

**CARROLL COUNTY, MARYLAND
TEN YEAR SOLID WASTE
MANAGEMENT PLAN**



2017-2026

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MANAGEMENT PLAN

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Submitted by the
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- B. CHAPTER 50 - SOLID WASTE ORDINANCE
- C. CARROLL COUNTY CODE, ZONING ORDINANCE
- D. CARROLL COUNTY RECYCLING PLAN
- E. CARROLL COUNTY'S SOLID WASTE DISPOSAL FEES
- F. RESOLUTION No. 658-06
- G. EXECUTIVE SUMMARY – CARROLL COUNTY, MARYLAND SOLID WASTE MANAGEMENT OPTIONS – R.W. BECK
- H. EXECUTIVE SUMMARY - SOLID WASTE MANAGEMENT STUDY – KCI

RESOLUTION

(Pending Board of Commissioners Adoption of Plan)

MDE LETTER OF APPROVAL

(Pending Approval of Adopted Plan)

Matthew S. Helminiak, Chair
Richard J. Soisson, Vice Chair
Alec Yeo
Eugene A. Canale
Jeffrey A. Wothers
Cynthia L. Cheatwood
Daniel E. Hoff, Alternate
C. Richard Weaver, Ex-officio
Philip R. Hager, Secretary



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June 30, 2016

Dusty Hilbert, Chief
Bureau of Solid Waste
Carroll County Department of Public Works
225 North Center Street
Westminster, Maryland 21157

RE: Ten Year Solid Waste Management Plan – 2016 – Certification of Consistency with Carroll County Master Plan

Dear Mr. Hilbert:

At its meeting on June 30, 2016, the Carroll County Planning and Zoning Commission (the Commission) reviewed the draft Ten Year Solid Waste Management Plan for Carroll County. As you know, this Plan was the topic of a separate briefing at the June 21, 2016 meeting of the Commission.

The Commission reviewed the draft Plan and compared it to the applicable sections of the Approved and Adopted 2014 Carroll County Master Plan, especially those sections relating to Chapter 4: *Past, Present & Future Trends*; Chapter 6: *Public Facilities & Services*; Chapter 13: *Environmental Resources*; Chapter 15: *Employment/Economic Development*; and Chapter 16: *Land Use & Growth Management*. By a unanimous vote, the Commission found the draft Plan to be consistent with the Carroll County Master Plan.

Thank you for the opportunity to review the Ten Year Solid Waste Management Plan. Please let me know if I can be of further additional assistance.

Sincerely,

A handwritten signature in blue ink, appearing to read "PHAGER", with a horizontal line extending to the right.

Philip R. Hager, Secretary

cc: Planning Commission Members
Board of County Commissioners
Jeff Topper, Deputy Director, Department of Public Works
Jeff Castonguay, Director, Department of Public Works

GLOSSARY
TERMS AS THEY APPLY TO THIS DOCUMENT

The following terms are used in the Carroll County Solid Master Plan as defined herein:

Aeration - The process of exposing waste material, such as compost, to air to promote aerobic decomposition. *Forced aeration* refers to the use of blowers in compost piles.

Aerobic - A biochemical process or condition occurring in the presence of oxygen.

Agricultural Waste - A “Domestic animal manure or residuals in liquid or solid form generated in the production of poultry, livestock, fur-bearing animals and their products. Agricultural waste includes residuals generated in the production and harvesting, but not of subsequent processing of all agricultural, horticultural, or aquacultural commodities. Agricultural waste does not include land clearing debris unless the cleared land is intended solely for agricultural purposes.” (COMAR 26.04.07.02)

Air Classification - A process in which a stream of air is used to separate mixed material according to the size, density and aerodynamic drag of the pieces.

Anaerobic - A biochemical process or condition occurring in the absence of oxygen.

Asbestos - Any of a number of naturally occurring mineral fibers of the serpentine and amphibole series including actinolite, amosite, anthophyllite, chrysolite, crocidolite and tremolite.

Biohazard - Posing a clear environmental problem which may cause disease or infections.

Bioreactor Landfill - The recirculation of leachate to encourage and accelerate the natural decomposition of solid waste.

Board - The duly elected Board of County Commissioners for Carroll County.

Bulky Waste - Large items of refuse including, but not limited to, appliances, furniture, large auto parts, nonhazardous construction, demolition materials, trees, branches and stumps which cannot be handled by normal solid waste processing, collection and disposal methods.

Buy-Back Center - A facility where individuals bring recyclables in exchange for payment.

Cell - The permitted area of compacted wastes in a landfill that is confined in an area lined by either natural soil, clay or a synthetic material.

Closed-Ended Collection System - A solid waste collection system, organized by a public or private body, wherein one vendor or a collection team operates in a service area and collection service is regulated and controlled.

Closure - The physical act of securing, covering, and otherwise closing a terminated solid waste site/facility in accordance with all applicable State and/or Federal regulations.

Commercial Waste - Waste materials originating in wholesale, retail, institutional or service establishment, such as office building, stores, markets, theaters, hotels or warehouses.

Commingled Recyclables - A mixture of several types of recyclables.

Composting - “The process in which organic solid waste is biologically decomposed under controlled conditions to yield a nuisance-free humus-like product.” (COMAR 26.07.02)

Construction and Demolition Waste - Materials resulting from the construction, remodeling, repair or demolition of buildings, bridges, pavements and other structures, including concrete, blacktop, bricks, concrete block, stucco, glass, and wood from demolished structures and other inert waste materials as may be approved by Carroll County.

County Plan/Solid Waste Management Plan - The County’s planning document representing the comprehensive plan, and all subsequent revisions, developed to provide solid waste management services for County residents and business.

Curbside Collection - Programs where waste or recyclable materials are collected at the curb, often from special containers, to be brought to various processing facilities.

Drop-Off Site - A central site serving an area for the safe and convenient deposit of a specifically designated waste.

Dump – An unimproved land site at which solid waste is disposed of in an uncontrolled manner that does not protect the environment, is susceptible to open burning, or is exposed to the elements, vectors and scavengers.

Electronics – Computers and monitors, televisions, central processing units, cell phones, printers and other computer-related accessories.

Enterprise Fund/The Solid Waste Management Enterprise Fund - The authorized proprietary fund managed by Carroll County Comptroller’s Office for the sole purpose of providing for solid waste management in Carroll County. The fund utilizes an accounting method and funding mechanism for ventures providing goods and services to the public on a continuing basis. It is financed by revenues produced and user charges, and all assets and liabilities are reflected on the balance sheet.

Fines - Small diameter residue resultant from a variety of processing that intend to refine materials for further processing of volume reduction.

Grinder - A machine to grind yard and wood wastes for mulching, composting or size reduction.

Hazardous Waste - Any refuse, sewage sludge, or other waste material or combination of refuse, sewage 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 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, flammables, oxidizers, poisons, irritants and corrosives. Hazardous waste does not include source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954, as amended.

Household Hazardous Waste - Waste generated in residential households that contains relatively small quantities of hazardous materials, such as paint, pesticides or solvents.

Humus - A product produced by the biodegradation of organic materials including solid waste.

Incinerator - A facility with one or more furnaces in which wastes are burned (EPA 40 CRF Ch. 1 240-101).

Industrial Waste - Any liquid, gaseous solid, or other waste substance, or combination thereof, resulting from process of industry, manufacturing, trade or business; or the development of any natural resource, including agriculture. (COMAR 26.08.01.01)

Infectious Waste - Any waste that originates 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 disposable equipment, instruments, utensils; contaminated needles, scalpels, and razor blades; human tissue and organs that result from surgery, obstetrics, or autopsy; feces, urine, vomitus, and suctionings; live vaccines for human use; blood and blood products; laboratory specimens such as tissue, blood elements, excreta, and secretions. (COMAR 26.04.07.02)

Institutional Waste - Waste materials originating in schools, hospitals, nursing homes, prisons, research institutions and other public or private institutional settings.

Integrated Solid Waste Management - A waste management strategy of combining several different waste management methods to manage and dispose of the solid waste stream. An integrated solid waste management approach includes source reduction, reuse and recycling including composting and resource recovery, incineration with recovery of energy and landfilling of residuals.

Intermediate Disposal - “The preliminary or incomplete disposal of solid waste including, but not limited to, transfer stations, incineration, or processing.” (COMAR 26.04.07.02)

Land Clearing Debris - Any trees, stumps, logs, branches, brush, shrubs, downed timber, rotten wood, root mat, duff, leaf litter, soil material, rocks, etc., that remain after the clearing and/or grubbing of an area for the purpose of, but not necessarily limited to, land development, grading, residential or commercial/industrial construction, agricultural clearing, maintenance clearing, and utility easement maintenance.

Leachate - Any liquid that has percolated through solid waste or another medium and has extracted, dissolved, or suspended materials from it, which may include potentially harmful materials. *Leachate* collection and treatment is of primary concern at municipal waste landfills.

Leachate Recirculation - A method used to recirculate leachate onto, into and through waste materials in the landfill cell to enhance natural degradation.

MDE - An acronym for the Maryland Department of the Environment.

Mass Burn Combustion - The burning of untreated, unprocessed mixed municipal solid waste in a resource recovery plant or an incinerator.

Material Recycling Facility (MRF) - A facility that is designed, operated and authorized to receive and process recyclables by utilizing manual or mechanical methods to separate, process and classify materials for recycling purposes.

Methane - An odorless, colorless, flammable and explosive gas produced by municipal solid waste undergoing anaerobic decomposition. *Methane* is emitted from municipal solid waste landfills.

Mining - In this Plan, it refers to excavating and screening of previously landfilled waste for the purpose of recovering recyclables and potentially reusing volume.

Monitoring Well – “Any physical penetration made in the ground to examine ground water.” (COMAR 26.04.07.02)

Municipal Solid Waste (MSW) - Includes non-hazardous waste generated in households, commercial and business establishments.

MSW Composting - *Municipal Solid Waste Composting* is the controlled bio-degradation of municipal solid waste including some form of processing to remove inorganic materials.

Offal – The parts of a butchered animal that are considered inedible by human beings. Refuse in general; rubbish; garbage.

Open Dump - An illegal land disposal site that is not designed or operated in accordance with the requirements for a sanitary landfill as defined in COMAR 26.04.07.

Organic Waste - Waste material containing organic or naturally occurring carbon. The organic fraction of municipal solid waste includes paper, wood, food wastes, and yard trim.

Post-Closure/Post-Closure Care - The physical act of long-term monitoring and maintenance by the owner or operator of a solid waste site/facility for a specified number of years after approval of the Closure Plan by the MDE and release of the performance bond or other approved financial surety after completion of the postclosure monitoring period.

Post-Closure Period - The time period of post-closure care by the owner or operator of a solid waste site/facility as set forth in the approved closure/post-closure plan.

Processed Mixed Municipal Solid Waste - Waste which has been collected and transported to a facility where it is subject to one or more processes included, but not limited to: separation, clarification, classification, densification, size reduction, incineration and biological.

Processing Facility - A combination of structures, machinery, or devices used to reduce or alter the volume, chemical, or physical characteristics of solid waste.

Putrescible Waste - Any waste that may decay to enter into a state of putrefaction, the typically anaerobic splitting of proteins by bacteria and fungi with the formation of foul-smelling incompletely oxidized products.

Recyclable Materials - Those found in the waste stream that can readily be separated and reused in their present form or can be converted into raw materials from which new products can be manufactured.

Recycling - Any lawful method, technique, or process used to collect, store, separate, process, modify, convert, treat, or otherwise prepare any non-hazardous solid waste in a manner such that its component materials or substances will be beneficially used or reused.

Refuse Derived Fuel (RDF) - A processed fuel product, the majority content of which is mixed municipal solid waste, which can be combusted in energy recovery facilities or other facilities, and contains approximately 12 million BTU's per ton.

Residential Waste - Waste materials generated in single and multiple-family homes.

Residue - Materials remaining after processing, incineration, composting, or recycling have been completed. *Residues* are usually disposed of in landfills.

Resource Recovery - Reclaiming, through the processing of solid waste materials, substances, energy, or other products contained within or derived from the solid waste for sale or reuse.

Resource Recovery Facility - Any place, equipment, device or plan designed and/or operated to separate or process solid or liquid wastes into usable secondary materials, including fuel, steam and energy.

Reuse - The use of a product more than once in its same form for the same purpose, i.e., a soft-drink bottle is reused when it is returned to the bottling company for refilling.

Sanitary Landfill - A municipal solid waste acceptance facility, at which solid waste is deposited on or into the land as fill for the purpose of permanent disposal. Construction is in accordance with current federal/State regulators.

Slagging - The more or less completely fused and vitrified matter separated during the reduction of a metal from its ore.

Sewage Sludge - Any solid, semi-solid or liquid residue consisting of solids, combined with water and dissolved materials in varying amounts generated from a municipal, commercial, or industrial water or wastewater treatment plant or flue gas scrubber.

Solid Waste - “Any garbage, refuse, sewage sludge, or liquid from industrial, commercial, mining, or agricultural operations, and from community activities, but does not include solid or dissolved material in domestic sewage or in irrigation return flows.” (COMAR 26.03.03.01)

Solid Waste Acceptance Facility – “Any sanitary landfill, combustion plant (i.e., incinerator), transfer station or material recovery facility (MRF), whose primary purpose is to dispose of, treat, or process solid waste.” (COMAR 26.04.07.02)

Solid Waste Management - “The systematic administration of activities which provide for the collection, source separation, storage, transportation, transfer, processing, treatment, re-use, or disposal of solid waste.” (COMAR 26.03.03.01)

Source Reduction - The design, manufacture, acquisition and reuse of materials so as to minimize the quantity and/or toxicity of waste produced. *Source reduction* prevents waste either by redesigning products or by otherwise changing societal patterns of consumption, use and waste generation.

Source Separation - The segregation of specific materials at the point of generation for separate collection. Residents source separate recyclables as part of a curbside recycling program.

Special Waste - Items that require special or separate handling, such as household hazardous wastes, bulky wastes, scrap tires and used oil.

Subtitle C - The section of the Federal Resource Conservation and Recovery Act (RCRA) which defines and prescribes the management and disposal of hazardous waste.

Subtitle D - The section of the Resource Conservation and Recovery Act (RCRA) which defines and prescribes the management and disposal of non-hazardous solid waste.

Tipping Fee - A fee for the unloading or dumping of waste at a landfill, transfer station, recycling center, or waste-to-energy facility, usually stated in dollars per ton; also called a disposal or service fee.

Transfer Station - A place or facility where waste materials are taken from one collection vehicle (i.e., compactor trucks) and placed in another transportation unit (i.e., over-the-road tractor-trailers, railroad gondola cars, barges or ships) for movement to other solid waste acceptance facilities. Collection points serving rural residential areas are not considered to be transfer stations, provided that solid waste is not transferred from a collection vehicle to another transportation unit. The movement or consolidation of a single generator's solid waste at the site of generation may not be considered to be a transfer station.

Vector - An organism, including insects, other arthropods or rodents, which are capable of transmitting pathogens from one organism to another.

Volume Reduction - The processing of waste materials so as to decrease the amount of space the materials occupy usually by compacting or shredding (mechanical), incineration (thermal), or composting (biological).

Waste Stream - A term describing the process flow of waste materials from homes or businesses that must be recycled, burned or disposed of in landfills; or any segment thereof, such as the "residential waste stream" or the "recyclable waste stream".

INTRODUCTION AND BACKGROUND

I. INTRODUCTION

Statement and Purpose

The purpose of this document is to outline Carroll County's plan for the management of wastes 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 the ten-year planning period. Carroll County first developed its Plan in 1979. It was updated in 1983, 1996, 1999, 2002 and 2006. This plan has been officially adopted by the Board of County Commissioners for Carroll 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 Two presents County physiographic, land use and demographic data. Chapter Three outlines the current solid waste management system operating in the County and presents data on solid waste trends and projections. Chapter Four details the evaluation of current and future alternative programs and technologies for solid waste management in the County. Chapter Five presents the implementation plan, schedule, and costs for implementing the Plan.

Plan Approval Process

Plan preparation was performed by the County staff responsible for solid waste management operations in Carroll County. Outside agencies reviewed the Plan and submitted comments. Citizens were also part of the planning process, as were members of the Carroll County Solid Waste Advisory Council (SWAC). All 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 also 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, and all are addressed in this Plan. The principal focus of the Plan remains the management of waste generated by residential and commercial sources 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 which sets federal criteria for municipal solid waste landfills, including location restrictions, facility design, and operating criteria, ground-water monitoring requirements, financial assurance and closure and post-closure care requirements.

In 1979, EPA promulgated criteria under Subtitle D of the Resource Conservation and Recovery Act (RCRA) that established minimum performance standards for both new and existing municipal solid waste landfills. States were to use these criteria to classify their disposal facilities as either open dumps or sanitary landfills. Landfills classified as open dumps were to be closed or modified to meet the Federal guidelines. Each state is required to develop a plan to implement the regulations. Under those plans, many local facilities will either close or be upgraded in order to achieve compliance. Carroll County's facilities, both open and closed, can achieve compliance.

Recycling is commonly considered to be the most environmentally sensitive method available to reduce solid waste disposal. The Maryland Recycling Act (Maryland Environmental Code §9-1703) requires counties with a population over 150,000 to reduce their waste 35% through recycling. Counties whose population is under 150,000 are required to recycle 20% of their generated waste. In the fall of 1998, Carroll County exceeded the 150,000-population mark, making the County's current mandated recycling rate 35%. The County's curbside recycling program was instituted in 1992 with a year-end result of 13% recycling rate. Even though recycling is faced with many challenges, especially fluctuating markets, it still continues to provide numerous benefits, including reducing landfilling of materials, conserving energy and natural resources, creating jobs and economic development.

Historically, management of solid waste within Carroll County often consisted of open dumps, as was the case in many rural areas. There is a map with legends that appears later in this document that reflects the proliferation of open dumps that were once the norm for the County. This bringing of waste to the dumps, either by individuals or by the organized collection efforts within municipalities was often accompanied by burning. As public concern about environmental impacts of this type of waste management began to grow, the laws cited above gradually came into force. Following the open dump period within the County, there began a more organized effort to bring landfilling under County control, and in the 60's and 70's, the County took over the operations of a number of these facilities; specifically and principally at Bark Hill, Hodges, John Owings and Kate Wagner. Activity at each of these facilities ceased about 15-20 years ago, and today, Bark Hill, Hodges and John Owings are covered with an impermeable cap. The County is in the process of determining the most appropriate action for the Kate Wagner Landfill. In 1980, Hoods Mill Landfill was constructed. This was the first facility in the County that was built as a sanitary landfill. Hoods Mill continued to operate until the summer of 1994. It also received closure in accordance with Subtitle D regulations. That action was completed in the fall of 1998. The only landfill currently operating in the County is Northern Landfill, which is several miles to the east, southeast, of Westminster. That landfill was first brought into operation in the latter part of

Carroll County Solid Waste Management Plan 2017 - 2026

1988, and it was constructed completely in accordance with Subtitle D regulations. At the present, three of the four planned cells for Northern have been constructed with minimal filling activity occurring at this point in time, just with in Cell 3. Projections for Cell 4 and the Cap Cell are detailed in Chapter 5.

At present, most MSW generated in Carroll County is disposed of in out-of-county landfills. The difficulties associated with solid waste management, in general, have resulted in many communities transporting their wastes great distances for disposal, resulting in increased disposal costs. At present, this is not the case in Carroll County as adequate landfill space exists for many years as long as the majority of waste is not being landfilled. Siting new landfills is difficult due to increasing public opposition and because the 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 Carroll County currently has adequate landfill space, investigation is continuing into alternatives to local landfilling, including an increased emphasis on waste prevention, recycling, transfer, composting and waste-to-energy. Additional local landfill development must also be considered a contingency.

Alternatives to the reliance on landfills in Carroll County include a combination of waste minimization, education, transfer (short and long-term), composting, source separation, recycling, and waste-to-energy, all of which result in waste avoidance, residual reuse, or resource recovery but still also require minimal landfilling dependence.

Over the past 50 years, waste combustion became the first choice of many local officials nationwide. This process reduces waste volume by up to 90% and allows for continued operation of existing collection systems. Most newly constructed waste combustion plants, however, are no longer merely incinerators, but waste-to-energy facilities that convert useful thermal energy from burning solid wastes to steam and/or electricity and thus, recover valuable resources from the waste stream. The process also offsets the need to prematurely consume finite resources such as oil, gas and coal. Proposals for new combustion facilities, like those for landfills, often meet considerable public opposition. The public has concerns about effective control of air emissions from combustion plants, as well as for safe disposal of residual ash. Similarly, the public is also concerned over the potential for ground water contamination, as well as air pollution from landfills.

According to the Environmental Protection Agency (EPA), in 2013, Americans generated about 254 million tons of trash and recycled and composted about 87 million tons of this material, equivalent to a 34.3 percent recycling rate. On average, we recycled and composted 1.51 pounds of our individual waste generation of 4.40 pounds per person per day.

Packaging accounts for about one-third of all municipal waste, by weight. The largest percent of the packaging is paper, followed by glass, plastic, and metals. Because of 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, but not by volume. For example, a 1988 EPA Study concluded that while plastics accounted for only 8% of discarded materials by weight, they 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 increases and as the ability to produce disposable packing and products improves, waste volumes increase.

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During the ten-year planning period, landfills will continue to play an important role in solid waste disposal in Carroll County, even if greater use is to be made of recycling, composting, or combustion. When considering any management techniques, however, the cost must be weighed against the benefit. For example, of the approximate 120,000 tons of MSW generated in Carroll County each year, it is estimated that about 20,000 tons cannot and should not be, combusted, i.e., most construction debris, old appliances, ferrous and non-ferrous metals, glass, and other materials which will not burn. If all of the 100,000 tons remaining were combusted, over 25,000 tons would end up as ash or residue, which must be managed somehow, landfilling being an option.

Carroll County, like many other communities, has turned to recycling as a partial response to the need to maximize landfill capacity and minimize environmental impact. Theoretically, most consumer discards can be recycled, but in practice, recycling handles about the same percentage of the waste stream nationally as combustion. In 1992, about 13% of the municipal waste stream was recycled, up from 6.7% in 1990. Carroll County's original drop-off oriented program resulted in recycling of approximately 6% of the waste stream. Carroll County has also instituted a hauler mandated curbside program that has achieved the former 15% State recycling mandate and now meets the new 35% recycling goal.

Composting, like other recycling techniques, is a proven technology and 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, however, does not have the history of success experienced with other waste streams. As technologies evolve, 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.

All of the management options previously discussed assume waste generation. It is true that Carroll County must be realistic in its waste projections. It is also true that a strong emphasis on education to reduce the waste stream through consumer response and County purchasing policies, over the long term, is necessary. If we can reduce our reliance on technological treatment and disposal options by reducing the waste stream, then management will become less of a long-term concern.

In addition, as recycling is further utilized in Carroll County, its effect on the other aspects of solid waste management (i.e., landfills) will be regularly reassessed. During the ten-year planning period, the Solid Waste Management Plan for Carroll County will involve waste prevention/source reduction, recycling, yard trimmings and mulching, composting, landfill mining, leachate recirculation, C&D recycling, electronics recycling, transfer of the majority of MSW and minimal use of the Northern Landfill for disposal.

The Plan should be reviewed, and amended if necessary, as required or at a minimum, every three (3) years (Section 9-503 of the Environment Article, Annotated Code of Maryland), and an assessment of trends in volumes requiring ultimate disposal will be performed over that period and adjustments made. This planning effort will continue to assess the potential for use and reliance on waste management technologies other than landfilling, considering lead time necessary to design, license, and construct any new solid waste management facility.

1.0 GOALS, OBJECTIVES AND POLICIES ESTABLISHED BY THIS PLAN

1.1 GOAL

The overall goal of this Solid Waste Management Plan is to provide for facilities that are adequate to treat, recover, or dispose of solid waste in a manner that is consistent with the applicable State, Federal, and local laws and regulations that relate to air pollution, water pollution, and land use. The Plan's ultimate intent is the effective implementation of an integrated system of solid waste management and recycling that allows sufficient flexibility to react to changes in regulations, technology and market conditions.

1.2 OBJECTIVES

To effect the goal and to ensure compliance with existing applicable Federal, State, and local laws and regulations. The Plan has a number of implementing objectives:

1. To minimize the rate of waste generation through education and source reduction;
2. To encourage and facilitate the recovery, reuse and recycling of material within the waste stream;
3. To maintain, at a minimum, the MRA recycling mandate of 35%;
4. To decrease the volume of residual waste, which must be managed;
5. To efficiently manage all waste generated in Carroll County from the point of generation through ultimate disposal;
6. To provide for adequate facilities and programs to achieve these goals, for a ten-year planning period and beyond;
7. To operate a transfer capability in a manner that optimizes the delivery of Carroll's MSW to other final disposal sites; and
8. To implement a County policy that considers landfilling a "last resort" in the waste management hierarchy.

1.3 POLICY

In order to implement and manage a plan of this type, policies must be adopted that will not only encourage, promote, and enforce a clearly developed "Integrated Solid Waste Management Program", but also integrate the principles of that plan throughout County Government.

OVERALL POLICIES:

A Solid Waste Enterprise Fund will be maintained through which all 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, and financial assurances. The applicable roles are those required by subtitle "D" of the Resource Conservation and Recovery Act (RCRA) primarily found in the Code of Federal Regulations in 40CFR 257 and 258, as well as the Code of Maryland Regulations (COMAR) in Section 26.

Also those 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 or other special generation fees.
- Sale of assets and materials or energy generated.
- Interest.
- Issuance of bonds.
- License fees.
- Grants and loans.

Each incorporated town within the County should form a solid waste management committee, or commission, to assess waste management in the jurisdiction and to develop individual solid waste management plans.

Incorporated municipalities are also encouraged to coordinate solid waste management efforts with other municipalities as well as with the County to maximize system efficiency and effectiveness.

