than water distribution systems and sewage collection systems;
- (b) outside the area indicated on Schedule B, in relation to a building permit authorizing the construction of a single family dwelling whether or not the dwelling contains a secondary suite or in relation to the construction of a two-family dwelling; or
- (c) in relation to works and services of any type, in cases where the **General Manager, Engineering and Public Works** determines that the need for the works or services is not directly attributable to the subdivision, to buildings likely to be constructed in the subdivision, or to the building for which a building permit application has been made.

6. The **General Manager, Engineering and Public Works** may

- (a) from time to time, prescribe the form of agreement to be used where the City is entering into an agreement pursuant to section 2 or section 4, provided that each such agreement shall require the **Developer** to:
 - i. maintain the works and services for a period specified in the agreement following completion or substantial completion of construction, and to repair and make good all defects and deficiencies appearing in the works and services during that period;
 - ii. provide to the City throughout the maintenance period performance **Security** in the amount determined by the **General Manager, Engineering and Public Works**;
 - iii. carry third party liability insurance in an amount and form acceptable to the **General Manager, Engineering and Public Works**, in respect of claims arising out of death, personal injury or damage arising from the construction of the works and services; and
 - iv. indemnify the City and save it harmless in respect of all costs and expenses it may incur as a result of faulty workmanship or defective material in the works and services in respect of which the City has provided notice to the **Developer** prior to the City's final acceptance of the works and services;
- (b) execute and deliver such agreements on behalf of the City, and

- (c) require that such agreements be drafted in a form that is registrable under s. 219 of the *Land Title Act* against title to the land being subdivided or built upon.
7. The works and services required by this bylaw are the following:
- (a) highways and lanes, boulevards including street trees and other landscaping, boulevard crossings, culverts, transit facilities, sidewalks, walkways, highway and walkway bridges, curbs and gutters, traffic signs and signals, street lighting and conduit and vaults for underground wiring;
 - (b) water distribution systems connected to the City's water distribution system including, without limitation, pipelines, fire hydrant systems, valves and valve chambers, meters and meter chambers;
 - (c) sewage collection systems connected to the City's sewage collection system including, without limitation, gravity mains, forcemains, lift stations, manholes and sewage holding facilities; and
 - (d) drainage collection systems connected to the City's drainage collection system including, without limitation, enclosed storm sewers, catch basins, manholes, ditches, gates, stormwater retention and detention facilities, and environmental control facilities.
8. The works and services described in section 7 must, in all cases, be provided on that portion of any highway or lane immediately adjacent to the parcel that is the subject of the subdivision or building permit application, as the case may be, or in a utility statutory right of way, unless additional requirements are imposed under section 13.
9. The works and services required by sections 2 and 4 and under section 13 must be constructed and installed at the cost of the **Developer** to the standards set out in Schedules C through H, except to the extent that such standards may have been varied by development variance permit or board of variance order, and in accordance with such technical specifications as may be prescribed by the **General Manager, Engineering and Public Works** from time to time.
10. If works and services of the type described in section 7 are already in existence on or in the highway or lane adjacent to a parcel being subdivided or on which a building is proposed to be constructed or in a utility right of way, and the works and services do not comply with the standards specified in section 9, the **Developer** must alter the works and services so that they comply with the standards, and the provisions of sections 2 and 4 regarding agreements and **Security** apply to the alterations.

11. The **General Manager, Engineering and Public Works** may require a **Developer** to pay to the City, in lieu of constructing or altering works and services required by this bylaw, cash in the amount determined by the General Manager to be the cost of designing and constructing or altering the works and services as of the time of approval of the subdivision or issuance of the building permit including any land acquisition costs, if the General Manager determines on the basis of sound civil engineering practice or cost considerations that the works should be constructed or altered at a later time or concurrently with the construction or alteration of works and services serving adjacent or nearby parcels of land, and in such cases the City shall deposit the funds into a reserve fund established for the construction or alteration of the works and services.
12. The works and services required by this bylaw shall be provided in dedicated highways, unless the **General Manager, Engineering and Public Works** has approved the location of the works and services in a statutory right of way granted to the City, in which case the statutory right of way, including any required plan of right of way, must be prepared at the cost of the **Developer**, in terms satisfactory to the **General Manager, Engineering and Public Works** and the City Solicitor, and deposited concurrently with the deposit of the subdivision plan in the case of a subdivision application and prior to the issuance of the building permit in the case of a building permit application. Where an existing utility right of way is of insufficient width to accommodate the works and services, the **General Manager, Engineering and Public Works** may require the granting of additional right of way area to the City and this section applies to the preparation and deposit of a revised plan of statutory right of way.
13. The Council delegates to the **General Manager, Engineering and Public Works** the powers of the Council under the *Local Government Act* to:
 - (a) require a **Developer** to construct excess or extended services as defined in section 939 of the Act;
 - (b) determine whether the cost to the City to provide the excess or extended services would be excessive and, in that event, that the cost must be paid by the **Developer**;
 - (c) determine the benefit of the excess or extended service that may be attributed to each of the parcels of land that will be served by the services; and
 - (d) impose latecomer charges under section 939 of the Act including interest at the rate established by Excess or Extended Services and Latecomer Payment Interest Rate Establishment Bylaw No. 6936 or any successor bylaw.

14. For the purpose of section 13, the **General Manager, Engineering and Public Works** may execute and deliver on behalf of the City agreements with **Developers** regarding the collection and remittance of latecomer charges, which agreements may be combined with works and services agreements as referred to in sections 2 and 4.
15. Where a subdivision or building permit application in complete form was made prior to the adoption of this bylaw,
- (a) in respect of the matters dealt with in section 11 of this bylaw, the subdivision may be approved or the building permit issued in accordance with the bylaws repealed by this bylaw, provided the subdivision is approved or the building permit is issued no later than 24 months after the adoption of this bylaw, and
 - (b) in respect of all other matters dealt with in this bylaw, the subdivision may be approved or the building permit issued in accordance with the bylaws repealed by this bylaw, provided the subdivision is approved or the building permit is issued no later than 12 months after the adoption of this bylaw,

unless the applicant has requested in writing that the application be considered and approved in accordance with this bylaw.

16. No person shall construct or repair or modify any dike or any embankment, wall, fill, piling, pump, gate, floodbox, pipe, sluice, culvert, canal, ditch, drain or any other thing that is constructed, assembled or installed to prevent the flooding of land, unless the works comply with Schedule H.
17. The following bylaws are repealed:
- (a) Subdivision Bylaw No. 6530;
 - (b) Richmond Off-Site Works and Services Bylaw No. 5720.
18. This bylaw may be cited as "**Subdivision and Development Bylaw No. 8751**".

FIRST READING

SECOND READING

THIRD READING

ADOPTED

CITY OF RICHMOND
APPROVED for content by originating dept.

APPROVED for legality by Solicitor

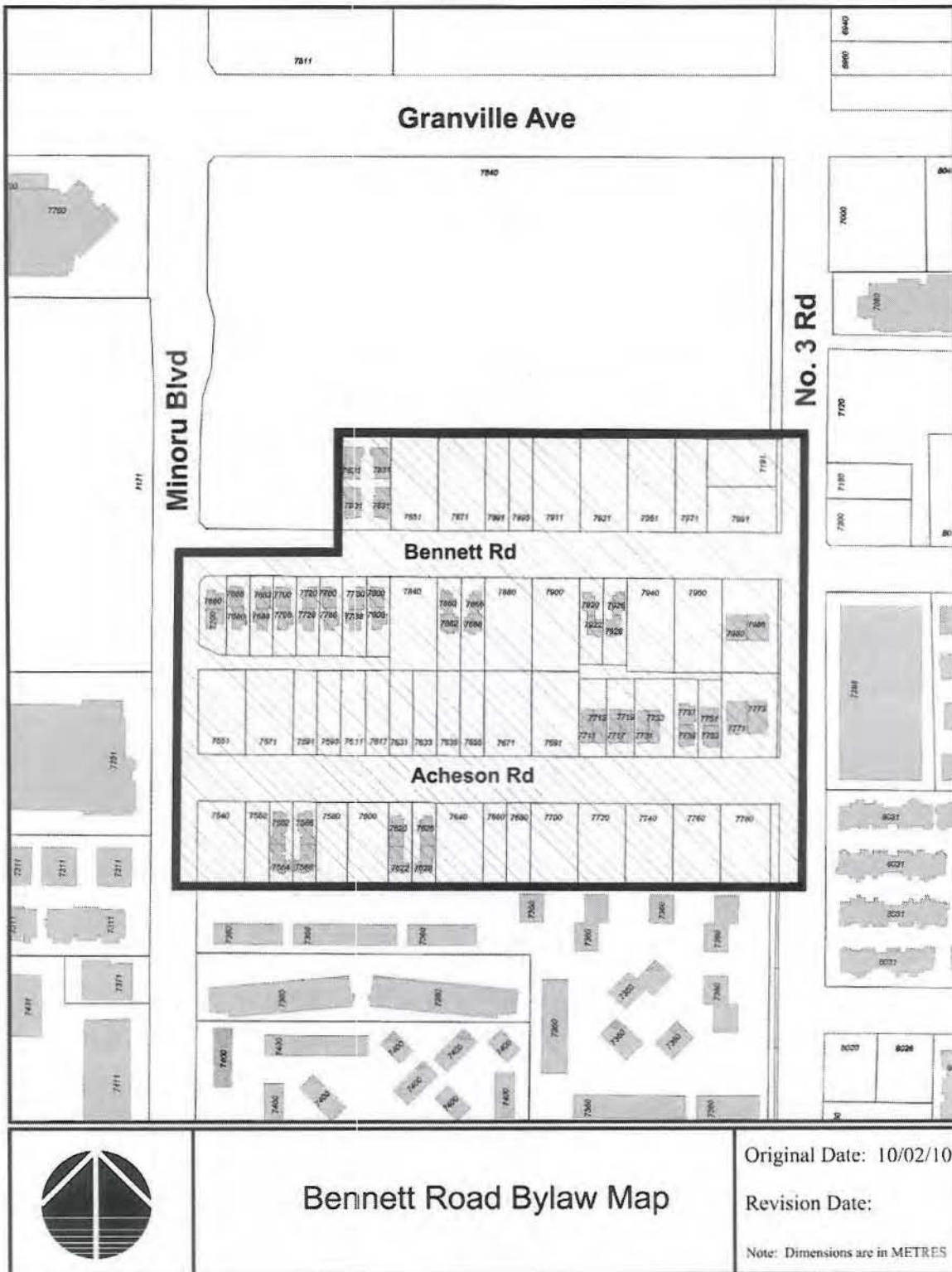

MAYOR

CORPORATE OFFICER

SCHEDULE A to BYLAW NO. 8751



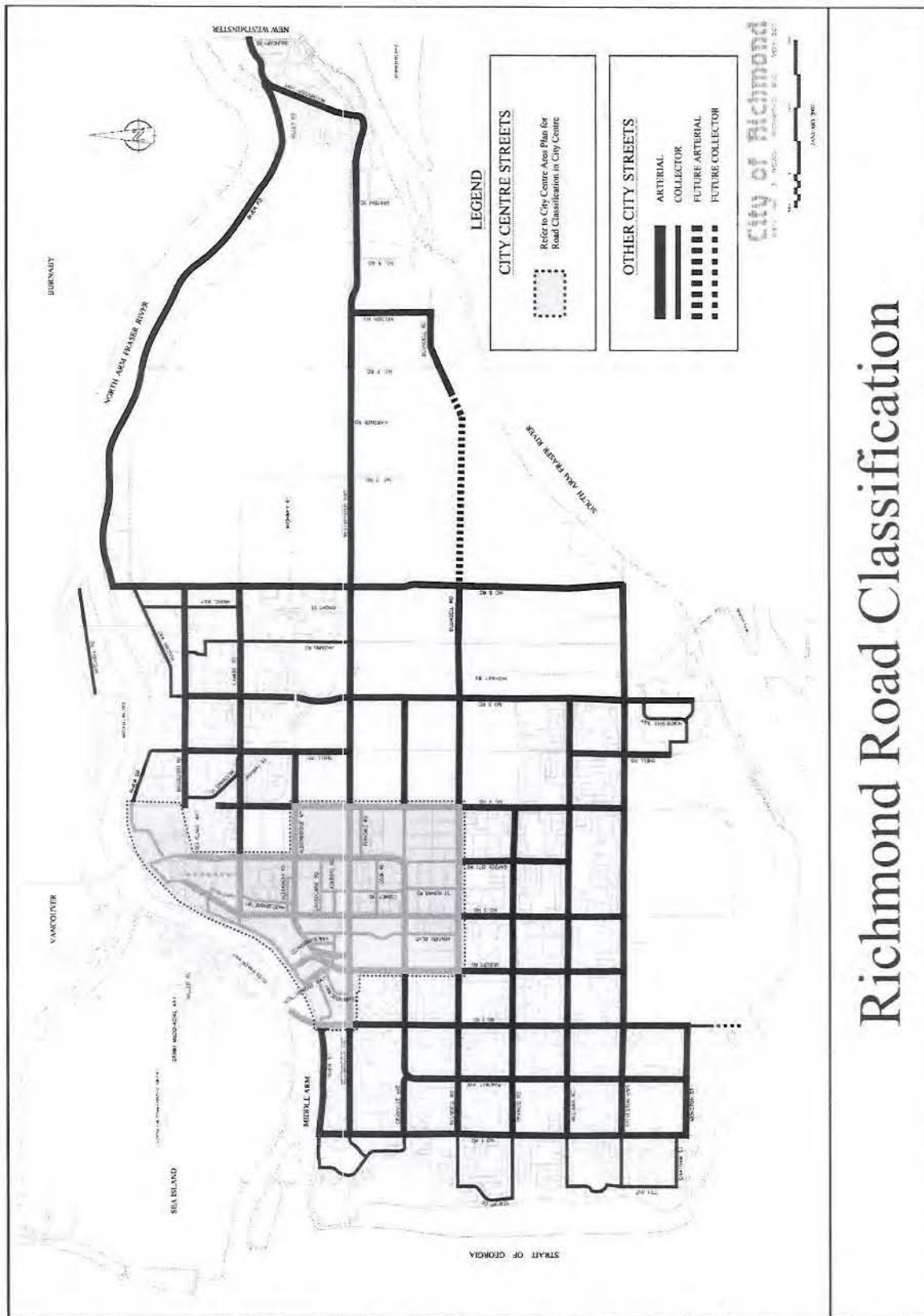
SCHEDULE B to BYLAW NO. 8751



SCHEDULE C to BYLAW NO. 8751
HIGHWAY STANDARDS -Road Cross Section Requirements

Road Classification	Road Dedication	Pavement Width	Sidewalks/ Edge Treatment	Curb/Gutter
1. Arterial (Undivided)	24.0 m (min) at mid-block + 1.8 m (per Bike lane) + 3.0 m (per parking bay) + 3.3 m (at intersection per left turn bay) + 1.2 m (divided arterial per centre median)	14.0 m (min) at mid-block + 1.8 m (per Bike lane) + 3.0 m (per parking bay) + 3.3 m (at intersection per left turn bay) + 1.2 m (divided arterial per centre median)	Both sides with lighting/planting strips. Sidewalk to be on the outside of the lighting/planting strips, away from pavement.	Barrier curb on both sides and raised median
2. Collector (Residential)	20.4 m	11.2 m	Both sides with boulevards	Barrier curb on both sides
3. Local/Collector (Industrial/Commercial)	21.2 m	12.0 m	Both sides with boulevards	Barrier curb on both sides
4. Local Residential (Multi Family/Townhouse)	20.4 m	11.2 m	Both sides with boulevards	Barrier curb on both sides
5. Local Residential (Single Family)	17.7 m	8.5 m	Both sides with boulevards	Barrier curb on both sides
6. Cul-de-sac Residential (Single Family)	17.7 m at throat and 17.7 m bulb radius	8.5 m at throat and 13m bulb radius	Both sides and around the radius. Blvds on both sides	Barrier curb on both sides around bulb
7. Cul-de-sac Residential (Multi Family/Townhouse)	20.4 m at throat and 19 m bulb radius	11.2 m at throat and 13m bulb radius	Both sides and around the radius. Blvds on both sides	Barrier curb on both sides around bulb
8. Cul-de-sac (Industrial/Commercial)	21.2 m at throat and 19 m bulb radius	12 m at throat and 15m bulb radius	Both sides and around the radius. Blvds on both sides	Barrier curb on both sides around bulb
9. Service Lane (City Centre)	9.0 m	7.5 m	One Side with lighting strip	Rollover curbs on both sides
10. Service Lane (Non-City Centre)	6.0 m	5.1 m		Rollover curbs on both sides
11. Emergency Fire/Access Lane	6.0 m (7.5m in City Centre)	As required	Fence on both sides	
12. Walkway	3.0 m	3.0 m	Fence on both sides	
13. Partial Road	12.65 m	6.0 m	Sidewalk and boulevard on one side	Barrier curb on one side
14. Other: As per OCP	as per OCP	as per OCP	as per OCP	as per OCP

Note: The amount of road dedication assumes a 1.5 m wide sidewalk (where applicable). Additional road dedications will be required in pedestrian-oriented area, where sidewalk widths of 2.0 m (minimum) are required.



