

## **MESSAGE FROM THE MANAGEMENT COMMITTEE**

This is the twelfth annual report of the Sanitary Servicing Strategy Fund (SSSF). Site activities in 2010 included completing the construction of South Edmonton Sanitary Sewer (SESS) Stage SA1b, continuing the construction of North Edmonton Sanitary Trunk (NEST) Stages NL2/NL3/N1 and commencing the construction of SESS Stage SA1c. Concept plan for SESS Stage SA10a and the preliminary design for West Edmonton Sanitary Sewer (WESS) Stage W13 were underway. The SSSF Management and Operational Committees met a total of eight times separately to approve design and construction schedules, monitor construction progress, and review the financial status of the Fund. In addition, two joint meetings were held to discuss the status of the West Edmonton Sanitary Sewer (WESS) Stage W14 and actions required to move it forward.

Since the program started in 1999, a total of about 28 km of tunnels and pipes had been put into the ground which supported close to 40,000 single family lots in addition to other multi-family residential, commercial and industrial developments.

In 2010, the SSSF Fund recorded revenues of \$15.4 million and expenditures of \$10.0 million, for a closing balance of \$21.9 million. This is an increase of \$5.4 million compared to the 2009 year-end balance of \$16.5 million. With the economy beginning to recover at the beginning of 2010, revenues were higher than in the previous year. On the other hand, expenditures for 2010 were lower than previous year due to re-scheduling of the construction works for SESS Stage SE4a and WESS Stage W14. With the revenues in the next few years expected to return to the pre-2008 level, the SSSF Fund is in a solid financial position to undertake all planned projects over the next five years.

Our focus in 2011 will be to finish the NEST Stages NL2/NL3/N1 project, complete the construction of SESS Stages SA1c tunnel and commence the construction of SESS Stages SE4a & 4b as well as WESS Stage W14. We will continue to reassess 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 2010

The following is a summary of the planning and construction activities undertaken by the Sanitary Servicing Strategy Fund (SSSF) in 2010. Figures 1(a) to 1(c) illustrate some of the construction activities undertaken in 2010.

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

Construction of Stage W1, along 100 Avenue from 199 Street to 170 Street, was completed and put into service in November 2009. In 2010, road surface restoration and landscaping works were completed.

#### South Edmonton Sanitary Sewer (SESS) – Stages SA1b&1c

With the rapid development of the Ellerslie and Southeast ASP areas, Stage SA1b of SESS is required to service the Ellerslie East neighborhoods located south of Anthony Henday Drive and east of 66 Street. In 2010, tunneling work for Stage SA1b was completed under budget. As a result, the SSSF Management Committee decided to continue with the tunnel construction of Stage SA1c immediately to take advantage of the cost savings. This arrangement will reduce the total project expenditure by eliminating the need to remove and set up the tunnel boring machine again if Stage SA1c is to start at a later date as originally planned. In 2010, about 225 metres out of 743 metres of the SA1c tunnel was completed.

All road surface restoration and landscaping works for WESS Stage 1 was completed in 2010.

*Tunneling work for SESS Stage SA1b (1,237 metres long) was fully completed in 2010.* 

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	North Edmonton Sanitary Trunk (NEST) – Stages NL2/NL3/N1
A total of 3,725 metres of tunnel for NEST Stages NL2/NL3/N1 was done in 2010.	In 2010, tunneling work for the whole length was completed. Tunnel liner patching and cleaning are 73% complete. By summer of 2011, all construction works at Manning Drive and 153 Avenue will be finished to make way for the roadway upgrades.
	West Edmonton Sanitary Sewer (WESS) – Stage W13
Preliminary design for WESS Stage W13 was completed in 2010.	Geotechnical investigation for WESS Stage W13 was completed and detailed design was started in 2010. Discussions with Transportation Department to coordinate with their roadway reconstruction works in the area resulted in the decision to advance the tunnel construction start date to 2011.
	South Edmonton Sanitary Sewer (SESS) – Stage SA10
SESS Stage SA10 is tentatively scheduled for construction in 2013	In May 2010, a series of value engineering, constructability review and risk analysis workshops were conducted. The focus was on finalizing the conceptual design, specifically on the exact alignment of the tunnel. The construction is tentatively scheduled to begin in 2013.
	West Edmonton Sanitary Sewer (WESS) – Stage W14
WESS Stage W14 will provide sanitary servicing to the Big Lake and Winterburn Industrial areas.	Design drawings for Stage W14, to provide sanitary servicing to the Big Lake and Winterburn industrial areas, were reviewed by Drainage Services Branch in December 2010. The SSSF Management Committee decided to re-tender the construction works after bids received were found to be much higher than the budget. Construction works were re-scheduled to start in the summer of 2011.
	South Edmonton Sanitary Sewer (SESS) – Stage SE4a
<i>Construction for SESS Stage SE4a is scheduled for 2011.</i>	Design undertaken by private developer's consultant was completed in 2010. Construction is scheduled for 2011.

