

THE CITY OF EDMONTON
SANITARY SERVICING STRATEGY FUND



2009 ANNUAL REPORT

June 2010

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

Sanitary Servicing Strategy Fund
2009 Annual Report

MESSAGE FROM THE MANAGEMENT COMMITTEE

This is the eleventh annual report of the Sanitary Servicing Strategy Fund (SSSF). Activities in 2009 included revenue collection, completion of West Edmonton Sanitary Sewer (WESS) Stage W1 and South Edmonton Sanitary Sewer (SESS) Stages SW2/SW3, as well as construction of South Edmonton Sanitary Sewer (SESS) Stage SA1b and North Edmonton Sanitary Trunk (NEST) Stages NL2/NL3/N1. In addition, the facility plan for South Edmonton Sanitary Sewer (SESS) Stages SA7-SA11 was finalized while the geotechnical & phase 1 environmental study for WESS Stage W13 was completed. The SSSF Management and Operational Committees met a total of 9 times separately to review and approve design and construction schedules, monitor construction progress, and review the financial status of the Fund. In addition, a special meeting of the SSSF Management Committee was held on July 10, 2009 to consider the sanitary sewer trunk charge for secondary, garden and garage suites.

Since the program started in 1999, a total of about 26 km of tunnels and pipes had been put into the ground which supported more than thirty four thousand single family lots in addition to other multi-family residential, commercial and industrial developments.

In 2009, the SSSF Fund recorded revenues of \$ 9.6 million and expenditures of \$ 18.3 million, for a closing balance of \$ 16.5 million, down \$ 8.7 million from the \$ 25.2 million balance of 2008. With the economy drastically slowing down at the start of 2009, revenues were significantly lower than in the previous year. On the other hand, expenditures for 2009 were only slightly lower than previous years as work continued to complete many of the projects started in 2008. While revenues in the next few years are expected to be lower than those collected in recent years, the SSSF Fund is still in a solid financial position to complete all committed projects over the next five years.

Our focus in 2010 will be to continue construction on NEST Stages NL2/NL3/N1 and SESS Stage SA1b, and commence the construction of SESS Stage 4a and WESS Stage W14. 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

Sanitary Servicing Strategy Fund
2009 Annual Report

CONTENTS

	<u>Page</u>
Message from the Management Committee	i
Table of Contents	ii
1.0 PLANNING & CONSTRUCTION ACTIVITIES IN 2009	1
2.0 MANAGEMENT AND OPERATIONAL COMMITTEES	6
3.0 FIVE YEAR CONSTRUCTION PLAN	9
4.0 FUND BALANCE	
4.1 Twenty Five Year History and Projection	13
4.2 Five Year Projection	15
4.3 Statement of Fund Activities and Balance	18

1.0 PLANNING & CONSTRUCTION ACTIVITIES IN 2009

The following is a summary of the planning and construction activities completed by the Sanitary Servicing Strategy Fund (SSSF) in 2009. Figures 1(a) to 1(c) illustrate some of the construction activities undertaken in 2009.

West Edmonton Sanitary Sewer (WESS) – Stage W1

WESS (Stage 1) was put into service in November 2009.

Construction of Stage W1, along 100 Avenue from 199 Street to 170 Street, started in spring of 2006 to serve the drainage needs of Lewis Farms North. Using the trenchless micro-tunneling method, the private contractor completed the gravity sewer project despite the high ground water experienced in some parts of the site. In 2009, final connection at 184 Street was completed. Similarly, CCTV inspection and infiltration testing were also done. The completed sewer was put into service in November.

South Edmonton Sanitary Sewer (SESS) – Stages SW2 and SW3

All tunneling works for SESS (Stages SW2&SW3) along Ellerslie Road were completed.

SESS Stages SW2 & SW3 are designed to accept the flow from the new subdivisions in Heritage Valley and Windermere. In 2009, all tunneling works along Ellerslie Road from 111 Street to 142 Street were completed. Minor remaining works at the shaft west of Whitemud Creek is scheduled to be completed in the spring of 2010.

329 meters of tunneling for SESS (Stage SA1b) were completed in 2009.

South Edmonton Sanitary Sewer (SESS) – Stage SA1b

With the rapid development of the Ellerslie and Southeast ASP areas, Stage SA1b of SESS is required to service the Ellerslie East neighborhoods situated south of Anthony Henday Drive and east of 66 Street. In 2009, 329 meters of tunnel (about 26%) was completed. Detailed design for SESS Stage SA1b was done in 2008 with construction commencing immediately after.

Concept design and constructability review for WESS (Stage W13) were finalized in 2009.