Schedule C to Bylaw No 8751: Richmond Road Classification Map

SCHEDULE D to BYLAW NO. 8751

WATER DISTRIBUTION SYSTEM STANDARDS

Provide a water distribution system capable of providing the greater of:

- (a) An adequate water supply for fire fighting, concurrent with water flow sufficient to meet maximum day demand; or
- (b) Water flow sufficient to meet peak hour demand;

Every water distribution system must be designed to convey adequate supply for consumption and fire protection demands at a pressure appropriate for the intended use of the land.

Fire Flow Demand

The fire flows presented are minimum levels of protection. The Consultant must determine whether the fire flow required for the proposed development will exceed these minimum required flows. Approval of the General Manager of Engineering and Public Works is required when the required fire flow for the proposed development exceeds the minimums.

All fire flows are to be available to the furthest distance within the site from the service location and/or at the point of highest elevation.

The minimum required fire flows for different land uses is provided in Table D.1.

Table D.1 Fire Flows

Zone	Required Fire Flow (l/s)
Single & Two Family Homes	95
Townhouses	220
Condo/Apartment	220
Commercial	200
Industrial/Institutional	250

Where the proposed development is connected to the City's water distribution system that provides fire flows lower than listed in Table D.1, approval of the **General Manager, Engineering and Public Works** and Public Works is required for the following:

- the development will be required to either upgrade the water supply system sufficiently to provide the water flow; or
- the development will be required to reduce the fire protection requirements of the proposed development to match the level of protection afforded by the City's water distribution system.

SCHEDULE E to BYLAW NO. 8751

SEWAGE COLLECTION SYSTEM STANDARDS

The total design sewage flow shall be based on the greater of a) ultimate population densities and land use designations as outlined in the Official Community Plan for the entire catchment area, or b) for the planned development for the entire catchment area. Sanitary sewers shall be designed to convey the calculated peak sewage flows, including an allowance for inflow and infiltration.

Sanitary sewers shall be designed to the following:

- minimum design velocity: 0.6m/s
- pipe capacity – new sewers: design peak wet weather flow rate not to exceed 50% of the full pipe capacity
- pipe capacity – existing sewers: design peak wet weather flow rate not to exceed 90% of the full pipe capacity

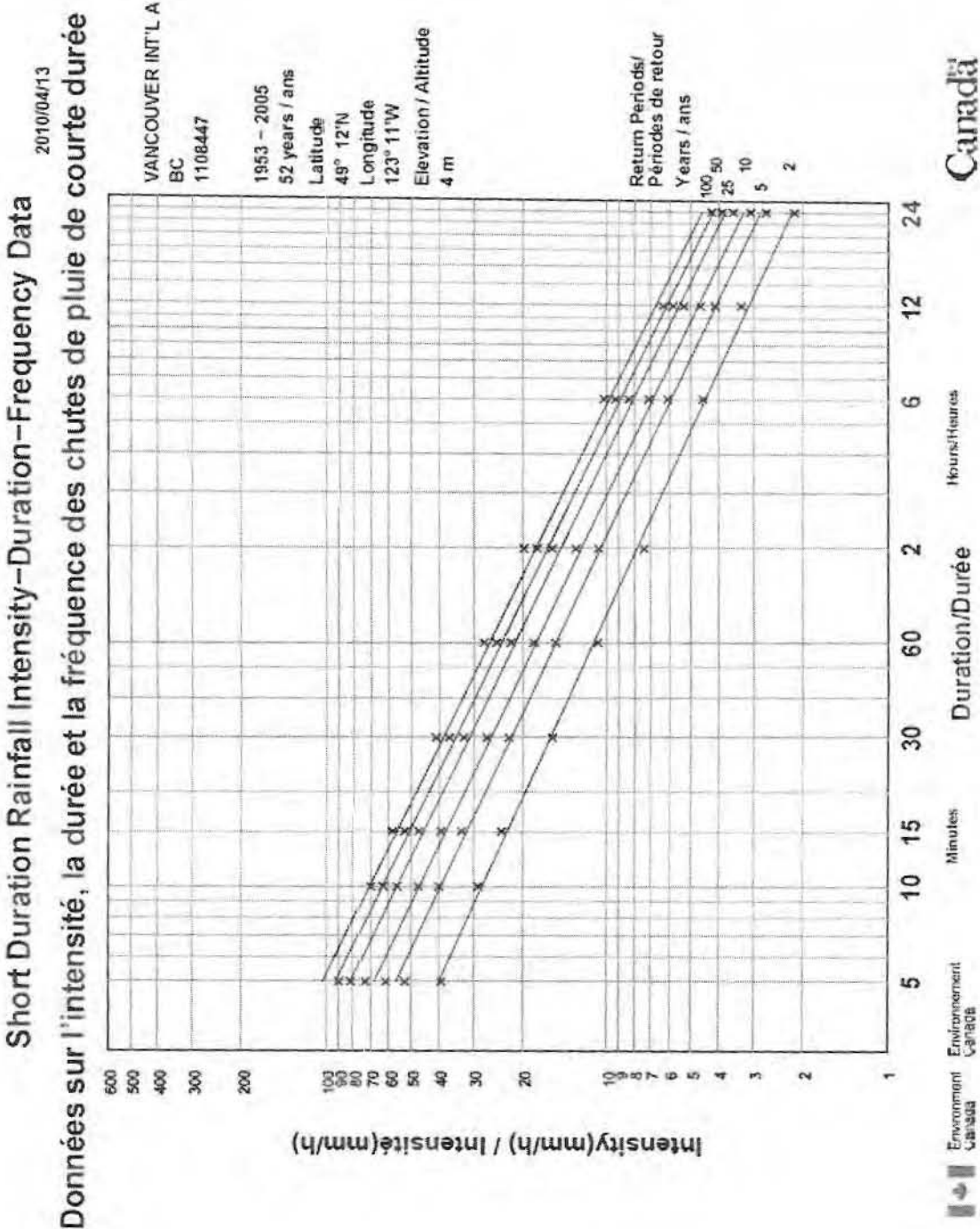
Forcemains shall be designed to the following:

- minimum design velocity: 0.9m/s

SCHEDULE F to BYLAW NO. 8751

DRAINAGE SYSTEM STANDARDS

Provides a covered storm water collection system capable of handling run off for 10-year return period storm as determined by the Short Duration Rainfall Intensity – Duration - Frequency chart attached hereto.



SCHEDULE G to BYLAW NO. 8751

ROADWAY LIGHTING

The Illuminance Method shall be used to determine average maintained lux for various road and area classifications depending on the pavement type used and uniformity ration as specified in ANSI/IESNA RP-8-00 (Reaffirmed 2005).

To determine the required illumination levels, the designer shall confirm the road and area classification with the **General Manager, Engineering and Public Works**.

Some projects will require that lighting be provided for sidewalks, walkways and Laneways. In these instances, the illumination levels and uniformity ratios shall be determined by the **General Manager, Engineering and Public Works**.

SCHEDULE H to BYLAW NO. 8751

DIKING

Dikes shall be designed in accordance with the following:

- “Fraser River Hydraulic Model Update Final Report, March 2008”;
- “Dike Design and Construction Guide: Best Management Practices for British Columbia”, updated January 2011; and
- “Projected Sea Level Changes for British Columbia in the 21st Century”, December 2008



WORKS AND SERVICES COST RECOVERY BYLAW NO. 8752

Whereas the Council may, by bylaw, impose a charge payable in respect to all or part of a service of the municipality; and

Whereas the Council provides and operates a highway service including **infrastructure works**;

The Council of the City of Richmond enacts as follows:

1. There is imposed on every person obtaining approval of a subdivision of a parcel of land identified as benefiting land in Item 8 in any numbered Schedule to this bylaw, a charge in the amount specified in Item 7 of that Schedule, to be applied on the basis of the **frontage** of the parcel or area of the parcel indicated in Item 8 of the Schedule.
2. A charge is not payable under this bylaw in respect of any subdivision of land if, as a condition of approval of such subdivision, the applicant has constructed **infrastructure works**, or made a payment to the City in lieu of constructing such works, under Subdivision and Development Bylaw No. 8751.
3. A charge is not payable under this bylaw for any subdivision of land in respect of which a charge has previously been imposed under:
 - a) this bylaw for the same **improvement project**.
 - b) Richmond Off-Site Works and Services Bylaw No. 5720 for the same **improvement project**.
4. A charge is not payable under this bylaw in respect of any **improvement project**, for any subdivision for which an application is made more than 15 years after the completion date for that project specified in Item 3 of the Schedule pertaining to that project.
5. A charge is not payable under this bylaw for any subdivision in respect of which an application in complete form was made prior to the adoption of this bylaw provided both of the following conditions are satisfied:
 - a) the subdivision is approved or the building permit is issued no later than 24 months after the adoption of this bylaw, and
 - b) the applicant has not requested in writing that the charge apply.
6. Charges imposed by this bylaw shall be paid prior to the delivery to the subdivision applicant of a subdivision plan signed by the City's approving officer.

7. Charges paid under this bylaw shall be used only for repayment to reserve funds that the City has expended on the **improvement project** in respect of which the charge was imposed.
8. In cases where the City is statutorily required to include in a repayment of reserve funds an amount equivalent to interest, the charge imposed under this bylaw shall include an amount in respect of interest, calculated at the rate at which interest would have been earned on the reserve fund had the funds not been expended on the **improvement project**.
9. In this bylaw:

INFRASTRUCTURE WORK

means any highway, roadway, laneway and including, but not limited to, associated sanitary, water, drainage, dikes, curbs, sidewalks, boulevards, boulevard landscaping, street identification signs, street lighting, traffic control devices, electrical and telecommunications ducting works.

IMPROVEMENT PROJECT

means construction or reconstruction of **infrastructure works**.

CORNER LOT

means a lot which abuts two intersecting streets.

IRREGULARLY-SHAPED LOT

means any lot which is not rectangularly-shaped.

REGULARLY-SHAPED LOT

means any lot abutting not more than one street, being generally rectangular in shape.

FRONTAGE

means:

For regularly-shaped lots:

1. the length in metres of the lot boundary abutting the **infrastructure work**.

For corner lots:

1. Where the **infrastructure work** is located on both intersecting streets, the sum of the length in metres of the shortest lot boundary abutting the **infrastructure work** and 25% of the length in metres of the other lot boundary abutting the work.
2. Where the same type of **infrastructure work** has been completed within the last 15 years on the street abutting the shortest lot boundary and the new **infrastructure work** is located on the other lot boundary abutting the work, 25% of the length in metres of that other lot boundary.

3. Where the **infrastructure work** is not carried out on the street abutting the shortest lot boundary and such **infrastructure work** has not been completed within the last 15 years on that street, 100% of the length in metres of the lot boundary abutting the **infrastructure work**.

For irregularly-shaped lots:

1. The **frontage** shall be determined by the Approving Officer on the basis of the horizontal dimensions of the lot, so as to establish a fair and equitable distribution of the cost of the **infrastructure work** among the benefiting lots.

