

Solid Waste

PROGRAM DESCRIPTION

The Division of Solid Waste Disposal and Resource Recovery and the Division of Solid Waste Collection and Recycling provide solid waste services for the County. Refuse collection and recycling services are available to all citizens of Fairfax County by either private contractors or County collection crews. Private contractors presently account for 87 percent of refuse collected. The remaining 13 percent are collected by County collection crews. The County also provides refuse collection services to all County agencies (except schools). Additionally, the County provides leaf collection services to participating neighborhoods. In order to provide the County with a long-term solution to refuse disposal, an Energy/Resource Recovery Facility was constructed at the site of the I-95 Landfill. This facility, which is privately owned and operated, began commercial operation on June 1, 1990, and has a design capacity of 3,000 tons per day (TPD).

LINK TO THE COMPREHENSIVE PLAN

Fairfax County's Comprehensive Plan has established a number of objectives and policies in order to:

- ✓ Provide conveniently located solid waste management facilities and operations, while ensuring these facilities are compatible with adjacent land uses.
- ✓ Provide an efficient, cost effective, and environmentally sound, comprehensive solid waste management system that meets the current and future needs of the County.
- ✓ Provide a waste reduction and recycling program that meets the current and future needs of the County.

Source: 2006 Edition of the Fairfax County Comprehensive Plan, as amended

CURRENT PROGRAM INITIATIVES

The County operates two permitted solid waste management facilities - the I-95 Sanitary Landfill and the I-66 Transfer Station - and developed the Energy/Resource Recovery Facility. All three facilities are operated under permits issued by the Virginia Department of Environmental Quality (VDEQ). The I-95 Landfill and the Energy/Resource Recovery Facility are located on land recently transferred from Federal Government ownership to County ownership.

The I-95 Landfill is the only sanitary landfill in the County and provides land disposal for ash originating not only in Fairfax County, but also in Arlington County and the Cities and Towns of Alexandria, Fairfax, Falls Church, Vienna, Herndon, and Clifton.

The I-66 Transfer Station has been operational since 1983. Refuse deposited by collection vehicles is loaded into tractor-trailer trucks and transported 29 miles to the I-95 Energy/Resource Recovery Facility or other appropriate locations for disposal. Based upon growth, which occurred in the County, and

changes in handling recycled products, the County completed an expansion of the station in 1997. The expansion added approximately 36,000 square feet of disposal area within 11 enclosed bays.

The total capital cost of the Energy/Resource Recovery Facility was \$195,000,000, which was financed through the sale of revenue bonds and the owner's capital. The County authorized construction of a non-ferrous metal recovery system at the Energy/Resource Recovery Facility. These metals are "non-magnetic" and were not recovered from the original magnetic recovery system. Typical metals that are now recovered include copper, aluminum, and other non-magnetic metals. Covanta Fairfax, Inc. (CFI) constructed the system at no cost to the County, as the sale of the additional non-ferrous scrap would pay for the construction and operational costs of the additional equipment. CFI estimated that the capital costs for this system were approximately \$3 million. The non-ferrous metals recovery system became operational in October 1997. CFI has constructed additional air pollution control equipment at the Energy/Resource Recovery Facility to comply with provisions of the Clean Air Act. Mercury, acid gases, and nitrogen oxide removal systems are now operational. The capital cost for the air pollution systems was \$7.75 million, and was funded through bonds originally purchased for the facility and owner equity. The facility recently added an ash conditioning system through the introduction of dolomitic lime into the top and bottom ash and mixing the ash to ensure a more consistent ash product for disposal in the ash landfill. Implementation of this system costs about a half-million dollars, and annual maintenance costs will be paid for through an increased tip fee.

The County completed its new Solid Waste Management Plan and submitted it to the Virginia Department of Environmental Quality in June 2004. The plan developed strategies for managing an ever-increasing amount of solid waste during the next twenty years.

