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Chapter

9

Special Wastes

Special Wastes - Anticipated Gaps in Waste Management, and SWMP Actions

This chapter presents the process used by the county to evaluate the current SWM system, project the future waste stream, identify anticipated gaps in waste management, and select SWMP actions for special wastes.

Special wastes are components of Fairfax County's solid waste stream that have unique collection, disposal, or recycling requirements. They include hazardous wastes, household hazardous waste (HHW), regulated medical waste (RMW), used tires, used oil, used antifreeze, batteries, sludge, and septage. The origin, quantities collected, disposal locations, materials, and current systems to handle these wastes are described in detail in Chapter 2.

This chapter discusses the gaps between the current special wastes programs and activities, and the future waste management needs for each special waste type. The chapter then presents Fairfax County's SWMP actions for special wastes over the next 20 years to address those gaps.

The county reviewed the current and future projections of special waste quantities over the SWMP planning period. Using these projections, the county assessed the changes in the special waste stream over the planning period and identified the critical areas requiring modification. Finally, the county selected SWMP actions that will close the gaps between its current SWM system and that required in the future.

Overview of the 20-Year Plan for Fairfax County's Special Wastes Management System

Fairfax County's current SWM programs and activities for special wastes, the gaps in waste management, and SWMP actions over the SWMP planning period are summarized in Table 9-1.

Table 9-1. Special Wastes: Current Waste Management Activities, Anticipated Gaps in Waste Management, and SWMP Actions

Current Programs in the County	Anticipated Gaps	SWMP Actions
<ul style="list-style-type: none"> - Hazardous waste collection and disposal services provided by private firms - Household hazardous waste (HHW) collection program at the I-66 Transfer Station and I-95 Landfill Complex - Regulated Medical Waste (RMW) microwave treatment facility at INOVA Fairfax Hospital; out-of-county transport of other RMW - Most used tires collected at I-66 Transfer Station and I-95 Landfill Complex; all used tires transported to out-of-county recycling facilities. - Used oil and antifreeze collection facilities at the I-66 Transfer Station and I-95 Landfill Complex recycling drop-off centers and local service stations - Battery collection facilities at the I-66 Transfer Station and I-95 Landfill Complex recycling drop-off centers - Sludge generated at the Noman M. Cole, Jr. Pollution Control Plant is incinerated on-site; ash is disposed in the I-95 Ash Landfill - Septage is collected by private haulers and discharged at the Noman M. Cole, Jr. Pollution Control Plant, Colvin Run discharge station, or the Upper Occoquan Sewage Authority plant. 	<ul style="list-style-type: none"> - Additional 29 tons per year of HHW by 2025 - Additional 507 tons per year of RMW by 2025 - Additional 1,577 tons per year of used tires by 2025 - Additional 1,199 tons per year of used oil and 144 tons of used antifreeze by 2025 - Additional 109 tons per year of batteries by 2025 - Additional 8,402 tons per year of sludge by 2025 - Additional 11,582 tons per year of septage by 2025 	<ul style="list-style-type: none"> - Continue using the current special wastes management system - Promote public/private recycling programs to increase special wastes recycling, including NiCad battery recycling - Improve public outreach and education - Expand special wastes collection

Assessment of Current and Future Needs

Hazardous Wastes

Private firms operating in the county collect, transport, and dispose hazardous waste generated in Fairfax County. Fairfax County projects that the existing hazardous waste system will be sufficient to handle county-generated hazardous over the SWMP planning period.

Household Hazardous Wastes



In 2002, 16,149 residents used the county's HHW services. In a recent Public Opinion Survey, 81.8 percent of the respondent thought the HHW program was of high importance and should be continued.

Much of the HHW generated in the county is commingled with MSW and disposed of in residential trash containers, so reliable estimates of the total amount of HHW generated is difficult. Table 9-2 shows a conservative estimate of the amount of HHW

Reliable estimates of the total amount of HHW generated is difficult since much is commingled with MSW and disposed of.

that will be collected in Fairfax County over the SWMP period. The county based these estimates on historical per capita generation rates and future county population estimates.

Table 9-2. Fairfax County HHW Program Projections, 2004–2025 (tons)

2004	2005	2010	2015	2020	2025
196	199	212	219	223	225

The I-66 Transfer Station and I-95 Landfill Complex have the capacity to handle the projected quantities of HHW over the next 20 years.

The I-66 Transfer Station and I-95 Landfill Complex have the availability and capacity to handle the projected amount of HHW generated in Fairfax County over the SWMP planning period

Regulated Medical Waste

Table 9-3 shows the county’s estimate of RMW generation volumes over the SWMP planning. These estimates are based on historical per capita generation rates and future county population estimates.

