



Public Works & Transportation Committee

Anderson Room, City Hall
6911 No. 3 Road

Wednesday, September 21, 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, July 20, 2011.*



NEXT COMMITTEE MEETING DATE

Wednesday, October 19, 2011 (tentative date) at 4:00 p.m. in the Anderson Room

PWT-11 1. **PROVINCE OF BC 2010-2011 BIKEBC CYCLING INFRASTRUCTURE PARTNERSHIP PROGRAM – EXECUTION OF COST-SHARE AGREEMENTS**
(File Ref. No.: 01-0150-20-THIG1/2011-Vol 01) (REDMS No. 3307750)

[TO VIEW eREPORT CLICK HERE](#)

See Page **PWT-11** of the Public Works & Transportation agenda for full hardcopy report

Designated Speaker: Victor Wei

STAFF RECOMMENDATION

That the Chief Administrative Officer and the General Manager, Planning and Development, be authorized to execute any agreements necessary to receive cost-share funding under the Province of BC 2010-2011 BikeBC Cycling Infrastructure Partnership Program for the following two cycling facility projects as presented in the attached report:

- (a) *Minoru Boulevard Bike Route (Granville Avenue to Alderbridge Way); and*
- (b) *Garden City Road-Granville Avenue Intersection Improvements.*



ENGINEERING AND PUBLIC WORKS DEPARTMENT

**PWT-15 2. AWARD OF CONTRACT T.4311 – RECYCLING DEPOT
CONTAINER COLLECTION AND RECYCLING SERVICES**

(File Ref. No. 10-6370-04-01/2011-Vol 01) (REDMS No. 3295517)

[TO VIEW eREPORT CLICK HERE](#)

See Page **PWT-15** of the Public Works & Transportation agenda for full hardcopy report

Designated Speaker: Suzanne Bycraft

STAFF RECOMMENDATION

That Contract T.4311, Recycling Depot Container Collection and Recycling Services, for the period November 1, 2011 – October 31, 2014, be awarded as follows:

- (1) *BFI Canada Inc. – the container collection and recycling services for the following commodities at the unit rates quoted: Mixed Waste Paper, Scrap Metal and Yard Waste;*
- (2) *Super Save Disposal Inc. – the container collection and recycling services for the following commodities at the unit rates quoted: Magazines, Tin, Scrap Aluminium, and Glass; and*
- (3) *Cascades Recovery Inc. – the container collection and recycling services for the following commodities at the unit rates quoted: Newspaper, Cardboard and Plastic.*



**PWT-19 3. FAT, OIL AND GREASE (FOG) MANAGEMENT PROGRAM
UPDATE**

(File Ref. No.: 10-6060-03-01/2011-Vol 01) (REDMS No. 3295278)

[TO VIEW eREPORT CLICK HERE](#)

See Page **PWT-19** of the Public Works & Transportation agenda for full hardcopy report

Designated Speaker: Lloyd Bie

STAFF RECOMMENDATION

That the five year Sanitary Pump Station and Forcemain Assessment and Upgrading Program (2012 to 2016) which includes forcemain pressure monitoring, forcemain access installation, forcemain inspection and FOG remediation, be endorsed for submission in the 2012 to 2016 Capital Plan for consideration.



PROJECT DEVELOPMENT & FACILITY MANAGEMENT
DEPARTMENT

- PWT-29 4. AGEING FACILITY INFRASTRUCTURE - UPDATE**
(File Ref. No.:) (REDMS No. 3019796)

[TO VIEW eREPORT CLICK HERE](#)

See Page **PWT-29** of the Public Works & Transportation agenda for full hardcopy report

Designated Speaker: Greg Scott

STAFF RECOMMENDATION

That the report entitled “Ageing Facility Infrastructure – Update”, dated June 30, 2011 from the Director of Project Development, be received for information.



5. **MANAGER’S REPORT**

ADJOURNMENT





Public Works & Transportation Committee

Date: Wednesday, July 20, 2011
Place: Anderson Room
Richmond City Hall
Present: Councillor Linda Barnes, Chair
Councillor Derek Dang
Councillor Ken Johnston
Councillor Harold Steves
Absent: Councillor Sue Halsey-Brandt, Vice-Chair
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, June 22, 2011, be adopted as circulated.

CARRIED

NEXT COMMITTEE MEETING DATE

Wednesday, September 21, 2011 (tentative date) at 4:00 p.m. in the Anderson Room

ENGINEERING AND PUBLIC WORKS DEPARTMENT

1. **MUNICIPAL ACCESS AGREEMENT WITH A2B FIBER INC.**
(File Ref. No. 03-1000-21) (REDMS No. 3050281)

It was moved and seconded

That the Chief Administrative Officer and the General Manager, Engineering & Public Works be authorized to execute, on behalf of the City, a Municipal Access Agreement between the City and A2b Fiber Inc. containing the material terms and conditions set out in the staff report dated July 4, 2011 from the Director, Engineering.

CARRIED

2. **AWARD OF CONTRACT 4230P – DETAILED DESIGN AND CONSTRUCTION SERVICES FOR THE WIDENING OF WESTMINSTER HIGHWAY AND NELSON ROAD**
(File Ref. No. 10-6340-20-P11203) (REDMS No. 3251193)

In reply to a query from Committee, Milton Chan, Senior Project Engineer, advised that the proposed contract solely addresses the procurement of design services for the widening of Westminster Highway and Nelson Road.

It was moved and seconded

That Contract 4230P – Detailed Design and Construction Services for the Widening of Westminster Highway and Nelson Road be awarded to Delcan for the amount of \$775,904 plus HST.

CARRIED

3. **GILBERT TRUNK SEWER UPGRADING**
(File Ref. No. 10-6060-03-01) (REDMS No. 3250070)

It was moved and seconded

That the Metro Vancouver recommended Gilbert Trunk Sewer alignment and City proposed alternative Gilbert Trunk Sewer alignment as per the staff report from the Director, Engineering dated July 6, 2011 entitled “Gilbert Trunk Sewer Upgrading” be endorsed for public consultation and design.

The question on the motion was not called as discussion ensued and in reply to a query from Committee, Lloyd Bie, Manager, Engineering Planning, advised that Metro Vancouver, along with City staff, are reviewing the potential to utilize waste heat energy from Gilbert Trunk as part of new district energy utility opportunities. Also, Mr. Bie noted that staff anticipate to report back on a referral regarding grease in sewer pipes in the Fall of 2011.

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

Public Works & Transportation Committee

Wednesday, July 20, 2011

4. 2010 ANNUAL WATER QUALITY REPORT

(File Ref. No. 10-6650-01) (REDMS No. 3248839)

Tom Stewart, Director, Public Works Operations, introduced Bryan Shepherd, Asset & Inventory Technician, Water Services.

