

## **CHAPTER 8.0 FUNDING THE SOLID WASTE MANAGEMENT SYSTEM**

### **Part I: Funding the Current Solid Waste Management System**

#### **8.0 INTRODUCTION**

The Solid Waste Management Hierarchy places waste reduction at the top of the hierarchy. Waste reduction is the only part of the hierarchy that poses real savings or cost avoidance as there is no cost or loss associated with waste that is never generated. The solid waste management system in the Loudoun County Solid Waste Management Planning District (LCSWMPD) is comprised of many components, each with its own streams of revenue and cost. Solid Waste Collection, Transportation, Transfer and Disposal Facilities cost money and are all ultimately funded through rates paid by system users through a monthly collection bill, a Town and/or County resident's annual tax bill, or through a landfill tipping fee for a homeowner or construction contractor.

This chapter identifies, to the extent possible, the LCSWMPD's solid waste management system as a solid waste marketplace. This growing marketplace will continue to generate and consume significant funds for the movement of solid waste from "doorstep to doorstep" in the case where consumers place recyclables at their curbside and then purchase recycled content goods. The flow of funds will also continue to be substantial for moving solid waste from doorsteps to transfer and disposal facilities. Each cost and revenue-generating element of the solid waste management system will be reviewed and aggregated into a profile of this significant sector (estimated at \$35 million annually) of Loudoun's economy. In this chapter, current funding methods are summarized, a facilities construction program is outlined, and options for financing future facilities and system elements are described.

#### **8.1 Private Collection**

##### 8.1.1 Individual Residential Collection

A certain portion of households in the District receives solid waste collection services through individual subscriptions with a solid waste collector. Costs vary by location and type of service provided. Typical collection costs for individual subscribers average \$25 per month throughout the District for weekly curbside collection of solid waste. This service generally includes collection of yard waste as well as bulky items and recyclable materials. Fees for services are paid by customers directly to waste management companies.

Another method of individual collection is the householder who transports his or her own solid waste to the Loudoun County Solid Waste Management Facility (LCSWMF). Residents may use this method once a week or once a month, while others may make occasional trips to dispose of special or seasonal wastes.

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#### 8.1.2 Homeowners' Associations Collection

Homeowners' Associations (HOAs) in Loudoun County typically arrange for collection services for the community they represent through a contract with a permitted solid waste collector. Contract costs are directly related to the number of households being served, the number of collections per week, level of service provided and length of the contract. The largest HOAs in Loudoun County contract for a period of three years in order to negotiate the lowest available price. The average cost for solid waste collection in an HOA in Loudoun County is approximately \$13.50 per month. This service generally includes recycling, special collection services for appliances and other large items, yard waste removal, and in some instances, twice weekly collection.

#### 8.1.3 Commercial Collection

Commercial solid waste collection costs in Loudoun County vary by location, type of material being collected, number of collections per week, and by container size. Businesses such as small restaurants, offices or hardware stores typically pay an average of \$55 per month for a 2 cubic yard dumpster while the costs for a larger 5 cubic yard dumpster average \$150 per month. Trash compactors are used in some areas for collection of solid waste. Trash compactors are transported to a solid waste transfer station (WTS), emptied and then returned. The costs for compactor service vary greatly based on total weight of material, pickup fees of \$120 - \$150 per trip, and the location of the business.

#### 8.1.4 Waste Brokers Collection

Solid waste collection conducted by waste transporters and brokers dealing with special wastes form an unspecified segment of the solid waste collection market. These waste items may be high volumes of cardboard, pallets, industrial or food wastes that are contracted services outside the customary residential and non-residential waste collection service. Specific information on the types and amounts of waste, and the dollar value of this market segment is unknown.

#### 8.1.5 Construction Wastes Collection

Transportation and disposal of C&D in Loudoun County are handled primarily by private contractors and permitted solid waste collectors. The majority of C&D waste generated in Loudoun County is transferred out of the District for disposal at privately owned landfills. Costs for disposal varies greatly depending upon quantity collected, type of container required for transportation and tipping fees at the receiving disposal facility. C&D waste is typically collected in a large open top container that is usually 20 feet in length and 6 to 8 feet tall. A cost is incurred for delivery and pick up of the container and assessed based on the number of tons of material held within. The cost to dispose of a 20-foot container of C&D waste averages \$350 in Loudoun County.

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8.1.6 Special and Medical Wastes Collection

Loudoun County’s regulated special and regulated medical wastes are collected and transported by numerous private service providers. The Loudoun County Office of Solid Waste Management (OSWM) maintains services and vendors for special wastes, including household hazardous wastes (HHWs), oil, tires, lead-acid batteries, scrap metal, and antifreeze. As a result of business consolidation in the past several years, there are few vendors available in Loudoun County to handle many of these materials and a lack of competition. Other materials in these waste categories are transported within, through, and out of the District each day, but the amounts of material and dollar values of the activity are unknown.