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Figure 1a. WESS Stage W1: Replanting of trees along Stony Plain Road



# Figure 1b. NEST Stages NL1/NL3/N1: Mole removal at the 75 Street shaft



Figure 1c. SESS Stage SA1b: Tunnel liner in place

## 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 stakeholders. The Committee is composed of six members:

Chair:	Director, Drainage Planning – James Tan
Members:	Engineering Manager, Drainage Design and Construction – Siri
	Fernando
	Senior Planner – Willard Hughes / Tim Ford
	UDI Representative – Peter Cavanagh
	UDI Representative – Wade Zwicker
	General Supervisor, Infrastructure & Business Planning – Francis
	Wu (Secretary & Non-voting Member)

The Management Committee met a total of six times in 2010 (twice in joint session with the SSSF Operational Committee). Some of the major decisions made are listed below:

- Approved recommendation to increase the approved budget for WESS (Stage W1) from \$32.4M to \$33.6M.
- Approved recommendation to proceed to construct SESS Stage SA1c immediately after completion of SESS Stage SA1b.
- Approved recommendation to re-tender the construction of WESS Stage W14 after receiving bids that were higher than the budget.
- Recommended sole-sourcing of SESS Stage SE4a project to the private developer.
- Recommended an increase of 2.3% in SSSF rates effective January 1, 2011 to City Council.

Some major decisions made by the Management Committee in 2010 were:

- Approved budget increase for WESS Stage W1
- Approved construction of SESS Stage SA1c immediately upon completion of SESS Stage SA1b
- Approved recommendation to retender construction works for WESS W14
- Increased SSSF rates by 2.3% effective January 1, 2011

The **SSSF Operational Committee** evaluates and provides recommendations to the SSSF Management Committee regarding the timing and capacity requirements for new trunk construction. The Committee is composed of seven members:

Chair:	General Supervisor, Strategic Planning – Albert Kwan
Members:	Program Manager, Design & Construction – Arbind Mainali
	Director, Development Coordination – Orest Gowda
	Drainage Financial Coordinator – Bonnie Bryks / Rosemary
	Ronald
	UDI Representative – Leo Levasseur
	UDI Representative – George Cantalini
	Senior Engineer – Jessica Wade / David Leung (Secretary)

Major accomplishments by the Operational Committee in 2010 include:

- Recommended construction of WESS Stage W14 with Drainage Design and Construction acting as Project Manager
- *Recommended the location and budget for SESS Stage SA10*
- Recommended advancing construction of SESS Stage SA1c

The Operational Committee met six times in 2010 (twice in joint sessions with the SSSF Management Committee) and achieved the following major accomplishments:

- Recommended construction of WESS Stage W14 using the option selected at the Risk Assessment Workshop held in April 2010.
- Recommended engaging Drainage Design and Construction to complete the design and re-tendering of WESS Stage W14 project.
- Recommended adopting the option of 600m of tunnel along the 34 Street alignment for SESS Stage SA10 and to keep the budget at the currently approved amount of \$10M.
- Recommended advancing the construction of SESS Stage SA1c by continuing with the tunneling from 23 Avenue to 28 Avenue immediately after completion of SESS Stage SA1b to achieve additional cost savings.

## 3.0 FIVE YEAR CONSTRUCTION PLAN

The following outlines the proposed major sanitary trunk construction program for the next five years (2011-2015). 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.

2011 – North Edmonton Sanitary Trunk (NEST) Stages NL2/NL3/NL1

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. The tunnel has already been completed. As soon as the storage control system is installed in 2011, the tunnel will be put into service.

#### 2011 – West Edmonton Sanitary Sewer (WESS) Stage W14

WESS (Stage W14), when completed, will provide sanitary servicing to the Big Lake residential and Winterburn industrial areas. Re-tendering of the construction works is currently scheduled to be completed in the spring of 2011 with target completion of construction in 2012.

