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10-YEAR SOLID WASTE MANAGEMENT PLAN 2024-2033

July 2023 | 99% Update



10-YEAR SOLID WASTE MANAGEMENT PLAN *2024-2033*

Prepared for:
Anne Arundel County
Department of Public Works
Bureau of Waste Management
Services

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Statement of Document Version, Approvals, and Amendments

The Anne Arundel County (County) Solid Waste Management Plan (the Plan) was prepared in accordance with the requirements of the Annotated Code of Maryland Environmental Article, Title 9, Subtitle 5 (Md. Code Ann., Envir. § 9-500 (2018)) and the Code of Maryland Regulations (COMAR) 26.03.03. The Plan covers the succeeding 10-year comprehensive planning period of January 2024 to December 2033.

The County received a Certificate of Conformance from the County Office of Planning and Zoning (OPZ) dated June 2023. The County received preliminary approval of the Plan from the Maryland Department of the Environment (MDE) in July 2023. It was submitted for adoption by the Anne Arundel County Council in TBD and adopted in TBD. Subsequently, the County received formal approval from MDE in TBD. Referenced Approvals from the County and the State of Maryland for the Plan are included under Appendix C.

The Plan will be revised in the future as necessary to reflect changes in the solid waste management and recycling programs of the County and to comply with the requirements of the Annotated Code of Maryland and COMAR, house and/or senate bills associated with solid waste or recycling, and Plan progress reports. Any future Amendments to the Plan will be included under Appendix D for incorporation in the next comprehensive 10-year Plan update.





Summary of Additions and Changes to the Plan

The following additions and changes have been incorporated into this County Plan from the previously adopted and approved County Plan.

1. Updated – Statement that identifies document version, approvals and amendments.
2. Updated – List of additions and changes from the previously approved Plan dated 2013.
3. Updated – Incorporation of County Plan Amendments and/or Revisions dated 2015, 2017, 2020 and 2021
4. Updated – Description of the Master Plan for Water Supply and Sewerage Systems, 2022.
5. Updated – Description of the Debris Management Plan dated 2018.
6. Updated – List of Action Items for the succeeding 10-year planning period.
7. Updated – General revisions to format, text and regulations.
8. Updated – Descriptions and tabulations for Population Projections based on 2020 census data.
9. Updated – Descriptions of the County’s Plan2040 General Development Plan and a description of its goals, actions and policies related to solid waste.
10. Updated – Descriptions and tabulations for Tonnage Projections based on the most recent MDE Solid Waste Management and Diversion Report (dated November 2022 representing Calendar Year 2021 data) and the most recent County Bureau of Waste Management Services 2021 Annual Report (dated June 2022) representing Calendar Year 2021 data.
11. Updated – Descriptions of currently utilized and proposed Solid Waste Management and Recycling Support Facilities by the County.
12. Updated – Descriptions of current mechanisms available to the County for procuring support resources for professional and operational services.
13. Updated – Descriptions of the Landfill Gas Collection and Control System and the Landfill Gas-to-Electricity (LFGE) Facility.
14. Updated – Descriptions of the Lifespan of Cell 9 at the Millersville Landfill and Resource Recovery Facility (MLFRRF).



15. Updated – Descriptions for the Future Needs Assessment regarding the conservation of air space and the longevity of the Cell 9 landfill area.
16. Updated – Descriptions of enhancements and alternatives to the existing solid waste management and recycling systems. Description of the compatibility of such enhancements and alternatives with the existing systems, facilities and surrounding communities.
17. Updated – Descriptions for the Future Needs Assessment regarding alternatives to landfilling. Description of the compatibility of such alternatives with the existing systems.
18. Updated – Description of the Municipal Solid Waste 10-year Assessment.
19. Updated – Descriptions regarding recycling program implementation, recycling collection, material management as well as new programs for recycling outreach and public education.



Table of Contents

Statement of Document Version, Approvals, and Amendments	i
Summary of Additions and Changes to the Plan	ii
Table of Contents	iv
Glossary of Terms	xii

INTRODUCTION

INT-1

INT-0 Introduction	INT-1
INT-1 County and State Approvals	INT-2
INT-2 State and County Regulatory Requirements	INT-2
INT-3 Purpose and Scope of the Plan	INT-3
INT-4 Public Participation	INT-4
INT-5 Plan Organization	INT-5
INT-5.1 Description of Plan Chapters 1-6	INT-5

CHAPTER 1

1-1

1.0 Goals, Objectives and Policies	1-1
1.1 Goals	1-1
1.2 General Development Plan	1-2
1.3 Executive Orders	1-2
1.4 Compliance with State of Maryland Recycling Act of 1988	1-3
1.5 Objectives and Policies	1-4
1.6 County Government Structure In Relation To Solid Waste Management	1-4
1.6.1 Administration	1-8
1.7 County Support Structure In Relation To Solid Waste Management	1-10
1.8 Regional Support Structure In Relation To Solid Waste Management	1-10
1.8.1 Northeast Maryland Waste Disposal Authority	1-10
1.8.2 Maryland Environmental Service	1-11

1.9	Laws and Regulations	1-11
1.9.1	Federal	1-12
1.9.2	State	1-12
1.9.3	County	1-13
1.9.4	Municipal	1-13

CHAPTER 2 **2-1**

2.0	County Background	2-1
2.1	General	2-1
2.2	Population	2-1
2.3	Municipalities	2-2
2.4	Federal and State Facilities	2-2
2.5	Land Use	2-3
2.6	Zoning	2-4
2.7	General Development Plan	2-4

CHAPTER 3 **3-1**

3.0	Solid Waste Management System	3-1
3.1	Waste Generation	3-1
3.1.1	Residential	3-3
3.1.2	Commercial and Industrial	3-4
3.1.3	Institutional	3-4
3.1.4	Construction and Demolition Debris and Rubble	3-5
3.1.5	Land Clearing Debris	3-5
3.1.6	Controlled Hazardous Substances	3-5
3.1.7	Special Medical Waste	3-6
3.1.8	Dead Animals	3-6
3.1.9	Bulky or Special Waste	3-7
3.1.10	Vehicle Tires	3-7
3.1.11	Wastewater Treatment Plant Biosolids and Sludges	3-8



3.1.12	Other Wastewater Treatment Facilities	3-8
3.1.13	Septage	3-9
3.1.14	Other Wastes	3-9
3.2	Solid Waste Collection	3-10
3.2.1	Residential Curbside Service	3-10
3.2.2	Drop-off Collection Facilities	3-11
3.2.3	Household Hazardous Waste	3-11
3.3	Waste Disposal	3-12
3.4	Existing and Approved Waste Acceptance Facilities	3-12
3.4.1	Municipal Solid Waste Landfills	3-12
3.4.2	Recycling Centers	3-17
3.4.3	Waste Transfer Stations	3-19
3.4.4	Other Waste Acceptance Facilities	3-22
3.4.5	Rubble Landfills	3-22
3.5	Debris Management Activities and Support Facilities	3-23
3.6	Recycling	3-24
3.6.1	Residential Curbside Service	3-24
3.6.2	Drop-off Collection Facilities	3-25
3.6.3	State Recycling Initiatives and County Programs	3-25
3.6.4	Recycling in Recreational Areas of the County	3-28
3.6.5	Special Events Recycling Program	3-29
3.6.6	Office Building Recycling Program	3-29
3.6.7	Apartment/Condo Recycling	3-29
3.6.8	Rates and Goals	3-29
3.7	Existing Recycling, Processing and Resource Recovery Facilities	3-30
3.7.1	Single Stream Recycling	3-30
3.7.2	Yard Waste Processing	3-31
3.7.3	Scrap Metal Recycling	3-32



3.7.4	Scrap Tire Processing and Recycling	3-33
3.7.5	Rubble Recycling	3-33
3.7.6	Electronics and Computer Recycling	3-33
3.8	Subsidiary Solid Waste Management Plans	3-33
3.8.1	City of Annapolis	3-33
3.8.2	Town of Highland Beach	3-34
3.8.3	Fort George G. Meade	3-34
3.8.4	United States Naval Academy	3-35

CHAPTER 4 **4-1**

4.0	Assessment of Solid Waste Management Systems	4-1
4.1	Structure of the Existing System	4-1
4.2	Support Resources	4-2
4.3	Recyclables and Waste Collection	4-2
4.3.1	Residential Curbside Collection	4-2
4.3.2	Homeowner Drop-off of Recyclables and Waste	4-3
4.3.3	Homeowner Drop-off of Household Hazardous Waste	4-3
4.4	Major Categories of Recycling	4-4
4.4.1	Single Stream Recyclables	4-4
4.4.2	Yard Waste	4-4
4.4.3	Wood Waste	4-4
4.4.4	Other Recyclable Materials	4-4
4.4.5	Commodity Marketing	4-4
4.4.6	Recycling Program Success	4-5
4.4.7	Outreach and Education	4-5
4.5	Recyclables Processing and Waste Acceptance Facilities	4-7
4.6	Landfill Disposal of Waste	4-8
4.6.1	Municipal Landfills (also known as Sanitary Landfills)	4-8



4.6.2	Rubble Landfills (also known as C&D Landfills)	4-10
4.7	Future Needs Assessment	4-10
4.7.1	Identification of Future Needs	4-11
4.7.2	Enhancements to the Existing System	4-11
4.7.3	Alternatives to the County's Existing Systems for Recyclables Management, Yard Waste Management and Waste Disposal	4-14
4.8	Special Waste Management and Disposal	4-18
4.8.1	Asbestos	4-18
4.8.2	Special Medical Waste	4-19
4.8.3	Hazardous Waste and Controlled Hazardous Substances	4-19
4.8.4	Emergency Response for Hazardous Waste Spillage or Leakage	4-19
4.9	Constraints Imposed Upon Establishing a Solid Waste Facility	4-19
4.9.1	Topography	4-19
4.9.2	Soils	4-20
4.9.3	Geologic Conditions	4-20
4.9.4	Location	4-20
4.9.5	Aquifers	4-21
4.9.6	Wetlands	4-21
4.9.7	Surface Waters, Floodplains and Watersheds	4-21
4.9.8	Water Quality	4-21
4.9.9	Land Use	4-22
4.9.10	Growth Patterns	4-22
4.9.11	Landfill Capacity	4-23
4.10	Municipal Solid Waste 10-year Assessment	4-23
4.10.1	Waste Acceptance and Disposal Facilities	4-24
4.10.2	Recyclables Acceptance and Processing Facilities	4-25
4.11	Plan Conformance	4-26
CHAPTER 5		5-1
5.0	Plan of Action	5-1



5.1	Priorities	5-1
5.2	Priority 1 - Integrated System Management	5-2
5.2.1	Meeting the Goals and Objectives	5-3
5.3	Priority 2 - Public Health and Environmental Protection	5-4
5.4	Priority 3 - Regional Partnerships	5-5
5.5	Priority 4 - Recycling, Waste Diversion and Landfill Preservation	5-7
5.5.1	Recycling	5-7
5.5.2	Waste Diversion	5-9
5.5.3	Landfill Preservation	5-9
5.6	Priority 5 - Collection and Management of Recyclables and Solid Waste	5-10
5.6.1	Residential Curbside Collection of Recyclables and Solid Waste	5-10
5.6.2	Homeowner Drop-off of Recyclables and Solid Waste	5-10
5.6.3	Homeowner Drop-off of Household Hazardous Waste	5-10
5.6.4	Collection Procedures	5-11
5.6.5	Processing, Beneficial Use and Disposal of Recyclables and Solid Waste	5-11
5.6.6	Management of Commercial, Industrial and Institutional Wastes	5-11
5.6.7	Management of Controlled Hazardous Substances	5-11
5.6.8	Management of Other Wastes	5-12
5.7	Priority 6 – Operational Enhancements and Alternatives	5-13
5.8	Priority 7 – Future Landfill Life and Capacity	5-14
5.8.1	Remaining Life and Capacity Projections for the County's MLFRRF	5-15
5.8.2	Increasing the Remaining Capacity at the MLFRRF	5-15
5.9	Priority 8 - Constituent Communication and Outreach	5-16
5.9.1	Waste Reduction and Reuse Initiatives	5-16
5.10	Priority 9 - Revenue and Beneficial Use	5-17
5.10.1	Marketing Single Stream and Segregated Drop-off Recyclables	5-18
5.10.2	Segregating and Marketing Other Recyclables	5-18



5.10.3	Marketing of Electronics	5-18
5.10.4	Processing, Beneficially Using and Marketing Organic Materials	5-18
5.10.5	Processing and Beneficially Using Rubble and Rock	5-19
5.10.6	Production of Alternative Energy Sources	5-19
5.11	Priority 10 - Rates and Fees	5-20
5.12	Priority 11 - Future Strategic Plans	5-21
5.13	Priority 12 - Comprehensively Review and Evaluate Options for Future Disposal Facilities	5-22
5.13.1	Future Siting of County Waste Processing and Disposal Facilities	5-23
5.14	Other Plan Requirements	5-25
5.14.1	Proposed Private Waste Transfer Station Facilities	5-25
5.14.2	Proposed Private Waste Disposal Facilities	5-25
5.14.3	Proposed Private Composting Facilities	5-26
CHAPTER 6		6-1
6.0	Reference Documents of the Plan	6-1



LIST OF FIGURES

Figure INT-3	EPA Waste Management Hierarchy
Figure INT-4	FY22 County Solid Waste Management
Figure 1-1	Organizational Structure of Executive Branch of the County Government
Figure 1-2	Organizational Structure of the County Department of Public Works
Figure 1-3	Organizational Structure of the Bureau within the County DPW
Figure 5-1	Anne Arundel County Organic Material Processing Strategy
Figure 5-2	Typical County Site Selection for Solid Waste Acceptance Facilities

APPENDICES

Appendix A	Figures
Appendix B	Tables
Appendix C	County and State Approvals of the Plan
Appendix D	Amendments to the Plan
Appendix E	County Program Development Documents and Recycling Initiatives
Appendix F	Subsidiary Solid Waste Management Plans



Glossary of Terms

- A -

Agricultural Wastes - domestic animal manure or residuals in liquid or solid form generated in the production of poultry, livestock, fur-bearing animals, and their products. Agricultural waste includes residuals generated in the production and harvesting but not of subsequent processing of all agricultural, horticultural, or aqua-cultural commodities. Agricultural waste does not include land clearing debris unless the cleared land is intended solely for agricultural purposes.

Ash - residue from the burning of wood, solid waste, coal, and other combustible materials (also referenced as combustion ash).

- B -

Bulky Item - items whose large size or weight precludes or complicates their handling by normal collection, processing, or disposal methods. The County's curbside program handles many bulky items such as furniture, mattresses, box springs and similar items.

Bureau of Waste Management Services (Bureau) - the operating unit within DPW that is responsible for the systematic planning and implementation of solid waste programs and activities within the County. The Bureau consists of 4 primary functional areas that include: administrative operations, the solid waste disposal and maintenance division, the recycling division and the community services division. Administrative operation provides all the administrative support necessary to procure goods and services, manage contracts, maintain operational spending plans, maintain attendance and payroll records, manage landfill commercial customer accounts, maintain landfill scalehouse operations and other miscellaneous administrative functions. The Solid Waste Disposal and Maintenance Division is primarily responsible for the operation of the active landfill, (MLFRRF), the 2 closed landfills located in Glen Burnie and Deale, the environmental monitoring and maintenance at the 3 sites, and the procurement and maintenance of the specialized vehicles and equipment utilized throughout the entire Bureau. The Recycling Division manages all the recycling activities, initiatives, educational programs and customer outreach established to promote recycling as an important choice for our citizens. The Recycling Division is also responsible for managing several contracts that process and recycle government office recyclables, household hazardous waste, electronic devices, and yard waste. The Community Services Division manages the operations of the 3 Recycling Centers, the countywide curbside collection service, the community clean-up program, and the curbside bulk item pickup service.



Clean Fill (refer to Rubble) - clean earthen fill containing rock, concrete, non-refractory brick, and asphalt created as a result of construction excavation activities, mining, or regarding projects.

Closure - the cessation of operation of a solid waste management facility and the act of securing such a facility so that it will pose no significant threat to human health or the environment.

Code of Federal Regulations (CFR) - document containing the rules established in the Federal Register (FR) by the Executive Departments of the Federal Government.

Code of Maryland Regulations (COMAR) - the State regulations including regulations for the processing and disposal of solid waste.

Compost - the product of composting.

Composting - the controlled aerobic organic decomposition of organic waste material.

Construction and Demolition (C&D) Debris (includes Rubble) - materials generally considered to be non-hazardous as a part of a construction or demolition project or from the renovation of a structure. Construction debris is structural building material including cement, concrete, bricks (excluding refractory type), lumber, plaster and plasterboard, insulation, shingles, floor, wall and ceiling tile, steel, pipes, glass, wires, carpet, wallpaper, roofing materials, felt, or other structural fabrics. Demolition debris is debris associated with the deconstruction of buildings, roads, bridges, and other structures includes structural steel, concrete, bricks (excluding refractory type), lumber, plaster and plasterboard, gypsum wallboard, insulation, cement, shingles and roofing material, floor and wall tile, asphalt, pipes, wires, and other items physically attached to the structure, including appliances if they have been or will be compacted to their smallest practical volume.

C&D Landfill (also known as Rubble Landfill) - a waste disposal facility, which is an area of land or an excavation for disposal of specifically defined wastes of land clearing, demolition, construction debris and asbestos waste.

Controlled Hazardous Substance (CHS) - a hazardous waste as defined in COMAR 26.13.02, except as provided in COMAR 26.13.02.06.

County - Anne Arundel County, Maryland.

Critical Areas (Areas of Critical Concern to the County) - specific geographical areas of the State which, based on studies of physical, social, economic, and governmental conditions and trends, are demonstrated to be unique or significant to the State and have been designated for special management attention to assure the preservation, conservation, or utilization of their special values.



- D -

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Department of Public Works (DPW) - the department within the Anne Arundel County government that performs all functions involving public works or utilities surveys, reports, maps, drawings, specifications and estimates; the custody of maps and plans of the County; the supervision of the execution of and performance of all contracts for capital projects, as defined in Section 702 of the County Charter, except for school projects; the construction of capital projects by its own employees; the maintenance and cleaning of roads, streets, alleys, other public places, bridges, viaducts, subways and underpasses; the acceptance of roads and dedicated ways as prescribed by law; the maintenance of water mains, sewers, drains and culverts; the maintenance and operation of sewage disposal and treatment plants; the collection of solid waste and the operation and maintenance of facilities for its recycling and disposal; the regulation, operation, maintenance and control of water supply; the control of fire hydrants; mosquito control; the administration and enforcement of rules and regulations relating to water and wastewater; and any other function, not inconsistent with the County Charter, that is assigned by directive of the County Executive or by ordinance of the County Council.

- E -

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Enterprise Fund - The County's solid waste enterprise fund is a self-sustaining cost center that is used to account for all recycling and solid waste management system activities, revenues and expenditures including long-term commitments. Revenues are obtained from: annual residential fees from curbside collection customers; tipping fees at the Millersville Landfill and Resource Recovery Facility (MLFRRF); the sale of recyclable commodities from residential curbside collection, the 3 Recycling Centers and the Landfill; and electricity and renewable energy credits from the MLFRRF Gas-to-Electricity Facility. All system revenues are deposited in the enterprise fund and pledged to the payment of system obligations, including administration, debt service, operations, maintenance, development, renewal and replacement of system components, and funding for closure and post-closure activities. For purposes of accountability and sustainability, this enterprise fund is segregated from all other public service obligations and operations, including the General Fund.

Environmental Protection Agency (EPA) - Federal agency responsible for providing regulations, guidance, and enforcement of solid waste management activities.

- F -

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Food Scraps and Food-Soiled Paper - Unwanted and spoiled food items and food-soiled paper and cardboard, including fruits and vegetables, bread, pasta, grains, eggs and eggshells, coffee grounds and filters, tea bags and loose tea, meat, dairy products - milk, butter, cheese, leftovers and spoiled foods, cardboard fruit and vegetable



ice cream containers, paper towels and napkins, uncoated or compostable paper plates, food-soiled newspaper, greasy pizza boxes, uncoated paper bags with food scraps, like fast food bags, and seafood. Food scraps and food-soiled paper are accepted for disposal as trash at the curb or the Millersville Landfill or may be dropped off for composting at all County Recycling Centers.

- G -

General Development Plan - The County's Plan2040 General Development Plan, or GDP, is a comprehensive land use plan that establishes policies and recommendations to guide land use decisions in the County over a 10-to-20-year planning horizon. The GDP is used by the County (Local), State and Federal agencies, citizens, developers, consultants, community associations, and others in making decisions about growth and development, land preservation, resource protection, and the provision of infrastructure and services. The County Office of Planning and Zoning is responsible for preparing and periodically updating the GDP. The GDP is formally adopted by the County Council.

Geomembrane - An essentially impermeable geosynthetic material composed of 1 or more synthetic sheets used for the purpose of liquid, gas or solid containment. Typically used in the construction of a base (bottom) liner or cap (top) liner system for a landfill.

Groundwater - water beneath the surface of the ground, within a zone of saturation.

- H -

Hazardous Waste - solid waste, or a combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, an increase in mortality, or an increase in serious irrevocable or incapacitating reversible illness or may pose a substantial present or potential hazard to human health or the environment when improperly transported, disposed of, stored, treated, or otherwise managed.

Household Hazardous Waste (HHW) - hazardous substances for use in the home in small quantities which, when discarded, may contribute to the contamination of natural resources and water supplies and which may be hazardous to public health. HHW includes, but is not limited to, oil-based paints, pesticides, herbicides, disinfectants, and drain and oven cleaners.

- I -

Industrial Solid Waste - any liquid, gaseous, solid, or other waste substance, or combination thereof, resulting from any process of industry, manufacturing, trade or business; or the development of any natural resource, including agriculture.



- L -

Landfill - an engineered solid waste disposal facility, which is an area of land or an excavation where wastes are placed in a manner that minimizes public health and environmental hazards and is designed, installed, and operated according to the provisions of EPA (under CFR) and MDE (under COMAR) regulations; a solid waste disposal facility, which is an area of land or an excavation where wastes are or have been placed for disposal, for which a permit other than a general permit is required.

Land-Clearing Debris (LCD) – waste generated through land-clearing operations, which includes: earthen material (clays, sands, gravels and silts), topsoil, tree stumps, root mats, brush and limbs, logs, vegetation, and rock. LCD does not include yard waste which has been collected at the curbside.

Land-Clearing Debris Landfill - a landfill permitted under State law and regulation as a land-clearing debris landfill for the acceptance of land-clearing debris.

Leachate - liquid resulting from precipitation that has percolated through solid waste which has extracted dissolved or suspended material from the waste pile.

Lift - the thickness of waste placed in a horizontal series of cells in a landfill.

Liner - a continuous layer of low-permeability natural or synthetic materials, under the bottom, top, and sides of a landfill, solid waste disposal unit, or leachate surface impoundment which controls the downward or lateral movement of waste constituents, or leachate.

- M -

Maryland Department of the Environment (MDE) – the State regulatory service agency responsible for the protection and restoration of Maryland’s air, water and land resources through the enforcement of federal (delegated) and State environmental regulations. MDE is the primary regulatory authority in the State of Maryland for solid waste management programs and activities. MDE creates regulations, issues permits, performs inspections and provides technical assistance to businesses and jurisdictions with pollution control, growth issues, and environmental emergencies. MDE also provides public education and outreach to citizens as well as institutes enforcement actions for noncompliance.

Municipal Landfill (also known as Sanitary Landfill) - a solid waste acceptance facility permitted under COMAR that is designed, installed, and operated so that all types of waste generated by a community, except waste specifically prohibited by the regulations or a permit issued under the regulations, can be accepted.



- N -

Natural Wood Waste - tree and other vegetative refuse. Natural wood waste includes tree stumps, brush and limbs, root mats, logs and other natural vegetative materials. Natural wood waste does not include food waste.

- O -

Office of Planning and Zoning (OPZ) - agency within the Anne Arundel County government that is charged with the responsibility and duty of planning for the physical development and growth of the County, including the preparation and revision of a Master Plan therefore and the preparation and revision from time to time of rules and regulations governing subdivisions. It is also responsible for the preparation, administration, and enforcement of a zoning map and of zoning rules and regulations which shall constitute a zoning code.

- P -

Post-Closure Care - regulations under EPA (CFR) and MDE (COMAR) that establish the minimum requirements for municipal solid waste landfills for compliance by owners and operators once the landfill stops receiving waste and completes closure activities. Post-closure care activities consist of monitoring and maintaining the waste containment and monitoring systems of the landfill to ensure protection of public health and to prevent any releases of contaminants to the environment. Specific post-closure care requirements include maintaining the integrity and effectiveness of the: final cover (cap) system; leachate, landfill gas and stormwater management systems; and groundwater monitoring system. The owner and operator of a closed municipal solid waste landfill must prepare a written post-closure care plan that provides for continued monitoring and maintenance of the landfill closure systems. The required post-closure care period is 30 years from site closure but can be modified with approval of an approved State program as necessary to ensure protection of human health and the environment.

- R -

Recycling - any process in which recyclable materials that would otherwise become solid waste, are collected, separated, reused, or processed and returned to the marketplace to use in the form of raw materials or products.

Recycling Center - a facility or location primarily for residents to drop off recyclables, yard waste and trash. Small quantities of recyclables are also accepted from business customers at Recycling Centers.

Refuse - synonymous with solid waste.



Residential Waste - mixed household wastes, including yard wastes, generated by the general population.

Resource Conservation and Recovery Act (RCRA) - the Federal Law that provides guidelines and standards for the management of both hazardous (RCRA Subtitle C) and non-hazardous (RCRA Subtitle D) waste. More specifically for Subtitle C, RCRA gives EPA the authority to control hazardous waste from “cradle-to-grave.” This includes the generation, transportation, treatment, storage and disposal of hazardous waste. With respect to Subtitle D, RCRA sets forth a framework for the management of non-hazardous solid wastes (such as the disposal of municipal solid waste in landfills). For Subtitle D, EPA developed detailed technical criteria for solid waste disposal facilities, which includes specific provisions on location, operation, design, ground water and gas monitoring, corrective action, closure and post-closure care and financial assurance. These regulations are contained in the Code of Federal Regulations (40CFR), Parts 257 and 258. EPA delegates authority for oversight of Local and State-level solid waste programs to authorized State agencies such as MDE.

Resource Recovery Facility - a processing facility at which component materials of solid waste are recovered for use as raw materials or energy sources.

Rubble - Wastes acceptable for disposal in a permitted Rubble Landfill or cell including demolition debris, construction debris, asbestos, and LCD (MDE definition). The County classifies “Rubble” as brick, block, stone, etc. that fits the definition of clean fill for materials received at County facilities.

- S -

Sanitary Landfill - (also refer to Municipal Landfill) - an engineered method of disposing of solid wastes on land in a manner that minimizes public health and environmental hazards, and is designed, installed, and operated according to the provisions of COMAR.

Site - the area of land within the property boundaries of a solid waste management facility where 1 or more solid waste processing, resource recovery, recycling, storage, or disposal areas are located.

Sludge - normally a term applied to residual solids resulting from the treatment of wastewater; consisting of: organic solids, grit, inorganic solids, and chemical precipitates. Sludge can also be referred to as biosolids.

Solid Waste - recyclables, garbage, trash, refuse, yard waste, construction and demolition debris, white goods, special waste, ashes, sludge, or other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from domestic, industrial, commercial, mining, agricultural, or governmental operations.

Solid Waste Acceptance Facility - any landfill, incinerator, transfer station, or processing facility whose primary purpose is to dispose of, treat, consolidate, or process solid waste.



Special Medical Waste (SMW) - solid waste that is composed of anatomical material, blood, blood-soiled articles, contaminated material, microbiological laboratory wastes or sharps.

Special Wastes - waste having special characteristics or require special handling.

Subtitle C - subtitle of RCRA concerned with the management of controlled hazardous substances (CHS) and hazardous wastes. Rules implementing Subtitle C requirements are found at 40 CFR, Parts 260-268.

Subtitle D - subtitle of RCRA which establishes a framework for Federal, State, and Local government cooperation in controlling the management of non-hazardous solid waste. Rules implementing Subtitle D are found at 40 CFR, Parts 257-258.

- T -

Title V (of Clean Air Act) - law requiring, among other things, air operating permits for facilities (including landfills) that have the potential-to-emit (PTE) over specified thresholds.

Transfer Station - a place or facility where waste materials are taken from 1 collection vehicle (for example, compactor trucks) and placed in another transportation unit (for example, over-the-road tractor-trailers, railroad gondola cars, barges or ships) for movement to other solid waste acceptance facilities.

- W -

White Goods - discarded refrigerators, ranges, washers, water heaters, freezers, and other similar domestic and commercial appliances.

Working Face - that portion of a landfill where waste is deposited, spread, and compacted. Also referred to as the active face of a landfill.

- Y -

Yard Waste - vegetative matter from landscape maintenance or land clearing operations such as tree and shrub trimmings, grass clippings, leaves, trees, brush, and stumps.





INTRODUCTION



INTRODUCTION

INT-0 INTRODUCTION

Anne Arundel County (County) is 1 of 24 jurisdictions in the State of Maryland (23 counties and Baltimore City). The County has had a charter form of government since 1965. The County is governed by a County Executive and a 7 member County Council. The County Executive and Council members are elected in the same years Maryland conducts its legislative elections, and elected officials may serve a maximum of 3 consecutive terms. The County Council has the exclusive power to enact, repeal, and amend local laws. The County is divided into 7 Council Districts, which are presented on Appendix A, Figure INT-1. A single Council member is assigned to represent each district.

The County is located south of the city of Baltimore, west of the Chesapeake Bay, and forms part of the Baltimore-Washington Metropolitan area. The County encompasses a total estimated area of approximately 416 square miles of land area and maintains a population of approximately 593,000 residents. The County also borders several other Maryland counties, which include: Baltimore County (north), Calvert County (south), Howard County (northwest) and Prince George's County (southwest). The jurisdictional boundaries of the County and borders with the above referenced counties are presented in Appendix A, Figure INT-2.

The Maryland Department of the Environment (MDE) requires each County in the State of Maryland to prepare and adopt a Plan demonstrating adequacy for the management and disposal of solid waste, which covers the succeeding 10-year planning period. This Plan must be prepared in accordance with the requirements of the Md. Code Ann., Envir. § 9-500. The governing authority in the County is the County Council, which must approve and adopt the Plan pursuant to regulatory requirements.

Prior to presentation to the County Council, the Plan is provided to MDE for review and comment. The County addresses comments received from MDE to secure preliminary approval. Subsequently, the Plan is presented to the County Council for deliberation, approval and adoption. Upon adoption by the County Council, the Plan is submitted to MDE for final acceptance and approval.

Once the Plan is approved by MDE, the County is required to comply with the requirements of Md. Code Ann., Envir. § 9-503 (b) and 9-506 (b) (2018). Section 9-503 (b) requires the County to review its Plan at least once every 3 years in accordance with the schedule set by the Department. Section 9-506 (b) requires the County to submit a progress report to the Department every 2 years on the status of the development of the Plan.



INT-1 COUNTY AND STATE APPROVALS

This update to the County's Plan addresses the succeeding 10-year planning period from January 2024 to December 2033. A Certification of Conformance from the County Office of Planning and Zoning (OPZ) was issued for the Plan on **October 31, 2023** (refer to Appendix C). The Plan was adopted by the County Council and MDE formally approved the Plan (refer to Appendix C).

INT-2 STATE AND COUNTY REGULATORY REQUIREMENTS

Solid waste management regulations and policies exist at the Federal, State and local government levels. Traditionally, the Federal government (Environmental Protection Agency [EPA]) has provided the overall regulatory framework for solid waste and sets the minimum standards for protecting human (public) health and the environment. Delegated federal standards that MDE must implement through its regulatory responsibilities include but are not limited to the Resource Conservation and Recovery Act (RCRA), the Clean Air Act, the Clean Water Act, and the Safe Drinking Water Act.

The implementation of these standards and regulations are the responsibility of State and Local governments. The State of Maryland established MDE in 1987 to protect and restore air, water, and land resources within the State through the enforcement of Federal and State environmental regulations.

MDE is the primary regulatory authority in the State of Maryland for solid waste management programs, activities, and facilities, including waste disposal, recycling, surface and groundwater protection, and erosion and sediment control, among others. MDE creates regulations, issues permits, inspects facilities and provides technical assistance to businesses and jurisdictions in the areas of pollution control, growth issues, and environmental emergencies. MDE also provides public education and outreach to citizens and institutes enforcement actions for regulatory noncompliance. In addition, MDE reviews County solid waste management and recycling plans.

Overall, MDE enforces Federal and State environmental laws (i.e., RCRA, the Environmental Articles of the Annotated Code of Maryland) and regulations (i.e., Code of Federal Regulations [CFR] and Code of Maryland Regulations [COMAR]) regarding solid waste management.

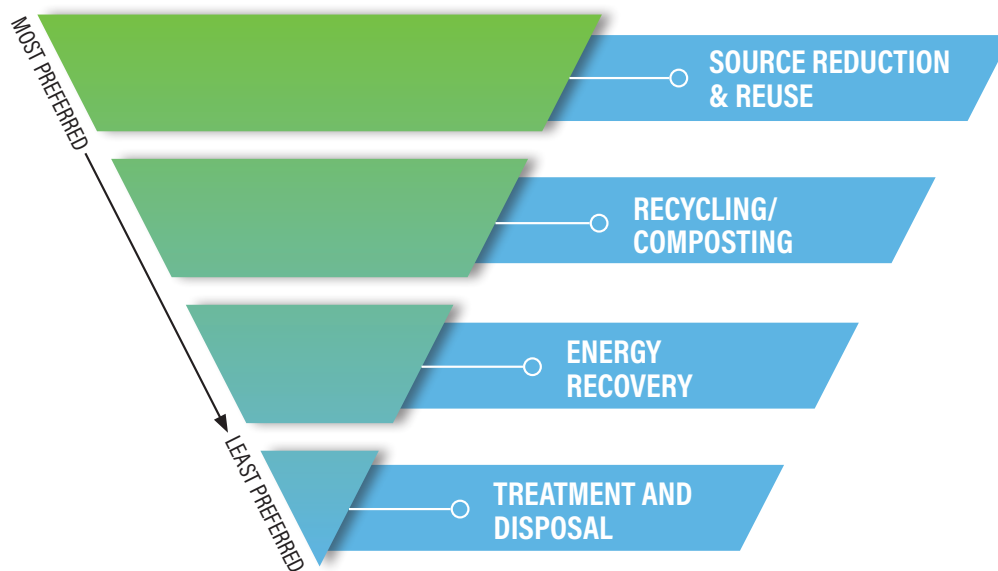


INT-3 PURPOSE AND SCOPE OF THE PLAN

The goals of this Plan are to establish a basis for the conservation of resources and protection of the environment within the County, and to ensure that adequate solid waste disposal capacity exists for at least the succeeding 10-year planning period. These goals can be accomplished through enhancing existing programs and developing new programs that maximize waste reduction, support efficient operations and increase recycling.

Through implementation of the various elements of this Plan, the County has created an integrated solid waste management system (Integrated System), which will meet the future solid waste disposal needs of the County. The Integrated System utilizes industry standard practices for waste management and the components of the EPA Waste Management Hierarchy, which are presented in Figure INT-3. The hierarchy flows from source reduction and reuse, to recycling and composting, to energy recovery and to treatment and disposal on a most-to-least preferred basis.

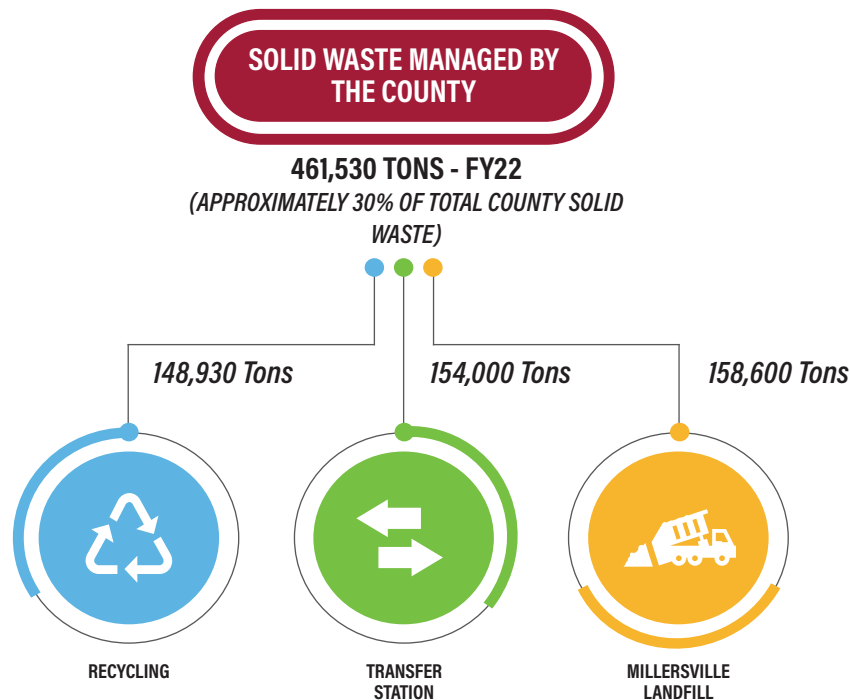
Figure INT-3. EPA Waste Management Hierarchy



The County's Integrated System and the function of its components are geared towards accomplishing 1 overarching goal: prolonging the life of the only remaining and permitted disposal area (Cell 9) of the Millersville Landfill and Resource Recovery Facility (MLFRRF). To assist with achieving this goal, the County implemented a Solid Waste Management Strategy in Fiscal Year (FY) 1999, which consisted of the active diversion of most of the County-collected residential waste to non-County operating solid waste acceptance facilities, with the remaining portion of County-collected residential waste stream disposed of at the MLFRRF. In FY 2023, the County Solid Waste Management consisted of: 32% recycling, active diversion of 33% of the County-collected residential waste to non-County operating solid waste management facilities (e.g., transfer stations), and landfilling the remaining 35% of the County-managed municipal waste stream at the MLFRRF. A graphical representation

of the County's Solid Waste Management is presented as Figure INT-4. The County's Solid Waste Management will be refined from time to time, to ensure that diversion continues as a mechanism to support low, affordable fees for County customers.

Figure INT-4. FY22 County Solid Waste Management



To ensure that the MLFRRF continues to meet the disposal needs of residents, the County will continue to implement the components of the Integrated System, individually and in combination, as well as promote its ongoing waste minimization and recycling programs. In addition, the County will pursue other sustainable materials management and recycling initiatives within the limits of affordability.

The County will use this Plan as a tool that guides its solid waste management efforts during the succeeding 10-year planning period. The Plan provides the context that will support numerous decisions on the implementation of required studies, legislative initiatives, capital construction and management programs that support the Integrated System and Solid Waste Management.

INT-4 PUBLIC PARTICIPATION

The public was afforded the opportunity to comment on the Plan at a scheduled hearing of the Anne Arundel County Council. As required by the Md. Code Ann., Envir. § 9 (2018), appropriate notification regarding the public hearing was provided to the residents of the County. Specifically, the principal elected officials of municipal corporations within the County were given a minimum of 14 calendar days' notice before the hearing. Notice of the time and place for the public hearing as well as a summary of the Plan were published in the form of a

newspaper advertisement in the Capital Gazette, a newspaper with general County circulation. This newspaper advertisement was run at least 1 time per week for 2 successive weeks and at least 14 calendar days before the public hearing.

INT-5 PLAN ORGANIZATION

The Plan addresses the management of solid waste and includes discussions of generation, waste reduction and recycling, collection, transportation, processing, and disposal. Topics within the Plan mirror those outlined in the Md. Code Ann., Envir. § 9-500. A listing of these regulatory required topics is included at the beginning of Chapters 1-5. A more specific listing of these topics with cross references for locating topic discussions within the Plan is provided with the Plan Transmittal Letter to MDE as the Regulatory Cross Reference Table. A general outline for this Plan is presented as the Table of Contents.

INT-5.1 DESCRIPTION OF PLAN CHAPTERS 1-6

Chapter 1: Goals, Objectives and Policies

The goals and objectives guiding solid waste management in the County are presented in this Chapter. These goals and objectives are included in the Chapter 4 discussion of enhancements to the existing solid waste management and recycling systems and the evaluation of alternatives to the existing systems. They are also included in Chapter 5 in the formulation of recommended actions.

Regulatory requirements and input from the public guide solid waste management planning, policy, operations and decision making. Chapter 1 also describes the structure of the County Government as it relates to solid waste management, and the impact of existing Federal, State, and Local regulations on the planning, establishment, and operation of solid waste disposal and recycling systems in the County.

Chapter 2: County Background

Historical and geographical information about the County is presented in this Chapter. A description of the regional setting and history provides the background for discussing the effect of growth on solid waste management and recycling services and facilities.

Population projections for the County are presented in Chapter 2. Projections are the basis for the prediction of solid waste and recycling management needs (by quantity of each material, in tons) and the need for solid waste management and recycling facilities based on the remaining capacity of current systems and facilities. Also included in this Chapter are summaries of the requirements and policies of the County's Plan2040 General Development Plan (GDP) (2021) and the zoning requirements relating to solid waste management and recycling



Chapter 3: Solid Waste Management Systems

The purpose of this Chapter is to present the current solid waste management practices and associated historical and most recent data for solid waste and recyclable materials managed in the County. This information will serve as a baseline for the development of recommendations in the Chapters that follow. An analysis of the County's waste stream is provided, including historic data, projections of waste generation, waste stream composition, and quantities of imported and exported wastes and recyclables (in summary format). This Chapter also presents descriptions of the existing collection, recycling and disposal systems for solid waste and recyclables as well as the existing and proposed waste and recyclables management facilities.

Chapter 4: Assessment of Solid Waste Management Systems

Using the data presented in Chapters 1-3, Chapter 4 presents an assessment of the adequacy of the existing integrated solid waste disposal system to meet the goals and objectives of the County for the succeeding 10-year planning period. The assessment includes a review of existing and proposed solid waste and recyclables management facilities and programs. Enhancements and alternatives to the existing systems for attaining the stated goals and objectives are evaluated and implementation plans are discussed. Compatibility of such enhancements and alternatives to the existing systems are also discussed.

Chapter 5: Plan of Action

Based on the future needs assessment and associated enhancements, alternatives and compatibilities to the existing systems presented in Chapter 4, a plan of action for solid waste management and recycling activities is presented in Chapter 5. The recommended plan of action includes a description of the programs to be implemented and facilities to be utilized over the succeeding 10-year planning period, the methods to manage the County-generated solid waste and recycling streams, the strategies for ensuring adequate landfill capacity, the beneficial use of solid waste residues, and the financing of programs and facilities.

Chapter 6: Reference Documents of the Plan

Numerous County documents were reviewed to obtain updated information to assist with the preparation of this Plan. A summary list of these documents is provided in Chapter 6.





CHAPTER 1

GOALS, OBJECTIVES AND POLICIES



Regulatory Topic Summary

COMAR Title 26.03.03.03(B)

“Chapter 1 shall contain:

1. Statement of the county’s goals regarding solid waste management, the objectives and policies necessary to achieve these goals, and a discussion of the conformance of these objectives and policies with those of State, regional, and local comprehensive land use plans and programs;
2. Brief discussion, with charts, of the structure of the county government as it relates to solid waste management; and
3. Brief discussion of State, federal and local agencies, laws, and regulations which affect the planning, establishment, and operation by the county of solid waste disposal systems.”

CHAPTER 1

1.0 GOALS, OBJECTIVES AND POLICIES

State regulations require the County to identify solid waste management goals, and the objectives and policies necessary to achieve those goals. Furthermore, the extent to which these goals and objectives conform to the objectives and policies of State, Regional, and Local comprehensive land use plans and programs, must be examined. In addition, the structure of the County's government as it relates to solid waste management and Federal, State and Local agency laws and regulations that affect the planning, establishment, and operation of solid waste disposal systems must be reviewed and presented.

Md. Code Ann., Envir. § 9-500 and COMAR requires each County to develop and present guidelines for solid waste management including collection and disposal, within a County Plan. The Plan must evaluate and assess the extent, adequacy, sizing, staging, and other characteristics of such facilities and services to support the existing and future solid waste management needs of the County. The modification, extension or expansion of solid waste management systems must also be consistent with the County's GDP.

1.1 GOALS

The purpose of this Plan is to describe the County's procedures and mechanisms to manage County-generated solid waste over the succeeding 10-year planning period. In addition to meeting State regulatory requirements, the County has set forth a set of solid waste management goals as a basis for setting future objectives and evaluating future policy decisions. The goals of the Plan include:

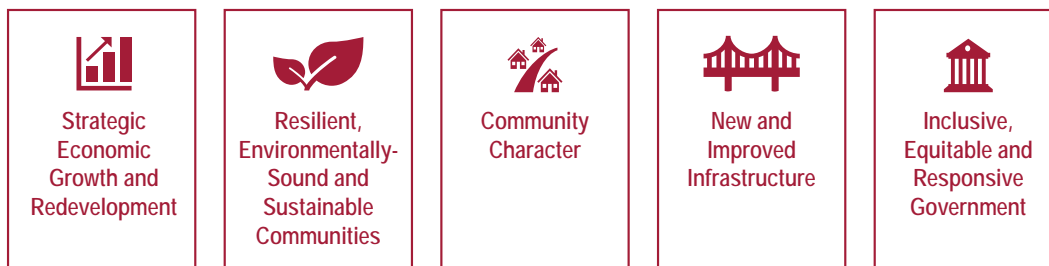
- Reduce, reuse, and recycle solid waste in accordance with the current standard industry practices and approved programs of the County.
- Develop and implement recycling programs and plans beyond the visions of the 1988 Maryland Recycling Act (MRA) to reduce the amount of solid waste disposed of by the County by specific percentages based on population
- Collect, transport, and manage solid waste safely and efficiently
- Provide full-service solid waste and recycling acceptance facilities sufficient to meet present and future demands.
- Dispose of solid waste in an environmentally sound and economically feasible manner, utilizing a full array of facilities and procedures.
- Maintain a "good neighbor" relationship with residents in the immediate vicinity of County solid waste and recycling acceptance facilities



- Consider regional approaches to solid waste and recycling management.
- Maintain programs that promote waste reduction, reuse, and recycling over disposal.
- Assess the demands of the County with respect to the capacity of the existing solid waste management and recycling systems. Evaluate potential enhancements and alternatives to such systems to meet those demands. Implement programs to maximize the efficiency of existing systems as well as support new systems to meet present and future demands.
- Develop and implement strategic plans to maximize the life span of the MLFRRF.
- Focus public education, outreach and operational policies and procedures used at facilities on maximizing the amount of solid waste that is recycled. Also educate the public on the sound and sustainable solid waste management practices implemented by the County.

1.2 GENERAL DEVELOPMENT PLAN

The County adopted the Plan2040 GDP in May 2021. The County’s GDP is a policy document to guide decision making on future growth, development, resource management and protection, and provision of services in the County, which has been adopted by the County Council. Within the GDP, there are 5 overarching themes that when used in combination create an overall Community Vision of the County for 2021 and beyond. The themes of the GDP include: “Strategic Economic Growth and Redevelopment,” “Resilient, Environmentally-Sound and Sustainable Communities,” “Community Character,” “New and Improved Infrastructure,” and “Inclusive, Equitable and Responsive Government.”



The GDP also provides policies to fulfill the goals of each theme area. With respect to the Plan, the GDP maintains a specific goal under Healthy Communities – to efficiently manage, reduce, and recycle residential solid waste, which is planned and implemented by the County Department of Public Works’ (DPW), Bureau of Waste Management Services (Bureau).

1.3 EXECUTIVE ORDERS

Executive orders are formal directives by the County Executives that implement or interpret the County Charter, the County Code, or other County law. On March 29, 2022, the County Executive, Steuart Pittman issued Executive Order Number 57 to align with the United Nations report which recommended governments to aggressively reduce greenhouse gas emissions by the year 2030. The Executive Order highlighted transitioning 100% of electricity production from renewable energy sources, reducing total energy consumption, and exploring alternative renewable sources.



1.4 COMPLIANCE WITH STATE OF MARYLAND RECYCLING ACT OF 1988

The 1988 MRA gave new responsibilities to jurisdictions in the State of Maryland to reduce the amount of solid waste disposed of by its Counties. Specifically, MRA required Maryland's jurisdictions to develop and implement recycling programs by January 1, 1994. The recycling programs in jurisdictions with populations greater than 150,000 were required to recycle 20% of their waste and jurisdictions with populations less than 150,000 were required to recycle 15% of their waste. In no case was the recycling rate to be less than 10%. During the enactment of MRA, the County had a population greater than 150,000. The County successfully implemented residential curbside recycling and other recycling programs to exceed the 20% recycling mandate in 1994. On October 1, 2021, the MRA altered the definition of 'recyclable materials' to exclude incinerator ash and repealed the authority of a county to utilize a resource recovery facility to meet 5% of the waste reduction required to be achieved through recycling in the county's recycling plan.

Since 1994, the County has continued to respond to the legislative intent by implementing various solid waste reduction, diversion and recycling programs. Specifically, the County developed, implemented and enhanced programs for: single stream collection and recycling, community clean-up efforts, bulky item collection, and yard waste processing and recycling. In a similar fashion, other programs for household hazardous waste (HHW) acceptance (1998), electronics recycling (2002), florescent light recycling (2006), support for commercial recycling (2008), support for recycling in public schools and colleges (2009), apartment buildings and condominiums recycling (2012), special events recycling (2015), office building recycling (2020) have been implemented by the County.

An essential component of a successful recycling program continues to be public outreach and education. In conjunction with the solid waste reduction, diversion and recycling programs, the County performs outreach efforts to educate residents on how to maximize the capture of recyclables through segregation, collection and drop-off in order to reduce the amount of solid waste that needs to be disposed of in landfills. Current public education and outreach initiatives include, but are not limited to:

- Comprehensive outreach programs designed to educate, motivate and inform residents about all the services that are available to them through the Bureau. Direct mail, media advertisements including television, radio, print, online and social media are used as communication medium.
- Personalized recycling outreach sessions presented to a wide array of audiences, including schools, senior centers, county employees, homeowner associations, and the commercial sector.
- Recycling outreach programs utilizing Realtors® and sales offices and presence in public spaces including County parks and buildings through the County Office Recycling Program.
- Use of web and mobile Recycle Coach app for County residents.
- Support small businesses with the establishment of recycling collection programs.

These initiatives are intended to establish recycling as an integral part of landfill preservation, natural resource conservation and fiscal stability.



1.5 OBJECTIVES AND POLICIES

Md. Code Ann., Envir. § 9-501 (2018) and COMAR 26.03.03.03, make the County responsible for providing a comprehensive plan to adequately provide for solid waste acceptance facilities and solid waste collection and disposal systems. Plan2040 GDP, Goal HC9 outlines several policies established to ensure the adequacy of the solid waste management system of the County, which include:

- Policy HC9.1: Optimize recycling programs, systems and outreach with a clear priority toward promoting reducing, reusing and recycling residential discards over land disposal;
- Policy HC9.2: Maximize the life expectancy of the MLFRRF and delay replacement long into the future;
- Policy HC9.3: Encourage County residents to recycle all that the program allows through curbside collection and drop-off options available at County recycling centers and the MLFRRF; and
- Policy HC9.4: Former landfill sites and adjacent properties should be redeveloped with compatible land uses.

1.6 COUNTY GOVERNMENT STRUCTURE IN RELATION TO SOLID WASTE MANAGEMENT

The County OPZ and DPW participate in the process of comprehensive long-range planning for County-wide solid waste management. DPW is responsible for the implementation of these efforts.

The organizational structure of the Executive Branch of the County Government is presented in Figure 1-1. Figure 1-2 outlines the organizational structure of the County DPW, and Figure 1-3 outlines the Bureau within the County DPW that maintains the primary responsibilities of developing and implementing solid waste management and recycling goals, policies and actions in the County.