10. This Bylaw may be cited as "**Works and Services Cost Recovery Bylaw No. 8752**".

FIRST READING

SECOND READING

THIRD READING

ADOPTED

CITY OF RICHMOND
APPROVED for content by originating Division <i>03</i>
APPROVED for legality by Solicitor <i>R</i>

MAYOR

CORPORATE OFFICER

SCHEDULE 1 to BYLAW NO. 8752

1. NAME OF IMPROVEMENT PROJECT: No.1 Rd lane (between Francis Rd. & Williams Rd.)
2. CERTIFIED COST OF PROJECT: \$ 1,068,005.96
3. COMPLETION DATE OF PROJECT: September 19th, 2007
4. COST PREPAID UNDER WORKS AND SERVICES BYLAW: \$ 393,929.66
5. NET COST FOR RECOVERY UNDER BYLAW No. 8752: \$ 201,126.70
6. TOTAL FRONTAGE OF BENEFITING LAND IN METRES: 726.91
7. COST FOR RECOVERY PER METRE OF FRONTAGE: \$ 838.00
8. BENEFITING LAND AND FRONTAGE IN METRES:

LEGAL DESCRIPTION OF PARCEL	FRONTAGE OF BENEFITTING LAND ON PROJECT (m)	COST FOR RECOVERY
Lot: 27 SEC: 27-4-7 PL: 18367	20.126	\$16,865.59
Lot: 1 SEC: 27-4-7 PL: BCP3505	10.060	\$8,430.28
Lot: 1 SEC: 27-4-7 PL: BCP3505	10.060	\$8,430.28
Lot: 12 SEC: 27-4-7 PL: 19282	20.117	\$16,858.05
Lot: 11 SEC: 27-4-7 PL: 19282	20.117	\$16,858.05
Lot: 8 SEC: 27-4-7 PL: 19428	20.117	\$16,858.05
Lot: 3 SEC: 27-4-7 PL: 19428	20.117	\$16,858.05
Lot: 2 SEC: 27-4-7 PL: 19428	20.117	\$16,858.05
Lot: 1 SEC: 27-4-7 PL: 19428	20.117	\$16,858.05
Lot: 22 SEC: 27-4-7 PL: 19428	20.117	\$16,858.05
Lot: 1 SEC: 27-4-7 PL: LMP38234	16.725	\$14,015.55
Lot: 2 SEC: 27-4-7 PL: LMP38234	17.691	\$14,825.06
Lot: 3 SEC: 27-4-7 PL: LMP38234	24.527	\$20,553.63

SCHEDULE 2 to BYLAW NO. 8752

1. NAME OF IMPROVEMENT PROJECT: Williams Rd. lane (between No. 4 Rd. & Shell Rd.)
2. CERTIFIED COST OF PROJECT: \$ 1,042,399.13
3. COMPLETION DATE OF PROJECT: October 20th, 2010
4. COST PREPAID UNDER WORKS AND SERVICES BYLAW: \$ 344,571.94
5. NET COST FOR RECOVERY UNDER BYLAW No. 8752: \$ 265,212.75
6. TOTAL FRONTAGE OF BENEFITING LAND IN METRES: 745.86
7. COST FOR RECOVERY PER METRE OF FRONTAGE: \$ 838.00
8. BENEFITING LAND AND FRONTAGE IN METRES:

LEGAL DESCRIPTION OF PARCEL	FRONTAGE OF BENEFITTING LAND ON PROJECT (m)	COST FOR RECOVERY
Lot: 3 SEC: 26-4-6 PL: 15456	6.10	\$5,108.45
Lot: 4 SEC: 26-4-6 PL: 18549	31.22	\$26,158.17
Lot: 7 SEC: 26-4-6 PL: 18549	20.12	\$16,858.05
Lot: 10 SEC: 26-4-6 PL: 18549	20.12	\$16,858.05
Lot: 11 SEC: 26-4-6 PL: 18549	20.12	\$16,858.05
Lot: 13 SEC: 26-4-6 PL: 18549	20.12	\$16,858.05
Lot: 17 SEC: 26-4-6 PL: 18549	20.12	\$16,858.05
Lot: 1 BCP:18548	22.25	\$18,645.50
Lot: 25 SEC: 26-4-6 PL: 18548	20.12	\$16,858.05
Lot: 24 SEC: 26-4-6 PL: 18548	20.12	\$16,858.05
Lot: 23 BCP3637	20.12	\$16,858.05
Lot: 22 SEC: 26-4-6 PL: 18548	20.12	\$16,858.05
Lot: 19 SEC: 26-4-6 PL: 18548	21.64	\$18,135.16
Lot: 1 BCP67429	6.07	\$5,085.82
Lot: 17 SEC: 26-4-6 PL: 18548	23.17	\$19,412.27
Lot: 16	24.99	\$20,944.97

SCHEDULE 3 to BYLAW NO. 8752

1. NAME OF IMPROVEMENT PROJECT: Roadworks-Dunford Rd., Dunfell Rd.,
Duncliffe Rd. and Dunavon Pl.
2. CERTIFIED COST OF PROJECT: \$ 642,366.45
3. COMPLETION DATE OF PROJECT: May 11th, 1999
4. COST PREPAID UNDER WORKS AND SERVICES BYLAW: \$ 459,075.38
5. NET COST FOR RECOVERY UNDER BYLAW No. 8752: \$ 210,690.30
6. TOTAL FRONTAGE OF BENEFITING LAND IN METRES: 889.30
7. COST FOR RECOVERY PER METRE OF FRONTAGE: \$ 722.33
8. BENEFITING LAND AND FRONTAGE IN METRES:

LEGAL DESCRIPTION OF PARCEL	FRONTAGE OF BENEFITTING LAND ON PROJECT (m)	COST FOR RECOVERY
Lot: 5 SEC: 2-3-7 PL: 21419	39.624	\$28,621.60
Lot: 6 SEC: 2-3-7 PL: 21419	41.605	\$30,052.72
Lot: 463 SEC: 2-3-7 PL: 65526	18.295	\$13,215.03
Lot: 10 SEC: 2-3-7 PL: 21419	20.117	\$14,531.11
Lot: 95 SEC: 2-3-7 PL: 40395	9.152	\$6,610.40
Lot: 13 SEC: 2-3-7 PL: 21419	20.117	\$14,531.11
Lot: 16 SEC: 2-3-7 PL: 21419	47.751	\$34,492.16
Lot: 115 SEC: 2-3-7 PL: 40395	18.608	\$13,441.12
Lot: 34 SEC: 2-3-7 PL: 21419	33.098	\$23,907.68
Lot: 1 SEC: 2-3-7 PL: 77141	18.432	\$13,313.63
Lot: 2 SEC: 2-3-7 PL: 77141	15.741	\$11,370.20
Lot: 1 SEC: 2-3-7 PL: BCP20497	9.142	\$6,603.54



City of Richmond

Report to Committee

To: Public Works and Transportation Committee **Date:** June 8, 2011
From: Tom Stewart, ASCT. **File:** 10-6405-01/2011-Vol 01
Director, Public Works Operations
Re: **Canada Line: Progress Report on Opportunities for Retail Operations
and Litter Collection/Cleaning Activities**

Staff Recommendation

That:

1. An additional personnel complement control position be approved for a permanent litter attendant position for waste and litter removal along No. 3 Road for service in relation to the Canada Line; and
2. In relation to the potential for retail opportunities at or near Canada Line stations, that staff;
 - a. Bring forward for Council's consideration a report recommending amendment to the Business Licence Bylaw to permit vendors on City owned or controlled property;
 - b. Work with Translink to encourage Translink to permit such retail opportunities near Canada Line stations, particularly at Brighthouse Station; and
 - c. Move forward with a pilot request for proposal for retail activity for locations at the intersection of No. 3 Road and Westminster Highway.

Tom Stewart, ASCT.
Director, Public Works Operations
(604-233-3301)

Att. 1

FOR ORIGINATING DEPARTMENT USE ONLY			
ROUTED TO:	CONCURRENCE		CONCURRENCE OF GENERAL MANAGER
Transportation Planning	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		
Law	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		
Parks	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		
REVIEWED BY TAG	YES <input checked="" type="checkbox"/> <i>K</i>	NO <input type="checkbox"/>	REVIEWED BY CAO
			<i>ad</i> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>

Staff Report

Origin

During consideration of the 2011 utility budgets at their November 22, 2010 meeting, Council reviewed a recommendation to add a permanent litter-attendant position for service to the Canada Line. The full year funding component for the position was approved, however, Council made the position temporary and requested that staff:

- a) Look at possibilities for retail operations on City property in the vicinity of the Canada Line Stations and report back;
- b) That in approximately 6 months, staff review the progress made in cleaning No. 3 Road and investigate further options for cleanliness in the vicinity of the Canada Line and the stations and review the temporary full time litter attendant position.

This report responds to Council's request.

Analysis

In accordance with the Council referral, this report presents an overview of the opportunities for retail operations along the Canada Line. A review of further options for cleanliness at the stations and progress made in cleaning No. 3 Road, including actions by Litter, Parks and Transportation Planning, is also provided.

Retail Operations Review

A review of the potential for retail operations in the vicinity of the Canada Line included consideration of the criteria that would be necessary for retail to be successful, as well as an overview of the City's authority to permit retail in this area generally, including at each specific station.

General Criteria for Successful Retail Operations

In order to attract and ensure success of potential retail/kiosk vendors along the Canada Line, high pedestrian traffic flow is required. A 30 to 60 metre (100 to 200 feet) distance from the stations is where the highest pedestrian flows would generally be and the areas where it would make the most sense to locate retail. As various properties along the Canada Line densify and pedestrian traffic flow increases, the opportunities for retail operations will become more evident.

Another key success factor is ensuring harmony with the adjacent businesses to create a positive complement to draw additional desired pedestrian activity and enhance, not detract from, business activity overall. Creating and focusing on building relationships with adjacent businesses, and not directly competing with them to achieve this harmony, will be the driving factor of success.

In considering the perspective of helping to maintain cleanliness of the Canada Line, individual retailer's ability to assist would depend on the type of activity. For example, a single kiosk vendor may be able to keep the area immediately around their kiosk clear of the litter, but they wouldn't be able to leave their kiosk/business activity to clean areas beyond more than a few

feet. Otherwise, this would either detract from their ability to service potential customers or put the safety and security of their kiosks at risk. A larger vendor such as a coffee house, for example, could have more staff resources and may be able to provide greater assistance. All of this must be weighed against the additional potential litter that such operations could generate from their activities. Staff also note that having vendors at or near stations could provide additional safety and security benefits, as having retail activity at or near stations may serve as a deterrent to illicit activities.

City's Authority to Permit Retail Along the Canada Line

The access agreement with Translink restricts the City from using or undertaking any activities within a one-metre buffer area around the perimeter of the Canada Line infrastructure (including the stations, guide ways, columns, etc.) or that would impact on Translink's ability to access the Canada Line infrastructure for maintenance, inspection, repair or other purposes. As such, the City would be able to develop and/or permit retail activities on City-owned property outside the one-metre buffer, so long as it does not interfere with Translink's access requirements. In particular, there are greater opportunities involving mobile or removable structures.

Both mobile and removable structured retail commercial operations are subject to licensing and regulations. To permit Mobile Vendors to be stationary, which is permitted under bylaw with a private property owner's permission, will require a bylaw amendment to include *City property*. City approval, inclusive of other requirements, should delineate where the mobile vendor may set up their operation such that their placement must not block the sidewalk nor can the mobile business be outside of a premises that offer the same or similar items for sale.

Removable structure businesses are currently permitted under bylaw, with the property owners permission, and are classified as either Mercantile Retail or Assembly Use 1 - Food Services Establishment. Both natures of business must be self contained stand alone operations without municipal or other utility service connections.

Canada Line Station Opportunities

With respect to the individual stations, the following is a cursory review of the property ownership questions and the potential for retail activity around current stations.

- **Bridgeport:** The City does not own any property at this station aside from road allowances, therefore, there is limited opportunity for the City to consider retail at this location except along the limited sidewalk areas.
- **Aberdeen:** There is potential opportunity at or near this station at the northeast and southeast corners of Cambie and No. 3 Roads, where the City owns small portions of property (road allowance). Any retail opportunities here would be best integrated with the adjacent Aberdeen Centre or President Plaza (Radisson Hotel) projects, arrived at through discussions with their respective ownerships to achieve multiple objectives for all parties. Staff could advance those discussions as opportunities present, although it is recognized that the next phase of Aberdeen Mall (at the corner of No. 3 and Cambie Roads) is about to commence construction. Other City-owned

property along this station boundary (south of Browngate Road), would not likely be suitable at present due to a lack of sufficient existing pedestrian traffic flow.

- **Lansdowne:** This is the widest corridor where there is a large section of City-owned Property (road allowance). This is probably the best opportunity available today for retail from the perspective of existing open space and distance from competitors. However, there may be insufficient pedestrian traffic at this time. As the area densifies, this would be an appropriate location to consider for future retail opportunities.
- **Brighthouse:** The station and guide way is entirely located on private property. Therefore, there are limited opportunities for retail activity outside of the City's very limited sidewalk areas. Consideration of retail at this location would require discussions and or negotiations with Translink.

Staff have made initial contact with Translink but do not yet have any direction from them as to their willingness to permit retail vendors on their owned and or controlled lands, although they have done so in some instances in areas along their other SkyTrain lines.

Other Retail Opportunities on City-Owned Land

As stated above, there are few current opportunities near Canada Line stations. However, the intersection of No. 3 Road and Westminster Highway, one of the busiest intersections in the City, is generally fully developed at all four corners and appears to be site with significant pedestrian activity. All but the southeast corner appear to have enough City-owned land to support mobile vendors. There may be strong interest from vendors in this location, thus this could be an excellent opportunity to test a mobile vendor program on City-owned land.



Recommendations

Staff recommend moving forward with a pilot program to permit retail activity (mobile and removable vendors) on City lands. The current best locations would be around the Aberdeen Station and at the intersection of No. 3 Road and Westminster Highway. Staff will work to identify appropriate specific vendor locations in these two areas, ensuring public safety and no conflict with sidewalk and other access, in consultation with local businesses. Thereafter, staff will initiate a request for proposal process. However, in order to permit such retail uses, an amendment to the current Business Licence Bylaw is required.

Options for Cleanliness/Progress Made in Cleaning No. 3 Road

There have been a number of activities underway to address cleanliness and appearance issues relating to the Canada Line, including implementation of various aspects of the City-Pattison Street Furniture Agreement, installation of solar-powered compacting garbage containers, discussions with Translink and Protrans, and on-going regular litter collection and cleaning activities along the Canada Line.

Implementation of the City-Pattison Street Furniture Agreement

Installation of the various street furniture elements under this agreement has recently commenced, including installation of new transit shelters with advertising panels and trash receptacles with recycling baskets attached. To date, eight transit shelters have been installed. In addition, 37 trash receptacles have been installed at various existing shelter locations.



Transit shelter with trash receptacle

The 10-unit multiple publication news racks with recycling receptacles have been ordered and are expected to be installed by the end of June. There will be three units, one each at the Aberdeen, Lansdowne and Brighthouse stations.

Additional work, including transit shelter refurbishment at 10 locations, is expected to begin in June, with completion by the end of July. Repainting at 15 existing transit shelters is scheduled for August, 2011, with the remaining 14 shelters being undertaken in Year 2 of the contract, or approximately Summer, 2012.

In association with these activities, staff are evaluating the effectiveness of different trash/recycling receptacle designs with a view to establishing a consistent look and appearance throughout the City.

Attachment 1 provides a summary of the street furniture roll-out schedule and progress to date. A schematic of the 10-unit multiple publications news racks is included for information. Please note that the actual unit will be of silver finish, not blue, as shown.

Solar-Powered Compacting Garbage Containers

To minimize the need for multiple waste containers, solar-powered compacting garbage containers were installed in January of this year at the three Canada Line stations (Aberdeen, Lansdowne, Brighthouse) as well as at the Richmond Centre bus stop. Each unit includes two recycling receptacles for newspapers and containers. A total of six sets of these containers were installed. The garbage container portion has a solar panel on the top which generates power to compact the waste, thereby increasing overall capacity. The unit design is such that all the garbage is contained to reduce incidences of overflow litter. This requires users to open a handle to place the litter in the container. This can be a deterrent, however, to those who do not wish to touch handles or flaps when disposing their garbage.

Seven receptacles for discarded cigarettes were also installed to help reduce litter.

Translink Discussions

As part of evaluating further options for cleanliness along the Canada Line, staff have met with Translink and Protrans (the contractor operator responsible for cleaning the area directly around the stations). Translink has committed to an improved level of service within the stations and the one-metre buffer around the stations. They have also aligned their response times (to complaints, etc.) to correspond more closely with the City's, i.e., within 24 hours.

Litter Collection and Cleaning Activities

A temporary full-time litter attendant has been dedicated to service the Canada Line since approximately September, 2010, when it became evident that then-existing service levels were not sufficient. The litter attendant services the area from Granville Avenue to Bridgeport Road. The area is serviced from 6:30 a.m. – 4 p.m., seven days per week.

