

## 4. WASTE MANAGEMENT

### **Board of Supervisors Environmental Vision:**

*“Fairfax County will use integrated waste management principles to ensure future system capacity and sustainability. The county will promote policies and practices that maximize resource conservation and pollution prevention. The objective is an increase in water reuse, diversion, and recycling. Furthermore, the county will strive to decrease the amount of material disposed of; reduce greenhouse gas emissions by managing landfill gas; encourage the development of renewable energy and alternative fuels for buildings and vehicles; and preserve open space, green space, and wildlife habitats.”<sup>1</sup>*

### **INTRODUCTION**

This chapter provides an overview of the county’s solid waste management (MSW) system and discusses a range of waste management issues. Far and away the most significant development this year is the Department of Public Works and Environmental Services (DPWES) laying the foundations for a county-wide Zero Waste Plan. The [Communitywide Energy and Climate Action Plan \(CECAP\)](#) <sup>[1]</sup> commits to “Achieve zero waste by 2040, defined as at least 90% waste diverted from landfill/ incineration.” Complementing the CECAP zero-waste goal is the [commitment by the Board of Supervisors \(BOS\) to reduce waste generated by government operations by 25 percent \(from 2018 levels\) and diverting 90 percent of generated waste from landfilling by 2030](#).

This chapter describes the county’s current MSW and recycling efforts, the extent of the challenge of achieving zero waste in county operations and communitywide, the steps being undertaken to develop a zero-waste plan, and EQAC recommendations of policies and programs to achieve this important climate and environmental goal.

### **Fairfax DPWES Solid Waste Management Program (SWMP) Operations**

SWMP’s Operations Division oversees the collection, transfer, and disposal of solid waste and recyclables within the county. There are two county-owned disposal facilities; the I-66 Transfer Station and the I-95 Landfill Complex. Most of Fairfax County’s Municipal Solid Waste (MSW) is processed from Waste-To-Energy (WTE) at the WTE facility owned by ReWorld Fairfax (formerly Covanta Fairfax) and is located on the I-95 Landfill Complex. The SWMP also provides curbside collection services for refuse, recyclables, and bulky items collection services to approximately 10% (about 44,000 single family homes) and most county-owned properties and buildings. Private haulers cover the remaining 90% and commercial clients. The

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<sup>[1]</sup> All hyperlinks in this chapter were reviewed/checked on September 3, 2024 unless otherwise indicated.

county requires single stream recycling of paper, cardboard, some plastics, and metal. Glass is no longer permitted in recycling. The county provides nineteen drop off “purple can” locations, a DPWES innovation that has been extended to more than 40 drop off sites throughout the region.

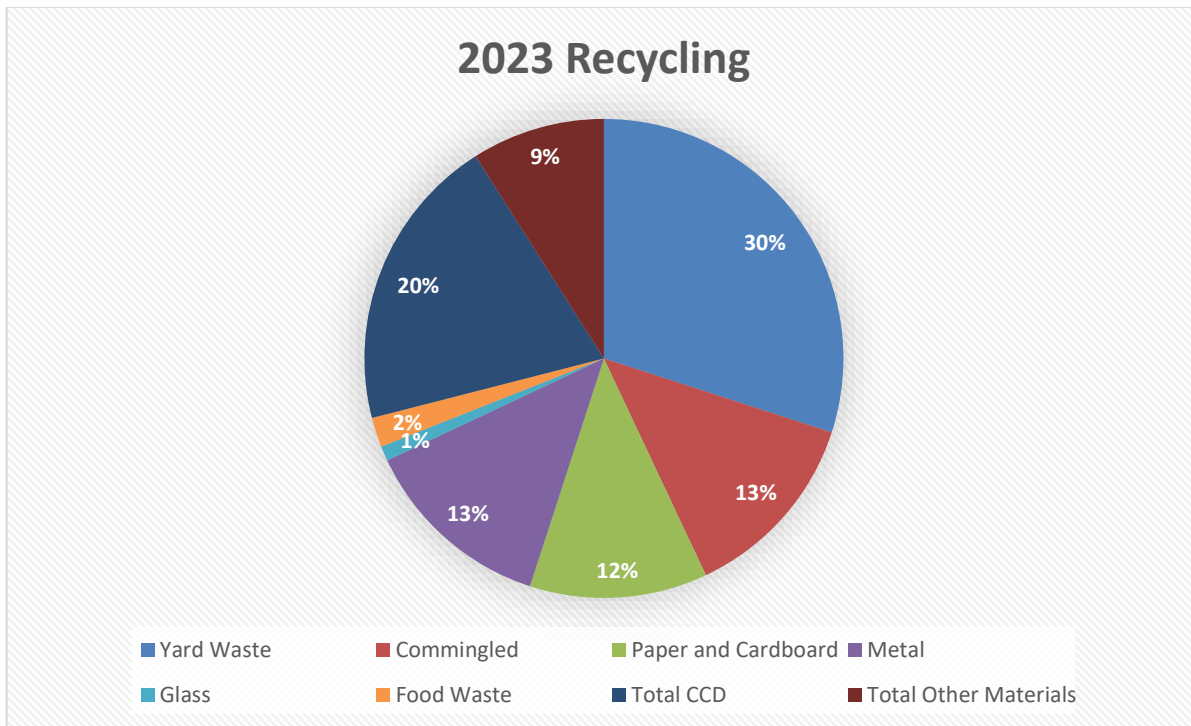
DPWES has a community outreach program called the Four Touch Points (4TP) initiative. Starting in March of 2023, all private haulers are required to provide at least one piece of waste reduction and/or recycling outreach/education material to their residential customers at least four times per year. As demonstrated by the data presented below, it appears these communications and outreach efforts have not increased recycling.

