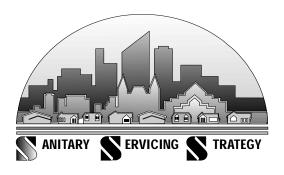
# THE CITY OF EDMONTON SANITARY SERVICING STRATEGY FUND



## 2007 ANNUAL REPORT

August 2008

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

#### MESSAGE FROM THE MANAGEMENT COMMITTEE

This is the ninth annual report of the Sanitary Servicing Strategy Fund (SSSF). Activities in 2007 included revenue collection, construction of South Edmonton Sanitary Sewer (SESS) Stages SE2 and SW2/SW3, West Edmonton Sanitary Sewer (WESS) Stages W1 and W12 as well as North Edmonton Sanitary Trunk (NEST) Stages NL2/NL3/N1. In addition, work began on the detailed design of South Edmonton Sanitary Sewer (SESS) Stages SA1. The SSSF Joint Committee met a total of four times to review and approve design and construction schedules, monitor construction progress, and review the financial status of the Fund.

For 2007, the SSSF Fund recorded revenues of \$17.8 million and expenditures of \$27.5 million, for a closing balance of \$35.7 million, down \$9.7 million from the \$45.4 million balance of 2006. With another strong year in residential development 2007 revenues were on target and identical to the 2006 revenues of \$17.8 million. Expenditures for 2007 were the highest on record in the 9-year history of the Fund, reflecting the continued strong demand for sewer expansion. While revenues for 2008 are expected to be lower than those collected in recent years, the SSSF Fund is in a solid financial position to complete all committed projects over the next five years.

Our focus in 2008 will be to complete the construction of SESS Stages SW2/SW3, WESS Stage W1, SESS Stage SE3, SESS SW pump station upgrade, continue construction on NEST Stages NL2/NL3/N1, prepare facility plan for SESS Stages SA7-SA11 and finish the detailed design of SESS Stage SA1 and WESS Stage W13. We will continue to re-assess all future SSSF projects to ensure that construction plans will accommodate the latest growth projections in all areas of the City as well as to ensure sustainability of the Fund.

James Tan, P. Eng.

Chair, SSSF Management Committee

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#### 1.0 PLANNING & CONSTRUCTION ACTIVITIES IN 2007

The following is a summary of the planning and construction activities completed by the Sanitary Servicing Strategy Fund (SSSF) in 2007. Figures 1(a) to 1(d) show some of the construction activities in 2007.

#### South Edmonton Sanitary Sewer (SESS), Stage SA1

A number of options for SESS SA1 are under review.

Preliminary design for SESS Stage SA1 continued through 2007. Several staging options are under review, with each option at roughly the same cost. In addition, the cost sharing arrangement between the SSSF and Drainage Services is also under review.

#### South Edmonton Sanitary Sewer (SESS), Stages SW2/SW3

SESS Stage SW2 is complete and SESS SW3 is 90% complete.

The interim Windermere pump station with the forcemain was completed in 2007. In addition SESS Stage SW2 which was tunneled from 127 Street to 111 Street along Ellerslie Road was completed by year-end 2007. SESS Stage SW3 from 127 Street to 142 Street was 90% complete by year-end. The small flow from the Windermere lift station is hauled from the lift station until SESS SW3 is complete.

#### West Edmonton Sanitary Sewer (WESS), Stage W1

WESS Stage W1 construction was completed to 184 Street, allowing development to proceed in North Lewis Farms.

By year end 2007, the WESS W1 project was complete from upstream end at 199 Street to the by-pass pumping site at 184<sup>th</sup> Street. This has allowed development from North Lewis Farms to tie into the WESS W1 pipe.

Tunneling of NEST Stages NL2/NL3/N1 began in the fall of 2007.

### North Edmonton Sanitary Trunk (NEST), Stages NL2, NL3 & N1

In the fall of 2007, the TBM from the SESS SW2 project was moved to the NEST NL2/NL3/N1 project. Tunneling began in late fall and by year-end a total of 100 m had been completed.