West Edmonton Sanitary Sewer (WESS) – Stage W13

Geotechnical and phase 1 of environmental study for WESS Stage W13 at 151 Street south of 100 Avenue have been completed. Concept design and constructability review were finalized as well. Construction is scheduled to commence in 2012.

About 80% of tunneling work for NEST (Stages NL2/NL3/N1) was done in 2009.

North Edmonton Sanitary Trunk (NEST) – Stages NL2/NL3/N1

NEST sewer provides service to areas between 153 Avenue and the Restricted Development Area (RDA). In 2009, 2,972 meters (about 80%) of tunnel were done under Stages NL2/NL3/N1. The tunnel is expected to be completed in May 2010 and the trunk is scheduled to be put into operation in 2011.

Facility Plan for SESS (Stages SA7-SA11) was completed in September 2009.

South Edmonton Sanitary Sewer (SESS) – Stages SA7-SA11

The Facility Plan for this project was completed in September 2009. It proposed building a section of SA10 at 34 Street south of Sherwood Park Freeway initially to provide early sanitary servicing to the Maple Ridge Industrial Area. The estimated cost of this stage is about \$11M. Construction is scheduled to start in 2013.



Figure 1a. WESS Stage W1: Micro Tunnel Machine head after the completion of run



Figure 1b. SESS Stage SW2-3: Mole lowered into shaft and undercut



Figure 1c. NEST Stages NL1/NL3/N1: Tunnel Gantry setup before mole

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 six members:

Chair: Director of Drainage Planning – James Tan
Members: Director of Drainage Design and Construction – Siri Fernando
Director of Planning and Policy – Willard Hughes
UDI Representative – Peter Cavanagh
UDI Representative – Wade Zwicker
General Supervisor of Infrastructure & Business Planning – Francis Wu (Secretary & Non-voting Member)

Some major decisions made by the Management Committee in 2009 were:

- *Approved budget increase for WESS Stage W1*
- *Approved project schedule revisions to maintain positive Fund balance*
- *Approved postponement of some works in SW3*
- *Established a new rate for secondary, garage and garden suites*

The Management Committee met a total of five times in 2009. Some of the major decisions made are listed below:

- Approved recommendation to increase the approved budget for WESS (Stage W1) from \$27.2 M to \$32.4 M.
- Approved recommendation to revise start dates for projects planned up to year 2015 to maintain a positive balance to the Fund.
- Approved recommendation to adopt Option 5 (SA10) to provide early sanitary servicing to the areas covered by SESS (Stages SA7-SA11) Facility Plan.
- Approved recommendation that the remaining 150 meters of SESS (Stage SW3) be postponed until work on SESS (Stage SW4) is started in about 10 years time.

Sanitary Servicing Strategy Fund
2009 Annual Report

- *Increased SSSF rates by 5.25% effective January 1, 2010*
- Established a new rate of \$500 per dwelling for secondary, garage and garden suites effective January 1, 2010.
- Proposed an increase to SSSF rates by 5.25% effective January 1, 2010.

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: General Supervisor of Strategic Planning – Albert Kwan
Members: Program Manager – Arbind Mainali
Senior Development Engineer – Orest Gowda
Drainage Financial Coordinator – Bonnie Bryks
UDI Representative – Ken Sadownyk/Leo Levasseur
UDI Representative – George Cantalini
Senior Engineer – Fernando Sacluti/Jessica Wade
(Secretary)

Major accomplishments by the Operational Committee in 2009 include:

- *Recommended construction revision schedules to maintain positive Fund balance*

Jessica Wade took over the duties of planning SSSF projects from Fernando Sacluti in August 2009. Also, Ken Sadownyk stepped down from SSSF Operational Committee in November as UDI Representative and was replaced by Leo Levasseur.

The Operational Committee met five times in 2009 and achieved the following major accomplishments:

- Recommended revising construction schedules for various upcoming projects to ensure Fund balance will not fall into negative level at any time.

Sanitary Servicing Strategy Fund
2009 Annual Report

- *Recommended implementation of 20% increase to SSSF rates over a period of 10 years*
- *Recommended servicing option for Maple Ridge/SE Industrial Area*
- Recommended implementation of 20% increase to SSSF rates over ten (10) years on top of annual inflationary increases.
- Recommended undertaking studies to review dry weather flow loading on existing combined trunks, servicing of remote areas and viability of rerouting SA segments to Gold Bar Wastewater Treatment Plant.
- Recommended servicing option for Maple Ridge/SE Industrial Area through the completion of the SESS (Stages SA7-SA11) Facility Plan.

3.0 FIVE YEAR CONSTRUCTION PLAN

The following paragraphs outline the proposed major sanitary trunk construction program for the next five years (2010-2014). 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.