Figure 1-1. Organizational Structure of Executive Branch of the County Government

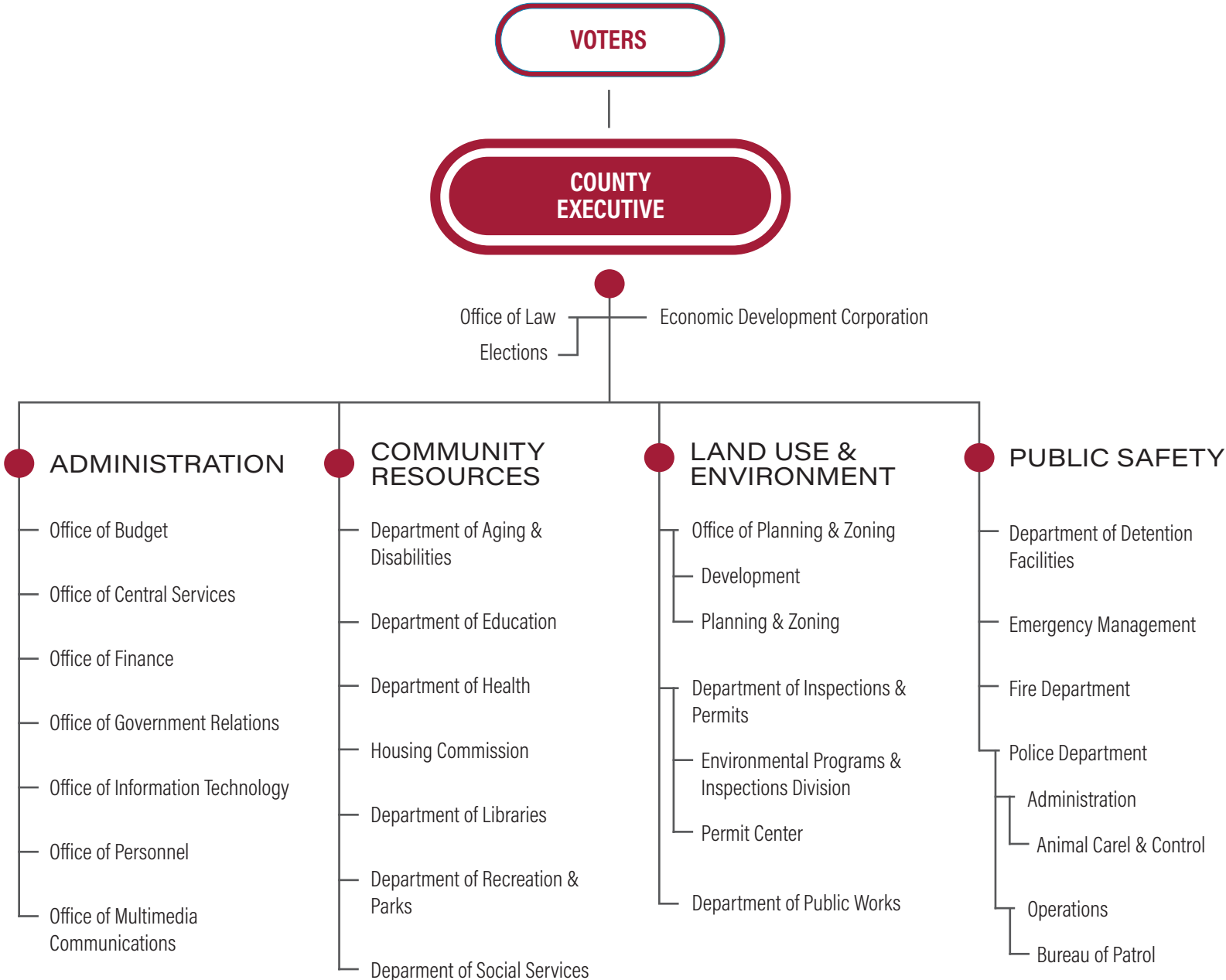


Figure 1-2. Organizational Structure of the County Department of Public Works

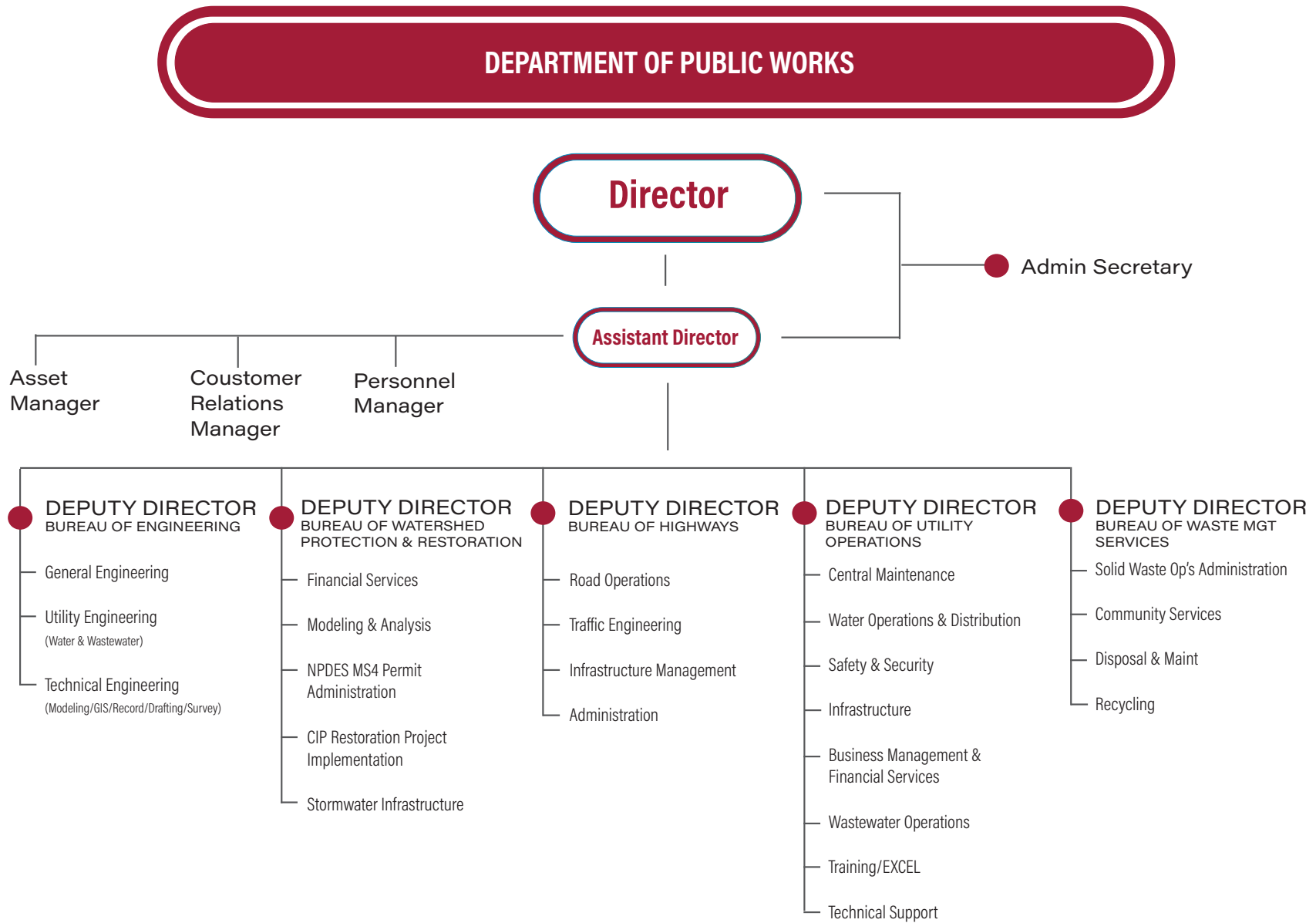
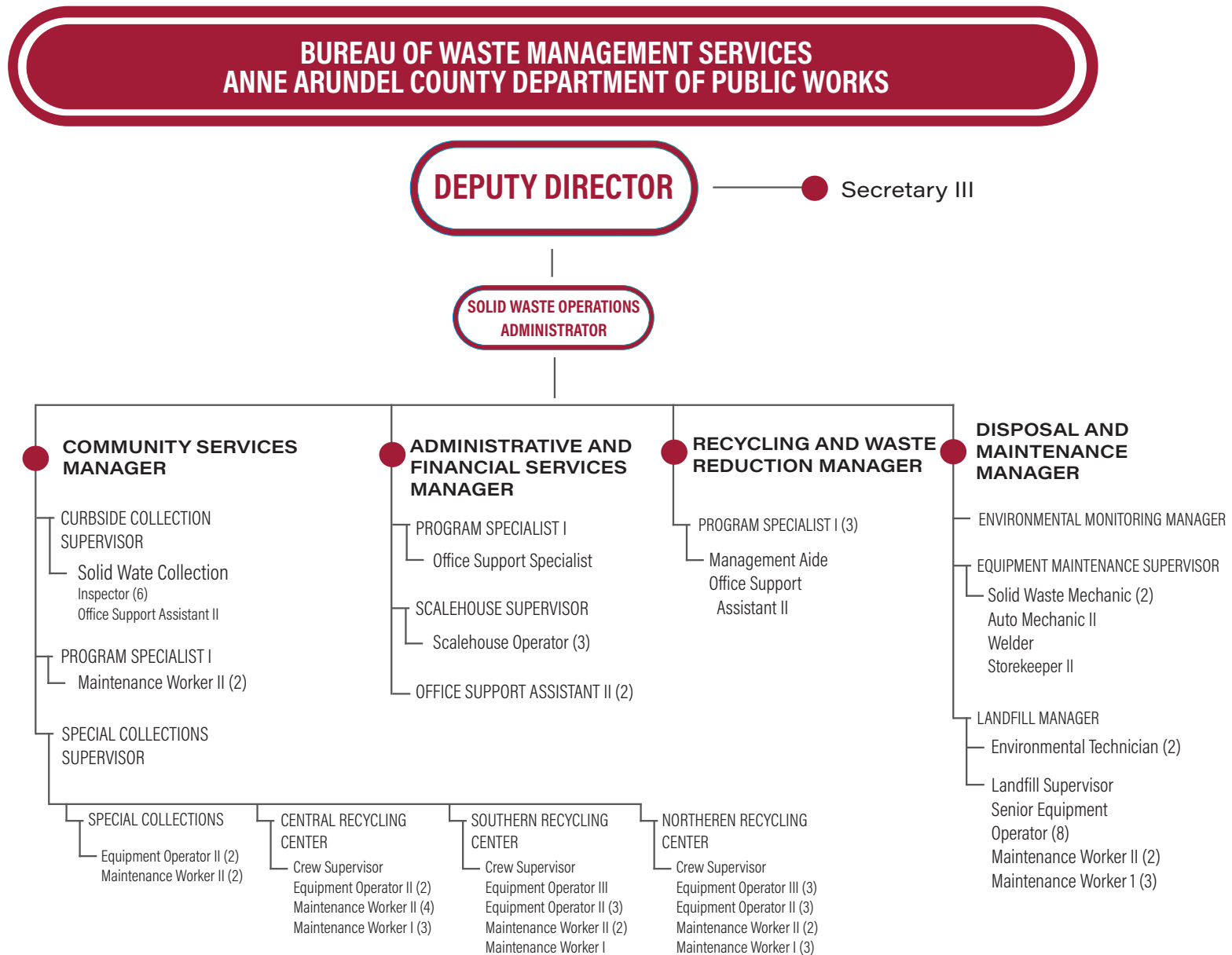


Figure 1-3. Organizational Structure of the Bureau within the County DPW



1.6.1 Administration

The Bureau operates as an Enterprise Fund, supported by user and landfill fees. No general tax revenue is devoted to County solid waste management programs or services. The Bureau provides many services directly to County residents and interacts with them on a daily basis. The Bureau also responds to information requests, addresses residents' concerns and directs suggestions to appropriate personnel within the County government structure. The organization is headed by a Deputy Director of the DPW. The Bureau is comprised of 4 divisions: Disposal and Maintenance, Recycling and Waste Reduction, Community Services, and Administrative and Financial Services, which are overseen by the Solid Waste Operations Administrator.

The Deputy Director for the Bureau bears responsibility for all aspects of the County's solid waste management program. Specific aspects of the program include the management of the Bureau annual operating budget and the Solid Waste Enterprise Fund, controlling and maintaining various expenditure and revenue accounts, developing and overseeing solid waste capital improvement projects, developing and implementing strategies and directing the mission, priorities, goals and objectives of the organization. The Deputy Director is also responsible for compliance with all applicable Federal, State and Local laws and regulations governing various aspects of the operation.

The Solid Waste Operations Administrator oversees the operation of all Bureau facilities, divisions, and programs, which includes: administrative and financial services; management of the scale house; long-term planning; and, serves as capital budget liaison.





Disposal and Maintenance Division

Under the guidance of the Disposal and Maintenance Manager is responsible for the following:

- MLFRRF operations, which include: the active landfill and its recycling areas; storage warehouse; equipment maintenance building; scalehouse, gas management system (including the landfill gas-to-electricity [LFGE] facility); leachate pretreatment plant and collection system; and yard waste composting area.
- Post-closure care for closed landfill cells at the MLFRRF and closed landfills at the County's Glen Burnie and Sudley sites.
- Equipment maintenance program.
- Environmental monitoring and reporting.
- Capital Project execution.
- Support of programs implemented by the Recycling and Waste Reduction Division and the Community Services Division, as necessary.



Recycling and Waste Reduction Division

Under the guidance of the Recycling and Waste Reduction Program Manager is responsible for the following:

- Planning new recycling services and programs throughout the County.
- Managing all recycling processing contracts held by private vendors.
- Managing the County's household hazardous waste (HHW) collection program.
- Marketing recyclable commodities.
- Providing technical assistance to residents, businesses, and other entities of the County Government (e.g., the Board of Education).
- Developing new programs and modifying existing programs.
- Computing the County recycling rate and reporting to the State.
- Developing and implementing Outreach Programs.
- Support of programs implemented by the Disposal and Maintenance Division and the Community Services Division, as necessary.



Community Services Division

Under the guidance of the Community Services Manager is responsible for:

- Curbside collection of recyclables, yard waste and trash.
- Community clean-up.
- Environmental clean-ups.
- Curbside collection of appliances and large metal items.
- Central Recycling Center operations.
- Northern Recycling Center operations.
- Southern Recycling Center operations.
- Managing the recycling cart distribution and maintenance program.
- Customer service office, handling complaints and scheduling services.
- Support of programs implemented by Disposal and Maintenance Division and the Recycling and Waste Reduction Division as necessary.



Administrative and Financial Services Division

Under the guidance of the Administrative and Financial Services Manager is responsible for:

- Assembling the Bureau's annual operating budget.
- Managing operating budget account activities, including accounts receivable and accounts payable, and expense and revenue tracking.
- Managing scalehouse operations, including tonnage tracking of all in-bound and out-bound materials at the MLFRRF.
- Managing the Bureau's payroll and human resources activities.
- Providing purchasing support for WMS.
- Providing general office support.

The Bureau also assists and coordinates with other departments, divisions and organizations within the County, including, but not limited to the: Purchasing Department, Personnel Department, Office of Finance, OPZ, Health Department, Office of Law, Bureau of Highways, and Bureau of Engineering (Capital Projects).

1.7 COUNTY SUPPORT STRUCTURE IN RELATION TO SOLID WASTE MANAGEMENT

To assist with the function and implementation of the Integrated System (refer to Figure INT-4), the County may acquire support resources through procurements as detailed in the County Purchasing Manual and the County Code, Article 8, Title 2. The support resources may be obtained from private sector vendors, contractors and consultants or via procurements established by other public jurisdictions.

1.8 REGIONAL SUPPORT STRUCTURE IN RELATION TO SOLID WASTE MANAGEMENT

To assist with the function and implementation of the Integrated System (refer to Figure INT-4), the County may acquire support resources from entities outside of the County procurement process. These entities may include regional authorities or independent agencies.

1.8.1 Northeast Maryland Waste Disposal Authority

The County maintains a partnership with the Northeast Maryland Waste Disposal Authority (NMWDA) as a participating Member. NMWDA is a regional authority that was established as a public corporation by Chapter 871, Acts of 1980 under the Maryland Natural Resources Code Ann. § 3-903 to assist the participating political subdivisions of Maryland (Members) and other public entities in providing adequate solid waste disposal facilities, including facilities for the generation of steam, electricity or fuels and recovery of materials that are derived from or are otherwise related to waste disposal. Member jurisdictions that participate in the NMWDA include: Anne Arundel, Baltimore, Carroll, Frederick, Harford, Howard and Montgomery Counties; the City of Baltimore; and Maryland Environmental Service, an instrumentality of the State of Maryland. NMWDA acts as a coordinating agency and a financing vehicle for various solid waste management projects.

As a participating Member, the County has access to solid waste management, recycling and other professional support services provided by or coordinated through the NMWDA. Example services that the County currently utilizes, or has used in the past through NMWDA include:

- Waste diversion contracting (service since 1996; a new contract has been executed extending service through June 2033);
- Yard waste processing contracting;
- LFGE facility design, construction and operation;
- Social marketing contracting;
- Waste characterization studies;
- Facility planning, design and operations support services; and
- Development of a Materials Recycling Center.



The categories of services that participating jurisdictional Members currently use, or have used in the past through NMWDA include:

- Waste-to-energy;
- Landfill services;
- Transfer stations, MRFs and emerging technologies;
- Organics management, including composting;
- Recycling, including recycling and single stream; and
- Alternative energy, including gas-to-electricity and solar projects.

1.8.2 Maryland Environmental Service

To obtain support resources on a regional or state level within Maryland, the County maintains agreements with the Maryland Environmental Service (MES). MES is an independent state agency that was created in 1970 by Maryland's Governor and legislators to protect the State's air, land and water resources. MES is also an instrumentality of the State of Maryland as well as an ex-officio member of the NMWDA. MES does not have any regulatory authority nor does it receive direct appropriations from Maryland Counties. MES is a self-supporting, not-for-profit public corporation.

MES has the capability and resources to provide the following services: solid waste management (recycling, composting, and facility operations), environmental monitoring and compliance, wastewater facility operation and compliance, renewable energy system applications, hazardous materials cleanup, assistance with grants, procurements, financing and other support services.

The County has access to the solid waste management, recycling and other professional support services provided by or coordinated through MES. Example services that the County currently uses, or has used in the past through MES, include:

- Yard waste processing (Prince George's Organics Composting Facility in Upper Marlboro, Maryland);
- Wood waste grinding;
- Heavy equipment purchasing;
- Leachate management and treatment;
- On-Call operational support at the MLFRRF scale house; and
- Refrigerant and capacitor recovery from white goods.

1.9 LAWS AND REGULATIONS

Solid waste management laws and regulations exist at the Federal, State, and Local levels. Overall regulatory direction and minimum nationwide standards for protecting human



health and the environment are established at the Federal level. State regulations generally complement and expand upon Federal regulations. State regulations specify minimum design criteria, and the requirements for permitting, construction, operation, maintenance, and monitoring for solid waste management facilities. Local laws (County Code) must be consistent with Federal and State laws and regulations but may be more stringent. The more specific issues of land use, zoning, procurement, financing, and operation related to solid waste management facilities are left entirely to the County to enforce.

Descriptions of responsible agencies and applicable Federal, State, and Local laws and regulations are discussed below.

1.9.1 Federal

While it is not feasible to describe all Federal environmental statutes and regulations that affect solid waste management, Appendix B, Tables 1-1 and 1-2 summarize those that are the most significant. Foremost among the laws listed is the Resource Conservation and Recovery Act (RCRA) of 1976, as last amended in 1996 and the Code of Federal Regulations (CFR).

RCRA provides Federal guidelines and standards for the environmentally sound reuse, handling, and disposal of solid waste, and requires that states incorporate these guidelines into their solid waste management programs. Under the RCRA provisions, Subtitle D provides Federal standards for municipal landfills. These standards include the location, design, operation, groundwater monitoring, corrective action, closure, post-closure and financial assurance criteria for all municipal landfills.

CFR documents the rules promulgated by the Executive Departments of the Federal Government. The Code is divided into 50 titles which are further divided into chapters and subparts thereof. CFR Title 40 is entitled Protection of the Environment and includes Subchapter I - Solid Wastes (CFR Parts 240 through 280).

On the Federal level, solid waste is the responsibility of EPA. Direct implementation of solid waste programs is delegated to State and Local governments. A summary of Federal regulations important to solid waste management contained in CFR, Title 40, Subchapter I - Solid Wastes is provided in Appendix B, Table 1-2.

1.9.2 State

In the State of Maryland, MDE is the primary regulatory entity that maintains the delegated authority from EPA to administer and enforce solid waste management and other environmental regulations. Md. Code Ann., Envir. § 9-503 (b) requires counties to review and, if necessary, update on a 3 year interval existing solid waste management plans (COMAR 26.03.03). MDE implements Federal and State solid waste regulations for surface water and groundwater protection, erosion and sediment control, preservation of wetlands, and recycling. MDE reviews solid waste facility and management plans, issues permits, and inspects facilities for regulatory compliance. A summary of the State laws affecting solid waste management is provided in Appendix B, Table 1-3.

Md. Code Ann., Envir. § 9 contains many of the laws affecting the location, design, and operation of solid waste disposal facilities in Maryland. Regulations are developed by a



responsible agency delegated by the State legislature to implement the laws that are passed. Appendix B, Table 1-4 provides an abbreviated summary of the Annotated Code Titles affecting solid waste management.

State regulations are compiled into a document entitled Code of Maryland Regulations (COMAR). Title 26 of COMAR contains the administrative rules and regulations for MDE and includes solid waste management regulations. A summary of the regulations which affect solid waste management is provided in Appendix B, Table 1-5. Several notable recent changes to COMAR solid waste management regulations have occurred. In 1997, the State revised regulations affecting the design of rubble landfills. Regulations under COMAR 26.04.07 were adopted that require all rubble landfills in Maryland that accepted waste material after July 2001 to include a liner and leachate collection system. In addition, in the same year, the State of Maryland banned the siting of waste incinerators within 1 mile of a school. In 1998, MDE adopted regulations and amendments to COMAR 26.11.19.20 containing details of requirements for landfill gas (LFG) emissions for existing municipal solid waste landfills. Also in 1998, the State passed Bill 55-99, which revised natural wood waste facility regulations to place restrictions on the range of land use zoning in which such facilities may occur. In 2015, MDE adopted regulations in COMAR 26.04.11 governing the construction and operation of composting facilities.

MDE issues permits for the various types of waste facilities that could be sited in the County including municipal landfills, rubble landfills, land clearing debris (LCD) landfills, processing facilities, transfer stations, natural wood waste recycling (and compost) facilities, incinerators, and industrial and hazardous waste landfills. As the County does not provide for the treatment, storage, and disposal of industrial or hazardous wastes, the private sector is responsible for obtaining industrial and/or hazardous waste facility permits.

1.9.3 County

In the State of Maryland, county jurisdictions that operate solid waste management facilities are required to comply with the regulatory requirements stipulated by the Federal (EPA) and State (MDE) regulating agencies. The Bureau is the entity within the County responsible for implementing programs and measures that comply with the stipulated regulations. To ensure compliance, the Anne Arundel County Code includes requirements regarding solid waste management and recycling, which are presented in Appendix B, Table 1-6.

1.9.4 Municipal

The Annotated Code of Maryland provides for the incorporation of parts, or all subsidiary plans developed by individual municipalities into the Plan by a County to the extent that such incorporation of those plans will promote the public health, safety, and welfare. Incorporation of a subsidiary plan can be accomplished by reference if it is determined that the subsidiary plans further promote aspects of the County's solid waste management plan, such as the environmental goals, recycling goals, waste management programs, or public education programs. The specific citations from the codes are included in Appendix B, Table 1-7.

While within the County's geographical limits, the City of Annapolis implements its own plans



and strategies for solid waste management. The County recognizes and acknowledges the special needs and requirements of the City as outlined in the City's own solid waste management plans. Fort Meade also manages its solid waste management and recycling programs independently from the County. The programs and initiatives that are employed by the City of Annapolis and Fort Meade are discussed in Chapter 3. The Town of Highland Beach, an incorporated municipality within the borders of the County, currently receives County services. Residents of Highland Beach pay the County's solid waste fee each year and receive the comprehensive suite of services enjoyed by Anne Arundel County residents in return.





CHAPTER 2

COUNTY BACKGROUND

Regulatory Topic Summary

COMAR Title 26.03.03.03(C)

“Chapter 2 shall contain:

1. A table which shows the county’s present and projected population (if more than 1 set of projections is shown, the set upon which the plan is based shall be noted);
2. A map which shows the location of municipalities and federal facilities within the County;
3. A discussion of current county zoning requirements as they relate to solid waste management activities; and
4. A discussion of the current status of the county comprehensive land-use plan, including the date that the plan was adopted and last update.”

CHAPTER 2

2.0 COUNTY BACKGROUND

This Chapter of the Plan provides background information on the County, including present and projected population; a summary of current zoning regulations; and the land use inventory. This information is based on data presented in the County's Master Plan for Water Supply and Sewerage Systems, 2022 prepared by the County OPZ, also discussed in this Chapter. The population projections in this Chapter provide the basis for the waste and recyclables generation projections in Chapter 3.

2.1 GENERAL

The County is in the Atlantic Coastal Plain on the western shore of the Chesapeake Bay, east of the Appalachian Plateau and the Fall Line. The County is bounded on the west by the Patuxent River and on the east by the Chesapeake Bay. The County's topography varies from flat to sharply rolling, with elevations from sea level along the Chesapeake Bay to about 300 feet above sea level in the Northwest, near the Baltimore-Washington Parkway. The County's total land area is 416 square miles.



From the Chesapeake Bay, several tidal estuaries penetrate as far as 13 miles inland, forming a series of peninsulas extending into the Bay. The numerous estuaries are the most prominent physiographic feature of the County. These estuaries are characterized by irregular shorelines and tidal marshes. There are 110,022 acres of total surface water area within the County.

Further discussion of the County's location in relation to the region is provided in the Introduction of this Plan.

2.2 POPULATION

According to U.S. Census data, the County's population grew from 537,656 in year 2010 to 592,695 in 2020, which represents a growth rate of nearly 1% annually. The 2022 Anne Arundel County's Master Plan for Water Supply and Sewerage Systems, 2022 (Master Plan) presents the most recent County population projections through year 2050. It is projected that the County will experience a net increase of 101,540 persons, representing a 17.1 percent increase in total population for the thirty-year period between 2020 and 2050. A summary description of the Master Plan is included in Chapter 3. The sources of input for the population data projections presented in the Master Plan include U.S. Census data as well as Anne Arundel County OPZ forecasts. Therefore, to ensure consistency with the most recent County

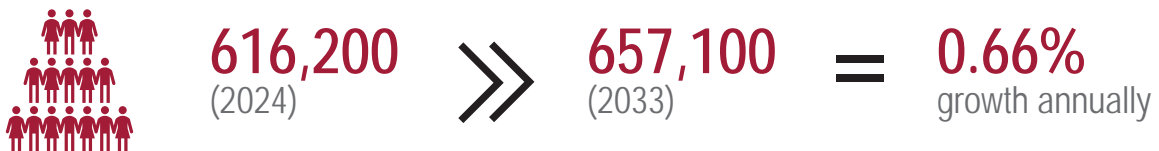


population projections, the Master Plan projections are also used in this 2024 Solid Waste Management Plan Update.

Appendix B, Table 2-1 presents the most recent U.S. Census population data for the State of Maryland, for the Baltimore Region, and for the County, in year 2020. Appendix B, Table 2-1 also contains population projections for these 3 geographic regions through 2035. Annual population projections for the County, for the succeeding 10-year planning period of 2024 through 2033 are included in Appendix B, Table 2-1. These County population projections, taken from (or interpolated from) the 2022 Master Plan, form the basis of waste generation projections that are presented in Chapter 3. Over the succeeding 10-year planning period, projections indicate that the County's population should grow from approximately 616,200 to 657,100, which represents an average population growth rate of roughly 0.66% annually over the 10-year Solid Waste Management Plan planning period, and a total growth rate over the planning period of approximately 40,800 residents.

Just as the population growth rate in the County is projected to grow at a slower rate in the future, the rate of increase in the number of households in the County over the next 25 years

POPULATION GROWTH



is projected to slow down as well. The number of people per household in the County was 2.63 in 2020. County household size is projected to further decline over time to 2.61 by 2050. More than 90% of the growth in the County has occurred in the existing and planned sewer areas; however, these areas account for only 50% of the land area in the County. Most new development has occurred in the western part of the County.

2.3 MUNICIPALITIES

The County has 2 incorporated municipalities; the City of Annapolis and the Town of Highland Beach (refer to Appendix A, Figure 2-1). The City of Annapolis manages its solid waste and recycling programs independently from the County. The Town of Highland Beach currently receives County services for solid waste management and recycling.

2.4 FEDERAL AND STATE FACILITIES

INCORPORATED MUNICIPALITIES



There are 7 Federal facilities located in the County (refer to Appendix A, Figure 2-2):

1. U.S. Army, Fort George G. Meade;
2. U.S. Naval Academy, Annapolis;
3. U.S. Army Ordnance Depot;
4. U.S. Coast Guard Yard, Curtis Bay;
5. U.S. Air Force Transmitter Station, Davidsonville;
6. Smithsonian Institution for Environmental Studies; and
7. U.S. Fish and Wildlife Patuxent Research Refuge.



In addition, there are 4 State facilities (refer to Appendix A, Figure 2-2):

1. Baltimore/Washington International Thurgood Marshall Airport;
2. Maryland House of Corrections and associated facilities;
3. Sandy Point State Park; and
4. Severn Run Natural Environment Area.



2.5 LAND USE

The County's Plan 2040 GDP adopted planned land use and established Development Policy Areas for the County, which broadly identify where development and redevelopment are encouraged, as well as areas where preservation of rural or suburban character and natural features are prioritized.

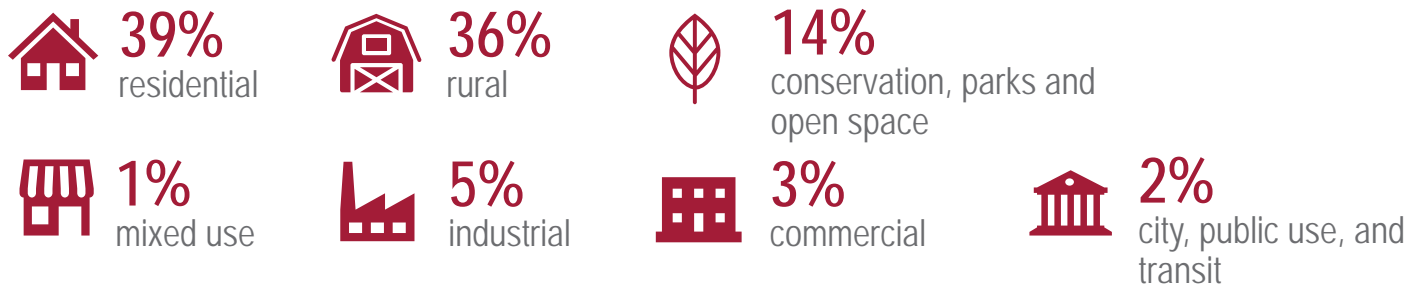
There are urban concentrations of residential and commercial property in the northern portion of the County (North County) and Annapolis. Suburban character is prevalent in its eastern and western portions (West County). The southern portion (South County) and parts of the central portion of the County are predominately agricultural. Both the southern and central portions of the County include several shoreline communities, where development can be characterized as small villages.

In addition, the existing land use pattern in Anne Arundel County reflects suburban and exurban development in the interior of the County and along transportation routes; port-oriented industrial development; and industrial and residential expansion in the Fort Meade-BWI area in the western part of the County. Notable features of the existing land use pattern include its low-density residential and the amount of natural area, representing 18.7% and 17.0% of total County acreage, respectively. Commercial and industrial land uses account for 5.5% of the land area in the County. Government and institutional areas account for another 6%; mixed use and town centers for about 1.5%; and the remaining 3.5% of land use is planned for transportation and utility uses.



2.6 ZONING

Zoning determines both the level of intensity and the type of land use in the County. Residential zoning remains 1 of the predominant zoning classifications in the County, comprising 39% of the total land area, alongside rural zoning at 36% of total land area. Conservation, Parks, and Open Space comprise 14% of total land area, Mixed use comprises 1%, Industrial comprises 5%, Commercial comprises 3% and the remaining 2% of the County is zoned for the City, Public Use, and Transit.



The County Code, Article 18 governs the establishment of various solid waste facilities. Sanitary landfills are prohibited in the Code. The existing County owned, and operated MLFRRF is the only active municipal solid waste landfill within the County. It is legally nonconforming and presently exempt from the Code. Incinerators are not currently permitted in the County’s zoning code. Waste-to-Energy facilities have not been identified as limited to a specific zoning use. Solid waste transfer stations are permitted by special exception in W3 District. Filling of land with combustion ash is prohibited in the County. Rubble processing facilities are permitted by special exception in W3 District. Recyclable recovery facilities and natural wood waste recycling facilities are permitted by special exception in W2 and W3 Districts.

This Plan shall not be used to create or enforce local land use and zoning requirements.

2.7 GENERAL DEVELOPMENT PLAN

The County’s Plan2040 GDP is a policy document to guide decision making about the future growth, development, resource management and protection, and provision of services in the County. The intent of the GDP is to establish a reasoned and practical vision of the future. It strives to provide a balance between the needs of development and the protection of the County’s fragile resources. The GDP is an official policy document that has been adopted by the County Council.

On May 5, 2021, the County Council passed Bill No. 11-21, which adopted the 2021 Plan2040 GDP. The Plan2040 GDP (2021) revises and updates the 2009 GDP. As a County-wide plan, the GDP applies directly to all of the County, and indirectly to the City of Annapolis and major Federal and State installations. The GDP focuses on the upcoming 20 years and provides guidance for development decisions. By establishing broad themes, goals, policies, and implementation strategies, the GDP provides a framework for decisions regarding the future growth, development, and the provision of services in the County. The GDP goals and



objectives, as well as solid waste management policies, actions and recommendations are presented in Chapter 1.

Within the County, the GDP establishes the overall policy framework for growth and development. Its recommendations are implemented using a variety of tools and mechanisms, including additional planning documents. The following Plans, Regulation and Programs are developed through collaborative efforts from citizen communities, the OPZ, other County agencies and other related stakeholders to create the County's comprehensive planning framework:

- Region Plans;
- Water and Sewer Master Plan;
- Functional Master Plans;
- Facilities Plans and Strategic Plans;
- Town Center Plans;
- Capital Improvement Program;
- Comprehensive Zoning; and
- Development Regulations.





CHAPTER 3

SOLID WASTE MANAGEMENT SYSTEMS



Regulatory Topic Summary

COMAR Title 26.03.03.03(D)

“Chapter 3 shall contain:

1. A table that shows the existing and projected, for at least the succeeding 10-year period, annual generation (in tons, cubic yards, or gallons, as appropriate) of:
 - a. Residential (household, domestic) wastes;
 - b. Commercial wastes;
 - c. Industrial (nonhazardous) solids, liquids, and sludges;
 - d. Institutional (schools, hospitals, government buildings) waste;
 - e. Land clearing and demolition debris (rubble);
 - f. Controlled hazardous substances (CHS);

- g. Dead animals;
 - h. Bulky or special wastes (automobiles, large appliances, etc.);
 - i. Vehicle tires;
 - j. Wastewater treatment plant sludges;
 - k. Septage; and
 - l. Other wastes (water treatment plant sludges, residues collected by a pollution control device, agricultural wastes, mining wastes, etc.) unless they are generated in insignificant quantities. However, the Department may require the county to substantiate any omission.
2. A discussion of the bases for the data presented in the table required by §D(1) of this regulation.
3. A discussion of the types and quantities of solid waste, if significant, which are entering or leaving the county for processing, recovery, or disposal.
4. A description of existing solid waste collection systems, including service areas.
5. Information concerning each existing public or private solid waste acceptance facility (incinerators, transfer stations, major composting sites, sanitary and rubble landfills, dumps, major resource recovery facilities, CHS facilities, injection wells, and industrial waste liquid holding impoundments) including:
 - a. Its location on a map;
 - b. Its Maryland grid coordinates;
 - c. Its size in acres;
 - d. The types and quantities of solid waste accepted;
 - e. Ownership;
 - f. Permit status; and
 - g. Anticipated years of service life remaining.”

CHAPTER 3

3.0 SOLID WASTE MANAGEMENT SYSTEM

The County’s solid waste management system integrates a variety of County-provided services, which include curbside collection, drop-off facilities for residents at 3 Recycling Centers, and drop-off facilities for residents and commercial customers at the MLFRRF. The County utilizes services from the private sector to manage waste at transfer stations and other facilities, and garners private sector support to offer customers single stream recycling.

Within this Chapter, baseline data on the County’s solid waste management and recycling system (e.g., programs and facilities) is presented. Waste generation rates for the succeeding 10-year planning period are presented based on recent per capita waste generation and population projections. The descriptions of the solid waste management and recycling system components, supporting programs and available disposal and processing facilities provide the basis for the evaluation and assessment of future needs contained in subsequent Chapters.

3.1 WASTE GENERATION

In the County, solid waste is generated by residents, businesses, industries, and institutions. Section 26.03.03.03D of COMAR requires that the Plan identify and quantify existing and projected solid waste generated within the County for the following waste categories and types:

WASTE CATEGORIES	WASTE TYPES
<ul style="list-style-type: none">Residential WasteCommercial WasteIndustrial WasteInstitutional WasteConstruction and Demolition (C&D) DebrisLand Clearing Debris (LCD)Yard Waste (categorized as a recyclable commodity, under Section 3.7)Controlled Hazardous Substances (CHS)Special Medical Waste (SMW)	<ul style="list-style-type: none">Dead AnimalsBulky or Special Wastes (including salvaged automobiles)Vehicle TiresWastewater Treatment Plant Biosolids and SludgesSeptageOther Waste (that is generated in significant quantities)



The County's projected generation of these wastes through 2033 is presented in Appendix B, Table 3-1, which is also discussed below. Appendix A, Figure 3-1 presents the 2021 tonnages and percentages as classified under specific portions of the waste stream:

- MRA waste disposed generated within the County
- MRA waste recycled generated within the County
- Non-MRA waste disposed generated within the County
- Non-MRA waste recycled generated within the County

The 2021 tonnage data provided by MDE to the County is included in Appendix B, Table 3-1.

"MRA materials" include the following types of wastes: compostables (grass, leaves, wood waste and food waste), glass (mixed glass plus fluorescent bulbs), metals (aluminum cans and steel/tin cans, plus white goods), paper (corrugated, newspaper, white paper, mixed paper, etc.), plastic bottles, and certain other materials (like laser toner cartridges, lead acid batteries, oil filters, waste-to-energy facility ash, and wood pallets). "Non-MRA materials" include automobile components (antifreeze, waste oil, and scrap automobiles), construction/building materials (asphalt, concrete, and wood), and some other items (such as coal ash, cleaning fluids, LCD, scrap metal, soils, and sewage sludge). The fraction of MRA materials that are recycled (one reason for tabulating the waste categories as presented in Appendix A, Figure 3-1) is computed by dividing MRA waste recycled by the total tons of MRA waste disposed + MRA waste recycled. Some non-MRA wastes are also recycled, as illustrated in Appendix A, Figure 3-1.

As Appendix A, Figure 3-1 shows, more than half (54%) of the waste materials managed in the County are recycled (22% MRA recycled materials plus 32% non-MRA recycled materials). Approximately one-third (33%) of the waste materials generated in the County in 2021 were managed by the County. The remaining two-thirds (67%) of solid waste generated within the County was managed privately (either recycled or disposed), without County involvement.

Appendix B, Table 3-1, presents 2021 tonnage and per capita data, and projects 2024 through 2033 quantities of the waste categories that are expected to be handled in the County over the 10-year planning period.

Descriptions of waste categories listed in Appendix B, Table 3-1, are presented in the following Sections. The methodology used to estimate projected quantities generated by these sectors through year 2033 is as follows:

1. 2021 tonnage data for Appendix B, Table 3-1 was provided by MDE, who tabulated the data from solid waste tonnages reported to MDE by permitted solid waste facilities, and from MRA reports completed by the County. U.S. Census population figures for the County in 2021 were applied to 2021 tonnages from MDE, and per capita annual tonnage generation rates for each waste category were computed.



2. These per capita rates for each waste category were then applied to future population projections from Appendix B, Table 2-1, to calculate projected tonnages of waste materials expected to be generated in the County between 2024 and 2033.

3.1.1 Residential

Residential waste includes wastes generated by households in the County. In the County, residential waste is divided into the following 3 categories:

- Curbside Contract – waste collected under County contracts.
- Private Residential Collection – residential waste, from multi-family dwellings and from other homes not served under the County contracts (includes the City of Annapolis), collected by private commercial haulers.
- Community Services – waste disposed or recyclables collected under the various County community services:
 - » Homeowner drop-off at Recycling Centers and the MLFRRF,
 - » Community cleanups,
 - » Bulky metal collections,
 - » Recycling in County parks and facilities, and
 - » Litter and park waste collections by County government crews.

Appendix B, Table 3-2 presents Bureau data from 2020 through 2022 on municipal wastes (primarily residential) handled in the County-managed integrated waste system. Materials include municipal wastes that are disposed (either at the MLFRRF or at other sites via contracts with the County), recyclables/materials that are recovered (including drop-off and curbside collected materials), and yard waste and brush that is either processed by the County or managed through contracts with the County. Appendix B, Table 3-2 also includes a 3-year average of this data. As shown on Appendix B, Table 3-2, discards plus recyclables collected under curbside contracts constituted the majority (46%) of all residential waste generated and managed by the County in 2022. Residential waste brought to the County's Recycling Centers via homeowner drop-off and disposed at the MLFRRF represented approximately 53% of all County-managed residential waste generated in 2022. An illustration of the average annual tons and percentages of waste materials and recyclables managed by the Bureau in 2020-2022 is presented in Appendix A, Figure 3-2.

As Appendix B, Table 3-2 shows, 16% of the County-managed residential waste stream was recycled in 2022. Appendix B, Table 3-3 computes the 2022 per capita waste and recyclables generated in the County and managed by Bureau programs. This table shows that the overall per capita waste generation rate for County-managed waste customers (before recycling) is 0.7789 tons per capita per year. Table 3-3 assumes a consistent per capita waste generation rate over the 10-year planning period, with the overall increase in waste generation in the County due attributable to population growth. Additionally, Table 3-3 shows that approximately 16% of this Bureau-managed waste and recyclables stream in 2022 was



diverted through recycling, another 13% was captured and recycled as yard waste, and the remainder (72%) was landfilled. The County diverted approximately 58% of these net discards to other landfills, thereby preserving remaining MLFRRF disposal capacity. The 0.7789 tons per capita per year amount compares favorably with the USEPA national municipal solid waste generation estimate of 0.894 tons per capita per year. The EPA figure also includes commercial and institutional waste, which are, in large part, managed privately in the County.

The amount of County-managed residential waste is projected to increase through the planning horizon of 2024-2033 due to continued growth in County population. Appendix B, Table 3-3 assumes that the current distribution of waste and recyclables destinations that are presented in the 2022 data in Appendix A, Figure 3-2 do not vary over the planning period. However, with a system that promotes increased recycling already in place, tonnages requiring disposal could decrease. Other factors, such as changes in waste diversion, could impact the amount of waste that needs to be disposed in the MLFRRF. These potential variations are explored further in later chapters of this Plan.

Appendix A, Figure 3-2 illustrates that for several years the County has been successful in promoting its goal to preserve MLFRRF capacity. In 2022, the County has diverted approximately 66% of its managed municipal solid waste from the MLFRRF through a combination of recycling activities and waste diversion to alternate transfer station and out-of-area disposal sites. The County will continue to strive for improvement in its recycling rate, with its stated MRA recycling and diversion rate goal of 50%. If recycling increases in the County-managed waste stream, total residential waste requiring disposal at the MLFRRF and other disposal sites will further decrease.

3.1.2 Commercial and Industrial

The County considers waste generated from businesses and offices to be commercial waste. Non-hazardous waste generated from the production of goods and products is considered industrial waste. These wastes are accepted for disposal at the MLFRRF.

Since the opening of the Annapolis Junction Transfer Station in February 1997 and the subsequent opening of the Waste Management, Inc. Transfer Station (formerly Curtis Creek) in 1999, most of the commercial waste generated in the County has been managed through transfer stations (described in further detail in this Chapter) or directly hauled for disposal at non-County facilities.

Industrial waste accepted in the County is managed by private entities.

3.1.3 Institutional

MDE classifies institutional waste as waste generated by institutions such as schools, hospitals, and government buildings. This waste is recorded as commercial waste when disposed at the MLFRRF.



3.1.4 Construction and Demolition Debris and Rubble

C&D debris includes material generally considered to be non-hazardous, which results from a construction or demolition project or from the renovation of a structure. Such material may be created by large private construction companies, small home improvement firms or County residents. The term “rubble” is sometimes used interchangeably with or considered a component of C&D debris. C&D debris including rubble material is an acceptable waste received at the MLFRRF and each of the 3 County Recycling Centers. However, the County makes every attempt to segregate, reuse and recycle rubble by collecting and aggregating materials such as brick, block and stone separately from C&D debris. These procedures are in line with the County’s goal of diverting waste from disposal at the MLFRRF, to preserve airspace and extend landfill life. Rubble accepted at the MLFRRF is recycled and used as temporary all-weather driving surfaces within the landfill itself or is used both on-site and off-site as clean fill material.

C&D debris and rubble represent significant quantities of materials currently generated and handled in the County.

3.1.5 Land Clearing Debris

LCD, consisting of waste generated through land-clearing operations, includes earthen material (clays, sands, gravels, and silts), topsoil, tree stumps, root mats, brush and limbs, logs, vegetation, and rock. LCD does not include source-separated yard waste which has been collected curbside.

Just as the County recycles rubble from incoming loads of C&D debris, similar activities occur at the MLFRRF for processing incoming mixed loads of LCD. These materials include vegetative waste (tree stumps, root mats, brush, limbs and logs) that can be recycled as processed wood chips (mulch), clean fill (topsoil) and rock that can be recycled as rubble. The County makes every attempt to segregate, reuse and recycle these materials. The County provides mulch to residents, and uses it as feedstock for composting operations, for driving surfaces and for erosion control. The rock is used as aggregate for temporary all-weather driving surfaces within the MLFRRF itself. Segregated LCD is also used both on-site and off-site as clean fill material.

Acceptance of LCD for disposal at the MLFRRF is limited. LCD generated in the County is primarily disposed of at other private LCD and rubble landfills located in and outside the County. Regardless, existing in-County and out-of-County processing and disposal facilities within the Region have been adequate to manage LCD generated within the County.

3.1.6 Controlled Hazardous Substances

CHS are solid wastes that are designated by MDE as “controlled” and are subject to regulation as hazardous wastes under COMAR 26.13.03 through 26.13.10. CHS may exhibit characteristics of listed hazardous waste or contain a listed hazardous waste, such as hazardous waste produced by small quantity generators and hazardous waste which is used, re-used, recycled, or reclaimed. Examples of CHS may include certain types of spent materials, sludges, by-products, or commercial chemical products.



Under COMAR 26.13, MDE requires that CHS be specially managed during handling and disposal. A few generators of CHS operate within the County and have Treatment, Storage, and Disposal permits for their CHS waste. Other generators must have their CHS waste hauled out of state for processing or disposal. CHS is neither accepted at the MLFRRF nor accepted at the 3 County Recycling Centers.

Factors such as CHS reuse, recycling, and source reduction will likely have a major impact on the generation rate of CHS within the County.

3.1.7 Special Medical Waste

SMW is defined under COMAR 26.13.11 through 26.13.13 and is a subcategory of CHS. SMW is defined as solid waste that is composed of:

- SPECIAL MEDICAL WASTE**

 - Anatomical material,
 - Blood,
 - Blood-soiled articles,
 - Contaminated material,
 - Microbiological laboratory waste, or
 - Sharps.

Exclusions include household waste; waste generated in the handling of animals unless the generator knows that the animal has a disease capable of being transmitted to humans; ash or by-product from the incineration of SMW; or waste not generated during the ordinary course of business.

3.1.8 Dead Animals

Dead animals are rendered, buried, or incinerated at veterinary hospitals in the County. Dead animal carcasses are not accepted at the MLFRRF nor the 3 County Recycling Centers, nor are they accepted through residential curbside collection.

Dead animal carcass removal from roadways in the County is the responsibility of the County's Animal Control Division. However, Animal Control does not accept household pet or hunting carcasses. For deceased household pets, residents are instructed to contact a local veterinary clinic for services.

For hunting carcasses, citizens can locate a licensed deer salvager through the Department of Natural Resources' Nuisance Animal Hotline, at 1-877-463-6497.



3.1.9 Bulky or Special Waste

Bulky Items

Bulky wastes include furniture and white goods such as refrigerators, washers, dryers, and other large appliances. The County's residential curbside collection contracts provide for the collection of bulky furniture. Additionally, the County's community cleanup program accepts bulky furniture items and provides scheduled collection service for white goods. County residents may also drop off bulky items at the MLFRRF or at any of the 3 County Recycling Centers. For white goods, liquid refrigerants are captured and recycled by Maryland Environmental Service mobile chlorofluorocarbons recovery prior to the recovery of metal. Metal bulky items and white goods are sold to recyclers as scrap metal. Except for salvaged automobiles, bulky items are included in the residential waste stream and in projections over the planning period.

Salvaged Automobiles

The County Police Department's Traffic Safety Section and Abandoned Automobile Unit processes vehicles classified as abandoned. Private certified towing companies are generally used to remove such vehicles and are issued salvage certificates by the Traffic Safety Section. These certificates give the individual salvage company the right to scrap the vehicle for which the certificate was issued. This may include dismantling or crushing the vehicle. Neither the MLFRRF nor the 3 County Recycling Centers allow the disposal of vehicles or their parts. Automobile parts are not included in the County's residential curbside collection services.

3.1.10 Vehicle Tires

The Scrap Tire Recycling Act (1991) prohibits the disposal of discarded vehicle tires as waste within landfills in the state of Maryland. Currently, the County accepts scrap tires at its 3 Recycling Centers and the MLFRRF. Scrap tires accepted include on-the-road vehicle tires; off-road tires are not accepted. The County holds MDE Secondary Scrap Tire Collection Facility Permits for all sites, allowing for the collection of up to 1,500 scrap tires at any 1 time at these locations, and a MDE Scrap Tire Hauler License for MLFRRF.

Since MDE prohibits the disposal of scrap tires within the MLFRRF, per the Landfill Refuse Disposal Permit (2022-WMF-0240), the County also holds a Scrap Tire Hauler License, which allows for transportation of scrap tires to licensed scrap tire recycling or processing facilities.

The County has a contract with Auston Transfer and Processing to transport and properly dispose of scrap tires it collects.

Tip fees for residential and commercial tires brought to the MLFRRF are defined in in § 13-4-107 of the County Code. Scrap tires from commercial sources are charged 125% of the County's cost to dispose of the tires. It is expected that generators of scrap tires will seek out the most cost-effective disposal alternatives.



3.1.11 Wastewater Treatment Plant Biosolids and Sludges

Md. Code Ann., Envir. § 9-500 and COMAR 26.03.01 require the County to develop water supply and sewerage systems in accordance with a County Master Plan, to meet current and future demands of the County’s population and infrastructure. It further specifies that the extension and expansion of such water supply and sewerage systems shall be consistent with the County’s GDP and adopted Land Use Plan.

The County’s 2022 Master Plan for Water Supply and Sewerage Systems (Master Plan), was adopted by County Council Bill No. 53-22 on June 6, 2022. The Master Plan contains a certificate of conformance from the County OPZ, which states: “This document has been reviewed and found to be consistent with the General Development Plan of Anne Arundel County and all other applicable land use plans in accordance Md. Code Ann., Land Use § 1-303 (2018) and was prepared in accordance with COMAR 26.03.01.04.” *The Master Plan also contains an engineer’s statement of certification from the County Bureau of Engineering, which states: “This is to certify that sections of the 2022 update to the Anne Arundel County Master Plan for Water Supply and Sewerage Systems covering engineering aspects of water and sewerage projects have been prepared and reviewed for adequacy by a registered professional engineer licensed in the State of Maryland.”* As documented in the Master Plan, the County obtains its wastewater service from a combination of on-site systems; a number of privately owned, operated, and maintained wastewater treatment plants; and publicly owned, operated, and maintained water reclamation facilities (WRFs). In addition, the County has documented management plans for biosolids (sludge) in Appendix C and septage in Appendix E of the Master Plan.

Biosolids (Sewage Sludge)

Since April 1984, the County’s Bureau of Utility Operations has entered contracts with private companies to manage the processing and utilization of wastewater biosolids. Biosolids are not accepted for disposal at the MLFRRF. The primary method of biosolids disposal in the County is through land application.

The contracts have included the installation and operation of on-site dewatering and biosolids stabilization facilities, and processing and utilization/disposal of all generated wastewater biosolids. The County has closely monitored these contracts to ensure their integrity. The most recent land application contract was awarded to Synagro Technologies Inc. for a 10-year period ending in 2028. Synagro Technologies Inc. is currently contracted to provide the sludge and biosolids management services at the 6 operating wastewater treatment plants operated in the County: Annapolis, Broadneck, Broadwater, Cox Creek, Maryland City, and Patuxent WRFs.

3.1.12 Other Wastewater Treatment Facilities

Rural Community and Commercial Facilities

Biosolids from rural community and municipal facilities have been discussed in the previous section.



Industrial Facilities

According to MDE's records, industrial wastewater was not identified in 2021 tonnage data.

3.1.13 Septage

Since 1992, MDE regulations require that septage be treated as raw sewage at a permitted wastewater treatment plant or WRF. The County Bureau of Utility Operations is responsible for the treatment of domestic sewage and the contents of septic tanks that are received at its WRFs under the County's Septage Management Program. Septage waste includes wastewater collected from domestic, commercial and industrial septic tanks, drywells, holding tanks, chemical toilets, and similar wastes. Septage wastes are not accepted for disposal at the MLFRRF.

The County's Septage Management Program governs the disposal and treatment of domestic septage that is discharged into the County's system, by private entities at 1 of the County's 2 septage-receiving points: Annapolis WRF and Cox Creek WRF. The treatment process generates biosolids, which are managed as described in Section 3.1.11 of this Plan, and further described in Appendix C of the Master Plan. Septage is managed in accordance with COMAR 26.04.02 and 26.04.06 and Appendix E Septage Management Plan of the Master Plan. The County does not accept any septage generated outside of the County.

3.1.14 Other Wastes

Water Treatment Plant Residual Solids

Water treatment plant residual solids include solids generated through the treatment of the County's potable water supply. All water treatment plant residues are discharged directly to the sewer system and are processed by the WRFs as part of the wastewater flows. Therefore, sludge or other residues from water treatment facilities should be included in the biosolids waste projections provided in Appendix B, Table 3-1.

The Bureau of Utility Operations is responsible for the treatment of domestic sewage received at its WRFs. The treatment process generates biosolids, which are managed as described in Section 3.1.11 of this Plan.

As stated earlier, biosolids (sewage sludge, and which may contain water treatment residuals) are not accepted for disposal at the MLFRRF.

Recreational Waste

Waste generated at approximately 30 County Department of Recreation and Parks facilities is collected and disposed off-site by a commercial hauling company.

Used Oil and Antifreeze

The Maryland Used Oil Recycling Act of 1978 established measures to provide for used oil collection centers, and prohibits the dumping of used oil in sewers, on land, in refuse, or in the water. Used oils include salvaged petroleum products, motor oil from vehicles, cutting oils, vegetable oils, and combustible fluids, and antifreeze.



These have a limited application for reprocessing and reuse as heating fuel because of the contaminants they may contain, notably lead and sulfur compounds.

In coordination with MDE, MES is responsible for the implementation of the Used Oil Program and the construction, operation, and the routine maintenance of used oil collection facilities; providing public education and outreach programs related to the disposal of used motor oil; and maintaining an information center to educate citizens regarding the proper disposal of used motor oil. Based on the 2022 MDE Used Oil Annual Report, MES operates 8 locations for used oil acceptance and management within the County.

In addition, there are used oil and antifreeze collection tanks at each of the 3 County Recycling Centers operated by the County for the convenience of its customers. There are numerous other private companies and facilities such as car dealerships, and automobile and equipment maintenance shops that manage used oil and antifreeze in the County. Depending on market conditions in the petroleum industry, these private establishments may sell the used oil to companies that buy bulk quantities and reprocess it into motor oil. Existing in-County acceptance and management facilities within the Region are adequate to manage used oil and antifreeze generated within the County.

Agricultural Residue

Agricultural residues consist of crop residues and livestock manures. The proper handling and disposal of these residues is the responsibility of the farmer or landowner. These residues may be returned to the soil in an environmentally sound manner as a source of plant nutrients. If handled as recommended, this method represents best management practices for these materials. There are no large-scale livestock feeding operations within the County. Agricultural operators are encouraged to prepare and follow a nutrient management plan that utilizes the beneficial properties of these natural crop and animal residues, and to follow guidance and requirement of various regulatory agencies. Assistance is available from the Anne Arundel Soil Conservation District and from Agricultural Extension Agents.

Soils and Other Materials Contaminated from Spills or Releases

MDE regulates the disposition of soil and other materials contaminated from spills and releases on a case-by-case basis, and with written documented approval by MDE, these materials may be accepted for disposal at the MLFRRF. The preferred practice for disposal of these special wastes will continue to be at privately-owned and operated treatment or disposal facilities.

3.2 SOLID WASTE COLLECTION

3.2.1 Residential Curbside Service

The County collects residential solid waste in 2 ways: at curbside and by homeowner drop-off. For curbside collections, the County is divided geographically into 14 collection service areas (refer to Appendix A, Figure 3-3). For each service area, the County contracts with a private waste hauler to collect residential solid waste. Appendix A, Figure 3-4 presents the major roads and other transportation mechanisms used for waste collection. These services



and aspects are also applicable to the collection of single stream recyclables and yard waste, which is further discussed in Section 3.7.

In June 2012, the County converted twice-per-week trash collection to once-per-week trash collection, which was recommended by the County's Residential Recycling Advisory Committee in its report issued in December 2010. By instituting this change in service, a significant cost savings has been realized, trash collection volume has decreased, and collection routes are operating more efficiently.

Bulky furniture and similar items are also collected as part of the contracted residential curbside trash collection service. The contracted collection service also provides recycling collection for small businesses under County Code § 13-4-106 and certain County office buildings and parks. White goods and metal item collections are scheduled separately through the County.

3.2.2 Drop-off Collection Facilities

In addition to curbside collection services, the County provides its residents full-service collection facilities. For the acceptance of residential waste, the County operates 3 Recycling Centers and the MLFRRF to provide multiple disposal service options to its residents. In coordination with local communities, the County holds community cleanup events throughout the year as needed. These events involve the placement of dumpsters for the collection of waste. The County typically holds over 140 events annually.

These services and facilities are also applicable to the collection of single stream recyclables and yard waste, which are further discussed in Section 3.6.

In addition, several private food waste collection services have begun residential collection within the County.

3.2.3 Household Hazardous Waste

The County began collecting HHW in 1988 to help residents safely dispose of hazardous materials commonly found in the home. Collection events were held bi-annually from 1988 to 1994. Events were held 8 times per year from 1995 to 2011. In 2012, the schedule was reduced to 6 events per year as part of a cost saving measure based on trends in customer use. Currently, the 6 events per year continue and are hosted at the County's Heritage Complex at Riva Road. The program accepts residential hazardous material only. Hazardous waste from commercial customers or transported in commercial vehicles is prohibited. The events continue to be effective in managing HHW for residents. HHW collection events are conducted by a licensed hazardous waste collection contractor.



Common HHW items collected from residents during the events include:

- oil-based paints and stains, gardening products (pesticides, herbicides, and fertilizers),
- cleaning solvents (household and automotive),
- contaminated oil and antifreeze,
- fuels (gasoline and kerosene),
- pool chemicals ,
- items containing mercury or asbestos.

In addition to HHW collection events, the County's 3 Recycling Centers accept lead-acid batteries; propane tanks (1-pound and 20-pound containers); and uncontaminated motor oil, cooking oil, and antifreeze from residents during operating hours. The MLFRRF also accepts lead-acid batteries and propane tanks from residential and commercial customers.

3.3 WASTE DISPOSAL

A primary goal of the County's Integrated System and Solid Waste Management is to prolong its landfill life by reducing the amount of waste disposed in the MLFRRF. Programs and initiatives such as the diversion of waste to private facilities for disposal have had an extremely positive effect on extending the remaining landfill life. Appendix B, Table 3-3 summarizes the quantity of waste and recyclables managed by the County and includes projections of waste disposal between 2024 and 2033, assuming no change in current recycling and waste diversion practices.

At this time, the County is landfilling waste in the second of 5 subcells within Cell 9. Waste diversion activities are expected to continue through the use of the Annapolis Junction Transfer Station, with diverted waste being delivered to out-of-county disposal sites.

3.4 EXISTING AND APPROVED WASTE ACCEPTANCE FACILITIES

There are many different types of waste acceptance facilities, both public and private, in the County. The specific facilities located within the County that may accept solid waste are presented on Appendix A, Figure 3-5. Additional site specific and operational information on these facilities is provided in Appendix B, Table 3-4. The following Sections list the major facilities for County management of municipal solid waste generated within the County. Information regarding the location, size, permit status, operating status and other best available information is provided for each facility.

3.4.1 *Municipal Solid Waste Landfills*

The MLFRRF is the only landfill in the County currently accepting municipal solid waste.



MLFRRF



OWNER:	Anne Arundel County
MDE PERMIT:	2022-WMF-0240
EXPIRATION:	10/31/2027
MARYLAND GRID COORDINATES:	895,000: 460,000
OPERATING STATUS:	Open

The MLFRRF is located off MD 32 at 389 Burns Crossing Road, Severn, Maryland 21144, about 1.2 miles east of Odenton, Maryland. The landfill property encompasses 567 total acres, 248 of which are planned for the disposal of solid wastes. The MLFRRF opened in July 1975 and since that time 8 of 9 permitted disposal areas have been filled. The County is currently filling the ninth disposal area (Cell 9).

The MLFRRF campus includes: an active landfill disposal facility; an equipment maintenance building; a storage warehouse; a leachate collection system and pretreatment plant; an LFG collection system with a flare station, utility flare and gas-to-electricity facility; a yard waste processing and composting area; an administration building; and a scale house. The site also is home to the Central Recycling Center which is discussed later in this Chapter.

Recyclables are accepted, segregated, and transported to appropriate recycling facilities. Yard waste is accepted and processed for composting (leaves and grasses) or ground into mulch (brush and tree limbs) and beneficially used as material for driving surfaces or for erosion control. During peak periods, yard waste may be transported to 1 of 3 private facilities in the region for processing.