#### South Edmonton Sanitary Sewer (SESS), Stage SE2

SESS SE2 is required for servicing of the Ellerslie neighborhoods.

During the summer of 2007, MAP Construction completed this 1200 mm dia. 550 m long trunk at a cost of \$3.1 million. With depths of 12 m to 14 m the contractor used open-cut excavation to install this pipe along 91<sup>st</sup> Street south of 14 Avenue SW. This trunk was required for the Ellerslie neighborhoods and was constructed prior to the 91<sup>st</sup> Street road construction.

#### West Edmonton Sanitary Sewer (WESS), Stage W12

Portion of WESS W12 funded by SSSF was completed in May 2007.

Tunnelling underneath North Saskatchewan River commenced in early 2007. With the project expenditure reaching \$10.3 million in May 2007, the portion of WESS W12 funded by SSSF is deemed to be 100% complete. Once completed, the tunnel installed under WESS Stage W12 will provide a much needed diversion from the existing combined interceptor at 55 Street as well as help to reduce the frequency of combined sewer overflow at Rat Creek.

#### West Edmonton Sanitary Sewer (WESS), Stage W13

WESS W13 is required to address existing flow restriction in the sanitary sewer network.

Due to the elimination of wet weather storage requirements in the Grange and Lewis Farms South neighborhoods, a bottleneck in flow conveyance in west Edmonton needs to be addressed. This stage of WESS will provide extra conveyance capacity for wet weather flows, as well as flood prevention measures, for neighborhoods located between 149 Street and 170 Street and between 87 Avenue and 100 Avenue. Preliminary engineering for West Edmonton Sanitary Sewer (WESS), Stage W13 is underway.



Figure 1(a)

NEST NL2/NL3/N1 - Tunnel Boring Machine in Working Shaft



Figure 1(b)

WESS W1 – Micro Tunneling Working Shaft



Figure 1(c)

WESS W1 - Open Cut Construction



Figure 1(d)

SESS SW2/SW3 - Tunnel Construction

#### 2.0 MANAGEMENT AND OPERATIONAL COMMITTEES

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:

Chair: Director of Drainage Planning – James Tan

Members: Director of Drainage Design and Construction – Siri Fernando

Director of Planning and Policy – Willard Hughes Chair of UDI Drainage Committee – Peter Cavanagh

UDI Representative – Bob Gomes

Some major accomplishments by the Management Committee in 2007 were:

James Tan succeeded Chris Ward as the Director of Drainage Planning in October 2007 and is the new Chair. Willard Hughes succeeded Philip Arendt.

• Approved recommendation to complete design and construction of SESS SW pump station upgrade.

The Management Committee met a total of four times in 2007, with all meetings jointly attended by the SSSF Operational Committee. Some of the major accomplishments for the year are listed below:

- Endorsed decision to adopt changes to the SSSF Financial Base Model.
- Approved recommendation to proceed in 2008 with the design and construction of SESS SW pump station upgrade.
- Approved recommendation to complete facility plan for SESS Stages SA7-SA11.
- Approved recommendation to changes in the SSSF Financial Base Model including moving up in time the construction schedule of WESS W13, SESS SW4/SW5 and SESS SA2/SA5/SA6.
- Approved increase to EA and SSTC rates by 10% in 2008.
- Approved recommendation to complete a facility plan for SESS Stages SA7-SA11 in order to service the South East Industrial lands in the Maple Ridge area.
- Adopted recommendation to increase 2008 SSSF rates by 10%.

The **SSSF Operational Committee** provides recommendations to the Management Committee regarding the timing and capacity requirements for new trunk construction, and flags relevant issues for consideration by the Management Committee. The Committee is composed of seven members:

Chair: Senior Engineer – Paul Hoffart
Members: Program Manager – Arbind Mainali

Senior Development Engineer - Orest Gowda

Drainage Financial Planning Co-ordinator – Bonnie Bryks

UDI Representative – Ken Sadownyk UDI Representative – Blaine Usenik

Senior Cost Assessment Engineer - Derek Tsang

The Operational Committee met four times in 2007, all in joint sessions with the SSSF Management Committee.