2010 – North Edmonton Sanitary Trunk (NEST) Stages NL2/NL3/N1

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 2010 will continue in a westerly direction with the goal of providing sanitary servicing for the Schonsee and Joviz neighborhoods at 66 Street and completing the remaining tunneling works west of 66 Street by the end of 2010.

2010 – West Edmonton Sanitary Sewer (WESS) Stage W14

WESS (Stage W14), when completed, will provide sanitary servicing to the Big Lake and Winterburn neighborhoods. Construction is planned to start in 2010 as part of Big Lake NHD1 Stage 1 land development project.

NEST (Stages NL2/NL3/N1) is planned to provide sanitary servicing for Schonsee and Joviz neighborhoods by end of 2010.

Construction for WESS (Stage W14) is planned to start in 2010.

2010 – South Edmonton Sanitary Sewer (SESS) Stage SE4a

SESS (Stage SE4a) is planned to service the nearby Ellerslie Industrial area.

The first leg of SESS Stage SE4 will be the north-south portion within the future 91 Street right of way. This 490-meter portion (SE4a) will serve the Ellerslie Industrial area. The construction work will be done as part of the private development project. Construction is tentatively scheduled to start in late summer of 2010.

2010 to 2012 – South Edmonton Sanitary Sewer (SESS) Stage SA1b

SESS (Stage SA1b) is scheduled to provide long term sanitary servicing to the Ellerslie East neighborhoods by 2011.

With the continued rapid growth of the East Ellerslie area, SESS Stage SA1 was identified as an urgent project required for permanent sanitary servicing of the area. The tunnel along 91 Street and conversion to the existing double barrel pipe is scheduled for completion in 2011 to provide long term sanitary servicing to the Ellerslie East neighborhoods. The installation of the real time control gate is scheduled to be completed in 2012.

2012 to 2013 – West Edmonton Sanitary Sewer (WESS) Stage W13

Construction of WESS (Stage W13) is scheduled to start in 2012.

Geotechnical and Phase 1 environmental study is complete. Construction is scheduled for 2012 with an anticipated 2013 completion date.

2012 – South Edmonton Sanitary Sewer (SESS) Stage SA1P1

SESS (Stage SA1P1) needs to be reviewed in 2012.

The operation and capacity of the existing pump station located at Ellerslie Road/91 Street, currently serving the Ellerslie East area needs to be reviewed in 2012 to ensure that the pumps will be able to handle the final designed flow from all contributing areas.

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.

2014 – South Edmonton Sanitary Sewer (SESS) Stage SE4b

SESS (Stage SE4b) will service the remaining Orchards development.

The remaining east-west portion of SESS Stage SE4 leg will be constructed as the sanitary demand presents itself to serve the remaining Orchards development. Construction works are tentatively scheduled to start in 2014.

2014 – 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 SA1b is tentatively scheduled to start in 2014.

4.0 FUND BALANCE

4.1 TWENTY FIVE YEAR HISTORY & PROJECTION

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

The SSSF Financial Model was updated in 2009 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 plans. The latest projection shows that the fund balance will be significantly lower than those recorded in previous years but will remain positive at least throughout the next 15 years. Figure 3 shows the twenty five year fund balance history and projection (1999 to 2024).

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 from spring 2006, then adjusted based on actual yearly increases.
- b) Annual inflation rate for construction costs is revised to 1.5% for 2010 and slowly increasing to 4% in 2014.
- c) Annual interest rate is assumed to be 0.5% - 2.5% during the next 5 years