Landfill Facility Background

Landfill operations initiated with filling Cell 1 East in 1975, and Cell 2 in 1976. Filling of Cell 2 was completed in 1978, when Cell 3 became active. Cell 4 was filled from 1978 through 1980,

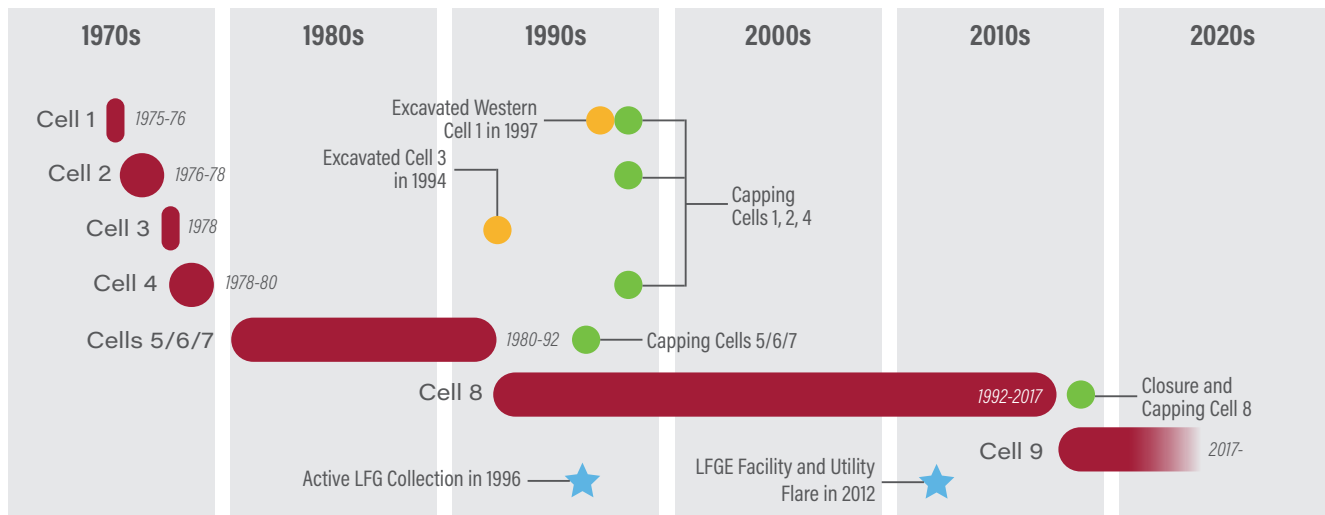


when activities were moved to Cells 5, 6 and 7 from 1980 through 1992. Cells 5, 6 and 7 were initially separated by an access road but were then combined into a single cell by filling the valleys created by the access road. The combined single cell is designated as Cell 567. Cell 8 became operational in 1992 and accepted waste until October 2017. Cell 9 began accepting waste in January 2017.

Closed landfill cells have been capped with a geomembrane system to prevent leachate generation and the release of fugitive LFG emissions to the atmosphere.

The County excavated Cell 3 in 1994 and deposited its waste in Cell 8. The capping of Cells 5, 6 and 7 were completed in 1996. In 1997, the County excavated the western portion of Cell 1 and placed the waste in Cell 8 as part of the Cell 1 closure plan. Capping of Cells 1 East, 2, and 4 were completed in 1998. Closure and capping of Cell 8 was completed in May 2019.

An active LFG collection system is maintained in all disposal areas. The system includes vertical gas extraction wells, horizontal collectors, and a network of piping which conveys gas to a central point on the MLFRRF site. An LFGE facility and a utility flare were constructed in 2012 to better manage gas as a resource.



The MLFRRF also employs the following environmental controls to protect public health and the environment:

- State-of-the-art liner system with clay and synthetic materials for active and future cells;
- Leachate collection, management, and pretreatment system with a connection to the County’s sanitary sewer system for disposal;
- Perimeter groundwater monitoring wells;
- Perimeter gas monitoring probes; and
- Stormwater management facilities including: stormwater ponds, sediment traps, riprap swales and riprap down chutes.

Cell 9 is presently the last permitted disposal Cell at the MLFRRF. Options to extend the life of the MLFRRF are the subject of study in furtherance of the Plan2040 goals of ensuring the landfill lasts long into the future. Regardless, once the landfill activities at the MLFRRF are

completed, the County is responsible for post-closure monitoring and care of the property for a minimum of 30 years thereafter, including the collection of control of landfill gas and leachate, monitoring of groundwater, surface water and storm water, and general maintenance and upkeep of the property per federal and state regulatory requirements.

A solar PV project on the roof of the MLFRRF's maintenance shop building was completed in 2017.

Existing Waste Filling Operations

Currently, Subcell 9.2 within Cell 9 is the active waste disposal area at the MLFRRF. Cell 9 is the largest cell at the MLFRRF, with a capacity of 8,523,000 CY, which is being built in phases: construction of the stormwater pond and soil stockpile/borrow area was completed in 2012; construction of the first disposal area (Subcell 9.1) was completed in December 2016; and, construction of the second disposal area (Subcell 9.2) was completed in March 2021. Construction of the next disposal area (Subcell 9.3) is expected to begin in 2024. Landfilling in Cell 9 began in January 2017. In 2022, 139,200 tons of solid waste was placed in Cell 9.

Landfill Gas Collection and Control

As waste filling operations continue, expansion of the LFG collection and control system is required to maintain compliance with both New Source Performance Standards and Title V air permitting regulations and requirements

The following outlines the LFG collection system:

- Cell 1 East – 4 horizontal collector trenches
- Cell 2 – 12 vertical extraction wells
- Cell 4 – 2 horizontal collectors and 7 vertical extraction wells installed
- Cells 567 – 68 vertical extraction wells
- Cell 8 – 39 vertical extraction wells
- Cell 9 – 5 horizontal collector trenches

Cell 9 was required to begin active LFG extraction within 5 years of the initial waste placement, which began January 2017. A total of 5 horizontal collector trenches were installed during waste placement and were connected to the active LFG extraction system starting in August 2021.

Landfill Gas-to-Electricity

In a continuing effort to beneficially use LFG at the MLFRRF, the County initiated a project in 2009 to convert LFG to electricity. The County secured a \$2 million Energy Block Grant from the U.S. Department of Energy to partially fund the construction of the project at the MLFRRF, with the remaining funding being secured through \$5 million in revenue bonds. In the fall of 2010, the County requested assistance from the NMWDA to develop and issue a Request for Proposals for the design, construction, operation and maintenance of a LFGE at the MLFRRF. On the County's behalf, NMWDA entered into separate agreements with Landfill



Energy Systems, Inc. and the County. The agreement between NWMDA and the County was approved by the County Council via Bill 57-10 on August 8, 2012.

Construction of the LFGE facility began in late 2011 and operations began in June 2012. The LFGE facility contains 2 Caterpillar 3520 engine generator sets that generate 3.2 Megawatts of renewable “green” energy.

The LFGE facility produces revenue for the County from the sale of electricity to the power grid under an agreement with Baltimore Gas and Electric and PJM Interconnection. Additional revenue is produced by the sale of Renewable Energy Credits (RECs). Yearly revenue varies and is based on the price of electricity and RECs, which vary with market demand.

The MLFRRF’s last and largest disposal cell, Cell 9, began landfilling operations in January 2017. LFG generated within Cell 9 is also collected and processed into electricity. The MLFRRF will produce gas in increasing amounts over the next few decades, so electricity production will be sustained long into the future.

Landfill Gas Monitoring

As required by federal and state regulations, the LFG collection and control system at the MLFRRF is monitored daily to ensure that the system is operating effectively. In addition, both closed and active disposal areas of the MLFRRF are monitored routinely for surface emissions, which provide another method to check the effectiveness of the system. To verify that LFG is not migrating from the MLFRRF onto neighboring properties, gas monitoring probes are installed along the perimeter property boundary of the site. These probes are monitored on a quarterly basis to detect any migration of the LFG.

Yard Waste

Yard waste is accepted at the CRC and processed at the MLFRRF for composting (leaves and grasses) or ground into mulch (brush, limbs, etc.) and used as material for driving surfaces or for erosion control. Alternatively, yard waste may also be hauled to 1 of 3 regional facilities for processing.

County Owned Closed Landfills

In addition to the closed waste disposal cells at the MLFRRF, the County monitors and maintains the Sudley Road Landfill, located in Deale, MD, and the Glen Burnie Landfill located in Glen Burnie, MD. These closed landfills are co-located with the Southern Recycling Center and Northern Recycling Center, respectively, as described in Section 3.4.2.

The Sudley Road Landfill was closed and capped in the early 1990s and is currently in the 30-year post-closure care period, per federal and state regulatory requirements. The Glen Burnie Landfill was operated by the County from 1970 to 1982. In 1997, the County entered a Consent Agreement with MDE to install an earthen cap and construct storm water management improvements at the site. These activities were completed in 2001 and, following a 5-year post-construction monitoring period, the work was subsequently approved by EPA/MDE. The County continues to monitor and maintain the both of these closed landfill sites.



Other permitted solid waste facilities located in the County are required to provide financial assurance for closure and post closure activities, per federal and state regulatory requirement.¹

3.4.2 Recycling Centers

There are 3 County-owned and operated Recycling Centers in the County. Each Recycling Center is discussed below:

Central Recycling Center



OWNER:	Anne Arundel County
MDE PERMIT:	Permit Not Required
MARYLAND GRID COORDINATES:	895,000: 460,000
OPERATING STATUS:	Open

The Central Recycling Center is located on the same property as the MLFRRF at 389 Burns Crossing Road, Severn, Maryland 21144 and provides a location within the central portion of the County for residents to bring their recyclables, yard waste, and trash.

This facility operates a paper recovery building to segregate, bale and ship cardboard to market. Other recyclables are accepted, separated as required, and hauled as appropriate to private recycling facilities. Brick, block, stone, concrete, and asphalt are recycled for use as a road base material at the MLFRRF.

All the material that comes to the Recycling Center is transported by truck for recycling, processing or disposal at other facilities. Most materials accepted for recycling are handled

¹ Md. Code Ann., Envir. § 9-211 (2018) provides the financial assurance requirements for solid waste landfills, incinerators and transfer stations. Under Section 9-211(b)(2), the local governing body that receives a deposit of cash or other security under this section shall hold the security in trust in the name of the local jurisdiction to assure the closing of the landfill, incinerator, or transfer station in a manner that prevents erosion, health and safety hazards, nuisances, and pollution.



through private sector contracts. Trash is transported to the MLFRRF, Annapolis Junction Transfer Station or other disposal facilities from time to time.

Northern Recycling Center



OWNER:	Anne Arundel County
MDE PERMIT:	Permit Not Required
MARYLAND GRID COORDINATES:	910,000: 490,000
OPERATING STATUS:	Open

The Northern Recycling Center is located at the entrance of the closed Glen Burnie Landfill at 100 Dover Road, Glen Burnie, Maryland 21060 and provides a location for North County residents to bring their recyclables, yard waste and trash. The County leased a portion of the closed Glen Burnie Landfill for a 3.2-megawatt (AC) solar PV project to Ameresco and entered into a Power Purchase Agreement to benefit from the renewable source of electricity that will be generated locally. All the material that comes to the Recycling Center is transported by truck for recycling, processing, or disposal at other facilities. Most materials accepted for recycling are handled through private sector contracts.

Brush is ground on-site by a private contractor and hauled out as mulch, and grass and leaves are either transported to the compost operation at the MLFRRF or ground with brush. Some materials such as firewood and rubble are available for residents to take for reuse. Trash is transported to the MLFRRF, the Annapolis Junction Transfer Station or other disposal facilities from time to time.



Southern Recycling Center



OWNER:	Anne Arundel County
MDE PERMIT:	Permit Not Required
MARYLAND GRID COORDINATES:	920,000: 357,000
OPERATING STATUS:	Open

The Southern Recycling Center is located at the entrance of the closed Sudley Landfill at 5400 Nutwell Sudley Road, Deale, Maryland 20751 and provides a location for South County residents to bring their recyclables, yard waste, and trash. All the material that comes to the Recycling Center is transported by truck for recycling, processing or disposal at other facilities. Most materials accepted for recycling are handled through private sector contracts.

Brush is ground on-site by a private contractor and hauled out as mulch, and grass and leaves are either transported to the compost operation at the MLFRRF or ground with brush. Brick, concrete, and asphalt are transported to a C&D processor. Some materials such as firewood and rubble are available for residents to take for reuse.

Trash is transported to the MLFRRF, the Annapolis Junction Transfer Station or other disposal facilities from time to time.

3.4.3 Waste Transfer Stations

There are 2 privately owned Waste Transfer Stations within the County borders, which are described below.



Annapolis Junction Processing Facility and Transfer Station



OWNER:	Garnet of Maryland, Inc. (dba Waste Management)
MDE PERMIT:	2021-WPT-0158
EXPIRATION:	3/24/2026
MARYLAND GRID COORDINATES:	860,000: 470,000
OPERATING STATUS:	Open

The Annapolis Junction Processing Facility and Transfer Station (Annapolis Junction) opened in March 1997 and is privately owned and operated by Garnet of Maryland, Inc. (dba Waste Management). The Facility is located immediately east of Brock Bridge Road, just North of Maryland Route 32 (at 8077 Brock Bridge Road, Jessup, Maryland 20794). The permitted area for waste management and recycling activities is 17-acres, with approximately 1-acre that is enclosed (building structure). The site is in a heavy industrial area along CSX main rail line.

The Facility is permitted to accept and transfer 3,000 tons per day on a 6-day workweek average of non-hazardous residential, commercial, municipal, industrial, agricultural, silvicultural, construction, demolition and other waste material as allowed in the Facility's Refuse Disposal Permit. In 2021, the facility accepted a total of 546,154 tons of solid waste at the site. No medical or hazardous waste is accepted. Recovery and management of recyclables including, but not limited to, metals and cardboard also occurs at Annapolis Junction. In accordance with the goals and objectives of Anne Arundel County, Annapolis Junction may also utilize other technologies, processes, and equipment to reduce, recycle and reuse solid waste. Rail transport of waste from Annapolis Junction to Virginia commenced in Fall 1997 and continues to present. The service life of this facility extends well past the 10-year planning period.



Curtis Creek Processing Facility and Transfer Station



OWNER:	Curtis Creek Recovery Systems Inc., (dba Waste Mananagement)
MDE PERMIT:	2018-WPT-0539
EXPIRATION:	1/24/2024
MARYLAND GRID COORDINATES:	920,000: 500,000
OPERATING STATUS:	Open

The Processing Facility and Transfer Station opened on May 19, 1999, as the Curtis Creek Processing Facility and Transfer Station, and is currently owned and operated by Waste Management The facility is located at 23 Stahl Point Road, Baltimore, Maryland 21226.

The Curtis Creek Processing Facility and Transfer Station has a permitted capacity of 3,000 tons per day as calculated on a 30-day average. In 2021, the facility accepted a total of 136,175 tons of solid waste at the site. The activities of the facility are located within an existing 120,000 s.f. building on a 12.8-acre parcel. The facility accepts non-hazardous residential, commercial, and industrial solid waste. The solid waste generated from agriculture, silviculture, C&D sources is also accepted. No medical or hazardous waste is accepted.

Spot recycling and segregation of recyclable materials also occurs at the facility. Such materials may include, but not limited to, ferrous and non-ferrous metals, glass, plastics, C&D materials, and all grades of paper. Outbound solid waste is transported by truck or rail. Recyclables are consolidated on-site and then transferred by rail or truck to a processing facility. The service life of this facility extends well past the 10-year planning period.



3.4.4 Other Waste Acceptance Facilities

Wastewater Treatment Plant Incinerators

No active or permitted wastewater treatment plant incinerators are in the County.

Special Medical Waste Incinerators

No active or permitted SMW incinerators are in the County.

Hazardous Waste Landfills

No active or permitted hazardous waste landfills are in the County.

Special Medical Waste Processors

Biomedical Waste Services, Inc.

OWNER:	Biomedical Waste Services, Inc.
MDE PERMIT:	2022-WPT-0676
EXPIRATION:	3/7/2027

Biomedical Waste Services, Inc. is a privately owned, SMW facility located at 7610 Energy Parkway, Curtis Bay, Maryland 21226.

Biomedical Waste Services, Inc.'s operation involves the acceptance, processing, and transfer of SMW. In 2021, the facility accepted a total of 1,954 tons of special medical waste at the site. The processing component involves the use of an autoclave for the purpose of sterilization and compaction of the medical waste prior to transfer.

3.4.5 Rubble Landfills

Tolson and Associates Rubble Landfill

OWNER:	Tolson and Associates, LLC
MDE PERMIT:	2021-WRF-0580A
EXPIRATION:	12/9/2024
MARYLAND GRID COORDINATES:	36.0336N/-76.7043W

The Tolson and Associates Rubble Landfill (Tolson) opened in December of 2016 and is privately owned by Tolson and Associates, LLC. The facility is located off MD 3 at the end of Capitol Raceway Road, Crofton, Maryland. Tolson is a modern constructed landfill, which includes a state-of-the-art liner system, leachate collection system, LFG and groundwater monitoring systems and is permitted by MDE Refuse Disposal Permit 2021-WRF-0580A. The facility encompasses a 72.38-acre fill area on a 184.25-acre site operating an active landfill,



recycling, natural wood waste, and yard waste processing and composting areas. The facility is also permitted as a Tier 1 yard waste composting facility under MDE General Composting Facility Permit 2021-GCF-0018, as well as a concrete recycling facility MDE Permit to Operate 003-1655.

The landfill facility includes a scale and scale house, maintenance and storage building, leachate storage tank, mulching and composting area, and concrete crushing. Co-located with the landfill is a sand and gravel mining and processing operation which operates under separate permits issued by MDE and Anne Arundel County.

The facility is permitted to accept land clearing, C&D debris and other waste material as allowed in the Facility's Refuse Disposal Permit. In 2021, the facility accepted a total of 52,327 tons of construction and demolition waste at the site. No hazardous waste is accepted. Recovery, management, and processing of recyclables including, but not limited to, natural wood waste (mulch), yard waste (compost), metals, concrete, and cardboard occurs at Tolson. In accordance with the goals and objectives of Anne Arundel County, Tolson may also utilize other technologies, processes and equipment to reduce, reuse and recycle acceptable solid waste. The service life of this facility extends well beyond the 10-year planning period.

3.5 DEBRIS MANAGEMENT ACTIVITIES AND SUPPORT FACILITIES

The Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 93-288, as amended, 42 U.S.C. § 5121, et seq., authorizes the Federal Emergency Management Agency (FEMA) under its Public Assistance Program to award Federal funding to State and local governments for response and recovery efforts for natural disaster and emergency-related events. Such efforts would include debris removal, implementation of emergency protective measures, and permanent restoration of eligible facilities and infrastructure related to debris-generating disasters (e.g. tropical storms, hurricanes, tornadoes, severe lightning, windstorms, ice storms, hail and floods, etc.)

To receive funding under the FEMA Public Assistance Program, State and local governments must prepare and obtain FEMA approval of a Debris Management Plan (DMP). The County formally renewed the DMP on August 1, 2018. The County DMP was prepared in accordance with FEMA requirements and under the provisions of Article 12, Public Safety, Title 1, Fire Services, Subtitle 104, Emergency Management, of the County Code. The DMP is part of and a supplement to the County Emergency Operations Plan. The DMP provides the framework for the County's agencies and other entities to manage debris generated during a natural disaster or public emergency within the jurisdictional limits of the County. The DMP also meets the FEMA documentation and preparedness requirements to apply for Federal financial reimbursement for costs related to debris management during disasters and emergency-related events.

Within the County, DPW is responsible for mitigation, response and recovery efforts from disaster and emergency-related events that affects public works assets in the County. Park sites will serve as debris management, reduction, and storage sites, which are presented in Appendix A, Figure 3-6.



The County can manage many disaster and emergency events with internal resources; however, there are potential debris-generating events that may overwhelm the County's assets and capabilities. It is in this capacity that the County has established debris management support contracts for debris removal as well as debris removal monitoring. Such services will assist the County with response and recovery efforts and preparing records to document expended costs related to debris management activities for potential Federal reimbursement. In addition, through local government coordination efforts, under the Debris Assistance for Localized Events (DALE) Program, the County may provide homeowner residents within a community the means to dispose of debris related to a small, localized weather-related event.

3.6 RECYCLING

In the early 1990s, the County developed its recycling program to accommodate business and residential curbside and homeowner drop-off customers. Numerous investments in the program have been made over the past 2 decades. The County's current goal is to recycle at least 50% of all MRA recycling generated in the County. A listing of the County's MRA recycling rate, and overall waste diversion rate including curbside collection and source reduction credits, for the last 30 years is provided within Appendix B, Table 4-2. The services, programs and facilities described in this Section and within this Plan will assist the County in continuing to strive for this goal.

Since the 2013 Solid Waste Management Plan, the County's MRA recycling rate has decreased, due in large part to the change in recycling over time. In 2022, the County's recycling contamination rate was 11%. However, the County continues to make progress in increasing recycling rates and reducing recycling contamination through continued public education and outreach efforts, including resources and information available through the County's website. In addition, County residents are encouraged to subscribe to Recycle Coach, a smart phone app that can be used to determine recyclable and non-recyclable materials.

3.6.1 Residential Curbside Service

The County provides curbside collection to nearly 170,000 residential customers as of January 2023. There are communities within the County that rely on private collection services as well.

The County expanded the recycling cart program in 2015 and now provides all residential customers with 35-, 65-, or 95-gallon containers to collect and store single stream recyclables. To further increase recycling, the County has been performing once-a-week trash collection since June 2012. Single stream recyclables include mixed commodities with the primary material categories of paper, plastic, metal and glass. Yard waste includes grass, leaves, brush, branches, and limbs meeting certain size and weight requirements.

Most residential single stream recyclables are managed through curbside collection contracts with private service providers in the 14 service collection areas of the County (refer to Appendix A, Figure 3-3). Appendix A, Figure 3-4 presents the major roads and other transportation mechanisms used for waste and recyclables collection and transport. The contracted collection service also provides recycling collection for small businesses and certain



County offices and Parks. White goods and metal items, which are recyclable commodities, are scheduled for curbside collection by the County.

Single stream recyclables are transported to the Waste Management Recycle America's WM - Elkridge Materials Recovery Facility (WM - Elkridge) in Elkridge, Maryland, for sorting and shipment to market. Yard waste is managed and processed at several facilities. Section 3.7 addresses these facilities.

3.6.2 Drop-off Collection Facilities

County residents may bring single stream recyclables and other commodities to the Northern, Central, or Southern Recycling Centers. The Recycling Centers accept single stream recyclables (paper, plastic, metal and glass), including clean, empty glass food and beverage bottles and jars of any color, shape, or size. Recycling Centers also accept yard waste, automobile batteries, electronics, pallets, propane tanks, rubble, scrap metal/appliances, tires, oil, antifreeze, cooking oil, food scraps, oyster and clam shells, and vinyl siding and fencing.

The current recycling program and the efforts of DPW at the 3 Recycling Centers have been recognized and further supported by the Anne Arundel County Council through Resolution No. 75-12. To enhance public education and to maximize recycling, the Resolution provides County Council support for *"...a program and campaign to be implemented by the County Department of Public Works to ensure that recyclable materials for which recycling options exist are not discarded as waste to the maximum extent practical at the County's 3 recycling centers."* The Resolution details several public education, employee training and signage recommendations to improve the use of and customer service at the Recycling Centers.

The County supports community cleanup events where the need is demonstrated. The County provides containers for the collection of recyclables and other wastes.

3.6.3 State Recycling Initiatives and County Programs

In addition to the County-sponsored recycling services and programs, the County must respond to the challenges and requirements of recycling initiatives mandated by the State. New initiatives by the State can require enhancements to the County's existing recycling system or the development of new programs.

The County provides recycling for electronics, fluorescent and compact fluorescent lights, small business recycling, and in public schools and public colleges. In addition, during the previous 10-year planning period, the County implemented programs to provide recycling services for special events and office buildings. The County's recycling efforts for these programs are provided below.

Electronics Recycling

Since 2002, the County has provided electronics recycling services to its residents and customers. Electronics are accepted at recycling centers free of charge. Electronic materials



are typically separated into various components for recycling. This program includes year-round collection of:

- VCRs and DVD Players;
- CPUs, Hard Drives and Servers;
- Computer Mice and Keyboards;
- Cameras (digital & video);
- Cable Set Top Box (analog, digital, satellite);
- Cell Phones, Tablets and Personal Digital Assistants;
- Printers and Scanners;
- Power/Backup Supplies;
- Laptops and Gaming Devices/Consoles;
- Radios, Stereos, Speakers, MP3 Players and CD Players;
- Computer Cables and Cords;
- Miscellaneous Circuit Boards, Chips and Cards; and
- Other Computer or Electronic Related Accessories.

In 2015, the County procured a revenue-producing recycling contract for electronics delivered to the Recycling Centers and the MLFRRF. This program was first required under House Bill 575, enacted in 2005 by the Maryland General Assembly, and amended in 2007 and 2012, when a statewide computer recycling program was established.

Fluorescent and Compact Fluorescent Light Recycling

Starting in 1988, the County has offered its customers recycling services for fluorescent lighting under its HHW drop-off program. The program has expanded and now includes compact fluorescent lighting materials, specifically compact fluorescent lightbulbs and fluorescent tubes.

A recycling strategy for these materials was required under House Bill 685 - the Collection and Recycling of Fluorescent and Compact Fluorescent Lights that Contain Mercury, enacted in 2010 by the Maryland General Assembly.

Small Business Recycling

In July 2008, a program was established to help small businesses recycle called the Small Business Recycling Program. Small businesses in Anne Arundel County are permitted to drop off recyclables (paper, plastic, metal, and glass) at the County's 3 Recycling Centers. Small businesses may also bring unlimited amounts of cardboard, free of charge, to the Paper Recovery Facility at the MLFRRF. To participate, small businesses registered in the County must provide proof of recyclables generation within the County, or have recyclables transported in commercial vehicles registered in the County.

Additionally, a program to help small businesses recycle by utilizing County provided curbside collection was established in 2008. This program is tailored toward businesses that generate



recycling volume similar to a county residence. Businesses that meet the criteria, pay an annual fee to receive once a week recycling collection.

Public School Recycling

In July 2009, the Maryland General Assembly passed House Bill 1290. Environmental-Recycling – Public School Plans requiring recycling in all publicly-funded schools except for State Universities. This bill amended Md. Code Ann., Envir. § 9-1703 (2018). This legislation required the County’s recycling plan to address and implement a strategy for collecting, processing, marketing, and disposing of recyclable materials from its public schools by October 1, 2010. The County prepared the necessary revisions to its recycling plan to incorporate recycling in public schools and received MDE approval in August 2011.



Anne Arundel County Public Schools (AACPS) operate independently from the County’s recycling and solid waste management program. However, the public schools have been a stalwart recycling partner with the County Government since 1989 and have continually increased their commitment to recycling over the years. Beginning with the 2008 school year, the school system adopted a single stream recycling program allowing the schools to place the same items accepted by the County’s residential recycling program into 1 container. All County schools participate in the single stream recycling program. Recycling containers are located in each classroom, office and common area. Each school has single stream receptacles where AACPS custodial staff stage recyclables for collection.

The public school recycling program collects a variety of recyclables that includes, but is not limited to: mixed paper (defined as all paper products), aluminum beverage cans, narrow neck glass bottles (any color), glass jars (any color), plastic bottles (drink containers), steel and tin food cans (empty aerosol cans are also acceptable), and flattened and non-flattened corrugated cardboard boxes.

The public school recycling program is administered by AACPS; however, a Contractor is responsible for providing all containers, labor and equipment as required, to fulfill the recycling services, throughout the County’s school system. See Appendix E for additional Public School recycling program information.

Public College Recycling

Along with the development and implementation of a public school recycling program, the County also implemented a strategy for collecting, processing, marketing, and disposing of recyclable materials from its public colleges under the Maryland General Assembly-passed House Bill 1290. The County prepared the necessary revisions to its recycling plan to incorporate recycling in public colleges and received MDE approval in August 2011.

Anne Arundel Community College (AACC) is a public, comprehensive, community-engaged institution of higher education. AACC operates independently from the County’s recycling



and solid waste management program. In cooperation with the County, AACC has promoted the sustainability of its recycling and solid waste system that includes maximum efficiency, economic vitality, and reduced environmental and human health impacts.

AACC strives to reduce per capita waste generation and increase the recovery of recyclable materials. Beginning with the 2009 college year, the college adopted a single stream recycling program allowing the AACC to place the same items accepted by the County's residential recycling program into 1 container that is in each classroom or building area. Single stream recycling has allowed AACC to increase recyclable volume while decreasing the number of trash containers and disposal services needed at each college location. AACC staff, students and maintenance personnel are responsible for the collection of recyclables within the campus facilities and placement of said material within the recycling dumpster(s) or carts. Collection service is provided under a multi-year contract held by a licensed solid waste hauler. Recyclable materials are collected and transported to a local Materials Recycling Facility (MRF), of the contracted hauler's choosing, for processing and marketing. Additionally, the college recycles scrap metal, pallets, bulk cardboard, used motor oil and cooking oil. AACC also donates office and classroom furnishing for reuse or repurposing by other organizations.

3.6.4 *Recycling in Recreational Areas of the County*



Dogwood Pavilion

Several Anne Arundel County operated community parks, athletic fields (including turf fields at public high schools), golf courses, community centers and the Recreation & Parks Department headquarters are participating in the County Office Recycling Program. All participating recreational facilities have a recycling coordinator who serves as their location's recycling program leader and Department liaison. Paper, plastic, metal and glass recyclables are collected from these facilities at curbside, by County-provided dumpster collection service, or are delivered directly to the MLFRRF or Recycling Centers by park staff.



3.6.5 Special Events Recycling Program

The Special Events Recycling Program is designed for the organizers of special events to follow recycling procedures throughout the event. Any event that serves food or drink, uses a public street, publicly owned site or facility, or public park, and has 200 or more people attending must follow the program guidelines. The guidelines ensure the presence of recycling receptacles in necessary spots and that after the event, collected materials are appropriately recycled. See Appendix E for Special Events Recycling program details.

3.6.6 Office Building Recycling Program

The Office Building Recycling (OBR) Program is designed to support the owners and stakeholders of office buildings to follow recycling regulations. The Department of Public Works is responsible for communicating the recycling laws to the property owners. The law states that buildings with 150,000 square feet or greater of office space should have available recycling services and material collection. The property owners are also responsible for overseeing the operations of the building's recycling efforts. See Appendix E for Office Building Recycling Program details.

3.6.7 Apartment/Condo Recycling

Property owners or managers of apartment buildings or council unit owners of condominiums with 10 or more dwelling units are required by Maryland law to provide recycling programs for residents. They are also responsible for contracting necessary services to collect, store, and transport recyclables. Recyclables should include metal containers, plastic containers, glass containers, and paper. Instructions for property owners and all related parties on how to begin recycling programs and meet annual reporting requirements are listed on the County website. See Appendix E for Apartment/Condominium recycling program details.

3.6.8 Rates and Goals

As the County continues to strive for improvement toward its MRA recycling and diversion rate goal of 50%, the makeup of recycling continues to evolve. The historical trend is shown in Appendix A, Figure 3-7. In recent years, consumer products are increasingly packaged in plastic, rather than glass, and printed newspaper and paper usage have decreased. As lighter materials, such as plastic and aluminum, are increasingly abundant in the recycling stream, the overall weight of recycling has decreased. In addition, MSW disposal by residential customers has increased, as more residents work, learn, and shop from home because of continued COVID-19 impacts to the population.

To facilitate an increase in the effectiveness of and public participation in its recycling program, the County has continued to develop the following strategies:

- Discover and implement modifications to existing services that are designed to encourage residents to recycle more. Continue 1 weekly trash collection day, distribute large recycling containers, and renegotiate contracts as necessary to enable handling of more recyclable material.



- Increase public relations and educational programs to promote recycling by developing comprehensive public outreach programs. Embark on local education efforts through libraries, schools, and other County facilities to encourage increased recycling. Utilize multiple marketing mediums to maximize the program’s exposure.
- Monitor recycling performance by maintaining detailed data on the amount of solid waste recycled. Publicize to residents the improvements made with the number of materials being recycled. Modify recycling outreach programs as needed to encourage increased recycling in areas that are performing at a lower rate.

The planning, public outreach and monitoring efforts described above provide a framework for the County to achieve its recycling and waste diversion goals. The County’s programs and projects such as residential curbside and homeowner drop-off recycling, the use of variable size containers and carts to collect residential recyclables and the diversion of trash to private facilities for disposal have already had a significant impact on preserving the remaining life of the MLFRRF.

3.7 EXISTING RECYCLING, PROCESSING AND RESOURCE RECOVERY FACILITIES

The County promotes viable and sustainable recycling processing facilities that comply with all applicable laws and regulations. There are many different types of facilities that manage and accept recyclables, both public and private, in the County. Most of the public sector facilities transport their recyclables to private facilities following receipt, for processing and delivery to market. The major management and acceptance facilities for yard waste and recyclables utilized by the County are presented on Appendix A, Figure 3-8 and included on Appendix B, Table 3-5 for in-County facilities and Table 3-6 for out-of-County facilities. The following sections list each facility and provide information relating to location, size, permit status, operating status and/or the best available information.

3.7.1 *Single Stream Recycling*

WM – Elkridge Materials Recycling Facility (MRF)

Single stream recyclables, collected by the County, are transported to the privately owned and operated WM – Elkridge Materials Recycling Facility (WM – Elkridge) for the purpose of segregation, processing, and future marketing. The WM - Elkridge Facility is located at 7175 Kit Kat Road, Elkridge, Maryland 21075.





The WM - Elkridge facility separates a variety of recyclable materials, including aluminum and other metal cans; plastic bottles and containers; all colors of glass; and mixed paper and cardboard. MDE does not require an operations permit for recycling or material recovery facilities.

The County currently maintains a contract with WM Recycle America, LLC and the WM - Elkridge facility is listed as an approved facility to accept County-generated recyclables. On average, the facility receives and processes about 18,000 tons of recyclables every month. About 60% of this is paper products, and about 40% consists of glass, plastics, and metals.

3.7.2 Yard Waste Processing

Yard waste recycling is an important waste management approach for the County. It allows diversion of brush, logs, branches, grass, and leaves from the waste stream. Under the MRA of 1988 and associated Maryland Laws, MDE banned the disposal of separately collected yard waste at solid waste acceptance facilities.

Yard waste collected by the County is processed at 4 facilities: the Tier 1 composting pad located on the campus of the MLFRRF, the Prince George's Organics Composting Facility, the Tolson and Associates Rubble Landfill, and a facility operated by WeCare Denali. As additional facilities become available, the County will consider utilizing them.

These facilities are discussed in more detail in the remainder of this section.

County Yard Waste Processing Facility

The MLFRRF includes an 8.5-acre compost pad for the dedicated acceptance and processing of yard waste.

Operation of the composting facility was contracted out to Harvest Mid-Atlantic, LLC in September 2018. In September 2019, MDE approved a permit modification to change the named permittee from Harvest Mid-Atlantic, LLC to WeCare Denali, LLC due to a change in ownership. WeCare Denali, LLC's is permitted to operate this facility under MDE CF Permit 2021-GCF-0022.



Approximately, 25,000 tons of yard waste generated within the County is composted annually at this facility.

Prince George's Organics Composting Facility

The Prince George's Organics Composting Facility is located at 6550 S.E. Crain Highway, Upper Marlboro, Maryland 20772 and is owned by Prince George's County Government and operated by MES. The facility has an approximate 52-acre asphalt area for the management and processing of yard trim and food waste, and a throughput capacity of over 50,000 tons per year.

The County maintains an Intergovernmental Agreement with Prince George's County for its use of the Western Branch Facility. This facility handles a portion of the County's yard waste stream, which varies year-to-year

Tolson and Associates Rubble Landfill

Tolson and Associates Rubble Landfill is a privately owned, Tier 1 yard waste composting facility located at the end of Capital Raceway, Crofton, Maryland 21114. Tolson and Associates, LLC is permitted to operate this facility under MDE CF Permit 2021-GCF-0018. The operation involves the acceptance and processing of grass, leaves and brush into a marketable compost product.

WeCare Denali

WeCare Denali, LLC is a privately owned and operated organics facility located in Carroll County at 7800 Kabik Court, Woodbine, Maryland 21797. The County maintains contracts with WeCare Denali for yard waste hauling and processing services. All yard waste received at the Northern and Southern Recycling Centers is ground and transported for recycling by WeCare Denali. During peak times, WeCare Denali may haul and process some yard waste collected at the MLFRRF.

WeCare Denali maintains 2 organics management facilities in the state of Maryland, including the permitted natural wood waste recycling facility in Woodbine, Maryland (Carroll County). Collectively, the facilities have a yard waste management area of approximately 140 acres with a permitted processing capacity of 35,000 cubic yards (CY) of organic waste per year. Along with yard waste, WeCare Denali also processes earthen material to create compost, mulch, topsoil and a variety of specialized soil blends.

3.7.3 Scrap Metal Recycling

Baltimore Scrap Corporation

Baltimore Scrap Corporation is a privately owned, full-service metal recycling company located at 3000 Vera Street, Baltimore, Maryland 21226. The County maintains a contract with Baltimore Scrap Corporation for the sale of scrap metal collected by the County, averaging over 5,500 tons annually.



3.7.4 Scrap Tire Processing and Recycling

Auston Transfer and Processing, LLC

Auston Transfer and Processing, LLC is an existing privately owned, full-service scrap tire processing company located at 1202 Pauls Lane, Joppa, Maryland 21085. Its primary operation is the processing of scrap tires into a raw material or product that is returned to the marketplace.

K&K Tires, Inc.

K&K Tires, Inc. (K&K) is an existing privately owned, full-service scrap tire processing company located at 816 Oregon Avenue, Linthicum, Maryland 21090. K&K's primary operation is the processing of scrap tires into a raw material or product that is returned to the marketplace.

3.7.5 Rubble Recycling

Rubble Bee

Rubble Bee Recycling, LLC is an existing privately owned rubble recycling company located at 7665 Binnacle Lane, Owings, Maryland 20736. Its primary operation is the processing of C&D debris recycling, including rubble material.

3.7.6 Electronics and Computer Recycling

eRevival Electronics and Computer Recycling

eRevival Electronics and Computer Recycling is an existing privately electronics recycler located at 2915 Whittington Avenue, Baltimore, MD 21230.

3.8 SUBSIDIARY SOLID WASTE MANAGEMENT PLANS

As stated in Section 1.9.4 of this Plan, Md. Code Ann., Envir. § 9-504 (2018) and COMAR 26.03.03 provides for the incorporation of subsidiary plans developed by individual municipalities into the Plan by a County.

3.8.1 City of Annapolis

While within the County's geographical boundaries, the City of Annapolis is a separate municipal body, having the rights and powers of municipal self-government. The City of Annapolis is the capital of Maryland, and its land covers an area of approximately 7.2 square miles. With respect to solid waste management and recycling, the City of Annapolis does not have a formally adopted solid waste management plan. However, the City Charter requires the City's DPW to operate a refuse collection and disposal system, and enforcement powers are specified in the City Code, Chapter 10. In accordance with the Annotated Code of Maryland and COMAR, the City's solid waste management plan is herein incorporated by reference into the County Plan.



In December 2022, an overview of the City's solid waste management plan (City Plan Overview) was prepared and submitted by the City of Annapolis for incorporation into the County Plan, which is included under Appendix F. The City Plan Overview provides for the collection of refuse, recycling, yard trim, and metal and non-metal bulky items from residential customers.

The City of Annapolis does not operate an active waste disposal site. Disposal of refuse is via a multi-year contract with the County and NMWDA. Refuse is delivered to the Annapolis Junction Transfer Station. Natural wood waste and yard trim collected on behalf of the City is delivered to the Prince George's County Organics Recycling Facility. MLFRRF is also available for yard waste processing. Recycling material is delivered to WM - Elkridge, which is also part of a contractual agreement with the County.

Commercial establishments located within the City of Annapolis contract privately for refuse collection and are required to use a refuse hauler licensed by the City. The City offers a voluntary commercial recycling program which allows commercial businesses to pay an established rate for weekly collection of recyclables.

Overall, the City's solid waste management practices promote public health, safety and welfare and embrace similar environmental, recycling and sustainability goals as other municipalities across the country.

3.8.2 *Town of Highland Beach*

Highland Beach is a small, incorporated town located in the eastern part of the County along the Chesapeake Bay. It has a population of approximately 118 residents. Except for its corporate status, Highland Beach is considered part of the County and currently receives all available County services, including curbside recycling, yard waste and trash collection.

3.8.3 *Fort George G. Meade*

Fort Meade is located within the northwestern part of the County near the metropolitan areas of Washington, D.C. and Baltimore between Maryland State Routes 175 and 198 at 4409 Llewellyn Avenue, Fort Meade, Maryland 20755. Fort Meade is home to approximately 11,000 military personnel along with about 29,000 civilian employees. Nearly 6,000 family members also reside on post. In total, Fort Meade maintains approximately 56,000 employees (originating from on-post and off-post locations).

Fort Meade provides its own solid waste management and currently does not provide recycling services; therefore, data on Fort Meade solid waste generation is not included in this Plan. A summary of Fort Meade's programs to manage solid waste and recyclable materials is provided below:

- Waste Collection, Hauling and Disposal – Fort Meade maintains a fleet of government-owned vehicles to collect and haul waste generated on the Post site. Fort Meade maintains a contract with a private hauler to transport waste to the Annapolis Junction Processing Facility and Transfer Station for disposal.
- Recyclable Commodity Collection, Hauling and Disposal –Fort Meade maintains a fleet of vehicles to collect and haul recyclables as waste to the Annapolis Junction Processing



Facility and Transfer Station for disposal. Fort Meade is currently looking into re-establishing a recycling program.

3.8.4 United States Naval Academy

Naval Support Activity Annapolis (NSAA)/U.S. Naval Academy (USNA) is included in a Navy region-wide contract for solid waste disposal services and recycling services. The solid waste disposal services contract is currently held by Six Nations Inc. who routinely empty dumpsters located throughout the installation. The recycling contract is currently held by Melwood Services, a non-profit providing jobs and opportunities for people with disabilities, who collect a variety of recyclable materials (cardboard, newspaper, office paper, books, plastic, glass, aluminum cans, and scrap metal/wood) from various small containers located throughout buildings on the campus as well as large recycling dumpsters. In addition, Genesis 360 operates a mulch operation on-site for landscape maintenance waste. C&D debris associated with construction projects on-site are required to be recycled to the greatest extent practicable by the construction contractor.





CHAPTER 4

ASSESSMENT OF SOLID WASTE MANAGEMENT SYSTEMS

Regulatory Topic Summary *COMAR Title 26.03.03.03(E)*

“Chapter 4 shall contain:

1. Chapter 4 shall contain an assessment (using a narrative description, maps, charts, and graphs as appropriate) of the county’s needs to alter, extend, modify, or add to existing solid waste disposal systems during the next 10 years.
2. The assessment above shall use, when appropriate, the background information contained in chapters 1, 2, and 3.
3. The assessment shall consider the constraints imposed upon the establishment of solid waste acceptance facilities by:

- a. Topography;
- b. Soil types and their characteristics;
- c. Geologic conditions;
- d. Location;
- e. Use and depth of aquifers;
- f. Location of wetlands;
- g. Location of surface water sources and their flood plains and watersheds;
- h. Existing water quality conditions;
- i. Incompatible land use;
- j. Planned long-term growth patterns;
- k. Federal, State and local laws and areas of critical State concern (as designated by the Department of State Planning).

4. The assessment shall evaluate:

- a. The use of source separation and source reduction programs to reduce the quantities of solid wastes which shall be collected for disposal;
- b. Resource recovery options to reduce land disposal capacity needs;
- c. Consumer education programs, and cooperation with appropriate suppliers for the purchase of recycled products to encourage, and help create a market for resource recovery and source separation programs;
- d. The need for disposal capacity for asbestos;
- e. Programs and procedures needed to respond to the unplanned emergency spillage or leaking of hazardous wastes within the county; and
- f. Whether existing local master plans and zoning regulations provide for the appropriate siting, operation, or both, of solid waste management systems or facilities.”

CHAPTER 4

4.0 ASSESSMENT OF SOLID WASTE MANAGEMENT SYSTEMS

As part of the Plan, the County is required to perform an assessment of the existing solid waste management system. The assessment focuses on the adequacy of the solid waste management and recycling programs and facilities that are currently in place to meet the goals and objectives of this Plan for the succeeding 10-year period.

Enhancements and alternatives to the existing solid waste management system are assessed for compatibility with existing systems as well as potential future use to meet the identified goals and objectives. The assessment considers potential constraints imposed on solid waste acceptance facilities and reviews whether existing master plans and zoning regulations provide for appropriate siting and operation of solid waste management systems and facilities. As previously mentioned in Section 2.6, this Plan shall not be used to create or enforce local land use and zoning requirements.

4.1 STRUCTURE OF THE EXISTING SYSTEM

The current Integrated System (refer to Figure INT-3) and Solid Waste Management (refer to Figure INT-4) provide the structure to implement, maintain and improve the County's solid waste management and recycling systems.

Through the Integrated System, the County identifies the hierarchical flow of solid waste management activities based on most-to-least preferred to guide the implementation of its systems. These activities flow from source reduction and reuse, to recycling and composting, to energy recovery and then to treatment and disposal.

Through Solid Waste Management, the County identifies specific measures to achieve its 1 overarching goal: to prolong the life of the only remaining and permitted municipal solid waste disposal area (Cell 9 of the MLFRRF). The current Solid Waste Management approach reflects goals to recycle, divert waste to out-of-county facilities, and dispose of County-managed waste at the MLFRRF.

The components of the Integrated System and Solid Waste Management can be implemented individually and in combination to meet the recycling and waste disposal goals and objectives. Thus, the County's current structure and existing system meets the recycling and disposal needs of the County now and well into the future. However, the County continues to employ and explore enhancements to its existing systems and alternatives to the current practice of landfilling to create a more diversified, sustainable, and affordable system of managing the County's waste stream and to preserve the remaining disposal capacity of the MLFRRF.



4.2 SUPPORT RESOURCES

To assist with the function and implementation of the Integrated System and Solid Waste Management, the County uses a variety of mechanisms to acquire contractual support. Contractual support is obtained through County procurement processes, procurements established by other public jurisdictions, and regional cooperation efforts from multi-jurisdictional and independent state agencies.

4.3 RECYCLABLES AND WASTE COLLECTION

The collection of single stream recyclables, yard waste and trash for County residents is provided via curbside pickup, community cleanup events, scheduled bulky item collections, HHW collection events and homeowner drop-off at the MLFRRF and the 3 Recycling Centers (Northern, Central, and Southern). The City of Annapolis and Fort Meade each provide trash and recycling collection services for households within their respective jurisdictions. These households also have access to the County's Recycling Centers.

4.3.1 Residential Curbside Collection

Through contracts with private haulers, the County provides curbside collection of residential waste to approximately 170,000 residential customers in the County.

The County currently provides its curbside customers with the following basic services:

ONCE PER WEEK	AS SCHEDULED OR REQUESTED
<ul style="list-style-type: none">• Collection of a wide variety of recyclables (single stream), including certain bulky items• Collection of yard waste (grass, leaves, brush, branches)• Collection of trash, including bulky items	<ul style="list-style-type: none">• Bulky metal collection• Dumpsters for annual community clean-up events

The 14 collection service areas and major roads used for recyclables and solid waste collection are presented in Appendix A, Figures 3-3 and 3-4, respectively. To improve collection route efficiencies and better service its residents and customers, the County completed a reconfiguration of the collection areas during the previous planning period.

County facilities, parks, and small businesses are also served through the curbside collection program. County facilities participate in the County Office Recycling Program where curbside collection contractors pick up paper, plastics, metal, and glass from County buildings. The small business recycling program enables businesses to become curbside collection customers for recycling only.

The County's recycling and solid waste collection system described in Chapter 3 is adequate and is envisioned to meet the County's needs for the foreseeable future. However, the County



continues to evaluate measures to enhance services and control collection costs for its residents and customers.

4.3.2 Homeowner Drop-off of Recyclables and Waste

The County owns and operates the MLFRRF and the Northern, Central and Southern Recycling Centers. Residents of the County may transport recyclables, yard waste and trash as well as bulky waste items to these facilities. Descriptions of each facility’s operations, acceptable materials, and management practices for solid waste and recyclables are provided in Chapter 3.

The services provided by County’s MLFRRF and Recycling Centers are adequate and are envisioned to meet the County’s needs for the foreseeable future. However, the County continues to evaluate measures to enhance services at these facilities for its residents and customers.

4.3.3 Homeowner Drop-off of Household Hazardous Waste

Since 1998, the County has assisted residents with the management of HHW. A list of acceptable HHW is provided in Chapter 3.

The County conducts 6 HHW collection events annually for County residents and residents of the City of Annapolis. The services provided to manage HHW are adequate and are envisioned to meet the County’s needs for the foreseeable future. However, the County continues to evaluate the frequency of these collection events to enhance services at these facilities for its residents and customers.



4.4 MAJOR CATEGORIES OF RECYCLING

Recycling is a key component of the County's Integrated System and Solid Waste Management to conserve space at the MLFRRF. The County system for providing opportunities for its customers to recycle meets the County's needs for the foreseeable future.

4.4.1 *Single Stream Recyclables*

The County collects residential single stream recyclables (paper, plastic, metal, and glass) during curbside collection on a weekly basis. Recycling drop-off collection is also provided at the County's 3 Recycling Centers and at the MLFRRF. The single stream commodities are transported to a privately operated recycling facility for processing and marketing.

4.4.2 *Yard Waste*

The County collects residential yard waste (grass, leaves, brush, branches) during curbside collection on a weekly basis. Yard waste collection and processing also occurs at the County's 3 Recycling Centers, and at the MLFRRF. State law also requires the recycling of yard waste that is collected separately from trash.

The management and processing of yard waste also occurs at 4 facilities the MLFRRF, the Prince George's Organics Composting Facility and the Tolson and Associates Rubble Landfill, and WeCare Denali for the County. These outlets are secured under a variety of agreements. Chapter 3 provides a detailed description of these facilities and associated operations.

4.4.3 *Wood Waste*

MDE permitted natural wood waste facilities in the County include A-A Recycle and Sand, Inc., and L & W Recycling. Currently, the County utilizes two private facilities for natural wood waste processing, as detailed in Section 3.4.5 and Section 3.7.2.

4.4.4 *Other Recyclable Materials*

In addition to accepting the same materials as are collected in the curbside program, residents may also bring food scraps, glass food and beverage bottles and jars of any color, shape, or size; pallets; rubble (brick, block, stone and concrete); scrap metal, including white goods; electronics; vinyl; oyster and clam shells; cooking oil, motor oil, antifreeze, propane tanks; lead-acid batteries; and tires to any of the County facilities for recycling. White goods (scrap metal) are also collected through the County's bulky metal collection service. The MLFRRF does not accept cooking oil, used motor oil, antifreeze, or lead-acid batteries; however, these items are accepted at the Central Recycling Center which is located adjacent to the MLFRRF.

4.4.5 *Commodity Marketing*

The County uses 2 primary mechanisms to market commodities received at its facilities, contractual agreements and published opportunity for quote.



<p>COUNTY MAINTAINS AGREEMENTS FOR:</p> <ul style="list-style-type: none"> • Batteries, • Electronics, • Mixed Scrap Metal, • Cooking Oil, • Motor Oil, • Single Stream Recycling, and • Textiles. • Propane Tanks and Cylinders 	<p>COUNTY OBTAINS QUOTES* FROM INTERESTED PARTIES FOR:</p> <ul style="list-style-type: none"> • Aluminum, • Cardboard, • Mulch, • Vinyl Siding, • Steel, • Glass (Food & Beverage Bottles/Jars) <p><i>* In accordance with the Purchasing Manual</i></p>
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Generally, spot bids are used when the quantity of a commodity reaches a volume that can be marketed. It is customary to collect a shipment-sized quantity and then solicit competitive quotes.

All revenue received from the sale of recyclable commodities is returned to the Solid Waste Enterprise Fund to offset program costs.

4.4.6 Recycling Program Success

To comply with regulatory requirements and meet the needs of its residents and customers, the County has developed a successful and innovative MRA recycling program that recycled 41.5% of the waste generated and collected in the County in 2020.

The single stream, yard waste and other materials recycling services provided by the County, the MLFRRF and the Recycling Centers are adequate and are envisioned to meet the County’s needs for the foreseeable future. Still, the County continues to review and strives to improve its recycling programs and outreach plans to better educate and increase awareness among the public and private sectors.

4.4.7 Outreach and Education

The County continues to refine its outreach plan to ensure that recycling programs are understood and fully utilized by the residents and customers of the County. The Outreach Plan addresses the basic objectives of the reduction, reuse, and recycling of solid waste. The plan also coordinates both new and old strategies to inform and educate County residents, businesses, and multi-family units on why and how to best manage their solid waste. The plan has been developed through years of coordination of information gathered through customer surveys, program data, internal customer service expertise, and customer interaction. The basic objectives of the Outreach Plan are to:

- Decrease waste generation;
- Increase the recycling rate;

- Increase participation in residential recycling programs;
- Increase customer awareness of recycling opportunities and waste reduction options;
- Reduce recycling contamination;
- Reduce collection and processing costs; and
- Reduce the quantity of residue from residential collection programs.

The County focuses on specific target audiences and saturates these audiences to create consistent reinforcement of promotional messages. The County coordinates various forms of media utilized as well as the format of the messages released. In the residential sector, the County continues to implement literature distribution campaigns to inform the public of expanded recycling services. Direct mail pieces, newspaper ads, a website, phone applications, radio advertising, and an active schedule of exhibits, presentations, and workshops are all part of the outreach campaigns. For the commercial sector, business recycling rate reports are mailed to businesses annually. Waste analyses are conducted for County businesses on a request-only basis. In 2019, the County began encouraging residents to subscribe to Recycle Coach, a smart phone app that can be used to determine recyclable and non-recyclable materials.

The County has utilized the following outreach activities to support, manage, improve and enhance the recycling and solid waste initiatives and programs:

- Developing a social marketing campaign designed to promote information sharing with County residents, providing them with the tools and motivation needed to be successful in reaching the current recycling and waste reduction goals;
- Providing information, encouragement and resources to students (school-aged children), families and staff so that they will recycle more at school and ultimately more at home;
- Soliciting and implementing customer suggestions and feedback through maintaining an open line of communication with County residents and facility customers;
- Maintaining a constant presence in the public eye utilizing the latest emerging mediums such as smartphone apps, internet, cable television, public service announcements and media interviews to communicate recycling messages;
- Providing recycling presentations to County residents, schools, communities, etc. on a regular basis;
- Educating residents on ways to practice source reduction; and
- Encouraging residents to subscribe to smart phone app Recycle Coach.

In addition to public outreach and education, the County also provides direct support to employees, internal agencies, residents, customers, and commercial entities to enhance waste reduction, reuse and recycling practices. Examples of direct support initiatives by the County have included:



- Providing residential customers with 35-, 65-, and 95-gallon containers to collect and store single stream recyclables. The cart program has proven to increase recycling volume and participation. Continue to provide residents with backyard composting bins.
- Providing increased opportunities for residents to recycle when they are away from home at public events, including at special events within the County.
- Maximizing the participation and single stream recycling collection at all County facilities under an established County Office Recycling Program.
- Maximizing the participation and single stream recycling collection at Office Buildings within the County.
- Working with public school and college administration to establish recycling collection programs that mirror what the students can do at home in accordance with the County-wide recycling and waste diversion program. Both entities continue to operate a comprehensive recycling program.
- Providing technical and practical assistance to businesses that would like to start a recycling program or to expand an existing program. County Recycling Specialists are available to visit work sites to assist in development of a program by providing commercial recycling guidebooks; information about local recycling outlets; assistance in finding markets for their recyclables; and general information concerning the other types of resources available.
- Establishing a small business recycling and waste diversion program to assist small businesses with acquiring private sector recycling collection services.
- Assisting property managers of multi-family residences to establish recycling programs as an element of cost-effective integrated waste management.
- Providing separate modes of collection for yard waste, electronics and HHW to keep such materials out of the solid waste stream.
- Participating in State-wide efforts to improve market development.
- Buying products made from recycled material when economically feasible.

The County intends to continue these initiatives, along with new approaches, during the 10-year planning period, to provide a clear message to County residents and facility customers that recycling is an integral part of waste reduction, landfill preservation, and fiscal stability. The County will continue to implement public communication and outreach programs to achieve the goals, objectives and policies of this Plan.

4.5 RECYCLABLES PROCESSING AND WASTE ACCEPTANCE FACILITIES

The primary facilities for waste acceptance and for receiving and processing waste and/or recyclables that support the County's solid waste management system are provided below. Detailed facility information is provided in Chapter 3.



- County’s Central, Northern and Southern Recycling Centers and the MLFRRF – management of recyclables and solid waste
- Annapolis Junction Processing Facility and Transfer Station – management of solid waste through Transfer Station operations
- WM - Elkridge – management of single stream recyclables
- Prince George’s Organics Composting Facility – management of yard waste
- WeCare Denali – management of yard waste
- Baltimore Scrap Corporation – management of scrap metal

The County also utilizes eRevival, Electronics and Computer Recycling for the management of electronics and Rubble Bee Recycling for the management of rubble.

