

C005 South Westminster Neighbourhood Concept Plan (NCP) Servicing Plan Report

COUNCIL-IN-COMMITTEE

TO: **Mayor & Council** DATE: **February 27, 2003**

FROM: **General Manager, Engineering** FILE: **6520-20(SW)**

SUBJECT: **South Westminster Neighbourhood Concept Plan (NCP) Servicing Plan Report**

RECOMMENDATION

That Council adopt the engineering servicing and financial strategies as outlined in this report and as specified in South Westminster Master Servicing Plan as the means of managing engineering services for this neighbourhood, subject to:

1. Full payment of sanitary sewer, arterial and collector road Development Cost Charges (DCCs) at the time of the Servicing Agreement.
2. Use of a specified area levy as outlined in this report, (in the section on Financing) to assist in funding arterial and collector roads and authorize staff to initiate the required public notification and counter petition process.

INTENT

The purpose of this report is to:

1. Provide Council with an overview of the engineering servicing and financial strategy for South Westminster Neighbourhood Concept Plan (NCP) Study Area.
2. Seek Council support for one of the financing strategies presented in this report.

BACKGROUND

The Proposed Land Use Concept Plan for the South Westminster (Stage 1 NCP) Study Area is being presented for approval in a separate Corporate Report from the General Manager of the Planning & Development Department. This report outlines the engineering servicing issues and financial issues that are included in the Master Servicing Plan. A number of engineering and financial issues were to be resolved as part of the Master Servicing Plan report. The Master Servicing Plan analysis has now been completed based on the Proposed Land Use Concept Plan.

DISCUSSION

We have completed an engineering servicing analysis and financial plan for the South Westminster Study Area. This report includes engineering services layouts and financial analysis, and is available in the Engineering Department.

The engineering services discussed in the report relate to major infrastructure. Only those works which could be added to the 10 Year Plan and funded through Development Cost Charge (DCC) program, such as major trunk sewer and water grid mains, major collector and arterial roads and major stormwater management infrastructure (trunk storm sewer and major canal work) are discussed in detail in the report. Localised site servicing requirements of individual developments are not analysed in the report.

Unlike most other NCP study areas, servicing South Westminster NCP has a number of unique challenges:

- The area is underlain by highly compressible peat soil;
- The groundwater table is high;
- The area is traversed by three separate railways;
- The area lies below the Fraser River 200 year flood level; and
- The existing vacuum sanitary sewer system has no capacity to accommodate new development.

Sanitary Sewer

The existing vacuum sewer system, that services about half of the study area, has no capacity to accommodate new development. Because of the high maintenance cost and the lack of reliability of the vacuum sewer, the City originally intended to replace this system with a steep grade sewer multi-cell/pump system when the area is redeveloped. The steep grade system was evaluated and compared with the newly introduced concept of Low Pressure System (LPS). The LPS is recommended over the steep grade system because it is estimated to be \$7 million less costly than the steep grade system. This saving will greatly reduce the front-end cost for initial development. This method also better facilitates the phasing of development in this area.

In the LPS, the City will own and maintain a system of force mains, and the property owner will be responsible to own and operate their respective pumping facilities on their property. This system of force mains comprise of a grid of 100 to 250mm diameter pipes conveying the sewerage pumped by the individual private pumps and delivering the sewerage to the GVRD interceptor (see Figure 1 in Appendix). The LPS will still have several municipal pump stations to maintain self-cleansing velocities in the system.

Water

Water is currently supplying the study area from three main feed points:

- From the GVRD trunk main via the 450mm diameter water main through Fraser Harbour Commission land;
- From the Kennedy Height Reservoir via a 350mm diameter water main down along Scott Road; and
- From the Whalley Reservoir via a 600mm diameter water main down along 104 Avenue.

To meet the fire flow requirement, a number of loops will have to be completed including: 300mm diameter water main along 104 Avenue and Tannery Road, 400mm diameter water main between 104 Avenue and Old Yale Road, 300mm diameter water main at Span Road, 300mm diameter water main at 110 Avenue and 300mm diameter at Robson Road.