Sanitary Servicing Strategy Fund
2009 Annual Report

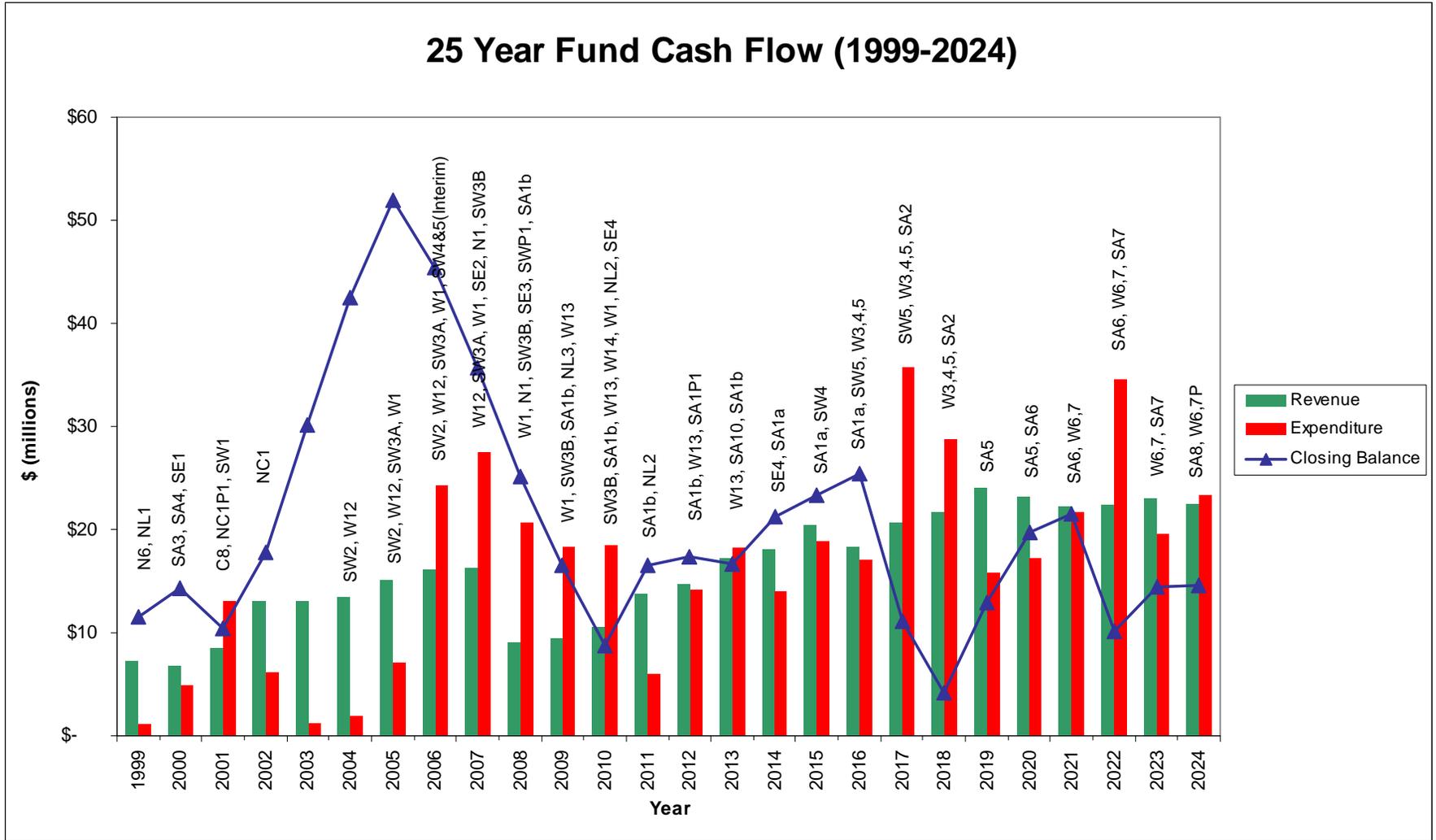


Figure 3

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 2009 – The SSSF cash balance as of December 31, 2008.

Revenues and Expenditures for 2009 – These are based on actual values recorded.

Interest (2010-2014) – Interest rate varying from .05% to 2.5% per annum based on the estimated mid-year balance was used.

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 – 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 2010 were increased by 5.25% from 2009. The following are the SSTC rates for 2009 and 2010:

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 2010 has increased by 5.25% from 2009.

Sanitary Servicing Strategy Fund
2009 Annual Report

<u>Type of development</u>	<u>2009</u>	<u>2010</u>
Single-family/Duplex Residential	\$1,074/dwelling	\$1,130/dwelling*
Multi-family Residential	\$767/dwelling	\$807/dwelling
Commercial, Industrial, Institutional	\$5,370/ha	\$5,652/ha

* plus \$500 for the secondary, garden and garage suite

Estimated SSTC revenues from 2010 to 2014 are based on the assumption that residential development activity which slowed down in 2009 will begin to rebound in 2010.

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 5.25% from 2009. The 2009 and 2010 rates for EA are as follows:

<u>Contributing Area</u>	<u>2009</u>	<u>2010</u>
North Edmonton Sanitary Trunk (NEST)	\$15,339/ha	\$16,144/ha
South Edmonton Sanitary Sewer (SESS)	\$15,339/ha	\$16,144/ha
Terwillegar and University Farms (TUFS)	\$15,339/ha	\$16,144/ha
West Edmonton Sanitary Sewer (WESS)	\$19,174/ha	\$20,181/ha

Revenues collected from Expansion Assessment are expected to start increasing slowly in 2010.

