



CITY OF VANCOUVER

ADMINISTRATIVE REPORT

Report Date: May 6, 2008  
Author: Peter Dale  
Phone No.: 604.873.7283  
RTS No.: 07204  
VanRIMS No.: 05-1400-20  
Meeting Date: May 15, 2008

TO: Standing Committee on City Services and Budgets  
FROM: General Manager of Engineering Services  
SUBJECT: 2008 Engineering Basic Capital Budget and Closeouts

RECOMMENDATION

- A. Subject to Council approval of Recommendation A in the 2008 Basic Capital Budget report (RTS 07330) and Recommendation B of this report, THAT the 2008 Basic Capital Budget for the Streets, Communications, Yards and Street Lighting Programs totalling \$21,645,500, as summarized in this report and detailed in Appendix 1, be approved, with sources of funding as follows:
- \$14,515,000 from borrowing authorities approved by plebiscite as part of the 2006-2008 Capital Plan for the Streets, Communications, and Street Lighting Programs
  - \$4,245,000 from Capital from Revenue funding
  - \$2,885,000 from Development Cost Levies (DCL) for the Streets Program

The total funding includes \$2,633,209 for Streets Capital that has been approved in advance by Council in previous reports.

Streets

- B. THAT Council approve the capital funding re-allocation of \$3,450,000 from various Streets programs, as outlined in Table 2 in this report and detailed in Appendix 3, to provide additional funding to cover cost escalations for Granville Street Reconstruction and Cambie Street Restoration

Sewer

- C. THAT Council approve the 2008 Sewers Basic Capital Budget totalling \$21,625,000 as summarized in this report and detailed in Appendix 1, with source of funding to be Council approved Sewer borrowing authority for the 2006-2008 Capital Plan.

Waterworks

- D. THAT Council approve the 2008 Waterworks Basic Capital Budget totalling \$17,799,000 as summarized in this report and detailed in Appendix 1, with the source of funding to be Council approved Water borrowing authority for the 2006-2008 Capital Plan.
- E. THAT Council approve the reallocation of funds, totalling \$791,000, from the Distribution Main Replacement program to provide additional funding for the Emergency Planning and Water Quality Projects.

Closeout of 2003-05 Capital Program

- F. THAT Council receive information on capital program closeouts and approve the transfer of capital funds for the closeouts as detailed in Appendix 2.

**COUNCIL POLICY**

In October 2005, Council approved the 2006-2008 Capital Plan which set a level of funding for specific Capital Programs over three years. Through plebiscite, voters approved borrowing authority for the Public Works portion, excluding the Sewers and Waterworks Capital Plans, which are approved by Council.

Funding from the three year Capital Plan is allocated to specific Capital Programs through annual Capital Budgets. Funding for annual Capital Budgets is provided from a combination of debenture borrowing, as approved in the plebiscite, contribution from the Operating Budget (Capital from Revenue) and Development Cost Levies (DCL). Council approval of the annual Capital Budget is required before work can proceed on specific projects.

Sections 236 and 242 of the Vancouver Charter give Council the authority to approve borrowing authority for water and sewer capital expenditures without reference to the electors. Section 245 requires that borrowing authority for other capital expenditures be approved by a majority of the electorate through a borrowing plebiscite.

Closeout of completed capital projects, whose variances exceed \$50,000 and 15% of the approved budgets, require Council approval. Allocation of funds in excess of \$50,000 requires Council approval.

In June 1995, Council directed departments to use CityPlan to guide policy decisions, corporate work priorities, budgets and Capital Plans.

## Streets

### Transportation

In 1997 the Vancouver Transportation Plan was approved by Council; subsequent to this Council also approved the Downtown Transportation Plan, Vancouver Transit Strategy, and Vancouver/UBC Area Transit Plan. The policies created by these plans provide priority for pedestrians, bikes and transit while recognizing a need to improve goods movement and safety in existing corridors. Many of these policies have Capital Budget implications.

### Bicycles / Greenways

The Clouds of Change Report (1990), CityPlan (1995), the Vancouver Greenways Plan (1995), the Vancouver Transportation Plan (1997), the Bicycle Plan (1999) and the Downtown Transportation Plan (2002) establish the City's policy prioritizing pedestrians and promoting and encouraging cycling as a transportation alternative. Greenways also address the growing need of communities to have a voice in the design and use of the urban landscape.

### Sidewalks

Council policy identifies sidewalks as a high priority; this includes the following:

- Establish and maintain a sidewalk network which includes sidewalks on both sides of all blocks
- Establish priorities for completion of the sidewalk network based on sidewalk classifications which include transit, pedestrian collector, higher zoned and local residential routes
- Expedite completion of sidewalks on all transit routes by 2007 and on all arterial streets by 2009.

### Neighbourhood Traffic Calming

In May 1997, Council approved the Vancouver Transportation Plan that highlighted the need to mitigate the effects of traffic in local neighbourhood areas and to give priority to streets and neighbourhoods where traffic impacts are most serious.

## Street Lighting

The Safer City Report (1993) approved by Council indicates the importance of making the public feel secure. This involves taking proactive measures to provide appropriate light levels on streets and at bus stops to assist in the protection of citizens from theft and violence. The Infill Lighting Program funds the improvements to low levels of lighting on residential streets and around bus shelters.

## **Sewers & Drainage**

In the early 1970's, Council approved the policy of separating sanitary and storm sewers, starting in the West End and Downtown areas, for the purpose of reducing and eliminating combined sewer overflows (CSOs).

In 1981, this policy was reaffirmed with the adoption of the 1% life cycle replacement policy for sewer mains as part of the Sewers Long Range Capital Plan.

Both of the previously mentioned policies were reaffirmed in the 1991 Policy Report on Vancouver's "Design and Service Level Standards for Sewer Collection Infrastructure," and the current Capital Plan provides funding to continue this long range plan.

In 2002, Council approved the regional Liquid Waste Management Plan (2002 LWMP) which continues the 1% replacement program in order to provide continuous CSO reductions, with the goal of the elimination of CSOs by 2050.

## **Waterworks**

In October 2005, Council approved the 2006 - 2008 Waterworks Capital Plan. The Capital Plan focuses on the proactive replacement of aging infrastructure, water system upgrading to keep pace with development, emergency preparedness, technology upgrades and water quality improvement work.

## **Sustainability**

In April 2002, the City adopted a formal position, definition, and principles on sustainability to guide the City's work considering environmental, economic and social impacts.

The focus of the 2008 Engineering Capital Budget is the rehabilitation of existing infrastructure and the implementation of programs and projects related to the Council approved Transportation Plan and Council's resolution for staff to examine and recommend measures to minimize the impacts of climate change.

## **SUMMARY**

This report seeks Council approval for the 2008 Engineering Basic Capital Budget, funding re-allocations in the Streets program to cover the cost escalation in the major projects, as well as for account closeouts of the 2003-05 Capital programs, and allocation of closeout funds for projects that exceed \$50,000 and 15% of the approved budgets. Details of the Budget are included in Appendix 1 whereas details and explanations for the account close outs, funding allocations are contained in Appendix 2.

The 2008 Engineering Basic Capital Budget, the third year of the 2006-08 Capital Plan, allocates twenty-eight percent of the funds approved by plebiscite in 2005. A summary of the proposed Budget of City related funding for each of the areas is provided in Table 1.

Table 1: 2008 Engineering Basic Capital Budget Summary (\$,000)

Program	Borrowing Authority	Capital from Revenue	DCL	Total Basic Capital Budget	% of 2006-2008 Plan
Streets*	\$ 14,247	\$ 1,665	\$ 2,885	\$ 18,797	22%
Communications	-	\$ 850	-	\$ 850	45%
Street Lighting	\$ 268	\$ 1,430	-	\$ 1,698	33%
Sewers & Drainage	\$ 21,625	-	-	\$ 21,625	29%
Waterworks**	\$ 17,799	-	-	\$ 17,799	32%
Yards	\$ -	\$ 300	-	\$ 300	100%
<b>TOTAL</b>	<b>\$ 53,939</b>	<b>\$ 4245</b>	<b>\$ 2,885</b>	<b>\$ 61,069</b>	<b>28%</b>

\* DCL funding-this does not include the additional DCL funding (\$397,467) requested for the Cambie Street Restoration project

\*\* Funding requested for Waterworks is less than the remaining borrowing authority available for 2008

A total of \$2,633,209 for Streets Capital has been approved in advance by Council in previous reports. This includes \$200,000 for New Sidewalks and Sidewalk projects, \$1,633,209 for Local Area improvements for residential streets and lanes and \$800,000 for the Downtown Streetcar Demonstration Project. This pre-approved funding is included in the figures presented in this report.

In June 2007, Council approved allocation of additional City-wide DCL funding of \$650,000 to cover the consultant costs for reviewing the options to secure long term access to the Expo Deck and to prepare a park concept plan for the Expo Deck.

The Capital account closeouts presented in Appendix 2 include all remaining accounts from the 2003-2005 Capital Plan. This closeout will involve complete Program closeouts for Streets, Communications, Waterworks, Yards and Special Projects. Program closeouts were completed for Street Lighting and Sewers in 2007. As a result, Council is asked to approve the transfer of remaining capital funding as detailed in Appendix 2.

## DISCUSSION

### 2008 ENGINEERING BASIC CAPITAL BUDGET DETAILS

The 2008 Engineering Basic Capital Budget consists of six Programs: Streets, Communications, Street Lighting, Sewers, Waterworks and Yards. These Programs are summarized in this report, and detailed in Appendix 1. Details on external funding for the Programs from Provincial and regional governments are provided later in the report.

#### A. Streets

2008 Budget \$18,797,500

The 2008 Streets Capital Budget is comprised of a number of programs that reflect Council policy. In addition to the Basic Capital Budget for each area, the Streets Program will receive DCL funds as detailed in Appendix 1. Due to the work stoppage of 2007, there is a significant carry-forward of funding from previous years into 2008.

The key highlights of the Streets Program for 2008 are the continued rehabilitation of deteriorating streets infrastructure in coordination with other infrastructure rehabilitation and transportation

improvement programs, such as the Canada Line, to improve overall construction efficiencies. Rehabilitation projects for 2008 include major sidewalk rehabilitation on Davie, 12<sup>th</sup> Ave. and East Hastings and the paving of deteriorated sections of pavements on Davie, MacDonald, Earles, Hornby and Victoria.

There are three major projects in Streets which are experiencing significant funding shortfalls. The three projects are: Cambie Street Restoration, Granville Street Reconstruction and Central Valley Greenway. All three projects have tight timelines and, therefore, it is recommended to redistribute funding from other Streets programs to alleviate their funding shortfalls. The impact on the programs providing the funding is minimal as the work proposed in those programs will not be completed in 2008. This is mainly due to the disruption in the planned work schedule caused by the work stoppage in 2007 and also due to the limited capacity of City crews. Some work will need to be caught up in the 2009-11 Capital Plan.

A brief description of the Streets Programs is listed below.

#### A-1 Infrastructure

\$1,650,000

This Program addresses the on-going need to rehabilitate the City's street infrastructure. This Program also includes the reconstruction of deteriorated streets and lanes in areas of poor soil conditions and where normal maintenance or rehabilitation is not effective. It also provides for the replacement of existing facilities, major maintenance of City bridges, and construction materials research. This Program does not fund new facilities or reconstruction for safety improvements. This Program is also expected to be augmented with \$3,128,425 in additional funding from TransLink. In addition to the requested funds, it is recommended that this program contributes \$1,600,000 to provide additional funding to Major Projects-Granville Street Reconstruction.

#### A-2 Pedestrians, Bicycles & Greenways

\$2,960,000

This Program provides for pedestrian and cycling priorities. Funding needs for the construction of new sidewalks, curb ramps, and sidewalk reconstruction are addressed and reflect the goals of the City's sidewalk construction program approved by Council on April 8<sup>th</sup>, 2004.

This Program is expected to be augmented with \$290,000 from property owners.

In response to concerns expressed by residents regarding sidewalks in certain neighbourhoods, Council approved \$200,000 in advance of the 2008 Streets Basic Capital Budget to permit early commencement of the 2008 Sidewalk Reconstruction Program (RTS 06811).

In addition to the requested funds, it is recommended that this program contributes \$3,300,000 to provide additional funding to the priority Major Projects: Central Valley Greenway (\$2,100,000), Granville Street Reconstruction (\$600,000) and Cambie Street Restoration (\$600,000).

A-3 Traffic Signals \$1,700,000

This funding covers new pedestrian and vehicular signal installations and the modification, renovation and replacement of existing signals. This Program is expected to receive \$180,000 from Translink as part of the MRN OMR Program.

In addition to the requested funds, it is recommended that this program contributes \$500,000 to provide additional funding to Major Projects-Cambie Street Restoration.

A-4 Strategic Transportation \$1,337,500

This Program provides funding to address various transportation priorities to enhance transit and improve safety by making improvements to arterials, bus slabs and landings, and pedestrian crossings. The widening of lanes and construction of left-turn bays along Hastings, between Burrard and Bute, will be fully financed by local developers (\$950,000). Also, Council approved funding of \$800,000 in advance of the 2008 Basic Capital Budget from this program to the Downtown Streetcar (RTS 07115).

A-5 Local Area \$2,820,000

This Program addresses the need for installation of neighbourhood traffic controls, which are integral components of the Transportation Plan. Projects include the installation of traffic circles, bulges, diverters, and other traffic calming measures.

This Program also provides funding for the construction of streets and lanes for the Local Improvement Program. The majority of the funding in this area is used to fulfill the demand for property owners to petition for new streets and lanes. In order to get started on these projects, Council approved \$1,633,209 in advance of the 2008 Basic Capital Budget to begin local area improvements for residential streets and lanes as well as Higher Zoned streets (RTS 06811 and RTS 06813). To augment the City's share of funding for this Program, it is expected that approximately \$1,430,000 will be received from property owners.

It is recommended that \$1,565,000 be re-allocated from this program to provide additional funding for the Major Projects: Granville Street Reconstruction (\$815,000) and Cambie Street Restoration (\$750,000).

A-6 Major Projects \$8,330,000

There are three major projects which are experiencing significant funding shortfalls and tight implementation timelines. The funding shortfall is due, in large part, to the fact that these projects' budgets were estimated a number of years ago and, due to the unprecedented cost escalations experienced in the construction industry over the intervening years, the funding in place is not sufficient to complete the projects. The three projects are: Granville Street Reconstruction, Cambie Street Restoration and the Central Valley Greenway.

Staff have reviewed the Streets programs to identify sources of funding which could be used to alleviate the shortfall for these Major Projects. These funding sources include unspent funds from 2006 and 2007 programs as well as re-distributions amongst the 2008 Streets programs. As these major projects cover a wide range of roadway and sidewalk reconstruction, as well as other works to enhance transit and pedestrian movement, some funding contributions are provided from

related programs (ex. Arterial Reconstruction, Traffic Signals, Greenways, Bicycle Network) and the remaining funding is provided through re-allocations from unrelated programs. Table 2 outlines the funding sources for the projects and the details are provided in Appendix 3.

This report identifies the funding strategy to cover the cost escalation for the priority projects and separate reports on the project design, costing details and implementation plan will be submitted to Council for approval.

Granville Street Reconstruction \$3,580,000

Work on Granville Street Reconstruction is being coordinated with street repairs for the Canada Line rapid transit project in order to minimize the impact to the community and improve construction efficiency. The original budget estimate for the project was approximately \$11M. The current estimate for the project is \$20.8M, leaving a shortfall of \$9.8M. Part of this funding shortfall can be attributed to the fact that a preliminary design was used to establish the original estimate. During the subsequent design process, the intent of the design was to create a 'Great Street', with high design standards. There has been strong public support for this concept and, thus, the final design was produced with this goal. This resulted in significantly higher construction costs. Unprecedented construction cost escalations are also a major factor. Assuming cost-sharing with Translink of 50%, a total of \$4.9M has been sourced from other Streets programs, both as contributions from related programs and re-allocations (which includes \$3,580,000 from 2008 capital and \$1,320,000 from 2006/07 capital). It is anticipated that Council approval of the final design will be sought in May, with award of the construction contract in September. Due to the short timeline of this project, it is recommended that the funding for this project be sourced from the current Capital Plan.

Cambie Street Restoration \$1,850,000

Work on Cambie Street Restoration is also being coordinated with street repairs for the Canada Line rapid transit project. The original budget for this project was \$13.65M, the current estimate is \$16.4M, leaving a shortfall of approximately \$2.75M. In addition to construction cost escalations, this shortfall has two other contributing factors:

1. A major addition to the scope of the project. Specifically, the identification of a much larger amount of integrated concrete slab and curb requiring reconstruction than was originally estimated.
2. The ability to now accurately estimate the project costs, as the Canada Line construction is almost complete

It is proposed to fund this shortfall through contributions from related programs as well as a re-allocation from Neighbourhood Traffic Calming.

Central Valley Greenway \$2,100,000

The Central Valley Greenway is part of a planned 25 km regional Greenway/Bikeway which will provide non-motorized traffic a route to connect False Creek with New Westminster Quay. This water-to-water connection will accommodate users along a mixed use path. The original budget for this project was \$6.765M, the current estimate is just over \$10M, leaving a shortfall of \$3.25M. The majority of the shortfall can be attributed to construction cost escalations. It is proposed to fund the shortfall with contributions from 2008 Bicycle and Greenway programs. Council approval of the construction contract awards is planned for May, 2008. Due to the short timeline of this project, it is recommended that the funding for this project is sourced from the current Capital Plan.



## Downtown Streetcar Demonstration Project

\$800,000

In March 2008, Council approved the Downtown Streetcar Demonstration Project (RTS 07115) at a cost of \$9.5 million to take advantage of partnering opportunities (\$4.5 million). A portion of this funding (\$800,000) was approved in advance of the 2008 Basic Capital Budget and the remaining \$4.2 million from the 2006/07 Street capital.

Table 2: Funding Re-distribution to Major Projects

Program	Contribution	Reallocation	Other Funding
A-1a Arterial Reconstruction	1,600,000		
A-1b Peat St Reconstruction		150,000	
A-1h Cut Restoration & Development		215,000	
A-2b Sidewalk Reconstruction	300,000		
A-2f St Beautification	300,000		
A-4e Property Fund		200,000	
A-5b Higher Zoned Streets - LI		200,000	
A-5f Drainage and Utility Relocation		200,000	
A-5e Residential Lanes - LI		415,000	
<b>Funding from 2008 Capital</b>	<b>2,200,000</b>	<b>1,380,000</b>	
A-5a Neighbourhood Traffic Calming		420,000	
A-5i Neighbourhood Collector Program		900,000	
<b>Funding from 2006-07 Capital</b>		<b>1,320,000</b>	
<b>Allocation to Granville Street Reconstruction</b>	<b>2,200,000</b>	<b>2,700,000</b>	
A-2b Sidewalk Reconstruction	600,000		
A-3d Traffic Signals	500,000		
A-5a Neighbourhood Traffic Calming		750,000	
2008 Sewers OMR Funding			233,426
2008 Sts OMR Funding			269,107
Additional DCL Funding			397,467
<b>Allocation to Cambie Street Restoration</b>	<b>1,100,000</b>	<b>750,000</b>	<b>900,000</b>
A-2e Bicycle Network	1,300,000		
A-2h Greenways	800,000		
<b>Allocation to Central Valley Greenway</b>	<b>2,100,000</b>		
<b>Total Funding</b>	<b>5,400,000</b>	<b>3,450,000</b>	<b>900,000</b>

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<b>B. Communications</b>	<b>2008 Budget</b>	<b>\$850,000</b>
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The City's communications system is made up of the Engineering radio dispatch system which operates on wide band assignments, as well as a communications cable network. An effective communication system is essential to the efficient operation of the City departments, and is essential to all aspects of emergency response. The 2008 Budget provides funding for the continuation of the underground cable plant replacement and expansion programs.

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<b>C. Street Lighting</b>	<b>2008 Budget</b>	<b>\$ 1,698,000</b>
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The 2008 Street Lighting Capital Budget provides for the ongoing infrastructure replacement program for the Street Lighting Plant. The Street Lighting Plant continues to age, with many components now past their estimated service life. The Program will provide for the replacement of street lighting poles, service panels, conduit replacement, and other components. Delays in replacing street lighting infrastructure increase the probability of exposure for citizens due to falling poles or energized poles and panels. Street lighting outages will also be reduced by rebuilding connections on trolley routes and replacing badly corroded service panels. Funding is also requested to upgrade lighting levels in response to local public safety and security concerns, and for the City's share of new lighting projects approved through the Local Improvement process (an additional \$228,000 is expected from property owners from this purpose). Funding these initiatives helps create a more secure and pleasant environment for pedestrians and residents.

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<b>D. Sewers &amp; Drainage</b>	<b>2008 Budget</b>	<b>\$21,625,000</b>
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The Sewers Capital Budget includes the programs listed below. The key highlights of the Sewers Program for 2008 will be the replacement of sewers in the Cambie/Heather, Balaclava and the Fraser River drainage areas.

<u>D-1 System Replacement/Separation</u>	\$20,180,000
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The 2008 Sewers Capital Budget is a continuation of an ongoing infrastructure program that began in the early 1970's. This program consists of the renewal of sewer mains, connections, manholes, catch basins and pump stations. Factors considered in selecting the projects in this category include replacements for physical failure, deterioration from age, inadequate capacity and related flooding problems, environmental benefits, and Liquid Waste Management Plan requirements.

The City has adopted a strategy of continuous sewer replacement to replace 1% of the existing sewer system over a 100-year life instead of periodic large reconstruction programs. The benefits of this strategy include:

- Providing for continuous environmental improvements by reducing CSOs
- Meeting the approved LWMP's CSO management goal of gradual reduction and eventual elimination over 50 years
- Avoiding crisis funding and spreading the cost of Capital replacement works to taxpayers more evenly over time
- Maintaining a stable, well-trained workforce
- Maintaining an adequate level of service in sewers by providing for the ongoing, timely replacement of older sewers and thus reducing the risk of sewer collapse and sewage flooding of private residences and businesses.

Due to increased costs within the Pump Station program, it is requested that funds be reallocated to this program from Connection and Manhole Reconstruction program (\$705,000) and from Local Repairs: Catch Basins and Spurs (\$568,000). Due to limited manpower constraints, staff have revised the 2008 work plan for these two programs to direct the available resources to priority sewer main replacement programs and the less critical repairs will be deferred to future years.

#### D-2 System Management

\$351,000

The System Management Program provides funds to support a variety of information and research projects. This Program is divided between two sub-programs, Television Inspection and Investigation for Design. These projects provide key information that is used to prioritize the 1% replacement program and establish routine maintenance programs. This Program also provides funds for a variety of tools that support cost-effective capital work programs, including sewer system modelling, field monitoring of sewer flows, construction site exposures, soundings of underground facilities, and investigation of new products and technical standards for sewer design and construction. As additional work is planned in the Investigation for Design sub-program, it is requested that \$34,000 of the approved funding for Television Inspection be transferred into this sub-program.

#### D-3 Other Pollution Abatement

\$594,000

This Program funds other pollution abatement initiatives such as LWMP initiatives and Sewer Separation on Private Property. The Sewer Separation Program was established by Council in 1978 in order to achieve the pollution control benefits of a separated sewer system. The major benefit of this Program has been a reduction in the fecal coliform levels in waters adjacent to the City. It also allows the complete elimination of combined sewer outfalls in the City, by taking advantage of sewers which have been separated in the street area. This work helps the City to achieve the LWMP objectives and minimize costly short-term improvements to reduce Vancouver's sewage overflows. The program has mainly focused on the False Creek area and the West End and, to a lesser degree, on the Downtown Eastside/Strathcona, Still Creek and Fraser River areas.

#### D-5 Public Sewer Connections

\$0

Based on recent reviews of permit applications and residential and commercial construction activity, it is anticipated that about \$10 million of public sewer connections will be installed in 2008. The cost of this work will be recovered from public sewer connection fees charged to developers and builders.

#### D-6 Other Projects

\$500,000

The 2006-08 Capital Plan approved \$500,000 as a contribution to Engineering Yards, E1 Manitoba Yards Improvements.

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**E. Waterworks** **2008 Budget \$17,799,000**

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The 2006-2008 Capital Plan is based on the Waterworks Long Range Plan (LRP). The LRP is a strategic planning and work program document outlining the City's plans for water quality improvement, addressing growth, demand management, emergency preparedness, infrastructure management, business process improvement and financial planning. The Waterworks Program for 2008 will continue to focus on the systematic replacement and rehabilitation of aging distribution mains.

The 2008 Waterworks Capital Budget is composed of the following:

E-1 Aging Infrastructure Replacement \$14,220,000

A key strategic objective of the Waterworks Long Range Plan is to manage infrastructure proactively. The City's water system has an estimated replacement value of \$1.5 billion. It consists of approximately 1440 km of water mains as well as associated facilities such as pressure regulating stations and appurtenances such as valves, fire hydrants, and service connections. With such an extensive system, it is important to maintain reliable water service and follow a replacement program that renews infrastructure components that are suffering from corrosion attack and mechanical wear. The amount of funding requested for this program is less than the funds available for 2008. The reason for this is that, due to the work stoppage of 2007 and the finite capacity of City crews, all the work originally planned for 2008 cannot realistically be completed. It is recommended that \$551,000 of funding available in this program be reallocated to the Emergency Planning program, to provide additional funds for the Dedicated Fire Protection System.

E-2 Addressing Growth \$1,677,000

This Program addresses population growth and development impacts, funding infrastructure upgrades to increase supply capabilities, new connections and meters, and a conservation program to help curb water demand. The amount of funding requested for this program is less than the funds available for 2008. The reason for this is that, due to the work stoppage of 2007 and the finite capacity of City crews, all the work originally planned for 2008 cannot realistically be completed. Also, one of the projects, the Voluntary Metering Program, is under review and staff will report to Council for direction and funding allocation.

E-3 Emergency Planning \$ 600,000

The Emergency Planning Program for 2008 consists of funding for work on the Dedicated Fire Protection System (DFPS), specifically for expenditures made in 2007 related to the finalization of the False Creek crossing contracts. As the cost estimates have been updated with detailed design, additional funding is required and staff recommend \$551,000 be re-allocated from the Distribution Main Replacement program.

E-4 Investigation, Monitoring and Control \$ 562,000

Ongoing components of this Program include the installation and replacement of telemetry (water system monitoring) equipment, and engineering investigation in advance of capital projects. Approximately half of the requested funding will be used to install two remote water quality

monitoring stations adjacent to the South East False Creek development and downtown core to address security concerns in regard to the water system.

#### E-5 Water Quality Projects

\$ 240,000

This Program funds capital improvements to ensure adequate water quality throughout the distribution system. Of fundamental importance is the avoidance of waterborne health problems due to bacterial or chemical contamination. Projects typically focus on preventing stagnation in areas where building density is low and water supply capacity (for fire-fighting) far exceeds daily domestic flows. In 2006, this program was over-expended as more work was done on looping projects which became a priority since lower chlorine residuals were detected. As all funds for this program were spent in 2006 and 2007, it is requested that \$240,000 be re-allocated from the Distribution Main Replacement program to complete the projects planned in the 06-08 Capital Plan.

#### E-7 Other Projects

\$500,000

The 2006-08 Capital Plan approved \$500,000 as a contribution to Engineering Yards, E1 Manitoba Yards Improvements.

### F. Yards

2008 Budget

\$300,000

In addition to the funding requested, the Yards Capital program will also receive a total of \$1 million as a funding contribution (\$500,000 each from Sewer and Waterworks). The 2008 Yards Capital program includes the completion of a comprehensive study to recommend a development plan for Manitoba Yard over the next twenty years. It would also fund a security study of Manitoba Yards and provide funding for safety improvements and other minor upgrades.

### SUSTAINABILITY IMPLICATIONS

Sustainable practices and technologies have been incorporated into many aspects of the planning, design and constructions processes for capital works within Engineering Services.

Projects in the Streets program highlight sustainable modes of transportation in accordance with the Transportation Plan. Methods to increase permeability, such as installing infiltration galleries/catch basins and using permeable materials, are continually being investigated.

The majority of the Sewer and Water programs are based on life cycle replacement of infrastructure, which supports economic sustainability. Within the Waterworks program, water conservation initiatives such as recirculation systems for City owned ornamental water features complement the main distribution replacement program which replaces leak prone unlined cast-iron pipe with contemporary concrete lined ductile iron pipe. The water quality program improves drinking water, while avoiding the cost and environmental implications of additional chlorination facilities. Storm water management and environmental improvements, through the reduction of combined sewer overflow into the City's receiving waters, are focuses within the Sewers program. Water and sewer installation crews use trenchless methods wherever possible, to minimize street damage, backfill needs and public inconvenience. The Streets, Sewers and Waterworks programs additionally incorporate the use of recycled materials, such as concrete and asphalt, in construction activities when technically and economically feasible.

Many capital programs also provide significant climate change mitigation and adaptation benefits. The City's Transportation Plan priorities focus on transportation modes that reduce GHG production, such as walking, cycling and transit. The Street Lighting program improves pedestrian amenity and safety, while upgrading light sources to improve energy efficiency. The Traffic Signal program continually improves pedestrian and bicycle crossings. Planning and design for replacement Yards facilities incorporate extensive green building measures to achieve LEED Gold certification, reducing energy and water consumption, storm water runoff, etc.

The Sewer System Replacement/Separation program invests roughly \$20 million per year to construct new sewers with much greater adaptive capacity than our existing combined sewer system. New storm sewers have approximately 40% greater capacity than our old combined sewers had; this capacity is constructed as standard practice because of the small cost of installing a slightly larger pipe compared to other fixed construction costs such as excavation, backfill, and street repair. The City's system is approximately 40% separated. With the continuation of our lifecycle uniform replacement program, we expect to eliminate CSOs by 2050 and have the system completely separated within a decade thereafter.

Other capital programs provide additional "no-regrets" climate change adaptation benefits. For example, Greenways and other street and lane improvements improve storm water permeability and thereby increase the capacity of our storm sewer system. The Drinking Water Conservation program reduces water demand, extending the life of our region's water supplies and mitigating climate change impacts that may reduce our water supply.

### **SENIOR GOVERNMENT COST SHARING**

Staff pursue cost-sharing opportunities with senior governments for all areas of Engineering Services as they arise. As described in the sections above, Provincial and regional government funding that is available or may become available to help fund capital projects includes the following:

#### **TransLink Minor Capital**

Under Translink's definition, this category only includes new works or improvements on the MRN that generally address congestion, safety, and capacity issues. Translink will fund 50% of the cost of these projects up to a pre-established maximum funding level. The City has submitted 2008 project applications to Translink for Minor Capital funding, generally to fund projects that enhance pedestrian, cyclist, transit services or improve safety. However, at the time of writing, project award by Translink had not been received. The City's share of the cost of these projects would be from Council approved budgeted project and program accounts.

#### **TransLink Bicycle Infrastructure Capital Cost Sharing Program (BICCS)**

This funding is utilized towards development and construction of new roads and facilities in order to enhance Vancouver's Bicycle Network. This funding would assist the City with providing a safe and convenient cycling environment for commuter and recreational cyclists by improving the existing road network to better meet the needs of cyclists and by promoting the safe and responsible use of bicycles.

### TransLink Transit Related Road Infrastructure Program

The Transit Related Road Infrastructure Program (TRRIP) was established to fund roadway infrastructure facilities required for the delivery of transit (bus-based) services in Greater Vancouver. Funding for approved TRRIP projects are cost-shared between the City and Translink and funds are received when the project is complete.