8.1.7 Value of the Solid Waste Collection Industry in Loudoun County

The value of the solid waste collection industry in Loudoun County can be approximated by totaling the estimated value of residential collection (which includes individual subscribers, HOAs, and Towns), commercial collection and C&D waste collection activities within the District. These values also include disposal or tipping fees paid by collectors. The current value is estimated at \$34,915,000 annually. **Table 8-1** shows averages on service fees by type of service. The figures provided are approximations, and more details are described below.

**Table 8-1: Loudoun County Collection Market**

<b>Customer</b>	<b>Average Monthly Cost</b>	<b>Average Yearly Cost</b>	<b>Average Total Cost</b>
Individual Residential	\$25 / household	\$300 / household	\$14,517,000
HOAs	\$13.50 / household	\$162 / household	
Incorporated Towns	\$13.75 / household	\$165 / household	
Commercial Businesses	\$100 / business	\$1,200 / business	\$ 6,410,000
Residential Construction	\$350 / container	2 containers / site	\$ 3,988,000
Non-residential Construction	unknown	unknown	Est. \$10,000,000
<b>Estimated Annual Total of Loudoun County Collection Market</b>			<b>\$34,915,000</b>

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### *8.1.7.1 Residential Service*

The residential collection of solid waste in Loudoun County has an estimated value of \$14,517,000 per year. This figure is based on an average total cost for disposal of waste of \$209 per household per year and 69,458 households in the County for 2002.<sup>1</sup>

**Value = (Avg. Monthly HH Cost + Avg. Monthly HOA Cost + Avg. Monthly Town Resident Cost) X 12 Months X Number of Households in the County**

### *8.1.7.2 Commercial/Business Service*

The collection of commercial solid waste in Loudoun County has an estimated total annual value of \$ 6,410,000. This figure is based on an average total cost for disposal of waste of \$1,200 per business per year and 5,342 businesses operating in the County.<sup>2</sup> OSWM staff lacks adequate information to make a reliable estimate and believes this estimate to be much lower than the actual value.

**Value = (Average Monthly Business Cost of \$100) x 12 Months x Number of Businesses registered in the County**

### *8.1.7.3 Construction Service*

The collection costs for C&D waste in the District are difficult to estimate and consideration must be given to new residential construction and new non-residential construction. The estimated value for residential C&D waste is \$3,988,000 for 2002. This estimate is based on 5,697<sup>3</sup> units of new residential construction and the placement of two 20' containers per building site at an average cost of \$350 per container. The estimated value for non-residential C&D waste is difficult to estimate as new non-residential construction is reported in square feet. The value likely exceeds \$10,000,000. Staff lacks adequate information to make a credible estimate and believes this estimate to be much lower than the market's actual value.

**Estimated Value = > \$10,000,000**

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<sup>1</sup> Loudoun County Department of Economic Development. April 2002.

<sup>2</sup> Virginia Employment Commission. April 2002.

<sup>3</sup> Loudoun County Department of Economic Development. September 2002 Economic Indicators through August and adjusted for the year.

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### 8.2 Public Collection

#### 8.2.1 Town Collection Contracts

All seven of the incorporated Towns in Loudoun County receive solid waste collection services through contractual agreements with solid waste collectors. The Town of Middleburg has the lowest collection cost for solid waste services at approximately \$12 per household, while residents in the Towns of Lovettsville and Hamilton receive solid waste collection services at a rate of approximately \$15 per household. The average rate for solid waste collection services in the incorporated Towns is approximately \$13.75 per household per month. Recyclables collection, yard waste collection and pick up of bulky items are generally included in these rates.

#### 8.2.2 Town Departments of Public Works

Some of the Towns have Departments of Public Works that may collect yard waste and debris from public facilities due to storm damage and general facility maintenance. They transport this waste to the LCSWMF for processing.

#### 8.2.3 Loudoun County School Board and County Public Works

The Loudoun County School Board collects waste from all public school buildings and all County offices and sites. The operational costs for this collection for FY03 are \$199,200 (personnel and equipment). The Public Works division contracts for collection and transport of recyclables from public buildings. Contract costs for FY03 were \$33,874.

#### 8.2.4 County Special Collections

Loudoun County operates special waste collection programs through a variety of vendors and contractual agreements. A discussion of these programs is in Section 8.5.

#### 8.2.5 Virginia Department of Transportation (VDOT)

VDOT collects roadside litter and debris throughout the District and transports this waste to the LCSWMF for disposal. Funding for this activity is included in VDOT's annual operating budget for Loudoun County. In FY02, this program expended \$75,994.

### 8.3 Private Facilities

There are five private solid waste management facilities providing services in Loudoun County. The current publicly quoted tipping fees for these facilities are provided in **Table 8-2**.