EXPENDITURES

Estimated Construction Costs – Construction cost estimates for the 2010 to 2014 time frame were developed at the design stage except for WESS (Stage W13) and SESS (Stage SA10), which are based on concept 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
2009 Annual Report

SANITARY SERVICING STRATEGY FUND - 5 YEAR PROJECTION

	2009 (Actual)	2010	2011	2012	2013	2014
Opening Balance	\$ 25,204,494	\$16,504,812	\$ 8,083,812	\$ 16,597,012	\$ 16,922,167	\$ 16,236,002
Interest	210,903	40,000	150,000	350,000	400,000	450,000
Utility Contribution	1,300,000	1,300,000	1,300,000	1,300,000	1,300,000	1,300,000
Sanitary Sewer Trunk Charge	5,062,681	6,500,000	7,500,000	7,500,000	9,000,000	9,500,000
Expansion Assessment	3,031,165	3,000,000	5,500,000	6,000,000	7,500,000	8,500,000
Total Receipts	9,604,750	10,840,000	14,450,000	15,150,000	18,200,000	19,750,000
Estimated Construction Costs	(17,921,857)	(17,447,000)	(4,936,800)	(13,824,845)	(17,886,165)	(14,014,193)
Other Estimated Expenditures	(382,575)	(1,814,000)	(1,000,000)	(1,000,000)	(1,000,000)	(1,000,000)
Total Disbursements	(18,304,432)	(19,261,000)	(5,936,800)	(14,824,845)	(18,886,165)	(15,014,193)
Closing Reserve Balance	\$ 16,504,812	\$ 8,083,812	\$16,597,012	\$ 16,922,167	\$ 16,236,002	\$ 20,971,808

Construction Costs (Nominal Dollars)

	Total 2010 - 2014	2010	2011	2012	2013	2014
SW3B	\$ 501,000	\$ 501,000	\$ -	\$ -	\$ -	\$ -
SA1B	11,782,339	3,652,000	3,202,800	2,373,305	2,554,234	-
W13	13,137,281	300,000	-	9,140,220	3,697,061	-
W14	6,600,000	6,600,000	-	-	-	-
W1	1,758,000	1,758,000	-	-	-	-
NL2	5,070,000	3,336,000	1,734,000	-	-	-
SE4	7,788,908	1,300,000	-	-	-	6,488,908
SA1P1	2,311,320	-	-	2,311,320	-	-
SA10	11,634,870	-	-	-	11,634,870	-
SA1a	7,525,285	-	-	-	-	7,525,285
Total	\$ 68,109,004	\$ 17,447,000	\$ 4,936,800	\$ 13,824,845	\$ 17,886,165	\$ 14,014,193

Table 1

4.3 STATEMENT OF FUND ACTIVITIES AND BALANCE

The Statement of Fund Activities and Balance for 2009 are shown on 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 2009 were \$9.60 million which is lower than the amount of \$10.23 million collected in 2008.

- **Sanitary Sewer Trunk Charge (SSTC)** – For 2009, SSTC revenues totaled \$5.06 million, a significant increase from the 2008 SSTC revenues of \$3.78 million. For this year, single-family/duplex developments contributed more than the multi-family developments, with the respective revenues being \$3.47 million versus \$ 0.92 million. This is in contrast to the situation in 2008 when the single-family/duplex contribution was \$1.21 million versus the multi-family total of \$1.49 million. The remaining SSTC revenues, \$0.67 million, came from commercial, industrial, and institutional sector, way below the \$1.10 million mark in 2008.
- ♦ **Expansion Assessment (EA)** - For 2009, the total EA collected was \$3.03 million, down from the \$3.99 million collected in 2008.
- ♦ **Utility Contribution** – Total Utility contribution in 2009 was \$1.3 million.
- ♦ **Interest Earned** – Total interest earned during 2009 was \$0.21 million compared to \$1.16 million in 2008. This was due to the lower interest rate as well as the lower cash balance in 2009.

EXPENDITURES

The largest expenditure item in 2009 was \$7.04 million for the construction of WESS (Stage W1). Another \$5.57 million were spent in the construction of NEST (Stages NL2/NL3/N1), while the rest were spent on SESS (Stages SW2-SW5), WESS (Stage W13), and SESS (Stage SW3) as well as several engineering studies.

Total SSTC revenues for 2009 were 34% more than 2008 collection.

Revenues from single family & duplex units were higher than multi-family units in 2008.

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

Interest earned was down by 82%, reflecting the lower interest rate and lower cash balance in 2009.