The attendant empties garbage from 55 litter receptacles and bus stop containers and recycling receptacles. In addition to these duties, the attendant wipes down the containers (as required), collects scattered litter from the sidewalk and garden median areas, empties the discarded cigarette containers and sweeps up any scattered cigarette butts. The garbage and recycling materials collected from the Canada Line are taken by the litter attendant and disposed/recycled at the City Works Yard and Recycling Depot. This ongoing resource is required to ensure cleanliness can be maintained, and the containers serviced to avoid unsightliness issues as depicted by the before and after photos shown:



Solar-Powered Compacting Garbage Container, with Recycling Units



Cigarettes Receptacle



Station view before litter collection



Station view after litter collection

From the period January - May, 2011, approximately \$44,000 has been spent on litter collection services at the Canada Line:

- Labour - ~1,000 hours: \$38,000
- Materials (bags, ties, etc.): \$ 1,600
- Collection vehicle: \$ 4,385

Total annual budgeted cost in 2011 is approximately \$90,000.

Parks Operations also undertakes pressure washing and gum removal on a quarterly basis, under contract, at the Lansdowne and Brighthouse stations, as well as at the Richmond Centre bus stop. They use a blower to help remove cigarette butts from the landscape areas at these stations, which are subsequently swept up. This is done weekly. Staff note that any similar cleaning activities at the Aberdeen and Brighthouse stations are done by private parties.

The additional resource funding allocation has permitted the service levels as outlined to be maintained to a level which is manageable and meets demand requirements, while at the same time ensuring the desired appearance at the stations is maintained. The position will also be able to support some level of added cleaning associated with retail operations, subject to review as that program evolves.

The service level at the Canada Line could not be achieved without this dedicated resource, even with the improvements in street furniture, solar-powered garbage compactors and the commitment from Translink for an improved level of service both in and immediately around the stations. Staff recommend the current resource and required funding allocation be continued in 2012, and that the Canada Line litter attendant position be made a regular full time position with an assigned personnel complement control number.

Financial Impact

The additional costs associated with the cleaning activities along the Canada Line in 2011 are approximately \$90,000. This is for the temporary full-time litter attendant position, inclusive of labour, materials, vehicle operating costs, etc. Based on staff's assessment and review of the

operational service level requirements, these costs will need to be continued in 2012 to maintain existing service levels.

The recommendation to make the existing temporary full-time litter attendant a full time position with a personnel complement control number will have no additional impact on the budget since these funds are already budgeted and are being recovered through the 2011 sanitation and recycling utility budget and rates.

Costs associated with any future potential retail operations along the Canada Line are not known at this time. However, staff would attempt to mitigate any costs associated with additional maintenance/operating costs for litter collection and cleaning services, etc., caused by those retail operations through detailed agreements. Depending on the overall scope of the retail operations, the litter attendant position could provide some level of support related to the added cleaning requirements.

Conclusion

This report presents a review of the possibility of adding retail operations along the Canada Line along with some perspective on the potential role these could play in helping to maintain the appearance of the Canada Line. There is limited to no opportunity at the Brighthouse and Bridgeport stations due to a lack of City-owned property, while possibilities exist at the Lansdowne and Aberdeen stations. Real Estate Services staff will pursue potential retail opportunities on City property at or near the Aberdeen Station (Cambie and No. 3 Roads), which would include collaborative discussions with Aberdeen Centre and President Plaza ownerships, and at the intersection of No. 3 Road and Westminster Highway, thereafter bring forward for Council's consideration a bylaw to amend the Business Licence Bylaw and initiate a request for proposal process.

There have been a number of measures taken to improve the appearance of the Canada Line, including: installation of street furniture under the City-Pattison Street Furniture Agreement; installation of "Big Belly" solar-powered trash receptacles; installation of other trash and recycling receptacles; installation of cigarette disposal receptacles; an additional dedicated litter attendant resource to provide regular emptying of all receptacles and collection of scattered litter; power washing activities, and finally, discussions with Translink and Protrans for improved cleaning. The added funding and resource for the litter attendant position is recommended to be continued in 2012 and made permanent at this time in light of the operational service level demands along the Canada Line.



Suzanne Bycraft
Manager, Fleet & Environmental Programs
(604-233-3338)



Robert Kates
Manager, Real Estate Services
(604-276-4212)

SJB:

Attachment 1

Street Furniture Rollout Schedule: Status as of May 31, 2011

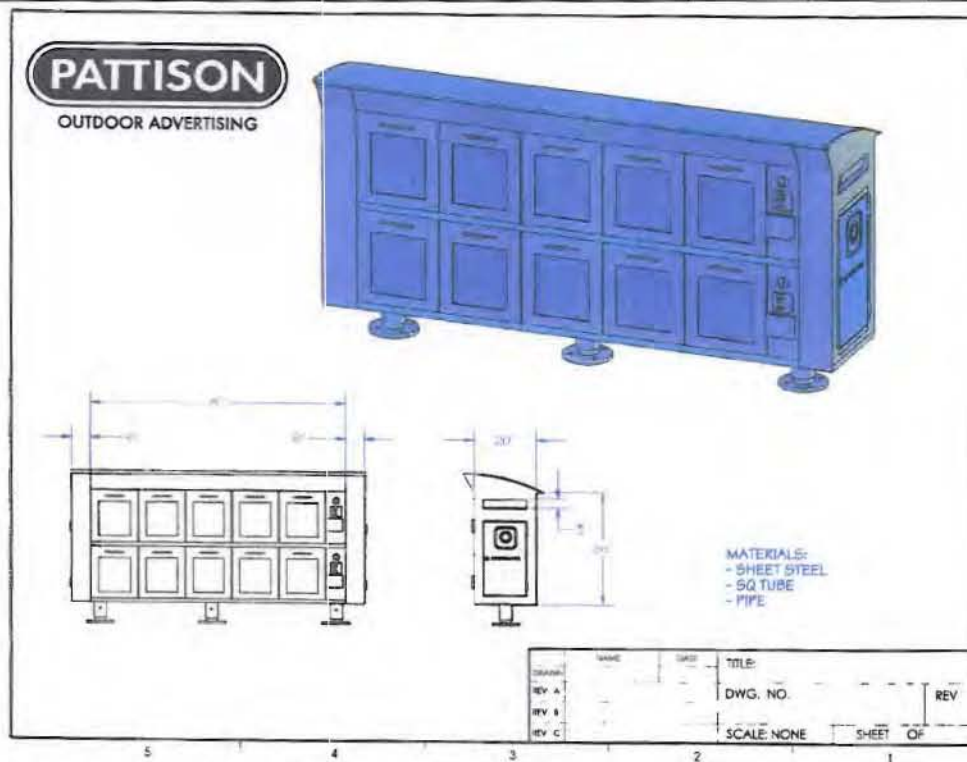
Item	Location	Delivery Schedule		Status
		Year 1	Year 2	
New Transit Shelters with Advertising Panels	Garden City Rd 125' N/O Westminster Hwy ES	1	0	Installed
	No. 3 Road south of Saba Road ES (Richmond-Brighthouse Stn)	1	0	Installed
	No. 3 Road south of Cambie Road ES (Aberdeen Station)	1	0	Installed
	No. 3 Road south of Leslie Road WS	1	0	Installed
	No. 3 Road south of Lansdowne Rd WS	1	0	Pending installation of conduit with shelter installation anticipated by end of July 2011
	No. 3 Road in front of City Hall WS	1	0	Installed
	No. 3 Road north of Lansdowne Rd ES (Lansdowne Station)	1	0	Installed
	No. 3 Road & Alderbridge Way SW corner	1	0	Installed
	No. 3 Road 75' N/O Ackroyd Road ES NE	1	0	Installed



New Shelter & Litter Receptacle

Street Furniture Rollout Schedule: Status as of May 31, 2011

Item	Location	Delivery Schedule		Status
		Year 1	Year 2	
80L Trash Receptacle	<ul style="list-style-type: none"> one at each new (9) and existing (41) transit shelter 	50	0	37 units installed Remaining units anticipated to be installed by end of July 2011
10-Unit Multiple Publication News Rack with Recycling Receptacle	<ul style="list-style-type: none"> Aberdeen Station Lansdowne Station Richmond-Brighthouse Station 	3	0	Order placed March 2011 Installation anticipated by mid June 2011



Street Furniture Rollout Schedule: Status as of May 31, 2011

Item	Location	Delivery Schedule		Status
		Year 1	Year 2	
Existing Transit Shelters: Refurbishment	<ul style="list-style-type: none"> No. 3 Rd 50' south of Lansdowne Rd west side No. 3 Rd 50' south of Ackroyd Rd west side Lansdowne Road & Cooney Road NWC Bridgeport & Sweden Way NWC Cambie 50' W/O #5 Road NS Cambie 50' W/O Jacombs NS #3 Road 100' N/O Francis ES #3 Road 100' S/O Williams ES #3 Road 100' N/O Ryan ES #3 Road & Steveston Hwy NE Granville 50' E/O #2 Road SS Westminster Hwy & Granville 50' E/O #2 Road SS 	10	2	<p>Component pieces being prepared</p> <p>Removal and replacement to begin in June 2011 and anticipated to be completed by end of July 2011</p>
Existing Transit Shelters: Repainting in Year 1	<ul style="list-style-type: none"> Cambie 100' E/O Jacombs SS Cambie Rd 500' E/O No 5 Rd N/S #3 Road & Bennett NEC #3 Road 100' N/O Blundell ES Steveston Hwy 100' W/O Roseland Gate NWC Steveston Hwy 125' E/O #4 Road SS Steveston Hwy 150' E/O Shell S/S #1 Road & Steveston Hwy NE Garden City Rd 100' north of Lansdowne Road E/S Westminster Hwy & Gilbert Rd southeast corner Westminster Hwy 150' west of Gilbert Rd north side Granville Ave 50' west of Minoru Blvd north side Cook Rd 100' ft east of No. 3 Rd north side Granville Ave & Moffat Rd southeast corner Gilbert Rd 200' north of Azure Rd east side 	15	0	Scheduled to occur during August 2011
Existing Transit Shelters: Repainting in Year 2	<ul style="list-style-type: none"> Steveston Hwy 75' E/O Hwy 99 Off Ramp N/S Hwy 99 Off Ramp 150' S/O Steveston Hwy #1 Road & Francis NE Granville & Ledway SE Granville 50' E/O #2 Road SS Westminster Hwy & Tiffany SEC Garden City Road 100' N/O Cambie Road E/S Garden City Road 250' N/O Capstan Way ES Granville Ave 150' W/O Lynas Lane NS Railway Avenue 100' N/O Linfield Gate E/S Railway 100' N/O Blundell E/S Railway 75 ft. N/O Francis E/S Westminster Hwy. 100 ft. S/O McLean W/S Westminster Hwy. 75' S/O Fraser View Gate W/S 	0	14	Scheduled to occur during Summer 2012



City of Richmond

Report to Committee

To: Public Works and Transportation Committee **Date:** June 7, 2011
From: John Irving, MPA, P.Eng.
Director, Engineering **File:** 10-6060-01/2011-Vol 01
Re: Ageing Infrastructure Planning – 2011 Update

Staff Recommendation

That staff review the report dated June 7, 2011 from the Director, Engineering in conjunction with the Long Term Financial Management Strategy and bring forward recommendations to Finance Committee.

John Irving, MPA, P.Eng.
Director, Engineering
(4140)

Att. 6

FOR ORIGINATING DEPARTMENT USE ONLY					
ROUTED TO:	CONCURRENCE		CONCURRENCE OF GENERAL MANAGER		
Budgets	Y	<input checked="" type="checkbox"/> N <input type="checkbox"/>			
Roads and Construction	Y	<input checked="" type="checkbox"/> N <input type="checkbox"/>			
Sewerage and Drainage	Y	<input checked="" type="checkbox"/> N <input type="checkbox"/>			
Water Services	Y	<input checked="" type="checkbox"/> N <input type="checkbox"/>			
Transportation	Y	<input checked="" type="checkbox"/> N <input type="checkbox"/>			
REVIEWED BY TAG	YES	NO	REVIEWED BY CAO	YES	NO
	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>

Staff Report

Origin

In July 2001 and March 2006 the Engineering Department reported to Council the estimated long term capital requirements for age-related infrastructure renewal. This report updates those estimates to reflect current inventory, new thoughts on infrastructure service life and changing infrastructure replacement pricing. It also extends the report to comment on dikes and climate change.

Background

Council Term Goals

One of the strategic focus areas outlined in the currently adopted Council Term Goals is Financial Management. The goal is to ensure the City has the capacity to meet the financial challenges of today and the future, while maintaining current levels of service. This report outlines the current and long term financial requirements for maintaining and replacing the City's ageing infrastructure.

Existing Infrastructure

Table 1 is a summary of the City's inventory of water, sanitary, drainage, and roads infrastructure. The replacement value assumes that infrastructure will be replaced "size-on-size"¹.

Table 1: Infrastructure Inventory

Infrastructure	Total Length of Pipe or Road	Other Features	Funding Source	Replacement Value (2011 dollars)
Water	624 km	13 PRV Chambers 8 Sponge Vaults 60 Valve Chambers	Water Utility	\$514 M
Sanitary	562 km	151 Pump Stations	Sanitary Utility	\$436 M
Drainage	617 km	39 Pump Stations	Drainage Utility	\$933 M
Dike	49 km	-	Drainage Utility	\$200 M
Road Pavement (non-MRN)	1285 lane km	212,000 sq. m of Parking lot	General Revenue	\$561 M
Total Replacement Value				\$2,644 M

¹ Each asset will be replaced using the existing size.

Previous Staff Reports

Staff completed the City's first ageing infrastructure assessment and reported the results to Council in 2001. The assessment was based on the limited information available at that time. An updated ageing infrastructure report was presented to the Public Works and Transportation Committee (PWTC) in March 2006. Both reports identified that infrastructure replacement funding levels were insufficient and the 2006 report proposed several preliminary strategies to address the shortfalls that included the following:

1. Implement an immediate one-time increase to the rates to close the funding shortfall.
2. Implement a gradual increase to rates over a specified period to close the funding shortfall.
3. Borrow money to fund the necessary improvements.
4. Combination of the above strategies.

From the above strategies, the City implemented a variation of strategy 2 that did not include a specific date to close identified funding gaps. **Table 2** catalogues and compares 2006 capital infrastructure annual funding to that in 2011. It also tabulates current reserve levels.

Table 2: Annual Capital Infrastructure Funding and Reserves

Infrastructure Type	2006 Funding (2006 dollars)	2011 Funding (2011 dollars)	Funding Source	% Funding Increase	Reserve Balance (Dec 31, 2006)	Reserve Balance (Dec 31, 2010)
Water	\$6.5 M	\$7.5 M	Water Utility	15%	\$34.1 M	\$46.4 M
Sanitary	\$2.5 M	\$4.3 M	Sanitary Utility	75%	\$16.4 M	\$27.7 M
Drainage	\$3.1 M	\$6.1 M	Drainage Utility	97%	\$7.3 M	\$18.2 M
Road Paving (non MRN)	\$2.6 M	\$3.0 M	General Revenue	15%	N/A	N/A
Total	\$14.7 M	\$20.9 M		42%	\$57.8	\$92.3 M

As can be seen in **Table 2**, the City has substantially increased funding for infrastructure replacement over the last five years. Increases to the water, sewer and drainage capital funding were achieved through the annual utility rates review process where infrastructure replacement funding gaps were considered when establishing utility rates. The roadways are not part of a utility and the re-paving budget is included in the Roads operating budget. Road repaving increases were accomplished through the operating budgeting process.

