Solid Waste

Program Description

The Solid Waste Management Program provides the system of refuse collection, recycling, and disposal services for County businesses and residents.

Link to the Comprehensive Plan

Fairfax County's Comprehensive Plan Policy Plan Public Facilities Solid Waste and Recycling Section includes the following established objectives:

- 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.

Source: 2017 Edition of the Fairfax County Comprehensive Plan- Public Facilities, Amended through 6-9-2020

Program Initiatives

The County Solid Waste Management Program operates several facilities: The Solid Waste Transfer Station at the I-66 Solid Waste Management Complex on West Ox Road, the I-95 Landfill Complex in Lorton, and the Newington Collection Operations Facility.

Both County and private hauler collection vehicles deposit their waste at the I-66 Solid Waste Transfer Station where it is consolidated into tractor trailers for transfer to the Covanta Fairfax, LLC facility in Lorton and other disposal facilities, such as the Prince William County Landfill. The I-66 facility also includes a closed municipal landfill and a recycling and disposal center for County residents and businesses.

The I-95 Landfill Complex contains a functioning ash landfill, a closed municipal waste landfill, and a recycling and disposal center providing services to residents and businesses. The I-95 Ash Landfill is used for the disposal of ash generated by Covanta's waste to energy facilities at the I-95 Landfill and in Alexandria and Arlington. Additionally, ash generated from the combustion of biosolids (sewage sludge) at Fairfax County's Noman Cole wastewater treatment plant is also deposited into the I-95 Ash Landfill.

The Newington Collection Operations Facility provides for refuse and recycling collection vehicles and ancillary equipment. The Newington Complex currently houses the County's collection fleet along with administrative facilities for personnel. Infrastructure costs are paid by refuse collection fees charged to approximately 44,500 residential County customers. About half of the County customers also receive curbside vacuum leaf collection service in the fall for an additional fee of $0.019 per $100 of assessed value of the home and property.

The County's current twenty-year Solid Waste Management Plan was adopted by the Board of Supervisors in 2004 and has been updated every 5-6 years since. The latest update was submitted to the Virginia Department of Environmental Quality in May 2020. This Plan is required by state regulation administered by the Virginia Department of Environmental Quality and provides a framework for implementing solid waste management programs and facilities and demonstrates how the county will manage waste and recyclables for a 20-year period. A new zero waste focused Solid Waste Management Plan will be updated and adopted April 2025.

Current Project Descriptions

1. **I-66 Administrative Building Renovation (Springfield District):** $5,605,219 is available to fund renovations to the existing building and transfer facility at the I-66 Transfer Station. The renovation work includes replacement of the motor control center, modifications to the existing permit office and scale house, installation of solar batteries/generator, commercial e-vehicle truck chargers, and other related modifications necessary to meet present needs and building codes.

2. **I-66 Basement Drainage Renovation (Springfield District):** $3,040,000 is currently estimated to provide for the repair and maintenance of the tipping floor and basement drainage systems. This drainage system processes all liquids produced from the tipping floor and any additional substances generated through the transportation of solid waste. The long-term goal of this project is to solidify the facility's compliance with Solid Waste Regulations.

3. **I-66 Environmental Compliance (Springfield District):** $1,750,669 is available to fund environmental management activities for the I-66 landfill which was closed in 1982. The work has included repairing and maintaining the landfill gas system that provides fuel for heating at several structures, conducting groundwater corrective action, and improving the storm water management system. A large site-wide renovation of the gas system was recently completed and includes a new flare station. Current gas projects include refining a network of monitoring probes surrounding the site to detect the potential for offsite migration. A groundwater treatment system is being implemented to prevent off-site migration of impacted groundwater in conjunction with regulatory authorities.

4. **I-66 Landfill Methane Gas Recovery (Springfield District):** $4,350,000 has been approved to fund the installation and reconstruction of the methane gas extraction system at the I-66 facility, including collection wells, new flares, compressor skids, and pipes. This project was completed in 2023. During winter months, the recovered methane is being utilized to produce heat maintenance garages at FCDOT/WMATA garages. This project is necessary as the current is aging.

5. **I-66 Transport Study/Site Redevelopment (Springfield District):** $5,378,623 is estimated to provide the design, construction, reconstruction, and retrofit of the I-66 Transfer Station's existing traffic flow patterns, citizen's drop-off area, and the Household Hazardous Waste (HHW) Collections Facility. Improvements are needed to help prevent the mixing of commercial and citizen's vehicles for safety. A new green island has been finished to separate residential and commercial traffic and improve exiting traffic flow. Traffic controls and new signage are being implemented to enhance overall safety and customer experience on site. The HHW facility handles most of the household hazardous waste processed within Fairfax County. The current facility is aging and in need of renovation and reconstruction to meet ever increasing HHW Collection Regulations and to provide safe disposal of substances collected. Initial phases of the project will include areas directly in front of the transfer building, which are complete, and a relocated commercial truck scale facility, which is currently in progress.