The services provided at the above-referenced facilities are adequate and are envisioned to meet the County’s needs for the foreseeable future. However, as the County’s solid waste management and recycling programs evolve, the County will evaluate mechanisms and measures to enhance services provided to residents and customers.

4.6 LANDFILL DISPOSAL OF WASTE

Although it is the least preferred option in the County’s Integrated System, the placement of waste in landfills remains an important component of the County’s Solid Waste Management. Source reduction, recycling, and resource recovery can significantly reduce the need for landfilling. Composting and segregation of other waste materials divert significant portions of the waste stream from final disposal. In addition, the combustion of solid waste through waste-to-energy technology can also significantly reduce waste volumes; however, outlets are still required for disposal of the non-recyclable components of ash residues.

4.6.1 *Municipal Landfills (also known as Sanitary Landfills)*

A municipal landfill is a solid waste acceptance facility permitted to accept wastes generated by households, communities, and commercial businesses in accordance with COMAR 26.04.07. Modern municipal landfills are engineered in a manner that minimizes public health and environmental hazards using a variety of specific technologies and practices, including but not limited to:

- Base liner systems (clay and synthetic) with leak detection;
- Leachate collection and removal systems;
- Leachate treatment and disposal systems;
- LFG collection and control systems, including beneficial use of LFG;
- Stormwater management systems;
- Monitoring and inspection systems for control of waste materials entering the site;



- Monitoring systems for groundwater, surface water and LFG;
- Closure systems (clay and synthetic); and
- Provisions for closure and post-closure monitoring and maintenance.

All landfills within the State of Maryland must satisfy requirements established for design, construction, operation, maintenance, expansion, modification, and closure as stipulated by Federal (RCRA – 40 CFR) and State (COMAR) regulations.

MLFRRF

The MLFRRF is the County’s only operating waste disposal facility. The MLFRRF meets Federal Subtitle D requirements under RCRA and complies with the requirements of COMAR. The MLFRRF also employs environmental controls to protect public health and the environment. A detailed description of the MLFRRF is presented in Chapter 3.

The Refuse Disposal Permit (RDP) for the MLFRRF, 2022-WMF-0240, was received on November 1, 2022, and is valid through October 31, 2027. Per MDE requirements, refuse disposal permits must be renewed every 5 years.

Facility Status

Cell 9 is the largest cell at the MLFRRF which is divided into 5 subcells. The active waste disposal area at the MLFRRF is Subcell 9.2 within Cell 9. Cell 8 waste placement was completed in October 2017 with a waste volume of 5.63 million CY. Landfilling in Cell 9 began in January 2017. As of December 2022, Cell 9 was approximately 19.6% filled, with a remaining capacity of approximately 6.8 million CY.

Construction of the next subcell (Subcell 9.3) is expected to begin in 2024. The current projected annual fill rate at the MLFRRF for Cell 9 is 140,000 tons/year with an annual increase of 1%. Based on this rate and an in-place waste utilization (waste density) of 1,200 pounds per CY, Cell 9 is projected to last until 2048.



Waste Capacity

There is adequate waste disposal capacity at the MLFRRF to accommodate the County's waste disposal needs for the 10-year planning period and beyond. However, the County will continue to evaluate mechanisms and measures to preserve capacity and further extend landfill life, as well as investigate alternatives to the current practice of landfilling.

Landfill Life

Waste reduction, waste diversion, recycling, efficient landfill management practices and potential alternatives and emerging technologies will conserve valuable landfill air space. These measures will continue to extend the useful life of the last remaining currently permitted disposal cell (Cell 9).

4.6.2 Rubble Landfills (also known as C&D Landfills)

Rubble landfills are subject to many of the same facility requirements as a municipal landfill. However, they may only accept materials in accordance with COMAR 26.04.07.

C&D debris, including rubble material is an acceptable waste received at the County's MLFRRF and at each of the 3 Recycling Centers (Northern, Central and Southern). The County reuses and recycles rubble by collecting materials such as brick, block, and stone separately from C&D debris for use in temporary access road driving surfaces, or as on-site or off-site clean fill.

Currently, there is 1 operating rubble landfill located in the County, and 1 proposed rubble landfill with a permit application under review with MDE. These facilities are the Tolson and Associates Rubble Landfill, described in more detail in Chapter 3, and the Chesapeake Terrace Rubble Landfill, are described in more detail in Chapter 5, respectively.

There are other privately-owned operating facilities in the region (outside the County) that accept C&D and LCD from any source. The list of facilities includes:

- Days Cove Rubble Landfill, Baltimore County;
- Hance Landclearing Debris Landfill, Calvert County;
- Hill Landclearing Debris Landfill, Calvert County;
- Honeygo Run Reclamation Center, Baltimore County;
- Ritchie Reclamation, Prince George's County; and
- Rubble Bee Recycling, Calvert County.

Therefore, it appears that adequate capacity exists within the region for the disposal of C&D and LCD material generated in the County.

4.7 FUTURE NEEDS ASSESSMENT

As presented in Appendix B, Table 3-3 of Chapter 3, Anne Arundel County was expected to manage (2022 estimate) approximately 470,700 tons per year of County-generated



recyclables, yard waste and municipal waste, either directly at County facilities or indirectly via contracts with private providers and facilities. The total amount of solid waste and recyclables/ yard wastes projected to be managed by the County is predicted to grow to approximately 511,800 tons per year by 2022, due to population growth. As Appendix B, Table 3-3 shows, the 2022 distribution of Bureau-managed materials is as follows: 16% materials recycling; 12% yard waste diversion/ recycling; 42% waste diversion to out-of-county disposal; and 30% disposal at the MLFRRF. If there is no change from the 2022 percentages of materials recycled, the quantities disposed at the MLFRRF will increase from approximately 143,200 tons (2024) to 152,700 tons (2033). The quantities projected to be diverted to out-of-county disposal sites over this planning period will grow from approximately 201,500 tons (2024) to 214,800 tons (2033).

Prolonging the life of the MLFRRF will remain the County's primary solid waste management goal well into the future. The County also has set a goal to increase the MRA recycling of materials (including yard waste). A much longer-term future goal (well beyond the current 10-year planning period) involves finding a replacement, or expansion, to the MLFRRF.

Appendix B, Table 4-1 contains a set of alternate (increased) recycling projections for the County-managed waste stream. The assumption presented in Table 4-1 is for an increase in materials recycling by 2% annually; no change in yard waste diversion/ recycling (13%); and a 1% annual decrease in the quantities of waste disposed of both in the MLFRRF and in out-of-county landfills. If this occurs, materials recycling will increase from 18% (2024) to 36% (2033). Clearly, by increasing recycling in the County, Bureau-managed wastes requiring disposal can be significantly reduced over the next 10 years.

4.7.1 Identification of Future Needs

The Plan includes the continued enhancement to the existing system, and considering alternatives to the existing system in the areas of:

- Waste reduction,
- Reuse and recycling efforts,
- Mechanisms to prolong the life of the MLFRRF, and
- Long-term planning for different solid waste management practices or facilities.

4.7.2 Enhancements to the Existing System

Potential enhancements to the existing solid waste management system include, but are not limited to, the following:

Expanded Residential Curbside and Homeowner Drop-off Recycling Programs

To improve waste diversion and reuse in the County, as well as increase the County's recycling rate, the County can expand the existing residential curbside and drop-off recycling programs



to include additional materials. The County can also focus on new outreach and education programs to help increase the diversion of curbside recyclables in the residential waste stream that are currently discarded but that are recyclable.

Similar to expanding residential curbside collection, the County can focus efforts on new commodity recycling programs at the County's 3 Recycling Centers. For example, in November 2012, the County Council passed Resolution No. 75-12 to enhance public education and to maximize recycling at the 3 Recycling Centers. The Resolution focuses on:

- posting messages and signs stating that customers are expected to recycle to the maximum extent practical at the Recycling Centers;
- providing brochures and flyers containing the rules and requirements of recycling at the Recycling Centers;
- trained and knowledgeable recycling staff interacting with customers regarding recycling opportunities at the Recycling Centers;
- training Recycling Center staff to present customers with the best available information regarding the benefits of recycling; and
- posting the recycling activity level (e.g., recycling rate) that occurs at each Recycling Center.

Various forms of public outreach and education will also be used to solicit additional participation by residents in the County's recycling programs.

Expanded Recycling at the MLFRRF

Although the County provides its landfill customers with the opportunity to recycle a wide variety of commodities, some recyclable materials are still disposed of with trash.

Landfill customers are asked to recycle yard waste, mixed scrap metal, white goods, tires, vinyl, cardboard, rubble, electronics, and rigid plastic before they reach the workface where trash is buried. Source-separation of recyclables prior to the workface is the safest and most efficient recycling option.

The County has an opportunity to recycle more at the MLFRRF by continuing to educate customers to further set aside and separate recyclable materials from trash.

Expanded County-owned and Managed Yard Waste Composting Facility

The County maintains a multi-faceted strategy for yard waste recycling, which relies both on County facilities and on partnerships with private yard waste processors. Currently, a third-party operator, WeCare Denali, processes yard waste (grass and leaves, brush, branches, and limbs) collected curbside, or self-hauled to the MLFRRF, into compost on the 8.5-acre compost pad. The compost pad operator holds an MDE-issued Tier 1 yard waste composting facility permit (MDE CF Permit: 2021-GCF-0022) for the operation.

Given the amount of yard waste material collected each year, further expansion of the County-owned and vendor-managed yard waste processing facility to handle all material



could be a viable option. This enhancement could alleviate the County's reliance on alternate facility support to manage yard waste. In addition, absent private partnerships in the future, the County will need to develop and implement alternate arrangements for yard waste management.

A further expanded County facility could also produce a diverse, marketable product line from the processing of yard waste into compost, mulch, soil amendments, blended topsoil, and other saleable products. Market research on value-added end products and niche markets could be performed to help identify the compost and mulch end-products that may offer the best revenue potential. With respect to staffing and expertise, several County managers and supervisors maintain Compost Facility Operator Certificates issued by the State of Maryland, and these trained personnel could manage a yard waste composting operation at the MLFRRF.

Expanded Food Waste Composting

In 2019 Anne Arundel County began offering a food scrap composting service at its residential drop-off Recycling Centers. Separately collected food scraps are transported to the Prince George's Organics Composting Facility, a Tier 2 Facility, located in Upper Marlboro, MD. Anne Arundel County may deliver up to 2,000 tons of food scraps to the Prince George's County facility each fiscal year under the terms of an Intergovernmental Agreement (IGA).

In 2022 Anne Arundel County initiated a Planning Study to evaluate the potential of expanding its curbside collection program to include the collection of food scraps and other organics. This planning level study includes the development of realistic organics collection and processing options, the associated range of costs of each option in terms of 1-time capital and recurring operating costs, and user fee increases that would be necessary to support these added services. It is anticipated that this Planning Study will be completed in 2023 (Q2).

Operational Improvements and Efficiencies at the MLFRRF

To prolong the remaining life of the MLFRRF, the County continues to implement measures and techniques that improve operational efficiencies there. These measures and techniques include:

- Maximizing Compaction Rate – Entails the continued emphasis on achieving the highest practical compaction rates through operator training and equipment utilization.
- Minimizing Soil for Cover – Entails the continued use of State-approved alternative daily cover (ADC) (e.g., use of a tarp) and operator techniques that minimize soil use and airspace loss, while meeting regulatory requirements. Currently, a moveable tarp is the only permitted method for use as an ADC. Additional ADC options, as they become available, may be evaluated to determine any positive impact they would have on the current landfill operation.
- Recovering and Reusing Recyclables – Entails expanded efforts wherever possible to increase the recovery rates for cardboard, metal, wood, and yard waste, as well as the continued use of recycled brick, concrete, and asphalt as driving surface and road preparation material.



Increased Waste Diversion to Private Regional Transfer Stations

The County's Solid Waste Management diverts most of the County-collected residential waste to private facilities. Currently, waste is diverted to the Annapolis Junction Transfer Station.

Diverting waste out-of-County has taken advantage of competitive prices for solid waste disposal. Waste transfer offers advantages in that it is reliable, accessible, and requires no County capital expenditures. This practice also aids in further prolonging the remaining site life of the MLFRRF.

Within the limits of affordability, waste diversion is expected to extend for the duration of the 10-year planning period from 2024-2033.

Compatibility of Enhancements with the Existing System

New measures, programs and policies instituted by the County to recycle or divert materials from disposal, or to more efficiently utilize remaining airspace in the MLFRRF, are deemed to be compatible with the County's existing solid waste management and recycling systems.

4.7.3 Alternatives to the County's Existing Systems for Recyclables Management, Yard Waste Management and Waste Disposal

Potential alternatives to the existing methods of solid waste management include the following:

County-owned and Managed Recycling Facility

The privately-owned and operated WM - Elkridge Facility in Elkridge, Maryland, accepts and separates a variety of single-stream recyclable materials in its 50,000 square foot facility. WM - Elkridge's throughput averages roughly 1,500 tons per day.

There may be advantages to a County-owned Recyclables Recovery Facility at some point. However, with the availability of a successful private recycling facility, located near the County (see Appendix A, Figure 3-8), no study of the feasibility for a County-owned recycling facility is warranted during this planning period. In fact, the private facility is being replaced with a new, state-of-the-art materials recovery facility at the present time and will be a service provider in the region for years to come.

Regional or County-owned and Managed Waste-to-Energy Facility

Solid waste can be managed through waste-to-energy (WTE) technology. A significant benefit to WTE is volume reduction. WTE facilities typically report up to a 90% volume reduction of waste through incineration (approximately 70% reduction by weight) from consolidated solid waste to combustion ash residue. The volume of ash residue can be further reduced through beneficial use processes to recycle and remove metal components (ferrous and non-ferrous) of the waste stream allowing utilization of the ash for beneficial use as alternate daily cover during active landfill filling operations or management by standard disposal practices in a landfill facility permitted to receive such waste.

However, this approach to solid waste management continues to garner increasing public opposition. WTE facilities emit greenhouse gases and harmful pollutants like nitrous oxides and particulate matter into the local atmosphere, causing health concerns to nearby residents.



In addition, WTE facilities have raised environmental justice concerns for WTE facilities sited in locations near vulnerable populations.

In addition, WTE facilities are often difficult to site and permit due to perceived impacts on traffic volume, potential nuisances from the facility (such as odors or noise), concerns with air and water pollution impacts on the area, lack of community and neighbor acceptance, and other similar factors. Benefits to a WTE facility may include more opportunity for siting due to smaller land requirements compared to municipal solid waste landfills, as well as the avoidance of long-term costs of managing a landfill facility at the end of its life as required by regulation.

In general, WTE projects are extremely capital-intensive due to extensive equipment, pollution control and building needs. However, on a regional scale, multiple municipal or County jurisdictions can share the capital expense of WTE facilities. Additionally, revenues from the sale of electricity and renewable energy credits (RECs) can be used to offset the capital costs.

If a WTE facility were constructed in the future to handle County-managed waste, a larger facility, sized to handle both County-landfilled waste and County-diverted waste would be most practical. There are economies-of-scale to be gained by constructing and operating a larger WTE facility. WTE may also be employed to extend the remaining life of the MLFRRF. However, if a smaller WTE facility were developed, processing only the wastes that are currently landfilled at Millersville, it would suffer from lack of economies of scale.

The County has utilized Baltimore Refuse Energy Systems Company – BRESKO for the acceptance of County-generated waste in the past. The facility is permitted to manage 2,250 tons per day of municipal solid waste. In addition, the Montgomery County Resource Recovery Facility processes an average of 1,500 tons per day of solid waste. Although the County does not plan to engage in contracts with these WTE facilities during the planning period, these facilities provide another alternative to divert County waste in lieu of transfer stations. Based on historic trends including the expiration of tax incentives and opposition in a facilities siting due to pollution concerns, no new WTE facilities have been constructed and permitted since the 1990's, and no new WTE are anticipated to come online during the planning period.

Regional or County-owned and Managed Food Composting Facility

A County food waste diversion and composting program has the potential to further reduce landfill disposal. Food waste composting and yard waste composting are compatible operations, so food waste composting using yard waste is achievable. Food waste composting operations are similar to traditional yard waste composting, with the exception of the added steps required to address the liquid discharge from food scraps. The liquid must be properly managed to avoid water quality issues, odors, and related concerns. Food waste composting operations typically use more mechanized systems and technologies, as opposed to less sophisticated systems that are completely acceptable for managing leaves and grass.

Food waste composting facilities can be capital-intensive due to facility siting, design and operating requirements. A primary concern is the exposure of compostable materials to precipitation and untreated discharges of resulting stormwater. Proper control of aerobic (with oxygen) composting operations is critical to minimizing odors that could be generated from the receiving and composting areas of a food waste composting site. Facility siting needs



to take into account significant buffer between the facility and its neighbors, stormwater management, and similar factors. Truck traffic and noise impacts should be considered, and these considerations are similar to other types of waste handling facilities.

Interest in food waste composting facility development has expanded in the region, based on regulatory drivers, such as HB264 Commercial Food Waste Ban requiring food waste diversion by large generators, starting in January 2023. Increased interest in organic waste diversion has highlighted the need for more food waste processing capacity within the State. Online in 2022, the privately-owned (Bioenergy Devco) Maryland Bioenergy Center is an anaerobic digestion facility with 110,00 tons per year of organics processing capacity located nearby in Jessup, MD. For regional public facilities, multiple municipal or County jurisdictions could share the capital expense of a food waste composting facility developed for processing of municipal food waste.

Zero Waste and Circularity

Integrating zero waste and circularity principles into the County's integrated solid waste management system has the potential to reduce the burden on landfilling County waste at the MLFRRF, and thereby increasing landfill lifespan. By developing a County zero waste plan, the County may define, pursue, and implement zero waste and circularity goals for County facilities and residents. More broadly envisioned, a County zero waste strategy may help restructure production and distribution systems at smaller scales within the County, to prevent waste from being manufactured in the first place. Identifying opportunities for zero waste and circularity may increase efficiency, reduce carbon emissions and operating costs, create green jobs, and support public health within the County.

Waste Mining at the MLFRRF

Landfill mining refers to the excavation of previously buried waste and typically involves separation and recovery of recyclables such as ferrous metals from the buried waste, screening, and separation of soil from the mix, and re-landfilling of the remaining waste in a separate area of the landfill. An objective of landfill mining at operating landfill sites is the generation of useable air space at a landfill site. An objective of landfill mining at closed landfills is typically to minimize potential environmental liabilities.

The County excavated Cell 3 in 1994 and the western portion of Cell 1 in 1997 and placed the waste in Cell 8. To gain additional landfill space, waste excavation may be a viable option in the future.

Although waste mining would alleviate some of the environmental liability associated with maintaining a landfill facility over the post-closure care and maintenance period, certain operational aspects need to be considered. Such aspects include available waste capacity and impacts on the longevity of County's remaining waste disposal cell (Cell 9), as well as funding to manage and mitigate unforeseen circumstances during excavation.

Expanded Waste Disposal Capacity at the MLFRRF

The MLFRRF remaining airspace will serve the County through Cell 9. To extend facility life beyond Cell 9 and the existing permitted capacity, the County could investigate additional



expansion options such as a vertical expansion of the MLFRRF. This will require additional solid waste permitting effort.

Development of a New Sanitary Landfill

The MLFRRF has sufficient remaining airspace to serve the County, under the current waste diversion and recycling strategy, for the current 10-year planning period and beyond. However, at some point in the future, the MLFRRF will become full and must close. In consideration of the fact that large waste processing and disposal facilities such as landfills and waste-to-energy facilities can take 10 to 15 years to plan, site and construct, it is important that the discussion of a future waste management strategy, including replacement disposal capacity, be discussed well before the Cell 9 disposal area is filled. In 2023, the County will initiate a Planning Study that will evaluate long-term options for continued solid waste management within the County. The purpose of this project will be to meet the expectations of the GDP, Planning for Healthy Communities, and the County's 10-Year Solid Waste Management Plan (latest).

A new landfill may need to be sited on land that does not currently contain any waste processing or disposal facilities (a "greenfield" site). MDE regulates the siting, design, and operational details of a new landfill, and ensures that a combination of environmental regulations and design technologies and materials are used to minimize the potential impact of a landfill on the surrounding environment. All municipal waste landfill cells must be designed with a bottom liner system, including a system for leachate collection, like the landfill cells now in use at the MLFRRF. Closure and post-closure plans for the new landfill must be incorporated into the system design. The types of materials to be accepted at the landfill must be determined and planned for in the design and operations.

Chief environmental concerns with a sanitary landfill include the potential contamination of groundwater, the control of LFG to prevent off-site migration, odors and other air quality impacts, truck traffic, noise, and litter. Siting and adequate buffer areas around the active areas of the landfill are critically important when planning a new landfill.

Developing a new sanitary landfill can be capital-intensive, with relatively high permitting, land, and site development costs. Landfill siting and development costs are very site-specific.

Development of a New Solid Waste Transfer Station

The County's current demand for waste transfer is being fully met at private and public facilities, and these facilities are available to handle the expected growth in County-managed waste transfer over the 10-year planning period. The Annapolis Junction Processing Facility and the Waste Management, Inc. Processing Facility and Transfer Station are each permitted to accept a maximum of 3,000 tons per day of solid waste, capacities that appear more than adequate to handle County-managed solid waste.

While there is not a public need to establish additional transfer stations within the County nor to expand existing ones, demand for waste transfer by local jurisdictions may increase as alternatives for cost-effective and practical options for solid waste management become more limited in the future.



Developing a new transfer station has the potential to be capital-intensive, with relatively high permitting, land, and site development costs. Siting and development costs are very site-specific. A Planning Study evaluating long-term options for continued waste transfer out of County would be considered to understand the parameters for future transfer station development.

Compatibility of Alternatives with the Existing System

The County considered alternatives that are compatible with its existing recycling and solid waste management system. Many additional factors are considered in the evaluation of alternatives including capital costs, financing, private versus public operations, regulatory requirements, feasibility, environmental impacts, long-term stability, and future liabilities.

Due to long lead times, conceptual planning and evaluation of selected alternatives should occur long before action is needed.

Solid Waste Composting

There are no in-county or regional solid waste facilities that manage solid waste composting operations. The County has no plans to initiate this type of operation during this planning period.

4.8 SPECIAL WASTE MANAGEMENT AND DISPOSAL

4.8.1 Asbestos

Asbestos disposed at any site must be packaged and labeled in accordance with COMAR 26.11.21.08. Procedures for disposal of asbestos in a landfill include:

- Personnel handling the asbestos wear protective clothing and respirators;
- The asbestos is handled with care to reduce the emission of fibers into the air;
- Asbestos is delivered to a separate area of the landfill for disposal; and
- The asbestos is placed in a trench and completely covered with soil.

The above procedure recognizes that the health threat posed by asbestos is the release of asbestos fibers to the atmosphere and inhalation by humans. Once properly buried within a landfill and isolated from the atmosphere, asbestos poses no known health risks.

Asbestos is not currently accepted in the curbside collection program or at any of the County's facilities because of the special handling requirements. Small quantities of up to 4 bags are accepted at the County's HHW collection events, provided the material is double bagged to protect workers. Customers who need to dispose of asbestos waste are referred to private disposal facilities.



4.8.2 Special Medical Waste

County facilities do not accept SMW, including infectious or bio-hazardous medical waste. The County does not have authority to accept SMW. These wastes are managed by MDE under specific medical waste regulations. Special Medical Waste Processors active in the County are included in Section 3.4.4.

4.8.3 Hazardous Waste and Controlled Hazardous Substances

The County does not accept hazardous substances for disposal other than small quantities of HHW. Currently, hazardous waste generators within the County must contract with a private, licensed hazardous waste hauler for collection and disposal of hazardous waste or CHS.

4.8.4 Emergency Response for Hazardous Waste Spillage or Leakage

Response to hazardous waste spills or leaks is the responsibility of the Anne Arundel County Fire Department. The Fire Department contracts for emergency response teams and with private, licensed haulers of hazardous waste for removal and disposal of hazardous waste or CHS.

4.9 CONSTRAINTS IMPOSED UPON ESTABLISHING A SOLID WASTE FACILITY

The locations of solid waste management facilities should be planned to minimize impacts on the residents of the County and on the environment. Although private entities may endeavor to site new solid waste processing and acceptance facilities, the County currently has no plans to site any new publicly owned landfill facilities over the 10-year planning period. This is primarily due to the adequate available waste disposal capacity of the County's MLFRRF. However, if the County does decide to site a facility, there are certain regulatory and planning constraints that should be considered. A brief discussion of the constraints on solid waste processing and acceptance facilities, (based on technical, environmental, and land use concerns), follows.

4.9.1 Topography

The topography of the County is described in Section 2.1 of this Plan, which describes the general location and shoreline of surface water (bays, rivers, tidal estuaries) and the topographic relief from the water bodies at sea level to areas in-land.

Landfill sites are generally located in broad flat plateau areas and areas which do not have steep slopes. Lands which have steep slopes are not considered acceptable for landfills due to the excessive site grading that would be required to develop the landfill. Other waste management facilities are not generally as constrained by the slope of the land; however, cost factors associated with site work must be considered.

Sensitive areas such as tidal and non-tidal wetlands, and floodplains, may be regulated by Federal, State, and Local laws. In August 1988, the County developed a Critical Area Program. The Critical Area is defined by the State as all land and water area 1,000 feet landward from high-tide or the edge of tidal wetlands. This program established land use policies and restrictions on development in the Critical Area. The Critical Area is not considered



acceptable for the siting of recycling or solid waste management facilities. See Section 4.9.4 for exceptions to this policy.

4.9.2 Soils

The predominant soil types of the County are sands, silts, and clays. The porous nature of the unconsolidated soils does not provide the impervious layer needed to contain leachate within the waste fill area of a landfill. However, measures such as geomembranes, leachate collection and treatment systems, and monitoring systems aid in reducing the potential for migration of leachate into the environment.

The properties of the soils on which a landfill is sited should be considered in planning, design, construction, operation, closure, and post-closure of the landfill. Soil characteristics such as texture, erodibility, load-bearing capacity, resistance to slide, permeability, water table elevation, and quantity should be addressed during the site selection process. Clayey, impermeable soils are desirable for the base of the landfill, however; landfill operations require a loamy or silty soil, which is easily spread and compacted for cover material.

Soil types for other waste management facilities are those which can provide adequate structural support for the building, structure, or concrete pad. Depth to seasonal or permanent high water table may be a constraint to composting facility siting. All types of solid waste management facilities could be affected by the groundwater recharge capabilities of soils that are part of a stormwater management system.

4.9.3 Geologic Conditions

Although landfill facilities can be engineered to be environmentally protective in most geologic settings, it is desirable to have sites in areas in which geologic conditions provide complementary attenuation capacity. Optimum geologic conditions for a landfill site include the lack of permeable fault zones underlying the site, and adequate depth to ground water and bedrock. Geologic conditions should be such that an effective ground water monitoring system can be established. Therefore, landfill siting over limestone geology is generally disallowed.

Siting other types of waste facilities may also be limited over limestone geology due to potential for groundwater pollution. Other than this consideration, structural support of waste management structures is the most important geologic consideration for facilities other than landfills.

4.9.4 Location

Locating a site for a solid waste management facility involves the interaction of regulatory, environmental, technical, economic, and socio-economic considerations. Infrastructure such as electric power, water, and wastewater service, as well as access to the public road network are important considerations in site selection for any waste management facility. State and Federal regulations address compliance with the full range of air emissions, wastewater discharge, and residuals disposal requirements. These regulations also address site climatology, hydrology, geology, hydrogeology, and soil conditions. Other considerations include land use



characteristics, types of local land use, buffer distances, prevailing wind directions in relation to local land use, and distance from the primary sources of waste.

The requirements of the Critical Area Law and appurtenant regulations must be followed when siting facilities. Landfills and solid and hazardous waste collection or disposal facilities are permitted in the Critical Area if no environmentally acceptable alternative exists outside the Critical Area. In addition, locating in these areas is permitted if the facilities are needed to correct an existing water quality or wastewater management problem.

4.9.5 Aquifers

The geologic formations underlying the County are sedimentary sands and gravel, capable of yielding substantial quantities of fresh water. Landfills are designed and regulated to protect groundwater resources using bottom liners and leachate management systems. Sites for landfills must be carefully evaluated to minimize potential impacts to groundwater.

All types of waste management facilities must consider groundwater aquifers in line with best management practices for stormwater management and recharge systems, and for water supply for facility process water and drinking water supply. Impacts of wastewater discharges on groundwater resources are also a consideration affecting all types of facilities.

4.9.6 Wetlands

Wetlands are very important to ecosystems of the County and Chesapeake Bay. The tidal wetlands within the County provide a transition zone between dry land and open water. Non-tidal wetlands are referred to as inland or upland wetlands and include swamps, bogs, and hardwood forests. All types of solid waste management facilities should avoid encroaching onto areas classified as tidal or non-tidal wetlands.

4.9.7 Surface Waters, Floodplains and Watersheds

The County is laced with a network of streams that carry runoff from many different land uses to the tidal waters of the County's numerous creeks and rivers. Because of its topography, streams in the County tend to be short, first and second order slow moving, low gradient streams.

Along these rivers, streams, and tributaries are areas associated with the 100-year floodplain. Floodplains in the County are defined as the 100-year floodplain and are protected under the County's floodplain ordinance; this ordinance requires that a waiver be obtained for development that will encroach on a floodplain. Federal regulations preclude the location of solid waste facilities within 100-year floodplains.

4.9.8 Water Quality

Surface water within the County drains into the Chesapeake Bay. The State of Maryland has classified waterways according to the most critical use for which they must be protected, and has set standards for water quality parameters for each designated use. The designated uses per COMAR 26.08.02.02 are as follows:



- Use I and Use I-P – Water Contact Recreation and Protection of Aquatic Life
- Use II – Shellfish Harvesting Waters
- Use III and Use III-P – Natural Trout Waters
- Use IV and Use IV-P – Recreational Trout Waters
- Use I-P, III-P, and IV-P waters – Public Water Supply

The siting and location of landfill sites near these protected waterways should be avoided to reduce the potential for impacts to water quality. Proximity of other types of waste management facilities to surface waters should be considered when siting these types of facilities.

4.9.9 Land Use

It is important that solid waste management facilities are sited in areas appropriate for such land uses. Location requirements for landfills are included in Federal regulations (40 CFR Part 258). Adjacent, incompatible land uses for landfills include airports and hospitals. Proximity of composting facilities to sensitive receptors such as nursing homes and hospitals should be considered during site planning. General compatibility of all types of proposed facilities with the surrounding area and land uses should always be considered; areas that offer large buffer areas, are predominantly rural, or are predominantly industrial are a preferred factor when choosing locations for solid waste facilities.

The United States Department of Transportation, Federal Aviation Authority Order 5200.5, FAA Guidance Concerning Sanitary Landfills on or Near Airports, stipulates the following criteria:

- Waste disposal sites may not be located within 10,000 feet of any runway end (used or proposed) to be used by a turbine powered aircraft.
- Waste disposal sites may not be located within 5,000 feet of any runway end used only by piston powered aircraft.
- Waste disposal sites that attract or sustain hazardous bird movements for feeding, foraging, or roosting are discouraged from being located within a 5-mile radius of a runway end and/or approach as well as from departure patterns of aircraft.

Md. Code Ann., Envir. § 9-225 (2018) prohibits the location of any landfill within a 2-mile radius of any hospital.

4.9.10 Growth Patterns

All proposed facilities should be sited at locations that are in conformance with the County's Plan2040 GDP and the County OPZ's requirements. The County GDP assesses, plans for, and directs growth within the County. County zoning and land use regulations support recommended growth patterns. The GDP includes a Land Use Plan that identifies specific areas of allowable growth and specific areas that require minimal growth based on land use type. The Land Use Plan will guide the goals, policies and actions of growth and land use in



the County. As previously discussed in Section 2.6, this Plan shall not be used to create or enforce local land use and zoning requirements.

As part of the Region Planning process within the GDP, the Land Use Plan will guide the development of more specific community-based land use plans. The Land Use Plan and GDP will also aid the County in reducing the possibility of adjacent incompatible land uses.

With respect to the development of solid waste management facilities in the County, the Land Use Plan and the GDP provide the necessary guidance to evaluate compatible land uses and potential impacts. This process also provides assurance that potential projects and future facilities will not adversely impact the County's long-term goals, objectives, and policies.

4.9.11 Landfill Capacity

Following recycling and waste diversion, waste disposal is an essential element of the County's Integrated System and Solid Waste Management. Currently, the County has no plans to site a new landfill or other waste management facility in the County within the 10-year planning period.

There are landfill preservation measures that may extend the life of the MLFRRF. These measures include increasing recycling and waste diversion, improving waste compaction in active disposal areas, or using alternate waste processing technologies to divert and process some waste streams that are currently landfilled. The County may also gain additional landfill capacity by implementing waste mining operations of closed landfill cells, or through permitting modifications to the design of existing and planned waste disposal areas.

4.10 MUNICIPAL SOLID WASTE 10-YEAR ASSESSMENT

The County maintains detailed information on the amounts of solid waste it directs to the MLFRRF, area recyclers, and local waste transfer facilities. In addition, private facilities located within Anne Arundel County provide information for the County's annual MRA report. Data reported includes material origin, type, quantity, and destination. This information is used to compute the County's overall recycling rate.

Appendix B, Table 4-1, projects solid waste disposal and recycling for the next 10 years based on waste streams managed by the County in 2022. Projections include continued gains in recycling, which further reduce waste disposal requirements over the planning period. Continual growth of the County's recycling programs forms the basis for a sound solid waste management plan.

This Plan was prepared recognizing both the short and long-term waste management and recycling needs of the County's residents. It also relies on the viability of existing private businesses in helping the County meet these needs. The County performs a review of its Plan every 3 years. Any changes within the marketplace or system of waste management-related facilities and those that negatively impact landfill life are considered to gauge when the Plan requires revision.

The primary purpose of Solid Waste Management performed in Anne Arundel County is to extend the life of the MLFRRF as long as possible. In addition to robust programs to collect



and recycle paper, plastic, metal, glass and yard waste, the County diverts a portion of waste to the Annapolis Junction Transfer Station for out-of-County disposal. Transfer of municipal solid waste to an out-of-county landfill is currently a cost-effective and practical option for the County through the 10-year planning period. The out-of-County disposal contracts have been extended through May 2033, continuing favorable economics to the County through that period.

The MLFRRF is expected to have disposal capacity until 2048. It presumes the existing programs for single stream recycling and yard waste composting and reuse will continue and grow. Increased waste diversion, recycling and the application of emerging technologies will extend MLFRRF life estimates beyond 2048.

The waste generated in the County totaled 1,189,500 tons in 2021 according to the 2022 MRA report published by MDE (refer to Appendix B, Table 3-1). In 2033, waste generated in Anne Arundel County is projected to grow to 1,306,000 tons based on increases in the County's population. The total includes waste managed (refer to Appendix B, Table 3-2) by the County.

According to MDE records, the percentage of total MRA plus non-MRA wastes and recyclables that were recycled in 2021 was approximately 54%. The remaining 46% was disposed. The Plan projects that the amount of total wastes managed in the County by 2033, that requires disposal (after recycling) will reach approximately 603,700 tons (refer to Appendix B, Table 3-1). Approximately 702,300 tons are projected to be recycled by 2033.

The MLFRRF has a life expectancy well beyond the 2033 planning period. The Annapolis Junction Transfer Station, and the King George County (VA) Landfill it utilizes, has a projected life beyond 2033 as well. Together, these facilities afford adequate capacity to handle the approximately 603,700 tons of MRA and non-MRA materials that are estimated to require disposal by 2033.

4.10.1 Waste Acceptance and Disposal Facilities

Transfer Stations

Solid waste transfer stations are an integral component of the County's strategy to encourage recycling, reuse, and waste reduction; provide for waste diversion; and to prolong the life of the MLFRRF. These facilities provide an outlet for residentially and commercially generated waste from various counties within the region, including the County, Fort Meade, and the City of Annapolis. There are 2 privately owned and operated transfer stations in the County.

The Annapolis Junction Processing Facility and Transfer Station has been in operation since 1997.

The Waste Management, Inc. Processing Facility and Transfer Station has been in operation since 1999.

As each of these facilities is permitted to accept a maximum of 3,000 tons per day of solid waste, these capacities appear more than adequate to handle County-managed solid waste.



The County's current demand for waste transfer is being fully met at private and public facilities, and these facilities are available to handle the expected growth in County-managed waste transfer over the 10-year planning period.

Currently there is not a public need to establish additional transfer stations within the County nor to expand existing ones. This Plan concludes that there is sufficient capacity to address the County's both short term and long-term disposal needs. Furthermore, advocates for expansion of existing transfer stations or development of new transfer stations must demonstrate that the current disposal needs of the County are not being adequately satisfied.

Rubble Landfills

C&D debris generated in the County is primarily disposed at existing private rubble landfills identified in Section 3.4.5. Additional out-of-County rubble landfills exist and have been utilized by the County. The existing in-County and out-of-County processing and disposal facilities within the Region are adequate to manage C&D debris generated within the County.

Land Clearing Debris Landfills

Land Clearing debris landfills are regulated by the State of Maryland. Pursuant to COMAR, land clearing debris landfills are permitted to accept earthen material, topsoil, tree stumps, root mats, brush and limbs, logs, vegetation, and rock. Unless materials are mulched, chipped, or composted at the generation site, most are destined for the landfill. Land Clearing debris is an acceptable waste at rubble landfills. It is also accepted at the MLFRRF. There are no permitted landfills specifically for the disposal of land-clearing debris located in the County.

This Plan concludes, for the reasons set forth under Rubble Landfills, that there is sufficient capacity to address the County's short- and long-term land-clearing debris disposal needs.

4.10.2 Recyclables Acceptance and Processing Facilities

The County promotes facilities that recycle or reuse materials that are otherwise discarded in the County, provided that such facility is designed, permitted, and operated in accordance with local, County and State regulatory requirements. The County's Zoning Code allows for various land uses that relate to recycling, reduction, and material processing. There are distinct advantages for the inclusion of recyclables acceptance and processing facilities in the County's Plan. Facilities such as these are highly specialized and handle a wide array of materials that otherwise would be disposed of either at the MLFRRF, or at another disposal site within the region. As previously mentioned in Section 2.6, this Plan shall not be used to create or enforce local land use and zoning requirements.

The County's only remaining landfill is a valuable and finite resource for the County and, therefore, it is necessary that this Plan provide for the establishment of viable businesses and operations that recycle, reduce, or reuse discarded materials. Planning for the facilities described below is in keeping with the County's mission to conserve and prolong the availability of our resources while also contributing to the County's overall recycling rate.



Recyclables Recovery Facilities

The County operates a paper baling operation at the Millersville Recycling Center. Other recovered recyclables collected by the County are currently transported to WM - Elkridge in Elkridge, Maryland, for processing and shipment to market. Currently private recyclables processing facilities, in conjunction with current County-managed curbside and homeowner drop-off recyclables collection programs, are adequate to meet the 10-year planning needs of the County.

Rubble Processing Facilities

Rubble processing facilities (formerly called Construction and Demolition Debris Processing Facilities under the County Zoning Code) are required to obtain an operating permit from the State of Maryland. Prior to issuance of a permit, the proposed facility must conform to the County's 10-Year Solid Waste Management Plan. These facilities are permitted to accept debris resulting from construction and demolition activities, and from land-clearing activities, as well as household appliances and other bulky materials. As previously mentioned in Section 2.6, this Plan shall not be used to create or enforce local land use and zoning requirements.

The County accepts C&D debris including Rubble material at the MLFRRF and the 3 Recycling Centers. The County makes every attempt to segregate, reuse and recycle Rubble by collecting and aggregating materials such as brick, block, and stone separately from C&D debris. Rubble from the Southern Recycling Center is transported to Tolson and Associates Rubble Landfill (in-County) and Rubble Bee in Calvert County for processing. In addition, there is 1 proposed rubble landfill with a permit application under review with MDE, the Chesapeake Terrace Rubble Landfill, described in more detail in Chapter 5. With the County's existing facilities and private outlets for accepting and processing rubble, there is sufficient capacity to manage this material during the 10-year planning period.

Natural Wood Waste Recycling Facilities

Natural wood waste recycling facilities accept tree stumps, brush, limbs, root mats, logs, leaves, grass clippings, unadulterated wood wastes, and other natural vegetative materials. The State of Maryland regulates only commercial natural wood waste recycling facilities. There are 2 permitted commercial facilities located in the County: A-A Recycle and Sand, Inc., and L&W Recycling.

The materials managed at natural wood waste recycling facilities are like the residential yard waste and include grass, leaves, brush, branches, logs, and stumps.

With the County's existing facilities and private outlets for accepting and processing natural wood waste (e.g., yard waste), there is sufficient capacity to manage this recyclable material during the 10-year planning period.

4.11 PLAN CONFORMANCE

Facilities that require a Refuse Disposal Permit from the State of Maryland must obtain a statement from the County that indicates conformance with the County's 10-year Solid Waste Management Plan and local zoning and land use requirements. These facilities include, but



may not be limited to, municipal solid waste, C&D debris (e.g., rubble), and land-clearing debris landfills and solid waste transfer stations.

Article 18 of the Anne Arundel County Code includes the applicable zoning requirements for various solid waste acceptance, processing, recycling, and disposal facilities. These facilities are required to obtain Special Exception approval as provided for in the Code. As previously mentioned in Section 2.6, this Plan shall not be used to create or enforce local land use and zoning requirements.





CHAPTER 5

PLAN OF ACTION

Regulatory Topic Summary

COMAR Title 26.03.03.03(F)

“Chapter 5 shall contain:

1. Chapter 5 shall contain the county’s plan of action with respect to all types of solid waste and all phases of solid waste management.
2. The plan of action in §F(1), of this regulation, shall cover at least the succeeding 10-year period and, at a minimum, shall:
 - a. Discuss the solid waste disposal systems and solid waste acceptance facilities, both public and private, which will be in use during the planning period, including proposed systems and facilities;

- b. Provide a mechanism for managing each of the waste streams identified in §D(1) of this regulation;
- c. Demonstrate, through tables, charts and graphs, that the sizing, staging, and capacity of all systems and facilities in §F(2)(a) and (b), of this regulation, will be adequate for the county's needs during the planning period;
- d. Establish schedules for placing new public or private solid waste disposal systems or solid waste acceptance facilities into operation, including a description of necessary actions and their timing, to bring the county's solid waste disposal systems into compliance with the mandates of pertinent federal and State laws, and any permits or orders issued under these laws;
- e. Describe provisions and methods for financing existing and proposed solid waste disposal systems, including planning and implementation;
- f. Include a projected closure date for each public solid waste acceptance facility which is scheduled to cease operations during the planning period, the projected use of each closed site, and the relationship of that use to the county's comprehensive land use plan; and
- g. Discuss changes in programs, plans, regulations, and procedures as a result of the assessment conducted under §E, of this regulation."


CHAPTER 5


5.0 PLAN OF ACTION


COMAR 26.03.03.03 requires the County to develop a plan of action to sustain its solid waste management system over the succeeding 10-year planning period. This Chapter presents the plan of action for the planning period of 2024 through 2033. Chapter 5 demonstrates the County’s goal to continue to enhance its affordable, comprehensive solid waste management system that promotes waste reduction, encourages the reuse of discarded materials, maximizes source separation and recycling of materials, minimizes the need to dispose of materials as waste and conserves valuable landfill space.

5.1 PRIORITIES

The Bureau is responsible for planning and implementing solid waste management and recycling initiatives, programs, and systems in the County. Accordingly, the Bureau has developed priorities that build upon its successes and provide a roadmap for the succeeding 10-year planning period while continuing to protect public health and the environment. These priorities support the goals, objectives and policies of the Plan that are discussed in Chapter 1. The 12 priorities are:

- PRIORITY 1**  **INTEGRATED SYSTEM MANAGEMENT AND ZERO WASTE CONCEPTS** – implementing new initiatives and establishing programs and systems that respond to regulatory change and promote a hierarchical flow from source reduction and reuse, to recycling and composting, while further reducing disposal.

- PRIORITY 2**  **PUBLIC HEALTH AND ENVIRONMENTAL PROTECTION** – implementing measures to protect public health and the environment from the time recyclables and waste are placed curbside for collection until their ultimate processing, recovery, and disposal.

- PRIORITY 3**  **REGIONAL PARTNERSHIPS** – developing partnerships with local jurisdictions and private entities and associated facilities on a regional basis to help meet the County’s recycling and solid waste management needs and its obligation to maintain an affordable program for rate payers.



- PRIORITY
4



RECYCLING, WASTE DIVERSION AND LANDFILL PRESERVATION – maximizing recycling and economical waste diversion of material from curbside collection, the Recycling Centers and the MLFRRF to conserve landfill capacity throughout and beyond the succeeding 10-year planning period.
- PRIORITY
5



COLLECTION AND MANAGEMENT OF RECYCLABLES AND SOLID WASTE – implementing a comprehensive, convenient, efficient, and affordable collection, processing and disposal system for recyclables and solid waste.
- PRIORITY
6



TECHNOLOGY ENHANCEMENTS AND ALTERNATIVES – evaluating innovative technologies and incorporating environmentally sound approaches that maximize available resources, improve operational efficiencies, and further extend the life of the MLFRRF.
- PRIORITY
7



FUTURE LANDFILL LIFE AND CAPACITY – conceptualizing long-term needs for solid waste processing and disposal capacity in the County, recognizing that the MLFRRF has a finite capacity and site life.
- PRIORITY
8



CONSTITUENT COMMUNICATION AND OUTREACH – developing effective methods of public outreach to better serve and educate residents and facility customers on the County’s existing and emerging recycling, waste diversion and solid waste programs.
- PRIORITY
9



REVENUE AND BENEFICIAL USE – generating revenue to sustain the Solid Waste Enterprise Fund, including marketing recyclable items and garnering the beneficial use of solid waste-derived resources such as LFG, natural wood waste and rubble.
- PRIORITY
10



RATES AND FEES – keeping the residential rate and landfill tip fees affordable.
- PRIORITY
11



FUTURE STRATEGIC PLANS – continuous improvement of the existing solid waste management and recycling systems based on market, technological, industry, and regulatory changes over the succeeding 10-year planning period.
- PRIORITY
12



FUTURE DISPOSAL FACILITIES – Comprehensively review and evaluate options for future solid waste disposal facilities to replace the MLFRRF.

5.2 PRIORITY 1 - INTEGRATED SYSTEM MANAGEMENT

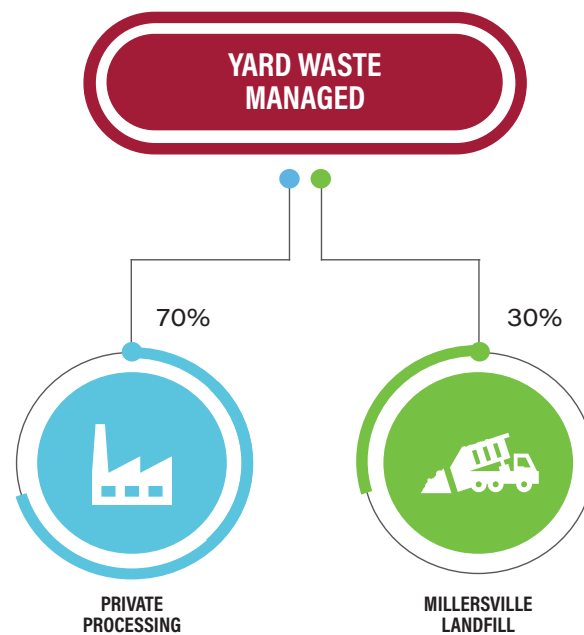
The County is committed to providing a spectrum of services to its customers. With respect to this Plan, such services are guided by the County’s Integrated System that models the EPA

Hierarchy (refer to Figure INT-3) and its Solid Waste Management (refer to Figure INT-4). As the County's programs expand or change, from collection and processing to recovery or disposal, the County's goals regarding such programs will be reevaluated. These goals are previously referenced in Section 1.1 and will provide the basis for setting future objectives as well as evaluating future policy decisions.

5.2.1 Meeting the Goals and Objectives

To meet the goals and objectives of the Plan, the County will continue to implement a strategy of recycling and waste diversion to minimize disposal at the MLFRRF. This strategy will include pursuing increases in the residential recycling rate. The policies that will enable the County to achieve its recycling and solid waste goals discussed in Section 1.4.

Figure 5-1. Anne Arundel County Organic Material Processing Strategy



As part of Integrated System Management, the following will be pursued over the 10-year planning period:

- To ensure the maximum diversion of source separated yard waste collected from County residents, maintain a multi-year service contract with a private company to fully operate the Tier 1 composting pad constructed by the County on the campus of the MLFRRF. Nearly 100% of collected yard waste will be composted at the County's Tier 1 operation, with a small amount transported each year to the Prince George's County Organics Composting Facility or to the yard waste composting operation at the Tolson and Associates Rubble Landfill.
- Maintain the Intergovernmental Agreement with Prince George's County, Maryland to deliver leaves, grass, and food scraps to the Prince George's County Organics Composting Facility in nearby Upper Marlboro, Maryland.
- Study food scrap collection and diversion opportunities, and related costs.

- Continue the “Recycle Right” campaign designed to re-educate County residents. Work closely with County curbside collection contractors and recycled material processor WM - Elkridge to minimize the amount of non-acceptable materials within the single stream recycling program. Sustain the amount of non-recyclables and non-acceptable materials in the single stream below 12%.
- Continue to operate a source-separated glass bottle & jar drop-off program at all 3 County Recycling Centers.
- Maintain an Agreement with the Oyster Recovery Partnership to allow containerized storage of recovered oyster shells at the MLFRRF.
- Remain a Durable Medical Equipment (DME) program participant providing drop-off opportunities for Anne Arundel County residents who want to participate in this Maryland Department of Aging program.

5.3 PRIORITY 2 - PUBLIC HEALTH AND ENVIRONMENTAL PROTECTION

As part of providing recycling and solid waste management services, the County recognizes the need to protect public health and the environment. All aspects of material collection, processing and disposal processes at in-County and out-of-County facilities involve measures to ensure that public health and the environment are safeguarded. These measures may include short-term and long-term planning, contractual arrangements, budget management, public outreach and education, facility operation, and closure and post-closure care monitoring and maintenance. The measures are utilized from the time recyclables and solid waste are placed curbside for collection until their ultimate processing and disposal. These measures are also reviewed for effectiveness to meet the County’s goals and objectives, and for efficiency to maximize the conservation of natural resources.

To manage recyclables and solid waste from its customers, the County operates 3 Recycling Centers and the MLFRRF. To protect public health and the environment, each facility is required to comply with specific regulatory requirements based on the acceptance of materials and its operations. Provided below is an overview of regulatory requirements and compliance for the County’s facilities:

- Recycling Centers (Northern, Central, and Southern) – These facilities do not require a State-issued Refuse Disposal Permit. However, each maintains a Stormwater Pollution Prevention Plan to comply with the General Discharge Permit for Storm Water Discharges Associated with Industrial Activity issued by MDE. Each facility holds an oil operations permit for the acceptance of used oil and a secondary scrap tire collection license.
- MLFRRF – This facility operates under a Refuse Disposal Permit issued by MDE. The facility maintains a Title V Air Permit for the operation of the LFG collection and control system. An approved Environmental Monitoring Plan exists for groundwater, surface water and LFG that specifies the requirements for sampling, analytical parameters, regulatory limits of parameters and reporting requirements. The MLFRRF also maintains a Stormwater Pollution Prevention Plan, County-issued wastewater discharge permit, and secondary scrap tire collection and scrap tire hauler licenses. The LFGE facility located on the landfill campus maintains its own Title V Air Permit.



As part of protecting public health and the environment, the following will be completed during the 10-year planning period:

- Continue monitoring groundwater quality upstream and downstream of the MLFRRF campus to understand the extent of per- and polyfluoroalkyl substances (PFAS);
- Perform testing of residential water supply wells along the eastern and southern property boundary of the MLFRRF as part of the operation of the Cell 9 disposal area;
- Complete phased construction within the Cell 9 disposal area footprint;
- Maintain and update Stormwater Pollution Prevention Plans at all facilities, including new requirements for stormwater monitoring;
- Complete capital projects to implement requirements of the MDE 20-SW stormwater general permit;
- Maintain and update comprehensive Environmental Monitoring Plans for the MLFRRF as well as the closed Glen Burnie and Sudley Road Landfills;
- Work with MDE, Air and Radiation Administration to renew the EPA Part 70/Title V Operating Permit for the MLFRRF;
- Contribute a portion of net proceeds from the MLFRRF-Gas-to-Electricity Facility to the County's Energy Loan Revolving Fund for development of countywide energy efficiency and conservation projects;
- Ensure that methane capture at the MLFRRF exceeds the requirements of federal and State regulations;
- Provide post-closure care of closed disposal areas at the MLFRRF, as well as the closed Glen Burnie and Sudley Road Landfills; and
- Expand the recycling cart program, now providing County residents with a choice of 3 different sizes, 35-, 65- and 95-gallon, as residential customers are added to the collection routes, and to manage the inventory of aging recycling carts.

5.4 PRIORITY 3 - REGIONAL PARTNERSHIPS

The County is responsible for providing adequate recycling and solid waste management services and facilities to meet the present and future needs of its residents and customers. Regional approaches to recycling and solid waste issues can often supplement local efforts and has gained popularity in the United States. The advantages of large-scale facilities, the limited number of available industrial use sites, and population growth that is not influenced by municipal boundaries makes regional partnerships for recycling and solid waste services attractive.

In addition to providing recycling and disposal services at the County's 3 Recycling Centers and the MLFRRF, the County has also acquired additional resources and services to meet its recycling and solid waste management needs through regional partnerships, which are



previously described in Chapter 1 of the Plan, including the mechanisms to obtain such recycling and solid waste management resources and services.

The County plans to be an aggressive leader in promoting continued regional partnerships. However, if partners, jurisdictions or agencies are not able to enter into long-term waste disposal or recycling arrangements, the County will seek the best market pricing, conditions and alternatives that are in the best interests of the County. As the County's needs change over time or as other opportunities arise, existing programs and regional partnerships will be thoroughly evaluated. Modifications to existing regional partnerships or newly proposed regional partnerships will be reviewed for consistency with the current recycling and solid waste management goals and policies of the County.

To help meet the County's recycling and solid waste management needs and its obligation to maintain an affordable program for ratepayers, the following partnerships with local jurisdictions and private entities and associated facilities on a regional basis have been developed and will be continued:

- Maintain an intergovernmental agreement with Prince George's County Organics Composting Facility to include allowing source separated food scraps as an accepted material along with grass and leaves;
- Evaluate regional partnerships for support in development of regional organics processing capacity;
- Continue to partner with the NMWDA for disposal of a portion of non-recyclable residential waste at an out-of-County facility for 2024-2033;
- Continue to partner with NMWDA for the continued operation and maintenance of the County's LFGE facility located at the MLFRRF;
- Maintain 2 Intergovernmental Agreements with NMWDA to allow the County to leverage opportunities for regional cooperation, and to garner support from NMWDA consultants;
- Support the solid waste disposal and recycling needs of the City of Annapolis by providing fee-for-service HHW disposal services;
- Continue partnership with Giant Foods to facilitate plastic film recycling at the County's 3 Recycling Centers;
- Continue partnership with Maryland Environmental Service mobile chlorofluorocarbons recovery to remove, recycle, and dispose of refrigerants from appliances that enter the waste stream to comply with the EPA Clean Air Act refrigerant recycling requirements;
- Partner with the Anne Arundel Master Gardeners and trained volunteer representatives of the University of Maryland to educate residents about backyard composting methods and other effective and sustainable horticultural practices; and
- Work with regional partners to identify locations for expanded food waste drop-off points (such as farmer's markets, etc.).



5.5 PRIORITY 4 - RECYCLING, WASTE DIVERSION AND LANDFILL PRESERVATION

The County strategy will remain to recycle (and compost yard waste) first, divert trash out-of-County, and preserve the life of the MLFRRF. The County will continue the development of initiatives and programs to support this strategy. The Recycling Centers and the MLFRRF will operate in a manner that will maximize the conservation of landfill capacity throughout and beyond the succeeding 10-year planning period.

5.5.1 Recycling

Through the implementation of residential MRA recycling and other County recycling and waste diversion programs, the County exceeded the 20% recycling mandate in 1994 per the 1988 MRA. In 2012, the Maryland General Assembly passed House Bill 929, establishing a mandate that each County with a population greater than 150,000 must include a provision for recycling at least 35% of solid waste generated in their County within their solid waste management plan. The County, through its comprehensive recycling initiatives and programs, exceeded the 35% mark in 1997 and continues to strive for an increased recycling rate in each successive calendar year. A listing of the County's MRA recycling rate, and overall waste diversion rate including curbside collection and source reduction credits, for the last 20 years is provided within Appendix B, Table 4-2.

Although the County has exceeded the State's mandated recycling goals, the County continues to set higher standards to recycle more each year. Enhancements to the current recycling and waste diversion programs as well as new initiatives and programs have been implemented to increase the County's recycling rate. Such programmatic activities have included:

- Move to single stream recycling of paper, plastic, metal and glass and expansion of curbside collection service to include bulky recyclable items;
- Allow use of multiple recycling containers and larger carts by residential curbside customers;
- Maintain once-a-week residential collection of trash to complement weekly recycling and yard waste collection;
- Sponsor Community Clean-up events that provide opportunities to recycle scrap metal;
- Offer full-service homeowner drop-off locations at 3 Recycling Centers which includes electronics recycling;
- Offer weekly recycling pick-up at County parks and County offices through our County Office Recycling Program;
- Continue the textile recycling program at the Recycling Centers and Anne Arundel County's Heritage Office Complex in Annapolis;
- Continue to grow a small business curbside recycling and waste diversion program;



- Maintain a comprehensive recycling campaign for County residents including RECYCLE.MORE.OFTEN and RECYCLE.MORE.HERE and Recycle Coach app;
- Provide support for commercial recycling in the Anne Arundel County business community; and
- Continue recycling in public schools and the Community College.