CURRENT PROJECT DESCRIPTIONS

1. **I-66 Transfer Station Expansion.** \$25,488,588, of which \$15,488,588 was previously appropriated for the construction of the CDF and expansion of the tipping floor. An additional \$10,000,000 is needed for the expansion of building, redesign and reconstruction of the CDF due to landfill settlement combined with customer growth and access to former ballfield property, and miscellaneous repairs to the old portion of the original transfer station building and other on-site needs.
2. **I-95 Landfill Liner Area 3.** \$34,877,000 for the ash containment flexible membrane liner. Phase I, Phase IIA and Phase IIB funded at \$18,377,000, have been completed. The remaining \$16,500,000 is for Phase IIIA. The Phase III estimate is conservative, and will require further evaluation based on construction techniques available for synthetic membrane systems. Phase IV of the project is not covered during this planning period.
3. **I-95 Landfill Leachate Facility.** \$2,917,000 for a leachate pretreatment/treatment facility to process fluids collected from liner systems at the Landfill. This project is in the interim design stage, pending analysis of leachate characteristics.
4. **I-95 Landfill Road Construction.** \$1,642,000 for the various haul roads essential at the I-95 Landfill for truck traffic to access the Area 3 Lined Landfill, and final portions of the existing Municipal Solid Waste Landfill.
5. **I-95 Landfill Perimeter Fence.** \$1,274,645 for the construction of fencing enclosing the perimeter area of the I-95 Landfill and for various shop maintenance facilities. These projects are near completion.
6. **I-95 Landfill Paved Ditch Extension.** \$1,624,000 for drainage improvements for the intermediate slopes of the I-95 Landfill to control erosion. This work involves placing armored ditches on side slope areas and stormwater pipes at bench crossings.

7. **I-95 Landfill Closure.** \$66,266,579 to meet all state and federal regulations regarding the closure of the I-95 Landfill. This project will involve six individual phases. The CIP total includes four phases, which will close the existing municipal solid waste portion of the Landfill with a flexible membrane liner material to “seal” the Landfill from external sources. Two additional phases of closure will occur for the ash landfill unit, but are beyond the planning period. Phases I and II of Closure have been completed. The closure of Phase III and IV is under construction and will be completed by FY 2007.

8. **I-95 Landfill Methane Gas Recovery.** \$2,603,000 to capture methane gas generated from the I-95 Landfill by means of collection wells and pipes. The project is a multi-phase project. As an additional benefit, a portion of the recovered methane is being utilized to produce electricity at the Landfill, for sale to Dominion Power. A pipeline that runs between the I-95 Landfill and the Noman M. Cole, Jr. Pollution Control Plant to convey excess landfill gas to the treatment plant for use as a fuel, was completed during the summer of 1997.