6. **I-95 Landfill Closure (Mount Vernon District):** $2,440,098 has been approved to meet all state and federal regulations for placing the synthetic cap on the Area Three Lined Landfill (ATLL) unit and repairing or reconstructing the cap on the Municipal Solid Waste (MSW) unit at the I-95 Landfill. Four phases of closure will occur in the ATLL unit and consist of capping the landfill with a flexible membrane liner and/or low permeability soil to prevent the water infiltration from run-on and other sources. Modifications are proposed to the capped areas of the MSW unit to accommodate modernization of the Residential Disposal and Recycling Center and to make more storage areas available at the site for recyclables and other beneficial uses. This is an

ongoing effort as various areas of the landfill are filled to final grades. A new ash fill over the Lot C area was recently completed. This area was previously temporarily capped and is needed to expand the available ash fill area. A future new landfill cell area, Phase IV, is currently in the design and permitting phase. Construction of Phase IV is still several years away.

7. **I-95 Landfill Environmental Compliance (Mount Vernon District):** $2,389,536 is required to support two environmental initiatives associated with the I-95 complex. The first initiative will provide for the continuation of ground water investigations and remediation efforts in accordance with the ground water Corrective Action Plan for the I-95 Landfill. Investigations and corrective action efforts may involve installation of ground water monitoring wells, injection of products intended to reduce concentrations of constituents of concern, and/or recover and treat ground water, among other alternatives. The second initiative will provide for Stormwater Improvements. Most of the existing storm water detention basins that manage stormwater flow at the I-95 landfill will be reconstructed or renovated with retrofits installed to improve stormwater flow and water quality discharge. Recently a major effort was completed to dredge and restore the detention basins on the site back to design conditions. This initiative includes assessment of the existing stormwater network, recommendations for improvements, design, regulatory support, construction, and construction management. This site has also been engaged in activities related to EPA Chesapeake Bay TMDL for PCB's. This effort is ongoing and may involve further stormwater improvements and future permit requirements. These improvements are required to comply with Virginia Pollutant Discharge Elimination System permit requirements, and a new permit will be issued in FY 2025

I-95 Energy/Resource Recovery Facility

8. **I-95 Landfill Leachate Facility (Mount Vernon District):** $5,010,478 is estimated to fund the leachate collection system. A major project was completed in FY 2017 that included additional force mains, controls, upgraded pumping, landfill de-watering efforts, 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 project continues to address minor improvements to the system including maintenance funds for ongoing pump repair and replacement, a new H2S treatment system, and a new flowmeter. These improvements are required to comply with both Virginia DEQ regulations and a new wastewater discharge permit per EPA regulations. The main wastewater discharge flowmeter at the site will require renovation and upgrade.

9. **I-95 Landfill Lot B Redesign (Mount Vernon District):** $1,750,000 has been approved for design, construction, reconstruction, and retrofit of the I-95 landfill's existing Lot B area which is used for various residential solid waste drop-off activities. The area currently handles recyclables, solid waste, mulch/yard waste, household hazardous waste, white goods, and encompasses other site activities, such as vehicle fueling, washing, and maintenance. The goal of this project is to expand the paved area and to implement a covered structure within Lot B to further improve conditions for the residents, minimize operational nuisances, such as contact stormwater and wind-blown dust and litter, and to provide for new waste processing equipment and methods (baler, sorting system, etc.) to maximize recycling revenue and diversion rates. A site master planning effort is also beginning which will help identify the needs for this and other projects.

10. **I-95 Landfill New Service Road (Mount Vernon District):** $1,500,000 has been approved to fund for the redesign and rebuilding of I-95 Landfill's existing entrance road which is the primary access point for residential disposal and recycling customers and commercial haulers. This project will separate public and commercial customer traffic to address safety concerns and improve the operational flow of traffic through the facility. As part of this effort, the unused structures of Lot A have been demolished and the area restored to its original grades.

11. **I-95 Methane Gas Recovery (Mount Vernon District):** $3,559,232 is estimated to fund the installation and reconstruction of the methane gas extraction system at the I-95 Landfill, including collection wells and pipes. This project is a multi-phase project. All the recovered methane is being utilized to produce electricity for sale to Dominion Virginia Power and to replace natural gas used as fuel to combust hydrocarbons created during thermal treatment of biosolids at the Noman M. Cole, Jr. Pollution Control Plant. The major landfill gas piping replacement project that began in FY 2015 has been completed. To mitigate potential for offsite gas migration, additional expansions of the collection system have been completed over the last year. Ongoing projects include refurbishment of the main gas flares, expansions of the gas collection systems due to migration, and the installation of new perimeter monitoring gas wells due to regulator changes. Additional migration monitoring wells are planned for FY 2024/FY 2025. These efforts are required to maintain compliance with VADEQ regulations.