### CAPITAL CLOSEOUTS

Closeouts are reported to Council for information and approval when capital project expenditure variances exceed 15% and \$50,000 of the approved budgets. The allocation of funds in excess of \$50,000 also requires Council approval. This closeout process for the 2003-2005 Capital Plan will involve complete program closeouts for Streets, Communications, Waterworks, Yards and Special Projects.

The net overall unexpended balance resulting from the closeout in each area is summarized in Table 4 and Appendix 2 and, in most cases, the Capital Programs have unexpended balances. In the case where a group of accounts will be closed with a deficit, funding sources from the 2008 Budget have been identified for Council approval. Explanations for each account with a significant variance are provided for Council's information.

Table 4 - Closeout position and Carry Forward funding by Program Area  
(includes only those programs within a Program Area not previously closed out)

PROGRAM AREA	2003-05 BUDGET	ACTUALS	BALANCE	CARRY FORWARD (ongoing projects)	CLOSEOUT BALANCE (complete projects)
Streets	\$57,677,490	\$38,011,049	\$19,666,441	\$18,594,963	\$1,071,478
Communications	\$235,400	\$171,105	\$64,295	\$64,295	-
Waterworks	\$3,200,000	-	\$3,200,000	\$3,200,000	-
Yards	\$1,315,769	-	\$1,315,769	-	\$1,315,769
Projects	\$6,928,885	\$6,167,294	\$761,591	\$761,591	-
<b>TOTAL</b>	<b>\$69,357,544</b>	<b>\$44,349,448</b>	<b>\$25,008,096</b>	<b>\$22,620,849</b>	<b>\$2,387,247</b>

### FINANCIAL IMPLICATIONS

Funding shown in Table 5 for Streets, Communications, Street Lighting and Yards is from borrowing authorities approved by voters in the October 2005 plebiscites and Capital from Revenue. Funding for Sewers originates from Council approved borrowing authority, and Waterworks is a Council approved self-funding utility with debt financing through water rates revenues.

There are several projects contained in the 2008 Engineering Capital Budget, such as bike routes, greenways, and neighbourhood traffic plans, etc., that will require various forms of maintenance in the future. Increases that may be required to the Engineering Operating Budget for these maintenance items are identified in the detailed submissions in Appendix 1, or will be identified with the individual projects when they are reported to Council.

Table 5: Engineering Capital Budget Funding Summary (\$,000)

Program	2006-2008		2008 Basic Capital Budget				External Funding**
	Revised Capital Plan	DCL	Borrowing Authority	Capital from Revenue	DCL	Total	
Streets	\$ 76,600	\$ 7,700	\$ 14,247	\$ 1665	\$ 2,885	\$ 18,797	\$15,052
Communications	\$ 1,900	-	-	\$ 850	-	\$ 850	-
Street Lighting	\$ 5,150	-	\$ 268	\$ 1430	-	\$ 1,698	\$ 228
Sewers & Drainage	\$ 74,430	-	\$ 21,625	-	-	\$ 21,625	\$ 10,200
Waterworks	\$ 54,870	-	\$ 17,799	-	-	\$ 17,799	-
Yards	\$ 300	-	\$ -	\$ 300	-	\$ 300	-
<b>TOTAL</b>	<b>\$ 213,250</b>	<b>\$7,700</b>	<b>\$ 53,939</b>	<b>\$ 4245</b>	<b>\$ 2,885</b>	<b>\$ 61,069</b>	<b>\$25,480</b>

\*\*External Funding includes: Senior Gov't sources (secured funding as well as cost-sharing opportunities that require confirmation), anticipated property owner contributions and sewer connection fees.

## CONCLUSION

This report summarizes the 2008 Engineering Basic Capital Budget for Council's review and approval. While this report provides a summary, the details of the Budget are contained in Appendix 1. In addition to the Budget, this report also provides a brief summary of the Capital Closeouts proposed to be completed this year. These details are provided in Appendix 2 and Council approval is required in order to close the accounts with variances of more than \$50,000 and 15%, allocate the closeout balance and provide the funding sources as specified.

\* \* \* \* \*



# **- Appendices -**

**Appendix 1:  
2008 Engineering Basic Capital  
Budget**

**Appendix 2:  
2003-05  
Engineering  
Capital Closeouts  
And Carry Forwards**

**Appendix 3:  
2006-08 Streets Budget  
Redistributions**

Appendix 1, 2 and 3 are available in limited print.  
Copies can be picked up from the City Clerk's Office.

## 2008 BASIC CAPITAL BUDGET SUMMARY

Program / Sub-program / Projects	Estimated Gross Budget (C)	External Funding (D)	DCL/CAC Funding (E)	Revenue/ Debenture Funding (F = C - D - E)	2008 Basic Capital Budget Request (G = E + F)	Carried Forward Funding (H)	2008 Funding + Carry Forward (J = G + H)
<b>STREETS</b>	\$34,247,392	\$15,052,425	\$3,282,467	\$15,912,500	\$19,194,967	\$37,549,817	\$56,744,784
<b>COMMUNICATIONS</b>	\$850,000	\$0	\$0	\$850,000	\$850,000	\$0	\$850,000
<b>STREET LIGHTING</b>	\$1,926,000	\$228,000	\$0	\$1,698,000	\$1,698,000	\$0	\$1,698,000
<b>SEWERS</b>	\$31,825,000	\$10,200,000	\$0	\$21,625,000	\$21,625,000	\$7,520,600	\$29,145,600
<b>WATERWORKS</b>	\$17,799,000	\$0	\$0	\$17,799,000	\$17,799,000	\$5,493,000	\$23,292,000
<b>YARDS</b>	\$300,000	\$0	\$0	\$300,000	\$300,000	\$0	\$300,000
<b>TOTAL - 2008 ENGINEERING</b>	<b>\$86,947,392</b>	<b>\$25,480,425</b>	<b>\$3,282,467</b>	<b>\$58,184,500</b>	<b>\$61,466,967</b>	<b>\$50,563,417</b>	<b>\$112,030,384</b>

## 2008 BASIC CAPITAL BUDGET SUMMARY

<i>2008 Capital Budget &amp; Funding Allocation</i>								
Ref #	Program / Sub-program / Projects	Estimated 2008 Gross Budget (C)	External Funding (D)	DCL/CAC Funding (E)	Revenue/ Debenture Funding (F = C - D - E)	2008 Basic Capital Budget Request (G = E + F)	Carried Forward Funding (H)	2008 Funding + Carry Forward (J = G + H)
<b>A1</b>	<b>INFRASTRUCTURE</b>							
	a) Repair of Deteriorated Arterial Streets	\$4,528,425	\$3,128,425		\$1,400,000	\$1,400,000	\$5,557,129	\$6,957,129
	b) Peat Street Reconstruction	\$0			\$0	\$0	\$655,424	\$655,424
	c) Major Maintenance - City Bridges	\$65,000			\$65,000	\$65,000	\$302,977	\$367,977
	e) Pavement and Materials Research	\$100,000			\$100,000	\$100,000	\$104,436	\$204,436
	g) Reconstruction of Residential Streets and Lanes	\$0			\$0	\$0		\$0
	h) Rehabilitation Work Complementing Cut Restoration & Development	\$85,000			\$85,000	\$85,000	\$337,533	\$422,533
	<b>SUBTOTAL - INFRASTRUCTURE</b>	<b>\$4,778,425</b>	<b>\$3,128,425</b>	<b>\$0</b>	<b>\$1,650,000</b>	<b>\$1,650,000</b>	<b>\$6,957,499</b>	<b>\$8,607,499</b>
<b>A2</b>	<b>PEDESTRIAN &amp; BICYCLES</b>							
	a) New Sidewalks	\$1,590,000	\$290,000	\$1,000,000	\$300,000	\$1,300,000	\$3,337,628	\$4,637,628
	b) Sidewalk Reconstruction - Local Improvements	\$600,000	\$0		\$600,000	\$600,000	\$1,815,312	\$2,415,312
	d) Curb Ramp Program	\$675,000	\$0	\$175,000	\$500,000	\$675,000	\$382,396	\$1,057,396
	e) Bicycle Network	\$0	\$0		\$0	\$0	\$3,302,040	\$3,302,040
	f) Beautification and Street Trees	\$350,000		\$250,000	\$100,000	\$350,000	\$419,505	\$769,505
	g) Pedestrian & Other Structures	\$35,000			\$35,000	\$35,000		\$35,000
	h) Greenways	\$0	\$0	\$0	\$0	\$0	\$2,737,987	\$2,737,987
	<b>SUBTOTAL - PEDESTRIANS &amp; BICYCLES</b>	<b>\$3,250,000</b>	<b>\$290,000</b>	<b>\$1,425,000</b>	<b>\$1,535,000</b>	<b>\$2,960,000</b>	<b>\$11,994,868</b>	<b>\$14,954,868</b>
<b>A3</b>	<b>TRAFFIC SIGNALS</b>							
	a) Traffic Signal Program	\$1,000,000			\$1,000,000	\$1,000,000	\$957,865	\$1,957,865
	b) Modification of Existing Signals	\$370,000			\$370,000	\$370,000	\$273,754	\$643,754
	d) Replace Aging Signal Plant	\$510,000	\$180,000		\$330,000	\$330,000	\$520,268	\$850,268
	<b>SUBTOTAL - TRAFFIC SIGNALS</b>	<b>\$1,880,000</b>	<b>\$180,000</b>	<b>\$0</b>	<b>\$1,700,000</b>	<b>\$1,700,000</b>	<b>\$1,751,887</b>	<b>\$3,451,887</b>

## 2008 BASIC CAPITAL BUDGET SUMMARY

<i>2008 Capital Budget &amp; Funding Allocation</i>								
Ref #	Program / Sub-program / Projects	Estimated 2008 Gross Budget (C)	External Funding (D)	DCL/CAC Funding (E)	Revenue/ Debenture Funding (F = C - D - E)	2008 Basic Capital Budget Request (G = E + F)	Carried Forward Funding (H)	2008 Funding + Carry Forward (J = G + H)
<b>A4</b>	<b>STRATEGIC TRANSPORTATION</b>							
	a) Arterial Improvements	\$2,187,500	\$950,000	\$585,000	\$652,500	\$1,237,500	\$1,595,068	\$2,832,568
	d) Bus Slabs & Landings	\$100,000			\$100,000	\$100,000	\$205,664	\$305,664
	e) Property Fund	\$0	\$0	\$0	\$0	\$0	\$269,325	\$269,325
	<b>SUBTOTAL - STRATEGIC TRANSPORTATION</b>	<b>\$2,287,500</b>	<b>\$950,000</b>	<b>\$585,000</b>	<b>\$752,500</b>	<b>\$1,337,500</b>	<b>\$2,070,057</b>	<b>\$3,407,557</b>
<b>A5</b>	<b>LOCAL AREA TRAFFIC PLANS &amp; OTHER IMPROVEMENTS</b>							
	a) Installation of Neighbourhood Traffic Calming	\$0		\$0	\$0	\$0	\$785,495	\$785,495
	b) Higher Zones Streets - LI	\$1,000,000	\$400,000	\$0	\$600,000	\$600,000	\$463,772	\$1,063,772
	c) Residential Streets - LI	\$2,400,000	\$800,000		\$1,600,000	\$1,600,000	\$1,143,935	\$2,743,935
	d) Higher Zones Lanes - LI	\$151,000	\$66,000		\$85,000	\$85,000		\$85,000
	e) Residential Lanes - LI	\$815,000	\$280,000		\$535,000	\$535,000	\$320,000	\$855,000
	f) Drainage & Utility Relocation Prior to Paving	\$0			\$0	\$0	\$390,452	\$390,452
	g) Grade/Open Streets & Lanes	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	i) Neighbourhood Collector Program	\$0			\$0	\$0		\$0
	<b>SUBTOTAL - LOCAL AREA TRAFFIC PLANS &amp; OTHER IMPROVEMENTS</b>	<b>\$4,366,000</b>	<b>\$1,546,000</b>	<b>\$0</b>	<b>\$2,820,000</b>	<b>\$2,820,000</b>	<b>\$3,103,654</b>	<b>\$5,923,654</b>
<b>A6</b>	<b>MAJOR PROJECTS</b>							
	d) Carrall St Greenway	\$0	\$0	\$0	\$0	\$0		\$0
	f) Downtown Streetcar			\$0	\$0	\$0		\$0
	h) Expo Deck Replacement	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	j) Granville Mall Reconstruction	\$8,480,000	\$4,900,000	\$0	\$3,580,000	\$3,580,000	\$12,320,000	\$15,900,000
	k) Cambie Reconstruction	\$5,047,467	\$2,800,000	\$797,467	\$1,450,000	\$2,247,467	\$4,906,852	\$7,154,319
	l) Renfrew St Beautification & Enhancement	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	m) Downtown Streetcar	\$800,000	\$0	\$0	\$800,000	\$800,000	\$4,200,000	\$5,000,000
	n) Central Valley Greenway	\$3,358,000	\$1,258,000	\$475,000	\$1,625,000	\$2,100,000	\$6,765,000	\$8,865,000
	<b>SUBTOTAL - MAJOR PROJECTS</b>	<b>\$17,685,467</b>	<b>\$8,958,000</b>	<b>\$1,272,467</b>	<b>\$7,455,000</b>	<b>\$8,727,467</b>	<b>\$11,671,852</b>	<b>\$20,399,319</b>
	<b>TOTAL - 2008 STREETS CAPITAL BUDGET</b>	<b>\$34,247,392</b>	<b>\$15,052,425</b>	<b>\$3,282,467</b>	<b>\$15,912,500</b>	<b>\$19,194,967</b>	<b>\$37,549,817</b>	<b>\$56,744,784</b>

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-1a1

ORDER GROUP

CC3EA1ABX1

ORDER NUMBER

30010643

DEPARTMENT	Engineering
DIVISION / BRANCH	Streets
PROGRAM	Infrastructure
SUB-PROGRAM / PROJECT	Arterial Reconstruction - Non-MRN Arterial Streets
DESCRIPTION	Rehabilitation and repair of arterial streets not on the Major Road Network (MRN)

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$4,778,774	\$ 0	\$3,378,774	\$	\$1,400,000	\$1,400,000	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour		\$1,242,481	Other Levels of Government			\$
Materials		\$1,624,784	Property Owners			\$
Equipment		\$1,242,481	Other (specify below)			
Contract		\$				\$
Overhead		\$669,028				\$
Other (specify below)						\$
		\$				\$
		\$				\$
		\$				\$
		\$4,778,774				\$ 0

**COST SAVINGS & OTHER BENEFITS -**

**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment						

**SUB-PROGRAM / PROJECT INFORMATION -**

**OBJECTIVES**

The arterial rehabilitation program provides for the full reconstruction or rehabilitation of arterial street network pavements that have deteriorated. Major rehabilitation of these pavements extends the life of the street asset and reduces overall life cycle costs. Arterial streets carry large numbers of vehicles and improving these roadways provides safer driving conditions for all road users.

**SCOPE OF WORK / DELIVERABLES**

Typical reconstruction projects will entail grinding off and repaving the surface layer of pavement to extend the life of the road structure. In areas where the road structure has deteriorated, reconstruction of the full road structure and/or the curb and gutter and sidewalk would be undertaken.

The following streets have initially been identified for rehabilitation in 2008:

- Davie, Denman to Granville
- Hornby, Georgia to Nelson
- Victoria, Sections of Venables to Victoria Diversion

The remaining funds of \$1,600,000 in this program are being contributed towards the Arterial Reconstruction work required for Granville Reconstruction (A-6j) as outlined in Appendix 3 of this report.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-1a1

ORDER GROUP

CC3EA1ABX1

ORDER NUMBER

30010643

2008 Available (remaining in Plan):	\$3,000,000
Funding contribution to A6j:	(\$1,600,000)
Allocation in 2008	\$ 1,400,000
Carry forward funding (unexpended 06/07):	\$3,378,774
Total for 2008:	\$4,778,774

Works from 2006/7 will be continued in 2008. Some significant projects scheduled include West Broadway, 70<sup>th</sup> Ave, 12<sup>th</sup> Ave Kits Diversion, West 49<sup>th</sup> Marine to Granville, MacDonald 16<sup>th</sup> to King Edward, Earles 29<sup>th</sup> to Kingsway and Hornby Street, Pacific to Nelson.

OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED *(if applicable)*

TIMELINE

Start (mm/yy)

January, 2008

Completion (mm/yy)

December, 2008

## IMPACT OF DELAY

Rehabilitation work is planned and scheduled throughout the year to take advantage of coordination opportunities with underground utilities and to minimize disruptions in the community. Timely rehabilitation avoids reconstruction when pavements fail.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-1a2

ORDER GROUP

CC3EA1AAX1

ORDER NUMBER

30010641

DEPARTMENT

Engineering

DIVISION / BRANCH

Streets

PROGRAM

Infrastructure

SUB-PROGRAM / PROJECT

Arterial Reconstruction - Major Road Network (MRN) Arterial Streets

DESCRIPTION

Rehabilitation and repair of arterial streets on the Major Road Network (MRN)

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$5,306,780	\$3,128,425	\$2,178,355	\$	\$ 0	\$ 0	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour		\$1,379,763	Other Levels of Government			\$
Materials		\$1,804,305	Property Owners			\$
Equipment		\$1,379,763	Other ( <i>specify below</i> )			
Contract		\$	Translink (MRN - OMR)			\$3,128,425
Overhead		\$742,949				\$
Other ( <i>specify below</i> )						\$
			\$			\$
			\$			\$
			\$			\$
		\$5,306,780				\$3,128,425

**COST SAVINGS & OTHER BENEFITS -**

**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	2009	2010
	\$0	\$0	\$0
Comment			

**SUB-PROGRAM / PROJECT INFORMATION -**

**OBJECTIVES**

The MRN arterial rehabilitation program is funded by TransLink and provides for the full reconstruction or rehabilitation of MRN arterial street network pavements that have deteriorated. Major rehabilitation of these pavements extends the life of the street asset and reduces overall life cycle costs. Arterial streets carry large numbers of vehicles and improving these roadways provides safer driving conditions for all road users.

**SCOPE OF WORK / DELIVERABLES**

The \$3.13 million of the total Translink funding for the 2008 MRN Arterial Reconstruction Program was allocated to the Cambie Reconstruction Project. This is included in the total project funding (see A6K). Works still being carried out with the remaining \$2,178,355 of funding from 2006/07 include Broadway, Howe and 70<sup>th</sup> Ave.

**OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED (*if applicable*)**

**TIMELINE**

Start (mm/yy)

January, 2008

Completion (mm/yy)

December, 2008

**IMPACT OF DELAY**

Rehabilitation work is planned and scheduled to take advantage of coordination opportunities with underground utilities and to minimize disruptions in the community.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-1b

ORDER GROUP

CC3EA1BX1

ORDER NUMBER

30010644

DEPARTMENT

Engineering

DIVISION / BRANCH

Streets

PROGRAM

Infrastructure

SUB-PROGRAM / PROJECT

Peat Street Reconstruction

DESCRIPTION

Reconstruction of Streets and Lanes that have deteriorated primarily due to poor soil conditions such as peat

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$655,424	\$ 0	\$655,424	\$	\$ 0	\$ 0	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour		\$222,844	Other Levels of Government			\$
Materials		\$170,410	Property Owners			\$
Equipment		\$170,410	Other (specify below)			
Contract		\$				\$
Overhead		\$91,760				\$
Other (specify below)						\$
			\$			\$
			\$			\$
			\$			\$
			\$655,424			\$ 0

**COST SAVINGS & OTHER BENEFITS -**

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**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment						

**SUB-PROGRAM / PROJECT INFORMATION -**

**OBJECTIVES**

The objective of this program is to reconstruct streets and lanes which have deteriorated due to poor soil conditions. The streets and lanes are usually located over old peat bog areas of the City or in some areas where there is extreme pavement settling due to ground conditions. The condition of these roads may present safety concerns for road users.

**SCOPE OF WORK / DELIVERABLES**

- Projects involve the total reconstruction of roads and sidewalks including
- installation of an engineered road structure designed for poor soil conditions
  - installation of a new asphalt road surface
  - reconstructing sidewalks and curb and gutter which are in poor condition

The remaining funds of \$150,000 in this program are being reallocated to the A-6j Granville Reconstruction, to address funding pressures as outlined in Appendix 3 of this report.

2008 Available (remaining in Plan):	\$150,000
Funding reallocation to A6j:	( <u>\$150,000</u> )
Allocation in 2008	0



# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-1b

ORDER GROUP

CC3EA1BX1

ORDER NUMBER

30010644

Carry forward funding (unexpended 06/07): \$655,424  
Total for 2008: \$655,424

The outstanding works that were delayed from 2006/7 due to work stoppage and will be completed in 2008 are 17<sup>th</sup> Ave - Caroline West and 20<sup>th</sup> Ave 700 block.

OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED *(if applicable)*

TIMELINE

Start (mm/yy)

June, 2008

Completion (mm/yy)

September, 2008

IMPACT OF DELAY

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-1c

ORDER GROUP

CC3EA1CX1

ORDER NUMBER

30010645

DEPARTMENT

Engineering Services

DIVISION / BRANCH

Streets

PROGRAM

Infrastructure

SUB-PROGRAM / PROJECT

Major Maintenance of City Bridges

DESCRIPTION

This program funds the major maintenance for the City's 34 bridges and other structures.

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$367,977	\$ 0	\$302,977	\$	\$65,000	\$65,000	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$51,474	Other Levels of Government		\$
Materials			\$67,312	Property Owners		\$
Equipment			\$51,474	Other (specify below)		
Contract			\$170,000			\$
Overhead			\$27,717			\$
Other (specify below)						\$
			\$			\$
			\$			\$
			\$			\$
			\$367,977			\$ 0

**COST SAVINGS & OTHER BENEFITS -**

n/a

**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment	This program is provided to address ongoing maintenance. By completing this work, operating costs should be maintained at current levels.					

**SUB-PROGRAM / PROJECT INFORMATION -**

**OBJECTIVES**

To conduct maintenance on the major structures in the City. This work includes the strengthening design of the Granville Street Bridge and PCB management of the bridges

**SCOPE OF WORK / DELIVERABLES**

Combined with other funds, the deliverables will include the cleaning and disposal of hazardous waste from the pier caps on the Granville Street bridge, and the Granville Bridge strengthening design. Funding from the 2003/05 closeout is being reallocated to this program to provide an additional \$650,000 in funding for bridge maintenance.

2008 allocation (remaining in 2008): \$ 65,000  
 Carry forward funding (unexpended 06/07): \$302,977  
 Total for 2008: \$367,977

**OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED (if applicable)**

n/a

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-1c

ORDER GROUP

CC3EA1CX1

ORDER NUMBER

30010645

TIMELINE

Start (mm/yy)

April, 2008

Completion (mm/yy)

December, 2008

## IMPACT OF DELAY

This funding will alleviate the impact on public safety. Without it, some projects would not be completed in 2008. Some issues related to safety would remain unaddressed and may leave the City vulnerable to liability concerns.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-1e

ORDER GROUP

CC3EA1EX1

ORDER NUMBER

30010646

DEPARTMENT

Engineering

DIVISION / BRANCH

Streets

PROGRAM

Infrastructure

SUB-PROGRAM / PROJECT

Pavement and Materials Research

DESCRIPTION

This category funds the cost of researching and implementing new paving materials, material technology, recycled construction materials and energy conservation in the production and use of these materials.

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$204,436	\$ 0	\$104,436	\$	\$100,000	\$100,000	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$49,773	Other Levels of Government		\$
Materials			\$65,088	Property Owners		\$
Equipment			\$49,773	Other (specify below)		
Contract			\$			\$
Overhead			\$26,802			\$
Other (specify below)						\$
Engineering, design, inspection			\$13,000			\$
			\$			\$
			\$			\$
			\$204,436			\$ 0

**COST SAVINGS & OTHER BENEFITS -**

**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	2009	2010
	\$0	\$0	\$0
Comment			

**SUB-PROGRAM / PROJECT INFORMATION -**

**OBJECTIVES**

The objective of this program is to generate economic and infrastructure benefits to the City through the implementation of designed construction products, technology, and increased use of sustainable materials.

**SCOPE OF WORK / DELIVERABLES**

In 2008, this program will continue with projects in the following areas:

- quality control and assurance testing of reclaimed asphalt cement;
- research alternate types of asphalt products-warm asphalt review and testing;
- test trials and of recycled crushed concrete and asphalt- fine sieving of crushed and native soils;
- research and field trials of polymer modified asphalt
- lab trials and investigation of plastic bags and plastic chips with asphalt cement;
- test trials and investigation of soil cement;
- research opportunities for energy savings in asphalt production.

2008 allocation (remaining in Plan): \$100,000  
 Carry forward funding (unexpended 06/07) : \$104,436  
 Total for 2008: \$204,436

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-1e

ORDER GROUP

CC3EA1EX1

ORDER NUMBER

30010646

OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED *(if applicable)*

TIMELINE

Start (mm/yy)

January, 2008

Completion (mm/yy)

December, 2008

IMPACT OF DELAY

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-1h

ORDER GROUP

CC3EA1HX1

ORDER NUMBER

30010647

DEPARTMENT	Engineering
DIVISION / BRANCH	Streets
PROGRAM	Infrastructure
SUB-PROGRAM / PROJECT	Rehabilitation Work Complementing Cut Restoration and Development
DESCRIPTION	Reconstruction of portions of deteriorated local streets and sidewalks where the majority of the street and/or sidewalk is being replaced as a result of utility cuts or developments

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$422,533	\$ 0	\$337,533	\$	\$85,000	\$85,000	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$143,660	Other Levels of Government		\$
Materials			\$109,859	Property Owners		\$
Equipment			\$109,859	Other (specify below)		
Contract			\$			\$
Overhead			\$59,155			\$
Other (specify below)						\$
			\$			\$
			\$			\$
			\$			\$
			\$422,533			\$ 0

**COST SAVINGS & OTHER BENEFITS -**

--

**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment						

**SUB-PROGRAM / PROJECT INFORMATION -**

**OBJECTIVES**

When a majority of local streets or sidewalks are deteriorated due to utility cuts or development, reconstructing the remaining portion of the street and/or sidewalk in conjunction with the cut repair or development work will be more economical over the life cycle of the asset. The full reconstruction will reduce the costs required for maintenance and temporary fixes.

**SCOPE OF WORK / DELIVERABLES**

Projects will be identified where cut restoration or development reconstruction would be improved through extending the scope of the rehabilitation area. Reconstruction would include:

- installation of a new asphalt surface
- reconstruction of a new road structure if required
- reconstruction of sidewalk and/or curb and gutter which are in poor condition

The remaining funds of \$215,000 in this program are being reallocated to A-6j) Granville Reconstruction to address funding pressures as outlined in Appendix 3 of this report.

2008 allocation (remaining in Plan): \$300,000  
 Carry forward funding (unexpended 06/07) : \$337,533

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-1h

ORDER GROUP

CC3EA1HX1

ORDER NUMBER

30010647

Funding reallocation to A6j: (\$215,000)  
Total for 2008 \$422,533

Several Development Cost Share projects from 2006/07 will continue in 2008 including 8<sup>th</sup> & Larch and 29<sup>th</sup> & Camosun.

OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED *(if applicable)*

TIMELINE

Start (mm/yy)

January, 2008

Completion (mm/yy)

December, 2008

IMPACT OF DELAY

Delays for this work would lead to risk management concerns, increased maintenance costs and a reduced life cycle for the deteriorated side of the street, and inconvenience to road users and area residents.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-2a

ORDER GROUP

CC3EA2AX1

ORDER NUMBER

30010648

DEPARTMENT

Engineering

DIVISION / BRANCH

Streets

PROGRAM

Pedestrians & Bicycles

SUB-PROGRAM / PROJECT

New Sidewalks

DESCRIPTION

City-wide program to construct sidewalks on transit routes, arterial streets, pedestrian collector routes, and local improvement sidewalks in residential areas as requested by petitions or as a City initiative.

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$4,927,628	\$290,000	\$3,337,628	\$1,000,000	\$300,000	\$1,300,000	\$200,000
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$1,281,183	Other Levels of Government		\$
Materials			\$1,675,394	Property Owners		\$290,000
Equipment			\$1,281,183	Other (specify below)		
Contract			\$			\$
Overhead			\$689,868			\$
Other (specify below)						\$
			\$			\$
			\$			\$
			\$			\$
			\$4,927,628			\$290,000

**COST SAVINGS & OTHER BENEFITS -**

**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	2009	2010
	\$0	\$0	\$0
Comment			

**SUB-PROGRAM / PROJECT INFORMATION -**

**OBJECTIVES**

The goal of the program was outlined in the City's sidewalk construction program approved by Council on April 8, 2004. The goals are to work towards completing the sidewalk network on both sides of all streets on transit routes and on both sides of all developed arterial streets. The sidewalk network is projected to be complete in approximately 25 years if current budget levels are maintained. This program also funds sidewalk construction for pedestrian collector routes and for sidewalks adjacent to public facilities like community centres and schools as required to complete the sidewalk network. New residential sidewalks are constructed under the local improvement process and property owners will fund approximately 20 - 25% of the cost of these sidewalks.

The development of the sidewalk network improves pedestrian accessibility to transit as well as other public and commercial facilities. Construction of sidewalk enhances pedestrian safety by providing a clear and unobstructed corridor for public use.

**SCOPE OF WORK / DELIVERABLES**

New sidewalks on arterial and pedestrian collector routes program will be selected to complete transit, arterial, and pedestrian collector route objectives including constructing sidewalks adjacent to public facilities.

Through the Local Improvement process, residential sidewalk projects are proposed by citizens through Petitions or are proposed by the City on



# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-2a

ORDER GROUP

CC3EA2AX1

ORDER NUMBER

30010648

## Initiative.

2008 Advance Funding of \$200,000 was approved as per RTS 6811.

2008 allocation (remaining in Plan):	\$1,300,000
Carry forward funding (Unexpended 06/07) :	\$3,337,628
Plus External Funding:	\$ 290,000
Total for 2008:	\$4,927,628

Aside from the new sidewalk construction program mentioned above, other work continuing in this program includes the Hillcrest Sidewalk Network.

OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED *(if applicable)*

TIMELINE

Start (mm/yy)

January, 2008

Completion (mm/yy)

December, 2008

## IMPACT OF DELAY

Delays for this work may lead to risk management concerns, delays to pedestrian accessibility to transit routes and inconvenience the public.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-2b

ORDER GROUP

CC3EA2BX1

ORDER NUMBER

30010650

<b>DEPARTMENT</b>	Engineering
<b>DIVISION / BRANCH</b>	Streets
<b>PROGRAM</b>	Pedestrians & Bicycles
<b>SUB-PROGRAM / PROJECT</b>	Sidewalk Reconstruction
<b>DESCRIPTION</b>	Reconstruct badly deteriorated sidewalks in commercial and residential areas where pedestrian use is high

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$2,415,312	\$ 0	\$1,815,312	\$	\$600,000	\$600,000	\$
<b>GROSS SUB-PROGRAM / PROJECT BUDGET</b>			<b>EXTERNAL FUNDING</b>			
Direct Labour		\$821,206	Other Levels of Government			\$
Materials		\$627,981	Property Owners			\$
Equipment		\$627,981	Other (specify below)			
Contract		\$				\$
Overhead		\$338,144				\$
Other (specify below)						\$
			\$			\$
			\$			\$
			\$			\$
			\$2,415,312			\$ 0

**COST SAVINGS & OTHER BENEFITS -**

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**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment						

**SUB-PROGRAM / PROJECT INFORMATION -**

<b>OBJECTIVES</b>
-------------------

This program addresses the deterioration of our existing sidewalk infrastructure and funds the replacement and repair of existing sidewalks. Deteriorated sidewalks in areas with high levels of pedestrian activity have been a priority for this program. Most of the funding will be allocated to projects identified by Staff but through the Local Improvement Process, the City will partially fund petitioned projects from property owners.

