

SOLID WASTE MANAGEMENT AND RECYCLING PLAN

2011-2021

WASHINGTON COUNTY, MARYLAND

(INCLUDING 2013 and 2014 AMENDMENTS AND UPDATE)

ADOPTED BY THE BOARD OF COUNTY COMMISSIONERS, AUGUST 5, 2014

Board of County Commissioners for Washington County, Maryland
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APPENDICIES

A. SOLID WASTE COLLECTION LICENSING ORDINANCE

[http://www.washco-md.net/washco_2/pdf_files/legal/Solid Waste Coll Lic Ord \(Rev1\).pdf](http://www.washco-md.net/washco_2/pdf_files/legal/Solid%20Waste%20Coll%20Lic%20Ord%20(Rev1).pdf)

B. WASHINGTON COUNTY COMPREHENSIVE RECYCLING PLAN

<http://docs.google.com/fileview?id=0B4htEj2KKquOZDg4ZGY1YmItMjc0Mv00YmNhLTgzYWQtNThlOGVmNDVlOWUw&hl=en>

C. WASHINGTON COUNTY SOLID WASTE RATES AND FACILITIES

http://www.washco-md.net/DEM/solid_waste/Fees07.pdf



MARYLAND DEPARTMENT OF THE ENVIRONMENT

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WASHINGTON COUNTY
PLANNING DEPARTMENT

May 9, 2014

Mr. Stephen T. Goodrich, Director
Washington County Department of Planning and Zoning
Washington County Administrative Annex
80 West Baltimore Street
Hagerstown, MD 21740-6003

Dear Mr. Goodrich:

The Maryland Department of the Environment (the "Department") has completed its review of Washington County's revised (3-years review) Solid Waste Management Plan (the "Plan") for the planning period 2011-2021. The County Commissioners adopted the Plan on November 19, 2013 and forwarded the Plan to the Department for its review and approval as required by Sections 9-503 (b) and (c) of the Environment Article, Annotated Code of Maryland. The Department received the Plan on February 21, 2014.

Based on this review, the Department has determined that the revisions to the Plan do not completely satisfy the requirements of Section 9-503(a) of the Environment Article, Annotated Code of Maryland, and the Code of Maryland Regulations (COMAR) 26.03.03. In accordance with Section 9-507(a) of the Environment Article, Annotated Code of Maryland, the Plan is conditionally approved provided that revisions are made to the following sections of the Plan, and that the revised sections are submitted to the Department for review and approval within 90 days of the date of this letter:

Chapter 1 – Goals, Objectives, and Policies

1. On Page 1-13, in Table 1-1, add a new title "Recycling Rate and Waste Diversion – Statewide Goals Act (2012)" and include the following text:

"An Act revising the 1988 Maryland Recycling Act (MRA), requiring a county plan to address a reduction through recycling of at least 35% or 20%, by population greater or less than 150,000, of the county's solid waste stream by July 1, 2014. The plan must be fully implemented by December 31, 2015."

3. On Page 5-17, under Section 5.2.3.7 "Apartment Building and Condominium Recycling Program," in No. 3 "Marketing of Materials," in the second sentence, add "and waste" after recyclables and remove "MDE and."

Be advised that Sections 9-503(c) and (d) of the Environment Article, Annotated Code of Maryland, and COMAR 26.03.03.05C specify required public hearing procedures for amendments to the Solid Waste Management Plans. There have been cases where amendments to the plans were invalidated because of failure to follow the public hearing process. The Department can not authorize a county or Baltimore City to violate any State law or regulation, or local law, policy, or procedure when adopting plan revisions.

Thank you for your continuing interest and cooperation in providing sound and long-term solid waste management planning for the County. If you have questions or need additional clarification on these matters, please contact Mr. A.Hussain Alhija, Acting Program Manager, Waste Diversion and Utilization Program, at 410-537-3431 or hussain.alhija@maryland.gov, or you may contact me at 410-537-3304.

Sincerely,



Horacio Tablada, Director
Land Management Administration

cc: A.Hussain Alhija, Acting Program Manager, Land Management Administration
Board of Washington County Commissioners



MARYLAND DEPARTMENT OF THE ENVIRONMENT

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WASHINGTON COUNTY
PLANNING DEPARTMENT

July 1, 2011

The Honorable Terry L. Baker, President
Board of County Commissioners of Washington County
100 West Washington Street, Room 226
Hagerstown, MD 21740

Dear County Commissioner Baker:

The Maryland Department of the Environment (the "Department") has completed its review of the Washington County Solid Waste Management Plan (2011-2021), (the "Plan"), which was adopted by the Washington County Commissioners on March 1, 2011.

Based on this review, the Department has determined that the Plan satisfies the Department's guidelines and complies with the defined requirements of the Code of Maryland Regulations (COMAR) 26.03.03. In accordance with Section 9-507(a) of the Environment Article, Annotated Code of Maryland, the Plan is approved.

Per Section 9-506(b)(2) of the Environment Article, Annotated Code of Maryland, Washington County is required to submit a progress report at least every two years including any revisions or amendments to the County plan that have been adopted. Since the Plan was adopted on March 1, 2011, Washington County must submit to the Department its first progress report required by Section 9-506(b)(2) on or before **March 1, 2013**.

Thank you for your continuing interest and cooperation in providing sound and long-term solid waste management planning for the County. If you have questions or need additional clarification on these matters, please contact Ms. Hilary Miller, Program Manager, Technical Services and Operations Program at 410-537-3431 or you may contact me at 410-537-3304.

Sincerely,

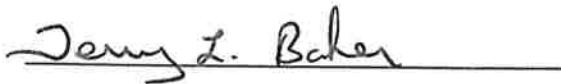
Horacio Tablada, Director
Land Management Administration

cc: Steve Goodrich, Interim Planning Director, Washington County Department of Planning and
Community Development
Hilary Miller, Program Manager, Technical Services and Operations Program

**CERTIFICATION OF PUBLIC HEARING AND APPROVAL
SOLID WASTE MANAGEMENT AND RECYCLING PLAN
AMENDMENT**

WASHINGTON COUNTY, MARYLAND

In compliance with the requirements of COMAR 26.03.03.05, the Board of County Commissioners for Washington County, MD held a public hearing on August 5, 2014 to provide an opportunity for public comment on a proposed amendment to the Washington County Solid Waste Management and Recycling Plan. The hearing date, time, location and purpose was published in a legal ad in The Herald-Mail newspaper on two occasions prior to the hearing as well as through a press release and notices on the Washington County web site, www.washco-md.net. The proposed amended document was made available for public access and review via the public notice. After consideration of public comment received during said public hearing, the Board of County Commissioners for Washington County, MD approved and adopted the amended Solid Waste Management and Recycling Plan contained herein.



Terry L. Baker, President
Board of County Commissioners for Washington County, MD

**CERTIFICATION OF PUBLIC HEARING AND APPROVAL
SOLID WASTE MANAGEMENT AND RECYCLING PLAN
AMENDMENT**

WASHINGTON COUNTY, MARYLAND

In compliance with the requirements of COMAR 26.03.03.05, the Board of County Commissioners for Washington County, MD held a public hearing on November 19, 2013 to provide an opportunity for public comment on a proposed amendment to the Washington County Solid Waste Management and Recycling Plan. The hearing date, time, location and purpose was published in a legal ad in The Herald-Mail newspaper on two occasions prior to the hearing as well as through a press release and notices on the Washington County web site, www.washco-md.net. The proposed amended document was made available for public access and review via the public notice. After consideration of public comment received during said public hearing, the Board of County Commissioners for Washington County, MD approved and adopted the amended Solid Waste Management and Recycling Plan contained herein.



Terry L. Baker, President
Board of County Commissioners for Washington County, MD

DEFINITIONS

Back-End Scrap – Ferrous and non-ferrous metal removed from the waste stream following incineration.

Commercial Waste – Materials generally discarded from wholesale, retail, or service establishments such as office buildings, stores, markets, theaters, hotels, and warehouses.

Convenience Center – A location where Washington County residential permit holders may drop their bagged household waste into a bulk container which is then transported to the appropriate landfill. Non-permit holders may also drop designated recyclables into bulk containers for transport to recycling contractors.

Front End Scrap Metal – Ferrous or non-ferrous metal pulled from the waste stream in a refuse disposal system, including white goods.

Hazardous Waste – Waste, which because of its quantity, concentration or physical, chemical or infectious characteristics may pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of or otherwise managed.

Incineration – An engineered process involving combustion to thermally degrade waste materials.

Industrial Waste – Materials generally discarded from industrial operations or derived from manufacturing processes.

Institutional Waste – Materials generally discarded from schools, hospitals (non-medical waste), prisons, and public buildings.

Leachate – The liquid resulting from precipitation percolating through a waste pile or cell of solid waste and which contains liquid water, dissolved solids, and decomposition products of solids.

MRA "Recyclable Materials" – Those materials not categorically excluded under the definition of Maryland Recycling Act Solid Waste Stream that are recycled. These include #1 and #2 plastic bottles – hdpe/pet, newspapers, glass bottles and jars, food and beverage cans, office paper and corrugated cardboard.

Maryland Recycling Act Solid Waste Stream – Garbage or refuse that would, unless recycled, be disposed. Does not include: hospital waste, rubble, scrap material (automobiles, scrap steel, etc.), land clearing debris, sewage sludge, waste generated by a single individual or business and disposed of in a facility dedicated solely for that entity's waste. (9-1702)

Materials Recovery Facility – A facility that accepts recyclable material to be further processed and prepared for use as a raw material feedstock for a new product.

MDE – Maryland Department of the Environment

MRA – Maryland Recycling Act: the law, now codified as Title 9, Subtitle 17 of the Environment Article, Annotated Code of Maryland, which establishes and defines the recycling goals for Maryland.

MRA Recycling Rate – The percent of discarded material that is recycled as determined by the following Maryland Recycling Act formula.

$$\text{Recycling rate} = \frac{\text{total MRA tons recycled}}{\text{total MRA tons recycled} + \text{total MRA waste}} \times (100)$$

INTRODUCTION AND BACKGROUND

I. INTRODUCTION

Statement and Purpose

The purpose of this document is to outline Washington County's plan for the management of solid waste and recyclables generated in the County now and in the future. The Solid Waste Management Plan will provide the County with a plan for safe and adequate management for the County's solid waste for a ten-year planning period. Washington County first developed its Plan in 1979, with updates in 1983, 1996, 1999, 2002 and 2005. This plan has been officially adopted by the Board of County Commissioners for Washington County.

Current regulations (COMAR 26.03.03) governing the development of solid waste management plans, require the Plan to address waste management and recycling for a period of at least ten years. This Plan provides for the mandated ten years of management and addresses options for management well into the future. At a minimum, the Plan will be reviewed and updated, if necessary, at least every three years. This Solid Waste Management Plan has been prepared in accordance with current State regulations (COMAR 26.03.03). The Plan is divided into five chapters. The first chapter presents the legal and institutional framework, including County goals and objectives. Chapter 2 presents County physiographic, land use and demographic data. Chapter 3 outlines the current solid waste management system operating in the County and presents data on solid waste trends and projections. Chapter 4 details the evaluation of current and future alternative programs and technologies for solid waste management in the County. Chapter 5 presents the implementation plan, schedule, and costs for implementing the Plan.

Plan Approval Process

Plan preparation was performed by the County Planning Department staff with the assistance of County staff responsible for solid waste management operations in Washington County. Outside agencies, including the Health Department, reviewed the Plan and submitted comments. Citizens were also part of the planning process, as were members of the Washington County Solid Waste Advisory Commission (SWAC). Many comments were factored into the Plan.

A draft version of the Plan was also submitted to the Maryland Department of Environment (MDE) for a preliminary review. Comments were received and modifications made to the document.

Section 9-503 of the Environment Article Annotated Code of Maryland requires that each County maintain a solid waste management plan covering at least a ten year period. It provides for a regular interval of amendment of the Plan and procedures for adoption. Section 9-503 also requires that the County conduct a public hearing prior to adoption and makes provisions for advertisement and circulation of the hearing.

Certification

This Plan is certified to be prepared in accordance with COMAR 26.03.03.

II. BACKGROUND

As defined by the original Federal Solid Waste Disposal Act in 1965, solid waste includes the non-hazardous solid, liquid, or contained gaseous refuse generated by industrial, commercial and residential sources. Clearly this definition covers many types of waste, which are all addressed in this Plan. The principle focus of the Plan is the management of waste generated by residential and commercial sources in Washington County and actually brought to County facilities.

The disposal of solid waste is regulated under part 258 of Title 40 of the Federal Code of Regulations Title 40, Part 258, which sets federal criteria for municipal solid waste landfills including location restrictions, facility design, operating criteria, ground-water monitoring requirements, financial assurance and closure and post-closure care requirements.

At present, the majority of Municipal Solid Waste (MSW) generated in Washington County is disposed at the Forty West Municipal Landfill. In general, the environmental and economic issues associated with solid waste management have resulted in many communities transporting their wastes great distances for disposal, which results in increased disposal costs. This is generally not the case in Washington County because adequate landfill space exists for the next 55 years.

Siting new landfills is sometimes difficult due to public concern and because environmental risks are, at best, not well defined. As siting becomes more difficult, and as the volume of waste increases, solid waste disposal, which was once considered solely a local problem, has become a combined local, State, regional, and national concern. Regardless of the fact that Washington County currently has adequate landfill space, investigation into alternatives to local landfilling will continue and will include an increased emphasis on waste prevention, recycling, transfer, composting and other processing and/or disposal options.

Alternatives to the reliance on landfills in Washington County may include a combination of waste minimization, education, transfer (short and long-term), composting, source separation, recycling, waste-to-energy, and waste compaction. All of these alternatives result in waste avoidance, residual reuse, or resource recovery and also continue to require some dependency on landfills.

According to the Environmental Protection Agency (EPA), in 2008 U.S. residents, businesses and institutions produced more than 249 million tons of MSW. This represents approximately 4.6 pounds of waste per person per day, which has increased from 3.25 pounds per person per day in 1970.

By weight, containers and packaging materials account for over 75% of all municipal waste. The largest percentage of packaging material is paper, followed by glass, plastic, and metals. Due to the decreased use of steel and glass in the manufacturing of containers, packaging and containers have been growing at a slower rate than the rest of the solid waste stream when measured by weight, not by volume. For example, a 1988 EPA Study concluded that while plastics accounted for only 8% of discarded materials by weight, it accounted for 20% by volume.

Variations in the volume and composition of solid waste are affected by numerous factors including changes in population, development trends, land use, affluence, technology and patterns of social changes. In general, as population and wealth increase and as the ability to produce disposable packing and products improves, waste volumes increase.

During the ten-year planning period, landfilling will continue to play an important role in solid waste management in Washington County. Even if greater use is to be made of waste reduction, recycling, composting, and diversion, the cost must be weighed against the benefit. In addition to the program costs for these activities, diversion from landfilling may include a loss of disposal or tipping fee revenue to the Solid Waste Enterprise Fund.

Washington County, like many other communities, has turned to recycling as part of its response to the need to maximize landfill capacity and minimize environmental impact. Theoretically, most products or materials discarded by consumers can be recycled. Recycling handles more than twice the percentage of the national waste stream as combustion. According to 2008 EPA data, approximately 33% of the municipal waste stream was recycled while 13% was combusted with energy recovery.

Composting, like other recycling techniques, is a proven technology that can be used to return organic materials to the soil, a form of recycling resources. Yard waste and sewage sludge composting is easily accomplished and can help to reduce landfill tonnages. Both yard waste and sewage sludge are readily converted into a usable soil additive eliminating the need to dispose of it in the landfill. Solid waste composting does not have the documented history of success as experienced with other waste streams. As technology evolves, MSW composting may prove more economically viable and should remain a consideration. Success rates at operating plants have improved, but nuisance issues and market stability remain a concern. Food waste composting may also be an option to investigate.

TABLE I-1

Generation and Recovery of Products in MSW, 2008* (in millions of tons and percent of generation of each product)

Products	Weight Generated	Weight Recovered	Recovery as Percent of Generation
Durable goods			
Steel	13.13	3.68	28.0%
Aluminum	1.31	Negligible	Negligible
Other non-ferrous metals†	1.76	1.21	68.8%
Glass	2.10	Negligible	Negligible
Plastics	10.52	0.39	3.7%
Rubber and leather	6.34	1.06	16.7%
Wood	5.68	Negligible	Negligible
Textiles	3.35	0.44	13.1%
Other materials	1.48	1.15	76.2%
Total durable goods	45.67	7.93	17.4%
Nondurable goods			
Paper and paperboard	39.12	17.86	45.7%
Plastics	6.52	Negligible	Negligible
Rubber and leather	1.04	Negligible	Negligible
Textiles	8.78	1.45	16.5%
Other materials	3.25	Neg.	Neg.
Total nondurable goods	58.71	19.31	32.9%
Containers and packaging			
Steel	2.55	1.61	63.1%
Aluminum	1.88	0.72	38.3%
Glass	10.05	2.81	28.0%
Paper and paperboard	38.29	25.08	65.5%
Plastics	13.01	1.73	13.2%
Wood	10.71	1.58	14.8%
Other materials	0.27	Negligible	Negligible
Total containers and packaging	76.76	33.53	43.7%
Other wastes			
Food, other‡	31.79	0.80	2.5%
Yard trimmings	32.90	21.30	64.7%
Miscellaneous inorganic wastes	3.78	Negligible	Negligible
Total other wastes	68.47	22.10	32.3%
Total municipal solid waste	249.61	82.87	33.2%

* Includes waste from residential, commercial, and institutional sources.

† Includes lead from lead-acid batteries.

‡ Includes recovery of other MSW organics for composting.

Details might not add to totals due to rounding.

Negligible = less than 5,000 tons or 0.05 percent.

CHAPTER 1

COUNTY GOALS, OBJECTIVES, POLICIES AND PROGRAMS REGARDING SOLID WASTE MANAGEMENT AND RECYCLING

Revised and adopted August 5, 2014
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Rev. 1 – 10/15/09
Rev. 2 – 11/16/09
Rev. 3 – 1/20/10
Final Rev. 7/12/10

1.0 GOALS, OBJECTIVES AND POLICIES ESTABLISHED BY THIS PLAN

1.1 GOALS

Goals of the Washington County Solid Waste Management Plan are to provide for facilities that are adequate to treat, recover, or dispose of solid waste in a manner consistent with all applicable State, Federal, and local laws and regulations that relate to protection of the air, water, land, and people. The ultimate intent of the Plan is an effective implementation of an integrated system of solid waste management, waste reduction and recycling that allows flexibility to respond to changes in regulation, technology and market conditions.

1.1.1 COMPREHENSIVE PLAN GOALS

The goals for solid waste management in Washington County are consistent with those in the adopted 2002 Comprehensive Plan. These are:

- (1) Provide opportunities for individual choice and self-fulfillment
- (2) Promote a balanced and diversified economy
- (3) Encourage the stewardship of the environment and the County's heritage
- (4) Establish parameters for managing growth

1.1.2 SOLID WASTE MANAGEMENT AND RECYCLING PLAN

The goals of the Solid Waste Management and Recycling Plan are listed below. Through the Solid Waste Management and Recycling Plan, the governing body of Washington County proposes to:

- (1) Protect the health, safety, and welfare of the total population of Washington County by identifying the proper agencies to implement, administer, and regulate the solid waste and recycling collection and management needs of the County.
- (2) Plan for and encourage growth in Washington County in a manner consistent with the Comprehensive Plan and Water and Sewerage Plan, and in a way which will provide effective solid waste management and recycling as one of the public health, safety and welfare services.
- (3) Continue to investigate options related to preparation and adoption of requisite ordinances and regulations to implement county-wide solid waste management and recycling programs.
- (4) Continue to involve and encourage private enterprise, where appropriate, in county-wide solid waste management and recycling programs and services.
- (5) To the extent possible and practical, identify and categorize all sources and types of solid waste generated within Washington County.
- (6) Provide a functional solid waste management and recycling plan to be updated and amended triennially as necessary.
- (7) Plan solid waste facilities and recycling programs, including education, to meet the developing needs of Washington County.

- (8) Implement the County's Recycling Plan and waste management policies within the scope of solid waste management as an alternative to landfilling and continue to exceed the State mandated goal of recycling 15% of the solid waste stream.
- (9) Encourage waste minimization as part of the waste management strategy.

1.2 OBJECTIVES

To effect and accomplish the goals and to ensure compliance with applicable Federal, State, and local laws and regulations, the Plan has a number of implementing objectives in three general areas: Planning, Solid Waste Reduction and Recycling, and Solid Waste Management.

1.2.1 PLANNING

- (1) Provide for triennial review of the adopted Solid Waste Management and Recycling Plan, as required by Sec. 9-503 (b) of the Environment Article, Annotated Code of Maryland.
- (2) Increase awareness of the requirement and benefits of improved solid waste management and recycling.
- (3) Plan for the end use of all county landfill facilities.
- (4) Investigate opportunities and options for increasing efficiencies in solid waste management.

1.2.2 WASTE REDUCTION AND RECYCLING

- (1) Periodically establish specific recycling rate goals above those mandated by law.
- (2) Utilize the solid waste management priorities of "Reduce, Reuse, Recycle" to the maximum extent possible in all activities.
- (3) Encourage and promote a primary role for private enterprise in waste reduction and recycling efforts.

1.2.3 WASTE MANAGEMENT

- (1) Monitor waste generation and disposal by collection of weight, volume and classification data and records.
- (2) Track waste generation, including special waste by geographic area and category.
- (3) Assure an effective continuing program for provision of waste collection services in all areas of the county by ordinance or other means.
- (4) Monitor municipal and private costs of waste collection.
- (5) Minimize roadside dumping by providing and locating public convenience centers that serve citizens.
- (6) Provide and operate solid waste disposal facilities that protect public health, land, air and water.

1.3 POLICY

In order to implement and manage a plan, policies must be adopted that will encourage, promote, and enforce a clearly developed "Integrated Solid Waste Management Program", and also integrate the principles of that plan throughout County Government.

OVERALL POLICIES:

A Solid Waste Enterprise Fund will be maintained through which most costs of solid waste management will be funded.

Costs:

Costs will include those incurred for the operation, maintenance, replacement, closure and post-closure, monitoring and maintenance of solid waste management facilities,

including education, permitting, licensing, recycling and recovery, transfer, landfilling, solid waste disposal and financial assurances.

Also included are costs incurred during administration of present and future solid waste planning and regulatory programs.

Revenues:

The Solid Waste Enterprise Fund will be financed through revenues generated from:

- Tipping fees and other special generation fees
- Sale of assets and materials
- Interest
- Permits
- Issuance of bonds
- Sale of Emission Offset Credits
- License fees
- Energy recovery
- Grants and loans
- Recycling

Ordinances regarding inappropriate, illegal and illicit waste disposal activities will be enforced through the county code and through appropriate rules adopted by each municipality.

Environmentally sensitive waste management practices will be followed.

1.4 CONFORMANCE WITH LAND USE PLANS

Division I of the Land Use Article from the Maryland Code, effective January 1, 2013 and titled Single Jurisdiction Planning and Zoning delegates basic planning and land use regulatory powers to the State's municipalities, Baltimore City, and non-charter counties.

The Land Use Article is permissive, that is, it allows but does not require jurisdictions to exercise the powers delegated. If the powers are exercised, they must be exercised according to the applicable provisions in the statute. The Land Use Article authorizes local jurisdictions to prepare comprehensive plans, zoning ordinances (including historic zoning), and subdivision regulations. It also enables them to adopt adequate public facilities ordinances.

Washington County has chosen to utilize the authority granted under the Land Use Article and has developed and adopted a Comprehensive Plan and related ordinances that regulate land development and use. In addition, all of the incorporated municipalities within Washington County have also exercised that authority.

1.5 CONSISTENCY WITH LOCAL PLANNING GOALS

In addition to State and federal requirements, the location and operation of any solid waste management facilities, public or private, must be consistent with the goals of the adopted Washington County Comprehensive Plan and in compliance with County ordinances.

1.6 COUNTY GOVERNMENT STRUCTURE IN RELATION TO SOLID WASTE MANAGEMENT

1.6.1 INTER-DEPARTMENTAL COORDINATION REGARDING SOLID WASTE MANAGEMENT

The Division of Environmental Management ("DEM"), which includes the Department of Water Quality, the Environmental Engineering Department, and the Solid Waste Department, was created in fiscal year 2007. DEM is responsible for integrating the regulations and applying them to the operations of these departments, as State and Federal environmental initiatives as they pertain to water, wastewater, solid waste and nutrients are all jointly related. The Solid Waste Department is responsible for the proper disposal of solid waste generated in Washington County by daily management of recycling drop-off, landfill, and rubble transfer facilities, as well as hauler licensing. (See Figure 1-1). The County Department of Budget and Finance manages the Solid Waste Enterprise Fund.

1.6.2 PUBLIC PARTICIPATION IN SOLID WASTE MANAGEMENT PLANNING

1.6.2.1 WASHINGTON COUNTY SOLID WASTE ADVISORY COMMISSION (SWAC)

The Advisory Committee of nine members appointed by the County Commissioners evolved from an interested group of citizens that assisted with development of the County's first recycling plan in 1992.

Since that time the SWAC has provided advice and recommendations to the County Commissioners on waste management and recycling issues. The SWAC also provides an opportunity for community education and outreach and an opportunity for the public to be involved in solid waste management processes that affect them. The function of the SWAC is to serve as an advisory body to the County Commissioners. SWAC members may serve up to two consecutive 3-year terms. New members are recommended by the SWAC to the County Commissioners as needed.

The Solid Waste Advisory Commission usually meets on the fourth Thursday of each month at 7:00 PM to discuss solid waste issues. Citizen attendance and participation is encouraged. Citizens may call the Solid Waste Department for suggestions, questions or information on the exact time and location of any meeting they are interested in attending.

1.6.2.2 INTERGOVERNMENTAL COOPERATION

The structure of government extends over the County except for the nine incorporated municipalities: Hagerstown, Boonsboro, Clear Spring, Funkstown, Hancock, Keedysville, Sharpsburg, Smithsburg, and Williamsport. Each of the incorporated towns have contracted hauler services; Hagerstown's and Williamsport's includes curbside recycling. None have any disposal facilities or their own solid waste management plans.

1.6.2.3 REGIONAL COOPERATION

In 2010, Frederick County formally approached Washington County regarding interest in participating as a customer in their pending WTE plant project. The plant will be owned and operated by the Northeast Maryland Waste Disposal Authority, with equity partners including Frederick County and Carroll County, Maryland. Until such time as waste volumes from Frederick and Carroll County meet the WTE plant design capacity, wastes from outside Frederick and Carroll County will be sought to maximize plant operating efficiency. Washington County responded in the affirmative to the Frederick County interest inquiry. Should the waste-to-energy project in Frederick County go forward, the plant is anticipated to be on-line in 2014-2015.

1.7 GOVERNING LAWS AND REGULATIONS

This section includes discussion of Federal, State and County laws, ordinances, and regulations that are relevant to solid waste management in Maryland and Washington County.

1.7.1 FEDERAL LAWS AND REGULATIONS

Federal involvement with Solid Waste Management began in 1965 with the passage of the Solid Waste Disposal Act (SWDA). Since that time several other statutes have been passed and numerous regulations promulgated that have affected how solid waste is managed. The Resource Conservation and Recovery Act (RCRA) formally established the federal program regulating solid and hazardous waste management. RCRA actually amends earlier legislation (the Solid Waste Disposal Act of 1965), but the amendments were so comprehensive that the Act is commonly called RCRA rather than its official title.

The Act defines solid and hazardous wastes, authorizes EPA to set standards for facilities that generate or manage hazardous waste, and establishes a permit program for hazardous waste treatment, storage, and disposal facilities. RCRA was last reauthorized by the Hazardous and Solid Waste Amendments of 1984.

The amendments set deadlines for permit issuance, prohibited the land disposal of many types of hazardous waste without prior treatment, required the use of specific technologies at land disposal facilities, and established a new program regulating underground storage tanks. The authorization for appropriations under this Act expired September 30, 1988, but funding for the Environmental Protection Agency's programs in this area has continued; the Act's other authorities do not expire.

Federal solid waste law has gone through four major phases:

- Phase I is marked by the adoption of the Solid Waste Disposal Act. Passed in 1965 as Title II of the Clean Air Act of 1965, the SWDA focused on research, demonstrations, and training. It provided for sharing with the states the costs of making surveys of waste disposal practices and problems, and of developing waste management plans.
- The second phase, started with the adoption of the Resource Recovery Act of 1970. That legislation changed the approach from one of efficiency of disposal to concern with the reclamation of energy and materials from solid waste. It authorized grants for demonstrating new resource recovery technology, and required annual reports from the Environmental Protection Agency (EPA) on means of promoting recycling and reducing the generation of waste.
- In the third phase, the federal government embarked on a more active regulatory role. The Resource Conservation and Recovery Act of 1976 (RCRA) instituted the first federal permit program for hazardous waste and prohibited open dumps.
- The fourth phase is marked by the adoption of the Hazardous and Solid Waste Amendments of 1984. Through those amendments the federal government implemented rules designed to prevent future contamination and the need for cleanup by prohibiting land disposal of untreated hazardous wastes, setting liner and leachate collection requirements for land disposal facilities, setting deadlines for closure of facilities not meeting standards, and establishing a corrective action program.