Regulatory controls over 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

Article 66B, added to the Maryland Code in 1927 and was entitled "Zoning and Planning", delegates basic planning and land use regulatory powers to the State's municipalities, Baltimore City, and non-charter counties. The present organization of the Article is the result of a substantial revision in 1970 and the passage of the Economic Growth, Resource Protection, and Planning Act of 1992.

Article 66B is permissive, that is, it allows but does not require jurisdictions to exercise the powers delegated. If these powers are exercised, however, they must be exercised in accordance with the applicable provisions in the statute.

Article 66B 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.

In 2000, the General Assembly did a comprehensive revision to Article 66B. It is now called “Land Use” (rather than “Zoning and Planning”). It has also been amended in 1991, 1995 and 2001. The Carroll County local provision is now Section 14.03 (rather than 5.05 or 5.08). The Planning Commission annual report is now sent to the Secretary of the Maryland Department of Planning (rather than Director of the Maryland Office of Planning).

Carroll County has chosen to avail itself of the authority granted under 66B and has developed and adopted a Master Plan and related ordinances that regulate land development and use. In addition, all of the incorporated municipalities within Carroll County have also exercised that authority.

It is critical that other county policies, ordinances and plans reflect the philosophy of the Master Plan. The Solid Waste Management Plan is developed to be in conformance with adopted county and comprehensive town land use plans:

- 1) it is an integrated Plan that balances environmental resource management, public health, economics and functional solid waste system management needs that Carroll County anticipates over the period of the Plan;
- 2) it considers special needs of the County’s targeted growth areas;
- 3) it provides for flexibility in management and for regular review and amendment;
- 4) recognizes that the sensitivity of environmental resources is a factor in solid waste decisions.

1.5 CONSISTENCY WITH LOCAL PLANNING GOALS

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

1.6 THE COUNTY GOVERNMENT STRUCTURE IN RELATIONSHIP TO SOLID WASTE MANAGEMENT

1.6.1 INTER-DEPARTMENTAL COORDINATION REGARDING SOLID WASTE MANAGEMENT

Since the 2003 reorganization, the responsibility for the management of the County's solid waste falls under the Department of Public Works.

The present structure of the County Government consists of the elected Board of five Commissioners each representing his or her home district, supported by departmental staff (see Figure 1-1). The Department of Public Works is responsible for solid waste program management, including recycling, and for the daily operations of landfills and recycling facilities, as well as any other waste management facility, new facility construction and facility compliance. The Office of the Comptroller is responsible for managing the Solid Waste Enterprise Fund, for the collection of tipping fees and revenues, and hauler licensing.

The Carroll County Office of Environmental Compliance provides assistance with regulatory environmental technical tasks needed to support regulatory compliance.

1.6.2 PUBLIC PARTICIPATION IN SOLID WASTE MANAGEMENT PLANNING

1.6.2.1 THE CARROLL COUNTY ENVIRONMENTAL ADVISORY COUNCIL

The Carroll County Board of Commissioners established the Carroll County Environmental Affairs Advisory Board (EAAB) in November of 1990. The EAAB was created in order to participate in the development of broad policy plans designed to assist the County Commissioners on issues of environmental concern.

In 2003 the County Commissioners reconfigured the EAAB into a new entity known as the Environmental Advisory Council (EAC). The EAC continues the role of providing for public input.

The existence of the EAC serves to provide the citizens of Carroll County with a medium to remain informed on issues of environmental concerns affecting the County, including solid waste management (see Appendix A). Its existence also provides an opportunity for outreach to the community and an opportunity for the public to be involved in, question, and comment on the processes that have a direct effect on them.

The EAC is responsible for providing the Board of County Commissioners with specific recommendations for action by the County that should result in improvements to the environment. These recommendations may include a proposal for work programs whose adoption and implementation shall be subject to approval by the County Commissioners.

The function of the EAC is to serve as a public advisory body to the Carroll County Commissioners on environmental matters; the EAC does not have approval authority, but does serve to advise the elected Board.

The EAC holds monthly meetings; however, special meetings may also be called. All meetings of EAC are open to the public and public notices of the meetings are advertised through the local media.

1.6.2.2 AD-HOC COMMITTEES

One of the purposes behind the formation of the EAC was that it would effectively minimize the need for appointment of individual ad-hoc committees. Regardless of that, there are always circumstances that arise that necessitate the need for an ad-hoc approach. For example, some issues require the appointment of individuals with specific expertise. In situations such as this, the ad-hoc committee may either be Commissioner appointed or may be a sub-committee of the EAC. Even when these committees are Commissioner appointed, there is often a member of the EAC appointed in consideration of the need for comprehensive environmental management.

The County Commissioners appointed seven members to serve on the Solid Waste Advisory Council (SWAC). The Council is an ad-hoc committee and was created to advise the Carroll County Department of Public Works, Bureau of Solid Waste, on selected matters relating to administration, operation, capital projects, and the budget of the bureau as needed. The Council will provide a forum for the advisory input from users of the County's solid waste facilities.

There are a number of ad-hoc committees that had been appointed during the history of the Solid Waste Management Plan to address specific solid waste related issues:

1) A Solid Waste Workgroup was a predecessor to the SWAC, formed to develop a long range plan that includes solid waste management strategies capable of reducing the County's municipal solid waste stream. The Solid Waste Workgroup presented their recommendations to the Board of County Commissioners which included both short and long term recommendations. Some of the short term recommendations include: purchase and distribute more recycling containers; place dumpsters at remote sites, develop educational materials for haulers, municipalities and residents; pursue commercial composting; encourage County waste haulers to use volume based billing; create a small scale C&D recycling operation and establishing a material recovery facility. Some of the longer range recommendations include: establish a resource recovery park at Northern Landfill and continue to investigate emerging technologies. The Workgroup also recommended the creation of a recycling task force.

2) A Recycling Committee

3) For a period of time the County was holding regular meetings with the independent haulers. The regular meetings are no longer held; however, the hauling companies are often consulted on solid waste issues and are always represented on committees that are charged to address solid waste issues.

4) A committee was also appointed to study the feasibility of the County providing waste pick-up services to County residents. The Committee studied each option including services by County employees, franchise hauling and regionalization with competitive bidding for routes controlled by the County. The Committee completed its work divided on the merits of contract hauling. The committee agreed that performing work with County personnel was not cost effective; however, they were divided on whether to regionalize and issue bids for contract haul routes.

5) Another committee considered the merits of using waste-to-energy technology in Carroll County. That Committee examined alternative technologies and considered the environmental, economic and engineering characteristics of each in order that an informed recommendation could be made. They were also tasked with making a recommendation regarding the potential for regional cooperation with neighboring counties in solid waste management. The Committee did not recommend waste-to-energy development in Carroll County. They did indicate that participation in a regional facility may be warranted and that MSW composting should be given consideration.

In addition to appointed public committees, the Commissioners solicit public comment on any public document formally adopted by the Board. This was true when the Solid Waste Ordinance was adopted as well as this Solid Waste Management Plan. The public is a critical component in the development, adoption and implementation of any plan. County staff involved the EAC with the original Plan and the SWAC with this current

Plan in its development, policy recommendations of the aforementioned ad-hoc committees, and the public.

1.6.2.3 INTER-GOVERNMENTAL COOPERATION

The structure of government extends over the County, except for the eight incorporated municipalities: Hampstead, Manchester, Mount Airy, New Windsor, Sykesville, Taneytown, Union Bridge and Westminster. Most of the incorporated towns have contracted hauler services including curbside recycling. None, however, have any utilization or disposal facilities and none have their own solid waste management plans. Most of the County's municipalities rely on County-run or private facilities for solid waste management and final disposal.

1.6.2.4 REGIONAL COOPERATION

Carroll County is now, and has been, involved in several efforts designed to investigate the potential for regional cooperation in solid waste management.

1) In 1988, Carroll County co-sponsored a regional solid waste management study with Frederick, Howard, and Washington counties. The prime contractor of the study was the Northeast Maryland Waste Disposal Management Authority with a subcontract to Girshman, Bricker and Bratton of Falls Church, Virginia. The study addressed the potential for regional cooperation among the four counties. Topics included all forms of management including recycling facilities, landfills and combustion. The study concluded with a draft report issued in 1990. New administration taking office in the Fall of 1990 met with the other involved counties and decided that any establishment of regional facilities would require additional work. No decision was made regarding the possibility of regional cooperation; however, Carroll County continues to be interested in the possibility.

2) Another regional effort was initiated in 1991. The Baltimore Regional Council sponsored a series of meetings with member jurisdictions (Baltimore City, Baltimore, Anne Arundel, Howard, Harford and Carroll counties) designed to investigate regional possibilities. In 1992 a compact was signed by all of the member jurisdictions that commits them to continue to investigate these alternatives. As with the four-county effort discussed above, Carroll County could work with the other jurisdictions in the region toward a common goal of sound regional waste management. The working group was facilitated by the Northeast Maryland Waste Disposal Authority.

3) A third regional effort was initiated by the Baltimore Metropolitan Council (BMC) members in the Spring of 1995. BMC established a partnership with the Northeast Maryland Waste Disposal Authority and the Maryland Environmental Service (MES) and received strong commitment from member subdivision to develop a program to implement the compact goals by Spring of 1996. The Strategies for Developing Regional Solid Waste Management Program's final report was presented in September 1996.

4) In 1996, the County sought legislation approval to join the Northeast Maryland Waste Disposal Authority (NMWDA). This was granted, and since

1997, Carroll has been a member. This group provides regional perspective, advice, and funding capability to Baltimore City, Baltimore County, Harford, Anne Arundel, Howard, Montgomery, Frederick and Carroll. Carroll's Deputy Director of Public Works is on the Board of Directors.

5) Carroll's membership in the Northeast Maryland Waste Disposal Authority (NMWDA) provides continual opportunities for cooperative projects amongst member jurisdictions.

1.7 GOVERNING LAWS AND REGULATIONS

Included in this Section is a discussion of the Federal, State and County laws, ordinances, and regulations applicable to Solid Waste Management in Carroll County and the State of Maryland.

1.7.1 FEDERAL LAWS AND REGULATIONS

1.7.1.1 SOLID WASTE DISPOSAL AND RESOURCE CONSERVATION AND RECOVERY ACT

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 waste, 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.

Solid Waste Disposal/Resource Conservation and Recovery Act and Major Amendments

(42 U.S.C. 6901-6991k)

Year	Act	Public Law Number
1965	Solid Waste Disposal Act	P.L. 89-272, title II
1970	Resource Recovery Act of 1970	P.L. 91-512
1976	Resource Conservation and Recovery Act of 1976	P.L. 94-580
1980	Used Oil Recycling Act of 1980	P.L. 96-463
1980	Solid Waste Disposal Act Amendments of 1980	P.L. 96-482
1984	Hazardous and Solid Waste Amendments of 1984	P.L. 98-616
1988	Medical Waste Tracking Act of 1988	P.L. 100-582
1992	Federal Facility Compliance Act of 1992	P.L. 102-386
1996	Land Disposal Program Flexibility Act of 1996	P.L. 104-119

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 (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 such 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."

While EPA is the lead agency under RCRA, the Department of Commerce is given several responsibilities for encouraging greater commercialization of resource recovery technology. The Department has not played an active role, however.

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 as long 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. 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 to EPA an inventory of hazardous waste facilities it ever owned.

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. The commission was never funded and never established, however.

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.

1.7.1.2 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. 40 CFR 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 have responsibility 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 ground water 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; however, 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. The Northeast Maryland Waste Disposal Authority (Authority) – The Authority is a public instrumentality of the State, created to assist participating member jurisdictions, other public entities, and the private sector in developing adequate waste disposal facilities, including waste-to-energy projects.

The Authority was established to act as a coordinating agency and financing vehicle for effective integrated disposal facilities that are regional in scale.

The Authority is directed by an eight-person board. Each member jurisdiction (Baltimore City, Baltimore, Anne Arundel, Carroll, Frederick, Harford, Howard, and Montgomery counties) has one representative who is appointed by the Governor to a four-year term. The Director of MES is an ex-officio member. The Authority has broad powers enabling it, in effect, to plan, construct, finance, own, and/or operate a regional waste disposal facility located within the boundaries of the member jurisdictions. The Authority has the power to acquire and sell land and property; issue bonds for the purpose of paying all or part of the cost of projects; fix rates or charges for services and facilities made available by the Authority; and solicit and enter into contracts for any appropriate Authority activity, including delivery of waste to Authority facilities, management and operation of facilities, and the sale of energy and materials.

4. Maryland Department of Health and Mental Hygiene - The Carroll 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.

1.7.3 COUNTY LAW AND REGULATION

On May 21, 1992, the Carroll County Commissioners adopted Ordinance Number 94 regulating Solid Waste Collection and Handling. 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, outlines how fees will be established and collected and provides for enforcement authority (see Appendix B). Ordinance Number 94 is now titled “Chapter 50 Code of Public Local Laws and Ordinances of Carroll County, henceforth referred to as “The Solid Waste Ordinance”.

Carroll County also maintains authority over the location of private solid waste management facilities through the Zoning Ordinance. Private rubble landfills may only be located in the Business Local (BL), Business General (BG), Agriculture (A), Industrial Restricted (IR) and Industrial General (IG) districts as a conditional use and subject to the approval of the County Board of Zoning Appeals. Sanitary landfills, transfer stations and combustion plants are subject to the same approval but are only permissible in the IR or IG zones (see Appendix C). The County also has been granted broad authority to implement solid waste projects by the State Legislature.

CHAPTER 1

TABLES

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.

Public School Plans (2009): An Act requiring a county recycling plan to address the strategy for the collection, processing, marketing, and disposition of recyclable materials from county public schools.

Fluorescent and Compact Fluorescent Light Recycling (2010): An Act requiring a county recycling plan to address the strategy for the collection and recycling of fluorescent and compact fluorescent lights that contain mercury.

Recycling – Apartment Buildings and Condominiums (2012): An Act requiring a county recycling plan to address the collection and recycling of recyclable materials from residents of apartments and condominiums that contain 10 or more dwelling units by property owners or managers of apartment buildings and councils of unit owners of condominiums. Also, if applicable, a method for implementing a reporting requirement for recyclable materials generated at apartment buildings and condominiums that contain 10 or more dwelling units.

Recycling Rate and Waste Diversion-Statewide Goals Act (2012): Requires counties to reduce its solid waste stream through recycling by at least 35% (populations over 150,000) or 20% (population under 150,000), by December 31, 2015.

Environment – Recycling – Special Events (2014): An Act requiring a county recycling plan to address the collection and recycling of recyclable materials from special events by October 1, 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 1-2
SUMMARY OF ANNOTATED CODE OF MARYLAND TITLES AFFECTING SOLID WASTE
MANAGEMENT

ANNOTATED CODE OF MARYLAND

Title 2 - Ambient Air Quality Controls

Title 5 - Water Management

Title 6 - Toxic, Carcinogenic, and Flammable Substances

Title 7 - Hazardous Materials and Hazardous Substances

Under *Title 9 - Water, Ice and Sanitary Facilities*; MDE regulates the location, design, and operation of sanitary landfills through refuse disposal permits issued and enforced under authority of the following subtitles and sections of the Environment Article:

Subtitle 5 County Water and Sewerage Plans

Subtitle 17 Office of Recycling

Section 204 Installing, Altering, or Extending Water Supply Systems, Sewerage Systems, or Refuse Disposal Systems

Section 204.1 Installing, Altering, or Extending Incinerators

Section 204.2 Installing, Altering, or Extending Landfill Systems

Section 209 Landfill System Hearings

Section 210 Prerequisites for Issuance of Permit

Section 211 Landfills, Incinerators, and Transfer Stations; Requirements for Security

Section 212 Landfill Systems - Options to Purchase

Section 212.1 Denial of Permit to Non-government Person

Section 213 Term of Permit (5 years)

Section 214 Revoking or Refusal to Renew a Permit

Section 215 Closure and Cover when Operation Ends

Section 225 Landfills near Hospital Prohibited (1/2 mile radius)

Section 226 Certification of Public Necessity Required for Hazardous Waste Landfill System

Section 227 Infectious Waste in Landfill System Prohibited

TABLE 1-3
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

CHAPTER 1

FIGURES

CARROLL COUNTY GOVERNMENT

Figure 1-1

CARROLL COUNTY GOVERNMENT

COUNTY COMMISSIONERS

Stephen A. Wantz, *President*
C. Richard Weaver, *Vice President*
Dennis E. Frazier, *Secretary*
J. Douglas Howard
Richard S. Rothschild

County Administrator
Roberta Windham

Administrative Hearings
Public Information
TV Productions

*Department of
Citizen Services*
Christine C. Kay, Director

Aging & Disabilities
Housing
Local Management Board

*Department of
Comprehensive Planning*
Philip Hager, Director

Comprehensive Planning

*Department of the
Comptroller*
Rob Burk, Comptroller

Accounting
Collections
Purchasing

*Department of the
County Attorney*
Tim Burke, County Attorney

Legal Services

*Department of
Economic Development*
Jack Lyburn, Director

BERC Small Business Dev
Farm Museum Tourism

*Department of
Human Resources*
Kim Frock, Director

Information Desk
Personnel Services

*Department of
Land & Resource
Management*
Tom Devilbiss, Director

Ag Preservation Resource Mgt
Development Review Zoning Admin

*Department of
Management & Budget*
Ted Zaleski, Director

Budget
Grants Management
Risk Management

*Department of
Public Safety*
Scott Campbell, Director

911 Center
Emergency Management

*Department of
Public Works*
Vacant, Director

Airport Operations Permits & Inspections
Building Construction Roads Operations
Engineering Solid Waste
Facilities Utilities
Fleet Management/Warehouse

*Department of
Recreation & Parks*
Jeff Degitz, Director

Recreation
Parks

*Department of
Technology Services*
Mark Ripper, Director

Production Services
Cable Regulatory Commission

2.0 PHYSIOGRAPHIC LAND USE AND DEMOGRAPHIC CHARACTERISTICS OF CARROLL COUNTY

This chapter outlines Carroll County's present and projected population, its physical and cultural geography and land use. It also presents a general overview of the County's Master Plan. Data on population and land use provides the basis for waste generation projections (both volume and composition) and thus become basic factors on waste management decisions.

2.1 GEOGRAPHY

Carroll County is located in the Piedmont region of north central Maryland. It is bounded to the north by Pennsylvania, on the south by Howard County and lies west of Baltimore and east of Frederick counties (see Figure 2–1). It encompasses just under 456 square miles and extends approximately 27 miles in length and width at its widest point (See Figure 2–2). Elevations range from 300 feet above sea level in the southeastern corner to 1,080 feet near Manchester in the northeast. Carroll County is divided diagonally by Parr's Ridge, which slopes gradually from an elevation of nearly 1,100 feet in the northeast corner of the County, near Dug Hill, to about 750 feet near Mount Airy in the southwest and divides the Piedmont into its eastern and western regions. MD Rt. 27, the major northeast-to-southwest highway corridor, roughly parallels this ridge. The ridge divides the County into two major drainage basins: streams to the north and west drain into the Monocacy and eventually the Potomac River, and streams to the south and east flow into the Patapsco or Gunpowder Rivers towards the Chesapeake Bay.

Created by an act of the General Assembly in 1836, Carroll has been considered rural and agricultural. However, Carroll County is within commuting distance of both the Baltimore and Washington, D.C. metropolitan areas (see Figure 2–1). This fact has placed considerable development pressure on especially the southern and eastern portions of the County. To date, the far northwest quadrant has been less affected.

The County has eight incorporated municipalities. Those towns are: Westminster (the county seat), located in the center of the County along MD Rt. 140; Manchester and Hampstead, located along MD Rt. 30 to the northeast; Sykesville, located in the south-central portion of the County along MD Rt. 32; New Windsor and Union Bridge, located west of Westminster toward the Frederick County line; Taneytown, at the intersection of MD Rts. 194 and 140 in the northwest; and Mount Airy, located at the intersection of U.S. Rt. 70 and MD Rt. 27 in the far southwest corner adjacent to both Frederick and Howard Counties. The County also hosts two Federal facilities. (see Figure 2–2)

2.2 CLIMATE

Temperature and precipitation data is given in Table 2–1. The data was compiled by Carroll County's Bureau of Emergency Services Operations. Generally, the coldest period of year is late January and early February; conversely, the warmest period is the last half of July. The highest temperature on record in the County is 105° Fahrenheit at Taneytown on July 17, 1900, while the lowest is –23° Fahrenheit at Bachman's Valley on February 11, 1899. The distribution of monthly precipitation is fairly uniform during the year with a slight increase in August. The heaviest precipitation during the colder half of the year is generally the result of low-pressure systems moving northeastward along the Atlantic Coast; in summer, it occurs in thunderstorms. The greatest one-day precipitation is 11.55 inches at Westminster on June 22, 1972 when tropical storm Agnes swept through Maryland. Thunderstorms occur on an average of thirty days per year. While they may occur in any month, 75% occur in the months of May through August.

Prevailing surface winds are from west-northwest to northwest except during the months of May through September when they become more southerly. The average annual wind speed is about nine miles per hour. Damaging or dangerous storms, such as tornadoes, hurricanes, and blizzards, are rare but do occasionally occur.

2.3 DEMOGRAPHY

Carroll County's population was estimated to be 170,551 in December 2015. Consistently, the greater densities of population are found in southern and eastern portions of the County and within the environs of the County's eight incorporated municipalities. The population of Carroll County increased significantly during the period from 1960 to 1970, increasing approximately 31% over the period. In the next decade, 1970 to 1980, the overall rate increased to just under 40%. Although the percentage rates of increase decreased in the ensuing decades, from a 40% increase to 22% in the decade from 1990 to 2000, the numerical increase was relatively consistent at around 27,000 individuals per decade from 1980 through 2000. A 2.5% increase was realized through the period from 1990 through 2005 with the actual population increase dropping to just under 20,000. There has been a 3% population increase from 2005 through 2015 (see Table 2-2).

2.4 CARROLL COUNTY MASTER PLAN

2.4.1 THE HISTORIC PREMISE OF THE MASTER PLAN

From the time of its founding in 1837 until the late 1950s, Carroll County was basically a rural farming community interspersed with small towns and villages where trade, civic, and cultural activities took place. In 1959, realizing that growth was inevitable given the County's geographic location, the Board of County Commissioners appointed the County's first Planning and Zoning Commission and by 1964, the first Master Plan was formulated and adopted for Carroll County. In addition, each of the County's eight municipalities have since adopted a community comprehensive plan, as well as two additional small area plans for the Finksburg and Freedom unincorporated areas of the County. These community comprehensive plans address issues and future land use patterns at the smaller community level. These plans include municipal boundaries and the identified annexation areas surrounding them. These areas as a whole, including the Finksburg and Freedom areas, comprise the County's Designated Growth Areas (DGAs).

During the past 50 years, community comprehensive plans and small area amendments to the original County Master Plan have been made, and new elements have been added. Considerable changes have taken place since the first County Master Plan was adopted in 1964. However, the basic premises and visions of the original Master Plan have not changed. The current Carroll County Master Plan was updated in 2014 and adopted February 26, 2015

2.4.2 THE VISION AND GOALS OF THE CARROLL COUNTY MASTER PLAN

VISION

To choose a vision, a community first must develop a mental image of a realistic, and at the same time, idealistic future state. A vision should respect the rights and wishes of individual property owners while simultaneously articulating a feasible, achievable and attractive future for the community. The process of developing a vision helps to empower members of the community. A shared vision builds community, cooperation and coordination between the public and private sectors, and civic leaders and residents. The purpose of the vision statement is to serve as a guide to civic leaders when making planning and development related decisions.

Carroll County's vision for its future is:

“Carroll County is a great place to live, work, and play. The County conserves and promotes its unique rural agricultural heritage, protects its environmental resources, and promotes a balanced approach to new development and economic opportunities consistent with the fabric of its communities. Carroll County values, and citizens' unalienable rights of life, liberty, and property, are respected, protected, and sustained.”

GOALS

To promote the public health, safety, and welfare, Carroll County will achieve its vision through the following goals (in no particular order of priority):

Goal 1 - Promote communication and coordination between and among the County, the municipalities, and state and regional jurisdictions on projects and issues of mutual concern. Encourage the involvement of the community in developing, amending, and implementing the Master Plan.

Goal 2 - Ensure respect for unalienable individual rights; encourage community involvement in planning in an open two-way communication process; encourage the involvement of the community in planning and implementing the Master Plan; provide participants with a balanced perspective on planning goals while promoting the need to respect private property rights; and accurately advise participants of the tradeoffs between various forms of development based on real-world effects.

Goal 3 - Protect and enhance the water quality of Carroll County's rivers, streams, reservoirs, and aquifers; comply with applicable state and federal requirements related to water quality and quantity; and maintain and protect adequate water supplies to serve current and planned development.

Goal 4 - To the extent feasible, provide adequate and appropriate Community Investment Plan funds to support public facilities and services. Provide an affordable, coordinated, and comprehensive system of community educational opportunities, facilities, and resources, including schools and libraries, which enhance our communities.

Goal 5 - Provide a safe and functional intra-County transportation system that promotes access and mobility for people and goods through a variety of transportation modes.

Goal 6 - Encourage a range of housing types, density, and affordability.

Goal 7 - Preserve at least 100,000 acres of agricultural land to support the production of agricultural products and promotion of related agribusiness.

Goal 8 - Preserve 80 percent of undeveloped land in the Priority Preservation Area, as adopted by the Board of County Commissioners.

Goal 9 - Provide an affordable, coordinated and comprehensive system of public and private parks, recreational facilities and programs, and open space that will enhance our communities.

Goal 10 - Preserve the county's historic, cultural, scenic, and architectural heritage.

Goal 11 - Protect, maintain, and restore, where feasible, the environmental resources and natural ecosystems in the County by promoting land use practices that are in balance with, and minimize the effects on the natural environment, subject to appropriate cost/benefit analysis.

