



CITY OF VANCOUVER

ADMINISTRATIVE REPORT

Date: May 6, 2004
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TO: Standing Committee on City Services and Budgets

FROM: General Manager of Engineering Services

SUBJECT: 2004 Engineering Basic Capital Budget

RECOMMENDATION

- A. THAT the 2004 Streets, Street Lighting, Communications, and Yards Basic Capital Budget totalling \$23,566,000 as summarized in this report and detailed in Appendix 1 (**limited distribution**) be approved. Funding of \$17,456,000 to be provided from borrowing approved by plebiscite as part of the 2003-2005 Capital Plan for Streets, Communications, Street Lighting, and Yards components of the budget, funding of \$4,110,000 to be provided from 2004 Capital from Revenue, and funding of \$2,000,000 to be provided from the \$20 million of borrowing authority approved by the voters in 2002 for the City's share of cost shared capital projects. The funding includes \$4,405,295 for Streets Capital that has been approved in advance by Council in previous reports.
- B. THAT the 2004 Sewers Basic Capital Budget totalling \$22,310,000 as summarized in this report and detailed in Appendix 1, be approved. Funding, excluding pre-approved borrowing of \$10,000,000, to be provided in new borrowing approved under Council authority for the Sewer component of the budget.
- C. THAT the 2004 Waterworks Basic Capital Budget totalling \$11,911,000 as summarized in this report and detailed in Appendix 1, be approved. Funding, excluding pre-approved borrowing of \$10,000,000, to be provided in new borrowing approved under Council authority for the Water component of the budget.

- D. THAT the Capital closeouts as detailed in Appendix 2 be approved and that the required carry forward of surpluses and deficits be brought into the 2003-2005 Capital Plan Account Structure as indicated.

COUNCIL POLICY

In October 2002, Council approved the 2003-2005 Capital Plan which set a level of funding for specific Capital programs over those 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 Capital Plan is allocated to specific capital programs through annual Capital Budgets. Funding for annual Capital Budgets is provided from a combination of borrowed funds, as approved in the plebiscite, and revenue funds, with the revenue portion being subject to approval of Capital from Revenue in the Operating Budget. Council approval of the annual Capital Budget is required before work can proceed on specific projects.

Closeouts of completed Capital projects, whose expenditures exceed \$50,000 and 15% of the approved budgets, requires Council approval.

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

Major policies for Engineering Services Programs are summarized below:

STREETS

Vancouver Transportation Plan

On May 27, 1997, the Vancouver Transportation Plan was approved by Council. There are many policies in the Transportation Plan which have Capital Budget implications. As outlined in Action Item "F2" of the Transportation Plan, the priority for pedestrians, bikes and transit require funding to support these modes. Re-allocations to support these priorities were made in the 2003-2005 Capital Plan and reflected in the annual budgets.

Bicycles / Greenways

The Clouds of Change Report (1990), CityPlan (1991) and the current Greenways Program (1995), City of Vancouver Transportation Plan (1997) and the 1999 Bicycle Plan: Reviewing the Past, Planning the Future establish the City's policy prioritizing pedestrians and promoting and encouraging cycling as a transportation alternative. Greenways also address the growing needs on the part of communities to have a voice in the design and use of the urban landscape.

Sidewalks

It is Council policy to give sidewalks high priority, and to provide walks on:

- both sides of arterial streets;
- one or both sides of pedestrian collector routes as required;
- both sides of streets in multiple dwelling, commercial and industrial zones;
- in residential areas as requested by petition;
- adjacent to parks, schools and other exempt property, as funding allows.

Transit

The CityPlan direction for Transit, Walking and Biking as a priority calls for making better use of existing streets for buses and implementing HOV lanes and other measures to provide priority for transit users. In this category, measures are being developed with Translink to implement priority improvements.

Safety and Congestion

The City has a policy of improving traffic safety at intersections. Work in this area continues to focus on improving safety in existing corridors, in accordance with the Transportation Plan.

Neighbourhood Traffic Controls

The City has a policy of protecting neighbourhoods from shortcutting with the installation of traffic controls such as traffic circles, diverters, and right-in/right-outs.

STREET LIGHTING

The Safer City Task Force indicated 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, in order to begin reducing and eliminating combined sewer overflows.