The major Subtitle D (non-hazardous) solid waste provision in RCRA is the prohibition of open dumps. This prohibition is implemented by the states, using EPA criteria to determine which

facilities qualify as sanitary landfills and may remain open. EPA's criteria were originally promulgated in 1979; open dumps were to close or be upgraded by September 13, 1984.

In the 1984 amendments to RCRA, EPA was required to revise the sanitary landfill criteria for facilities that receive small quantity generator hazardous waste or hazardous household waste. Using this authority, the Agency promulgated revised regulations applicable to municipal solid waste landfills in October 1991, with an effective date of October 9, 1993 for most provisions. In general, the new criteria require liners, leachate collection, groundwater monitoring, and corrective action at municipal landfills.

Other solid waste provisions authorized in RCRA include: financial and technical assistance for states and local governments (most assistance ended in fiscal year 1981 due to overall budget cutbacks); research, development, and demonstration authority (most of which also fell victim to budget cutbacks); and a procurement program, the goal of which is to stimulate markets for recycled products by requiring federal departments and agencies to "buy recycled."

Enforcement

RCRA contains stringent enforcement provisions. Criminal violations of Subtitle C (hazardous waste) requirements are punishable by fines of as much as \$50,000 for each day of violation and/or imprisonment for as long as 5 years; knowingly endangering human life brings fines of as much as \$250,000 (\$1 million for a company or organization) and up to as much as 15 years imprisonment.

In cases not involving criminal conduct, the Act authorizes civil and administrative penalties of as much as \$25,000 per day of violation. EPA is authorized both to issue administrative compliance orders and to seek injunctive relief through the courts. Similar civil and administrative penalties (but not criminal penalties) apply to violations of the underground storage tank requirements in Subtitle I. Failure to close or upgrade open dumps can also be enforced by EPA in limited circumstances.

Like most environmental programs, RCRA in practice is largely enforced by state agencies exercising state authority equivalent to the federal authority. Although the Maryland Department of the Environment (MDE) is authorized as the principle agency implementing RCRA in Maryland, the EPA retains the power to undertake enforcement in such "authorized" states. RCRA requires only that the Administrator give notice to the state in which a violation has occurred prior to issuing an order or commencing a civil action. RCRA also provides for citizen suits both against persons and entities alleged to have violated standards on permit requirements and against EPA in cases where the Administrator has failed to perform an action that is non-discretionary under the Act.

Amendments to RCRA

RCRA has been amended nine times, some of which were non-controversial additions clarifying portions of the law or correcting clerical errors in the text. The most significant sets of amendments occurred in 1980, 1984, and 1992.

1980 Amendments The Solid Waste Disposal Act Amendments of 1980 provided EPA tougher enforcement powers to deal with illegal dumpers of hazardous waste; the Agency's authority to regulate certain high-volume, low-hazard wastes (known as "special wastes") was restricted; funds were authorized to conduct an inventory of hazardous waste sites; and RCRA authorizations for appropriations were extended through fiscal year 1982. Amending language contained in Superfund, P.L. 96-510, established an Assistant Administrator for Solid Waste and Emergency Response at EPA.

Hazardous and Solid Waste Amendments of 1984 The most significant set of amendments to RCRA was the Hazardous and Solid Waste Amendments of 1984 (HSWA), a complex law with many detailed technical requirements. In addition to restrictions on land disposal, and the inclusion of small-quantity hazardous waste generators (those producing between 100 and 1,000 kg of waste per month) in the hazardous waste regulatory scheme that was summarized above, HSWA created the new regulatory program for underground storage tanks. EPA was directed to issue regulations governing those who produce, distribute, and use fuels produced from hazardous waste, including used oil. Under HSWA, hazardous waste facilities owned or operated by federal, state, or local government agencies must be inspected annually, and privately owned facilities must be inspected at least every two years. Each federal agency was required to submit a comprehensive inventory of hazardous waste facilities to EPA.

The 1984 law also imposed on EPA a timetable for issuing or denying permits for treatment, storage, and disposal facilities; required permits to be for fixed terms not exceeding 10 years; terminated in 1985 the "interim status" of land disposal facilities that existed prior to RCRA's enactment, unless they met certain requirements; required permit applications to be accompanied by information regarding the potential for public exposure to hazardous substances in connection with the facility; and authorized EPA to issue experimental permits for facilities demonstrating new technologies. EPA's enforcement powers were increased, the list of prohibited actions constituting crimes was expanded, penalties were increased, and the citizen suit provisions were expanded. Other provisions prohibited the export of hazardous waste unless the government of the receiving country formally consented to accept it; created an ombudsman's office in EPA to deal with RCRA-associated complaints, grievances, and requests for information; and reauthorized RCRA through FY88 at a level of about \$250 million per year. Finally, HSWA called for a National Ground Water Commission to assess and report to Congress in two years on groundwater issues and contamination from hazardous wastes. However, the Commission was never funded and never established.

Federal Facility Compliance Act The third major set of amendments was the Federal Facility Compliance Act of 1992. This Act resolves the legal question of whether federal facilities are subject to enforcement actions under RCRA, by unequivocally waiving the government's sovereign immunity from prosecution.

1996 Amendments The 104th Congress passed an additional set of amendments to RCRA, the Land Disposal Program Flexibility Act (P.L. 104-119). 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. A second provision of the bill exempted small landfills located in arid or remote areas from ground water monitoring requirements, provided there is no evidence of ground water contamination.

1.7.1.1 OTHER LAWS AFFECTING SOLID WASTE MANAGEMENT

Although not technically amending RCRA, the 101st, 103rd, and 104th Congresses have enacted five other solid/hazardous waste-related measures.

Sanitary Food Transportation Act The Sanitary Food Transportation Act of 1990 (P.L. 101-500) required the regulation of trucks and rail cars that haul both food and solid waste (a problem commonly referred to as "backhauling of garbage"). The Act directed the Departments of Agriculture, Health and Human Services and Transportation to promulgate regulations specifying: (1) recordkeeping and identification requirements; (2) decontamination procedures for refrigerated trucks and rail cars; and (3) materials for construction of tank trucks, cargo tanks, and ancillary equipment.

Clean Air Act The Clean Air Act Amendments of 1990 (Section 305 of P.L. 101-549) contained a provision mandating stronger federal standards for solid waste incinerators.

The law requires EPA to issue new source performance standards to control air emissions from municipal, hospital, and other commercial and industrial incinerators. New facilities must comply with the EPA rules within 6 months of the time they are issued, and existing units must comply within 5 years of issuance.

Pollution Prevention Act The Pollution Prevention Act of 1990 (sections 6601-6610 of P.L. 101-608) was passed as part of the Omnibus Budget Reconciliation Act of 1991. The measure 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. The Act also imposed new reporting requirements on industry. Firms that were required to file an annual toxic chemical release form under the Emergency Planning and Community Right-to-Know Act of 1986 must also file a report detailing their source reduction and recycling efforts over the previous year.

Indian Lands Open Dump Cleanup Act The Indian Lands Open Dump Cleanup Act of 1994 (P.L. 103-399) 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. According to IHS, only two of more than 600 waste dumps on Indian lands met current EPA regulations prior to the law's enactment.

Mercury-Containing and Rechargeable Battery Management Act. The 104th Congress passed legislation (P.L. 104-142) exempting battery collection and recycling programs from certain hazardous waste management requirements, prohibiting the use of mercury in batteries, and requiring labels on batteries to encourage proper disposal and recycling. By exempting battery collection and management programs from some parts of RCRA, the law was expected to stimulate new recycling programs.

Food and Yard Waste Composting EPA has also published a guidance document entitled Yard Trimmings/Food Scraps and has delegated authority to the states for all composting programs. Composting facilities may need approvals/permits from the state before they can begin operating. The requirements for permitting composting facilities may vary among states.

Biosolids Disposition The Code of Federal Regulations, Title 40 Part 503 under the Clean Water Act (CWA) pertains to land application (and biosolids composting), surface disposal, and combustion of biosolids (sewage sludge). Many of the standards promulgated in this rule can be applicable to municipal solid waste compost.

Construction and Demolition Debris (C&D) Disposition C&D debris is neither classified as Resource Conservation and Recovery Act (RCRA) hazardous waste nor RCRA municipal solid waste (MSW). Therefore, C&D landfills are not subject to federal design and operational criteria. However, if C&D debris is sent to municipal solid waste landfills (MSWLFs) or landfills which accept conditionally exempt small quantity generator (CESQG) waste, those landfills must still meet federal regulations set forth in RCRA, Subtitle D. (Part 258 for MSWLFs and Part 257, Subpart B for CESQG).

Under Executive Order (E.O.) 13101, Federal Acquisition, Recycling, and Waste Prevention, the Federal Government is required to use recycled products and "environmentally preferable" products and services. Executive Order 13101 affects the C&D waste stream because several construction items are included among these products. For example, Federal Agencies are required to buy carpet and insulation made from recycled materials

Household Hazardous Waste Disposition Households often generate solid wastes that could technically be hazardous wastes (e.g., old solvents, paints, pesticides, fertilizer,

poisons). However, it would be impossible to regulate every house in the United States that occasionally throw away a can of paint thinner or a bottle of rat poison. Therefore, EPA developed the household waste exemption. Under this exemption, wastes generated by normal household activities (e.g., routine house and yard maintenance) are exempt from the definition of hazardous waste. EPA has expanded the exemption to include household-like areas, such as bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas. While household hazardous waste is exempt from Subtitle C, it is regulated under Subtitle D as a solid waste.

Industrial Non-hazardous Waste (Industrial D) Industrial D is neither RCRA municipal solid waste nor RCRA hazardous waste under federal law. Therefore, it is not subject to federal regulations covering design and operational criteria. It is loosely regulated by RCRA Subtitle D and 40 CFR 257, Subpart A which governs those solid waste disposal facilities that do not meet the definitions of a municipal solid waste landfill. EPA developed a guidance document, Guide for Industrial Solid Waste management, which establishes voluntary criteria to assist facility and environmental managers to choose the best combination of protective design, monitoring, and operating practices to manage the disposal of industrial waste.

1.7.2 MARYLAND LAW AND REGULATION

1.7.2.1 MARYLAND STATE AGENCIES

Just as with the Federal government, the State of Maryland has passed numerous laws that affect solid waste management (See Table 1-1). Maryland's regulation of solid waste is codified in the Environment Article, Annotated Code of Maryland (see Tables 1-2 and 1-3).

Four State agencies in Maryland are responsible for solid waste management:

1. Maryland Department of the Environment (MDE) – The MDE has been given the responsibility of implementing all State and Federal legislation relating to solid waste. Federally legislated standards that MDE must meet or exceed in carrying out its regulatory responsibilities include, but are not limited to: the provisions of the Resource Conservation and Recovery Act (RCRA); the Clean Air Act, the Clean Water Act; and the Safe Drinking Water Act. Maryland environmental regulations relative to solid waste disposal and management, waste recycling, surface and groundwater protection, and erosion and sediment control are among the State mandated provisions that MDE must also enforce. As the agency delegated to implement RCRA requirements for solid waste disposal, MDE reviews the County solid waste plans and approves them based on established State and Federal standards. MDE is also charged with issuing permits, inspecting facilities, and enforcing all Maryland State and Federal environmental laws regarding solid waste, its management and control of potential impacts as a result of that management.

2. Maryland Environmental Service (MES) – MES is a State agency that is also a public utility. MES is managed by a seven-member board appointed by the Secretary of the Department of Natural Resources with approval by the Governor, upon the advice and consent of the Maryland Senate. MES has very broad powers, including the ability to: plan, acquire, construct and operate solid waste projects; institute and charge fees for project services; and create and administer funding authorities, which can issue revenue bonds for project financing. MES can exert its broad powers but only if requested to do so by a locality that needs help and is willing to enter into an agreement with MES. The Secretary of the Maryland Department of the Environment can also request MES to provide remedial services if an entity or locality has not complied with a Department of the Environment regulation.

3. Maryland Department of Health and Mental Hygiene-The Washington County Health Department is a State agency with responsibilities under both Maryland Department of Health and Mental Hygiene and the Department of the Environment. Through their Environmental Health Division, complaints regarding illegal dumping are responded to and enforcement taken under Health Department rules.

4. Northeast Maryland Solid Waste Disposal Authority – The Authority's structure as an independent state agency allows it to respond quickly to the needs of its participating jurisdictions. Authority members, who comprise the Authority's board of directors, directly represent each of eight participating jurisdictions—Anne Arundel County, Baltimore County, Carroll County, Frederick County, Harford County, Howard County, Montgomery County, and Baltimore City. The Authority's many years of experience allows it to expedite the procurement, permitting, and financing stages of each project. The Authority's staff includes engineers, planners, and financial professionals who work closely with local governments and the waste management industry to develop custom designed waste management programs. A team of expert consultants works under the direction of Authority project managers to execute specific tasks.

The Authority has an historical perspective on the progress of waste disposal in the region. For more than 20 years they have provided a unique forum for participating jurisdictions to share information. Their body of knowledge is shared with other jurisdictions throughout the state and region. Authority staff members hold leadership positions in a variety of regional and national solid waste management and recycling organizations such as the Municipal Waste Management Association (the U.S. Conference of Mayors) and the National Recycling Coalition. They have received numerous awards and have been recognized nationally for their work in the area of recycling.

1.7.3 COUNTY LAW AND REGULATION

On June 22, 1995, the Washington County Commissioners adopted an Ordinance for Solid Waste Collection Licensing in Washington County, Maryland. The Ordinance provides for the licensing of haulers, establishes minimum standards for waste handling, outlines the waste acceptance standards enforced at County solid waste acceptance facilities, bans yard waste disposal at the landfill, outlines how fees will be established and collected and provides for enforcement authority.

Washington County maintains authority over the location of solid waste management facilities through the Zoning Ordinance. As a result of a comprehensive rural area rezoning approved in 2005 sanitary landfills are a permitted use in the Rural Business (RB) Zone, provided the distance from any lot in a Residential "R" district or any lot occupied by a dwelling, school, church or institution for human care shall be two times the distance specified in Section 4.9. Recycling facilities are also a permitted use in the RB zone.

The "RB" Rural Business District is established to permit the development of businesses that support the agricultural industry and farming community, serve the needs of the rural residential population, provide for recreation and tourism opportunities, as well as establishing locations for businesses and facilities not otherwise permitted in the rural areas of the County. The Rural Business New District is established as a "floating zone", which may be located on any parcel in an Agricultural, Environmental Conservation, Preservation or Rural Village Zoning District.

The existing Washington County landfill was established as a special exception in the former Agricultural zoning district in 2000, prior to the comprehensive rural area rezoning of 2005 which changed the zoning on the site to Environmental Conservation. The landfill is a legal non-

conforming use. Recycling facilities are considered an accessory use to the primary use as a sanitary landfill.

TABLE 1-1
SUMMARY OF MARYLAND LAWS AFFECTING SOLID WASTE MANAGEMENT

Maryland State Implementation Plan (SIP):

Limits emissions from specific pollutant sources to prevent air quality from falling below National Ambient Air Quality Standards (NAAQS).

Non-tidal Wetland Regulations:

Prevents net loss of non-tidal wetlands by establishing a stringent permitting process.

Chesapeake Bay Critical Area Protection Program (1984):

Controls human intervention in the Bay area.

Maryland Recycling Act (1988):

Establishes a requirement for Maryland counties to plan and implement a recycling system by 1994 to reduce a county's waste stream by 15%, or 20%, based upon that county's population.

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 appropriately labeled indicating the plastic resin used to produce them.

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.

Recycling Rate and Waste Diversion – Statewide Goals Act (2012):

An act revising the 1988 Maryland Recycling Act (MRA), requiring a county plan to address a reduction through recycling of at least 35% or 20%, by population greater or less than 150,000, of the county's solid waste stream by July 1, 2014. The plan must be fully implemented by December 31, 2015.

Sewage Sludge Application:

Land application procedures are strictly regulated to maintain the public health.

Medical Waste Legislation:

Regulates identification, record-keeping, treatment, transport, and disposal of special medical wastes; infectious wastes are prohibited in solid waste landfills in the state.

TABLE I-2

SUMMARY OF MARYLAND REGULATIONS AFFECTING SOLID WASTE MANAGEMENT

COMAR REGULATIONS

Under *Title 08* (Department of Natural Resources), the following sections must be considered in the siting of solid waste management facilities:

Subtitle 3, Chapter 8, Threatened and Endangered Species

Subtitle 9, Chapters 1-6, Forest Conservation

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, Chapter 10, Financial Assistance for the Constructing 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, Sewage 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 8, Water Pollution

Subtitle 9, Chapter 1, Erosion and Sediment Control

Subtitle 9, Chapter 2, Stormwater Management

Subtitle 11, Air Quality

Subtitle 13, Disposal of Controlled Hazardous Substances

Title 26, Subtitle 5

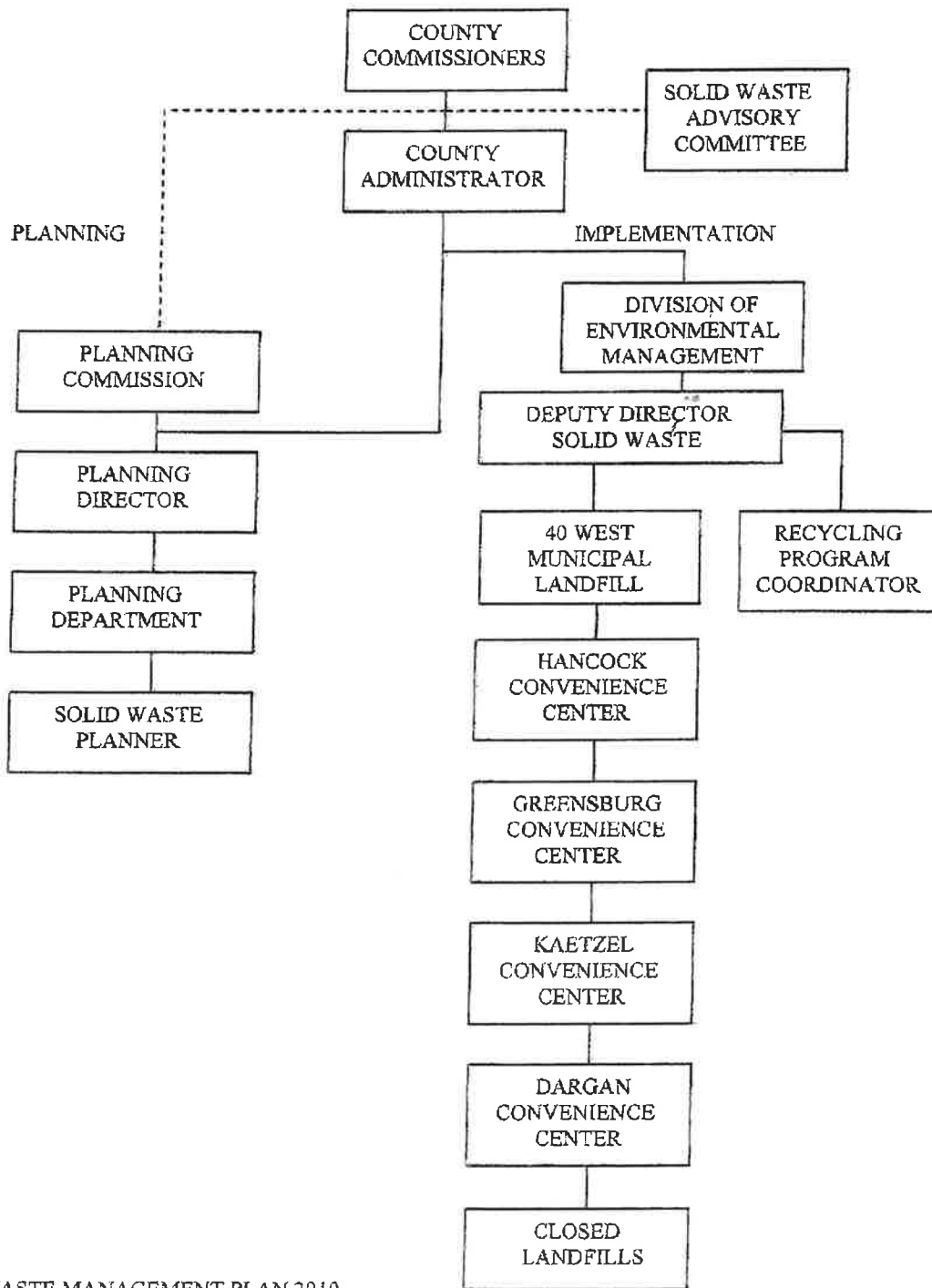
Chapter 3, Construction on Non-tidal Waters and Floodplains

Chapter 4, Non-tidal Wetlands

Chapter 7, Wetlands Regulations

STRUCTURE OF GOVERNMENT RELATING TO SOLID WASTE MANAGEMENT

Figure 1-1



SOLID WASTE MANAGEMENT PLAN 2010
 T:\Infra\Waste\2010SolidWastePlan

CHAPTER 2

PHYSIOGRAPHIC, DEMOGRAPHIC AND

LAND USE CHARACTERISTICS OF

WASHINGTON COUNTY

2.0 PHYSIOGRAPHIC, DEMOGRAPHIC AND LAND USE CHARACTERISTICS OF WASHINGTON COUNTY

This chapter provides information on Washington County's physical and cultural geography and its present and projected population and land use. It also presents an outline of the County's Comprehensive Plan. Data on population and land use provides the basis for waste generation projections (both volume and composition) and thus become basic factors in waste management decisions.

2.1 GEOGRAPHY

Washington County is located in the west-central part of Maryland and includes the narrowest part of the State's panhandle (Figure 2-1). The northern boundary of the County is shared with Pennsylvania (Fulton and Franklin Counties) along 45 miles of the Mason-Dixon Line. Except for a 2 mile stretch that is shared with Virginia (Loudoun County) at the southeastern edge of the County, the southern boundary of the County is the Potomac River and is shared with West Virginia (Morgan, Berkeley and Jefferson Counties). Sideling Hill Creek forms the direct western boundary with Allegany County; The County is less than 2 miles wide from north to south near Hancock, where the Potomac River makes its northernmost bend. The crest of South Mountain forms the eastern boundary with Frederick County. (See Figure 2-1). The County has a total area of 467 square miles; approximately 455 square miles is land area. It also contains over 100 miles of shoreline on the Potomac River. Hagerstown is the County seat and is located approximately 70 miles northwest of Baltimore and Washington DC and 165 miles southeast of Pittsburgh.

2.2 CLIMATE

Termed "temperate", the climate of Washington County is pleasant for outdoor activity from early spring to late fall. Average annual rainfall is about 38 inches, with the most precipitation on average occurring in May. Prevailing winds are from the southwest and average 7 miles an hour. The average warmest month is July and January is the average coolest month. The highest recorded temperature was 104° in 1988 and the lowest recorded temperature was -17° in 1977.

2.3 DEMOGRAPHICS

From the 2010 Census Washington County's total population was determined to be 147,430 people. . The highest density of population is located in the urban area in and around Hagerstown, the county seat. The Urban Growth Area, which includes Hagerstown, Funkstown, Williamsport and part of adjacent election districts has approximately 53% of the total population (Figure 2-2). The population has increased at a modest but steady rate over the past thirty years. During the period from 1970 to 1980, the population increased at an average annual rate of .86%. From 1980 to 1990 the population increased at a rate of .71% with a total increase of 8,307 throughout the decade. From 1990 to 2000, the population increased by 10,540 at an average annual rate of .84% to 131,923. Between 2000 and 2010 the population increased again by 7507 people, an annual rate of increase of approximately 1.8%.

2.4 COMPREHENSIVE PLAN

2.4.1 HISTORY AND PREMISE OF THE COMPREHENSIVE PLAN

The growth of Washington County has been guided by a Comprehensive Plan since 1971. A new Comprehensive Plan was adopted in 1981, which changed the emphasis from addressing growth through the creation of new communities to encouraging growth in designated growth areas around existing towns and cities.

The current Comprehensive Plan is a complete rewrite to update goals and a retention and refinement of the growth and rural areas concept. It was adopted in 2002. The Comprehensive Plan has since been amended to:

- Extend the Boonsboro Town Growth Area boundary to include area along Alt. US 40 to permit water line extensions to address health concerns
- Identify Priority Preservation Areas;
- Include a State mandated Water Resources Element;

- Modify the Urban Growth Area boundary as part of a comprehensive urban area rezoning.

The basic premise of the Plan has been to direct development into and around the County's five Urban and Town Growth Areas while retaining the rural character and use of the surrounding land. The five Growth areas comprise the Hagerstown Urban Growth Area, which includes Funkstown and Williamsport and the Boonsboro, Hancock, Smithsburg and Clear Spring Town Growth Areas.

The Growth Areas are the areas of the county where much of the residential, commercial and industrial development already exists and is to be directed in the future. By providing incentives for growth in these areas, the provision of facilities and services such as water and sewer, utilities, roads, schools and parks as well as police, fire and emergency services is intended to be simpler, more efficient, and cost effective.

Concentrated growth accommodates the same number of people on less land, allowing land outside of the growth areas to remain relatively rural. This rural land includes agricultural land, open space, and environmental resource lands such as forests, streams, wetlands and steep slopes. This policy helps preserve the rural working landscape as well as to maximize the land available for active farming.

2.4.2 VISION AND GOALS OF THE COMPREHENSIVE PLAN

In 2001 the Board of County Commissioners adopted the following mission statement which states, "To provide exemplary public services by: supporting and strengthening individual and community self-reliance and responsibility, promoting education, economic opportunities, public health, safety, and welfare, protecting the environment and cultural resources we share, and planning for future urbanization and a culturally diverse population".

2.4.2.1 COMPREHENSIVE PLAN GOALS

To guide development and implementation of the Comprehensive Plan four broad goals are included each with detailed objectives according to County and state visions, public input, analysis of growth trends and CIP priorities. The four goals are:

GOAL 1: Provide opportunities for individual choice and self-fulfillment

GOAL 2: Promote a balanced and diversified economy including agriculture

GOAL 3: Encourage the stewardship of the environment and the County's heritage

GOAL 4: Establish parameters for managing growth

The Comprehensive Plan states, "In summary, growth and development should be directed to the Urban or Town Growth Areas and Rural Villages where development now exists to maximize the investment in infrastructure and services. This will in turn minimize new investment in duplicative facilities and reduce development pressure on agricultural, open space and environmentally sensitive areas leading to an increased likelihood of their protection".

2.4.3 IMPLEMENTATION OF THE WASHINGTON COUNTY COMPREHENSIVE PLAN

2.4.3.1 AGRICULTURAL LAND PRESERVATION

Continuation of viable farming and agribusiness uses and the preservation of agricultural land is a significant priority in Washington County. In accordance with the

Comprehensive Plan, the County has established a goal of preserving at least 50,000 acres of land in agricultural production. Designated preservation areas are located in four general geographic areas in the county: northeast of Clear Spring, north and west of Smithsburg, in Sharpsburg around the Antietam Battlefield, and on Pleasant Valley/Dog Street south of Keedysville.

Approximately 114,000 acres or 42% of the land is currently being used for agriculture. The average farm size of the 844 active farms in the County is 135 acres with a majority of the land zoned Agricultural. The agricultural goal and threshold are directed at preserving the land used for agriculture. Support of a large agricultural land base will assure that farming can and related businesses and suppliers continue into the future.

Agriculture continues to be an important industry in Washington County with a market value of all products sold of \$83.69 million dollars according to the 2007 Agriculture Census. In the State of Maryland, Washington County ranks first in fruit production, ninth in corn production, third in forage, and thirteenth in soybeans. The County is ranked second in number of animals in dairy and beef, first in hogs, and fifth in sheep. Preserving farmland provides many additional benefits to the citizens of Washington County over and above any economic gains. The environment and water quality is preserved through the stewardship of County farmers. The rural working landscape provides open space and pastoral views across the valley to the mountains on either side. The overall "quality of life" experienced in Washington County is enhanced through preserving agricultural lands and the agricultural heritage.

2.4.3.1.1 AGRICULTURAL LAND PRESERVATION PROGRAM

In order to retain the overall character of the region, both the State and the County have taken significant steps toward the permanent preservation of farmland land in Washington County. The County has been successful in attracting landowners to participate in the Agricultural Land Preservation Program. As of December of 2008, 16,121 acres of farmland throughout the County were permanently preserved primarily through the Maryland Agricultural Land Preservation Foundation, or MALPF, with purchased easements that removed potential development. An additional 1,775 acres are currently in Federal easements in and around the Antietam Battlefield, while 3,603 acres of farmland have permanent easements held by either the Maryland Environmental Trust or private conservation groups. The majority of easements and districts are located in the western and south central areas of the County.

2.4.3.1.2 RURAL LEGACY PROGRAM

The Rural Legacy Program, developed in the late 1990's by the Maryland General Assembly, is another method to substantially increase land conservation thereby protecting valuable farmland, forest, natural resources, and historic features. The County Commissioners select an area of the County ideal for conservation and applies to the State for funds to purchase permanent conservation easements from landowners that voluntarily participate in the program. The County Commissioners, MALPF or other qualified organizations hold easements jointly. Since 1998, Washington County has preserved 3,151 acres in the South County/ Antietam Battlefield area with Rural Legacy funding.