12. **I-95 Operations Building Renovation (Mount Vernon District):** $4,498,952 is estimated to fund infrastructure improvements to the existing I-95 Landfill Operations facility. These improvements include replacing worn and leaking roofing, upgrading faulty HVAC controls, replacing entrance doors, adding entry security features, improving the locker rooms, ADA compliance, rearranging interior walls/offices, and replacing flooring. Recent efforts are underway to remediate water damage, concerns associated with mold, and improvement to buildings windows.

13. **I-95 Transfer/Materials Recovery Facility (Mount Vernon District):** $2,000,000 has been approved for the feasibility study and design of an enclosed facility to handle general waste and recycling efforts at the I-95 Complex. This Materials Recovery Facility (MRF) will be used to sort, screen, and package recyclables generated from the waste stream that have not been removed prior to general disposal. This facility will be located near or on the I-95 landfill and will require significant design and permitting efforts. The facility will support Fairfax County's Zero Waste initiative and be part of the long-term planning efforts in the 20-year Solid Waste Management Plan update.

14. **Newington Refuse Facility Enhancements (Mount Vernon District):** $3,690,833 is estimated to fund infrastructure improvements and maintenance associated with the existing Newington Operations facility. These improvements to date have included replacing worn and leaking roofing, metal siding and gutters on the main building and the pole barn, upgrading faulty HVAC controls, and replacing four obsolete garage doors. Recently completed projects include solar panels on the roof and E-vehicle commercial chargers for collection vehicles. The project is a multi-phase project over several years that will not expand the footprint of the existing site. Current funds are targeted at maintenance of roofing and pavement and improvements to a customer service center.

15. **Solid Waste Storm Clean Ups (Countywide):** This is a continuing project that supports refuse collection and disposal services to citizens, communities, and County agencies through the Solid Waste General Fund programs consisting of the Community Cleanups, Court/Board-directed Cleanups, Health Department Referrals, and Eviction Programs. Funding of $75,000 has been included in FY 2025 for this program.

Project Cost Summaries

Solid Waste

($000's)

	Project Title Project Number	Source of Funds	Budgeted or Expended Through FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	Total FY 2025 - FY 2029	Total FY 2030 - FY 2034	Total
1	I-66 Administrative Building Renovation	X	***$3,620***	***$1,985***					$1,985		$5,605
	SW-000011										
2	I-66 Basement Drainage Renovation	X	***$650***	***$2,390***					$2,390		$3,040
	SW-000023										
3	I-66 Environmental Compliance	X	***$1,751***						$0		$1,751
	SW-000013										
4	I-66 Landfill Methane Gas Recovery	X	***$4,350***						$0		$4,350
	SW-000029										
5	I-66 Transport Study/Site Redevelopment	X	***$4,704***	***$675***					$675		$5,379
	SW-000024										
6	I-95 Landfill Closure	X	***$2,440***						$0		$2,440
	SW-000019										
7	I-95 Landfill Environmental Compliance	X	***$1,970***	***$420***					$420		$2,390
	SW-000016										
8	I-95 Landfill Leachate Facility	X	***$5,010***						$0		$5,010
	SW-000018										
9	I-95 Landfill Lot B Redesign	X	***$1,750***						$0		$1,750
	SW-000020										
10	I-95 Landfill New Service Road	X	***$1,500***						$0		$1,500
	SW-000027										
11	I-95 Methane Gas Recovery	X	***$3,559***						$0		$3,559
	SW-000014										
12	I-95 Operations Building Renovation	X	***$2,499***	***$2,000***					$2,000		$4,499
	SW-000015										

Project Cost Summaries

Solid Waste

($000's)

	Project Title Project Number	Source of Funds	Budgeted or Expended Through FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	Total FY 2025 - FY 2029	Total FY 2030 - FY 2034	Total
13	I-95 Transfer/Materials Recovery Facility	X	***$2,000***						$0		$2,000
	SW-000022										
14	Newington Refuse Facility Enhancements	X	***$3,456***	***$235***					$235		$3,691
	SW-000001										
15	Solid Waste Storm Clean Ups	G	***C***	***$75***	$75	$75	$75	$75	$375	$375	$750
	2G25-127-000										
	Total		***$39,259***	**$7,780**	**$75**	**$75**	**$75**	**$75**	**$8,080**	**$375**	**$47,714**

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

Key: Source of Funds

B	Bonds
F	Federal
G	General Fund
S	State
U	Undetermined
X	Other