Goal 12 - Protect certain mineral resources of current and future economic importance from preemptive land uses and to ensure availability for recovery in a manner that minimizes impacts to surrounding areas; and for reclamation purposes, assure recovery to an environmentally sensitive, aesthetically pleasing condition.

Goal 13 - Promote a healthy economy and additional employment opportunities by: (a) supporting the retention and expansion of existing businesses including agribusiness through sensible land use policies; (b) focusing on development and redevelopment of existing vacant and underutilized commercial and industrial properties; (c) providing land appropriately located and zoned for a variety of types and intensities of new economic development activities; and (d) maintaining a desirable balance between economic development and residential development.

Goal 14 - Facilitate a development pattern that remains consistent with the fabric of our communities, is in harmony with the surrounding built and natural environments, encourages community interaction and, in rural areas, preserves the County's rural character.

Goal 15 - Pursue policies that facilitate development in appropriate areas, including the Designated Growth Areas, thereby protecting and conserving agricultural and environmental resources, preserving open space, and providing public facilities and services efficiently and cost-effectively.

2.4.3 IMPLEMENTATION OF THE CARROLL COUNTY MASTER PLAN

Water Resources

Protect and enhance the water quality of Carroll County's rivers, streams, reservoirs, and aquifers; comply with applicable state and federal requirements related to water quality and quantity; and maintain and protect adequate water supplies to serve current and planned development.

Carroll County and its municipalities worked collaboratively to develop one unified Water Resources Element (WRE) document adopted by all of Carroll County's jurisdictions to satisfy the requirements of HB 1141. As a result, in 2010, the Board of County Commissioners and seven of the municipalities adopted a WRE that addressed both the County as a whole, as well as the individual adopting municipalities.

Public Facilities & Services

To the extent feasible, provide adequate and appropriate C[ommunity] I[nvestment] P[lan] funds to support public facilities and services. Provide an affordable, coordinated, and comprehensive system of community educational opportunities, facilities, and resources, including schools and libraries, which enhance our communities.

Providing public facilities and services for the safety, health, and welfare of the County's citizens is a primary function of a local government. Public roads, water and sewer systems, schools, community colleges, libraries, parks and recreational sites, and public buildings are all facilities and/or infrastructure that may be provided by government. Police protection, fire and emergency medical services (EMS), public education, infrastructure maintenance, senior centers, and

recreational programs are some of the services provided. Providing services and maintaining facilities and infrastructure contributes to the health and quality of life of a community.

Transportation

Provide a safe and functional intra-County transportation system that promotes access and mobility for people and goods through a variety of transportation modes.

The transportation network in and around Carroll County provides access for people and products to small local markets as well as large metropolitan areas. The Carroll transportation system contains roadways, railways, trails and airways. This system enables citizens to work at the nearby employment centers of Baltimore and Washington while still residing in an area seen as offering a high quality of life. The increasing pressures being placed upon Carroll's transportation network by the commuting public and continuing declines in levels of service indicate that the transportation system needs attention.

Housing

Encourage a range of housing types, density, and affordability.

Shelter is a primary need in every community. As Carroll County continues to grow housing stock must keep pace with demand or the increased demand will drive up housing prices. However, keeping up with demand is not the only concern. To support a larger resident population and increased economic growth, adequate housing must be provided that meets the needs of a diverse population in terms of differing income levels, preferences for single- and multi-family housing, and options to purchase or rent.

Agriculture

Preserve at least 100,000 acres of agricultural land to support the production of agricultural products and promotion of related agribusiness.

The preservation of agricultural land and the continuation of farming and agribusiness uses have traditionally been a major priority in Carroll County. Approximately 141,934 acres, or 49.3 percent of the land area of the County, is currently being used for agriculture. The majority of the active farms in the County are on lands currently zoned Agricultural or Conservation. The agricultural preservation goal is directed at protecting the land used for agriculture. Maintenance of a large agricultural land base will ensure that farming can continue into the future. Farmland is preserved by working with willing landowners to promote agricultural use of their property through conservation easements that prohibit development in perpetuity.

Priority Preservation Area

Preserve 80 percent of undeveloped land in the Priority Preservation Area, as adopted by the Board of County Commissioners.

The Agricultural Stewardship Act of 2006 (HB 2), passed by the Maryland General Assembly, required that those counties, including Carroll, that are certified by the state as operating a successful local agricultural land preservation program also establish Priority Preservation Areas (PPAs) in their comprehensive plans. There are two sets of requirements for managing the PPA, relating to conditions in the PPA itself and the County Master Plan, respectively.

Parks

Provide an affordable, coordinated and comprehensive system of public and private parks, recreational facilities and programs, and open space that will enhance our communities.

Carroll County has approximately 12,227 acres of publically-owned lands available to residents for various types of recreational activities. These open space areas range from scenic, natural places, such as Hashawha Environmental Center, Piney Run Park, Morgan Run Natural Environmental Area (NEA) and the land around Liberty Reservoir, to high activity parks such as Taneytown Memorial Park, Freedom Park, the Westminster Municipal Pool, or Sandymount Park. Included in this acreage are public school sites whose playing fields are used by the entire community; reservoir areas that abound with hiking, fishing, and other recreational opportunities; state park lands in the County and municipal parks. All told these opportunities provide nearly 47.6 acres of park land per 1,000 people (or 0.0476 acres per person) of publicly-owned park land or open space per person to Carroll County's citizens.

Heritage

Preserve the County's historic, cultural, scenic, and architectural heritage.

Historic resources and natural attractions give a community its identity. These resources provide a sense of who we are, where we came from, and where we may be going. Conservation of these important assets helps us to understand the present as a product of the past and as a modifier of the future. Protecting these buildings and landscapes conserves tangible and visible links with a community's past, preserves places that are important parts of a community's identity, and retains important resources that may provide historical information about how an area was settled, developed, or declined.

Environmental Resources

Protect, maintain, and restore, where feasible, the environmental resources and natural ecosystems in the county by promoting land use practices that are in balance with, and minimize the effects on the natural environment, subject to appropriate cost/benefit analysis.

Development on properties with environmental resources can vary greatly depending on the location, magnitude, type, and site design in regard to preserving these resources. Nearly every modification to the natural landscape, whether it is farming, construction of buildings, roads, sheds, patios or decks, impacts the quality of environmental resources. The County's commitment to manage these impacts is evidenced through its partnerships, programs, policies, regulations and watershed/Bay related analyses intended to conserve natural and environmental resources, and improve local water quality of groundwater sources and local feeder streams that eventually flow into the Chesapeake Bay.

Mineral Resources

Protect certain mineral resources of current and future economic importance from preemptive land uses and to ensure availability for recovery in a manner that minimizes impacts to surrounding areas; and for reclamation purposes, assure recovery to an environmentally sensitive, aesthetically pleasing condition.

Approximately 4,020 acres of Wakefield Marble exist in western areas of the county, specifically land that lies between Westminster, New Windsor, and Union Bridge. Due to preemptive land development, less than 1,600 acres of this resource is considered for present and future recovery.

Employment/Economic Development

Promote a healthy economy and additional employment opportunities by: (a) supporting the retention and expansion of existing businesses including agribusiness through sensible land use policies; (b) focusing on development and redevelopment of existing vacant and underutilized

commercial and industrial properties; (c) providing land appropriately located and zoned for a variety of types and intensities of new economic development activities; and (d) maintaining a desirable balance between economic development and residential development.

A healthy economy and ample employment opportunities are essential to maintaining a high quality of life in the County. Not only does a healthy economy promote the expansion and retention of existing businesses, it also encourages new businesses to consider locating in Carroll County. This, in turn, provides County residents with increased job opportunities and more buying power to support local businesses. Of equal importance is the effect a healthy economy has on the provision and cost of services to both County residents and businesses.

Land Use & Growth Management

Facilitate a development pattern that remains consistent with the fabric of our communities, is in harmony with the surrounding built and natural environments, encourages community interaction and, in rural areas, preserves the County's rural character.

Pursue policies that facilitate development in appropriate areas, including the designated growth areas, thereby protecting and conserving agricultural and environmental resource areas, preserving open space, and providing public facilities and services efficiently and cost-effectively.

Development in Carroll County has been guided by a master plan since 1964. The basic premise of the plan has been to direct development into and around the County's nine Designated Growth Areas (DGAs) while retaining the rural character and agricultural use of the surrounding land. Implementation of that premise was strengthened in 1978 through the adoption in the subdivision regulations of a lower density lot yield calculation formula for properties in the Agricultural Zone.

2.4.4 CARROLL COUNTY ZONING ORDINANCE

County Zoning Ordinance restricts Sanitary Landfills, Solid Waste Transfer Stations and Solid Waste Incinerators to Restricted Industrial (I-R) and General Industrial (I-G) districts. Sanitary landfills are conditional uses under Sections 158.079 (I-R) and 158.080 (I-G). Sewage sludge storage is covered by Section 223-26. County facilities are covered by Section 158.051 of the Code.

A complete description of both Industrial Districts is included as an Appendix C of this document.

These two zoning categories restrict the location of any type of privately-owned solid waste management facility to those zones. County-owned facilities, however, are not restricted in that manner, as specified (Section 158.049 County Public Buildings, Structures, and Uses).

It must be noted that this Solid Waste Management Plan shall not be used to create or enforce local land use and zoning requirements.

CHAPTER 2

TABLES

**TABLE 2-1
AVERAGE TEMPERATURE & PRECIPITATION
CARROLL COUNTY**

Month	Average Temperature*/ Departure from Normal	Average Precipitation**/ Departure from Normal
January	34.5/+4.8	3.61/+0.71
February	38/+5.8	1.43/-1.17
March	40.2/-1.7	4.8/+1.4
April	53.4/+1.6	3.9/+0.4
May	57.9/-4	2.6/-1.7
June	74.6/+4.3	3.65/-0.25
July	78.4/+3.9	7.12/+3.32
August	78.3/+5.3	1.21/-2.19
September	71.6/+5.4	0.08/-3.52
October	57/+2	9.04/+5.84
November	48.7/+3.7	3.49/+0.19
December	32.1/-2.2	2.36/-0.94
Totals Compared to Annual Average	55.3/+2.2	43.29/+2.09

* Fahrenheit ** Inches

Source: Carroll County Office of Public Safety
NWS Cooperative Wx Observer - Mike Valentine

**TABLE 2-2
POPULATION ESTIMATES BY ELECTION DISTRICT
CARROLL COUNTY, MD
2015-2030**

Election District	E.D. #	2015	2020	2025	2030
Taneytown	1	9,728	10,460	11,042	11,087
Uniontown	2	4,082	4,144	4,150	4,224
Myers	3	5,528	5,615	5,664	5,742
Woolerys	4	18,168	18,297	18,567	18,933
Freedom	5	28,816	29,774	30,172	30,858
Manchester	6	14,448	14,908	15,277	15,729
Westminster	7	37,050	38,146	38,940	39,887
Hampstead	8	15,457	15,732	15,907	16,121
Franklin	9	7,562	7,705	7,800	7,941
Middleburg	10	1,516	1,534	1,541	1,551
New Windsor	11	3,954	4,192	4,211	4,246
Union Bridge	12	1,555	2,012	2,240	2,289
Mt. Airy	13	10,166	10,635	11,037	11,531
Berrett	14	12,520	12,747	12,897	13,116
Total		170,551	175,900	179,445	183,255

Source: Carroll County Department of Planning – 2014

**TABLE 2-3
HOUSEHOLD & POPULATION PROJECTIONS
CARROLL COUNTY, MD
2015-2030**

	2015	2020	2025	2030
Total Population	170,551	175,900	179,445	183,255
Household Population	167,182	172,426	175,901	179,636
Total Households	64,142	66,216	68,021	69,692
Average Household Size	2.74	2.74	2.72	2.71

Source: Carroll County Department of Planning – 2014

**TABLE 2-4
POPULATION COMPARISONS
1970 – 2030
BALTIMORE METROPOLITAN REGION
(IN THOUSANDS)**

Jurisdiction	1970	1980	1990	2000	2010	2020	2030
Anne Arundel County	298.0	370.8	427.2	489.7	537.7	580.0	606.7
Baltimore City	905.8	786.7	736.0	651.2	621.0	634.1	651.1
Baltimore County	620.4	655.6	692.1	754.3	805.0	847.0	862.2
CARROLL COUNTY	69.0	96.4	123.4	150.9	167.1	175.9	183.3
Harford County	115.4	145.9	182.1	218.6	244.8	258.7	273.2
Howard County	62.4	118.6	187.3	247.8	287.1	332.3	357.1
REGION TOTAL	2,071	2,174	2,348	2,512	2,663	2,828	2,934
STATE TOTAL	3,924	4,217	4,781	5,296	5,774	6,225	6,612

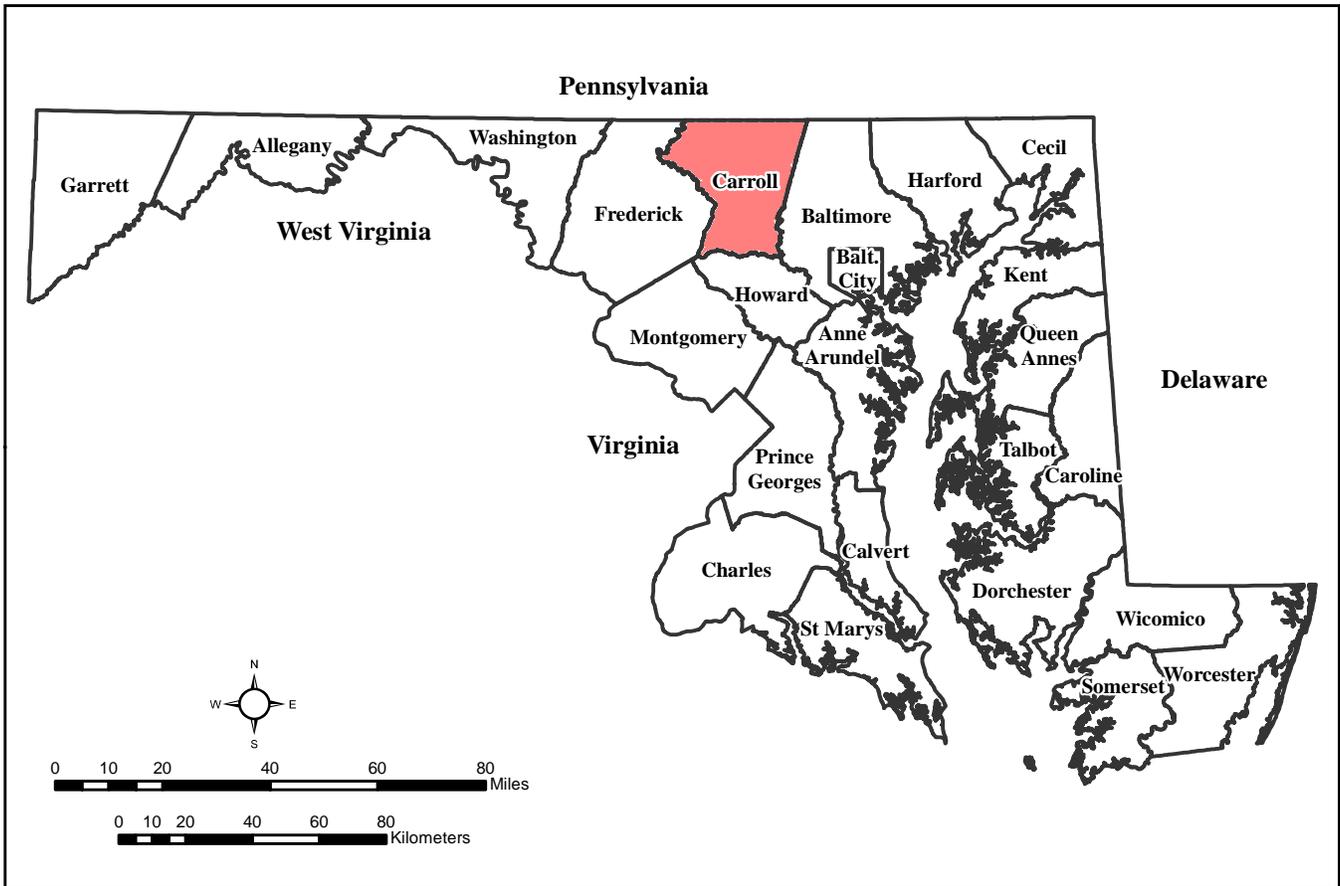
Source: Maryland Department of Planning – July 2014

CHAPTER 2

FIGURES

Location Map

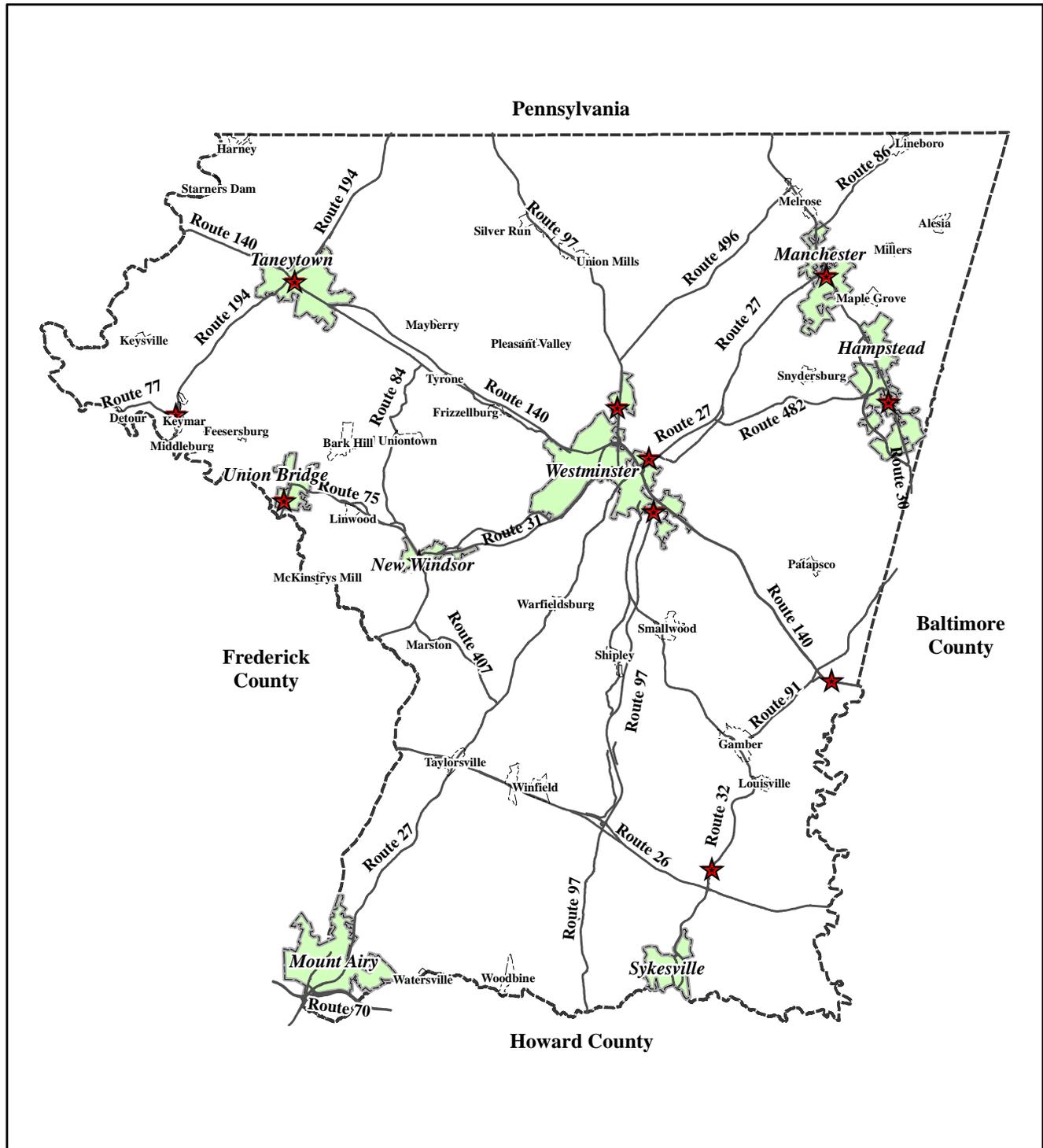
Figure 2-1



Location Map
Carroll County, MD
Ten Year Solid Waste Management Plan
2016
Figure 2-1

Carroll County Map

Figure 2-2



Legend

★ Federal Facility



0 1.25 2.5 5 7.5 10 Miles

0 1.25 2.5 5 7.5 10 Kilometers

Carroll County Map
Carroll County, MD
Ten Year Solid Waste Management Plan
 2016
 Figure 2-2

3.0 THE EXISTING SOLID WASTE MANAGEMENT SYSTEM IN CARROLL COUNTY

3.1 EXISTING AND PROJECTED WASTE GENERATION, BY CATEGORY

Carroll County was not developing accurate data on Municipal Solid Waste (MSW) until 1990 when landfill scales were put into operation. Since that time, the management-information needs have added new categories of waste. This 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; and
- 12) Other wastes, i.e., grease, that may be potentially generated in significant volumes, would necessitate specialized handling as a result of their character.

3.1.1 WASTE GENERATED IN CARROLL COUNTY

3.1.1.1 RESIDENTIAL WASTE GENERATION

Due to a variety of waste counts and characterizations, only approximations of Carroll County's residential waste generation can be made. Table 3-1 indicates about 101,501 tons (excluding rubble and sewage sludge) of MSW either comes to the landfill for transfer or is taken directly out of County. We believe that roughly 50% of this waste is residential. As the Countywide demographic data indicates 64,142 households, the true

residential generation rate is under one ton (1,582 lbs. per year) per household. For purposes of overall projection (Table 3-1), all categories of waste have been combined as they are recorded as mixed MSW and commercial MSW.

3.1.1.2 COMMERCIAL WASTE GENERATION

Commercial wastes in Carroll County are those generated by business, industry, apartment and condominium complexes and delivered by front loader trucks or in rolloff containers. Due to the lack of regulatory authority to require waste discrimination, industrial and institutional wastes, with the exception of biohazardous medical wastes, are also included in the commercial figures.

Based on data compiled from landfill weigh records, the County's waste stream, residential vs. commercial, is approximately 50%-50% split. Some of the County's larger private sector employers include Penguin/Random House, General Dynamic Robotic Systems, Northrop Grumman, Jos. A. Bank Clothiers, EVAPCO, English American Tailoring, Knorr Brake, Marada Industries and Flowserve Corporation.

3.1.1.2.1 APARTMENT BUILDING AND CONDOMINIUM RECYCLING (ABCR) PROGRAM

In 2012 the Maryland General Assembly passed House Bill 1, Environmental-Recycling-Apartment Buildings and Condominiums requiring recycling in all apartment buildings and condominiums that contain 10 or more dwelling units. The law becomes effective on October 1, 2012 (amending Section 9-1703 of the Environment Article, Annotated Code of Maryland). Section 9-1703 (b) (12) and (13) of the Environment Article, Annotated Code of Maryland requires Carroll County to revise its recycling plan within the Solid Waste Management Plan and implement the ABCR Program by October 1, 2014.

A. Apartment Building and Condominium Recycling Program

Through the cooperation of the Carroll County Office of Recycling and owners or managers of apartment buildings or councils of unit owners of condominiums ("apartment and condominium officials"), and other stakeholders involved in the implementation of this law, the County has identified 115 apartment buildings and condominiums that fall under the scope of the law. The County Office of Recycling has notified the apartment and condominium officials of the law including the materials that must be recycled (i.e., plastic, metal, glass containers, and paper) at the identified locations.

It is the responsibility of the apartment and condominium officials to determine how the materials will be stored, collected, and transported to the recycling markets for the collected materials. Apartment and condominium officials must report, or request their hauler to report, to the County on an annual basis details on the required recycling activities. Other program requirements include:

1. Materials Included in Program
Recyclables must include at a minimum: plastic, metal, glass containers, and paper.
2. Collection of Materials

Apartment and condominium officials are responsible for providing containers, labor, and equipment necessary to fulfill recycling requirements throughout their buildings. Distinctive colors and/or markings of recycling containers should be provided to avoid cross contamination. The apartment and condominium officials must ensure collection and transportation of recyclable materials from apartment and condominium locations to markets. Appropriate containers clearly marked for recycling are to be used for the collection of a building's recyclable materials. 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

Apartment and condominium officials are responsible for the marketing of their recyclables. The apartment and condominium officials shall submit, or require their contracted hauler to submit, annual reports detailing the recycling tonnage removed from the apartment and condominium and the markets for the materials.

B. Stakeholders

Stakeholders that will be involved in implementing the law are:

1. Owner or Manager of the Apartment Building or Councils of the Unit Owners of Condominium – Responsible for providing recycling to the residents of each apartment building or condominium by October 1, 2014. Secure and manage recycling services from contractor for providing material collection and recycling services from the building locations. Provide material collection bins and containers for transporting the materials from the buildings to recycling centers or markets. Perform record keeping and may report to the County on an annual basis.
2. Department of Public Works, Bureau of Solid Waste, Carroll County Office of Recycling-Communicate the requirements of the law, provide education, outreach and assist the apartment and condominium officials in developing a recycling program. Monitor progress and performance of the ABCR program. Update Carroll County's recycling plan to include the ABCR program and amend the County Solid Waste Management Plan. Develop a recycling reporting survey to be used by apartment and condominium officials in reporting recycling activities.
3. Carroll County Planning Commission-Responsible for reviewing and finding consistencies with the Comprehensive Plan regarding the Solid Waste Management Plan amendments, to include the ABCR Program.
4. Carroll County Board of Commissioners-Responsible for adopting the Maryland Department of the Environment approved language of

the Apartment Building and Condominium Recycling Program for the Plan amendment.