<b>SCOPE OF WORK / DELIVERABLES</b>
-------------------------------------

Work is co-ordinated with major street rehabilitation projects. Sidewalk rehabilitation projects may include priority sidewalk routes such as Davie St, 12<sup>th</sup> Ave. and East Hastings.

- Sidewalk reconstruction work includes:
- breaking out existing sidewalk
  - reconstructing the new sidewalk base
  - reconstructing the new sidewalk and/or curb and gutter if required

The remaining funds of \$600,000 and \$300,000 in this program are being contributed towards the sidewalk reconstruction works required for the Cambie Reconstruction (A-6k) and Granville St Reconstruction (A-6j) as outlined in Appendix 3 of this report.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-2b

ORDER GROUP

CC3EA2BX1

ORDER NUMBER

30010650

2008 available (remaining in Plan):	\$1,500,000
Funding contribution to A6k:	(\$ 600,000)
Funding contribution to A6j:	<u>(\$ 300,000)</u>
Allocate in 2008	\$ 600,000
Carry forward funding (Unexpended 06/07):	<u>\$1,815,312</u>
Total for 2008	\$2,415,312

Some of the significant outstanding works from 2006/7 to be completed in 2008 include West Broadway sidewalks, East Hastings/Sunrise, Davie Street, and West 41<sup>st</sup> from Larch to Collingwood.

OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED *(if applicable)*

TIMELINE

Start (mm/yy)

January, 2008

Completion (mm/yy)

December, 2008

IMPACT OF DELAY

Delays for this work may lead to risk management concerns, and an inconvenience to the public and business owners.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-2d

ORDER GROUP

CC3EA2DX1

ORDER NUMBER

30010652

DEPARTMENT

Engineering

DIVISION / BRANCH

Streets

PROGRAM

Pedestrians & Bicycles

SUB-PROGRAM / PROJECT

Curb Ramp Program

DESCRIPTION

Construction of Curb Ramps to Provide Accessible Sidewalks

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$1,057,396	\$ 0	\$382,396	\$175,000	\$500,000	\$675,000	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$274,923	Other Levels of Government		\$
Materials			\$359,515	Property Owners		\$
Equipment			\$274,923	Other (specify below)		
Contract			\$	Translink (MRN - OMR)		\$
Overhead			\$148,035			\$
Other (specify below)						\$
			\$			\$
			\$			\$
			\$			\$
			\$1,057,396			\$ 0

**COST SAVINGS & OTHER BENEFITS -**

**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment						

**SUB-PROGRAM / PROJECT INFORMATION -**

**OBJECTIVES**

This program funds the installation of curb ramps at street and lane intersections to provide accessible access to the sidewalks. This program benefits many pedestrians including persons with disabilities, persons who use mobility aids and persons with strollers and shopping trolleys. There has been an increase in the demand for curb ramps as the City endeavours to complete the sidewalk network for seamless travel throughout the pedestrian environment.

**SCOPE OF WORK / DELIVERABLES**

There are approximately 8,400 locations in the City which still require ramps. This number will be reduced by approximately 200 during 2008.

2008 allocation (remaining in Plan):           \$ 675,000  
 Carry forward funding (unexpended 06/07):   \$ 382,396  
 Total for 2008:                                     \$1,057,396

**OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED (if applicable)**

**TIMELINE**

Start (mm/yy)

January, 2008

Completion (mm/yy)

December, 2008

**IMPACT OF DELAY**

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-2d

ORDER GROUP

CC3EA2DX1

ORDER NUMBER

30010652

There is currently an extensive list of requests generated by the public and the accessible trolley bus rollout. Delays to the program schedule will affect the completion of the sidewalk network throughout the City.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-2e

ORDER GROUP

CC3EA2EX1

ORDER NUMBER

30010655

DEPARTMENT	Engineering
DIVISION / BRANCH	Transportation
PROGRAM	Pedestrians & Bicycles
SUB-PROGRAM / PROJECT	Bicycle Network
DESCRIPTION	Development and construction of new bicycle facilities as per the City of Vancouver Bicycle Plan and the Vancouver Transportation Plan

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$3,302,040	\$ 0	\$3,302,040	\$0	\$ 0	\$ 0	\$0
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$990,612	Other Levels of Government		\$0
Materials			\$957,592	Property Owners		\$0
Equipment			\$594,367	Other (specify below)		
Contract			\$0			\$0
Overhead			\$759,469			\$
Other (specify below)						\$
			\$			\$
			\$			\$
			\$			\$
			\$3,302,040			\$ 0

**COST SAVINGS & OTHER BENEFITS -**

**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment						

**SUB-PROGRAM / PROJECT INFORMATION -**

**OBJECTIVES**

To provide a safe and convenient cycling environment for the commuter and recreational cyclist by improving the existing road network to better meet the needs of cyclists and by promoting the safe and responsible use of bicycles for transportation and recreation.

**SCOPE OF WORK / DELIVERABLES**

All of the remaining funds of \$1,300,000 in this program are being contributed towards the bicycle facilities required for the Central Valley Greenway (A-6n) as outlined in Appendix 3 of this report.

2008 Available (remaining in Plan):	\$1,300,000
Funding contribution to A6n:	(\$1,300,000)
Allocation in 2008	0
Carry forward funding (unexpended 06/07) :	\$3,302,040
Total for 2008	\$3,302,040

Some of the outstanding works from 2006/07 that are continuing in 2008 include the Yukon Bike Route, Pushbutton program, Balaclava Bike Route, 29<sup>th</sup> Ave Bike Route and the Heather Bikeway.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-2e

ORDER GROUP

CC3EA2EX1

ORDER NUMBER

30010655

**OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED** *(if applicable)*

Implementation of new cycling facilities are an important component if initiatives within Engineering, the Sustainability Office and Planning.

**TIMELINE**

Start (mm/yy)

May, 2008

Completion (mm/yy)

May, 2009

**IMPACT OF DELAY**

Development and construction of new cycling facilities would not be completed.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-2f

ORDER GROUP

CC3EA2FX1

ORDER NUMBER

30010656

DEPARTMENT

Engineering

DIVISION / BRANCH

Streets

PROGRAM

Pedestrians & Bicycles

SUB-PROGRAM / PROJECT

Street Beautification

DESCRIPTION

Street Beautification Projects in Commercial and Residential Areas

## SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$769,505	\$ 0	\$419,505	\$250,000	\$100,000	\$350,000	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$261,632	Other Levels of Government		\$
Materials			\$200,071	Property Owners		\$
Equipment			\$200,071	Other (specify below)		
Contract			\$			\$
Overhead			\$107,731			\$
Other (specify below)						\$
			\$			\$
			\$			\$
			\$			\$
			\$769,505			\$ 0

## COST SAVINGS & OTHER BENEFITS -

## IMPACT ON OPERATING BUDGET -

Added Basic	2008	\$0	2009	\$12,600	2010	\$13,000
Comment						

## SUB-PROGRAM / PROJECT INFORMATION -

### OBJECTIVES

This program funds beautification projects which improve the public realm in commercial and residential areas. The objectives include creating a distinct streetscape that promotes neighbourhood identity, encouraging increased pedestrian and bicycle activity and improving public safety. One of these projects may include providing an enhanced public realm along Kingsway from Gladstone Street to Killarney Street. This may serve as a catalyst for the emergence of the Norquay Village neighbourhood centre.

### SCOPE OF WORK / DELIVERABLES

The scope of the work may include, but are not limited to:

- New street design with landscaped medians and curb lanes which accommodate bicyclists
- Pedestrian signal, bulge additions, and corner repairs at strategic locations
- Improved boulevards through sidewalk replacement, tree planting, furniture and lighting enhancements

The remaining funds of \$300,000 in this program are being contributed towards the street beautification works required for the Granville Reconstruction (A-6j).

2008 available (remaining in Plan):	\$650,000
Funding contribution to Granville	(\$300,000)
Allocation in 2008	\$350,000
Carry forward funding (unexpended 06/07) :	\$419,505
Total for 2008	\$769,505



# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-2f

ORDER GROUP

CC3EA2FX1

ORDER NUMBER

30010656

**OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED** *(if applicable)*

Community Services/Neighbourhood Centres

**TIMELINE**

Start (mm/yy)

January, 2008

Completion (mm/yy)

December, 2008

**IMPACT OF DELAY**

It is important to the advancement of the Neighbourhood Centre planned for Norquay Village to realize some early, tangible progress in the upgrade of the heart of the community, i.e. along Kingsway. Improvement of Kingsway through Norquay Village is vital to the encouragement of support for the Neighbourhood Centre.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-2g

ORDER GROUP

CC3EA2GX1

ORDER NUMBER

30010658

DEPARTMENT

Engineering Services

DIVISION / BRANCH

Streets

PROGRAM

Infrastructure

SUB-PROGRAM / PROJECT

Pedestrian and Other Structures

DESCRIPTION

Construction and maintenance of pedestrian bridges and other miscellaneous structures

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$35,000	\$ 0	\$	\$	\$35,000	\$35,000	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$13,500	Other Levels of Government		\$
Materials			\$18,000	Property Owners		\$
Equipment			\$	Other ( <i>specify below</i> )		
Contract			\$			\$
Overhead			\$3,500			\$
Other ( <i>specify below</i> )						\$
			\$			\$
			\$			\$
			\$			\$
			\$35,000			\$ 0

**COST SAVINGS & OTHER BENEFITS -**

n/a

**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment						

**SUB-PROGRAM / PROJECT INFORMATION -**

**OBJECTIVES**

This program, funds the construction, upgrade and maintenance of pedestrian and cyclist infrastructure such as small bridges, railings, retaining walls, traffic barriers and other minor projects

**SCOPE OF WORK / DELIVERABLES**

Construction of pedestrian or other small structures such as retaining walls and guard railing is required on an ongoing basis. Much of this work is related to maintenance and replacement of components

2008 allocation: \$35,000  
 Carry forward funding (06/07) : \$ 0  
 Total for 2008 \$35,000

**OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED (if applicable)**

n/a

**TIMELINE**

Start (mm/yy)

April, 2008

Completion (mm/yy)

December, 2008

**IMPACT OF DELAY**

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-2g

ORDER GROUP

CC3EA2GX1

ORDER NUMBER

30010658

Some projects would not be completed in 2008. Some issues related to access and safety would remain unaddressed and may leave the City vulnerable to liability concerns.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-2h

ORDER GROUP

CC3EA2HX1

ORDER NUMBER

30010659

DEPARTMENT	Engineering
DIVISION / BRANCH	Transportation
PROGRAM	Pedestrians & Bicycles
SUB-PROGRAM / PROJECT	Greenways
DESCRIPTION	Development of Citywide and Neighbourhood Greenways as part of the Council approved Greenway Plan

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$2,737,987	\$ 0	\$2,737,987	\$	\$ 0	\$ 0	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour		\$821,396	Other Levels of Government			\$0
Materials		\$794,016	Property Owners			\$0
Equipment		\$492,838	Other (specify below)			
Contract		\$0				\$0
Overhead		\$629,737				\$
Other (specify below)						\$
		\$				\$
		\$				\$
		\$				\$
		\$2,737,987				\$ 0

**COST SAVINGS & OTHER BENEFITS -**

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**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment	Due to increased landscaping, pedestrian level lighting and other infrastructure, the related additional maintenance requires increases in operating budgets and they have been identified in previous Budget submission					

**SUB-PROGRAM / PROJECT INFORMATION -**

OBJECTIVES										
The Greenways Plan is a Council approved program which includes the development of Citywide and Neighbourhood Greenways										
SCOPE OF WORK / DELIVERABLES										
The remaining funds in this sub-program, \$325,000 in BCB and \$475,000 in DCL are being contributed to A6n) Central Valley Greenway as outlined in Appendix 3 of this report.										
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">2008 Available (remaining in Plan):</td> <td style="text-align: right;">\$ 800,000</td> </tr> <tr> <td>Funding contribution to A6n:</td> <td style="text-align: right;">(\$ 800,000)</td> </tr> <tr> <td>Allocate in 2008</td> <td style="text-align: right;">0</td> </tr> <tr> <td>Carry forward funding (unexpended 06/07) :</td> <td style="text-align: right;">\$2,737,987</td> </tr> <tr> <td><b>Total for 2008</b></td> <td style="text-align: right;"><b>\$2,737,987</b></td> </tr> </table>	2008 Available (remaining in Plan):	\$ 800,000	Funding contribution to A6n:	(\$ 800,000)	Allocate in 2008	0	Carry forward funding (unexpended 06/07) :	\$2,737,987	<b>Total for 2008</b>	<b>\$2,737,987</b>
2008 Available (remaining in Plan):	\$ 800,000									
Funding contribution to A6n:	(\$ 800,000)									
Allocate in 2008	0									
Carry forward funding (unexpended 06/07) :	\$2,737,987									
<b>Total for 2008</b>	<b>\$2,737,987</b>									
Outstanding works from 2006/07 that are continuing into 2008 include the Blueways Program and the Community Gardens.										
OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED (if applicable)										

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-2h

ORDER GROUP

CC3EA2HX1

ORDER NUMBER

30010659

Greenways are developed as a coordinated plan with a combined team of staff from Engineering and Planning.

TIMELINE

Start (mm/yy)

April, 2008

Completion (mm/yy)

March, 2009

## IMPACT OF DELAY

Implementation of greenways currently under consultation and design stages would not be completed. The coordination of work with other projects such as redevelopment and related cost savings would be lost.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-3a

ORDER GROUP

CC3EA3AX1

ORDER NUMBER

30010661

DEPARTMENT

Engineering

DIVISION / BRANCH

Transportation / Traffic Management

PROGRAM

Traffic Signals

SUB-PROGRAM / PROJECT

Signal Construction - New Pedestrian and Vehicular Signals

DESCRIPTION

Ongoing program for new Pedestrian and Vehicular Signal Installations

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$1,957,865	\$ 0	\$957,865	\$	\$1,000,000	\$1,000,000	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour		\$587,360	Other Levels of Government			\$
Materials		\$665,674	Property Owners			\$
Equipment		\$371,994	Other (specify below)			
Contract		\$				\$
Overhead		\$332,837				\$
Other (specify below)						\$
		\$				\$
		\$				\$
		\$				\$
		\$1,957,865				\$ 0

**COST SAVINGS & OTHER BENEFITS -**

**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	\$0	2009	\$30,000	2010	\$30,000
Comment						

**SUB-PROGRAM / PROJECT INFORMATION -**

**OBJECTIVES**

Detailed studies are undertaken each year to determine locations that require pedestrian or traffic signal controls. Users of the transportation system, including pedestrians, cyclists, transit vehicles, trucks and automobiles are considered in these studies.

**SCOPE OF WORK / DELIVERABLES**

There are 9 new signals budgeted for 2008: 8 pedestrian signals with an average city cost of \$110,000 per location, and 1 vehicular signal with an average city cost of \$120,000 per location. Further details on this project will be reported as part of the 2008 Traffic Signal Program. Will also continue with the outstanding works from 2007 program.

**OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED (if applicable)**

**TIMELINE**

Start (mm/yy)

May, 2008

Completion (mm/yy)

May, 2009

**IMPACT OF DELAY**

Priority crossings identified through the Annual Signal Program would not be installed in 2008. Some of these are school crossings scheduled to be installed before the start of the school in September.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-3b

ORDER GROUP

CC3EA3BX1

ORDER NUMBER

30010662

DEPARTMENT

Engineering

DIVISION / BRANCH

Transportation / Traffic Management

PROGRAM

Traffic Signal Program

SUB-PROGRAM / PROJECT

Signal Construction - Modification of Existing Signals

DESCRIPTION

Modification, upgrade, and retrofitting existing pedestrian and traffic signals

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$643,754	\$ 0	\$273,754	\$	\$370,000	\$370,000	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$212,265	Other Levels of Government		\$
Materials			\$269,680	Property Owners		\$
Equipment			\$86,994	Other (specify below)		
Contract			\$			\$
Overhead			\$74,815			\$
Other (specify below)						\$
			\$			\$
			\$			\$
			\$			\$
			\$643,754			\$ 0

**COST SAVINGS & OTHER BENEFITS -**

**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment						

**SUB-PROGRAM / PROJECT INFORMATION -**

**OBJECTIVES**

This program provides funding for programs to modify or retrofit existing pedestrian and traffic signals to meet operational demands of the City street network.

**SCOPE OF WORK / DELIVERABLES**

Pedestrian Indicators (\$15,000)  
 Left Turn Phasing (\$100,000)  
 Audible Signals (\$50,000)  
 Signal Modifications (\$55,000)  
 Tertiary Signal Heads (\$50,000)  
 Intelligent Transportation Systems (\$100,000)

**OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED (if applicable)**

**TIMELINE**

Start (mm/yy)

May, 2008

Completion (mm/yy)

April, 2009

**IMPACT OF DELAY**

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-3b

ORDER GROUP

CC3EA3BX1

ORDER NUMBER

30010662

Signal retrofits and upgrades scheduled for 2008 would not be completed



# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-3d

ORDER GROUP

CC3EA3DX1

ORDER NUMBER

30010663

DEPARTMENT

Engineering

DIVISION / BRANCH

Transportation / Traffic Management

PROGRAM

Traffic Signal Program

SUB-PROGRAM / PROJECT

Signal Construction - Replace Aging Signal Plant

DESCRIPTION

Renovate & Replacement of Aging Signal Equipment at existing Traffic Signals

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$1,030,268	\$180,000	\$520,268	\$	\$330,000	\$330,000	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$236,962	Other Levels of Government		\$
Materials			\$484,226	Property Owners		\$
Equipment			\$123,632	Other (specify below)		
Contract			\$	Translink OMR		\$180,000
Overhead			\$185,448			\$
Other (specify below)						\$
			\$			\$
			\$			\$
			\$			\$
			\$1,030,268			\$180,000

**COST SAVINGS & OTHER BENEFITS -**

--

**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment						

**SUB-PROGRAM / PROJECT INFORMATION -**

**OBJECTIVES**

Some of the traffic signals in the City were built in the early 1940s and the maintenance/repair costs (funded through operating budget) have been significantly higher than newer locations. With the proposed systematic renovation and replacement program, we do not expect a significant increase in operating budget requirements as a reflection of reduction in repair costs.

**SCOPE OF WORK / DELIVERABLES**

1. Rebuild Traffic Signal Intersection
2. Replace Rusty Traffic Signal Poles
3. Underground/Overhead Spans
4. Upgrade Signal Heads and Backboards
5. Replace Conflict Monitors/Racks/Loop Amplifiers

The remaining funds of \$500,000 in this program are being contributed to A6-k) Cambie Street Restoration, to address funding pressures - as outlined in Appendix 3 of this report.

2008 allocation (remaining in Plan): \$ 830,000  
 Funding contribution to A6k: (\$ 500,000)

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-3d

ORDER GROUP

CC3EA3DX1

ORDER NUMBER

30010663

Allocate in 2008	\$330,000
Carry forward funding (unexpended 06/07) :	\$ 520,268
Plus external funding:	<u>\$ 180,000</u>
Total for 2008	\$1,030,268

OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED *(if applicable)*

TIMELINE

Start (mm/yy)

May, 2008

Completion (mm/yy)

April, 2009

## IMPACT OF DELAY

Aging traffic signals scheduled to be rebuilt in 2008 would not be completed. This may result in an increase in operating costs to maintain these signals in operation

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-4a1

ORDER GROUP

CC3EA4A1X

ORDER NUMBER

30016665

DEPARTMENT	Engineering
DIVISION / BRANCH	Transportation
PROGRAM	Strategic Transportation
SUB-PROGRAM / PROJECT	Clark-Knight Corridor
DESCRIPTION	Implementation of the Clark/Knight Corridor Plan (approved by Council in 2005)

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$845,380	\$ 0	\$845,380	\$0	\$ 0	\$ 0	\$0
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$219,799	Other Levels of Government		\$
Materials			\$219,799	Property Owners		\$0
Equipment			\$211,345	Other (specify below)		
Contract			\$	0		\$
Overhead			\$194,437			\$
Other (specify below)						\$
Property			\$			\$
			\$			\$
			\$			\$
			\$845,380			\$ 0

**COST SAVINGS & OTHER BENEFITS -**

Significant cost sharing for improved safety, livability and goods movement along the Clark/Knight Corridor

**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment						

**SUB-PROGRAM / PROJECT INFORMATION -**

**OBJECTIVES**

To improve safety, liveability and goods movement along the Clark/Knight Corridor

**SCOPE OF WORK / DELIVERABLES**

The remaining funds of \$762,000 in this program are being allocated to A6m) Downtown Streetcar Phase 0 approved by Council March 11, 2008 RTS#7115.

2008 available (remaining in Plan):	\$ 762,000
Funding contribution to A6m:	(\$ 762,000)
2008 Allocation to Clark-Knight	0
Carry forward funding (unexpended 06/07):	\$ 845,380
Total for 2008	\$ 845,380

Due to a number of factors including work stoppage and capacity issues, work is still continuing on the 2003/05 phase of this multi-year project. Some projects from the 2006/08 plan are being deferred to future capital plans, they include Knight & 33<sup>rd</sup> LTB, Knight from 54<sup>th</sup> - 55<sup>th</sup>, Clark-Knight Tree Voucher and Sidewalks. The property acquisition for the Knight & 33<sup>rd</sup> LTB will be funded from A4e.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-4a1

ORDER GROUP

CC3EA4A1X

ORDER NUMBER

30016665

OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED *(if applicable)*

TIMELINE

Start (mm/yy)

October, 2008

Completion (mm/yy)

September, 2009

IMPACT OF DELAY

Slower progress than expected in implementing the Clark/Knight Corridor Plan

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-4a2

ORDER GROUP

CC3EA4ABX1

ORDER NUMBER

30010668

DEPARTMENT

Engineering

DIVISION / BRANCH

Transportation / Traffic Management, Strategic Transportation Planning

PROGRAM

Strategic Transportation

SUB-PROGRAM / PROJECT

Arterial improvements: Enhancements at Pedestrian Crossings & Visioning

DESCRIPTION

Pedestrian & Bus Buldges and Transit Priority Measures

## SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$298,868	\$ 0	\$207,368	\$25,000	\$66,500	\$91,500	\$0
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$92,925	Other Levels of Government		\$
Materials			\$92,494	Property Owners		\$
Equipment			\$71,608	Other (specify below)		
Contract			\$0			\$
Overhead			\$41,841			\$
Other (specify below)						\$
			\$			\$
			\$			\$
			\$			\$
			\$298,868			\$ 0

## COST SAVINGS & OTHER BENEFITS -

## IMPACT ON OPERATING BUDGET -

Added Basic	2008	2009	2010
	\$0	\$0	\$0
Comment			

## SUB-PROGRAM / PROJECT INFORMATION -

### OBJECTIVES

This program will continue funding for initiatives such as Pedestrian Crossings and Visioning implementation. The Pedestrian Crossings component covers geometric modifications at pedestrian crosswalks, including pedestrian bulges, medians, and other geometric improvements to increase pedestrian safety. The Visioning component will supplement funding provided under A2f for beautification projects such as the Norquay Village neighbourhood centre.

### SCOPE OF WORK / DELIVERABLES

Funding to be allocated to Pedestrian Crossings and Visioning - remaining funding of 38,000 are being allocated to the Downtown Streetcar Phase 0 approved by Council March 11, 2008.

2008 Available (remaining in Plan): \$ 129,000  
 Funding contribution to A6m: (\$ 38,000)  
 Allocate in 2008 \$ 95,000  
 Carry forward funding (06/07): \$ 207,368  
 Total for 2008 \$ 298,368

Work to be completed in 2008 includes various pedestrian bulges and sidewalk and crosswalk improvements at Broadway and Commercial.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-4a2

ORDER GROUP

CC3EA4ABX1

ORDER NUMBER

30010668

**OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED** *(if applicable)*

Community Services/Neighbourhood Centres

**TIMELINE**

Start (mm/yy)

January, 2008

Completion (mm/yy)

December, 2008

**IMPACT OF DELAY**

Advancement of the Neighbourhood Centre planned for Norquay Village delayed (along with realization of early, tangible progress in the upgrade of the heart of the community, i.e. along Kingsway). Improvement of Kingsway through Norquay Village is vital to the encouragement of support for the Neighbourhood Centre.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-4a3

ORDER GROUP

CC3EA4A3X1

ORDER NUMBER

30010670

DEPARTMENT

Engineering

DIVISION / BRANCH

Transportation

PROGRAM

Strategic Transportation

SUB-PROGRAM / PROJECT

Geometric and Safety Improvements on Arterials

DESCRIPTION

Design and construct various geometric improvements

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$2,638,320	\$950,000	\$542,320	\$560,000	\$586,000	\$1,146,000	\$233,000
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$870,646	Other Levels of Government		\$
Materials			\$870,646	Property Owners		\$
Equipment			\$501,280	Other (specify below)		
Contract			\$0	Developers		\$950,000
Overhead			\$395,748			\$
Other (specify below)						\$
			\$			\$
			\$			\$
			\$			\$
			\$2,638,320			\$950,000

**COST SAVINGS & OTHER BENEFITS -**

Significant cost sharing for improved safety

**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment						

**SUB-PROGRAM / PROJECT INFORMATION -**

**OBJECTIVES**

To improve safety at intersections and access to the surrounding community

**SCOPE OF WORK / DELIVERABLES**

Provides for the construction of a widened lanes and left turn bays on Hastings Street from Burrard - Bute Street (100% Developer funded), design work for Olympics related geometric modifications in the Stadium Precinct, the City's share of construction costs to normalize the intersection of Boundary Road at Canada Way (RTS 7166) and Olympics Pedestrian and Bicycle Projects.

2008 allocation (remaining in Plan): \$ 1,146,000  
 Carry forward funding (06/07) : \$ 542,320  
 Plus external funding \$ 950,000  
 Total for 2008 \$ 2,638,320

**OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED (if applicable)**

**TIMELINE**

Start (mm/yy)

June, 2008

Completion (mm/yy)

October, 2009

**IMPACT OF DELAY**

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-4a3

ORDER GROUP

CC3EA4A3X1

ORDER NUMBER

30010670

Safety and transit projects identified as being needed not completed, including some that would benefit 2010 Olympics.



# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-4d

ORDER GROUP

CC3EA4DX1

ORDER NUMBER

30010672

DEPARTMENT

Engineering

DIVISION / BRANCH

Streets and Transportation

PROGRAM

Transit and Safety

SUB-PROGRAM / PROJECT

Bus Pads and Passenger Landings

DESCRIPTION

Construction of Roadway Bus Pads and Passenger Landing Areas at Bus Stops

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$305,664	\$ 0	\$205,664	\$	\$100,000	\$100,000	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$103,925	Other Levels of Government		\$
Materials			\$79,473	Property Owners		\$
Equipment			\$79,473	Other (specify below)		
Contract			\$			\$
Overhead			\$42,793			\$
Other (specify below)						\$
			\$			\$
			\$			\$
			\$			\$
			\$305,664			\$ 0

**COST SAVINGS & OTHER BENEFITS -**

**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment						

**SUB-PROGRAM / PROJECT INFORMATION -**

**OBJECTIVES**

To improve the roadway surface and passenger areas at bus stop locations to upgrade the transit infrastructure and encourage transit use.

**SCOPE OF WORK / DELIVERABLES**

The program provides funds to upgrade the roadway surface and passenger areas at bus stops.

The bus pad program provides for replacing deteriorated pavement at transit stops with new bus pads. Concrete bus pads are installed in the roadway at bus stop locations where roadway surfaces fail due to bus traffic. Bus pads are typically installed in conjunction with major road works at locations identified by Streets staff. The installation of the pads improves transit operations and reduces road maintenance at bus stops. The proposed budget of \$100,000 for the bus pad program will provide for the installation of up to four standard length bus pads.

The Passenger landing program provides passenger area improvements at bus stops by installing concrete passenger landing areas. The full 2006-08 Capital Plan allocation of \$125,000 was budgeted and received in the 2006 and 2007 Basic Capital Budgets, therefore no additional funds are requested in 2008.

2008 allocation: \$ 100,000  
 Carry forward funding (06/07) : \$ 205,664  
 Total for 2008 \$ 305,664

OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED (if applicable)

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-4d

ORDER GROUP

CC3EA4DX1

ORDER NUMBER

30010672

TIMELINE

Start (mm/yy)

January, 2008

Completion (mm/yy)

December, 2008

## IMPACT OF DELAY

This would delay the construction of the new pads at major road works which may affect transit operation and passenger rideability and increase road maintenance.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-4e

ORDER GROUP

CC3EA4EX1

ORDER NUMBER

30010673

DEPARTMENT

Engineering

DIVISION / BRANCH

Transportation

PROGRAM

Strategic Transportation

SUB-PROGRAM / PROJECT

Property Fund

DESCRIPTION

Advance funding for property acquisitions

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$269,325	\$ 0	\$269,325	\$0	\$ 0	\$ 0	\$0
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$	Other Levels of Government		\$
Materials			\$	Property Owners		\$
Equipment			\$	Other (specify below)		
Contract			\$			\$
Overhead			\$0			\$
Other (specify below)						\$
Property			\$269,325			\$
			\$			\$
			\$			\$
			\$269,325			\$ 0

**COST SAVINGS & OTHER BENEFITS -**

City costs are reduced by timing purchases with the market sale or redevelopment of properties, thus minimizing disruption to property owners and making purchases more economical

**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment						

**SUB-PROGRAM / PROJECT INFORMATION -**

**OBJECTIVES**

This program primarily funds property purchases for transit and safety related projects in advance the actual construction. The program is intended to operate as a rotating fund which is reimbursed by individual transit and safety projects that require the property and also by resale of residual properties.

**SCOPE OF WORK / DELIVERABLES**

The remaining funds of \$200,000 in this program are being reallocated to A-6j) Granville Reconstruction, to address funding pressures.