Major accomplishments by the Operational Committee in 2007

included recommending:changes to the SSSF Financial

Base Model.

- construction of the SW pump station upgrading, and
- commencement of the facility plan for the SESS Stages SA7-SA11.

Major accomplishments for the year included:

- Continued review and fine-tuning of revenue projections for the SSSF Cashflow Model.
- Recommended changes in the SSSF Financial Base Model including moving up in time the construction schedule of WESS W13, SESS SW4/SW5 and SESS SA2/SA5/SA6 to accommodate growth in west and south Edmonton.
- Recommended to proceed with construction of SESS SW pump station upgrading to accommodate anticipated growth from south Edmonton.
- Recommended increasing the 2008 SSSF rates by 10% to counter the inflationary pressure on the project costs and support long-term financial stability for the SSSF.
- Recommended to complete a facility plan for SESS Stages SA7-SA11 in order to service the South East Industrial lands in the Maple Ridge area.

#### 3.0 FIVE YEAR CONSTRUCTION PLAN

The following paragraphs outline the proposed major sanitary trunk construction program for the next five years, as determined by The City of Edmonton Drainage Services. This proposed program is developed to support orderly development throughout the City of Edmonton in a cost effective manner, using latest population and employment projections available to the City. It also strives to meet the important objective of maintaining a positive balance for the Sanitary Servicing Strategy Fund. The locations of the construction projects are shown in Figure 2 at the end of this section.

#### 2008 - West Edmonton Sanitary Sewer (WESS) - Stage W1

Construction of W1 project will be completed in 2008.

The final leg of WESS Stage W1, from 184 Street to 170 Street will be completed by year end 2008. Total project cost is expected to be approximately \$29 million.

2008 to 2009 – South Edmonton Sanitary Sewer (SESS) - Stages SW2 & SW3

SW2 & SW3 will be in-service by summer of 2008.

SESS SW2 & SW3 will be in-service accepting the flows from the interim Windermere Pump Station by summer of 2008. The most westerly 150 metres of tunnel will be done by hand and completed in 2009. This allows the TBM to be moved to the NEST NL2/NL3/N1 project.

#### 2008 – South Edmonton Sanitary Sewer (SESS) - Stage SE3

Construction of SE3 is required to service the Ellerslie neighbourhoods.

This third stage of SESS SE trunk is required for servicing Ellerslie neighbourhoods. In addition, it is more cost effective to install this trunk sewer prior to the proposed construction of 3 lanes of 91<sup>st</sup> Street. Construction of SESS SE3 will be completed in the fall of 2008.

#### 2008 to 2011 - South Edmonton Sanitary Sewer (SESS) - Stage SA1b

SA1b will provide a permanent outlet for the Ellerslie East neighborhood by 2011.

Detailed design for SESS Stage SA1b is expected to be completed in 2008, with construction starting immediately afterwards. The schedule for completion is the fall of 2011. This stage of SESS SA will service the Ellerslie East neighborhoods located south of Anthony Henday Drive and east of 66 Street.

#### 2008 to 2011 – West Edmonton Sanitary Sewer (WESS) Stage W13

Construction of W13 is scheduled to start in 2009.

Detailed design of WESS W13 will be completed in 2008, with construction scheduled for the 2009 to 2011 timeframe.

#### 2008 to 2010 – North Edmonton Sanitary Trunk (NEST) NL2/NL3/ N1

Construction of NL2, NL3 and N1 is scheduled to reach 66 Street by mid-2009.

Construction of the 3.7 km NEST Stages NL2/NL3/N1 began in late 2007 at the downstream shaft near Manning Freeway and 153 Avenue. Construction in 2008 will continue in a westerly direction with the goal of providing servicing for the Schonsee and North Sawle neighborhoods at 66 Street by mid-2009. The remaining tunneling works west of 66 Street will be completed by late 2010.