2.4.3.2 ENVIRONMENTAL RESOURCES

The Planning Act of 1992 requires that Comprehensive Plans include a "Sensitive Area Element". Washington County adopted a Sensitive Area Element of the County Comprehensive Plan in 1996. The adopted Sensitive Area Element addressed five areas of concern. Four of the sensitive areas are required by State Law with a fifth area added by the County. The State required sensitive areas are: floodplains, steep slopes, habitat of threatened and endangered species, and stream buffers. The County added a

sensitive area, labeled as "Special Planning Areas", which include the Edgemont and Smithsburg Reservoir Watersheds, Appalachian Trail Corridor, and the Upper Beaver Creek Basin and Beaver Creek Trout Hatchery. Washington County chose to utilize the Federal Endangered Species List to address the endangered species requirement due to its proximity adjacent to the States of Pennsylvania, Virginia and West Virginia. The endangered species associated with the Federal List are located in the western part of the County. Steep slopes tend to be located along South Mountain and Elk Ridge along with the ridge and valley area west of Clear Spring. Floodplains and stream buffers are located throughout the County in the drainage basins that lead to the Potomac River. The Special Planning Areas are located in the eastern part of the County and tend to be associated with South Mountain. It is not unusual for sensitive areas to overlap. Development is not precluded from a sensitive area; however, additional development regulations may need to be followed to mitigate potential impacts.

More specific goals, objectives, and action strategies have been developed to implement the overall environmental goal established in the Washington County Comprehensive Plan. The 2006 Land Preservation, Parks, and Recreation Plan inventories and maps County recreational lands and facilities and other valuable open space resources.

2.4.3.3 WASHINGTON COUNTY ZONING ORDINANCE

Sanitary landfills are permitted in the Rural Business zoning district. According to the Zoning Ordinance "The "RB-N" Rural Business New District is established to permit the development of businesses that support the agricultural industry and farming community, serve the needs of the rural residential population, provide for recreation and tourism opportunities, as well as establishing locations for businesses and facilities not otherwise permitted in the rural areas of the County". The Rural Business New District is established as a "floating zone" which may be located on any parcel in an Agricultural, Environmental Conservation, Preservation or Rural Village Zoning District.

The currently operating Washington County sanitary landfill and related recycling activities are located in the EC-Environmental Conservation zoning district. It is a legal non-conforming use.

2.4.3.4 ECONOMIC DEVELOPMENT

Washington County actively seeks opportunities for quality economic development. The Department of Business Development works in conjunction with the Economic Development Commission, an advisory Board to the County Commissioners, to improve the quality of life for all citizens through the expansion, retention and attraction of business. The mission of the Department is to promote a positive business environment in order to accommodate the expansion of resident industry and the attraction of new industry. Goals of the Department include the creation and retention of productive employment opportunities and the enhancement of the commercial/industrial tax base. The County works in partnership with the Maryland Department of Business and Economic Development to attract new business to the County as well as encourage expansion of local businesses. Through these partnerships, the County has been very successful in securing State investments to support local economic development projects.

The Department of Business Development promotes Washington County's strategic location at the intersection of two interstate highways. The Department provides an array of services to resident and potential businesses such as site and facility tours, research, financing, regulatory agency assistance and business advocacy services. They also assist with local farm product marketing. The Economic Development Commission and the Department of Business Development advocate analysis and planning for infrastructure that is necessary for economic growth.

2.4.3.5 TRANSPORTATION NETWORK

Washington County is serviced by a variety of transportation systems. The roadway network consists of County roads, State highways and 46 miles of Interstate Highway. U.S. Interstate 70 runs through the County nearly 35 miles from east to west while Interstate 81 extends 11 miles south from the Mason-Dixon line at the Pennsylvania border to West Virginia on the south bank of the Potomac River. Several State roads in the County radiate out from the centrally located County Seat of Hagerstown. They include MD 60, extending northeast toward Waynesboro, PA; MD 64 extending east to Smithsburg; US 40 paralleling I-70 to the southeast and west of Hagerstown; US 11 paralleling I-81 and passing through Hagerstown; Alternate 40, the Old National Pike Road, extending southeast to Boonsboro and into Frederick County; MD 65 also known as Sharpsburg Pike, extending south to Sharpsburg and the Antietam National Battlefield; and MD 632, extending southwest to the rural village of Downsville. Other state roads include MD 67 connecting Boonsboro to US 340 at the southern tip of the County; MD 34 connecting Boonsboro and Sharpsburg, and extending southwest into West Virginia; MD 63 extending south from the Mason-Dixon Line through Williamsport, then south and east connecting to Sharpsburg Pike at the village of Fairplay; and MD 58 extending to the northwest, connecting to MD 63 at the village of Cearfoss.

Washington County is also served by rail systems operated by CSX Transportation in the western and northeastern areas, and Norfolk Southern and Winchester and Western in the southwestern part of the county. All combined railroads send approximately 30 trains per day through Hagerstown. Several interchange points for the railroads are in the Hagerstown area; the largest is located southwest of the city center. There is no scheduled passenger rail service in Washington County.

Hagerstown Regional Airport, located north of the County seat of Hagerstown and south of the Mason Dixon line is owned and operated by Washington County government. Daily commuter passenger service is available to Dulles International Airport in Washington, DC. A variety of air travel and aircraft services are available.

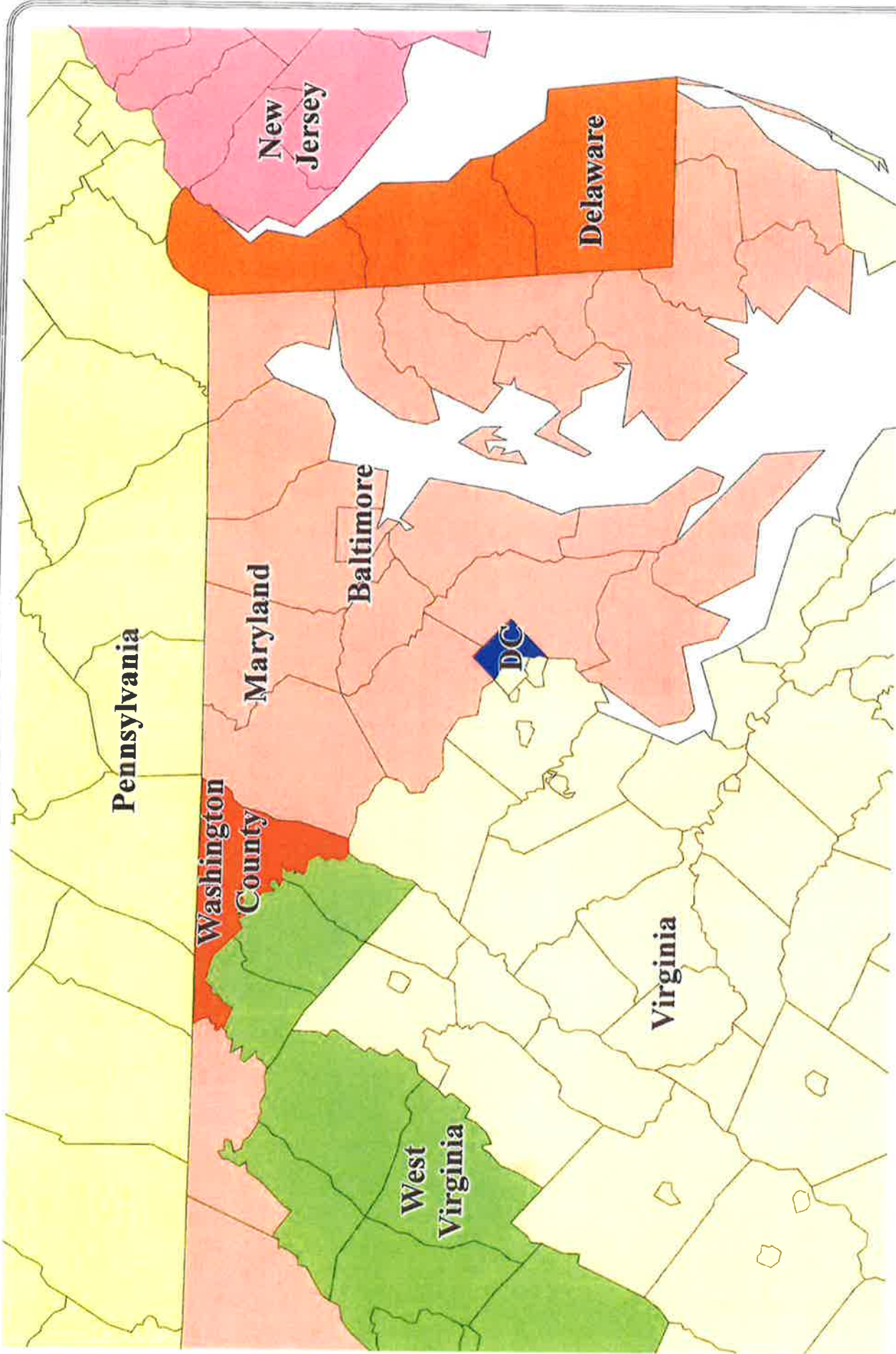
2.4.3.6 TAX REBATE AND DIFFERENTIAL

In order to more accurately reflect the true cost to each citizen for services provided, the Board of County Commissioners approved implementation of a differential method for Fiscal Year 2011 which replaces the old rebate method. Instead of collecting extra tax from municipal residents and giving it back to municipalities, the County now only collects tax for services that the County provides that benefit municipal residents such as education (which is over 50% of the tax rate), the court system, etc. The municipality will collect tax it feels is necessary to fund the services it provides directly to its residents.

2.4.3.7 ADEQUATE PUBLIC FACILITIES ORDINANCE

The Adequate Public Facilities Ordinance, effective December 1, 1990 and last revised In June of 2013, requires that certain public facilities (roads, schools, sewage disposal, water supply and fire protection) be adequate to serve the needs of new development. When those facilities cannot meet the new demands developers have the option of improving the infrastructure or making monetary contributions as approved by the County Commissioners.

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**FIGURE 2-1
SOLID WASTE MANAGEMENT
AND RECYCLING PLAN
2013**

Prepared by the
Washington County
Planning Department
Geographic Information System
January 2014

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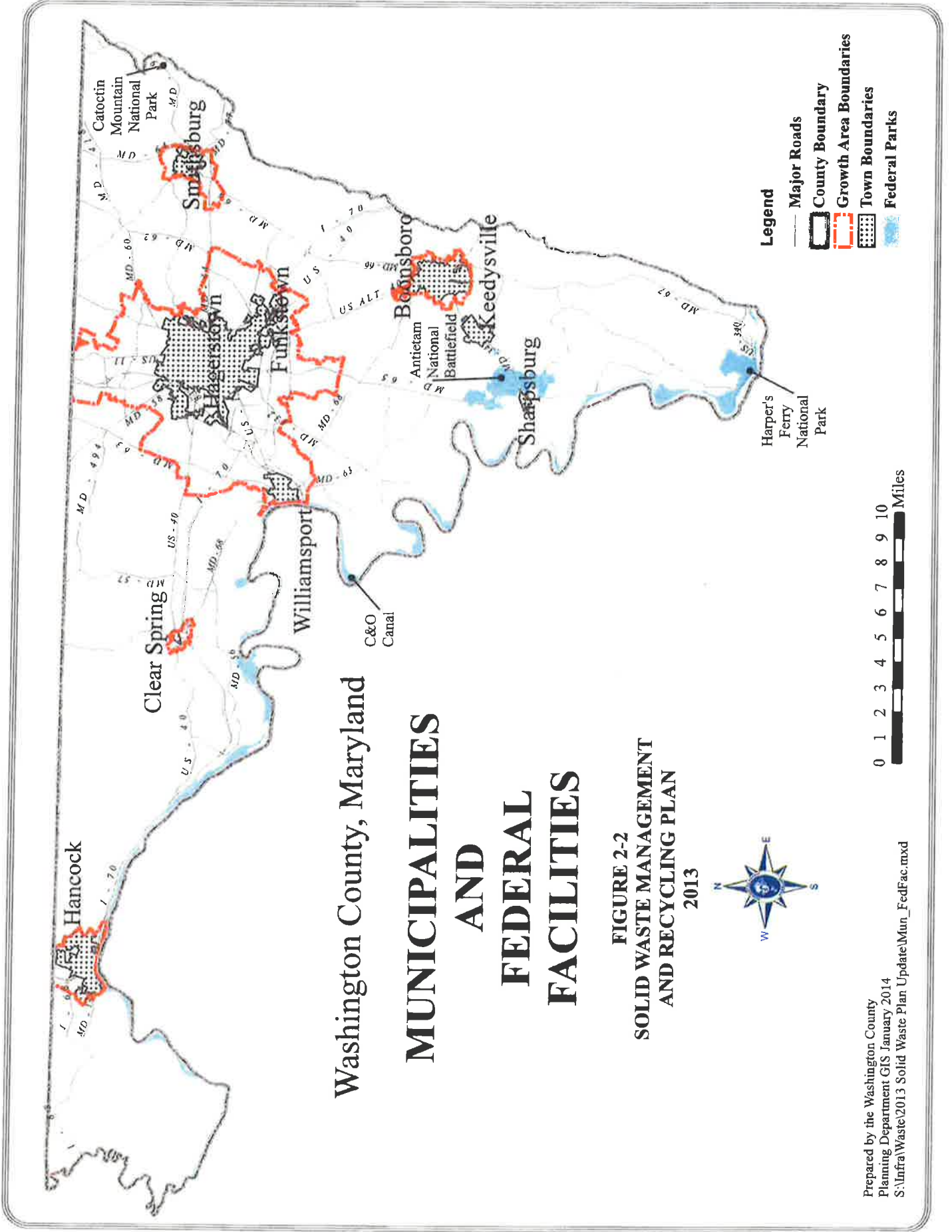
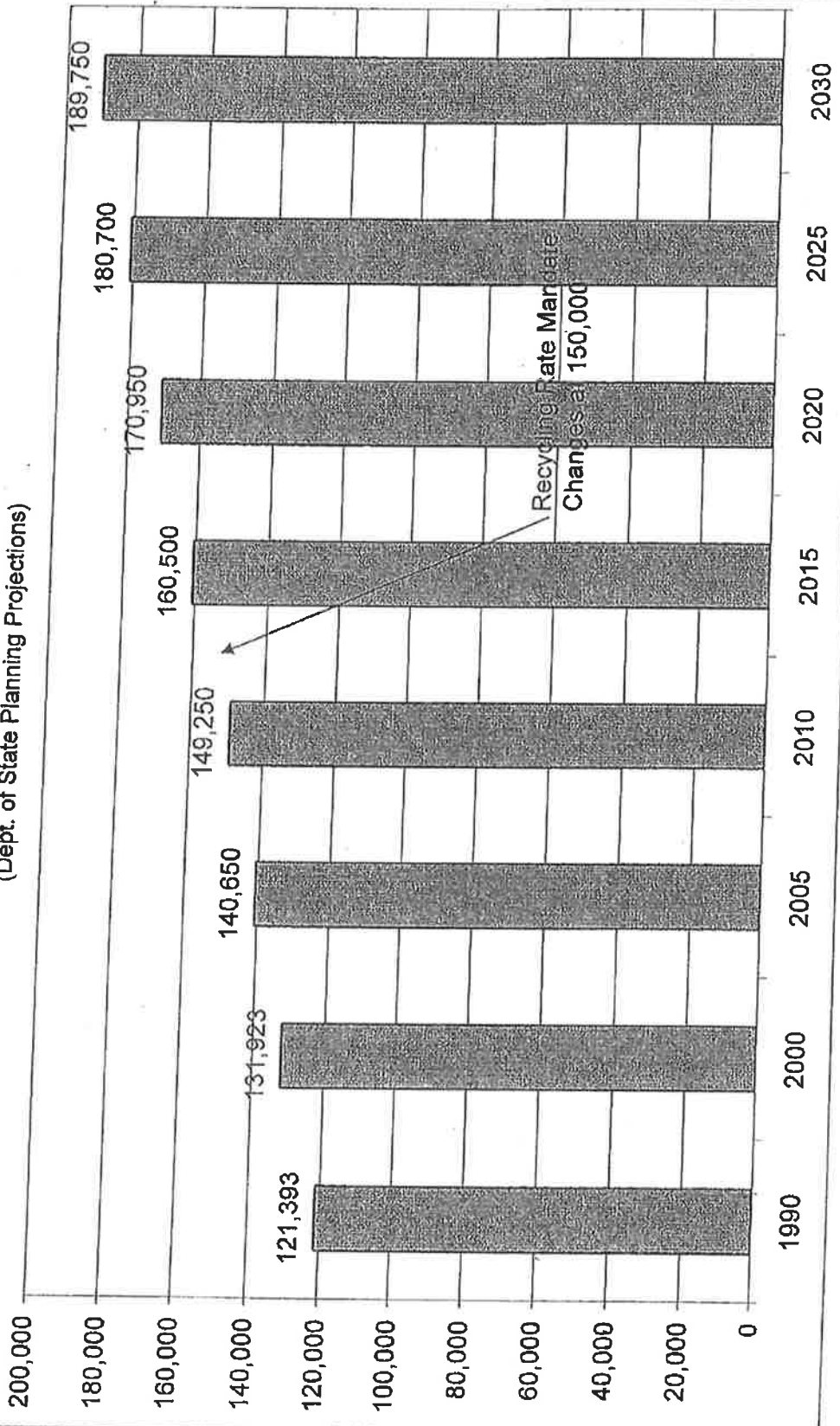


Figure 2-3
Historic and Projected Washington County Population
1990 - 2030
 (Dept. of State Planning Projections)



CHAPTER 3

EXISTING SOLID WASTE MANAGEMENT SYSTEM

3.0 THE EXISTING SOLID WASTE MANAGEMENT SYSTEM IN WASHINGTON COUNTY

3.1 EXISTING AND PROJECTED WASTE GENERATION BY CATEGORY

Washington County began developing accurate data on Municipal Solid Waste (MSW) in 1989 when landfill scales were put into operation. Since that time, the management-information needs have added new categories of waste. The actual data and projections are shown in various tables at the end of this chapter.

Total MSW tonnages include landfilled and recycled materials such as household waste, rubble, white goods, commercial, industrial and institutional solid waste, yard trimmings, scrap tires and landfilled sewage sludge. Other wastes such as controlled hazardous substances, dead animals, liquid wastes, septage, and medical wastes are addressed separately. Where records for the various wastes do not exist, estimates are provided, if possible.

The Code of Maryland Regulations (COMAR) Section 26.03.03.03D requires this Plan to identify and quantify 12 specific categories of waste:

- 1) Residential (household, domestic) wastes
- 2) Commercial wastes
- 3) Industrial (non-hazardous) solids, liquids and sewage sludge wastes
- 4) Institutional (schools, hospitals, government buildings)
- 5) Land clearing and demolition debris (rubble)
- 6) Controlled hazardous substances
- 7) Dead animals
- 8) Bulky or special wastes (automobiles, large appliances, etc.)
- 9) Scrap tires
- 10) Wastewater treatment plant sludge
- 11) Septage
- 12) Other wastes, i.e., grease, that may potentially be generated in significant volumes and would necessitate specialized handling as a result of their character.

The Forty West Municipal Landfill is an approved scrap tire acceptance facility; however, the tires are sent elsewhere for processing and recycling. Handling of the tires as part of the proposed waste to renewable energy facility discussed in Section 4.4.1.1 is under review. By state law, scrap tire disposal in the landfill is prohibited. Other prohibited items not accepted for disposal include dead animals, hazardous wastes, explosives, septic sludge, bulky wastes, or any waste in liquid form, except waste oil and antifreeze for recycling.

These prohibitions also apply to all convenience centers. Asbestos is currently accepted for disposal at the Forty West Landfill according to state regulated procedures that have been provided to all haulers.

3.1.1 WASTE GENERATED IN WASHINGTON COUNTY

Unless noted otherwise, all tonnage data is from annual Solid Waste Tonnage Reports submitted to the Maryland Department of the Environment, Solid Waste Program. All refuse material entering the landfill is categorized by origin, as determined by drivers reporting their load origin to

scale house employees or by inspection. Actual waste amounts will likely vary from projections, as competition from landfills in nearby Pennsylvania and West Virginia may cause waste to be diverted due to lower disposal fees or other business decisions by waste hauling companies. Solid waste disposed in the Forty West Municipal Landfill is limited to waste generated within Washington County. Some waste materials are transported, processed, and disposed outside the County.

3.1.1.1 RESIDENTIAL WASTE GENERATION

Approximately 42,096 tons of residential waste was accepted and disposed at the landfill in 2009.

3.1.1.2 COMMERCIAL WASTE GENERATION

Commercial wastes in Washington County are those generated by businesses and collected by front loader trucks or in roll off containers. Commercial waste accepted and landfilled in 2009 was 40,446 tons. Privately operated processing or recycling facilities may dispose up to 20% by weight of original raw materials as residuals in the landfill.

3.1.1.3 INDUSTRIAL (NON-HAZARDOUS) SOLID, LIQUID AND SEWAGE SLUDGE WASTE GENERATION

Many of the County's industrial plants are in the business of manufacturing by assembly and warehousing/distribution. Industrial solid wastes delivered and disposed at County facilities by commercial haulers in 2009 totaled approximately 3,181 tons.

As most of the County's industrial facilities are located near or within the boundary of one of the incorporated towns, most are serviced by municipal sewage treatment plants. Therefore, nonhazardous liquid wastes are discharged into those sewer systems and directed to associated treatment plants. These plants are located in the towns of Boonsboro, Clear Spring, Hancock, Keedysville, Sharpsburg, Smithsburg, Williamsport, and Hagerstown. The two largest plants are located in Hagerstown and in the County at the Washington County Department of Water Quality, north of Williamsport. Processed wastewater is discharged through a NPDES permitted discharge (see Figure 3-1).

3.1.1.4 INSTITUTIONAL WASTES

Institutional wastes are inclusive of those generated in government offices, schools, hospitals, clinics and other similar facilities. Removal, treatment and disposal of medical (biohazard) wastes generated in Washington County Hospital was disposed in the permitted Washington County Hospital Association Medical Waste Incinerator or collected by independent licensed collectors. Based on Landfill records, institutional waste classified by origin was 1,125 tons in 2008.

3.1.1.4.1 PUBLIC SCHOOL RECYCLING PLAN

As required by Maryland House Bill 1290, this section provides the proposed plan for the collection, processing, marketing, and disposition of recyclables by the County public school system. The Washington County Board of Education recently adopted the following:

RESOURCE CONSERVATION (RECYCLING) POLICY

"The Board of Education of Washington County firmly supports the practice of resource conservation, and seeks to fully integrate "reduce, reuse, recycle" methods across all levels of the school system. The Board of Education encourages all employees and students to reduce the consumption of materials when possible; fully utilize (reuse) all materials prior to disposal; and, cooperate with, and participate in, recycling efforts being made by local and state government. Further, the school system will purchase, where financially viable, recycled products and will also

seek to locate suppliers actively supporting recycling and resource conservation efforts. The school system will continue to develop methods for reducing the amount of paper consumption, the system's largest waste product, while boosting recycling efforts for this material. System-wide recycling efforts should be enforced daily, and appropriate recycling resources will be made available to promote this practice."

A. It is the responsibility of the Washington County Board of County Commissioners (BOCC) to insure the implementation of the County's schools' recycling programs. The BOCC has directed that the Washington County Board of Education (WCBOE) and the Hagerstown Community College Board of Trustees (HCCBOT) have the responsibility of developing the recycling plans and implementing the recycling programs for all of their respective schools. If needed, the BOCC may also direct the Washington County Department of Environmental Management, Division of Solid Waste to develop recycling plans and implement recycling programs for the respective schools.

B. Washington County Public School Recycling Plan

Washington County Board of Education recycling plans must be completed no later than October 1, 2010 and BOE school recycling programs must be operating no later than October 1, 2010. To date, all Washington County Public Schools have recycling programs in place and are participating in a recycling program.

1) Designation of School Recycling Program Implementation and Responsibility

- a) WCBOE has the responsibility of securing a recycling contract for the County's public schools. This shall be awarded annually to become effective each July 1st. The current contract is for a dual-stream recycling program that accepts mixed paper, newspaper, and cardboard in one container, and glass containers, steel and aluminum cans, and plastic bottles in another co-mingled container. This may or may not change based on market conditions and requirements.
- b) The recycling contractor is responsible for the marketing of the collected recyclables. This is currently performed by Allied Waste. This may or may not change based on market conditions and requirements. The method of marketing may or may not change based on market conditions and requirements.
- c) The recycling contractor must report, by August 1st of each year, to the Maintenance Department Director the amount and type of recyclables collected for the previous fiscal year (e.g., the August 1, 2010 contractor report would contain the totals for fiscal year 2010).
- d) The recycling contractor is responsible for supplying centralized recycling containers for each county public school.
- e) The WCBOE has designated the School's Maintenance Department Director (Director) as responsible for the development and implementation of a trash and recycling plan/program for each school. At a minimum:
 - The Director shall report to the WCBOE and the Division of Environmental Management, Division of Solid Waste, by August 15, on the amount and types of recyclable materials collected the previous fiscal year.
 - Each county public school shall collect all of the materials specified in the WCBOE awarded recycling contract (B.1.a., above) for recycling.
 - All county public schools shall also collect, but not be limited to, printer cartridges, electronics, metal, and fluorescent light bulbs for recycling.

- It is the responsibility of the custodial staff at each county public school to collect recyclables for transport to the contractor recycling bins from the school recycling bins throughout the school.
 - The Director shall set a schedule for the collection of recyclables from each school by the recycling contractor.
- (f) The WCBOE is responsible for purchasing recycling bins for each school and distribution throughout each school (e.g., in classrooms, by copiers, etc.)
- (g) Each county public school is free to pursue their own separate recycling program for materials as a method of increasing their schools income to fund their school's programs. Any independent contract a school, or a club, may enter into will not exempt them from collecting the materials identified in B.1.a. above.
- a. School or club must report to the Maintenance Director and the Division of Environmental Management, Division of Solid Waste, by August 1st, on the amount and types of recyclable materials collected each fiscal year independent of the County contract.
- (h) The Director shall advise the WCBOE and the Department of Environmental Management, Division of Solid Waste, of any recycling issues or non-compliance of any school within 30 days of the issue arising. Part of the briefing will include the steps needed to correct any issues.
- (i) Corrective actions must begin within 60 days of the issue arising.
- (j) The WCBOE may request to the BOCC that their trash and recycling program be operated by another public agency (i.e., Washington County Department of Environmental Management, Division of Solid Waste).
- (k) The BOCC has the responsibility to direct another public agency, to operate the Washington County Public School's trash and recycling program if deemed necessary by the BOCC or upon request from the WCBOE.
- (l) The BOCC must make the decision to assign a trash and recycling program to another public agency within 30 days of the WCBOE request.
- (m) Upon notification by the BOCC to the Washington County Department of Environmental Management, Division of Solid Waste, to perform collection, it will either prepare bid specifications for collection within thirty (30) days and award a contract for collection within sixty (60) days, or perform the collection itself within one (1) month or prepare bid specifications to acquire equipment to perform collection within nine (9) months of notification.
- (n) The Washington County Department of Environmental Management, Division of Solid Waste will review the WCBOE recycling plan annually, based upon the annual recycling totals reported in accordance with B.1.e., and recommend changes to the BOCC and WCBOE by May 1st of each year.
- 2) School Facilities Participating in the Collection of Recyclables:

The WCBOE shall direct the Maintenance Department Director to bring all Washington County public schools and administrative sites listed below into compliance with the WCBOE trash and recycling plan.