2008 Available :	\$ 200,000
Funding reallocation to A6j:	( <u>\$ 200,000</u> )
2008 allocation	0
Carry forward funding (06/07) :	<u>\$ 269,325</u>
Total for 2008	\$ 269,325

**OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED (if applicable)**

TIMELINE

Start (mm/yy)

Completion (mm/yy)

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-4e

ORDER GROUP

CC3EA4EX1

ORDER NUMBER

30010673

IMPACT OF DELAY

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-5a

ORDER GROUP

CC3EA5AX1

ORDER NUMBER

30010674

<b>DEPARTMENT</b>	Engineering
<b>DIVISION / BRANCH</b>	Transportation
<b>PROGRAM</b>	Local Areas
<b>SUB-PROGRAM / PROJECT</b>	Neighbourhood Traffic Calming
<b>DESCRIPTION</b>	Neighbourhood traffic calming plans and local residential street-segment traffic calming measures are integral components of the Transportation Plan. These may include traffic circles, partial closures, corner bulges, diagonal diverters, right-in right-out diverters and speed humps

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			2008 ADVANCE FUNDING APPROVED
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	
\$785,495	\$ 0	\$785,495	\$0	\$ 0	\$ 0	\$0
<b>GROSS SUB-PROGRAM / PROJECT BUDGET</b>			<b>EXTERNAL FUNDING</b>			
Direct Labour			\$235,649	Other Levels of Government		\$0
Materials			\$227,794	Property Owners		\$0
Equipment			\$141,389	Other ( <i>specify below</i> )		
Contract			\$0	0		\$0
Overhead			\$180,663	0		\$0
Other ( <i>specify below</i> )						\$
			\$			\$
			\$			\$
			\$			\$
			\$785,495			\$ 0

**COST SAVINGS & OTHER BENEFITS -**

--

**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment	Due to the addition of traffic calming measures and streets infrastructure, the related additional maintenance requires increases in future operating budgets					

**SUB-PROGRAM / PROJECT INFORMATION -**

<b>OBJECTIVES</b>

<b>SCOPE OF WORK / DELIVERABLES</b>
-------------------------------------

The remaining funds in this program, \$350,000 in BCB and \$400,000 in DCL are being reallocated to A-6k) Cambie Reconstruction in order to address funding pressures as outlined in Appendix 3 of this report.	
2008 allocation (remaining in Plan):	\$ 800,000
Carry forward funding (unexpended 06/07) :	\$ 785,495
Funding reallocation to A6k:	( <u>\$ 800,000</u> )
Total for 2008	\$ 785,495

<b>OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED (<i>if applicable</i>)</b>
Coordination of work occurs with many areas of the City including, Engineering Projects, The Sustainability office, through ideas raised in

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-5a

ORDER GROUP

CC3EA5AX1

ORDER NUMBER

30010674

Planning's Visioning work, and with the Vancouver Police School Safety Patrol.

TIMELINE

Start (mm/yy)

May, 2008

Completion (mm/yy)

April, 2009

## IMPACT OF DELAY

Safety benefits of this program would not be realized within the community. Lack of coordination with planned programs and development underway would increase costs to the City.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-5b

ORDER GROUP

CC3EA5BX1

ORDER NUMBER

30010675

<b>DEPARTMENT</b>	Engineering
<b>DIVISION / BRANCH</b>	Streets
<b>PROGRAM</b>	Local Improvements
<b>SUB-PROGRAM / PROJECT</b>	Higher Zoned Streets - Local Improvements
<b>DESCRIPTION</b>	Street reconstruction and tree planting for industrial, commercial, multiple dwelling and other higher zoned areas

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$1,463,772	\$400,000	\$463,772	\$	\$600,000	\$600,000	\$300,000
<b>GROSS SUB-PROGRAM / PROJECT BUDGET</b>			<b>EXTERNAL FUNDING</b>			
Direct Labour			\$314,711	Other Levels of Government		\$
Materials			\$629,422	Property Owners		\$400,000
Equipment			\$314,711	Other ( <i>specify below</i> )		
Contract			\$			\$
Overhead			\$204,928			\$
Other ( <i>specify below</i> )						\$
			\$			\$
			\$			\$
			\$			\$
			\$1,463,772			\$400,000

**COST SAVINGS & OTHER BENEFITS -**

--

**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment						

**SUB-PROGRAM / PROJECT INFORMATION -**

<b>OBJECTIVES</b>
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This program primarily deals with the reconstruction of streets in industrial, commercial, multiple dwelling areas or other higher zoned areas. The increased traffic loads in these areas result in deteriorated streets which may require the installation of new pavement. The projects generally include curbing, paving and installing trees. The projects are often initiated through the local improvement process by the property owners or tenants. In some higher use areas where there are unusually high maintenance costs, safety issues, or there are a large number of absentee landlords, the projects may be initiated by staff.

<b>SCOPE OF WORK / DELIVERABLES</b>
-------------------------------------

Petition and Initiative based work may include:

- Balsam from 8<sup>th</sup> to Broadway
- McLean Dr from 7<sup>th</sup> to 8<sup>th</sup>
- Pandora from Templeton to Nanaimo

2008 Advance Funding was approved from RTS 6811.

The remaining funds of \$200,000 in this program are being reallocated to A-6j) Granville Reconstruction, to address funding pressures.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-5b

ORDER GROUP

CC3EA5BX1

ORDER NUMBER

30010675

2008 Available (remaining in Plan):	\$ 800,000
Funding reallocation to A6j:	<u>(\$ 200,000)</u>
Allocate in 2008	\$ 600,000
Carry forward funding (unexpended 06/07):	\$ 463,772
Plus External Funding	<u>\$ 400,000</u>
Total for 2008	\$ 1,463,772

OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED *(if applicable)*

TIMELINE

Start (mm/yy)

January, 2008

Completion (mm/yy)

December, 2008

## IMPACT OF DELAY

There are currently a number of local improvement projects planned for 2008. Failure to expedite this request will cause delays in the street construction schedule which may lead to risk management concerns and reduce service to the public.



# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-5c

ORDER GROUP

CC3EA5CX1

ORDER NUMBER

30010676

DEPARTMENT

Engineering

DIVISION / BRANCH

Streets

PROGRAM

Local Improvements

SUB-PROGRAM / PROJECT

Residential Streets - Local Improvements

DESCRIPTION

Street reconstruction and tree planting on residential streets

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$3,543,935	\$800,000	\$1,143,935	\$	\$1,600,000	\$1,600,000	\$1,112,145
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour		\$761,946	Other Levels of Government			\$
Materials		\$1,523,892	Property Owners			\$800,000
Equipment		\$761,946	Other (specify below)			
Contract		\$				\$
Overhead		\$496,151				\$
Other (specify below)						\$
			\$			\$
			\$			\$
			\$			\$
			\$3,543,935			\$800,000

**COST SAVINGS & OTHER BENEFITS -**

**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment						

**SUB-PROGRAM / PROJECT INFORMATION -**

**OBJECTIVES**

This program primarily deals with the improvement of streets in residential areas through the local improvement process. The projects generally include paving, curbing and installing trees in residential areas. Most of these projects are initiated by the property owners but some projects that have maintenance problems or unimproved flankage streets may be initiated by staff.

**SCOPE OF WORK / DELIVERABLES**

Petition and Initiative based work may include:

- Skeena from 23<sup>rd</sup> to 24<sup>th</sup>
- Balsam from 5<sup>th</sup> to 6<sup>th</sup>
- Bayswater from 6<sup>th</sup> to 8<sup>th</sup>

2008 Advance Funding was approved from RTS 6811 and RTS 6813.

2008 allocation:	\$ 1,600,000
Carry forward funding (06/07) :	\$ 1,143,935
Total for 2008	\$ 2,743,935

OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED (if applicable)

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-5c

ORDER GROUP

CC3EA5CX1

ORDER NUMBER

30010676

TIMELINE

Start (mm/yy)

January, 2008

Completion (mm/yy)

December, 2008

## IMPACT OF DELAY

There are currently a number of local improvement projects planned for 2008. Failure to expedite this request will cause delays in the street construction schedule which may lead to risk management concerns and reduce service to the public.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-5d

ORDER GROUP

CC3EA5DX1

ORDER NUMBER

30010677

DEPARTMENT

Engineering

DIVISION / BRANCH

Streets

PROGRAM

Local Improvements

SUB-PROGRAM / PROJECT

Higher Zoned Lanes - Local Improvements

DESCRIPTION

Lane Construction in industrial, commercial, multiple dwelling and higher zoned areas

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$151,000	\$66,000	\$	\$	\$85,000	\$85,000	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$39,050	Other Levels of Government		\$0
Materials			\$58,580	Property Owners		\$66,000
Equipment			\$32,540	Other (specify below)		
Contract			\$0			\$
Overhead			\$20,830			\$
Other (specify below)						\$
			\$			\$
			\$			\$
			\$			\$
			\$151,000			\$66,000

**COST SAVINGS & OTHER BENEFITS -**

--

**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment						

**SUB-PROGRAM / PROJECT INFORMATION -**

**OBJECTIVES**

This is primarily a staff initiative program which deals with the improvement of lanes in commercial, industrial and multiple dwelling areas. It addresses the need to replace lanes which are in poor condition, require increased maintenance and require improvements to bring them up to current standards. Paving of the lane avoids the long term deterioration of our infrastructure and provides improved drainage which prevents flooding.

**SCOPE OF WORK / DELIVERABLES**

Higher zoned lane projects will be initiated throughout the year as the need arises.  
 2008 allocation: \$85,000  
 Carry forward funding (06/07) : \$ 0  
 Total for 2008 \$85,000

**OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED (if applicable)**

--

**TIMELINE**

Start (mm/yy)

January, 2008

Completion (mm/yy)

December, 2008

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-5d

ORDER GROUP

CC3EA5DX1

ORDER NUMBER

30010677

## IMPACT OF DELAY

Concerns raised by the public will not be addressed and this will inconvenience the public. There may also be risk management concerns if there are any delays.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-5e

ORDER GROUP

CC3EA5EX1

ORDER NUMBER

30010678

DEPARTMENT

Engineering

DIVISION / BRANCH

Streets

PROGRAM

Local Improvements

SUB-PROGRAM / PROJECT

Residential Lanes - Local Improvements

DESCRIPTION

Lane Construction in residential areas

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$1,135,900	\$280,000	\$320,900	\$	\$535,000	\$535,000	\$221,064
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$386,206	Other Levels of Government		\$
Materials			\$295,334	Property Owners		\$280,000
Equipment			\$295,334	Other (specify below)		
Contract			\$			\$
Overhead			\$159,026			\$
Other (specify below)						\$
			\$			\$
			\$			\$
			\$			\$
			\$1,135,900			\$280,000

**COST SAVINGS & OTHER BENEFITS -**

**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment						

**SUB-PROGRAM / PROJECT INFORMATION -**

**OBJECTIVES**

This program primarily deals with the improvement of lanes in residential areas. Most of the lane projects are based on petitions by property owners. Requests are for replacement of unimproved lanes which could have problems with dust, potholes, drainage, etc.

Staff can also initiate projects if there are some difficulties with petitions due to absentee landlords, if there are any specific drainage problems or if there are increased maintenance concerns. The standard centre strip paving of the lane avoids the long term deterioration of our infrastructure and could provide improved drainage which prevents flooding.

**SCOPE OF WORK / DELIVERABLES**

Petition and Initiative based work may include:

- Lane East of Adera from 45<sup>th</sup> to 47<sup>th</sup>
- Lane East of Prince Edward from 53<sup>rd</sup> to 54<sup>th</sup>
- Lane South of 13<sup>th</sup> from Windsor to Glen Dr

2008 Advance Funding was approved from RTS 6813 .

The remaining funds of \$520,000 in this program are being reallocated to A-6j) Granville Reconstruction, to address funding pressures.

2008 available (remaining in 2008):                   \$ 950,000  
 Less Funding reallocation to A6j:                   (\$ 415,000)

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-5e

ORDER GROUP

CC3EA5EX1

ORDER NUMBER

30010678

Allocate in 2008	\$ 535,000
Carry forward funding (unexpended 06/07) :	\$ 320,900
Plus external funding:	<u>\$ 280,000</u>
Total for 2008	\$ 1,135,900

OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED *(if applicable)*

TIMELINE

Start (mm/yy)

January, 2008

Completion (mm/yy)

December, 2008

## IMPACT OF DELAY

There are currently a number of local improvement projects planned for 2008. Failure to expedite this request will cause delays in the street construction schedule which may lead to risk management concerns and reduce service to the public.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-5f

ORDER GROUP

CC3EA5FX1

ORDER NUMBER

30010679

DEPARTMENT	Engineering
DIVISION / BRANCH	Streets
PROGRAM	Local Improvements
SUB-PROGRAM / PROJECT	Drainage Prior to Paving and Advance Utility Relocations
DESCRIPTION	Drainage Improvements and utility relocations for street and lane paving projects

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$390,452	\$ 0	\$390,452	\$	\$ 0	\$ 0	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$163,990	Other Levels of Government		\$
Materials			\$70,281	Property Owners		\$
Equipment			\$101,518	Other (specify below)		
Contract			\$			\$
Overhead			\$54,663			\$
Other (specify below)						\$
			\$			\$
			\$			\$
			\$			\$
			\$390,452			\$ 0

**COST SAVINGS & OTHER BENEFITS -**

--

**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment						

**SUB-PROGRAM / PROJECT INFORMATION -**

**OBJECTIVES**

This program funds drainage improvements and utility relocations for proposed street and lane paving projects. The drainage and utility work for proposed projects requires to be initiated early to reduce lead times and avoid construction delays once projects are approved. Chronic drainage issues may be addressed at these proposed project locations regardless if the project proceeds.

**SCOPE OF WORK / DELIVERABLES**

The remaining funds of \$200,000 in this program are being reallocated to A-6j) Granville Reconstruction, to address funding pressures as outlined in Appendix 3 of this report.

2008 available (remaining in Plan): \$ 200,000  
 Funding reallocation to A6k: (\$ 200,000)  
 Allocate in 2008 0  
 Carry forward funding (Unexpended 06/07) : \$ 390,452  
 Total for 2008 \$ 390,452

The 2006/08 funding will continue to be used in this program as the need arises on various projects.

OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED (if applicable)

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-5f

ORDER GROUP

CC3EA5FX1

ORDER NUMBER

30010679

TIMELINE

Start (mm/yy)

January, 2008

Completion (mm/yy)

December, 2008

## IMPACT OF DELAY

The construction schedule for the various street and lane projects will be impacted.



# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-6j

ORDER GROUP

CC3EA6JX1

ORDER NUMBER

30010823

DEPARTMENT

Engineering

DIVISION / BRANCH

Transportation

PROGRAM

Major Projects

SUB-PROGRAM / PROJECT

Granville Street Reconstruction

DESCRIPTION

In 2002, Council approved the preparation of an urban design and streetscape concept for Granville Street that would enhance the transit and pedestrian environment. The original estimate was \$11 million. Further detailed design work estimates the construction to be \$20.8 million.

## SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$20,800,000	\$4,900,000	\$12,320,000	\$	\$3,580,000	\$3,580,000	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour		\$0	Other Levels of Government			\$4,900,000
Materials		\$0	Property Owners			\$
Equipment		\$0	Other (specify below)			
Contract		\$20,800,000				\$0
Overhead		\$0				\$
Other (specify below)						\$
		\$				\$
		\$				\$
		\$				\$
		\$20,800,000				\$4,900,000

## COST SAVINGS & OTHER BENEFITS -

## IMPACT ON OPERATING BUDGET -

Added Basic	2008	2009	2010
	\$0	\$0	\$0
Comment	Design details such as material specifications, roadway plans and grades, increased landscaping, signage street elements, lighting and escalating construction costs are all factors that dictate increased funding for future operating budgets.		

## SUB-PROGRAM / PROJECT INFORMATION -

### OBJECTIVES

The reconstruction of Granville Street would include a wide variety of changes to the sidewalk and roadway in the downtown core that would enhance the transit and pedestrian movement and vitality of the street, re-establishing it as one of downtown's most important streets.

### SCOPE OF WORK / DELIVERABLES

Granville Street is the spinal cord of public transit and pedestrian use in Vancouver. The proposed reconstruction of the roadway and sidewalk space creates a new and enhanced streetscape in the Downtown core.

This submission contributes a portion of the funding and has been reallocated from the following programs in the plan as outlined in Appendix 3 of this report:

- A-1a1 Arterial Reconstruction Non-MRN \$1,600,000
- A-1b Peat Street Reconstruction \$150,000

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-6j

ORDER GROUP

CC3EA6JX1

ORDER NUMBER

30010823

• A-1h Cut Restoration & Development	\$215,000
• A-2b Sidewalk Reconstruction	\$300,000
• A-2f Street Beautification	\$300,000
• A-4e Property Fund	\$200,000
• A-5b Higher Zoned Streets - LI	\$200,000
• A-5e Residential Lanes	\$415,000
• A-5f Drainage & Utility Relocation	<u>\$200,000</u>
<b>TOTAL:</b>	<b>\$3,580,000</b>

## PROJECT FUNDING SUMMARY

Carry Forward (inc. external funding previous yrs):	\$ 12,320,000
Transfer from other programs:	\$ 3,580,000
External Funding:	<u>\$ 4,900,000</u>
<b>Total project budget</b>	<b>\$20,800,000</b>

OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED (if applicable)

TIMELINE

Start (mm/yy)

July, 2008

Completion (mm/yy)

November, 2009

## IMPACT OF DELAY

The construction activity will be coordinated with the Canada Line construction to maximize cost efficiencies and minimize disruption and inconvenience to the businesses and general public. All work to be completed by fall of 2009 in order to re-open the Street to buses upon completion of the Canada Line stations and certainly in advance of 2010.

There could be significant financial impacts should this work not be coordinated.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-6k

ORDER GROUP

CC3EA6KX1

ORDER NUMBER

30010825

DEPARTMENT

Engineering

DIVISION / BRANCH

Transportation

PROGRAM

Major Projects

SUB-PROGRAM / PROJECT

Cambie Street Reconstruction

DESCRIPTION

Reconstruction and public realm improvements of Cambie Street following Canada Line Construction

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$9,954,319	\$2,800,000	\$4,906,852	\$797,467	\$1,450,000	\$2,247,467	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$2,687,666	Other Levels of Government		\$2,800,000
Materials			\$2,687,666	Property Owners		\$
Equipment			\$2,189,950	Other (specify below)		
Contract			\$			\$0
Overhead			\$2,389,037			\$
Other (specify below)						\$
			\$			\$
			\$			\$
			\$			\$
			\$9,954,319			\$2,800,000

**COST SAVINGS & OTHER BENEFITS -**

**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	2009	2010
	\$0	\$0	\$0
Comment			

**SUB-PROGRAM / PROJECT INFORMATION -**

**OBJECTIVES**

Reconstruct and resurface portions of Cambie Street not disrupted by Canada Line construction and capitalize on the opportunity to leverage cost savings and limit disruption by coordinating improvements to pedestrian and accessibility amenities, perform public realm enhancements, bicycle facilities, and vehicle safety along the entire Cambie Street corridor.

**SCOPE OF WORK / DELIVERABLES**

With the Canada Line construction well underway, the City is able to better assess the scope of the restoration and rehabilitation work required on this MRN corridor. The overall area impacted by the Canada Line project has not been as significant as originally anticipated resulting in an increase in scope for the City to repair aging infrastructure along Cambie Street.

The scope of work for the project includes:

- Asphalt resurfacing of Cambie Street from 2<sup>nd</sup> Ave to SW Marine Dr.
- Restoration of curbs & gutters
- Super-elevation and widening of the roadway (for future bicycle facilities) between 29<sup>th</sup> Avenue and 33<sup>rd</sup> Avenue
- Rehabilitation of curb ramps
- Rebuilding traffic signals from 2<sup>nd</sup> to Marine
- Full reconstruction of the curb lanes between 23<sup>rd</sup> Avenue and 17<sup>th</sup> Avenue

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-6k

ORDER GROUP

CC3EA6KX1

ORDER NUMBER

30010825

Improvements may include but are not limited to:

- Special pavement and sidewalk treatments
- Soft landscaping treatments, including trees, shrubbery and grass
- New planted median between 14<sup>th</sup> and 17<sup>th</sup> Avenues
- Widening for bike lanes
- Street Furniture
- Lighting, roadway and pedestrian
- Public Art
- Wayfinding and signage

Funding for this 2008 submission has been contributed /reallocated from:

• A-2b Sidewalk Reconstruction	\$600,000
• A-3d Traffic Signals	\$500,000
• A-5a Neighbourhood Traffic Calming	\$750,000
• Additional DCL	<u>\$397,467</u>
<b>TOTAL</b>	<b>\$2,247,467</b>

#### PROJECT FUNDING SUMMARY:

Carry Forward (06/07):	\$ 4,906,852
Transfer from list above in 08:	\$ 2,247,467
External Funding (this submission)	\$2,800,000
External Funding (a1 & prev yrs):	<u>\$6,450,000</u>
Total project budget	\$16,404,319

\*External funding noted on previous page is only that which is matching this budget submission - gross budget does not include this amount.

OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED (if applicable)

TIMELINE

Start (mm/yy)

January, 2008

Completion (mm/yy)

December, 2009

#### IMPACT OF DELAY

This project has already started and construction is underway. If funding for the completion of the project was not allocated, the project scope would have to be drastically reduced.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-6m

ORDER GROUP

CC3EA6MX1

ORDER NUMBER

30010827

DEPARTMENT

Engineering

DIVISION / BRANCH

Transportation

PROGRAM

Major Projects

SUB-PROGRAM / PROJECT

Downtown Streetcar Phase Zero

DESCRIPTION

Replacement of the single-track infrastructure between Granville Island and the 2<sup>nd</sup> Ave Canada Line Station to allow continued operation of the Downtown Heritage Railway and safeguard the streetcar alignment during the 1<sup>st</sup> Ave reconstruction.

## SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			2008 ADVANCE FUNDING APPROVED
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	
\$5,000,000	\$ 0	\$4,200,000	\$0	\$800,000	\$800,000	\$800,000
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour		\$	Other Levels of Government			\$0
Materials		\$0	Property Owners			\$
Equipment		\$0	Other (specify below)			
Contract		\$4,500,000				\$0
Overhead		\$500,000				\$
Other (specify below)						\$
		\$				\$
		\$				\$
		\$				\$
		\$5,000,000				\$ 0

## COST SAVINGS & OTHER BENEFITS -

## IMPACT ON OPERATING BUDGET -

Added Basic	2008	2009	2010
	\$0	\$0	\$0
Comment			

## SUB-PROGRAM / PROJECT INFORMATION -

### OBJECTIVES

Replacement of the single-track infrastructure between Granville Island and the 2<sup>nd</sup> Ave Canada Line Station to allow continued operation of the Downtown Heritage Railway and also allow staff to seek opportunities to develop the Downtown Streetcar Demonstration Project for the 2010 Olympic and Paralympic Winter Games using modern streetcar equipment and infrastructure. \$1.0 of the total funding will be to safeguard the streetcar alignment during the 1<sup>st</sup> Ave reconstruction.

### SCOPE OF WORK / DELIVERABLES

This will complete the funding for the project with the majority of the funding in the 2006/07 capital plan with funding sources as outlined in RTS 7115. Work to be completed with this portion of the funding include consulting and project management with regards to the detailed design as well as a portion of the safeguarding component.

### OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED (if applicable)

### TIMELINE

Start (mm/yy)

May, 2008

Completion (mm/yy)

December, 2009

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-6m

ORDER GROUP

CC3EA6MX1

ORDER NUMBER

30010827

## IMPACT OF DELAY

Limited time to ensure demonstration project was in place for the 2010 Winter Games.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-6n

ORDER GROUP

CC3EA6NX1

ORDER NUMBER

30010828

DEPARTMENT

Engineering

DIVISION / BRANCH

Transportation

PROGRAM

Pedestrians & Bicycles

SUB-PROGRAM / PROJECT

Central Valley Greenway

DESCRIPTION

Design and Construction of the Central Valley Greenway

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$10,123,000	\$1,258,000	\$6,765,000	\$475,000	\$1,625,000	\$2,100,000	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$0	Other Levels of Government		\$1,258,000
Materials			\$0	Property Owners		\$0
Equipment			\$0	Other (specify below)		
Contract			\$10,123,000	0		\$0
Overhead			\$			\$
Other (specify below)						\$
			\$			\$
			\$			\$
			\$			\$
			\$10,123,000			\$1,258,000

**COST SAVINGS & OTHER BENEFITS -**

**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	2009	2010
	\$0	\$80,760	\$67,980
Comment	With increased landscaping, signage, road marking and lighting increased funding is required for future operating budgets.		

**SUB-PROGRAM / PROJECT INFORMATION -**

**OBJECTIVES**

This submission is to request additional funding to complete the project. Cost escalations have resulted in the need for further funding of \$2.1 million. Funding of \$1,300,000 is being reallocated from A-2e) Bicycle Networks and \$800,000 from A-2h) Greenways (\$325,000 BCB and \$475,000 DCL). This project fits within the intent of the plan for these funds as it is a greenway that provides for a mixed use path for cyclists.

**SCOPE OF WORK / DELIVERABLES**

This 7-km section of greenway is part of a planned 25-km regional Greenway/Bikeway which will extend from False Creek to Westminster Quay on the New Westminster waterfront. The goal of the project is to provide a direct, flat, safe and convenient route for non-motorized transportation along a strong desire line that is underserved at present. The project completes the greenway begun by the City in 2002 as part of the Millennium SkyTrain line, connecting the False Creek Flats and Boundary Road and was part of the 2004 Urban Transportation Showcase Program.

Funding contribution for this 2008 submission from:

A-2e Bicycle Network: \$1,300,000  
A-2h Greenways: \$ 800,000  
**TOTAL \$2,100,000**

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

A-6n

ORDER GROUP

CC3EA6NX1

ORDER NUMBER

30010828

## PROJECT FUNDING SUMMARY

Carry Forward (2004 UTS inc external funding): \$ 6,765,000  
Transfer from list above in 08: \$ 2,100,000  
External Funding 2008: \$ 1,258,000  
Total project budget: \$ 10,123,000

A separate report will go to Council on May 22, 2008.

OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED *(if applicable)*

TIMELINE

Start (mm/yy)

May, 2008

Completion (mm/yy)

November, 2008

## IMPACT OF DELAY

This project is to begin in May 2008, without this allocation the project would not have the required funds.



## 2008 BASIC CAPITAL BUDGET SUMMARY

<i>2008 Capital Budget &amp; Funding Allocation</i>								
Ref #	Program / Sub-program / Projects	Estimated 2008 Gross Budget (C)	External Funding (D)	DCL/CAC Funding (E)	Revenue/ Debenture Funding (F = C - D - E)	2008 Basic Capital Budget Request (G = E + F)	Carried Forward Funding (H)	2008 Funding + Carry Forward (J = G + H)
B2	UNDERGROUND CABLE REPLACEMENT	\$200,000			\$200,000	\$200,000	\$0	\$200,000
B3	UNDERGROUND CABLE EXPANSION	\$650,000			\$650,000	\$650,000	\$0	\$650,000
B4	RADIO SYSTEM UPGRADE	\$0			\$0	\$0		\$0
	<b>TOTAL - 2008 COMMUNICATIONS CAPITAL BUDGET</b>	<b>\$850,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$850,000</b>	<b>\$850,000</b>	<b>\$0</b>	<b>\$850,000</b>

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

B2

ORDER GROUP

CC3EB2X1

ORDER NUMBER

30010680

DEPARTMENT

Engineering

DIVISION / BRANCH

Transportation/ Traffic & Electrical Operations Branch

PROGRAM

Communications

SUB-PROGRAM / PROJECT

Underground Cable Replacement

DESCRIPTION

Program for replacing ageing copper and upgrading fibre cable

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$200,000	\$ 0	\$	\$	\$200,000	\$200,000	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$58,500	Other Levels of Government		\$
Materials			\$90,000	Property Owners		\$
Equipment			\$31,500	Other ( <i>specify below</i> )		
Contract			\$			\$
Overhead			\$20,000			\$
Other ( <i>specify below</i> )						\$
			\$			\$
			\$			\$
			\$			\$
			\$200,000			\$ 0

**COST SAVINGS & OTHER BENEFITS -**

**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment						

**SUB-PROGRAM / PROJECT INFORMATION -**

**OBJECTIVES**

Funding is required to replace worn out copper cable with fibre cable. The program provides service for replacing and upgrading existing telephone circuits and cable, as well as service for the TSMS controlling the traffic signal system. The program assists Traffic Management and Information Services with traffic monitoring and surveillance as well as in improved telephone service for voice communications and speed for data communications.

**SCOPE OF WORK / DELIVERABLES**

This funding represents replacement of approximately 5% of the cable plant and related infrastructure. Locations are selected in conjunction with Information Services and telecommunications companies.

**OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED (*if applicable*)**

**TIMELINE**

Start (mm/yy)

January, 2008

Completion (mm/yy)

December, 2008

**IMPACT OF DELAY**

The cable plant is ageing and requires ongoing replacement and upgrading. Delays increase service failures in communications due to cable breakdowns.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

B3

ORDER GROUP

CC3EB3X1

ORDER NUMBER

30010681

DEPARTMENT

Engineering

DIVISION / BRANCH

Transportation/ Traffic & Electrical Operations Branch

PROGRAM

Communications

SUB-PROGRAM / PROJECT

Underground Communications - Cable Network Expansion

DESCRIPTION

Program for cable network expansion with fibre optic based service

## SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$650,000	\$ 0	\$	\$	\$650,000	\$650,000	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$195,000	Other Levels of Government		\$
Materials			\$240,500	Property Owners		\$
Equipment			\$149,500	Other (specify below)		
Contract			\$			\$
Overhead			\$65,000			\$
Other (specify below)						\$
			\$			\$
			\$			\$
			\$			\$
			\$650,000			\$ 0

## COST SAVINGS & OTHER BENEFITS -

Cost recovery in 18 months on the cost of installation versus using leased lines. In addition this provides a more reliable, secure network, improvements in TSMS networks, no limitations on bandwidth use, fibre-optics system in place to provide VOIP telephone service and the ability to handle the City data storage site as well as the demands anticipated by the 2010 Olympic games

## IMPACT ON OPERATING BUDGET -

Added Basic	2008	2009	2010
	\$0	\$0	\$0
Comment			

## SUB-PROGRAM / PROJECT INFORMATION -

### OBJECTIVES

This project provides fibre optic based service to new sites. It assists a joint private/ public partnership with other telecomm service providers to expand City owned fibre network. This program funds the expansion of conduit and fibre cable to new sites and buildings which provide service for TMS camera installations, additional telephone circuits and security camera monitoring. In conjunction with Information Services, planning to expand fibre optics is coordinated with other telecomm providers (Urban Networks, Bell Canada).

### SCOPE OF WORK / DELIVERABLES

We have completed installations to 116 sites, while 150 remain to be done. This will provide funding for approximately 40 sites to be connected in 2008.

### OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED (if applicable)

### TIMELINE

Start (mm/yy)

January, 2008

Completion (mm/yy)

December, 2008

### IMPACT OF DELAY

Projects that are planned to expand fibre optic service with other telecomm providers and Information Services would be unfunded. This would result in delays of service to new sites and buildings which would then have to lease lines from other telecomm providers.

## 2008 BASIC CAPITAL BUDGET SUMMARY

<i>2008 Capital Budget &amp; Funding Allocation</i>								
Ref #	Program / Sub-program / Projects	Estimated 2008 Gross Budget (C)	External Funding (D)	DCL/CAC Funding (E)	Revenue/ Debenture Funding (F = C - D - E)	2008 Basic Capital Budget Request (G = E + F)	Carried Forward Funding (H)	2008 Funding + Carry Forward (J = G + H)
C1	RENOVATE AND REPLACE PLANT	\$1,648,000			\$1,648,000	\$1,648,000	\$0	\$1,648,000
C2	NEW LOCAL IMPROVEMENTS	\$278,000	\$228,000		\$50,000	\$50,000		\$50,000
<b>TOTAL - 2008 STREET LIGHTING CAPITAL BUDGET</b>		<b>\$1,926,000</b>	<b>\$228,000</b>	<b>\$0</b>	<b>\$1,698,000</b>	<b>\$1,698,000</b>	<b>\$0</b>	<b>\$1,698,000</b>



# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

C1

ORDER GROUP

CC3EC1X1

ORDER NUMBER

30010682

This is an ongoing program for the replacement of ageing street lighting conduit. During sidewalk construction or other roadway construction, opportunities are created to upgrade ageing street lighting conduit, rather than digging up the sidewalks to replace the conduit. The life expectancy of conduit is tied to the life expectancy of the sidewalks, which has been generally accepted as 50 years. The scope of the program is driven by the work done under the Streets program. This budget represents approximately 7 km or approximately 40 city blocks.