NEST (Stages NL2/NL3/N1) is planned to provide sanitary servicing for Schonsee and Joviz neighborhoods by the end of 2011.

Construction for WESS (Stage W14) is currently planned to start in 2011.

	2011 – South Edmonton Sanitary Sewer (SESS) Stage SE4a
SESS (Stage SE4a) is planned to service the Ellerslie Industrial area.	SESS Stage SE4a is a 490-meter section of the SESS Stage SE4 trunk along the future 91 Street to serve the Ellerslie Industrial area. The construction work will be done as part of the private development project. Construction is anticipated to be completed in 2011.
	2011 – South Edmonton Sanitary Sewer (SESS) Stage SE4b
SESS (Stage SE4b) will service the remaining Orchards development.	SESS Stage SE4b is planned to service the Orchards at Ellerslie development. It has a total length of 1,140 meters located along a walkway along the old 30 Avenue right-of-way between 88 Street and 91 Street. Construction is advanced to 2011 ahead of the construction of the walkway and the nearby subdivision by the private developer in order to minimize construction costs.
	2011 to 2012 – South Edmonton Sanitary Sewer (SESS) Stages SA1b&1c
SESS (Stages SA1b & 1c) is to provide permanent sanitary servicing to the Ellerslie East neighborhoods by 2012.	With the continued growth of the East Ellerslie area, completion of SESS Stages SA1b & 1c is critical for providing permanent sanitary servicing to the area. It is expected that the tunneling works will be fully completed by the end of 2011. The installation of the real time control gate for connection to the double barrel sewer will follow to allow the tunnel to be put in service in 2012.
	2011 to 2013 – West Edmonton Sanitary Sewer (WESS) Stage W13
Construction of WESS (Stage W13)	Construction is scheduled to start at the end of 2011 and be completed in 2013 to coordinate with the pavement reconstruction works scheduled in the

Construction of WESS (Stage W13) is scheduled to start at the end of 2011.

W13)
W13)
Construction is scheduled to start at the end of 2011 and be completed in 2013 to coordinate with the pavement reconstruction works scheduled in the West Jasper Place neighbourhood. Completion of this project will allow future development areas in West Edmonton to be serviced without the need for wet weather flow storage.

	2013 – South Edmonton Sanitary Sewer (SESS) Stage SA10
SESS (Stage SA10) will provide early sanitary servicing for Maple Ridge Industrial development.	This section of SESS will be constructed along 34 Street south of the Sherwood Park Freeway. It will provide sanitary servicing to the early stages of Maple Ridge Industrial development. Construction work is tentatively planned for 2013.
	2013 to 2015 – South Edmonton Sanitary Sewer (SESS) Stage SA1a
SESS (Stage SA1a) is needed when the available capacity of SERT sewer is exhausted.	SESS (Stage SA1a) will connect the pump station at Ellerslie Road and Parsons Road to Stage SA1b. This segment is needed when the available capacity of the Southeast Regional Trunk (SERT) sewer is exhausted. Construction of SA1a is tentatively scheduled to start in 2013 with a planned completion date of 2015.
	2015 to 2016 – South Edmonton Sanitary Sewer (SESS) Stage SW4
SESS Stage SW4 will service the Windermere area.	This portion of SESS will be located south of Anthony Henday Drive from 141 Street to 156 Street. It is planned to service the Windermere area. Construction is expected to commence in 2015.

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### 4.0 FUND BALANCE

## 4.1 TWENTY FIVE YEAR HISTORY & PROJECTION

The SSSF Financial Model was updated in 2010 to reflect the changing economic situation, particularly the construction cost inflation and near-term revenue projections. In addition, some construction schedules were adjusted to reflect the latest plan. The latest projection shows that the fund balance in the next three years will be slightly lower than those recorded in previous years but will stay at a healthy level over the next 15 years. Figure 3 shows the twenty five year fund balance history and projection (1999 to 2025).

The following general assumptions have been adopted in the current version of the Model:

- a) Population projections were based on the latest Edmonton census data updated in spring 2006, then adjusted based on actual yearly increases.
- b) Annual inflation rate for construction costs is revised to 2% for 2010 and slowly increasing to about 4% in 2014.
- c) Annual interest rate is assumed to be 1% 4% during the next 5 years.

The Fund is projected to have a healthy balance for the next 15 years.