Ageing Infrastructure Replaced From 2006 to 2010

Since March 2006 the City has replaced over 28 km of ageing watermain (approximately 4% of the system) and repaved 141 km of road lanes (approximately 11% of the non-MRN roadways) through its annual capital works programs. Various sanitary and drainage pump stations were

also rebuilt or improved during this time due to both ageing infrastructure and capacity based upgrade needs. These replacements and upgrades are planned utilizing water, sanitary, drainage and pavement management and capacity models developed for Richmond's infrastructure. Given the large catalogue of infrastructure assets within the City and the significant population increases predicted for Richmond, these models are essential for short and long term capital planning and for supporting broader City objectives such as the Official Community Plan.

Attachment 6 is a summary of infrastructure projects completed between 2006 and 2010 as part of the ongoing infrastructure replacement and upgrade program.

The replacement work to date has put Richmond in a much better position than the majority of Canadian municipalities. A report titled "Danger Ahead: The Coming Collapse of Canada's Municipal Infrastructure" was published by the Federation of Canadian Municipalities (FCM) in November 2007. The report stated that, across Canada, municipal infrastructure has reached the breaking point. The report recommended that long-term investment plans be created to manage infrastructure funding. Richmond has been pro-active in this regard and had long-term ageing infrastructure replacement strategy and reserve funding in place prior to the FCM report. As such, the City's infrastructure is in better condition than the average Canadian municipality and is far from the breaking point. However, the FCM report illustrates what can happen if the City's municipal infrastructure becomes a lower priority and funding levels do not continue to increase to close identified funding gaps.

Analysis

Total Replacement Value and Schedule

Charts 1 to 4 (attached) show estimated infrastructure replacement costs for the City's water, sanitary, drainage, and road infrastructure over the next 75 years. The charts also identify the estimated long term average annual funding levels that are required to perpetually replace assets and the current 2011 funding levels. The Funding Requirement Range represents the estimated level of uncertainty or variability in the long term annual funding levels. This uncertainty is due to a number of variables including:

- potential overlap between capacity based improvements due to development or climate change;
- uncertainty in the potential service life of the infrastructure;
- variability in the economy and the cost of infrastructure replacement; and
- unanticipated or emergency events that initiate early infrastructure replacement or repairs in excess of operating budget provisions.

Water

Chart 1 predicts a long term annual water infrastructure funding requirement of \$7.0 million, which is \$0.5 million lower than previously estimated and currently funded. Over the past five years Engineering has gathered data that indicates asbestos cement pipelines last longer than the original analysis indicated. Asbestos cement pipelines are approximately 50% of the City's watermain inventory, therefore, this increase in expected asbestos cement pipeline service life has a significant effect on long term funding requirements and translates into the lower funding

requirement. However, staff recommends maintaining water utility funding at \$7.5 million noting that:

- there is a significant backlog of watermain replacement projects;
- there is significant variability in water infrastructure pricing; and
- inflation will consume this positive funding gap in the near to medium term.

As noted previously, approximately 50% of the City's watermain are asbestos cement and are predicted to require replacement within the next 30 years. During this period replacement costs will exceed the long term required funding level for a number of years, which will require utilization of reserves and borrowing. In the long term (75 year horizon), the required funding level will repay debts incurred and allow for continued water infrastructure renewal.

Engineering staff are currently reviewing new technologies to determine the condition of asbestos cement watermain in an effort to refine the watermain replacement schedule. Additionally, Engineering staff will review pressure management as a tool to increase the service life of the asbestos cement watermain inventory, which has potential to attenuate the predicted spike in watermain replacement between 2031 and 2041.

Sanitary

Chart 2 predicts a long term annual funding requirements of \$5.4 million for the sanitary utility with no identified backlog of replacement needs. However, the fat, oil and grease (FOG) blockage in the Lansdowne forcemain this year is a prime example of an unanticipated event with significant capital cost that creates uncertainty or variability in the estimation of long term capital requirements. The Lansdowne forcemain emergency activities and replacement will total over \$1.3 million by project completion that was not anticipated but must be accommodated by the sanitary sewer utility.

Drainage

Chart 3 predicts a long term annual funding requirement of \$9.8 million for the drainage utility. As indicated by the chart, large scale ageing drainage infrastructure replacement is estimated to be 30 years in the future with much smaller near term needs. One option to fund these future replacements is to build an adequate reserve during this period of lower needs, to avoid unnecessarily burdening future generations.

Modeling work is currently being performed to determine the impact of climate change on the drainage system. Capacity improvements due to climate change are not included in the present analysis and will be reported to Council when the information becomes available.

Roads

Chart 4 predicts a non-MRN long term annual re-paving funding requirement of \$4.6 million. Higher uncertainty exists in this value than those for the utilities as road re-paving is heavily influenced by oil price, which has fluctuated widely in the past five years. **Chart 5** (attached) documents the fluctuating cost of asphalt paving between 2006 and 2010 demonstrating the high

variability in pricing. Based on paving prices over the last five years, re-paving annual funding requirements range between \$4.0 M and \$5.3 M. For long term planning purposes, we have assumed that the ebb and flow of asphalt pricing will average out in the long term and have utilized the average value of \$4.6 M as the long term funding requirement for re-paving.

As reported to Council in 1998, road structures fail according to the curve represented in *Figure 1*.

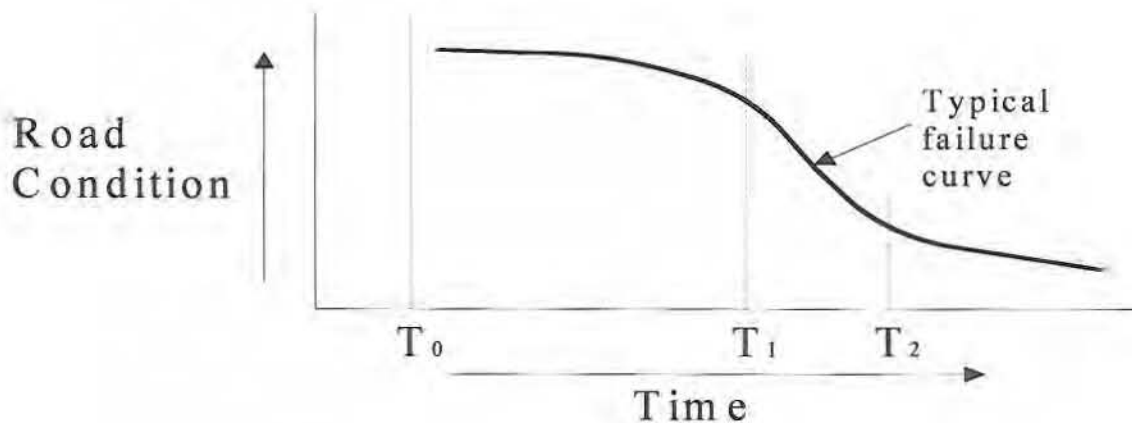


Figure 1

The time between T_0 and T_1 reflects period when roads structures perform well. At T_1 the road structure begins to deteriorate and lose strength. T_2 represents failure of the road structure. Once T_1 is reached, failure occurs rapidly.

Road rehabilitation work performed at T_1 can effectively restore the road structure to a “like new” condition represented by T_0 . Failure to perform this rehabilitation work leads to the rapid deterioration and failure of the roadway. At T_2 , a complete rebuild of the road structure is required. The cost of rebuilding a roadway at T_2 is approximately 3 to 4 times the cost of rehabilitation at T_1 , therefore, it is to the City’s financial advantage to perform the rehabilitation at T_1 .

For the purpose of estimating the long term re-paving funding requirement, it has been assumed that all roads are repaved at T_1 . If this can not be achieved, the costs associated with road repair will increase due to more expensive road reconstruction being required.

Dikes

The 2008-2031 Richmond Flood Protection Strategy identifies climate change induced sea level rise as a future threat to the City and requires further investigation. As presented to Council on January 10, 2011, long term funding for raising dikes to meet rising sea levels and upgrades to address seismic concerns will be in the order of \$100 million. Engineering staff are exploring options to initiate a Dike Master Plan that will identify upgrade timing and funding requirements.

Required Funding Levels

Table 3 summarizes current and required annual infrastructure replacement funding levels, in 2011 dollars, as well as the current ageing infrastructure funding gaps.

Table 3: Infrastructure Funding Levels

Infrastructure Type	2011 Actual Annual Funding Level	Required Annual Funding Level	Funding Source	Estimated Additional Funding Required Based on Future Needs
Water	\$7.5 M	\$7.0	Water Utility	(\$0.5 M)
Sanitary	\$4.3 M	\$6.2 M	Sanitary Utility	\$1.9 M
Drainage	\$6.1 M	\$9.8 M	Drainage Utility	\$3.7 M
Road Paving (non MRN)	\$3.0 M	\$4.6 M	General Revenue	\$1.6 M
Totals	\$20.9 M	\$27.6 M		\$6.7 M

While the City has made significant increases to infrastructure funding since 2006, infrastructure funding gaps remain.

Funding Strategies

Adequate annual funding levels will allow the City to implement a proactive and sustainable infrastructure replacement program. The proactive replacement of infrastructure enables the City to smart sequence utility replacement and use competitive bidding to ensure the best value for money. Replacing infrastructure at its time of failure has proven to be considerably more expensive than proactive replacement and is more disruptive to residents, City services and programs.

Closing the current \$6.7 million funding gap² is achievable within the next decade or sooner. Putting this amount into rate payer terms, Richmond has approximately 70,000 businesses or households that pay utility rates. An annual increase of \$10 to the total utility rate³ for each residence or business would generate an additional \$7 million by the 10th year and would close the gap if inflation is ignored. Similarly, a \$20 increase would close this gap in five years. To put these potential increases in perspective, \$10 is 0.85% of a typical residential utility bill and \$20 is 1.7%.

² This does not include future dike improvement funding which will be determined through the proposed dike master planning process.

³ The comparison of utility rate increases is for illustrative purposes. Road paving is not funded through the utility rate, therefore, increases to accommodate the road paving funding gap will not be applied through the utility rate.

Staff have pursued available federal and provincial grants from programs such as the Building Canada Plan and BC's Flood Protection Program and will continue to do so. While grant funding has been helpful over the last year, as a funding source grants will always be unpredictable and therefore non-sustainable.

Staff will evaluate funding options and make a recommendation to Council as part of the annual utility rate review. Through the annual utility rate review, staff will continue to recommend that the foregoing gap be closed over an appropriate period of time. However, the strategy and annual amount will vary due to the implication of non-discretionary costs resulting from Metro Vancouver's Regional Solid and Liquid Waste Management Plans.

Financial Impact

None at this time.

Conclusion

Staff will continue to gather information to better predict infrastructure replacement schedules and funding peaks and will continue to explore new technologies and best. Staff will also continue to recommend that the utility funding gaps between current and required funding levels be closed over time through the annual budgeting process. The rate of increase and timeframe to close the funding gaps will be impacted by Metro Vancouver's regional Solid and Liquid Waste Management plans, which are a non-discretionary costs imposed on the City. The funding shortfalls outlined in this report should be considered in conjunction with the City's Long Term Financial Strategy.



Lloyd Bie, P.Eng
Manager, Engineering Planning
(4075)

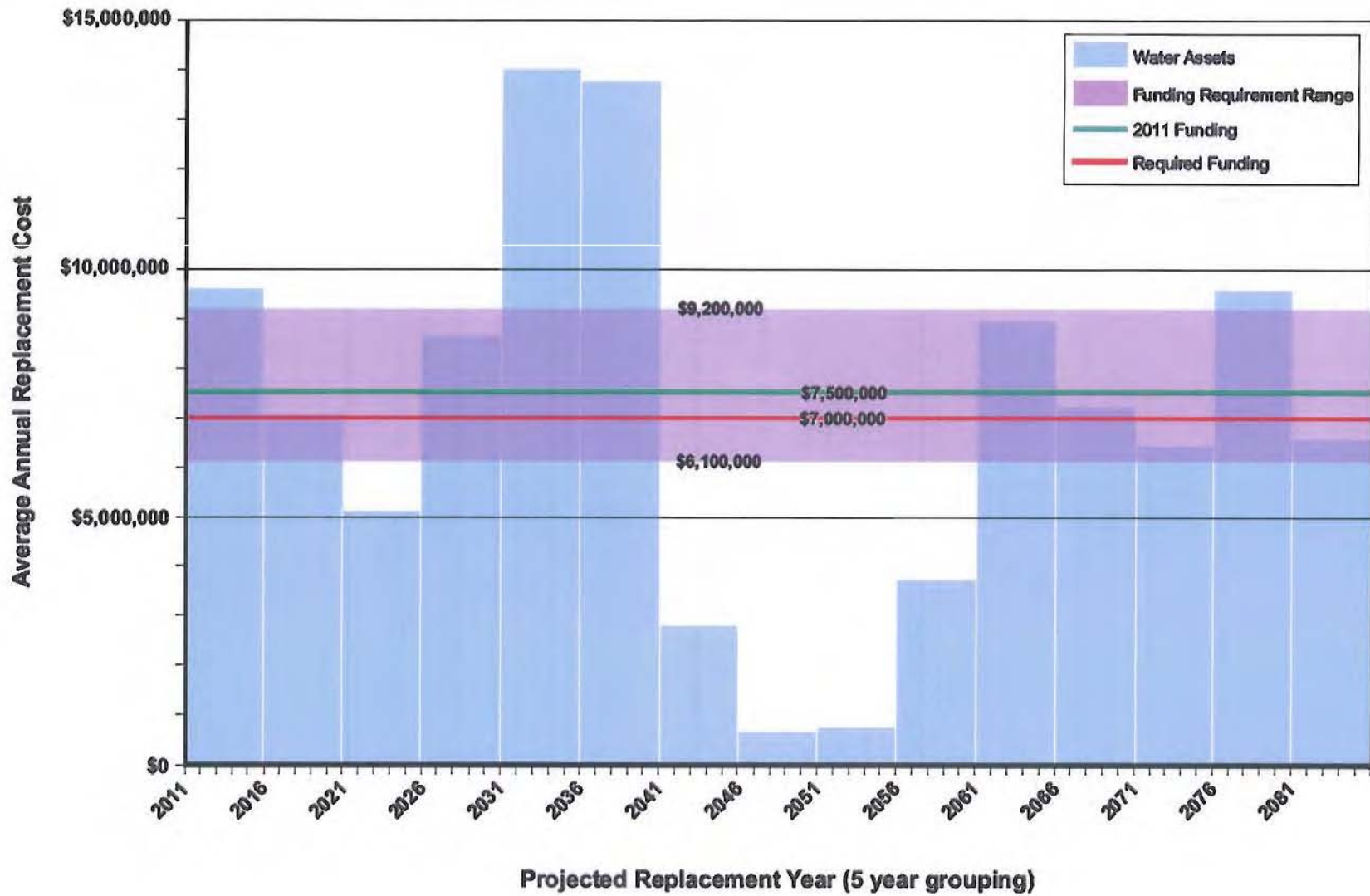
LB:ab



Andy Bell, P.Eng
Project Engineer, Roads & Drainage
(4656)