In 1981, the above-noted 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 these policies were reaffirmed in the 1991 Policy Report on Vancouver's "Design and Service Level Standards for Sewer Collection Infrastructure," and have been reaffirmed as part of every Capital Plan since.

In 2001, Council adopted the regional Liquid Waste Management Plan which continues the 1% replacement program in order to provide continuous combined sewer overflow reductions and eventual elimination by the year 2050.

CityPlan direction is to make environmental improvements a priority in decision-making with particular attention to air and water quality. One CityPlan step is to reduce combined sewage overflows to surrounding water bodies by continuing to separate storm runoff and sewage systems.

WATERWORKS

In October 2002 Council approved the 2003-2005 Waterworks Capital Plan, which was based on the Waterworks Long Range Plan (LRP). The LRP and Capital Plan focus on the issues of uniform replacement of aging infrastructure, replacement of water

services and meters, system capacity and fire protection improvements, emergency preparedness, and other works such as new water service installations.

In April 1992, Council approved the construction of the Dedicated Fire Protection System, including saltwater pumping stations, a downtown distribution grid, and a pipeline extension to Kitsilano, subject to funding approval in subsequent Capital Plans.

SUMMARY

This report provides Council with an overview of the 2004 Engineering Basic Capital Budget, including submissions for:

Streets	\$ 19,988,000
Communications	\$ 655,000
Street Lighting	\$ 2,103,000
Sewers & Drainage	\$ 22,310,000
Waterworks	\$ 11,911,000
Yards	\$ 820,000
Total	\$ 57,787,000

The General Manager of Engineering Services has reported separately on details of the 2004 Traffic Signal Program (\$992,000) to the Standing Committee on Transportation and Traffic. Funding for the 2004 Traffic Signal Program is included in the 2004 Streets Capital Budget. The 2004 Engineering Basic Capital Budget, the second year of the 2003-2005 Capital Plan, allocates approximately one third of the funds approved by plebiscite in 2002.

A total of \$4,405,295 of the 2004 Engineering Basic Capital Budget has been approved by Council in advance of this report. The \$4,405,295 is comprised of advances of \$992,000 for the Traffic Signal Program, \$1,048,295 for Local Improvements by Initiative, \$1,500,000 for Streets Infrastructure, and \$865,000 for reconstruction of surrounding roads adjacent to the new National Yards. These pre-approvals are included in the Budget and have not been excluded from the requested amount.

Council previously approved funding of \$2,000,000 for the Main Street Showcase program from the \$20 million of borrowing authority approved by the voters in 2002 for the City's share of cost shared capital projects. On October 23, 2003, under authority provided in section 242 of the Vancouver Charter, Council approved \$10,000,000 in borrowing authority for Sewers and \$10,000,000 in borrowing authority for Waterworks in advance of the 2004 Capital Budget.

This report also includes Capital account closeouts for Streets, Communications, Street Lighting, Sewers, Waterworks, and Sewer and Water Combined Connection programs as detailed in Appendix 2.

DISCUSSION

Details of the 2004 Engineering Basic Capital Budget are outlined in the following sections.

SENIOR GOVERNMENT COST SHARING

Additional sources of funding from the provincial and regional governments that is available, or could be available, to help fund capital projects is described below.

1) TransLink Operating, Maintenance and Rehabilitation (OMR) Funding

Funding for the Major Road Network (MRN) from TransLink has increased for 2004. In 2003, MRN funding was set at 85% of the total \$12,000 per lane-km, and TransLink is now providing 100% funding in 2004. In 2004, it is anticipated that \$3,309,000 of this funding will be allocated towards our Capital programs.

Annual funding is provided to each member municipality, provided their MRN streets meet TransLink's minimum pavement quality standard. Currently 8.5 lane km of MRN is below standard and will only receive \$7000 per lane-km in funding. Most of the existing below-quality streets will be rehabilitated by the end of the year, and we expect to receive additional funding from TransLink for these sections. The following table explains the impacts on the Capital Budget:

2004 MRN Funding	Operating Budget	Capital Budget
Operating & Mtce	\$ 2,745,000	\$ 0
Rehabilitation	\$ 0	\$ 2,705,000
Other	\$ 494,100	\$ 604,000
Total	\$ 3,239,100	\$ 3,309,000

Capital Components of the TransLink Funding:

Rehabilitation: \$2,705,000

This category covers reconstruction or replacing existing facilities (both pavements and other items). Rehabilitation is required to keep the City's MRN roads up to the average standard of the region.