The materials accepted for recycling and waste diversion through various programs managed by the County are identified in Section 3.6 of this Plan.

The County regularly conducts research to identify opportunities to recycle additional materials. These opportunities are considered when they are sustainable, provide meaningful waste reduction or increased operational efficiency, generate revenue, or avoid cost.

Continuous Improvement of the County Recycling and Waste Diversion Program

To help achieve the County’s goal, new zero-waste inspired initiatives and programs will need to be developed to encourage the capture of more recyclables, adding new recyclable items, and increased public education and outreach. Such activities will be evaluated annually along with the availability of reliable end markets, citizen acceptance, customer service and affordability.

Based on its work to identify additional recycling opportunities, the County has identified the following items for evaluation during the 10-year planning period:

- Expanding competition for the sale of existing commodities to garner higher sales prices;
- Recycling mattresses and latex paint;
- Organics collection and additional programs for food waste diversion within the existing curbside collection parameters and the limits of affordability;
- Continuing oversight of the Apartment Building and Condominium Recycling Program required by House Bill 1 (2012), requiring recycling in all apartment buildings and condominiums that contain 10 or more dwelling units, to include supporting building owners with recycling outreach and educational materials (Details on how the County administers this program are included in Appendix E);
- Continuing communication with the property owners and stakeholders of office buildings, to ensure recycling regulations (2020) are followed. Details on how the County administers this program are included in Appendix E; and
- Using local businesses to recycle clean rubble.

Waste Reduction and Reuse

In conjunction with the recycling efforts described above, the County will continue to encourage waste reduction and reuse activities. Waste reduction is an activity that results in a reduction in overall waste generation. Waste reuse is an activity that results in solid waste materials, which would otherwise be discarded being repurposed for alternative or beneficial uses. For



example, recycled and native materials were utilized for the Subcell 9.2 construction project, completed in March 2021. This project utilized recycled asphalt millings and rubble for roadway construction, as well as existing clay soils for liner subbase. Cleared trees were also ground into mulch for beneficial reuse and sandstone encountered during excavation was stockpiled and used for County stream restoration projects.

The County established a Durable Medical Equipment (DME) Reuse Program collection location in collaboration with the Maryland Department of Aging (MDOA). DME dropped off by residents at the Central Recycling Center is collected and refurbished by MDOA for redistribution to adults and children in need. Investigation of additional opportunities to apply zero waste and circularity principles within the County's integrated solid waste management system that present additional opportunities like this DME example for waste reduction and reuse.

The County makes a concerted effort to regularly communicate with County residents and businesses regarding the importance of waste reduction and reuse. The County will provide information on resources available to residents and businesses that are interested in trying to reduce and reuse. This information along with other related communication and outreach activities all support waste reduction and reuse. These activities are key components of the County's Integrated System and Solid Waste Management.

5.5.2 Waste Diversion

The diversion of waste from the MLFRRF is an integral component of the County's Solid Waste Management approach. Waste is currently diverted to the Annapolis Junction Transfer Station. County-generated solid wastes are disposed at the King George County, Virginia, landfill after the waste transfer.

The County's contract with Annapolis Junction Transfer Station extends through June 2033. Any change in the practice of waste diversion would require that waste be directed to the MLFRRF, resulting in the MLFRRF filling faster than planned. Should affordability concerns limit the County's ability to continue this practice, waste will be directed to the MLFRRF.

5.5.3 Landfill Preservation

In addition to recycling and waste diversion, and to the greatest extent practicable, landfill preservation is a County goal reflected in its Solid Waste Management.

The County will continue to evaluate options to conserve space in the MLFRRF, including pursuing: 1) advancements in compaction equipment and GPS technologies to achieve operational efficiencies; 2) affordable alternatives to the existing systems that may become available; 3) mining of old cells to generate new landfill capacity; and, 4) additional advancements in recyclable material processing technologies that could allow more items to be removed from the waste stream and recycled.

The recycling, waste diversion and landfill preservation activities set the framework for the current waste disposal area (Cell 9) of the MLFRRF. Cell 9 is projected to last until 2048.



Maintaining and improving upon this operational strategy is critical to meeting the current and future waste disposal needs of the County.

5.6 PRIORITY 5 - COLLECTION AND MANAGEMENT OF RECYCLABLES AND SOLID WASTE

Residential curbside collection, homeowner drop-off, bulky item collection and community cleanup events are County services where recyclables and trash are collected. Recyclables and trash are also collected at the County's 3 Recycling Centers and at the MLFRRF. Other recycling and disposal facilities employed by the County include Waste Management Recycle America's processing facility in Elkridge, Maryland, Prince George's Organics Composting Facility, and Waste Management, Inc.'s Annapolis Junction Transfer Station.

During the previous planning period the County upgraded the Northern, Central and Southern Recycling Centers to enhance efficiency and provide more opportunities for segregating materials for recycling, recovery, and reuse. The County will continue to review operations and implement upgrades to the Recycling Centers and the MLFRRF as necessary to maintain excellent customer service, full regulatory compliance, and to support the goal of increased recycling.

5.6.1 Residential Curbside Collection of Recyclables and Solid Waste

The County will continue its comprehensive collection systems for recycling and solid waste that are cost-effective, safe and sustainable over the 10-year planning period.

The County contracts with private haulers in each of 14 collection service areas. Contracts provide for once-per-week collection of recycling, yard waste and trash. Annual growth in the number of households receiving curbside collection services of 1.2% from the previous 10-year planning period is expected to continue. Bulky waste items are collected as part of the normal trash collection service. Curbside recycling service is also available to small businesses, certain County offices, and County parks. The County provides recycling carts (35-, 65-, and 95-gallon) for its residential customers.

5.6.2 Homeowner Drop-off of Recyclables and Solid Waste

The County offers a full-service MLFRRF and 3 Recycling Centers (Central, Northern and Southern) for residents that prefer to drop-off recyclables and solid waste at its facilities. In addition, the Recycling Centers and MLFRRF accept C&D debris and LCD, which includes yard waste material.

5.6.3 Homeowner Drop-off of Household Hazardous Waste

The County offers single day collection events for HHW. The events are currently held at the Heritage Office Complex in Annapolis during the months of April through October. The County has been conducting 6 HHW collection events annually for County residents and residents of the City of Annapolis.



5.6.4 Collection Procedures

The current methods for residential curbside collection, homeowner drop-off at the County's Recycling Centers and HHW collection events have proven to be effective and will be continued by the County. To supplement the current collection practices, the County has identified several areas for potential improvement and implementation of additional collection measures, which include:

- Monitor growth in collection service areas and reconfigure as required;
- Continue outreach to better educate residents regarding curbside recycling and waste collection requirements;
- Track the development of additional material recycling and waste diversion programs and material acceptance facilities in Maryland;
- Track the development of single stream recycling collection and processing programs in Maryland; and
- Continue to obtain competitive bids for comprehensive curbside waste and recyclables collection, processing and disposal services.

5.6.5 Processing, Beneficial Use and Disposal of Recyclables and Solid Waste

The County provides processing, beneficial use and disposal for materials collected at the 3 County Recycling Centers and the MLFRRF. Single stream recyclables including (i.e., paper, plastic, metal and glass), leaves and grass, corrugated cardboard, electronics, textiles, and scrap metal, used cooking and motor oil, and antifreeze are processed and marketed to provide a revenue stream to supplement the Solid Waste Enterprise Fund. Rubble is used to reduce the need to purchase virgin materials for landfill road construction. LFG is captured and used as fuel to generate electricity. Electricity sales provide our newest source of revenue within the Solid Waste Enterprise.

County-generated solid wastes are disposed at the King George County, Virginia, landfill after waste transfer, or at the MLFRRF.

5.6.6 Management of Commercial, Industrial and Institutional Wastes

The commercial sector manages the collection, recycling, and disposal activities for commercially generated solid waste and recyclables. Commercial waste sources include waste from businesses, offices, and industry. Most of the commercial waste generated in the County is disposed outside of the County's system. Commercial waste delivered to the MLFRRF represents a small fraction of the total commercial waste in the County. The County does not intend to interfere with commercial recycling and waste management activities, however, technical assistance is provided upon request.

5.6.7 Management of Controlled Hazardous Substances

Commercial, industrial, and institutional facilities in the County that generate, store, handle, transport, and dispose of CHS, including SMW, are regulated by MDE. They maintain



responsibility for complying with applicable regulations. The County neither accepts CHS or SMW at any of its facilities or at its HHW collection events.

5.6.8 Management of Other Wastes

The County manages a variety of miscellaneous or special wastes. These wastes and materials are identified below.

- **Dead Animals** – The County’s Animal Control Division will continue to be responsible for the disposal of animal carcasses collected from roadways. Deceased pets will continue to be managed at veterinary hospitals within the County.
- **Bulky Items** – The County will continue to provide bulky item collection as part of its curbside collection service and will continue to collect bulk metal through scheduled residential collections. Community cleanup events involve bulky trash items, and some events provide scrap metal recycling as well. Residents will continue to have the ability to drop-off such items at the MLFRRF or the 3 Recycling Centers. Liquid refrigerants will continue to be removed from white goods prior to shipment to scrap metal recyclers.
- **Salvaged Automobiles** – The County Police Department’s Traffic Safety Section and Abandoned Auto Unit will continue to handle all abandoned vehicles located within the County. Private certified automobile wreckers and scrap metal processing companies will also continue to be used to tow the vehicles for recycling, processing, or disposal.
- **Vehicle Tires** – Scrap tires are prohibited for disposal in the MLFRRF. The County will continue to accept scrap vehicle tires at the MLFRRF and its 3 Recycling Centers in accordance with the provisions of the County Code. The County holds a vendor contract to haul scrap tires from the MLFRRF to a licensed recycling facility.
- **Recreational Waste** – Waste generated at County Department of Recreation and Parks facilities will continue to be collected and disposed by a commercial hauling company. Woody debris will continue to be chipped. Recycling will continue through Bureau curbside collection, dumpster collection service or drop-off at a County facility.
- **Used Oils and Antifreeze** – Waste oils, cooking oils, and automotive antifreeze will continue to be accepted for recycling at the County’s 3 Recycling Centers. Other private collection sites in the County are also expected to continue this service.
- **Wastewater Treatment Biosolids, Sludges and Septage** – With respect to sewage sludge, biosolids and septage, the DPW Bureau of Utility Operations will continue to be responsible for treatment, reuse and disposal through a private contractor. Activities will be conducted in accordance with the specific material management plans for sewage sludge, biosolids and septage as included in the Master Plan for Water Supply and Sewerage Systems, 2022. Specified methods of material management will continue to be in effect until alternative measures are developed.
- **Litter** – Litter collection will continue to be managed through the County DPW by roadside cleanup and the support of community cleanup events for communities that receive curbside services.



- Emergency Debris Cleanup and Removal – The County provides support for emergency debris cleanup and removal efforts within the County under the leadership of the Office of Emergency Management. Examples include:
 1. Cleanup of bay front communities and County parks from debris released into the Chesapeake Bay at the Conowingo Dam (2018);
 2. Cleanup of communities impacted by a tornado from Tropical Storm Ida (9/2021); and
 3. Cleanup of communities impacted by recent coastal flooding (11/2021).
- Other Wastes Not Managed by the County – There remain waste materials generated within the County that the County does not directly manage. Some of these materials include:
 - » Agricultural Residues – the management of Agricultural residues will continue to be the responsibility of the farming community or the landowner that generated the material. These materials can be returned to the soil in an environmentally sound manner or managed through a nutrient management plan, which are both considered best management practices. Assistance is available from the Anne Arundel County Soil Conservation District and from Agricultural Extension Agents.
 - » Soils and other materials contaminated from spills or releases – MDE regulates the disposition of these materials on a case-by-case basis, and with written documented approval by MDE, these materials may be accepted for disposal at the MLFRRF. The preferred practice for disposal of these special wastes will continue to be at privately owned and operated treatment or disposal facilities. However, acceptance at the MLFRRF will be considered in cases where MDE favors such an approach.

5.7 PRIORITY 6 – OPERATIONAL ENHANCEMENTS AND ALTERNATIVES

As recycling and solid waste management programs evolve, additional and enhanced Local, State and Federal laws and regulations may be promulgated. To meet future requirements, the County’s programs must be flexible and adaptable. The assessment in Chapter 4 of this Plan identified operational and technology-based enhancements and alternatives to the existing recycling and solid waste management systems.

The enhancements and alternatives are aimed at maximizing existing resources, improving operational efficiencies, further extending the life of the MLFRRF, and identifying waste disposal methods other than landfilling. The County’s existing systems may become further diversified as a result. These enhancements and alternatives to the existing systems are critical path items, as future recycling and solid waste management programs and facilities can take up to 10-15 years to implement from concept through start of operation.

Enhancements to the existing recycling and solid waste management systems may include the following:

- Expand residential curbside and homeowner drop-off recycling and waste diversion programs;



- Expand recycling at the MLFRRF;
- Expand County-owned and managed Yard Waste Composting Facility;
- Implement operational improvements and efficiencies at the MLFRRF;
- Increase waste diversions to Private Regional Transfer Stations;
- Install a second generation GPS tracking system in County owned on-the-road vehicles to improve upon the efficiency of our transportation of solid waste materials; and
- Enhance data management and alarm systems for leachate and landfill gas, including remote data transfer system in the leachate pretreatment plant.

Future opportunities could also include:

- County-owned and managed Recycling Facility;
- Regional or County-owned and managed Waste Processing and Transfer Facility;
- Regional or County-owned and managed Organics (Food Waste) Processing Facility; and
- Waste mining at the MLFRRF.

The County will continue to evaluate and utilize services and facilities that can accommodate changes in operational, regulatory and policy requirements, especially with respect to recycling and solid waste acceptance that supports the County's existing systems. Enhancements to the existing system will be reviewed for compatibility with existing programs and facilities.

For each new or existing service, facility, or planning decision, the County's evaluation should be based on achievement of the following:

- Protecting public health and the environment;
- Conserving natural resources;
- Preserving remaining MLFRRF capacity and developing plans for future capacity;
- Offering quality customer services;
- Controlling costs; and
- Offering comprehensive and efficient services.

Any modification to an existing service or facility as well as any implementation of a new service or facility will be reviewed for consistency with the County's recycling and solid waste management goals, objectives, and the policies.

5.8 PRIORITY 7 – FUTURE LANDFILL LIFE AND CAPACITY

A fundamental component of the County's Integrated System and Solid Waste Management is to reduce the amount of waste placed in the MLFRRF. This is accomplished through implementing progressive recycling and waste diversion initiatives and programs, which are essential to meet the current goals and needs of the County. Additionally, the County must also



plan for and address the long-term solid waste processing and disposal capacity needs of the County. To address these long-term needs, the County will continue to:

- Maximize diversion efforts to extend the life of the landfill;
- Perform annual site surveys and airspace calculations to project the remaining site life and capacity of the County's existing Cell 9 disposal area;
- Identify and evaluate measures to expand site life and capacity of the County's MLFRRF site, including the remaining capacity of the existing Cell 9 disposal area, and opportunities for additional capacity beyond Cell 9;
- Evaluate the development of new technologies and waste handling facilities, and operational improvements at the current landfill site;
- Evaluate additional opportunities for waste diversion through expanded recycling at MLFRRF, expanded recycling programs, expanded yard waste and food waste composting; and
- Assess the feasibility of locating the next solid waste management facility in other areas of the County.

5.8.1 Remaining Life and Capacity Projections for the County's MLFRRF

The Landfill opened in September 1975 and since that time 8 disposal cells have been filled. The County is currently filling within Subcell 9.2 of the last disposal cell (Cell 9). Planning the design and permitting for the next phase of Cell 9 development (i.e., Subcell 9.3) began in 2022, with construction programmed for 2024.

An analysis is performed each year to determine the remaining capacity of the landfill. Findings derived from this analysis are included within the County's Annual Tonnage Report, as required by the MLFRRF's Refuse Disposal Permit 2022-WMF-0240 issued by MDE.

At the current projected annual fill rate, Cell 9 is projected to last until 2048 as presented in Appendix B, Table 5-1. Life estimates are revisited each year as part of the Annual Tonnage Report process which is normally completed in February of each year.

5.8.2 Increasing the Remaining Capacity at the MLFRRF

Aside from recycling and waste diversion activities that can reduce the amount of solid waste disposed of in the County's MLFRRF, additional measures can be used to gain capacity and prolong landfill life. Some of these measures are identified in Section 5.5.3. These measures may be implemented without modification to the permitted facility design.

Alternately, permit modifications to the existing permitted design or waste disposal footprint of a landfill facility may provide feasible options to gain additional landfill capacity and prolong landfill life. Permit modifications require comprehensive operations reviews, engineering analyses, public participation, and regulatory approvals. Overall, permit modifications require significant advanced planning, the alignment of goals, objectives and policies, and time. The time to secure regulatory approvals will vary based on the type and degree of proposed



modifications to the existing facility permit and how such modifications will impact residents, other interested parties, or align with regulatory agency standards.

5.9 PRIORITY 8 - CONSTITUENT COMMUNICATION AND OUTREACH

The County focus on developing effective methods of communication and outreach to better educate and share information with residents. The continued efforts will include:

- Educating residents and customers on how to maximize the capture of recyclables through segregation, collection and drop-off, to reduce the amount of solid waste that needs to be disposed of in landfills;
- Increasing recycling participation;
- Performing customer service survey of residents using DPW services to further refine communications;
- Maintaining comprehensive and accurate data tracking and reporting;
- Evaluating the delivery of residential curbside collection services and ensuring high-quality collection through monitoring Contractor performance;
- Ensuring the cost-effective management of collected recyclables;
- Managing the level of recycling services to create program-wide standards;
- Emphasizing the “Recycle More. Recycle Right.” campaign effort to discourage “wishful recycling”;
- Continuing recycling outreach utilizing Realtors® and sales offices of new developments within the County to provide new residents with informative Welcome Packets about Bureau programs;
- Updating the web and mobile app named SeeClickFix that allows residents to communicate with the County regarding core service needs, in addition to reporting by phone at 311; and
- Encouraging use of web and mobile Recycle Coach app by County residents.

5.9.1 Waste Reduction and Reuse Initiatives

Currently, MDE provides reduction credits to counties for implementing waste reduction and reuse activities. Credits are applied during computation of the MRA recycling rate. Accordingly, the County has dedicated a portion of its outreach plan to waste reduction and reuse to earn the reduction credits. The County included a waste reduction and reuse page on the County aacounty.org website. The County will continue existing programs and complete the following new activities during the 10-year planning period, subject to annual budget appropriations:

- Distribute direct mail publications exclusively promoting grass-cycling and home composting to at least 30% of all single family households;
- Promote composting in at least 3 ways: within literature such as recycling guidelines, in newspaper advertisements, and during workshops or special events;



- Implement a recycling and waste reduction and reuse curriculum in public schools and colleges;
- Expand multi-family unit recycling and waste reduction and reuse education and outreach;
- Distribute backyard composting kits and instructions for use;
- Conduct recycling, waste reduction and reuse training sessions for County employees and Departments;
- Develop and implement a referral system for residents, businesses and organizations for material exchange programs;
- Include a significant message about waste reduction in County office recycling and waste diversion programs;
- Conduct recycling and waste reduction and reuse exhibits at county fairs or similar events 3 times yearly;
- Host a recycling and waste reduction and reuse event for the general public;
- Advertise public workshop events demonstrating proper food waste composting techniques;
- Maintain a County procurement policy advancing the purchase of materials that promote reduced waste generation; and
- Incorporate green building goals/requirements in County construction, remodeling and maintenance bid specs and contracts.

5.10 PRIORITY 9 - REVENUE AND BENEFICIAL USE

The County pursues opportunities to generate revenue through the marketing and sale of recyclable items and the beneficial use of discarded materials through reuse. This has included:

- Marketing single stream recyclables including paper, plastics, metal and glass;
- Individual commodity sale of materials such as cardboard, aluminum, steel, glass and vinyl to realize a higher level of revenue as compared to marketing them within mixed streams;
- Marketing electronics including computers, televisions, and other electronic devices;
- Processing yard waste and wood debris for the production of the highest quality compost and topsoil for beneficial use;
- Segregating rubble including brick, block, stone and rock for reuse;
- Maintaining a revenue producing recycling contract for textiles;
- Continuing revenue generation from the sale of electricity and RECs from the MLFRRF Gas-to-Electricity project;
- Evaluating the use of alternative fuels to power collection vehicles to increase efficiencies and reduce carbon footprints to implement the County Executive Order Number 57;



- Maintaining a revenue from Solar RECs from the MLFRRF Maintenance Shop Rooftop Solar PV Project;
- Collecting Durable Medical Equipment that can be sanitized, repaired and made available by the Maryland Department of Aging to adults and children in need;
- Continuing to explore emerging technology for beneficial use of LFG for vehicles; and
- Constructing solar PV projects on capped areas of the closed landfills.

Existing and future revenue streams from these activities will assist the County in sustaining the Solid Waste Enterprise Fund. As the County’s recycling success grows, the revenue streams from these activities have the potential to expand as well. A more detailed discussion of the activities follows.

5.10.1 Marketing Single Stream and Segregated Drop-off Recyclables

Most single stream recyclables are collected at curbside and transported to the privately-owned and operated WM - Elkridge Facility for sorting and delivery to market. Single stream recyclables are also accepted at the County’s 3 Recycling Centers and transported to WM - Elkridge. Annual single stream recycling tonnage over the last 3 years has averaged 55,000 tons. Each month the County receives a share of revenue from WM - Elkridge when market value exceeds the contracted processing cost.

5.10.2 Segregating and Marketing Other Recyclables

To maximize revenue potential, the County will sell certain separated recyclable materials utilizing a spot market process. Materials are source separated by customers at each County facility. Materials such as cardboard, glass, vinyl siding, aluminum, and steel generate a higher unit price when sorted and marketed separately.

5.10.3 Marketing of Electronics

The County began recycling electronics including computers, televisions, monitors and other electronic devices in 2002. The County maintains a recycling contract for electronics delivered to the Recycling Centers and the MLFRRF.

5.10.4 Processing, Beneficially Using and Marketing Organic Materials

The County has a robust collection system for yard waste which includes service at curbside, at each of the County’s 3 Recycling Centers, and the MLFRRF, including on-site processing of yard waste by a third-party vendor (WeCare Denali) at an 8.5-acre compost pad at the MLFRRF. Following collection, yard waste may be processed at 1 of several facilities including the County’s Yard Waste Processing Facility, the Prince George’s Organics Composting Facility and Tolson and Associates, LLC. The yard waste managed at the County’s MLFRRF is processed into compost or utilized in a beneficial use capacity.



Other yard waste material consisting of brush, branches and limbs are ground into mulch at the County's MLFRRF and used in County projects. Occasionally and subject to availability, select logs are cut and provided to residents free of charge as firewood.

The County will continue to evaluate other opportunities for producing products derived from natural wood waste or compost.

5.10.5 Processing and Beneficially Using Rubble and Rock

The County accepts C&D debris including Rubble material at the MLFRRF and the 3 Recycling Centers. The County separates materials such as brick, block and stone from C&D debris. Rubble accepted at the County facilities is reused to build roads and for other construction projects, and reduces the need to purchase virgin materials.

In an effort to offset the capital and operating costs associated with the initial site development of the Cell 9 waste disposal area, the County stockpiled rubble for several years and used the material as the base for haul roads within the first phase of the Cell 9 development project. Rubble was also used to construct haul roads in the second phase of development (i.e., Subcell 9.2 project).

Clean sandstone material excavated during the development of Cell 9 was accumulated and used in DPW stream restoration projects across Anne Arundel County.

Rubble material received at County facilities and sandstone excavated through County operations will continue to be used in a beneficial manner. There may be opportunity in the future to process rubble into a salable product.

5.10.6 Production of Alternative Energy Sources

The decomposition of waste within the MLFRRF produces LFG. With methane concentration of roughly 50%, LFG is a very good fuel source. LFG will be generated in increasing amounts over the next few decades.

The 3.2 megawatt (MW) MLFRRF Gas-to-Electricity (LFGE) Facility commissioned in 2012 will continue to operate and convert LFG to electricity. The LFGE facility provides revenue from electricity and REC sales, assisting the County to remain on track to implement the Executive Order No. 57.

Closed landfill cells represent large areas of land with very limited development potential. A creative reuse for such properties is the development of solar arrays to provide electricity. The County will keep exploring opportunities for the development of solar arrays on closed landfill cells as an effort to fulfill the obligations mentioned in Executive Order No. 57.

The County completed a solar PV project on the roof of the MLFRRF maintenance shop building. The County sells Solar RECs from this Project. The County leased a portion of the closed Glen Burnie Landfill for a 3.2- megawatt (AC) solar PV project and entered into a Power Purchase Agreement to benefit from the renewable source of electricity that will be generated locally.



5.11 PRIORITY 10 - RATES AND FEES

Operations and Capital Investments for the County's recycling and solid waste management programs are funded through an Enterprise Fund. The Solid Waste Enterprise Fund supports all recycling, waste diversion, and disposal programs. No general tax dollars are contributed to the Solid Waste Enterprise Fund. Revenues are generated from various sources:

- Annual Solid Waste Service Charge - residential fee established in the County Code charged to households receiving curbside collection service;
- Landfill Disposal Fees – fees charged for the use of County facilities established in the County Code:
 - » Charged to the commercial trash haulers using the MLFRRF,
 - » Charged to any customers delivering waste in a dump truck, flatbed truck, stake body truck, box truck, rental truck/trailer, or double axle trailer, and
 - » Charged to customers delivering certain types of wastes;
- Sale of recyclables; and
- Electricity and REC sales from the LFGE Facility.

Fees are the source of funding for all operating expenses, debt service payments and financial assurance contributions. Solid waste projects established through the Capital Improvement Program are financed through the sale of municipal bonds or annual Pay-As-You-Go appropriations within the Operating Budget.

Per county policy, rate modeling and rate development strategies consider the future cost of programs, future capital needs, and maintenance of a fund balance equivalent to a 10% operating reserve in any fiscal year.

In addition, to ensure compliance with the Financial Assurance requirements of Title 40 CFR Part 258, the County continues to use the EPA Local Government Test.

The following is a general breakdown of major programs supported by the residential rate charged to household customers receiving curbside collection:

- Curbside Collections
- Debt Service & Financial Assurance
- Operate and Maintain Recycling Centers
- Solid Waste Diversion
- General Fund Payments & Miscellaneous
- Operate and Maintain Landfills
- Community Cleanups



The fee for Recycling Only Collection provided to small businesses remains low and affordable, allowing participation for non-profits, sole proprietorships, and home-based businesses.

5.12 PRIORITY 11 - FUTURE STRATEGIC PLANS

Through years of planning, development, implementation and continuous improvement, the County has created solid waste management and recycling systems that are environmentally sound, efficient, sustainable and customer oriented. A solid waste management strategy has been implemented that has extended the useful life of the landfill, delayed the need to site a new facility and expanded recycling and waste reduction activities across the County. A more diverse stream of revenue supports the Solid Waste Enterprise Fund. Managed control has been exercised over operational expenses. Together this has resulted in affordable rates for County customers.

The County's landfill is a state-of-art facility maintained in a park-like setting. It is routinely used by regulatory agencies for training of new State inspection staff. Recycling and reuse activities at the landfill facility have been expanded over the years and include yard waste composting, topsoil manufacturing, segregation of all types of recyclables, and conversion of LFG to electricity. The County's 3 recycling centers provide additional opportunities for residents to recycle materials in a safe and efficient manner. The goal of the County to minimize the amount of waste disposed to the maximum extent possible remains a theme in every program.

The curbside collection program has evolved over the years and is structured to maximize operational efficiencies, reduce costs, and provide comprehensive services to County residents. Collection operations have been reduced from 6 days to 4 days each week, Monday, Tuesday, Thursday, or Friday. Holidays and inclement weather days no longer require customers to hold onto recyclables and trash until the following week. Bulky items, such as furniture and carpeting, no longer need to be scheduled for County pickup. These items are now collected on each collection day. The curbside recycling program no longer requires the segregation of recyclables for collection. As a result of emerging technologies and market development, the County was the first in Maryland to provide its residents with single stream recycling. Yard waste collection, once performed on a seasonal basis, is provided every week of the year. Significant improvements in recycling participation and waste reduction have allowed the County to convert to once weekly trash collection. The change has saved money, increased recycling, and reduced the amount of trash going into landfills.

To build on these successes, the County will:

- Develop new initiatives and establish programs to expand recycling and waste reduction programs at the MLFRRF and Recycling Centers;
- Conduct a planning study to evaluate operations at the County's 3 Recycling Centers, including operational efficiencies for long term growth within the County, staffing, equipment, new technologies, market and service trends, safety and customer needs;
- Plan and implement service enhancements to improve efficiencies and increase material diversion rates;



- Plan and construct infrastructure upgrades to existing recycling and solid waste management facilities to ensure full regulatory compliance, improve efficiencies and increase material diversion rates;
- Evaluate alternatives to the existing solid waste management and recycling systems to increase disposal capacity at the MLFRRF;
- Evaluate alternatives to delay the need to locate a new waste management facility by preserving the MLFRRF;
- Implement new and effective methods of public outreach and education to improve the level of service and increase recycling;
- Pursue innovative technologies and operational changes that have the potential to generate additional revenue streams for the Enterprise Fund;
- Perform comprehensive and thorough annual reviews of the residential rate structure to ensure that adequate funding exists to support the solid waste management and recycling programs and implement strategies to maintain cost-effective and affordable rates;
- Conduct a study to evaluate pretreatment processes to address PFAS in the MLFRRF leachate;
- Conduct a waste composition study to determine the percentage breakdown of materials within residential curbside trash, with a focus on determining the amount of organics and recyclables being disposed of; and
- Incorporate electric vehicle (EV) charging station infrastructure within several capital projects currently under design to provide EV charging capability for future transition of County fleet vehicles.

Appendix B, Table 5-2 presents a list of Strategic Recycling and Solid Waste Action Items that embody many of these ideas and lay out recommended strategies to help implement specific action items.

5.13 PRIORITY 12 - COMPREHENSIVELY REVIEW AND EVALUATE OPTIONS FOR FUTURE DISPOSAL FACILITIES

As part of evaluating options for future disposal facilities, the County completed a study to evaluate existing capacity within the Cell 9 disposal area of the MLFRRF and the potential to expand capacity using industry-accepted landfill design criteria. The County requested a price quote and allocation from the BioEnergy DevCo anaerobic digester project in Jessup, Maryland, as a possible destination for collected food scraps. Additionally, the County included Veteran Composting in the 10-Year Solid Waste Management Plan in May 2021 as a proposed private processing facility.

The County will plan for the development of facilities that will meet future needs by ensuring full regulatory compliance, adequate disposal capacity, and maximized recycling opportunities.



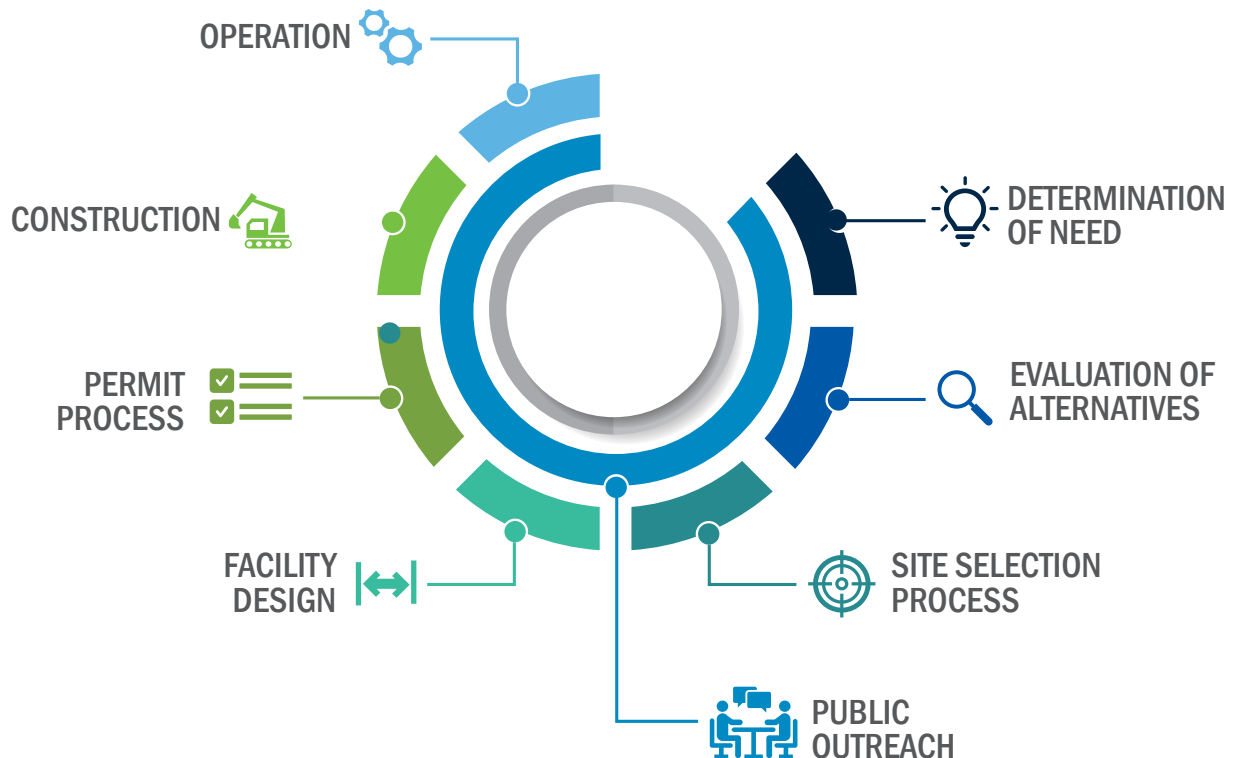
- Initiate a planning study to evaluate options to increase on-site disposal capacity at the MLFRRF within the approximately 567 acres owned by the County, and a County-wide evaluation of possible sites for a new solid waste management facility.
- Monitor the development of alternative waste disposal and recycling facilities in the region for future consideration.
- Continue to meet and discuss emerging technologies with developers, engineering firms and equipment suppliers.

5.13.1 Future Siting of County Waste Processing and Disposal Facilities

As discussed in Section 5.8.2, permit modifications to existing facilities require a significant amount of effort, coordination and lead time. The same is true for selecting and locating new waste disposal facilities such as a local or regional landfill, transfer station or waste-to-energy facility. It is likely that the acceptance and approval process for such new facilities will take longer than the permit modification process for existing facilities.

The acceptance and approval process for a new solid waste facility, regardless of type, is very complex and consists of several key elements. A general description of these elements is provided below.

Figure 5-2. Typical County Site Selection for Solid Waste Acceptance Facilities



- Determination of Need – This determination would need to demonstrate that a deficiency exists within an existing solid waste disposal system and that there is not sufficient capacity to meet existing or emergent needs.

- Evaluation of Alternatives – a technical review of the County’s needs, available options, infrastructure and site requirements, socioeconomic impacts, financial requirements, political ramifications, and other factors are evaluated. Recommendations are made and vetted among the approving agencies.
- Site Selection Process – the siting process involves a detailed evaluation of a single or multiple sites for the potential facility. This evaluation includes but is not limited to: a general description and basic design of the potential facility; the amounts and types of waste to be disposed; a proposed monitoring program; and an evaluation of facility’s proximity and relationship to physical features such as water bodies, parks, roads, water supply systems, endangered or threatened species and their habitats, and historical structures. The siting process also considers local and regional land uses, geology and hydrogeology and the impacts that a facility may cause. Local and regional hydrogeologic investigations and groundwater monitoring may also be included in the siting process.
- Selection in the Best Interest of County – After an identified need is examined and confirmed, technically feasible and realistic options are listed and developed in concept, and the public has had the opportunity to be involved in the process through education, outreach, and public comment periods, a decision must be made in the interest of the County at-large.
- Public Involvement, Review and Outreach – the involvement of the public and other interested parties and stakeholders may be initiated during the Determination of Need and Siting processes. Public comment periods and public hearings are typical requirements for locating a new solid waste disposal facility. Public comments are also typically received during a jurisdiction’s annual budget process. Public outreach also may occur for the entire process of planning, siting, designing, permitting, constructing, and operating a new facility.
- Facility Design and Permitting – following the siting process and selecting a final location, the facility must be designed and permitted in accordance with all Federal, State and Local solid waste management, environmental and related requirements to protect public health and the environment. All environmental media are considered during the design and permit process including groundwater, surface water, air, soil and stormwater. Detailed design schematics, construction specifications, operational procedures, monitoring requirements, a plan for constructing and financing the potential facility and measures to ensure its operation, long-term maintenance and potential closure or decommissioning must also be developed.
- Construction – following design and the receipt of permit approvals, facility construction may begin. Construction would be continuously monitored for compliance with the design and permit documents and to ensure protection of public health and the environment.
- Operation – upon completion of construction, the facility would begin operations in accordance with the applicable permits. Operations are subject to monitoring and reporting requirements based in law and regulation to protect public health and the environment.

To open a new solid waste processing or disposal facility, the County will have to consider a new waste disposal strategy, gain public and community acceptance, develop supporting contractual arrangements, and employ new qualified and skilled staff.



5.14 OTHER PLAN REQUIREMENTS

To operate in the State of Maryland, all solid waste management facilities are required to secure a Refuse Disposal Permit from MDE. Such facilities include landfills, solid waste processing facilities, transfer stations, incinerators and waste-to-energy facilities. Proposed facilities for the acceptance of County-generated waste must also obtain zoning approval from the County OPZ and be deemed in conformance with the County Solid Waste Management Plan. The County is required to recognize within the Plan any proposed solid waste disposal or acceptance systems or facilities. As previously mentioned in Section 2.6, this Plan shall not be used to create or enforce local land use and zoning requirements.

5.14.1 Proposed Private Waste Transfer Station Facilities

Currently, there is 1 proposed private Tier II composting facility, Veteran Compost. The facility has been issued a compost facility permit by MDE and is recognized by MDE as a planned facility that has not started operation.

Curtis Bay Medical Waste Services, LLC

OWNER:	Curtis Bay Medical Waste Services, LLC
MDE PERMIT:	Application under Review by MDE

The proposed Curtis Bay Medical Waste Services facility is planned to be sited at 124 North Langley Road, Glen Burnie, Maryland 21060. The proposed operation involves the acceptance, processing, and transfer of special medical waste. The processing component, according to the company, will involve decanting medical waste from reusable containers into large bulk containers, temporary storage of the large bulk containers prior to transport to an appropriate disposal facility outside of Anne Arundel County, and washing and disinfection of the reusable containers. Anne Arundel County's Office of Planning and Zoning has reviewed Curtis Bay Medical Waste Services, LLC proposed operation and determined that it is allowed by the Zoning Article of the Anne Arundel County Code as a permitted use in the W2-Industrial District.

5.14.2 Proposed Private Waste Disposal Facilities

Currently, there is 1 proposed private rubble landfill with a permit application under review by MDE. This facility is the Chesapeake Terrace Rubble Landfill. The facility has been in the permitting process for several years, and MDE has not yet rendered a decision on the issuance of a Refuse Disposal Permit. Chesapeake Terrace was included in the 2013 Plan Update.



Chesapeake Terrace Rubble Landfill

OWNER:	National Waste Managers, Inc.
MDE PERMIT:	Permit Application Under Review by MDE

The proposed Chesapeake Terrace Rubble Landfill is planned to be sited at Patuxent and Conway Roads, Odenton, in Anne Arundel County, Maryland. The proposed rubble landfill encompasses an approximate 114.4-acre fill area on a 480-acre site. This facility's rubble landfill permit application is currently under review by MDE. If permitted, this facility would potentially provide an outlet for the recycling and/or disposal of County-generated C&D debris and Rubble.

C&D debris acceptance facilities (i.e., rubble landfills) are permitted to accept land-clearing debris, demolition debris, construction debris, asbestos waste, household appliances and white goods, brick, block, stone, and other processed debris. C&D debris are materials generally considered to be non-hazardous and are generated as part of a construction or demolition project or from the renovation of a structure.

5.14.3 Proposed Private Composting Facilities

Veteran Compost

OWNER:	Garrity Renewables, LLC
MDE PERMIT:	2021-GCF-0019
EXPIRATION:	3/27/2026

The proposed operation involves the acceptance and processing of grass, leaves, brush, food scraps, wood chips, and manure into a marketable compost product.

Currently, there is one 1 proposed private facility with a permit application under review by the MDE. This facility is Curtis Bay Medical Waste Services, LLC. The proposed privately funded facility has been in the permitting process for a State of Maryland Refuse Disposal Permit since August 2022, and MDE has not yet rendered a decision on the issuance of a permit.





CHAPTER 6

REFERENCE DOCUMENTS OF THE PLAN



CHAPTER 6

6.0 REFERENCE DOCUMENTS OF THE PLAN

The following reference documents have been reviewed to collect and present information during the preparation of the Plan. The references to the documents are provided for information purposes.

1. Anne Arundel County – County Council, Resolution 7512 - Recycling at Convenience Centers, November 2012.
2. Anne Arundel County – DMP, August 1, 2018.
3. Anne Arundel County – Emergency Operations Plan, March 2020.
4. Anne Arundel County – Plan2040 GDP, May 2021.
5. Anne Arundel County – Master Plan for Water Supply and Sewerage Systems, July 2022.
6. Anne Arundel County, Bureau, Animal Carcasses (Dead Animals) Service Manual, March 11, 2011.
7. Anne Arundel County, Bureau – 2013 Annual Report, May 2014.
8. Anne Arundel County, Bureau – 2014 Annual Report, May 2015.
9. Anne Arundel County, Bureau – 2015 Annual Report, May 2016.
10. Anne Arundel County, Bureau – 2016 Annual Report, May 2017.
11. Anne Arundel County, Bureau – 2017 Annual Report, June 2018.
12. Anne Arundel County, Bureau – 2018 Annual Report, May 2019.
13. Anne Arundel County, Bureau – 2019 Annual Report, June 2020.
14. Anne Arundel County, Bureau – 2020 Annual Report, July 2021.
15. Anne Arundel County, Bureau – 2021 Annual Report, June 2022.
16. Anne Arundel County, Bureau – MLFRRF – Gas-to-Electricity Tour Script, 2022.
17. Anne Arundel County, Bureau – MLFRRF – MDE Annual Tonnage Report 2021, dated November 2022.
18. Anne Arundel County, Bureau – MLFRRF – New Source Performance Standards NESHAP Report, prepared by SCS Engineers, July 30, 2021.

19. Anne Arundel County, Bureau – Plan Amendment/Revision to MDE, dated October 9, 2015.
20. Anne Arundel County, Bureau – Plan Amendment/Revision to MDE, dated March 24, 2017.
21. Anne Arundel County, Bureau – Plan Amendment/Revision to MDE dated July 8 6, 2020.
22. Anne Arundel County, Bureau – Plan Amendment/Revision to MDE dated June 17, 2021.
23. Anne Arundel County, Bureau – Plan Progress Report to MDE dated November 20, 2015.
24. Anne Arundel County, Bureau – Plan Progress Report to MDE dated November 30, 2017.
25. Anne Arundel County, Bureau – Plan Progress Report to MDE dated November 27, 2019.
26. Anne Arundel County, Bureau – Plan Progress Report to MDE dated November 30, 2021.
27. Anne Arundel County, Bureau – Webpage 2022.
28. Code of Maryland Regulations (COMAR).
29. Md. Code Ann., Envir. § 9.
30. MDE – Composting Facilities – Permitting & Operational Status, July 2021.
31. MDE – Permitted Solid Waste Acceptance Facilities, March 2, 2022.
32. MDE – Permitted Solid Waste Acceptance Facilities. March 2, 2022.
33. MDE – Maryland Solid Waste Management and Diversion Reports: 2022 (Calendar Year 2021 Data) dated November 2022; 2021 (Calendar Year 2020 Data) dated November 2021; and 2020 (Calendar Year 2019 Data) dated November 2020.
34. MDE – Maryland Used Oil Recycling Program (CY21 Data), February 2022.





APPENDIX A

FIGURES

Council Districts

Solid Waste Management Plan

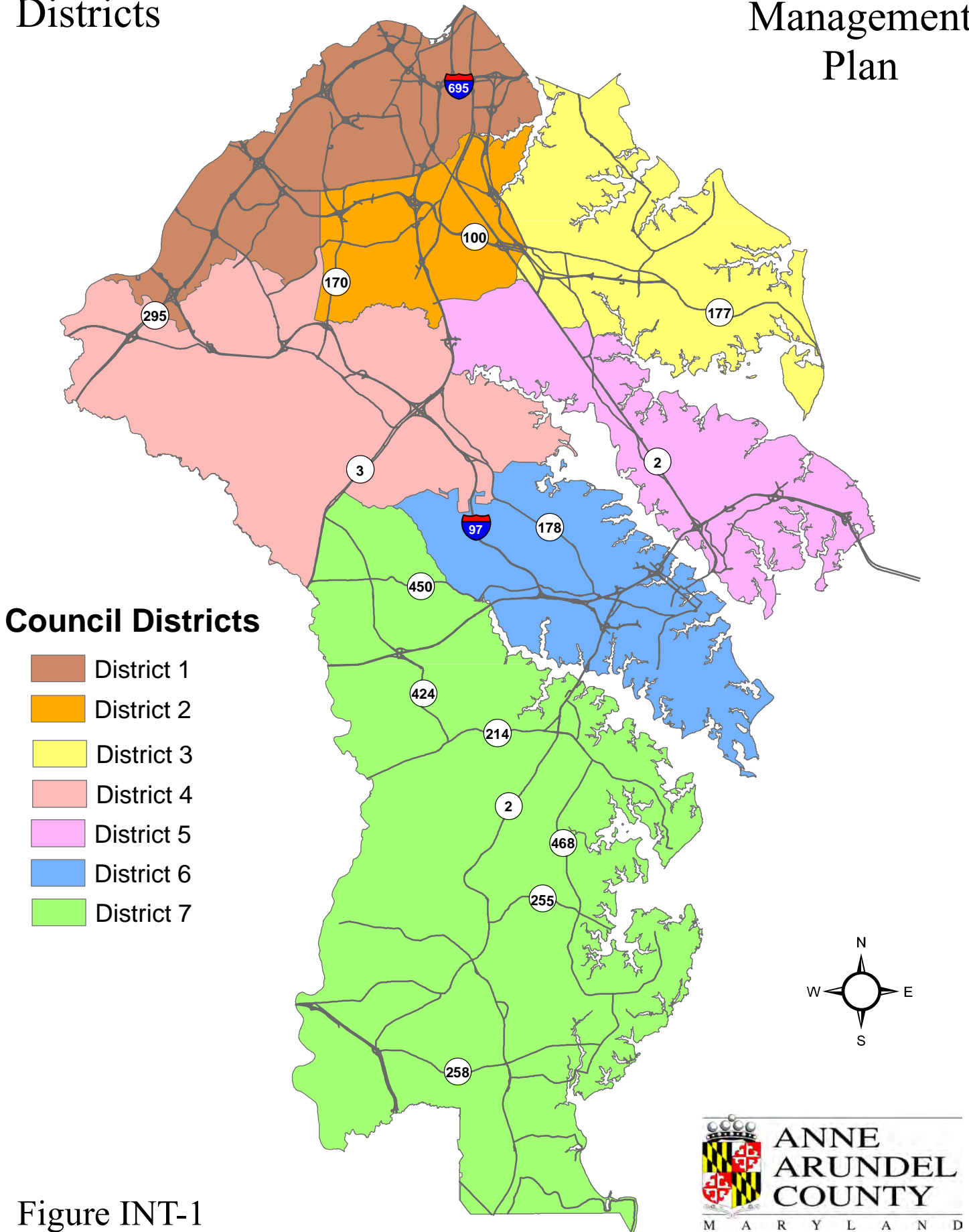
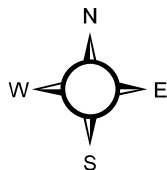
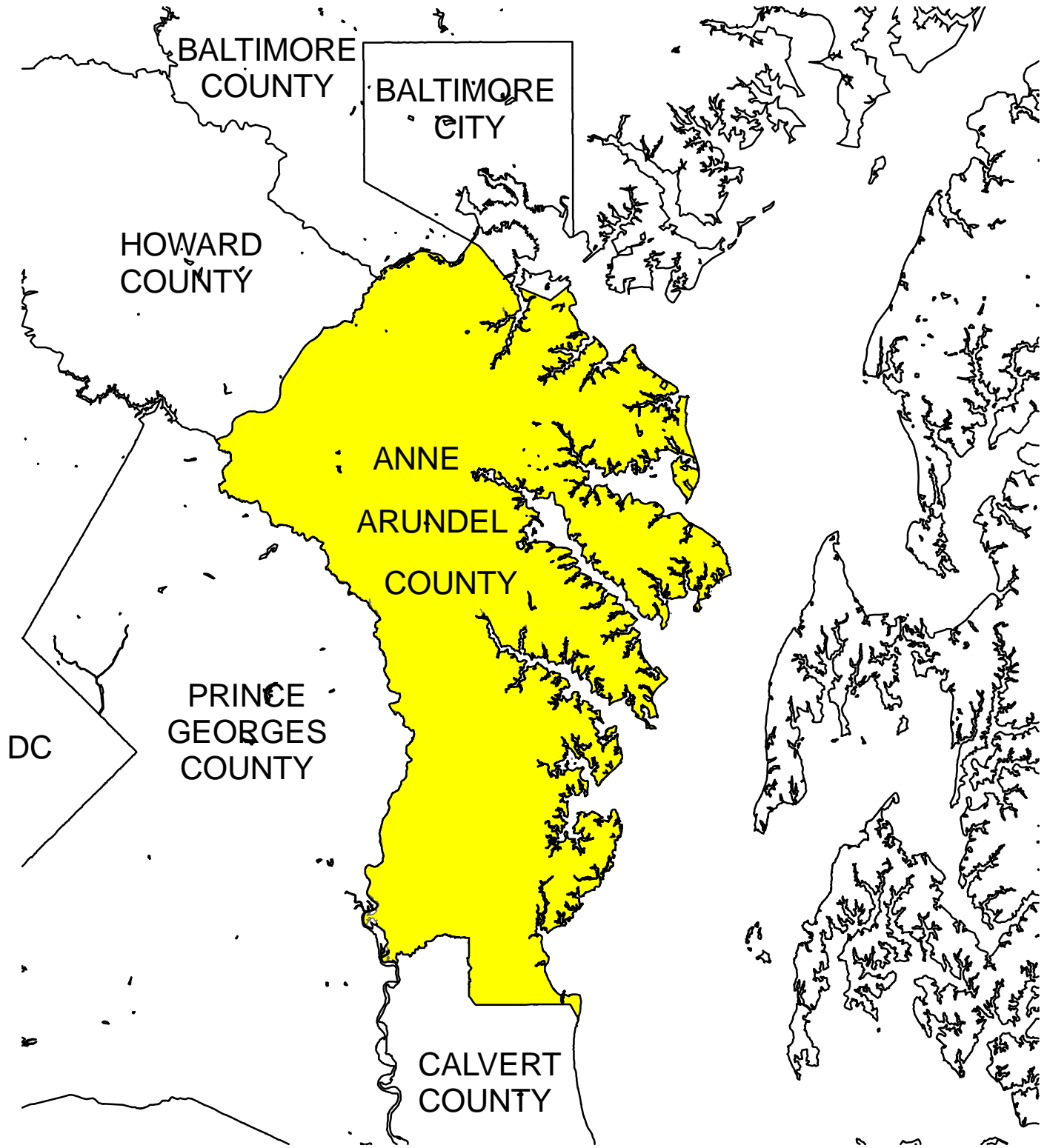


Figure INT-1

Site Location Map

Solid Waste Management Plan



**ANNE
ARUNDEL
COUNTY**

M A R Y L A N D

Figure INT-2

Incorporated Municipalities

Solid Waste Management Plan

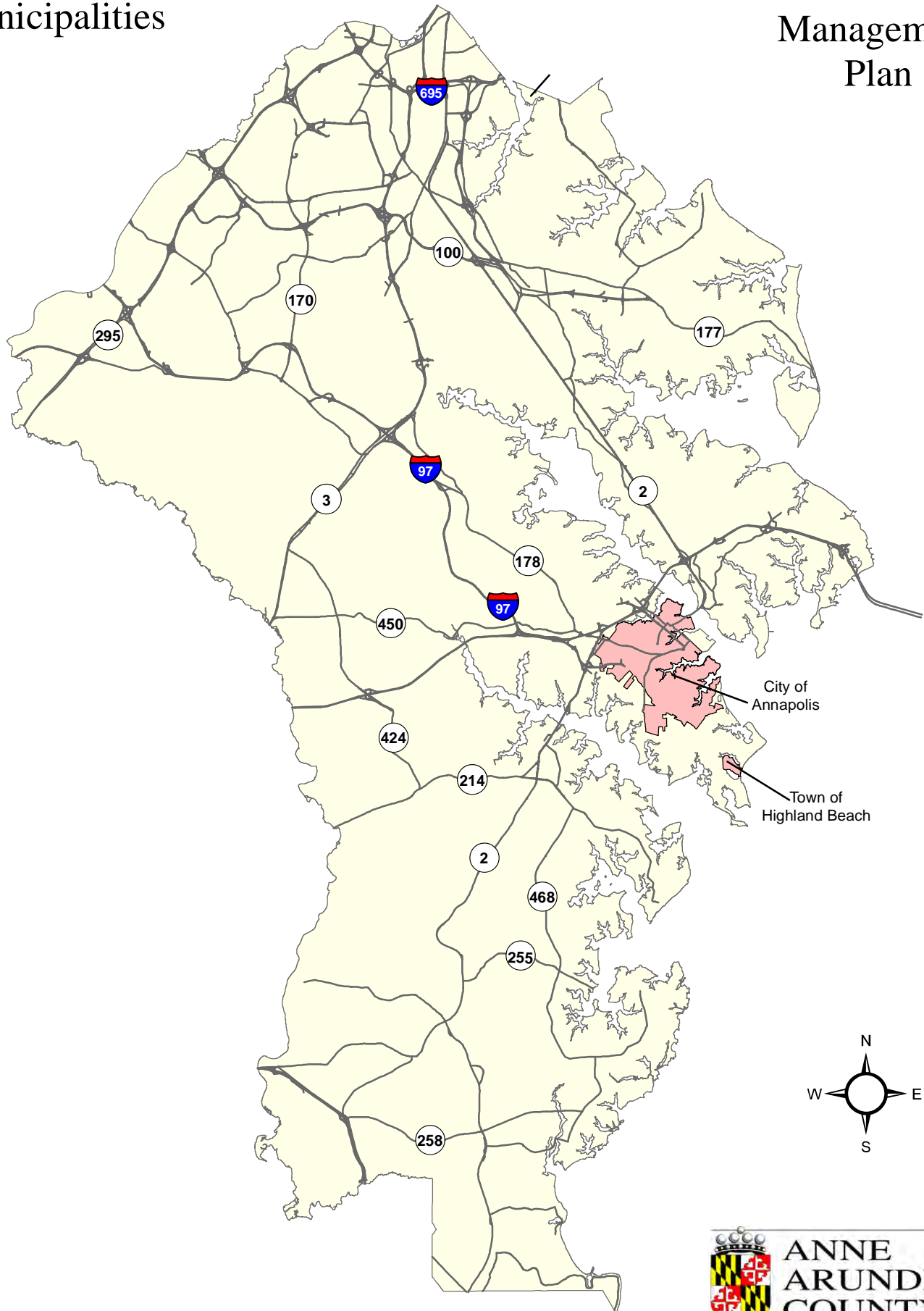


Figure 2-1



Federal and State Facilities

Solid Waste Management Plan

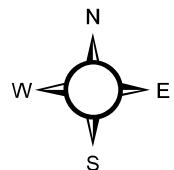
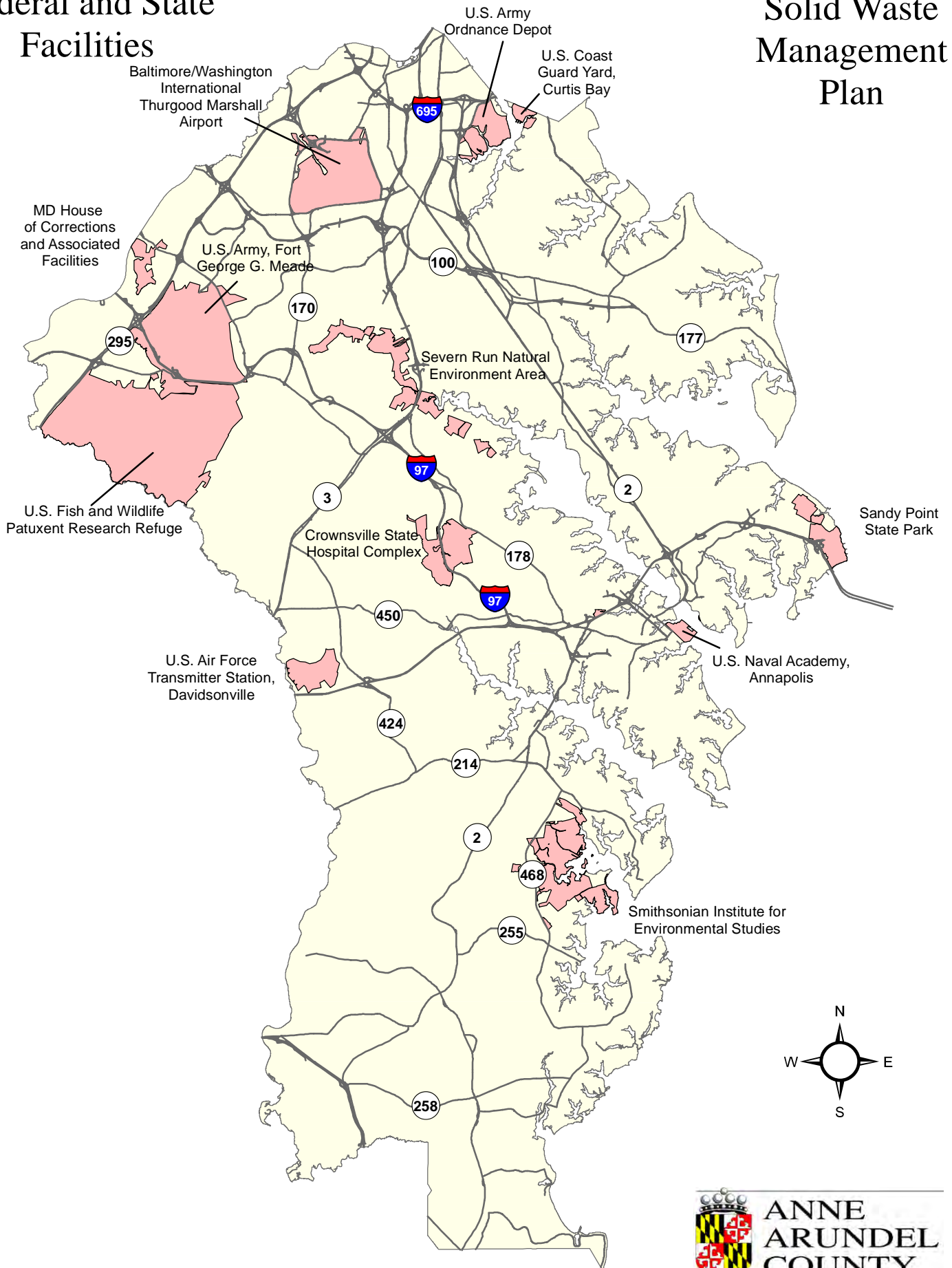