## 4.2 FIVE YEAR PROJECTION

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

#### **REVENUES**

**Opening Balance for 2010** – The SSSF cash balance as of December 31, 2009.

**Revenues and Expenditures for 2010** – These are based on actual values recorded.

**Interest (2011-2015)** – Interest rates used varied from 1% to 4% per annum based on the estimated mid-year cash balance.

**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 2014. In March 2006, City Council approved the recommendation to change the Utility Contribution amount to \$1.3 million for 17 more years commencing on January 1, 2007.

**Sanitary Sewer Trunk Charge (SSTC)** – 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 2011 were increased by 2.3% from 2010. The following are the SSTC rates for 2010 and 2011:

Utility Contribution represents contribution from the Sanitary Utility for diversion of sanitary flows from serviced City lands to the new trunk system constructed under the SSSF.

The Sanitary Sewer Trunk Charge for 2011 has increased by 2.3% from 2010.

Type of development	2010	2011
Single-family/Duplex Residential	\$1,130/dwelling	\$1,156/dwelling
Secondary, Garage & Garden Suite	\$500/dwelling	\$512/dwelling
Multi-family Residential	\$807/dwelling	\$826/dwelling
Commercial, Industrial, Institutional	\$5,652/ha	\$5,782/ha

Estimated SSTC revenues from 2011 to 2015 are based on the assumption that residential development activity which started to rebound in 2010 will continue in 2011.

**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 2010 EA rates were increased by 2.3% from 2010. The 2010 and 2011 rates for EA are as follows:

Contributing Area	2010	2011
North Edmonton Sanitary Trunk (NEST)	\$16,144/ha	\$16,515/ha
South Edmonton Sanitary Sewer (SESS)	\$16,144/ha	\$16,515/ha
Terwillegar and University Farms (TUFS)	\$16,144/ha	\$16,515/ha
West Edmonton Sanitary Sewer (WESS)	\$20,181/ha	\$20,645/ha

#### **EXPENDITURES**

**Estimated Construction Costs** – Construction cost estimates for the 2011 to 2015 time frame were developed at the design stage except for WESS Stage W13 and SESS Stage SA10, which are based on preliminary level designs. The timing of construction is critical for the Fund balance.

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

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

	2010 (Actual)	2011	2012	2013	2014	2015
Opening Balance	\$ 16,504,812	\$21,889,433	\$ 14,707,572	\$ 9,151,530	\$ 6,829,836	\$ 15,658,270
Interest	116,383	184,065	380,805	298,350	438,773	586,097
Utility Contribution	1,300,000	1,300,000	1,300,000	1,300,000	1,300,000	1,300,000
Sanitary Sewer Trunk Charge	6,923,458	7,479,993	7,867,573	8,210,110	8,513,354	8,849,604
Expansion Assessment	7,035,508	7,754,081	6,859,186	7,354,116	7,430,776	9,000,613
Secondary suite refund	41,738					
Total Receipts	15,417,088	16,718,139	16,407,564	17,162,575	17,682,903	19,736,313
Estimated Construction Costs	( 9,909,970)	(22,880,000)	(21,634,200)	(19,140,392)	(8,834,469)	(22,185,917)
Other Estimated Expenditures	(122,496)	(1,020,000)	(329,406)	(343,877)	(20,000)	(20,000)
Total Disbursements	(10,032,466)	(23,900,000)	(21,963,606)	(19,484,269)	(8,854,469)	(22,205,917)
Closing Reserve Balance	\$ 21,889,433	\$ 14,707,572	\$ 9,151,530	\$ 6,829,836	\$ 15,658,270	\$ 13,188,666

## **Construction Costs (Nominal Dollars)**

	Total					
	2011- 2015	2011	2012	2013	2014	2015
SA1b	\$ 3,140,000	\$ 3,140,000	\$-	\$-	\$-	\$-
W13	14,069,912	2,470,000	7,088,600	4,511,312	-	-
W14	10,058,000	9,000,000	580,000	-	-	-
NL2	2,750,000	2,750,000	-	-	-	-
SE4	3,720,000	3,720,000	-	-	-	-
SA1d	3,703,000	-	3,703,000	-	-	-
SA1P1	2,327,600	-	2,327,600	-	-	-
SA10	10,791,600	400,000	5,290,000	5,501,600	-	-
SA1c	4,045,000	1,400,000	2,645,000	600,000	-	-
SA1a	26,532,128	-	-	8,527,480	8,834,469	9,170,179
SW4	13,015,738	-	-	-	-	13,015,738
Total	\$ 94,152,978	\$ 22,880,000	\$21,634,200	\$ 19,140,392	\$ 8,834,469	\$ 22,185,917

Table 1

*Total SSTC revenues for 2010 were 37% more than those collected in 2009.* 

Revenues from single family & duplex units were higher than multi-family units in 2010.