5. Maryland Department of the Environment-Responsible for the enforcement of environmental laws and regulations, such as the Annotated Code of Maryland, Environment Article §9-1703 (b) (12) and (13) requiring the collection and recycling of recyclable materials from residents of all apartment buildings and condominiums with 10 or more dwelling units by property owners or managers of apartment buildings and councils of unit owners of condominiums.

C. Participating Apartment Buildings or Condominiums in ABCR Program

See list (Table 3-2) of Participating Apartment Buildings and Condominiums.

D. Schedule for the Development and Implementation of the Program

The ABCR Program will be implemented according to the following schedule:

1. County will distribute the Maryland Department of the Environment approved language of the ABCR Program to the apartment and condominium officials for ABCR Program implementation.
2. On or before March 1, 2014, apartment and condominium officials will educate the residents about the ABCR Program and discuss the requirements of the law.
3. On or before May 1, 2014, apartment and condominium officials will provide training or assistance to the residents and advise them of the date when the residents can start collecting the materials.
4. On or before October 1, 2014, apartment and condominium officials must have recycling services in place and operational in order to meet requirements of the ABCR Program so that residents may start collecting and recycling materials at the participating apartment and condominium.

E. Program Monitoring

The County Office of Recycling shall 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 contractor staff to educate or review practices, and review contractor compliance with the recycling contract as they deem necessary in order to conduct a successful recycling program.

The apartment and condominium officials will have available educational materials regarding current and new recycling practices and procedures for residents. Also, the owner, manager or council shall be responsible to keep the residents current on new regulations, laws, and mandates affecting recycling in the apartment buildings or condominiums.

F. Program Enforcement

The County Office of Recycling will notify the apartment and condominium officials of the implementation requirements in accordance with Sections 9-1703 and 9-1711 of the Environmental Article, Annotated Code of Maryland. The County Attorney's Office will determine if the law should be enforced and what level of enforcement actions should be used. The law allows for fines to a person that violates the recycling or reporting requirements of the law or civil penalty not exceeding \$50 for each day on which the violations occurs. Further, any penalties collected under the law shall be paid to the county, municipality, or other local government that brought the enforcement action.

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

Carroll County has limited industrial facilities within its boundaries. Only a few of those could be classified as light to medium industry, the most prevalent type being service and construction related (see Table 3-3).

Business and industry in Carroll County rely on either private waste management companies that offer full service hauling and disposal or commercial haulers and government disposal facilities. All industrial solid wastes brought to County facilities by commercial haulers are included in the commercial tonnages. Limited figures exist for contract hauling out of Carroll County to independent processing, treatment or disposal facilities.

Industrial waste is both homogeneous and heterogeneous, depending on the generators. Of the major categories of waste listed in Table 3-1, construction industry wastes, i.e., demolition debris and construction wastes (rubble) are reflected in the commercial tonnages and are also discussed in Section 3.1.1.5. Most of the County's industrial plants are in the business of manufacturing by assembling and warehousing.

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 sewer. Therefore, nonhazardous liquid wastes are discharged into those sewer systems and directed to associated treatment plants. These plants (see Section 3.1.1.10) are located in the towns of Westminster, Manchester, Hampstead, Union Bridge, New Windsor, Taneytown and Mount Airy as well as near the Town of Sykesville in the Freedom district. No data is available for liquid waste that is discharged by industrial plants directly into sewer systems. Industrial facilities that are not serviced by public sewer have their own septic systems. These facilities are prohibited from discharging controlled hazardous substances, including hazardous wastes, into those systems. Processed wastewater is generally recycled, if possible, and discharged through an NPDES permitted discharge (see Figure 3-1). As with solid wastes, industry is generally attempting to limit waste as every gallon that is discharged carries with it a cost.

Carroll County has no unique industrial wastes. Most industrial waste is indiscriminate as to its composition from most commercial waste; no attempt has been made to segregate industrial (non-hazardous) from commercial when recording tonnages. All non-hazardous industrial solid wastes brought to County facilities are recorded as commercial and are projected with the total commercial waste stream.

3.1.1.4 INSTITUTIONAL WASTES

Institutional wastes are inclusive of those generated in government offices, schools, hospitals, clinics and other similar facilities. Just as with industrial waste, all nonhazardous, non-medical institutional waste is included in the total tonnages listed as commercial, (see Section 3.1.1.2). Removal, treatment and disposal of medical (biohazard) wastes generated in hospitals and clinics are contracted with independent licensed collectors and removed for treatment to the Baltimore Regional Medical Waste Incinerator special medical waste-incinerator in Baltimore. Specific quantities are not available.

3.1.1.4.1 PUBLIC SCHOOL RECYCLING

In July, 2009, the Maryland General Assembly passed House Bill 1290, Environment- Recycling-Public School Plans requiring recycling in all publicly-funded schools. This bill requires each county's recycling plan to implement a strategy for collecting, processing, marketing, and disposing of recyclable materials from its public schools. It is mandated to have a plan in place by October 1, 2010.

3.1.1.4.2 CURRENT PROGRAM

Carroll County Public Schools and Carroll Community College operate under the same recycling program and have been provided a recycling container for the collection and pick up of cardboard and paper. As part of the Plan, county owned front end collection containers (e.g. 8 cubic yard dumpster) are in place. The Carroll County Recycling Operation implemented single stream recycling in the public schools to increase waste reduction and recycling in September 2008. Carroll County Public Schools has spent approximately \$17,000 purchasing blue recycling collection containers for each classroom, office, cafeteria, and stadium/sports field area in order to provide containers for recyclable material. The Community College has provided single stream collection containers throughout the campus and cafeteria. Meetings will be scheduled to update school operations staff of the plan by the Carroll County Recycling Operations if any are needed. Carroll County Public Schools and Carroll Community College will include the following items in their single stream recycling program to be collected and marketed by Waste Management Recycle America:

- Narrow-neck empty plastic containers #1-7
- Wide-mouth plastic containers
- Any empty metal food and beverage containers, including aluminum or other metals
- Glass containers such as empty jars and bottles
- Juice boxes, aseptic packaging
- Milk and juice gable end containers
- Cardboard and paperboard boxes, brown paper bags
- Office papers, envelopes, fax, copy letterhead, and computer print out
- Magazines, catalogs and junk mail
- Books, paperbacks, hardbacks, textbooks, telephone

Other Materials collected:

Evaluations will be made by the Carroll County School Board each year to assess the collection and marketing of additional materials to be included in the Carroll County Public School Program. Recycling contractors are responsible for marketing and recycling the following additional materials.

Antifreeze/Waste Oil/Oil Filters

The Career and Technology Center collects antifreeze, waste oil, and oil filters from the Auto Services Program.

Batteries

Carroll Community College has a battery drop-off on campus for rechargeable and other types of small batteries. Carroll County Career and Technology Center recycles automobile batteries.

Composting

Education about composting is available to schools by the Office of Recycling in conjunction with the Carroll County Master Gardeners. Carroll Community College is currently evaluating partnering with the campus “Green Team” to include composting in the cafeteria. Carroll County Career and Technology has a Culinary Arts and Horticulture Program where they have composted for use with the Horticulture Program. It is re-evaluated each school year.

Construction/Building Material

Masonry material used in the Masonry and Construction program at the Career and Technology Center is ground up and used in road bed.

Electronics

A revenue generating program is in place by the public school operations to collect and consolidate computers, monitors, laptops, keyboards and mice. Carroll County Career and Technology has a program to collect cell phones and toner cartridges. The proceeds are put toward the student SkillsUSA Program. Carroll Community College has an agreement to recycle their electronic equipment. There is no charge and no revenue due to an abundance of cabling. They will also pick up quantities of less than a tractor trailer load saving the college storage space. It is estimated that 4.2 tons of electronics were picked up in 2009.

Kitchen Grease/Oil

Kitchen Grease and Oil from the Career and Technology Culinary Program is collected. The program is currently being re-evaluated to find a vendor to recycle this product into high energy fat used in animal feeds or into bio-fuel for traditional fossil fuels.

Metals

Scrap metals, from the Carroll County Career and Technology Center Machine Shop, Auto Services and Collision Shop, such as aluminum, brass, copper, lead wheel weights and steel is marketed to two local recyclers within the county. Private donations of automobiles are recycled as scrap. Any donations from dealerships for educational purposes are returned to the manufacturer for recycling.

Aluminum beverage cans are collected within the Carroll County Career and Technology Center. The revenue is used to help defray costs for student participation in SkillsUSA programs. This includes local, state and national competitions in which students demonstrate occupational and leadership skills.

Textiles

Scrap fabric from the Textiles and Fashion Program are made into “Hug Bunnies” and donated to Johns Hopkins pediatrics. Other scrap fabric is made into blankets and donated to Sheppard’s Staff Shelter in Westminster.

Yard Waste

Carroll County Public Schools has a program in place to collect tree trimmings and yard waste and deliver to Westminster Lawn Service Inc. or to the Northern Landfill to be mulched or composted.

Recycling contractors are responsible for reporting all recyclable materials weights and markets sold to, by February 1, annually to the Carroll County Bureau of Solid Waste, Recycling Operation.

3.1.1.4.3 ADMINISTRATION AND MANAGEMENT

The Carroll County Bureau of Solid Waste, Recycling Operation has designated that the Carroll County School Board be responsible for the administration of the Public School Recycling Program in all publicly-funded schools, including kindergarten through high school grades, trade schools, and colleges. Carroll County Office of Recycling mandated that all Carroll County Public Schools be participating by October 1, 2010. This responsibility includes the management of recyclable materials to include the current and any future additions to the Carroll County acceptable single stream items list. Any changes and updates to the Public School Plan are the responsibility of the Carroll County Director of School Facilities (410-751-3113) and are to be submitted every two (2) years to the Carroll County Bureau of Solid Waste (410-386-2035) 225 N. Center Street, Westminster, MD 21157. Changes to the collection, marketing and processing of recyclable materials in the Carroll County Public Schools are to be submitted by the Supervisor of Plant Operations (410-751-3470) within 30 days of the change. The Director of Facilities Management (410-386-8494) is responsible to submit any changes to any programs, collection, marketing and processing of recyclable materials from the Carroll Community College within 30 days of the change.

Single stream Recycling from the Carroll County Public Schools and Carroll Community College is currently under contract collection and the responsibility of the Carroll County Department of Public Works and consists of routed pick-ups to 44 schools and 3 support facilities in conjunction with pickups from other public service facilities and libraries. Material from these collections are brought to the Northern Landfill transfer station and transferred by compactor truck to Recycle America, a subsidiary of Waste Management, Inc., 7175 Kit Kat Road, Elkridge, MD 21075. It is the responsibility of the Department of Public Works to provide schools listed in the program (1) 8 yard container for single stream with the exception of Francis Scott Key High School having two (2) and Carroll Community College with seven (7). Every school is scheduled one pick up per

week per container. Additional containers and or pickup of recyclable materials from the schools will be made available by the Bureau of Solid Waste if collection warrants.

All contracted haulers must recycle all recyclable materials collected. Any new or replacement contracts the school board enters into for hauling recycling material, other than Carroll County Department of Public Works, must include a plan of how the recyclable materials will be collected, marketed and recycled and submitted to Carroll County Bureau of Solid Waste, from the school board, within 30 days of the change for approval. The County School Board request for new contract from other than the Department of Public Works will be reviewed within 30 days of submission of the change for approval.

The individual schools have the responsibilities of making sure that all materials mentioned in the plan will be collected and hauled from the schools in a timely manner.

The processing, marketing and disposition of recyclable single stream materials is handled through Recycle America through 2013. Recycle America was awarded the recycling contract effective July 1, 2003 through June 30, 2008 with two additional five-year renewal options. This will be monitored by the Carroll County Bureau of Solid Waste and Recycling. As of October 1, 2010 all County Public Schools will be participating in this recycling program.

The Carroll County School Recycling Program will be reviewed every three years and adjusted accordingly as part of the Solid Waste Management Plan.

3.1.1.4.4 SCHOOLS IN THE PROGRAM:

ELEMENTARY

Carrolltowne
6542 Ridge Road, Sykesville 21784

Charles Carroll
3719 Littlestown Pike, Westminster 21158

Cranberry Station
505 North Center Street, Westminster 21157

Ebb Valley
3100 Swiper Road, Manchester 21102

Eldersburg
1021 Johnsville Road, Sykesville 21784

Elmer A. Wolfe
119 North Main Street, Union Bridge 21791

Freedom District
5626 Sykesville Road, Sykesville 21784

MIDDLE

Mount Airy
102 Watersville Road, Mount Airy 21771

New Windsor
1000 Green Valley Road, New Windsor 21776

North Carroll
2401 Hanover Pike, Hampstead 21074

Northwest
99 Kings Drive, Taneytown 21787

Oklahoma Road
6300 Oklahoma Road, Sykesville 21784

Shiloh
3675 Willow Street, Hampstead 21074

Sykesville
7301 Springfield Avenue, Sykesville 21784

Carroll County Solid Waste Management Plan 2017 - 2026

Friendship Valley 1100 Gist Road, Westminster 21157	Westminster East 121 Longwell Avenue, Westminster 21157
Hampstead 3737 Shiloh Road, Hampstead 21074	Westminster West 60 Monroe Street, Westminster 21157
Linton Springs 375 Ronsdale Road, Sykesville 21784	HIGH Century 355 Ronsdale Road, Sykesville 21784
Manchester 3224 York Street, Manchester 21102	Francis Scott Key 3825 Bark Hill Road, Union Bridge 21791
Mechanicsville 3838 Sykesville Road, Sykesville 21784	Liberty 5855 Bartholow Road, Eldersburg 21784
Mount Airy 405 North Main Street, Mount Airy 21771	Manchester Valley 3300 Maple Grove Road, Manchester 21102
Parr's Ridge 202 Watersville Road, Mount Airy 21771	North Carroll 1400 Panther Drive, Hampstead 21074
Piney Ridge 6315 Freedom Avenue, Sykesville 21784	South Carroll 1300 West Old Liberty Road, Sykesville 21784
Robert Moton 1413 Washington Road, Westminster 21157	Westminster 1225 Washington Road, Westminster 21157
Runnymede 3000 Langdon Drive, Westminster 21158	Winters Mill 560 Gorsuch Road, Westminster 21157
Sandymount 2222 Old Westminster Pike, Finksburg 21048	OTHER Carroll County Career and Technology Center 1229 Washington Road, Westminster 21157
Spring Garden 700 Boxwood Drive, Hampstead 21074	Carroll County Outdoor School Hashawha Environmental Center 300 John Owings Road, Westminster 21158
Taneytown 100 Kings Drive, Taneytown 21787 300	Carroll Springs School 495 South Center Street, Westminster 21157
Westminster 811 Uniontown Road, Westminster 21158	Gateway School 45 Kate Wagner Road, Westminster 21157
William Winchester 70 Monroe Street, Westminster 21157	South Carroll Career and Technology Center 1300 West Old Liberty Road, Sykesville 21784
Winfield 4401 Salem Bottom Road, Westminster 21157	C.L.A.S.S. (Community Learning and Suspension Service) Program/Flexible Student Program

Carroll Community College
1601 Washington Road
Westminster, MD 21157-6913

225 Kate Wagner Road, Westminster
Transportation Department
125 North Court Street, Westminster

3.1.1.4.5 COLLECTION SCHEDULE

Single stream recycling from the Carroll County Public Schools and Carroll Community College is currently under contract collection and the responsibility of the Carroll County Department of Public Works and consists of routed pick-ups to 44 schools and 3 support facilities in conjunction with pick ups from other public service facilities and libraries. Material from these collections are brought to the Northern Landfill transfer station and transferred by compactor truck to Recycle America, a subsidiary of Waste Management, Inc., 7175 Kit Kat Road, Elkridge, MD 21075. All schools listed in the program are designated one (1) 8 yard container for single stream with the exception of Francis Scott Key High School having two (2) and Carroll Community College with seven (7). Every school is scheduled one pick up per week per container. Additional containers and or pickup of recyclable materials from the schools will be made available by the Bureau of Solid Waste if collection warrants.

3.1.1.4.6 OPERATIONS MANAGEMENT

The Bureau of Solid Waste, Recycling Operations will monitor Public School recycling to ensure participation. The bureau will report to the Director of Facilities and Supervisor of Plant Operations any issues within 60 days of finding changes to the program and collaborate on steps needed to correct any deficiencies and areas of improvement.

3.1.1.4.7 ENERGY CONSERVATION POLICY

Carroll County Public Schools is evaluating their current policy to include new initiatives for conservation resources.

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.

Building Demolition Mixed rubble, concrete, metal, pipes, bricks, timber, with some other waste from fixtures and fittings and soil.

Construction/Renovation Waste includes wood, roofing, fixtures, wallboard, insulation materials, pieces of ducts and pipes and carpet remnants.

Site Clearance Trees, brush, stumps, soil, and potential for mixed concrete, rubble, together with some extraneous paper, plastics, and other waste materials.

Excavation Mostly earth, soil, stones (sometimes contaminated with site clearance wood waste and buried pipes).

Roadwork Mostly asphalt, concrete (with/without reinforcing bar) and soil.

A relatively large volume of land clearing debris is common in a developing area such as Carroll 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. Other options, such as controlled burning of debris, are still permitted; however, a permit is required through the Carroll County Health Department (burning is prohibited from June 1 through August 31). Conditions relative to alternatives to on-site disposal have become increasingly restrictive as well as expensive. Carroll County has traditionally received numerous complaints concerning buried debris dump sites and is now prohibiting on-site disposal of land clearing debris. Due to the existence of karst topography, Carroll County maintains a sinkhole registry and assists landowners with repairs. Many of the sinkholes reported are not from the solution of limestone by water, but rather are the result of the burying and subsequent decomposition of organic land clearing debris (stumps, logs, brush, etc.) in recently established residential developments, i.e., less than 25 years old. Residents generally encounter extreme difficulties in filling such sinkholes due to the relatively slow and persistent rate of organic decomposition.

Current regulations require contractors to secure off-site disposal locations for land clearing and demolition debris.

There are categories of material that are not accepted at the County landfill, i.e., stumps (see Appendix C, Solid Waste Ordinance).

About 10,000 to 12,000 tons of this type of material makes its way to the County landfill each year. The Northern Landfill included two rubble cells (Cells R-1 and R-2) in its design. The cells were filled in numerical order. Cell R-1 opened in 1988 and reached capacity in 1992, and was capped in 1994. Cell R-2 opened in 1992, reached capacity in 1996, and was capped in 1998. Total capacity for both cells was 93,350 C.Y. Since 1996, acceptable rubble is being placed in the lined cell of the Northern Landfill or diverted through the transfer.

Material, such as removed roadbed material, masonry and stone debris, is often taken to the one commercial recycling facility located in Carroll County, C. J. Miller, LLC in Finksburg. C. J. Miller crushes and then reuses such material as aggregate. Contractors are encouraged to take clean, segregated concrete, asphalt, stone and masonry debris material to C. J. Miller. Often, however, the material is mixed with soil and other debris making it difficult to recycle. In such cases, the resultant material is disposed of in the landfill cell.

3.1.1.6 CONTROLLED HAZARDOUS SUBSTANCES

The total of Controlled Hazardous Substances, as defined in COMAR, is not limited to waste. No data on volume is available for such substances in Carroll County. A map showing the location of the RCRA Notifiers/Handlers is shown on Figure 3-2. This reflects the numbers of facilities that store such materials on-site. Most of the controlled substances are used in the facilities processes. There is always some residual and, in the

case of substances such as solvents used for tool and machine cleaning, contractors are generally employed that supply both the usable solvent and remove the used solvent.

3.1.1.7 DEAD ANIMALS

Dead farm stock is a large part of the dead animal issue in Carroll County. In 1983, four rendering plants were in operation in central Maryland. In addition, another operated in southern Pennsylvania. Only Valley Proteins, Inc. remains in Baltimore and they do not accept cattle. The plant does accept horse carcasses.

Carroll County farmers generally bury or compost dead stock on their farms; however, disposal options such as rendering plants or the landfill may be necessary when large numbers of stock are affected. The Northern Landfill does accept dead stock when necessary.

In addition to dead stock, road kills of wild animals must also be managed. Road kills picked up by County road crews are brought to the Northern Landfill.

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

Scrap automobiles in Carroll County are handled through private industry (see Figure 3-3). Carroll County facilities do not accept whole scrap automobiles or automobile parts as per the Solid Waste Ordinance. Individuals contract with private dealers for removal, recycling and disposal of automobile wastes. Some tonnages are available through recycling reports. The automotive recycling industry is a complex one that is highly variable. Some recyclers only deal with the acceptance, dismantling and recycling of vehicles.

Bulky wastes like appliances ("white goods"), are accepted at County facilities at no charge. All of the accepted "white goods" are recycled through a contractor. All items containing chlorofluorocarbons (CFCs) and other coolants are appropriately purged, documented and crushed. Carroll recycled 6,650 tons of "white goods" in 2014. Projections have been based on that data and are listed in Table 3-1.

3.1.1.9 SCRAP TIRES

Carroll County operated a scrap tire shredding and landfill disposal program until the early 1990's. Large off-road scrap tires that could not be shredded, approximately 100 per year, were anchored and placed in Rubble Cell #1 at the Northern Landfill.

Currently, all acceptable scrap tires are handled through a contractor to be hauled out of the County for recycling or processing at licensed facilities.

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 has traditionally been land application. As Carroll is a county of traditional agricultural use, many farm owners are solicited to accept sewage sludge for land application (see Figure 3-4). Regulations do not allow sewage sludge to be applied on fields where crops are grown for direct human consumption, such

as vegetables; however, sewage sludge can be applied on fields where livestock feed is grown.

There are eight publicly-owned community water supplies and sewerage systems in Carroll County, and 31% of Carroll's population lives within incorporated towns. In all cases, the planned service areas extend beyond the towns' limits. However, except for the Westminster system, all other towns require that the property be within their corporate limits or the property must be annexed in order to receive public water and sewer. Forty-five percent of the County's population has the benefit of a public water supply while 48% have sewer service.

Carroll County owns or operates five wastewater treatment plants. These plants service the Hampstead and Freedom areas as well as South Carroll High School, Runnymede Elementary School, and Pleasant Valley. Hampstead is operated by County personnel while Freedom is operated under contract by the Maryland Environmental Service (MES). Sewage sludge volumes are illustrated on Table 3–4.

There are six other publicly owned sewage treatment plants located within Carroll County's towns: Manchester, Mount Airy, New Windsor, Taneytown, Union Bridge and Westminster. Each of these is operated by the incorporated town that they service. Tonnages for these plants are illustrated in Table 3–4. Four of the towns, Mount Airy, Taneytown, Union Bridge and Westminster, have contracts for land application of sewage sludge. That application is accomplished under a permit from the Maryland Department of the Environment. All of Manchester's sewage sludge is landfilled and in the winter all of the plants may use landfill disposal as land application is not possible. New Windsor has not generated sufficient sewage sludge to necessitate dredging of their lagoon.

There are three privately owned and operated treatment plants in Carroll County: Bowling Brook School, Pheasant Ridge Estate and Hampstead Industrial Center.

As landfill disposal is often necessary, special conditions have been established. The Carroll County Solid Waste Ordinance (Appendix B) requires that sewage sludge only be accepted at County landfills under specific circumstances. Sewage sludge disposal must first be approved by the Maryland Department of the Environment (MDE) and the County. Sewage sludge must be dewatered, exhibit no liquid phase, and be tested as specified in Section D(a) of the Solid Waste Ordinance. The County also reserves the right to request additional testing to ensure the sewage sludge does not exhibit any hazardous characteristics. Sewage sludge may not be mixed with any other material.

Sewage sludge generated within Carroll County is not the only concern. As Carroll County is traditionally agricultural, many farmers are solicited to accept sewage sludge generated in other areas for land application. That sewage sludge cannot always be immediately applied and storage is sometimes necessary. Under Carroll County Code §158.051, Sewage Sludge Storage, (see Appendix C) sewage sludge can only be stored at publicly owned sewage treatment plants. Sewage sludge storage is defined as an interim measure prior to either land application or landfill disposal. Currently there are no licensed sewage sludge storage facilities in Carroll County.

3.1.1.11 SEPTAGE

Septage is the residual material collected from individual residential septic systems. Most of Carroll County's homes have systems such as this and contract for septage collection and disposal. It is estimated that residential septage generation in Carroll County is from 6.5 to 7.5 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 Westminster Wastewater Treatment Plant that is dedicated to the disposal and treatment of septage. The plant has a peak design flow of 39,000 gallons per day (gpd) with an average daily flow of up to 26,000 gpd. The facility is being operated by the City of Westminster under an agreement (No. 477) with the County. The septage is pre-treated and the resultant liquid phase sent through the wastewater treatment plant. The residual sewage sludge is then removed for landfill disposal. Sewage sludge volumes are included in the sewage sludge management section.

There are 20 independent septage contractors operating in Carroll County. County residents rely on their service; of course, 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 homes must reduce its solid waste stream by 20% through recycling. Counties with lower populations must recycle 15%. The mandate had to be met by January 1, 1994.

Carroll County, with a population under 150,000, was initially required to recycle 15% of its waste stream by 1994. In 1993, the County achieved a 22% recycling rate, surpassing the 15% required by the Act. As of October 1998, the County's population surpassed the 150,000 mark requiring the County to achieve the 20% recycling rate. In 2004, the County recycled 29% and received 3% source reduction credits for a total diversion rate of 32%.

In the 2012 legislative session, the Maryland General Assembly passed House Bill (HB) 929: *Environment – Recycling Rates and Waste Diversion – Statewide Goals*, Chapter 692, Acts of 2012 (the "law"). The law takes effect on October 1, 2012, and requires full implementation of the county's revised recycling plan by December 31, 2015. The law also requires the county to revise its recycling plan by July 1, 2014. The plan must include a provision that provides for a reduction through recycling of at least 35% for a county with a population greater than 150,000 or 20% for a county with a population less than 150,000, of the County's solid waste stream by weight, or submits adequate justification,

including economic and other specific factors, as to why the reduction cannot be met.