Transportation

As a result of the relatively low density and level of development currently within South Westminster, the current road network easily accommodates the demand with very good levels of service at the intersections.

Full development of South Westminster will result in a significant increase in vehicular traffic and, without road improvements, the vehicle delays would be very high and disruptive throughout the road network.

To address the capacity requirements, significant road works are required, including construction of new roads, widening of arterials, and railway crossing improvements. The soil conditions for this area necessitate preloading, which affects the ability to phase construction and road works, and substantially increases the cost of the road construction.

In keeping with the City's objective of a bicycle and pedestrian friendly City, a comprehensive network of cyclist and pedestrian routes are proposed.

Preloading

As the NCP lies in an area underlain with peat and unconsolidated silts that will settle when subjected to loading, a soil investigation for each development should be carried out before an area is developed. The investigation should recommend the appropriate methods of placing fill and preload. Municipal services and access to individual lots may

have to be maintained by relocating existing services and preloading one-half of the road at a time. Because of the logistic in providing vehicle access to adjacent properties and the relocation of existing services, development that amalgamate lots into large area should be encouraged. Conversely, small infill lots development will present an additional challenge because of the poor soils. Land assembly may be required in certain cases.

Drainage

The main watercourses and drainage systems for this area are: Delta Creek, Scott Creek, Collieries Canal, Robson Creek/Manson Canal, Old Yale Drainage System and Pattullo Drainage System. Three previous comprehensive drainage reports have studied hydrology, hydraulics and environmental issues in this area. The boundaries of these studies areas went beyond this Master Servicing Plan to address the whole storm water catchments. The details of the findings and recommendations are available in: Storm Water Management Review, Pattullo Drainage System, Old Yale Drainage System Storm Water Management Review, and Manson and Gunderson's Slough Watersheds Functional Plan.

Most of the recommended improvement works in Pattullo and Old Yale Drainage Basins have recently been constructed. Major improvement works recommended but not yet implemented are: The Scott Creek Canal, the Collieries Canal and Manson Canal Upgrades, and the replacement of the Grace Road storm sewer.

Financing

A financial analysis is included in the engineering servicing report. The details of all the necessary DCC infrastructure have been identified and the costs are included.

The following table summarizes the projected DCC revenues and construction costs for each engineering service at full build-out. The DCC revenues in this table are based on the current DCC rates.

Services	Projected DCC Revenues	Projected DCC Expenditures	Surplus/(Deficit) Balance
Sanitary Sewer	\$2,280,000	\$3,628,000	(\$1,348,000)
Drainage	\$13,155,000	\$3,510,000	\$9,645,000
Water	\$2,651,000	\$1,522,000	\$1,129,000
Arterial Road	\$14,670,000	\$21,553,000	(\$6,883,000)
Collector Road	\$3,702,000	\$16,322,000	(\$12,620,000)

As illustrated by the above table, the overall deficit is significant with majority of the deficit in Road services. The deficit in sewer and roads is primarily due to the higher cost of construction of these services due to soft soil conditions and the need for extensive pre-loading. The largest deficit is in roads although drainage shows a large surplus, this is mainly due to the intense upgrade of the area's drainage systems in the last few years. These upgrades were funded through the City wide drainage DCC program. Using the drainage surplus to offset deficits in other service areas would severally impact the overall drainage DCC program that now needs to upgrade other areas in the city which contributed to the recent upgrade of the South Westminster area.

The three options considered to overcome the deficit in roads are:

Options	Funding Instruments	Impacts	Remarks	Recommendations
1	Rolling the deficit into the City Wide DCC	Increases to DCC Rates: Arterial Road: 3.3% Collector Road: 13.9%	May not be equitable to other areas Needs new DCC by-law including Provincial approval	Not recommended
2	Specified Area Levy	Levy will be \$22,659 per acre over and above the DCC for industrial land (a	Equitable; More flexible than	Recommended