- Att.1: Chart 1: Ageing Infrastructure Report – Water Assets
- Att.2: Chart 2: Ageing Infrastructure Report – Sanitary Assets
- Att.3: Chart 3: Ageing Infrastructure Report – Drainage Assets
- Att.4: Chart 4: Ageing Infrastructure Report – Non MRN Road Assets
- Att.5: Chart 5: Historical Costs for Capital Paving Program (2006 – 2010)
- Att.6: Capital Infrastructure Projects Completed Since 2006

Chart 1
2011 Ageing Infrastructure Report - Water Assets



June 7, 2011

Chart 2
2011 Ageing Infrastructure Report - Sanitary Assets

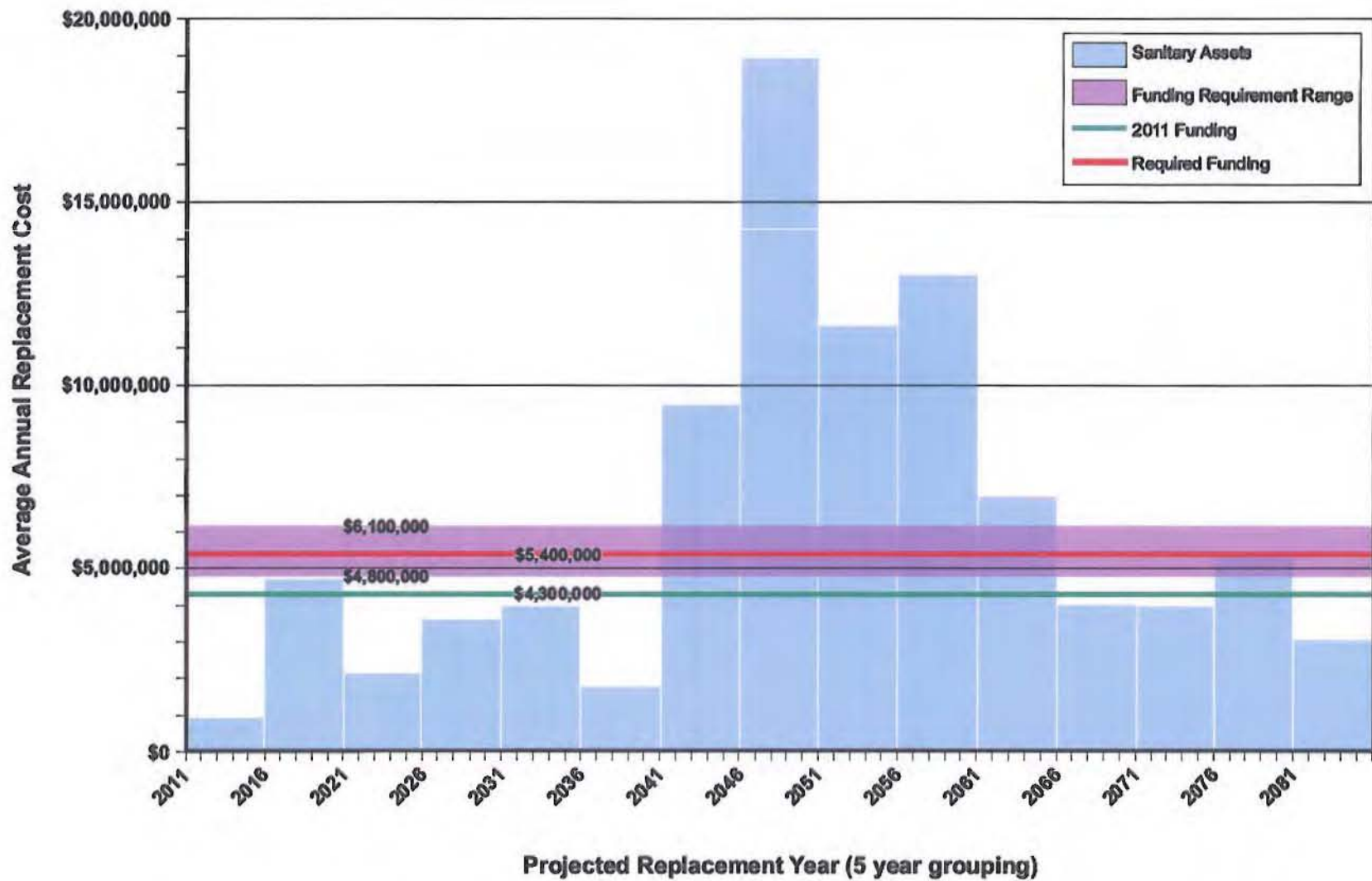


Chart 3
2011 Ageing Infrastructure Report - Drainage Assets

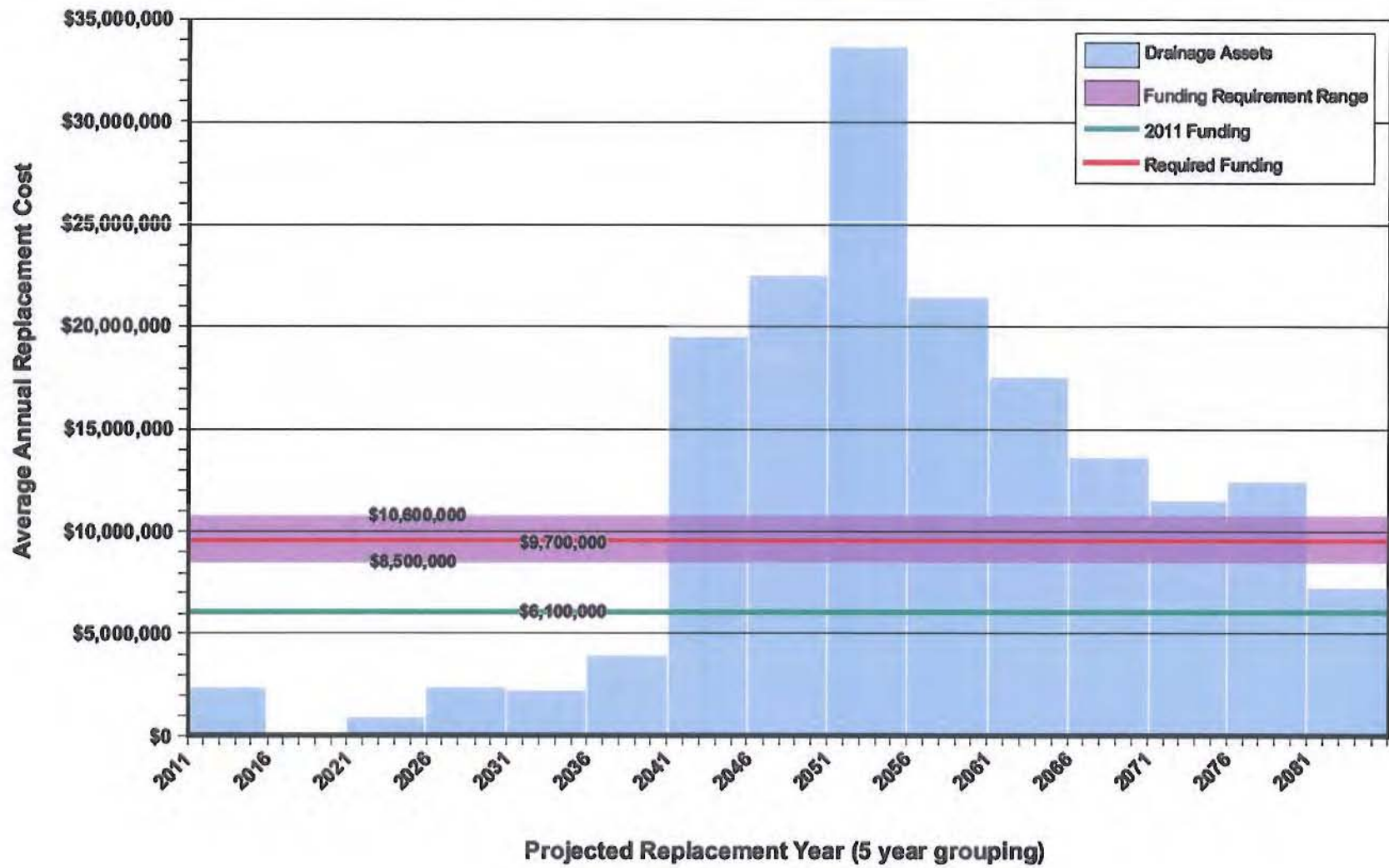
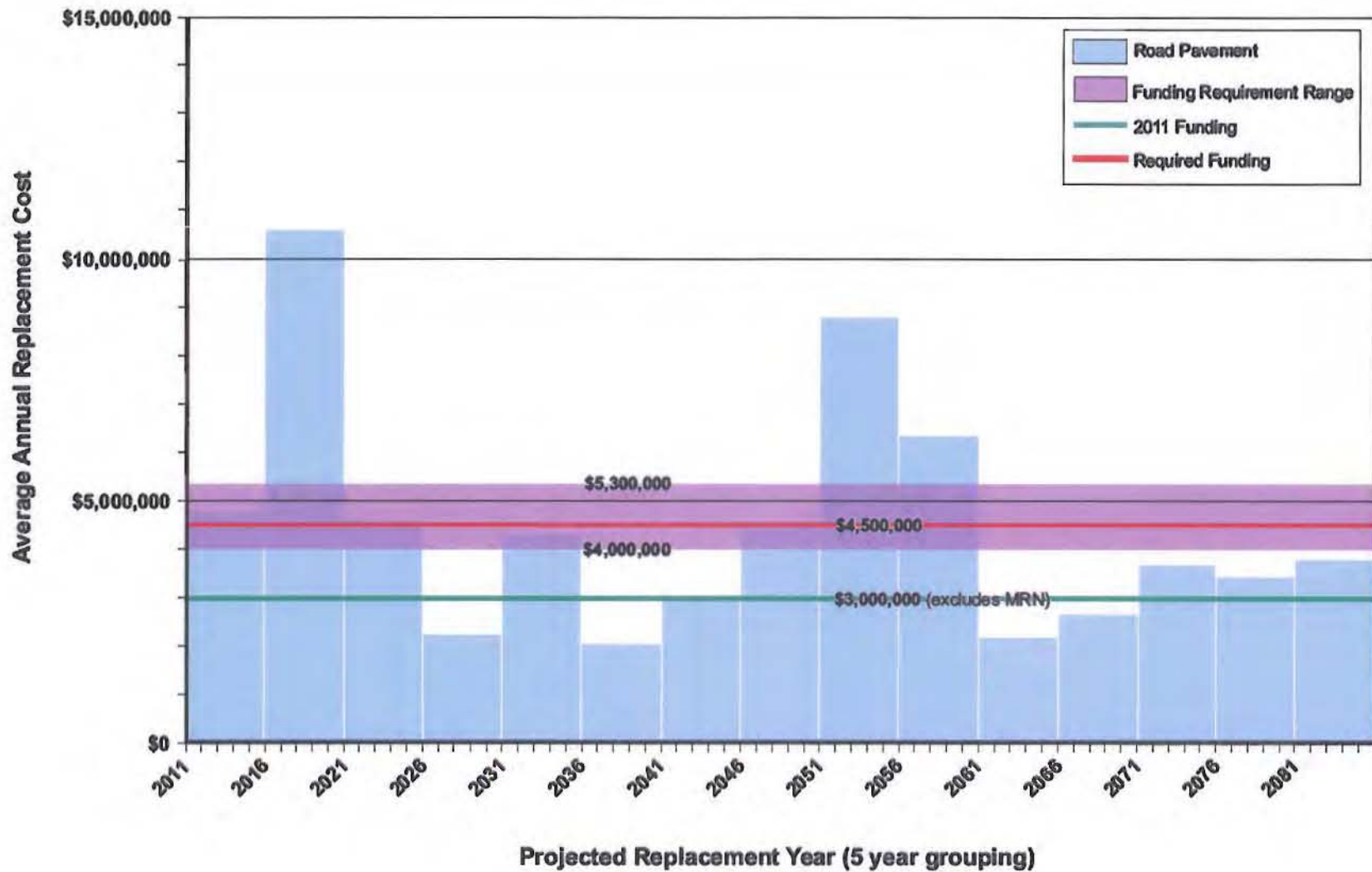
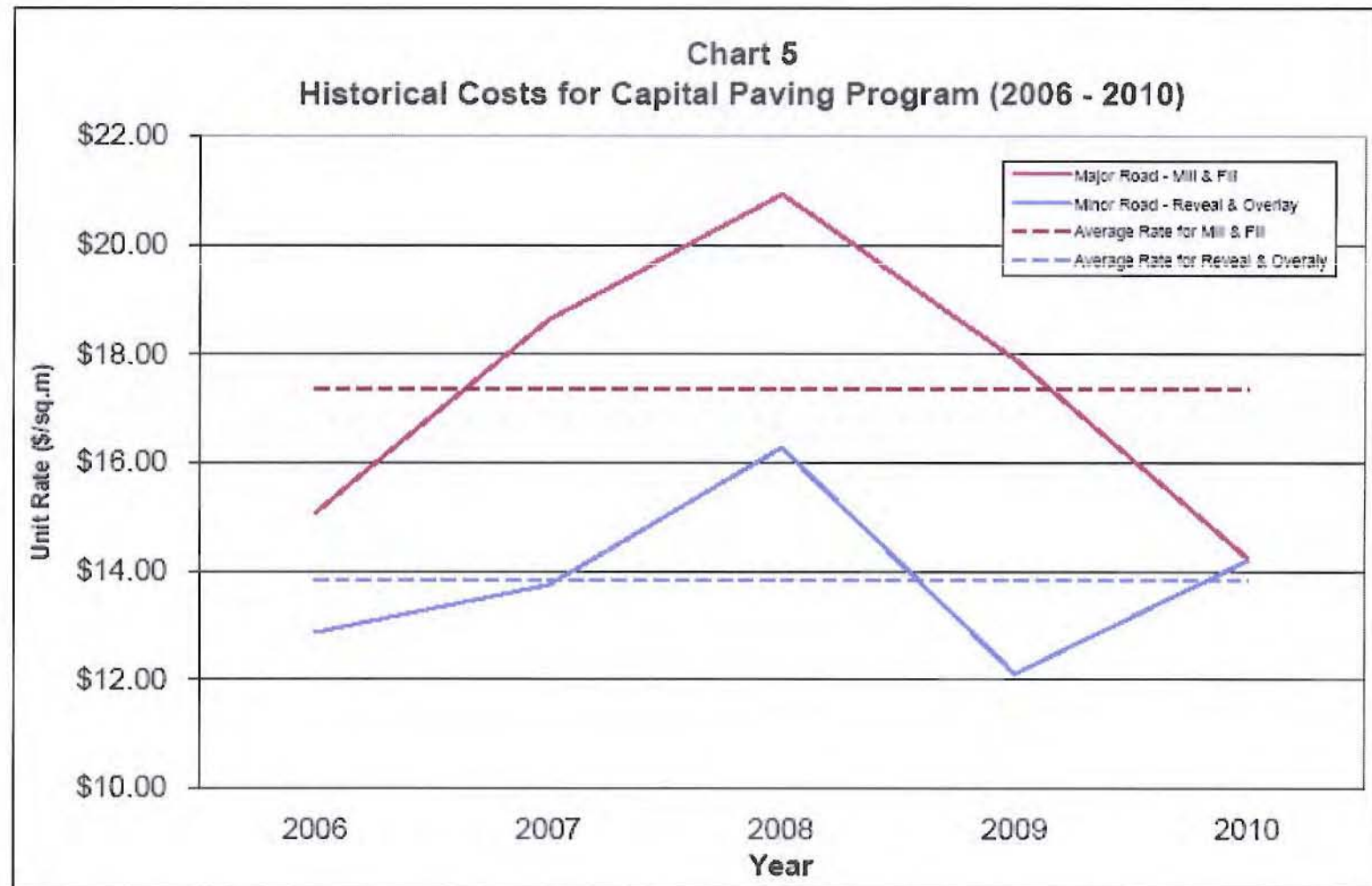