C1B) Facilities Management                      \$229,000                      CC3EC1B

This is used for managing the street lighting plant; it includes investigating the potential use of new lighting products, addressing safety concerns, technical standards, inspections and the development of computerized and other tools to assist in the effective management and development of our capital programs and plant.

C1C) Infill Lighting                                  \$150,000                      CC3EC1C

During roadway construction, an opportunity is created to add additional lighting in areas which are below recommended guidelines. Typically it has been on north/south running streets which have fewer lights. This ongoing program provides funding to take advantage of this opportunity. In addition, this ongoing program funds lighting in areas requested by the Police department for areas where they feel lighting would improve safety and security.

OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED *(if applicable)*

<b>TIMELINE</b>	Start (mm/yy)	January, 2008	Completion (mm/yy)	December, 2008
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**IMPACT OF DELAY**

This program involves upgrades and renovations to many aspects of the Street Lighting Plant. These include conduit replacement, splices along trolley routes, rusty pole replacements, service panel replacements, embedded pole replacements, luminaire replacements and improved lighting levels. The program objectives are to ensure that the existing plant is upgraded and maintained to a level that provides safe and effective operation to meet the needs of the City of Vancouver and its' residents. Recently maintenance costs have been increasing and we have witnessed deterioration in the plant. Delays would mean an increased rate of deterioration and possible safety hazards to the public due to failing infrastructure.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

C1A5

ORDER GROUP

CC3EC1A

ORDER NUMBER

DEPARTMENT

Engineering

DIVISION / BRANCH

Transportation/ Traffic & Electrical Services

PROGRAM

Street Lighting

SUB-PROGRAM / PROJECT

Rusty Pole Program

DESCRIPTION

Replacement of rusty street light poles

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$728,000	\$ 0	\$	\$	\$728,000	\$728,000	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$336,000	Other Levels of Government		\$
Materials			\$150,000	Property Owners		\$
Equipment			\$126,000	Other (specify below)		
Contract			\$			\$
Overhead			\$116,000			\$
Other (specify below)						\$
			\$			\$
			\$			\$
			\$			\$
			\$728,000			\$ 0

**COST SAVINGS & OTHER BENEFITS -**

**IMPACT ON OPERATING BUDGET -**

	2008	2009	2010
Added Basic	\$0	\$0	\$0
Comment			

**SUB-PROGRAM / PROJECT INFORMATION -**

**OBJECTIVES**

This program's objectives are to ensure that the existing street lighting plant is upgraded and maintained to a level that provides safe and effective operation to meet the needs of the City of Vancouver and its' residents. The estimated life of a pole is typically 50 years, but this varies according to its physical construction and location. This is an ongoing program which incorporates inspection and replacement of street lighting poles.

**SCOPE OF WORK / DELIVERABLES**

There are approximately 25,000 anchor based street lighting poles in the City, in addition to decorative light poles, lights on trolley poles and lane lights. This budget represents the replacement of 370 poles.

**OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED (if applicable)**

**TIMELINE**

Start (mm/yy)

January, 2008

Completion (mm/yy)

December, 2008

**IMPACT OF DELAY**

The infrastructure is aging and major portions of it need upgrading. If a pole is not replaced in a timely manner, there is an increased risk that the pole might fall down causing injuries or property damage. Delays increase the probability that citizens will be exposed to hazards due to falling poles or energized poles.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

C1A7

ORDER GROUP

CC3EC1A

ORDER NUMBER

DEPARTMENT

Engineering

DIVISION / BRANCH

Transportation/ Traffic & Electrical Services

PROGRAM

Street Lighting

SUB-PROGRAM / PROJECT

Service Panel Replacement

DESCRIPTION

Replacement of corroded service panels

## SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$41,000	\$ 0	\$	\$	\$41,000	\$41,000	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$17,000	Other Levels of Government		\$
Materials			\$11,500	Property Owners		\$
Equipment			\$6,000	Other (specify below)		
Contract			\$			\$
Overhead			\$6,500			\$
Other (specify below)						\$
			\$			\$
			\$			\$
			\$			\$
			\$41,000			\$ 0

## COST SAVINGS & OTHER BENEFITS -

## IMPACT ON OPERATING BUDGET -

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment						

## SUB-PROGRAM / PROJECT INFORMATION -

### OBJECTIVES

Service panels are used to distribute power to street lighting circuits. This is an ongoing program to replace service panels which are corroded and have exceeded their service life. The program includes inspections and replacements of the worst panels.

### SCOPE OF WORK / DELIVERABLES

There are 1265 service panels in the City that distribute power to street lighting circuits. This budget represents the replacement of 8 of the worst service panels.

### OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED (if applicable)

### TIMELINE

Start (mm/yy)

January, 2008

Completion (mm/yy)

December, 2008

### IMPACT OF DELAY

The infrastructure is ageing and needs upgrading. If service panels are not upgraded in a timely manner, there is an increased risk that corroded service panels will expose the public to live circuits.



# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

C1B

ORDER GROUP

CC3EC1B

ORDER NUMBER

DEPARTMENT

Engineering

DIVISION / BRANCH

Transportation/ Traffic & Electrical Services

PROGRAM

Street Lighting

SUB-PROGRAM / PROJECT

Facilities Management

DESCRIPTION

This program funds costs associated with managing the street lighting plant

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$229,000	\$ 0	\$	\$	\$229,000	\$229,000	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$96,500	Other Levels of Government		\$
Materials			\$64,500	Property Owners		\$
Equipment			\$31,000	Other (specify below)		
Contract			\$			\$
Overhead			\$37,000			\$
Other (specify below)						\$
			\$			\$
			\$			\$
			\$			\$
			\$229,000			\$ 0

**COST SAVINGS & OTHER BENEFITS -**

**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment						

**SUB-PROGRAM / PROJECT INFORMATION -**

**OBJECTIVES**

This program funds staff and associated costs to manage the street lighting plant including the potential use of new lighting products and technical standards and the development of computerized and other tools to assist in the effective management and development of our capital programs.

**SCOPE OF WORK / DELIVERABLES**

This program is used for managing the street lighting plant; it includes investigating the potential use of new lighting products, addressing safety concerns, technical standards, inspections and the development of computerized and other tools to assist in the effective management and development of our capital programs and plant.

**OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED (if applicable)**

Streets

**TIMELINE**

Start (mm/yy)

January, 2008

Completion (mm/yy)

December, 2008

**IMPACT OF DELAY**

This would lead to an overall increase in the cost of maintaining and upgrading street lighting plant since the City would fall behind in plant development.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

C1C

ORDER GROUP

CC3EC1C

ORDER NUMBER

DEPARTMENT

Engineering

DIVISION / BRANCH

Transportation/ Traffic & Electrical Services

PROGRAM

Street Lighting

SUB-PROGRAM / PROJECT

Infill Lighting

DESCRIPTION

Adds lighting in areas which are below current guidelines or in areas requested by the Police Department

## SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$150,000	\$ 0	\$	\$	\$150,000	\$150,000	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$63,000	Other Levels of Government		\$
Materials			\$42,000	Property Owners		\$
Equipment			\$21,000	Other (specify below)		
Contract			\$			\$
Overhead			\$24,000			\$
Other (specify below)						\$
			\$			\$
			\$			\$
			\$			\$
			\$150,000			\$ 0

## COST SAVINGS & OTHER BENEFITS -

## IMPACT ON OPERATING BUDGET -

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment						

## SUB-PROGRAM / PROJECT INFORMATION -

### OBJECTIVES

During roadway construction, an opportunity is created to add additional lighting in areas which are below recommended guidelines. Typically it has been on north/south running streets which have fewer lights. This ongoing program provides funding to take advantage of this opportunity. In addition, this ongoing program funds lighting in areas requested by the Police department for areas that they feel lighting would improve safety and security

### SCOPE OF WORK / DELIVERABLES

Each year we review Streets Design's plans for curb and gutter installations and select locations to upgrade lighting to recommended guidelines. This budget represents the addition of approximately 200 lights. The cost and therefore the number of lights installed varies depending on the location.

### OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED (if applicable)

Streets

### TIMELINE

Start (mm/yy)

January, 2008

Completion (mm/yy)

December, 2008

### IMPACT OF DELAY

A delay would mean a loss in opportunity to add lighting as substantial cost savings to the City.

## 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

C2

ORDER GROUP

CC3EC2X1

ORDER NUMBER

30010683

DEPARTMENT

Engineering

DIVISION / BRANCH

Transportation/ Traffic & Electrical Operations Branch

PROGRAM

Street Lighting

SUB-PROGRAM / PROJECT

Local Improvements

DESCRIPTION

This is an ongoing program to address local improvement petitions and initiatives

### SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$278,000	\$228,000	\$	\$	\$50,000	\$50,000	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$94,000	Other Levels of Government		\$
Materials			\$118,000	Property Owners		\$228,000
Equipment			\$24,000	Other (specify below)		
Contract			\$			\$
Overhead			\$42,000			\$
Other (specify below)						\$
			\$			\$
			\$			\$
			\$			\$
			\$278,000			\$228,000

### COST SAVINGS & OTHER BENEFITS -

### IMPACT ON OPERATING BUDGET -

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment						

### SUB-PROGRAM / PROJECT INFORMATION -

#### OBJECTIVES

Funding is to address ongoing local improvements for street, lane and pedestrian lighting which will be advanced in response to petition requests. The funding is used by BIAs and other commercial groups as seed money for these types of projects though the local improvement process. This program helps create a more secure and pleasant environment for pedestrians and residents.

#### SCOPE OF WORK / DELIVERABLES

Projects will be advanced to the Court of Revision scheduled throughout 2008.

#### OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED (if applicable)

#### TIMELINE

Start (mm/yy)

January, 2008

Completion (mm/yy)

December, 2008

#### IMPACT OF DELAY

Projects that are approved through the Court of Revision would be unfunded.

## 2008 BASIC CAPITAL BUDGET SUMMARY

<i>2008 Capital Budget &amp; Funding Allocation</i>								
Ref #	Program / Sub-program / Projects	Estimated 2008 Gross Budget (C)	External Funding (D)	DCL/CAC Funding (E)	Revenue/ Debenture Funding (F = C - D - E)	2008 Basic Capital Budget Request (G = E + F)	Carried Forward Funding (H)	2008 Funding + Carry Forward (J = G + H)
<b>D1</b>	<b>System Replacement/Separation</b>							
	1) Main Sewer Reconstruction	\$14,823,000			\$14,823,000	\$14,823,000	\$2,244,400	\$17,067,400
	2) Connection and Manhole	\$850,000			\$850,000	\$850,000	\$80,900	\$930,900
	3) Local Repairs & Catch Bains and Spur Reconstruction	\$400,000	\$200,000		\$200,000	\$200,000	\$541,600	\$741,600
	4) Upgrade and Replacement of Pump Stations	\$4,307,000			\$4,307,000	\$4,307,000	\$4,219,800	\$8,526,800
	<b>Subtotal - System Replacement/Separation</b>	<b>\$20,380,000</b>	<b>\$200,000</b>	<b>\$0</b>	<b>\$20,180,000</b>	<b>\$20,180,000</b>	<b>\$7,086,700</b>	<b>\$27,266,700</b>
<b>D2</b>	<b>System Management</b>							
	1) Television Inspection	\$201,000			\$201,000	\$201,000	\$117,900	\$318,900
	2) Investigation for Design	\$150,000			\$150,000	\$150,000		\$150,000
	<b>Subtotal - System Management</b>	<b>\$351,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$351,000</b>	<b>\$351,000</b>	<b>\$117,900</b>	<b>\$468,900</b>
<b>D3</b>	<b>Other Pollution Abatement</b>							
	1) Liquid Waste Management Plan	\$0			\$0	\$0	\$50,000	\$50,000
	2) Sewer Separation on Private Property	\$546,000			\$546,000	\$546,000	\$214,000	\$760,000
	3) Still Creek Environmental Initiatives	\$48,000			\$48,000	\$48,000	\$52,000	\$100,000
	<b>Subtotal - Other Pollution Abatement</b>	<b>\$594,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$594,000</b>	<b>\$594,000</b>	<b>\$316,000</b>	<b>\$910,000</b>
	<b>TOTAL before Cost Recovery Program</b>	<b>\$21,325,000</b>	<b>\$200,000</b>	<b>\$0</b>	<b>\$21,125,000</b>	<b>\$21,125,000</b>	<b>\$7,520,600</b>	<b>\$28,645,600</b>
<b>D 5</b>	<b>Public Sewer Connections</b>	<b>\$10,000,000</b>	<b>\$10,000,000</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>D 6</b>	<b>Sewers - Other Projects</b>							
	1) Contribution to Yards	\$500,000			\$500,000	\$500,000	\$0	\$500,000
	<b>Subtotal - Other Projects</b>	<b>\$500,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$500,000</b>	<b>\$500,000</b>	<b>\$0</b>	<b>\$500,000</b>
	<b>TOTAL - 2008 SEWERS CAPITAL BUDGET</b>	<b>\$31,825,000</b>	<b>\$10,200,000</b>	<b>\$0</b>	<b>\$21,625,000</b>	<b>\$21,625,000</b>	<b>\$7,520,600</b>	<b>\$29,145,600</b>

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

D-1

ORDER GROUP

CC3ED1

ORDER NUMBER

DEPARTMENT

ENGINEERING SERVICES

DIVISION / BRANCH

WATER & SEWERS

PROGRAM

Sewers & Drainage

SUB-PROGRAM / PROJECT

System Replacement / Separation

DESCRIPTION

This program consists of the renewal of sewer mains, connections, manholes, street drains and pump stations.

## SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$27,266,700	\$ 0	\$7,086,700	\$	\$20,180,000	\$20,180,000	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$5,757,000	Other Levels of Government		\$
Materials			\$5,210,400	Property Owners		\$
Equipment			\$4,669,300	Other (specify below)		
Contract			\$3,535,000			\$
Overhead			\$2,222,100			\$
Other (specify below)						\$
Street Cuts			\$2,211,100			\$
Miscellaneous			\$3,661,800			\$
			\$			\$
			\$27,266,700			\$ 0

## COST SAVINGS & OTHER BENEFITS -

Optimizes sewer maintenance budgets and reduces flow based GVS&DD levies.

## IMPACT ON OPERATING BUDGET -

Added Basic	2008	2009	2010
	\$0	\$0	\$0
Comment			

## SUB-PROGRAM / PROJECT INFORMATION -

### OBJECTIVES

To execute the strategic plan of continuous sewer replacement that spreads the costs of capital work more evenly among taxpayers over time and allows staff to maintain a stable, well-trained labour force in accordance with the City's goal of replacing 1% of the system annually based on an anticipated 100 year life for the new pipes being constructed. This strategic plan was approved by Council in 1981 as part of the Sewers Long Range Plan and reaffirmed by Council in 1991 as part of the City's Design and Service Level Standards. It was also approved in each subsequent Capital Plan and reaffirmed when Council endorsed the Liquid Waste Management Plan (LWMP) submission to the Province in 2000 and 2001. The City's commitments under the regional LWMP is to eliminate all combined sewer overflows by the year 2050.

### SCOPE OF WORK / DELIVERABLES

This program is effective in preventing serious collapse of sewers and in addressing major flooding problems in the City. It also has a major environmental benefit by addressing Vancouver's sewage overflows to our local waters. As this program progresses, sewage overflows will be reduced and eventually eliminated. It complies with Provincial policy and objectives for combined sewer overflow reduction and elimination, and are necessary to meet our commitments under the LWMP.

Vancouver's first sewers were constructed in about 1890, and the system has continued to expand over the last century to its present configuration. The first significant replacement of our original sewers began in the early 1960s. Throughout the 1970s, higher levels of annual replacement of up to 2% of the system occurred. During this busy period, for example, much of the original West End sewers were

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reconstructed.

The table below summarizes the age of our sewer system:

<u>Age of the Sewers System</u>			
<u>Year of Construction</u>	<u>Length (kilometres)</u>	<u>Length (%)</u>	<u>Age*</u>
Pre-1930	612	30	over 76
1930-1959	514	26	47-76
1960 to date	885	44	0-46

\* many sewers built prior to 1930 have unknown ages, particularly those located in the former municipalities of South Vancouver and Point Grey

In selecting sewers to be replaced in our annual program, a number of factors are considered including the age, condition and capacity of the pipes, flooding risk reduction and pollution abatement benefits. Information from television inspections, flow monitoring, and maintenance programs is used to identify sewers that need to be rebuilt due to physical deterioration or inadequate service. Engineering analysis such as computer flow modelling is also used to assess the system's capacity.

In conjunction with the replacement program, the sewer infrastructure is being changed from a combined system (single pipes which carry storm water and sewage mixed together) to a separated system (separate storm pipes and sanitary pipes). This reduces combined sewage overflows by either concentrating the sanitary sewage in the lines discharging to the sewage treatment plant or relieving the system by redirecting storm water from sanitary lines into the surrounding waters. Sewage that overflows into the local waters increases fecal coliform levels and other pollutants that can affect human health and marine life.

The City has also received funding under the Canada-B.C. Infrastructure Program to accelerate sewer separation in order to reduce combined sewer overflows in a shorter time frame. The Federal, Provincial and City governments equally fund these programs. This program started in May 2003 and was completed at the end of 2007. Senior Government funding of approximately \$2.9 million remains receivable at the end of 2007 and is expected to be received in 2008.

Also included in the system replacement program are funds for the renewal of sewer connections and manholes, repairs of catch basins and spurs, and the upgrading or replacement of pump stations

An additional source of funds for system replacement is sewer connection permit fees. Based on the level of building construction in the recent years, staff anticipate that fees of between \$7 million and \$10 million will be collected annually during the 2006 - 2008 Capital Plan. The City has approximately 100,000 sewer connections totalling over 900 kilometres in length, and these funds are used to rebuild the line between the main sewer and the property being redeveloped.

## 1. Main Sewer Reconstruction

2008 Gross Budget:	\$ 17,067,400
Less 2006-2007 Funding Carried Forward	\$(2,244,400)
From Senior Governments:	\$ 0
<b>2008 Basic Capital Budget Request:</b>	<b>\$ 14,823,000</b>

Summary of the 11 Basin Areas and their estimated 2008 Basic Capital Budget Request:

Basin Description	2008 Estimates
Fraser River	\$ 4,500,000
West Point Grey	\$ 100,000
Balaclava	\$ 2,500,000
Kitsilano/S. Granville	\$ 700,000
Cambie/Heather	\$ 4,300,000
Terminal Avenue	\$123,000
Downtown Peninsula	\$500,000
Grandview-Woodland	\$1,100,000
Hastings-Sunrise	\$ 200,000
China Creek	\$700,000
Still Creek	\$100,000
Canada BC Infrastructure Program (City + Senior Governments)	\$ 0
<b>Total Budget Request:</b>	<b>\$ 14,823,000</b>

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1A Fraser River \$ 4,500,000 CC3ED11AX1 Order Number: 30010704

The Fraser River drainage area is comprised of eight distinct basins covering approximately 10,000 acres of Vancouver, between Burnaby and the UEL, on the south slope of the City. The original sewers were built at various times starting in the 1910's (on the west side and in Marpole), right up to present day (Fraser Lands). Previous Capital Plans have provided for the replacement of many of the old combined sewers in Marpole and undersized and/or deteriorated sewers in miscellaneous basins. The long range plan for sewer replacement anticipates that the majority of the remaining sewers will need to be replaced in the first half of this century. An increase in the funding allowance has been made for the 2006-2008 Capital Plan to rebuild some of the original sewers in this basin.

More work has been required during this Plan than originally anticipated due to unexpected flooding problems and advancement of the schedule for several street repaving projects requiring main sewer replacement. It is estimated that a budget allocation of \$4,500,000 will be required for this basin in 2008.

The following major replacement jobs are planned for 2008:

- 1) L/E Main; 54<sup>th</sup> - 57<sup>th</sup>
- 2) 57<sup>th</sup> Ave; Prince Edward - L/W Fraser
- 3) Easement west of Knight; 59<sup>th</sup> - 61<sup>st</sup>
- 4) W. 49<sup>th</sup> Ave; Wiltshire-Laburnum

1B West Point Grey \$ 100,000 CC3ED11BX1 Order Number: 30010705

The 1,300 acre West Point Grey basin lies generally north of 22nd Avenue, between the UEL and Waterloo Street, and is tributary to English Bay. The original sewers were built between 1908 and the mid 1920's, and will need to be replaced over the next 15 years. The current plan is to continue the sewer reconstruction work in this area started in the late 1980's.

For 2008, only limited funds will be required as several major 2008 sewer projects have been delayed until the 2009-11 Plan in conjunction with scheduled repaving of the area's concrete streets. These concrete street projects were originally planned for 2006-08, but have now been deferred to the next Plan.

1C Balaclava \$ 2,500,000 CC3ED11CX1 Order Number: 30010706

The Balaclava sewer catchment drains more than 2,300 acres of the City's north slope parallel to Puget and Valley Drive. The oldest sewers in the basin, north of 12th Avenue and in Shaughnessy, were built between 1910 and 1916 and are in primarily fair to poor condition. Sewers in the remainder of the area were built during construction programs from the 1920's to the 1960's and will be replaced over the next 50 years. Reconstruction of the most deteriorated sewers began during the 1991-93 Plan. The 2006 - 2008 Capital Plan had an increased funding provision for sewer replacements in this basin due to a number of areas that are prone to backups from tree roots. However, work has proceeded at a slower rate than anticipated due to deferrals in the street repaving schedule.

For 2008, several major projects are scheduled that were originally planned for summer 2007, but were deferred due to job action. It is estimated that a budget allocation of \$2,500,000 will be required for this basin in 2008.

The following major replacement work are planned for 2007:

- 1) 12<sup>th</sup>e Ave; Arbutus-MacDonald
- 2) Marguerite; 33<sup>rd</sup>-35<sup>th</sup>
- 3) 33<sup>rd</sup> Ave; Pine-Marguerite
- 4) 18<sup>th</sup> Ave; MacDonald-MacKenzie
- 5) 10<sup>th</sup> Ave; Mackenzie-MacDonald
- 6) 11<sup>th</sup> Ave; MacKenzie-Trafalgar
- 7) Maple; Quilchena-35<sup>th</sup> Ave

1D Kitsilano-South Granville \$700,000 CC3ED11DX1 Order Number: 30010707

This 940 acre area drains to English Bay and False Creek. The remaining original sewers were constructed between 1907 and 1914 and are in mostly fair to poor condition. Since its original construction, this area has redeveloped to become a dense multiple dwelling district with most of the remaining area comprised of large scale commercial developments. As a result, most of the remaining original sewers are generally undersized for present developments. In addition, combined sewer overflows from this basin discharge to receiving waters serving large numbers of various recreational users. Due to these factors, a program to replace the original sewer system was initiated in 1984.

Our original work plan scheduled the majority of the sewer main construction work in this capital plan for 2007 in conjunction with proposed street paving. However, due to delays in the paving schedule, some of these projects will now proceed in 2008. Staff recommend that \$700,000 be allocated to this basin in 2008 for the following sewer replacement jobs in addition to the unspent funds approved in 2007.

- 1) 12<sup>th</sup> Ave; Burrard - Cypress
- 2) Cypress; 12<sup>th</sup> - L/S 14<sup>th</sup>
- 3) 13<sup>th</sup> Ave; Burrard - Cypress
- 4) L/S 4<sup>th</sup> Ave; Burrard-Arbutus

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1E Cambie-Heather \$4,300,000 CC3ED11EX1 Order Number: 30010708

This large 2,160 acre basin drains the north slope of the City and extends along the entire south side of False Creek. The original sewers in this area were constructed at various times over a 50 year period beginning around 1900. Many of the oldest sewers were replaced as part of the south False Creek, Fairview Slopes and Fairview Heights redevelopments. Complete replacement of the remaining original sewers is planned over the next 40 years. Reconstruction during the 2006-2008 Capital Plan has focussed on those areas which have been rezoned and redeveloped in recent years as well as on the most deteriorated pipes.

A recent reassessment of the sewer main replacement work plan in this basin revealed that it is beneficial to accelerate the main sewer pipe separation work in the Southeast False Creek area in coordination with an accelerated sewer separation on private property program in order to achieve the maximum environmental benefits in the False Creek area. Therefore, much of the work that was originally contemplated for the 2009-2011 Capital Plan has been moved to this Plan and the budget increased accordingly. Staff recommend \$4,300,000 be allocated to this basin in 2008.

The following major replacement works are planned for 2008:

- 1) Alberta; 3<sup>rd</sup>-6<sup>th</sup> Ave
- 2) Columbia; 3<sup>rd</sup>-6<sup>th</sup> Ave
- 3) Cambie; 10<sup>th</sup>-12<sup>th</sup> Ave

1F Terminal Avenue \$ 123,000 CC3ED11FX1 Order Number: 30010709

The Terminal Avenue outfall, located at the east side of False Creek, drains over 900 acres of the city. The drainage basin generally is bounded by 15th Avenue, Pender Street, Clark Drive and False Creek. The basin contains one of the oldest industrial areas of Vancouver and many of the original sewers have been replaced in the last 25 years. Subsequent to the 2006-2008 Capital Plan approval, a number of sewer replacements jobs previously not planned were identified for 2006 in coordination with street paving and accordingly \$1,100,000 was allocated to this basin in 2006 and an additional \$150,000 in 2007. However, additional projects in 2007 were undertaken in 2007, so while there are no new jobs planned for 2008, some funding is required to cover the unanticipated work in 2007.

1G Downtown Peninsula \$500,000 CC3ED11GX1 Order Number: 30010710

Reconstruction of the original sewer systems of the 1,300 acre Downtown Peninsula is almost complete. This program originally began approximately 30 years ago with the rezoning of the West End and continues during this Plan. Funding for this basin was increased for the 2006-2008 Capital Plan as more paving and sewer work activities were expected with completion of the Downtown Transportation Plan. The 2006 work plan for this basin included the relocation of the City's sewer main out of the Woodward's site (\$1,090,000) and a couple of minor replacement works (\$260,000). The last major project scheduled for this plan is pipe bursting a deteriorated storm sewer along Granville St in advance of the Granville St redesign project and a few smaller projects. Therefore, a \$500,000 budget allocation is required for 2008.

1H Grandview-Woodlands \$ 1,100,000 CC3ED11HX1 Order Number: 30010711

The original sewer system in the Grandview/Woodlands area was constructed around 1910 and today serves mostly dense industrial, commercial and multiple dwelling developments. This 1,630 acre basin is generally between Clark Drive and Nanaimo Street, and north of the Grandview Cut draining to Burrard Inlet. The area is also tributary to the Clark Drive outfall which is the largest combined sewer overflow point in the city. Sewer separation in this area is a high priority as it provides pollution reduction benefits at Clark Drive. In 2008, a major sewer project is scheduled along Victoria Drive in conjunction with repaving. Staff recommend \$1,100,000 be allocated to this basin in 2008.

1I Hastings-Sunrise \$ 200,000 CC3ED11IX1 Order Number: 30010712

The 1,560 acre Hastings Sunrise basin lies east of Nanaimo Street and generally north of First Avenue and drains north to Burrard Inlet. Almost all of the original sewers, which were built at various times between about 1900 and the late 1920's, are still in service today. The sewer's long range plan projects the replacement of sewers in this area to be carried out over a 20 year period. Work in this area will reduce and eventually eliminate combined sewer overflows at the Cassiar outfall as well as provide environmental benefits at the Clark Drive outfall.

In coordination with paving projects in 2008, a sewer replacement job on Hastings; from Boundary to Cassiar is scheduled for this year. Originally, this project was scheduled for 2007, but was deferred due to the job action. Staff recommend that only \$200,000 be allocated to this basin for several smaller projects as the majority of funding required was approved in 2007.

1J China Creek \$ 700,000 CC3ED11JX1 Order Number: 30010713

The China Creek basin comprises about 3,050 acres of mostly single family homes in an area bounded roughly by Main Street, 12th Avenue, Nanaimo and 41st Avenue. This north sloping area lies immediately west of the Still Creek basin and drains to Burrard Inlet through the Clark Drive outfall. The original sewers in the area were built at various times between the 1910's and the 1960's. Many sewers are damaged due to settlement of the peat found in pockets within the area.

In 2008, two streets in poor condition in peat areas are to be reconstructed. The sewers on these streets were built on piles and are also in poor condition and so will be replaced prior to street work. Staff recommend that \$700,000 be allocated to this basin for sewer replacement work in these two areas.

1K Still Creek \$ 100,000 CC3ED11KX1 Order Number: 30010714



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This 2,350 acre separated sewer area drains the extreme east side of Vancouver between the Burrard Inlet and Fraser River watersheds with the area's storm sewer system draining to Still Creek. Except for the Kingsway corridor built in the 1920's and 30's, most of the area's sewer system was built in the 1950's and should be adequate for another 30 to 40 years. In late 2004, through routine inspection, sewer inspector discovered a block of Cecil/Euclid South that could potentially overflow into Still Creek. Staff has since made plans to carry out sewer separation work to eliminate the risk of contaminating the creek, however, this project was delayed due to the labour dispute in 2007. As a result, this sewer separation work has now been rescheduled for 2008.

Sub-Total Main Sewer Reconstruction: Net City funded: \$ 14,823,000 in 2008

<b>2. <u>Connection and Manhole Reconstruction</u></b>	<b>\$ 850,000</b>	<b>CC3ED12X1</b>	<b>Order Number: 30010715</b>
2008 Funding Allocation:	\$1,555,000		
Transfer of funding to Pump Station Program:	( <u>\$ 705,000</u> )		
2008 Budget Request:	\$ 850,000		

The City has approximately 100,000 sewer connections totalling about 935 kilometres in length. Many of these have structurally failed or have been blocked by penetrating tree roots. This results in sewage backing up into homes on a periodic basis causing major inconveniences to home owners as well as health concerns and potential liability for the City. Through our public sewer connection permits fees, many of the old and inadequate connections are rebuilt when new buildings are constructed or substantial renovations are undertaken. However, a number of old connections to existing houses that are not being redeveloped experience blockages that cannot be dealt with cost effectively with preventative maintenance. This program provides funding to reconstruct connections to these properties.

In addition to connections, the City also has over 25,000 sewer manholes. While they are replaced at the time of main sewer reconstruction, there is an ongoing need to repair or construct existing manholes in areas not scheduled for main sewer replacement. Approximately 5% of the program funds are for manhole reconstruction.

The 2007 program was impacted by ongoing recruitment issues as well as a labour dispute that lasted 2 ½ months. Due to the shortage of manpower and increasing difficulties in retaining and recruiting skilled workers in recent months, staff plan to scale down the connection and manhole reconstruction program in 2008. According to our revised work plan, much of the less critical reconstruction work in the connection and manhole reconstruction program will be delayed to future years so the available manpower resources can be directed to maintain the three large construction crews for the main sewer replacement program and other higher priority projects. Remaining resources will be managed to address highest priority connection and manhole reconstruction to reduce potential impacts on property owners. Additional funding will be requested in the upcoming capital plan to return the program to appropriate levels. It is projected that \$850,000 will be sufficient to cover the revised work plan for this program in 2008. This will leave \$705,000 in approved funding from the 2006-2008 Capital Plan unused. It is requested that this funding be reallocated to Pump Station program (D-1-4).