Carroll County has met and exceeded the 35% recycling rate since 2009. This rate has been possible through aggressive education and outreach in Schools, at Public Events, Fairs, and Businesses and through Social Media, converting to an expanded single stream recycling program, a 2009 Energy Efficiency and Conservation Block Grant that was authorized by the Energy Independence and Security Act of 2007. Under Section 544, Item 10, the funds may be used for “activities to increase participation and efficiency rates for material conservation programs, including source reduction, recycling, and recycled content procurement programs that lead to increases in energy efficiency. With this Grant we were able to purchase 10,618, 65 gallon recycling carts. The carts were given to three local haulers to distribute to their recycling customers and determined that their recycling averaged an increase of 15%.

3.1.1.12.2 YARD TRIM

Yard trim includes grass clippings, brush and leaves, resulting from residential or commercial yard and garden maintenance. All eight of Carroll County's incorporated towns provide residents with curbside collection or drop-off sites for yard trimmings. The City of Westminster has organized leaf and yard trim collection programs. It is anticipated that most of the towns continue to use the County compost yard.

In May of 1994, Carroll 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 Northern landfill at no charge. A portion of closed Cell #1 of the landfill has been paved for the acceptance and processing of the materials. The woody materials and yard waste are processed by a grinder into a mulch product. A private contractor, Harvest RGI, handles the grinding of yard wastes to produce a marketable mulch and compost product at their facility located at the leased Hoods Mill property.

3.1.1.12.3 ELECTRONICS

From 2002 to 2005, the County held five, single-day, electronics recycling events. The five events resulted in the collection of 71.28 tons of electronics. Due to the success of the events, the County started a permanent residential electronics drop-off program at the Northern Landfill. The program went into effect December 1, 2005.

The County accepts a wide range of electronics including all computers and peripherals. The program is for residents only and is currently accepting the materials at no charge. The County has a contract through the Northeast Maryland Waste Disposal Authority (NMWDA) for the transportation and recycling of the electronics.

3.1.1.12.4 AGRICULTURAL WASTES

Agricultural wastes consist of livestock manures and crop residuals. No estimates of such wastes exist; however, management practices are known. Manure is generally used as fertilizer, and in many cases, stored on farms, prior to field application. Crop residue is generally plowed into fields as nutrient.

3.1.1.12.5 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.

3.1.1.12.6 ASBESTOS

The established disposal protective, enforced by the Carroll County Solid Waste Ordinance, involves placement in 6 mil polyethylene bags that are then contained in fiberboard drums with outside labels denoting asbestos. The containers are then segregated in the solid waste placement areas of the permitted landfills. Small amounts of asbestos have been landfilled the last three years (FY 2013 – 4.39; FY 2014 – 6.79; FY 2015 – 1.15)

3.1.1.12.7 LEACHATE

Leachate is defined as the combination of liquids and suspended particulate 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.

Carroll County collected and transported for treatment, over 9 million gallons of leachate during 2015 (see Table 3–5). Sites with leachate collection systems are Hoods Mill, Bark Hill, and Northern landfills. Leachate is collected and trucked principally to the Westminster Wastewater Treatment Plant. Volumes are projected to continue at Northern while decreasing at capped sites (Bark Hill and Hoods Mill). The County is currently designing a project to permanently cap slopes of Northern’s Cells 1 and 2 to minimize leachate generation.

3.1.1.12.8 GREASE

Grease waste is produced from restaurants and commercial kitchens. New facilities are fitted with grease traps that can be cleaned regularly. Grease is considered a solid waste and can be disposed of with other commercial waste. Some grease is sent to rendering plants. No segregated tonnages exist.

3.1.1.12.9 FLUORESCENT AND COMPACT FLUORESCENT LIGHTS THAT CONTAIN MERCURY

Fluorescent and Compact Lights are accepted for recycling at two Household Hazardous Waste Collection Special Events held at the Vehicle Maintenance

Center located 1250 Old Meadow Branch Road, Westminster, MD 21157. This service is free for County Residents.

These events are managed through Maryland Environmental Services (MES) and the agreement remains in force unless terminated by the contractor. Maryland Environmental Service is responsible for contracts to collect, recycle and marketing of fluorescent lights collected by the county. In 2010, the County collected 2,321 total bulbs from our special events.

Private retailers, such as Home Depot, Lowe's and Ace Hardware, offer recycling opportunities for CFL bulbs at their stores for the community.

The county also monitors information about manufactures and retailers that offer fluorescent tube/CFL bulbs collection programs. This information is made available to the public through our Bureau of Solid Waste and Recycling web site, public events and presentations.

3.1.1.12.10 SPECIAL EVENTS RECYCLING PROGRAM (SERP)

In 2014, the Maryland General Assembly passed Senate Bill 781, Environment – Recycling – Special Events. The law requires organizers of special events meeting certain criteria to provide a recycling receptacle adjacent to each trash receptacle, ensure recycling receptacles are clearly distinguished from trash receptacles, and ensure that recyclable materials are collected for recycling. Special event organizers must conduct recycling in accordance with the County's Comprehensive Solid Waste Management Plan (CSWM). The law also required each county to update its plan by October, 2015, to address the collection and recycling recyclable materials from special events.

A. Special Events Subject to the Recycling Program:

Environment Article, §9-1712, Annotated Code of Maryland. Requires special events organizers to provide for recycling at special events that meet the following three criteria:

1. Includes temporary or periodic use of a public street, publicly owned site or facility, or public park;
2. Serves food or drink; and
3. Is expected to have 200 or more persons in attendance.

Projected attendance may be estimated based on past attendance, number registered to attend, the venue's seating capacity, or similar methods.

Public sites within Carroll County that host or may host special events include any local, Municipally-owned, County- owned, State, and Federally-owned streets are subject to the Special Events Recycling Program (SERP). Sites are identified as parks, venues, sports fields, fairgrounds, etc., and all public schools that host special events.

The County has identified public sites within the County that host or may host special events meeting the above criteria. In addition to the sites listed individually, special events taking place on any local, State, or Federally-owned streets are also included in the Special Events Recycling Program (SERP)

B. Materials and Obligations:

Special events organizers are responsible for:

1. Providing and placing recycling receptacles adjacent to each trash receptacle at the event (except where already existing on site);
2. Ensuring that recycling receptacles are clearly distinguished from trash receptacles by color or signage;
3. Providing any other labor and equipment necessary to carry out recycling at the event;
4. Ensuring that the materials placed in recycling receptacles are collected and delivered for recycling ; and
5. Paying any costs associated with recycling at the special event;

Special events organizers may fulfill the requirement to ensure materials are collected and delivered for recycling through one or more of the following methods:

1. Self-hauling the materials to the County recycling drop-off site;
2. Contracting with a recycling hauler to collect the materials and deliver them for recycling; or
3. Receiving prior agreement from the site owner to use an existing recycling collection system available at the site.

The special events recycling program must include, at a minimum, the collection of plastic containers, metal containers, glass containers, and paper. The special events organizer must assess the availability of food scraps recycling services for the event. If services are available, the special events organizer must provide for food scraps recycling, including provision of separate containers for organic and non-organic recyclables.

Recycling at a State-owned site must follow the State agency's recycling plan, if available. Recycling at a Federally-owned site must follow any applicable Federal recycling plan. If no State or Federal recycling program is available for the site, the special event organizer must set up a recycling program in accordance with the SERP. Recycling at municipally-owned sites must follow any additional regulations established by the municipality.

C. Stakeholders:

The following stakeholders will be involved in the SERP:

1. Carroll County Department of Public Works: Communicate the requirements of the law to prospective special events organizers and owners and operators of publicly-owned sites in the County. Provide educational and outreach materials in electronic format to assist special events organizers in developing a recycling program
2. Carroll County Office of Recycling, in cooperation with the Office of Zoning Administration: Prior to issuance of a zoning certificate for a special event the Department of Public Works, Recycling Operations must receive a recycling plan with location of waste and recycling facilities.
3. Special Events Organizer: Responsible for providing recycling bins and ensuring collection for recycling in accordance with the requirements in §B, beginning October 1, 2015.

D. Program Monitoring:

The Office of Recycling and special events organizers will monitor progress and performance of the SERP.

1. Special Events permits issued for use of county sites will include a statement on the permit application that recycling is required for events subject to the SERP.
2. A fact sheet or other informational document outlining the requirements of the SERP will be distributed with each special event permit issued by the county.
3. Notification will be sent via direct mail to each municipality outlining the requirements of the SERP and links to the information will be available on the Carroll County Department of Recreation and Parks, Recycling, and Solid Waste webpages.

The special event organizer is responsible for monitoring the implementation of recycling at the special event. The special event organizers must oversee placement and labeling of recycling receptacles and collection and recycling of recyclables. Performance of any recycling contractor engaged for compliance with the SERP must be monitored by the special event organizer. The special event organizer must promptly take action to correct any deficiencies in the contractors' performance.

E. Program Enforcement

The County Office of Recycling or the equivalent office of the municipality in which the event is located may conduct inspections of the event to ensure compliance with the SERP. If a violation of the SERP is detected, the County or municipality may pursue an enforcement action against the special events organizer. A person that violates the SERP can be subject to a civil penalty not exceeding \$50 for each day the violation exists. Any penalties collected for

violation of the SERP must be paid to the county, municipality, or other local government that brought the enforcement action.

3.1.2 WASTE IMPORTED AND EXPORTED

Carroll County does not accept waste generated in other jurisdictions (see Appendix C, Solid Waste Ordinance). However, the majority of waste generated in the County is exported. Most of the waste (89,724 tons in 2015), except for sewage sludge, delivered to the County landfill, is being transported to an out-of-county landfill, through a contract with Advanced Disposal and the NMWDA. This contract has additional extensions that could take it through 2029. Additional MSW (19,221 tons MSW in 2014) is transported to other facilities through private contracts with commercial businesses.

3.1.3 SOLID WASTE ENTERING CARROLL COUNTY FOR RECOVERY AND PROCESSING

C. J. Miller, LLC, of Finksburg is accepting and crushing broken concrete and asphalt into a usable aggregate for road building. Recent figures show 120,000 tons of asphalt processed by C. J. Miller, LLC in 2015.

Roll-off Express (Progressive Waste), also located on Dede Road, is a solid waste processing facility permitted to process up to 156,000 tons per year. They are currently processing C&D, commercial, industrial, and bulky wastes and recovering OCC or cardboard and paper. They have proposed to accept residential MSW as well.

3.2 REFUSE COLLECTION SYSTEMS IN CARROLL COUNTY

Carroll County has been given broad legal authority by the Maryland General Assembly regarding solid waste management (Public Local Laws of Maryland, Article 7, Sections 15A-1 through 15A-10). Through this law, Carroll County officials gained the authority to:

- Control the waste stream throughout the jurisdiction;
- Procure and finance, through revenue bonds, future solid waste disposal facilities;
- Enter into public/private joint ventures to construct and operate waste disposal facilities.

This legislation gives Carroll County flexibility in solid waste management decisions and allows a variety of financing approaches for future solid waste facility development.

Within the unincorporated area of Carroll 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 without control or regulation in a given area. Those haulers contract on an individual basis with homeowners and commercial establishments. An undetermined number of individuals also self-hauls to the County landfill. Currently, the only provisions of drop-off areas in the unincorporated sections of the County are at the Northern and Hoods Mill landfill sites. There is also no system for providing bulky trash pick-up to these areas.

The eight incorporated municipalities in Carroll 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 (see Table 3–6). 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 so described. In all cases, the routes are controlled by a bid process. At present, all of the county municipalities contract with a single hauler.

Bulky item collection services vary widely in terms of frequency of pick-up, ranging from once-a-year "spring cleaning" service, to once-a-week collection. The City of Westminster and the Town of Sykesville provide on-call service for bulk pick-up. Hampstead, Manchester, New Windsor and Taneytown provide seasonal pick-up service through their contracted hauler. Residents of Union Bridge are responsible for their own disposal of bulky items.

The Town of Sykesville budgets and administers its own personnel and equipment for waste collection. They provide once-a-week collection for waste and recycling. Table 3–6 shows a breakdown of current municipal waste management services provided by municipalities in Carroll County.

3.3 EXISTING SOLID WASTE ACCEPTANCE FACILITIES

Carroll County's public waste handling and disposal facilities are located at Northern Landfill. All types of residential and commercial solid wastes are currently accepted, including white goods, scrap tires, construction rubble, and yard trimmings. Figure 3–5 shows the location of County waste disposal facilities.

3.3.1 COUNTY-OWNED AND OPERATED FACILITIES

3.3.1.1 NORTHERN LANDFILL

The County's Northern Landfill comprises 220 acres located on Maryland Route 140 southeast of the City of Westminster. It opened in December of 1988, as a state-of-the-art secured sanitary landfill, with a double 60 mil HDPE liner, leachate collection and management system, and a computerized scalehouse. Northern Landfill accepts only County generated waste.

The cost of developing the first 12.7-acre cell of Northern Landfill was approximately \$3.9 million and included landfill site development, lining, and the leachate management system. Additional costs included \$600,000 to acquire the land and approximately \$400,000 to provide ancillary site development such as fencing, roads, and buffers. Cell 2, a 13 acre cell with a capacity of 668,205 cubic yards, began accepting waste February 18, 1993. It is expected to reach capacity early 2007. Cell 3 was constructed in 2007. It is a 17.7 acre cell with volume capacity of 342,844 cubic yards.

The designed life was originally estimated at 15 to 20 years, based on 200 tons per day (TPD) of delivery at inception and growth to 500 TPD. Chapter 5.0 includes recalculated projections for the Northern Landfill.

NORTHERN LANDFILL	- Located at 1400 Baltimore Blvd., Westminster, MD
(Sanitary Landfill, Rubble Landfill,	- Grid Coordinates
Recycling, Natural Wood & Yard Waste)	• Latitude N 39° 32' 58"
	• Longitude W 76° 56' 29"
	- MD State Coordinates (1983)
	• East 1,328,790
	• North 687,432
	- It comprises 220 acres, 65 of which are sanitary cells.

- Municipal solid waste and rubble are landfilled. Scrap metal and various materials are collected for recycling; natural wood and yard wastes are processed for mulch or compost at an alternate facility.
- Owned and operated by Carroll County Government, MD
 - The permit was originally issued in June 1986. The current permit was issued October 13, 2015 and expires October 12, 2020.

3.3.1.2 NORTHERN LANDFILL PROCESSING FACILITY AND TRANSFER STATION

The County's Processing and Transfer Facility comprises 3 acres collocated with the landfill on Maryland Route 140 southeast of the City of Westminster. It opened in 1998 in order to transfer some County wastes to conserve capacity in Northern Landfill.

- NORTHERN LANDFILL PROCESSING FACILITY AND TRANSFER STATION**
(Recycling & Transfer Station)
- Located at 1400 Baltimore Blvd., Westminster, MD
 - Grid Coordinates
 - Latitude N 39° 32' 58"
 - Longitude W 76° 56' 29"
 - MD State Coordinates (1983)
 - East 1,328,790
 - North 687,432
 - It comprises 3 acres.
 - Municipal solid waste and rubble are loaded for transfer and disposal at an alternate site; recyclables are similarly loaded for additional processing and recycling offsite.
 - Owned and operated by Carroll County Government, MD
 - The current permit expires March 9, 2019.

3.3.2 PRIVATE FACILITIES

This section includes private facilities located in Carroll 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, CHS facilities, injection wells, and industrial waste liquid holding impoundments. They are as follows:

3.3.2.1 HARVEST RGI, LLC (NATURAL WOOD AND YARD WASTE)

Harvest RGI, LLC, has operations at 7800 Kabik Court in Woodbine, MD. It primarily engages in manufacturing and supplying mulches, compost and soil blends and related operations.

The facility accepts natural wood waste and yard waste.

- HARVEST RGI, LLC.**
Natural Wood & Yard
Waste Recycling
- Located at 7800 Kabik Court, Woodbine, MD
 - Grid coordinates
 - Latitude N 39° 21' 28"
 - Longitude W 77° 1' 26"
 - MD State Coordinates (1983)
 - East 1,305,480
 - North 615,559

- The facility occupies approximately 30 acres of site.
- Natural wood waste and yard waste are processed into mulch and compost for market.
- The current Natural Wood Waste Permit expires February 12, 2019.

3.3.2.2 ROLL-OFF EXPRESS

Roll-off Express is a privately-owned and operated processing facility. The materials are sorted and marketed. Residuals are disposed of properly permitted solid waste facilities outside of Carroll County.

- Roll-Off Express**
- Located on Dede Road, Finksburg, MD
 - Grid Coordinates
 - Latitude N 39° 29' 30"
 - Longitude W 77° 50' 50"
 - MD State Coordinates (1983)
 - East 1,344,831
 - North 665,425
 - Processing Facility Permit #2012-WPF-0159
 - Permit issued June 10, 2013 (5-year permit).

3.3.3 CLOSED COUNTY FACILITIES

3.3.3.1 BARK HILL LANDFILL

Bark Hill Landfill, a 10-acre facility, one mile west of Uniontown in the western part of the County, was closed in 1981. The site was originally an open burn site and was taken over and operated by the County as a landfill in 1972. The site is now part of the County's open-space program; capping was completed during 1991. The site is being monitored.

- BARK HILL LANDFILL**
- Located on Raywell Ave., near Middleburg Rd., Uniontown, MD.
 - Grid Coordinates
 - Latitude N 39° 34' 26"
 - Longitude W 77° 08' 40"
 - MD State Coordinates (1983)
 - East 1,271,420
 - North 702,298
 - 12 acres of a 20+ acre site was used as a landfill and closed in late 1981. Design closure was approved and completed in 1981 at cost of \$250,000.
 - This site was retrofitted with a cap liner as per MDE approved regulations. Work was completed in October of 1991 at a cost of \$1,900,000
 - The site is owned by Carroll County Government, MD.

3.3.3.2 BACHMAN VALLEY ROAD TIRE FACILITY

This site was operated from the 1970's to 1985 for the disposal of demolition debris and scrap tires. The County installed a cover over the facility in 1992. The County has not accepted scrap tires at this site since 1985.

- BACHMAN VALLEY**
- Located on the southeast side of Bachman Valley Road (Route 496

TIRE FACILITY

- at Saw Mill Road), MD.
- Grid Coordinates
 - Latitude 39° 50' 08"
 - Longitude 76° 58' 15"
- MD State Coordinates (1983)
 - East 1,320,549
 - North 721,581
- The site comprises 2 acres of a 6-acre parcel.
- Whole scrap tires were accepted at this site and filled in an old quarry.
- The site was owned by the Lippy Brothers, Inc., and was leased by Carroll County Government, MD. It began operations in the late 1970's and was closed in September 1985. It is now owned by Carroll County, MD.

3.3.3.3 HODGES LANDFILL

Hodges Landfill (32 acres), located one mile north of Eldersburg, in southeastern Carroll County, was in operation until 1981. Like the Bark Hill site, it is also part of the County's open-space program as a park is proposed as a future park site. The site was capped in 1991.

HODGES LANDFILL

- Located on the west side of Hodges Road, 250 yards north of the intersection with Bartholow Road, MD.
- Grid Coordinates
 - Latitude N 39° 25' 16"
 - Longitude W 76° 57' 24"
- MD State Coordinates (1983)
 - East 1,324,433
 - North 639,033
- Approximately 32 acres.
- MSW was accepted at the site until it closed in 1981 at which time design closure and earth cover were completed.
- The site was retrofitted with a membrane-lined cap in 1991 at a cost of \$2,500,000.

3.3.3.4 JOHN OWINGS LANDFILL

John Owings Landfill, located on the east side of Route 97, approximately 3 miles north of Westminster, covers approximately 88 acres, of which 35.7 acres was used for waste, and was owned and operated by a private hauling firm until the County took possession of the property in 1973. Capping was completed in 1997.

JOHN OWINGS LANDFILL

- Located on the north side of John Owings Road, west of Bear Branch, ½ mile west of the intersection with Route 97, MD.
- Grid Coordinates
 - Latitude N 39° 38' 41"
 - Longitude W 76° 59' 43"
- MD State Coordinates (1983)
 - East 1,312,926
 - North 720,222

- The site has been closed since November 1988. In the last year of its life it served as a transfer station only for homeowners, using automobiles and pick-up trucks.
- Capped in 1997 at a cost of \$4,019,071.

3.3.3.5 KATE WAGNER LANDFILL

Kate Wagner Landfill is located south of Westminster in Carroll County, southeast of the intersection of Chapel Road and Old Westminster Road and south of the intersection of Old Westminster Road and Kate Wagner Road.

The current owner is Alfred E. Barnes. The property has belonged to the Barnes family since 1899 and is believed to have been used primarily for farm and grazing purposes until January 2, 1965, when Francis and Rosina Barnes leased a portion of the estate to Carroll County for the purpose of disposing of non-toxic waste materials. Prior to the signing of the lease with Carroll County; however, it was known that "G. L. Cabbage" operated the site as a repository for refuse for the area, including the City of Westminster.

The Kate Wagner Landfill was never permitted by the State of Maryland and does not utilize any type of containment system. Records indicate, however, that Carroll County leased the land to be used as a landfill and other individuals and companies were known to have used the Kate Wagner dump site prior to the lease with Carroll County.

The Kate Wagner Landfill was an unpermitted landfill from the mid 1960's until 1974 when it was closed. The landfill was listed on the Comprehensive Environmental Response, Compensation and Liability Information System because sample results from monitoring wells revealed the presence of low levels of volatile organic compounds (VOC's). Investigation is nearly complete, and it appears that only minimal remediation will be necessary.

KATE WAGNER LANDFILL

- Located just south of the intersection of Kate Wagner and Old Westminster Roads.
- Grid Coordinates
 - Latitude N 39° 32' 30"
 - Longitude W 77° 01' 15"
- MD State Coordinates (1983)
 - East 1,304,736
 - North 682,068
- Approximately 10 acres of a 40 acre parcel was used as a landfill.
- MSW and industrial wastes were accepted.
- The site is privately owned by Mr. Alfred Barnes.
- It was closed in 1974 and covered with 2' of earth.

3.3.3.6 THE RECYCLING BARN

For several years, the County worked with the Carroll County Association for Retarded Citizens (CCARC) to set up and operate a recycling drop-off and storage facility near the Carroll County Regional Airport. The facility consisted of a barn and several trailers. The facility was staffed by members of CCARC who weighed, sorted, and stored the following recyclables:

- Aluminum
- Newspaper
- Cardboard
- Mixed Glass

The facility was closed in the fall of 1993. The function has now been relocated to Northern Landfill and the facilities demolished and removed.

RECYCLING BARN

(Recycling Transfer Station)

- Was located at Route 97 at Old Bachman Valley Road (near the Carroll County Airport)
- Grid coordinates
 - Latitude N 39° 38' 53"
 - Longitude W 77° 00' 00"
- MD State Coordinates (1983)
 - East 1,312,538
 - North 704,601
- Site consisted of an old barn on five acres of land which was operated by the Carroll County Association for Retarded Citizens until July of 1990. It was then operated by Carroll County Government until closure.
- This site was operated as a temporary transfer/drop-off recycling center handling 5 to 10 tons per day of newspaper, glass, bi-metal cans, aluminum cans and cardboard per day.
- It operated without a permit, as none was necessary.
- The site closed on September 25, 1993, and the operations transferred to Northern Landfill.