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**Table 8-2: Publicly Quoted Rates at Private Facilities in Loudoun County (September 2002)**

<b>Waste Type</b>	<b>Sterling WTS</b>	<b>Old Dominion WTS</b>	<b>CSI</b>	<b>Loudoun Composting</b>	<b>Hazel VWMF</b>
Municipal Solid Waste	DNA	\$45-\$56/ton	DNA	DNA	DNA
Ditching Waste	DNA	\$45-\$56/ton	DNA	DNA	DNA
Construction Waste	\$44 / ton	\$45-\$52/ton	DNA	DNA	DNA
Rubble	\$44 / ton	\$45-\$52/ton	DNA	DNA	DNA
Yard Waste	DNA	\$45-\$56/ton	DNA	\$28/ton	DNA
Other Veg. Waste	DNA	DNA	DNA	DNA	DNA
Deer Carcasses	DNA	DNA	DNA	DNA	DNA
Tires	DNA	DNA	DNA	DNA	DNA
Appliances (refrig.)	DNA	DNA	DNA	DNA	DNA

DNA = Do Not Accept: The facility is not permitted to accept this waste or does not accept this waste from outside companies/generators.

**8.4 Public Facilities**

Loudoun County’s public solid waste management facilities include the existing disposal unit (the “old landfill” site), the Woods Road disposal unit (WRSWMF), and recycling dropoff centers (DOCs). The two disposal units are adjacent facilities and comprise the LCSWMF.

**8.4.1 Existing Disposal Unit (“Old Landfill” Site)**

Loudoun County owns and operates a full service solid waste management disposal facility approximately 4 miles south of Leesburg. This facility includes a municipal solid waste (MSW) landfill, processing area for vegetative waste (VW), processing areas for special wastes, and a Recycling DOC. The County has constructed disposal capacity (Cell IIIA) that is sufficient to meet demand through 2006 based on current trends allowing for moderate growth. Future planned construction of capacity is discussed in Section 8.12 and operational costs are addressed in Section 8.5. Existing debt service for past site acquisition, permitting, construction, and closure is addressed in Section 8.4.1.1.

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*8.4.1.1 County Facility Existing Debt Service*

Loudoun County has made a significant long-term financial investment in developing and maintaining adequate landfill disposal space to address solid waste management needs. These decisions have been supported by the recommendations of three separate citizens' committees appointed to consider the District's solid waste services. The funding of capital construction in the existing landfill to date has been through general obligation bonds with debt service on those bonds being covered by general tax revenues and, to some extent, offset by tipping fees. Current debt service accrues from four different bond issues. **Table 8-3** shows the year and amount issued in each sale:

**Table 8-3: Bond Issues by Amount of Sale and Year Issued**

AMOUNT OF SALE	YEAR ISSUED
\$3,765,000	1985
\$1,910,000	1987
\$830,000	1989
\$11,285,000	1993

The total original principle for the existing landfill site was \$17,790,000. The remaining principle outstanding as of FY2002 is \$8,525,000. **Table 8-4** details the debt service paid to date and the debt owed on the old landfill facility.

**Table 8-4: Debt Retirement Schedule for Old Landfill Debt Issue**

FY	Principal	Interest	FY	Principal	Interest
N/A	\$1,920,000	**	2003	\$988,000	\$444,755
1992	390,000	\$337,104	2004	986,000	392,080
1993	390,000	306,956	2005	983,000	338,624
1994	390,000	927,234	2006	985,000	284,285
1995	587,000	813,142	2007	982,000	229,127
1996	593,000	777,009	2008	977,000	173,288
1997	744,000	736,416	2009	703,000	125,648
1998	745,000	691,773	2010	706,000	86,460
1999	934,000	641,617	2011	434,000	54,890
2000	803,000	590,655	2012	246,000	36,190
2001	780,000	541,836	2013	260,000	22,275
2002	989,000	496,415	2014	275,000	7,563
<b>PAID TO DATE</b>	<b>\$9,265,000</b>	<b>\$6,860,157</b>	<b>SUBTOTAL OWED FY03</b>	<b>\$8,525,000</b>	<b>\$2,195,185</b>
			<b>ISSUE TOTAL</b>	<b>\$17,790,000</b>	<b>\$9,055,342</b>

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*8.4.1.2 Woods Road Solid Waste Management Facility*

Site L, which became the Woods Road Solid Waste Management Facility, was acquired through a 1990 bond sale of \$13,545,000. Principle and interest payments began on that site beginning in FY92. The remaining principle outstanding from FY 2002 through FY 2011 is \$6,300,000. **Table 8-5** reflects the principle and interest payments on Woods Road SWMF debt through the debt retirement schedule.