Figure 2-2

Figure 3-1
Wastes and Recyclables Handled in Anne Arundel County, 2021 (from Table 3-1, tons and % of total)

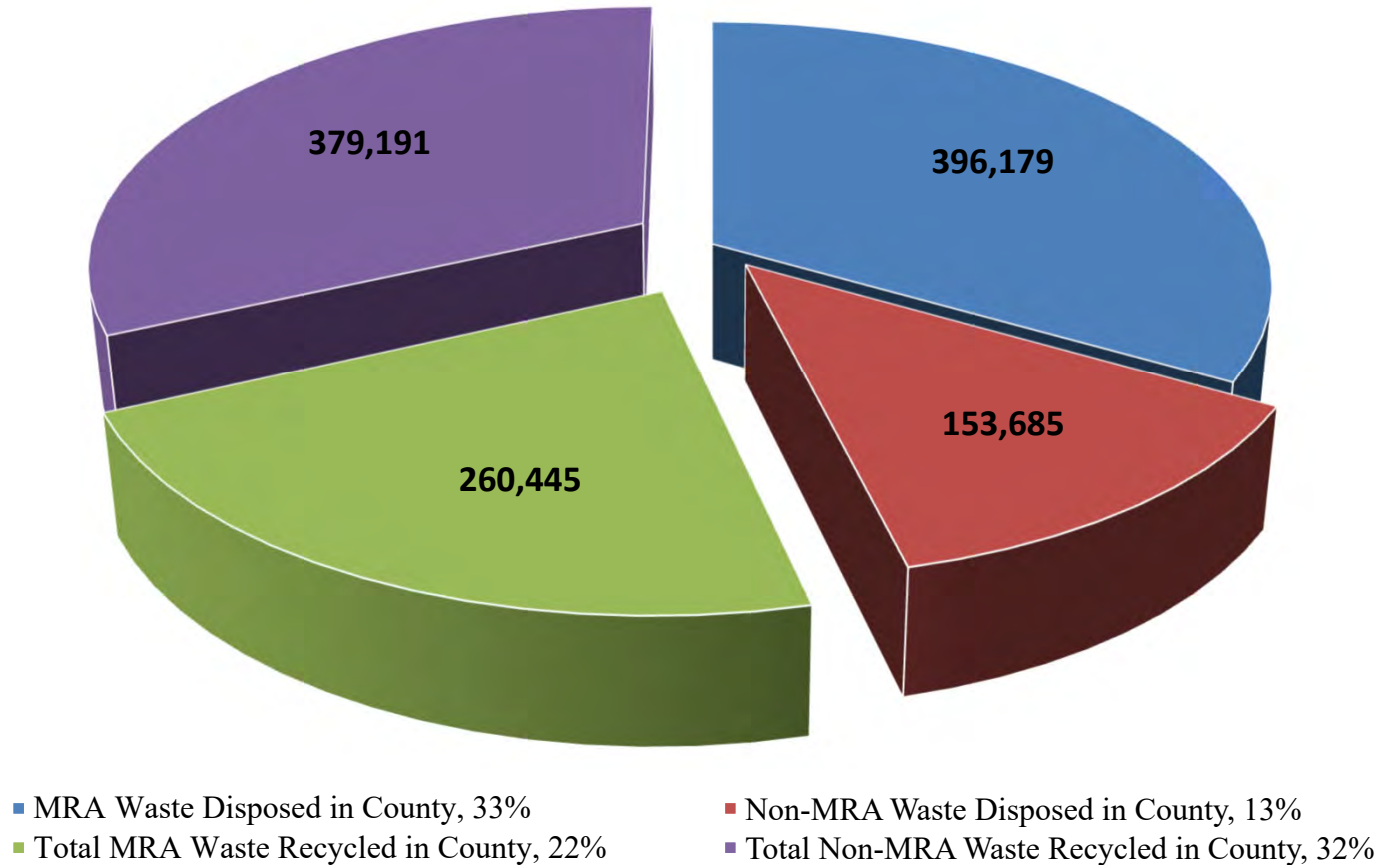
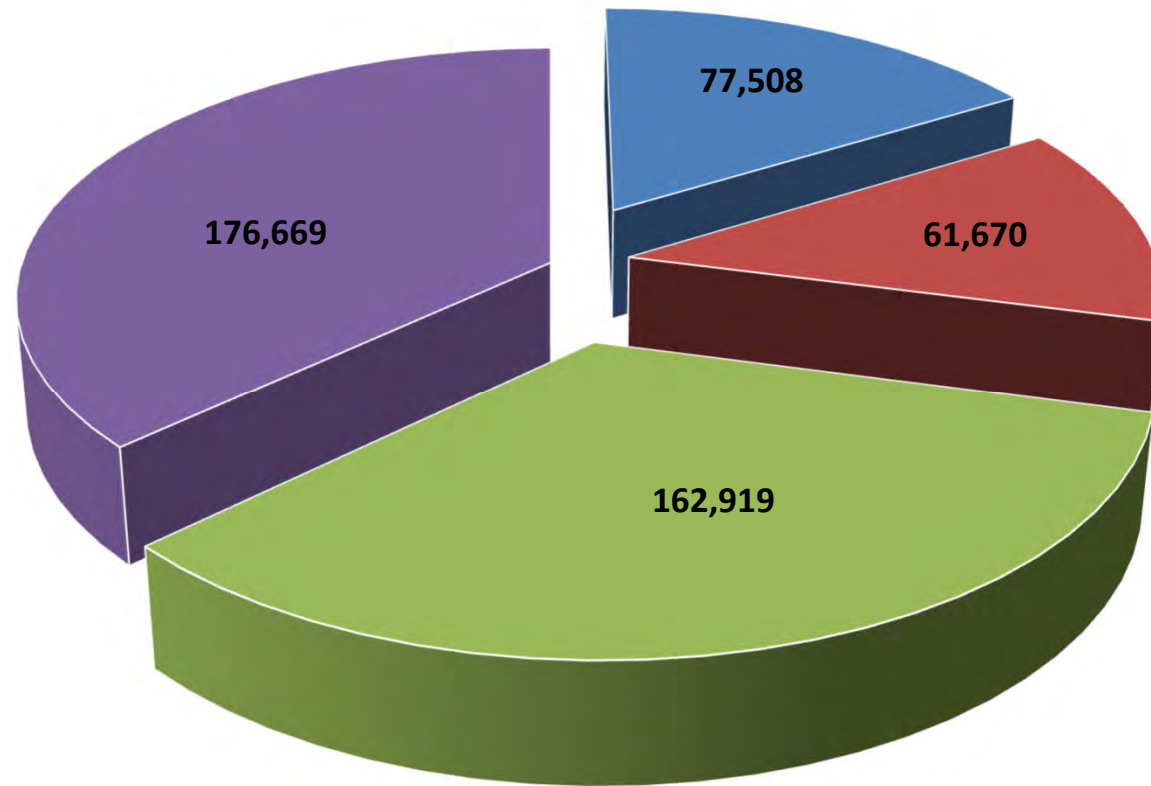


Figure 3-1 was populated based on available data from permitted facilities Solid Waste Tonnage Reports and County MRA Report.

Figure 3-2
Anne Arundel County MSW and Recyclables Managed by
Bureau of Waste Management Services
3-Year Average, 2020-2022 (From Table 3-2, tons and %)



- Recyclables, 16%
- County Landfill Disposal, 34%
- Yard Waste, 13%
- Waste Diversion Out-of-County, 37%

Anne Arundel County Department of Public Works Curbside Collection Service Areas FY23

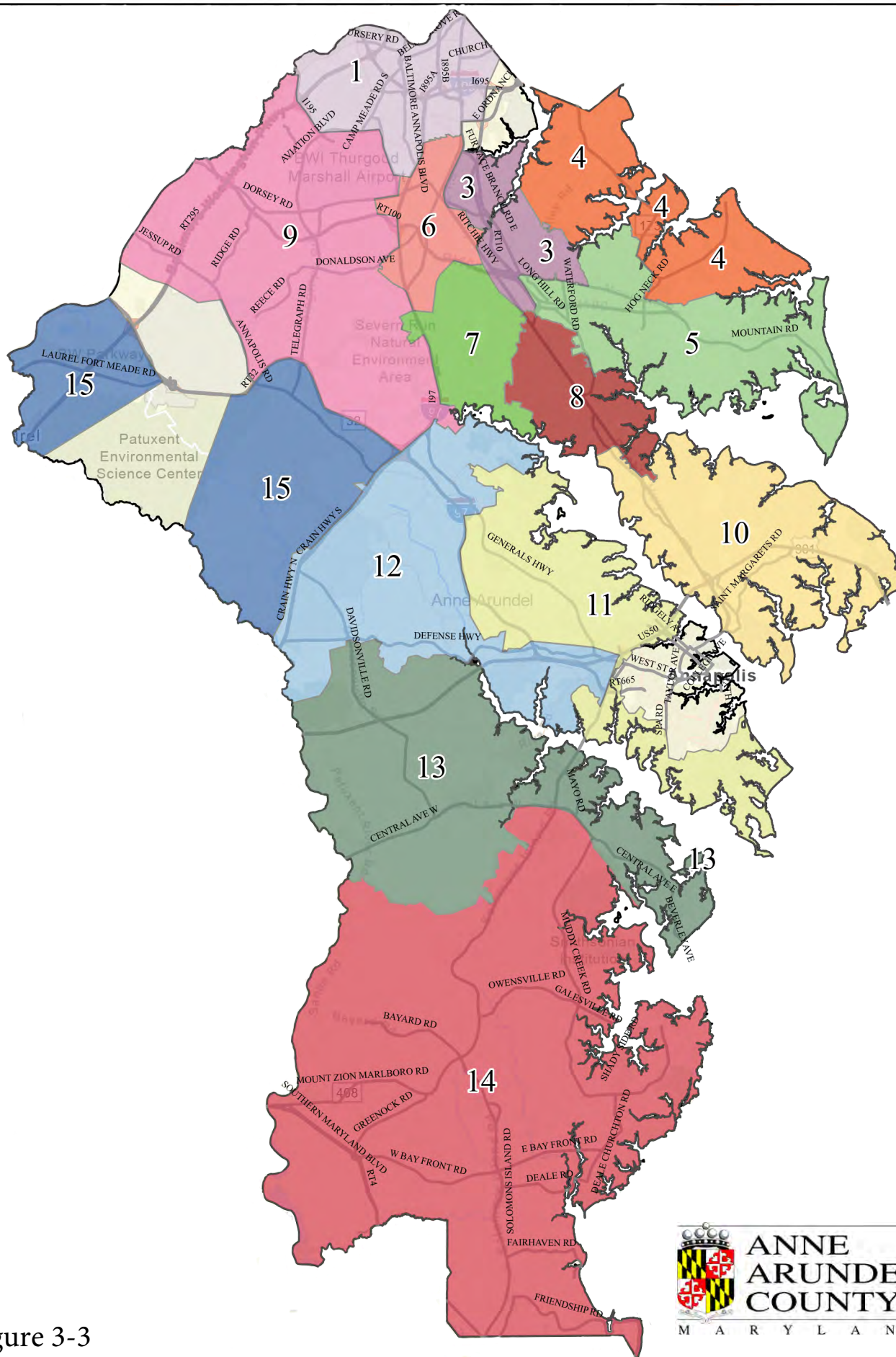
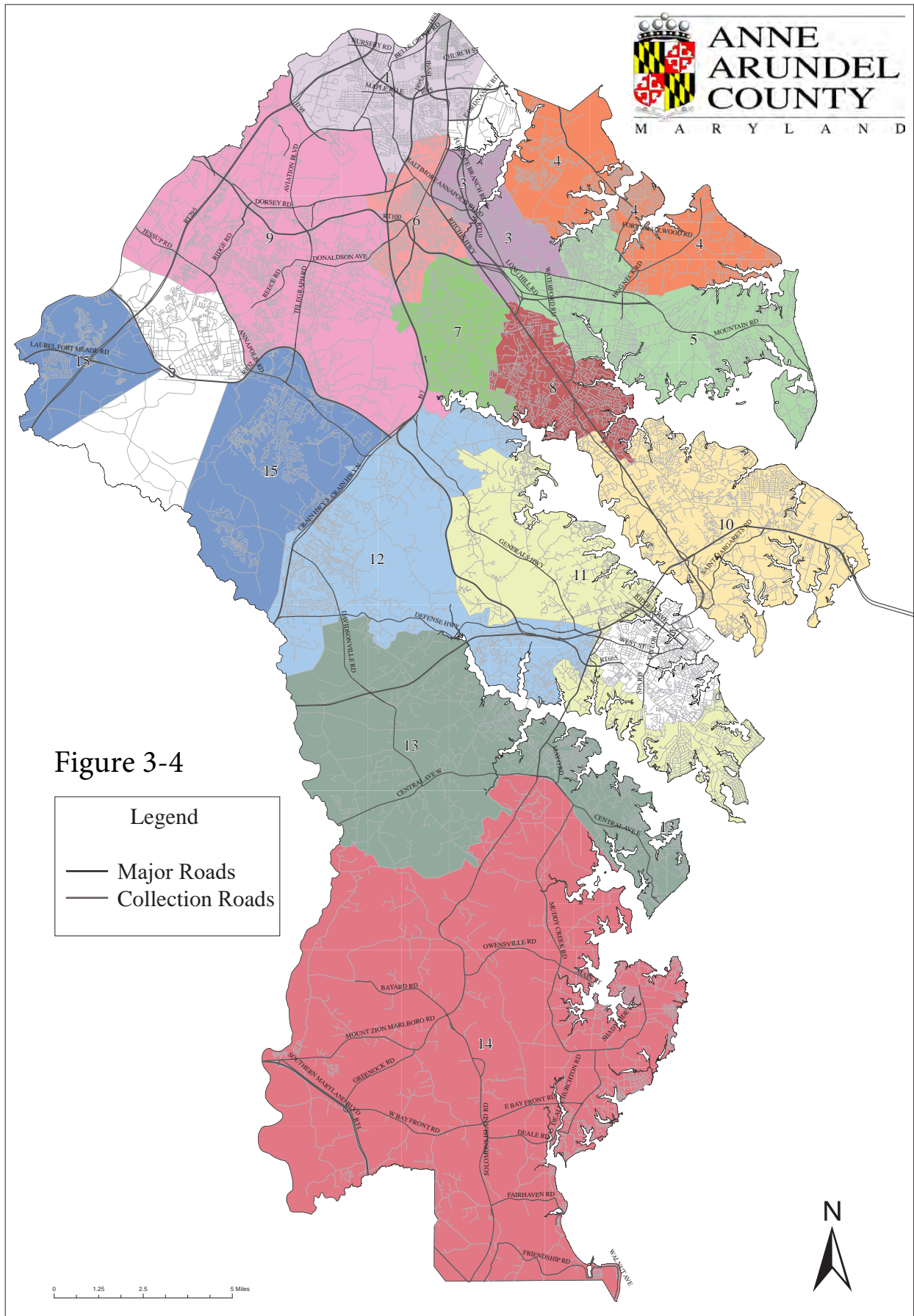


Figure 3-3



Major Roads Used for Curbside Collection



Existing Waste Acceptance Facilities

Solid Waste Management Plan

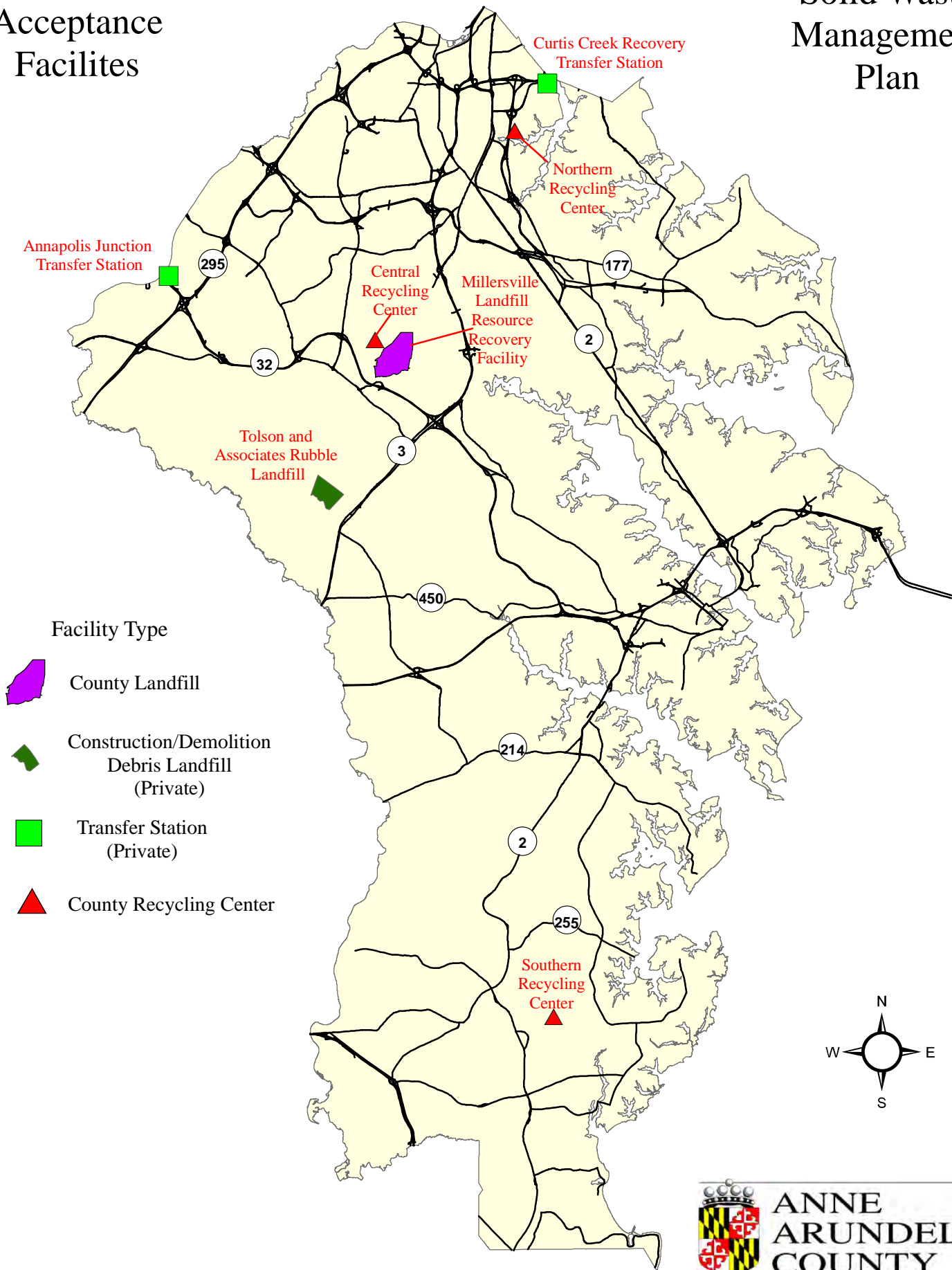


Figure 3-5



Debris Management Sites and Debris Storage and Reduction Sites

Solid Waste Management Plan

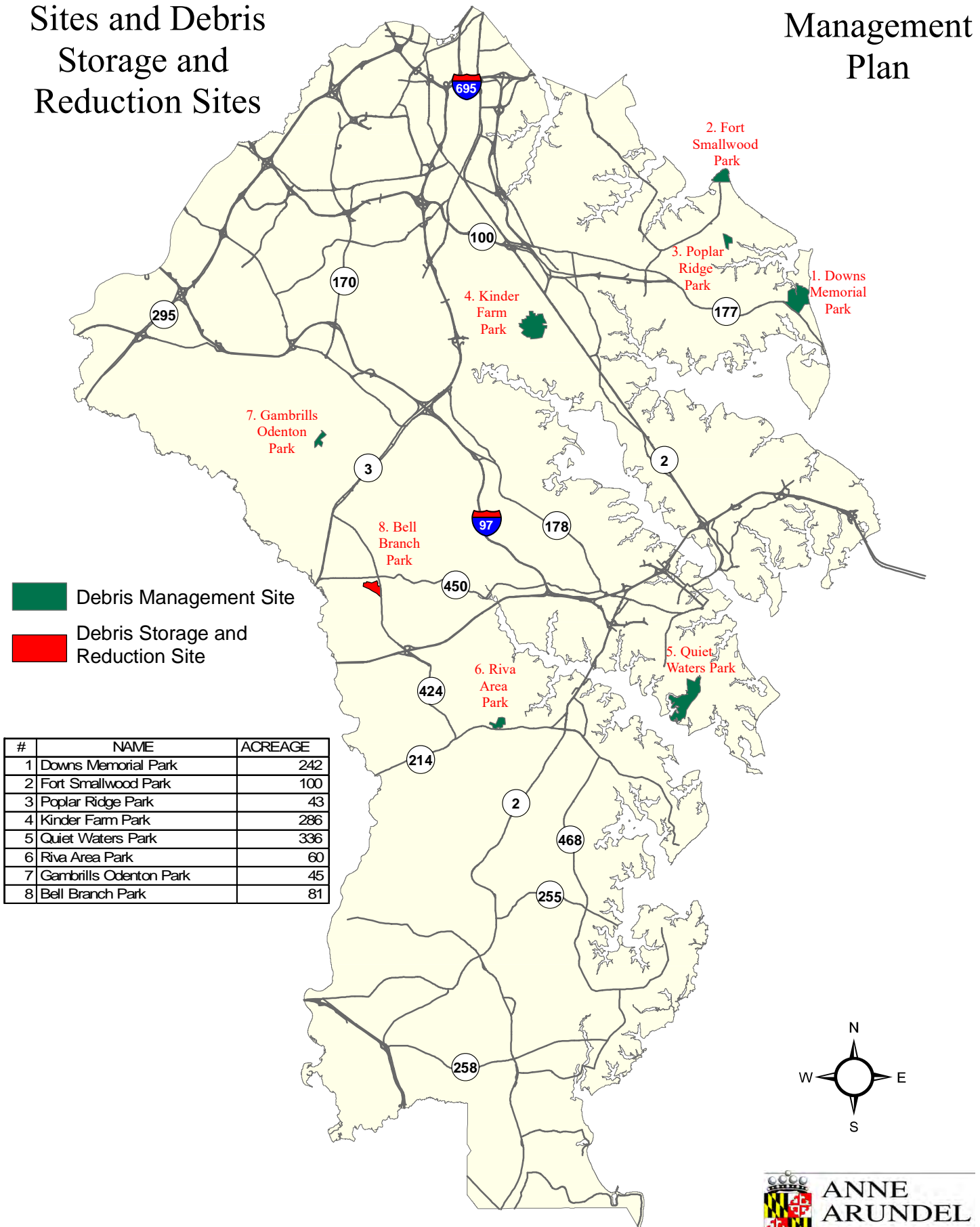
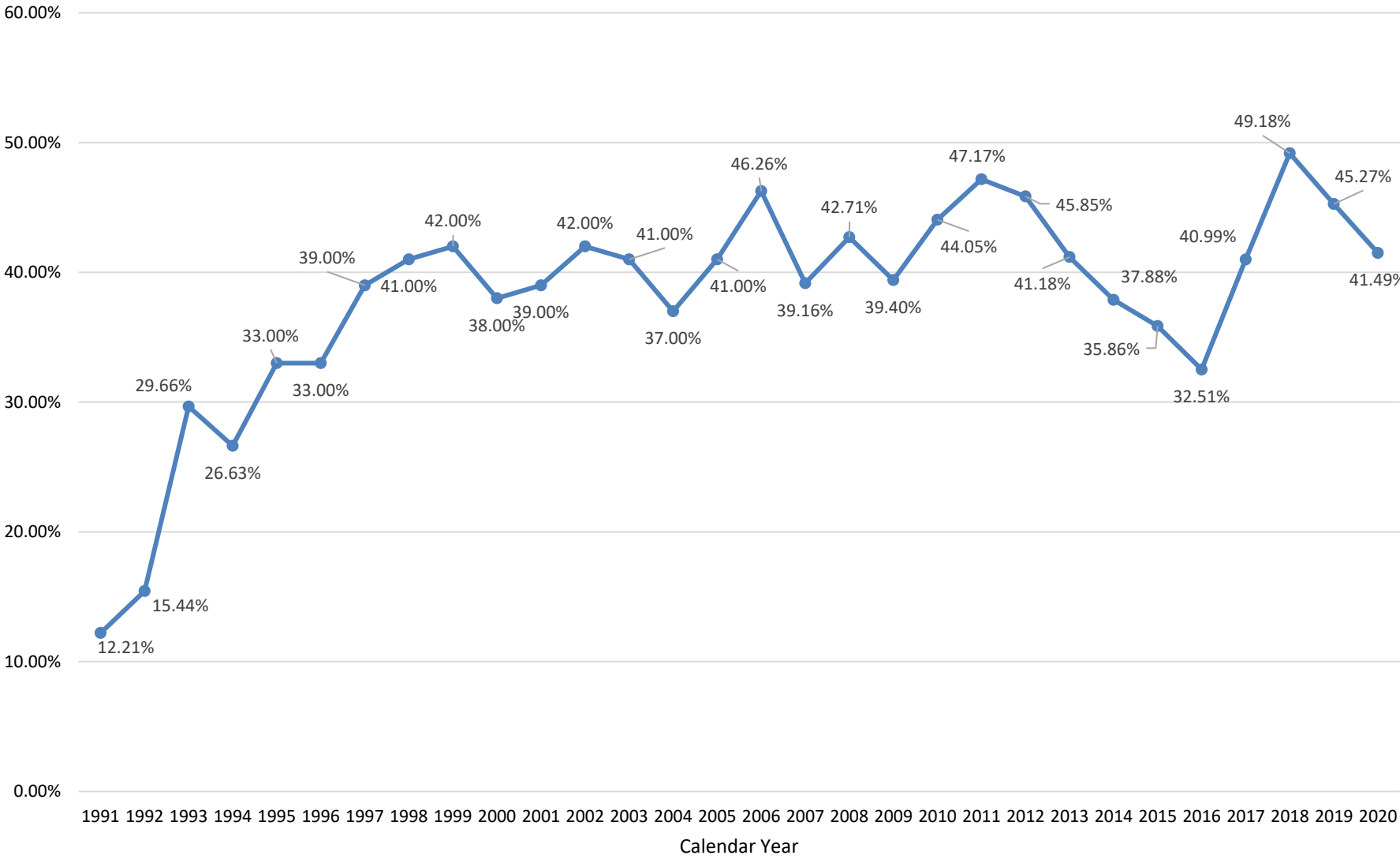


Figure 3-6

Figure 3-7
MRA Recycling Rate Historical Trend 1991-2020 (CY)



—●— MRA Recycling Rate

Existing Recycling, Processing and Resource Recovery Facilities

Solid Waste Management Plan

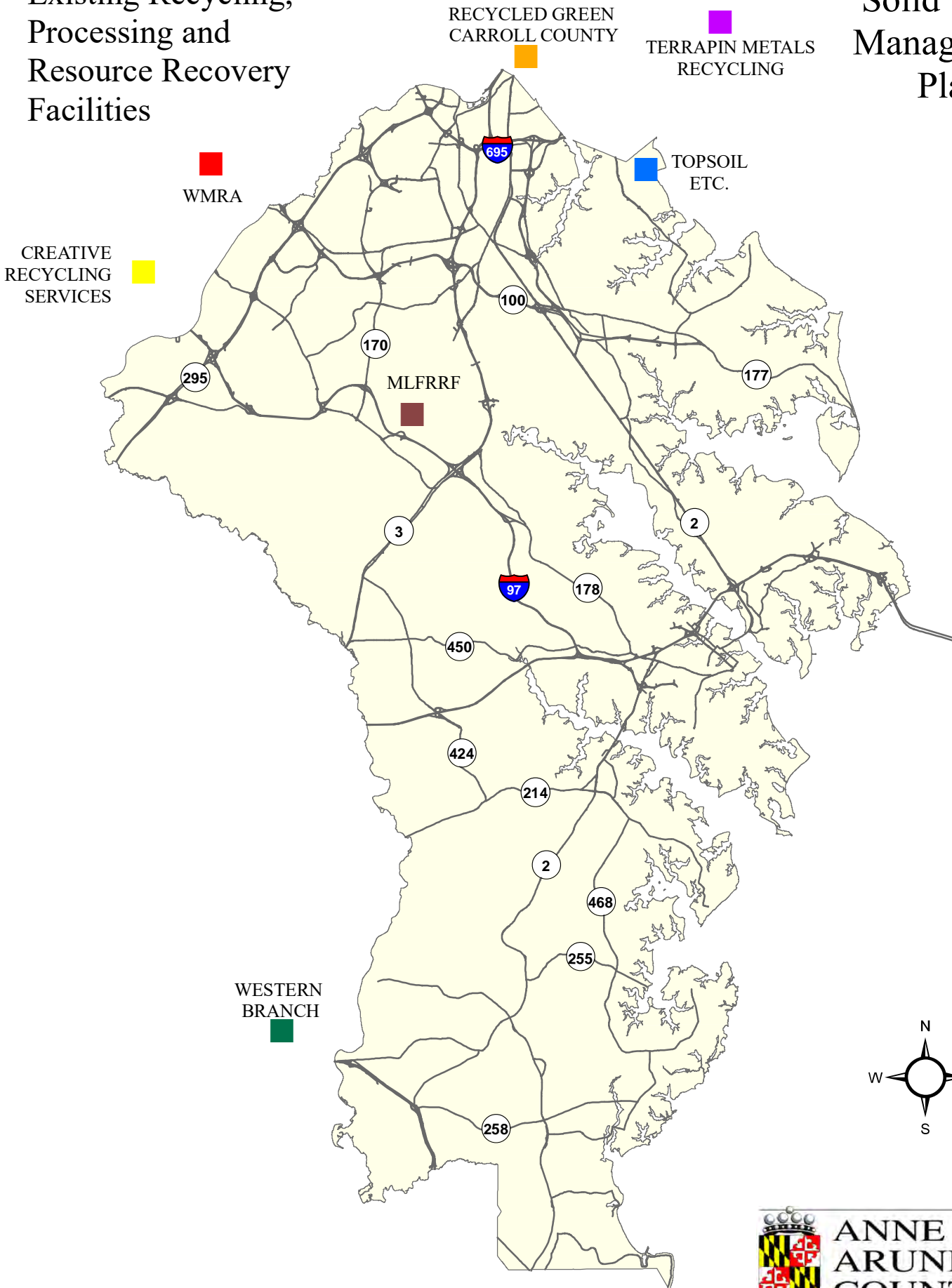


Figure 3-8



APPENDIX B

TABLES

Table 1-1: Summary of Federal Laws Regulating Solid Waste

Clean Air Act of 1963:

Title I of this Act regulates emissions from landfills (landfill gas), landfill gas-to-energy facilities and resource recovery facilities and provides regulations on the collection and control of those emissions. Title V of this Act regulates the potential-to-emit pollutants and sets forth permitting regulations for major polluters. Landfill, Gas-to-Energy and Resource Recovery Facilities subject to Title I are required to obtain a Title V permit, in addition to any facility that is a “major source” of pollutants. Landfill operators must comply with requirements of the State implementation plan established under Section 110. The Clean Air Act Amendments of 1990 contained a provision mandating stronger federal standards for solid waste incinerators.

Solid Waste Disposal Act (SWDA) of 1965:

This Act established a framework for states to better control solid waste disposal and set minimum safety requirements for landfills.

Resource Recovery Act of 1970:

This Act addressed the reclamation of energy and materials from solid waste by authorizing funding in the form of grants for resource recovery technologies. It also required annual reports be provided to the EPA summarizing efforts to promote recycling and reducing waste generation.

Clean Water Act of 1972:

This Act establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. Section 402 of the Act requires that all construction sites on an acre or greater of land, as well as municipal, industrial and commercial facilities discharging wastewater or stormwater directly from a point source (a pipe, ditch or channel) into a surface water of the United States (a lake, river, and/or ocean) must obtain permission under the National Pollutant Discharge Elimination System (NPDES) permit. According to Federal regulations, permit coverage for stormwater discharges associated with construction activity can be obtained through individual state permits or general permits. The municipal, industrial, and commercial facilities discharging wastewater or stormwater into Maryland surface water should obtain NPDES 20-SW stormwater permit from Maryland Department of the Environment.

Endangered Species Act of 1973:

Prohibits construction or operation of solid waste management facilities that would result in the “taking” of an endangered or threatened wildlife species, or in the destruction of their critical habitat.

Safe Drinking Water Act of 1974:

This Act establishes maximum contaminant levels for parameters included in groundwater monitoring programs.

Resource Conservation and Recovery Act of 1976, amended 1992, 1996:

A primary objective of this Act is to promote recycling and reuse of recoverable materials in solid wastes, and/or conversion of wastes to energy. The Act also provides standards and guidelines for the environmentally sound hauling and disposal of both hazardous and non-hazardous solid waste. Subtitle D of the Act specifies siting, planning, design, permitting, construction, operation, closure, and post-closure care criteria for municipal solid waste landfills.

Federal Emergency Management Act of 1979, modified 2021:

This Act prohibits the siting of landfills and other solid waste management facilities within the 100-year floodplain (Subtitle D allows exception if the unit will not restrict the flow of the 100-year flood, reduce the temporary storage capacity of the floodplain, or result in wash out of solid waste).

Comprehensive Environmental Response, Compensation and Liability Act (Superfund) of 1980:

This Act establishes programs for the identification and remediation of waste disposal sites containing hazardous substances; establishes standards for clean-up efforts and disposal of wastes; and provides a mechanism for assigning liability for environmental contamination and contaminated sites.

Used Oil Recycling Act of 1980:

This Act amends SWDA to require lubricating oil to be labeled with a statement concerning the recycling of used oil. Requires re-refined oil used as lubricating oil to bear a label stating that such oil is a recycled product.

Solid Waste Disposal Act Amendments of 1980:

This Act contained numerous technical requirements and imposed on the EPA a timetable for issuing or denying permits for treatment, storage, and disposal facilities.

Hazardous and Solid Waste Amendments of 1984:

This Act contained numerous technical requirements and imposed on the EPA a timetable for issuing or denying permits for treatment, storage, and disposal facilities.

Medical Waste tracking Act of 1988:

This Act states Federal law concerning the illegal dumping of body tissues, blood wastes and other contaminated biological materials.

Sanitary Food Transportation Act of 1990:

This Act Created regulations for trucks and rail cars that haul both food and solid waste.

Pollution Prevention Act of 1990:

This Act declared pollution prevention to be the national policy and directed EPA to undertake a series of activities aimed at preventing the generation of pollutants, rather than controlling pollutants after they are created.

Federal Facility Compliance Act of 1992:

This Act declared that federal facilities are subject to enforcement actions under RCRA.

Indian Lands Open Dump Cleanup Act of 1994:

This Act required the Indian Health Service (IHS) to provide technical and financial support to inventory and close open dumps on Indian lands, and to maintain the sites after closure.

Mercury-Containing and Rechargeable Battery Act of 1996:

This Act addresses nickel-cadmium and small sealed lead-acid batteries and simplifies the regulatory framework to enhance collection and recycling of nickel-cadmium batteries, small, sealed lead-acid batteries, and certain other batteries.

Land Disposal Program Flexibility Act of 1996:

This Act exempts hazardous waste from RCRA regulation if it is treated to a point where it no longer exhibits the characteristic that made it hazardous and is subsequently disposed in a facility regulated

under the Clean Water Act or in a Class I deep injection well regulated under the Safe Drinking Water Act.

Table 1-2: Summary of the Federal Solid Waste Regulations (CFR, Title 40 Protection of the Environment, Subchapter I – Solid Wastes)

Part 240: Guidelines for the Thermal Processing of Solid Waste

Minimum performance level for municipal solid waste incinerators with a capacity of 50 tons per day or greater.

Part 241: Guidelines for the Land Disposal of Solid Wastes

Minimum performance levels for any municipal solid waste disposal site operation.

Part 243: Guidelines for the Storage and Collection of Residential, Commercial and Institutional Solid Waste

Minimum performance levels for solid waste collection operations. Issues addressed include storage, safety, equipment, frequency, and management.

Part 244: Solid Waste Management Guidelines for Beverage Containers

Minimum actions to reduce beverage container waste; covers use of returnables, information requirements and implementation.

Part 245: Promulgation Resource Recovery Facilities Guidelines

Guidelines for the recovery of resources from residential, commercial, and institutional solid waste, including regionalization and planning techniques.

Part 246: Source Separation for Materials Recovery Guidelines

Minimum actions for the recovery of resources from solid wastes, including high grade paper, residential materials, and corrugated containers.

Part 247: Guidelines for the Procurement of Products that Contain Recycled Materials

Recommended guidelines only. Procedures that can be utilized in the specifications for procurement of products to increase the use of recycled material.

Part 255: Identification of Regions and Agencies for Solid Waste Management

Procedures for the identification of regional solid waste management planning districts pursuant to section 4002(a) of the Solid Waste Disposal Act.

Part 256: Guidelines for Development and Implementation of State SWMPS

Guidelines for development and implementation of State solid waste management plans.

Part 257: Criteria for the Classification of Solid Waste Disposal Facilities and Practices

Criteria to determine which solid waste facilities pose a reasonable probability of adverse effects on public health or the environment. Facilities in violation will be considered open dumps. Does not apply to municipal solid waste landfills (covered under section 258).

Part 258: Criteria for Municipal Solid Waste Landfills (Subtitle D Regulations)

Establishes minimum national criteria for the siting, design, permitting, construction, and operation of municipal solid waste landfills. Includes location restrictions, operating criteria, design criteria, groundwater monitoring and corrective action, closure and post-closure, and financial assurance criteria. Design criteria applies to all municipal solid waste landfill units that receive waste on or after October 9, 1991.

Part 260: Hazardous Waste Management System - General

Provides definitions and a general overview of Parts 260 through 265.

Part 261: Identification and Listing of Hazardous Waste

Provides identification of those materials which are subject to regulation as hazardous wastes under Parts 270, 271 and 124.

Part 262: Standards Applicable to Generators of Hazardous Waste

Establishes standards for generators of hazardous wastes including EPA identification numbers, manifest, pre-transportation requirements, record keeping and reporting. Provides definitions and terms and a general overview of Parts 260-265.

Part 263: Standards Applicable to Transporters of Hazardous Waste

Establishes regulations for transporters of materials requiring a manifest as defined in Part 262.

Part 264: Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities

Establishes minimum national standards for the management of hazardous wastes.

Part 265: Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage And Disposal Facilities

Establishes minimum national standards that define the management of hazardous wastes during the period of interim status and until the certification of post-closure or closure of the facility.

Part 266: Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Disposal Sites

Establishes minimum national standards for the recyclable materials used in a manner to constitute disposal, hazardous waste burned for energy recovery, used oil burned for energy recovery, recyclable material used for precious metal recovery and spent lead- acid batteries being reclaimed.

Part 267: Interim Standards for Owners and operators of New Hazardous Waste Land Disposal Facilities

Establishes minimum national standards which define the management of hazardous waste for new land disposal facilities.

Part 268: Land Disposal Restrictions

Identifies a schedule to evaluate listed wastes for prohibition of land disposal and establishment of treatment standards for these wastes.

Part 270: EPA Administered Permit Programs: The Hazardous Waste Permit Program

Application requirements, standard permit conditions, monitoring and reporting requirements for EPA permitting for the treatment, storage and disposal of hazardous waste.

Part 271: Requirements for Authorization of State Hazardous Waste Programs

Identifies the requirement that State programs must meet to fulfill interim and final authorization as well as the procedures EPA uses to approve, revise and withdraw approval of State programs.

Part 272: Approved State Hazardous Waste Programs

Establishes the applicable State hazardous waste management programs.

Part 273: Standards for Universal Waste Management

Establishes the requirements for managing batteries, pesticides, mercury-containing equipment and lamps.

Part 503: Standards for the Use and Disposal of Sewage Sludge

Establishes the requirements and standards for treatment, land application, surface disposal and incineration of sewage sludge and biosolids.

Table 1-3: Summary of Maryland Laws affecting Solid Waste Management

Sludge Application:

Land application procedures are strictly regulated to maintain the public health.

Nontidal Wetland Regulations:

Prevent net loss of nontidal wetlands by establishing a stringent permitting process.

Medical Waste Legislation:

Regulates identification, record keeping, treatment, transport, and disposal of special medical wastes; disposal of infectious waste is prohibited in solid waste landfills in the State.

Maryland State Implementation Plan of 1972, modified 2016 (SIP):

Limits emissions from specific pollutant sources to prevent air quality from falling below National Ambient Air Quality (NAAQS) standards.

Chesapeake Bay Critical Area Protection Program (1984):

Controls development in the Chesapeake Bay area and drainage areas.

Maryland Recycling Act of 1988, modified 2012, and 2021:

Establishes a requirement for Maryland Counties with a population greater than 150,000 to plan and implement a recycling system by 1994 to reduce the waste stream of the County by 20% for Maryland counties with populations of less than 150,000 and 35% for Maryland counties with populations of greater than 150,000. The act increased the amount of waste required to be recycled by State agencies to 30 percent in 2014. As part of the implementation process, MDE asked that all State agencies revise their recycling plans to include a recycling goal and steps towards reaching the goal by December 2012. The state legislature anticipated that each Agency's recycling goal would be at least 40 percent in 2015. Additionally, Maryland enacted House Bill 595, State Government-Recycling Program-Aluminum, Glass, Paper, and Plastic on October 1, 2009. The act mandates that state plans shall include a system for recycling aluminum, glass, paper, and plastic generated for disposal by the State government, including the placement of collection bins in State-owned or State-operated office buildings in locations in the state where it is determined to be practical and economically feasible. On October 1, 2021, the MRA altered the definition of 'recyclable materials' to exclude incinerator ash and repealed the authority of a county to utilize a resource recovery facility to meet 5% of the waste reduction required to be achieved through recycling in the county's recycling plan.

Asbestos Control - Asbestos Hazard Emergency Response Act (1990):

Deals with asbestos controls and requires completion of a teaming program by those who do asbestos-related work within schools.

Land Clearing Debris Landfills - Amount of Security (1990):

Addresses the amount of security required for each acre of land clearing debris landfills.

Newsprint Recycled Content Act (1991):

Regulates newsprint recycling by imposing specified recycling content percentage requirements on the Maryland Newspaper Industry.

Telephone Directory Recycling Act (1991):

Regulates telephone directory publishers to meet specified recycling content percentage requirements for telephone directories.

Plastic Material Code (1991):

Rigid plastic containers or bottles may not be distributed for sale in the State unless labeled indicating the plastic resin used to produce them.

Natural Wood Waste Recycling Act (1991):

Private wood waste recycling facilities must be appropriately permitted and operated and may accept only natural wood waste.

Scrap Tire Recycling Fees (1991) and Scrap Tire Law (1992):

The fee establishes a recycling fee on new tires sold in Maryland. The law regulates the storage of scrap tires and prohibits the disposal of scrap tires in landfills.

Composting Act (1992):

Includes composting in the definition of recycling. Requires that County recycling plans address composting issues and bans yard waste from landfills effective in 1994.

Mercury Oxide Battery Act (1992):

Makes battery manufacturers responsible for collection, transportation, and recycling or disposal of batteries sold or offered for promotional purposes in the State.

Waste Information and Assessment Program (1998):

Requires MDE to create a waste information and assessment program and to submit an annual report on the volume of certain types of waste disposed in or exported from Maryland. Requires permitted waste acceptance facilities to provide at least yearly information necessary to MDE.

Maryland State Joint Resolution 6 (2000):

Establishes a requirement for Maryland counties to plan and implement a recycling system by 1994. Established a voluntary statewide diversion goal of 40% by the year 2005 in order to reduce the amount of waste going to solid waste disposal facilities.

Maryland E-Waste Recycling Law (2005, modified 2007, 2012):

Requires computer manufacturers to submit a registration and fee into the Maryland State Recycling Trust Fund, which can be used to give grants to municipalities to implement local computer recycling programs (under HB 575). Modified in 2007 to include additional covered electronics and increases registration fee under (HB 488). Recent modification in 2012 to have a tiered registration fee and required educational and instructional materials related to material destruction and sanitization of data on covered electronics (under HB 879).

Maryland Public School and College Recycling Law (2009):

Requiring recycling in all publicly funded schools with the exception of State Universities and that each county's recycling plan implement a strategy for collecting, processing, marketing, and disposing of recyclable materials from its public schools and colleges (under HB 1290).

Maryland Mercury Switch Removal from Vehicles Law (2009):

Requires motor vehicle manufacturers, individually or as a group, to develop and submit to the Maryland Department of the Environment (MDE), a mercury minimization plan that includes information on mercury switch removal from motor vehicles (under HB 1263).

Maryland Fluorescent and Compact Fluorescent Light Recycling Act (2010):

Requires each county to address the recycling of certain fluorescent and compact fluorescent lights and in an updated recycling plan (under HB 685).

Green Maryland Act of 2010:

The Maryland Green Purchasing Committee was established by the Green Maryland Act of 2010 (Chapter 593 of the 2010 Laws of Maryland) to administer an environmentally preferable purchasing program for the State of Maryland. Maryland has enacted laws and regulations related to environmentally preferable purchasing, including

(selected):

01.01.1993.20 Alternative Fueled Vehicles

01.01.2001.02 Sustaining Maryland's Future with Clean Power, Green Buildings and Energy Efficiency

21.11.07.08 Locally Grown Foods

21.11.07.09 Environmentally Preferable Purchasing

21.11.07.10 Compost

Apartment Buildings and Condominiums Recycling Act of 2012

An Act requiring a county recycling plan to address the collection and recycling of recyclable materials from residents of apartment buildings and condominiums that contain 10 or more dwelling units by property owners or managers of apartment buildings and councils of units' owners of condominiums.

Recycling Rate and Waste Diversion-Statewide Goals Act of 2012

Requires counties to reduce its solid waste stream through recycling by at least 35% (populations over 150,000) or 20% (population under 150,000), by December 31, 2015.

Organics Recycling and Waste Diversion House Bill of 2013

The General Assembly of Maryland passed a bill (HB 1440) enabling MDE to establish regulations for composting operation in the state.

Environment – Recycling – Special Events Act of 2014

An Act requiring a county recycling plan to address the collection and recycling of recyclable materials from special events by October 1, 2015.

State Highway Administration - Compost and Compost-Based Products House Bill of 2014

House Bill 878 directed the State Highway Administration to include the use of compost in its specifications.

Greenhouse Gas Emissions Reduction Act of 2016

The bill, SB 323/HB 610, renewed the 2009 Maryland law that set a goal to reduce climate-polluting greenhouse gas emissions statewide by 25 % by 2019. The 2016 bill also further extended the goal to a 40% reduction by 2030, requiring long-term cuts in pollution.

Expanded Polystyrene Ban of 2019

This Article stipulated that on or after July 1, 2020, a person may not sell or offer for sale in the State an expanded polystyrene food service product; and that a food service business or school may not sell or provide food or beverages in an expanded polystyrene food service product.

Environmental - Recycling in Office Buildings of 2019

The bill, SB370, amends Maryland code to necessitate city/county recycling plans to include collection and recycling of recyclable materials from commercial properties that are 150,000 square feet or larger and zoned for office use. The owner of each office building must provide containers for collection of recyclable materials. SB370 will be enacted on or before 1 October 2021.

Solid Waste Management - Organics Recycling and Waste Diversion - Food Residuals House Bill of 2021

Law establishes a source separation requirement for organics based upon the volume of material generated and the availability of capacity within the region.

Table 1-4: Summary of the Annotated Code of Maryland Environment Article Titles affecting Solid Waste Management

TITLE 3 – ENVIRONMENTAL PROGRAMS

Subtitle 1 Maryland Environmental Service

Subtitle 9 Northeast Maryland Waste Disposal Authority

TITLE 4 – WATER MANAGEMENT

TITLE 5 – FOREST AND PARKS

TITLE 6 – TOXIC, CARCINOGENIC AND FLAMMABLE SUBSTANCES TITLE 7 – HAZARDOUS MATERIALS AND SUBSTANCES

TITLE 9, SUBTITLE 2 – ENVIRONMENTAL ARTICLE (WATER, ICE AND SANITARY FACILITIES)

MDE regulates the location, design, and operation of landfills through refuse disposal permits issued and enforced under authority of the following sections of the Environment Article:

Section 204 Installing, Altering, or Extending Water Supply Systems, Sewerage System, or Refuse Disposal Systems

Section 204.1 Installing, Altering, or Extending Incinerators

Section 204.2 Installing, Altering or Extending Landfill Systems

Section 209 Landfill System Hearings

Section 210 Prerequisites for Issuance of Permit

Section 211 Landfills, Incinerators, and Transfer Stations; Requirements for Security

Section 212 Landfill Systems - Options to Purchase

Section 212.1 Denial of Permit to Non-government Person

Section 213 Term of Permit (5 years)

Section 214 Revoking or Refusal to Renew a Permit

Section 215 Closure and Cover when Operation Ends

Section 225 Landfills near Hospitals Prohibited (2 mile radius)

Section 226 Certification of Public Necessity Required for Hazardous Waste Landfill System

Section 227 Infectious Waste in Landfill System Prohibited

Section 228 Scrap Tires

TITLE 9, SUBTITLE 5 – COUNTY SOLID WASTE MANAGEMENT AND RECYCLING PLANS

Section 503 County Plan

Section 505 Content

Section 506 Reviews, Approvals and Amendments

Section 507 Proposed County Plan

Section 1703 Recycling Plan

SUBTITLE 17 – OFFICE OF RECYCLING

Section 1703/1704 County Recycling Plan and Content and as they relate to 505

Section 1703 Fluorescent and Compact Fluorescent Light that Contain Mercury Recycling (House Bill 685)

Section 1703 Public School and Public College Recycling Programs (House Bill 1290)

Section 1703 Apartment Buildings and Condominiums Recycling (House Bill 1)

Section 1708 Natural Wood Waste Processing and Recycling

Section 1712 Special Events in Recycling Facilities
Section 1714 Recycling Receptacles in Office Buildings
Section 1728.1 Statewide Electronics Recycling Program (House Bill 488)

Table 1-5: Summary of the Code of Maryland Regulations (COMAR) affecting Solid Waste Management

COMAR REGULATIONS

TITLE 08 (DEPARTMENT OF NATURAL RESOURCES), SUBTITLE 3 CHAPTER 8, THREATENED AND ENDANGERED SPECIES:

Considerations in the siting of solid waste management facilities.

TITLE 08 (DEPARTMENT OF NATURAL RESOURCES), SUBTITLE 9 CHAPTERS 1-6, FOREST CONSERVATION:

Considerations in the siting of solid waste management facilities.

TITLE 26, SUBTITLE 3, WATER SUPPLY, SEWERAGE, SOLID WASTE, AND POLLUTION CONTROL PLANNING AND FUNDING, CHAPTER 3, DEVELOPMENT OF COUNTY COMPREHENSIVE SOLID WASTE MANAGEMENT PLANS:

Requires that each county maintain a current solid waste management plan and establishes the format for these plans.

TITLE 26, SUBTITLE 3, WATER SUPPLY, SEWERAGE, SOLID WASTE, AND POLLUTION CONTROL PLANNING AND FUNDING, CHAPTER 10, FINANCIAL ASSISTANCE FOR THE CONSTRUCTION OF SOLID WASTE PROCESSING AND DISPOSAL FACILITIES:

Stipulates the requirements, priority listing criteria, and ranking system for counties to receive financial assistance from the State.

TITLE 26, SUBTITLE 4, REGULATION OF WATER SUPPLY, SEWERAGE DISPOSAL, AND SOLID WASTE, CHAPTER 7 SOLID WASTE MANAGEMENT:

Regulations for permitting, designing, construction, operating and closing municipal, land clearing debris, rubble, and industrial waste landfills, processing facilities, transfer stations, and incinerators.

Other regulations under Title 26 that are important to solid waste management include

Subtitle 4 Chapter 6, Sewage Sludge Management

Subtitle 4 Chapter 8, Scrap Tire Regulations

Subtitle 4 Chapter 9, Natural Wood Waste Recycling Facilities

Subtitle 4 Chapter 11, Composting Facilities

Subtitle 5 Chapter 3, Construction on Nontidal Waters and Floodplains

Subtitle 5 Chapter 4, Nontidal Wetlands

Subtitle 5 Chapter 7, Wetlands Regulations

Subtitle 8 Water Pollution

Subtitle 9 Chapter 1, Erosion and Sediment Control

Subtitle 9 Chapter 2, Stormwater Management

Subtitle 11 Air Quality

Subtitle 13 ~~D~~ of Controlled Hazardous Substances

Subtitle 17 Chapter 1, Erosion and Sediment Control

Subtitle 17 Chapter 2, Stormwater Management

Subtitle 17 Chapter 4 Construction on Nontidal Waters and Floodplains
Subtitle 23 Nontidal Wetlands
Subtitle 24 Tidal Wetlands Regulations

Table 1-6: Summary of the Anne Arundel County Code affecting Solid Waste Management

ANNE ARUNDEL COUNTY CODE, ARTICLE 13, TITLE 4.

13-4-101 This Section defines solid waste as trash, recyclables, yard waste, and other waste matter, but the term does not include explosives, poisons, acids and caustics, hot ashes, coals, hazardous waste, or medical waste.

13-4-102 This Section addresses powers and duties of the Director.

13-4-103 This Section addresses collection service areas.

13-4-104 This Section addresses general collection practices: collection containers, number of containers, container placement and container removal.

13-4-105 This Section This regulation addresses the general need and basis of the solid waste service charge. The solid waste service charge specifies the fees charged to residents for solid waste collection, recycling, or disposal services provided by the County.

13-4-106 This Section addresses commercial recycling and associated service charges.

13-4-107 This Section addresses changes, requirements, and prohibitions for County-owned or operated Landfills and solid waste disposal facilities.

13-4-108 This Section addresses stealing of recyclables.

13-4-109 The Section addresses the solid waste financial assurance fund section sets guidelines for the financial assurance required by federal regulation for closure and post- closure of the County landfills.

ANNE ARUNDEL COUNTY CODE ZONING USE LIST.

This document provides zoning regulations for certain solid waste management facilities.

ANNE ARUNDEL COUNTY CODE, ARTICLE 18, TITLE 2.

18-2-103 This section addresses planning for future development.

ANNE ARUNDEL COUNTY CODE, ARTICLE 18, TITLE 11.

18-11-113 This Section addresses zoning requirements for clay and borrow pits and sand and gravel operations including the prohibition of the use of combustion ash.

18-11-131 This Section addresses zoning requirements for landfills, rubble and land clearing debris landfills including the prohibition of the use of combustion ash.

18-11-136 This Section addresses zoning requirements for natural wood waste recycling facilities.

18-11-149 This Section addresses zoning requirements for recyclables recovery facilities.

18-11-154 This Section addresses zoning requirements for rubble processing facilities.

18-11-160 This Section addresses zoning requirements for solid waste transfer stations.