School	Address
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ELEMENTARY

Bester	30 E. Memorial Boulevard Hagerstown, MD 21740
Boonsboro	5 Campus Avenue Boonsboro, MD 21713
Cascade	14519 Pennersville Road Cascade, MD 21719
Clear Spring	12627 Broadfording Road Clear Spring, MD 21722
Conococheague	12408 Learning Lane Hagerstown, MD 21740
Eastern	1320 Yale Drive Hagerstown, MD 21742
Emma K. Doub School for Integrated Arts & Technology	1221 South Potomac Street Hagerstown, MD 21740
Fountain Rock	17145 Lappans Road Hagerstown, MD 21740
Fountaindale	901 Northern Avenue Hagerstown, MD 21742
Funkstown School for Early Childhood Education	23 Funkstown Road Hagerstown, MD 21740
Greenbrier	21222 San Mar Road Boonsboro, MD 21713
Hancock	290 West Main Street Hancock, MD 21750
Hickory	11101 Hickory School Road Williamsport, MD 21795
Lincolnshire	17545 Lincolnshire Road Hagerstown, MD 21740
Maugansville	18023 Maugans Avenue Maugansville, MD 21767
Old Forge	21615 Old Forge Road Hagerstown, MD 21742
Pangborn	195 Pangborn Boulevard Hagerstown, MD 21740
Paramount	19410 Longmeadow Road Hagerstown, MD 21742
Pleasant Valley	1707 Rohrsersville Road Knoxville, MD 21758
Potomac Heights	301 E. Magnolia Avenue Hagerstown, MD 21742
Rockland Woods	18201 Rockland Drive Hagerstown, 21740
Salem Avenue	1323 Salem Avenue Ext Hagerstown, MD 21740
Sharpsburg	17525 Shepherdstown Pike Sharpsburg, MD 21782
Smithsburg	67 North Main Street Smithsburg, MD 21783
Williamsport	1 South Clifton Drive Williamsport, MD 21795
Winter Street	59 Winter Street Hagerstown, MD 21740

MIDDLE SCHOOL

	Address
Boonsboro	1 J-H Wade Drive Boonsboro, MD 21713
Clear Spring	12628 Broadfording Road Clear Spring, MD 21722
E. Russell Hicks	1321 South Potomac Street Hagerstown, MD 21740
Northern	701 Northern Avenue Hagerstown, MD 21742
Smithsburg	68 North Main Street Smithsburg, MD 21783
Springfield	334 Sunset Avenue Williamsport, MD 21795
Western Heights	1300 Marshall Street Hagerstown, MD 21740

HIGH SCHOOL

	Address
Barbara Ingram School for the Arts	7 South Potomac Street Hagerstown, 21740
Boonsboro	10 Campus Avenue Boonsboro, MD 21713
Clear Spring	12630 Broadfording Road Clear Spring, MD 21722
Evening High (at Tech High)	1101 South Potomac Street Hagerstown, MD 21740
Hancock	289 West Main Street Hancock, MD 21750
North Hagerstown	1200 Pennsylvania Avenue Hagerstown, MD 21742
Smithsburg	66 North Main Street Smithsburg, MD 21783
South Hagerstown	1101 South Potomac Street Hagerstown, MD 21740
Washington County Technical	50 West Oak Ridge Drive Hagerstown, MD 21740
Williamsport	5 South Clifton Drive Williamsport, MD 21795

OTHER SCHOOLS

Antietam Academy	High School: 1151 South Potomac St. Middle School: 1300 Marshall St. Hagerstown, MD 21740
Claud Kitchens Outdoor School at Fairview	12808 Draper Road Clear Spring, MD 21722
Marshall Street School	1350 Marshall Street Hagerstown, MD 21740
Robinwood Early Childhood Center	11402 Robinwood Drive Hagerstown, MD 21742
Washington County Job Development Program at Marshall Street School	1350 Marshall Street Hagerstown, MD 21742

C. Hagerstown Community College Recycling Plan:

Hagerstown Community College recycling plans must be completed no later than October 1, 2010 and HCC campus recycling programs must be operating no later than October 1, 2010. To date, all Hagerstown Community College campuses have recycling programs in place and are participating in a recycling program.

The Hagerstown Community College Board of Trustees (HCCBOT) oversees and funds each campus of HCC. The Maintenance Department Director is responsible for the implementation of a recycling plan for the HCC.

1) Designation of HCC Recycling Program Implementation and Responsibility:

- a) HCCBOT has the responsibility of securing a recycling contract for the County's college. This shall be awarded annually to become effective each July 1st, the current contract is for a single-stream program that accepts paper, newspaper, cardboard, glass bottles, steel and aluminum cans, and plastic bottles for recycling. This may or may not change based on market conditions and requirements.
- b) The recycling contractor is responsible for the marketing of the collected recyclables. This may or may not change based on market conditions and requirements. The method of marketing may or may not change based on market conditions and requirements.
- c) The recycling contractor must report, by August 1st of each year, to the Maintenance Department Director the amount and type of recyclables collected for the previous calendar year (e.g. the August 1, 2010 contractor report would contain the totals for fiscal year 2009).
- d) The recycling contractor is responsible for supplying centralized recycling containers for each college/campus.
- e) The HCCBOT has designated the College's Maintenance Department Director (Director) as responsible for the development and implementation of a trash and recycling plan/program for each campus. At a minimum:
 - The Director shall report to the HCCBOT and the Division of Environmental Management, Department of Solid Waste, by March 1st, on the amount and types of recyclable materials collected each calendar year.
 - Each college/campus shall collect all of the materials specified in the HCCBOT awarded recycling contract (C.1.a., above) for recycling.
 - All college campuses where applicable, shall also collect, but not be limited to, printer cartridges, electronics, metal, light bulbs, textiles, and vegetative material for recycling.
 - It is the responsibility of the custodial staff at each college/campus to collect from the college recycling bins throughout the college recyclables for transport to the contractor recycling bins.
 - The Director shall set a schedule for the collection of recyclables from each college/campus by the recycling contractor.

- f) The HCCBOT is responsible for purchasing recycling bins for each school and distribution throughout each college (e.g. in classrooms, by copiers, etc.).
 - g) The HCCBOT will expect demolition and construction contractors providing remodeling and construction services to the HCCBOT to divert and recycle demolition and building waste (trim, packaging/containers, forms, etc.) to the maximum extent possible).
 - h) The Director shall advise the HCCBOT and the Division of Environmental Management, Department of Solid Waste, of any recycling issues or non-compliance of any school within 30 days of the issue arising. Part of the briefing will include the steps needed to correct any issues.
 - i) Corrective actions must begin within 60 days of the issue arising.
 - j) The HCCBOT may request to the BOCC that their trash and recycling program be operated by another public agency (i.e., Washington County Division of Environmental Management, Department of Solid Waste).
 - k) The BOCC has the responsibility to direct another public agency to operate the Hagerstown Community College's trash and recycling program if deemed necessary by the BOCC or upon request from the HCCBOT.
 - l) The BOCC must make the decision to assign a trash and recycling program to another public agency within 30 days of the HCCBOT request.
 - m) Upon notification by the BOCC to the Washington County Division of Environmental Management, Department of Solid Waste, to perform collection, it will either prepare bid specifications for collection within thirty (30) days and award a contract for collection within sixty (60) days, or perform the collection itself within one (1) month or prepare bid specification to acquire equipment to perform collection within nine (9) months of notification.
 - n) The Washington County Division of Environmental Management, Department of Solid Waste will review the HCCBOT recycling plan annually, based upon the annual recycling totals reported in accordance with B.1.e., and recommend changes to the BOCC and HCCBOT by May 1st of each year.
- 2) College Facilities Participating in the Collection of Recyclables. The HCCBOT shall direct the Maintenance Department Director to bring all Hagerstown Community College campuses into compliance with the HCCBOT trash and recycling plan by the 2011-2012 College season.

3.1.1.5 CONSTRUCTION AND DEMOLITION DEBRIS

Construction and demolition (C&D) debris is material generated as a by-product of building demolition, construction and renovation, site clearance, excavation and roadwork. C&D materials vary greatly depending on the project, although certain components are found in each construction category. A relatively large volume of land clearing debris is common in a developing area such as Washington County. Historically, most contractors traditionally buried such materials on the job site. Changes in Maryland regulations now prohibit that act. Construction and land clearing debris must be disposed of in a licensed landfill or it can be processed and recycled. C & D material disposed in 2009 totaled 16,998 tons.

3.1.1.6 CONTROLLED HAZARDOUS SUBSTANCES

The total amount of Controlled Hazardous Substances, as defined in COMAR, is not limited to waste. Generators of controlled hazardous substances are not required to report amounts to the County; therefore, no current data on volume is available for such substances. All such material is banned from landfilling and is removed from the County by licensed haulers. Automobile batteries are accepted and set aside for recycling; 8 tons were recycled in 2009.

3.1.1.7 DEAD ANIMALS

Dead stock are NOT accepted at the county landfill. However, road kills picked up by County road crews are occasionally brought to the County landfill for disposal. The two nearest rendering plants processing dead farm animals operated by Valley Proteins, Inc. are located near Baltimore and Winchester, VA.

3.1.1.8 BULKY OR SPECIAL WASTES (AUTOMOBILES, APPLIANCES, ETC.)

Scrap automobiles in Washington County are handled through private industry (see Figure 3-2). The Forty West Municipal Landfill does not accept whole scrap automobiles or automobile parts for disposal per Section 3.3 of the Solid Waste Ordinance. Individuals contract with private dealers for removal, recycling and disposal of automobile wastes. The automotive recycling industry is a complex one that is highly variable. Some recyclers only deal with the acceptance, dismantling and recycling of vehicles, while others mix vehicle tonnages with other scrap metals. Several other operations accept aluminum and bimetal cans and a variety of other recyclable metal products along with materials from scrap vehicles. All of these operations, however, do have other non-metallic wastes as residuals. Those wastes may be accepted at the County Landfill and, if so, are reflected in the total commercial waste tonnages. Bulky wastes like appliances ("white goods") are accepted at County facilities at no charge (non-freon only). Freon appliances are accepted with a charge. Freon is removed by the County's scrap metal contractor per USEPA requirements. All of the accepted "white goods" are set aside and recycled through a contractor. Washington County Forty West Municipal Landfill recycled 510 tons of "white goods" and propane tanks in 2009. The County is pursuing a public/private partnership for a waste-to-renewable energy facility. Upon execution and obtainment of all necessary approvals and documents, the County will begin sending this material to the waste-to-renewable energy facility for processing.

3.1.1.9 SCRAP TIRES

As an approved MDE secondary scrap tire facility, Washington County has an approved scrap vehicle tire acceptance area at the Forty West Municipal Landfill where tires are stockpiled and removed on a regular basis by a MDE licensed contractor. In 2008, 241 tons of used scrap tires were collected and recycled, while in 2009 207 tons of used scrap tires were collected and recycled. The County is pursuing a public/private partnership for a waste-to-renewable energy facility. Upon execution and obtainment of all necessary approvals and documents, the County will begin sending this material to the waste-to-renewable energy facility for processing.

3.1.1.10 WASTEWATER TREATMENT PLANT SLUDGE

Treatment for the removal of pollutants results in the production of sewage sludge and as standards become tighter, sewage sludge production also increases. The predominant method of sewage sludge management for Washington County has traditionally been landfill disposal. The primary method of sludge disposal for the City of Hagerstown until 1990 was agricultural land application. At that time the City constructed a pelletizer facility to dry and market sludge to the farming industry as fertilizer.

There are twelve publicly owned community water supplies and 12 sewerage systems in Washington County. However, except for the Hagerstown system, all other towns require that the property be within their corporate limits or the property be annexed in order to receive public water and sewer. Seventy percent of the County's population has the benefit of a public water supply while 60% have public sewer service.

Washington County owns or operates nine wastewater treatment plants. These plants service the Halfway and Williamsport areas and industrial areas on the west side of Hagerstown, as well as Clear Spring, Sandy Hook, Sharpsburg, the Antietam Battlefield, Smithsburg, Saint James, and Highfield/Cascade. The sewage sludge disposed at the landfill from these and other municipal and private treatment plants in the County totaled approximately 7,350 tons in 2009, according to landfill data. Hagerstown Sewage Treatment Plant produces the second largest volume of sludge after the Conococheague plant. Depending on the market, material may be processed and dried by a contractor on site and sold as fertilizer pellets. The County is pursuing a public/private partnership for a waste-to-renewable energy facility. Upon execution and obtainment of all necessary approvals and documents, the County will begin sending sludge currently landfilled by the County to the waste-to-renewable energy facility for processing.

3.1.1.11 SEPTAGE

Septage is the residual material collected from individual residential septic systems. A significant number of Washington County's homes have such systems and contract for septage collection and disposal. It is estimated that residential septage generation in Washington County is from 3.5 to 4 million gallons per year. Traditionally, septage has been either disposed of through wastewater treatment plants or land applied. Recent Federal and State regulations have limited septage management options. Direct application of septage to land is now prohibited. In response, a treatment system has been added at the County Wastewater Treatment Plant dedicated to the disposal and treatment of septage. The plant has a peak design flow of 125,000 gallons per day (gpd) with an average daily flow of up to 8,300 gpd. Sewage sludge volumes are included in the sewage sludge management section. There are five independent septage contractors operating in Washington County. County residents rely on their services; regular maintenance of individual septic systems is imperative to uninterrupted system operation and environmental protection.

3.1.1.12 OTHER WASTES

3.1.1.12.1 RECYCLING

In 1988, the State of Maryland passed the Maryland Recycling Act (MRA) requiring each jurisdiction to develop and implement recycling programs. Under the act, each county with a population greater than 150,000 must reduce its MRA solid waste stream by 20% through recycling. Counties with lower populations must recycle 15%. The mandate was required by January 1, 1994.

Washington County, with a population under 150,000, was initially required to recycle 15% of its waste stream by 1994. That year the recycling rate was 20.4%. By 2009, the County had achieved a 30.68% recycling rate, continuing to exceed the 15% required by the Act. In 2012, the Maryland Recycling Act (1988) was modified with the "Recycling Rate and Waste Diversion – Statewide Goals Act" that requires counties to reduce their solid waste stream through recycling by at least 35% (population over 150,000) or 20% (population under 150,000), by 2015. The County's population will likely surpass the 150,000 mark during this 10 year plan period, requiring the County to achieve the higher 35% recycling rate.

The total MRA and non-MRA waste material recycled in 2009 was 66,609 tons.

3.1.1.12.2 MRA RECYCLING AND DIVERSION RATE

According to Weigh records and material tonnage reports, the 2011 Maryland Recycling Act (MRA) rate in Washington County was 46.81% . "MRA Waste" for purposes of calculating the county recycling rate, excludes bulky materials such as sludge, rubble, land clearing debris and ash. The MRA waste generated in Washington County disposed at the Forty West Municipal Landfill in 2011 along with the County recycling and diversion rate is shown below:

2011 MRA Waste Generation

MRA Waste disposed:	93,286 Tons
Materials Recycled:	82,106Tons
Total MRA Waste Stream:	175,392 Tons
2011 County Recycling Rate:	46.81%
2011 MRA Diversion Rate:	47.81%

This is based on: $MRA\ Waste\ disposed + Material\ recycled = Total\ MRA\ Waste\ stream$, $materials\ recycled / MRA\ waste\ stream \times 100 = Recycling\ Rate$, and $MRA\ recycling\ rate + 1\% \text{ resource reduction credit} = MRA\ waste\ diversion\ rate$.

3.1.1.12.3 YARD TRIMMINGS

Yard trimmings include grass clippings, brush and leaves, resulting from residential or commercial yard and garden maintenance. All nine of Washington County's incorporated towns provide residents with curbside collection or drop-off sites for yard trimmings. The City of Hagerstown has organized leaf and yard trimmings collection programs. It is anticipated that most of the towns haulers will continue to use the County licensed wood waste processing facility. In May of 1994, Washington County banned yard trimmings from being landfilled. State law also bans source separated yard waste. County haulers, municipalities, businesses and residents may deliver acceptable yard trimmings, loose or in paper bags, to the Forty West Municipal Landfill currently. The woody materials are processed by a grinder into a mulch product. The grass, leaves and other yard trimmings are processed into a soil amendment. The mulch and soil amendment are made available for purchase to County residents and businesses to be used on their properties. In 2009, 5,231 tons of yard waste were delivered and processed at the Forty West Municipal Landfill. The County is pursuing a public/private partnership for a waste-to-renewable energy facility. Upon execution and obtainment of all necessary approvals and documents, the County will begin sending this material to the waste-to-renewable energy facility for processing.

3.1.1.12.4 ELECTRONICS

With grant funding from MDE, the County established a permanent residential electronics drop-off site at the Forty West Municipal Landfill in 2007.

The program went into effect following several successful one day electronics recycling events. The County program accepts a variety of household electronic items: computers, monitors, peripherals, televisions, telephones, cell phones and PDA's, calculators, copiers, scanners, consumer electronics, VCR and DVD players, camcorders, stereos, CD players, fax machines, projection equipment, printers, electronic typewriters, electronic toys and microwaves. The program does NOT accept refrigerators, air conditioners, dehumidifiers or lab equipment.

The electronics recycling program is for County residents only and accepts items for a fee. For businesses requiring electronics recycling services, the County Recycling Office can provide a list of recycling companies that may meet their needs. The MDE grant has been discontinued and therefore all costs associated with the County program became part of the Solid Waste Enterprise Fund. A fee for this program has been instituted.

3.1.1.12.5 ASBESTOS

The established disposal procedure for friable asbestos detailed in Section 3.5.6 of the Washington County Solid Waste Ordinance involves placement in 6 mil impermeable bags with outside labels denoting asbestos. The county requires 48 hours notice before delivery of any asbestos to the landfill. The containers must be unloaded by hand then segregated in the solid waste placement areas of the landfill. According to landfill tonnage reports no friable asbestos was disposed in 2007, 2008 or 2009. The County is pursuing a public/private partnership for a waste-to-renewable energy facility. Upon execution and obtainment of all necessary documents and approvals, and construction of the facility, the County will begin sending solid waste materials to this facility. This means that the landfilling will greatly be reduced and the County will no longer accept asbestos waste.

3.1.1.12.6 MINING WASTES

Mining wastes consist of overburden from mining operations and residuals from crushing. Both of these wastes are either deposited at the quarry site or are hauled, as fill, to construction sites. In both cases, the material is not treated as waste. Quarry operations typically use material from overburden soil in reclamation.

3.1.1.12.7 LEACHATE

Leachate is defined as the combination of liquids and suspended particulates that have leached through or drained from solid waste. Its rate of generation is generally increased when above ground and subsurface waters, including rainfall, percolate through landfilled solid wastes.

Washington County collected and transported over 17.6 million gallons of leachate for treatment during 2009. Sites with leachate collection systems are the closed Resh Sanitary Landfill, the closed City/County Landfill, the inactive Reclamation Rubble Landfill, and the Forty West Municipal Landfill. Leachate is collected and primarily trucked to the Spirit Services Conococheague Industrial Pretreatment Plant. Leachate may also be hauled directly to the Conococheague Wastewater Treatment Plant on an as-needed basis. A project to add one or more leachate storage tanks at the Forty West Municipal Landfill is in the CIP.

3.1.2 WASTE IMPORTED AND EXPORTED

Only solid waste generated in Washington County may be delivered to or disposed at County operated facilities (Section 3.0, Solid Waste Collection Licensing Ordinance). Any privately operated facility recycling or processing recyclables cannot generate residue greater than 20% by weight of the original raw material for disposal at the County landfill. At present, only waste generated in the County is collected, processed or disposed at the Forty West Municipal Landfill.

3.1.3 SOLID WASTE ENTERING WASHINGTON COUNTY FOR RECOVERY AND PROCESSING

Clean Earth of Maryland, located south of Hagerstown, accepts petroleum-contaminated soils and construction rubble for processing. The plant on Oakridge Place is also accepting and crushing broken concrete and asphalt into a usable aggregate for road building. No figures on tons processed at the Clean Earth site are available.

3.2 REFUSE COLLECTION SYSTEMS IN WASHINGTON COUNTY

Washington County has legal authority by the Solid Waste Collection and Licensing Ordinance to provide for solid waste collection licensing. Through the Ordinance, Washington County officials have the authority to

- Regulate and license the collection, removal and disposal of waste throughout the jurisdiction
- By ordinance, regulate recycling in the County and fine persons who place materials into recycling bins that are not recyclable

Within the unincorporated areas of Washington County, that is the areas outside of any incorporated town limits, an "open-ended" method of residential refuse pick-up exists. An "open-ended" system refers to one in which one or more waste haulers operate in a given area. Those haulers contract on an individual basis with homeowners and commercial establishments. A significant number of individuals also self-haul to the County landfill and the five convenience centers located around the County for resident's use.

3.2.1 EXISTING SOLID WASTE ACCEPTANCE FACILITIES

Washington County's public waste handling and disposal facilities are located at the Forty West Municipal Landfill. All types of residential and commercial solid wastes are currently accepted, including white goods, scrap tires, construction rubble, and yard trimmings. Figure 3-3 shows the location of County waste handling and permitted solid waste acceptance facilities. This will include the County's pursuit of a public/private partnership for a waste-to-renewable facility. Upon execution and obtainment of all approvals and documents, the County will begin sending materials collected to the new facility for processing. This facility will be located at the 40 West Landfill site.

The nine incorporated municipalities in Washington County have all taken responsibility for administering their own waste collection and additional disposal services, with varying degrees of expenditure in terms of dedicated personnel and equipment. All of these towns have a closed-end waste pick-up system. The term "closed-end" means that only one hauler or the town personnel operate the residential trash pick-up within that municipal area. In all cases, the routes are controlled by a bid process. (See Table 3-3).

Hagerstown manages an office paper collection and recycling program in City Hall and at other municipal departments. The City's contracted waste hauler also provides once a week curbside mixed paper collection, including newspaper, phone books, catalogs, cardboard, and junk mail, and co-mingled plastic-metal-glass collection. The City offers a free curbside bin to residents in an effort to increase the mixed paper collection rate. City residents also have yard waste collection.

3.3.1 COUNTY OWNED AND OPERATED FACILITIES

3.3.1.1 FORTY WEST MUNICIPAL LANDFILL

The County's Forty West Municipal Landfill comprises 425 acres located on US Route 40 west of the City of Hagerstown. It opened in November of 2000 as a state-of-the-art secured sanitary landfill, with a HDPE liner, leachate collection and management system,

and computerized scale house. The Forty West Municipal Landfill accepts only County generated waste.

Sanitary and Rubble Landfill, Recycling, Composting, Transfer Stations

- Located at 12630 Earth Care Road, Hagerstown, MD on the north side of US 40 West, one mile west of MD 63.
- Owned and operated by Board of County Commissioners for Washington County, MD
- Permit # 2007-WMF-0266A was issued on 10/14/2009 and expires 10/13/ 2014.
- MD State Coordinates (1983):
 - East 570
 - North 667
- Area Served: 467 Square Miles
- Population: 147,130 (2010 Census)
- Wastes refused: Dead animals, hazardous wastes, explosives, motor vehicles, liquids, sealed containers.
- Cover depth: six inches soil daily. Alternate daily cover used as approved by MDE. Twelve inches soil as intermediate cover.
- Operating Hours: 7:00 AM to 3:30 PM, Monday-Saturday
- Employees: 26
- Equipment on Site: 2 dozers, 1 scraper, 3 rubber tire loaders, 2 steel wheel compactors, 1 road grader, 1 farm tractor, 1 back-hoe, 1 gradeall, 1 track loader, 2 articulated dump haulers, 3500 G. water truck, 1 single axle dumper, 1 tandem axle tractor, 1 tub grinder, 1 horizontal grinder
- Acreage: 425 acres, of which an estimated 190 acres will be fillable.
- Remaining Capacity 17,283,736 Cubic Yards*
- Estimated years of service life: over 100 years

3.3.1.2 RUBBLE LANDFILL

The County's Rubble Landfill is located off Greencastle Pike on Kemps Mill Road, north of Williamsport. The Landfill is currently inactive and has been since 2000.

3.3.1.3 COUNTY CONVENIENCE CENTERS and RECYCLING FACILITIES

Washington County has five convenience centers for residential use only at the following locations:

FORTY WEST MUNICIPAL LANDFILL - Located on US 40, 4 miles west of Hagerstown.

Hours of Operation: 7:00 AM to 3:30 PM, Monday-Saturday

Attendant present during operating hours.

GREENSBURG - Located on Bikle Road off of Route 64 north of Smithsburg.
Hours of Operation: 7:00 AM to 4:30 PM, Tuesday-Friday; 7:00 AM to 3:30 PM, Saturday

Attendant present during operating hours.

DARGAN - Located on Dargan School House Road across from fire hall off of Harpers Ferry Road.

Hours of Operation: 8:00 AM to 4:30 PM, Tuesday-Friday; 8:00 AM to 3:30 PM, Saturday

Attendant present during operating hours.

KAETZEL - Located on Kaetzel Road off of Route 67 south of Boonsboro.

Hours of Operation: 8:00 AM to 4:30 PM, Tuesday-Friday; 8:00 AM to 3:30 PM, Saturday

Attendant present during operating hours.

HANCOCK - Located at 6502 Hess Road, east of Hancock
Hours of Operation: 7:00 AM to 3:30 PM, Tuesday-Saturday
Attendant present during operating hours.

Each convenience center location provides roll off bins for residential waste and bins for, at a minimum, recycling rechargeable batteries, plastic bottles, newspaper, cardboard, clear and colored glass, aluminum, bi-metal and steel cans, and drums for used motor oil and antifreeze.

Unmanned recyclable convenience facilities were removed.

3.3.2 PRIVATE FACILITIES

This section includes private facilities located in Washington County that accept and/or process waste for reuse or disposal. Included are known incinerators, transfer stations, composting sites, sanitary and rubble landfills, resource recovery facilities, and industrial waste facilities. They are as follows:

3.3.2.1 CLEAN EARTH of MARYLAND

Using a chemical fixation process, the company recycles non-hazardous petroleum contaminated soils, RCRA non-hazardous soil as well as aggregate based construction and demolition debris. Rubble and stone are crushed and screened to produce aggregate for sale or for use on-site. The majority of this aggregate is mixed with screened soil that has been treated with either Ca (OH)₂, Portland Cement, or kiln dust or any combination thereof, to produce a stabilized material suitable for pavement sub base and sized compactable structural fill material for construction applications.

3.3.2.2 HOLCIM (US) CEMENT COMPANY

The cement company on Security Road is a MDE permitted user of scrap tires as a source of fuel in its cement manufacturing process. The county approved site for a tire burning facility includes a feed ramp for whole tires and trailer storage areas. Approximately 380 tons of tires per hour M-F are consumed in the cement kiln.

3.3.2.3 RECYCLING PROCESSORS AND MARKETERS

Private sector recycling processors and marketers manage most of the recycling occurring in the county. Companies and businesses involved with collection and processing of recyclable materials such as cans, bottles, scrap metals, cardboard and electronics are listed in the Appendix.

3.3.3 CLOSED COUNTY FACILITIES

City/County Landfill, Resh Road
CLOSED 1982

Resh Road Sanitary Landfill, MD 63.
CLOSED November, 2000.

Scheduling and budget for monitoring and leachate collection established. Leachate is trucked to the Conococheague Wastewater Pretreatment and Treatment Plant for processing.

Hancock Sanitary Landfill, Hess Road.
CLOSED and capped, 1996.
Convenience center on site.

3.3.4 PUBLIC SCHOOL RECYCLING

Consistent with the "three R" hierarchy of Reduce, Reuse, then Recycle, Washington County Public School (WCPS) waste management strategy actively targets each method in school waste processes. An example of waste reduction efforts in WCPS operations involves the purchase of reusable compartment trays for the elementary and middle school meals. Using one washable tray while eliminating multiple washable items, paper and styrofoam disposables helps reduce waste, expenses for disposables, and energy costs. Trays and plates now used in the elementary and middle schools will be moved to the high schools to eliminate some of the paper consumables used in those cafeterias.

In addition, Washington County Public School (WCPS) cafeterias began the transition from serving milk in the traditional paper cartons to plastic bottles in February 2009. The Mid-Atlantic Dairy Association (MDA) provided a grant to help offset the additional cost of the bottles over the next two years and provide additional funding for infrastructure improvements sought by the WCPS Food and Nutrition Services office. MDA is also supplying recycling containers for the proper collection of the used bottles. Since switching to plastic bottles, recycled material has increased one and a half tons per week, which has lowered the cost of trash removal and lessened landfilled waste. Part of the grant money will also be used to upgrade training materials and technology hardware.

Recycling is mandatory for staff, students, custodians and food service staff in each school and at the administration buildings. Materials mandated to be recycled are metal cans, #1 & 2 plastic bottles, and glass containers. Paper materials that must be separated for recycling include all office paper that is printed or colored, newspapers and magazines, manila folders and envelopes, and broken down cardboard.

The WCPS expects to achieve 100 % participation by school staff and students in the paper and co-mingled recycling program. Each classroom and office is provided with a separate paper recycling container. The containers will be collected by custodial staff periodically and emptied into the mixed paper recycle bin. Recyclable materials in the mixed paper bin and co-mingled containers bin will be collected and marketed by the waste hauling contractor. See section 5.1.14 for the School Recycling Plan.

Containers for metal recycling have been utilized at the WCPS Central Office for many years. Special wastes collected include used fluorescent light tubes that contain small amounts of mercury. These are collected by custodians, placed in recycling boxes and sent to a licensed processing facility.

TABLE 3--1
 WASHINGTON COUNTY WASTE STREAM PROJECTIONS FOR 2011, 2015 AND 2021
 BY ORIGIN

Material Origin	% Waste Stream	Total Tons ¹ 2008	2011	2015	2021
Residential (Inc. Institutional)	20.7	56,553	51,039	53,967	58,662
Commercial (Inc. Bulk/spec.)	29.5	80,692	69,183	73,139	79,502
Industrial	3.5	9,384	8,045	8,505	9,245
Const., Demo.	32.9	92,654	79,439	83,982	92,566
Hazardous Waste (Disposed in county)		-0-	-0-	-0-	-0-
Scrap Tires	< 1	241	206	218	237
Government (Sludge)	2.9	7,818	6,703	7,086	7,846
Septage ²	4.4	3,035,800 Gal. (+12,143 T.)	10,411	11,160	12,131
Other (Sent out of County)	4.8	13,126 T	11,254	12,054	13,103
TOT. WASTE	100 ²	272,610 T	236,280 T	250,111 T	273,148 T

*Projected tons decreased by 5% per year to 2011, based on recent and current Forty West Landfill waste flow trends. 1.4 % increase from 2011 to 2021 per MDP Projected Growth Rates for MD Jurisdictions. Subject to variability due economic conditions and waste generator and hauler disposal choices.