Other: \$ 604,000

This category covers the rehabilitation of MRN sidewalks, curbs, boulevards, traffic signals, and sewer catch basins.

2) TransLink Minor Capital

Under TransLink's definition, this category only includes new works, not replacement of improvements, on the MRN that generally address congestion, safety, and capacity issues. TransLink will fund 50% of the cost of these projects including property acquisition. For 2004, TransLink funding has been tentatively approved for \$20 million region-wide. The City will be submitting project applications to TransLink for Minor Capital funding, and we would receive funds when awarded projects are completed. The City's share of the cost of these projects would be from budgeted project and program accounts.

3) ICBC Safety Programs

Since the early 1990's the Insurance Corporation of British Columbia (ICBC) and the City have participated in reviews of traffic safety along several corridors within the City. As a result of these reviews, ICBC has contributed funding towards specific Council approved projects having a road safety benefit. Several projects have been identified and will be completed during the 2004 construction season. ICBC funding will complement existing City funding, and is variable as funding depends on suitable projects, not a funding formula.

4) Canada - BC Infrastructure Program

This program, formally announced in 2001, has previously been reported to Council. To date, nine City and Community sponsored projects in Vancouver have received funding. Engineering projects have been awarded \$18,260,000 in funding, and we expect that further announcements may be made later this year. Staff estimate that the City will receive about \$6.5 million of the previously awarded funding this year for Sewers projects.

2004 ENGINEERING BASIC CAPITAL BUDGET DETAILS

The 2004 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 (limited distribution - on file in City Clerk's Office). Funding for the 2004 Traffic Signal Program is included in the 2004 Street Capital Budget. The General Manager of Engineering Services has reported previously on details of the 2004 Traffic Signal Program to the Standing Committee on Traffic and Transportation.

A. STREETS

2004 Budget \$ 19,988,000

The 2004 Streets Capital Budget is comprised of a number of programs that address Council's Capital, CityPlan, and Transportation Plan priorities. Adjustments have been made in the 2004 budget to better address current needs. Brief descriptions of the Streets programs are included below:

Infrastructure	\$ 3,920,000
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This program addresses the need for reconstruction of MRN and non-MRN arterial streets and local streets that have deteriorated to the point where normal maintenance is not effective. TransLink only provides funding for the rehabilitation of MRN roads that have met TransLink's minimum standard for pavement quality. As a result, a portion of the City funding in this category is required to upgrade the remaining substandard MRN roads to the required standards. This program also provides funding for major maintenance of City bridges, and pavement research.

Pedestrians, Bicycles & Greenways	\$ 3,965,000
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This program provides for pedestrian and cycling priorities. Funding needs for the construction of new sidewalks, curb ramps, and sidewalk reconstruction are addressed. These areas include cost sharing with property owners, while some projects are fully City funded. In the new sidewalk construction program, the priority is to complete the sidewalk

network to include sidewalks on both sides of all blocks based on priorities for transit routes, arterial streets, pedestrian collector routes, higher zoned streets, and local residential streets.

The funding in this section does not reflect the shift approved by Council on April 8th 2004 as the budget preparation was completed before that date. The new program approved by Council would shift approximately \$1,200,000 from Street and Lane local improvements into new sidewalk construction. In 2004 we will make this shift by beginning to initiate sidewalks at a higher level as approved and will forward a resolution to formally move the funding together with the first local improvement report on the sidewalk projects. Street and Lane projects will be capped to ensure the funds are available to make this shift.

Significant progress has been made in creating the City's Bicycle Network, with nineteen bikeways now part of this network. Vancouver's new bikeways have been effective in encouraging more people to cycle, and development of the network will continue in 2004 with construction of the Gladstone and Balaclava/Carnarvon bikeways, and striping of 4th Avenue and Hornby Street.

Traffic Signals \$ 1,908,000

This section includes funding for the 2004 Traffic Signal Program which will install new signals (\$965,000), and modify existing traffic signals (\$345,000). Details of this program have been reported separately to the Transportation and Traffic Committee. This section also includes funding for the renovation and replacement of existing signal infrastructure. Council approved details of the Traffic Signal Program on May 4, 2004.

