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 management 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 approximately 85 percent of refuse collected. The remaining 15 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 is operated by Covanta Fairfax, Inc (CFI) at the I-95 Landfill Complex. This facility, 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 that 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 readily available to all that meets the current and future needs of the County.
- ✓ Modify and expand the I-66 Solid Waste Transfer Station, and consider the portion of the I-95 Landfill currently under closure procedures for adaptive reuse for active and passive recreational purposes.

Source: 2007 Edition of the Fairfax County Comprehensive Plan, Area IV, and the Policy Plan Element, Public Facilities Section, 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 has developed the Energy-from-Waste Facility. All three facilities are operated under permits issued by the Virginia Department of Environmental Quality (VDEQ).

The I-95 Sanitary 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 to the Energy-from-Waste Facility (the I-95 Energy/Resource Recovery Facility) or other appropriate locations for disposal.

The I-95 Waste-to-Energy Facility is located on the site of the I-95 Landfill Complex in Lorton, Va. This facility receives the trash generated in Fairfax County and converts it to energy through incineration. The facility is owned and operated by Covanta Fairfax, Inc. The total capital cost of the Energy-from-Waste Facility was $195,000,000, and was financed through the sale of revenue bonds and the owner's capital. Additional air pollution control equipment was installed at the facility to comply with provisions of the Clean Air Act. The capital cost for the air pollution systems was $7.75 million, and was funded through bonds originally issued for the facility and owner equity. The facility has also added an ash conditioning system at a cost of a half million dollars.

The Newington Refuse Collection Complex currently houses the County's collection fleet along with administrative facilities for personnel. This facility recently underwent energy retrofits to minimize energy use. Infrastructure costs are paid by refuse collection fees.

The County's twenty-year Solid Waste Management Plan was adopted by the Board of Supervisors in 2004. This Plan provides a framework for implementing solid waste management programs and facilities.

CURRENT PROJECT DESCRIPTIONS

1. **I-66 Workers Facility** (Springfield District): $4,575,000 for the construction of an updated employee facility. The construction of the facility began in September 2010 and was completed in November 2012. The new facility provides offices and meeting/training rooms for the staff of the Division of Solid Waste, Disposal and Resource Recovery.

2. **I-66 Permit and Receiving Center** (Springfield District): $1,200,000 for the renovation of the existing permit and receiving center at the I-66 Transfer Station. The building was opened in 1983 and currently houses the permit offices, main scales, and limited locker room facilities. The renovation work includes the installation of a new HVAC system, renovations to bathroom facilities and conference areas, modifications to the existing scale house and other related modifications to meet present needs and building codes. The design phase will begin during FY 2012 and construction work will be initiated in FY 2013.

3. I**-66 Truck Ramp Retaining Wall** (Springfield District): $850,000 for the renovation of the truck ramp retaining wall that provides access to the lower level of the transfer station below the refuse chutes at the I-66 Transfer Station. The ramp and retaining wall were built in 1995 and have significantly settled and displaced with the current danger of collapsing. The design phase will begin during FY 2012 and the construction will start during FY 2013.

4. **I-66 Closure and Post Closure Care.** (Springfield District): This project will fund the closure and post closure care for the I-66 landfill which was closed during 1982. The work will include the correcting of areas which have settled due to decomposition of the waste, adding new landfill gas wells and piping for controlling the landfill migration, groundwater corrective action, installation of a low-permeability cap on the existing slopes and improving the storm water management system. This project will be an ongoing project.

5. **I-95 Landfill Area Three Lined Landfill** (Mt. Vernon District): $3,750,000 is for Phases IIIB of the Area Three Lined Landfill Project. The Phase IIIA construction was completed during March 2008. Placement of ash began during October 2008 and this phase has ash disposal capacity for six years. The construction of Phase IIIB is expected to be completed during FY 2012. The construction of this project has been advanced due to the fact that the County will continue to use parts the IIIA for storage of materials. Phase IIIA has four years of additional ash disposal capacity and will be filled after additional storage area is made available at the facility. The construction work will include the installation of a double synthetic membrane, leachate collection and detection systems, and related work. New landfill cell development will continue through the life of the landfill.