In reply to queries from Committee, Mr. Shepherd provided the following information:

- in 2010, the City purchased 36.5 million cubic meters of water from Metro Vancouver, approximately 4.2% less than what was purchased in 2009;
- it is believed that the 4.2% decrease in water consumption is the result of the City's Water Meter Program;
- the Mobile Emergency Response unit has been tested, however has not be utilized;
- a strong focus on staff training has been initiated and succession planning is on going, as over the next three years, up to 50% of Water Services staff currently employed by the City of Richmond will be eligible for retirement; and
- staff continue to upgrade dead end water mains in an effort to address concerns related to stagnant water.

Committee commented that the approximate timeline for upgrading all dead end water mains would be helpful.

Discussion ensued regarding the decrease in water consumption as a result of the City's Water Meter Program and Committee requested that the staff forward a copy of the 2010 Annual Water Quality Report to the Metro Vancouver Water Committee.

Discussion further ensued and Committee requested that the 2010 Annual Water Quality Report be presented at a future Council meeting. It was requested that the presentation highlight the 4% decrease in water consumption and comment on the savings as a result of the 4% decrease in water consumption.

It was moved and seconded

That the 2010 Annual Water Quality report dated July 11, 2011 be approved for public release.

CARRIED

5A. OTHER ITEMS

Discussion ensued regarding the following topics:

- the introduction of pay parking meters on three lots in Steveston owned by the Steveston Harbour Authority;

Public Works & Transportation Committee

Wednesday, July 20, 2011

- public confusion regarding private parking violation tickets; and
- pay parking opportunities for the City in Steveston.

As a result of the discussion, the following **referral** was introduced:

It was moved and seconded

That staff investigate and report back on:

- (1) *the Steveston Harbour Authority's plans for pay parking on their lots in Steveston;*
- (2) *private pay parking lots in Steveston;*
- (3) *an update on the City's pay parking policy for Steveston;*
- (4) *City owned lots in Steveston and their potential future uses; and*
- (5) *pay parking on City owned lots in Steveston.*

CARRIED

5. MANAGER'S REPORT

(i) Roads & Construction Services Update

Mr. Stewart introduced Ben Dias, Manager, Roads & Construction Services, and provided background information.

Mr. Dias spoke of a pilot project whereby post-secondary students identify and check catch basins that require attention. He highlighted the benefits of the pilot project, stating that it has improved efficiencies.

(ii) Lansdowne Road Sanitary Sewer Update

Romeo Bicego, Manager, Sewerage and Drainage, provided background information and noted that the project is well underway.

(iii) Toilet Rebate Program

Robert Gonzalez, General Manager, Engineering and Public Works, spoke of the success of the Toilet Rebate Program. He stated that all the funds budgeted for the program have been issued in the form of a rebate credit and the program continues to be in high demand.

Discussion ensued and it was clarified that any changes to the program would not affect utility rates.

As a result of the discussion, the following motion was introduced:

It was moved and seconded

That staff submit a report to the Monday, July 25, 2011 Regular Council meeting regarding the Toilet Rebate Program.

CARRIED

Public Works & Transportation Committee

Wednesday, July 20, 2011

ADJOURNMENT

It was moved and seconded

That the meeting adjourn (4:41 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, July 20, 2011.

Councillor Linda Barnes
Chair

Hanieh Floujeh
Committee Clerk



City of Richmond

Report to Committee

To: Public Works and Transportation Committee
From: Victor Wei, P. Eng.
Director, Transportation
Date: August 8, 2011
File: 01-0150-20-
THIG1/2011-Vol 01
Re: **PROVINCE OF BC 2010-2011 BIKEBC CYCLING INFRASTRUCTURE
PARTNERSHIP PROGRAM - EXECUTION OF COST-SHARE AGREEMENTS**

Staff Recommendation

That the Chief Administrative Officer and the General Manager, Planning and Development, be authorized to execute any agreements necessary to receive cost-share funding under the Province of BC 2010-2011 *BikeBC Cycling Infrastructure Partnership Program* for the following two cycling facility projects as presented in the attached report:

- (a) Minoru Boulevard Bike Route (Granville Avenue to Alderbridge Way); and
- (b) Garden City Road-Granville Avenue Intersection Improvements.

Victor Wei, P. Eng.
Director, Transportation
(604-276-4131)

FOR ORIGINATING DEPARTMENT USE ONLY			
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER	
Engineering	Y ☒ N ☐		
Budget & Accounting	Y ☒ N ☐		
Law	Y ☒ N ☐		
REVIEWED BY TAG	YES ☒ NO ☐	REVIEWED BY CAO	YES ☒ NO ☐

Staff Report

Origin

Further to staff updates to Council via memoranda in August 2010 and July 2011 regarding the City's submission and approval of two applications for cost-share funding of cycling facility projects as part of the provincial *2010-2011 BikeBC Cycling Infrastructure Partnership Program* (BikeBC), the City has now received the cost-share agreements for execution. This report seeks Council authorization for staff to execute the agreements in order to take advantage of the external funding contributions.

Analysis

1. BikeBC Cycling Infrastructure Partnership Program

BikeBC is a cost-shared program where the Government of British Columbia partners with local governments in the construction of new transportation cycling infrastructure. The goal of the program is to promote transportation cycling (cycling to work, school, or errands) as a means of reducing traffic congestion and green house gas (GHG) emissions.

2. City Submissions to BikeBC for Cost-Sharing

Following the announcement of the 2010-2011 BikeBC program in July 2010, staff submitted the following two cycling facility projects:

- *Minoru Boulevard Bike Route (\$47,500)*: narrowing of centre median and revision of pavement markings to provide bike lanes between Granville Avenue and Alderbridge Way, which is anticipated to be completed by Fall 2011; and
- *Garden City Road-Granville Avenue Intersection Improvements (\$48,850)*: installation of a pedestrian-activated signal and construction of a paved multi-use pathway to establish a north-south crossing of the intersection for cyclists and pedestrians, which is currently in the detailed design phase. The ultimate re-configuration of this intersection, as investigated by staff previously, is not expected to be implemented for at least 7-10 years based on current road improvement priority and available capital funding. The current proposed interim improvements would effectively address the immediate needs of pedestrians and cyclists.

3. Project Costs and Funding Agency Contributions

Table 1 below provides a summary of the projects and their estimated costs including a breakdown of the proposed funding contributions from the City and other external agencies.