CHAPTER 3

TABLES

**Table 3-1
Projected Annual Waste Generation in Carroll County
2017-2026**

Waste Category	Annual Generation (Tons)			
	2014 Actual	2018 Estimates	2022 Estimates	2026 Estimates
MSW Residential (included in MSW Mixed)	0	0	0	0
MSW Commercial	19,221	19,718	20,228	20,752
MSW Mixed	82,280	84,408	86,592	88,832
Industrial (solids, liquid, etc.) (included in MSW Mixed)	0	0	0	0
Institutional (schools, hospitals etc.) (included in MSW Mixed)	0	0	0	0
Demolition Debris (rubble)	21,355	21,907	22,474	23,055
Land Clearing	0	0	0	0
Controlled Hazardous Substance (CHS)	0	0	0	0
Dead Animals (included in MSW Mixed)	0	0	0	0
Bulky or Special Waste	0	0	0	0
Vehicle Tires	832	854	876	898
Wastewater Treatment Plant Sludges	4,071	4,176	4,284	4,395
Septage	0	0	0	0
Asbestos	22	23	23	24
Woodwaste/Wood	0	0	0	0
Concrete	314	322	330	339
Special Medical Waste	51	52	54	55
Scrap Metal	14	14	15	15
Household Hazardous Waste	0	0	0	0
Total MRA & NON MRA Waste Disposed	128,160	131,475	134,876	138,365
Total MRA and NON MRA Recyclables	513,623	526,909	540,539	554,522
Total Waste	641,783	658,384	675,415	692,887
Total Waste Generated*	641,782	658,384	675,415	692,887

* Total Waste Generated = Total Waste - (MSW Ash Recycled + Backend Scrap Metal Recycled) = 641783 - (0 + 1) = 641782 tons

Table 3-2
Participating Apartment Buildings or Condominiums in ABCR Program

Owners Name	Mailing Address	City	State	Zip	Number		Type Premise	City Premise	Zip
					Premise	Name Premise			
2205 Old Westminster Pike Llc	694 Wise Ave	Baltimore	MD	21222	2205	Old Westminster	Pike	Finksburg	21048
301 E Main Street Llc	694 Wise Ave	Baltimore	MD	21222	301	Main/305	St	Westminster	21157
57 W Main Street Llc	694 Wise Ave	Dundalk	MD	21222	57	Main	St	Westminster	21157
All Investments Llc	Po Box 1573	Westminster	MD	21158	4328	Ridge	Rd	Mount Airy	21771
Antrim Mollett Llc	30 Trevanion Rd	Taneytown	MD	21787	206	Baltimore	St	Taneytown	21787
Ashley Michael Todd	1700 Gillis Rd	Woodbine	MD	21797	5934	Woodbine	Rd	Woodbine	21797
BELLA VITA SENIOR CONDOMINIUM	Robin Foard c/o Conway Management Corp, 1660 Robin Circle	Forest Hill	MD	21050		0 Bella Vita	CT	Westminster	21157
Bishops Garth Association	6150 Foreland Garth	Columbia	MD	21045	349	Bishop	St	Westminster	21157
Bishops Garth Association	6150 Foreland Garth	Columbia	MD	21045	100	Charles	St	Westminster	21157
Blk Properties Llc	2317 Kays Mill Rd	Finksburg	MD	21048	105	Center/109	St	Westminster	21157
Blk Properties Llc	2317 Kays Mill Rd	Finksburg	MD	21048	257	Main	St	Westminster	21157
Brinton Woods Senior Living Llc	Attn Daren Cortese, 1442 Buckhorn Rd	Lutherville	MD	21093	1442	Buckhorn	Rd	Sykesville	21784
Brumgard Randall A	6370 Baltimore Pike	Littlestown	PA	17340	1305	Country Park	Dr	Hampstead	21074
Butte Holdings Llc	2560 Business Pkwy Ste A-b	Minden	NV	89423	999	Crouse Mill	Rd	Keymar	21757
CAMBRIDGE ESTATES LAND CONDOMINIUM A	C/O DRS & ASSOCATES, 52 Winters street	WESTMINSTER	MD	21157-4832	0	Staley	DR	Westminster	21157
Carroll Lutheran Village	200 Saint Luke Cir	Westminster	MD	21158	0	Luther	Dr	Westminster	21157
Carroll Lutheran Village Inc	200 Saint Luke Cir	Westminster	MD	21158	0	Adams Mill	Rd	Westminster	21157
Carroll Lutheran Village Inc	200 Saint Luke Cir	Westminster	MD	21158	201	St Mark	Way	Westminster	21157
Carroll Lutheran Village Inc	200 Saint Luke Cir	Westminster	MD	21158	205	St Mark	Way	Westminster	21157
CARROLL VISTA COMMUNITY ASSOC INC	15 W AYLESBURY RD STE 700	TIMONIUM	MD	21093-4169	1	Clubsie	DR	Taneytown	21787
Chapman Holdings One Llc	2588 Carrington Way	Frederick	MD	21702	202	Main	St	Mount Airy	21771
Country Care Assisted Living Llc	110 Terrapin Rd	Sykesville	MD	21784	2455	Baltimore	Bldv	Finksburg	21048
Country Care Llc	2261 Old Westminster Pike	Finksburg	MD	21048	2661	Old Westminster	Pike	Finksburg	21048
Cranberry Equities Limited	836 Littlestown Pike	Westminster	MD	21157	222	Cranberry	Rd	Westminster	21157
CVAW LLC	2806 Meadow Dr.	GETTYSBURG	PA	17325	85	CARROLL VIEW	AVE	Westminster	21157
CVAW LLC	2806 Meadow Dr.	GETTYSBURG	PA	17325	124	CARROLL VIEW	AVE	Westminster	21157
Davis Janet E	11615 Bellvue Ave	Kingsville	MD	21784	7071	Jennifer	Way	Sykesville	21784
Eastgate Housing Limited	Po Box 427	Walkersville	MD	21793	16	Pennsylvania/16 1/2	Ave	Westminster	21157
EHC WESTMINSTER LHA	C/O ENTERPRISE HOUSING CORP, 312 N Martin Luther	BALTIMORE	MD	21157	30	LOCUST	ST	WESTMINSTER	21157
Eldersburg Sustainable Redevelopme	10055 Red Run Blvd Ste 130	Owings Mills	MD	21117	6400	Ridge	Rd	Sykesville	21784
Fairhaven Inc	7200 Third Ave	Sykesville	MD	21784	7200	Third	Ave	Sykesville	21784
Frantom Llc	513 Harbour Dr	Ocean City	MD	21842	3240	Old Westminster	Pike	Finksburg	21048
GREENS AT WESTMINSTER DEVELOPMENT LL	11433 Cronridge Dr.	OWINGS MILLS	MD	21117	400	ROYER	RD	WESTMINSTER	21157
Hampstead Village Llc	801 International Dr Ste 110	Linthicum	MD	21090	1211	Main	St	Hampstead	21074
Harrell F Douglas	1359 N Main St	Hampstead	MD	21074	4439	Trenton Mill	Rd	Hampstead	21074
Harrell Farrell D	1359 N Main St	Hampstead	MD	21074	3821	Shiloh/3825	Rd	Hampstead	21074
Hayfield Properties Llc	4247 Harney Rd	Taneytown	MD	21787	3233	Harney/3239	Rd	Taneytown	21787
Henryton State Hospital	8000 Henryton RD	Sykesville	MD	21784	8000	Henryton	Rd	Sykesville	21784
Herring Donald A	4265 Harney Rd	Taneytown	MD	21787	17	Frederick/19/21/23	St	Taneytown	21787
Hillandale Inc	71 Knickerbocker Dr	Belle Mead	NJ	08502	0	Westminster	Rd	Finksburg	21048
Holbrook Thomas S	3148 Park Ave Apt 16	Manchester	MD	21102	3148	Park	Ave	Manchester	21102
Home Properties Middlebrooke Llc	850 Clinton Sq	Rochester	NY	14604	0	Bishop	St	Westminster	21157
Home Properties Middlebrooke Llc	850 Clinton Sq	Rochester	NY	14604	0	Valley Bend	Rd	Westminster	21157
Home Properties Ridgeview	850 Clinton Sq	Rochester	NY	14604	800	Burning Tree	Dr	Westminster	21157
Home Properties Westbrooke Llc	850 Clinton Sq	Rochester	NY	14604	410	Poole/416	Rd	Westminster	21157
Hope Properties Inc	Po Box 493	Hampstead	MD	21074	4041	Gill	Ave	Hampstead	21074
Humbert J W Inc	56 Sycamore St	Westminster	MD	21157	198	Green/220	St	Westminster	21157
Humbert J W Inc	56 Sycamore St	Westminster	MD	21157	78	Winchester/88	Ave	Westminster	21157
Hunter Center Llc	4259 Harney Rd	Taneytown	MD	21787	0	Baltimore	St	Taneytown	21787
Jls Properties Llc	Po Box 916	Hampstead	MD	21074	100	Center/156	St	Westminster	21157
Kcr Llc	175 N Gorsuch Rd	Westminster	MD	21157	4	York	St	Taneytown	21787
Keefer Michael David Sr	7335 Gaither Rd	Sykesville	MD	21784	7307	Gaither	Rd	Sykesville	21784
Leatherwood Vivian A	801 Hoods Mill Rd	Woodbine	MD	21797	801	Hoods Mill	Rd	Woodbine	21797
Locust House Associates	C/o Aimco/ta Ms 235	Carrollton	TX	75011	30	Locust	St	Westminster	21157
Manchester Manor Limited Partnersh	2611 Old Taneytown Road	Westminster	MD	21158	2997	Bachman	Rd	Manchester	21102
MARVIN GARDENS CONDOMINIUM	APT A, 1825 Vincenza Dr	ELDERSBURG	MD	21784-5976	1825	Vincenza	DR	Eldersburg	21784-5976
Maryland Health And Home	419 Cedar Bridge Ave Apt 104	Lakewood	NJ	08701	7312	First	Ave	Sykesville	21784
Mcintire Latricia	Po Box 2302	Winchester	VA	22604	1100	Meadow Branch	Rd	Westminster	21158

Note: By State law, any new apartment buildings or condominiums that fall under the requirements of the law are required to implement an ABCR program within three (3) months of commencement of occupancy.

Table 3-2
Participating Apartment Buildings or Condominiums in ABCR Program

Owners Name	Mailing Address	City	State	Zip	Number		Type Premise	City Premise	Zip
					Premise	Name Premise			
Meekins Associates Lllp	3233 Murray Rd	Finksburg	MD	21048	3233	Murray	Rd	Finksburg	21048
Misty Meadows Properties Llc	P O Box 643	Hampstead	MD	21074	0	Park	Ave	Hampstead	21074
Mjb Properties Llc	2021 Walsh Dr	Westminster	MD	21157	1326	Main	St	Hampstead	21074
Monfred Sugarman Ltd Ptr	2613 Cabover Dr	Hanover	MD	21076	7420	Village	Rd	Sykesville	21784
Mount Airy Apartments Llc	C/o Phoenix Real Estate Llc,6328 Eastern Ave NE.	Washington	DC	21100	201	Watersville	Rd	Mount Airy	21771
Mt Airy Life Center Limited	C/o M Robin Polec,1205 York Rd. Penthouse Ste.	Lutherville	MD	21093	705	Midway/713	Ave	Mount Airy	21771
Northwestern Investments Llc	Po Box 965 c/o Louise J. Hood	Eldersburg	MD	21784	70	Church/72	St	Westminster	21157
PARRS RIDGE CONDOMINIUM ASSOC	3600 Crondall Lane suite 103	LUTHERVILLE	MD	21093-6024	327	Uniontown	RD	Westminster	21157
Pheasant Ridge Mhc Llc	C/o Lakeshore Communitis Inc,8833 Grose Point Rd Ste 3	Skokie	IL	60077	0	Baltimore National	Pike	Mt. Airy	21771
Piney Ridge Apartments Llc	C/o Theresa R Leatherbury,946 Marimich Ct. Ste A	Eldersburg	MD	21784	0	Piney Ridge	Pky	Eldersburg	21784
Piney Ridge Village Associates	C/o Hai Management Inc,7170 Riverwood Dr.	Columbia	MD	21046	6311	Georgetown	Blvd	Eldersburg	21784
Queen Acres Enterprises Llc	Po Box 88	Keymar	MD	21757	3205	Chestnut/3223	St	Manchester	21102
Queen Acres Enterprises Llc	Po Box 88	Keymar	MD	21757	3233	Chestnut/3255	St	Manchester	21102
Rachuba Enterprises B Inc	946 Marimich Ct Ste A	Eldersburg	MD	21784	0	Johnsville	Rd	Eldersburg	21784
Snyder Apartments LLC	c/o Mark Snyder 36 Bond Street	Westminster	MD	21157	263	Green	St	Westminster	21157
Snyder Apartments LLC	c/o Mark Snyder 36 Bond Street	Westminster	MD	21157	265	Green	St	Westminster	21157
Ridge Residences Inc	C/O HOUSING & HEALTH SER INC,810 Light St.	Baltimore	MD	21230	0	Bishop	St	Westminster	21157
Ridgeley/hampstead	C/o Wallace H Campbell & Co,6212 York Rd	Baltimore	MD	21212	4420	Black Rock	Rd	Hampstead	21074
Ridgely Black Rock Limited	C/o Wallace H Campbell & Co,6212 York Rd	Baltimore	MD	21212	4426	Black Rock	Rd	Hampstead	21074
Ridgely House Apartments	C/o Wallace H Campbell & Co In,6212 York Rd	Baltimore	MD	21212	4424	Black Rock	Rd	Hampstead	21074
Rowe Henry G L/e Etal	C/o Ryan Property Mgmt, 400 E. Main	Westminster	MD	21157	88	Main	St	Westminster	21157
Schneider Realty Co Inc	7430 Gaither Rd	Sykesville	MD	21784	7340	Gaither	Rd	Sykesville	21784
Schoolhouse Road Assoc	500 E Pratt St Suite 200	Baltimore	MD	21202	518	N. Schoolhouse	Rd	Sykesville	21784
Sereld Limited Partnership	513 Harbour Dr	Ocean City	MD	21842	6500	Carrolltowne Village	Dr	Sykesville	21784
SERELD LIMITED PARTNERSHIP	C/O TM ASSOCIATES MANAGEMT INC,15825 Shady Gro	ROCKVILLE	MD	20850-4008	6500	CARROLLTOWNE VILLAGE		SYKESVILLE	21784
SEVERNVIEW DRIVE LIMITED	C/O MARK J EINSTEIN,500 E Pratt St. Ste 200	BALTIMORE	MD	21202-3100	1	MAIN	ST	WESTMINSTER	21157
SEVERNVIEW DRIVE LIMITED	C/O MARK J EINSTEIN,500 E Pratt St. Ste 200	BALTIMORE	MD	21202-3100	3	MAIN	ST	WESTMINSTER	21157
Severnview Drive Limited	C/o Mark J Einstein,500 E Pratt St. Ste 200	Baltimore	MD	21202	1	Main/3	St	Westminster	21157
Shaw Andrew J	C/o Jean A Shaw,514 Marshall Dr.	Westminster	MD	21157	105	Main	St	Westminster	21157
Shaw Andrew J	C/o Jean A Shaw,514 Marshall Dr.	Westminster	MD	21157	76	Pennsylvania	Ave	Westminster	21157
Shp lli Westminster Llc	C/o Shelter Group,218 N Charles St. Ste 220	Baltimore	MD	21201	505	High Acre	Dr	Westminster	21157
Ssam Llc	10825 Hillbrooke Ln	Potomac	MD	20854	21	Main/29	St	Westminster	21157
Tamsar Acres Inc	Po Box 390	Manchester	MD	21102	3332	Main	St	Manchester	21102
Taneytown Village Limited	77 West St Ste 210	Annapolis	MD	21401	0	Grand	Dr	Taneytown	21787
Timber Ridge Apartments	C/o Housing & Health Ser Inc, 810 Light Street	Baltimore	MD	21230	0	Bishop	St	Westminster	21157
Transitions Healthcare Oakland Man	2810 Kaywood Pl	Sykesville	MD	21784	2810	Kaywood	Pl	Sykesville	21784
Trayer William E Jr	6506 Church St	Sykesville	MD	21784	909	Trayer	Ave	Eldersburg	21784
Triple Street Llc	17 W Pennsylvania Ave Ste 500	Towson	MD	21204	31	Sullivan/37	Ave	Westminster	21157
Triple Street Llc	17 W Pennsylvania Ave Ste 500	Towson	MD	21204	82	Wimert/93	Ave	Westminster	21157
Village House Associates Limited	C/o Humphrey Dev Inc,7170 Riverwood Dr.	Columbia	MD	21046	7426	Village	Rd	Sykesville	21784
Village Square Llc	17 W Pennsylvania Ave Ste 500	Towson	MD	21204	102	Wimert	Ave	Westminster	21157
Snyder Apartments LLC	Mark Snyder, 36 Bond Street	Westminster	MD	21157	14	Ward/48	Ave	Westminster	21157
Washington Court	15 Washington Ln Apt H	Westminster	MD	21157	11	Washington / 31	Ln	Westminster	21157
Watts 1314 Associates Inc	10 Hoff Rd	Union Bridge	MD	21791	10	Main/12	St	Westminster	21157
Westminster Bond Senior	C/o Conifer Realty, Llc, 183 E Main St. Fl 6	Rochester	NY	14604	112	Bond	St	Westminster	21157
Westminster Hotel Investors Llc	2 College Hl	Westminster	MD	21157	451	Western Md College	Dr	Westminster	21157
Westminster Land Lllp	C/o Siena Corp,8221 Snowden River Pkwy	Columbia	MD	21045	1200	Baltimore	Blvd	Westminster	21157
Wheeler Paul M	2201 Old Washington Rd	Westminster	MD	21157	139	Bond	St	Westminster	21157
Will Eugene S	505 Sunbrook Road	Reisterstown	MD	21136	2439	Fairmount	Rd	Hampstead	21074
Will Eugene S	505 Sunbrook Road	Reisterstown	MD	21136	4600	Sykesville	Rd	Sykesville	21784
WINIFRED MANOR CONDOMINIUM ASSOC	2020 Rudy Serra	SYKESVILLE	MD	21784-6370	2020	Rudy Serra	Dr	Sykesville	21784

Note: By State law, any new apartment buildings or condominiums that fall under the requirements of the law are required to implement an ABCR program within three (3) months of commencement of occupancy.

**Table 3-3
Employment Distribution by Industry Group 2013 Annual Average**

Industry Group	CARROLL COUNTY	PERCENT OF TOTAL EMPLOYMENT
<i>Goods-Producing</i>	9,558	17.0%
Natural Resources and Mining	405	0.7%
Construction	5,101	9.1%
Manufacturing	4,052	7.2%
<i>Service Providing</i>	38,285	68.2%
Trade, Transportation, and Utilities	11,290	20.1%
Information	434	0.8%
Financial Activities	1,593	2.8%
Professional and Business Services	6,561	11.7%
Education and Health Services	9,563	17.0%
Leisure and Hospitality	6,558	11.7%
Other Services	2,286	4.1%
Unclassified	0	0.0%
<i>Private Sector Total - All Industries</i>	47,843	85.2%
Federal Government	270	0.5%
State Government	1,345	2.4%
Local Government	6,686	11.9%
<i>Government Sector - Total</i>	8,301	14.8%
Total Employment	56,144	100.0%

Note: The data includes all wage and salary workers covered by unemployment insurance. Not included are self-employed, agricultural, railroad, military, and some religious organization employees. These figures pertain to people who work in the jurisdiction rather than those who live in the jurisdiction.

**TABLE 3-4
WASTEWATER TREATMENT PLANT SLUDGE
WET TONS PRODUCED**

AREA	WET TONS
Freedom*	3,323
Hampstead	1,022
Manchester	276 (dewatered)
Mount Airy	1,300
New Windsor	0.0
Pleasant Valley	359
Taneytown	599
Union Bridge	684
Westminster	4,457
TOTAL	12,020

***Includes tonnages transported from plant at South Carroll High School.**

Data from *2014 Carroll County Water & Sewer Master Plan*, adopted by the Board in December 2013 and was granted final Approval by Maryland Department of the Environment in July 2014.

**TABLE 3-5
CARROLL COUNTY
FY 2015
LEACHATE GENERATED**

Landfill	Leachate (Gallons)
*Bark Hill	3,727
*Hoods Mill	6,000
Northern	9,068,365
TOTAL	9,078,092

***Facility Capped**

Method of Disposal: The untreated leachate is hauled to Freedom Wastewater Treatment Plant and Westminster Wastewater Treatment Plant via tank truck.

**Table 3-6
Carroll County Municipalities
Solid Waste Management & Recycling**

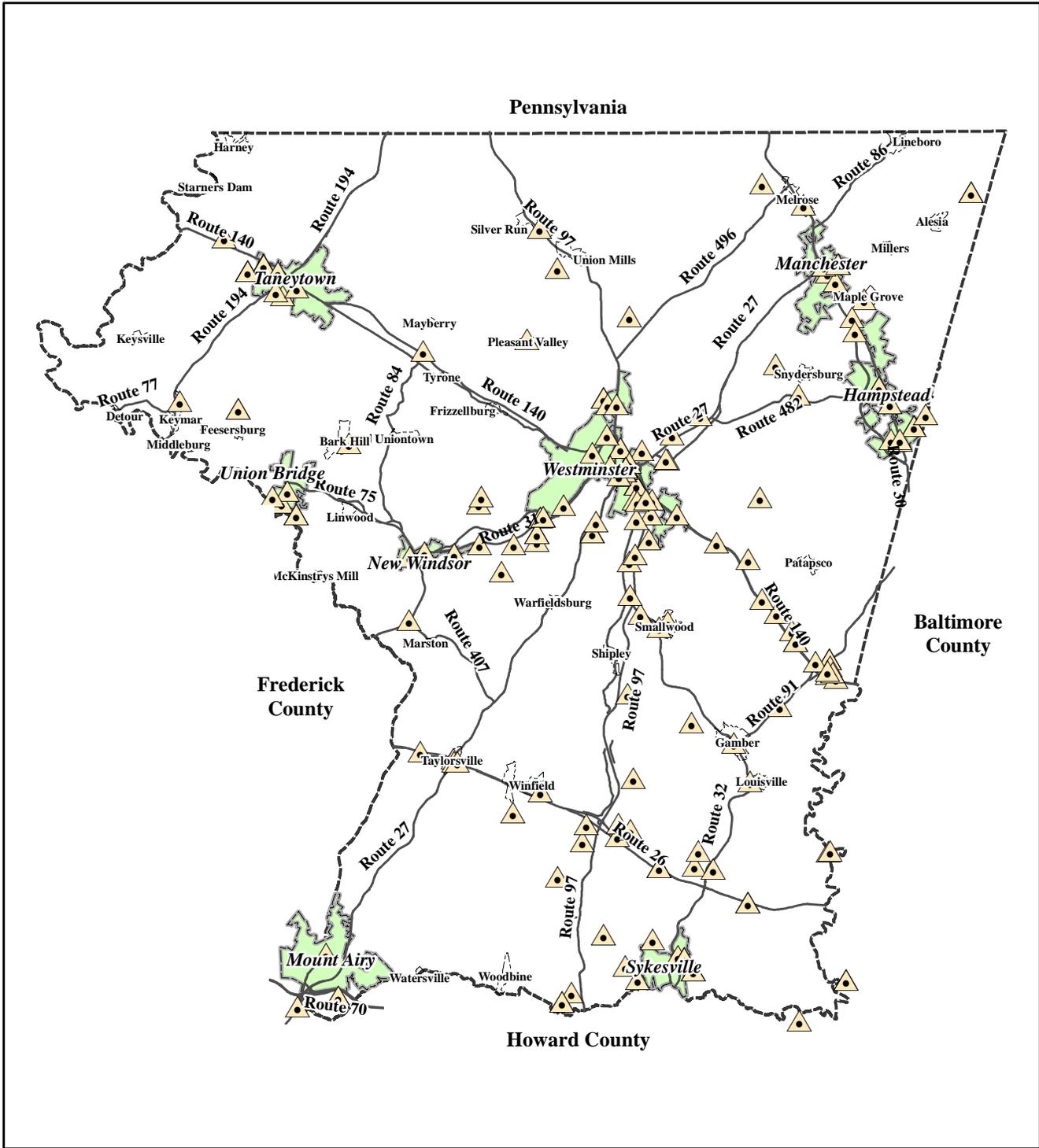
Municipality	No. of Households	Waste Collection	Recycling	Yard Waste	Bulky Waste
Hampstead	2,509	Residential - weekly	Residential - weekly	Residential - weekly (April - November)	Residential - 3 times/year
Manchester	1,885	Residential & Commercial - weekly	Residential & Commercial - weekly	N/A	Residential - 3 times/year
Mount Airy	2,171	Residential - weekly	Residential - weekly	Residential - twice/month (April - November)	Residential - 2 times/year
New Windsor	571	Residential - weekly	Residential - weekly	Residential - biweekly (May - December)	Residential - 4 times/year
Sykesville	1,607	Residential - weekly	Residential - weekly	Residential - weekly	Residential - On Call
Taneytown	2,649	Residential - weekly	Residential - weekly	Residential - weekly	Residential - 2 times/year
Union Bridge	430	Residential - weekly	Residential - weekly	Residential - weekly	N/A
Westminster	7,829	Residential - weekly	Residential - weekly	Residential - weekly	Residential - On Call

CHAPTER 3

FIGURES

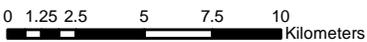
Figure 3-1

Discharge Permits



Legend

 Permit Site



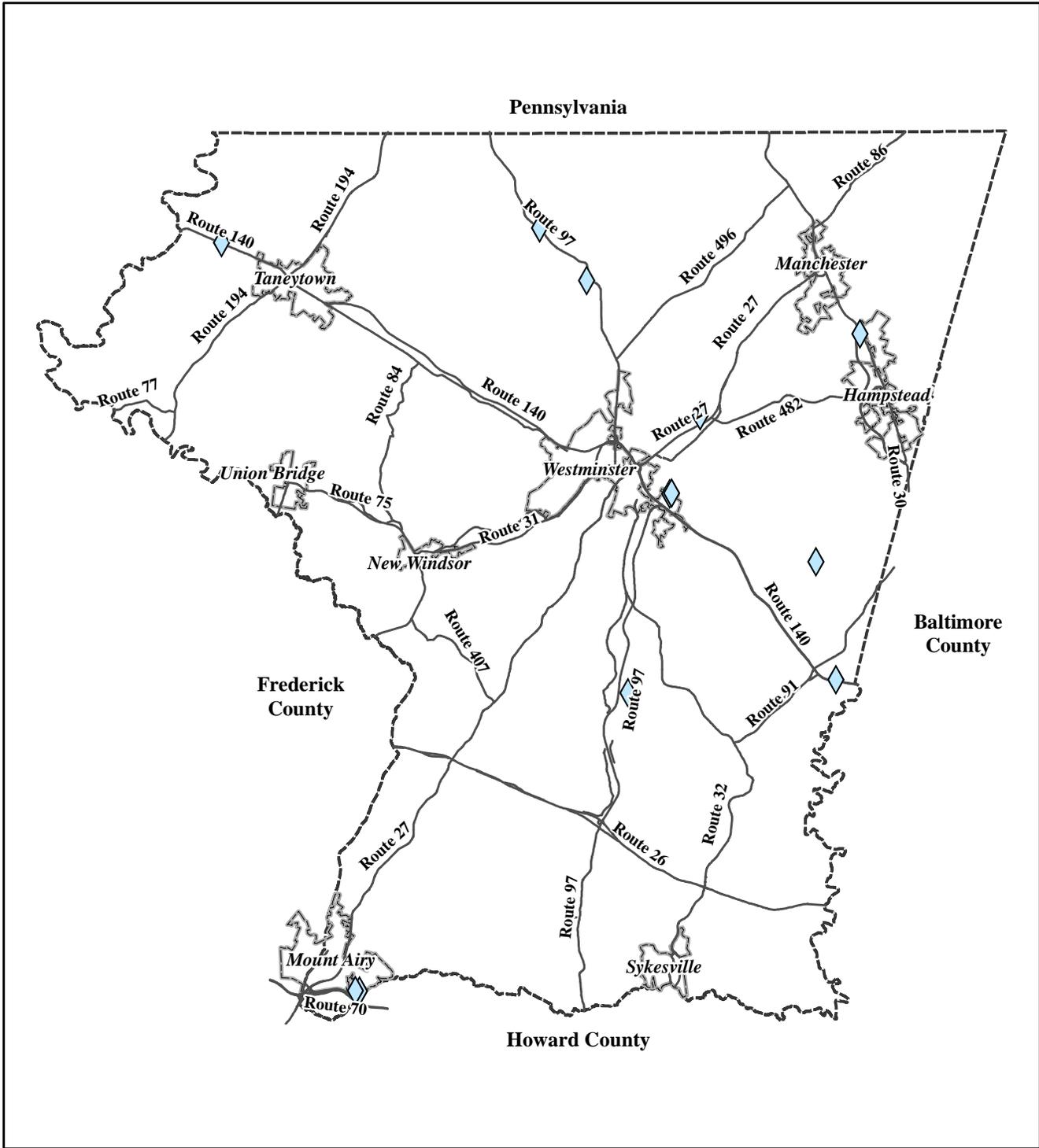
Discharge Permits
Carroll County, MD
Ten Year Solid Waste Management Plan
2016
Figure 3-1