Transit & Safety Improvements \$ 855,000

This program provides funding to address various transportation priorities to enhance transit and improve safety. This includes the implementation of the Downtown Transportation Plan, arterial local improvements, bus slabs and landings, and pedestrian crossing improvements.

Local Area Traffic Plans & Other Improvements \$ 5,640,000

This program addresses the need for installation of neighbourhood traffic controls and construction of streets and lanes by Local Improvements petitions or initiatives. Neighbourhood Transportation Plans and local street traffic calming measures are integral components of the Transportation Plan. There has been an increasing demand for these measures on local streets over the past few years. These projects include public consultation and the installation of traffic circles, bulges, diverters, and other traffic calming measures. In 2004, it is proposed that work continue to install pedestrian curb bulges at high priority locations identified with the help of the School Traffic Working Group in order to increase the safety of pedestrians. The City continues to receive requests from property owners to pave local area streets and lanes. Work is continuing on developing innovative, environmentally friendly designs.

Major Projects \$ 3,000,000

On February 24, 2004, Council approved participating in the Urban Transportation Showcase Program. The Main Street Showcase project will include the completion of the Central Valley Greenway, transit and pedestrian improvements on Main Street, and the development of Transit Villages. \$1,000,000 of the funding will come from current Greenways Capital Plan funds, and \$2,000,000 will come from the \$20 million borrowing authority approved by the voters in 2002 for the City's share of cost shared capital projects.

When reported to Council, \$1.63 million of the City's share of funding was to come from 2002 Greenways Capital Budgets. Subsequently to that report, the City has confirmed that we will be receiving \$900,000 later this year from the Rapid Transit Project Office (RTPO) in relation to the completion of the Clark/Glen Skytrain Station. We now recommend that this payment be used to fund part of the \$1.63 million transfer, thus reducing the transfer from the 2002 Greenways Capital Accounts to \$730,000. This change will provide additional funds for the completion of other Greenways projects. City funding for the Showcase project will total \$4.63 million.

<u>Funding Source</u>	<u>Original Report</u>	<u>Revised Proposal</u>
2002 Greenways BCB	\$ 1,630,000	\$ 730,000
2004 Greenways BCB	\$ 1,000,000	\$1,000,000
RTPO Payment	\$ 0	\$ 900,000
TOTAL	\$ 4,630,000	\$ 4,630,000

B. COMMUNICATIONS

2004 Budget \$ 655,000

The City's communications system is made up of the Engineering radio dispatch system, 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 2004 budget provides funding for the continuation of the underground cable plant replacement and expansion programs.

C. STREET LIGHTING

2004 Budget \$ 2,103,000

The 2004 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. We will also reduce street lighting outages by rebuilding connections on trolley routes and replacing badly corroded service panels. Funding is also included to upgrade lighting levels in response to local public safety and security concerns raised by the Police and the public.

Funding is also provided for street lighting relocations in coordinating with other utility companies' replacement programs, and for the City's share of new lighting projects approved through the Local Improvement process.

D. SEWERS & DRAINAGE**2004 Budget \$ 22,310,000**

The 2004 Sewers Capital Budget is a continuation of an ongoing infrastructure program that began in the early 1970's. The Sewers Capital Budget includes the following programs:

System Replacement/Separation \$ 20,702,000

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 Combined Sewer Overflows (CSO's)
- meeting the recently approved Liquid Waste Management Plan's combined sewer overflow (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

System Management \$ 317,000

The system management programs provide funds to support a variety of information and research projects. These projects provide key information that is used to prioritize our 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 modeling, 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.

Other Pollution Abatement \$ 543,000

This program funds other pollution abatement initiatives such as Liquid Waste Management Plan 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 the program has been a reduction in the fecal coliform levels in waters that are adjacent to the City. It also allows us to completely eliminate 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. Over the last two years considerable sewer separation work occurred in the West End and in 2004 this program will continue in the downtown area to eliminate the Denman Street combined sewage overflows, and other areas to compliment the main sewer separation program.