1 From MDE Solid Waste Tonnage Report and other data, unless noted. Includes recyclables.

2 May exceed 100 due to rounding.

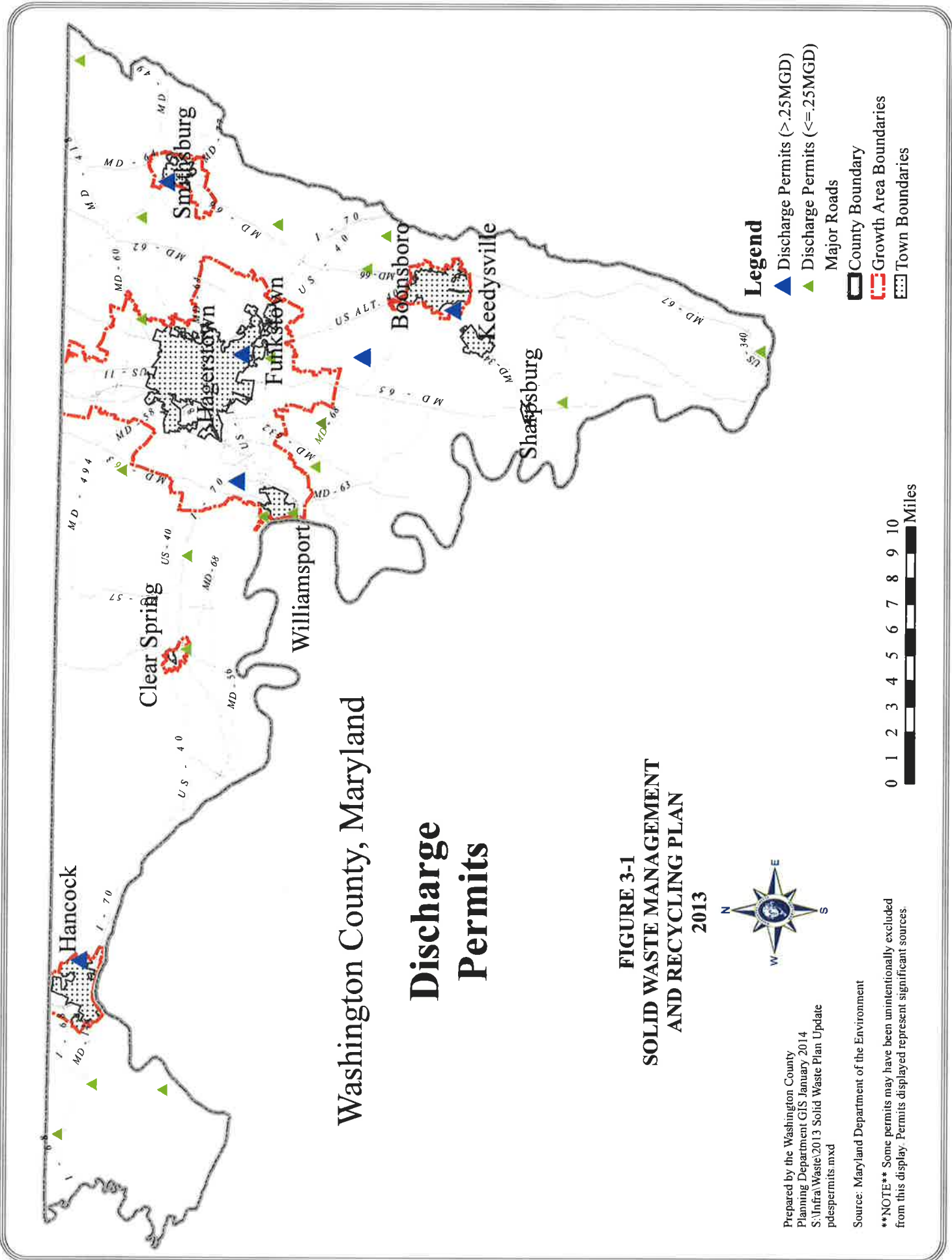
TABLE 3-2
2009 SEWAGE SLUDGE GENERATED AND UTILIZED - WASHINGTON COUNTY

Facility	Total Generated	Imported into County from out of state	Exported out of County	Imported from other MD Co.	Hauled out of State	Hauled to other Co. WWTP	Agricultural Land in County	Distributed and Marketed	Landfill Utilization/ Disposal in County
Antietam	262					262			
Boonsboro	425					425			
Broadfording Bible Church	8					8			
Brook Lane	11					11			
Cedar Ridge Children's Home & School	50					50			
Clear Spring	73					73			
Conococheague	5,967							5,967	
Cumberland	0			396			396		
Fahrney-Keedy Memorial Home & School	979					979			
Funkstown	872					872			
Hagerstown	1,965		71		1,537			368	60
Highland View Academy	125					125			
Hunter Hill Apartments	113					113			
Maryland Correctional Institute (MCI)	2,081				1,664	417			
Raven Rock Mountain Complex	0	150				150			
Rocky Gap State Park	0			300		300			
Sandy Hook	3					3			
SHA - Sideling Hill Rest Area	88					88			
Smithsburg	465					466			
South Mountain Recreation Area	104					104			
Winebrenner	92					92			
TOTALS	13,683	150	71	696	3,201	4,537	396	368	6,027

Source: MDE Waste Management Admin. Solid Waste Program

TABLE 3-3
SOLID WASTE HAULERS FOR COUNTY MUNICIPALITIES
AS OF JULY 2010

MUNICIPALITY	COLLECTOR
Boonsboro	Key Sanitation
Clear Spring	Allied Waste
Funkstown	Apple Valley Waste
Hagerstown	Allied Waste
Hancock	Key Sanitation
Keedysville	Apple Valley Waste
Sharpsburg	Apple Valley Waste
Smithsburg	Key Sanitation
Williamsport	Allied Waste



Washington County, Maryland

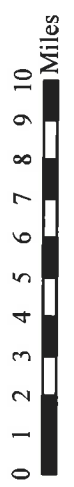
Discharge Permits

FIGURE 3-1
SOLID WASTE MANAGEMENT
AND RECYCLING PLAN
2013

Prepared by the Washington County
 Planning Department GIS January 2014
 S:\Infra\Waste\2013 Solid Waste Plan Update
 pdespermits.mxd

Source: Maryland Department of the Environment

NOTE Some permits may have been unintentionally excluded from this display. Permits displayed represent significant sources



Legend

- ▲ Discharge Permits (>.25MGD)
- ▲ Discharge Permits (<=.25MGD)
- Major Roads
- County Boundary
- Growth Area Boundaries
- Town Boundaries

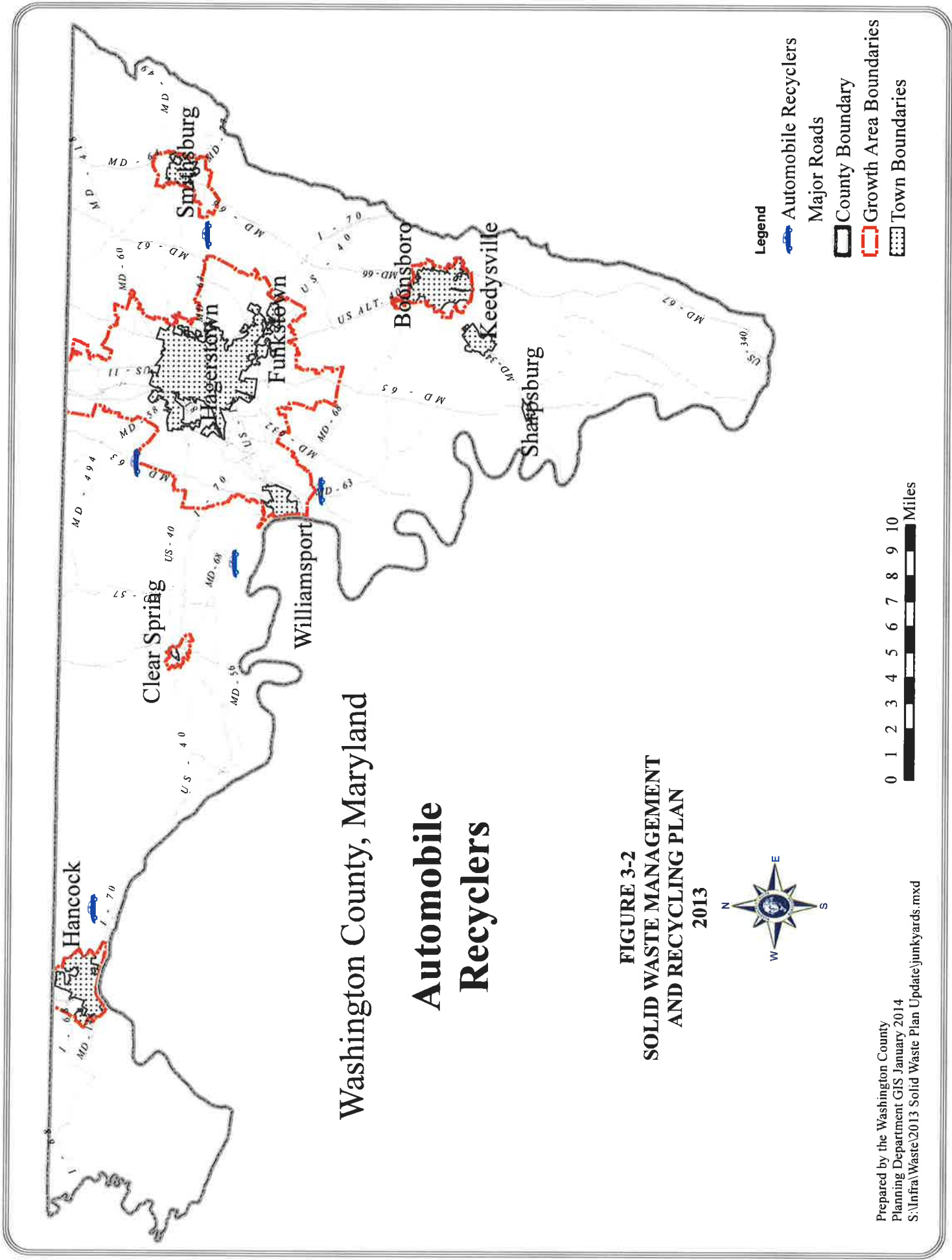
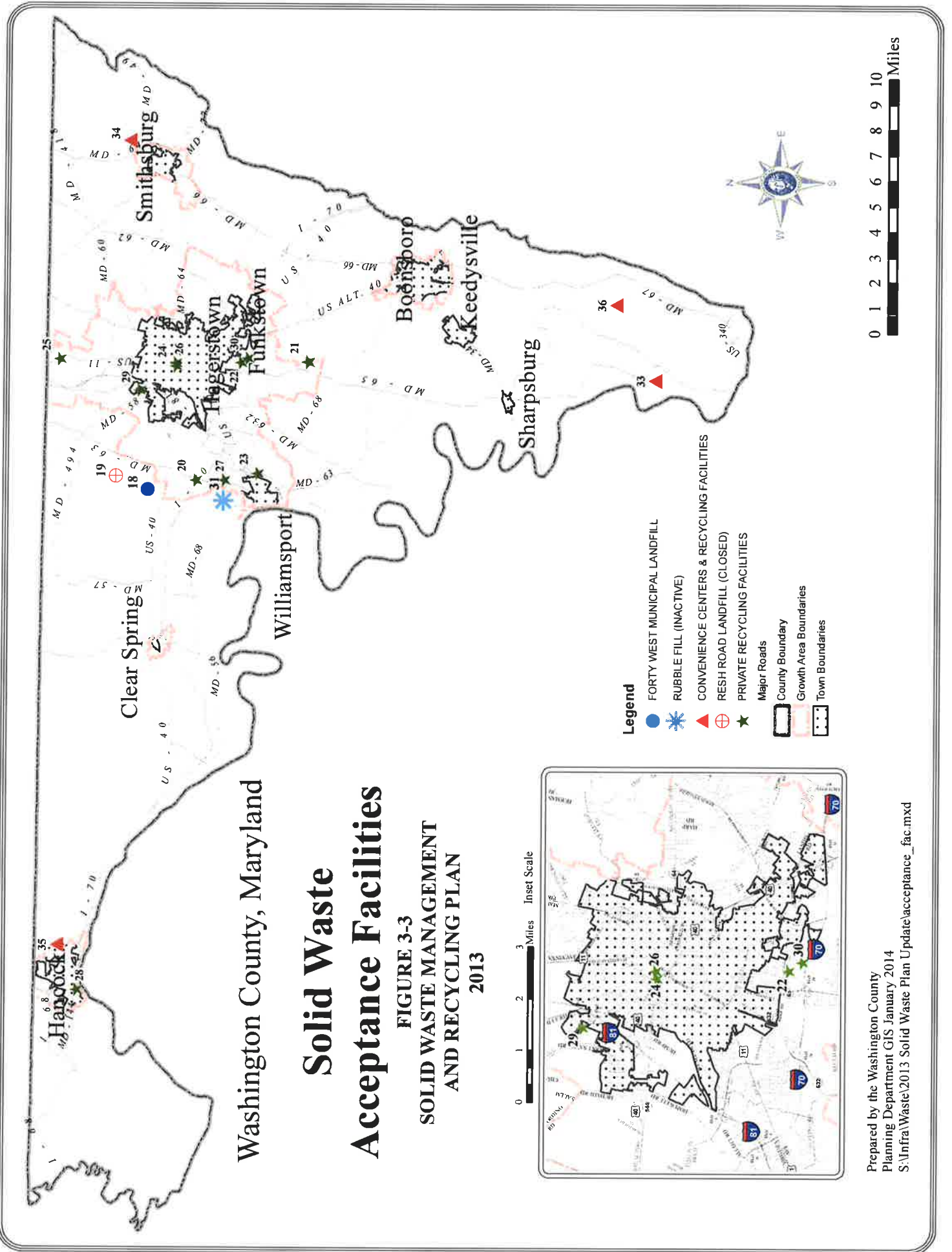


FIGURE 3-2
SOLID WASTE MANAGEMENT
AND RECYCLING PLAN
2013

Prepared by the Washington County
 Planning Department GIS January 2014
 S:\Infra\Waste\2013 Solid Waste Plan Update\junkyards.mxd

Washington County, Maryland Solid Waste Acceptance Facilities

FIGURE 3-3
SOLID WASTE MANAGEMENT
AND RECYCLING PLAN
2013



Prepared by the Washington County
Planning Department GIS January 2014
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NUMBER	NAME	FUNCTION	STATUS	ADDRESS
13	B&J AUTOPARTS	JUNKYARD	ACTIVE	13324 GREENCASTLE PIKE
14	D&D AUTO RECYCLING	JUNKYARD	ACTIVE	14829 BOTTOM ROAD
15	ELWOOD'S AUTO EXCHANGE	JUNKYARD	ACTIVE	21411 JEFFERSON BLVD
16	HAMMOND'S AUTO EXCHANGE	JUNKYARD	ACTIVE	16143 FALLING WATERS RD
17	JONHNSON JUNKYARD	JUNKYARD	ACTIVE	14204 WHITE OAK RDG
18	FORTY WEST	LANDFILL	ACTIVE	12630 EARTH CARE ROAD
19	RESH ROAD	LANDFILL	CLOSED	RESH ROAD
20	ALLIED WASTE	PRIVATE	ACTIVE	11710 GREENCASTLE PIKE
21	CONSERVIT INDUSTRIES	PRIVATE	ACTIVE	18656 LESLIE DRIVE
22	CUMBERLAND VALLEY RECYCLING	PRIVATE	ACTIVE	231 E OAK RIDGE
23	FREEDOM ELECTRONICS RECYCLING	PRIVATE	ACTIVE	10420 GOVERNOR LANE BLVD
24	GOODWILL	PRIVATE	ACTIVE	151 BURHANS BLVD
25	GOODWILL INDUSTRIES	PRIVATE	ACTIVE	14515 PENNSYLVANIA AVE
26	MARYLAND METALS	PRIVATE	ACTIVE	304 CHURCH ST
27	MARYLAND PAPER	PRIVATE	ACTIVE	16144 ELLIOT PARKWAY
28	TRI STATE REUSE CENTER LTD	PRIVATE	ACTIVE	225 WEST MAIN STREET
29	WASHINGTON COUNTY ASSOC. FOR RETARDED CITIZENS	PRIVATE	ACTIVE	12919 SALEM AVENUE
30	CLEAN EARTH-EARTHEN RECYCLING	SPECIALTY	ACTIVE	1469 OAK RIDGE PLACE
31	RUBBLE FILL AREA	SPECIALTY	INACTIVE	11108 KEMPS MILL RD
32	WASHINGTON COUNTY HOSPITAL INCINERATOR	SPECIALTY	ACTIVE	251 E ANTIETAM ST
33	DARGAN	TRANSFER	ACTIVE	2201 DARGAN SCHOOL ROAD
34	GREENSBURG	TRANSFER	ACTIVE	13125 BIKLE ROAD
35	HANCOCK	TRANSFER	ACTIVE	6502 HESS ROAD
36	KAETZEL	TRANSFER	ACTIVE	2926 KAETZEL ROAD

CHAPTER 4

SOLID WASTE MANAGEMENT SYSTEM

ASSESSMENT AND ALTERNATIVES

4.0 ASSESSMENT OF SOLID WASTE MANAGEMENT ALTERNATIVES

In this chapter, the existing County solid waste management system is evaluated for adequacy in meeting the goals and objectives of Washington County during the period of this Plan. Alternative technologies, management techniques, and regulatory modifications that could be used to meet identified requirements are discussed. Also, site requirements for potential new solid waste management facilities are reviewed.

Washington County has established a hierarchy of solid waste management that is used to guide the evaluation of potential technologies, from most preferable to least:

- Reduce the generation of waste
- Reuse materials before they enter the waste stream
- Recycle generated waste materials
- Waste utilization, such as composting or energy from waste (gasification, biogas combustion, pyrolysis, waste-to-energy mass burn, etc.)
- Landfilling of unusable waste locally or out-of-county

This hierarchy was used both to evaluate the suitability of potential alternatives for the County as well as in the development of the action plan in Chapter 5.

4.1 COLLECTION AND TRANSFER

Alternatives considered for the collection of residential and other waste and recyclables include the existing system, franchising/contracting, a licensing system, and a County-operated system. Large commercial, industrial, and institutional establishments currently contract directly with private haulers for collection. These establishments often have requirements related to collection frequency, containers, and collection hours, which are best addressed by individual contracts; therefore, the existing arrangements for these facilities should be maintained. Alternatively, commercial establishments could have the option of being included in the residential waste or recyclable collection system for their geographic area.

4.1.1 ALTERNATIVE COLLECTION SYSTEMS

4.1.1.1 THE OPEN SYSTEM (SUBSCRIPTION)

In the unincorporated areas of Washington County, most residential and commercial solid waste is collected by private haulers who contract with the individual homeowner, apartment complex, retail establishment, industry, or institution. All haulers operating in Washington County must secure a license from the County and are required to operate according to the requirements of the Solid Waste Collection Licensing Ordinance ([http://www.washco-md.net/washco_2/pdf_files/legal/Solid%20Waste%](http://www.washco-md.net/washco_2/pdf_files/legal/Solid%20Waste%20)).

The City of Hagerstown contracts a private hauler for collection services within its boundary, as do all other municipalities in the County. Municipal taxes or designated fees are used to pay for collection costs within the municipalities. This system requires minimal or no involvement and financing by County government. The individual or establishment is free to deal with the hauler of his/her choice. The system has generally served the needs of the County in a satisfactory manner. The cost for hauling and disposal of waste is billed directly to the customer or municipality by the hauler with no County involvement.

In a subscription or open system, overlapping routes are prevalent; commonly a neighborhood or block will be served by several private haulers. In terms of labor, equipment, operation and maintenance, this system is potentially less cost effective than a system with assigned routes that do not overlap.

Due to the number of haulers and lack of County involvement, it may be more challenging to implement changes to collection practices that may be desirable to meet the goals and objectives of the County Solid Waste Management Plan. These practices could include volume based billing for collection services and mandatory collection of recyclables by solid waste haulers.

4.1.1.2 CONTRACT COLLECTION

With contract collection, a system recommended by the Washington County Solid Waste Advisory Committee in 2007, the County would be divided into collection districts with approximately equal residential populations. Municipalities could either consist of a separate collection district, or could be included within an adjacent unincorporated area. One hauler is generally awarded the collection contract for each district based on competitive bidding. Alternatively, the County would pay each hauler based on their bids. This cost could be reflected on the tax rate, through a waste generation fee or through a system benefit charge.

The County would be responsible for determining the number and geographic location of collection districts and establishing uniform performance requirements and standards for the contract. Under this system, additional County staff might be required to conduct the contract award and administration process. The following considerations must be addressed when establishing a contract system:

- Contract or franchise scenario
- The length of the contract
- Whether collection is mandatory or voluntary within the district
- The collection of recyclables
- Who will provide containers for both refuse and/or recyclables
- The frequency of collection for refuse, recyclables, yard waste, white goods, bulky materials
- Servicing of multi-family housing, commercial, institutional, and industrial establishments
- Collection hours and days
- Performance standards for issues such as spillage, litter, noise, equipment
- Designation of a disposal or processing facility
- Billing and collection procedures
- Performance bonding of collection contracts, and
- Insurance, indemnification and record keeping

Elimination of redundant collection routes should result in the reduction of collection costs for homeowners and commercial accounts. A contract system gives the County an opportunity for flow control and allows the establishment of new management policies through inserting requirements in contracts. Although recyclable collection and volume-based billing can be established in the open free enterprise system, the increased control provided to the County in a contract system would allow establishment and monitoring of these measures. Mandatory collection may help reduce the occurrence of illegal dumping and, by reduction of collection redundancy, can have a positive effect on air quality.

4.1.1.3 HAULER LICENSING

A licensing system provides a compromise between the completely open collection system and a contract system. The licensing system allows private haulers to remain in business; however these haulers are then required to meet requirements imposed by the County, such as vehicle/container standards or reporting requirements. The haulers are responsible for billing each customer and for disposal services.

With this system, Washington County is responsible for establishing uniform performance standards for the haulers. Also, the County must establish procedures and policies for licensing haulers. The following considerations are often addressed when establishing a licensing system:

- Length of license
- Mandatory or voluntary collection
- Collection of recyclables
- Provision of containers for refuse and recyclables
- Collection frequency
- Performance and reporting standards.

Washington County adopted a Solid Waste Collection Licensing Ordinance June 22, 1995, effective July 1, 1995, and revised the Ordinance June 21, 2005 effective July 1, 2005. While the individual and commercial establishments are free to deal with the hauler of their choice, the licensing system gives the County the opportunity through reporting requirements to monitor waste flow. It also provides a legal framework for the establishment of new management policies through amendments to requirements of the Licensing Ordinance. (See appendix.)

4.1.1.4 GOVERNMENT COLLECTION

Under this option, collection and hauling services would be provided by County employees using equipment owned by the County. Collection could be made either voluntary or mandatory throughout the County. Financing of the system could either be through the tax system or by direct billing that reflected the true cost of maintaining the program.

This alternative provides the most control for the County; which could be important for establishment of source reduction and recycling programs as well as providing a standard quality of service. In theory, economies of scale could be realized by such a large operation in the purchase of equipment and supplies. In addition, the public system

would not have to earn a profit or pay taxes. However, a large capital outlay would be required by the County to purchase the necessary equipment to assume responsibility for all collection and hauling.

4.1.2 VARIABLE RATE VS. BASE RATE FOR SOLID WASTE COLLECTION SERVICE

One way for a community to provide an incentive to its residents to reduce the amount of waste disposed is to establish a variable rate charge for collection services. Currently, most trash haulers charge a flat monthly fee (a base rate) for collecting a specified or unlimited amount of refuse. As a result, there is little economic incentive for residents to reduce the amount of waste disposed. In order to create an economic incentive to reduce the amount of waste disposed, citizens could be charged based on the amount of refuse placed at the curb each week (a variable rate). As the amount of waste disposed increases or decreases, the cost to the individual either increases or decreases.

Variable rate programs are commonly referred to as pay-as-you-throw programs. With this service, residents place waste in specially designated bags or containers purchased from the hauler, local government, or cooperating retail outlets. Essential to a pay-per-unit program is availability of recycling programs and educational material on methods of reducing waste. Programs exist that are totally based on a per-unit rate. Regardless of the specifics, a pay-per-unit program provides two main benefits:

- It provides citizens a certain level of control over their disposal costs and
- It reduces the amount of waste requiring landfill disposal.

The variable rate program is available in Allegany County using a sticker program. Another alternative could use a combination of a base rate for a threshold volume and a greater per bag fee above that threshold.

4.1.3 WASTE COLLECTION IN WASHINGTON COUNTY

The current system in unincorporated areas of the County continues to be an open-ended / subscription system. A list of current licensed haulers is available through the Solid Waste Department. Many individual home or business owners haul their waste to the landfill or to a convenience center under the annual permit system. In 2008, 7,721 individual permits were sold.

4.1.4 TRANSFER

A transfer station is used to gather waste from residential, commercial, and other collection vehicles into a larger vehicle for transportation cost savings. An example of this would be to take waste from two or more route collection vehicles with two-man operating crews and place the waste into one semi truck-trailer, with one driver transporting waste to the disposal facility. Savings can be realized by using less staff for transportation, by increasing waste collection time for vehicles, and by minimizing vehicles used, thereby saving hauler operating costs for fuel, maintenance, and labor.

Transfer stations can also provide a better opportunity to target materials from specific sources for diversion or recycling, such as construction and demolition rubble or high value commercial loads. The County is pursuing a public/private partnership for a waste to renewable energy facility. The materials which are not suitable for processing in the proposed waste-to-renewable energy facility when placed into operation, will be evaluated as part of the public/private partnership to determine if a better reuse, recycling or disposal alternative is available, rather than landfilling. These alternatives will be based on the hierarchy stated in this plan and an alternative will be pursued in accordance with all applicable regulations and requirements.

4.2 WASTE REDUCTION

4.2.1 WASTE REDUCTION AS PART OF AN INTEGRATED WASTE MANAGEMENT APPROACH

Waste reduction is the process of reducing the amount of solid waste generated. It includes product reuse, increased product life, reduced material use in product design, and decreased consumption of products. It also includes activities such as grass recycling and backyard composting of yard trimmings.

4.2.2 WASHINGTON COUNTY – WASTE REDUCTION POLICIES

Washington County will continue to promote and encourage waste reduction through the adoption of internal goals, policies and programs. To date Washington County has:

- Included a web page on source reduction linked from the Solid Waste Department home page on Washington County Government's website. The page includes a link to the Hagerstown Freecycle group. Similar to Craig's List, items described are available for no charge.
- Provided technical assistance upon request on the subject of waste reduction targeted at the homeowner and small business.
- Included waste/source reduction in presentations on waste management.
- Promoted source reduction through radio and television.
- Staffed a source reduction display at various community events.
- Networked with the Master Gardener program through the University of MD Extension Service, Washington County, to promote grass recycling and backyard composting.

These activities enabled the County to qualify for a one percent source reduction credit in 2008 toward meeting its minimum Maryland Recycling Act (MRA) goal.

4.3 SOURCE SEPARATION/RECYCLING

4.3.1 SOURCE SEPARATION/RECYCLING AS PART OF INTEGRATED SOLID WASTE MANAGEMENT

Source separation means the removal of materials, at the point of generation, from the municipal solid waste stream before the collection, disposal, or processing of the remaining municipal solid waste. Materials subject to "source separation" could be yard trimmings, aluminum cans, ferrous metals, recyclable glass, electronics, paper, cardboard, and some plastics. Also implied are collection, processing, and marketing of separated materials, which is recycling. Recycling results in the ultimate reuse of specific materials separated out of the waste stream. Source separation / recycling is one method of meeting legislative requirements for reduction of waste by means of materials recovery. It also helps the environment in many ways, including reducing energy use, and lowering greenhouse gas emissions.

In 2012, the Maryland General Assembly passed the Recycling Rate and Waste Diversion – Statewide Goals Act. The Act revises the Maryland Recycling Act (1988) by increasing the mandated recycling rates for all Maryland jurisdictions to at least 35% or 20%, depending on population. The Plan must be fully implemented by December 31, 2015. With a population of 147,430 in 2010, Washington County's population will likely surpass 150,000 during this Plan period. This will require the County to reduce its waste through recycling by a minimum of 35%. Washington County's recycling rate in 2012 was 55.11%.

4.3.1.1 GOALS

- Provide for public involvement and input in recycling issues to continue citizen support of measurable and innovative waste stream reductions
- Encourage a primary role for private enterprise in all collection, recycling, and marketing efforts
- Continue a planning, coordinating, and educational role for the County and municipalities
- Integrate reduction and recycling with the County's comprehensive solid waste management strategy
- Pursue an ultimate 50% recycling/diversion rate of waste generated in the County, including MRA and non-MRA waste by 2021.

4.3.2 WASHINGTON COUNTY'S RECYCLING PROGRAM

Since 1994, Washington County has provided a comprehensive recycling program and continuously reviews various recycling and resource recovery options so as to meet and exceed established recycling program goals. Recycling benefits include reducing environmental impacts, reducing use of nonrenewable resources, saving landfill construction and lining costs, diversion of resources for use by business and industry, and extending landfill life. Solid waste department staff continuously reviews recycling and resource recovery options.