**PROJECT COST SUMMARIES
SOLID WASTE
(\$000's)**

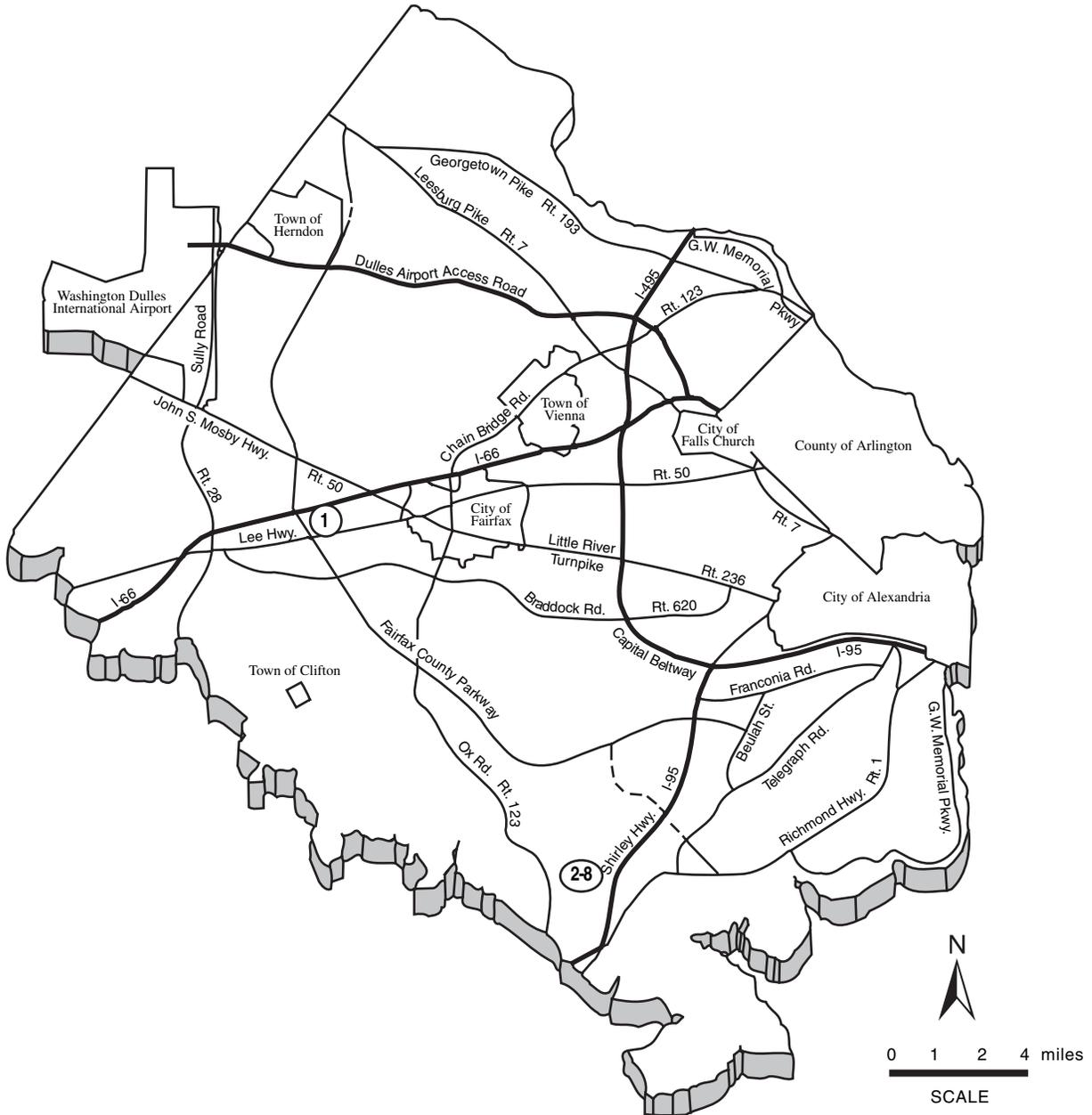
Project Title/ Project Number	Source of Funds	Anticipated to be Expended Thru FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	Total FY2006-FY2010	Total FY2011-FY2015	Total Project Estimate
1. I-66 Transfer Station Expansion / 174002 through 174006	X	14,689		2,800		8,000		10,800		25,489
2. I-95 Landfill Liner Area 3 / 186435	X	15,583		2,249		8,545		10,794	8,500	34,877
3. I-95 Landfill Leachate Facility / 186440	X	2,917						0		2,917
4. I-95 Landfill Road Construction / 186450, 186460	X	269	1,373					1,373		1,642
5. I-95 Landfill Perimeter Fence / 186455, 186420	X	119	1,156					1,156		1,275
6. I-95 Landfill Paved Ditch Extension / 186470	X	363	1,261					1,261		1,624
7. I-95 Landfill Closure / 186650	X	26,534	29,232		10,500			39,732		66,266
8. I-95 Landfill Methane Gas Recovery / 186600	X	1,830						0	773	2,603
TOTAL		\$62,304	\$33,022	\$5,049	\$10,500	\$16,545	\$0	\$65,116	\$9,273	\$136,693

Key: Stage of Development	
	Feasibility Study or Design
	Land Acquisition
	Construction

Notes:
Numbers in bold italics represent funded amounts.

Key: Source of Funds	
B	Bonds
G	General Fund
S	State
F	Federal
X	Other
U	Undetermined

Solid Waste Location of CIP Projects



- 1. I-66 Transfer Station Expansion
- 2-8. I-95 Landfill Projects

Note: Map numbers correspond to the project descriptions in the text and on the summary tables. Only CIP projects with selected fixed sites are shown on the map.