Table 1: Project Costs & Funding Agency Contributions

Project	Funding Agency			Total Estimated Cost
	City of Richmond	Government of BC	TransLink	
Minoru Blvd Bike Route (Granville Ave-Alderbridge Way)	\$47,500 (25%)	\$47,500 (25%)	\$95,000 (50%)	\$190,000 (100%)
Granville Ave-Garden City Rd Intersection Improvements	\$48,850 (25%)	\$48,850 (25%)	\$97,700 (50%)	\$195,400 (100%)
Total	\$96,350 (25%)	\$96,350 (25%)	\$192,700 (50%)	\$385,400 (100%)

As shown in Table 1, the City's proposed contribution of \$96,350 could leverage an additional \$289,050 in external funding so that the City's proportionate cost would be only 25% of the total estimated costs of the two projects. The cost-share agreements are standard form agreements provided by the Province of BC and include an indemnity and release in favour of the Province. Staff recommend that the Chief Administrative Officer and General Manager, Planning and Development be authorized to execute the funding agreements.

Financial Impact

Table 2 below identifies the proposed funding sources for the City's share of the two cycling projects, both of which have been approved by Council as part of the City's 2009 and 2010 Capital Budget processes.

Table 2: Project Costs & Funding Agency Contributions

Project	City's Portion & Funding Source	External Agency Contribution	Estimated Total Cost
Minoru Blvd Bike Route (Granville Ave-Alderbridge Way)	\$47,500 2009 Cycling Network Expansion Program	\$95,000 (TransLink) \$47,500 (BikeBC)	\$190,000
Granville Ave-Garden City Rd Intersection Improvements	\$48,850 2010 Cycling Network Expansion Program	\$97,700 (TransLink) \$48,850 (BikeBC)	\$195,400
Total	\$96,350	\$289,050	\$385,400

Conclusion

The City has received approval for two cost-share grants from the Province of BC through its *2010-2011 BikeBC Cycling Infrastructure Partnership Program* to support two cycling facility projects in the city. Both proposed projects would enhance the city's cycling and pedestrian environments and, by encouraging greater levels of walking and cycling, contribute to the City's goals of reducing GHG emissions from 2007 levels by 33 per cent by 2020 and by 80 per cent by 2050. Staff therefore recommend that Council provide authorization for staff to execute the agreements in order to take advantage of the external funding contributions.


FOR Joan Caravan
 Transportation Planner
 (604-276-4035)

JC:jc



City of Richmond

Report to Committee

To: Public Works and Transportation Committee **Date:** August 18, 2011
From: Tom Stewart, ASCT.
Director, Public Works Operations **File:** 10-6370-04-01/2011-Vol 01
Re: **Award of Contract T.4311 –
Recycling Depot Container Collection and Recycling Services**

Staff Recommendation

That Contract T.4311, Recycling Depot Container Collection and Recycling Services, for the period November 1, 2011 – October 31, 2014, be awarded as follows:

1. BFI Canada Inc. – the container collection and recycling services for the following commodities at the unit rates quoted: Mixed Waste Paper, Scrap Metal and Yard Waste.
2. Super Save Disposal Inc. - the container collection and recycling services for the following commodities at the unit rates quoted: Magazines, Tin, Scrap Aluminium, and Glass.
3. Cascades Recovery Inc. - the container collection and recycling services for the following commodities at the unit rates quoted: Newspaper, Cardboard and Plastic.

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

FOR ORIGINATING DIVISION USE ONLY			
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER	
Purchasing.....	Y ☒ N ☐		
REVIEWED BY TAG	YES ☒ NO ☐	REVIEWED BY CAO	YES ☒ NO ☐

Staff Report

Origin

The City contracts the provision of recycling containers at the City Recycling Depot, including container collection, transportation, and processing and marketing of the recycling commodities. The current contract expires on October 31, 2011. A new tender, Contract T.4311, for the period November 1, 2011 – October 31, 2014, was issued. This report presents the results of this tender process and recommends award of the contract.

This tender is structured as a commodity contract, which allows the City to choose the best value based on each material commodity, and therefore award any one or more components of the work to any one or more bidders.

Analysis

Project Description

The scope of work for Contract T.4311 includes the following services:

- Container rental charges for bins at the Recycling Depot for various recycling commodities including: Newspaper, Mixed Paper, Cardboard, Magazines, Scrap Aluminum, Scrap Metal, Tin, Glass, Plastic and Yard Waste.
- Container collection and emptying charges for the above.
- Processing fees associated with recycling material handling and preparation for the above.
- Marketing revenue to the City associated with the sale of the recycling commodities.

A tender contract for the above noted work was prepared by staff and issued to the market on May 10, 2011. The contract work will commence on November 1, 2011 and is for a 3 year term, or until October 31, 2014. The contract provides for two additional one-year extensions (up to a maximum of 5 years) upon mutual agreement of the owner and the contractor.

Public Tendering

Tenders were received from the following vendors on June 2, 2011 as follows:

Company

BFI Canada Inc.
Cascades Recovery Inc.
Halton Recycling Ltd.
Super Save Disposal Inc.

As this is a component-based contract, bidders did not necessarily bid on all aspects of the work, but rather only those portions of interest to them. As such, each bidder's submission was reviewed for best value by individual recycling commodity. To achieve best value, it is recommended that the bids be awarded as follows:

- BFI Canada Inc. be awarded Mixed Paper, Scrap Metal and Yardwaste
- Cascades Recovery Inc. be awarded Newspaper, Cardboard and Plastic
- Super Save Disposal Inc. be awarded Magazines, Tin, Scrap Aluminum, and Glass

This results in the following annual amounts:

<u>Company</u>	<u>Rental/Freight</u>	<u>Processing/Marketing</u>	<u>Net Overall</u>
BFI Canada Inc.	\$193,757.40	(\$196,644.00)	(\$2,886.60)
Cascades Recovery Inc.	\$ 25,470.00	(\$49,068.00)	(\$23,598.00)
Super Save Disposal Inc.	\$ 8,124.00	(\$20,196.00)	(\$3,037.44)

Under the contract, the City pays the cost items and the Contractor, in turn, pays the City revenues for those recycling commodities with market value. This award results in a net positive dollar value (or revenue) to the City. Council award of the contract is required to authorize the expenditure portions noted, since expenditures and revenues must be recorded separately for budget transparency. The amounts noted are exclusive of HST.

The amounts noted will vary depending on the actual vs. estimated quantity of recycling materials received, therefore, the recommended award is based on the unit rates quoted by each bidder per commodity type.

Financial Impact

Overall, the contracted services at the Recycling Depot represent a net annual estimated revenue of \$38,500, based on the tenders received. This represents a net gain of approximately \$28,000 over existing amounts. Annual revenues/costs will vary depending on the actual quantity of recycling materials received.

Funding for this contract is provided for in the Sanitation and Recycling utility budget.

Conclusion

The recommended award of this tender is based on best value to the City on a commodity-by-commodity basis. This results in awarding the work to three different contractors. The contract term is from November 1, 2011 – October 31, 2014, with the ability to renew for an additional two, one-year terms upon mutual consent.