County government promotes recycling of used office paper, aluminum cans, and plastic beverage bottles at all County offices. The County Board of Education offices and all public schools have paper and cardboard collection and recycling programs. The recycling programs coordinator is responsible for development, implementation and management of recycling programs under the direction of the Deputy Director of Solid Waste. The recycling coordinator is also a point of contact for comprehensive and current information on waste reduction, solid waste management, and recycling issues to the public, businesses, and industries by means of:

- Contact phone number/email on County website and in phone directory government pages
- Monthly radio and print media campaigns
- Presentations to professional and social organizations and school programs
- Recycling display tabling at special events and activities
- Outreach and promotion for special waste collection days, such as household hazardous waste (HHW)
- Offering waste audits and technical assistance to businesses and industry

Recycling facilities listed on the County's Recycling webpage include:

- Drop-off facilities at five recycling collection sites around the County for components of the residential waste stream, including clear and colored glass, aluminum and ferrous metal cans, selected plastics and paper, including pasteboard and cardboard. For added convenience glass, metal, and plastic containers can be co-mingled. The use of these facilities requires a residential recycling permit.

- Drop off facilities for white goods, scrap metals, batteries (auto and rechargeable), magazines, styrofoam, and scrap tires at the Forty West Municipal Landfill
- Drop off facility for residential electronic equipment (scale fee charged) at the Forty West Municipal Landfill, established in 2008
- Used oil and antifreeze receptacles at each convenience center and at the Forty West Municipal Landfill
- Used cooking oil/grease receptacle at the Forty West Municipal Landfill
- Private recycling and processing businesses in Washington County, with contact Information provided

The County is pursuing a public/private partnership for a waste-to-renewable energy facility. Upon execution and obtainment of all necessary approvals and documents, the County will proceed with this partnership. As part of this facility, all materials received will go through a sorting facility which will remove recyclable materials from the waste stream which cannot be utilized in the process. Recyclable materials removed from the process will be recycled.

4.3.3 YARD DEBRIS (COMPOST/MULCH)

Since 1994, by state law, yard waste and leaves have been diverted from landfill disposal. The County Collection Licensing Ordinance also requires yard waste to be diverted (Sec. 3.6.1). These materials are now stockpiled at the Forty West Municipal Landfill and processed using a horizontal grinder and tub grinder. Following composting, the finished product is sold at the wholesale and retail level as mulch and soil amendment.

The County is pursuing a public/private partnership for a waste-to-renewable energy facility. As part of this process, the yard debris will be transferred for processing through the facility to generate a renewable energy and the current operations will be discontinued.

The County recycling coordinator, along with agencies such as the University of Maryland Extension Service also promote grass recycling and backyard composting by means of workshops and training.

4.4 WASTE PROCESSING TECHNOLOGIES

Various alternatives have been and will continue to be evaluated in order to effectively maximize the life of the County landfill. Waste processing alternatives discussed in this section are:

- Waste combustion
- Resource Recover / Waste to Renewable Energy
- MSW Composting
- Mining of waste from County landfills
- Balefilling
- Bio-reactor landfilling

4.4.1 WASTE COMBUSTION

This waste processing alternative has the potential to extend landfill life considerably. However, the technology requires a comprehensive development scheme including a detailed site selection and evaluation study. Modern waste combustion facilities, whether the technology is intended for waste-to-energy or simply incineration, are outfitted with state of the art air pollution control technology to control air emissions. Combustion technologies available today are capable of reducing material volumes going into the landfill by up to 90%. Facilities have been toured by County staff.

The cost of this technology per ton of waste is often higher than other methods of disposal due to significant capital costs associated with facility licensing, design, and construction. A number of large municipalities have allowed private ventures to fund, design, construct and operate in their jurisdictions in exchange for long-term contracts for tipping, steam, and energy sales. The arrangements generally involve the sale of steam and/or electricity that is used to help offset a portion of the cost of operations. The companies agree to construct, own and operate the facilities for a designated number of years (usually 20-30 years) on a leaseback arrangement in exchange for the agreed tipping rate. Facilities are designed in various configurations including waste separation before combustion. Materials such as glass and metals that do not add to the fuel needed for combustion can be separated and recycled. Metals are also recovered post-combustion and offered for sale. After combustion, the revenue realized through the sale of steam and/or electricity is used to offset and minimize tipping costs.

4.4.1.1 RESOURCE RECOVERY / WASTE TO RENEWABLE ENERGY

Resource recovery is focused on viewing waste as a resource. A resource recovery system consists of waste sorting and processing technologies designed to process municipal solid waste and convert it into a resource such as compost or energy. Using such technologies has the additional benefit of reducing land disposal needs.

The County is currently working on a public/private partnership for a waste to renewable energy facility that will produce renewable energy products. This facility will provide for a sorting and processing facility which will remove materials from the stream that are not suitable for gasification and recyclable materials. Recyclable materials suitable for the process will be analyzed to determine the best alternative for their use. Other materials removed in this stage will be evaluated to determine an alternative method of disposal. During the first phase of this process, the facility will shred the material from the sorting process and prepare it for sale as a refuse derived fuel, which could include, but is not limited to, pelletizing or baling. The refuse derived fuel will be sold to companies which can use this material as a fuel source in their process such as, but not limited to, kilns for cement. As part of this first phase, the private company will conduct pilot testing on a gasification and Fischer-Tropsch unit for the conversion of municipal solid waste to a clean-burning synthetic diesel and other clean burning fuel products such as, but not limited to, jet fuel or home heating oil. The pilot process will allow for development of the fully operational facility in the second phase and testing to address any environmental concern. Upon receipt of all required approvals, the second phase will begin with construction of a full scale gasification and Fischer-Tropsch system. Once constructed, the refuse derived fuel from the first phase will be processed through this facility to produce synthetic diesel and/or other clean burning fuel products. In both phases of this process, the current landfilled waste is proposed to be mined for utilization in this process. This will allow for reclamation of the current cells and reducing their potential environmental impact in the future.

4.4.2 SOLID WASTE COMPOSTING

Municipal solid waste (MSW) composting has been practiced for many years with various methods. The significant volume reductions associated with composting make MSW composting attractive as a potential means of diverting waste from landfills. On the other hand, MSW composting requires considerable pre-sorting of the incoming waste and screening of the finished product to remove non-compostable materials such as glass, metal, and plastic – activities that tend to be relatively costly. Composted material may be used as landfill cover, for agricultural purposes or for landscaping. The market for composted municipal solid waste in Washington County and the mid-Atlantic area has not been fully developed. As with all solid waste technologies providing recovered or processed materials, determination of markets is an essential first step in evaluating benefits and cost effectiveness. In the U.S. solid waste composting has had limited success due to high costs, product odors, technology issues, product quality and lack of markets for end product.

4.4.3 LANDFILL MINING

Landfill mining refers to excavating previously buried waste with the goals including, but not limited to, recovery of ferrous metals, screening for separation of residual fine materials, utilization in a waste to energy or waste-to-renewable energy facility. By-products of these processes can be re-landfilled or utilized as an approved reuse product depending on the process.

The County has reviewed this alternative and is pursuing a public/private partnership for a waste-to-renewable energy facility as described above. Upon execution and obtainment of all approvals and documents, the new facility will include landfill mining to supply municipal solid waste for the facility.

4.4.4 BALEFILLING

Balefilling is the process of using mechanical equipment to compress municipal solid waste into bales, then transporting, stacking, and covering them in a compact mass. Resource recovery is facilitated at the baling plant as refuse travels along conveyor belts, metals and corrugated cardboard are easily removed for recycling. Balefilling can require a large upfront investment for construction of a transfer station to sort and bale the waste. However, such a facility can also function as a transfer station if waste management processes change and balefilling is discontinued.

4.4.5 BIOREACTOR LANDFILL/LEACHATE RECIRCULATION

As an alternative to "dry tomb" landfills, bioreactor landfills are designed to promote the rapid decomposition of the organic portion of the MSW. This is accomplished by maintaining optimal moisture conditions at or near field capacity (approximately 34 to 65 percent). At a minimum, leachate is injected into the landfill to stimulate naturally occurring micro-organisms that can be either aerobic (with oxygen) or anaerobic (without oxygen). Liquids are added to the landfill through vertical wells, horizontal pipes, or trenches. The primary purpose of a bioreactor landfill is to accelerate decomposition of the organic fraction of the MSW to less than 10 years (i.e., rather than 30 or more years). Because decomposition and biological stabilization of the waste in a bioreactor landfill occurs in a much shorter time period than in a "dry tomb" landfill (i.e., years versus decades), the potential advantages of the bioreactor landfill can include:

1. Reduced leachate disposal costs;
2. Increased waste decomposition and settlement that results in additional air space. This space can be as much as 40 percent;
3. Reduced post-closure care periods and costs;
4. Increased revenues through acceptance of liquid wastes;
5. Shortened time periods over which air and water emissions are generated and must be controlled resulting in increased environmental protection;
6. Increased methane production over shorter time periods making methane recovery and use as an energy source more economical; and
7. Faster return of the landfill to a productive end-use.

4.4.5.1 BIOREACTOR LANDFILL CONFIGURATIONS

4.4.5.1.1 AEROBIC

In an aerobic bioreactor, biodegradation occurs in the presence of air, which contains oxygen. Air is injected into the waste mass using vertical or horizontal wells to promote aerobic bacteria to accelerate waste decomposition. The degradation of waste occurs, under conditions similar to compost operations. The byproducts of aerobic degradation are carbon dioxide (CO₂) and water (H₂O).

4.4.5.1.2 ANAEROBIC

In an anaerobic bioreactor, biodegradation occurs in the absence of air and oxygen. Without air, methanogenic bacteria are promoted to accelerate waste degradation. The byproducts of anaerobic degradation are methane (CH₄) that can be used as an alternative energy source and CO₂.

4.4.5.1.3 HYBRID (AEROBIC-ANAEROBIC)

In a hybrid bioreactor landfill the waste is first degraded under aerobic conditions followed by anaerobic conditions. Aerobic conditions usually occur in the newly placed waste in the upper sections of the landfill, while anaerobic conditions occur in the lower sections. Because anaerobic conditions exist in the older lower sections of the landfill, methane production still occurs.

4.5 ALTERNATIVES FOR SLUDGE PROCESSING AND UTILIZATION

4.5.1 SEWAGE SLUDGE MANAGEMENT IN WASHINGTON COUNTY

Sewage sludge is the by-product of both the water and wastewater treatment process. In order to ensure that the water used for domestic and commercial/industrial use is clean and not harmful, it must be treated. Treatment systems are designed individually for each water source. Sludge created when treating water for potability is not the greatest concern. Sewage sludge resulting from the treatment of domestic and industrial wastewater has a much higher potential to be contaminated with pathogens and chemicals such as heavy metals and pesticides.

Components of a sludge treatment system at a municipal wastewater treatment plant may depend, to a large extent, on the chosen sewage sludge disposal option. Sludge management options traditionally include:

- Landfilling
- Land application
- Incineration and ash disposal
- Composting

At present, sewage sludge and other residual solids (screening, grit and grease) from the Conococheague Wastewater Treatment Plant are landfilled at the Forty West Municipal Landfill. While other jurisdictions in Maryland use land application to a greater extent, Washington County's permeable soils and limestone bedrock geology limit its usability. New state regulations are also limiting the ability to land apply in the state of Maryland, making this alternative less viable.

When sewage sludge is applied to land, the application rate is specified by the permit issued by MDE and restrictions are placed on the future use of the land. To the extent that sludge adds organic material to the soil the process can be beneficial. Sludge contains plant nutrients including organic chemicals, nitrogen, potassium, and phosphorus. However, sludge may also contain heavy metals and other compounds that can accumulate. These elements build up in the soil with repeat applications and could result in levels that may be toxic. Synagro is one company that prepares a nutrient management plan and delivers the material to available markets.

A MDE permit to apply sewage sludge is issued for each farm and each field. The permits are not transferable. Specific soil pH must be maintained. Sewage sludge application permits also define any limitations that will be placed on the area to be treated. These include required soil depth to bedrock or groundwater, specific buffer zone requirements, and application restrictions during adverse weather conditions.

4.5.2 SLUDGE GENERATION BY WASHINGTON COUNTY PUBLIC FACILITIES AND CURRENT DISPOSITION PRACTICES

There are nine County-managed community sewage systems in Washington County, as well as systems managed by Hagerstown, Boonsboro, Hancock and the State prison complex. All of the sewage sludge generated at County-managed facilities is landfilled at the Forty West Municipal Landfill. A total of 7,818 tons including 1,172 dry tons from County-managed facilities was delivered to the Landfill in 2008. The City of Hagerstown has a contract to dry, pelletize and market its sludge as fertilizer.

The County is pursuing a public/private partnership for a waste-to-renewable energy facility which will replace landfilling of most materials. It is planned that upon execution and obtainment of all necessary approvals and documents, the County will begin transferring sludge to the new facility upon completion of construction for disposal.

4.6 TECHNOLOGY FOR FINAL DISPOSAL

4.6.1 EXISTING LAND DISPOSAL SYSTEM IN WASHINGTON COUNTY

Washington County has a Refuse Disposal Permit issued by the Maryland Department of the Environment to operate the Forty West Municipal Landfill, which has adequate capacity to serve its needs for the period of this Plan. The permit was issued October 14, 2009 and will expire Oct. 13, 2014. Renewal is performed by an application to MDE. The County continues to investigate improvements in waste management and recycling processes so as to increase efficiencies, lower costs, and extend landfill life. This is demonstrated by:

- Presentation to the County Commissioners by representatives of a company designing and constructing equipment using landfill methane to generate electric power
- Presentation to the County Commissioners by a company that provides energy efficient sludge drying and marketing services
- Presentation to the County Commissioners by a waste collection and recycling company promoting the concept of "single stream" curbside recycling
- Presentation to the County Commissioners by a representative of the RecycleBank program, which enables residential recyclers to earn credit for their participation in a curbside program.
- Commissioner purchase approval of a reusable tarp system to substitute for daily earth cover at the landfill that will save labor and landfill space and extend its life.
- Presentation to the County Commissioners by representatives of a company designing and constructing a waste-to-renewable energy facility which will produce refuse derived fuel pellets in phase I and synthetic diesel in phase II.

4.6.2 LANDFILL DESIGN TECHNOLOGY

A sanitary landfill contains compacted solid waste within an enclosed lined area to minimize possible adverse environmental impacts. All landfills in Maryland must meet requirements established for construction, operation, maintenance, expansion, modification, and closure as stipulated by the Maryland Department of the Environment.

Despite environmental and public concerns associated with landfills, every integrated waste management system needs to have access to a landfill. Recycling, composting, and material recovery can divert significant portions of the waste stream from final disposal, but not all

materials are recyclable. Waste-to-energy and Waste-to-renewable energy facilities for solid waste management significantly reduces waste volumes, but even the most advanced facilities must dispose of residues and residual non-processable waste. Waste may also need disposal during plant shutdowns.

Modern sanitary landfills are significantly more sophisticated than the open dumps of the past. Current landfills use a variety of specific technologies and practices including:

- Liner systems
- Leachate collection and removal systems
- Leachate treatment and disposal systems
- Closure techniques which reduce the amount of leachate generation
- Gas collection, venting/reuse, and monitoring systems
- Provisions for closure and post-closure care and maintenance
- Ground and surface water monitoring systems and
- Monitoring and control of materials entering the site.

4.6.3 ALTERNATIVES AT OPERATING LANDFILLS

FORTY WEST MUNICIPAL LANDFILL

The 40 West Municipal Landfill operations are planned to continue in the current manner until the proposed waste-to-renewable energy project has received all approvals; completed construction and begins operations. At this time, the municipal solid waste materials will continue to be accepted through the County scale house operations and then taken to the waste-to-renewable energy facility receiving area for processing. Landfilling will continue on the site for materials which are not recyclable or processable through the waste-to-renewable energy facility. Based on the current fill rate, the landfill has a life expectancy over 100 years. With the startup of the waste-to-renewable energy facility, this life expectancy will be increased significantly.

4.7 SITE CONSTRAINTS FOR NEW SOLID WASTE ACCEPTANCE FACILITIES

Physical features and existing and planned uses of the land within Washington County affect the siting of waste management facilities. Solid waste facilities must be planned to minimize adverse impact on the environment and Washington County citizens. The following is a brief description of the technical, environmental and land use constraints imposed upon the establishment of solid waste acceptance facilities.

4.7.1 TOPOGRAPHY

Washington County is located in the Appalachian Highlands and is part of two physiographic regions, the Blue Ridge Province and the Ridge and Valley Province, which includes the Hagerstown Valley.

The topography of the County is quite varied and consists of ridge lines, steep slopes, rolling foothills, broad limestone valleys and meandering stream courses with wide floodplains.

Elevations above sea level range from 260 feet at Sandy Hook in the southern most tip of the County, adjacent to the Potomac River to 2,145 feet at Quirauk Mountain in the northeast corner of the County. Within the County the amount of land with severe slope is greatest in the mountainous areas in the east and west and along stream and valley embankments. Severe slopes greater than 15% cover nearly 30% of the County's land area. The Hagerstown Valley, which includes nearly half of the land area of the County is predominately level or moderately sloping .

Landfill sites are generally located in ravines, topographic sinks, broad, flat plateau areas and areas which do not have steep slopes. Land with slope greater than 15% is not considered acceptable for landfills due to the considerable site grading required to develop the landfill. Low lying areas along rivers and waterways are also not desirable and are regulated by Federal, State and local resource protection laws. Low lying areas within the 100-year floodplain are also not acceptable for development as land disposal facilities.

4.7.2 SOILS

Soils in Washington County have been formed from two general types of parent material. The most extensive soil is residual formed from bedrock. The second type of parent material consists of sand, silt, clay, and rock fragments that were transported by a combination of water, wind, and gravity. Washington County has five soil development provinces:

- South Mountain-Elk Ridge Province--These soils are eroded from quartzites and slates with some being developed from metabasalt and phyllites. The area includes some colluvial and alluvial soils derived from materials of the same sources. Most of the bedrock becomes soil with poor native fertility. These soils are shallow to bedrock, or have rock outcroppings. Approximately 6% of land in this province has a slope greater than 25%. Soils are stony and erosion is an issue in the 50,000 acre province.
- Pleasant Valley Province--This area is located in southern Washington County between the South Mountain and Elk Ridge Province and has relatively fertile soils derived mainly from metabasalt. The valley has 4,000 acres of which only 100 acres have severe slope limitations.
- Great Valley Limestone Province--This area includes approximately 160,000 acres and covers a major portion of the County. These soils are very fertile, although some are shallow to bedrock. Development is impeded in some areas by frequent outcrops of bedrock exposures and some severe slope limitations. Generally, the erosion problem is moderate.
- Great Valley-Martinsburg Shale Province--This belt of shallow, highly erodible soils lies near the western edge of the Great Valley. The soils here are only moderately fertile and approximately 15% of the area has severe slope limitations. Erosion is a chronic problem and has affected much of the soil in this province. Generally, the Martinsburg Shale soils provide the most preferred soil type in the County for landfill construction.
- Ridge and Valley Province--This area encompassing the western section of the County has over 60,000 acres. The topography is rolling, with severe slope limitations. Shallow and stony soils limit the use of some areas. Soils are derived from sandstones and shales and have low native fertility. Nearly 60% of the region is wooded. Erosion is a problem, particularly on the soils of shale origin.

A listing of preferred landfill soils was included in the Planning Department Preliminary Site Evaluations for Additional Washington County Landfill Acquisitions, conducted in January, 1986.

4.7.3 GEOLOGY AND GEOHYDROLOGY

Washington County's area encompasses several physiographic provinces and related geology and is highly variable. (Figure 4-1). The eastern section is a portion of the Blue Ridge Province, which includes the high ridge called South Mountain. This area is underlain by highly metamorphosed Pre-Cambrian granite gneiss and metabasalt, phyllite, and quartzite. The Ridge and Valley Province comprises the remainder of the County and includes the Great Valley, referred to locally as the Hagerstown Valley. This valley is mainly underlain by limestone, dolomite and shale. To the west are a series of ridges which are characteristic of the Ridge and Valley Province and are underlain with resistant sandstone, limestone and shale.

Over half of the potable water used in Washington County has surface water, mainly the Potomac River, as its source. The municipalities of Boonsboro and Keedysville rely on groundwater from wells. Washington County has four distinct groundwater provinces.

- South Mountain-Elk Ridge--Springs in this province are numerous but generally small. Chemical quality of water from this area is good and is suitable for most uses.
- Hagerstown Valley--This includes the area between South Mountain on the east and Fairview Mountain to the west. The hydrology of this province is complex due to a series of folds and faults that occurred in the limestone bedrock. The limestone and dolomite that underlie the Valley province furnish large groundwater supplies, but are also susceptible to contamination through surface rock fissures and sinkholes.
- Hancock-Indian Springs--This province includes shale, sandstone, and shaley limestone bedrock with a generally thin soil cover. A good part of this area has aquifers with a high yield.
- Sideling Hill--This includes Fairview and Powell Mountain, west of Clear Spring, extending westward to the base of the eastern slope of Sideling Hill. This area of the County consists of shales, sandstones and thin beds of limestone folded and cut by the Potomac River. As the movement of groundwater through the shales depends in part on fractures in the bedrock, flow and storage capacity for large users is limited. Springs are a common source of water within the province, particularly seeps and small springs in shale areas.

4.7.4 WETLANDS

Eighty-four percent of the state's wetlands occur in the costal plain region, with approximately 13% in the Piedmont region and 1% in the Blue Ridge-Appalachian Highlands region. A number of small wetlands are located throughout Washington County and identified on National Wetlands Inventory Maps prepared by the USFWS. (Figure 4-2).

Maps and data are available at the County Planning Department. Wetlands are valuable for water quality and are protected by Federal, State and County regulations.

4.7.5 SURFACE WATER AND FLOODPLAINS

The County is located entirely within the Potomac River watershed, of which Washington County represents 3%. The Potomac intersects both the Ridge and Valley and the Blue Ridge physiographic Province. Nine major tributaries and several sub-watersheds in the County terminate in the Potomac River, with all but two having their origin in Pennsylvania (Figure 4-3).

Antietam Creek Basin—This basin drains approximately 40% of the County; about two thirds of the Antietam's basin is in Washington County with the remainder in Pennsylvania

Conococheague Creek Basin—A relatively steep sided meandering stream draining approximately 65 square miles in Washington County. The watershed forms the western boundary of the Hagerstown Valley

Licking Creek Basin--This stream drains the Bear Pond Mountain and Pigskin Ridge area west of Fairview Mountain, a drainage basin of about 27 square miles

Tonoloway Creek Basin-- Almost entirely in Pennsylvania, this stream enters the Potomac River east of Hancock

Little Tonoloway Creek Basin-- Begins in the narrow valley between Sideling Hill and Tonoloway Ridge west of Hancock and includes several small tributaries from Pennsylvania

Sideling Hill Creek Basin—Most of this basin is in Pennsylvania; the stream forms the western boundary of Washington County

Additional tributaries include Little Conococheague Creek, Marsh Run, and Israel Creek.

Along these creeks, streams and tributaries are areas associated with the 100-year floodplain. Floodplain soils are approximately 5.8% or nearly 17,000 acres of the total County acreage. Facilities located within the floodplain may hinder the flow, reduce the temporary storage capacity of the floodplain, or wash out the waste within the landfill and endanger human health and the environment. Construction of buildings or facilities in the 100-year floodplain is prohibited in Washington County by State and Federal regulations.

4.7.6 WATER QUALITY

The Maryland Environment Service monitors water quality from 81 monitoring wells and piezometers located on and adjacent to County solid waste facilities. There is no known data that would indicate water quality problems in the vicinity of any of the operating County landfill facilities.

4.7.7 LAND USE COMPATIBILITY

Solid waste management facilities must be sited in locations appropriate for such a use. Facilities have the potential to create odor, noise, dust or possible traffic impacts for nearby land users. Adjacent land uses that are incompatible with solid waste management facilities include airports, hospitals, and residential areas. Most residential development is concentrated around the Hagerstown metropolitan area with low density development scattered in various rural areas of the County. Future solid waste management facilities studies will need to factor and address a broad spectrum of applicable environmental, engineering, economic and social factors so as to minimize or mitigate any negative impacts. Siting is also subject to the County's development review process.

4.7.8 PLANNED LONG-TERM DEVELOPMENT

The County Comprehensive Plan was adopted by the County Commissioners in 2002. An update is to be completed in 2010. The Plan is a policy document that provides a guide for public and private sector decisions to be made for future growth and development over the next 20 years. It is a County-wide plan that applies directly to all the unincorporated areas of the County and indirectly to the area within Hagerstown and the other eight municipalities. Growth is expected to take place wherever adequate public facilities are available. The primary policy tool is the designation of an Urban Growth Area around Hagerstown, Funkstown, Williamsport and Town Growth Areas surrounding several small towns. By encouraging development and growth to occur within that area, the County can be assured of providing for expansion in the most cost

effective manner. On the other hand, development in the rural areas of the County is not encouraged because of the long-term cost of additional infrastructure, loss of farmland, and diminishment of scenic values. Residential growth is expected to occur east of Hagerstown, in the Robinwood/Community college area, and in the area of Smithsburg. Additional growth of all types may also be expected in the Halfway area and north of Williamsport, and around Boonsboro.

4.7.9 AREAS OF CRITICAL CONCERN/SENSITIVE AREAS

The Areas of Critical State Concern program was established by authority of the State Land Use Act of 1974. Under the law, the Counties and state agencies were to designate critical sites or structures of such County or state significance that they should be protected by state law from inappropriate development. Following consideration by the County Commissioners and Planning Commission on two different occasions, local officials determined that critical areas were best addressed at the local level. This issue was resolved according to Comprehensive Plan guidelines for Special Planning Areas. Therefore, there are no designated "Critical Areas" according to the State program.

Under the Planning Act of 1992, Washington County identified four sensitive areas requiring protection:

- Streams and their buffers
- 100 Year Floodplains
- Threatened and endangered species habitat
- Steep slopes.

All solid waste and recycling planning and management activity by the County will be consistent with the Comprehensive Plan, the Planning Act and any additional amendments to the Comprehensive Plan.

4.8 SPECIAL WASTE MANAGEMENT

Waste management requirements for asbestos, special medical waste and hazardous waste are discussed below.

4.8.1 ASBESTOS

Friable asbestos may be accepted and disposed at the Forty West Municipal Landfill, as authorized by MDE. The material must be packaged and labeled in accordance with COMAR 26.11.15.04. Required disposal procedures include:

- Minimum 48 hour prior notice to the landfill supervisor of delivery time, source and quantity
- Use of protective clothing and respiratory protection
- Careful handling of material to prevent fiber emissions into the air
- Disposal in a separate area of the landfill and complete covering with earth or refuse so as to prevent release of fibers during compaction

The Solid Waste Collection Licensing Ordinance describes the specific procedures required by Washington County for asbestos disposal. (See Appendix).

The management of friable asbestos under the proposed waste to energy facility operations will be banned upon startup of the waste-to-renewable energy facility.

4.8.2 MEDICAL WASTES

The Forty West Municipal Landfill and the future waste-to-renewable energy facility will not accept medical wastes, including infectious and/or bio-hazardous medical waste. Currently, special medical waste generated at the Washington County Hospital and Western Maryland Hospital is incinerated at the County Hospital. Incineration will end and waste will be removed and disposed by licensed haulers when the new Hospital opens. Medical wastes from doctor's offices, clinics and nursing homes are handled by licensed haulers. Management of special medical waste is strictly regulated by the Maryland Department of the Environment (MDE) under specific medical waste regulations, and therefore is not addressed in this plan.

4.8.3 HAZARDOUS WASTES

No hazardous substances are accepted for disposal at the Forty West Municipal Landfill and the future waste-to-renewable energy facility other than small amounts of household hazardous wastes. Hazardous waste generators within the County contract with a licensed hazardous waste hauler for collection and disposal. The management of hazardous wastes is strictly regulated by MDE, and is not addressed in this Plan.

4.8.4 HAZARDOUS MATERIALS RESPONSE

Emergency response to unplanned release of hazardous materials is coordinated through the County Emergency Operations Center. All fire companies have had training in identification of hazardous materials incidents and basic response techniques. The County Emergency Operation Plan lists the Washington County Division of Fire and Emergency services and Fire Department Special Operations as the primary agencies for oil and hazardous materials incidents. Support agencies are County Emergency Management, Washington County Sheriff's Department, Maryland Department of the Environment, County Health Department, and the State Police.