Table 9-3. Fairfax County RMW Projections, 2004–2025 (tons)

2004	2005	2010	2015	2020	2025
3,386	3,436	3,659	3,773	3,853	3,893

The Fairfax INOVA RMW facility only accepts waste generated from two INOVA hospitals—Falls Church and Mount Vernon. The facility is presently operating at capacity (2,250 tons per year). All other RMW generated in the county will likely continue to be transported out-of-county for treatment and disposal. The identity and capacity of these facilities is not known.



The INOVA RMW facility is planning to expand its existing capacity.

The INOVA facility is planning to replace its current microwave capability with higher-capacity steam equipment. It also plans on initiating an internal education campaign to promote increased separation of regular waste from RMW, which should reduce the amount of RMW generated.

Used Tires

Table 9-4 shows the county’s estimate of used tire generation volumes over the SWMP planning period. These estimates are based on historical per capita generation rates and future county population estimates.

Table 9-4. Fairfax County Used Tire Projections, 2004–2025 (tons)

2004	2005	2010	2015	2020	2025
10,526	10,683	11,374	11,730	11,976	12,103

The I-66 Transfer Station and I-95 Landfill Complex have the capacity to handle the projected quantities of used tires over the next 20 years.

The I-66 Transfer Station and I-95 Landfill Complex have the availability and capacity to store and transfer the projected quantities of used tires generated in Fairfax County over the SWMP planning period.



Used Oil and Antifreeze



In compliance with Virginia law, Fairfax County offers residents recycling opportunities for used motor oil, oil filters, and antifreeze. Table 9-5 shows the county’s estimate of used oil and antifreeze generation volumes over the SWMP planning period. These estimates are based on historical per capita generation rates and future population estimates.

Table 9-5. Fairfax County Used Oil and Antifreeze Projections, 2004–2025 (tons)

Item	2004	2005	2010	2015	2020	2025
Used oil	8,004	8,123	8,649	8,920	9,107	9,203
Antifreeze	963	977	1,041	1,073	1,096	1,107

The I-66 Transfer Station and I-95 Landfill Complex have the capacity to handle the projected quantities of used oil and antifreeze over the next 20 years.

The I-66 Transfer Station and I-95 Landfill Complex recycling DOCs have the availability and capacity to handle the projected quantities of used oil and antifreeze generated in Fairfax County over the SWMP planning period.

Batteries

Table 9-6 shows the county’s estimate of battery generation volumes over the SWMP planning period. These estimates are based on historical per capita generation rates and future population estimates.



Table 9-6. Fairfax County Battery Projections, 2004–2025 (tons)

2004	2005	2010	2015	2020	2025
726	737	785	809	826	835

Increased efforts are needed to remove NiCad rechargeable batteries from the waste stream.

Increased efforts are needed to remove additional amounts of NiCad rechargeable batteries from the waste stream and dispose of it properly. The I-66 Transfer Station and I-95 Landfill Complex recycling DOCs have the availability and capacity to process the projected quantities of batteries generated in Fairfax County over the SWMP planning period.

Sludge

Wastewater treatment sludge is generated at publicly owned treatment works from primary and secondary clarifiers. Table 9-7 shows the county’s estimate of sludge volumes over the SWMP planning period. These estimates are based on historical per capita generation rates and future population estimates.

Table 9-7. Fairfax County Sludge Projections, 2004–2025 (tons)

2004	2005	2010	2015	2020	2025
56,083	56,919	60,604	62,497	63,810	64,485

The Cole Pollution Control Plant has the capacity to handle the projected quantities of sludge over the next 20 years.

The Noman M. Cole, Jr. Pollution Control Plant incinerator has the availability and capacity to handle the projected quantities of sludge generated in Fairfax County over the SWMP planning period.

Septage

Table 9-8 shows the county’s estimate of septage volumes over the SWMP planning period. These estimates are based on historical per capita generation rates and future population estimates.

Table 9-8. Fairfax County Septage Projections, 2003–2025 (tons)

2004	2005	2010	2015	2020	2025
77,311	78,464	83,544	86,153	87,963	88,893

The county has the capacity to handle the projected quantities of septage generated over the next 20 years.

The Noman M. Cole, Jr. Pollution Control Plant, the Colvin Run Discharge Station, and the Upper Occoquan Sewage Authority Plant have the availability and capacity to handle the projected quantities of septage generated in Fairfax County over the SWMP planning period.

SWMP Actions

Table 9-9 shows Fairfax County's SWMP actions for special wastes. The county selected SWMP actions based on their alignment with the SWMP objectives (in Chapter 4) and their ability to close the gaps between the county's current SWM system and that required in the future. These SWMP actions are discussed in more detail in Chapter 11.

Table 9-9. Fairfax County Special Wastes SWMP Actions

Special Wastes SWMP Actions
Continue using the current special wastes management system
Promote public/private recycling programs to increase special wastes recycling, including NiCad battery recycling
Improve public outreach and education
Expand special wastes collection