#### 4.0 FUND BALANCE

#### 4.1 TWENTY FIVE YEAR HISTORY & PROJECTION

The next 15 years shows a positive fund balance but funding challenges appear beyond the 10-year horizon.

The SSSF Cashflow Model was updated in 2007 to reflect the latest information on construction cost inflation and revenue projections over the next 15 years. In addition, some construction schedules were adjusted to reflect the latest plans. The current projection shows that the fund balance will remain positive throughout the next 15 years, but could face some challenges beyond the 10-year horizon. Figure 3 shows the twenty five year history and projection (1999 to 2024).

The following general assumptions have been adopted in the updated model:

- a) Population projections were based on the latest Edmonton census data from spring 2006, then adjusted based on actual yearly increases.
- b) Annual inflation rate for construction costs is set at 10% for 2008.
- c) Annual interest rate is assumed to be 4%
- d) Annual borrowing rate is assumed to be 6%

#### 25 Year Cash Flow History and Projection (1999 – 2024)

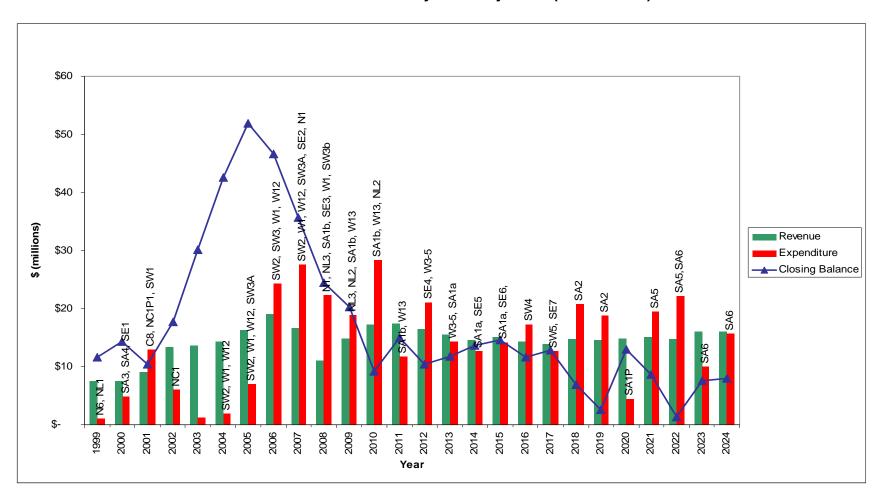


Figure 3

#### 4.2 FIVE YEAR PROJECTION

Table 1 shows the five year revenues and expenditures projections for the Sanitary Sewer Strategy Fund based on the latest information available.

#### **REVENUES**

Opening Balance for 2007 – The SSSF balance as of December 31, 2006.

Revenues and Expenditures for 2007 – These are based on actual values.

**Interest Accrual (2008 – 2012)** – An assumed rate of return of 4% per annum based on the estimated mid-year balance.

In March 2006, City Council approved the recommendation to change the Utility Contribution amount to \$1.3 million for 17 more years commencing in 2007.

**Utility Contribution** – This amount represents contributions from the Sanitary Utility for diversion of sanitary flows from serviced City lands to the new trunk system constructed under the SSSF. These lands are located in Mill Woods and in Castle Downs. The amount is calculated based on an estimate of the SSTC these lands would have to pay. Based on results of the lot counts conducted in 2000, the Sanitary Utility would make annual contributions of \$2.6 million to the SSSF until 2013. In March 2006, City Council approved the recommendation to change the Utility Contribution amount to \$1.3 million for 17 more years commencing in 2007.

The Sanitary Sewer Trunk Charge has increased by 10.0% from 2007 for year 2008.