**Table 8-5: Debt Retirement Schedule for 1990 WRSWMF Bond Issue**

<b>FY</b>	<b>Principal</b>	<b>Interest</b>	<b>FY</b>	<b>Principal</b>	<b>Interest</b>
1992	\$700,000	\$941,395	2003	\$700,000	\$427,000
1993	700,000	891,695	2004	700,000	377,300
1994	700,000	841,995	2005	700,000	327,600
1995	700,000	792,295	2006	700,000	277,900
1996	245,000	758,748	2007	700,000	227,850
1997	700,000	725,200	2008	700,000	177,450
1998	700,000	675,500	2009	700,000	126,875
1999	700,000	625,800	2010	700,000	76,125
2000	700,000	576,100	2011	700,000	25,375
2001	700,000	526,400	2012	0	0
2002	700,000	476,700	2013	0	0
<b>PAID TO DATE</b>	<b>\$7,245,000</b>	<b>\$7,831,828</b>	<b>SUBTOTAL OWED FY03</b>	<b>\$6,300,000</b>	<b>\$2,043,475</b>
			<b>ISSUE TOTAL</b>	<b>\$13,545,000</b>	<b>\$9,875,303</b>

*8.4.1.3 County Facility Revenues*

The LCSWMF generates revenues in the form of tipping fees, generally levied on tonnage and other charges, such as a surcharge for refrigerated appliances and tires. The revenues from tipping fees help offset some of the costs of operating the LCSWMF when they are posted to the General Fund.

For FY 03, the LCSWMF is expected to generate \$851,000 in actual fees and charges. This amount has been adjusted from the initial projection at a rate of 12% growth over FY02 and is in line with actual revenue patterns over the past 3 fiscal years. FY03 projected revenues will offset much of the expense of LCSWMF daily operations--personnel, contracted services, materials and small equipment. The paid fees also cover operating expenses for the solid waste that is accepted, processed and reused, recycled or disposed of under the Board of Supervisors fee waiver policy. For FY 03, fee waivers are estimated at \$999,925. This is a total of \$1,850,925 for actual and foregone revenues for the LCSWMF.

**Table 8-6** summarizes collected and waived revenues at the LCSWMF for the past five fiscal years.

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**Table 8-6: Revenue History for the LCSWMF**

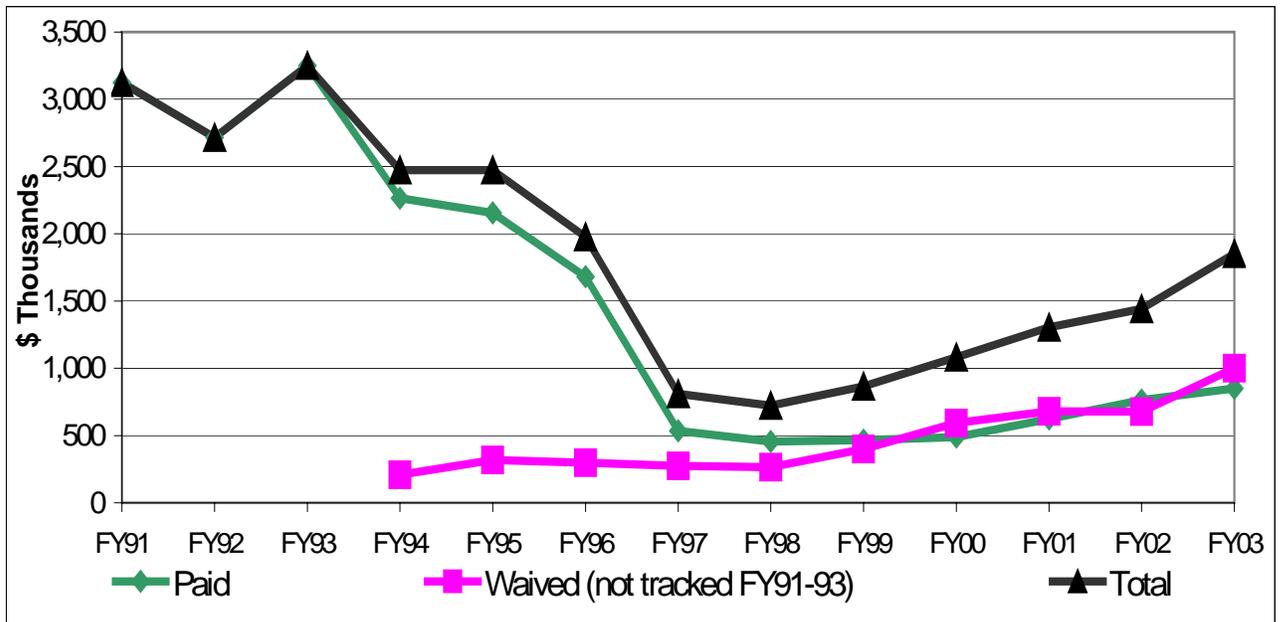
	FY 99*	FY 00	FY01	FY02	FY03**
<b>Collected Fees</b> (Actual Revenues)	\$466,547	\$487,993	\$623,509	\$763,074	\$851,000**
<b>Waived Fees Value</b> (Foregone Revenues)	\$400,365	\$593,702	\$681,298	\$678,456	\$999,925
<b>Total Business</b> (actual + foregone)	\$866,912	\$1,081,695	\$1,304,807	\$1,441,529	\$1,850,925

\*FY 99 – FY 02 are actual revenues.

\*\* Revised 9/1/02; FY03 Adopted figure was \$656,500.