		53.5% increase). No increase over the City Wide DCC rates.	Area DCC. City-wide DCCs can be leveraged to fund works. Levies collected can be spread among all the services.	
3	An Area Specific DCC for South Westminster (similar to Campbell Height)	A 53.5% increase over the City Wide DCC rates (\$65,015 per acre for Industrial zone as compared to \$107,523 for Campbell Height).	Equitable but less flexible in financing the initial work from DCC as only the DCC collected from this area can be spend for this area.	Not recommended

Option 2, the Specified Area Levy to cover the deficit in roads, offers the most flexibility, has the least financial impact, and is one of the most equitable financing scheme among the financing options available. A Specified Area Levy, under section 646 of the Local Government Act, similar to the levy imposed on Port Kells is recommended for South Westminster Master Servicing Area. It is proposed that the levy would vary among different land uses on the same basis as that for roads DCCs vary. On this basis, the levy would be around \$22,700 per acre for industrial zoning, \$2,800 per 1,000 square feet for commercial zoning - ground floor; and \$3.00 per square foot for residential RM-30 zoning.

Under the Local Government Act all properties in the South Westminster area will be notified of the City's intention to apply a specified area levy to facilitate development. If more than 50% do not counter petition against the levy the by-law establishing the charge will be brought forward at which time the exact rates will be established.

The financial strategy is in accordance with Council's policy respecting the developer-pay principle and requiring each NCP to be financially self-sufficient.

Development Phasing

Three sub-areas were identified and reviewed to determine the development staging in this NCP: the Skytrain Village, the Bridgehead Area and the Scott Road Corridor. Each area incorporates a diversity of residential, commercial and retail land use, thereby allowing flexibility in responding to changing market demand.

From an engineering and servicing cost perspective, Skytrain Village Area is easiest to service and offer the best cash flow for the infrastructure development. Scott Road, 128 Street and 110 Avenue service this area. Scott Road has been preloaded and 110 Avenue has been partially preloaded. Signalised intersections already exist at Scott Road and King George Highway. The area is close to Skytrain and transit. Some of the sanitary system is already in place.

Scott Road Corridor Area, located along Old Yale Road and between the Scott Road and the South Fraser Way, is the second best area from a cash flow and servicing cost perspective. This area can be accessed from both Scott Road and South Fraser Way that were both preloaded. However, Old Yale Road has not been preloaded and will be costly to construct.

Servicing the Bridgehead area, located at the end of Old Yale Road and by the side of Fraser River, presents a number of challenges. Old Yale Road, being the only primary access to the area, is in relatively poor condition and has not been preloaded. Timberland Road is the secondary access, also is in poor condition, and shares its right-of-way with a railway spur line. The edge of the roadway abuts the rail. The widening of Timberland Road would require additional right-of-way. An elevated rail crossing exists near the intersection of South Fraser Way and Old Yale Road. This bridge crossing needs to be upgraded at a significant cost to provide the clearance necessary for the Old Yale Road Improvement. This area is the most expensive area among the three areas selected in this study.

The table below shows the servicing costs and the projected DCC collections for the three selected areas in the next 10 years:

Area	Servicing Cost	10 Year DCC Revenue	Projected	Anticipated
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		Forecast	Surplus/Deficit	Phasing
Skytrain Village	\$4,001,000	\$7,339,000	\$3,338,000	1 st
Scott Road Corridor	\$3,846,000	\$1,697,000	\$(2,149,000)	2 nd
Bridgehead	\$4,870,000	\$817,000	\$(4,053,000)	3 rd

Note: The figures in this table and the following table are rounded to the nearest \$1,000.

CONCLUSION

The South Westminster Master Servicing Plan report provides the comprehensive servicing and financial plan for the area. The report provides a funding strategy such that the major servicing costs are not borne by the existing taxpayers. Significant savings will incur in adopting the Low Pressure Sanitary Sewer System as against the original concept of Steep Grade Sewer System. Small infill lot development will be difficult at first because of the logistics of preloading. Significant deficits are projected for the Arterial and Collector Road DCC collection; however, the proposed Special Area Levy scheme will address these deficits. The engineering plan and financing strategy has been presented to the South Westminster Business Advisory Committee and received their support.

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Cc: City Solicitor

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Attachments

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APPENDIX I

South Westminster NCP Proposed Servicing Plan Maps