E. WATERWORKS**2004 Budget \$ 11,911,000**

The 2003-2005 Capital Plan is based on the Waterworks Long Range Plan (LRP), updated with the more recent Storage and Transmission Optimization (STOR) work. Coordination with the GVRD through the STOR project also resulted in the deferral of the storage reservoir envisioned in the LRP. The Capital Plan and the 2004 Budget continue to address the major issues identified in the LRP and subsequent planning work.

The 2004 Waterworks Capital Budget is composed of the following:

Distribution System \$ 8,851,000

This program addresses the aging infrastructure of the City's waterworks system. Aging pit cast iron and lined cast iron distribution mains and steel pipe transmission mains are identified and replaced. Waterworks annual work programs result in a replacement rate of about 0.8% per year, down from 1.0% in the previous plan, as necessitated by system aging. Water meters that read inaccurately, service pipes that have worn out due to corrosion, and fire hydrants are also replaced in this program.

Addressing Growth \$ 1,557,000

This program involves the replacement or extension of transmission mains to address pressure and fire flow problems, due to historic and continuing City and Regional growth. The program also includes funding for water conservation projects and for services, meters and distribution system improvements to accommodate new developments.

Other Works \$ 233,000

Ongoing components of this program include the installation and replacement of telemetry (monitoring) equipment, and engineering and site investigation in advance of capital projects.

Water Quality Projects \$ 670,000

This program funds capital improvements to ensure adequate water quality throughout the distribution system. Funding will be used to begin a program of discontinuing and looping dead end water mains. Dead end water mains often result in long water residency times and associated taste and odour problems, and can result in levels of residual chlorine that are below Canadian Drinking Water Quality Guidelines limits. Recent work by the City and the Provincial Health authority has identified the need to accelerate the elimination of dead end water mains.

F. YARDS**2004 Budget \$ 820,000**

Funding for the new National Works Yard was included in previous Capital Plans, but due to scope changes prior to construction a funding shortfall of \$816,000 was previously identified to Council. It was anticipated that the construction management process undertaken would help to manage this shortfall, but the savings were exceeded by increases in materials and construction costs during the construction period. It is proposed to transfer \$800,000 in

funding from the Manitoba Yards Improvement project to the National Yards project in order to cover these costs with existing Yards Capital Plan funding sources.

FUNDING

Funding shown in Table 1 for Streets, Communications, Street Lighting, and Yards is from borrowing authorities approved by voters in the October 2002 plebiscites. 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 2004 Engineering Capital Budget, such as bike routes, traffic signals, 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 (limited distribution), or will be identified with the individual projects when they are reported to Council.

Table 1: Engineering Capital Budget Funding Summary
(000's Dollars)

Program	2003-05 Funding *	2003 Budget	2004 Debenture Funding	2004 Funds from Revenue	2004 Budget
Streets	\$ 61,935	\$ 21,210	\$ 16,428	\$ 3,560	\$ 19,988
Communications	\$ 2,015	\$ 715	\$ 105	\$ 550	\$ 655
Street Lighting	\$ 5,060	\$ 1,667	\$ 2,103	\$ 0	\$ 2,103
Sewers	\$ 58,750	\$ 18,030	\$ 22,310	\$ 0	\$ 22,310
Waterworks	\$ 46,000	\$ 18,902	\$ 11,911	\$ 0	\$ 11,911
Yards	\$ 1,935	\$ 500	\$ 820	\$ 0	\$ 820
TOTAL **	\$ 175,695	\$ 61,024	\$ 53,677	\$ 4,110	\$ 57,787

* Includes the additional \$2.0 million borrowing authority from the \$20 million infrastructure fund for cost shared programs for the Main Street Showcase Project in the Streets Program.

** Does not include the \$4.5 million approved in principle from the \$20 million infrastructure fund for Burrard Bridge Seismic and Broadway Reconstruction. This will be reported back if approved by the Federal/Provincial infrastructure program.

CAPITAL CLOSEOUTS

Every year Capital Plan projects are reviewed to determine accounts that can be closed out. Closeouts of completed Capital projects involving transfers between Capital accounts of \$50,000 and 15% of the budget, or more, require Council approval. Appendix 2 provides a summary of the 2000 - 2002 Capital closeouts for Communications, Street Lighting, Sewers, Waterworks, and Sewer and Water Combined Connections, and a summary of the remaining Pre-2000 Capital closeouts for Streets. Transfers requiring Council approval are noted.

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