Household hazardous waste can be dropped off at the I-66 and I-95 facilities. A pilot food waste diversion program permits drop-off at the I-66 and I-95 facilities and 10 markets. A standalone SWMP enforcement unit responds to complaints, conducts scheduled and unannounced compliance inspections, and may initiate enforcement actions, when necessary, on solid waste haulers. Since January 1, 2022, Fairfax has required grocery stores, convenience stores and pharmacies to charge a 5-cent fee on disposable plastic bags provided at point of sale. The purpose of the tax is to curb use of disposable plastic bags and cut plastic litter.

## **CURRENT STATUS AND CONCERNS**

### Recycling Data

Both commercial firms and residents are required under the county code to separate recyclables from their municipal solid waste for recycling. Data on recycled material is collected from a variety of sources and reported to the Virginia Department of Environmental Quality (VDEQ). The system for reporting to VDEQ contains complex credits and adjustments. The data reported below does not contain these modifications to the raw data. These data are shown here because they are the only data available. **EQAC recognizes the data shown herein have a great many limitations, and thus urges some degree of skepticism in using them in future planning.**



**Figure 4-1. Recycled Material**

Figure 4-1 shows the percentage composition of waste categories in recycled materials. Yard waste and construction demolition debris (CCD) account for about half of the total recycled material. Commingled recycled materials which includes both residential curbside recycling and mixed recyclables from commercial operations comprised only 13% of the total recycled material.

**Table 4-1 Recycle, MSW and Construction Debris Data from 2012-2023 SWMP Reports to Virginia DEQ**

		Historical (2012-2023), tons	Historical (2012-2023), tons	2023 Comparisons	2023 Comparisons	
Recycled Material	2023, tons	Average	Maximum	2022-2023 Change	2023 % historical max	2023 item % of total recycled
Yard Waste	150,700	202,387	243,927	-29%	62%	30%
Commingled	68,245	92,908	157,038	0%	43%	13%
Paper and Cardboard	61,497	82,800	116,547	28%	53%	12%
Metal	64,741	61,054	77,637	-6%	83%	13%
Glass	4,717	2,147	5,197	-3%	91%	1%
Food Waste	8,737	8,402	14,379	-36%	61%	2%
Total CCD	102,423	71,735	125,471	10%	82%	20%
Total Other Materials	47,747	40,084	74,346	-56%	64%	9%
Total Recycled	508,807	559,227	647,450	-10%	79%	100%
Household MSW	255,266	252,023	255,266	2%	100%	50%
Commercial MSW	382,900	375,034	382,900	4%	100%	75%
Total MSW	638,166	627,050	665,509	3%	96%	125%
Total MSW and Recycled	1,146,973	1,189,757	1,312,959	-3%	87%	225%
Recycled Percent of Total	44%	47%	49%	-7%	90%	0%
<b>Commingled +Glass % of total Household</b>	22%	27%	39%	-0.4%	57%	0%

Table 4-1 includes more details on current and the last 11 years of recycling.