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



City of Richmond

Report to Committee

To: Public Works and Transportation Committee

Date: September 13, 2011

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

File: 10-6060-03-01/2011-
Vol 01

Re: Fat, Oil and Grease (FOG) Management Program Update

Staff Recommendation

That the five year Sanitary Pump Station and Forcemain Assessment and Upgrading Program (2012 to 2016) which includes forcemain pressure monitoring, forcemain access installation, forcemain inspection and FOG remediation, be endorsed for submission in the 2012 to 2016 Capital Plan for consideration.

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

FOR ORIGINATING DEPARTMENT USE ONLY			
ROUTED TO: Sewerage and Drainage Community Bylaws	CONCURRENCE Y ☒ N ☐ Y ☒ N ☐	CONCURRENCE OF GENERAL MANAGER 	
REVIEWED BY TAG	YES ☒ NO ☐	REVIEWED BY CAO	YES ☒ NO ☐

Staff Report

Origin

The impacts of fat, oil and grease (FOG) on municipal sanitary sewer collection systems are a growing concern for the City of Richmond and Metro Vancouver. Inspection results from the Gilbert Trunk Sewer and the Lansdowne Forcemain failure are clear indications that FOG is an issue that has a large financial impact on the sanitary sewer utility.

In 2008, Metro Vancouver inspected a segment of the Gilbert Trunk sanitary pipeline that services most of Richmond's urban core and identified significant FOG build-up that is reducing the hydraulic capacity of the pipeline. Through the inspection process, Metro Vancouver also determined that bypass pumping (there is no redundant pipeline for the Gilbert Trunk Sewer) required for pipeline cleaning is prohibitively expensive and Metro Vancouver is currently planning to twin the Gilbert Trunk Main to facilitate future maintenance. The cost of the twinning project is estimated to be over \$60 million.

The Lansdowne Forcemain had three failures in the last two years that were due in part to excessive pressures in the forcemain resulting from FOG build-up. In February 2011, the Lansdowne Forcemain became completely plugged with FOG, resulting in an extensive emergency effort to maintain service to the community. Inability to remove the FOG build up resulted in replacement of the forcemain approximately 20 to 30 years before its planned replacement date.

At the November 22, 2010 Council Meeting, Council adopted the following motion:

“That staff report back on the Grease Management Program in one year.”

At the May 18, 2011 Council Meeting, Council adopted the following motion:

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

The following is an overview of FOG mitigation measures that are currently being employed by the City and recommendations for improvement.

Analysis

Source of FOG

FOG in municipal sanitary sewer systems is predominantly food waste dumped “down the drain” either directly or as part of cleaning waste such as dish water. Food service and residential land use sectors contribute to FOG issues. While the food service industry has traditionally been the primary focus of municipal FOG control programs (due to the high volume of food prepared), many jurisdictions are beginning to recognize residential areas as a significant source of FOG.

Attachment 1 contains maps that identify sanitary catchments that have FOG issues based on observation of sanitary pump stations. It also includes gravity mains that have been identified through the City's Sanitary Sewer Inspection Program as having FOG build-up as well as restaurant locations. Staff have identified City Centre as having the highest amount of FOG, followed by the Hamilton and Shellmont areas as second and third highest. These findings indicate that while restaurants remain a primary concern, residential areas in Richmond are creating FOG issues as well.

FOG Source Control

Controlling FOG at the source is a key element in Richmond's FOG mitigation program. Richmond's central source control feature is a requirement for food sector establishments to have and maintain grease traps, as per Drainage, Dyke and Sanitary System Bylaw No. 7551 and the Metro Vancouver Sewer Use Bylaw.

Metro Vancouver's Sewer Use Bylaw Schedule "D" requires all food sector establishments that discharge wastewater containing oil and grease to install and maintain a grease interceptor. Metro Vancouver relies on its member municipalities to enforce this section of their bylaw and does not actively inspect food sector establishments itself.

Drainage, Dyke and Sanitary Sewer System Bylaw No. 7551, does not permit food sector establishments or buildings to discharge FOG into the City sanitary sewer system, reinforcing the Metro Vancouver requirement for grease interceptors. The Building Approvals Division ensures grease interceptors are installed in all new food sector buildings.

The City has approached the food service industry with a two-phased strategy to control FOG. The first phase was dedicated to education, which took place in 2010. The second phase is focused on enforcement and began in January 2011. During the first half of 2011, 193 restaurants were inspected, three of which were found not to have required grease traps installed and have been given 60 days to comply with the bylaw. The remaining restaurants were found to be generally in compliance; however, 35% of the restaurants inspected self clean their grease traps and staff are investigating how these establishments are disposing of grease.

While there has been a high level of compliance with the bylaw observed to date, the enforcement program remains an important tool in the City's FOG mitigation program. It is likely that compliance would diminish if enforcement is reduced or eliminated. Additionally, the current compliance figures are based on inspection of approximately 25% of the food service establishments. It is possible that inspection of the remaining food service establishments will yield a different result. Staff will continue to monitor compliance and will report significant changes in compliance should they be identified.

The enforcement program includes one half-time enforcement officer responsible for inspection of approximately 900 food sector establishments. The part-time officer can inspect approximately half of Richmond's food service businesses within a calendar year. Based on observed compliance rates, this level of enforcement appears sufficient.

Neither the Metro Vancouver Bylaw nor the Richmond Bylaw directly address FOG mitigation measures for the residential sector and the City relies on education as the primary source control tool for private dwellings. FOG education for the residential sector started in 2007 and has included a brochure and a news item on the City web site. The residential FOG education program will be updated to include utility rate inserts, improved FOG information on the City web site and social media tools.

There are anecdotal reports that garburators contribute towards FOG in residential neighbourhoods. However, it is difficult to quantify the impact of garburators, if any, as it is unknown how many homes in Richmond have garburators and/or use them on a regular basis. Staff note that the City's Green Can Program, which collects food waste for composting, has potential to reduce garburator utilization and this issue may become a moot point. The Green Can Program is currently available to single-family residential neighbourhoods and is being tested for multi-family buildings through a pilot program that includes approximately 3,200 townhouse units. The City's Recycling Depot also accepts cooking oil and animal grease from residents for recycling in an effort to discourage disposal of these items down sinks or drains.

Pressure Monitoring

Pressure monitoring in forcemains has the potential to play a significant role in forecasting build-up of FOG and other material in sanitary forcemains. Constrictions due to build-up cause increased pressure in pipeline systems that can be identified through pressure monitoring. Monitoring will facilitate identification of problems in a timeframe that will allow a planned response as opposed to an emergency response. This will effectively reduce public inconvenience and remediation cost. Staff are bringing forward a capital program through the 2012 to 2016 capital budget process that includes sanitary forcemain pressure monitoring for Council's consideration.