<b>3. <u>Local Repairs: Catch Basins and Spurs</u></b>	<b>\$ 200,000</b>	<b>CC3ED13X1</b>	<b>Order Number: 30010716</b>
2008 Funding Allocation:	\$768,000		
Transfer of funding to Pump Station Program:	( <u>\$568,000</u> )		
2008 Funding Request - City Funding:	\$200,000		
Add 2006 - 2007 Funding Carried Forward	<u>\$541,600</u>		
2008 Gross Budget	\$741,600		

There are about 45,000 catch basins in the City and about 320 kilometres of spur sewers that connect them to the mains. This street drainage system has been developed (since 1900) in conjunction with our street paving program and some of it is starting to fail with resulting street drainage problems. This results in increased liability for flooding which can cause property damage and hazards to vehicle travel. Poor drainage also permits water penetration into the road base which causes a weakening and deterioration of the road structure. Repairs have extended the life of some sections, but replacement or relining of the worst sections is necessary as they become apparent.

Vehicle impact loading, deterioration due to age and tree roots are the main causes of catch basin drain failures. In the past, we have only been able to address the most critical failures. We are finding that it is better to repair more of the problem areas now than it is to leave them as ongoing maintenance problems. The 2006-2008 Capital Plan had made a gross budget provision of \$1,255,000 for the core work with \$600,000 funding expected from Translink through the Major Road Network (MRN) Operation, Maintenance and Repair (OMR) program.

Due to the ongoing limited manpower constraints and the 2 ½ month labour dispute experienced in 2007, a significant amount of the 2007 planned repair/rebuild work was not carried out. Similar to the connection and manhole reconstruction program, due to the shortage of manpower and increasing difficulties in retaining and recruiting skilled workers forecasted for the coming year, staff have scaled down the local repair program in 2008. According to the revised work plan, many of the less critical repairs for catch basin and spurs work will be delayed to future years so the available resources can be directed to maintain the three large construction crews for the main sewer replacement program and other higher priority projects in 2008. It is estimated that the unspent funding approved in 2007 along with a budget allocation of \$200,000 will be sufficient to cover the revised 2008 work plan. Therefore staff recommend \$200,000 be allocated to this program in 2008. This will leave \$568,000 in approved City funding from the 2006-2008 Capital Plan unused. It is requested that this funding be reallocated to Pump Station program (D-1-4).

# 2008 BASIC CAPITAL BUDGET REQUEST

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ORDER GROUP	CC3ED1	ORDER NUMBER	
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**4. Upgrade and Replacement of Pump Stations \$ 4,307,000**

CC3ED14X1    Order Number: 30010717

2008 Funding Allocation	\$3,034,000
Transfers from Other Programs (D-1-2 and D-1-3)	<u>\$1,273,000</u>
2008 Budget Request	<u>\$4,307,000</u>

There are 26 sanitary sewage-pumping stations of various capacities and sizes within the City's sewage collection system. In the course of normal operations, partial or complete replacement of pumps and valves, as well as other mechanical, electrical, control and instrumentation equipment is required as they wear out over time.

A comprehensive assessment of stations conducted in 2003 identified that ten out of the 26 stations are near the end of their service lives. Because of the age of these stations as well as the need for increased pumping capacity due to growth, a number of pump stations need to be replaced over the next ten years.

The 2006-2008 Capital Plan has a budget provision for a total of five pumping station replacements and the replacements of worn equipment at various stations, structural stability and integrity testing of old force mains, as well as an upgrade of the Supervisory Control and Data Acquisition (SCADA) system.

The construction of the Oak and Sixth Pumping Station started in 2006. However, there was a delay in start-up and some construction difficulties. The delay mainly attributed to the unexpected discovery of the sandstone substrate at the pumping station location during the more detailed geotechnical investigation stage. As a result of this discovery, staff had to perform alternative foundation support designs which delayed the start-up of construction to late 2006. As of the end of 2007 90% of this station was completed. Staff project that the remaining work will be completed in early 2008 and the cost of the construction is expected to meet the budget target established in the 2006 order group.

The 2008 work plan includes the design and construction of the Granville Pumping Station and the Boundary and 1<sup>st</sup> Pumping Station, which were anticipated and funded in the 2007 budget. The Cambie Pumping Station will be incorporated into the new Neighbourhood Energy Utility (NEU). Design of the NEU is expected to be completed and construction started in 2008. Due to higher than anticipated costs for the new Cambie Pumping Station a fifth station will not be constructed in this capital plan. A SCADA pilot project will be completed along with some minor system upgrades and studies. Staff recommends additional funding of \$4,307,000 be allocated for the completion of this work plan. This level of requested funding is higher than was anticipated during the preparation of the 2006-2008 Capital Plan, due in part to the uncertainty around the final design and costs associated with the replacement of the Cambie Street pump station. Therefore, it is requested that \$1,273,000 in available funding be reallocated from the Connection and Manhole Reconstruction program (D-1-2) and the Local Repairs, Catch Basin and Spurs program (D-1-3).

OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED *(if applicable)*

<b>TIMELINE</b>	Start (mm/yy)	January, 2008	Completion (mm/yy)	August, 2009
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**IMPACT OF DELAY**

Delays would restrict the City's ability to continually reduce Combined Sewer Overflows (CSOs) and to eliminate them by 2050 per the City's commitment to the Liquid Waste Management Plan.





# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

D-3

ORDER GROUP

CC3ED3

ORDER NUMBER

DEPARTMENT

ENGINEERING SERVICES

DIVISION / BRANCH

WATER & SEWER

PROGRAM

Sewers & Drainage

SUB-PROGRAM / PROJECT

Other Pollution Abatement

DESCRIPTION

Pollution abatement achieved through the Liquid Waste Management Plan and Sewer Separation on Private Property.

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$910,000	\$ 0	\$316,000	\$	\$594,000	\$594,000	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$475,000	Other Levels of Government		\$
Materials			\$64,700	Property Owners		\$
Equipment			\$163,400	Other ( <i>specify below</i> )		
Contract			\$			\$
Overhead			\$112,300			\$
Other ( <i>specify below</i> )						\$
Miscellaneous			\$94,600			\$
			\$			\$
			\$			\$
			\$910,000			\$ 0

**COST SAVINGS & OTHER BENEFITS -**

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**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment						

**SUB-PROGRAM / PROJECT INFORMATION -**

OBJECTIVES

This program compliments the City's combined sewer reduction initiatives by providing immediate separation benefits. This program is particularly important because of the Provincial requirements to reduce and eventually eliminate combined sewer overflows by the year 2050.

SCOPE OF WORK / DELIVERABLES

**1. LIQUID WASTE MANAGEMENT PLAN**                      \$ 0,000

2008 Gross Budget	\$50,000
Less available 2006-07 Plan Funding	<u>\$(50,000)</u>
2008 Basic Budget Capital Request	\$ 0

The Liquid Waste Management Plan (LWMP) was approved by the Province in 2002. This plan establishes commitments for sewage treatment, combined sewer overflows, and stormwater management for both Regional and municipal systems under the Province's Waste Management Act. The City and the GVRD are now working on implementing key commitments outlined in the Plan for Vancouver.

During 2008, the City will be required to continue analyzing and developing detailed planning scenarios for our sewer system to support the work program which has been outlined in the LWMP. This includes additional joint GVRD and City studies examining combined sewer overflow reduction methods and strategies with the aid of computer modelling as well as the development of an Integrated Stormwater Management Plans for the Vancouver Drainage Basins. While we have been successful over the past several years in supporting the LWMP efforts without

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CC3ED3

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additional staff, some non-professional technical assistance may be required in 2008. In previous Capital Budgets, approval was given for a temporary Engineering Assistant II. It is proposed that this position be extended in 2008. The unspent budget in the amount of approximately \$50,000 from previously approved LWMP budgets can be used for this work.

**2. SEWER SEPARATION ON PRIVATE PROPERTY \$ 546,000      CC3ED3X1      Order Number: 30010720**

2008 Gross Budget	\$760,000
Less available 2006-07 Plan Funding	<u>\$(214,000)</u>
2008 Basic Budget Capital Request	\$546,000

This program was established by Council in 1978 in order to achieve the pollution control benefits of a separated sewer system. This program also allows for a maximum \$1,000 reimbursement towards the cost of plumbing alterations on private property and provides for a separated connection to the main sewer. The program has mainly focused on the False Creek area and the West End and to a lesser degree on the Downtown Eastside/Strathcona, Still Creek and Fraser River areas. The major benefit of the program has been a reduction in the fecal coliform levels in adjacent waters, as well as the removal of other industrial pollutants which may inadvertently be discharging through the storm sewer system.

Today, there are additional benefits from this program. The approved LWMP requires the reduction and elimination of combined sewer overflows in Vancouver by the year 2050. This program is needed to achieve these goals and minimize Provincial requirements for more costly short-term improvements to reduce Vancouver's sewage overflows.

In addition, because the program helps to reduce dry weather flows to the Iona Sewage Treatment Plant, it will help offset the Regional District's annual sewerage levy to Vancouver.

In 1995, sewer separation was completed in the Yaletown drainage basin resulting in the elimination of the Drake Street combined sewer overflow. Similarly, in 1999 sewer separation was completed in the downtown South Granville area resulting in the elimination of the Granville Street combined sewer overflow. Since 2000, considerable separation work occurred west of Granville Street in the West End eliminating the Parklane and Denman Street CSO's.

The 2006-2008 program includes continued separation work along the Burrard Street corridor in the Downtown area which will reduce sewage overflows to Vancouver Harbour as well as to reduce dry weather flows to the treatment plant. This work is expected to significantly reduce the Burrard Street combined overflow. The 2006-2008 program also focuses in the south east False Creek area to reduce combined overflows to False Creek. In addition, the program will focus in other areas to compliment the main sewer separation program. For example, separation in the Fairview slopes area will reduce combined sewer overflows to False Creek. Separation in the Tatlow Park area will help to reduce flows to the plant as well as to help restore the original stream through this park.

**3. STILL CREEK ENVIRONMENTAL PROGRAM      \$48,000      CC3ED35X1      Order Number: 30010721**

2008 Gross Budget	\$100,000
Less available 2006-07 Plan Funding	<u>\$(52,000)</u>
2008 Basic Budget Capital Request	\$ 48,000

The City, in conjunction with Burnaby and the GVRD, has been working on developing an Integrated Storm Water Management Plan for the Still Creek drainage basin. This plan examines initiatives in the basin to reduce flooding risks, protect and enhance the environment and improve the social value of the Still Creek corridor. Recommendations in the plan include initiatives or pilot projects to: reduce stream flooding, increase permeability, reduce pollutant discharges, provide public education, add walking and cycling routes, and enhance greenways, trails, view points, and other public amenities.

This work complements the sustainability principle requiring "integrated decision-making that takes into account economic, ecological and social impacts as a whole", adopted by Council in 2002. It also compliments the CityPlan directions for "Clean Air and Water", "Vancouver and the Region", "New and More Diverse Places", and "Transit, Walking, & Biking as a Priority" by enhancing the Still Creek corridor as described above. Furthermore, it also follows the Provincially approved Liquid Waste Management Plan requiring integrated stormwater management plans to be developed.

Due to the longer than expected development of the Still Creek Integrated Management Plan, the Report for the implementation of the plan was not approved by City Council until December 2006. Staff expect that these works will be completed in 2008.

OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED (if applicable)

TIMELINE

Start (mm/yy)

January, 2008

Completion (mm/yy)

December, 2008

**IMPACT OF DELAY**

This is an integral part of System Replacement / Separation (D-1) to continually reduce and eliminate CSO's in important water bodies (e.g. False Creek).

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

D-5

ORDER GROUP

CC3ED5

ORDER NUMBER

DEPARTMENT

ENGINEERING SERVICES

DIVISION / BRANCH

WATER & SEWER

PROGRAM

Sewers & Drainage

SUB-PROGRAM / PROJECT

Public Sewer Connection

DESCRIPTION

Installation of public sewer connections on residential and commercial properties.

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$10,000,000	\$10,000,000	\$	\$	\$ 0	\$ 0	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour		\$3,711,000	Other Levels of Government			\$
Materials		\$1,218,000	Property Owners			\$10,000,000
Equipment		\$2,029,000	Other (specify below)			
Contract		\$				\$
Overhead		\$1,157,000				\$
Other (specify below)						\$
Street Cuts		\$632,000				\$
Miscellaneous		\$1,253,000				\$
		\$				\$
		\$10,000,000				\$10,000,000

**COST SAVINGS & OTHER BENEFITS -**

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**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment						

**SUB-PROGRAM / PROJECT INFORMATION -**

**OBJECTIVES**

Based on our recent review of the permit application and residential and commercial construction activity, it is anticipated that about \$10.0 million worth of public sewer connections will be installed in 2008. The costs of this work are recovered from public sewer connection fees charged to developers and builders.

**SCOPE OF WORK / DELIVERABLES**

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**OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED (if applicable)**

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TIMELINE	Start (mm/yy)	January, 2008	Completion (mm/yy)	December, 2008
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**IMPACT OF DELAY**

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# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

D-6

ORDER GROUP

CC3ED6A

ORDER NUMBER

30010723

DEPARTMENT

ENGINEERING SERVICES

DIVISION / BRANCH

WATER & SEWER

PROGRAM

Sewers & Drainage

SUB-PROGRAM / PROJECT

Sewers - Other Projects

DESCRIPTION

Contribution to Manitoba Yards Improvements

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$500,000	\$ 0	\$	\$	\$500,000	\$500,000	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$	Other Levels of Government		\$
Materials			\$	Property Owners		\$
Equipment			\$	Other (specify below)		
Contract			\$			\$
Overhead			\$			\$
Other (specify below)						\$
Contribution			\$500,000			\$
			\$			\$
			\$			\$
			\$500,000			\$ 0

**COST SAVINGS & OTHER BENEFITS -**

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**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment						

**SUB-PROGRAM / PROJECT INFORMATION -**

**OBJECTIVES**

The 2006-08 Capital Plan approved a funding contribution of \$500,000 in Sewers basic capital for Engineering Yards, E1 Manitoba Yards Improvements. The Manitoba Yards Improvements are under review and the requested funding is being maintained until a final decision is made on the nature and timing of the Manitoba Yards improvements.

**SCOPE OF WORK / DELIVERABLES**

--

**OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED (if applicable)**

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**TIMELINE**

Start (mm/yy)

,

Completion (mm/yy)

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**IMPACT OF DELAY**

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## 2008 BASIC CAPITAL BUDGET SUMMARY

Ref #	Program / Sub-program / Projects	2008 Capital Budget & Funding Allocation					2008 Basic Capital Budget Request (G = E + F)	Carried Forward Funding (H)	2008 Funding + Carry Forward (J = G + H)
		Estimated 2008 Gross Budget (C)	External Funding (D)	DCL/CAC Funding (E)	Revenue/ Debenture Funding (F = C - D - E)				
<b>E-1</b>	<b>AGING INFRASTRUCTURE</b>								
	a) Distribution Main Replacement	\$10,300,000			\$10,300,000	\$10,300,000	\$1,700,000	\$12,000,000	
	b) Transmission Main Replacement	\$500,000			\$500,000	\$500,000	\$3,000,000	\$3,500,000	
	c) Replacement of Meters & Services	\$3,070,000			\$3,070,000	\$3,070,000		\$3,070,000	
	d) Replacement of Fire Hydrants	\$350,000			\$350,000	\$350,000		\$350,000	
	e) PRV Stations	\$0			\$0	\$0	\$90,000	\$90,000	
	<b>SUBTOTAL: AGING INFRASTRUCTURE</b>	<b>\$14,220,000</b>		-	<b>\$14,220,000</b>	<b>\$14,220,000</b>	<b>4,790,000</b>	<b>\$19,010,000</b>	
<b>E-2</b>	<b>ADDRESSING GROWTH</b>								
	a) Transmission Capacity	\$800,000			\$800,000	\$800,000	\$300,000	\$1,100,000	
	b) Fire Upgrading for Development	\$150,000			\$150,000	\$150,000		\$150,000	
	c) Conservation Capital	\$167,000			\$167,000	\$167,000	\$33,000	\$200,000	
	d) New Meters & Services	\$360,000			\$360,000	\$360,000		\$360,000	
	e) Minor Improvements to the System	\$200,000			\$200,000	\$200,000	\$200,000	\$400,000	
	<b>SUBTOTAL: ADDRESSING GROWTH</b>	<b>\$1,677,000</b>		-	<b>\$1,677,000</b>	<b>\$1,677,000</b>	<b>533,000</b>	<b>\$2,210,000</b>	
<b>E-3</b>	<b>EMERGENCY PLANNING</b>								
	a) Dedicated Fire Protection System	\$600,000			\$600,000	\$600,000		\$600,000	
	b) Emergency Supplies	\$0			\$0	\$0	\$170,000	\$170,000	
	<b>SUBTOTAL: EMERGENCY PLANNING</b>	<b>\$600,000</b>		-	<b>600,000</b>	<b>\$600,000</b>	<b>170,000</b>	<b>\$770,000</b>	
<b>E-4</b>	<b>INVESTIGATION, MONITORING, &amp; CONTROL</b>								
	a) Telemetry System	\$217,000			\$217,000	\$217,000		\$217,000	
	b) Engineering Site Investigation	\$345,000			\$345,000	\$345,000		\$345,000	
	<b>SUBTOTAL: INVESTIGATION, MONITORING, &amp; CONTROL</b>	<b>\$562,000</b>		-	<b>\$562,000</b>	<b>\$562,000</b>	-	<b>\$562,000</b>	
<b>E-5</b>	<b>WATER QUALITY PROJECTS</b>								
	a) Miscellaneous Water Quality Projects	\$240,000			\$240,000	\$240,000		\$240,000	
	<b>SUBTOTAL: WATER QUALITY PROJECTS</b>	<b>\$240,000</b>		-	<b>\$240,000</b>	<b>\$240,000</b>	-	<b>\$240,000</b>	
<b>E-7</b>	<b>Water - Other Projects</b>								
	1) Contribution to Yards	\$500,000			\$500,000	\$500,000		\$500,000	
	<b>Subtotal - Other Projects</b>	<b>\$500,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$500,000</b>	<b>\$500,000</b>	<b>\$0</b>	<b>\$500,000</b>	
	<b>TOTAL - 2008 WATERWORKS CAPITAL BUDGET</b>	<b>\$17,799,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$17,799,000</b>	<b>\$17,799,000</b>	<b>\$5,493,000</b>	<b>\$23,292,000</b>	

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

E-1

ORDER GROUP

CCEE1

ORDER NUMBER

DEPARTMENT

ENGINEERING SERVICES

DIVISION / BRANCH

WATER & SEWERS

PROGRAM

Waterworks

SUB-PROGRAM / PROJECT

Aging Infrastructure Replacement

DESCRIPTION

Replacement for the City's Aging Distribution and Transmission Mains, Meters, Services and Fire Hydrants

### SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$19,010,000	\$ 0	\$4,790,000	\$	\$14,220,000	\$14,220,000	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour		\$3,857,000	Other Levels of Government			\$
Materials		\$3,967,000	Property Owners			\$
Equipment		\$2,952,000	Other (specify below)			
Contract		\$				\$
Overhead		\$3,152,000				\$
Other (specify below)						\$
Street work		\$2,779,000				\$
Miscellaneous (contract, dumping charges, other rentals, etc.)		\$2,303,000				\$
		\$				\$
		\$19,010,000				\$ 0

### COST SAVINGS & OTHER BENEFITS -

Prevent leak and break repair costs from increasing. Reduces cost of purchasing water by reducing leaks from the system and reduces damages to other utilities and private property. Increases reliability of the water system to provide safe drinking water and adequate flow for fire protection.

### IMPACT ON OPERATING BUDGET -

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment						

### SUB-PROGRAM / PROJECT INFORMATION -

#### OBJECTIVES

A key strategic objective of the Waterworks Long Range Plan is to manage infrastructure proactively. The City's water system has an estimated replacement value of \$1.5 billion. It consists of approximately 1440 km of water mains, plus associated facilities such as pressure regulating stations, and appurtenances such as valves, fire hydrants, and service connections. With such an extensive system, it is important to use a life-cycle replacement program to eliminate unmanageably large short-term capital expenditures, minimize risk, and control operating costs.

#### SCOPE OF WORK / DELIVERABLES

This program provides funding to renew aging water system infrastructure in a sustainable manner. As water system infrastructure ages, corrosion and mechanical wear increase the probability of failure. These failures reduce the reliability of the water system, increase operating costs, and sometimes cause extensive property damage. Using the Waterworks Long Range Plan as a guide, this program conducts infrastructure renewal activities at a sustainable rate, replacing water system components at the end of life-cycle expectancy.

The recommended 2008 allocations are as follows:

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

E-1

ORDER GROUP

CCEE1

ORDER NUMBER

1a)	Distribution Main Replacement: \$10,300,000	CC3EE1AX Order Number: 30010687
	2008 Plan Allocation	\$12,081,000
	Less Transfer to Dedicated Fire Protection System Program	\$ (551,000)
	Less Transfer to Miscellaneous Water Quality Projects	\$ (240,000)
	Less 06-08 Plan Funding Not Required	<u>\$ (990,000)</u>
	2008 Basic Capital Budget Request	\$ 10,300,000
	Add Approved Funding Unused in 2007	<u>\$ 1,700,000</u>
	2008 Gross Budget	\$ 12,000,000

This funding is for the systematic replacement and rehabilitation of aging distribution mains. The City's distribution main network covers virtually every street in the City of Vancouver, moving water from transmission pipelines to customer connections. This program reduces pipeline maintenance costs and system leakage, limits damage to City and private property caused by water main failures, and helps to ensure continued safe and reliable water service to customers. Since 1994, Waterworks has replaced numerous watermains to prevent breaks or correct other deterioration problems such as heavy tuberculation (internal corrosion). As a result, the annual number of watermain breaks is now declining, from a peak of about 70 breaks per year in the early 1990's, to an average of about 55 breaks per year, or about 4 breaks/100km of pipe per year. This break rate is considered good for a system the size and age of Vancouver's.

In 2007, the labour disruption reduced the amount of work completed. In 2008, a small amount of Canada Line related work will be required. Waterworks will also been tendering a contract to complete approximately \$2.0 M of work to establish benchmark pricing and reduce the current backlog of work.

Staff recommend that a budget of \$12,000,000 be allocated to this program in 2008 including a carry over of \$1,700,000 from 2007. This funding request for 2008 will result in \$1,781,000 of approved funding in the 2006-2008 Capital Plan not being utilized for this program. It is requested that \$791,000 of this approved funding be reallocated to fund additional expenditures related to the Dedicated Fire Protection System (E-3a) (\$551,000) and Miscellaneous Water Quality Projects (E-5a) (\$240,000). The following major replacement works are planned for 2008:

- Kerr St, Distribution Main
- Kerr St., Rosemont Dr. - E 45th Ave
- Granville Street - Cordova to Drake
- Matthews Ave. - Selkirk St. to Olser St.
- Balfour Ave. - Osler St. to Hudson St.
- Selkirk St. - Matthews Ave. to Balfour St.
- Olser St. - Matthews Ave. to Balfour St.
- 29th Avenue (MacKenzie to Puget Drive)
- Kerr St, S.E. Marine Dr. - Rosemont Dr.
- Alamein (MacDonald to Trafalgar)
- MacDonald (Alemein to King Edward)
- MacDonald (18th to 21st)
- West 23rd Avenue (Mackenzie to Trafalgar)
- MacKenzie (21st Avenue to 24th Avenue)
- Puget St. - King Edward to W 29th Ave.
- Granville Street Test Holes
- Holland St., SW Marine - 46th Ave
- W 46th Ave, Holland St - Olympic St
- St. Clair Place, W 46th Ave - 110m North
- W 46th Ave, Crown - Olympic St
- Olympic St., South through Musqueam Park
- Wellington (Ruby to Anne)
- Yukon 4th - 6th
- L/S 25th, Beatrice - Victoria (ROW required)
- Fleming St. - E 45th Ave. to E 49th Ave.
- Bruce St. - E 46th Ave. to E 49th Ave.
- E 47th Ave. - Fleming St. to Argyle St.

1b)	Transmission Main Replacement: \$ 500,000	CC3EE1BX Order Number: 30010688
	2008 Plan Allocation	\$ 596,000
	Less 06-08 Plan Funding Not Required	<u>\$ (96,000)</u>
	2008 Basic Capital Budget Request	\$ 500,000
	Add Approved Funding Unused in 2007	<u>\$3,000,000</u>
	2008 Gross Budget	\$3,500,000

This funding is for the systematic replacement and rehabilitation of aging transmission mains. The City's transmission pipelines serve as the backbone of the water system, moving bulk water from the GVRD system to feed the distribution mains. As a single transmission

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

E-1

ORDER GROUP

CCEE1

ORDER NUMBER

watermain typically serves tens of thousands of customers, the tolerance of failures resulting in loss of service is very low. Therefore, this program provides funding for the proactive renewal and rehabilitation to minimize the occurrence of failures.

9% of the City's aging transmission main inventory consists of welded steel pipe. This type of pipe is very strong, but as it ages it suffers from corrosion which results in holes and leakage. The service life of the pipe can be increased by adding sacrificial anodes to prevent further corrosion, or adding a liner to bridge the corrosion holes.

34% of the City's aging transmission inventory consists of riveted steel pipe. Most of this piping began to experience failures in the 1960's and 70's, and was subsequently lined with cement. While this rehabilitation work succeeded by extending the lifespan of pipes by an additional 30 to 40 years, much of this inventory suffers extensive corrosion and must be replaced.

The labour disruption in 2007 delayed the start of the Kerr St. transmission main replacement until early 2008. The estimated cost to complete is \$3.5 million and \$3.0 million of funding can be carried over from 2007.

1c)	Aging Water Meter & Service Replacement:	\$3,070,000
	2008 Plan Allocation	\$3,482,000
	Less Transfer to Aging Fire Hydrant Replacement Program	\$ (167,000)
	Less Transfer to PRV Stations Program	\$ (90,000)
	Less 06-08 Plan Funding Not Required	<u>\$ (155,000)</u>
	2008 Basic Capital Budget Request	\$ 3,070,000
	Add Approved Funding Unused in 2007	<u>\$ 0</u>
	2008 Gross Budget	\$ 3,070,000

1c-1) Aging Water Service Replacement: \$3,000,000 CC3EE1D2X1 Order Number: 30010689

The City has approximately 105,000 water service pipes, valued at about \$300 million that connect our customers to water distribution mains. The 1950's and 1960's were a period of massive construction in the City. Many of the services installed at this time are now beginning to fail, and the Waterworks Long Range Plan recommends a program of proactive renewal to minimize both the life cycle costs of this inventory and the inconvenience to customers. It is recommended that steady repair and replacement work be carried out throughout the 2006-2008 Capital Plan with a \$3,000,000 budget allocation for 2008. This level of funding will result in \$412,000 in approved funding not being utilized for this program. It is requested that \$257,000 of this available funding be reallocated to cover additional costs associated with replacement of fire hydrants (E-1d) (\$167,000) and the decommissioning of four pressure reducing valve stations (E-1e) (\$90,000).

1c-2) Aging Water Meter Replacement: \$70,000 CC3EE1D1X1 Order Number: 30010690

The City has approximately 14,000 metered water services. As water meters age, they typically under-read water consumption, resulting in lost revenue for the City. The average life of a water meter is 10 to 15 years, depending on size and type. This ongoing program replaces worn out meters on a regular basis to ensure accurate and equitable billing of the City's metered customers. In addition, the replacement of deteriorating meter chambers that are located in the downtown core will also take place during the 2006-2008 Capital Plan. To fund this work, \$70,000 is recommended to be allocated for 2008.

1d)	Aging Fire Hydrant Replacement:	\$350,000	CC3EE1EX Order Number: 30010691
	2008 Plan Allocation	\$183,000	
	Add Transfer From Aging Water Service Replacement Program	<u>\$167,000</u>	
	2008 Basic Capital Budget Request	\$350,000	
	Add Approved Funding Unused in 2007	<u>\$ 0</u>	
	2008 Gross Budget	\$350,000	

The City owns approximately 6,200 fire hydrants, some with installation dates as early as the 1920's. As hydrants age, corrosion and mechanical wear can result in failures, and unserviceable leakage can be a problem. In addition, older fire hydrants are not as hydraulically efficient as contemporary models, and their unlined connections become constricted by tuberculation. In areas of the City with below average water pressure, some of these hydrants are inadequate by current Fire Underwriters' guidelines.

Approximately 50 hydrants (0.9% of the total inventory), are replaced annually as part of the distribution main replacement program. Using the Waterworks Long Range Plan as a guide, the 2006-2008 Capital Plan also includes funds to replace 0.5% of the hydrant inventory in response to failures and unserviceable leaks. To fund this work, \$350,000 is recommended to be allocated in 2008. This will result in greater costs than were originally anticipated in the 2006-2008 Capital Plan for this program. Therefore, it is requested that \$167,000 of available funding be reallocated from the replacement of meters and services program (E-1c).

1e) PRV Stations : \$000 CC3EE1CX Order Number:

2008 Basic Capital Budget Request		\$ 0
Add 2006-07 Funding Carry Forward		<u>\$ 90,000</u>
2008 Gross Budget		\$ 90,000

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

E-1

ORDER GROUP

CCEE1

ORDER NUMBER

The City water system has 30 Pressure Reducing Valve (PRV) stations that regulate pressures to control pipe failures and leakage. The PRV station inventory was studied in 2005 and 18 sites were identified that did not meet modern standards. The study included PRV stations with operator safety and accessibility issues, SCADA communication system incompatibilities, corroding mechanical components and poor reliability. To address these issues, capital improvement work will begin in 2007, with modernization of the entire inventory to be completed by 2014.

In 2008, the \$90,000 from the 2007 Capital Budget will be carried over to complete the decommissioning of 4 PRV stations.

OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED *(if applicable)*

TIMELINE

Start (mm/yy)

January, 2008

Completion (mm/yy)

December, 2008

IMPACT OF DELAY

This program proactively replaces aging infrastructure to prevent water system failures. A delay to this program would reduce the City's ability to provide a safe and reliable water service to customers and would result in higher property damage and maintenance costs.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

E-2

ORDER GROUP

CCEE2

ORDER NUMBER

DEPARTMENT

ENGINEERING SERVICES

DIVISION / BRANCH

WATER & SEWERS

PROGRAM

Waterworks

SUB-PROGRAM / PROJECT

Addressing Growth

DESCRIPTION

Addresses increased domestic and firefighting water demands created by population growth, including metering and conservation to manage the resulting demands.

### SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$2,210,000	\$ 0	\$533,000	\$	\$1,677,000	\$1,677,000	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$550,000	Other Levels of Government		\$
Materials			\$867,000	Property Owners		\$
Equipment			\$169,000	Other ( <i>specify below</i> )		
Contract			\$			\$
Overhead			\$367,000			\$
Other ( <i>specify below</i> )						\$
Miscellaneous ( dumping and street charges, other rentals, etc.)			\$257,000			\$
			\$			\$
			\$			\$
			\$2,210,000			\$ 0

### COST SAVINGS & OTHER BENEFITS -

This program ensures that the City's water system meets new water demand requirements caused by population growth, and addresses existing flow and reliability shortcomings. Water conservation programs reduce bulk water purchase costs and allow for the deferral of transmission watermain construction and the need for additional storage capacity.