Significant 2023 Recycling changes include the following:

- Yard Waste was down 30%, reflecting the county's decision to no longer require yard waste collection.
- Paper and cardboard recycling was down 28%,
- Food waste was down 36%.
- CDD (Construction materials) was up 10%.
- With these decreases, total recycling is at 44%, below the 2022 rate of 47% and the historic average of 47%.

Commingled waste is primarily the single stream recycling materials collected from County residences. Information is not available on the proportion of commingled waste that is actually recycled and the proportion that is "contaminated," that is, cannot be commercially recycled and is sent to landfill or incineration. Of the MSW,

less than a quarter was recycled in 2023, including the county's glass recycling program. While not directly comparable to Fairfax County, the Montgomery County single family recycle rate is 63% and the commercial recycle rate is 29%.<sup>1</sup>

## **Fairfax Waste Characterization Study<sup>2</sup>**

In preparation for its Zero Waste Plan, DPWES this year conducted a waste characterization study which examined waste disposed by two distinct sectors:

1. Residential (Single-family) – residential waste primarily collected in rear and side loading trucks.
2. Commercial – waste generated by businesses and institutions, including schools, office buildings, retail, and apartment buildings, primarily collected in front-end loading trucks or compactors.

A total of 87 waste samples from residential and commercial waste routes that deliver waste daily to the I-66 transfer station were collected for characterization. Of the 87 samples collected, 45 were samples of commercial waste, and 42 were samples of single-family residential waste. Approximately 18,000 lbs. of waste was sorted and characterized in total. To ensure samples were representative of Fairfax County, multiple samples of residential and commercial waste were sampled from each Magisterial District, with at least 3 samples each.

Figure 4-3 shows the results of this first ever study of Fairfax MSW. The table below indicates the amount and proportion of potentially divertible recyclable waste that is in the county's current MSW. The table suggests that nearly half of the recyclable materials collected in the county are not recycled and are not counted in the recycling shown in the above pie chart.

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<sup>1</sup> Aiming for Zero Waste Montgomery County Maryland Baseline Review and Current State Assessment Technical Memorandum #1 December 2018, <https://www.montgomerycountymd.gov/SWS/Resources/Files/master-plan/baseline-review-current-state-assessment-executive-summary.pdf>

<sup>2</sup> Fairfax County et al, July 2024, Fairfax County Waste Characterization Study

**Table 4-2 Rates of MSW and commingled recycling**

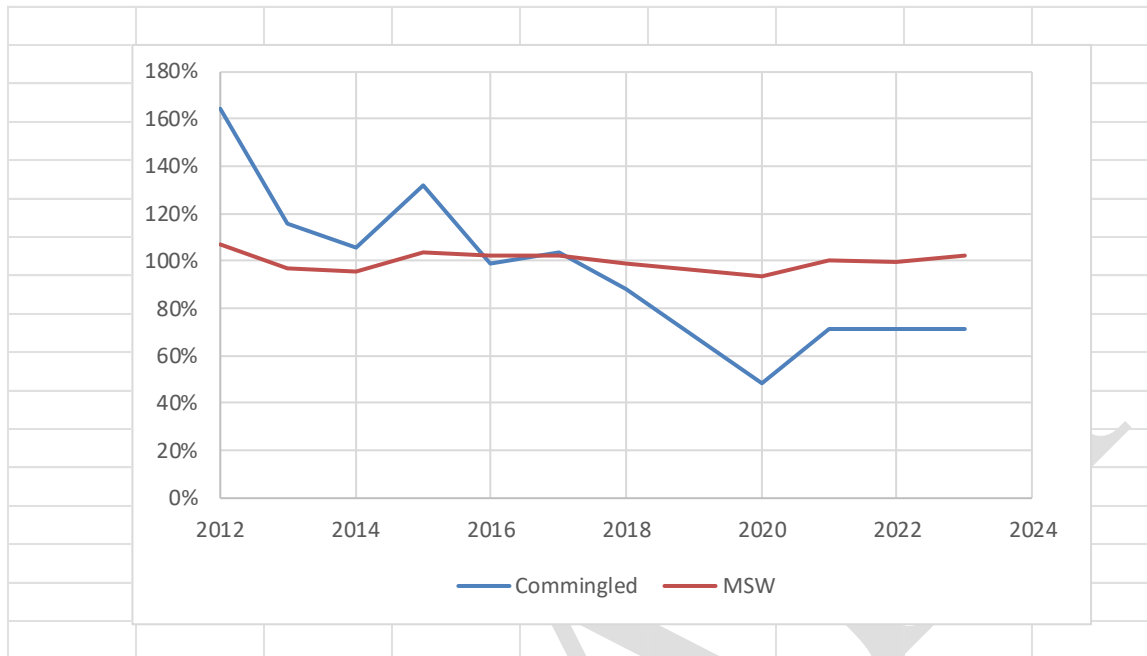
Recyclable Material	Divertability of MSQ from waste stream	% of MSW from 2023 waste characterization study	Estimated tons of MSW from waste characterization study	Tons MW actually recycled	% not recycled
Paper	Divertable	14.7%	932,331	84,136	53%
Metal	Divertable	0.3%	1,903	46,239	4%
Plastic	Partially	11.4%	72,302	832	99%
Glass	Divertable	1.7%	10,782	4,861	69%
Commingled	Partially	9.8%	62,154	98,750	39%
Yard Waste	Divertable	7.9%	50,104	177,298	22%
Waste Wood	Divertable	4.8%	30,443	6,920	81%
Textiles	Partially	4.1%	26,003	100	100%
Batteries	Partially	0.0%		1,895	0%
Electroniccs	Partially	2.0%	12,685	2,146	1%
Food Waste	Divertable	15.4%	97,671	6,391	94%
Total CCD	Partially	23.2%	33,408	115,833	22%