Inspection and Remediation

The City currently has a program for closed circuit television (CCTV) inspection of the gravity sewer collection network. This program is primarily intended to identify defects in the gravity pipelines, but also identifies FOG build up. Staff also perform visual inspections at "hot spots" known to have FOG issues as part of the program to maintain gravity system capacity and prevent sanitary sewer overflows. It is estimated that the City spends \$300,000 per year on inspection and cleaning of identified "hot spots".

Sanitary pump stations are inspected and cleaned on a regular basis (approximately every two weeks). Richmond employs industry standard wastewater cleansing velocities in sanitary forcemains designed to prevent build-up of FOG and other solid materials in forcemains. Forcemain inspection is not commonly performed by municipalities provided cleansing velocities are maintained. However, the Lansdowne Forcemain event is proof that forcemain inspection has value, particularly in catchments with known FOG issues. Staff will initiate a forcemain inspection program on a trial basis within existing budgets to determine the requirements and benefits of scheduled forcemain inspection and report the findings to Council.

Should FOG build-up be identified in the sanitary forcemain system, procedures and infrastructure will be required to facilitate FOG removal. Staff has included provisions for FOG remediation work in a program that is being brought forward in the 2012 to 2016 capital budget process for Council's consideration.

Chemical Cleaners

Staff have experimented with adding a number of FOG fighting chemicals and enzymes into the sanitary sewer at pump stations with limited success. In general, the residency time of sewage at sanitary pump station is short and may not allow enough time for the FOG fighting agents to work. Staff have applied for a grant from the Federal Green Municipal Fund for a trial that will mix FOG cleaners into wastewater at the source in representative restaurants. Should the grant be approved and the project proceed, staff will report results of this trial to Council.

Financial Impact

Staff have included capital submissions for 2012 through 2016 for a sanitary pump station and forcemain assessment and upgrading program that will be brought forward for Council's consideration as part of the capital budget process. Installation of pressure monitors, forcemain inspection and forcemain remediation will be included in this program. Table 1 lists the capital budget submissions that are included in the program with their proposed levels of funding.

Table 1: Sanitary Pump Station and Forcemain Assessment and Upgrading Program Capital Funding Submissions

Submission ID	Year	Funding Request
4800	2012	\$750,000
4828	2013	\$750,000
4829	2014	\$750,000
4832	2015	\$750,000
4833	2016	\$750,000

Conclusion

The City of Richmond currently has a program in place for controlling FOG in the sanitary sewer system. This program includes both education and enforcement components for source control in food service establishments and FOG mitigation measures for the gravity collection system.

Drainage, Dyke and Sanitary System Bylaw No. 7551 requires food sector establishments to install and maintain grease interceptors. To date, there appears to be a high compliance rate with this

Bylaw. Staff will continue to monitor this sector and will report back to Council any significant change in the level of compliance.

Residential development FOG source control relies on public education and staff recommend additional emphasis on informing the public of the impact of FOG and how they should dispose of food waste. Additionally, the Green Can Program assists in keeping FOG out of sewers by redirecting food waste to compost.

Staff have applied for a Federal Green Municipal Fund grant for a trial program that will mix FOG fighting agents with wastewater at its source in representative restaurants. Adding these agents at the source will allow them more contact time with the FOG, which may improve upon disappointing results from previous trials where these additives were mixed with wastewater in the sanitary pump stations.

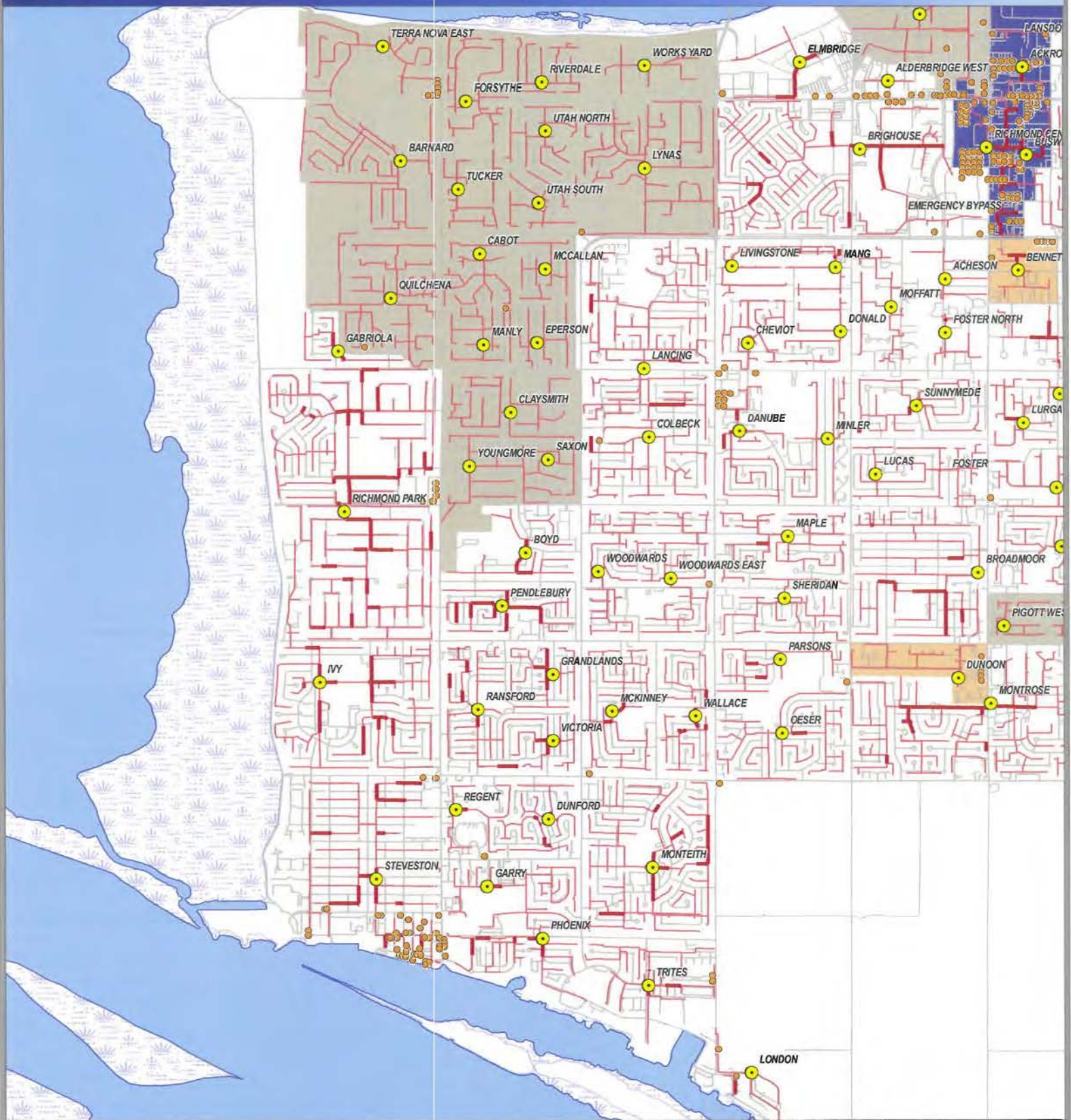
Staff are bringing forward capital submissions in the 2012 to 2016 capital budget process for sanitary pump station and forcemain assessment and upgrading for Council's consideration. Should these projects be approved they will include:

- Installation of pressure monitors to facilitate identification of FOG build-up in forcemains;
- Installation of forcemain access points to facilitate inspection and forcemain cleaning; and
- Remediation of forcemains with identified FOG build-up.