Table 1-7: Citations Related to the Adoption of Subsidiary Solid Waste Plans

Environmental Article, Title 9, Subtitle 5 of the Annotated Code of Maryland § 9-504, (a)

Required incorporation: To the extent that the incorporation will promote the public health, safety, and welfare, each County plan shall incorporate all or part of the subsidiary plan of each town; municipal corporation; sanitary district; privately owned facility; or local, State or Federal agency that has existing or planned development in that County.

Code of Maryland Regulations (COMAR) 26.03.02B:

Each County plan shall include all or part of the towns; municipal corporations; sanitary districts; privately owned facilities; and local, State and Federal agencies having existing, planned, or programmed development within the County to the extent that these inclusions shall promote the public health, safety and welfare. These subsidiary plans may be incorporated by reference into the County plan.

TABLE 2-1
STATE, REGIONAL, AND ANNE ARUNDEL COUNTY POPULATION DATA AND PROJECTIONS
2020 THROUGH 2035
(COUNTY SOLID WASTE MANAGEMENT PLAN UPDATE PLANNING PERIOD 2024-2033)

	Year	Statewide ⁽¹⁾	Baltimore Region ⁽¹⁾⁽²⁾	Anne Arundel County ⁽³⁾
	2020⁽⁴⁾	6,074,750	2,762,890	592,695
	2021 ⁽⁵⁾	6,108,796	2,773,170	598,493
	2022 ⁽⁵⁾	6,143,033	2,783,488	604,349
	2023 ⁽⁵⁾	6,177,462	2,793,845	610,261
10-Year Anne Arundel County Solid Waste Management Plan Update Planning Period ⁽⁶⁾	2024 ⁽⁵⁾	6,212,083	2,804,240	616,231
	2025⁽⁴⁾	6,244,980	2,814,290	621,687
	2026 ⁽⁵⁾	6,278,722	2,824,302	626,592
	2027 ⁽⁵⁾	6,312,646	2,834,350	631,537
	2028 ⁽⁵⁾	6,346,754	2,844,433	636,520
	2029 ⁽⁵⁾	6,381,046	2,854,552	641,542
	2030⁽⁴⁾	6,413,690	2,864,350	646,214
	2031 ⁽⁵⁾	6,448,704	2,874,416	649,814
	2032 ⁽⁵⁾	6,483,909	2,884,517	653,434
	2033 ⁽⁵⁾	6,519,306	2,894,654	657,074
	2034 ⁽⁵⁾	6,554,897	2,904,827	660,735
	2035⁽⁴⁾	6,588,760	2,914,680	664,214

Notes:

(1) Source: Historical and projected total population for Maryland's Jurisdictions; Department of Planning, Maryland State Data Center.

(2) Includes Anne Arundel, Baltimore, Carroll, Harford, Howard, and Queen Anne's Counties, and Baltimore City.

(3) Source: Anne Arundel County population and household trends and forecasts, 2020-2050; County Master Plan for Water Supply and Sewerage Systems, 2022, Table 2-2.

(4) Population projections utilized for growth rate determination in 5-year increments, in accordance with the County Master Plan for Water Supply and Sewerage Systems, 2022, Table 2-2.

(5) Population estimates using interpolation method based on the growth rate per County Master Plan for Water Supply and Sewerage Systems, 2022.

(6) Ten years of population projections shown; 2024 SWMP ten-year planning period begins January 1, 2024 and continues through December 31, 2033.

**TABLE 3-1
ANNE ARUNDEL COUNTY ANNUAL WASTE GENERATION AND PROJECTIONS, 2024-2033**

			Projected County Population During Planning Period January 2024 to December 2033 (3)				
Anne Arundel County Population			<u>2021</u> 598,493	<u>2024</u> 616,231	<u>2027</u> 631,537	<u>2030</u> 646,214	<u>2033</u> 657,074
Waste Category	2021 Actual Tons (1)	2021 Per Capita Rate (2)	Waste Projections (tons/year)				
Residential Waste	206,593	0.345	212,716	217,999	223,066	226,814	
Commercial Waste	146,039	0.244	150,367	154,102	157,683	160,333	
MSW Mixed (4)	44,702	0.075	46,027	47,170	48,266	49,077	
Industrial Waste (5)							
Institutional Waste (5)							
Construction and Demolition (C&D) Debris	150,830	0.252	155,300	159,157	162,856	165,593	
Land Clearing Debris (LCD)	13,731	0.023	14,138	14,489	14,826	15,075	
Rubble (6)	7,758	0.013	7,988	8,186	8,377	8,517	
Controlled Hazardous Substance (CHS) (5)							
Special Medical Waste	1,285	0.002	1,323	1,356	1,387	1,411	
Dead Animals (5)							
Bulky or Special Waste (5)							
Vehicle Tires	1,233	0.002	1,270	1,301	1,331	1,354	
Wastewater Treatment Plant Biosolids and Sludges (5)							
Septage (5)							
Woodwaste	18,489	0.031	19,037	19,510	19,963	20,299	
Electronics	109	0.000	112	115	118	120	
Motor Oil, Antifreeze, Cooking Oil, Vinyl, Medical Equipment	222	0.000	229	234	240	244	
Brush	7	0.000	7	7	8	8	
Scrap Metal	5,122	0.009	5,274	5,405	5,530	5,623	
Asbestos	19	0.000	20	20	21	21	
Soil	8,889	0.015	9,152	9,380	9,598	9,759	
Total MRA and Non-MRA Waste (7)	549,864	0.919	566,161	580,222	593,707	603,685	
Total MRA and Non-MRA Recyclables (8)	55,161	0.092	56,796	58,206	59,559	60,560	
MRA and Non-MRA Recyclables (9)	584,475	0.977	601,797	616,744	631,078	641,684	
Total Waste Generated (10)	1,189,500	1.987	1,224,754	1,255,173	1,284,344	1,305,929	

(1) 2021 data provided to Anne Arundel County by MDE, and taken from solid waste tonnages reported to MDE by permitted solid waste facilities and the MRA reports completed by Anne Arundel

(2) 2021 per capita generation numbers computed by dividing 2021 actual tons for each waste category by 2021 County population from Table 2-1.

(3) 2024-2033 tonnage projections computed by multiplying 2021 per capita rate for each waste category by projected population from Table 2-1.

(4) Municipal solid waste managed by private entities and reported to MDE as mixed residential and commercial waste.

(5) Category left blank in table at direction of MDE.

(6) Waste category as provided by MDE.

(7) 2021 AAC waste tonnages are based on permitted facilities Solid Waste Tonnage Reports as provided by MDE. Of this total, MDE reports that MRA waste disposed = 396,179 tons; Non-MRA waste disposed = 153,685 tons.

(8) 2021 AAC recyclables tonnages are based on permitted facilities Solid Waste Tonnage Reports as provided by MDE. Of this total, MDE reports that MRA waste recycled = 2,507 tons; Non-MRA waste recycled = 52,654 tons.

(9) 2021 AAC recyclables tonnages are based on the County MRA Report as provided by MDE. Of this total, MDE reports that MRA waste recycled = 257,938 tons; Non-MRA waste recycled = 326,537 tons.

(10) Total of MRA and Non-MRA wastes plus recyclables from both sources (7), (8) and (9).

**TABLE 3-2
ANNE ARUNDEL COUNTY-MANAGED RECYCLABLES AND TRASH
(TONS PER YEAR)**

Origin of Materials	2020 (tons)	2021 (tons)	2022 (tons)	3 Year Average
Northern Recycling Center (Glen Burnie)				
Recyclables	9,067	7,542	6,765	7,791
Yard Waste	14,190	13,620	12,660	13,490
Trash	29,447	27,430	27,974	28,284
Southern Recycling Center (Sudley)				
Recyclables	3,751	3,700	3,125	3,525
Yard Waste	11,610	13,410	15,330	13,450
Trash	12,872	12,244	11,052	12,056
Central Recycling Center (Millersville)				
Recyclables	3,792	4,114	3,811	3,906
Yard Waste	830	1,009	1,258	1,032
Trash	14,109	14,892	14,001	14,334
MLFRRF				
Recyclables	5,441	5,163	4,274	4,959
Yard Waste	13,040	10,734	9,482	11,085
Trash	127,163	167,030	140,448	144,880
Curbside Contracts				
Recyclables	52,731	54,790	49,456	52,326
Yard Waste	24,012	23,186	20,640	22,613
Trash	137,062	138,497	144,545	140,035
Other Recycling				
Recyclables	4,599	4,526	5,878	5,001
Yard Waste	0	0	0	0
Trash	0	0	0	0
Totals				
Recyclables	79,381	79,835	73,309	77,508
Yard Waste	63,682	61,959	59,370	61,670
Trash	320,653	360,093	338,020	339,589
Origin - Total	463,716	501,887	470,699	478,767
Overall Recycling Rate	17%	16%	16%	16%
Destination of Materials	2020 (tons)	2021 (tons)	2022 (tons)	3 Year Average
MLFRRF Disposal/Use				
Recyclables/Brush (yard waste)	13,040	10,734	9,482	11,085
Trash	154,144	194,166	140,448	162,919
MLFRRF - Composting				
Yard Waste	24,012	23,186	20,640	22,613
Transfer				
Yard Waste	26,630	28,039	29,248	27,972
Trash	166,509	165,927	197,572	176,669
Recyclers				
Recyclables	79,381	79,835	73,309	77,508
Yard Waste	0	0	0	0
Total				
Recyclables	79,381	79,835	73,309	77,508
Yard Waste	63,682	61,959	59,370	61,670
Trash	320,653	360,093	338,020	339,589
Destination - Total	463,716	501,887	470,699	478,767
MLFRRF Overall Waste Diversion Rate	52%	46%	58%	52%

(1) Data Summarized by WMS, and extracted From WMS Year End Reports and other WMS Staff Reports.

**TABLE 3-3
NO VARIATIONS IN CURRENT PRACTICES OVER THE SUCCEEDING 10 YEAR PLANNING PERIOD
ANNE ARUNDEL COUNTY MANAGED RECYCLABLES AND WASTE
ORIGIN AND DESTINATION PROJECTIONS 2024-2033**

	2022 WMS- Managed Tons (1)	Per Capita WMS Tons tons/cap/yr	Ten-Year Planning Period (2024 through 2033), Tons of Material									
			2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
AAC Population (historic, projections) (2)	604,349		616,231	621,687	626,592	631,537	636,520	641,542	646,214	649,814	653,434	657,074
Origin of Materials in AAC WMS System			Values Listed Below are in Tons per Year or in % of Tons per Year									
Recyclables												
3 Recycling Centers	13,701	0.0227	---	---	---	---	---	---	---	---	---	---
MLFRRF Recycling	4,274	0.0071	---	---	---	---	---	---	---	---	---	---
Curbside Contracts	49,456	0.0818	---	---	---	---	---	---	---	---	---	---
Other	5,878	0.0097	---	---	---	---	---	---	---	---	---	---
Yard Waste												
3 Recycling Centers	29,248	0.0484	---	---	---	---	---	---	---	---	---	---
MLFRRF Yard Waste	9,482	0.0157	---	---	---	---	---	---	---	---	---	---
Curbside Contracts	20,640	0.0342	---	---	---	---	---	---	---	---	---	---
Other	0	0.0000	---	---	---	---	---	---	---	---	---	---
Trash (MSW)												
3 Recycling Centers	53,027		---	---	---	---	---	---	---	---	---	---
MLFRRF	140,448	0.2324	---	---	---	---	---	---	---	---	---	---
Curbside Contracts	144,545	0.2392	---	---	---	---	---	---	---	---	---	---
Other	0	0.0000	---	---	---	---	---	---	---	---	---	---
Total Materials In AAC System	470,699	0.7789	---	---	---	---	---	---	---	---	---	---
Destination of Materials in AAC WMS System,												
Projected Gross Waste Generation (3,4)	470,699		479,953	484,203	488,023	491,874	495,755	499,667	503,306	506,110	508,929	511,764
Recycling Diversion Target (%)	16%		16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
Yard Waste Diversion Target (%)	13%		13%	13%	13%	13%	13%	13%	13%	13%	13%	13%
Target MSW Diversion to Other Sites (%)	42%		42%	42%	42%	42%	42%	42%	42%	42%	42%	42%
Target Max. Millersville LF Disposal (%)	30%		30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
Summary of AAC-Managed Waste Generation/Recovery/ Disposal (6)												
TOTALS												
Recyclables	73,309	0.1213	74,750	75,412	76,007	76,607	77,211	77,821	78,387	78,824	79,263	79,705
Yard Waste	59,370	0.0982	60,537	61,073	61,555	62,041	62,530	63,024	63,483	63,836	64,192	64,550
Trash (MSW) Diverted Elsewhere	197,572	0.3269	201,456	203,240	204,844	206,460	208,089	209,731	211,258	212,435	213,619	214,809
Trash (MSW) Disposed at MLFRRF	140,448	0.2324	143,209	144,477	145,617	146,766	147,924	149,091	150,177	151,014	151,855	152,701
TOTAL TONNAGES MANAGED BY AAC	470,699	0.7789	479,953	484,203	488,023	491,874	495,755	499,667	503,306	506,110	508,929	511,764

(1) See Table 3-2 for detailed background data on 2022 WMS-managed tons, developed from Year End Reports and Related Staff Reports on Tonnages.

(2) Population projections from Table 2-1.

(3) 2022 Gross WMS-managed Per Capita Generation Value computed from Table 3-2 "Destination of Materials" WMS data. Gross Waste Generation Rate for the purposes of these projections is: 0.7789

(4) Annual gross waste generation totals computed by multiplying respective year's population projection by gross per capita generation rate.

(5) Estimated waste fractions from various sources and to various destinations in 2022 from Figure 3-2.

(6) This is a function of assumptions used in goals for recyclables/ yard waste captured, and wastes diverted from MLFRRF.

**TABLE 3-4
EXISTING AND APPROVED WASTE ACCEPTANCE FACILITIES
IN ANNE ARUNDEL COUNTY, MARYLAND AND UTILIZED BY THE COUNTY**

Facility	Maryland Grid Coordinates	Size (Through Put)	Wastes Accepted	Owner	Solid Waste Permit Number	Expiration Date
<u>Municipal Solid Waste Landfill</u>						
Millersville Landfill and Resource Recovery Facility	895,000: 460,000	567 acres total 248 acres planned for solid waste disposal (200-1,000 tons per day)	Municipal Solid Waste (including segregation of recyclables)	Anne Arundel County	2022-WMF-0240	10/31/2027
<u>Recycling Centers</u>						
Central Recycling Center	895,000: 460,000	N/A (varies based on customers per day)	Municipal Solid Waste (residential waste and recyclables)	Anne Arundel County	None Required	N/A
Northern Recycling Center	910,000: 490,000	N/A (varies based on customers per day)	Municipal Solid Waste (residential waste and recyclables)	Anne Arundel County	None Required	N/A
Southern Recycling Center	920,000: 357,000	N/A (varies based on customers per day)	Municipal Solid Waste (residential waste and recyclables)	Anne Arundel County	None Required	N/A
<u>Waste Transfer Stations</u>						
Annapolis Junction Processing Facility and Transfer Station	860,000: 470,000	17 acres total (3,000 tons per day)	Non-hazardous residential, commercial, municipal, industrial, agriculture, silvicultural, construction, demolition and other waste sources.	Waste Management, Inc.	2021-WPT-0158	3/24/2026
Waste Management, Inc. Processing Facility and Transfer Station	920,000: 500,000	12.8 acres total (3,000 tons per day)	Non-hazardous residential, commercial, municipal, industrial, agriculture, silvicultural, construction, demolition and other waste sources.	Waste Management, Inc.	2018-WPT-0539	1/24/2024
<u>Special Medical Waste Processors</u>						
Biomedical Waste Services, Inc.	860,000: 470,000	1.4 acres total (N/A)	Special Medical Waste	Biomedical Waste Services, Inc.	2016-WPT-0676	3/24/2026
<u>Rubble Landfills</u>						
Tolson and Associates Rubble Landfill	860,000: 470,000	184 acres total (N/A)	Construction and Demolition Debris including Rubble materials	Tolson and Associates, LLC	2019-WRF-0580	3/24/2026

TABLE 3-5

**EXISTING RECYCLING, PROCESSING AND RESOURCE RECOVERY FACILITIES
IN ANNE ARUNDEL COUNTY, MARYLAND AND UTILIZED BY THE COUNTY**

Facility	Site Location	Recyclable Materials Accepted	Owner
<i>Yard Waste (in-County)</i>			
Millersville Landfill (County Yard Waste Composting Facility)	Severn, MD	Yard Waste (brush, branches, logs, stumps, leaves, grasses, etc.)	Anne Arundel County
Central, Northern, and Southern Recycling Centers (formerly Millersville, Glen Burnie, and Sudley Convenience Centers)	Severn, MD Glen Burnie, MD Deale, MD	Yard Waste (brush, branches, logs, stumps, leaves, grasses, etc.)	Anne Arundel County
Tolson and Associates Rubble Landfill	Crofton, MD	Yard trim, land clearing, C&D debris and other waste material (brush, leaves, and grasses)	Tolson and Associates, LLC
<i>Scrap Tires (in-County)</i>			
Auston Transfer and Processing, LLC	Joppa, MD	Scrap Tires	Auston Transfer and Processing

TABLE 3-6

EXISTING RECYCLING, PROCESSING AND RESOURCE RECOVERY FACILITIES
OUT OF ANNE ARUNDEL COUNTY, MARYLAND AND UTILIZED BY THE COUNTY

Facility	Site Location	Recyclable Materials Accepted	Owner
<u>Single Stream Recycling (out-of-County)</u>			
WM - Elkridge Materials Recycling Facility (MRF)	Elkridge, MD	Commingled (mixed paper, cardboard, glass, plastics, aluminum, metal cans, etc.)	WM Recycle America, LLC
<u>Yard Waste and Food Waste (out-of-County)</u>			
Prince George's Organics Composting Facility	Upper Marlboro, MD	Yard Waste (brush, branches, logs, stumps, leaves, grasses, etc.)	Prince George's County
<u>Yard Waste (out-of-County)</u>			
WeCare Denali	Woodbine, MD	Yard Waste (brush, branches, logs, stumps, leaves, grasses, etc.)	WeCare Denali, LLC
<u>Scrap Metal (out-of-County)</u>			
Baltimore Scrap Corporation	Baltimore, MD	Metals (various types of scrap metal)	Baltimore Scrap Corporation
<u>Scrap Tires (out-of-County)</u>			
K&K Tires, Inc.	Linthicum, MD	Scrap Tires	K&K Tires, Inc.
<u>Rubble (out-of-County)</u>			
Rubble Bee	Owings, MD	Construction and Demolition Debris including Rubble materials	Rubble Bee Recycling, LLC
<u>Electronics (out-of-County)</u>			
eRevival Electronics and Computer Recycling	Baltimore, MD	Electronics (various types of electronic equipment)	eRevival LLC

**TABLE 4-1
ALTERNATE PROJECTIONS - WITH INCREASED RECYCLING OVER THE SUCCEEDING 10 YEAR PLANNING PERIOD AND VARYING COUNTY LANDFILL
ANNE ARUNDEL COUNTY MANAGED RECYCLABLES AND WASTE
ORIGIN AND DESTINATION PROJECTIONS 2024-2033**

	2022 WMS- Managed Tons (1)	Per Capita WMS Tons tons/cap/yr	Ten-Year Planning Period (2024 through 2033), Tons of Material										
			2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	
AAC Population (historic, projections) (2)	604,349		616,231	621,687	626,592	631,537	636,520	641,542	646,214	649,814	653,434	657,074	
Origin of Materials in AAC WMS System			Values Listed Below are in Tons per Year or in % of Tons per Year										
Recyclables													
3 Recycling Centers	13,701	0.0227	---	---	---	---	---	---	---	---	---	---	---
MLFRRF Recycling	4,274	0.0071	---	---	---	---	---	---	---	---	---	---	---
Curbside Contracts	49,456	0.0818	---	---	---	---	---	---	---	---	---	---	---
Other	5,878	0.0097	---	---	---	---	---	---	---	---	---	---	---
Yard Waste													
3 Recycling Centers	29,248	0.0484	---	---	---	---	---	---	---	---	---	---	---
MLFRRF Yard Waste	9,482	0.0157	---	---	---	---	---	---	---	---	---	---	---
Curbside Contracts	20,640	0.0342	---	---	---	---	---	---	---	---	---	---	---
Other	0	0.0000	---	---	---	---	---	---	---	---	---	---	---
Trash (MSW)													
3 Recycling Centers	53,027		---	---	---	---	---	---	---	---	---	---	---
MLFRRF	140,448	0.2324	---	---	---	---	---	---	---	---	---	---	---
Curbside Contracts	144,545	0.2392	---	---	---	---	---	---	---	---	---	---	---
Other	0	0.0000	---	---	---	---	---	---	---	---	---	---	---
Total Materials In AAC System	470,699	0.7789	---	---	---	---	---	---	---	---	---	---	---
Destination of Materials in AAC WMS System, Goals													
Projected Gross Waste Generation (3,4)	470,699		479,953	484,203	488,023	491,874	495,755	499,667	503,306	506,110	508,929	511,764	
Recycling Diversion Target (%)	16%		18%	20%	22%	24%	26%	28%	30%	32%	34%	36%	+ 2% per year
Yard Waste Diversion Target (%)	13%		13%	13%	13%	13%	13%	13%	13%	13%	13%	13%	No Change
Target MSW Diversion to Other Sites (%)	42%		41%	40%	39%	38%	37%	36%	35%	34%	33%	32%	- 1% per year
Target Max. MLFRRF Disposal (%)	30%		29%	28%	27%	26%	25%	24%	23%	22%	21%	20%	- 1% per year
Summary of AAC-Managed Waste Generation/Recovery/ Disposal (6)													
TOTALS													
Recyclables	73,309	0.1213	74,750	75,412	76,007	76,607	77,211	77,821	78,387	78,824	79,263	79,705	
Yard Waste	59,370	0.0982	60,537	61,073	61,555	62,041	62,530	63,024	63,483	63,836	64,192	64,550	
Trash (MSW) Diverted Elsewhere	197,572	0.3269	201,456	203,240	204,844	206,460	208,089	209,731	211,258	212,435	213,619	214,809	
Trash (MSW) Disposed at MLFRRF	140,448	0.2324	143,209	144,477	145,617	146,766	147,924	149,091	150,177	151,014	151,855	152,701	
TOTAL TONNAGES MANAGED BY AAC	470,699	0.7789	479,953	484,203	488,023	491,874	495,755	499,667	503,306	506,110	508,929	511,764	

(1) See Table 3-2 for detailed background data on 2022 WMS-managed tons, developed from Year End Reports and Related Staff Reports on Tonnages.

(2) Population projections from Table 2-1.

(3) 2022 Gross WMS-managed Per Capita Generation Value computed from Table 3-2 "Destination of Materials" WMS data. Gross Waste Generation Rate for the purposes of these projections is: 0.7789

(4) Annual gross waste generation totals computed by multiplying respective year's population projection by gross per capita generation rate.

(5) Estimated waste fractions from various sources and to various destinations in 2022 from Figure 3-2.

(6) This is a function of assumptions used in goals for recyclables/ yard waste captured, and wastes diverted from MLFRRF.

**TABLE 4-2
ANNE ARUNDEL COUNTY MRA AND WASTE DIVERSION RATES 1991-2020**

Calendar Year	MRA Recycling Rate	Waste Diversion Rate (MRA Rate + Source Reduction Credit)
1991	12.21%	---
1992	15.44%	---
1993	29.66%	---
1994	26.63%	---
1995	33.00%	---
1996	33.00%	---
1997	39.00%	---
1998	41.00%	---
1999	42.00%	---
2000	38.00%	---
2001	39.00%	41.00%
2002	42.00%	44.00%
2003	41.00%	44.00%
2004	37.00%	40.00%
2005	41.00%	44.00%
2006	46.26%	49.26%
2007	39.16%	42.16%
2008	42.71%	45.71%
2009	39.40%	42.40%
2010	44.05%	47.05%
2011	47.17%	51.17%
2012	45.85%	49.85%
2013	41.18%	45.18%
2014	37.88%	41.88%
2015	35.86%	38.86%
2016	32.51%	36.51%
2017	40.99%	45.99%
2018	49.18%	54.18%
2019	45.27%	50.27%
2020	41.49%	46.49%

Notes:

- (1) Data presented from Maryland Solid Waste Management and Diversion Reports (<https://mde.maryland.gov/pro>)
- (2) The County's mandatory recycling rate is 35%.

**TABLE 5-1
LIFESPAN SUMMARY OF THE MLFRRF**

	Landfill Utilization Rate (waste density) = 1,200 lbs/CY	
	Years	Fill Date
Cell 9 Lifespan with landfill utilization rate (waste density) of 1,200 lbs/CY and a projected disposal rate of 140,000 tons/yr with an annual increase of 1%, beginning in January 2022.	26.7	October 2048

Notes:

lbs = pounds

CY = cubic yards

Source: 2021 Annual Report. Millersville Landfill and Resource Recovery Facility. Prepared by BAI Group. June 2022.

**TABLE 5-2
STRATEGIC RECYCLING AND SOLID WASTE ACTION ITEMS**

Category	Item ID	Action Description
Integrated System Management	ISM1	Continue to implement new recycling and waste management initiatives, programs and systems that are innovative as well as responsive to changes in regulations.
	ISM2	Promote a hierarchical flow for County-managed materials from source reduction and reuse, to recycling and composting, to beneficial use and energy recovery, and to treatment and disposal.
	ISM3	Promote programs and policies that increase recycling, divert waste from the Landfill and otherwise extend the life of the landfill.
	ISM4	Initiate long-term planning, assessments and other measures as needed to promote a sustainable system upon Landfill closure.
Regional Partnerships	RP1	Continue to develop partnerships with public and private entities and associated facilities on a regional basis to help meet the County's recycling and solid waste needs.
	RP2	Periodically reassess existing partnerships for conformance with the County's goals and objectives and as needed, develop new partnerships and arrangements to meet the needs of the County.
Protecting Public Health and the Environment	PPHE1	Ensure measures to protect public health and the environment are implemented at County-managed and privately-operated facilities from the time recyclables and solid wastes are placed curbside for collection until their ultimate processing, recovery, and/or disposal. Also refer to and comply with the Environmental Monitoring Program.
Waste Reduction	WR1	Continue to promote increased recycling and waste reduction through public education and other measures. Expand waste reduction initiatives such as backyard composting and grass-cycling programs.
	WR2	
	WR3	Expand waste recovery activities including beneficial use applications for solid waste residues.
Recycling	R1	Continue to strive for a 50% recycling rate.
	R2	Continue to use and provide multiple recycling containers and larger carts to residential curbside customers for recycling.
	R3	Continue to promote the 50/50 Challenge for everyone in the County to recycle at least 50% of all discarded materials.
	R4	Continue to provide education and outreach to students (school-aged children), families and staff so that they will recycle more at school and ultimately more at home.
	R5	Continue to assist public schools and colleges with recycling through the Public School and Public College Recycling Program.
	R6	Continue provide recycling assistance to small businesses and recreational areas of the County including County Parks.
	R7	Continue to assist County office building to recycle through expanding the County Office Recycling Program (CORP).
	R8	Continue to encourage commercial businesses and establishments to recycle by providing program development assistance.
	R9	Develop and implement an apartment building and condominium recycling program.
	R10	Evaluate additional mechanisms to recycle, process and/or market single stream recyclables, refined yard waste, scrap metal, electronics, fluorescent lighting, rubble and other potentially recyclable materials including food waste, carpet and textiles.
	R11	
	R12	Continue to search for the highest revenues for recyclables managed by the County.
	R13	Continue to evaluate new materials that can be added to the curbside contract and homeowner drop-off recycling programs.
Collection	C1	Continue to provide residential curbside customers with: weekly collection of recyclables, yard waste and trash; scheduled bulky item and metal collections; dumpsters for scheduled community clean-up events; and seasonal collection of Christmas trees.
	C2	Improve site usage and customer service at the Central, Northern and Southern Recycling Centers through modernization activities, enhanced signage, public education and outreach, staff training and regular customer interaction.
	C3	Continue to provide additional services for materials not accepted at curbside.
	C4	Evaluate the collection of additional recyclable and solid waste materials and their eventual processing and disposal needs.
Waste Diversion	WD1	Continue to improve the waste diversion % of County-managed waste.
	WD2	Attain the highest MRA Waste Diversion Rate in the State.
	WD3	Continue to divert residential waste from the Millersville Landfill to transfer stations and other waste acceptance facilities to prolong the useful life of the Landfill as long as such feasible and cost-effective alternatives exist.
	WD4	Evaluate alternatives to the current practices of waste diversion.

TABLE 5-2 (continued)

STRATEGIC RECYCLING AND SOLID WASTE ACTION ITEMS

Category	Item ID	Action Description
Disposal	D1 D2	Strive to minimize the County-managed waste disposed of at the Landfill, where feasible and cost-effective alternatives exist. Implement measures to preserve and maximize landfill airspace and capacity to prolong the useful life of the Millersville Landfill.
Enhancements to the Existing Systems	EES1	Continue to evaluate and implement technically feasible and cost-effective enhancements to the existing recycling and solid waste systems to increase the capture of recyclables and waste disposal efficiencies.
Alternatives to the Millersville Landfill	AML1 AML2 AML3 AML4 AML5	Continue to divert residential curbside waste to a regional transfer station of out-of-County disposal facility. Evaluate the potential need for and/or use of a Regional or County-owned Organic Waste Composting Facility. Evaluate waste mining of the unlined closed cells at the Millersville Landfill to reduce the County's environmental liability. Evaluate the potential need for a new County-owned Landfill to provide future waste disposal capacity. Evaluate the potential impact of adding measures listed in AML2 thru AML5 on further extending the life of the Millersville Landfill, beyond 2040.
Revenue and Funding	RF1 RF2 RF3	Perform annual reviews of the residential rate structure to ensure that adequate funding exists to support the recycling and solid waste programs, and to identify measures to keep the rate structure cost-effective and affordable. Continue to investigate advantageous markets for the sale of single-stream recyclables, yard waste (compost and mulch), scrap metal, electronics and other recyclable materials to provide a revenue stream for the Solid Waste Fund. Continue to develop beneficial use applications for solid waste residues similar to rubble to offset operational expenditures for raw materials and for landfill gas for electricity generation to provide a revenue stream.
Regulatory Compliance	RC1 RC2 RC3	Perform site inspections utilizing County DPW-WMS Staff regarding the operation and maintenance of existing County recycling and solid waste facilities. Perform joint audit inspections utilizing County DPW-WMS Staff in conjunction with State and County regulatory agencies when significant recycling and solid waste facility changes are implemented. Monitor proposed Federal, State and Local regulations that may impact the operations of existing County recycling and solid waste facilities, as well as the need for design/construction/operation of future facilities.
Environmental Monitoring Program	EMP1 EMP2 EMP3 EMP4 EMP5 EMP6 EMP7 EMP8 EMP9 EMP10	Ensure compliance with all requirements of the Refuse Disposal Permit for the Millersville Landfill. Maintain the closure cover and/or capping systems at the Millersville, Glen Burnie and Sudley Road Landfills. Continue to implement an Environmental Monitoring Plan at the Millersville and Sudley Road Landfills. Continue post-closure care maintenance, inspections and reporting for the closed cells of the Millersville, Glen Burnie and Sudley Road Landfills. Ensure compliance with materials handling procedures and permits for household hazardous waste, used/waste oil and tires. Continue stormwater pollution prevention inspections, record keeping, tracking and training for staff. Develop updated plans, procedures and sampling protocols for the Landfill and Recycling Centers to comply with the new general permit for stormwater discharges. Routinely conduct site visits to public and private sector recycling and waste disposal facilities utilized by the County to ensure the facilities are being operated and maintained in an environmentally sound manner. Explore additional beneficial uses for collected landfill gas at the Millersville Landfill, beyond Gas-to-Electricity. Develop additional compliance programs to meet the requirements of changing and/or new environmental regulations. Also, refer to Protecting Public Health and the Environment.

TABLE 5-2 (continued)

STRATEGIC RECYCLING AND SOLID WASTE ACTION ITEMS

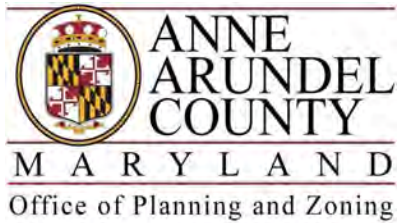
Category	Item ID	Action Description
Customer Service and Relations	CSR1	Continue education and outreach efforts to County residents and adjacent landowners of the County's facilities regarding current and future recycling and solid waste programs and facility activities.
	CSR2	Continue to respond to issues and concerns raised by County residents and facility customers regarding programs and services in a prompt and complete manner.
	CSR3	Review the County DPW-WMS website on a routine basis to ensure that the most current and accurate information regarding services, programs, facilities and staff contact information is presented.
Zoning	Z1	Review existing land use policies and zoning regulations to determine the benefits of allowing solid waste recycling, processing and disposal facilities that are of similar type to existing County Facilities in zones other than those already designated for these types of facilities.
	Z2	Work with the County Office of Planning and Zoning to develop land use policies and zoning regulations that, if in the best interests of the County, allow solid waste recycling, processing and disposal facilities that are of different type than existing County Facilities in land use zones within the County.
	Z3	Perform permit application reviews for solid waste recycling, processing and disposal facilities for conformance with the Solid Waste Management Plan.



APPENDIX C

COUNTY AND STATE APPROVALS OF THE PLAN

**1. ANNE ARUNDEL COUNTY OFFICE OF PLANNING AND ZONING
PLAN CERTIFICATE OF CONFORMANCE**



2664 Riva Road, P.O. Box 6675
Annapolis, MD 21401
410-222-7450

Jenny B. Jarkowski
Planning and Zoning Officer

June 7, 2023

Richard Bowen
Anne Arundel County Department of Public Works
Waste Management Services
389 Burns Crossing Road
Severn, MD 21144

Re: **Certificate of Conformance**

Dear Mr. Bowen,

The Office of Planning and Zoning has reviewed the 10-Year Solid Waste Management Plan for 2024 - 2033 and finds the document is consistent with Plan2040, the General Development Plan of Anne Arundel County and was prepared in accordance with COMAR 26.03.03.

Sincerely,

A handwritten signature in black ink that reads "Jenny B. Jarkowski". The signature is written in a cursive style with a large initial "J".

Jenny Jarkowski
Planning and Zoning Officer

**2. ANNE ARUNDEL COUNTY COUNCIL
PLAN ADOPTION**

**3. MARYLAND DEPARTMENT OF THE ENVIRONMENT
PLAN APPROVAL**



APPENDIX D

AMENDMENTS TO THE PLAN



APPENDIX E

COUNTY PROGRAM DEVELOPMENT
DOCUMENTS AND RECYCLING
INITIATIVES

ANNE ARUNDEL COUNTY RECYCLING INITIATIVE

PUBLIC COLLEGE RECYCLING

In July, 2009, the Maryland General Assembly passed House Bill 1290, Environmental-Recycling – Public School Plans requiring recycling in all publicly-funded schools with the exception of State Universities. The law became effective on July 1, 2009 (amending 9-1703 of Environment Article, Annotated Code of Maryland). This bill requires each county's recycling plan to implement a strategy for collecting, processing, marketing, and disposing of recyclable materials from its public schools. It is mandated to have a plan in place by October 1, 2010.

Anne Arundel Community College

Program

Anne Arundel Community College (AACC) is a public, comprehensive, community-engaged institution of higher education. In cooperation with and with the support of Anne Arundel County, Anne Arundel Community College has promoted the sustainability of the recycling and solid waste system that includes maximum efficiency, economic vitality, and reduced environmental and human health impacts. The college strives to reduce per capita waste generation and increase the recovery of recyclable materials. Beginning with the 2009 college year, the college system adopted a single stream recycling program allowing the college to place the same items accepted by the county's residential recycling program into one container that is located in each classroom or building area. Single stream recycling allowed the college to increase recyclable volume while contractually decreasing the number of trash containers and service needed at each college location. AACC staff, students and maintenance personnel are responsible for the collection of recyclables within the campus facilities and placement of said material within the recycling dumpster(s) or carts. Collection service is provided under a multi-year contract held by a licensed solid waste hauler (Contractor). The college's recycled materials are collected and transported to a local Materials Recycling Facility (MRF), of the Contractor's choosing, for further processing and marketing. Additionally, the college recycles scrap metal, pallets, bulk cardboard, used motor and cooking oil. The college also donates office and classroom furnishing for reuse or repurposing by other organizations. The recycling program shall continue in full force.

Materials Included in Program and the Collection of Materials

The College launched a college wide single stream recycling program in 2009. This program recycles all cardboard, glass, plastic, aluminum, and paper products. The Contractor making collections of recyclables shall provide all labor, materials, equipment, transportation, and supervision as necessary to make collections from the Anne Arundel Community College main campus in Arnold, two facilities at Glen Burnie, and one facility at Arundel Mills located in Hanover, MD.

Containers used for collection will include 2, 4, 6 and 8 cubic yard dumpsters as well as 96 gallon carts and containers will be collected on a scheduled basis. Provided containers shall be both leak proof and rodent proof, having a sealed bottom and tightfitting cover, and be structurally capable of supporting a capacity load.

All collected recyclables must be delivered to a MRF where material will be processed and marketed for its best possible reuse. The Contractor shall be responsible for obtaining any and all required State, County or City license(s) and providing copies of license to AACC prior to the award of any contract

Stakeholders

Stakeholders within the Anne Arundel Community College system include the Purchasing Agent, the Director of Facilities Operations and Maintenance, the Supervisor of Custodians, Maintenance personnel, AACC staff, AACC students and the Hauling contractor.

AACC staff, students and maintenance personnel are responsible for the collection of recyclables within the campus facilities and placement of said material within the recycling dumpster(s) or carts. The Director of Facilities Operations and Maintenance will ensure the Contractor is providing the recycling services to each facility including the required collection containers and the regularly scheduled pick-up service. Additionally, this stakeholder will provide the necessary contract management to ensure the Contractor is meeting the contract specifications. AACC will submit every three years to Anne Arundel County's Department of Public Works, Recycling Division, Solid Waste Recycling Manager at 2662 Riva Road, Annapolis, Maryland 21401 any changes and updates to the School Recycling Program to be included in the Ten Year Solid Waste Management Plan.

Anne Arundel County's Recycling Division will support AACC recycling program by conducting student and staff recycling awareness presentations. Additionally, the Division will assist and monitor the AACC Recycling Program to ensure a highly successful program continues to exist. The Anne Arundel County Council is responsible for adopting the School Recycling Plan for inclusion into the Ten Year Solid Waste Management Plan.

Participating Locations

Recycling Dumpster collection:

Location	Building
Arnold Campus	CALT
Arnold Campus	CSB
Arnold Campus	Student Union
Arundel Mills	Arundel Mills

Recycling Cart collection:

Location	Building(s)
Arnold Campus	All
Arundel Mills	Arundel Mills
Glen Burnie	GBTC&HCAT

All new AACC facilities will be included in the Recycling Program upon opening.

Program Monitoring

The Director of Facilities Operations and Maintenance shall conduct inspections, review service levels, and investigate reported or unreported pick-up and disposal complaints, conduct meetings between AACC and Contractor staff to educate or review practices, and review Contractor compliance with the school recycling contract. If revisions or changes are required in connection with this contract which, in the opinion of AACC, are rendered necessary as a result of the Contractor's services or if the Contractor's work is determined by the AACC to be inferior, defective or not in accordance with terms of the collection contract, AACC will provide written notification to the Contractor within 48 hours after discovering the service issue. The Contractor shall, within 48 hours after receiving the notification from AACC, and without expense to the AACC:

- Place in satisfactory condition in every particular all such work and correct all defects therein;
- Make good all work, which in the opinion of AACC is the result of failure on the part of the Contractor to respond to or correctly complete the terms of the contract.

If the Contractor, after notice, fails to proceed promptly to comply with the terms of the guarantee, AACC may have the work corrected by another company and the Contractor shall be liable for any and all expenses incurred.

The contractor, throughout the life of the contract, shall be required to work with AACC to further develop, implement and expand the Anne Arundel Community College System's existing recycling program, to include the addition of any future AACC facility added to the current list of locations.



In July 2009, the Maryland General Assembly passed House Bill 1290, Environmental-Recycling – Public School Plans, requiring recycling in all publicly-funded schools except for State Universities. The law became effective on July 1, 2009, (amending 9-1703 of Environment Article, Annotated Code of Maryland). This bill requires each county’s recycling plan to implement a strategy for collecting, processing, marketing, and disposing of recyclable materials from its public schools. It is mandatory to have a plan in place by October 1, 2010.

Anne Arundel County Public School Recycling Program

Program

Anne Arundel County Public Schools (AACPS) operates independently from Anne Arundel County’s Waste Management Services program. However, the public schools’ have been a proactive recycling partner with the County Government since 1989 and have continually increased their commitment to recycling over the years. Beginning with the 2008 school year, the school system adopted a single stream recycling program. All schools participate in the single stream recycling program. Recycling containers are located within each classroom, office space and in communal areas. Additionally, each school has single stream recycling dumpster(s) located outside which is utilized for material collection by a private contractor. AACPS custodial personnel are responsible for the collection of recyclables within the schools and placement of said material into the single stream recycling dumpster(s).

Single stream recycling has allowed the school system to increase recyclable volume while contractually decreasing the number of trash containers and service needed at each school location. This process has yielded immediate cost avoidance and significant savings to the school system’s budgetary bottom-line. The collection of each school’s recycled materials is provided under a multi-year contract held by a licensed solid waste hauler (contractor). The collected material is transported to a local materials recycling facility (MRF) for further processing and marketing.

Materials Included in Program

Recyclables include, but are not limited to, mixed paper defined as all paper products like newspaper, books, colored paper, computer paper, letters, envelopes, file folders, paper bags, etc. Comingle items includes aluminum beverage cans, glass bottles, jars, plastic bottles, steel and tin cans, and corrugated cardboard boxes.

Collection of Materials

The contractor is responsible for providing all containers, labor and equipment required to fulfill the recycling services for AACPS on a scheduled basis. All recycling dumpsters must be labeled. Unless otherwise directed, six (6) cubic yard containers are used for recyclable materials.

The work shall consist of collecting, transporting, and disposing recyclable materials from AACPS locations. All materials that are set out in designated recycling areas for each of these facilities shall be

collected. In the event a recycling container is severely contaminated with non-recyclables, defined as, greater than 5%, the contractor is to notify the Contract Manager of the problem. An allowance for disposal of the container in the landfill shall be made by AACPS equal to the monthly landfill disposal fee divided by the number of pick-ups per month. No service charge allowance is allowed. If the problem continues routinely, the contractor's recycling specialist should determine the source of the contamination and make recommendations to the Contract Manager on how to resolve the issue, such as education programs, alternate container placement, locks, etc.

All designated recyclables will be delivered by the contractor to a MRF of the contractor's choosing. The facility shall be in full compliance with all federal, state, and local laws, covenants, and ordinances. AACPS may require the contractor to furnish documentation verifying such compliance. Any infraction there-of, if repeated after warning by the Contract Manager, shall be just cause for termination of this contract.

Marketing of Materials

All collected recyclables must be delivered to a MRF where material will be processed and marketed for its best possible reuse. The contractor must submit to the AACPS Contract Manager quarterly reports and a route schedule on all recycling tonnage removed from AACPS. The contractor may be requested to provide written indication of secured processing and marketing capacity. Thereafter, upon written request by the Contract Manager, additional markets for AACPS recycling materials collected through this bid must be presented in written form. The contractor shall have 30 days to comply. All market information will be handled with the strictest confidentiality. The contractor is to continue to promote, develop and manage recycling efforts to enhance the current AACPS recycling program.

Stakeholders

Stakeholders within the AACPS system include the Environmental, Health and Safety Manager (Contract Manager), Superintendent of Schools, Regional Area Superintendents, Chief Operating Officer, School Principals, High School Business Managers, School Chief Custodians, Director of Facilities, Supervisor of Operations and Logistics and the Operations Area Managers. The AACPS stakeholders are responsible for ensuring all publicly funded schools are participating in the School Recycling Program. The Contract Manager will ensure the contractor is providing the recycling services to each facility including the required collection dumpsters and the regularly scheduled pick-up service. The AACPS Contract Manager provides the necessary contract management to ensure the contractor is meeting the contract specifications. Every three years Anne Arundel County Public Schools will submit any changes and updates to the AACPS Recycling Program to be included in the Ten-Year Solid Waste Management Plan. Changes will be submitted to Anne Arundel County's Department of Public Works, Recycling Division, Solid Waste Recycling Manager, at 2662 Riva Road, Annapolis, Maryland 21401.

Anne Arundel County Public Schools Recycling Program success depends heavily upon the support and cooperation received from the Anne Arundel County Recycling Division. The Recycling Division staff conduct student and staff recycling awareness presentations, develop grade appropriate recycling lesson plans/educational videos and conduct recycling contests tailored for elementary, middle, and high school students. The Anne Arundel County Recycling Division may provide office and classroom recycling containers and other recycling materials as budgets allow.

Schools in Program

Elementary Schools	
ANNAPOLIS	180 Green St Annapolis 21401
ARNOLD	95 Joyce Lane East Arnold 1012
BELLE GROVE	4502 Belle Grove Rd Baltimore 21225
BELVEDERE	360 Broadwater Rd Arnold 21012
BENFIELD	365 Lynwood Dr Severna Park 21146
BODKIN	8320 Ventor Road Pasadena 21122
BROADNECK	470 Shore Acres Rd Arnold 21012
BROCK BRIDGE	405 Brock Bridge Rd Laurel 20724
BROOKLYN PARK	200 14th Avenue Baltimore 21225
CAPE ST. CLAIRE	931 Blue Ridge Dr Annapolis 21409
CENTRAL	130 Stepney Lane Edgewater 21037
CROFTON	1405 Duke of Kent Crofton 21114
CROFTON MEADOWS	2020 Tilghman Dr Crofton 21114
CROFTON WOODS	1750 Urby Dr Crofton 21114
DAVIDSONVILLE	962 W Central Ave Davidsonville 21035
DEALE	759 Masons Beach Rd Deale 20751
EASTPORT	420 Fifth Ave Annapolis 21403
EDGEWATER	121 Washington Rd Edgewater 21037
FERNDALE EEC	105 Packard Ave Glen Burnie 21061
FOLGER MCKINSEY	175 Arundel Beach Rd Severna Park 21146
FORT SMALLWOOD	1720 Poplar Ridge Rd Pasadena 21122
FOUR SEASONS	979 Waugh Chapel Rd Gambrills 21054
FREETOWN	7904 Freetown Rd Glen Burnie 21060
GEORGE CROMWELL	525 Wellham Ave Glen Burnie 21061
GEORGETOWN EAST	111 Dogwood Rd Annapolis 21403
GERMANTOWN	1411 Cedar Park Rd Annapolis 21401
GLEN BURNIE PARK	500 Marlboro Rd Glen Burnie 21061
GLENDALE	105 Carroll Rd Glen Burnie 21060
HEBRON-HARMAN	7660 Ridge Chapel Rd Hanover 21076
HIGH POINT	924 Duvall Highway Pasadena 21122
HILLSMERE	3052 Arundel on the Bay Rd Annapolis 21403
HILLTOP	415 Melrose Ave Glen Burnie 21061
JACOBSTOWN	3801 Mountain Rd Pasadena 21122
JESSUP	2900 Elementary School Lane Jessup 20794
JONES	122 Hoyle Lane Severna Park 21146
LAKE SHORE	4804 Mountain Rd Pasadena 21122
LINTHICUM	101 School Lane Linthicum 21090
LOTHIAN	5175 Solomons Island Rd Lothian 20711
MANOR VIEW	2900 MacArthur Rd Ft. Meade 20755

Elementary Schools cont.	
MARLEY	715 Cooper Rd Glen Burnie 21060
MARYLAND CITY	3359 Crumpton South Laurel 20724
MAYO	1260 Mayo Ridge Rd Edgewater 21037
MEADE HEIGHTS	1925 Reece Rd Ft. Meade 20755
MILLERSVILLE	1601 Millersville Rd Millersville 21108
MILLS-PAROLE	103 Chinquapin Round Rd Annapolis 21401
NANTUCKET	2350 Nantucket Drive, Crofton, 21114
NORTH GLEN	615 West Furnace Branch Rd Glen Burnie 21061
OAK HILL	34 Truckhouse Rd Severna Park 21146
OAKWOOD	330 Oak Manor Dr Glen Burnie 21061
ODENTON	1290 Odenton Rd Odenton 21113
OVERLOOK	401 Hampton Rd Linthicum 21090
PARK	201 East 11th Ave Baltimore 21225
PASADENA	401 East Pasadena Road Pasadena 21122
PERSHING HILL	7600 29th Division Rd Ft. Meade 20755
PINEY ORCHARD	2641 Strawberry Lake Way Odenton 21113
POINT PLEASANT	1035 Dumbarton Rd Glen Burnie 21060
QUARTERFIELD	7967 Quarterfield Rd Severn 21144
RICHARD HENRY LEE	400 A St Glen Burnie 21061
RIDGEWAY	1440 Evergreen Rd Severn 21144
RIPPLING WOODS	530 Nolfield Dr Glen Burnie 21061
RIVIERA BEACH	8515 Jenkins Rd Pasadena 21122
ROLLING KNOLLS	1985 Valley Rd Annapolis 21401
SEVEN OAKS	1905 Town Center Blvd Odenton 21113
SEVERN	838 Reece Rd Severn 21144
SEVERNA PARK	6 Riggs Ave Severna Park 21146
SHADY SIDE	4859 Atwell Rd Shady Side 20764
SHIPLEY'S CHOICE	310 Governor Stone Pkwy Millersville 21108
SOLLEY	7608 Solley Rd Glen Burnie 21060
SOUTH SHORE	1376 Fairfield Loop Rd Crownsville 21032
SOUTHGATE	290 Shetlands Lane Glen Burnie 21061
SUNSET	8572 Ft. Smallwood Rd Pasadena 21122
TRACEY'S	20 Deale Road Traceys Landing 20779
TYLER HEIGHTS	200 Janwal St Annapolis 21403
VAN BOKKELEN	1140 Reece Rd Severn 21144
WAUGH CHAPEL	840 Sunflower Dr Odenton 21113
WEST ANNAPOLIS	505 Melvin Ave Annapolis 21401
WEST MEADE EEC	7722 Ray St Ft. Meade 20755
WINDSOR FARM	591 Broadneck Rd Annapolis 21409
WOODSIDE	160 Funke Rd Glen Burnie 21061

Middle Schools	
ANNAPOLIS	1399 Forest Dr Annapolis 21403
ARUNDEL	1179 Hammond Lane Odenton 21113
BATES	701 Chase Ave Annapolis 21401
BROOKLYN PARK	200 Hammonds Lane Baltimore 21225
CENTRAL	221 Central Ave East Edgewater 21037
CHESAPEAKE BAY	4804 Mountain Rd Pasadena 21122
CORKRAN	7600 Quarterfield Rd Glen Burnie 21061
CROFTON	2301 Davidsonville Rd Crofton 21114
NORTHEAST	7922 Outing Ave Pasadena 21122
LINDALE	415 Andover Rd Linthicum 21090
MACARTHUR	3500 Rockenbach Rd Ft. Meade 20755
MAGOTHY RIVER	241 Peninsula Farm Rd Arnold 21012
MARLEY	10 Davis Court Glen Burnie 21060
MEADE	1103 26th St Ft. Meade 20755
OLD MILL NORTH	620 Patriot Lane Millersville 21108
OLD MILL SOUTH	620 Patriot Lane Millersville 21108
SEVERN RIVER	241 Peninsula Farm Rd Arnold 21012
SEVERNA PARK	450 Jumpers Hole Rd Severna Park 21146
SOUTHERN	5235 Solomons Island Rd Lothian 20711
High Schools	
ANNAPOLIS	2700 Riva Rd Annapolis 21401
ARUNDEL	1001 Annapolis Rd Gambrills 21054
BROADNECK	1265 Green Holly Dr Annapolis 21409
CHESAPEAKE	4798 Mountain Rd Pasadena 21122
CROFTON	2291 Davidsonville Road Gambrills 21054
GLEN BURNIE	7550 Baltimore Annapolis Blvd. Glen Burnie 21060
MEADE	1100 Clark Rd Ft. Meade 20755
NORTH COUNTY	10 E. 1st Avenue Glen Burnie 21061
NORTHEAST	1121 Duvall Highway Pasadena 21122
OLD MILL	600 Patriot Lane Millersville 21108
SEVERNA PARK	60 Robinson Rd Severna Park 21146
SOUTH RIVER	201 Central Avenue East Edgewater 21037
SOUTHERN	4400 Solomons Island Rd Harwood 20776

All new school facilities will be included in the School Recycling Program upon opening.

Program Monitoring

The Anne Arundel County Public School Facilities Division Operations Department, Environmental Health and Safety Office, will monitor the school recycling program to ensure participation. The school system shall conduct inspections, review service levels, investigate reported or unreported pick-up and disposal complaints, conduct meetings between AACPS and contractor staff to educate or review practices, and review contractor compliance with the school recycling contract. Any issues which arise from these visits that are deemed deficiencies on the part of the contractor will be detailed in writing and reported to the contractor within ten business days after discovering the service issue. The contractor shall initiate actions to correct all deficiencies found within ten business days after receipt of deficiency notification. If deficiencies are not being satisfactorily corrected, the AACPS may take over the service and pursue it to completion, by contract or otherwise, and the contractor shall be liable to AACPS for all costs incurred.

The contractor shall be available to conduct educational seminars and/or tours on new products, practices, and procedures for AACPS employees and/or students. As well, the contractor shall be responsible to keep AACPS current on new regulations, laws, mandates, etc. affecting trash removal and recycling in the State of Maryland.

The contractor, throughout the life of the contract, shall be required to work with AACPS to further develop, implement and expand Anne Arundel County Public School System's existing recycling program, to include the addition of any future AACPS facility added to the current list of locations.

The Anne Arundel County Recycling Division helps to monitor the AACPS Recycling Program and makes recommendations to the contract manager to ensure the schools phenomenally successful recycling program continues.

The Anne Arundel County Council is responsible for adopting the School Recycling Plan for inclusion into the Ten-Year Solid Waste Management Plan.

Special Events Recycling Program

Background

In 2014, the Maryland General Assembly passed Senate Bill 781, *Environment – Recycling – Special Events*. The law requires organizers of special events meeting certain criteria to provide a recycling receptacle adjacent to each trash receptacle, ensure recycling receptacles are clearly distinguished from trash receptacles, and ensure that recyclable materials are collected for recycling. Special event organizers must conduct recycling in accordance with the County's Solid Waste Management Plan (SWMP). The law also requires each county to update its plan by October, 2015, to address the collection and recycling of recyclable materials from special events.

Special Events Subject to the Recycling Program

The Environment Article, § 9-1712, of the State Code, requires Special Events Organizers (SEO) to provide for recycling at events that meet the following criteria:

1. Include temporary or periodic use of a public street, publicly owned site or facility, or public park;
2. Serve food or drink; and
3. Are expected to have 200 or more persons in attendance.

Projected attendance may be estimated based on past attendance, number registered to attend, the venue's seating capacity, or other similar methods.

The County has identified public sites within the County that host or may host Special Events meeting the above criteria. In addition to the sites listed individually in the charts contained in Exhibit 1 to this Special Events Recycling Program (SERP), Special Events taking place on any other Municipal, State, or Federally-owned property are also included in the SERP.

Materials and Obligations

SEO's are responsible for:

1. Providing and placing recycling receptacles adjacent to each trash receptacle at the event;
2. Ensuring that recycling receptacles are clearly distinguished from trash receptacles by color or signage;
3. Providing any other labor and equipment necessary to carry out recycling at the event;
4. Ensuring that materials placed in recycling receptacles are collected and transported for recycling; and
5. Paying any costs associated with recycling at the special event.

SEO's may fulfill the requirement to ensure materials are collected and transported for recycling through one or more of the following methods:

1. Transporting collected materials to one of the County's recycling drop-off sites;
2. Contracting with a recycling hauler to collect the materials and transport them to a recycling processor; or
3. Receiving prior agreement from the site owner to use an existing recycling collection system available at the site.

The SERP must include collection of at least plastic containers, metal containers, glass containers, and paper. The SEO may assess the availability of food scraps recycling services for the event though as of October 2014, there are no commercial scale food scraps composting facilities within Anne Arundel County, or the Baltimore Metropolitan area. If such services become available, the SEO may provide for food scraps recycling, including provision of separate containers for organic and non-organic recyclables.

Recycling at a State-owned site must follow the State agency's recycling plan, if available. Recycling at a federally-owned site must follow any applicable federal recycling plan. If no State or federal recycling program is available for the site, the SEO may develop a recycling program in accordance with the SERP. Recycling at municipally-owned sites must follow any applicable regulations established by the municipality.

Stakeholders

The following stakeholders will be involved in the SERP:

1. DPW's Bureau of Waste Management Services: Responsible for overseeing the Recycling and Waste Reduction Division's activities and assuring that all properties that potentially host events falling under the recycling mandate in the Environment Article, § 9-1712, of the State Code are included in the SERP. In cooperation with the County's Health Department, Department of Recreation and Parks, Board of Education and Community College, DPW is responsible for communicating the requirements of the law to prospective SEO and owners or operators of publicly-owned sites in the County. The Recycling and Waste Reduction Division may also assist special events organizers in setting up recycling programs.
2. SEO's: Responsible for providing recycling bins and ensuring collection for recycling in accordance with the requirements outlined within the Materials and Obligations section, beginning no later than October 1, 2015.