Table 4-2 shows twelve categories of waste that could be diverted from ReWorld. Half of these are fully divertible, half are partially divertible. Of the fully material fully divertible MSW, less than half is actually diverted.

The results indicate that construction debris, metal and yard waste are recycled at high rates. Food waste, which accounted for 15% of divertible waste, plastics, which accounted for 11% of divertible waste, and electronics generally fail to be recycled.

Figure 4-2 indicates that the amount of MSW has remained constant over the past decade, while the amount of commingled waste from households has declined precipitously to less than half the peak tonnage. This trend will need to be reversed if the county is to reach its zero waste goals.

**Figure 4-2 Historic MSW and Commingled Recycled material as a percent of the 11-year average.**



Source Reduction Fairfax County Government and Schools Zero Waste Plan

In 2021, the Fairfax County Board of Supervisors approved a [Zero Waste Plan](#) for Fairfax County government and schools to achieve zero waste by 2030 through the implementation of twenty-four optimal strategies. It is two years since the goals for this plan were established and much of the progress appears to focus on planning, voluntary actions, and outreach. Although many of the 24 optimal strategies appear worthwhile, the heavy dependence on outreach is a concern.

The County's SWMP has been attempting to increase rates of recycling and to reduce MSWW for more than 10 years using outreach strategies. Recycling data indicate outreach to date is not effective, yet the zero waste plan for county operations relies heavily on outreach and education. Based on the SWMP experience, more aggressive action is needed if the Supervisors' goals are to be met. Ten percent of the zero-waste implementation time has passed and in 2023 county recycling of solid waste actually decreased.

The Zero Waste Plan for county operations is laudable and could be used as a motivating example to energize the private sector. It is helpful for county government to "walk the talk" before asking more from the private sector. However, success in actually cutting waste and increasing recycling in County operations has not yet materialized. County and school operations represent less than 2% of the total MSW generated. It

will take bold leadership, policies, and programs to move to zero waste in county operations and communitywide.

Both the County's Government and Schools Zero Waste Plan<sup>3</sup> and the CECAP communitywide implementation plan set goals to divert 90% of generated waste away from landfills or incinerators. Those goals will be challenging to achieve.

### Trash Collection Service Issues

Trash Collection and Recycle processing companies will play important roles in extending the county's zero waste goals to all of Fairfax County. While the current county ordinances can be used to make progress toward the goal, zero waste actions by these firms will be required.