Chart 4
2011 Aging Infrastructure Report - Non-MRN Assets





**2010 Capital Construction Program Update
Engineering Design and Construction**

Project No.	Project Name	Scope of Work	Capital Funding(x1000)	Proposed Tender Date	Scheduled Contract Start	Scheduled Contract Completion
P.08403	Lulu West Waterworks Area	Ash St, Glenacres Dr, Pendlebury Rd, Palmer Rd	\$1,377	City Forces	Completed	Completed
P.08306	Cambie Road Drainage Pump Station Upgrade	Replace Cambie Road PS to improve reliability and pumping capacity. Construct 55m box culvert on Cambie Road	\$2,847	Completed	Completed	Completed
P.08602	Bridgeport Sanitary Sewer Area	Van Horne, Brighthouse, Jones and Richmond Centre Upgrades	\$1,000	City Forces	Completed	Completed
P.06603	City Centre Sanitary Sewer Area	Upgrade Elmbridge Sanitary Pump Station	\$600	City Forces	Completed	Completed
P.08407	Lulu North Waterworks Area	No. 3 Road Water Main Replacement - Westminster Highway to Granville Avenue	\$1,850	February, 2011	March, 2011	June, 2011
P.07602	City Centre Sanitary Sewer Area	Upgrade Eckersly A, Construct Forcemain and Gravity Sewer on Anderson Rd. St. Albans Forcemain	\$3,407	Completed	Completed	March, 2011
P.10201	2010 Paving Program	Various Locations - City Wide	\$3,245	Completed	Completed	Completed
P.08304	Peace Arch Area Drainage Upgrades	Seahurst Lane Drainage Upgrades	\$575	City Forces	Completed	Completed
P.08307	No. 4 Road Drainage Pump Station Upgrade	Upgrade No. 4 Road Pump Station	\$4,810	Completed	Completed	February, 2011
P.07401	Sea Island Waterworks Area	Airport Road	\$786	City Forces	Completed	January, 2011
P.10402	Lulu West Waterworks Area	Mortfield Gate & Cooper Road	\$380	City Forces	Completed	Completed
P.08302	West Cambie Drainage Upgrades	Garden City Road - Alderbridge Way to Cambie Road	\$1,191	Completed	Completed	Completed
P.09402	Hamilton Waterworks Area	Gilley Road - Westminster Hwy to East end	\$601			
P.09405	Lulu West Waterworks Area	Seaham Crescent	\$336	Completed	Completed	January, 2011
P.09405	Hamilton Waterworks Area	6220 No. 8 Road to 460m South of Westminster Highway	\$339			
P.09207	Minoru Bicycle Lanes	Provide bicycle lane from Granville Avenue to Alderbridge Way	\$190	City Forces	Completed	Completed
P.10402	Lulu West Waterworks Area	St. Albans Area Watermain Replacement & Drainage Upgrades	\$3,851	Completed	Completed	March, 2011
P.10301	East Richmond Irrigation Improvements and Drainage Upgrades	Phase IV :Sidaway - Blundell Rd to Francis Rd, Francis - Sidaway to No. 6, Granville - Sidaway to No. 6	\$750	Completed	Completed	Completed
P.10404	Lulu West Waterworks Area	Lucas, Lunen, Lucerne, Lurgan & Lundy Watermain Replacement	\$889	Completed	Completed	February, 2011
P.10601	Fraser Sanitary Sewer Area	Hamilton Pump Station and Sewers	\$3,316	Completed	Completed	March, 2011

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**2010 Capital Construction Program Update
Engineering Design and Construction**

Project No.	Project Name	Scope of Work	Capital Funding(x1000)	Proposed Tender Date	Scheduled Contract Start	Scheduled Contract Completion
P.10302	Canal Stabilization Program	No.3 Road and No. 8 Road Canal Stabilization Program	\$80	City Forces	June, 2011	August, 2011
P.10304	No. 7 Road South Drainage Area	No. 7 Road South Pump Station Outfall Upgrade	\$40	City Forces	January, 2011	July, 2011
P.10303	Woodward Slough Drainage Area	No. 3 Road South Pump Station Intake Screen Upgrade	\$400	Completed	Completed	February, 2011
P.10603	Terra Nova Sanitary Sewer Area	Sanitary Sewer Rehabilitation Phase	\$800	August, 2011	September, 2010	December, 2011
P.10401	Lulu West Waterworks Area	Bonavista Area Watermain Replacement & Drainage Upgrades	\$3,730	Completed	Completed	March, 2011
P.10403	Hamilton Waterworks Area	23,000 Block Dyke Road Watermain	\$120	City Forces	April, 2011	June, 2011
P.10602	City Centre Sanitary Sewer Area	Van Horne Sanitary Sewer Upgrade	\$888	February, 2011	March, 2011	June, 2011
P.08310	Hamilton Drainage Area	20800 River Road Ditch Upgrades	\$75	City Forces	June, 2011	July, 2011
P.10201	No. 4 Road Rehabilitation	Rehabilitate No. 4 Road between Westminster Highway and Granville Avenue	\$574	Completed	Completed	Completed
P.10501	South Dike Seismic Upgrade	No. 4 Road to No. 5 Road	\$637	Pending subject to grant funding		
		TOTAL	\$39,683			

PWT - 95

**2009 Capital Construction Program Update
Engineering Design and Construction**

Project No.	Project Name	Scope of Work	Capital Funding(x1000)	Proposed Tender Date	Scheduled Contract Start	Scheduled Contract Completion
P.05204	Lansdowne Road Undergrounding	Hydro, Telus, Shaw Undergrounding on Lansdowne Rd - No. 3 Rd to Cooney Rd	\$1,509	Completed	Completed	Completed
P.08402	Montrose Area Watermain Replacement	Rosevale Rd, Rosehill Dr., Roselea Cr & Pl, Rosebrook Rd, Rosemary Ave, Rosebank Cr, Rosecroft Cr, Rosedene Cr & Cr, Rosewell Ave, Ruskin Rd & Pl, Leonard Rd & Pl.	\$2,225	Completed	Completed	Completed
P.04301	Horseshoe Slough Drainage Upgrade	Shell & Steveston Irrigation Screens & Pump Removal. Intake Screen Upgrade at Horseshoe Slough Pump Station	\$500	Completed	Completed	Completed
P.07302	Gilbert North Drainage Area Assessment and Upgrade	Garden City Road - Westminster Highway to Lansdowne Rd	\$965	Completed	Completed	Completed
P.09202	2009 Paving Program	Various Locations - City Wide	\$3,250	Completed	In Progress	Completed
P.09301	East Richmond Irrigation Improvements and Drainage Upgrades	Phase 3 - Granville Ave from No. 7 Road to Nelson Road	\$2,000	Completed	Completed	Completed
P.05203	Transportation Bicycle Lane Program	Shell Road Bike Lanes & Parks Trail - Steveston Highway to Athabasca Drive	\$721	City Forces	Completed	Completed
P.08607	Terra Nova Sanitary Sewer Area	Blundell Road - 225m of 450mm Forcemain from No. 1 Road to Frobisher Drive	\$695	Completed	Completed	Completed
P.09205	Lansdowne Road Extension	Lansdowne Road Extensions complete with Utility Upgrades from Gilbert Road to Hollybridge Way	\$3,005	Completed	Completed	Completed
P.08204	Van Horne Pedestrian and Bicycle Path	Van Horne Way From Great Canadian Way to River Drive	\$255	Completed	Completed	Completed
P.08308	Gilbert North Drainage Area Assessment and Upgrade	Drainage Upgrades - Westminster Highway and No. 3 Road Intersection	\$250	City Forces	Completed	Completed
P.09201	4th Avenue Walkway	Steveston Highway to Chatham Street	\$113	City Forces	Completed	Completed
P.08303	Terra Nova Drainage Area Upgrades	Linfield Gate	\$111	Completed	Completed	Completed
P.08605	Shellmont Sanitary Sewer Area	Shell Road - 100m of 400mm Forcemain	\$140	Completed	Deferred	
P.06603	City Centre Sanitary Sewer Area	Upgrade Elmbridge Sanitary Pump Station	\$600	City Forces	In Progress	March, 2010
P.09401	Lulu East Waterworks Area	Old Westminster Highway, East of Overpass	\$650	Completed	Completed	Completed
P.08306	Cambie Road Drainage Pump Station Upgrade	Replace Cambie Road PS to improve reliability and pumping capacity. Construct 55m box culvert on Cambie Road	\$2,847	Completed	In Progress	January, 2010
P.08602	Bridgeport Sanitary Sewer Area	Van Horne, Brighthouse, Jones and Richmond Centre Upgrades	\$1,000	City Forces	In Progress	March, 2010
P.08401	Lulu East Waterworks Area	No. 8 Road	\$187	Completed	Completed	Completed
P.08404	Lulu North Waterworks Area	Sparwood Pl., Tuttle Ave, Patterson Rd., Barga Dr.	\$725	Completed	In Progress	January, 2010
P.09403	Lulu North Waterworks Area	Cambie Road & No. 6 Road	\$1,530	Completed	Completed	Completed

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**2009 Capital Construction Program Update
Engineering Design and Construction**

Project No.	Project Name	Scope of Work	Capital Funding(x1000)	Proposed Tender Date	Scheduled Contract Start	Scheduled Contract Completion
P.09403	Lulu North Waterworks Area	Garden City from Westminster Hwy to Alberta Road	\$200	Completed	Completed	Completed
P.08403	Lulu West Waterworks Area	Bamberton Dr, Goldstream Dr, Malahat Ave, Manning Crt, Bromley PL, Forrilon Pl, Waterton Dr,	\$1,295	Completed	Completed	Completed
P.08407	Lulu North Waterworks Area	No. 3 Road - Westminster Highway to Granville Avenue	\$4,550	In Progress	In Progress	July, 2010
P.08403	Lulu West Waterworks Area	Ash St, Glenacres Dr, Pendlebury Rd, Palmer Rd	\$1,377	City Forces	In Progress	January, 2010
P.07602	City Centre Sanitary Sewer Area	Upgrade Eckersly A, Construct Forcemain and Gravity Sewer on Anderson Rd. St. Albans Forcemain	\$3,407	Completed	March, 2010	August, 2010
P.08302	West Cambie Drainage Upgrades	Garden City Road - Alderbridge Way to Cambie Road	\$1,191	In Progress	June, 2010	September, 2010
P.08307	No. 4 Road Drainage Pump Station Upgrade	Upgrade No. 4 Road Pump Station	\$4,810	In Progress	In Progress	September, 2010
P.09406	Lulu North Waterworks Area	Minoru Park Watermain Replacement	\$250	City Forces	Completed	Completed
	Canada Line Restoration Project	No. 3 Road from Bridgeport Road to Granville Avenue	\$25,000	Completed	Completed	Completed
P.09207	Minoru Bicycle Lanes	Provide bicycle lane from Granville Avenue to Alderbridge Way	\$113	City Forces	April, 2010	May, 2010
P.08304	Peace Arch Area Drainage Upgrades	Seahurst Lane Drainage Upgrades	\$575	City Forces	April, 2010	June, 2010
P.09203	NIC Lane Improvements	North of Williams Road - No. 4 Rd to Shell Rd	\$1,311	January, 2010	March, 2010	July, 2010
P.09402	Hamilton Waterworks Area	Gilley Road - Westminster Hwy to East end	\$601	April, 2010	May, 2010	September, 2010
P.07401	Sea Island Waterworks Area	Airport Road	\$785			
P.09204	Park Road Extension	Park Road Extension from Cooney Road to Eckersly Road	\$1,920	Development Driven		
P.08606	City Centre Sanitary Sewer Area	Construction new Sanitary Pump Station c/w forcemain and gravity Sewers north of existing Elmbridge PS	\$3,300	Development Driven		
		TOTAL	\$73,963			

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**2008 Capital Construction Program Update
Engineering Design and Construction**