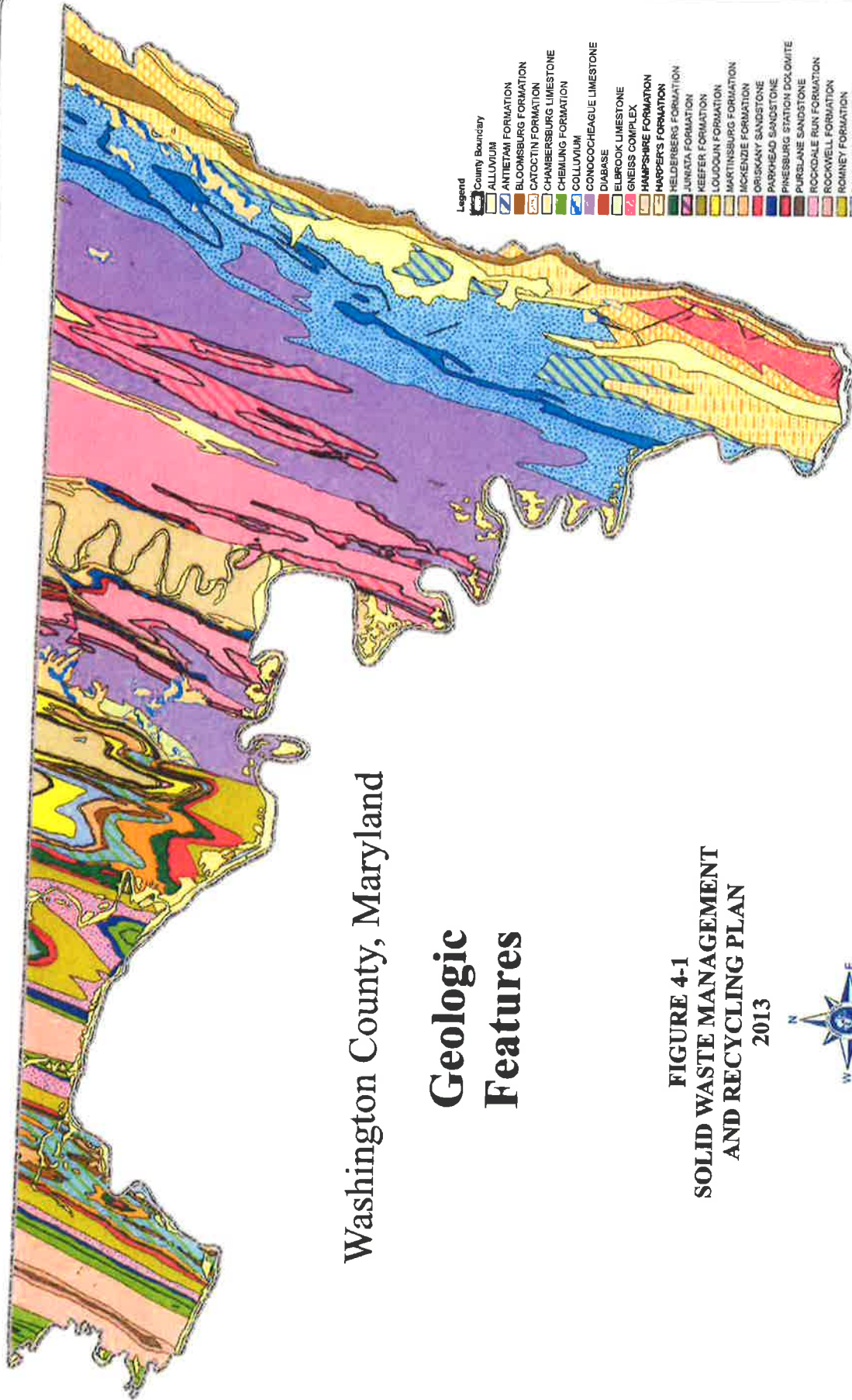
4.8.4.1 Hazardous Materials Cleanup

Chemical and petroleum spill cleanup material can be accepted at the Forty West Municipal Landfill with the following conditions:

- The spilled material is identified
- The material is not a controlled hazardous substance per COMAR 26.13.02
- The material will not harm the landfill liner
- The material is contained in an absorbent such that no free liquid residue is evident according to EPA method 9095 test

Additional disposal sites for chemical and petroleum spill cleanup material include Spirit Services Conococheague Industrial Pretreatment Facility adjacent to the Conococheague Wastewater Treatment Plant and Clean Earth of Maryland on Oak Ridge Drive.

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- Legend**
- County Boundary
 - ALLUVIUM
 - ANTIETAM FORMATION
 - BLOOMSBURG FORMATION
 - CATOCTIN FORMATION
 - CHAMBERSBURG LIMESTONE
 - CHEWING FORMATION
 - COLLUVIUM
 - CONOCOCHIEGUE LIMESTONE
 - DIABASE
 - ELBROOK LIMESTONE
 - GNEISS COMPLEX
 - HAMPSHIRE FORMATION
 - HARRIS FORMATION
 - HELDENBERG FORMATION
 - JUNIATA FORMATION
 - KEEFER FORMATION
 - LOUGOUN FORMATION
 - MARTINSBURG FORMATION
 - MCKENZIE FORMATION
 - ORISKANY SANDSTONE
 - PADYHEAD SANDSTONE
 - PINESBURG STATION DOLOMITE
 - PURSLANE SANDSTONE
 - ROCKDALE RUN FORMATION
 - ROCKWELL FORMATION
 - ROMNEY FORMATION
 - ROSE HILL FORMATION
 - ST. PAUL GROUP
 - STONEHENGE LIMESTONE
 - TERRACE GRAVEL
 - TOMSTOWN FORMATION
 - TONOLOWAY LIMESTONE
 - TUSCARORA SANDSTONE
 - WATER
 - WAYNESBORO FORMATION
 - WEVERTON FORMATION
 - WILLS CREEK SHALE
 - WOODMONT FORMATION

Washington County, Maryland

Geologic Features

**FIGURE 4-1
SOLID WASTE MANAGEMENT
AND RECYCLING PLAN
2013**



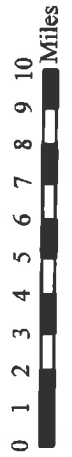
Prepared by the Washington County
Planning Department GIS January 2014
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Washington County, Maryland Location of Wetlands

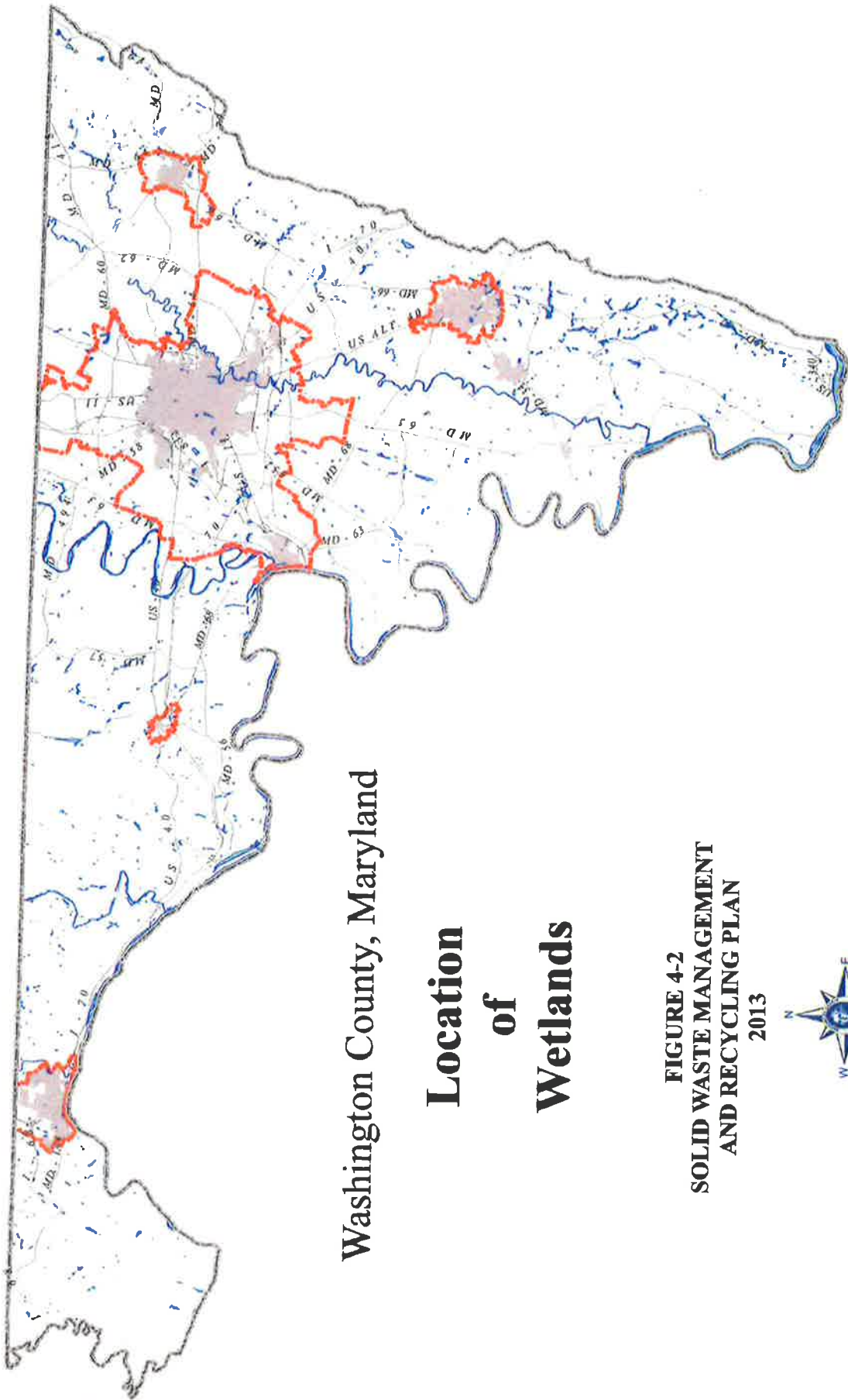
**FIGURE 4-2
SOLID WASTE MANAGEMENT
AND RECYCLING PLAN
2013**

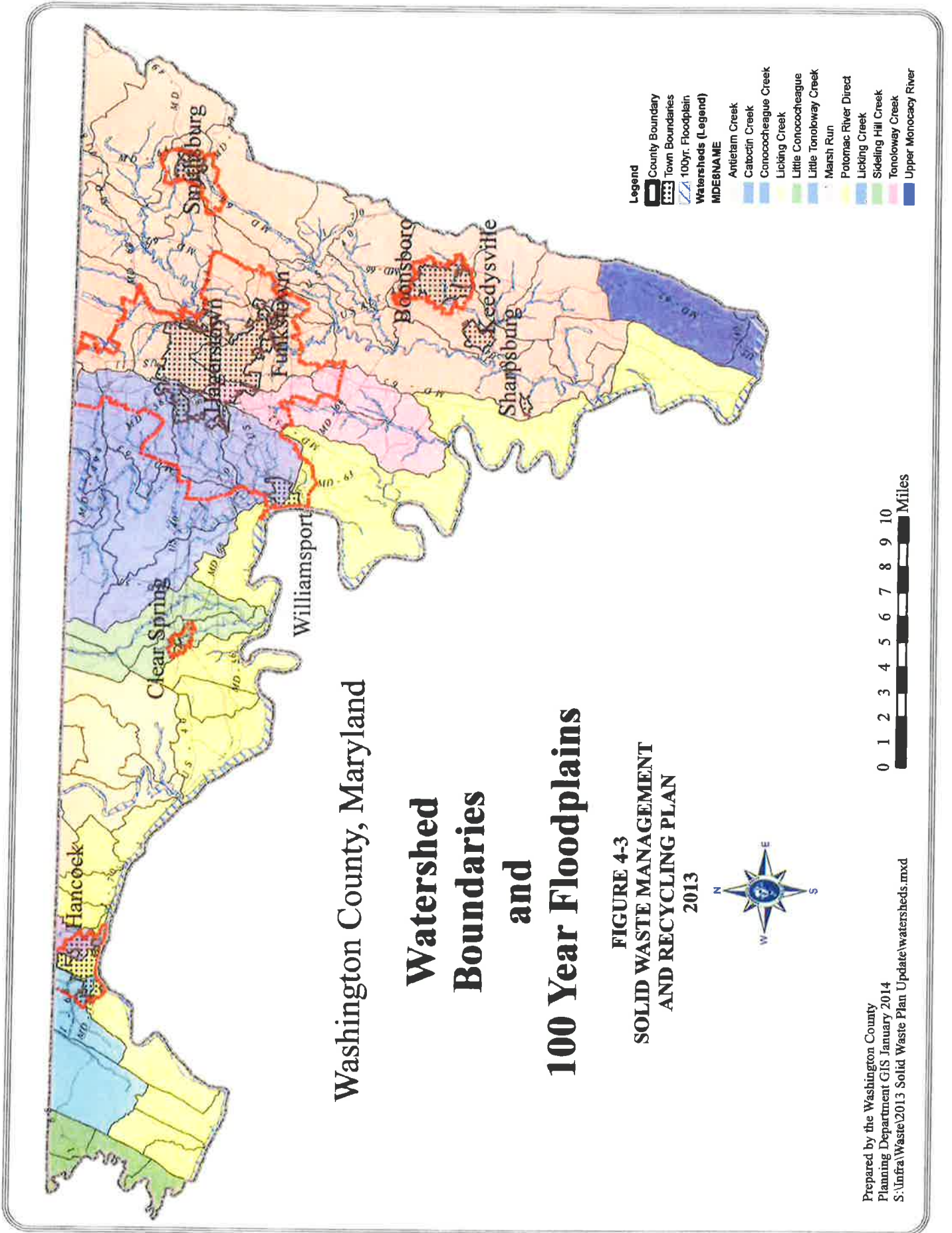


Prepared by the Washington County
Planning Department GIS January 2014
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- Legend**
- County Boundary
 - Growth Area Boundaries
 - Wetlands
 - Town Boundaries





CHAPTER 5

SOLID WASTE MANAGEMENT AND RECYCLING

PLAN OF ACTION

5.0 SOLID WASTE MANAGEMENT PLAN OF ACTION

An integrated Solid Waste Management and Recycling Plan will provide specific management tools to handle various components of the waste stream. A variety of programs, which together make up the Solid Waste Management Plan, work in combination to complement each other. The plan should include the programs and a potential schedule for implementation.

Washington County's Solid Waste Management Plan must be consistent with the requirements of the state-mandated recycling goals and all other applicable federal, State and County regulations and laws. The goals and objectives described in Chapter 1 address many of these requirements.

Based on the evaluations of existing and alternative technologies presented in Chapter 4, this chapter outlines a Plan of Action and Alternatives for the Washington County Solid Waste Management Program through the year 202. A summary of the Plan recommendations to meet stated goals and objectives is presented below.

5.1 MEETING THE GOALS AND OBJECTIVES OF THE PLAN-CURRENT PROGRAMS

5.1.1 PROTECTION OF HEALTH AND THE ENVIRONMENT

The actions outlined in this Plan and the decisions behind them directly address a solid waste management program that, as its primary goal, is to protect the health, safety, and welfare of the total population and protection of the natural environment.

5.1.2 PLANNING

The County will continue to provide a triennial review and update of the 10 year Solid Waste Management and Recycling Plan (SWMRP). Time bound goals as part of the 3-year review and update process will be evaluated. Municipalities are encouraged to develop their own plans with each subsidiary plan paralleling the organization of the County Plan as specified in COMAR 26.03.03.

Service and program efficiencies and convenience will continue to be evaluated and end use of landfill facilities will be considered. The Solid Waste Department will develop and use a "Comprehensive Recycling Program Work Plan". It will be a document intended to form the foundation of future recycling, waste reduction and resource management efforts of the County. The activities and concepts described in the work plan are directed at improving the quantity and quality of both residential and non-residential recycling efforts in Washington County. Results of work plan implementation will be included in each triennial update of the SWMRP as required by the Maryland Department of the Environment. A copy of the initial draft work plan is included in Appendix B of this Plan.

5.1.3 FINANCIAL SELF SUFFICIENCY

It is intended that all County spending required to implement this Plan will be funded through tipping fees or other fees and income supporting the Solid Waste Enterprise Fund. It is important that costs for solid waste management be kept separate from general revenue taxes so citizens are made aware of the actual costs of the program. Table 5-1 provides a summary of projected capital and operating costs for the proposed solid waste program for the 10 year planning period. The self-sufficiency of the Solid Waste Enterprise Fund will likely be challenged by changes in private sector waste and recycling activities in Washington County. Private sector collection companies have the option of taking collected material out of county or out of state to nearby private landfills or recycling centers. Diversion of significant amounts of waste from the Forty West Municipal Landfill has resulted in a revenue decline to the Solid Waste Enterprise Fund. The county has and will continue to proactively identify and evaluate potential impacts and develop operational alternatives to ensure fund solvency.

The rising operating costs of recycling services, including the drop-box program and electronics recycling program has impacted the Enterprise Fund which has resulted in the implementation of fees to support these programs. Each of these programs will be evaluated annually to identify opportunities for program fee adjustments, savings and efficiency.

Opportunities for generating revenue to the Fund will continue to be investigated, The County has recently investigated two public/private partnerships which have a positive impact on the landfill site and solid waste management. The first program is the County entering into a public/private partnership for placement of solar panels on the phase II area of the 40 West Landfill, capped area of the Resh Landfill and other closed landfill locations. This program will generate income for the County and is proposed to be constructed in 2014. The second program is a public/private partnership for the construction and operation of a waste-to-renewable energy facility. This facility will generate refuse derived fuel pellets in phase I and synthetic diesel in phase II from the municipal solid waste accepted at the 40 West facility. This facility will provide a more cost effective means of managing the solid waste and will have a revenue source from the sale of these products. Phase I is anticipated to be under construction in 2014.

5.1.4 WASTE REDUCTION AND RECYCLING PUBLIC EDUCATION

Waste reduction and recycling programs will continue to help protect the environment and maintain county solid waste disposal assets by diverting materials from the waste stream, and saving natural resources otherwise used to manufacture products from virgin materials. In accordance with the requirements of the Recycling Rate and Waste Diversion – Statewide Goals Act the county will continue to meet or exceed the state mandated recycling and waste diversion rates through implementation and continued improvement of these programs. The County will continue to work towards the Solid Waste and Recycling Plan established goals of increasing recycling rates. The last goal of increasing the rate by 1% per year to reach a 38 % Maryland Recycling Rate (MRA) by 2013 was exceeded in 2012 when the recycling rate reached 55.11%. The County will continue towards a goal of a 50% recycling and diversion rate by 2021.

The Washington County Solid Waste Management and Recycling Plan and related updates historically presented educational goals for increasing participation in recycling, waste reduction and reuse activities. Educational initiatives will be primarily presented through the “Comprehensive Recycling Program Work Plan”, development of which is discussed in Section 5.1.2 – Planning. Current educational efforts include presentation to civic groups, schools and associations, web based education through the county web site, recycling awards presented through the Board of County Commissioners and the Solid Waste Advisory committee, etc. Future educational initiatives to be investigated and/or implemented include significant revisions to the county solid waste and recycling web pages, outreach programs to county residents, outreach programs to commercial waste and recycling generators participation in local trade or informational shows such as the Washington County Home Show and Home and Garden Show, contests through the county school board potentially including design of a county recycling logo, recycling program flag, and recycling program motto, development of educational mailers or on-line recycling program surveys and investigation into the use of social media such as Facebook or Twitter to inform and involve the public.

5.1.5 SOLID WASTE AND RECYCLABLES COLLECTION MANAGEMENT

Collection of solid waste and recyclables within Washington County is primarily performed by the private sector through contracts with the incorporated municipalities, through subscription service to county residents who live outside the incorporated areas and through subscription service to county businesses and industries. Waste and recyclables collection activities are regulated through County ordinance. The current ordinance is entitled “An Ordinance to Provide for Solid Waste Collection Licensing in Washington County, Maryland”. The ordinance outlines guidelines under which collection companies and the general public must operate if they collect materials

within the county, or transport waste and recyclables to facilities located within the county. The ordinance also outlines reporting requirements for types and volumes of materials collected. The current ordinance states that licensed haulers must offer or provide for recycling to their residential customers, although that requirement is not currently enforced. The current ordinance should be reviewed and potentially revised to provide more clarity and detail regarding responsibilities of the collection companies. These revisions could increase the reliability of data reported to the County, thereby improving recordkeeping and reporting to the State. Improved data also results in more accurate calculations of the county recycling and diversion rates.

Private sector waste and recycling ventures within the County provide a strong foundation for increased recycling activities at the residential and commercial level. Current identified recycling companies actively operating in the county are identified in Section 3 of this Plan. This Plan recommends that opportunities be made available for the private sector to continue to explore and implement programs to increase recycling participation within the County. Additionally, public-private sector partnership opportunities should be investigated whereby the county and selected private companies develop joint plans and programs which, when implemented, can increase recycling, reuse and waste diversion within the County.

5.1.6 WASTE MANAGEMENT AND DISPOSAL

The County will continue to provide a permitted disposal site while pursuing a public/private partnership for a waste-to-renewable energy facility. Upon execution and obtainment of all approvals and documents, the County will send the solid waste materials to the waste to renewable energy facility for processing. Once this begins operations, the County will continue to operate the landfill for materials that cannot be processed or are a byproduct of the facility. It is anticipated that 90% of the waste stream will either be recycled or utilized in the facility, therefore the need for a landfill will be reduced dramatically. The county will continue to refine this process and the handling of rubble waste throughout this 10 year period. Weight data collection will continue. Municipal and private costs of waste collection will be monitored. Solid waste management facilities and convenience centers will be operated so as to protect public health and the land, air and water, and to be in compliance with the mandates of pertinent federal and State laws, permits, or orders issued under these laws. The possibility of establishing a contract or franchise form of solid waste and recyclable collection will be explored. Waste disposal fees will be evaluated annually. (See Appendix C).

Washington County is currently operating one MDE permitted sanitary landfill. The Forty West Municipal Landfill, located approximately 4 miles west of Hagerstown at 12630 Earth Care Road on the north side of US 40 West, has the capacity to serve the County for the 10 years covered by this Plan and beyond. However, during this 10 year period the County is pursuing a public/private partnership for a waste-to renewable energy facility. Upon execution and obtainment of necessary approvals and documents, the County will begin sending the solid waste to this facility for processing. As described in Chapter 3, the City of Hagerstown, Williamsport, Clear Spring, Boonsboro, Hancock, Keedysville, Smithsburg and the County are also operating recycling programs that reduce the waste stream, extending the landfill life. As noted in preceding sections of the Plan, although the County has adequate landfill space for over 100 years at current disposal rates, there has been on-going efforts to maximize landfill life and promote cost-effective landfilling alternatives. These alternatives are mentioned above and include a waste-to-renewable energy facility which will become the primary source of processing solid waste once approvals are received and construction is completed. In addition, the County will continue to investigate costs and benefits of construction and demolition (C & D) waste diversion, improvements in waste cover, and other alternatives to extend landfill life.

Actions proposed in this Plan during the next ten years use the existing solid waste system now in place in Washington County with added activities to satisfy requirements of the Plan. Parts of the Plan that affect the County Landfill are:

1. Continued operation of the Forty West Municipal Landfill
2. Continue to encourage waste minimization
3. Continued operation of citizen's drop-off convenience centers
4. Pursue Public/Private Partnership for waste-to-renewable energy facility and upon implementation use as primary waste disposal method
5. Investigation of alternatives to C & D rubble landfilling, including a rubble ban or diversion and processing
6. Continued investigation of operational efficiencies and service convenience
7. Continue and increase recycling collection by targeting business and education institutions and investigating curbside recycling
- 8.. Continue efforts at regional cooperation

The County intends to rely on landfill disposal at the existing licensed facility while pursuing a public/private partnership for a waste-to-renewable energy facility which will become the primary source of processing solid waste during the period of this Plan. Quantities of wastes that will need landfilling are estimated for each year during the period of the Plan. The waste stream is projected based on waste flow trends, scale data, and start-up of a waste-to-renewable energy facility which is contingent upon receiving all approvals. A summary of projected tonnage and costs is in Table 5-1. No public solid waste acceptance facility is scheduled to close or cease operations during the 10-year planning period.

5.1.6.1 FORTY WEST MUNICIPAL LANDFILL DEVELOPMENT

The Forty West Municipal Landfill will continue to be used as the primary solid waste processing source during the initial years and once the waste to renewable energy facility receives approvals and starts operations, the landfill volume will be reduced to materials which are by-products of the waste-to-renewable energy facility or are not able to be processed. Based on this proposed operational plan, the County does not anticipate construction of any new cells during the three year planning period. Cells 1-4 will remain active until late 2013/early 2014 with operations moving into cell 6/7 late 2013/early 2014.

5.1.7 CONSTRUCTION AND DEMOLITION (C&D) RECYCLING

The construction and demolition part of the total waste stream was approximately 15 percent in 2009, a large component along with commercial and residential. Diversion or processing of C & D could play a role in extending the life of the landfill. At present, Clean Earth of Maryland, located on Oak Ridge Drive south of Hagerstown is the sole business in the County that provides crushing and processing facilities for concrete, brick, stone and pavement cement, and contaminated soils. Other processors are located in Clarksburg and in the Baltimore region.

An additional incentive for C & D diversion or processing is the LEED green building rating system. Green, or sustainable, building is the practice of creating and using healthier and more resource-efficient models of construction, operation, maintenance, and renovation. Designing with industrial materials is a key component of green building and can earn points in green building certification programs, such as the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) green building rating system. This table illustrates credits available:

Industrial Materials Recycling and LEED Credits*	Points
Using construction and building products containing recycled content	1-2
Reusing building materials and products	1-2
Diverting C&D materials from disposal	1-2
Using materials extracted, processed, and manufactured locally	1-2
Total Possible Points	8

*From US EPA Industrial Materials Recycling web page

Alternatives to landfilling are being discussed as part of the public/private waste to energy facility. When a viable alternative to landfilling is discovered, the plan will be modified to reflect the new handling method for C&D.

5.1.8 COMMERCIAL, INDUSTRIAL & INSTITUTIONAL RECYCLING & WASTE REDUCTION

Offices, stores and industries typically generate a significant percentage of the solid waste stream in a community. According to the 2009 tonnage report, approximately 45% of wastes accepted at the Forty West Municipal Landfill were from commercial and industrial sources. The County recycling report for 2009 indicated that 74% of MRA (Maryland Recycling Act) materials recycled were classified as Commercial. Of commercial classified material, it is estimated that half consists of mixed paper and cardboard. The hauler-licensing ordinance could enable the County to more accurately track amounts of these materials. Owners and managers of commercial establishments will continue to be educated and informed about making arrangements with waste haulers to pick up and deliver their recyclables to material processing businesses in the community and region. County involvement will consist primarily of providing information, technical assistance and recognition to encourage recycling, monitoring and reporting amounts of materials recycled based on reports submitted by collection companies. Materials that commercial establishments will be encouraged to target for recycling are primarily used office paper and old corrugated cardboard. Washington County's emphasis will be on privately provided recycling collection and marketing. The County will serve mainly as a vehicle for education and coordination of various business sectors to increase commercial recycling and data reporting. Implementation of the waste-to-renewable energy facility operations will contain a sorting facility to recover recyclable materials prior to processing through the fuel portion of this operation. The County anticipates an increase in the recycling rate due to this operation.

5.1.9 RESIDENTIAL RECYCLING

At present, collection of Washington County residential recyclables is predominantly performed by the private sector through curbside collection, the residential recycling permit drop-box program at designated County facilities, and within seven municipalities (Hagerstown, Hancock, Keedysville, Clear Spring, Boonsboro, Smithsburg and Williamsport) through their waste disposal contracts. At least three private sector haulers offer collection of residential recyclables as part of subscription waste collection service in selected higher-density areas of the County. Commercial and industrial recycling is performed by the private sector through contracts with individual businesses and industries.

The County program is funded through the permit fee collected for this service. The initiation of a permit fee program for recycling is a result of a decrease in landfill revenue which was supporting the programs. This drop in revenue required that a method of funding for this program be put in place. After review of potential funding sources, the County Commissioners approved starting a

program which requires residents to purchase a permit in order to use the recycling facilities at the convenience centers and 40 West Facility. As part of the proposed waste-to-renewable energy facility at the 40 West facility, this program is under evaluation on how it will be managed in the future. Any changes will be discussed in future updates and/or amendments to the Solid Waste Plan.

5.1.10 SCRAP TIRES

The County continues to accept automobile and light truck scrap tires from residents and businesses at the Forty West Municipal Landfill. For less than 6 tires delivered by residents there is a charge per tire; bulk loads are charged per ton. Currently a licensed contractor hauls all scrap tires off site for processing and disposal. The County is pursuing a public/private partnership for a waste to renewable energy facility. Upon execution and obtainment of all necessary approvals and documents, the Company will construct the facility and the County will begin sending waste to the facility for processing. This waste will include the scrap tires which are proposed to be utilized in the facility. The County will continue to participate in the MDE Scrap Tire Amnesty Day, as long as that program is fully funded by the MDE.

5.1.11 HOUSEHOLD HAZARDOUS WASTE/CFL COLLECTION

In 2009, the County held a one-day Household Hazardous Waste event at the Forty West Municipal Landfill. This was a successful event. However, funding has not been available to provide any additional events. The County will continue to review funding availability and sources to determine if additional events can be scheduled.

5.1.12 MEDICAL WASTE & CONTROLLED HAZARDOUS SUBSTANCES

Industries and commercial establishments in Washington County that generate and ship controlled hazardous substances, including special medical waste, are closely regulated by the Hazardous Waste Management Division of the Maryland Department of the Environment (MDE). Each shipment must be manifested and volumes and types of materials reported to MDE. No acceptance or treatment facilities exist in the County; in 1992 the County Zoning Ordinance was amended to prohibit the incineration of hazardous waste or controlled hazardous substances or using hazardous waste for fuel in certain zoning districts.

Independent Cement Company (Holcim) holds a permit for the use of tire derived fuel in the cement manufacturing process.

5.1.13 OTHER WASTES

Special waste categories that must be managed include asbestos, dead animals, septage, sludge, leachate and farm wastes. Management practices for these wastes are described in Chapter 4.