Approximately 25,000 customers receive vacuum leaf collection service from Fairfax County's Department of Public Works and Environmental Services (DPWES). The county leaf collection program has had multiple difficulties in recent years. From an environmental perspective, keeping leaves and yard waste on site by not collecting grass or leaves at all or by composting on-site, provides an environmental benefit to the soil and reduces waste that must be processed. This action supports the zero waste goals of the county. However, county residents who receive leaf collection voted for this service and pay for it. County staff has proposed reassessing vacuum, providing more data for analysis about the environmental impact pros and cons of the service.

### Environmental Preferable Purchasing

The Department of Procurement and Material Management (DPMM) manages the Environmental Preferable Purchasing (EPP) Policy through the Green Purchasing Program. DPMM is also charged with implementing the Zero Waste Plan. They have conducted their own waste characterization studies and are encouraging recycling in County Facilities While DPMM has invested considerable time and effort in communicating the county goals to county departments, it is difficult to track actual progress as there are no numeric criteria and no schedule with accountable milestones. Despite repeated requests by EQAC for quantitative data, none has been supplied. Nearby jurisdictions, e.g., Washington DC<sup>4</sup> and Montgomery County<sup>5</sup> provide such quantitative performance data.

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<sup>3</sup> Fairfax County Government and Schools Zero Waste Plan (October 2021).

<https://www.fairfaxcounty.gov/procurement/sites/procurement/files/assets/fairfax%20county%20government%20and%20schools%20zero%20waste%20plan%20v2.pdf>

<sup>4</sup>

[https://ocp.dc.gov/sites/default/files/dc/sites/ocp/page\\_content/attachments/Fiscal%20Year%202023%20Sustainable%20Purchasing%20Report.pdf](https://ocp.dc.gov/sites/default/files/dc/sites/ocp/page_content/attachments/Fiscal%20Year%202023%20Sustainable%20Purchasing%20Report.pdf)

<sup>5</sup> [https://www.montgomerycountymd.gov/DGS-](https://www.montgomerycountymd.gov/DGS-OES/GreenPurchasing.html#:~:text=About%20Green%20Purchasing&text=Montgomery%20County%20prioritizes%20purchasing%20green,select%20green%20products%20and%20services.)

[OES/GreenPurchasing.html#:~:text=About%20Green%20Purchasing&text=Montgomery%20County%20prioritizes%20purchasing%20green,select%20green%20products%20and%20services.](https://www.montgomerycountymd.gov/DGS-OES/GreenPurchasing.html#:~:text=About%20Green%20Purchasing&text=Montgomery%20County%20prioritizes%20purchasing%20green,select%20green%20products%20and%20services.)



## Litter and Illegal Dumping

The County's Watershed Management Plans have specific projects for addressing dumpsites. One example is Project AC9913 for the Accotink Watershed<sup>6</sup> calling for addressing dumpsites as the second highest priority for the Watershed.

There are multiple volunteer organizations addressing litter including the Alice Ferguson Foundation Clean Fairfax and Friends of Accotink Creek. In addition, the Department of Code Compliance (DCC) receives and investigates code complaints covering a wide range of issues, including zoning complaints, signs, noise, lighting, and illegal dumping. DCC receives but does not record and track litter and illegal dumping complaints, which are estimated by DCC to be less than ten in the last year. Although the complaint data does not show significant complaints, actual dump sites continue, particularly in low-income neighborhoods.

The county experimented with structural controls in Little Hunting Creek and concluded that Operation Stream Shield (OSS) is more beneficial. OSS provides part-time, temporary work experience to guests of the Eleanor U. Kennedy Shelter, Bailey's Crossroads Community Shelter, and The Lamb Center, to help improve the water quality of local streams. The program includes the removal of litter and non-native invasive plant species, maintenance of the county's pedestrian trail system, providing assistance to the county's Noman M. Cole, Jr. Pollution Control Plant, I-66 Transfer Station, and the I-95 Landfill Complex, and engaging in assigned special projects as they become available.

### VDOT ROW Dump Sites

There are active dump sites along Fairfax County roads in VDOT ROW. In 2021, The Fairfax Health Department produced a report<sup>7</sup>, that identified public health and other issues associated with dumping in the VDOT ROW. Numerous recommendations were made, but not implemented.

Neither VDOT nor Fairfax County Government takes responsibility for clearing dump sites in Fairfax VDOT ROWs. The VDOT ROW trash issue is a particular problem in low-income areas. The Board of Supervisors One Fairfax Policy applies to addressing dumping in the VDOT ROW. The VDOT ROW dumping areas identified in testimony provided to EQAC include residents of lower social economic status and other categories of the One Fairfax Policy. These areas should be free of roadside trash as other areas of the County.