Lloyd Bie, P.Eng.
Manager, Engineering Planning
(604-276-4075)

LLB:llb



Legend

- Pump Stations
- Food Establishments
- Gravity Mains with FOG
- Gravity Mains
- CCTV Data Not Available

Catchments with Grease Problems

- Highest Level of FOG
- Second Highest Level of FOG
- Third Highest Level of FOG

PWT - 25

Date Snapshot Date: March, 2011
Map Prepared By: Bureau
Map Edited By: spang

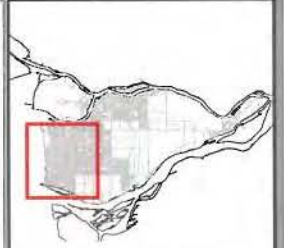
Note:
The information shown on this map is compiled from various sources and the City makes no warranty, expressed or implied, as to the accuracy or completeness of the information.
Users are reminded that lot sizes and legal description must be confirmed at the Land Title office in New Westminster.
This is NOT a legal document, and is published for information and convenience purposes only.
© City of Richmond, 2011. All rights reserved. Not to be reproduced or distributed without permission.

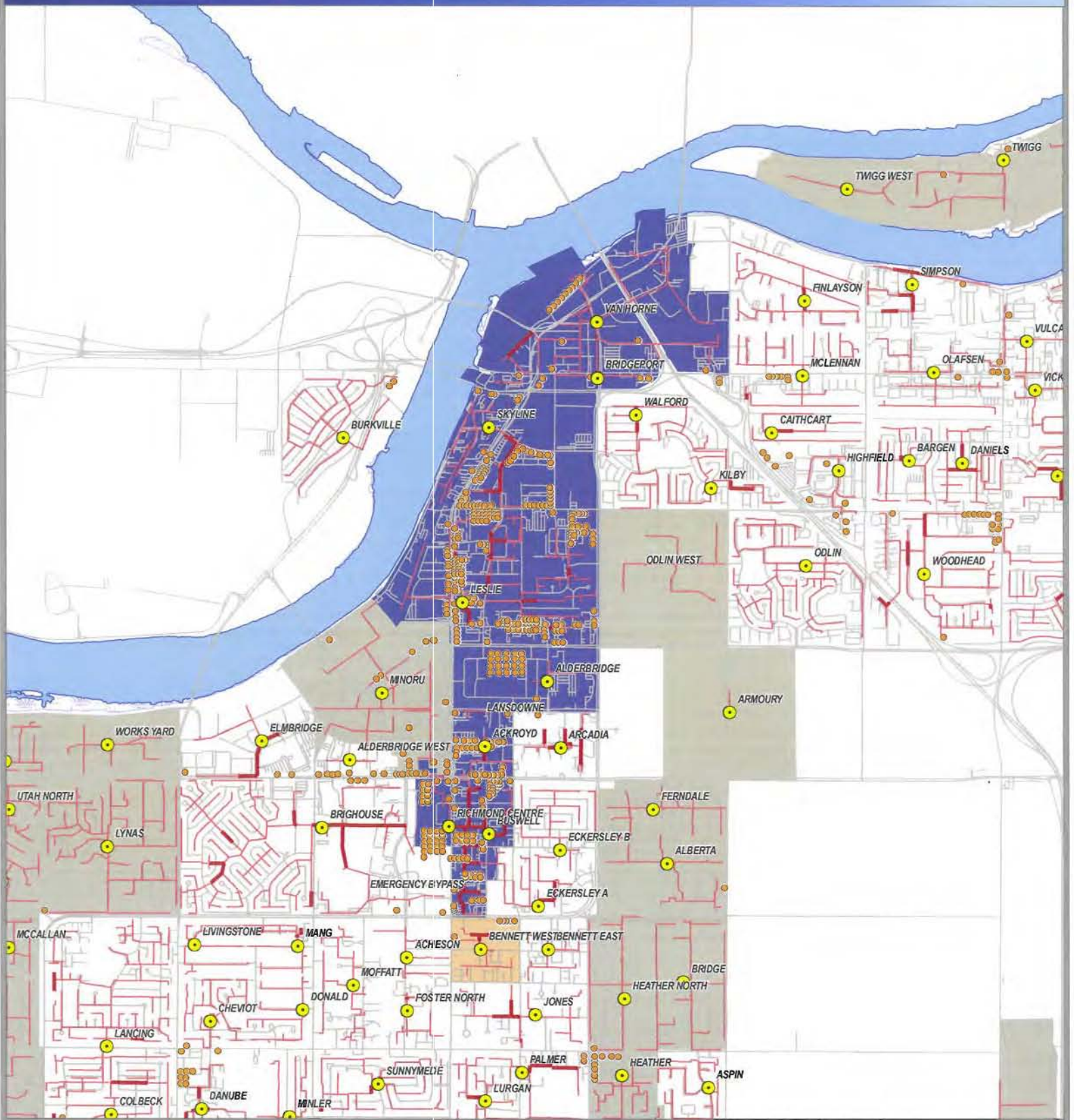


0 125 250 500
Meters



City of Richmond





Legend

- Pump Stations
- Food Establishments
- Gravity Mains with FOG
- Gravity Mains
- CCTV Data Not Available

Catchments with Grease Problems

- Highest Level of FOG
- Second Highest Level of FOG
- Third Highest Level of FOG