Sanitary Servicing Strategy Fund
2009 Annual Report

STATEMENT OF FUND ACTIVITIES & BALANCE

*Sanitary Servicing Strategy Fund
For the Period Ending December 31, 2009*

	2008 Actual	2009 Actual	2009 Budget	2009 Variance
REVENUES				
Sanitary sewer trunk charge - single/duplex revenue	\$ 1,211,864	\$ 3,469,212	\$ 3,200,000	\$ 269,212
Sanitary sewer trunk charge - multi family revenue	1,490,522	921,447	1,000,000	(78,553)
Sanitary sewer trunk charge - commercial/industrial/institutional revenue	1,084,943	672,022	590,000	82,022
Expansion assessment	3,990,371	3,031,165	2,000,000	1,031,165
	7,777,700	8,093,847	6,790,000	1,303,847
Utility system contribution	1,300,000	1,300,000	1,300,000	-
Interest earned	1,156,343	210,903	210,000	903
<i>Total Revenues</i>	<i>10,234,043</i>	<i>9,604,750</i>	<i>8,300,000</i>	<i>1,304,750</i>
EXPENDITURES				
NEST Stage NL2 & NL3	6,980,758	5,572,172	4,461,000	1,111,172
SESS SA Stage 1	2,893,252	4,618,239	3,492,000	1,126,239
SESS SW2-SW5	4,287,302	465,371	1,086,000	(620,629)
SESS SE Stage 3	1,195,176	2,669	50,000	(47,331)
WESS Stage 1	5,066,517	7,038,212	4,116,000	2,922,212
WESS W13	-	225,194	500,000	(274,806)
Preliminary	72,662	222,389	1,037,000	(814,611)
Conceptual Costs	237,260	160,186	-	160,186
<i>Total Expenditures</i>	<i>20,732,927</i>	<i>18,304,432</i>	<i>14,742,000</i>	<i>3,562,432</i>
Excess of Revenues over Expenditures	(10,498,884)	(8,699,682)	(6,442,000)	(2,257,682)
Balance – January 1, 2009	35,703,378	25,204,494	25,204,494	-
Balance – December 31, 2009	25,204,494	16,504,812	18,762,494	(2,257,682)

Table 2

SSSF Revenues for 2009 (\$9.6 Million)