A volunteer cleanup of the Americana Drive VDOT ROW this spring collected about 3,000 pounds of trash and dumped debris including that shown in Table 3. Figure 4 includes pictures of these materials.

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<sup>6</sup> [Fairfax County Va, 2010, Accotink Watershed Management Plan](#)

<sup>7</sup> Fairfax County Health Department, August 2021, Illegal Dump Survey, Americana Drive Annandale,

**Table 4-3 Inventory of Material Dumped on Americana Drive VDOT ROW**

163 Bags of Trash	53 Tires	A Stroller
A Car Bumper	A Swing Set	3 Mattresses
Chairs	Pallets	Skateboards
A Scooter	A Bathroom Sink	Rolls of Carpet

**Figure 4-3 Americana Drive Trash Photos**



Prince George’s County Maryland has a program to place hidden cameras at known dumping sites (similar to American Drive) to record people illegally dumping, and then tracking them down. In one Upper Marlboro case, an offender received \$17,916 in fines and restitution, a 1-year suspended jail sentence, 3 years’ probation, and 100 hours of community service for dumping tires. This strong response sends a message: Prince George’s County is taking the health and safety of its residents and environment seriously, and jeopardizing that will not be tolerated as it currently is tolerated in Fairfax County. While Fairfax Police have applied hidden cameras elsewhere, such cameras have not been used on the VDOT ROW.

20 Year Solid Waste Management Plan – Developing a communitywide Zero Waste Plan

Starting in early 2024, Fairfax County Solid Waste Management Program began undertaking an update to the community wide 20 Year Solid Waste Management Plan. This update is focused on reaching the CECAP goal of communitywide Zero Waste, or 90% diversion from landfills or incineration, by 2040. Fairfax County has

selected a consultant and is currently developing a plan to deliver to the Department of Environmental Quality by April of 2025.

As part of this effort, Fairfax County is currently reviewing several strategies that will help them reach their CECAP goal. The items being considered are:

- Unified Sanitation Districts (Franchising) + Pay-as-you-throw models.
- Mandatory Organics Recycling for All
- Expansion of Education, Engagement, Evaluation, and Enforcement
- Comprehensive Commercial and Multi-Family Programs
- Zero Waste Centers
- Construction and Demolition Recycling

Additionally, the plan development process has included targeted focus group feedback sessions, will include a community wide survey, and a public hearing before adoption by the Board of Supervisors in April.

## **RECOMMENDATIONS**

The Scorecard for this Annual Report on the Environment (ARE) contains the following recommendations pertaining to this chapter. Please see the Scorecard for details.

### **1. Create Franchise Districts.**

Create single family, multi-family, and commercial sanitary collection districts (franchising) that allows Fairfax to manage contracts with collectors.

*Recommendation: 4WM-2023.1 | Status: New*

### **2. Fund the Zero Waste Plans,**

Budget sufficient resources in the county's operations budget and Capital Improvement Plan to develop and implement an accountable Zero Waste Plan for the public and private sector.

*Recommendation: 4WM-2023.2 | Status: New*

### **3. Use or Obtain Authority for Zero Waste Implementation**

Utilize existing County authority or obtain legislative authority to:

- Implement the Zero Waste Plan for all public and private waste.
- Efficiently enforce solid waste regulations and policy
- Modify existing ordinances as practicable.
- Collect Accurate Data Efficiently

*Recommendation: 4WM-2023.3 | Status: New*

### **4. Institute litter control.**

- Support Virginia law changes for a container redemption fee ("bottle bill") and extended producer responsibility for hazardous and unnecessary waste in their products and packaging.
- Enforce litter control requirements on Waste Haulers (*Two year*)

*Recommendation: 4WM-2021.4 | Age: Three years | Status: Making progress*

**5. Establish environmental purchasing numeric targets.**

*Recommendation: 4WM-2021.5 | Age: Three years | Status: Stalled*

**6. Address Illegal Dump Sites.**

*A collaborative effort including DCC, DPWES, and the Police is needed. One of these agencies should be assigned the responsibility to lead the effort and be accountable.*

*Recommendation: 4WM-2024.6*

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