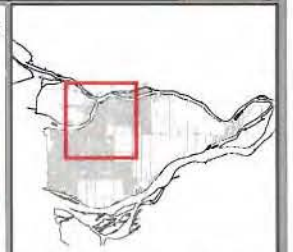
PWT - 26

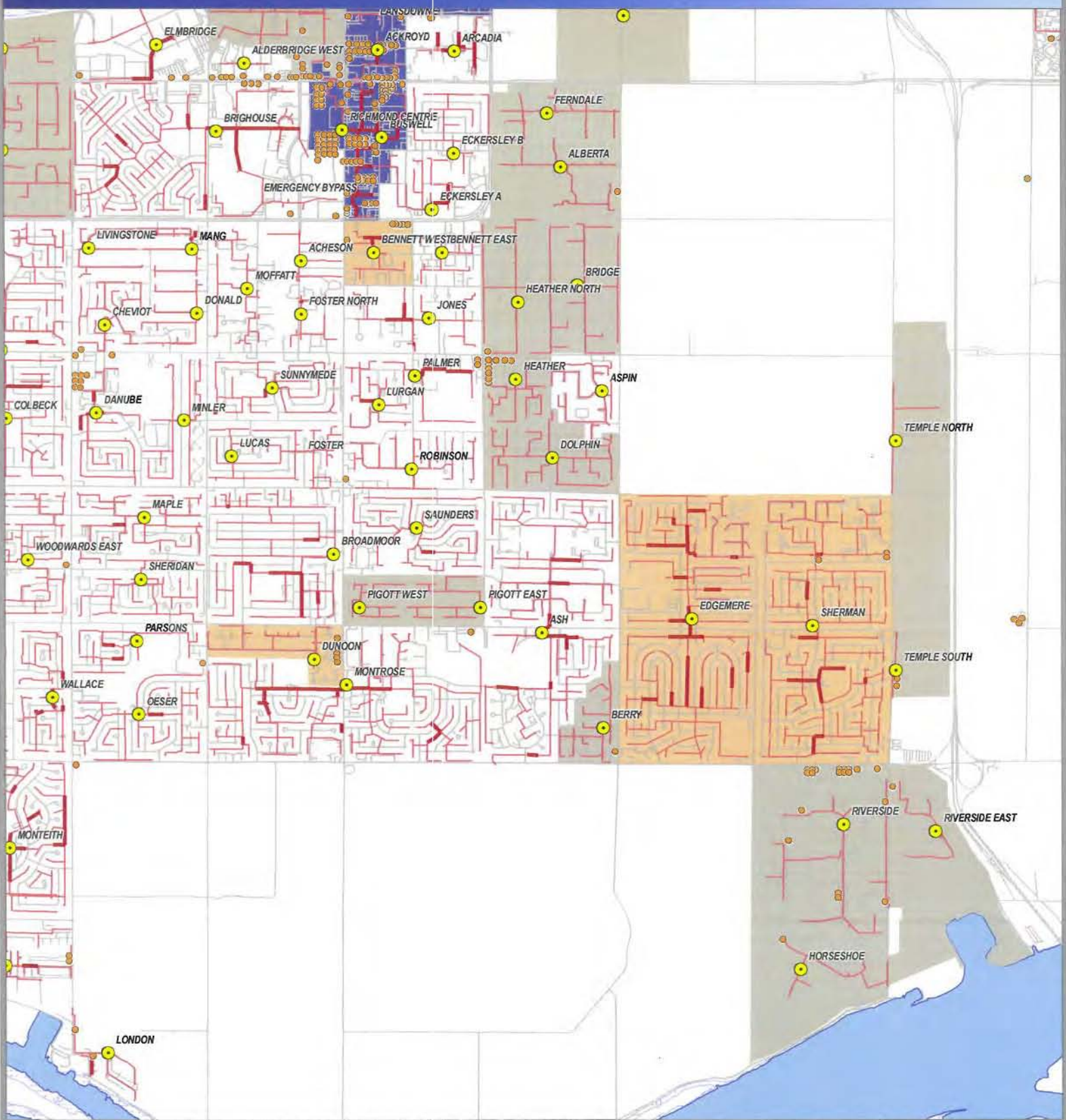
Data Source: Data: March, 2011
Map Prepared By: James
Map Edited By: spang

Note:
The information shown on this map is compiled from various sources and the City makes no warranty, expressed or implied, as to the accuracy or completeness of the information.
Users are reminded that lot sizes and legal description must be confirmed at the Land Title office in New Westminster.
This is NOT a legal document, and is published for information and convenience purposes only.
© City of Richmond, 2011. All rights reserved. Not to be reproduced or distributed without permission.



City of Richmond





Legend

- Pump Stations
- Food Establishments
- Gravity Mains with FOG
- Gravity Mains
- CCTV Data Not Available

Catchments with Grease Problems

- Highest Level of FOG
- Second Highest Level of FOG
- Third Highest Level of FOG

PWT - 27

Data Source Date: March, 2011
Map Prepared By: James
Map Edited By: spang

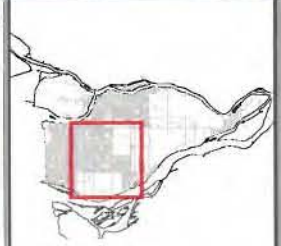
Note:
The information shown on this map is compiled from various sources and the City makes no warranty, expressed or implied, as to the accuracy or completeness of the information.
Users are reminded that lot sizes and legal description must be confirmed at the Land Title office in New Westminster.
This IS NOT a legal document, and is published for information and convenience purposes only.
© City of Richmond, 2011. All rights reserved. Not to be reproduced or distributed without permission.



0 125 250 500
Meters



City of Richmond





Legend

- Pump Stations
- Food Establishments
- Gravity Mains with FOG
- Gravity Mains
- CCTV Data Not Available

Catchments with Grease Problems

- Highest Level of FOG
- Second Highest Level of FOG
- Third Highest Level of FOG

PWT - 28

Data Source Date: March, 2011
Map Prepared By: Bureau
Map Edited By: spang

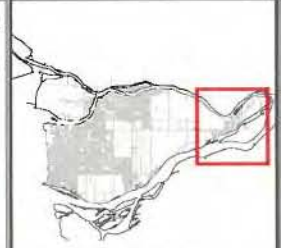
Note:
The information shown on this map is compiled from various sources and the City makes no warranties, expressed or implied, as to the accuracy or completeness of the information.
Users are reminded that lot sizes and legal description must be confirmed at the Land Title office in New Westminster.
This IS NOT a legal document, and is published for information and convenience purposes only.
© City of Richmond, 2011. All rights reserved. Not to be reproduced or distributed without permission.



0 125 250 500
Meters



City of Richmond





City of Richmond

Report to Committee

To: Public Works and Transportation Committee

Date: June 30, 2011

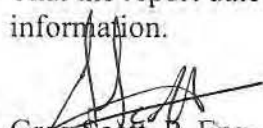
From: Greg Scott, P. Eng., LEED A.P.
Director, Project Development

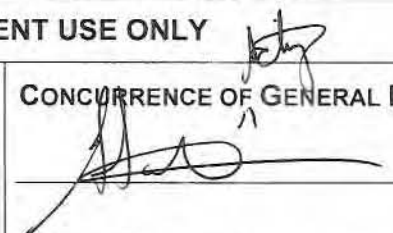
File:

Re: Ageing Facility Infrastructure - Update

Staff Recommendation

That the report dated June 30, 2011 from the Director of Project Development, be received for information.