### IMPACT ON OPERATING BUDGET -

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment						

### SUB-PROGRAM / PROJECT INFORMATION -

#### OBJECTIVES

This section of the Capital Plan addresses increased domestic and fire fighting water demands created by population growth, including metering and conservation to manage the resulting demands.

Population growth within the City increases domestic water demand, which affects primarily the water transmission system (City and GVWD large mains, storage, and pumping). Local densification results in higher fire-flow demands, which affects the (smaller) water distribution mains in the immediate neighbourhood of the development. New developments also require new water services and meters.

Vancouver's population growth has slowed somewhat from previous Plans and there have been few instances of large scale densification. The water system is reasonably robust at this point in time and capacity upgrades are not anticipated. Water conservation and customer equity have become primary concerns and the 2006-2008 Capital Plan has provision for funding a number of programs to address these concerns.

#### SCOPE OF WORK / DELIVERABLES

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

E-2

ORDER GROUP

CCEE2

ORDER NUMBER

2a) Transmission Capacity Program: \$800,000 CC3EE2AX Order Number: 30010692

2008 Plan Allocation	\$ 800,000
2008 Basic Capital Budget Request	\$ 800,000
Add Approved Funding Unused in 2007	<u>\$ 300,000</u>
2008 Gross Budget	\$1,100,000

The 2006-2008 Capital Plan includes a funding provision for the construction of connection piping to link the City transmission system with the GVRD's new Boundary No.5 supply main. The construction work planned for 2006 in this program was dependent on the GVRD construction completion which was delayed to 2008. Therefore, the 2006 construction work in this program is being postponed to 2008. Staff project that the unspent budget in 2007 plus the remaining funding available as approved in the 2006-2998 Capital Plan will be sufficient to cover the work in 2008. The total budget for this program is \$1,100,000 with \$300,000 being carried over from 2007.

2b) Fire Upgrading for Developments: \$150,000 CC3EE2BX1 Order Number: 30010693

2008 Plan Allocation	\$ 47,000
Add Transfer from Minor Improvements Program	<u>\$ 103,000</u>
2008 Basic Capital Budget Request	\$150,000
Add Approved Funding Unused in 2007	<u>\$ 0</u>
2008 Gross Budget	\$150,000

This program funds the local system improvements that are necessary to accommodate the increases in fire-flow water demand brought by new high density development projects. The City's practise is to seek cost-sharing from developers for any upgrades required. In areas where a deficiency exists prior to redevelopment, the City funds the upgrades to eliminate the current deficiency and the developer is charged for the additional work that is required because of the redevelopment. This program provides funding for the City's share of the water system upgrade cost.

In 2008, the plan proposes to cost share the extension of a watermain along Galt Ave. The Waterworks portion of this work is estimated to be \$150,000.

Projects in this program are difficult to predict. Required work depends upon the amount and timing of development activity in the City and the specific locations of those developments. Staff recommend that a budget of \$150,000 be set as the budget for this program in 2008. The 2006-2008 Capital Plan did not fully anticipate this level of work in this program. Therefore, it is requested that \$103,000 in available funding be reallocated from the Minor Improvements program (E-2e).

2c) Conservation Capital Projects: \$ 167,000 CC3EE2CX Order Number: 30010694

2008 Plan Allocation	<u>\$167,000</u>
2008 Basic Capital Budget Request	\$167,000
Add Approved Funding Unused in 2007	<u>\$ 33,000</u>
2008 Gross Budget	\$200,000

This program funds projects that provide economic savings through reductions in the amount of bulk water purchased from the GVRD. Water conservation is a key element in the GVRD and City strategies to support the sustainable use of regional water resources.

Water conservation now provides significant economic benefits. In recent years, conservation initiatives such as summertime sprinkling regulations has allowed for significant per capita water demand reductions, and has resulted in significant savings through the avoidance and deferral of regional and City infrastructure capacity increasing projects. In addition, the City's bulk water cost is increasing significantly due to large scale GVRD water quality enhancing projects such as the Seymour-Capilano Filtration Plant. The cost of bulk water has increased by 115% since the year 2000, and in 2008 the City will spend approximately \$48.5 million on water purchases from the GVWD.

In 2008, Waterworks will implement a trial program to measure the effects of a focussed marketing and education campaign in order to determine the most cost effective methods of promoting water conservation practices (\$50K). Waterworks is also involved in a research project with UBC and Kings College, London to determine climatic effects and water usage. This project involves the installation of system water meters to measure usage over small areas (\$100K). Waterworks also plans to partner with other utilities to promote a more unified conservation approach (\$50K).

The total budget for this program is projected to be \$200,000 with \$33,000 being carried over from 2007.

2d) New Meters & Services \$360,000

2008 Plan Allocation	\$ 4,165,000
Less 06-08 Plan Funding Deferred	\$(3,300,000)
Less 06-08 Plan Funding Not Required	<u>\$ (505,000)</u>
2008 Basic Capital Budget Request	\$ 360,000
Add Approved Funding Unused in 2007	<u>\$ 0</u>
2008 Gross Budget	\$ 360,000

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

E-2

ORDER GROUP

CCEE2

ORDER NUMBER

In the 2003 - 2005 Capital Plan, funding in the amount of \$3,200,000 was approved related to the possible introduction of a voluntary metering program for residential properties. A further \$3,300,000 was approved in the 2006 -2008 Capital Plan. The funds approved in the 2006 - 2008 plan are being deferred, pending a subsequent Council Report seeking direction on the implementation of this program.

The regular new meter and services program covers the following four sub-programs:

2d-1) Additional AMR installations: \$50,000 CC3EE2D2X1 Order Number: 30010695

In 2005, the City began testing radio read technologies for the water metering system. The intent of the program is to implement the technology that meets the City's need to provide radio reading for the most "difficult-to-access" water meters. This program proposes to add another 2000 AMR units to commercial water meter inventories in this capital plan. It is recommended that \$50,000 be allocated to this program in 2008.

2d-2) Park Board Metering: \$40,000 CC3EE2D3X1 Order Number: 30010696

With the exception of revenue generating facilities, the majority of Parks Board water connections are unmetered. Initial estimates indicate that the parks consume approximately 3-4% of the total City water purchased from the GVRD.

In 2005, a water conservation program was initiated in partnership with the Parks Board. To find opportunities for water use reductions, this program installs meters to measure and understand consumption for irrigation and ornamental water features. It is recommended that \$40,000 be allocated to this program in 2008.

2d-3) New Meter Purchase and City Funded Services: \$270,000 CC3EE2D4X1 Order Number: 30010697

The City owns the water meters used to measure our customers' water consumption. These meters are also used to estimate and bill for sewage discharge. This program provides funding to purchase meters for new metered services. The City recovers these purchase costs through the rental of the meter to the building owner. This program also funds water service upgrades associated with the construction for legal secondary suites. Staff recommend \$270,000 be allocated to this program in 2008.

2e) Minor Improvements \$200,000 CC3EE2EX Order Number: 30010698

2008 Plan Allocation	\$400,000
Less Transfer to Fire Upgrading for Development Program	\$(103,000)
Less 06-08 Plan Funding Not Required	<u>\$ (97,000)</u>
2008 Basic Capital Budget Request	\$ 200,000
Add Approved Funding Unused in 2007	<u>\$ 200,000</u>
2008 Gross Budget	\$ 400,000

This program allows for minor capital improvements in the water system, such as the addition of fire hydrants, valves, and air relief. It also allows for the installation of flow control chambers and pressure reducing valves. In 2008, in order to improve stagnant water in the southwest corner of the 570 zone, Waterworks plans to install a small flow control chamber and ancillary piping in order to move more fresh water into this area.

This project is anticipated to cost \$200,000. This will leave approximately \$200,000 in approved funding for this program in the 2006-2008 Capital Plan unused. It is requested that \$103,000 of this available funding be reallocated to the Fire Upgrading for Development program (E-2b).

**OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED** *(if applicable)*

<b>TIMELINE</b>	Start (mm/yy)	January, 2008	Completion (mm/yy)	December, 2008
-----------------	---------------	---------------	--------------------	----------------

**IMPACT OF DELAY**

The projects required in much of this program are generated in response to projects by third parties, such as the GVRD and property developers. It is very difficult to defer the City part of such projects once the projects are underway. Deferring the Minor Improvements projects will delay necessary improvement in the system and delay improvements to water quality in parts of the system.



# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

E-3

ORDER GROUP

CCEE3

ORDER NUMBER

DEPARTMENT

ENGINEERING SERVICES

DIVISION / BRANCH

WATER & SEWERS

PROGRAM

Waterworks

SUB-PROGRAM / PROJECT

Emergency Planning

DESCRIPTION

Dedicated Fire Protection System and Emergency Supplies

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$770,000	\$ 0	\$170,000	\$	\$600,000	\$600,000	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour		\$	Other Levels of Government		\$	
Materials		\$	Property Owners		\$	
Equipment		\$	Other ( <i>specify below</i> )			
Contract		\$770,000			\$	
Overhead		\$			\$	
Other ( <i>specify below</i> )					\$	
		\$			\$	
		\$			\$	
		\$			\$	
		\$770,000			\$ 0	

**COST SAVINGS & OTHER BENEFITS -**

--

**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment						

**SUB-PROGRAM / PROJECT INFORMATION -**

**OBJECTIVES**

The Dedicated Fire Protection System (DFPS) construction began in 1993 and was completed in 2003. The pumping stations are now 11 years old and some equipment has required replacement during this Capital Plan.

**SCOPE OF WORK / DELIVERABLES**

3a) Dedicated Fire Protection System:	\$ 600,000	CC3EE3AX1 Order Number: 30010699
2008 Plan Allocation	\$ 49,000	
Add Transfer From Distribution Main Replacement Program	\$551,000	
2008 Basic Capital Budget Request	\$600,000	
Add Approved Funding Unused in 2007	\$ 0	
2008 Gross Budget	\$600,000	

The funds allocated to equipment replacement have been spent in the first two years of the Capital Plan. However, additional funding is requested related to expenditures made in 2007 related to the finalization of the False Creek crossing contracts. These additional costs were not fully anticipated in the 2006-2008 Capital Plan. Therefore, it is requested that \$551,000 in available funding be reallocated from the Distribution Main Replacement program (E-1a).

3b) Emergency Supplies	\$0	CC3EE3BX1 Order Number: 30010700
------------------------	-----	----------------------------------

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

E-3

ORDER GROUP

CCEE3

ORDER NUMBER

2008 Plan Allocation	\$ 0
2008 Basic Capital Budget Request	\$ 0
Add Approved Funding Unused in 2007	<u>\$170,000</u>
2008 Gross Budget	\$170,000

There is an unexpended balance in Emergency Supplies of \$170,000 in the 2003-05 Capital Plan. This \$170,000 budget was a carry-forward from the 2000-2002 Capital Plan which related to the VGH emergency water connection installation. The amount has again been carried forward to the 06 - 08 Capital Plan. The installation work is dependent on VGH construction completion which has been deferred to 2008. Should this work be completed in 2008 as scheduled, it is anticipated that these funds will be expended in this Capital Plan.

OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED *(if applicable)*

TIMELINE

Start (mm/yy)

July, 2008

Completion (mm/yy)

December, 2008

IMPACT OF DELAY

Delays in repair and replacement work will increase the risk of the pumping stations not working properly in an emergency situation.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

E-4

ORDER GROUP

CCEE4

ORDER NUMBER

DEPARTMENT

ENGINEERING SERVICES

DIVISION / BRANCH

WATER & SEWERS

PROGRAM

Waterworks

SUB-PROGRAM / PROJECT

Investigation, Monitoring & Control

DESCRIPTION

This program gathers Waterworks information for system design and control. It also provides funding for investigation of new materials and technologies.

### SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$562,000	\$ 0	\$	\$	\$562,000	\$562,000	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$113,000	Other Levels of Government		\$
Materials			\$262,000	Property Owners		\$
Equipment			\$50,000	Other ( <i>specify below</i> )		
Contract			\$30,000			\$
Overhead			\$85,000			\$
Other ( <i>specify below</i> )						\$
Miscellaneous			\$22,000			\$
			\$			\$
			\$			\$
			\$562,000			\$ 0

### COST SAVINGS & OTHER BENEFITS -

Provides funds for research and investigation of new products, materials and technology that may lead to greater efficiency.

### IMPACT ON OPERATING BUDGET -

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment						

### SUB-PROGRAM / PROJECT INFORMATION -

#### OBJECTIVES

This program gathers information for water system system design and control. It also provides funding for investigation of new materials and technologies. This program funds the waterworks telemetry system, as well as other engineering and site investigations, including new waterworks technologies.

#### SCOPE OF WORK / DELIVERABLES

4a) Telemetry System: \$217,000 CC3EE4AX1 Order Number: 30010701

This is an ongoing program to upgrade and expand telemetry infrastructure, which relies on computer and communications systems to monitor water system operations. This information is used to alert staff to potential water quality problems, minimize damage due to pipeline failures, and optimize operations and planning activities. The information that is collected and stored by the telemetry system is essential for monitoring water demands, system breaks, and system performance, as it alerts staff to problem areas.

The Waterworks Long Range Plan outlines a work plan for the telemetry system that requires funding for hardware and software upgrades, and the installation of new monitoring sites. These upgrades are needed to replace obsolete technological components and improve reliability. New monitoring sites are needed in critical locations where water pressure is likely to decrease due to new building development and population growth.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

E-4

ORDER GROUP

CCEE4

ORDER NUMBER

In 2007, a new SCADA system was being developed. To fund this project, Waterworks plans to spend \$217,000 on hardware for the system. The first element of the project is to update and upgrade hardware. The second element is to reprogram the software for the SCADA system that will make monitoring more effective and provide valuable historical information.

4b) Engineering and Site Investigation: \$345,000 CC3EE4BX1 Order Number: 30010702

This program funds investigations aimed at improving construction processes, evaluating emerging technologies, planning of water system improvements and testing of waterworks materials.

Funds are requested annually to provide for various engineering investigations, such as product evaluations, materials testing, soils testing, bacterial monitoring, computer design tools, and pilot tests of new rehabilitation tools.

It is recommended that \$95,000 be allocated to this program in 2008. Some projects to be carried out in 2008 include: a Water System Hydraulic Model Upgrade, an infrastructure evaluation for Acoustic Monitoring of concrete mains, and a Demand Management Area (District Metered Area) Study. Some of this work began in 2007 but was not completed and will be completed in 2008.

In addition, in response to security concerns with regard to the water system and the up coming Olympic Games, Waterworks proposes to install two remote water quality monitoring stations to monitor changes in water quality adjacent to the South East False Creek development and in the downtown core. This work will require \$250,000 in funding.

OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED *(if applicable)*

TIMELINE

Start (mm/yy)

March, 2008

Completion (mm/yy)

December, 2008

IMPACT OF DELAY

Delays to this program would reduce the City's ability to plan improvements to ensure continued acceptable service levels and provide realtime alerts to problems with the water system.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

E-5

ORDER GROUP

CCEE5

ORDER NUMBER

DEPARTMENT	ENGINEERING SERVICES
DIVISION / BRANCH	WATER & SEWER
PROGRAM	Waterworks
SUB-PROGRAM / PROJECT	Water Quality Projects
DESCRIPTION	Capital projects that reduce the number of dead end, low flow and tuberculated water mains to improve water flow and maintain water quality.

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$240,000	\$ 0	\$	\$	\$240,000	\$240,000	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$41,000	Other Levels of Government		\$
Materials			\$56,000	Property Owners		\$
Equipment			\$36,000	Other ( <i>specify below</i> )		
Contract			\$			\$
Overhead			\$44,000			\$
Other ( <i>specify below</i> )						\$
Street work			\$43,000			\$
Miscellaneous			\$20,000			\$
			\$			\$
			\$240,000			\$ 0

**COST SAVINGS & OTHER BENEFITS -**

Improving water quality to adhere to Canadian Drinking Water Guideline limits.

**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment						

**SUB-PROGRAM / PROJECT INFORMATION -**

**OBJECTIVES**

The provision of clean, safe drinking water is critical for public health. Under operating permits issued by Vancouver Coastal Health, drinking water quality is a joint responsibility of the City of Vancouver and the GVRD. The GVRD delivers bulk treated water to the Vancouver system, and the City is responsible for maintaining high quality within the local distribution network. In North America, it is estimated that 50% of waterborne disease outbreaks have originated in distribution systems. Therefore, it is critical that the City of Vancouver have a proactive program in place to ensure high quality safe drinking water.

**SCOPE OF WORK / DELIVERABLES**

The City purchases its water from the GVWD, who is responsible for source protection and primary water treatment. However, the issues within the local distribution system are the City's responsibility. These include maintaining adequate chlorine residuals, addressing areas with chronic low flows, providing suitable monitoring, addressing cross-connection risks, and other distribution system issues which create water quality concerns.

This program funds minor capital improvements which will improve water quality, and provides contingency funding for the construction of additional rechlorination stations if and when they are required.

5a) Miscellaneous Water Quality Projects: \$240,000

CC3EE5AX1 Order Number: 30010703

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

E-5

ORDER GROUP

CCEE5

ORDER NUMBER

2008 Plan Allocation	\$ 0
Add Transfer from Distribution Main Replacement Program	<u>\$240,000</u>
2008 Basic Capital Budget Request	\$240,000
Add Approved Funding Unused in 2007	<u>0</u>
2008 Gross Budget	\$240,000

In areas where building density and demand is low, a water system built to provide high volume flows for fire fighting can experience stagnation problems. This can adversely affect taste and odour of drinking water and leave little residual chlorine for protection against contaminants. To address this, the Waterworks Long Range plan recommends a proactive program of capital works oriented towards improving flow circulation and water freshness in the low demand end-nodes of the water system.

In 2006, this program was over-expended as more work was done on looping projects which became a priority since lower chlorine residuals were detected. In 2007, the remainder of the program in the 2006-2008 Capital Plan was expended leaving this program near completion. The only remaining project in this capital plan is the looping of the Cambie St. watermain to connect it to the Kent Ave. watermain. This project is anticipated to cost \$240,000. Due to the additional work performed in 2006, it is requested that \$240,000 in available funding be reallocated from the Distribution Main program (E-1a).

OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED *(if applicable)*

TIMELINE

Start (mm/yy)

July, 2008

Completion (mm/yy)

December, 2008

IMPACT OF DELAY

Delays to this program would inhibit the City's ability to reduce stagnation in low flow areas of the water system and ensure the City's long term compliance with the Canadian Drinking Water Quality Guidelines.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

E-7

ORDER GROUP

CC3EE7A

ORDER NUMBER

30010724

DEPARTMENT

ENGINEERING SERVICES

DIVISION / BRANCH

WATER & SEWER

PROGRAM

Waterworks

SUB-PROGRAM / PROJECT

Waterworks - Other Projects

DESCRIPTION

Contribution to Manitoba Yards Improvements

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$500,000	\$ 0	\$	\$	\$500,000	\$500,000	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$	Other Levels of Government		\$
Materials			\$	Property Owners		\$
Equipment			\$	Other ( <i>specify below</i> )		
Contract			\$			\$
Overhead			\$			\$
Other ( <i>specify below</i> )						\$
Contribution			\$500,000			\$
			\$			\$
			\$			\$
			\$500,000			\$ 0

**COST SAVINGS & OTHER BENEFITS -**

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**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment						

**SUB-PROGRAM / PROJECT INFORMATION -**

**OBJECTIVES**

The 2006-08 Capital Plan approved a funding contribution of \$500,000 in Waterworks basic capital for Engineering Yards, E1 Manitoba Yards Improvements. The Manitoba Yards Improvements are under review and the requested funding is being maintained until a final decision is made on the nature and timing of the Manitoba Yards improvements.

**SCOPE OF WORK / DELIVERABLES**

**OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED (*if applicable*)**

**TIMELINE**

Start (mm/yy)

Completion (mm/yy)

**IMPACT OF DELAY**

## 2008 BASIC CAPITAL BUDGET SUMMARY

		<i>2008 Capital Budget &amp; Funding Allocation</i>						
Ref #	Program / Sub-program / Projects	Estimated 2008 Gross Budget (C)	External Funding (D)	DCL/CAC Funding (E)	Revenue/ Debenure Funding (F = C - D - E)	2008 Basic Capital Budget Request (G = E + F)	Carried Forward Funding (H)	2008 Funding + Carry Forward (J = G + H)
F-1	<b>MANITOBA YARDS IMPROVEMENTS</b>							
	a) Long Range Development Plan	\$150,000			\$150,000	\$150,000		\$150,000
	b) Security and Safety Improvements	\$150,000			\$150,000	\$150,000		\$150,000
	<b>TOTAL - 2008 YARDS CAPITAL BUDGET</b>	<b>\$300,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$300,000</b>	<b>\$300,000</b>	<b>\$0</b>	<b>\$300,000</b>



# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

F-1a

ORDER GROUP

CC3EF1AX

ORDER NUMBER

30010685

DEPARTMENT

Engineering

DIVISION / BRANCH

Departmental Services / Yards

PROGRAM

Manitoba Yard

SUB-PROGRAM / PROJECT

Manitoba Yard - Long Range Development Plan

DESCRIPTION

Consultant study to establish a twenty year development plan for the Manitoba Works Yard

## SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$150,000	\$ 0	\$	\$	\$150,000	\$150,000	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$	Other Levels of Government		\$
Materials			\$	Property Owners		\$
Equipment			\$	Other (specify below)		
Contract			\$150,000			\$
Overhead			\$			\$
Other (specify below)						\$
			\$			\$
			\$			\$
			\$			\$
			\$150,000			\$ 0

## COST SAVINGS & OTHER BENEFITS -

More efficient provision of Yard Services for the Operating Branches and energy reductions through energy efficiency initiatives.

## IMPACT ON OPERATING BUDGET -

Added Basic	2008	\$0	2009	\$0	2010	\$0
Comment	No immediate impacts.					

## SUB-PROGRAM / PROJECT INFORMATION -

### OBJECTIVES

The Manitoba Yard was constructed in 1965 and it is now appropriate to complete a comprehensive Yard study and recommend a development plan for the Yard over the next twenty years. This study will review the existing services provided by the Yard and determine what improvements, changes and new initiatives should be incorporated into the short term and long term Yard development.

### SCOPE OF WORK / DELIVERABLES

A request for proposals will be developed and a consultant knowledgeable and experienced in municipal Works Yard planning will be hired to complete the Manitoba Yard Development Plan.

### OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED (if applicable)

### TIMELINE

Start (mm/yy)

September, 2008

Completion (mm/yy)

December, 2008

### IMPACT OF DELAY

Delays of this work will require decisions to be made on Manitoba Works Yard development without the benefit of a long range plan.

# 2008 BASIC CAPITAL BUDGET REQUEST

REFERENCE #

F-1b

ORDER GROUP

CC3EF1BX

ORDER NUMBER

30010686

DEPARTMENT

Engineering

DIVISION / BRANCH

Departmental Services / Yards

PROGRAM

Manitoba Yards

SUB-PROGRAM / PROJECT

Manitoba Yard - Security and Safety Improvements

DESCRIPTION

Miscellaneous safety and security improvement required for the Manitoba Yard.

**SUB-PROGRAM / PROJECT BUDGET & SOURCES OF FUNDING -**

GROSS BUDGET	EXTERNAL FUNDING	CARRIED FORWARD FUNDING	2008 BASIC CAPITAL BUDGET REQUEST			
			DCL/CAC FUNDING	REVENUE / DEBENTURE FUNDING	TOTAL (incl. Advance Funding)	2008 ADVANCE FUNDING APPROVED
\$150,000	\$ 0	\$	\$	\$150,000	\$150,000	\$
GROSS SUB-PROGRAM / PROJECT BUDGET			EXTERNAL FUNDING			
Direct Labour			\$25,000	Other Levels of Government		\$
Materials			\$25,000	Property Owners		\$
Equipment			\$25,000	Other (specify below)		
Contract			\$75,000			\$
Overhead			\$			\$
Other (specify below)						\$
			\$			\$
			\$			\$
			\$			\$
			\$150,000			\$ 0

**COST SAVINGS & OTHER BENEFITS -**

**IMPACT ON OPERATING BUDGET -**

Added Basic	2008	2009	2010
	\$0	\$0	\$0
Comment	No impacts		

**SUB-PROGRAM / PROJECT INFORMATION -**

OBJECTIVES

Improve the site security and safety at the Manitoba Yard

SCOPE OF WORK / DELIVERABLES

Complete a security study of the Yard and proceed with recommendations. Undertake safety improvements such as bird netting, improved lighting and signage to improve site safety.

OTHER DEPARTMENTS / DIVISIONS / BRANCHES INVOLVED (if applicable)

TIMELINE

Start (mm/yy)

February, 2008

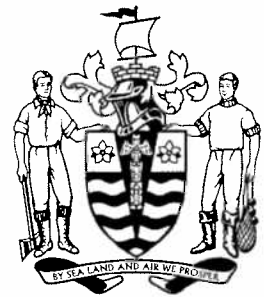
Completion (mm/yy)

December, 2008

IMPACT OF DELAY

Delays may result in injury to staff and unauthorized access to the Manitoba Yard.

# 2003-05 Engineering Capital Closeouts And Carry Forwards



City of Vancouver

May 2008

## INTRODUCTION

The following section summarizes

- the capital closeouts of programs/projects funded from the 2003-05 Capital Plan and the proposed allocation of the unexpended capital and
- the carry-forward of funding for ongoing projects from the 2003-05 Capital Plan to the 2006-08 Capital Plan

### Closeouts

This closeout process for the 2003-2005 Capital Plan will involve complete program closeouts for Streets, Communications, Waterworks, Yards and Special Projects. Complete program closeouts were done for Street Lighting and Sewers in 2007.

A summary of the account closeout for each program area is provided in this report. The account summaries are based on the SAP Capital Statements generated as of April 1, 2008. Council authority is required to close capital accounts with a variance of more than 15% and \$50,000 of the approved budget, and to reallocate capital funding of more than \$50,000. Explanations for each account with a significant variance are provided for Council's information.

The net overall closeout balance in each area is summarized in Table 1 and, in all cases, the overall Capital Programs have unexpended balances. In the case where a group of accounts will be closed with a deficit, funding allocation from the 2008 Capital has been identified to cover the shortfall and presented for Council approval. Details of the closeout balance and the proposed allocation in each program area are shown on the following pages.

It should be noted that the 2003-2005 Streets Capital Plan did not include external funding in the program and project budgets. Any revenues or recoveries received are recognized as a reduction in expenditures. Where revenues or recoveries exceed expenditures, a negative 'actual' will be shown. With the implementation of the SAP Investment Management / Project System modules, all programs and projects will be budgeted at gross, including all City and external funding and recoveries.

### Carry forwards

For incomplete projects from the 2003-2005 Capital Plan, funding for these projects is recommended to be carried forward to the 2006-2008 Capital Plan. The account details for these projects are shown on the following pages.

A summary of the close out position for each area is as follows:

Table 1 - Closeout position and Carry Forward funding by Program Area  
(includes only those programs within a Program Area not previously closed out)

PROGRAM AREA	2003-05 BUDGET	BALANCE	CARRY FORWARD (ongoing projects)	CLOSEOUT BALANCE (complete projects)
Streets	\$57,677,490	\$19,666,441	\$18,374,963	\$1,291,478
Communications	\$235,400	\$64,295	\$64,295	
Waterworks	\$3,200,000	\$3,200,000	\$3,200,000	-
Yards	\$1,315,769	\$1,315,769	-	\$1,315,769
Projects	\$6,928,885	\$761,591	\$761,591	-
<b>TOTAL</b>	<b>\$69,357,544</b>	<b>\$25,008,096</b>	<b>\$22,400,849</b>	<b>\$2,607,247</b>

**Streets Capital Account Closeout Summary**

The purpose of this summary is to close and balance accounts for remaining Streets programs in the 2003-2005 Capital Plan. The total budget for these programs is \$57,677,490. The net balance resulting from the closeout is \$19,666,441 which is 34% of the total budget. It is recommended that this funding be transferred to the 2006-2008 Streets Capital Program as outlined in Table 3.

Table 2: Streets Accounts Closeout Summary (Actual Expenditure as of April 1, 2008)

Program or Project Description	Budget (\$)	Actual (\$)	Balance (\$)	Variance (%)
<b>A1 INFRASTRUCTURE</b>				
CBEA1B: Local Street Reconstruction	883,865	848,604	35,261	4%
CBEA1C: Major Maintenance Bridges*	2,660,611	298,614	2,361,997	89%
CBEA1E: Pavement & Research	270,000	276,432	(6,432)	-2%
CBEA1G: Infrastructure Other Charges*	0	153,164	(153,164)	n/a
<b>Subtotal</b>	<b>3,814,476</b>	<b>1,576,814</b>	<b>2,237,662</b>	<b>59%</b>
<b>A2 PEDESTRIANS &amp; BIKES</b>				
CBEA2A: Sidewalks*	2,686,406	3,676,266	(989,860)	-37%
CBEA2E: Bicycle Network	2,562,274	2,192,196	370,078	14%
CBEA2F: Beautification & Trees*	542,457	439,830	102,627	19%
CBEA2G: Ped. & Other Structures	263,500	309,102	(45,602)	-17%
CBEA2H: Greenways	1,248,192	1,400,396	(152,204)	-12%
CBEA2J: Other Charges*	0	134,831	(134,831)	n/a
<b>Subtotal</b>	<b>7,302,829</b>	<b>8,152,621</b>	<b>(849,792)</b>	<b>-12%</b>
<b>A3 TRAFFIC SIGNALS</b>				
CBEA3A: New Ped & Veh Signals*	2,611,357	2,084,368	526,989	20%
CBEA3B: Signal Modifications	1,242,737	1,180,402	62,335	5%
CBEA3D: Replace Aging Signal Plant	1,822,477	1,852,676	(30,199)	-2%
CBEA3F: TSMS Upgrade (from 2000/02)*	190,723	(55,378)	246,101	129%
CBEA3J: DTP Implementation Phase 1	0	(7,372)	7,372	0%
CBEA3K: DTP Implementation Phase 2*	118,500	537,508	(419,008)	-354%
CBEA3IC: 2003/05 ICBC Program		(653)	653	n/a
CBEA3Y: 2003/05 Traffic Signal - others		35,257	(35,257)	n/a
<b>Subtotal</b>	<b>5,985,794</b>	<b>5,626,808</b>	<b>358,986</b>	<b>6%</b>
<b>A4 TRANSIT &amp; SAFETY</b>				
CBEA4A: Arterial Improvements*	6,533,500	9,193,448	(2,659,948)	-41%
CBEA4B: Uncurbed Arterials*	374,699	3,600	371,099	99%
CBEA4D: Bus Slabs & Landings	704,819	644,028	60,791	9%
CBEA4E: Property Fund for Eng*	1,125,000	843,496	281,504	25%
<b>Subtotal</b>	<b>8,738,018</b>	<b>10,684,572</b>	<b>(1,946,554)</b>	<b>-22%</b>

Program or Project Description	Budget (\$)	Actual (\$)	Balance (\$)	Variance (%)
<b>A5 LOCAL AREA TRAFFIC PLAN</b>				
CBEA5A: Neighbourhood Traffic Control	1,414,846	1,256,726	158,120	11%
CBEA5B: High Zoned Streets LI	2,041,786	1,813,603	228,183	11%
CBEA5C: Residential Streets LI	5,254,877	5,007,866	247,011	5%
CBEA5D: High Zoned Lanes LI*	220,771	160,318	60,453	27%
CBEA5E: Residential Lanes LI	2,054,641	2,022,871	31,770	2%
CBEA5F: Drainage & Utility Reloc*	541,484	447,056	94,428	17%
CBEA5G: Grade/Open Streets	150,000	129,031	20,969	14%
CBEA5H: Minor Property Acquisition*	376,206	139,055	237,151	63%
CBEA5I: Traffic Circles/Speed Bumps*	460,000	362,103	97,897	21%
CBEA5J: Misc Local Area projects	207,714	204,056	3,658	2%
CBEA5L: Local Area Other charges*	700,000	78,837	621,163	89%
CBEA5M: DCL Projects	(8,300)	0	(8,300)	100%
<b>Subtotal</b>	<b>13,414,025</b>	<b>11,621,522</b>	<b>1,792,503</b>	<b>13%</b>
<b>A6 MAJOR PROJECTS</b>				
CBEA6A: Burrard Bridge Seismic Upgrade	2,700,000	2,577,937	122,063	5%
CBEA6B: DT Streetcar Granv. Ext Feas St	0	38,178	(38,178)	n/a
CB1EA6C: Cambie Bridge Median	250,000	219,629	30,371	12%
CB2EA6D: Urban Transp. Showcase*	3,730,000	(166,855)	3,896,855	104%
CB3EA6D: Burr. Br. Ped & Cyc. Upgrade*	11,708,000	889,092	10,818,908	92%
CB3EA6E: DT Streetcar Phase 0	0	(4,424)	4,424	n/a
CB3EA6H: S-Curve Contractor	0	(7,068)	7,068	n/a
CB3EA6I: Greenlinks Funding	34,348	(3,362,551)	3,396,899	99%
<b>Subtotal</b>	<b>18,422,348</b>	<b>183,938</b>	<b>18,238,410</b>	<b>99%</b>
<b>A7 OTHER CHARGES</b>				
CBEA7 2003/05 Street Other Charges	0	164,774	(164,774)	n/a
<b>NET UNEXPENDED BALANCE/(DEFICIT)</b>	<b>57,677,490</b>	<b>38,011,049</b>	<b>19,666,441</b>	<b>34%</b>

\*Indicates Program that has projects with variances of more than 15% and \$50,000. See Table 4 for explanations.