Figure 3-2

RCRA Notifiers/Handlers

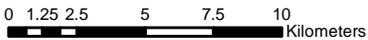
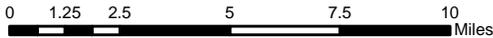
Figure 3-3

Automobile Recyclers



Legend

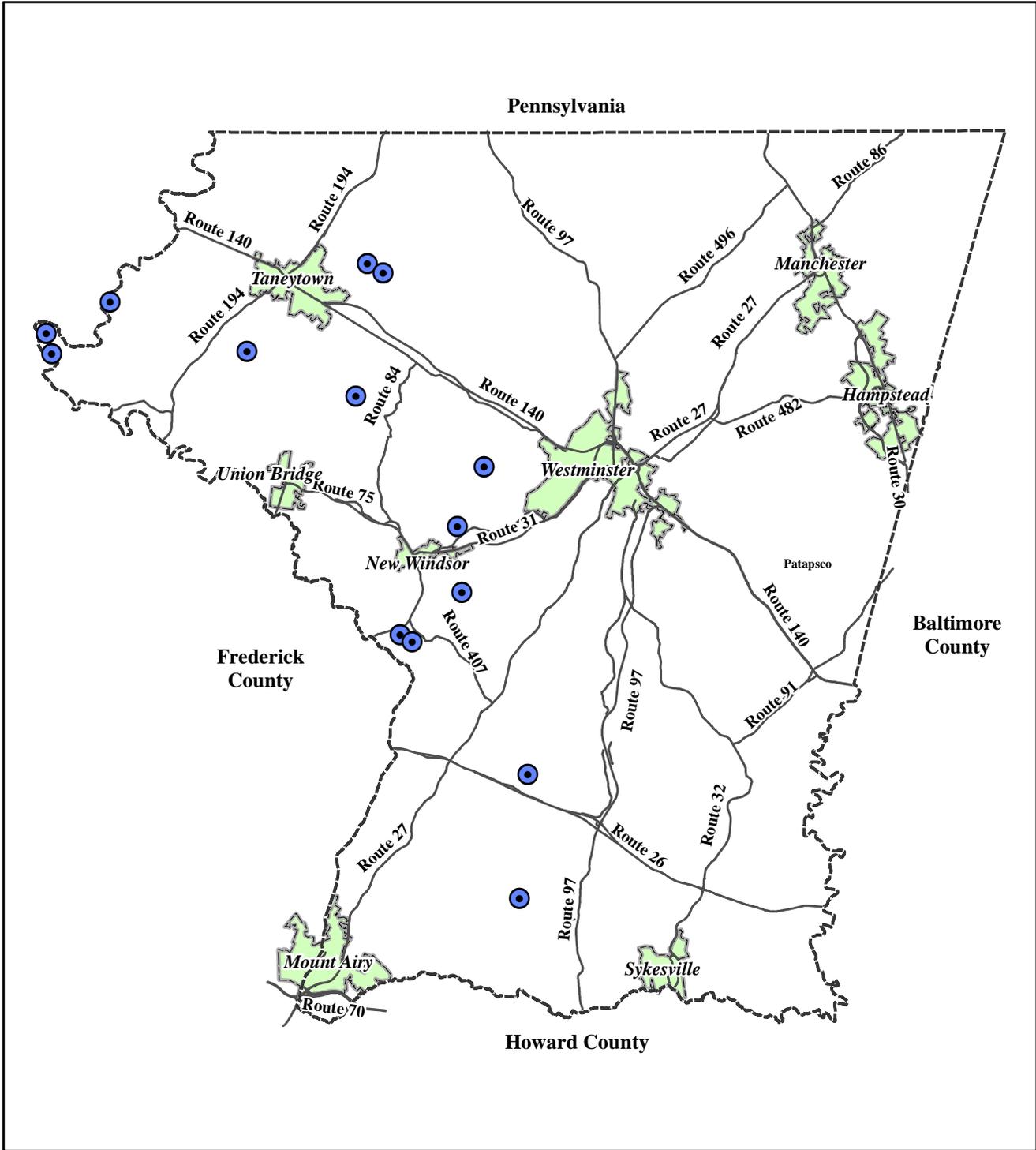
Automotive Recycler Location



Automobile Recyclers
Carroll County, MD
Ten Year Solid Waste Management Plan
2016
Figure 3-3

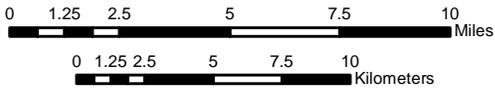
Figure 3-4

Sludge Application Permits



Legend

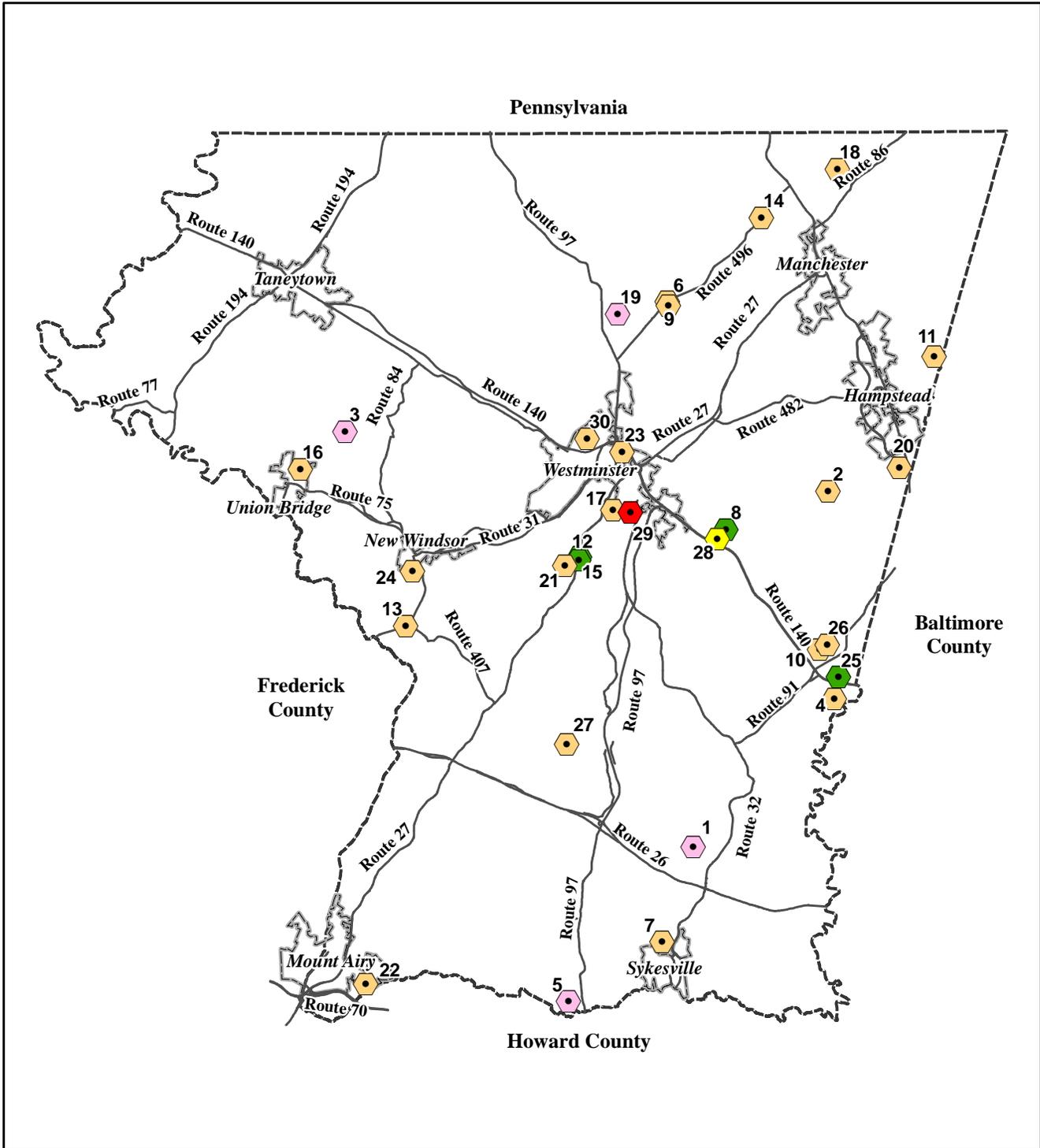
 Sludge Application Site



Sludge Application Permits
Carroll County, MD
Ten Year Solid Waste Management Plan
2016
Figure 3-4

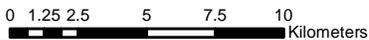
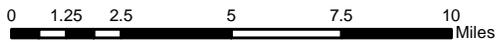
Figure 3-5

Operating and Closed Solid Waste Facilities



Legend

- CLOSED
- CLOSED AND CAPPED
- INCINERATOR
- OPEN
- RECYCLING FACILITY



**Operating and Closed
Solid Waste Facilities**

Carroll County, MD

Ten Year Solid Waste Management Plan

2016

Figure 3-5

Figure 3-5

Legend

OPERATING AND CLOSED SOLID WASTE FACILITIES
FIGURE 3-5

Site Number	Site Name	Status
1	HODGES LANDFILL	CLOSED AND CAPPED
2	WEAVER LANE SECURE LANDFILL	CLOSED
3	BARK HILL LANDFILL	CLOSED AND CAPPED
4	WILLIAM FABRICK PROPERTY (RESERVIOR AIRPORT)	CLOSED
5	HOODS MILL LANDFILL	CLOSED AND CAPPED
6	BACHMAN VALLEY LANDFILL	CLOSED
7	SYKESVILLE LANDFILL	CLOSED
8	NORTHERN LANDFILL (REESE)	OPEN
9	CARROLL COUNTY TIRE DISPOSAL	CLOSED
10	CONGOLEUM INDUSTRIES	CLOSED
11	GROSS MILL LANDFILL	CLOSED
12	THOMAS, BENNET & HUNTER RUBBLE LANDFILL #1	OPEN
15	THOMAS, BENNET & HUNTER RUBBLE LANDFILL #2	OPEN
13	NEW WINDSOR LANDFILL	CLOSED
14	STATE ROADS (EBBVALE)	CLOSED
16	UNION BRIDGE LANDFILL	CLOSED
17	WESTMINSTER LANDFILL	CLOSED
18	STONEY LANE	CLOSED
19	JOHN OWINGS LANDFILL	CLOSED AND CAPPED
20	BLACK & DECKER (GENERAL)	CLOSED
21	KATE WAGNER LANDFILL	CLOSED
22	MURPHY PROPERTY	CLOSED
23	WESTMINSTER DUMP	CLOSED
24	NEW WINDSOR-SMALL QUARRY FILLED WITH DEBRIS	CLOSED
25	C.J. MILLER	OPEN
26	PHEONIX RECYCLING	CLOSED
27	OAK TREE ROAD RUBBLE LANDFILL	CLOSED
28	NORTHERN LANDFILL RECYCLING CENTER	RECYCLING FACILITY
29	CARROLL HOSPITAL CENTER INCINERATOR	INCINERATOR
30	RANDOM HOUSE INCINERATOR	CLOSED

4.0 SOLID WASTE MANAGEMENT SYSTEM ASSESSMENT AND ALTERNATIVES

In this chapter, the existing County solid waste management system is evaluated for its adequacy to meet the goals and objectives of Carroll County for the period of this Plan. Alternative technologies, management techniques, and regulatory modifications that could be used to meet identified requirements are discussed. In addition, siting constraints for potential new solid waste management facilities are also reviewed.

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

1. Reduce the generation of waste.
2. Reuse materials prior to their entering the waste stream.
3. Recycle generated waste materials.
4. Waste utilization, i.e., composting and waste-to-energy.
5. Landfilling of unusable waste.

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 presented in Chapter 5.

4.1 COLLECTION AND TRANSFER

Alternatives considered for collection of residential and other non-rubble 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 should have the option of being included in the residential waste or recyclable collection system for their geographic area, if satisfactory service can be provided.

4.1.1 ALTERNATIVE COLLECTION SYSTEMS

4.1.1.1 THE OPEN SYSTEM (SUBSCRIPTION)

In the unincorporated portions of Carroll County, most residential and commercial solid waste is collected by private haulers who contract directly with the individual homeowner, apartment complex, commercial establishment, industry, or institution. Individual clients are billed for services by the private hauler on a monthly or quarterly basis. All haulers operating in Carroll County must secure a license from the County and are required to operate under the requirements of the Solid Waste Ordinance (see Appendix B).

The Town of Sykesville operates its own collection system, using municipal employees and equipment. The remainder of the municipalities in the County contract directly with a private hauler for collection services within their boundaries.

Municipal taxes are used to pay for collection costs within the municipalities.

The existing system requires minimal involvement and financing by County government. The individual or commercial establishment is free to deal with the hauler of his/her choice. If service is unsatisfactory, there are no barriers to choosing another hauler. The system generally serves existing needs of the County in a satisfactory manner. The cost for hauling and disposal of waste is billed directly to the customer by the hauler with no County involvement.

In either a subscription or open system, overlapping routes are prevalent; typically, a neighborhood or block will be serviced 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 difficult to implement modifications to collection practices that may be desirable to meet the goals and objectives of the County Solid Waste Management Plan. These could include volume-based billing for collection services and mandatory collection of recyclables by solid waste haulers.

When collection is voluntary, vagrant dumping to avoid collection fees or trips to the landfill can be a problem.

4.1.1.2 CONTRACT COLLECTION

Under contract collection, the County would be divided into collection districts with approximately equal residential populations. Municipalities could either comprise 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. Each hauler could be responsible for billing each customer for collection and disposal services according to the rate established in the competitive bidding process. Alternatively, the County would pay each hauler based on their bids. This cost could be reflected on the tax rate or through a waste generation fee.

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

- 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 items,
- The servicing of multi-family housing, commercial, institutional, and industrial establishments,
- Collection hours and days,
- Performance standards, i.e. spillage, litter, noise, equipment,
- Whether a disposal or processing facility will be designated,
- Billing and bill collection procedures,
- Performance bonding of collection contracts, and
- Insurance, indemnification and record keeping.

The elimination of redundant collection routes should result in the reduction of collection costs for homeowners and commercial accounts. The contract system gives the County an opportunity for flow control and facilitates the implementation of new management policies through incorporation of requirements in contracts.

Although recyclable collection and volume-based billing can be implemented in the open free enterprise system, the increased control afforded to the County in a contract system would facilitate implementation and monitoring of these measures.

Mandatory collection can significantly reduce the occurrence of vagrant dumping and out-of-county waste from entering the waste stream and through the reduction of collection redundancy and 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 existing private haulers to remain in business; however, these haulers are then required to meet requirements imposed by the County, i.e., vehicle/container standards or reporting requirements. The haulers are responsible for billing each customer and for disposal services.

Under this system, Carroll County is responsible for establishing uniform performance standards for the haulers. Additionally, the County must also establish procedures and policies for licensing haulers. The following considerations must be addressed in establishing a licensing system:

- Length of license,
- Mandatory or voluntary collection,

- Collection of recyclables,
- Provision of containers for refuse and recyclables,
 - Collection frequency, and
 - Performance standards.

Carroll County now operates under the Solid Waste Ordinance, Chapter 50 of the County Code, (Appendix B) that provides for limited licensing. That authority could be expanded to achieve some waste flow control. A licensing system allows for the individual and commercial establishments to deal with the hauler of his/her choice. Therefore, small private haulers would be given an equal opportunity to compete with the large haulers. The system allows for the customer to select and change haulers at his/her option.

In addition to customer choice, the licensing system gives the County the opportunity to control flow and facilitates the implementation of new management policies through the requirements of the license.

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; this could be important for implementation of source reduction and recycling programs, as well as providing a uniform quality of service. Theoretically, economies of scale could be realized by such a large operation in the procurement of equipment and supplies. In addition, the public operation does not have to earn a profit or pay taxes. However, a large capital expenditure would be required by the County to procure the necessary equipment to take over all collection and hauling.

4.1.2 VARIABLE RATE VS. BASE RATE FEE 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 institute a variable rate charge for collection services. Currently, most refuse haulers charge a flat monthly fee (i.e., base rate) for collecting an unlimited amount of refuse. As a result, there is no 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 put at the curb each week (i.e., variable rate). As the amount of waste disposed increases or decreases, the cost to the resident either increases or decreases.

Variable rate programs are commonly referred to as pay-per-unit or pay-as-you-throw (PAYT) programs. Under such programs, residents place waste in specially designated bags or containers purchased from the hauler, local government or cooperative retail

outlets. Essential to a pay-per-unit program is the availability of recycling programs and educational material on ways to reduce the amount of waste generated. Programs exist that are totally based on a per-unit rate or regardless of the specifics, a pay-per-unit program provides two main benefits:

- It gives residents a certain level of control over their disposal costs, and
- It reduces the amount of waste requiring landfill disposal.

Another alternative could use a combination of a base rate for a threshold volume and a greater per bag fee above that threshold.

Current discussion within the County SWAC involves renewed investigation of this option. There was a Solid Waste Study performed by KCI Technologies, Inc. in 2015 that recommended PAYT.

4.1.3 WASTE COLLECTION IN CARROLL COUNTY

The current system, in unincorporated areas of the County, continues to be an open ended/subscription system. However, as a result of a Solid Waste Study conducted in 2005 by R.W. Beck for Carroll County, the Board of County Commissioners adopted a resolution (Resolution No. 658-06, See Appendix “H”) giving the Department of Public Works, with the assistance of the Northeast Maryland Waste Disposal Authority, the task to develop a Solid Waste Management Plan to meet long term needs of the County. One of the items in the resolution is to explore the possibility of establishing a contract or franchise form of collection rather than the current system.

Current discussion within the SWAC involves renewed investigation of this option. The Solid Waste Study in 2015 also recommended Collection Districts.

4.1.4 TRANSFER

A transfer station is used to consolidate waste from residential, commercial, and other collection vehicles into a larger vehicle for transportation costs savings. An example of this savings would be to take the 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. The savings are realized by using less manpower to transport the waste, by increasing the time collection vehicles can spend collecting waste, and by using one vehicle instead of multiple vehicles (thus saving the hauler operating costs, i.e. fuel, maintenance, and labor).

Transfer stations also provide a better opportunity to recycle by allowing the opportunity to target high value commercial loads.

Through a contract with Waste Management, Inc., Carroll County began transferring waste off the face of the landfill in July, 1997. At the same time, the County began negotiations for the construction of a transfer station at the Northern Landfill. Transfer operations from the transfer station began December 1, 1998.

Options for dealing with MSW in the event of routing disruptions, loading problems, or need to evacuate the transfer station include landfilling (in the near term and for short

periods of time) and/or resumption of transfer off the face of the landfill. The latter would require coordination with MDE.

4.2 WASTE REDUCTION

4.2.1 WASTE REDUCTION AS PART OF AN INTEGRATED WASTE MANAGEMENT APPROACH

Waste Reduction can be defined as:

"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 grasscycling and backyard composting of yard trimmings."

4.2.2 CARROLL COUNTY, MARYLAND - WASTE REDUCTION POLICIES

Carroll County will continue to implement waste reduction through the adoption of internal policies and citizen education programs. To achieve this, Carroll County has:

- Developed a waste reduction education and information package for use by local municipalities, consumer groups, clubs and service organizations, and homemakers' organizations.
- Included waste reduction information on Carroll County's website.
- Surveyed its waste generation patterns and took measures aimed at reducing waste generation rates.
- Included in all presentations of waste management (at meetings in all communities of the County) a segment on waste reduction.
- Provided technical assistance upon request, on the subject of waste reduction targeted at the homeowner and small business.
- Provided technical assistance upon request, to municipal governments, schools, and quasi-public institutions such as hospitals, health care facilities, and housing for the elderly, enabling them to implement local waste reduction programs.
- Provided technical assistance for promoting and implementing backyard compost and mulching programs for yard trimmings to homeowners and residential developers.
- Implemented in-house purchasing procedures resulting in less waste being generated, and procedures that encourage the purchase of materials that have a reuse value and the purchase of materials made from recycled material.
- Investigated opportunities to expand the County's present policy of purchasing used equipment when possible.

4.3 SOURCE SEPARATION/RECYCLING

4.3.1 SOURCE SEPARATION/RECYCLING AS PART OF AN INTEGRATED WASTE MANAGEMENT PROGRAM

Source separation implies the removal of materials, at the point of generation, from the municipal solid waste stream, prior to the collection, disposal, or processing of the remaining mixed municipal solid waste. The materials subject to "source separation" could be yard trimmings, recyclable glass, aluminum, ferrous metals, electronics, paper, corrugated cardboard and some plastics. Also implied are systems of collection, processing, and marketing of separated materials, i.e., recycling. Recycling results in the ultimate reuse of the subject material. Technically, no material is waste as long as it has a use. Only when the use of any material has been exhausted is true waste generated. When this is accepted as an axiom, waste management will become efficient and effective from an environmental, engineering and economic perspective. Source separation/recycling is one method of meeting legislative requirements for "materials recovery".

Effort expended by waste generators could consist of separating the materials from the waste stream collected as trash and making them available for either pick-up or taking them to a drop-off site. This may currently be considered by some as an inconvenience, but as the cost of disposing or processing solid waste increases, and as the public becomes more aware of solid waste management, source separation/ recycling becomes more attractive. Depending on how the program is designed, recyclable materials may be mixed together or separated by type. Yard trim typically is bagged if it is collected via routed pick-up or it can be loose if it is delivered to a drop-off site.

Collection consists of routed pick-up done either separately or in conjunction with the pick-up of trash, or delivery of materials to a drop-off site by the generator. Routed pick-up is appropriate to areas that have a fairly dense population, such as the larger cities of Carroll County. Sites can be as simple as an unattended site with containers for disposal or they can be as involved as a MRF designed to separate and process materials. They may also include redemption centers. 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.

From the time the Recycling Act went into effect up to September 1998, Carroll County fell into the 15% recycling category. However, as of October 1998, Carroll County's population surpassed the 150,000 mark, requiring the County to reduce its waste through recycling by 20%. Carroll County's recycling rate has exceeded the 20% mark since 1993. Carroll County's recycling rate decreased when the County's waste was no longer transferred to a waste to energy facility where the ash and scrap metal were recovered for recycling (see Table 4-1). In Calendar Year 2012, the County's MRA Rate was 36.96% and 47.86% with a 5% Waste Diversion Rate. This met the new Statewide Goals Act passed by the Maryland General Assembly in 2012 for counties with a population of over 150,000 requiring Carroll County to reduce its waste through recycling by 35%.

4.3.2 CARROLL COUNTY'S CURBSIDE RECYCLING PROGRAM

Carroll County currently administers a recycling program that includes drop-off facilities, curb-side collection and yard trim/mulch composting. In 1990, Carroll County placed thirteen drop-off bins at strategic locations around the County. The bins and the County's Recycling Center, formerly located near the Westminster Airport, provided citizens with the opportunity to divert material that would otherwise have ended-up in the County landfill. The bins and the center consistently yielded a 5 to 7% recycling rate. Due to the fact that Maryland law required the County to increase that rate to 15% by January of 1994, the Board of County Commissioners adopted the Solid Waste Ordinance (see Appendix D). That Ordinance requires individual haulers to provide at least weekly curb-side pick-up of residential recyclables. Between 1992 and 1998, the County contracted with Phoenix Recycling, Inc., (which was bought by Waste Management, Inc.) for the processing of all recyclables. Haulers delivered collected recyclables to the Phoenix site in Finksburg for processing and shipment. Commingled glass, metals, and plastic were then shipped to Waste Management's processing plant near York, Pennsylvania, for separation, packaging and shipment. Other materials, such as mixed paper and cardboard, were also processed for recycling markets. Waste Management then reported back to the County regarding the disposition of the processed material.

The recycling contract with Waste Management expired June 1998. Partners Recycling was awarded the new contract that became effective on July 1998. It was a 1-year contract with four 1-year renewal options. The County constructed a Material Recovery Facility (MRF) adjacent to the transfer station. All of the recyclables delivered to the MRF were processed by Partners. The containers were reloaded and hauled to Partners' Baltimore facility for further sorting and marketing. The mixed paper and cardboard were sorted, baled and marketed from the County's MRF. July of 2001, Partners notified the County that they would be getting out of the recycling business. They would, however, continue to honor the contract until they found a buyer who would assume the contract, or until the County could secure another service. On December 1, 2001, Office Paper Systems, Inc., assumed the contract and committed to honor all terms of the existing contract for the remainder of the term which expired June of 2003. A new bid for MRF services has distributed in 2003. Recycle America, a subsidiary of Waste Management, Inc., was awarded the bid. The current contract with Recycle America began in 2015 and is on an annual renewal basis.

