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Chapter

3

Solid Waste Management Hierarchy

Consideration of the Solid Waste Management Hierarchy in the SWMP

This chapter describes the solid waste management (SWM) hierarchy (defined in the Virginia Solid Waste Management Regulations) and discusses the consideration of the hierarchy in developing the SWMP.

Consideration of the Solid Waste Management Hierarchy

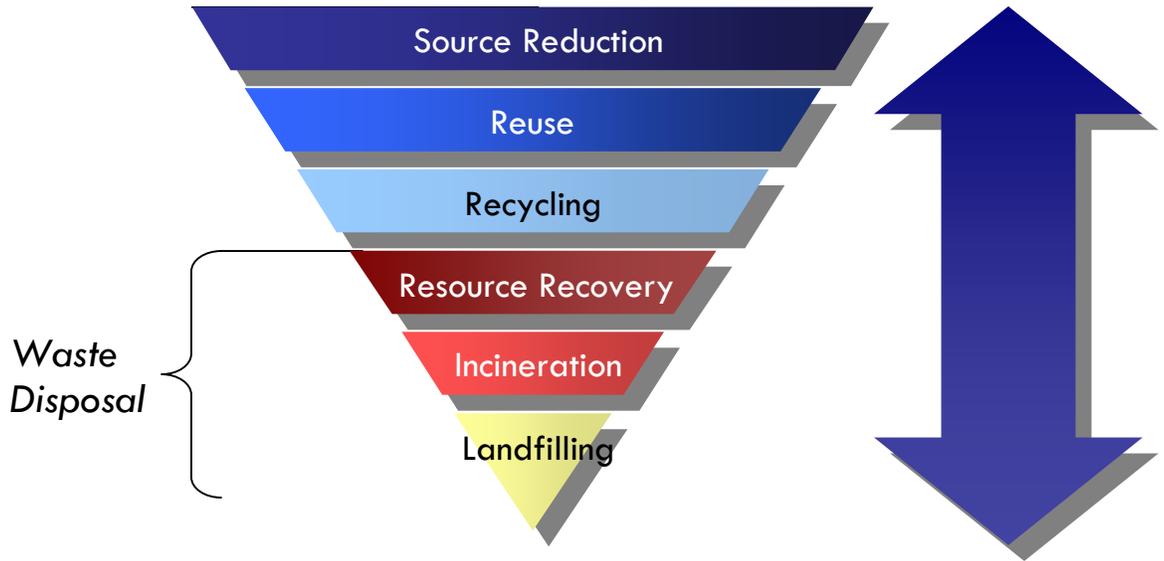
The Virginia Solid Waste Management Regulations, 9VAC20-130-140, requires that jurisdictions consider the SWM hierarchy defined in 9VAC20-130-30 in developing their SWMPs. The hierarchy establishes the preferred order of SWM alternatives as follows: source reduction, reuse, recycling, resource recovery, incineration, and landfilling (Figure 3-1).

The Fairfax County fully integrated waste management plan considers and addresses all hierarchy components, plus transfer and collection services. Because no one method can manage all solid waste generated in the county, Fairfax County uses an integrated waste management system, where all components of the waste management hierarchy are necessary to deal with the amount of waste generated in the county.

Fairfax County strives to create a balanced SWM system that meets the needs of the community.

Fairfax County strives to create a balanced SWM system, which uses all components of the waste management hierarchy, to meet the needs of the community and comply with VDEQ requirements.

Figure 3-1. The Solid Waste Management Hierarchy



Source reduction and reuse both decrease the impact of waste on the environment.

Source Reduction and Reuse

Source reduction is the preferred method of waste management since it prevents the generation of waste in the first place. EPA defines source reduction as the design, manufacture, purchase, or use of materials to reduce their quantity or toxicity before they reach the waste stream.¹ It includes minimizing the production of wastes during any step in the creation or use of a product. For example, source reduction includes backyard composting of yard trimmings and food scraps because this method of management keeps these wastes out of the waste stream.

Reuse follows source reduction in the SWM hierarchy. Items normally discarded as waste—such as appliances, furniture, glass jars, and bottles—can be reused as originally intended or as new products. Reusing items by repairing them, donating them to charity and community groups, or selling them also reduces waste. Reusing, when possible, is preferable to recycling because the item does not need to be reprocessed before it can be used again.

Both source reduction and reuse decrease resource use, protecting the environment. Source reduction and reuse also reduce the dependency on traditional methods of waste management, such as landfilling, which often face capacity and regulatory restrictions and incur high environmental and economic costs.

¹ Philip O’Leary and Patrick Walsh, *Decision-Makers’ Guide to Solid Waste Management, Volume II*, EPA530-R-95-023, U.S. Environmental Protection Agency, August 1995.

Recycling

Recycling (including composting), the process by which materials otherwise destined for disposal are collected, processed, and remanufactured, follows source reduction and reuse in the SWM hierarchy. Recycling and composting can reduce the depletion of landfill space, save energy and natural resources, provide useful products, and provide economic benefits.



Disposal (Resource Recovery and Landfilling)



Disposal management methods, including resource recovery (or waste-to-energy) and landfilling are near the bottom of the hierarchy. Resource recovery is preferred to landfilling since the method reduces the bulk of municipal waste and can provide the added benefit of energy production.

Collection and Transfer (Waste Flow)



Collection and transfer of solid waste serve to facilitate SWM strategies. Through the collection and transfer of solid waste, Fairfax County can help ensure that the objectives of their SWM system are implemented.