**Sanitary Sewer Trunk Charge** – The SSTC is collected when an application is made for a Development Permit or sanitary service connection. This charge applies to all new and re-developments in the City. Rates for 2008 were increased by 10.0% from 2007. The following are the SSTC rates for 2007 and 2008:

Type of development	<u> </u>	2008
Single-family/Duplex Residential	\$924/dwelling	\$1,016/dwelling
Multi-family Residential	\$659/dwelling	\$725/dwelling
Commercial, Industrial, Institutional	\$4,616/ha	\$5,078/ha

Estimated SSTC revenues from 2008 to 2012 are based on the assumption that residential development activity will slow down in 2008 and begin to rebound in subsequent years.

The Expansion Assessment is collected from the contributing areas shown in Figure 2.

**Expansion Assessment (EA)** – The EA is an area-based assessment that is collected at the time of subdivision, development permit application or sanitary service connection application. The EA applies to those areas of the City that did not have an approved Neighborhood Structure Plan (NSP) before January 1, 1999.

The 2008 EA rates were increased by 10% from 2007. The 2007 and 2008 rates for EA are as follows:

Contributing Area	2007	2008
North Edmonton Sanitary Trunk (NEST)	\$13,186/ha	\$14,505/ha
South Edmonton Sanitary Sewer (SESS)	\$13,186/ha	\$14,505/ha
Terwillegar and University Farms (TUFS)	\$13,186/ha	\$14,505/ha
West Edmonton Sanitary Sewer (WESS)	\$16,483/ha	\$18,131/ha

Contributions from Expansion Assessment are expected to drop significantly in 2008 and begin to rebound during the 2009 to 2012 period.

#### **EXPENDITURES**

**Estimated Construction Costs** – Construction cost estimates for the 2008 to 2012 timeframe were developed at the detailed design stage except for WESS W13, WESS W3 to 5 and SESS SE4, which are based on concept level designs. The timing of construction is a critical factor for the fund balance.

#### **SANITARY SERVICING STRATEGY FUND - 5 YEAR PROJECTION**

	20	007 (Actual)	2008	2009	2010	2011	2012
Opening Balance	\$	45,419,066	\$ 35,703,378	\$ 23,203,378	\$ 18,703,378	\$ 9,703,378	\$ 12,903,378
Interest		1,610,584	1,000,000	700,000	500,000	400,000	400,000
Utility System Contribution		1,300,000	1,300,000	1,300,000	1,300,000	1,300,000	1,300,000
Sanitary Sewer Trunk Charge		7,628,752	5,000,000	7,000,000	8,000,000	8,700,000	9,500,000
Expansion Assessment		7,302,071	2,700,000	5,000,000	6,000,000	6,300,000	6,600,000
Total Receipts		17,841,407	10,000,000	14,000,000	15,800,000	16,700,000	17,800,000
Estimated Construction Costs		27,557,095	22,500,000	18,500,000	24,800,000	13,500,000	21,000,000
Total Disbursements		27,557,095	22,500,000	18,500,000	24,800,000	13,500,000	21,000,000
Closing Balance	\$	35,703,378	\$ 23,203,378	\$ 18,703,378	\$ 9,703,378	\$ 12,903,378	\$ 9,703,378

# Proposed Construction Program

	Total					
	2008 - 2012	2008	2009	2010	2011	2012
SW3B	3,500,000	3,500,000	-	-	-	-
W1	7,000,000	7,000,000		-	-	-
NL2/ NL3/ N1	26,000,000	6,000,000	10,000,000	10,000,000	-	-
SE3	4,000,000	4,000,000	-	-	-	-
SA1b	20,300,000	1,300,000	3,500,000	8,000,000	7,500,000	-
SWP1	400,000	400,000			-	-
W13	11,300,000	300,000	5,000,000	6,000,000		-
W3-5	20,800,000			800,000	6,000,000	14,000,000
SE4	7,000,000			-	-	7,000,000
	-	-	-	-		
Total	\$ 100,300,000	\$ 22,500,000	\$ 18,500,000	\$ 24,800,000	\$ 13,500,000	\$ 21,000,000

#### 4.3 STATEMENT OF FUND ACTIVITIES AND BALANCE

The Statement of Fund Activities and Balance for 2007 are shown on Table 2, while Figure 4 shows each revenue component as a percentage of the total revenues.