Program Monitoring

The Recycling and Waste Reduction Division and SEO will monitor progress and performance of the SERP, however it is the responsibility of the SEO to implement the program.

Recycling at events subject to the SERP will be ensured by doing the following:

1. Special Event Permits issued for use of County sites will include a statement on the Permit Application that recycling is required for all events that meet the SERP criteria. The application form will require a certification that the SEO will provide for recycling in accordance with the requirements of the SERP.

2. A fact sheet or other informational document such as a flyer or brochure outlining the requirements of the SERP will be distributed with each Special Event Permit issued by the County.

The SEO is responsible for monitoring the implementation of recycling at the special event. In addition, they must oversee placement and labeling of recycling receptacles and collection and recycling of recyclables. Performance of any recycling contractor engaged for compliance with the SERP must be monitored by the SEO to ensure proper performance. The SEO must promptly take action to correct any deficiencies in contractor performance.

Program Enforcement

The Recycling and Waste Reduction Division will monitor the implementation of SERP and may conduct inspections of events from time to time to ensure compliance. If necessary, the County Office of Law will be consulted on any enforcement action contemplated as provided in the State Law.”

SPECIAL EVENTS RECYCLING LOCATIONS
COUNTY FACILITIES

LOCATION	ADDRESS	ZIP
Emergency Management, Office of (Old Hein Bldg.)	7480 Balto/Annap Blvd, Glen Burnie	21061
Fire Dept, 7th District Rescue Squad	6274 Shady Side Rd, Shady Side	20764
Fire Dept, Academy Training Facility	415 Frye Road, Millersville	21108
Fire Dept, Annapolis Neck Fire Station	991 Bay Ridge Rd., Annapolis	
Fire Dept, Anne Arundel Alarmers	113 Glenmonth Ave, Glen Burnie	21061
Fire Dept, Armiger	304 Mountain Rd, Pasadena	21122
Fire Dept, Arnold	1505 Ritchie Hwy, Arnold	21012
Fire Dept, Arundel Volunteer	2380 Davidsonville Rd, Gambrills	21054
Fire Dept, Avalon Shores Vol.	6270 Shady Side Rd, Shady Side	20764
Fire Dept, Brooklyn Park Vol.	5100 Ritchie Hwy, Baltimore	21225
Fire Dept, Cape St. Claire Vol.	1411 Cape St. Claire Rd, Annapolis	21401
Fire Dept, Deale Volunteer	6007 Drum Point Road, Deale	20751
Fire Dept, Earleigh Heights Vol	161 Ritchie Hwy, Severna Park	21146
Fire Dept, Ferndale Volunteer	4 Broadview Blvd, Glen Burnie	21061
Fire Dept, Galesville Volunteer	954 Main Street, Galesville	20765
Fire Dept, Glen Burnie Volunteer	15 Central Ave, Glen Burnie	21061
Fire Dept, Harmons Dorsey	1367 Dorsey Road, Hanover	21076
Fire Dept, Harwood - Lothian Vol.	5165 Solomons Island Rd, Lothian	20711
Fire Dept, Headquarters	8501 Veterans Highway, Millersville	21108
Fire Dept, Herald Harbor Vol.	401 Hall Road, Crownsville	21032
Fire Dept, Jacobville	3725 Mountain Rd, Pasadena	21122
Fire Dept, Jessup Volunteer	7891 Max Blobs Park Rd, Jessup	20177
Fire Dept, Jones Station	960 Ritchie Hwy, Severna Park	21146
Fire Dept, Lake Shore Volunteer	4496 Mountain Rd, Pasadena	21122
Fire Dept, Linthicum Volunteer	309 Camp Meade Road, Linthicum	21090
Fire Dept, Marley Volunteer	7726 Balto/Annap Blvd, Glen Burnie	21061
Fire Dept, Maryland City Vol.	3498 Fort Meade Rd, Laurel	20810
Fire Dept, Odenton Volunteer	1425 Annapolis Road, Odenton	21113
Fire Dept, Orchard Beach	7549 Solley Rd, Baltimore	21226
Fire Dept, Riva Volunteer	3123 Riva Road, Riva	21140
Fire Dept, Riviera Beach Vol.	8506 Fort Smallwood Rd, Pasadena	21123
Fire Dept, Severn	7860 Telegraph Road, Severn	21144
Fire Dept, South Glen Burnie	7880 S. Crain Hwy, Glen Burnie	21060
Fire Dept, Waugh Chapel	1300 Waugh Chapel Rd, Gambrills	21054
Fire Dept, West Annapolis Volunteer	121 Jennifer Rd, Annapolis	21401
Fire Dept, Woodland Beach Vol.	529 Londontown Rd, Edgewater	21037
Health Department, Administration	3 Harry S. Truman Pkwy, Annapolis	21401
Health Department, Brooklyn Park - Health Center	300 Hammonds Lane near, Baltimore	21225
Health Department, Glen Burnie	416 A Street, S. W., Glen Burnie	21061
Health Department, Magothy	2501 Mountain Road, Pasadena	21122
Health Department, Mental Health Addictions Services	407 S. Crain Highway, Glen Burnie	21061
Health Department, North County	791 Aquahart Road, Suite 200, Glen Burnie	21061
Health Department, Parole	1950 Drew Street, Annapolis	21401
Hein Building (New) North County Complex - BD of Electric	7320 Baltimore Annapolis Blvd, Glen Burnie	21061
Heritage Office Complex	2660-2666 Riva Road, Annapolis	21401
Library, Annapolis	1410 West St, Annapolis	21401

LOCATION	ADDRESS	ZIP
Library, Broadneck	1275 Green Holly Dr, Annapolis	21401
Library, Brooklyn Park	1 East 11th Avenue, Baltimore	21225
Library, Crofton	1681 Riedel Road, Crofton	21114
Library, Eastport	269 Hillsmere Dr, Annapolis	21403
Library, Edgewater	25 Stepneys Lane, Edgewater	21037
Library Headquarters	5 Harry S. Truman Pkwy, Annapolis	21401
Library, Linthicum	400 Shipley Road, Linthicum	21090
Library, Maryland City	3501 Russett Common, Laurel	20708
Library, Mountain Road	4730 Mountain Road, Pasadena	21122
Library, North County	1010 East Way, Glen Burnie	21060
Library, Provinces	2624 Annapolis Rd, Severn	21144
Library, Riviera Beach	1130 Duvall Hwy, Pasadena	21122
Library, Severna Park	45 McKinsey Road, Severna Park	21146
Library, Deale Community (South County Lib.)	5940 Churchton Road, Deale	20751
Library, West County	1325 Annapolis Road, Odenton	21113
Misc, Chrysalis Group Home -- Boys/Girls	8148 Jumpers Hole Road, Millersville	21108
Misc, Group Home -- Mary Mount Manor Girls Home	25 Mary's Mount Road, Harwood	20776
Misc, Mount Moriah Church / Banneker Douglass Museum	84 Franklin Street, Annapolis	21401
Misc, Pumphrey Keaser Comm. Ctr.	5757 Belle Grove Road, Baltimore	21225
Misc, Ralph Bunch Comm. Ctr.	374 Mill Swamp Road, Edgewater	21037
Police Training Academy	3737 Elmer F Hagner Ln, Davidsonville	21035
Police, Dorsey	315 Dorsey Rd, Harmans	21077
Police, Eastern District	3700 Mountain Rd, Pasadena	21122
Police, Headquarters / Property	8495 Veterans Hwy., Millersville	21108
Police, Northern District	939 Hammonds Lane, Baltimore	21225
Police, Southern District	35 Stepneys Lane, Edgewater	21037
Police, Western District	8273 Telegraph Rd, Severn	21114
Rec & Parks, Administration Truman Pkwy	1 Harry S. Truman Pkwy, Annapolis	21401
Rec & Parks, Andover Equestrian Center	Andover Rd, Linthicum 21090	21090
Rec & Parks, Annapolis High Court	Riva Road, Annapolis	21401
Rec & Parks, Arden of the Severn Park	1103 Sunrise Beach Road, Crownsville	21032
Rec & Parks, Arnold Park	1325 Jones Station Road, Arnold	21012
Rec & Parks, Arundel Hills Park	1209 Furnace Branch Road, Ferndale	21060
Rec & Parks, Arundel Olympic Swim Center	2690 Riva Rd, Annapolis 21401	21401
Rec & Parks, Arundel Village	705 Cross Street, Brooklyn	21225
Rec & Parks, B&A Bike Trail Railroad Substation	Jones Station Rd and B&A Trail, Severna Park	21146
Rec & Parks, B&A Bike Trail Ranger Station	51 Earleigh Heights Rd, Severna Park	21146
Rec & Parks, B&A Bike Trail Station Office	1 Holly Rd, Severna Park	21146
Rec & Parks, Bachman Athletic Complex	570 East Ordnance Rd, Baltimore	21226
Rec & Parks, Bacontown Park	3602 Whiskey Bottom Road, Laurel	20724
Rec & Parks, Bay Head Park	1651 Bay Head Rd, Annapolis	21401
Rec & Parks, Bell Branch Park	2400 Davidsonville Rd, Gambrills	21054
Rec & Parks, Belvedere Park	300 Broadwater Road, Arnold	21012
Rec & Parks, Bestgate Park	716 Bestgate Road, Annapolis	21401
Rec & Parks, Beverly/Triton Beach	1399 Triton Beach Road, Mayo	21106
Rec & Parks, Bodkin Park	8263 Bodkin Avenue, Pasadena	21122
Rec & Parks, Broadneck	618 Broadneck Road, Arnold	21012

LOCATION	ADDRESS	ZIP
Rec & Parks, Broadneck Caretaker	Broadneck Road, Arnold	21012
Rec & Parks, Brooklyn Park 1	340 West 10th Street, Brooklyn	21225
Rec & Parks, Brooklyn Park 2	101 11th Avenue, Brooklyn	21225
Rec & Parks, Brownswood Park	317 Forest Beach Road, Annapolis	21401
Rec & Parks, Cape St. Claire Park	1000 Magothy Park Lane, Annapolis	21401
Rec & Parks, Carrs Wharf	1000 Carr's Wharf Road, Mayo	21106
Rec & Parks, Cecil Avenue Ranger Station	1003 Cecil Avenue, Gambrills	21054
Rec & Parks, Cedar Hill Park	Arundel Corp Road, Glen Burnie	21061
Rec & Parks, Compass Pointe Golf Courses	9010 Fort Smallwood Rd., Pasadena	
Rec & Parks, Cook Farm Caretaker	2793 Bayside Road, Pasadena	21122
Rec & Parks, Corridor Park	1758 Crownsville Road, Crownsville	21032
Rec & Parks, Corridor Park Caretaker	Crownsville Road, Crownsville	21032
Rec & Parks, Crofton Park	2295 Davidsonville Road, Crofton	21114
Rec & Parks, Cypress Creek Park	16 Cypress Creek Road, Severna Park	21146
Rec & Parks, Davidsonville Family Rec Center	3789 Queen Anne Bridge, Davidsonville	21035
Rec & Parks, Davidsonville Park	960 W. Central Avenue, Davidsonville	21035
Rec & Parks, Deale Wharf	511 Deale Road, Deale	20751
Rec & Parks, Deale/Tracys Park	20 Deale Road, Deale	20751
Rec & Parks, Downs Park	8311 John Downs Loop, Pasadena, MD. LOCAT	21122
Rec & Parks, Dwight D. Eisenhower Golf Course	Generals Highway, Annapolis	21401
Rec & Parks, Edgewater Park	209 Maryland Avenue, Edgewater	21037
Rec & Parks, Elvaton Park	311 Dogwood Road, Millersville	21108
Rec & Parks, Freetown Rec. Center	7769 Freetown Road, Pasadena	21122
Rec & Parks, Friendship Park	1501 Dorsey Road	21061
Rec & Parks, Ft. Smallwood Park	9500 Ft. Smallwood Rd., Pasadena	21122
Rec & Parks, Galesville Wharf	4847 Riverside Drive, Gambrills	21054
Rec & Parks, Glen Burnie Park	499 Elizabeth Road, Glen Burnie	21061
Rec & Parks, Glen Burnie Town Center Ice Rink	101 Crain Highway, Glen Burnie	21061
Rec & Parks, Golf Course	Generals Highway, Crownsville	21032
Rec & Parks, Hammonds Park	501 Hammonds Lane, Crownsville	21032
Rec & Parks, Hancock's House	2793 Bayside Rd, Pasadena	21122
Rec & Parks, Hancocks Resolution	2795 Bayside Beach Road	21122
Rec & Parks, Harmans Park	7551 Ridge Road, Hanover	21076
Rec & Parks, Havenwood Park	7923 Outing Avenue, Pasadena	21122
Rec & Parks, Herald Harbor Park	350 Kyle Road, Crownsville	21032
Rec & Parks, High Point Park	7723 Overland Road, Pasadena	21122
Rec & Parks, Jacobsville Park	85 Magothy Beach Road, Pasadena	21122
Rec & Parks, Jessup 1 Park	1834 Montevideo Road, Jessup	20794
Rec & Parks, Jessup Provinces Park	Disney Road, Jessup	20794
Rec & Parks, Jessup YMCA	2668 Jessup Road, Jessup	20794
Rec & Parks, Jessup/Dorsey Park	7486 Race Road, Jessup	20794
Rec & Parks, Joe Cannon Baseball Stadium	7551 Ridge Rd, Hanover	21076
Rec & Parks, Joe Cannon Caretaker	7553 Teague Rd, Hanover	21076
Rec & Parks, Jonas Green Park	1990 Ritchie Highway, Annapolis	21401
Rec & Parks, Jug Bay Caretaker	Wrighton Road, Lothian	20711
Rec & Parks, Jug Bay Wetlands Sanctuary	1361 Wrighton Rd, Lothian	20711
Rec & Parks, Kinder Park (Athletic Field)	1001 Kinder Farm Park Road, Millersville LOCAT	21108

LOCATION	ADDRESS	ZIP
Rec & Parks, Kinder Park	146 Upper Kinder Road, Severna Park	21146
Rec & Parks, Lake Shore Athletic Complex	863 Woods Road, Pasadena	21122
Rec & Parks, Lake Waterford	830 Pasadena Road, Pasadena	21122
Rec & Parks, Lake Waterford Park	8291 Baltimore Annapolis Blvd, Pasadena	21122
Rec & Parks, Linthicum Park	214 Sycamore Road, Linthicum	21090
Rec & Parks, Loch Haven Park	660 Loch Haven Road, Edgewater	21037
Rec & Parks, Londontown Publik House	839 Londontown Road, Edgewater	21037
Rec & Parks, Londontown Publik House & Gardens	839 Londontown Rd, Edgewater	21037
Rec & Parks, Mago Vista Park	832 Mago Vista Road, Arnold	21012
Rec & Parks, Maryland City Rec. A.	565 Brockbridge Road, Laurel	20724
Rec & Parks, Mayo Beach	4150 Honeysuckle Drive, Mayo	21106
Rec & Parks, Mayo Beach Park	4150 Honeysuckle Dr, Edgewater	21037
Rec & Parks, Meade Village Rec. Center	1130 Meade Village Drive, Severn	21144
Rec & Parks, North County Aquatics Center	7888 Crain Hwy, Glen Burnie	21061
Rec & Parks, North Glen Park	1400 Gordon Court, Ferndale	21060
Rec & Parks, Odenton Park (GORC)	921 Strawberry Lakeway, Odenton	21113
Rec & Parks, Overlook Park	Milton Avenue, Linthicum	21090
Rec & Parks, Peninsula Park/Arundel on Bay	1005 Bay Ridge Road, Annapolis	21401
Rec & Parks, Pleasantville Park	830 Cedar Branch Road, Glen Burnie	21061
Rec & Parks, Point Pleasant Park	Dumberton Road, Glen Burnie	21061
Rec & Parks, Poplar Ridge/Ft. Smallwood	1720 Poplar Ridge Road, Pasadena	21122
Rec & Parks, Provinces Park	Disney Road, Severn	21144
Rec & Parks, Pumphrey Park	5757 Belle Grove Road, Brooklyn	21125
Rec & Parks, Queenstown Park	580 Queenstown Road, Severn	21144
Rec & Parks, Quiet Waters Park	602 Quiet Waters Park Rd., Annapolis	21403
Rec & Parks, Randazzo/Upton Softball	582 Upton Road, Severn	21144
Rec & Parks, Riva Park	3629 Riva Road, Annapolis	21401
Rec & Parks, Riverside Park	2 Old Riverside Road, Brooklyn	21225
Rec & Parks, Riverwood Park	1542 Morgon Road, Davidsonville	21035
Rec & Parks, Rock Creek Park	79 Bar Harbor Road, Pasadena	21122
Rec & Parks, Sawmill Creek	301 Dorsey Road, Glen Burnie	21061
Rec & Parks, Severn/Danza Park	726 Donaldson Avenue, Severn	21144
Rec & Parks, Shady Side Park	1355 East W. Shady Side Road, Shady Side	20764
Rec & Parks, Shipley's Choice	300 Gov. Wm. Stone Pkwy	21032
Rec & Parks, Smith Horse Farm	580 Broadneck Road	21401
Rec & Parks, South County Softball Field	5385 Solomons Island Road, Lothian	20711
Rec & Parks, South River Farm	Loch Haven Drive, Edgewater	21037
Rec & Parks, Solley Park	7535 Solley Road	21061
Rec & Parks, South County Rec Center	4510 Owensville Sudley Rd, Harwood	20776
Rec & Parks, South River Farm Caretaker	Loch Haven Road, Edgewater	21037
Rec & Parks, South Shore Trail		
Rec & Parks, Southgate/Old Mill Park	8226 Elvaton Road, Millersville	21108
Rec & Parks, Sunset Park	500 Fort Smallwood Road	21122
Rec & Parks, Thomas Point	3890 Thomas Point Road	21401
Rec & Parks, Tick Neck Park	7750 Edwin Raynor Boulevard	21122
Rec & Parks, Towers Branch Park	Evergreen Ave & Jackson Blvd, Gambrills	21054
Rec & Parks, Triton/Beverly Beach	1399 Triton Beach Road, Mayo	21106

LOCATION	ADDRESS	ZIP
Rec & Parks, Twin Oaks	240 Peninsula Farm Road, Arnold	21012
Rec & Parks, Waterbury Park	1261 Sunrise Beach Road, Crownsville	21032
Senior Center, Arnold	44 Church Road, Arnold	21012
Senior Center, Annapolis (Bates)	119 Southvilla Rd, Annapolis	21401
Senior Center, Brooklyn Park	202 Hammonds Lane, Brooklyn Park	21225
Senior Center, O'Malley	1275 Odenton Road, Odenton	21113
Senior Center, O'Malley Annex	1270 Odenton Road, Odenton	21113
Senior Center, Pasadena	4103 Mountain RD, Pasadena	21122
Senior Center, Pascal	125 Dorsey Road, Glen Burnie	21061
Senior Center, South County	27 Stepneys Lane, Edgewater	21037
Anne Arundel Community College	101 College PKWY, Arnold	

CITY OF ANNAPOLIS

LOCATION	ADDRESS
1st, 3rd, 5th & 6th Streets & Spa Creek	Eastport
Acton Cove Park	
Amos Garrett Park	
Annapolis Maritime Museum	2nd Street & Back Creek
Annapolis Sports Complex	Locust Avenue
Annapolis Walk Community Park	Belle Drive
Barbara Neustadt Park	Monticello Avenue & Spa Creek (behind Bates Middle School)
Bates Athletic Complex	Smithville Road
Bates Heritage Complex	Eastport
Burnside Park	Dorsey Avenue & Kirby Lane
Chambers Park	Clay Street & College Creek
College Creek Park	Prince George Street
Commodore John Barry Park	Eastport
Davis Park, 4th Street	Back Creek Edgewood Road
Ellen O. Moyer Nature Park	Historic District
Fleet Street Park	Chesapeake Avenue, Eastport
Horn Point,	Eastport
Jeremy's Way, Eastport	
Kingsport Playground	
Lafayette Avenue & Spa Creek	
Leon Wolfe, 4th Street & Spa Creek	
Naval Academy Stadium Trail	
Newman Street Playground	
Northwest Street End Park	
"Pip" Moyer Recreation Center	273 Hilltop Lane
Poplar Park and Trail	
Post Office Park	Eastport
Primrose Acres	Garden Gate Lane & Edelmar Drive
Rev. Joseph J. Turner Park	3rd Street & Chester Avenue
Richard B. "Dick" Sims Park	2nd Street & Back Creek
Severn Avenue & Spa Creek	Eastport
Spa Creek Trail	
Stanton Community Center	West Washington Street
Truxtun Park	Hilltop Lane
Tucker Street	West Annapolis
Waterworks Park	260 Defense Highway
Weisman Park	Inner West Street
Whitmore Park	Calvert & Clay Streets
Chesapeake Childrens' Museum	25 Silopanna RD, Annapolis

LOCATION	STATE	ADDRESS
Sandy Point State Park		1100 East College PKWY, Annapolis
Crownsville Fairgrounds		1581 Crownsville RD, Crownsville
Annapolis Maritime Museum		723 2nd St., Annapolis, MD 21403

FEDERAL

LOCATION	ADDRESS
US Naval Academy	121 Blake Rd, Annapolis, MD 21402
Fort George G. Meade Military Base	Fort Meade, MD 20755
Smithsonian Environmental Research Center	647 Contees Wharf Rd, Edgewater, MD 21037

Anne Arundel County residents can recycle even more items like:

- ELECTRONICS
- AIR CONDITIONERS
- YARD WASTE
- TIRES
- MOTOR OIL
- SCRAP METAL
- VINYL SIDING
- DEHUMIDIFIERS
- APPLIANCES
- OYSTER AND CLAM SHELLS

at the Anne Arundel County Recycling Centers!

NORTHERN RECYCLING CENTER

100 Dover Rd, Glen Burnie, MD 21060
Monday - Saturday 8:00 AM - 4:00 PM

CENTRAL RECYCLING CENTER

389 Burns Crossing Rd, Millersville, MD 21144
Monday - Saturday 8:00 AM - 4:00 PM

SOUTHERN RECYCLING CENTER

5400 Nutwell Sudley Rd, Deale, MD 20751
Monday - Saturday 8:00 AM - 4:00 PM

For more information and updates
regarding our program, visit:

www.RecycleMoreOften.com

www.AACounty.org/DPW/WasteManagement

www.Facebook.com/AnneArundelRecycling



Recycle
More Often.com



Recycle.
More.Often.

Apartments and
Condominiums

A Guide for Property Management

INTRODUCTION

MESSAGE TO PROPERTY OWNERS

Dear Owners and Managers,

In 2012, the Maryland General Assembly passed House Bill 1, Environment Recycling Apartment Buildings and Condominiums. The law took effect on October 1, 2012, and requires property owners or managers of apartment buildings or councils of unit owners of condominiums with ten or more dwelling units to provide for collection and removal for recycling of recyclable materials for the residents on or before October 1, 2014. At a minimum, property owners or managers will be required to collect metal containers, plastic containers, glass containers, and paper for recycling.

While Anne Arundel County provides weekly curbside recycling to over 153,000 residential homes, some residents live in multi-family residences that may not receive recycling services.

Apartment building recycling programs face challenges that are very different from typical curbside recycling programs. For example, apartment buildings face high resident and management turnover, space restrictions, and diverse building size, structure and demographics. This guide has been designed to assist you, the property owner or manager, in implementing a recycling program consistent with the requirements mandated by House Bill 1, Environment Recycling Apartment Buildings and Condominiums. Use this guide as a reference tool to meet program requirements, and remember that the Anne Arundel County Recycling Division can help with any question or concerns.

Anne Arundel County Recycling Division
 2662 Riva Road - Annapolis, MD 21401
 Phone: (410) 222-7951 Fax: (410) 222-4484

SAMPLE OF MARYLAND REPORT ACT



 Name of Business

Maryland Recycling Act (MRA)
 Business Tonnage Reporting Form
 Anne Arundel County, Maryland
 January 1 - December 31, 2012

**YOUR RESPONSE IS REQUESTED
 BY MARCH 1, 2013**

NOTE: PLEASE REPORT IN TONS (1 ton = 2000 LBS)

MATERIAL CATEGORY	RECYCLED	WEIGHT	PROCESSOR (Name, City & State)
Unrecyclable Combustibles	Combusted paper, plastic & metal		
Corrugated or Mixed <small>Corrugated materials are pallets, crates, bundles, wood panels, etc. that have been touched or separated only</small>	Cardboard		
	Other		
	Mixed Yard Waste		
	Food Waste		
	Metal Containers		
	Wood Materials		
	Other		
	Other		
	Other		
	Other		
Glass	Brown Glass		
	Clear Glass		
	Green Glass		
	Mixed Glass		
	Other		
Metals	Aluminum Cans		
	Food and Beverage		
	Lead Acid Batteries		
	Mixed Cans (i.e., 16 oz)		
	Flammable Liquids		
	Metal Drums		
	Other		
	Other		
	Other		
	Other		
Paper	Newsprint		
	Mixed Paper		
	Newsprint		
	Color Computer Paper		
	Commercial Cardboard		
	Other		
Plastic	Mixed Plastic		
	PET		
	HDPE		
Other Materials	Animal Protein/Soft Fat		
	Food Waste		
	Mixed Paper/Aluminum		
	Other		
	Other		
	Other		
	Other		
	Other		
	Other		
	Other		
	Other		
	Other		
	Other		
	Other		
	Other		
	Other		
	Other		
	Other		
	Other		
	Other		
General Trash RECYCLED	DISPOSED		
TOTAL (in Tons) 1 TON = 2000 LBS		>>>	

** Barium sulfate (B.A. sludge, waste, slurry, and sludge), spent, use sludge, wet rock, trash and biomass, logs, vegetation, and refuse from land-clearing operations that if not recycled are discarded in land-clearing debris, rubble, or O&D materials. Land-clearing recycling information is included in the "Compost or BMAW" category.
 *** Please check one
 **** You can request for exact coverage from your Trash Hauler/Processor. If unavailable, please use standard Business Waste Estimation Sheet.

SAMPLE

Reporting

In accordance with the passing of Maryland General Assembly House Bill 1, it is now required that each year the owner or manager of a property with ten or more units must report the total solid waste volume, to include trash and recycling, collected from the property. The report is necessary to confirm the properties' compliance with the mandatory recycling legislations.

The reporting mechanism will be the Maryland Department of Environment's current Maryland Recycling Act report. A sample of the report is provided on page 18. Anne Arundel County's Recycling Division will transmit the required reporting package to each property shortly after the start of a new calendar year, requesting the required information from the previous year. Detailed information on how to complete the reporting documents will be included within the package. [The Recycling Division can provide assistance if needed.](#)

The reporting requirement will begin upon the completion of calendar year 2014.



Announce your commitment and responsibility to recycling and improving the environment. Free and available at the Office of the Recycling Division.

WHY RECYCLE?

Impact Your Bottom Line: Rates for recycling are typically less than those for disposing of trash. Adding recycling as an option for your residents will reduce the amount of trash that will have to be disposed of by diverting recyclables out of the trash receptacle and into the recycling container. A successful recycling program may allow you to reduce the size of your trash receptacles and reduce the number of times the containers are emptied.

Making Your Complex Attractive to Tenants: Many apartment tenants want to conserve and protect the environment and a recycling program gives them the opportunity to do the right thing. An effective recycling program may also be a good selling point for new tenants. In addition, studies have shown that tenants take more responsibility in their community when services such as recycling are available to them.

Helping Your Community and Helping the Environment: Recycling conserves valuable landfill space and provides reclaimed materials for manufacturing as well as saves precious natural resources from being harvested from the environment.



BENEFITS OF RECYCLING

By recycling rather than discarding waste, materials are diverted from landfills. Although burying waste in landfills has been a common practice for many years, landfilling is not a sustainable solution. With large amounts of waste ending up in landfills, available landfill space is diminishing, and as space availability becomes limited, disposal costs will continue to rise. When these materials are disposed of in a landfill, they cannot be easily recovered, recycled, and reused.

Implementing a recycling program allows reusable resources to be recovered rather than buried in a landfill. By recycling, apartment properties will have a positive local and global impact both environmentally and economically.

REGISTER YOUR PROPERTY

In order to verify our records we ask that all property owners or managers complete and submit the "Apartment and Condominium Recycling Registration Form". A sample form is shown on pages 9-10. You may obtain the form at www.aacounty.org. You only need to fill out the form once, however, if there are changes such as new management or owner, or alterations to your program, we ask that you submit a revised form. New properties owners or managers of new apartment or condominium occupied after October 1, 2014 must submit a registration form within thirty (30) days from having received a Certificate of Occupancy. Extensions may be provided by the Deputy Director or a designee to the property owner or manager in certain circumstances. Please contact the Recycling Division for more information at (410) 222-7951.

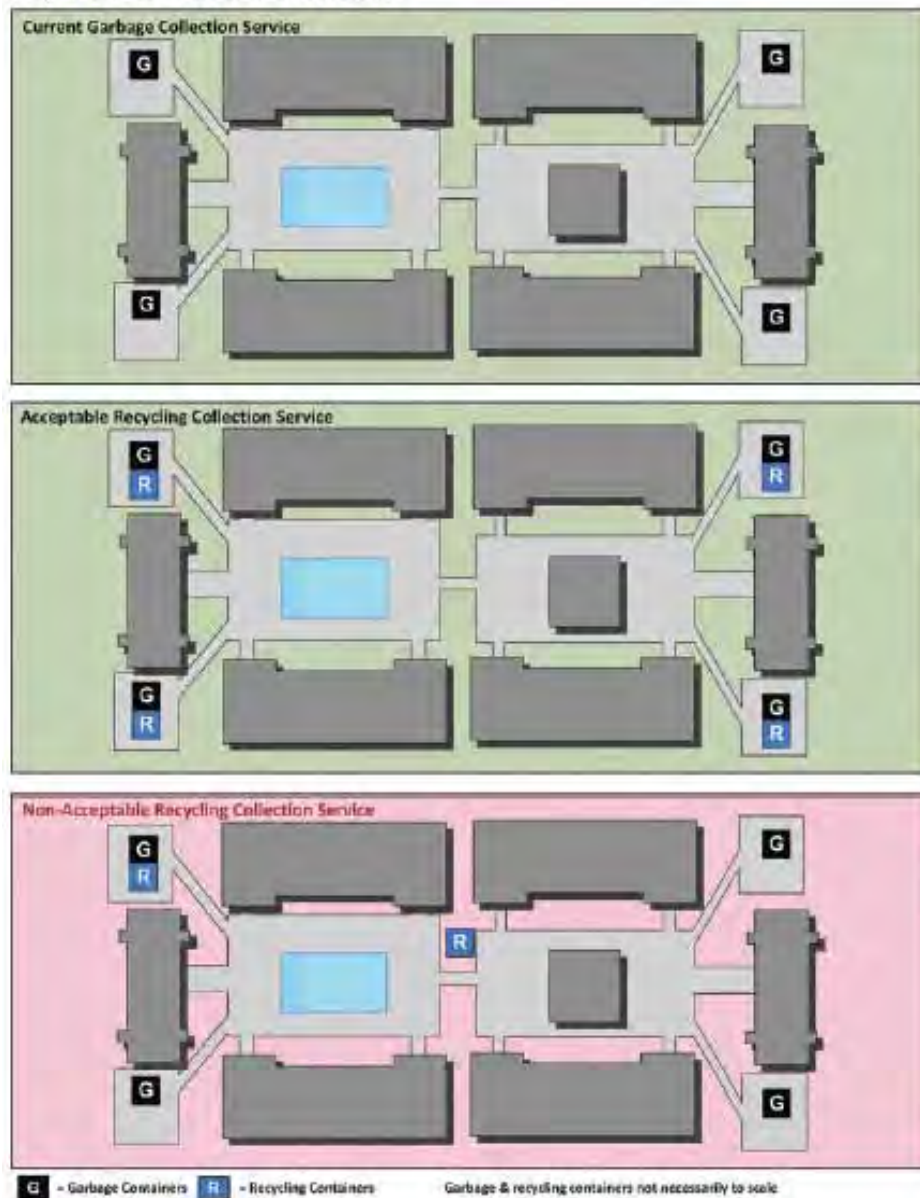
RECYCLING CONTAINERS (INTERIOR)

Interior Recycling Containers

We recommend that property owners or managers provide occupants with in-unit containers to store recyclables. If occupants will not be provided with an in-unit container, property owners or managers are encouraged to inform their occupants of the various ways recyclables can be stored in their living unit using items like plastic containers, laundry baskets, trash cans converted into recycling containers, etc. If in-unit containers will be provided, remind your occupants that interior recycling containers are the property of the community and are to remain in their unit after they have moved out.



Recycling Containers Placement Example



Tip: Visit www.aacounty.org/DPW/WasteManagement and select "Apartment Building and Condominium Recycling Program" to obtain a list of commonly asked questions pertaining to recycling planning and implementation.

Step 1: Register Your Property Visit the County's Waste Management Services website at <http://www.aacounty.org/DPW/WasteManagement> and access the "Apartment and Condominium Recycling Registration Form". Fill out the form online or mail a copy to the Recycling Division.

Step 2: Designate a Recycling Coordinator The Recycling Coordinator can be anyone that wants to get involved. Typically a landlord, property manager, or maintenance person is often the best choice. These individuals are familiar with the waste management system and the residents. They are in the best position to communicate with service providers and residents to determine what will work and what will not. If there is a tenant association, a committee could also be involved reviewing plans, implementing the program, and promoting participation.

Step 3: Contact a Service Provider Start by contacting your current waste service provider and find out if they offer recycling collection services to apartment or condominium properties. If the current provider does not offer recycling collection services, contact other service providers in the area to obtain information about available services. If you need a listing of providers in the area contact the Recycling Division.

Step 4: Determine Collection Method Talk with your service provider about the recycling service they offer. Discuss how materials will be sorted (single-stream vs. dual-stream) and determine the number and type of containers needed to handle the quantity of recyclable materials that will be collected in your community. Remember at minimum, property owners or managers are required to collect metal containers, plastic containers, glass containers, and paper for recycling.

Step 5: Determine Container Locations Identify the locations for the collection containers. To ensure participation, be sure to make recycling convenient for the tenants. Work with your staff, service provider, and Recycling Coordinator to determine the best locations for your community. We recommend placing recycling containers next to any trash receptacles.

Step 6: Launch Your Recycling Program Prior to launching the program, ensure that all recycling containers are in place and labeled appropriately. Also, confirm with staff and the Recycling Coordinator to that they are aware of what their responsibilities are.

Step 7: Outreach Provide tenants and visitors with the guidelines of your recycling program using posters, brochures etc. Signage should be posted near all collection locations and should be appropriate for the tenant's language.



The Anne Arundel County Recycling Division is available to answer questions, offer literature, and provide technical assistance. Program Specialists are also available for presentations for your staff and residents.

Signage

Owners or managers must provide clear and visible signage on containers indicating the container is for the collection of recyclables only and list the type of recyclable materials accepted.



Placement of Exterior Recycling Containers

Recycling containers must be placed in a location that will allow for the disposal of recyclable materials to be as convenient as garbage materials.

It is recommended that recycling containers be placed in close proximity to trash receptacles to increase convenience to occupants. Recycling containers set far apart from trash receptacles may increase the likelihood of occupants disposing of their trash in the recycling containers if the recycling container is closer than the trash receptacle. Make certain that the placement of outdoor containers for recyclable material are in areas that allow for easy, quick, and convenient access. A diagram illustrating what is meant by "convenient placement of recycling containers" has been provided on the following page.

- Website information and E-blasts to occupants
- Ask occupants to serve as recycling advocates by having them volunteer to communicate recycling information to other occupants
- Special events that encourage recycling at your property

RECYCLING CONTAINERS (EXTERIOR)

Property owners or managers are responsible for supplying recycling containers of appropriate size and number to accommodate for anticipated recyclables. Containers may be acquired through private contracts with your recycling collector or through other appropriate means.

Calculating Number of Exterior Containers

The number of recycling containers should be based on the estimated volume of recyclable materials that will be generated and recycled by occupants on a weekly basis.

Determine the size and number of recycling containers to be placed throughout the property by using any of the following options:

- Waste service providers may conduct an on-site waste assessment to evaluate the amount of recyclables generated and determine the size of containers required, the number of exterior recycling containers needed, and the level of service necessary.
- Recycling Division staff is available to assist property owners and managers in conducting a waste assessment and property inspection to determine the best location for containers.

DESIGNING YOUR PROGRAM

An effective and well-run recycling program depends heavily on the involvement and expert knowledge of the property manager and the efforts of supporting staff members. We understand that each property's onsite recycling program will be managed differently. For that reason, the next few sections have been designed to assist property owners and managers in considering and planning for the different facets of an apartment building or condominium recycling program.

Identify a Recycling Coordinator

The Recycling Coordinator will oversee all program elements. This individual is responsible for leading the implementation of the recycling program, monitoring service from the service provider, keeping occupants informed, and providing reporting information as required by the Recycling Division. The Recycling Coordinator should continually assess the progress of the program in order to identify areas that may need reconfiguring or areas where additional staff support may be needed.



Enlist Support from Staff

Because there are several components to developing and maintaining a recycling program, enlisting support from other team members is critical to the sustainability and effectiveness of an onsite recycling program. Staff may need to assist with communicating program details to new and existing occupants, developing informational material, disseminating literature, motivating occupants, and increasing program awareness.

Contracting with a Recycling Collector

Collection services for recyclable materials can be provided by your current waste service provider, by a separate recycling service provider, or property owners and managers can opt to transport recyclables. Each community will be responsible for obtaining a contract with a recycling service provider or providing documentation of self-transporting.

Acquiring Recycling Service from Current Provider

To get started, contact your current waste service provider and find out if they offer recycling collection to apartment properties. Investigate how fees will be affected upon requesting a recycling service along with the current trash service.

Current Provider Does Not Offer Recycling Service

Contact other waste service providers in the area. Discuss recycling options and determine the costs associated with obtaining the services. Check with the Recycling Division for names of recycling service providers in the area.

Anne Arundel County Recycling Division
2662 Riva Road - Annapolis, MD 21401
Phone: (410) 222-7951 Fax: (410) 222-4484

EDUCATION FOR RESIDENTS

Recycling program information should be provided to all existing occupants at program start and to new occupants upon move-in. All occupants should be given information and instruction if any changes are made.

Information should be easy to understand by clearly explaining all aspects of the program including the basics and benefits of recycling, items accepted and not accepted (provided by your service provider), how to prepare the recyclables, where recycling containers are located, and any additional information that may be needed, including contact information. Educational materials should be posted in common areas such as laundry rooms, mail areas, and the main lobby.

Outreach

An effective recycling program is one that draws and sustains high levels of participation. Participation is best promoted through education. Outreach efforts must be continual for residents due to their high turnover rate. Several methods can be used to encourage occupants to recycle consistently. Examples include:

- Informative meetings
- Training sessions with small resident groups
- Newsletter, brochures, or flyers
- Door hangers
- Door-to-door outreach
- Promotional items
- Surveys
- E-mail address so occupants can easily communicate concerns and questions to property management



HOUSEHOLD WASTE: PROPER STORAGE

Anne Arundel County Health Department Tips

Garbage/Recycling Containers The owner of a property is responsible for providing a sufficient number of leak-proof, outside garbage/recycling containers with lids for the proper storage and disposal of household waste.

Size/Quantity Containers must be sufficient in size and must be provided in adequate numbers to prevent overflow of household waste between collections.

Use of Plastic Bags Plastic bags are subject to breakage by birds, dogs, cats, rodents, raccoons and foxes. A leak-proof plastic bag used in combination with approved containers is recommended for storage and disposal of household waste.

Accumulation of Litter on a Property The exterior property and premises must be maintained in a manner that is free from the accumulation of litter.

County Recycling Centers

Property owners or managers may opt to bring RECYCLABLES ONLY to a materials recovery facility or one of the County's Recycling Centers. Owners or managers of a property that elect to transport recyclable materials will be required to submit an annual report which documents the following:

- Total number of living units served
- Total number of tons of recyclable material collected
- Name and address of the recycling facility to which the recyclable materials collected within the County were delivered for recycling

Tip: If your current waste service provider does not provide recycling services, consider acquiring both waste and recycling services from a single-contract upon termination of your current contract.



The Northern Recycling Center located in Glen Burnie - Other locations include the Central Recycling Center in Severn as well as the Southern Recycling Center in Deale.

SAMPLE OF APARTMENT AND CONDOMINIUM RECYCLING REGISTRATION FORM



Apartment and Condominium Recycling Registration Form

This Form Is: First Submittal Revised Form Date: _____

Section 1: Property Information

Property Name: _____
 Street Address: _____ Zip: _____
 Number of Units: _____ Number of Residents: _____

Section 2: Property Owner/Manager Information

For Owners:
 Name: _____ Title: _____
 Phone: _____ Email: _____
 Mailing Address: _____
 City: _____ State: _____ Zip: _____

For Management Companies:
 Company: _____
 Name: _____ Title: _____
 Phone: _____ Email: _____
 Mailing Address: _____
 City: _____ State: _____ Zip: _____

Section 3: Current Waste/Recycling Hauler Information

- This property receives waste services from _____ (List service provider)
- This property receives recycling services from _____ (List service provider)
- This property does not currently receive recycling services

SAMPLE

Recycled Paper

Section 4: Waste and Recycling Containers

Indicate the number of containers used for trash and recycling collection. If you are unsure how to complete this section, check with your waste/recycling hauler before submitting. If you do not currently have a recycling program, please indicate the type and number of recycling containers that will be implemented at the property and complete Section 5.

Current Trash Containers		
Type of Containers	# of Containers	Collection Frequency
2 cu. yd dumpster		
4 cu. yd dumpster		
6 cu. yd dumpster		
8 cu. yd dumpster		
96 gallon cart		
Roll-off container		
Compactor		
Trash chute		
Valet bags		
Other:		

Current Recycling Containers		
Type of Containers	# of Containers	Collection Frequency
2 cu. yd dumpster		
4 cu. yd dumpster		
6 cu. yd dumpster		
8 cu. yd dumpster		
96 gallon cart		
Roll-off container		
Compactor		
Trash chute		
Valet bags		
Other:		

Section 5: Future Recycling Program Information

Provide information on your future recycling program. This is not binding and can be changed at anytime by submitting a new Registration Form.

Start Date for Recycling Program: _____

The following materials will be recycled at this property:

- Paper
- Tin/steel Cans
- Cardboard
- Glass
- Plastic Containers
- Other: _____
- Aluminum Cans

Collection Information:

- This property plans to use the waste hauler noted in Section 3 for recycling collection.
- This property plans to use (list company) _____ for recycling collection.
- This property plans to self-haul recycling to the following location _____

Section 6: Signature

By completing this section I affirm that the information provided on this form is true, correct and complete to the best of my knowledge.

Print Name: _____ Title: _____

Signature: _____ Date: _____

Recycled Paper

ANNE ARUNDEL COUNTY
DEPARTMENT OF PUBLIC WORKS
BUREAU OF WASTE MANAGEMENT SERVICES

OFFICE BUILDING RECYCLING (OBR) PROGRAM

A. Background

In 2019, the Maryland General Assembly passed Senate Bill 370, *Environment-Recycling-Office Buildings* with an effective date of October 1, 2019. The law requires the collection and recycling of certain recyclable materials from buildings that have 150,000 square feet or greater of office space.

The Anne Arundel County (County) Department of Public Works' (Department) Bureau of Waste Management Services (Bureau), working with state and local agencies, identified seventeen (17) office buildings located within Anne Arundel County that fall under the scope of the law. These are listed in Attachment 1, Office Building Recycling Program Inventory.

B. Office Building Recycling Program Requirements

Per Section 9-1714 of the Environment Article, Annotated Code of Maryland, each owner of the office building having 150,000 square feet or greater of office space must provide, by October 1, 2021, recycling receptacles for the collection and removal for further recycling of recyclable materials deposited into the recycling receptacles. The owners of the participating office buildings must comply with the following:

1. Materials Included in Program
Plastic, metal, paper, and cardboard materials
2. Collection of Materials
Property owners are responsible for providing all containers, labor, and equipment necessary to fulfill recycling requirements throughout their buildings. Distinctive colors and/or markings of recycling containers should be provided to avoid cross contamination. Additionally, property owners are responsible for the collection and transportation of recyclable materials from office building locations to markets. Size, type and number of recycling containers to be used are at the discretion of the property owner. Owners and/or Tenants will be responsible for placing recyclables in the supplied recycling containers prior to their collection on the scheduled pick up day.
3. Marketing of Materials
Property owners are responsible for the marketing of their recyclables. Annual reports shall be submitted detailing the recycling tonnage removed from the office building and the end-markets for the materials.

Property owners must report the details on their recycling activities to the County on an annual basis, beginning with calendar year 2021.

**ANNE ARUNDEL COUNTY
DEPARTMENT OF PUBLIC WORKS
BUREAU OF WASTE MANAGEMENT SERVICES**

OFFICE BUILDING RECYCLING (OBR) PROGRAM

C. Stakeholders

Stakeholders that will be involved in implementing the law are:

1. Anne Arundel County Council – Responsible for adopting the MDE approved language of the Office Building Recycling Program as an amendment to the Anne Arundel County Solid Waste Management Plan 2013-2023.
2. Department of Public Works, Bureau of Waste Management Services, Recycling and Waste Reduction Division – Responsible for communicating the requirements of the law to affected property owners. If requested, the Bureau will assist affected property owners in developing a recycling program. Beginning with calendar year 2021, the Bureau will utilize the established Maryland Recycling Act (MRA) Solid Waste Survey as the mechanism for property owners to report recycling activities required under the law.
3. Property Owner or Manager of the Office Building – Responsible for providing recycling to tenants of each office building by October 1, 2021 including securing and managing recycling contracts for material collection and recycling services, including material collection bins and containers for transporting materials from the buildings. Responsible for performing record keeping and reporting to the County on an annual basis.

D. Participating Office Buildings in OBR Program

Regulated properties are listed in Attachment 1, Office Building Recycling Program Inventory. New buildings with 150,000 square feet or greater of office space will be required to offer recycling services to tenants within three (3) months of being notified by the County.

E. Schedule for the Development and Implementation of the Program

The Bureau's Recycling and Waste Reduction Division will notify office building officials, referred to as property owners in this document, of their responsibilities under the law including the materials that must be collected and recycled (plastic, metal, paper, and cardboard materials) at each office building.

The OBR Program will be implemented according to the following schedule:

1. By January 1, 2021, County will have completed distribution of the MDE approved language for the OBR Program to the property owners for OBR Program implementation.
2. By September 1, 2021, property owners will finalize and secure recycling services contracts with the private contractors.
3. On or before October 1, 2021, tenants will begin utilizing the provided recycling program at the participating office building locations.

**ANNE ARUNDEL COUNTY
DEPARTMENT OF PUBLIC WORKS
BUREAU OF WASTE MANAGEMENT SERVICES**

OFFICE BUILDING RECYCLING (OBR) PROGRAM

F. Program Monitoring

The Recycling and Waste Reduction Division shall oversee the progress and performance of the OBR Program. However, the property owners will be responsible for conducting inspections, reviewing service levels, investigating reported or unreported pick-up and disposal complaints, meeting with tenants or recycling contractor staff to educate or review practices, and reviewing contractor compliance with the recycling contract. Any issues which arise that are deemed deficiencies on the part of the tenants or recycling collection contractor will be detailed in writing by the property owner and reported to the violator. Property owners shall require corrective actions to occur within sixty (60) days of notification. The property owners will also be available to conduct educational seminars and/or tours regarding new materials, practices, and procedures for tenants. Also, the property owner or manager shall be responsible for keeping the tenants current on new regulations, laws, and mandates affecting recycling in the office buildings.

G. Program Enforcement

The Recycling and Waste Reduction Division will monitor the implementation of a recycling program at office buildings as required by Sections 9-1703 of the Environment Article, Annotated Code of Maryland. The Recycling and Waste Reduction Division will confirm program compliance through the receipt of the annual MRA Solid Waste Survey beginning with calendar year 2021. Shortly after the end of each calendar year, the Recycling and Waste Reduction Division will provide each property that falls within the scope of the law, the MDE approved MRA Solid Waste Survey. Within this survey, property owners will provide data on their solid waste management, to include information regarding their recycling program.

If necessary, the County Office of Law will be consulted on any enforcement action contemplated as provided in the State Law.

SDAT Area	Owner		Property Address		City	Zip Code
275,410	STATE OF MARYLAND DEPT GEN SVCS	100	Community	PI	CROWNSVILLE	21032
218,476	Anne Arundel Medical Center In	2000	Medical	Pky	ANNAPOLIS	21401
160,000	Corporate Office Properties Trust	7740	Milestone	Pky	HANOVER	21076
151,605	NBP 211 LLC	2711	TECHNOLOGY	DR	ANNAPOLIS JUNCTION	20701
161,528	NBP 220 LLC	2720	TECHNOLOGY	DR	ANNAPOLIS JUNCTION	20701
234,264	NBP 300 LLC	300	SENTINEL	DR	ANNAPOLIS JUNCTION	20701
162,750	NBP 302 LLC	302	SENTINEL	DR	ANNAPOLIS JUNCTION	20701
162,729	NBP 304 LLC	304	SENTINEL	DR	ANNAPOLIS JUNCTION	20701
162,729	NBP 306 LLC	306	SENTINEL	DR	ANNAPOLIS JUNCTION	20701
164,448	NBP 308 LLC	308	SENTINEL	DR	ANNAPOLIS JUNCTION	20701
191,464	NBP 310 LLC	310	SENTINEL	WAY	ANNAPOLIS JUNCTION	20701
153,697	NBP 540 LLC	540	NATIONAL BUSINESS	PKY	JESSUP	20794
204,000	BRIT-AIRPORT INVESTMENT BUILDING LLC	793	ELKRIDGE LANDING	RD	HANOVER	21076
288,519	UNITED STATES OF AMERICA	820	SCIENCE	DR	LINTHICUM	21090
153,930	1550 NURSERY CORNER LLC	1550	WEST NURSERY	RD	LINTHICUM HGTS	21090
166,095	NORTHROP GRUMMAN SYSTEMS CORP	1580	WEST NURSERY	RD	LINTHICUM HGTS	21090
157,850	NORTHROP GRUMMAN SYSTEMS CORP	1580 B	WEST NURSERY	RD	LINTHICUM HGTS	21090



APPENDIX F

SUBSIDIARY SOLID WASTE MANAGEMENT PLANS

City of Annapolis

Overview

The City of Annapolis is a separate municipal body, having the rights and powers of a municipal self-government. The City is located within the County's geographical boundaries and is the capital of the State of Maryland. It covers an area of approximately 8 square miles. Based on the 2010 Bureau of Census report, the City population was 38,394. The Bureau's published July 1, 2021 population estimate was 40,687.

The Mayor of the City is an elected official who is responsible for all administrative and operating function of City government. The 9-member City Council serves as the legislative branch of government and is composed of eight (8) Alderpersons with the Mayor occupying the ninth position. With respect to solid waste management and recycling, the City does not have a formally adopted Solid Waste Management Plan. However, the City Charter requires the Department of Public Works to operate a refuse collection and disposal system. The related administrative and enforcement powers are also specified within Chapter 10 of the City Code.

Waste Collection

The City provides for the collection of recycling, yard trim, refuse and metal and non-metal bulky items from residential customers. There are approximately 9,000 residential customers receiving full curbside service within the City limits. Once weekly collection of these materials is performed through a multi-year private Agreements with a licensed waste collection company. The City is divided into four (4) collection Routes with collections occurring on Mondays, Tuesday, Thursday and Friday with allowances for Wednesday and Saturday collection to accommodate five (5) annual holidays. Recycling and yard trim containers purchased by the City are available for residents at no cost. Up to three (3) non-metal bulk items can be placed curbside with residential refuse each week. Metal bulk items are scheduled for pickup on Wednesdays.

The City currently does not collect any refuse generated by commercial establishments. It is the responsibility of each establishment to contract for the collection of their solid wastes. In accordance with provisions contained in the City Code, all establishments are required to use a solid waste hauler that licensed by the City to perform such work.

The City of Annapolis does not currently operate a waste disposal site, transfer station or acceptance facility as defined in the State Environment Article and COMAR. The City owns the Annapolis Landfill which was in operation from the 1950's until it closed in the early 1990's prior to effective date of the federal regulations governing solid waste landfills. Since that time, the City has entered into regional agreements with both the public and private sector for the disposal of

residential solid waste and the processing of separated recyclables and organic material (including yard trim and food waste).

Solid Waste Disposal

A multi-year Agreement exists for the disposal of solid waste including refuse, construction demolition and storm debris and non-hazardous solid waste generated by the City. Solid waste collected by or on behalf of the City is delivered to the privately owned/operated Waste Management Annapolis Junction transfer station located in Jessup, Maryland. In FY 22, 8,190 tons of refuse was delivered to the facility of which 517 tons of the total was generated by City public works cleanup activities. Waste accepted at the facility is hauled by rail (or by truck when necessary) to the company's landfill located in King George, Virginia. In addition, the County's Millersville Landfill and Resource Recovery Facility located in Severn, Maryland is available for the disposal of non-hazardous solid waste as an option to the City. Together these outlets satisfy the anticipated solid waste disposal needs of the City for the foreseeable future.

Organics Recycling

Organic material includes solid waste that can biodegrade and processed for beneficial reuse. Typical components in the residential waste stream include yard trim (grass, leaves and brush), and food scrap. Cost effective and sustainable programs for the composting of leaves and grass currently exist within the region. The City currently operates a very small and limited food scrap drop off collection site at Truxton Park for use by residents. The material is collected by a private company and delivered to various outlets for processing. As these markets grow and new opportunities arise, consideration will be given toward expanding the existing curbside collection program to include food waste. The City will also evaluate participation in public or private partnerships involving organics recycling to the extent that it benefits its residents.

An Agreement exists for the acceptance of natural wood waste, food scraps and yard trim generated by City residents throughout the year or as the result of hurricane, tropical storm or winter storm events. The Agreement is with an adjoining County that operates a regional organics processing and recycling facility. Natural wood waste and yard trim collected by or on behalf of the City is delivered to the Prince George's County Organics Recycling Facility located in Upper Marlboro, Maryland. In FY 22, 1,869 tons of natural wood waste was delivered to the facility. In addition, the County's Millersville Landfill and Resource Recovery Facility located in Severn, Maryland is available for the acceptance and processing or disposal of natural wood waste should the need arise. Together these outlets satisfy the anticipated disposal or processing needs of the City for the foreseeable future.

Recycling

A well-established recycling market exists for paper, plastic, metal and glass (PPMG) generated by residential households. In 2006, the regional recycling industry evolved to “Single Stream Recycling” which made it easier for citizens to participate in the curbside recycling program. All recyclables are commingled for weekly collection by its Contractor. Over the years, the domestic and international market value of recyclables has become extremely volatile. Regardless, landfill space preservation and recovery of materials that can avoid using virgin materials remain the driving forces for maintaining a comprehensive recycling program for its residents.

The sustainability and success of any municipal residential recycling programs hinges on constant education, communication and promotion. The goal of the City’s recycling program is to reduce the disposable waste stream and only dispose what cannot be used to manufacture new materials. In addition, contamination of the recycling stream with non-recyclables impacts program costs to the City. Therefore, its messaging evolves around the creation of an ongoing culture of proper recycling, recycling more and wasting less.

The County has entered into a multi-year agreement with a private company that operates a regional recycling processing facility. The City has taken advantage of a piggy-backing provision and entered into a separate Agreement with the company under modified terms and conditions as contained in the County Agreement. Source separated recyclables generated by residential/commercial customers that are collected by the City are delivered to the Waste Management Recycle America (WMRA) single stream processing facility located in Elkridge, Maryland. In FY 22, the City delivered 2,919 tons of recyclables to WMRA. The County and the City either receive revenue or make a payment on a monthly basis for recyclables delivered subject to regional market conditions as specified in the Agreement.

Commercial establishments located within the City of Annapolis with curbside service contract privately for refuse collection and are required to use a solid waste hauler licensed by the City. The City offers a voluntary commercial recycling program that allows the business to pay a fee for weekly collection of recyclables. The City’s residential collection Contractor services those commercial establishments that subscribe to the program. Approximately 80 commercial establishments take advantage of the program each year.

Electronics recycling is also available to City residents. A drop off location exists at the Public Works Services facility. Public recycling receptacles are provided in the downtown area and historic districts, parks and in several City buildings. A recycling drop-off location is also provided for transient boaters in the downtown City Dock area.

The City has entered into an Agreement with the County to share in the cost of operating Household Hazardous Waste Collection Events. There are 6 (six) events scheduled each year. Under the terms of the arrangement, the total cost per participant is calculated by the County and the City pays the amount based on the number of City residents who visit the event. Participation is highly variable and a function of citizen demand. In FY 22, a total of 192 City residents participated in the program.

Overall, the City's solid waste management practices promote public health, safety and welfare and embrace similar environmental, recycling and sustainability goals as other municipalities across the country. By providing a cost-effective collection services, coupled with a comprehensive public outreach and educational program, the City promotes recycling to reduce the reliance on landfilling and avoid unnecessary disposal costs. The City plans to continue evaluating its needs in response to disposal costs, the availability of cost-effective disposal or processing outlets and regional recycling markets. Over the planning horizon, the City will ensure that programs are in place to manage, dispose and recycle wastes generated by its residents in a responsible, practical and financially prudent manner.