Greg Scott, P. Eng., LEED A.P.
Director, Project Development
(604-276-4372)

FOR ORIGINATING DEPARTMENT USE ONLY			
ROUTED TO:	CONCURRENCE		CONCURRENCE OF GENERAL MANAGER
Budgets	Y ☒ N ☐		
REVIEWED BY TAG	YES ☒	NO ☐	REVIEWED BY CAO
			YES ☒ NO ☐

Staff Report

Origin

On February 3, 2006 Facility Management provided a report to Council detailing City building conditions. The results were derived on physical audits undertaken by Vanderweil Facility Advisors (VFA) involving 140 buildings comprising 1,450,000 sq. ft of total building area. This report provides an update to the overall Facility Condition Index (FCI) of City facilities 5 years after the original report.

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 building infrastructure.

Condition of Existing Building Inventory

The City of Richmond's General Buildings and Leased facilities inventory consists of 146 buildings representing notable financial worth with a current value of \$284 million, excluding land costs and the Richmond Olympic Oval. The functional life of a facility is 45 years plus providing regular preventive maintenance is performed before a major refit is done. The average age of the facilities included in this report is 39.

FCI is an industry standard designation of facility condition where 0.00 to 0.05 is good, 0.06 – 0.10 is fair, and higher than 0.10 is considered poor. In 2006, the FCI of City facilities was 0.07 and has not changed due additional funding received in the past few years, as well as the replacement of some facilities. This has contributed to maintaining the overall FCI. However, a significant number of facilities will come due for major component renewal such.

Analysis

Annual facility inspections based on twenty percent of total square footage are performed by a team comprised of an Architect, and an Electrical and Mechanical Engineer. Assessments currently estimate a \$20 million backlog of infrastructure repairs/replacement requirements. Twenty-year projections of this backlog and anticipated average renewals indicate this backlog would increase an average of \$5 million per year over the next 20 years to \$120 million if the current level of funding continues.

The 2010 funding applied to facility infrastructure repairs, replacement, and renewal is \$4,325,000. Increases in funding since 2006 have enabled the repair, replacement, and renewal of many high priority systems such as roofs and mechanical systems. However, funding projections show that the average annual funding requirement over the next 20 years is \$8,321,214. A base level increase of \$4.0M would address this annual shortfall and would allow

City Facilities is one of the core services that the city provides to the community that does not have a statutory reserve to support the operation costs or capital repair and replace, like city utilities (water, sewer, storm sewers). Adequate annual funding levels will allow the City to implement a proactive and sustainable infrastructure replacement and renewal program. The proactive replacement of infrastructure enables the City to smart sequence repairs and renewal while using competitive bidding to ensure the best value for money. Proactive action prior to time of failure has been proven to be considerably less expensive than after infrastructure failure.

Funding Strategies

In projecting the most appropriate level of funding, the following three options are considered:

Option 1 – Maintain Current Funding

This option assumes the current funding level remains at \$4,325,000 over a 20-year period. Work programs will focus only on essential priority items and renewal where absolutely necessary. In this option, building deterioration and FCI increases with minimal ability to manage building element failures that will arise. After only ten years, the FCI increases from 0.07 to 0.23 with the following results:

Option 1 Current Annual Funding	\$4,325,000
Total investment over 20 years	\$86,500,000
Building Replacement Value	\$284,755,071
Deficiency Backlog	\$123,014,895
Net Building Value	\$161,740,175
FCI in 20 years	0.43

This option is not recommended by Staff as a sustainable solution

Option 2 – Maintain Current FCI At 0.07

Maintaining our buildings at an FCI of 0.07 will necessitate a one-time increase to the annual funding by \$4.0 million. This option will see net building values increase as the backlog holds steady at \$20 million.

Option 2 Annual Funding	\$8,321,214
Total Investment over 20 years	\$166,424,280
Building Replacement Value	\$284,755,071
Deficiency Backlog	\$20,866,484
Net Building Value	\$263,888,587
Tax Impact	2.48%
FCI in 20 years	0.07

Option 2 meets our corporate mission “To protect and enhance liveability and economic well being for current and future generations”. However, staff acknowledges the immediate tax impact of this option and recommend the following funding mechanism. Rather than funding the entire shortfall through a one time tax increase staff suggest the use of current year’s surplus that arises. The increase would take place over the next five years, using a combination of the prior year’s surplus and a small operating budget increase. This is illustrated in Table 1 below:

Table 1

Year	2012	2013	2014	2015	2016	2017	2018
Funding from prior years surplus	\$750k	\$750k	\$750k	\$750k	\$250k	0	0
Operating Budget Increase	\$750k	\$750k	\$750k	\$750k	\$750k	\$250k	0
Total Operating Budget	\$5.075M	\$5.825M	\$6.575M	\$7.325M	\$8.075M	\$8.325M	\$8.325M
FCI	0.08	0.09	0.095	0.098	0.1	0.102	0.105
Accumulated funding allocated to program	\$1.5M	\$2.25M	\$3.0M	\$3.75M	\$4.0M	\$4.0M	\$4.0M

The increases would be done over five years (2012-2016) with an annual tax increase of 0.46% and a 2017 tax increase of 0.15% for this program, rather than a onetime 2.48% tax increase. This will result in a FCI in 20 years of 0.15.

Option 3 – Staged Increases of Funding to Minimize Impact to Facilities

Various increases in the current level of funding are shown in Table 2 below. FCI increases, but not as drastically as Option 1. These options will maintain facilities in significantly better state than Option 1.

Table 2

	\$500K /year Increase over 8yrs	\$1M /year Increase over 4yrs	\$1.5M /year Increase over 3yrs
Average Annual Funding	\$ 7,950,000	\$ 8,025,000	\$ 8,600,000
Total Investment over 20yrs	\$159,000,000	\$160,500,000	\$172,000,000
Building Replacement Value	\$284,755,071	\$284,755,071	\$284,755,071
Deficiency Backlog	\$ 47,325,783	\$ 44,486,815	\$ 33,597,188
Net Building Value	\$237,429,288	\$240,268,256	\$251,157,883
FCI after 20 Yrs.	.16	.15	.11
Annual Tax Impact	0.31%	0.62%	0.93%

Financial Impact

None at this time

Conclusion

Currently the City's building infrastructure is in good to fair condition with an FCI of 0.07. However, due to insufficient infrastructure repair, replacement, and renewal funding, our facilities will deteriorate over a period of 20 years. To stay at, or close to, the Facility Condition Index of 0.07, additional funding is required. Staff will continue to recommend that the funding gaps between current and required funding levels be closed over time through the annual budgeting process. The funding shortfalls outlined in this report should be considered in conjunction with the City's Long Term Financial Management Strategy.

A handwritten signature in black ink, appearing to read 'Pete Jansen', with a stylized, flowing script.

Pete Jansen
Building Maintenance Planner
(604-244-1236)