The revenue picture for the LCSWMF has changed radically during the past ten fiscal years, and reflects changes in the County’s solid waste policies and in local solid waste market conditions. **Figure 8-1** shows a ten-year trend for revenues. FY94 was the second year of a shift in County policy to support transfer of waste out of the District; in that year, revenues had fallen from approximately \$3.5 million the prior year. In FY96, a national solid waste services firm purchased a local business; after the acquisition, the local business was no longer the major customer at the LCSWMF that it had been previously and revenues fell to less than \$1 million dollars. From FY98 to the present, revenues have increased steadily as the LCSWMF has continued to serve individual residents, small businesses, small contractors, governments, and nonprofit organizations.

**Figure 8-1: Total Business for the LCSWMF: Actual Fee Revenues + Waived Fee Values**



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*8.4.1.4 Tipping Fees*

Staff has conducted a survey of tipping fees charged at other MSW facilities. **Table 8-7** provides a comparison of LCSMWF fees with those charged in other public facilities. In Arlington County and in the City of Alexandria, the municipalities also provide solid waste services, including collection. Residents pay for these services through annual service fees per household, per bag or can, and/or per pickup. Residents must schedule certain kinds of pickup, while others are conducted regularly.

**Table 8-7: Comparison of LCSMWF Fees to Other Jurisdictions**

<b>Locality</b>	<b>MSW</b>	<b>Vegetative</b>	<b>Construction</b>	<b>Dirt, Concrete Rubble</b>	<b>White Goods Surcharge</b>
<b>Loudoun Co.</b>	\$55 per ton	\$55 per ton brush and yard waste	\$55 per ton	\$55 per ton	\$7 surcharge for refrigerant removal
<b>Fairfax Co. Commercial Rates</b>	\$45 per ton (discounts are available on a contract basis)	Brush - \$27 per ton Grass clippings- \$39.95 per ton	N/A	N/A	N/A
<b>Fairfax Co. Residential Rates</b>	\$3 for 1-5 32-gallon bags, \$5 for 6 - 10 32-gallon bags, \$45 per ton bulk items. Senior citizens discount, \$1 for 1-2 32 gallon bags	\$3 per mini-pickup load. \$5 per full-sized pickup w/o racks. \$27 per ton for large loads	N/A	N/A	\$1 per appliance
<b>Fauquier Co.</b>	\$38 per ton	\$38 per ton	\$25 per ton	\$25 per ton	Yes, amount unknown
<b>Prince William Co.</b>	Annual fee structure - Single Family home \$70, Townhouse \$64, Mobile home \$56		\$20 per 1/2 ton pickup truck load. Large amounts are not permitted	\$20 per 1/2 ton pickup truck load. Large amounts are not permitted	N/A
<b>Montgomery Co. MD</b>	Commercial, Recyclable material, Brush and Yard Trim 1 - 499 lbs. \$7.25, Over 500 lbs. \$29 per ton				No charge for refrigerant removal
<b>Montgomery Co. MD</b>	Residential - 499 lbs. = No Charge, 500 lbs. = \$11 per ton, Over 500 lbs. = \$44 per ton				No charge for refrigerant removal
<b>Frederick Co. MD</b>	Residential \$80 annual fee for up to 1.6 tons (equals \$40 per ton) or \$1 per 40 lbs. load (equals \$50 per ton). Commercial \$50 per ton. Vegetative wastes delivered to 4 collection points to be ground into mulch are accepted at no charge.				Accepted at the MSW rate. There is no charge for refrigerant removal

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### 8.5 Loudoun County Programs

#### 8.5.1 Current Funding Method for County Programs

OSWM conducts five major solid waste programs. Three are largely concerned with operations at the LCSWMF: Pit & Daily Operations, Closure/Post Closure, and Environmental Monitoring. The other two major program areas are Policy, Planning, & Compliance and Solid Waste Diversion & Recycling.

The General Fund is the primary location of all financial activity associated with the ordinary operations of County Government. Most taxes are accrued into this fund and transfers are made out of it as appropriate.<sup>4</sup> Historically, the programs of OSWM have been financed by the General Fund. Such funding is subject to annual appropriation control by the Board of Supervisors. In fund accounting, any revenues generated from a General Fund program revert back to the General Fund; therefore, revenues from LCSWMF user fees indirectly offset most disposal operations costs when they are deposited in the General Fund.

**Table 8-8** shows FY03 adopted budget information for the County's five major Solid Waste Management program areas.

#### 8.5.2 Loudoun County Solid Waste Management Facility

For details on revenues and operations at the LCSWMF, please see Section 8.4 in this chapter.

#### 8.5.3 Environmental Compliance Monitoring and Quality Assurance

Costs of sample collection and analysis and well repair and replacement will be paid for by the General Fund as annual operating expenses. In the event that remediation monitoring or corrective action are required for the existing landfill, costs will be paid by the General Fund. A methodology for corrective action has not been selected and, therefore, costs (capital and operational) cannot be determined at this time.

