

THE CITY OF EDMONTON
SANITARY SERVICING STRATEGY FUND

2000 ANNUAL REPORT

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Prepared by:
City of Edmonton
Asset Management and Public Works
Drainage Services

Sanitary Servicing Strategy Fund Annual Report

MESSAGE FROM THE MANAGEMENT COMMITTEE

This is the second annual report of the Sanitary Servicing Strategy Fund. Activities in 2000 included revenue collection, the start of construction for a major tunneling project (SW1) in South Edmonton, the completion of two trunk sewers (C8 and SE1) and the planning and designing of a large tunneling project (NC1) in North Edmonton. The two committees, the SSSF Management Committee and the SSSF Operational Committee have been meeting regularly to approve construction starts, approve design parameters, and review revenues and expenditures.

In 2000, the Sanitary Sewer Strategy Fund increased by \$2.8 million over 1999 to a closing balance of \$14.3 million. Revenues totaled \$7.6 million, placing it slightly ahead of projections. Expenditures for 2000 were \$4.8 million, well below projections. However, the planned expenditures will be paid out in 2001. The SSSF is in a strong financial position and as a result we are well positioned to meet the changing needs of the development community. One of these needs was to move the construction start for NC1 ahead by 6 months, due to development pressures. NC1 is an important element in the continuation of residential development in North Edmonton.

Our attention in 2001 will be on progressing the construction of NC1, completing the construction of the SW1 tunnel and lift station and on the planning of future construction projects. In addition, the SSSF Management Committee will focus on rate structure issues expected over the next five years.

Yours truly,

John Hodgson, Ph.D., P. Eng.
Chairman, Management Committee

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1.0 CONSTRUCTION ACTIVITY IN 2000

South Edmonton Sanitary Sewer, Southwest Stage 1 (SW1)

SW1 will provide storage for 30 years of development in East Heritage Valley.

Construction of this \$11.7 million storage tunnel began in February 2000 with the sinking of the drop structure shaft at 104 Street and Ellerslie Road. SW1 will consist of 2.4 km of 2340 mm tunnel and a 3600 mm diameter, 40 m deep pump station and forcemain connection to the South East Regional Trunk Sewer (SERTS). As of the writing of this report, the tunneling crews are constructing about 15 m per day and to date have completed 700 m of tunnel (see Figure 1). Tunneling activity is scheduled to be complete by May, 2001. Pump station construction and connection to the SERTS is scheduled to be complete by September, 2001. Stage SW1 will service and provide storage for lands in East Heritage Valley.

South Edmonton Sanitary Sewer, Southeast Stage 1 (SE1)

SE1 was completed on budget.

In the late summer of 2000 Sureway Construction Ltd. completed, on budget, this \$1.1 million, 1200 mm open-trench trunk sewer. SE1 was an open-trench construction and will ultimately tie into the SW1 pump station. For the interim, SE1 is connected directly to the SERTS line. Combined with the SW1 tunnel and pump station, SE1 will service lands in Ellerslie.

Clareview Sanitary Trunk, Clareview Stage 8 (C8)

C8 will be completed in February, under budget.

AGTL of Peace River is scheduled to complete this \$0.52 million, 900 mm Clareview sewer in February, 2001, under budget. The C8 – installed using the horizontal directional drilling method – will divert flows from the South Clareview trunk and will enable continued development in Pilot Sound, Casselman, and Clareview Extension.

2.0 MANAGEMENT AND OPERATIONAL COMMITTEES

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The role of the **SSSF Management Committee** is to make decisions regarding revenues and expenditures that best meet the long-range plan of all the stakeholders. The Committee is composed of five members (three from the City and two from the Urban Development Institute):

Chair: Director of Drainage Planning – John Hodgson
Members: Director of Drainage Design and Construction – K.C. Er
Director of Development Coordination – Wayne Cameron
Chair of UDI Drainage Committee – Bob Gomes
Member of UDI Executive Committee – Jim Brown

Major accomplishments by the Management Committee in 2000 were:

- *NC1 construction approval*
- *Approved rate increase of 5%.*
- *Approval of route for SA1/SA2.*

The Cost Assessment Engineer (Paul Hoffart) provides support for this committee. The Management Committee met 4 times in 2000, twice in joint meetings with the SSSF Operational Committee. Below are the major accomplishments for the year:

- Approved the length, size, pump station configuration, cost and schedule for the construction of the North Edmonton Sanitary Trunk NC1. This tunnel, 1615 m long and 2930 mm in diameter, will be built along 153 Avenue from 127 Street to 113A Street. This trunk was originally scheduled to start construction in the fall of 2001. However, with the increase in development in the Palisades, the schedule was pushed ahead to January of 2001. The tunnel is expected to provide storage for over 30 years for the Palisades and Castle Downs North areas.
- Approved a rate increase of 5% effective January 1, 2001.
- Approval of route for SA1/SA2, a major cost item of \$25 million, scheduled for 2016.
- Organized Sod-Turning event for the start of construction of SW1.