5.2 PLAN GOALS AND OBJECTIVES – FUTURE STUDIES, PROGRAMS AND INITIATIVES

5.2.1 PLANNING

As described in Section 5.1.1, the county will routinely review and update this Solid Waste Management and Recycling Plan in accordance with MDE requirements and internal County needs. The "Comprehensive Recycling Program Work Plan" to be developed as outlined in this Plan, will serve as the guide for continual recycling program growth and development. Work Plan updates will also be included in each triennial Plan update as required by MDE.

5.2.2 SOLID WASTE STUDIES, PROGRAMS and INITIATIVES

The primary goal of the solid waste program is to provide fiscally sound, environmentally responsible long-term waste disposal alternatives for the residents and businesses of the county, and to be good stewards of the assets of the county. Program studies and initiatives will concentrate on methods to extend landfill life, to improve operational efficiency, and maintain the fiscal stability of the solid waste enterprise fund. Potential solid waste related areas of study during the 2014 – 2024 term of this Plan are outlined in this section.

5.2.2.1 OPERATIONAL EFFECENCIES and LANDFILL LIFE EXTENSION

As previously stated, the solid waste and recycling programs are operated as an enterprise fund and are reliant on inbound revenue, materials sales revenue, and cost control to ensure financial stability. Operational efficiency and landfill life extension related programs recommended for evaluation during this Plan term include the following:

- **Alternate Daily Cover (ADC)**
In accordance with Maryland regulations, landfilled wastes exposed at the end of the working day must be covered with at least 6 inches of soil, or a specified amount of other approved alternate daily cover (ADC) materials. Utilizing alternative cover materials saves soil, potentially decreases landfill operating costs, and potentially increases remaining landfill life. Use of a tarp as daily cover was implemented in 2009 and has been successful in reducing the amount of soils used in landfill operation, thus increasing landfill life. Additional ADC's should be evaluated to determine their suitability to further reduce soil use and increase the available facility life.
- **Waste Compaction / Landfill Density Improvement**
The daily objective of waste placement is generally to compact as much waste as possible into the smallest space possible, maximizing the in-place density of the compacted waste and cover materials. The more densely the materials are compacted, the less landfill space is consumed thereby maximizing landfill life. Landfill waste compaction will be evaluated for need after the waste-to-renewable energy facility goes into operation.
- **Leachate Recirculation**
Leachate recirculation, as previously identified in Section 4 of this Plan, has been proven to increase landfill life. Recirculation potential will continue to be investigated during the term of this Plan to help increase the life of Forty West Landfill, however, current engineering constraints and future plans impact its viability.
- **Leachate Treatment Alternatives**
Leachate currently collected from the Forty West Landfill, Resh Road Landfill, Old City/County Landfill and the Rubble Landfill is trucked to the spirit Services industrial pre-treatment facility in Williamsport, MD. Approximately 18 million gallons of leachate was collected and treated during 2009, at an average cost of \$0.055 per gallon. Due to the potential cost increases over time, coupled with potential cost increases and environmental and safety related impacts of trucking, this Plan recommends that alternatives to leachate trucking be investigated during the Plan term.
- **Alternatives to Landfill Disposal at Forty West Landfill**

Although the existing life expectancy of the Forty West Landfill exceeds 100 years and the County is pursuing a public/private partnership for a waste-to-renewable energy facility; siting of a new landfill is uncertain. Therefore, the plan recommends continual research of potential alternatives to handling the 10% of current material which still requires landfilling with the waste-to-renewable energy facility.

- **Alternative Revenue Sources**

The current plans for a solar farm and a waste-to-renewable energy facility are providing a financially stable future for the solid waste enterprise fund. However, the County will continue to review these revenue sources and the solid waste fund to ensure continued financial viability. Additional revenue sources should continually be evaluated to provide the best alternatives to the citizens of Washington County.

- **Alternative Waste Collection Methods**

As described in Section 4.1 of this plan, several alternatives to the current open collection (subscription) solid waste management system exist. These alternatives include franchising or contracting out solid waste collection within the county; a pay-as-you-throw (PAYT) collection system financing plan; government collection, etc. These alternatives may, individually or in combination, offer operational or financial improvements if enacted as part of the county's comprehensive solid waste management plan. This Plan recommends continuing to research the individual collection method alternatives.

5.2.3 REDUCTION, REUSE, RECYCLING and DIVERSION PROGRAMS, STUDIES AND INITIATIVES

The primary goal of the solid waste program is to provide fiscally sound, environmentally responsible long-term waste disposal alternatives for the residents and businesses of the county, and to be good stewards of the assets of the county. Program studies and initiatives will concentrate on methods to extend landfill life, to improve operational efficiency, and maintain the fiscal stability of the solid waste enterprise fund. Potential solid waste related areas of study during the 2014 – 2024 Plan period are outlined in this section.

5.2.3.1 WASTE REDUCTION

Waste reduction is a major component of efforts to extend landfill life. The County Solid Waste Department spearheads waste reduction efforts through public education promoting the benefits of a reduced waste stream. Additional waste reduction programs should be researched during this plan term.

5.2.3.2 REUSE AND DIVERSION

Material reuse programs are a critical facet of a comprehensive waste management program. The Plan recommends that the county research successful and sustainable reuse programs available in the region, and participate where appropriate in support of these programs. Examples of successful programs include the following:

- Internet based material reuse networks such as The FreeCycle Network and IMEX Industrial Materials Exchange network
- Habitat for Humanity ReStore program

5.2.3.3 RECYCLING DROP-OFF PROGRAMS

During the prior plan period, several additional recycling services were identified and added to the public drop off program at the Forty West Landfill and/or the county waste transfer stations. Materials added to the recycling program included electronics, kitchen oil and grease, and Styrofoam. The feasibility of collection of additional recyclables should be researched during this plan period, including the following:

- Construction and demolition materials
- Expanded plastics recycling categories to include #3 - #7 plastics
- Rigid plastics recycling such as yard toys, plant pots, PVC, etc.
- Clothing or textiles

5.2.3.4 RECYCLING DROP-BOX PROGRAM

The recycling drop off program was modified significantly since the original adoption of the plan in 2011 plan. All unmanned boxes have been removed due to abuse and program costs. The remaining boxes at the manned locations were left in place. However, residents are required to purchase a residential recycling permit to utilize the recycling program. This change was required to make this program financially stable. Continuous review of this program and its integration into the waste-to renewable energy facility should occur.

5.2.3.5 PUBLIC/PRIVATE RECYCLING PARTNERSHIPS

Partnerships between the Public and private sector can often lead to establishment of successful recycling program enhancements. Opportunities for partnerships related to residential and commercial recycling, including curbside programs or other alternative technologies, should be researched during this plan term.

5.2.3.6 EDUCATION

Educational initiatives will be primarily presented through the "Comprehensive Recycling Program Work Plan", development of which is discussed in Section 5.1.2 – Planning. This plan recommends investigation of the following educational initiatives during this Plan term:

- Include significant revisions to the county solid waste and recycling web pages to improve ease of use by the public.
- Outreach programs to county residents; outreach programs to commercial waste and recycling generators.
- Participation in local trade or informational shows such as the Washington County Home Show and Home and Garden Show.
- Development of contests through the county school board potentially including design of a county recycling logo, recycling program flag, and recycling program motto.
- Development of education mailers or on-line recycling program surveys
- Investigation into the use of social media such as Facebook or Twitter to inform and involve the public.
- Continuation of the Board of County Commissioner's Reduce, Reuse and Recycle Awards program initiated by the Solid Waste Advisory Commission.

5.2.3.7 APARTMENT BUILDING AND CONDOMINIUM RECYCLING PROGRAM

- A. In 2012 the Maryland General Assembly passed legislation that requires recycling in all apartment buildings and condominiums that contain 10 or more dwelling units. To date through the cooperation of the County Office of Recycling, owners and managers of apartment complexes or councils of unit owners of condominiums and other stakeholders involved in the implementation of this law, the County has identified sixty (60) apartment complexes and five (5) condominiums that fall under the scope of the new law. The County Office of Recycling has notified the apartment and condominium officials and discussed the requirements of the law including identifying the materials that must be recycled as plastic, metal, glass containers and paper.

Apartment and condominium officials will identify how the materials will be collected, stored and the arrangements with reputable firms for the pick up and transportation of the recyclable materials off-site. It will be the responsibility of the apartment and condominium officials to report to the County on an annual basis the details of the required recycling activities. Other program requirements include:

1. Recyclable materials included in the program are plastic, metal, glass containers and paper.
2. Collection of Materials – Apartment and condominium officials will be responsible for providing all containers, labor and equipment necessary to fulfill recycling requirements throughout their buildings. Distinctive colors and/or markings of recycling containers may be provided to avoid cross contamination. The apartment and condominium officials will ensure pick up and transportation off-site of recyclable materials through arrangements with reputable recycling firms. Residents will be responsible for placing recyclables in building recycling bins prior to their removal on the scheduled pick up day.
3. Marketing of Materials - Marketing of the recyclable materials collected will be the purview of the firms removing the materials from the site. Apartment and condominium officials are responsible for reporting the volumes of their recyclables and waste through annual reports to Washington County.

B. Stakeholders

Stakeholders that will be involved in implementing the law are:

1. Owners or managers of the apartment buildings or councils of unit owners of the condominium are responsible for providing recycling to the residents of each apartment or condominium unit by October 1, 2014. They must secure and manage recycling contracts with a contractor for providing material collection and recycling services from the building locations. They will perform record keeping and may report to the County on an annual basis.
2. The Board of County Commissioners is responsible for adopting the MDE approved language of the Apartment Building and Condominium Recycling Program (ABCR) in a Solid Waste Management and Recycling Plan amendment.
3. The Washington County Department of Planning and Zoning is responsible for preparing and shepherding to approval an amendment to include the ABCR Program in the Solid Waste Management and Recycling Plan.
4. The Washington County Office of Recycling will be responsible for communicating the requirements of the law to the apartment and condominium officials. The Office of Recycling will assist the apartment and condominium officials with development of a recycling program and its requirements with input from the officials. The Office of Recycling will also develop a recycling reporting survey to be used by the apartment and condominium officials in reporting recycling activities and monitor the progress and performance of the ABCR Program.
5. The Washington County Division of Environmental Management will be responsible for oversight of the Office of Recycling activities to assure that all apartment complexes and condominiums that are governed by the ABCR program are included.

C. Participating Apartment Complexes or Condominiums in the ABCR Program

A list of apartment complexes and condominiums that have been identified as required to participate in the ABCR Program at the time of the inclusion of this section in the Solid Waste Management and Recycling Plan is included in an attached appendix. The Office of Recycling will maintain an up to date list of participants in the ABCR Program available for inspection upon request. New apartment complexes or condominium developments that fall under the requirements of the law will begin participating in the ABCR Program within 3 months of receipt of the Use and Occupancy permit.

D. Schedule for Implementation of the ABCR Program

The ABCR program will be implemented according to the following schedule

1. December 31, 2013 – The County will distribute MDE approved language of the ABCR Program to the apartment and condominium officials.
2. March 1, 2014 - Apartment and condominium officials will begin to educate the residents about the ABCR Program and discuss the requirements of the law.
3. May 1, 2014 - Apartment and condominium officials will provide assistance to the residents and advise them when residents can start collecting the materials.
4. July 1, 2014 - Apartment and condominium officials finalize and secure recycling services contracts with private contractors.
5. On or before October 1, 2014 residents start collecting and recycling the materials at the participating apartment complexes and condominiums.

E. Program Monitoring

The County Office of Recycling will oversee the progress and performance of the ABCR Program. However, the apartment and condominium officials will conduct inspections, review service levels, investigate reported or unreported pick-up and disposal complaints, meet with residents or recycling contractors to educate or review practices and review contractor compliance with the recycling contract. Any issues that arise that are deemed deficiencies on the part of the residents or recycling contractor will be detailed in writing and reported to the violator. The apartment and condominium official will initiate actions to correct all deficiencies within 60 days of being notified.

The apartment and condominium officials will be responsible to keep residents up to date on new regulations, laws, mandates, practices or procedures affecting recycling including new materials that can or must be recycled.

F. Program Enforcement

The County Office of Recycling will ensure that the recycling at apartment complexes and condominiums will be implemented in accordance with applicable portions of the Environment article of the Annotated Code of Maryland. Prior to the effective date of October 1, 2014 and with public input, Washington County will determine the methods it will use to implement and enforce the ABCR Program requirements including a decision on deferring penalties to the Maryland Department of the Environment.

5.3 PLAN OF ACTION TEN YEAR SUMMARY 2014-2024

Program or Facility	Description	Date
Forty West Municipal Landfill	Cell 4 Intermediate cover Cell 6/7 opening.	Late 2013 Early 2014
Methane Collection, Use	Program, contract establishment, Carbon credit sale.	2010-2014 (min)
Landfill Operation Efficiencies	Study, Refine daily cover, compaction operations.	2011-Ongoing
Alternate Waste Collection Methods	Study PAYT, franchising, contract, other options.	2011-2021
Household Hazardous Waste, CFL Collection	Evaluate methods to increase convenience, frequency.	Ongoing
Styrofoam Diversion	Lease compactor, monitor program.	April, 2010 Ongoing
Source Reduction, Reuse Information	Expand successful outreach, education, website info, links.	Ongoing

Additional Recyclables Collection	Evaluate markets for other materials: Rigid plastics, textiles, etc.	Ongoing
Public - Private Recycling Partnerships, Sponsorships.	Public Venues - County, City, Town Park Depts.	Ongoing
Schools Recycling Activities	Establish monitoring program, Assist as necessary.	Ongoing
Waste to Renewable Energy Facility	Research, development, permit and construct.	Ongoing
C&D Material Disposal	Research lifecycle cost of diversion.	Ongoing
E-waste Collection	Evaluate methods to increase convenience; alternative sites, frequency and self sufficiency of program.	Ongoing
Sludge Disposal	Investigate alternative disposal options: composting, combustion.	Ongoing

The County's efforts at integrated waste management, including an expanded recycling program, will continue to evolve and be reflected in future updates to this Plan. State requirements are for a review and re-adoption every three years. Washington County has positioned itself to take advantage of market conditions and fluctuations by the availability of a number of local and regional end user materials businesses. These facilities will be an important part of the plan for solid waste management and material recycling for the foreseeable future.

TABLE 5-1
PROJECTED FORTY WEST LANDFILL TONNAGE & COSTS SUMMARY *
(IN 1,000) DEBT SEVICE, APPROPRIATIONS EXCLUDED

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
BILLABLE TONS	105	110	110	110	110	115	115	115	115	117	117
OPERATIONS	\$6,165	6,196	6,258	6,321	6,384	6,448	6,512	6,577	6,643	6,710	6,777
CAPITAL	\$5,380	983	53	270	4,857	55	55	55	55	55	55
TOTAL (\$)	13,588	9,864	8,581	9,019	13,753	9,246	9,292	9,819	10,407	9,930	9,950

*From Washington Co.Budget and Finance Solid Waste Long Range Forecast

APPENDIX A

AN ORDINANCE TO PROVIDE FOR
SOLID WASTE COLLECTION LICENSING
IN WASHINGTON COUNTY, MARYLAND

Adopted June 22, 1995, effective July 1, 1995.
Revision 1, adopted June 21, 2005, effective July 1, 2005.

SOLID WASTE COLLECTION LICENSING ORDINANCE

Hauler means a person engaged in the act of collection of solid waste and/or transporting such waste.

Hazardous waste means any refuse, sludge, or other waste material or combination of refuse, sludge, or other waste materials in solid, semi-solid, liquid or gaseous form, which, because of its quantity, concentrations, or chemical, physical or infectious characteristics, as defined in 40 CFR 261, may pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed. Categories of hazardous waste materials, include, but are not limited to, explosives, flammable, oxidizers, and reactive wastes, poisons, irritants, and corrosives.

Household Hazardous Waste means hazardous waste, as defined above, generated in a residential household, which is exempt from the regulations, governing the storage, transport, and disposal of hazardous waste, due to the relatively small volume of generation by a single generator or household.

Infectious Waste means any waste that comes from a hospital, clinic, or laboratory and that is known or suspected to be contaminated with organisms capable of producing disease or infection in humans. Infectious waste includes: (a) Disposable equipment, instruments, and utensils; (b) Contaminated needles, scalpels, and razor blades; (c) Human tissue and organs that result from surgery, obstetrics, or autopsy; (d) Feces, urine, vomitus, and suctionings; (e) Live vaccines for human use; (f) Blood and blood products; and (g) Laboratory specimens, such as tissues, blood elements, excreta, and secretions.

MDE means the Maryland Department of the Environment.

Materials designated for recycling means those recyclable materials that the County identifies as reasonable to recycle when collection costs, processing costs, markets, and beneficial effects of reducing waste are considered. Materials designated for recycling include 1 & 2 plastic bottles - HDPE/PET, newspapers, glass bottles and jars, food and beverage cans, office paper, corrugated cardboard and other materials which may be determined to be practical by the County.

Materials recovery facility (MRF) means a central processing area that consists of a combination of equipment and handpicking to process materials designated for recycling to market specifications.

Municipal solid waste (hereinafter sometimes designated "MSW") means garbage, refuse, rubbish, trash, and other solid waste from residential, commercial, industrial, and community generators which is collected in aggregate, but does not include special handling wastes, recyclables, residual waste, auto hulks, ash, construction and demolition debris,

SOLID WASTE COLLECTION LICENSING ORDINANCE

2.1.7 The County may bar vehicles or containers from County Facilities if in the County's opinion the vehicle or container may cause a nuisance or an unsafe condition.

Section 2.2 APPLICATION FOR LICENSE

2.2.1 Applications for licenses issued hereunder shall be made on forms supplied by the County Commissioners for Washington County, Maryland, and shall contain all information requested by the County. An application will not be accepted or processed unless it is complete. That information shall include, but is not limited to, the following:

- (1) Name of the applicant
- (2) Applicant's mailing address
- (3) List of the vehicles and equipment owned and leased by the applicant which are to be permitted hereunder
- (4) Name, address, and telephone number of the primary contact acting as representative for the applicant
- (5) The appropriate fee based on the fee schedule supplied by the Director of Solid Waste for Washington County
- (6) A description of the hauler's plan for the collection and disposal of solid waste including recyclables. The plan as a minimum must take into consideration materials designated for recycling including the following materials: commercial corrugated cardboard and office paper products, residential materials including newspapers, glass bottles and jars, food and beverage cans, and HDPE/PET plastic bottles.

OFFICIAL COMMENT

A person who is in the business of collecting or purchasing Washington County generated recyclables must acquire a license. The primary purpose of this requirement is to identify the person as someone from whom a report of collection is required. As contemplated at the time of adoption of this Ordinance, licensing is primarily an identification tool, but in the event of violation, it provides a measure of security for implementation of the County's plan to reach its recycling goals. Nevertheless, in the event of violations, particularly failure to report or illegal dumping, a license may be suspended or revoked and other penalties sought.

2.2.2 Initial applications must be filed no later than June 20 for licenses to be effective on July 1.

2.2.3 Within thirty (30) days of filing the application for license the applicant will be notified by the Director of Solid Waste whether or not the application is approved.

SOLID WASTE COLLECTION LICENSING ORDINANCE

3.4.3 SLUDGE

No sludge will be accepted at County facilities unless the following conditions have been met:

- (a) A properly completed Request for Approval to Dispose of Sludge has been approved by both MDE and the County and a permit has been issued by MDE authorizing the disposal in the manner indicated in the permit.
- (b) Each load of sludge shall be delivered to the County landfill in a dewatered state, with a solids content consistent with the requirements of the landfill's Refuse Disposal Permit, with a cake-like texture. The sludge shall exhibit no liquid phase separation in a test which consists of either the EPA Gravity Test (as described in the Federal Register, Volume 47, No. 38, Page 8311, Thursday, February 25, 1982) or the EPA Plate Test (as described in the Federal Register, Volume 45, No. 98, Page 33214, Monday, May 19, 1980). Results of these tests shall be submitted to the County and a copy presented to the Landfill Official upon delivery for disposal.
- (c) County may require laboratory test results for each load from a laboratory and in a form acceptable to County.

Pursuant to the provisions of this section, sludge may be accepted at the appropriate County facility or may be disposed of pursuant to a permit issued by MDE. Sludge shall not be mixed with any other waste when delivered to a County facility.

3.4.4 ASH RESIDUE

Non-hazardous ash residue from the combustion of fossil fuels, municipal solid waste or special medical waste may be accepted only at the County facility and only after County approval of applicable laboratory analyses. Ash residue shall not be mixed with any other waste when discharged into a County facility without prior County approval.

3.4.5 CONTAMINATED SOIL

No contaminated soil will be accepted at County facilities unless the County has received relevant test data and approved of the disposal. Contaminated soil if approved for disposal may be accepted at the County facility only by appointment. Contaminated soil shall not be mixed with any other waste when discharged into a County facility unless approved first by the Washington County Solid Waste Department.

SOLID WASTE COLLECTION LICENSING ORDINANCE

the information, and the County will not disseminate the information beyond County staff or other government employees who agree to maintain the confidentiality of the information and who demonstrate a need to have the information to perform their duties.

SECTION 4.0 SOLID WASTE ACCEPTANCE FACILITIES

4.1 All municipal solid waste shall be transported directly from the point of collection and delivered in accordance with this Ordinance to a solid waste acceptance facility (either a County facility or any other lawfully permitted facility), without any intervening transfer, unloading, processing, sorting, salvaging, scavenging, or reuse; except as may be allowed under the terms of the license issued hereunder.

OFFICIAL COMMENT

The intent of this provision is to provide for licensing of intervening processing as part of the license required in Section 2.0 of this Ordinance. Again, the licensing is primarily for informational purposes, but in appropriate circumstances may take on enforcement characteristics. For example, if a hauler identified intervening processing, the County would use this information to determine proper zoning and to determine the type of information that may be required of the hauler for reporting purposes. It is not intended by this requirement that the County be unduly intrusive in the business of the hauler, but simply to ensure that the County gain sufficient information about its waste stream to provide necessary public services for its citizens over time.

4.2 Special handling wastes shall be transported from the point of collection and delivered in accordance with this Ordinance to a facility authorized by law to accept it.

4.3 Upon reasonable advance notice to the hauler, the County may designate or change the site designation for disposal of any waste or recyclable material.

4.4 No person shall use any County facility without a valid license as may be required by this Ordinance and which has been obtained from the County or use any County facility in violation of this Ordinance. A license issued pursuant to this Ordinance may be revoked at any time for any cause determined sufficient by the County after reasonable notice and an opportunity for the licensee to be heard.

4.5 No person shall possess or consume any alcoholic beverage or beverages at any County facility.

4.6 No person shall operate a motor vehicle in a reckless or unsafe manner at a County facility.

SOLID WASTE COLLECTION LICENSING ORDINANCE

SECTION 7.0 OPERATING AND SAFETY RULES FOR COUNTY FACILITIES

7.1 Any users of County Facilities shall unload in designated areas and immediately thereafter leave the site.

7.2 All persons other than those actually participating in the unloading must remain in vehicles as a matter of safety. Children under age 13 and pets must also be kept in vehicles.

7.3 Salvaging and scavenging are prohibited at County Facilities except with the prior written approval of the County.

7.4 No fires or open burning are permitted in County Facilities;

7.5 No firearm, weapon of any type or hunting is permitted at a County Facility.

7.6 No person may dump solid waste, recyclables, special handling waste or other waste regulated hereunder in other than an area designated for the disposal of that waste or dump solid waste, recyclables, bulky waste, or special handling wastes without a permit if required by this Ordinance to have one.

7.7 Loitering and solicitation are prohibited at County Facilities.

7.8 Boxes or other containers will be allowed to be dropped from vehicles only in areas expressly designated as untarpping or unloading areas.

7.9 Vehicles and containers may not be left at County Facilities without prior County approval.

7.10 Haulers must unload Solid Waste off the rear of the vehicle in designated tipping areas. Unloading of vehicles off the sides is prohibited.

7.11 Passengers shall be in the cab of the vehicle upon arrival at the scale. Riding on the bed or tailgate between the scale and tipping areas or during unloading is prohibited.

7.12 Operators of vehicles are required to leave a minimum of six feet between vehicles during unloading at the Landfill.

7.13 Licensed vehicles, containers and the contents of vehicles and containers are subject to inspection at any time by County.

SOLID WASTE COLLECTION LICENSING ORDINANCE

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INTRODUCTION

THE PERFORMANCE OF THE INTEGRATED SOLID WASTE MANAGEMENT PLAN IN WASHINGTON COUNTY IS DEPENDENT UPON THE ADEQUACY OF EACH ELEMENT OF THAT PROGRAM. THE WASHINGTON COUNTY RECYCLING PROGRAM IS AN INTEGRAL PART OF THAT EFFORT. THROUGH THE INPUT OF THE BOARD OF COUNTY COMMISSIONERS OF WASHINGTON COUNTY, THE PUBLIC, THE SOLID WASTE ADVISORY COMMITTEE, THE DIVISION OF ENVIRONMENTAL MANAGEMENT AND OTHERS, IT HAS BECOME EVIDENT THAT WE NEED TO EVALUATE CERTAIN ASPECTS OF THE COUNTY'S RECYCLING PROGRAM AND PROVIDE DRAFT SUGGESTIONS FOR THEIR MODIFICATION. THIS *DRAFT* COMPREHENSIVE RECYCLING PROGRAM HAS BEEN BORN OF THOSE NEEDS, AND IS INTENDED TO FORM THE FOUNDATION OF THE FUTURE RECYCLING AND RESOURCE MANAGEMENT EFFORTS OF WASHINGTON COUNTY. THE DRAFT MODIFICATIONS SUMMARIZED HEREIN ARE AIMED AT IMPROVING THE QUANTITY AND QUALITY OF RECYCLING, WASTE REDUCTION AND DIVERSION EFFORTS UNDERTAKEN WITHIN THE COUNTY, IN BOTH THE RESIDENTIAL AND NON-RESIDENTIAL RECYCLING ARENAS.

SEVERAL PROGRAM ELEMENTS PRESENTED REMAIN TO BE STUDIED RELATIVE TO FACTORS SUCH AS COST TO THE COUNTY OR THE RESIDENTS, AND PREDICTION OF SUCCESS. AGAIN, THIS PROGRAM IS INTENDED TO BE A WORK IN PROGRESS THROUGH THE INDICATED IMPLEMENTATION STAGES.

**ELEMENTS AND POTENTIAL MODIFICATIONS TO THE
WASHINGTON COUNTY RECYCLING PROGRAM**

GENERAL

1. RECYCLING COORDINATOR POSITION TO OVERSEE AND IMPLEMENT PROGRAM. AT A MINIMUM THIS INDIVIDUAL WILL:

- CHAMPION COUNTY RECYCLING, WASTE REDUCTION AND DIVERSION PROGRAMS TO THE PUBLIC, COMMERCIAL CUSTOMERS, AND COUNTY DEPARTMENTS
- LIASON TO TOWNS ON PROGRAM DEVELOPMENT, EDUCATIONAL OPPORTUNITIES AND SPECIAL PROJECTS
- OVERSEE EXISTING RECYCLING PROGRAMS & CONTRACTS
- OVERSEE REPORTING AND RECORDKEEPING TO MAINTAIN COMPLIANCE WITH MDE REQUIREMENTS
- BECOME COUNTY RECYCLING LIASON TO LOCAL BUSINESSES
- BECOME RECYCLING MARKET EXPERT

RESIDENTIAL RECYCLING

1. **EDUCATION EDUCATION EDUCATION!**

- MEDIA CAMPAIGN ON COUNTY RECYCLING PROGRAMS, WASTE REDUCTION AND DIVERSION OPPORTUNITIES TO INCLUDE COUNTY WEBSITE UPGRADES, PSA'S ON LOCAL

APPENDIX C
Local & Regional Recycling Processors & Marketers

Company	Materials Handled (as of 5/2011)			
	Paper	Metals	Plastics	Glass
A Better Shredder, Inc. Williamsport	OCC, NP			
Allied Waste Serv., Inc. Hagerstown	OCC, OP	Al Cans	PET, HDPE	Clr, Br, Grn
ARC of Washington Co. Hagerstown	HI, ONP, OCC	Al Cans	PET, HDPE	Clr
Chambersburg Waste Paper Chambersburg, PA	ONP, OP, OCC, HI			
Conservit, Inc., Hagerstown	OCC, OP	Al Cans Wh Goods St, Scrap		
Clean Earth ¹	Oil Contaminated Soil,	Const. Rubble		
Cumberland Valley Recycling Hagerstown		Wire, Ferrus		
Freedom Electronics Williamsport	Electronics Process.			
Hagerstown Recycling Co.	ONP, OCC	Al Cans HI, OP		
Maryland Metals, Hagerstown		Al Cans Wh Goods St, Scrap		
Maryland Paper Co., Williamsport ¹	OCC, ONP			
Tri-State Recycling, Hancock		Al Cans		
Union Rescue Mission, Hagerstown	ONP, OCC HI, OP			
U.S. Recycling, Hagerstown	HI, OP			
L & I Tree Clearing	Brush, Logs, Skids			

Abbreviations: Paper - ONP (old newspapers); OCC (old corrugated containers); OP (office Paper); HI (hi-grade paper); Metal - Al cans (aluminum cans); St (steel cans); Wh Goods (Appliances); Br (brown); Grn (green)

¹ End User, Manufacturer