Total revenues for 2007 were equal to that collected in 2006.

For the first time in the 9-year history of the SSSF, revenue from multi-family units was higher than single-family & duplex units.

SSTC collected from commercial, industrial and institutional development was up by 25%.

Expansion Assessment revenues were up by 30%.

#### **REVENUES**

Total revenues for 2007 were \$17.84 million equaling the 2006 revenues.

- Sanitary Sewer Trunk Charge (SSTC) For 2007, SSTC revenues totaled \$7.6 million, a slight decrease from the 2006 SSTC revenues of \$7.9 million. Of special note, for the first time in the 9-year history of the SSSF, there was a change in the main source for SSTC revenue. Multifamily developments contributed \$3.4 million versus the single-family/duplex revenue of \$3.3 million. This is a significant change from 2006 whereby the single-family/duplex contribution was \$4.9 million versus the multi-family total of \$2.3 million. The remaining SSTC revenue, \$1.0 million, came from commercial, industrial, and institutional sector, up from the \$0.8 million of 2006.
- Expansion Assessment (EA) For 2007, the total EA collected was \$7.3 million, up significantly from the \$5.6 million collected in 2006.
- Utility Contribution Total Utility contribution in 2007 was \$1.3 million.
- Interest Earned Total interest for 2007 was \$1.6 million.

#### **EXPENDITURES**

The largest expenditure item in 2007 was \$10.0 million for the construction of SESS SW2-SW5. Another \$7.8 million was spent on the construction of WESS W1, \$3.6 million on design and construction of NEST NL2/NL3/N1, and \$3.1 million for SESS SE2.

#### STATEMENT OF FUND ACTIVITIES & BALANCE

Sanitary Servicing Strategy Fund For the Period Ending December 31, 2007

		2006 Actual	2007 Actual	2007 Budget	2007 Variance
REVENUES			1111	<b>g</b>	
Sanitary sewer trunk charge - single/duplex revenue	\$	4,899,680	\$ 3,281,138	\$ 5,400,000	\$ (2,118,862)
Sanitary sewer trunk charge - multi family revenue	•	2,344,270	3,382,377	2,600,000	782,377
Sanitary sewer trunk charge - commercial/industrial/institutional revenue		753,511	965,237	800,000	165,237
Expansion assessment		5,578,593	7,302,071	6,000,000	1,302,071
•		13,576,054	14,930,824	14,800,000	130,824
Utility system contribution		2,600,000	1,300,000	1,300,000	-
Interest earned		1,671,732	1,610,583	1,282,357	328,226
Total Revenues		17,847,786	17,841,407	17,382,357	459,050
EXPENDITURES					
WESS - W1		9,916,180	7,767,335	11,950,000	(4,182,665)
WESS - W12		4,891,195	2,561,000	2,561,000	-
SESS - SW2/SW3		8,015,381	10,008,227	13,616,000	(3,607,773)
SESS SA1		147,470	309,919	1,068,000	(758,081)
SESS SE2			3,179,941	2,000,000	1,179,941
NEST NL2/NL3/N1		1,030,673	3,590,135	8,032,000	(4,441,865)
SESS - Conceptual Design		170,760	22,414	250,000	(227,587)
WESS - Conceptual Design		30,820		-	-
Miscellaneous		104,201	118,125	-	118,125
Total Expenditures		24,306,680	27,557,095	39,477,000	(11,919,905)
Excess of Revenues over Expenditures		(6,458,894)	(9,715,688)		12,378,955
Opening Balance		51,877,960	45,419,066	45,419,066	
Closing Balance	\$	45,419,066	\$ 35,703,378	\$ 23,324,423	\$ 12,378,955