The **SSSF Operational Committee** provides recommendations to the Management Committee regarding the timing and capacity requirements for new trunk construction,

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The Operational Committee examines technical issues to support project implementation

and flags relevant issues for Management Committee consideration. The Committee is composed of 7 members (five from the City and two from UDI):

Chair: Senior Engineer, Strategic Planning – Sid Lodewyk
Members: Program Manager, Design and Construction – Siri Fernando
Planning and Development Representative – Orest Gowda
Drainage Financial Services – Lyle Windsor
Member of UDI Committee – Ken Sadownyk
Member of UDI Committee – Blaine Usenik
Cost Assessment Engineer – Paul Hoffart

The Operational Committee met a total of 6 times, including two joint meetings with the Management Committee. Major accomplishments for the year include:

Major accomplishments included the determination of the size and length of NC1.

- Determination of NC1 design configurations, including size, length, and pump station locations.
- Recommendations on the routing of SA1/SA2 to follow 91 Street rather than the original route of Parson's Road. This move was necessary to avoid a congested right-of-way with very little cover for the sewer.
- Recommendations on the construction of SE1.
- Determination of the City cost for diverting lands in Castledowns and Mill Woods to the NEST and SESS facilities. The estimate for this amount was refined from a gross area basis to an exact lot count in 2000. This is the basis for the Sanitary Utility's \$2.6 million contribution to the fund over the past 3 years.

3.0 FIVE YEAR CONSTRUCTION PLAN

Below is the five year window of construction projects for Sanitary Trunks as

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determined by The City of Edmonton Drainage Services. This schedule is based on the projected populations used in the 2000 Transportation Master Plan. The schedule presented for the works was developed to cost-effectively support development throughout the City of Edmonton. The locations of the construction projects are shown on Figure 2.

NC1 will allow continued development in the Palisades and the Castle Downs Extension.

2001/2002 – North Edmonton Sanitary Trunk, Castle Downs Stage 1 (NC1)

Stage NC1 is the upstream end of the NEST system that will eventually connect to the Alberta Capital Region Wastewater Treatment Plant. In the meantime, the construction of NC1 will provide storage for over 30 years of development in Castle Downs and the Palisades areas. Development in these areas has proceeded at a pace that required the construction of NC1 be completed by the spring of 2002, six months ahead of original schedule. Final design configurations are as follows:

- A length of 1615 m, from 127 Street to 113A Street along 153 Avenue
- A diameter of 2930 mm
- A downstream pump station location near the YMCA parking on 153 Avenue
- A future upstream pump station location at the southwest corner of 153 Avenue and 127 Street.

Construction of NC1 began in January 2001 with the sinking of the shaft at 113A Street. Tunneling is scheduled to begin in June 2000 with completion in December 2001. Final completion of the downstream pumpstation is scheduled for the spring of 2002. The upstream pump station will be built in the future, when flows increase to exceed the downstream pump stations' capacity.

Tunneling and shaft construction will be completed by the City's Design and Construction Branch. The pump station will be built by a private contractor. Total cost including engineering is estimated to be \$8.5 million based on detailed design.

2003/2004 – West Edmonton Sanitary Sewer Stage W1

This first stage of WESS will consist of a storage tank, pumpstation and forcemain. The storage tank and pumpstation will be located west of the existing Anthony Heday Drive. The forcemain will cross the Transportation Utility Corridor and

W1 will open lands in North Lewis Estates and the Winterburn

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Industrial area.

proceed eastward to 165 Street, tying into the existing 1900 mm diameter major trunk sewer. This project will service lands in the North Lewis Farms and Winterburn Industrial areas. The estimated total cost, based on concept design, is \$7.3 million.

*W3 will enable continued
development in the WESS basin.*

2005 – West Edmonton Sanitary Sewer Stage W3

Stage W3 is projected to be the first stage of upgrading for the existing inner City system in the WESS basin. This upgrading is required to relieve the over-utilized combined system that currently services the WESS basin. Stage W3 is projected to be a 1650 mm open-cut trunk line running from 100 Avenue to 107 Avenue along 142 Street. The scheduled year of construction is an estimate based on current flows and projected development. This schedule could be adjusted once a facility plan is completed.

Total cost is estimated to be \$9.8 million based on concept plan.

4.0 FUND BALANCE

4.1 TWENTY YEAR PROJECTION

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The Twenty Year cash flow projection for the SSSF will be the main factor in any decision to raise the SSTC and EA rates

Figure 3 shows the first two years and the 20 year projection of the SSSF. This long-term estimate of revenues and construction costs is updated at the end of each year. This year new information was incorporated into the financial projection, including an updated cost estimate for SA1 and SA2, and a rescheduled construction date of 2016. The 20 year projection is used as a basis for the Management Committee's decisions on rate increases. There are a number of assumptions built into this model:

- a) An annual 2% increase in the rates to account for construction cost increases,
- b) an *additional* increase of 15% in each of the years 2005, 2010, 2015, and 2020,
- c) a 2% increase in construction costs,
- d) an annual population growth rate for Edmonton of 1.5%, and
- e) a 4.5% annual interest rate.

It should be noted that construction prices increased an average of 2.5 % in 1999 and 2000. Given the increase in energy costs expected for 2001, the Management Committee projected a construction cost increase of 2.5% for 2001. The construction cost increase is assumed to be 2.0 % from 2002 onward.