#### 8.5.4 Policy, Planning and Compliance

##### *8.5.4.1 Regulation and Enforcement*

Costs are partially offset by fees collected for permit review and issuance of annual operating certificates. Enforcement and compliance activities for Chapters 1080 (Solid Waste Management Facilities), 1084 (Solid Waste Collection and Transportation), and 1086 (Waste Reduction and Recycling) of

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<sup>4</sup> Loudoun County. *FY 2003 Adopted Fiscal Plan*. p. 547.

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the Codified Ordinances of Loudoun County are also funded through the General Fund.

**Table 8-8: Solid Waste Management Program Costs – FY 03**

<b>Program Area</b>	<b>FY 03 Budget</b>	<b>Description</b>
<b>Pit and Daily Operations</b>	<b>\$ 1,320,970*</b> (Central heavy equipment maintenance/ replacement is 45% of total)	LCSWMF Pit and Daily Operations includes personnel, contracted services for A&E services/ survey/ mapping, contract labor and data systems support, supplies for road and vegetation maintenance, uniforms, small equipment, shop and safety supplies, heavy equipment repair/ maintenance/ replacement and rental.
<b>Closure / Post Closure</b>	<b>\$ 229,152</b> (split among 3 cost areas of personnel, contracts, materials/ equipment)	Closure and Post Closure care includes personnel, field engineering / surveying, gas system operations and maintenance, "raincoat" installation for interim closure, leachate system operations / maintenance and monitoring.
<b>Environmental Monitoring</b>	<b>\$ 337,525</b> (Contracted services are 69% of total)	Environmental Monitoring includes personnel, equipment and consulting for routine and special sampling, monitoring, and compliance reporting and review for LCSWMF environmental management systems including air, gas, surface and ground water.
<b>Policy, Planning and Compliance</b>	<b>\$ 617,784</b> (Personnel is 84% of total)	Policy, Planning and Compliance includes personnel for planning, policy, regulatory enforcement and compliance, program support; equipment and supplies for facility, vehicle and recycling compliance; also includes Countywide Medical Waste Collection contract.
<b>Solid Waste Diversion and Recycling</b>	<b>\$ 859,496</b> (Contracted services are 63% of total)	Solid Waste Diversion includes Countywide Recycling DOC and HHW and other special waste contracts, DOC site and equipment repairs and maintenance and supplies & County-wide public information & education.

\* Reflects Budget Reduction, September 2002. FY03 Adopted was \$1,495,970.

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#### *8.5.4.2 Solid Waste Management Plan Administration and Compliance*

OSWM will be responsible for administrative duties related to the Solid Waste Management Plan (SWMP). They include, but are not limited to, major or minor amendments to the Plan, assurance that the Plan and Board policy agree, and evaluation of Plan implementation success. These duties will be part of the normal operations expenditures for this program and funded by the General Fund.

#### 8.5.5 Solid Waste Diversion and Recycling

##### *8.5.5.1 Recycling Dropoff Center Facilities*

This service has both operational and capital costs. The operations costs are primarily contract costs for collection and processing of recyclables from DOCs and repair and maintenance of DOC facilities. Capital costs are incurred should new sites be added or existing sites be relocated or significantly enlarged. Other capital costs might include container purchase costs or improvements or repairs. Capital costs could be funded by the General Fund in the year expended or could be part of the CIP for major site improvements or acquisitions.

The special recycling center services at the LCSWMF are funded by a combination of General Fund support, user fees and revenues from recyclables. Waste oil, waste antifreeze and auto batteries collection, and recycling programs are supported by the General Fund and small amounts of revenue from the sale of the collected material. User fees support waste tire processing. Tipping fee revenues for tires offset the contract costs to arrange for removal and recycling of tires.

##### *8.5.5.2 Curbside Residential Recycling*

No capital or operating expenses are incurred by the County for curbside services; however, the County enforces Loudoun County Ordinances 1084 and 1086, which set the requirements for curbside recycling.

##### *8.5.5.3 Commercial Recycling*

No capital or operating expenses are incurred by the County other than providing for recycling services for County offices and the County school system. This program is funded through the County's General Fund. The County also enforces Loudoun County Ordinances 1084 and 1086, which set the requirements for curbside recycling. Additional DOCs are needed to facilitate recycling for small businesses.

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### *8.5.5.4 Household Hazardous Waste Events*

The County conducts HHW collection events for all residents of the District periodically throughout the year, and also provides collection for hazardous waste generators that qualify as Conditionally Exempt Small Quantity Generators (CESQG). The program is conducted as a contracted service with a contractor that provides personnel trained in collecting, handling, packaging, manifesting, transporting, and delivering the materials to properly certified disposal facilities. The program is paid for through the County's General Fund annual appropriations and is one of the largest dollar service programs in the solid waste management budget.

### *8.5.5.5 Education and Public Information*

The County's General Fund provides an annual appropriation to education and public information. These funds cover a portion of the paid newspaper advertising for special collection events, printing for solid waste guides that are distributed through community resources, and staff time for preparing news releases and presentations on solid waste management and recycling.