Table 3: Carry Forward Funds and Allocation of Closeout Balances

<b>Carry Forwards for Ongoing Projects</b>		<i>Budget (\$)</i>
A1c - Major Mtce Bridges-Burrard Br. Railing		2,361,997
A6d - Burrard Br Ped & Cyclist Upgrade		10,818,908
A2h - Greenlinks Projects		3,396,899
A3f - TSMS Upgrade		246,101
A4a - Arterial Improvements - Clark/Knight Corridor *		(2,659,948)
A6d - Urban Transportation Showcase		3,896,855
A2e - Bicycle Network - Nicola Bikeway		77,000
A5h - Minor Property Acquisition - Grandview Slope Cuts		237,151
	<b>Subtotal</b>	<b>18,374,963</b>
<b>Allocation of Closeout Balance</b>		<i>Budget (\$)</i>
A1c - 2008 Major Mtce Bridges**		649,732
A2e - 2008 Bicycle Network		140,874
A2f - 2008 Beautification and Street Trees		102,627
A3a - 2008 New Ped & Veh Signal		112,885
A4d - 2008 Bus Slabs & landings		60,791
A4e - 2008 Property Fund for Eng		281,504
A5a - 2008 Neighbourhood Traffic Control		158,120
A5b - 2008 High Zoned Streets LI		228,183
A5c - 2008 Residential Streets LI		247,011
A5k - 2008 Local Area Traffic-Other		299,611
	<b>Subtotal</b>	<b>2,281,338</b>
<b>Funding Source for covering closeout deficit</b>		<i>Budget (\$)</i>
2006 New Sidewalks		(989,860)
	<b>Subtotal</b>	<b>(989,860)</b>
	<b>TOTAL</b>	<b>19,666,441</b>

\* Arterial Improvements program has outstanding recoveries of \$6.72 million related to the Clark/Knight Corridor Project. This is a multi-plan project with several phases. This phase is approximately 75% complete but recoveries cannot be claimed until work each project is complete. The expected surplus will be applied to the next phase of the project in 2006/08.

\*\* It is anticipated that more funding will be required for bridge maintenance activities in 2008, including the Granville Bridge Strengthening (RTS#07159) currently being considered by Council. The following 2003/05 programs are complete and the remaining funding can be re-allocated to the Bridge Maintenance program:

A4b - Uncurbed Arterials	\$371,099 (\$220,000 of this is subject to approval of RTS #07159)
A5e - Residential Lanes	\$31,770
A5f: Drainage & Utility Relocation	\$94,428
A6a - Burrard Bridge Seismic Upgrade	\$122,063
A6c - Cambie Bridge Median	\$30,371



Table 4: Variance Explanation

Order Group	Program	Budget (\$)	Actual (\$)	Balance (\$)	Variance (%)
CBEA1C	Major Maintenance Bridges	2,660,611	298,614	2,361,997	89%
CB3EA6D	Burrard Bridge Ped & Cyclist Upgrade	11,708,000	889,092	10,818,908	92%
The A1c funds have been specifically allocated to railing replacement on Burrard Bridge. Both the railing replacement and the pedestrian and cyclist upgrade are on hold pending a final decision on designs for the bridge.					
CBEA1G	Infrastructure Other Charges	0	153,164	(153,164)	
CBEA2J	Other Charges	0	134,831	(134,831)	
CBEA5L	Local Area Other charges	<u>700,000</u>	<u>78,837</u>	<u>621,163</u>	
TOTAL		700,000	366,832	333,168	47%
Discount on debenture costs distributed to Infrastructure program and Peds and Bicycles program but the budget was all recorded under Local Area other Charges. The negative variances in A1 and A2 are offset by the positive variance in A5L. The estimates for these borrowing costs are done at a high level and the timing of the borrowing can change. The funds will be used in 2006/08 for debenture costs not yet incurred.					
CBEA2A	Sidewalks	2,686,406	3,676,266	(989,860)	-37%
The 2006-08 Capital for the New Sidewalk program has provided funding to cover the deficit in the 2003-05 program. Increased cost in the 2003-05 program is a result of unexpected changes in scope on projects such as Marine Drive and Hoy St where retaining walls had to be constructed and extra landscaping work performed. Given the exceptionally large number of projects there was some expectation of savings due to economies of scale. However, due to significant variability of site conditions across the projects, efficiencies could not be sustained. In addition, there was an increase of approximately 24% in material costs from 2004 to 2006 which also contributed to this deficit. We are now approximately 80% complete on our City Sidewalk Network and the very challenging projects are left to be done. We will need to revise our estimating accordingly in the future.					
CBEA2F	Beautification & Trees	542,457	439,830	102,627	19%
Fewer projects were undertaken than anticipated and projects that were completed received higher than anticipated funding from external sources.					
CBEA3A	New Ped & Veh Signals	2,611,357	2,084,368	526,989	20%
Received more funding in recoveries from ICBC and Translink than anticipated when budget was initially planned.					
CBEA3F	TSMS Upgrade	190,723	(55,378)	246,101	129%
This is an upgrade to the Traffic Signal Management System. The scope of work changed and the schedule for the TSMS upgrade was delayed when it was decided the facility would relocate from the second floor to the subground. Work is currently underway and will be completed in the next few months.					
CBEA3K	DTP Implementation Phase 2	118,500	537,508	(419,008)	-354%
The negative variance in the Downtown Implementation Plan is due to scope changes at several intersections and competing priorities. Additional signal and trolley wire work had to be performed in the conversion of one way streets to two ways at the Homer, Cambie, Beatty and Georgia street locations. This over-expenditure will be offset with funding from the New Signal Program (CBEA3A).					
CBEA4A	Arterial Improvements	6,533,500	9,193,448	(2,659,948)	-41%
Work still underway on Kingsway & Knight, Clark & 6 <sup>th</sup> , Knight & 49 <sup>th</sup> and Knight-15 <sup>th</sup> - 21 <sup>st</sup> median and therefore recoveries from senior levels of government and others in excess of \$6.7 million are yet to be claimed. The work yet to be completed is projected to be close to \$3.3 million leaving a surplus of approximately \$700,000 when all recoveries are received. Funding will be combined with the 2006-8 capital for the Clark/Knight project.					
CBEA4B	Uncurbed Arterials	374,699	3,600	371,099	99%
This program has been discontinued and any additional work on uncurbed arterials would have been part of the					

Arterial Improvement (A4A) program. Remaining funding is being reallocated to the 2006-08 Bridge Maintenance program (A1c), including the Granville Bridge Strengthening (RTS#07159).					
CBEA4E	Property Fund for Eng	1,125,000	843,496	281,504	25%
The purpose of this fund is to purchase parcels of land that will be needed for future projects as they become available and it is difficult to determine exact timelines. This will be carried forward to 2006/08 for the same purpose.					
CBEA5D	High Zoned Lanes LI	220,771	160,318	60,453	27%
Local Improvements for paving are advanced based on public demand and the City did not actively initiate additional projects for Higher Zoned Lanes. Fewer requests for Lane Improvements were than anticipated in the 2003-05 Capital Plan and therefore fewer projects were approved for construction.					
CBEA5F	Drainage & Utility Reloc	541,484	447,056	94,428	17%
Fewer lanes and streets required Drainage Prior to Paving work than what was anticipated					
CBEA5H	Minor Property Acquisition	376,206	139,055	237,151	63%
\$200,000 was committed to the Grandview Cut Slopes Project -funds to be transferred to A4e Property Fund for Eng combining the two sub-programs in 2006/08.					
CBEA5I	Traffic Circles/Speed Bumps	460,000	362,103	97,897	21%
ICBC funding of \$70,000 was received in 2003 to support the speed hump program. This was not anticipated when the 2003 funds were allocated to this program.					
CB2EA6D	Urban Transportation Showcase	3,730,000	(166,855)	3,896,855	104%
This consists of three projects: Main Street Showcase, Transit Villages and Central Valley Greenway. The total City funding for the three projects is \$3,730,000 and external funding of approximately \$11.6 million. Main Street is not yet completed and recoveries have slightly exceeded expenditures to date - total City funding is \$1.5 million; Transit Villages has \$100,000 in City funding and is on hold pending redesign (Translink); Central Valley Greenway has not yet started and will be before Council in May with updated funding details - it makes up the balance of \$2.13 million in City funding. All balances will be carried forward for continuation of the same project in 2006/08.					
CBEA7	2003/05 Street Other Charges	0	164,774	(164,774)	n/a
Streets overhead variance - unbudgeted. Deficit offset by surpluses in other areas.					
CBEA6I	2003/05 Greenlinks Funding	34,348	(3,362,551)	3,396,899	99%
The Greenlinks Funding account is to be used for the upgrading of pedestrian and cyclists routes in the downtown core and is funded by the Parking Pay-in-Lieu arrangements related to Concord Lands in the North East False Creek area. The Fund receives funding based on development and it is not spent until an opportunity presents itself that makes sense and there is enough funding accrued in the fund to carry it out. There are currently no projects planned.					

### Communications Account Closeout Summary

The purpose of this summary is to close and balance accounts for remaining Communications Programs in the 2003-2005 Capital Plan, which include the Engineering Radio System Upgrade and Engineering Logging Recorder programs, totalling \$235,400. The net balance resulting from the close-out is \$64,295, which is 27% of the total budget. It is recommended that this surplus be carried forward to the 2006-2008 Communications Capital Plan as outlined in Table 6.

Table 5: Communications Account Closeout Summary (Actual Expenditure as of April 1, 2008)

Program or Project Description	Budget (\$)	Actual (\$)	Balance (\$)	Variance (%)
CBEB4-ALT Eng Radio System Upgrade	160,400	170,996	(10,596)	(7%)
CBEB5-ALT Eng Logging Recorder*	75,000	109	74,891	100%
<b>NET UNEXPENDED BALANCE/(DEFICIT)</b>	<b>235,400</b>	<b>171,105</b>	<b>64,295</b>	<b>27%</b>

\*Indicates Program that has projects with variances of more than 15% and \$50,000. See Table 7 for explanations.

Table 6: Carry Forward Summary

Carry Forward for Ongoing Projects	Budget (\$)
2007 Eng Radio System Upgrade	(10,596)
2007 Eng Logging Recorder	74,891
<b>TOTAL</b>	<b>64,295</b>

Table 7: Variance Explanation

Order Group	Program	Budget (\$)	Actual (\$)	Balance (\$)	Variance (%)
CBEB5-ALT	Eng Logging Recorder	75,000	109	74,891	100%
The recorder is part of the radio system. The radio system upgrade was being reviewed and thus the logging recorder program was delayed. As work is now continuing on the radio system upgrade, the logging recorder program will advance.					

### Waterworks Capital Account Closeout Summary

The purpose of this summary is to close the remaining account in the Waterworks programs funded by the 2003-2005 Capital Plan, the Subsidized Voluntary Metering Program. The net balance resulting from the close-out is \$3,200,000, which is 100% of the total budget. It is recommended that this amount be carried forward to the 2006-2008 Waterworks Capital Plan as outlined in Table 9.

Table 8: Waterworks Capital Account Closeout Summary (Actual Expenditure as of April 1, 2008)

Program or Project Description	Budget (\$)	Actual (\$)	Balance (\$)	Variance (%)
CBEE2D-ALT Subsidized Voluntary Metering Program*	3,200,000	-	3,200,000	100%
<b>NET UNEXPENDED BALANCE/(DEFICIT)</b>	<b>3,200,000</b>	<b>-</b>	<b>3,200,000</b>	<b>100%</b>

\*Indicates Program that has projects with variances of more than 15% and \$50,000. See Table 10 for explanations.

Table 9: Carry Forward Summary

Carry Forward for Ongoing Program	Budget (\$)
2008 Subsidized Voluntary Metering Program	3,200,000
<b>TOTAL</b>	<b>3,200,000</b>

Table 10: Variance Explanation

Order Group	Program	Budget (\$)	Actual (\$)	Balance (\$)	Variance (%)
CBEE2D-ALT	Subsidized Voluntary Metering Program	3,200,000	-	3,200,000	100%
This program is on hold pending further analysis and reporting back to Council. Funding carried forward to the 2006-08 Plan					

### Yards Closeout Summary

The purpose of this summary is to close the 2003 and 2005 Yards accounts for the 2003-2005 Capital Plan. The net overall balance resulting from the closeout is a surplus of \$1,315,769 which is 100% of total budgeted funding. It is recommended that this surplus be transferred to the 2006 - 2008 Yards Capital Plan as outlined in Table 12.

Table 11: Yards Closeout Summary (Actual Expenditure as of April 1, 2008)

Program or Project Description	Budget (\$)	Actual (\$)	Balance (\$)	Variance (%)
CB1EF: Yards 2003*	930,000	244,013	685,987	74%
CB3EF: Yards 2005*	644,114	14,332	629,782	98%
<b>NET UNEXPENDED BALANCE/(DEFICIT)</b>	<b>1,315,769</b>	<b>-</b>	<b>1,315,769</b>	<b>100%</b>

\*Indicates Program that has projects with variances of more than 15% and \$50,000. See Table 13 for explanations

Table 12: Allocation of Closeout Balance

Allocation of Closeout Balance	Budget (\$)
2008 Manitoba Yards	1,303,687
2008 National Yards	12,082
<b>TOTAL</b>	<b>1,315,769</b>

Table 13: Variance Explanation

Program or Project Description	Budget (\$)	Actual (\$)	Balance (\$)	Variance (%)
CB1EF: Yards 2003	930,000	244,013	685,987	74%
CB3EF: Yards 2005	644,114	14,332	629,782	98%

The Manitoba Yard Capital funding request for the 2003 and 2005 Capital Budget was primarily for major renovations to the Manitoba Yard Operations building. The renovation project has been delayed pending results of Vancouver South Transfer Station Infrastructure Review which may significantly impact the existing Manitoba Yard and its planned improvements.

### Projects Capital Account Closeout Summary

These accounts represent infrastructure development programs (new streets, sidewalks, traffic signals, street lighting, and greenways) that are externally funded (over a number of years) and are a result of development permit, subdivision and rezoning applications/requirements. The accounts are intended to be fully cost recovered and net out to a zero balance with surpluses carried forward to pay for unfinished work and/or work that is to occur at a future date.

To close and balance the accounts for the 2003-05 Projects Capital Closeout, the following summary has been prepared. The net overall unexpended balance resulting from the closeout is \$761,591 (11%) as detailed in Table 14. It is recommended that the balance be carried forward to 2006-08 Projects Capital as detailed in Table 15.

Table 14: Projects Closeout Summary (Actuals as of April 8, 2008)

Program or Project Description	Budget (\$)	Actual (\$)	Balance (\$)	Variance (%)
CB1EJA Infrastructure Mgmt. Ph.2 Will	35,555	35,555	-	-
CB1EJB Chinese Pioneer's Monument	169,642	169,642	-	-
CB1EJC Offsite Soil Remediation	7,988	7,988	-	-
CB1EJD Collingwood Village-Phase IV	128,201	128,201	-	-
CB1EJE Orca Bay	21,424	21,424	-	-
CB1EJF Mole Hill Lane	45,883	45,883	-	-
CB1EJG VGH Precinct*	203,000	-	203,000	100%
CB2EJA Bayshore Dr. Road Settlement Repairs	6,248	6,248	-	-
CB2EJB Vanc Convention Centre Expansion	5,722,040	5,463,917	258,123	5%
CB3EJA Plaza of Nations Casino*	264,100	4,934	259,166	98%
CB3EJB Concord Pacific Phase 6A	72,575	72,575	-	-
CB3EJC Indy Dismantling	4,468	4,468	-	-
CB3EJD Concord Pacific Phase 3, Area 5A	1,053	1,053	-	-
CB3EJE 600 Evans Ave.	62,364	21,062	41,302	66%
CB3EJF Concord Pacific Phase 7B Costco Site	77,545	77,545	-	-
CB3EJG Concord Pacific Phase 5F	13,493	13,493	-	-
CB3EJH SEFC and Olympic Village	2,362	2,362	-	-
CB3EJI Science World Drop-off Area Improv.	29,133	29,133	-	-
CB3EJJ Impound Lot Study	-	-	-	-

CB3EJK Citygate Creekside-125 Milross Ave	3,265	3,265	-	-
CB3EJL 1926 E. Broadway GHN Excavation	54,338	54,338	-	-
CB3EJM 1011 W. Cordova Hotel Site	1,910	1,910	-	-
CB3EJN SEFC Olympic Village	2,298	2,298	-	-
<b>Total</b>	<b>6,928,885</b>	<b>6,167,294</b>	<b>761,591</b>	<b>11%</b>

\* Indicates Program that has projects with a variance of more than 15% and \$50,000. See Table 16 for explanations.

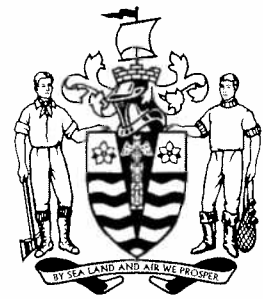
Table 15: Carry Forward Summary

Program	Balance (\$)
VGH Precinct	203,000
Vancouver Convention Centre Expansion Project	258,123
Plaza of Nations Casino	259,166
600 Evans Avenue	41,302
<b>Total</b>	<b>761,591</b>

Table 16: Variance Explanation

Program or Project Description	Budget (\$)	Actual (\$)	Balance (\$)	Variance (%)
CB1EJG VGH Precinct	203,000	-	203,000	100%
VGH and BC Cancer cost recoveries must be carried over to the 2006-2008 Capital Plan; as required by the further coordination with works relating to the long term VGH Precinct Redevelopment.				
CB3EJA Plaza of Nations Casino	264,100	4,934	259,166	98%
These funds are for Carrall Street Greenway(south of Pacific), Carrall St. signal upgrade and a mid-block crossing of Pacific Blvd. Design of these elements has been delayed.				

# 2006-08 Streets Budget Redistributions



City of Vancouver

May 2008

## **2008 STREETS BUDGET SUBMISSION AND FUNDING REDISTRIBUTIONS**

### **Background**

There are three major projects in the current Streets Capital program that are experiencing funding shortfalls: Central Valley Greenway, Granville Street Reconstruction and Cambie Street Restoration. These are priority projects for which the timing is important. The reconstruction of Cambie and Granville Streets are being coordinated with work being done on the Canada Line. The Central Valley Greenway was part of the Urban Transportation Showcase (UTS) approved in 2004 and is the next step in developing a regional greenway system through the region's designated Growth Concentration Area. The UTS is also a key component of the Federal Government's *Action Plan of Climate Change*.

Much of the shortfall is due to the fact that the construction budgets for these projects were estimated several years ago and inflation was not built in. The construction industry has experienced unprecedented inflation - up to 30% over three years - resulting in inadequate project budgets.

In order to fund these projects within existing resources, Engineering staff have reviewed all the Streets Capital Programs to identify potential sources of funding. In reviewing construction schedules, crew capacities, project readiness, priorities, and coordination with other work, it was determined what could be completed within the next year to 18 months. Funding within the programs, including close-outs and carry forward funding from 2003/05 and unallocated funds from 2006/08, was reviewed to ensure all scheduled work would be carried out. Only after this review were funds deemed to be available to redistribute to these major projects. Staff have also reviewed additional DCL funding for those projects which are eligible.

There are many programs in which City crews have been unable to complete a majority of the work that was planned to take place from 2006 to 2008. The main reason for this was the work stoppage in 2007, which caused the loss of an entire construction season. Due to the fact that there are limited streets crews, it is not possible to make up for the lost time. With the recent extreme shortage of available skilled labour, it is very difficult to temporarily expand the number of City crews to increase our work capacity to complete the current year's program and catch up with the remaining work from 2007.

The three major projects cover a wide range of roadway and sidewalk reconstruction, as well as other works, to enhance transit and pedestrian movement. It is recommended that funding contributions be provided from the related programs (e.g. Arterial Reconstruction, Traffic Signals, Greenways, Bicycle Network) and the remaining funding be provided through re-allocations from other 2006-08 programs.

### **Central Valley Greenway**

**Project Funding:** This project has a budget of \$6,765,000 in the 2003/05 Capital Plan and current estimates are just over \$10 million. Recently completed detailed designs suggest that the original estimate was about \$1 million too low. In addition, there has been significant inflation since the original estimates were done 4 years ago.



TransLink has agreed to provide \$1.25 million in additional funding, subject to approval by their Extended Executive. The additional \$3.25 million required includes this cost sharing opportunity, leaving an approximate shortfall of \$ 2.1 million in City funding.

**Impact of Funding Redistribution:** The required funding of \$2.1 million is available in the 2008 Bikeways and Greenways programs for this priority project (Table 1 details the recommended funding sources). Funding from A2) Pedestrians and Bicycles would fit the intent of this project. The funding will be a contribution of the 2008 budget which had not yet been allocated to specific projects. There is no loss of specific external funding opportunities.

**Timing:** A separate report will be presented to Council on May 27, 2008 to award the contract for this work. Work will begin in early June of 2008 and the project is scheduled to be completed by the end of the year.

Table1: Recommended funding sources from Engineering Capital Budget for Central Valley Greenway

PROGRAM	AMOUNT	IMPACT
A-2e Bicycle Network (BCB 2008)	1,300,000	While enough funding remains in 2006/07 A-2e to complete all Council approved projects, funding for future projects may be delayed.
A-2h Greenways (BCB 2008)	325,000	Unallocated
A-2h Greenways (DCL 2008)	475,000	Unallocated
<b>TOTAL CONTRIBUTION</b>	<b>\$2,100,000</b>	

### Granville Street Reconstruction

**Project Funding:** Granville Street Reconstruction is currently funded at \$5.5 million of BCB and another \$5.5 million in a cost-share agreement with Translink based on the original estimate of \$11 million. Current estimates for this project total \$20.8 million, creating a shortfall of \$9.8 million. This is due to the original estimates being based on preliminary plans, rather than detailed plans. In addition, there has been a significant surge in the cost of construction over the past four to five years.

Staff will be applying to Translink to continue the existing cost-sharing agreement and are recommending a basic capital redistribution of \$4.9 million (50% of the total shortfall) from various programs to the Granville Street Reconstruction project. Table 2 details the recommended funding sources.

**Impact of Funding Redistribution:** Staff have reviewed construction schedules and have determined what work can be completed over the next 18 months. While redistributing funds may delay some projects (as listed in Table 2), these projects would likely have been delayed as a result of the work stoppage in 2007 and limits of crew capacity. Due to the fact that local improvement projects in A5 b), d), and e) are partially funded by residents, the recommended redistribution of funding away

from these programs would cause delay in accessing this external funding source (\$400,000 maximum).

**Timing:** It is anticipated that construction contract award will be in September. The required funds need to be in place by that time. Construction would begin shortly after the contract award and would be completed by November, 2009. A separate report will be presented to Council on May 22, 2008 on the project design and funding details.

Table2: Recommended funding sources from Engineering Capital Budget for Granville Street Reconstruction

PROGRAM	AMOUNT	IMPACT
A-1a1 Arterial Reconstruction Non-MRN (2008 BCB)	1,600,000	Rehabilitation of some streets would be delayed: Davie (Denman to Granville) and MacDonald (16 <sup>th</sup> to King Ed)
A-1b Peat Street Reconstruction (2008 BCB)	150,000	Reconstruction of streets that have deteriorated due to poor soil conditions may be delayed-specific projects had not yet been identified
A-1h Cut Restoration & Development (2008 BCB)	215,000	No new areas will be rehabilitated - no specific projects had been identified
A-2 Sidewalk Reconstruction	300,000	This funding is remaining after all planned work is accounted for
A-2f Street Beautification (2008 BCB)	300,000	Projects to be delayed may have included Kingsway (Gladstone to Killarney)
A-4e Property Fund (2008 BCB)	200,000	Sufficient funds from 03/05 closeout will be available to make all planned purchases (such as Clark & 33 <sup>rd</sup> )
A-5b Higher Zoned Streets - LI (2008 BCB)	200,000	This funding is remaining after all planned work is accounted for
A-5f Drainage and Utility Relocation (2008 BCB)	200,000	No specific projects planned
A-5e Residential Lanes - LI (2008 BCB)	415,000	Some Improvements of some lanes may be deferred to future plans - such as East of Adera from 45 <sup>th</sup> to 47 <sup>th</sup>
A-5a Neighbourhood Traffic Calming (2007 BCB)	420,000	30009934 - Unallocated - no specific projects planned
A-5i Neighbourhood Collector Program (2006 BCB)	900,000	30008870 -Unallocated - no specific projects planned
<b>TOTAL FUNDING</b>	<b>4,900,000</b>	

### Cambie Street Restoration

**Project Funding:** The current estimate to complete the Cambie Restoration project is \$16.4 million. The current capital budget and external funding sources total \$13.65

million, resulting in a \$2.75 million shortfall.

Now that the Canada Line construction is nearing completion, a more accurate evaluation of the scope of the restoration work required on this MRN corridor is possible. Some of the cost increases are a direct result of increased amounts of concrete and boulevard restoration work required.

The remainder of the increased costs result from a major scope addition. This is the identification of the need to remove, excavate, backfill and reconstruct the curb lanes from King Edward to W 17th Avenue. The existing curb lanes were constructed using an integrated concrete slab and curb as a cost-effective way to bridge over the poor soils in the area. Over the years, this difference in material between the curb lane and the adjacent lane has created a significant pavement cracking issue caused by differential settlement. Rehabilitation of these works at this time will decrease the overall disruption felt by businesses, residents and commuters. It was anticipated that Canada Line construction would remove most of the integrated slab and curb in order to construct the tunnel. However, the construction methodology was refined with the result being that most of this integrated slab/curb remains in place and now requires restoration.

The recommended funding sources to address the funding shortfall are listed in Table 3. All the sources are from the 2008 Capital Budget and are reflected in the various program budget submissions.

**Impact of Funding Redistribution:** Proposed projects that may have led to more economical life cycle management of streets could be delayed. However, much of this work would not have been completed due to capacity issues. The impacts of the specific reallocations are listed in Table 3.

**Timing:** This project is currently underway and is scheduled to be completed by December 31, 2008.

Table3: Recommended funding sources from Engineering Capital Budget for Cambie Street Restoration

PROGRAM	AMOUNT	IMPACT
A-2b Sidewalk Reconstruction (2008 BCB)	600,000	Project such as Davie St., 12 <sup>th</sup> Ave and East Hasting may be delayed.
A-3d Traffic Signals (2008 BCB)	500,000	For Traffic Signals as part of the Cambie project
A-5a Neighbourhood Traffic Calming (2008 BCB & DCL)	750,000	No specific project are currently planned (BCB \$350,000 and DCL \$400,000)
2008 Sewers OMR Funding	233,426	No impacts - Unallocated
2008 Streets OMR Funding	269,107	No impacts - Unallocated
Uncommitted DCL Funding	397,467	
<b>TOTAL FUNDING</b>	<b>2,750,000</b>	

### Use of Borrowed Funds

As shown in Table 4, the source of funds being recommended for the three major projects listed above include contribution from related programs to cover the various components of the major projects and re-allocation from unrelated street programs that requires varying of borrowing authorities and therefore requires 8 affirmative votes for approval as outlined in Recommendation A of the 2008 Basic Capital Budget Report (RTS07330).

Table 4: Funding Re-distribution to Major Projects

<b>Program</b>	<b>Contribution</b>	<b>Reallocation</b>	<b>Other Funding</b>
A-1a Arterial Reconstruction	1,600,000		
A-1b Peat St Reconstruction		150,000	
A-1h Cut Restoration & Development		215,000	
A-2b Sidewalk Reconstruction	300,000		
A-2f St Beautification	300,000		
A-4e Property Fund		200,000	
A-5b Higher Zoned Streets - LI		200,000	
A-5f Drainage and Utility Relocation		200,000	
A-5e Residential Lanes - LI		<u>415,000</u>	
<b>Funding from 2008 Capital</b>	<b>2,200,000</b>	<b>1,380,000</b>	
A-5a Neighbourhood Traffic Calming		420000	
A-5i Neighbourhood Collector Program		<u>900000</u>	
<b>Funding from 2006-07 Capital</b>		<b>1,320,000</b>	
<b>Allocation to Granville Mall Reconstruction</b>	<b>2,200,000</b>	<b>2,700,000</b>	
A-2b Sidewalk Reconstruction	600,000		
A-3d Traffic Signals	500,000		
A-5a Neighbourhood Traffic Calming		750,000	
2008 Sewers OMR Funding			233,426
2008 Sts OMR Funding			269,107
Additional DCL Funding			397,467
<b>Allocation to Cambie Street Restoration</b>	<b>1,100,000</b>	<b>750,000</b>	<b>900,000</b>
A-2e Bicycle Network	1,300,000		
A-2h Greenways	800,000		
<b>Allocation to Central Valley Greenway</b>	<b>2,100,000</b>		
<b>Total Funding</b>	<b>5,400,000</b>	<b>3,450,000</b>	<b>900,000</b>