Based on construction price increases the Management Committee decided that an increase in the rates of 2.5% was required for the years 2000 and 2001. This will result in an increase of 5% in the rates for 2001 as the increase was held off in 2000. The current 20 year projection shown in Figure 2 reflects this increase in rates. When all the costs are known for SW1 and NC1, the scope and schedule of projects for the next 10 years are better defined, and the new population projections are available from the Planning and Development Branch, work will continue to determine if the 15 % increase in the rates scheduled for 2005 can be reduced or eliminated.

4.2 FIVE YEAR PROJECTION

Table 1 shows the Five Year projection for the Sanitary Sewer Strategy Fund (SSSF). This projection is based on the following assumptions:

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REVENUES

Opening Balance for 2000 – The SSSF balance as of Dec 31, 1999.

Receipts and Disbursements for 2000 – These are based on actual values.

Interest Accrual (2000 – 2004) – Actual for 2000 and, for the remaining years, an assumed annual rate of return of 4.75% based on the estimated mid-year balance.

Utility Contribution – The Sanitary Utility will contribute an amount representing the existing serviced City land that will be reconnected to the new trunk system. This land is in Mill Woods, and parts the Meadows and Castle Downs. The actual amount is to be based on the SSTC assessed on an estimate of the number of lots in these areas. The City Utility payments for this assessment will occur from 1999 through 2014.

Expansion Assessment – The EA is an area-based cost that is collected at the time of Servicing Agreement. The EA applies to those areas of the City that did not have an approved Neighborhood Structure Plan (NSP) before January 1, 1999. The 2000 rates and the 2001 rates (with the 5% increase) for EA are as follows:

The Sanitary Utility is initially providing \$2.6 million per year to the SSSF.

The Expansion Assessment is collected from the four basins shown on Figure 1

	2000	2001
North Edmonton Sanitary Trunk (NEST)	\$10,000	\$10,500
West Edmonton Sanitary Sewer (WESS)	\$12,500	\$13,125
Terwillegar and University Farms (TUFs)	\$10,000	\$10,500
South Edmonton Sanitary Sewer (SESS)	\$10,000	\$10,500

Sanitary Sewer Trunk Charge – The SSTC is collected at the Development Permit stage. This charge applies to all new development and redevelopment in the City. Below are the SSTC rates for 2000 and the increased 2001 rate:

The Sanitary Sewer Trunk Charge applies to all new development and

	2000	2001
Residential Single-family dwelling:	\$700	\$735

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redevelopment in the City.

Residential Multi-family dwelling:	\$500/unit	\$525/unit
Commercial, Industrial, Institutional:	\$3,500/ha	\$3675/ha

Estimation for future SSTC revenue is based on projected growth rates in the City. In the case of the SSTC, an estimate of the inner City redevelopment is added to the estimates for newly developed areas of the City.

DISBURSEMENTS:

Estimated Construction Costs – Construction costs for C8 and SE1 are based on actual construction costs. SW1 and NC1 costs are based on detailed design. W1 and W3 costs are based on conceptual designs. The timing of construction is a critical factor for the fund balance. The timing shown for the construction schedule is based on projected development needs and the estimated length of construction.

Over-expenditure payback is yearly payments made to the City to pay off existing sanitary sewers.

Over-expenditure Payback – The over-expenditure (OE) payback is payable to the City for the construction of two sanitary trunk lines, the N.W. Annexation Area South Sanitary Trunk and the Clareview Interceptor. As development occurs in these basins, Expansion Assessment revenues paid to SSSF will be used to pay off these two accounts. The estimates are based on projected development .

4.3 STATEMENT OF EQUITY FOR 2000

The Statement of Equity for 2000 is shown in Table 2. Figure 3 shows the percentage breakdown of the various sources of revenue.

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REVENUES

Total SSTC contributions from multi-family starts were up 236% from 1999 to 2000.

Sanitary Sewer Trunk Charge (SSTC) – For 2000, the total SSTC collected was \$2,805,499, up 29% from the 1999 total. The majority of the income, \$1,553,600 was collected from the \$700/dwelling charged to a single family residence. This represents 2,219 new single family housing starts in the City of Edmonton for 2000. Other SSTC income included \$500/unit from the multi-family applications, totaling \$694,500 (1,389 units), more than doubling the 1999 totals. SSTC from commercial/industrial/institutional development was \$557,399 representing 159 ha of land, approximately the same amount as 1999.

Expansion Assessment (EA) - For 2000, the total EA collected was \$1,431,395, up 30% from 1999. At \$10,000/ha, this represents 143 ha of development in the City.

Utility Contribution – Total Utility contribution in 2000 was \$2,600,000.

Interest Earned – Total interest earned for 2000 was \$755,044, almost doubling the 1999 interest earned.

Total Revenues were up 21% from 1999

Total revenues for 2000 were \$7,591,939, up 21% from 1999.

EXPENDITURES

Expenses in 2000 included \$1,066,780 for SE1 construction, \$3,679,383 for SW1 construction, and \$78,667 for Over Expenditure payback.