Working in cooperation with civic and non-profit organizations and schools, the County allocates funding from the Virginia Litter Prevention and Recycling Grant program to provide educational resources about recycling and litter prevention to students in local schools.

### *8.5.5.6 Litter Grant Administration*

The County administers the Virginia Litter Prevention and Recycling Grant program for the entire LCSWMPD. By participating as a cooperative group in this grant program, the Towns are eligible to receive greater annual funding amounts.

A portion of the County's share has typically been distributed to civic and non-profit organizations to assist litter removal from roadsides, rivers, and streams, and for public education. In addition, civic organizations can receive fee waivers at the LCSWMPD for waste collected through their volunteer-supported litter removal activities. The County also allocates litter grant funds to support specific educational and promotional programs for the community in order to encourage recycling and litter prevention.

## 8.5.6 Reduction and Reuse

Source reduction or "waste and pollution prevention" programs are at the top of the solid waste management hierarchy. Designed to reduce both the toxic constituents in products and the quantities of waste generated, reduction is also

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the only method of waste management that only has costs associated with reduction and prevention information and education.

Adequate information is not available to estimate the annual value of source reduction programs in place or the potential for increasing and expanding such programs. Source reduction programs most likely to produce cost savings in the solid waste management system are those associated with new construction for reducing C&D waste and VW generation through “green” building design and construction standards that minimize certain types of waste. Another option for existing residential cost savings is a Pay-As-You-Throw (PAYT) system for solid waste collection where customers pay only for the amount of trash actually thrown away. This would have to be implemented through contracted services requirements for solid waste collection contracts.

Reuse has some costs associated with the communication, transportation, sorting and other handling involved with waste exchange for reuse purposes. There is no information available at this time as to the annual dollar amount of reuse that is occurring in areas such as used clothing or goods for distribution to others (Salvation Army, County surplus store, consignment stores or other waste exchanges such as construction materials).

#### **8.6 Town Programs**

##### 8.6.1 Town Recycling Programs

The incorporated Towns of Hamilton, Hillsboro, Leesburg, Lovettsville, Middleburg, Purcellville, and Round Hill provide curbside recycling collection to their residents paid for by property taxes assessed by the Towns. Materials collected include plastic, metal, and glass containers, newspaper, and yard waste. These services are provided through contracts with private solid waste service providers. The Town of Leesburg also operates three recycling DOCs for its residents and has collaborated with the County in providing seasonal telephone book collection and for providing information to citizens about recycling and about special collection events.

##### 8.6.2 Litter Grant

The incorporated Loudoun Towns are part of a cooperative agreement for receiving litter grant funds from the State of Virginia. Funded through a special tax on businesses that create products that are likely to contribute to littering, the funds are allocated to each Town on an annual basis. The County administers the grant funds through a process that includes an annual application, distribution, accounting, and reporting. The Towns use these funds to purchase recycling bins for their residents, to provide supplies for special cleanups and public education as well as for trash and recycling receptacles on town streets.

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### **8.7 Current Programs of Non-Governmental Organizations or Agencies**

The District's solid waste management system includes important components that are difficult to quantify in dollars, but may involve hundreds of individuals and thousands of volunteer hours each year. Several non-profit or non-governmental organizations conduct activities that contribute to the prevention, handling or recycling of solid waste. Several of these organizations conduct these activities with assistance from State litter grant funds and / or fee waivers from the County's Board of Supervisors.

### **Part II: Funding the Future Solid Waste Management System**

### **8.8 Future Waste Reduction and Reuse Programs**

There are no major initiatives planned by either the Town members or the County in this area.

### **8.9 Future Private Collection**

Private collection services provided to HOAs or businesses or by individual contracts between collector and customer will remain private contractual transactions. There are no other initiatives for which assessment of funding requirements is required.

### **8.10 Future Public Collection**

#### 8.10.1 County Programs

The District is not currently planning for any expansion into the collection services sector. The collection efforts provided by the School Board will continue and be paid for out of current operating revenues from the General Fund. The capital equipment schedule and funding mechanism(s) for collection services that are provided by the private sector are not a responsibility of this plan.

#### 8.10.2 Town Programs

The Towns of Hamilton, Leesburg, Lovettsville, Middleburg, Purcellville, and Round Hill will continue to fund their solid waste and recycling collection services through the general fund. The Town of Hillsboro will continue to utilize a group contract to collect solid waste and recyclables and have customers directly billed.

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### **8.11 Private Facility and Construction**

#### 8.11.1 Private Sector Waste Disposal

The privately owned and operated waste disposal facilities that serve Loudoun County are located outside the District and beyond the purview of this plan.

#### 8.11.2 Private Sector Waste Processing and Waste Transfer Facility Schedule

The bulk of the waste processing and waste transfer facilities and programs in the District are owned and operated by the private sector; therefore, their funding mechanisms are not part of this Plan. The scheduling of facility expansions or any proposals for new facilities, however, are within the purview of this Plan.

### **8.12 Future Public Facilities**

The District will maintain sufficient landfill capacity to be able to adequately respond to the District's total waste disposal demand but is relying on privately owned and operated facilities to moderate the demand, thus prolonging the life of the LCSWMF.