Project No.	Project Name	Scope of Work	Eng.	Budget (x1000)	Projected Cost to Complete (x1000)	Proposed Tender Date	Scheduled Contract Start	Scheduled Contract Completion
P.07504	South Dike Upgrades	No. 7 Road to 970m East	JY	\$1,371	\$1,371	Completed	Completed	Completed
P. 06601	City Centre/Bridgeport Sanitary Sewer Rehab	Trenchless and External Sewer Repairs	JY	\$600	\$600	Completed	Completed	Completed
P.07301	East Richmond Drainage Area Assessment and Upgrade (2007)	Drainage Sewer Assessment and Upgrade	JY	\$1,000	\$1,000	Completed	Completed	Completed
P.06402	Aztec Area Drainage and Watermain Upgrades	Watermain Replacement & Drainage Improvements - Dallyn Road	JY	\$1,700	\$1,700	Completed	Completed	Completed
P.07402	Lulu East Waterworks Area	Kartner Road & Fedoruk Road	JY	\$453	\$453	City Forces	Completed	Completed
P.08301	Aragon Lane Drainage	Install New Lane Drainage	JY	\$175	\$175	City Forces	Completed	Completed
P.07204	Elmbridge/Hollybridge/Gilbert Rd Intersection Improvements	Intersection Improvements & Signalization	JY	\$425	\$425	City Forces	Completed	Completed
P.07405	Lulu West Waterworks Area	Lancing Subdivision Miscellaneous Roads	JY	\$2,117	\$2,117	Completed	Completed	Completed
P.06405	Lulu West Waterworks Area	Mersey Drive, Rochdale Drive, Southport Road, Dennis Crescent, Swinton Crescent	JY	\$804	\$804	Completed	Completed	Completed
P.05405	2006 Maddocks Subdivision	Watermain Replacement	JY	\$473	\$473			
P.07306	Gilbert North Area Drainage Upgrades	Comstock Drainage PS	JY	\$150	\$150	City Forces	Completed	Completed
P.06604	Ackroyd Road Sanitary Pump Station Upgrade	Sanitary Pump Station Reconstruction	JY	\$1,530	\$1,530	Completed	Completed	Completed
P.08201	2008 Asphalt Paving Program	Various Locations	JY	\$3,200	\$3,200	Completed	Completed	Completed
P.08309	Mid-Island Dike Study	Mid-Island Dike Study	JY	\$150	\$150	Completed	Study In Progress	
P.05204	Lansdowne Rd - No. 3 to Cooney	Hydro, Telus, Shaw Undergrounding/Beautification	JY	\$1,186	\$1,186	In Progress - Development Driven		
P.08202	Intersection Improvements	Garden City/Ferndale Intersection - Southbound to Eastbound left turn bay	JY	\$93	\$93	City Forces	Completed	Completed
P.08305	East Richmond Drainage Upgrades & Irrigation Improvements - Phase 2	Granville & Francis, Sidaway - No. 6 Rd & Blundell Rd, No. 6 Rd - No. 7 Rd	JY	\$592	\$592	Completed	Completed	Completed
P.08402	Montrose Area Watermain Replacement	Rosevale Rd, Rosehill Dr., Roselea Cr & Pl, Rosebrook Rd, Rosemary Ave, Rosebank Cr, Rosecroft Cr, Rosedene Cr & Cr, Rosewell Ave, Ruskin Rd & Pl, Leonard Rd & Pl.	JY	\$2,225	\$2,225	Completed	In Progress, November 2008	March, 2009
P.08312	No. 2 Road Box Culvert Replacement	South of Steveston Highway	JY	\$950	\$950	Completed	In Progress, November 2008	January, 2009
P.04301	Horseshoe Slough Drainage Upgrade	Shell & Steveston Irrigation Screens & Pump Removal	JY	\$500	\$500	Completed	February, 2009	June, 2009
P.08607	Terra Nova Sanitary Sewer Area	Blundell Road - 225m of 450mm Forcemain from No. 1 Road to Frobisher Drive	JY	\$425	\$425	In Progress	March, 2009	August, 2009
P.07302	Gilbert North Drainage Area Assessment and Upgrade	Garden City Road - Westminster to Lansdowne Rd	JY	\$2,189	\$2,189	Completed	March, 2009	August, 2009

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P.05203	Shell Rd - Athabasca to Horseshoe Slough	Bike Lanes & Parks Trail	JY	\$1,109	\$1,109	January, 2009	March, 2009	October, 2009
P.08404	Lulu North Waterworks Area	Sparwood Pl., Tuttle Ave, Patterson Rd., Borgen Dr.	JY	\$725	\$725	January, 2009	March, 2009	October, 2009
P.08204	Van Horne Pedestrian and Bicycle Path	Van Horne Way From Great Canadian Way to River Drive	JY	\$255	\$255	February, 2009	April, 2009	August, 2009
P.08306	Cambie Road Drainage Pump Station Upgrade	Replace Cambie Road PS to 4.2 cms. Construct 55m box culvert on Cambie Road	JY	\$2,847	\$2,847	March, 2009	May, 2009	March, 2010
P.08403	Lulu West Waterworks Area	Ash St., Glenacres Dr, Pendlebury Rd, Palmer Rd.,	JY	\$1,283	\$1,283	City Forces	May, 2009	October, 2009
P.07602	City Centre Sanitary Sewer Area	Upgrade Eckersly A, Construct Forcemain and Gravity Sewer on Anderson Rd	JY	\$2,090	\$2,090	May, 2009	June, 2009	March, 2010
P.07602	Bennett West Sanitary Pump Station	Forcemain Upgrade	JY	\$700	\$700			
P.08307	No. 4 Road Drainage Pump Station Upgrade	Replace No. 4 Road PS to 7.0 cms	JY	\$4,810	\$4,810	September, 2009	February, 2009	July, 2011
P.08602	West Cambie Sanitary Sewer Area	Replace Van Horne Sanitary PS	JY	\$1,000	\$1,000	October, 2009	March, 2010	December, 2010
P.08308	Gilbert North Drainage Area Assessment and Upgrade	Westminster Highway - No. 3 Road to Cooney Road	JY	\$1,700	\$1,700	Deferred until 2010		
P.07401	Sea Island Waterworks Area	Airport Road	JY	\$785	\$785	Deferred until Canada Line Construction is completed in this area.		
	TOTAL			\$39,612	\$39,612			

2007 Construction Program Update

Engineering Design and Construction

Project No.	Project Location	Scope of Work	Eng.	Budget (x1000)	Projected Cost to Complete	Proposed Tender Date	Scheduled Contract Start	Scheduled Contract Completion
P.05605	Sanitary Sewer P.S. at Cook/Buswell	Pump Station, Sanitary Sewer and Force Main Rehabilitation	JY	\$1,481	\$1,260	Completed	Completed	Completed
P.06403	Comstock Area Watermain Replacement	Watermain Replacement at Various Locations	JY	\$1,131	\$950	Completed	Completed	Completed
P.05302	Steveston Highway Box Culvert	Box Culvert Installation	JY	\$400	\$360	Completed	Completed	Completed
P.07504	Dike Upgrade	Dike Upgrade Between No. 7 and No. 8 Roads	JY	\$1,371	\$1,371	Completed	Completed	Completed
P.04209	Westminster Hwy - Hwy 91 Interchange to McMillan	Road widening to 4 Lanes	JY	\$6,525	\$6,525	Completed	Completed	Completed
P.07403	Lulu West Waterworks Area	Pinewell Crescent, Ash Street, Fairdell Crescent, Fairdell Place, Fairfax Place	JY	\$1,237	\$1,237	City Forces	Completed	Completed
P.07404	Alderbridge water main replacement	Replacement of Asbestos Cement Water Main	JY	\$100	\$100	City Forces	Completed	Completed
P.07201	Westminster Hwy Bicycle Lanes - No. 8 Road to Nelson Road	Bicycle Lanes Construction	JY	\$292	\$200	Completed	Completed	Completed
P.07303	Peace Arch Drainage Area Assessment and Upgrade	Seabrook Crescent Drainage Upgrade	JY	\$125	\$125	Completed	Completed	Completed
P.05205	No. 1 Road Laneway - Francis to Williams	Laneway Construction	JY	\$1,200	\$1,200	Completed	Completed	Completed
P.07305	Regent Street Drainage LASP	Ditch Infill - 3440 to 3640 Regent Street, 11333 2nd Avenue	JY	\$84	\$84	Completed	Completed	Completed
P.07011	City Centre/Bridgeport Sanitary Sewer Rehab	Trenchless and External Sewer Repairs	JY	\$600	\$600	Completed	In Progress April, 2007	May, 2008
P.07014	Regent Street Drainage LASP	Ditch Infill - 3231 to 3251 Regent Street	JY	\$185	\$185	Completed	Completed	Completed
P.7201	2007 Asphalt Paving Program	Asphalt Paving	JY	\$2,500	\$2,500	Completed	Completed	Completed
P.07013	Francis Road Drainage Pump Station	Pump Station Renovation	JY	\$1,655	\$1,655	Completed	Completed	Completed
P.07012	Lucas Road Drainage Upgrade	Watermain replacement & Drainage Improvements	JY	\$600	\$600	Completed	Completed	Completed
P.07301	East Richmond Drainage Area Assessment and Upgrade	Drainage Sewer Assessment and Upgrade	JY	\$1,000	\$1,000	Completed	In Progress December, 2007	March, 2008
P.04301	Horseshoe Slough Drainage Upgrade	Irrigation Screens & Pump Removal	JY	\$579	\$579	City Forces	In Progress December, 2007	February, 2008
P.06405	Lulu West Waterworks Area	Mersey Drive, Rochdale Drive, Southport Road, Dennis Crescent, Swinton Crescent	JY	\$804	\$804	Completed	In Progress January, 2008	July, 2008
P.05405	2006 Maddocks Subdivision	Watermain Replacement	JY	\$473	\$473	Completed	In Progress January, 2008	July, 2008
P.07302	Gilbert North Drainage Area Assessment and Upgrade	Westminster Hwy - No. 3 Road to Cooney Road, Garden City Road - Westminster to Lansdowne, Comstock Area	JY	\$2,490	\$2,490	In Progress	February, 2008	June, 2008
P.06402	Aztec Area Drainage and Watermain Upgrades	Watermain Replacement & Drainage Improvements - Dailyn Road	JY	\$1,400	\$1,400	Completed	In Progress September, 2007	April, 2008
P.06604	Ac-kroyd Road Sanitary Pump Station Upgrade	Sanitary Pump Station Reconstruction	JY	\$1,400	\$1,400	Completed	In Progress January, 2007	April, 2008
P.07204	Elmbridge/Hollybridge/Gilbert Rd Intersection Improvements	Intersection Improvements & Signalization (3 Phases)	JY	\$425	\$425	City Forces	In Progress November, 2007	May, 2008
P.07405	Lulu West Waterworks Area	Lancing Subdivision Miscellaneous Roads	JY	\$2,117	\$2,117	December, 2007	February, 2008	July, 2008
P.07402	Lulu East Waterworks Area	Karner Road & Fedoruk Road	JY	\$453	\$453	City Forces	February, 2008	May, 2008
P.05204	Lansdowne Rd - No. 3 to Cooney	Hydro, Telus, Shaw Underground/Beautification	JY	\$1,148	\$1,148	December, 2007	February, 2008	May, 2008
P.07501	Dike Upgrades	Various Locations	JY	\$250	\$250	June, 2008	July, 2008	September, 2008
P.07401	Sea Island Waterworks Area	Airport Road	JY	\$786	\$786	TBD	Deferred until Canada Line Construction is completed in this area.	
P.05203	Shell Rd - Altiminica to Horseshoe Slough	Bike Lanes, Parks Trail, Canal Benching	JY	\$1,300	\$1,300	TBD	CN Property Being Sold	
	TOTAL			\$34,111	\$33,577			

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2006 Construction Program Year End Summary

Engineering Design and Construction

Project No.	Project Location	Scope of Work	Eng.	Budget (x1000)	Projected Cost to Complete	Proposed Tender Date	Scheduled Construction Start	Scheduled Construction Completion
P.06301	Dyke Road Rip-Rap Upgrade	Dyke Upgrade South End of Gilbert	JY	\$130	\$130	Completed	Complete	Complete
P.06201	Garden City Bike Lanes	Capstan to Cambie	JY	\$230	\$230	City Forces	Complete	Complete
P.04301	Horseshoe Slough	Drainage Improvements	JY	\$2,778	\$2,778			
P.04405	Maddocks Subdivision (Phase I)	Watermain Replacement	JY	\$811	\$811	Completed	Complete	Complete
P.05405	Maddocks Subdivision (Phase II)	Watermain Replacement	JY	\$1,061	\$1,061			
P.06602	Kwantlen Sanitary Forcemain	Forcemain Replacement	JY	\$100	\$89	Completed	Complete	Complete
P.05602	Ash Sanitary Pump Station Rehabilitation	Sanitary	JY	\$250	\$250	City Forces	Complete	Complete
P.05406	No. 2 Rd Watermain	Watermain Replacement	JY	\$800	\$480	Completed	Complete	Complete
P.05210	No. 3 Rd Walkway	Gravel Sidewalk, Steveston Hwy to Dyke Rd	JY	\$200	\$200	City Forces	Complete	Complete
P.05201	2006 Paving Program	Asphalt Paving	JY	\$2,006	\$2,006	Completed	Complete	Complete
P.06401	Broadmoor Phase III Watermain Replacement	Watermain Replacement at Various Locations	JY	\$812	\$812	City Forces	Complete	Complete
P.05604	Arcadia Sanitary Pump Station Rehabilitation	Sanitary	JY	\$250	\$250	City Forces	In Progress August 22, 2006	December, 2006
P.06601	City Centre/Bridgeport Sanitary Sewer Rehab	Trenchless and External Sewer Repairs	JY	\$600	\$600	Completed	In Progress April 15, 2006	March, 2007
P.04408	Westminster Hwy - No. 3 Rd to Garden City	Watermain Replacement	JY	\$3,456	\$3,100	Completed	Complete	Complete
P.04408	Westminster Hwy - No. 4 Rd to Shell Rd	Watermain Replacement	JY	\$1,481	\$1,481	Completed	In Progress July, 2006	December, 2006
P.05605	Sanitary Sewer P.S. at Cook/Buswell	Pump Station, Sanitary Sewer and Forcemain Rehabilitation	JY	\$579	\$579	Completed	In Progress July, 2006	February, 2007
P.04301	Horseshoe Slough Drainage Upgrade	Screens, Irrigation Control and Pipe Installation	JY	\$6,525	\$5,928	Completed	In Progress August, 2006	May, 2007
P.04209	Westminster Hwy - Hwy 91 Interchange to McMillan	Road widening to 4 Lanes	JY	\$400	\$400	Completed	In Progress September, 2006	February, 2007
P.05302	Steveston Highway Box Culvert	Box Culvert Installation	JY	\$1,131	\$1,131	Completed	In Progress September, 2006	March, 2007
P.06403	Comstock Area Watermain Replacement	Watermain Replacement at Various Locations	JY	\$1,200	\$1,200	Completed	November, 2006	December, 2006
P.05205	No 1 Road Laneway - Francis to Williams	Laneway Construction	JY	\$473	\$473	Completed	December, 2006	May, 2007
P.05405	2006 Maddocks Subdivision	Watermain Replacement	JY	\$1,148	\$1,148	December, 2006	January, 2007	July, 2007
P.05204	Lansdowne Rd - No. 3 to Cooney	Hydro, Telus, Shaw Undergrounding/Beautification	JY	\$1,300	\$1,300	February, 2007	April, 2007	September, 2007
P.05203	Shell Rd - Athabasca to Horseshoe Slough	Bike Lanes, Parks Trail, Canal Benching	JY	\$1,000	\$1,000	February, 2007	April, 2007	September, 2007
P.06604	Ackroyd Road Sanitary Pump Station Upgrade	Sanitary Pump Station Reconstruction	JY	\$600	\$600	December, 2006	February, 2007	October, 2007
P.06302	Lucas Road Drainage Upgrade	Drainage Improvements	JY	\$900	\$900	January, 2007	March, 2007	June, 2007
P.06402	Aztec Area Drainage and Watermain Upgrade	Drainage Improvements	JY	\$800	\$800	February, 2007	March, 2007	July, 2007
P.03303	Francis Road Drainage Pump Station	Pump Station Renovation	JY	\$440	\$440	January, 2007	February, 2007	September, 2007
P.06603	Elmbridge Sanitary PS Upgrade	Upgrade of Existing Pump Station	JY	\$700	\$700	Await completion of City Centre West Gateway Servicing Requirements	September, 2007	
P.05404	No. 3 Road - Westminster Hwy to Granville Ave	Watermain Replacement	JY	\$600	\$600	Deferred due to Canada Line		
P.04604	Sanitary Sewer (Fraserlands) Pump station	Sanitary Pump Station Construction	JY	\$32,401	\$31,117	Development driven		
TOTAL								