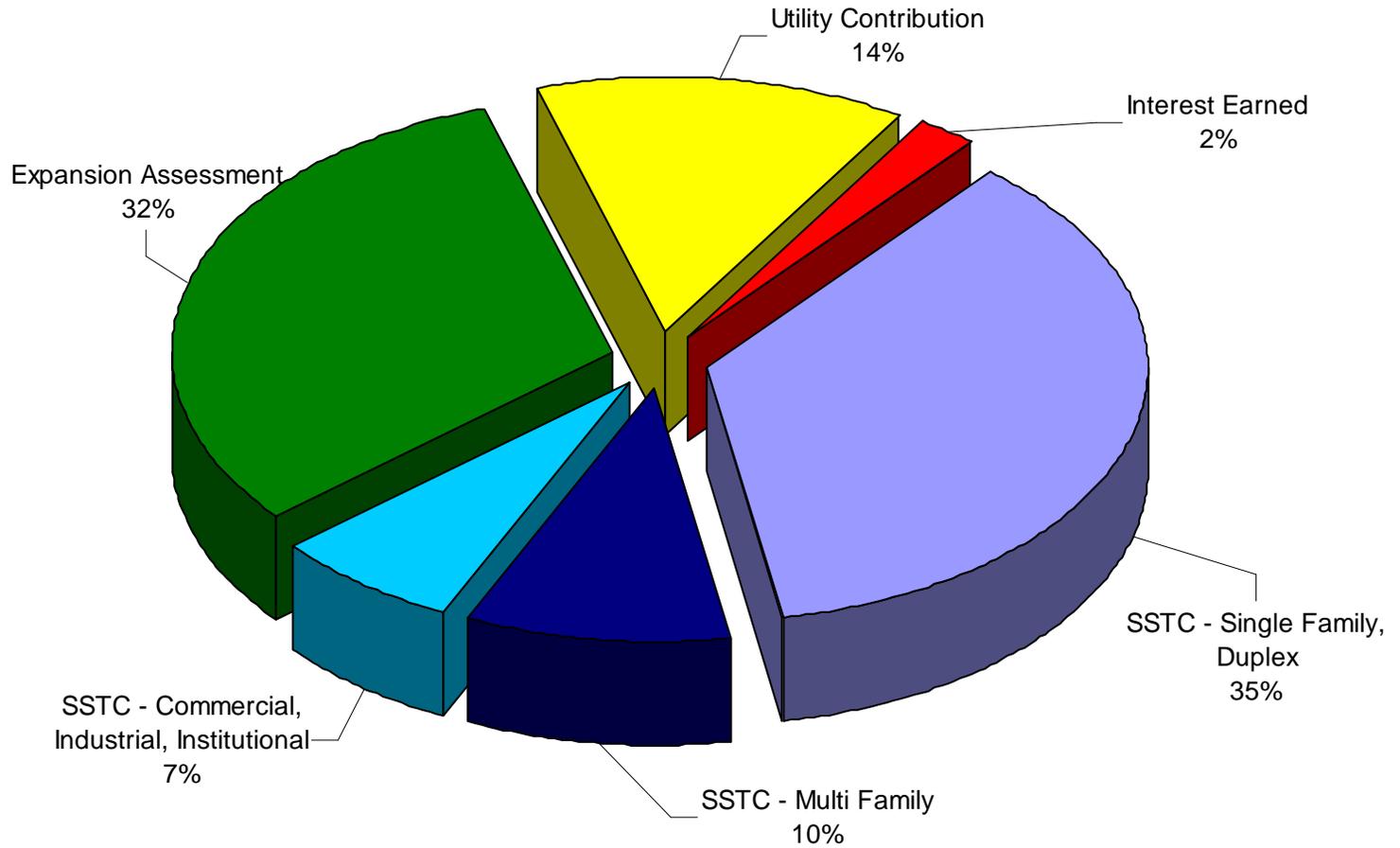


Figure 4

SSSF REVENUE BREAKDOWN

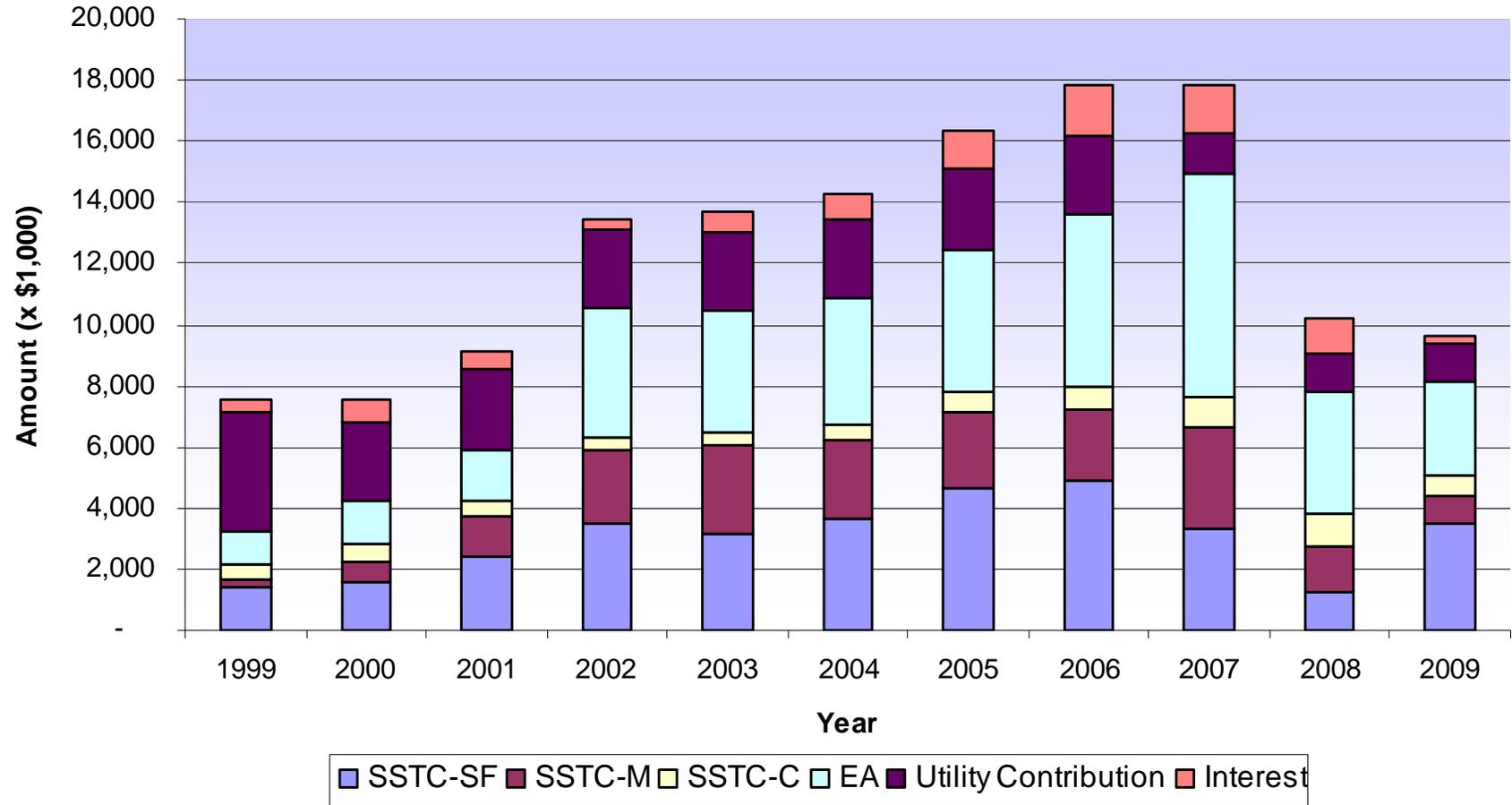