#### 8.12.1 Future Landfill Capacity and Facility Construction Schedule

The existing LCSWMF infrastructure should meet most needs for the 20-year planning period of this plan. A replacement maintenance facility (shop) is needed within five years to assure adequate maintenance of equipment and compliance with all applicable regulations. Scale upgrades and other routine maintenance are provided for in the Capital Asset Replacement Fund program.

Phase III, as currently permitted, is planned to address the District's solid waste disposal needs for approximately 20 years, provided that the level of demand does not dramatically shift from the current level. Cell IIIA is constructed and in use. Future Cell IIIB construction is scheduled to be accomplished between 2005-2007. Design and construction monies for this cell would be required in FY05, and have been included in the proposed Capital Improvement Plan (CIP) for FY05-06. Sequence II Closure is planned to be a companion construction project to Cell IIIB.

The third cell (IIIC) would tentatively be required by FY2010-2013. At this time it appears that the third cell would meet the needs of the 20-year planning period. The funding for capital construction of the outyear cells and closure projects is tentatively scheduled as being supported by the General Fund. Sequence III closure is scheduled to follow Cell IIIC construction.

The schedule for the remaining projects is beyond the current CIP planning window and the actual dates will depend on conditions experienced between now

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and construction of each project. Information provided includes the anticipated year in which costs will be incurred, the size of the project, and the cost based on 2001 dollars.

**Table 8-9** lists the anticipated Capital budget projects for construction and engineering for both cell construction and closure.

**Table 8-9: Anticipated LCSWMF Capital Projects**

<b>PROJECT</b>	<b>FY</b>	<b>SIZE (Acres)</b>	<b>Cost</b>
Seq II Closure Design	FY05	--	\$65,500
Seq II Construction	FY06	6.6	\$2,101,000
<b>Currently Funded</b>			<b>\$2,166,500</b>
Cell IIIB Design	FY04	--	\$310,000
Cell IIIB Construction	FY05	10.3	\$2,495,000
Cell IIIC	FY13	9	\$3,450,000
Seq III	FY14	7	\$3,100,000
Seq IV	FY21	15.6	\$8,150,000
<b>Unfunded Total</b>	--	--	<b>\$17,505,000</b>

In addition to capital construction costs, the County may incur future costs for remediation of groundwater pollution originating from the old, unlined portion of the existing landfill. A review of corrective measures to remediate pollutants emitted from the existing landfill is underway. The County could incur additional costs to implement corrective action should that be the direction of the Virginia Department of Environmental Quality (DEQ). Funding for a modest level of corrective action has been earmarked in the County's revolving loan fund. Repayment of these loans would be through the County's General Fund. Funding for waste disposal operations, post-closure care, and environmental monitoring at the current landfill is addressed in Section 8.14 in this chapter.

**8.12.2 The Woods Road Solid Waste Management Facility (WRSWMF)**

The schedule for the construction of the first or subsequent phases of the WRSWMF is subject to the demand for disposal capacity in the District. At such

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time as the demand warrants, the District will develop a construction schedule and a funding strategy.

### 8.12.3 Future Recycling DOC Site Facilities

The schedule for constructing a regional DOC near Purcellville to serve Western Loudoun—as well as any other DOCs—is subject to approval by the Board of Supervisors and budget constraints. The source of funding future DOC sites will be the General Fund.

### 8.12.4 Future Construction Waste Processing

There are no initiatives for publicly funded construction waste processing identified in this plan. The private sector facilities providing these services are not in contractual agreements with the district and therefore the funding for these facilities is not part of this plan.

### 8.12.5 Future Vegetative Waste Processing

There are no initiatives for publicly funded vegetative waste processing identified in this plan. The private sector facility providing this service is not in a contractual agreement with the District and therefore the funding for this facility is not part of this plan. As demand warrants, the County may seek a contract with this facility to accept a minor amount of putrescible yard waste for composting. This waste is likely to be brought to the County SWMF as newly enacted recycling requirements are implemented.

## **8.13 Future Public Sector Recycling and Diversion Programs**

Future recycling collection is funded by the same mechanism that supports solid waste collection programs. Future County recycling programs are addressed in Section 8.14 of this Plan.

The Plan recommends that the County solicit proposals for a public/private partnership to locate a private partner to construct and operate a recycling collection center at the County SWMF. This location is already available and owned by the County and is centrally located. No additional cash outlays are anticipated of the County. Both the County and the Towns should benefit by lower contract costs since the recyclables collected in both jurisdictions must currently be transported to Fairfax County for processing.

## **8.14 Future County Programs**

The Board of Supervisors will rely on the General Fund for the Recycling and diversion programs including HHW and clean waste collection, servicing

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recycling dropoff centers and special recycling services at the County SWMF. No capital facilities are proposed for these programs.

**8.15 Future Town Programs**

Funding for future Town collection programs has been addressed. Funding for special programs will be by general fund appropriation.