SSTC collected from commercial, industrial and institutional development was up by 38%.

Interest earned was down by 45%, reflecting the lower interest rate in 2010.

## 4.3 STATEMENT OF FUND ACTIVITIES AND BALANCE

The Statement of Fund Activities and Balance for 2010 are shown in Table 2, while Figure 4 shows each revenue component as a percentage of the total revenues. Figure 5 shows the historical SSSF revenue breakdown whereas Figure 6 shows the historical SSSF expenditures.

#### **REVENUES**

Total revenues for 2010 were \$15.4M which is higher than the amount of \$9.6M collected in 2009.

- Sanitary Sewer Trunk Charge (SSTC) For 2010, SSTC revenues totaled \$6.92M, a significant increase from the 2009 SSTC revenues of \$5.06M. For this year, single-family/duplex developments contributed more than the multi-family developments, with the respective revenues being \$4.02M versus \$ 1.97M. This is similar to the situation in 2009 when the single-family/duplex contribution was \$3.47M versus the multi-family total of \$0.92M. The remaining SSTC revenues, \$0.93M, came from commercial, industrial, and institutional sectors, which is higher than the \$0.67M collected in 2009.
- Expansion Assessment (EA) For 2010, the total EA collected was \$7.04M, up from the \$3.03M collected in 2009.
- **Utility Contribution** Total Utility contribution in 2010 was \$1.3M.
- Interest Earned Total interest earned during 2010 was \$0.12M compared to \$0.21M in 2009. This was due to the lower interest rate.

#### **EXPENDITURES**

The largest expenditure item in 2010 was \$3.66M for the construction of SESS Stage SA1b & SA1c. Another \$3.14M were spent in the construction of NEST Stages NL2/NL3/N1. The rest were spent on SESS Stages SW2-SW5, WESS Stages W1, W13 and W14 as well as several engineering studies.

#### STATEMENT OF FUND ACTIVITIES & BALANCE

#### Sanitary Servicing Strategy Fund For the Period Ending December 31, 2010

	2009 Actual	2010 Actual	2010 Budget	2010 Variance
REVENUES				
	\$ 3,469,212	\$ 4,021,785	\$5,000,000	\$( 978,215)
Sanitary sewer trunk charge - multi family revenue	921,447	1,971,953	1,927,000	44,953
Sanitary sewer trunk charge - commercial/industrial/institutional revenue	672,022	929,720	500,000	429,720
Expansion assessment	3,031,165	7,035,508	1,000,000	6,035,508
Secondary suite refund	3,031,165	41,738	-	41,738
	8,093,847	14,000,704	8,427,000	5,573,704
Utility system contribution	1,300,000	1,300,000	1,300,000	-
Interest earned	210,903	116,383	50,000	66,383
Total Revenues	9,604,750	15,417,088	9,777,000	5,640,088
EXPENDITURES				
NEST Stage NL2 & NL3	5,572,172	3,139,871	2,889,000	250,871
SESS SA Stages 1b & 1c	4,618,239	3,663,258	3,464,000	199,258
SESS SW2-SW5	465,371	442,883	621,000	( 178,117)
SESS Developer Built Projects (W14 & SE4a)	2,669	364,610	7,047,000	( 6,682,390)
WESS Stage 1	7,038,212	2,158,408	( 2,922,000)	5,080,408
WESS W13	225,194	140,940	8,275,000	( 8,134,060)
Conceptual Studies	222,389	122,496	1,815,000	( 1,692,504)
Conceptual Designs	160,186	-	-	-
Total Expenditures	18,304,432	10,032,466	21,189,000	(11,156,534)
Excess of Revenues over Expenditures	( 8,699,682)	5,384,622	(11,412,000)	16,796,622
Balance – January 1, 2010	25,204,494	16,504,812	16,504,812	-
Balance – December 31, 2010	16,504,812	21,889,433	5,092,812	16,796,622

Table 2





# **SSSF REVENUE BREAKDOWN**

# SSSF EXPENDITURES