6. **I-95 Landfill Leachate Facility** (Mt. Vernon District): $1,000,000 for leachate collection/pretreatment/ treatment and storage facilities to process fluids collected in the leachate collection system installed at the Municipal Solid Waste (MSW) and ash disposal areas of the landfill. This is an ongoing project.

Aerial view of the I-95 Energy/Resource Recovery Facility.

7. **I-95 Landfill Closure** (Mt Vernon District): This is an on-going project required to meet all state and federal regulations for placing the synthetic cap on the Area Three Lined Landfill of the I-95 Landfill. Four phases of closure will occur in the Area Three Lined Landfill (ATLL) unit and consist of capping the landfill with a flexible membrane liner and/or low permeability soil to "seal" the Landfill from external sources. Phases I and IIA of the ATLL which includes the side slopes of Phase I and Phase II have been capped and approved by the Virginia Department of Environmental Quality. Modifications are proposed to the capped areas for Phase III in order to make more storage areas available at the site for recyclables and other beneficial uses.

8. **I-95 Landfill Methane Gas Recovery** (Mt. Vernon District): $4,069,000 for the installation of a methane gas extraction system at the I-95 Landfill, including collection wells and pipes. This project is a multi-phase project. As an additional benefit, most of the recovered methane is being utilized to produce electricity at the Landfill, for sale to Dominion Virginia Power. A three mile 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. During 2005, the heating system at the maintenance shop at the I-95 Landfill was converted from propane heaters to Landfill gas heaters. The project won a national award from the Environmental Protection Agency (EPA). This is an ongoing project.

9. **Newington Refuse Collection Facility** (Mt. Vernon District): $1,000,000 to fund infrastructure improvements to the existing facility. The project is a multi-phase project over several years that will not expand the footprint of the existing site.

I-95 Ashfill Cell – Phase IIIA, constructed and ready for use

PROJECT COST SUMMARIES
SOLID WASTE
($000's)