Figure 5

SSSF EXPENDITURES

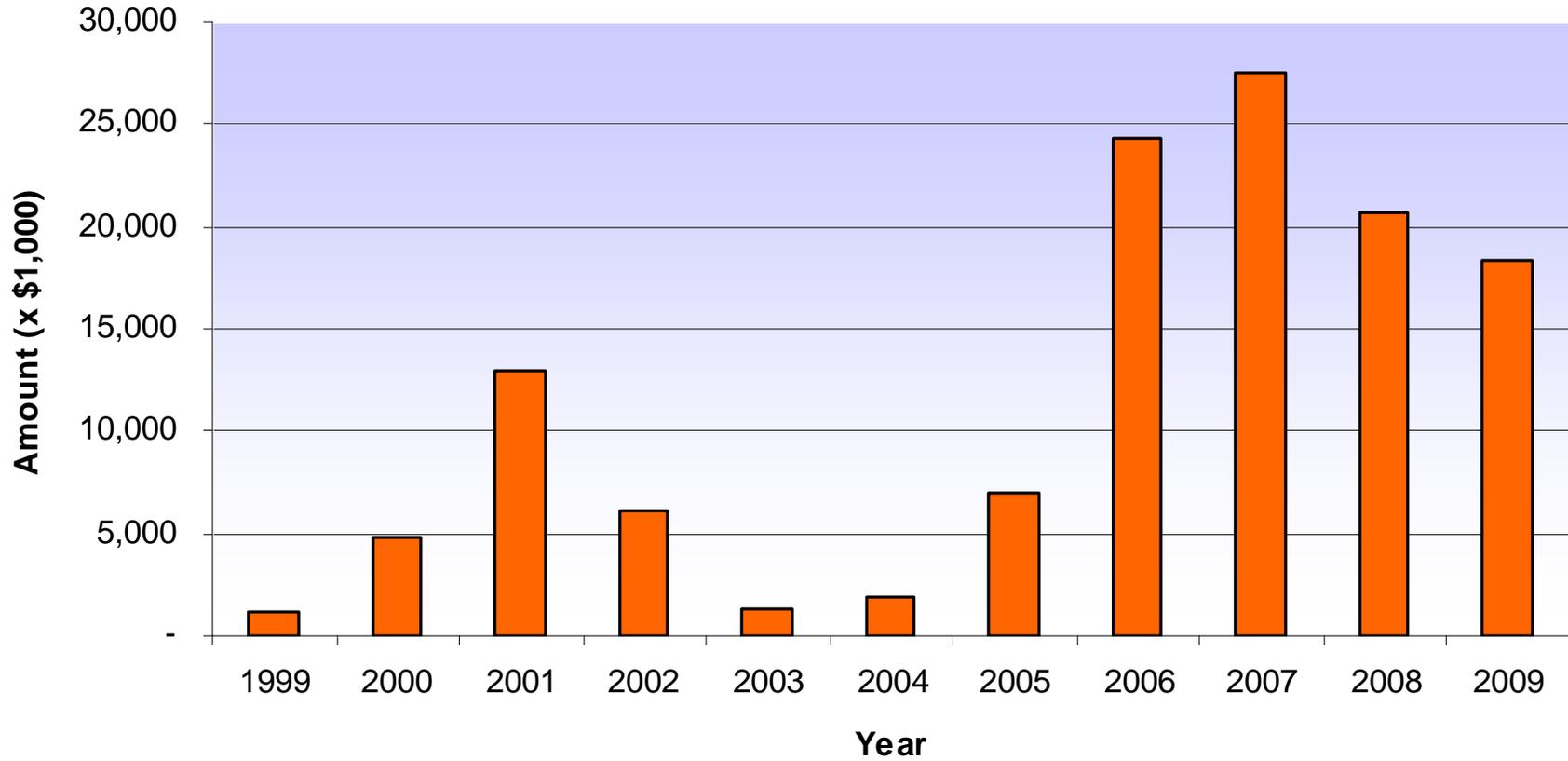


Figure 6