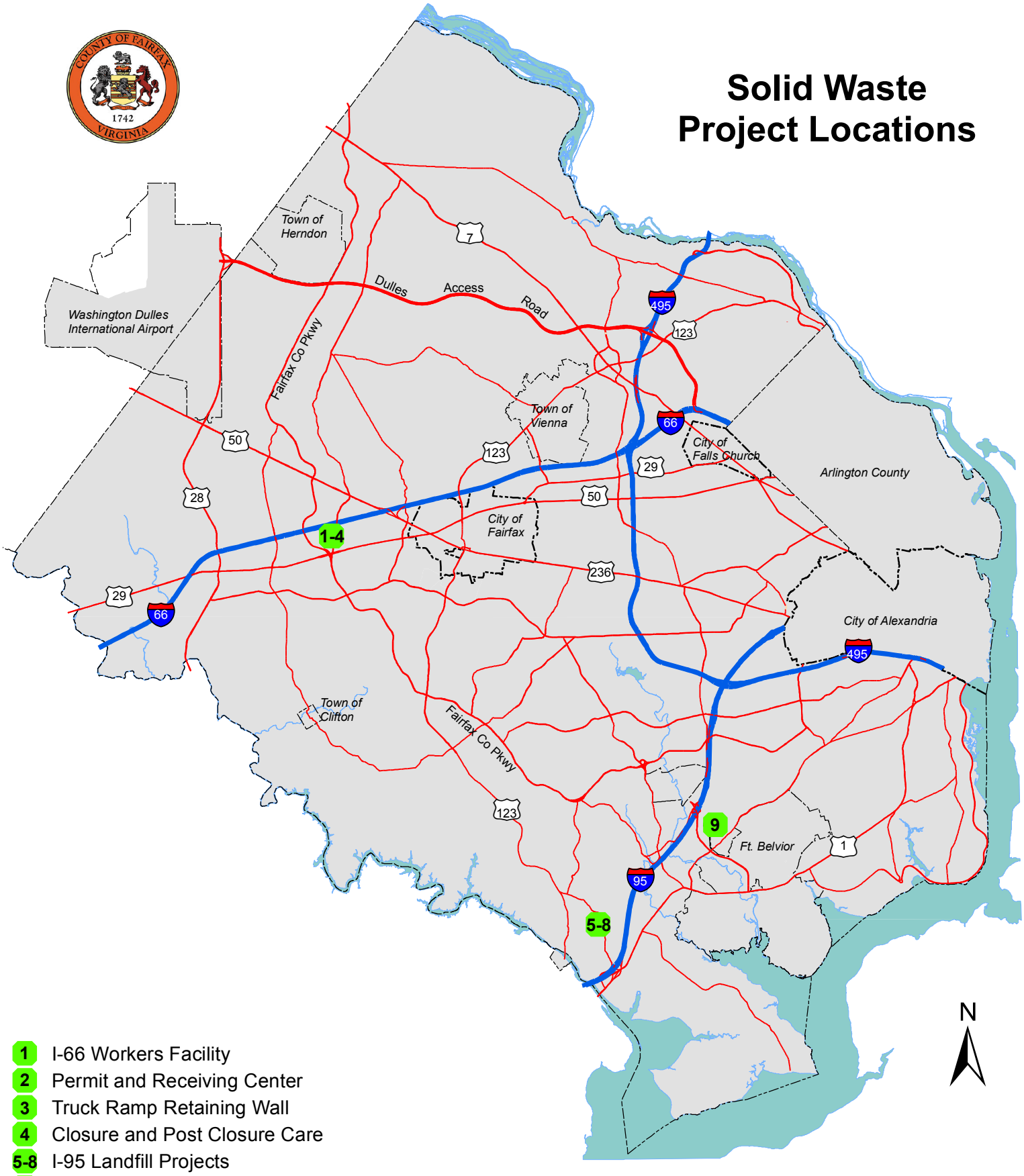
	Project Title/ Project Number	Source of Funds	Budgeted or Expended Through FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Total FY2013-FY2017	Total FY2018-FY2022	Total Project Estimate
1	I-66 Workers Facility /174007	X	***4,575***						0		4,575
2	I-66 Permit and Receiving Center Renewal / 174008	X	***0***	***200***	***1,000***				1,200		1,200
3	I-66 Truck Ramp Retaining Wall / 174009	X	***0***	***750***	***100***				850		850
4	I-66 Closure and Post-Closure Care / 174010	X	***0***				***1,000***		1,000	***1,500***	2,500
5	I-95 Landfill Area 3 Lined Landfill / 186435	X	***C***	***3,000***					3,000	***750***	3,750
6	I-95 Landfill Leachate Facility / 186440	X	***C***	***100***	***100***	***100***	***100***	***100***	500	***500***	1,000
7	I-95 Landfill Closure / 186650	X	***C***	***500***	***3,000***	***500***	***500***	***500***	5,000		5,000
8	I-95 Landfill Methane Gas Recovery / 186600	X	***C***	***100***	***3,100***	***100***	***100***	***100***	3,500	***569***	4,069
9	Newington Refuse Collection Facility / 109001	X	***C***	***125***	***125***	***125***	***125***	***125***	625	***375***	1,000
	TOTAL		***$4,575***	$4,775	$7,425	$825	$1,825	$825	$15,675	$3,694	$23,944

Notes: Numbers in ***bold italics*** represent funded amounts. A "C" in the 'Budgeted or Expended' column denotes a continuing project.

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

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

Solid Waste Project Locations



1 I-66 Workers Facility
2 Permit and Receiving Center
3 Truck Ramp Retaining Wall
4 Closure and Post Closure Care
5-8 I-95 Landfill Projects
9 Newington Refuse Collection Facility

Distance in Miles
0 1 2 3 4

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