The County Recycling Center, formerly located near the airport north of Westminster was relocated to Northern Landfill in 1993. The Landfill also provides other recycling programs for:

- Electronics
- White goods, Scrap Metals
- Textiles
- Yard trim
- Car batteries

The County began an electronics recycling program on December 1, 2005. The County participates with the Northeast Maryland Waste Disposal Authority for term contracts for the management of the collected electronic equipment.

Yard trimmings are diverted to a location at Northern Landfill where they are processed through a grinder or placed in windrows for composting. Textiles are picked up by a non-profit organization and consolidated with Howard County's program. White goods/scrap metals are sold to a contractor for recycling.

Carroll County's Recycling Program has been successful in achieving the 35% rate mandated by the Maryland Recycling Act. In 2014, Carroll County recycled 61,661 tons of material. This includes recycling tonnages from commercial establishments and industrial facilities, the drop-off center, hauler curb-side collection, white goods/scrap metal, as well as yard trim, textiles and electronics.

The thirteen drop-off sites were phased out as curbside recycling increased. The County currently provides two drop-off sites for residents who do not use a hauling service. One drop-off site is located at the Northern Landfill and the other at Hoods Mill Landfill (available on the first and third Saturdays of the month only).

4.3.3 YARD TRIMMINGS (COMPOST/MULCH)

One goal of Carroll County's source separation efforts has been the diversion of yard waste trimmings from the landfill. Much has been written concerning the benefit of home composting. The Carroll County Recycling Office, as well as other agencies such as the Extension Service, have been promoting grass-cycling and backyard composting through workshops and holding compost bin sales events. In spite of these efforts, yard waste continues to be a noticeable part of the waste stream.

Yard trim compost is a material which has undergone a biological decomposition of organic matter and is stabilized to the stage of being beneficial to plant growth. Composted yard waste products can be generated for use such as a mulch, soil amendment, topsoil, or potting soil.

4.4 WASTE PROCESSING TECHNOLOGIES

Various alternatives have been evaluated, and will continue to be, in order to effectively maximize the life of the County landfills. The waste processing alternatives evaluated in this section are:

- Waste Combustion/Resource Recovery
- MSW Composting
- Leachate Recirculation
- Mining

4.4.1 WASTE COMBUSTION/RESOURCE RECOVERY

This alternative has the capability to extend landfill life considerably. The technology, however, is controversial and requires a complex 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. Mass burn technologies available today are capable of reducing material volumes going into the landfill by up to 90%.

The cost of this technology may be, however, higher than other methods of disposal per ton due to the considerable capital cost associated with facility licensing, design, and construction. One option that has been used more often of late involves the use of private investment to construct public projects. Many municipalities have allowed private venture 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 offset the cost of operations. The private corporations agree to construct, own and operate the facilities for a designated number of years (normally 20 years) on a lease back arrangement in exchange for the agreed-to tipping rate. Facilities are designed in various configurations including waste separation before combustion. For example, materials such as glass and metals that do not add to the BTU's needed during combustion and are more readily recycled, can be separated. After combustion, the revenue realized through the sale of steam and/or electricity is used to offset and minimize tipping costs. Resource recovery is about seeing waste as a resource. A resource recovery system consists of waste processing technologies designed to process municipal solid waste and converting it into a resource such as compost or energy. Using such a technology will reduce land disposal capacity needs.

In 2005, the Board of County Commissioners, through the Northeast Maryland Waste Disposal Authority (NMWDA) contracted with R.W. Beck to conduct a study for Solid Waste Management Options for the County. As a result of the study, a number of recommendations were made, (see Executive Summary, Appendix J) which resulted in the Commissioners adopting a resolution (Resolution No. 658-06) addressing some of the recommendations. Resolution No. 658-06 gave authority to the Department of Public Works, with the assistance of the NMWDA, to conduct procurement for the purpose of obtaining contract terms and costs for a waste-to-energy facility. An agreement was signed with Frederick County for a joint waste-to-energy facility which was permitted with MDE. Carroll County subsequently withdrew from the agreement in 2014.

4.4.2 SOLID WASTE COMPOSTING

Municipal solid waste (MSW) composting has been practiced for many decades in a limited fashion around the world. In the United States, it has met with limited success because of high cost, production odors, faulty technology, and poor product quality. Typically, the economics of solid waste composting require high landfill tipping fees to justify the high cost of capital, operation, maintenance, and product marketing. Solid waste composting is often used to further process residual wastes generated by a MWPF.

About 70 to 75% of a typical solid waste stream which consists of newspaper, corrugated, mixed paper, food, and yard wastes can be composted. The remaining 25 to 30% must be landfilled, recycled, or processed in some other method. During periods when markets for

recyclables, such as paper, that are easily composted are high, they would be diverted for sale and not composted. For that reason, a ratio resulting in 1/3 marketed for recyclables, 1/3 composted, and 1/3 residual is assumed. Composted material may be used as landfill cover, for agricultural purposes or for landscaping. The market for composted municipal solid waste within Carroll County and the mid-Atlantic region has not been fully developed. In the event that an MSW composting facility is considered for Carroll County, the determination of markets for the composted material should be a priority. Failure of composting projects in the United States is most often found to involve quality control and market failure.

There are several composting technologies available today; however, the general process involves mechanical preparation of the incoming waste, materials recovery (in some cases), composting, curing, and product screening.

4.4.3 LEACHATE RECIRCULATION

This process seeks to speed the decomposition of MSW by introducing leachate into the sanitary waste cell. This would be done by spraying leachate uniformly on the surface, or more effectively, and in greater volume, by drilling a number of wells through the layers of compacted MSW and filling these wells with leachate. In this way, the leachate contacts the MSW throughout the cell. The speed and effect of this process will vary by site, but at least one landfill in Maryland has obtained significant measurable results in reduction of filled space (and therefore, creation by recapture of air space) through this approach.

4.4.4 LANDFILL MINING

Landfill mining refers to excavating previously buried waste with the goal of separating easily recovered ferrous metals, screening for separation of residual fine material, and final disposal through landfill or combustion. The goal of this effort is the recovery of airspace in the landfill cell.

4.5 ALTERNATIVES FOR SEWAGE SLUDGE PROCESSING AND UTILIZATION

4.5.1 SEWAGE SLUDGE CREATION AND MANAGEMENT IN CARROLL COUNTY - INTRODUCTION

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. Sewage sludge created when treating water for use is not the greatest concern. Sewage sludge resulting of the treatment of both domestic and industrial wastewater has a much higher potential to be contaminated with pathogens and pollutants such as heavy metals and pesticides.

The components of a sewage sludge treatment system at a municipal wastewater treatment plant are, to a large extent, driven by the selected sewage sludge disposal option. Sewage sludge management options traditionally include:

- Landfilling
- Land application

- Thermal reduction (incineration) and ash disposal, and
- Composting

At present, sewage sludge and other residual solids (screening, grit and grease) are landfilled either at Northern Landfill or an out of state landfill. As such, this report will focus on the requirements of land application options as a primary disposal option with landfilling as a secondary (back-up) option.

Much of the sewage sludge generated in Carroll County, and some generated in other counties, is land applied on Carroll County farms. When sewage sludge is applied to land, the application rate is specified by the permit issued and restrictions are placed on the future use of the land. To the extent that sewage sludge adds organic matter to the soil, the process can be beneficial. However, sewage sludge may also contain heavy metals and other compounds and these can accumulate. These elements build up in the soil with repeat applications and could result in levels that may be toxic. Sewage sludge can also contain, plant nutrient, organic chemicals, nitrogen, potassium and phosphorus. When sewage sludge application rates are set, however, only nitrogen is a consideration.

The permit to apply sewage sludge is issued for each farm and each field. The permits are not transferable. In order to qualify specific soil pH must be maintained. Sewage sludge application permits also define any limitations that will be placed on the area to be treated; the required soil depth to bedrock or ground water defines the buffer zone requirements and restricts application during adverse weather conditions.

4.5.2 SEWAGE SLUDGE GENERATION BY CARROLL COUNTY PUBLIC FACILITIES AND CURRENT DISPOSITION PRACTICES

There are eight publicly-owned community water supply and sewerage systems in Carroll County. Forty-five percent of the County's population has the benefit of a public water supply, while 48% have sewer service.

Carroll County owns, or has a direct interest in, five sewage treatment plants. These plants service the Hampstead and Freedom areas, Pleasant Valley community, and two public schools. The two school-based plants and the plants at Hampstead and Pleasant Valley are operated by County personnel while Freedom is owned and operated under contract by Maryland Environmental Service (MES). The Hampstead Plant generates an estimated 1,022 wet tons of sewage sludge while the Freedom plant generates 3,323 wet tons. The sewage sludge produced at the Hampstead Plant is landfilled. Freedom sewage sludge is land applied.

The six other publicly-owned sewage treatment plants are located within Carroll's towns: Manchester, Mount Airy, New Windsor, Taneytown, Union Bridge and Westminster. Each of these is operated by the incorporated town that they service. Tonnages for these plants are illustrated in Table 3-4. Four of the towns, i.e. Mount Airy, Taneytown, Union Bridge and Westminster, have traditional contracts for land application of sewage sludge. That application is accomplished under a permit from the Maryland Department of the Environment and by their standards. All of Manchester's sewage sludge is landfilled, and in the winter, all may use landfill disposal as land application is not possible during the

winter months. New Windsor has not generated sufficient sewage sludge to necessitate dredging of their lagoon.

As landfill disposal is often necessary, special conditions have been established for that disposal. Section 50.04 of the Solid Waste Ordinance (Appendix D) requires that sewage sludge can only be accepted at County landfills under specific circumstances. Sewage sludge disposal must first be approved by the Maryland Department of the Environment (MDE) and the County. Sewage sludge must be dewatered and tested as specified in the Solid Waste Ordinance as referenced above. The County also reserves the right to request additional testing to ensure that the sewage sludge does not exhibit any hazardous characteristics. Sewage sludge may not be mixed with any other material.

Sewage sludge generated within Carroll County is not the only concern. As Carroll County is traditionally agricultural, many farmers are solicited to accept sewage sludge generated in other areas for land application. That sewage sludge cannot always be immediately applied and storage is sometimes necessary. The Code of Public Laws and Ordinance of Carroll County, Section 158.051 is intended to provide regulation of sewage sludge storage. That Ordinance is proposed to regulate sewage sludge and other material storage based on the location of the storage facility relative to the County's Water Resource Protection Areas. Under the above Ordinance, sewage sludge can only be stored at publicly-owned sewage treatment plants. Sewage sludge storage is defined as an interim measure prior to either land application or landfill disposal. Currently there are no licensed sewage sludge storage facilities in Carroll County.

4.5.3 SEWAGE SLUDGE CO-COMBUSTION IN CEMENT KILNS

Wastewater treatment plant sludge has been combusted in cement kilns in Europe for some time. Countries in the European Union have prohibited both land application as well as landfill disposal making combustion the remaining alternative. The Lehigh Cement Company (Lehigh) plant in Union Bridge, Maryland is permitted to burn Class A Dried Biosolids (DBS) in their pyro-processing system as an alternative fuel to coal. Lehigh burns an average of 28,000 short tons of DBS annually. The Class A DBS is received from a supplier who manages various in state WWTFs.

Lehigh was issued two permits from Maryland Department of the Environment, an Air Quality Permit approving the burning within the cement kiln and a Waste Management Innovative Permit for the storage and handling of the DBS. Through the Air Quality permitting process, air emissions were studied during the burning of the DBS, which determined that all emissions were below the required limits. The Innovative permits, prescribed that Lehigh submit material handling and safety procedures for storing and managing the DBS on-site. Neither Permit limits the quantity of DBS Lehigh can burn annually. Monitoring the chemical balance within the cement manufacturing process is the only volume limitation to burning DBS at Lehigh.

Pneumatic transport vehicles will deliver DBS to the Union Bridge facility. This type of vehicle utilizes an onboard compressor to blow the bio-solids material from the transport vehicle into the storage tank. When pneumatic transport vehicles are unloaded into the bio-solids storage tank the conveying air will be removed from the tank by the explosion

proof product recovery unit mounted on top of the storage tank. DBS recovered by this unit are then returned back into the storage tank.

The small amount of air from the DBS unloading system will flow into the calciner primary air and subsequently into the combustion zone of the kiln.

4.6 TECHNOLOGY FOR FINAL DISPOSAL

4.6.1 THE EXISTING LAND DISPOSAL SYSTEM IN CARROLL COUNTY

Carroll County is currently operating one landfill with adequate capacity to serve its needs for the tenure of this Plan. The County continues to investigate the possibility of further integrating its solid waste management system with alternatives other than landfilling.

As previously noted, in 2005, the Board of County Commissioners, through the NMWDA, contracted with R.W. Beck for a Solid Waste Management Options study for the County. As a result of the study, a number of recommendations were made, including exploring joint disposal efforts with other Counties and beginning a process of site selection for a future landfill. On January 13, 2015, former Governor O'Malley issued Executive Order 01.01.2015.01 *Zero Waste Plan for Maryland*. Section D of the Executive Order prohibits the Maryland Department of the Environment from issuing a permit for any new municipal or land clearing debris landfill capacity in the state. This restriction hinders any long-term planning efforts that involve landfilling expansion or siting.

4.6.2 LANDFILL DESIGN TECHNOLOGY

A sanitary landfill contains compacted solid waste within an enclosed lined area to minimize potential adverse environmental impacts. All landfills within Maryland must satisfy requirements established for construction, operation, maintenance, expansion, modification, and closure as stipulated by MDE.

Despite environmental and public concerns associated with landfills, every integrated waste management system must have access to a landfill. Recycling, composting, and material separation and removal can divert significant portions of the waste stream from final disposal, but not all materials are recyclable. Combustion of solid waste significantly reduces waste volumes, but even the most advanced facilities must dispose of ash residues. Also, waste may need to be disposed of during plant shutdowns.

Today, sanitary landfills are significantly more sophisticated than the open dumps of the past. "State-of-the-art" 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

4.6.3.1 NORTHERN LANDFILL

The operation of the Northern Landfill is planned to continue in the current manner. The majority of the waste received, 85% - 90% of waste received at the Northern Landfill is transferred for disposal at an out-of-county facility. The remaining 10%-15% is disposed of in the County landfill. According to plan, Cell 3 was constructed in 2006 and accepted waste in 2007. The County plans to utilize this landfill well into the 21st Century. At this time and at the current fill rate, over 50 years of life remains in the Northern Landfill, located in Westminster, Maryland. Cell #3 has a 17.7 acre footprint and has a total remaining permitted air space of 245,000 cubic yards. This volume is up to intermediate grades. The estimate is based on an aerial topographic mapping study performed on January 5, 2016 by Land and Mapping Services from aerial photography completed on this date and volumetric analysis performed by BAI Group, Inc.

As mentioned, Executive Order 01.01.2015.01 prohibits the MDE from issuing a permit for new municipal landfill capacity in the state. This restriction hinders long-term planning efforts beyond existing permitted landfill capacity. The wastes that cannot be diverted or recycled must currently be landfilled. Eventually, existing landfills will be filled and need to be closed. It takes years to site and construct a landfill and the existing prohibition will cause significant problems throughout the State in the future.

4.6.3.2 HOODS MILL LANDFILL

The Hoods Mill landfill site is located in southern Carroll County, near the intersection of Hoods Mill Road and Maryland Route 97. The site is divided into two sections; the first of which is comprised of a 22 acre closed and capped landfill. Part of this section is currently used for a convenience Home Owner Drop Off (HODO) area for residential waste and recycling on a limited basis. The second parcel has approximately 15 acres of potentially usable landfill cell and lies to the west of the closed landfill. The west parcel would require County application and MDE approval if it were to be used as a landfill. If, in the future, more landfill space is needed, this limited area could be evaluated further. Currently, 40 acres of the west cell is being leased to a private company, Harvest RGI, who produces compost and mulch.

4.6.4 THE DEVELOPMENT OF NEW LANDFILLS

It is Carroll County's intent to continue using Northern Landfill well into the 21st century. There is no intention of developing additional space at other than Northern or Hoods Mill.

4.7 SELECTING A SITE FOR NEW SOLID WASTE ACCEPTANCE FACILITIES

A critical decision in the development of any solid waste acceptance facility is the selection of its site. The decision-making process for selecting a facility site involves the interaction and consideration of many factors. These factors include environmental, technical, economic, and socio-economic, and sociopolitical considerations. The site selection process results in a hierarchy of factors influencing the decision and incorporates objective (quantitative) and subjective (value judgments) considerations into the evaluation of sites through a multi-level screening process.

- Environmental concerns deal with the effect that the facility will have on the ecosystem of the site and surrounding area and permitting requirements. It includes impacts on wetlands, ground-water, surface water, endangered species, archaeological sites, historical sites, and environmentally-sensitive areas.
- Technical concerns involve the physical location and daily operational requirements such as access to roads, buffers, size and type of facility, soils, easements, sediment erosion controls, storm water management, and site utilization.
- Economic and Socio-economic concerns involve costs incurred to establish the site and the financial impact on nearby neighbors of the facility.
- Socio-political concerns deal with the reaction of local citizens, industry, and others to the siting process and final decision.

In order for the siting process to be effective, the methodology must consider the future impacts of the decision, involve the public, take conflicting views into consideration, and provide a usable tool with which county decision makers may make the final decision. Site selection for a solid waste acceptance facility is one of the most politically volatile issues that local governments face. Public attitudes and concerns are an integral part of the process of siting a new waste management facility. A sound framework for establishing a site is essential to providing the decision makers with a solid foundation from which to arrive at a decision. Once the site decision is made, the County may continue forward to provide the community with an integrated solid waste management system. The siting process for both disposal and processing facilities involves a multi-level screening process, as described in Table 4-7.

The site evaluation can be carried out in a number of stages relative to the type of facility in question, i.e., landfill or combustion plant, and the number of sites to be evaluated. Every evaluation will, however, have certain parameters in common. The parameters necessary for consideration are grouped into three main categories:

- Environmental
- Socio-Economic
- Engineering

Examples of the environmental parameters are: impact to surface and groundwater resources, air quality, floodplains, wetlands and habitat. Socio-Economic parameters included impact to adjacent land use, zoning and traffic. Examples of engineering parameters include soils limitations, hauling cost, and usable area. Specific parameters would also be designed to meet the MDE licensing process specific to the facility to be located (see Section 2.0). The first phase of any screening analysis would delineate exclusion zones, such as sensitive areas that would not be under consideration.

After the parameters are established and the initial screening is complete, more site specific data would be collected. Sources are numerous and varied and will include reports and maps from government offices and regulatory agencies. A site evaluation committee would generally then be assembled to perform the ranking and evaluation after the information gathering and preparation phases are completed. All members of the evaluation committee would visit the sites being considered and would be knowledgeable of information assembled on each site.

In order to thoroughly and objectively evaluate, compare, and rank potential sites, a matrix evaluation would then be conducted. The purpose of the matrix is to develop a numerical analysis of the suitability of each considered site for the construction and operation of the facility. Licensing of the selected site would require further site specific investigation and analysts to satisfy both design and permitting sufficiency. At this time and at current fill rate, over 50 years of life remains in the Northern Landfill, located in Reese, Maryland.

4.7.1 CONSTRAINTS ON THE SITING OF SOLID WASTE MANAGEMENT FACILITIES

Existing physical features and existing and planned uses of the land within Carroll County affect the siting of waste management facilities. Solid waste management facility siting should be planned to minimize impacts on the citizens of Carroll County and the environment. A brief description of the constraints imposed on solid waste acceptance facilities, based on technical, environmental and land use concerns, follows.

4.7.1.1 TOPOGRAPHY

Topography in Carroll County is somewhat varied, with elevations ranging from 397 feet on the County's western boundary along Route 75, south of Union Bridge to 1,096 feet at a point northwest of Manchester just south of the Pennsylvania state line. The topography ranges from low, wide flat stream valleys to high, steep slopes.

Landfill sites are generally located in ravines, topographic sinks, broad flat plateau areas, and areas which do not have steep slopes. Land that has slopes greater than 15% is not considered acceptable for landfills due to excessive site grading required to develop the landfill. Other waste management facilities are not as constrained by the slope of the land; however, cost factors associated with site work must be considered. 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. Other waste management facilities may be sited on areas of steeper slopes, provided the land is developable and appropriate for the facility.

4.7.1.2 SOILS

Soil types of Carroll County are varied. In most locations, the porous nature of the unconsolidated soils does not provide the impervious layer needed to contain leachate within the waste fill area. However, measures such as geomembranes, leachate collection and treatment systems, and monitoring systems aid in reducing the potential for migration of leachate into the environment.

The *Carroll County Soil Survey* provides more detailed information on the types and locations of soils within the County which should be used for the initial stages of siting a landfill. However, this survey is somewhat limited as it is primarily concerned with the first five feet of the soil profile and more information is required before the final site selection decision can be made.

The properties of the soils on which a landfill is sited should be considered in planning, design, construction, operation, closure, and post-closure of the landfill. Soil characteristics such as soil texture, erodibility, load-bearing capacity, resistance to slide, permeability, water table elevation, and quantity, should be addressed during the site selection process.

Clayey, impermeable soils are desirable soils for the base of the landfill; however, landfill operations require a loamy or silty soil which is easily spread and compacted for cover material. Soil types for other waste management facilities are those which can provide adequate support for the building, structure or concrete pad.

4.7.1.3 GEOLOGY AND GEOHYDROLOGY

Carroll County is underlain by rocks of the easternmost Appalachian Mountain system. Sedimentary, igneous, and metamorphic rocks of diverse lithology, complex structure, and ages ranging from Precambrian to Triassic are found here. Occasional thin, unconsolidated recent streambed deposits are also found in a number of streams. Although Coastal Plain sediments underlie counties adjacent to Carroll County, they do not extend into Carroll County.

The majority of Carroll County is underlain by metamorphosed sedimentary and volcanic rocks overlain by a thick mantle of unconsolidated weathered material (saprolite). The general structural "grain" of Carroll County is northeast to southwest. The grade of metamorphism, that is the general grain size of the rocks, increases across this "grain", from northwest to southeast. Slates and phyllites are exposed near the north westernmost outcrop area of the Piedmont Uplands near the Pennsylvania state line and Black Corner. These phyllites and slates (very fine to fine-grained metamorphic rocks) grade gradually to phyllites and fine-grained schists in the central portion of Carroll County, and finally to coarser schists and gneisses in the southeastern portion of the County near Sykesville, as the core of the Ancient Appalachians is approached. The Precambrian Baltimore gneiss is the oldest rock type found in Carroll County, and is generally interpreted as representing the central core of the Appalachian system.

These rocks are tightly folded into anticlines and synclines, with beds ranging in dip from horizontal to vertical. Faults are probably very numerous, but the paucity of outcrops limits the mapping of them. Joints and fractures are common throughout the metamorphic rocks of Carroll County.

The remainder of Carroll County, the north westernmost corner, is underlain by much younger Triassic-aged sedimentary rocks, which form the Triassic Uplands. These are alluvial deposits of the New Oxford Formation. They gradually become of coarser texture east and southeastward from the Carroll County/Frederick County line, grading from shale to siltstone, and sandstone, to the ancient metamorphic rocks. These Triassic rock strata have a gentle west and northwest dip, and generally strike northeast just north of Union Bridge, then gradually bend to the north as the Pennsylvania line is approached. These beds are cut by a few large and numerous small high-angle normal faults, and have well developed joint and fracture systems.

Triassic-aged diabase dikes cut all rock types of Carroll County and have a general north-south trend with a vertical to near vertical dip. These dikes are extremely dense and impermeable, and generally form relatively high topographic areas. The general geology of Carroll County is illustrated on Figure 4-1. Presently, more than half of the potable water used in Carroll County has groundwater as its source. With the exception of Westminster and the Freedom/Sykesville District, all of the community planning areas in Carroll County rely solely on groundwater from the aquifers in Carroll County.

Within Carroll County, three basic aquifer types exist. These are the saprolite aquifer (including metavolcanic, phyllite, and schist parent rock materials), carbonate rock aquifer, and Triassic rock aquifer. Their areal distribution is shown on Figure 4-2. Table 4-3 illustrates recharge rates in the various aquifers.

4.7.1.4 WETLANDS

All of the wetlands within Carroll County are designated as non-tidal (See Figure 4-3). These areas are primarily due to low-relief, high water table and surface runoff. Wetland areas are considered valuable for water quality and unsuitable for siting waste management facilities and should be avoided.

4.7.1.5 SURFACE WATER AND FLOODPLAINS

Rivers, streams, and smaller tributaries are present in Carroll County (See Figure 4-4). The three main drainage basins within the County are the Patapsco, Gunpowder and Monocacy rivers. Several municipalities in the Patapsco basin obtain drinking water from surface water sources. Therefore, it is not recommended that the sub-basins associated with the respective watersheds of these water sources be considered suitable for waste management facility development.

Along these rivers, streams, and tributaries are areas associated with the 100 year floodplain. Facilities located within the 100-year 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.

Floodplains are not suitable for siting solid waste management facilities within Carroll County. Federal regulations (40 CFR 257/258) contain provisions banning the location of solid waste facilities within 100-year floodplains.

4.7.1.6 LAND USE COMPATIBILITY

It is important that solid waste management facilities are sited in areas appropriate for such land uses. Adjacent incompatible land uses for solid waste management facilities include airports, hospitals and residential areas.

The U.S. Department of Transportation Federal Aviation Authority Order 5200.5, *FAA Guidance Concerning Sanitary Landfills on or Near Airports*, stipulates the following criteria for sanitary landfills:

- Waste disposal sites may not be located within 10,000 feet of any runway end (used or proposed) to be used by a turbine powered aircraft.
- Waste disposal sites may not be located within 5,000 feet of any runway end used only by piston-powered aircraft.
- Waste disposal site may not be located within a 5-mile radius of a runway end that attracts or sustains hazardous bird movements from feeding, watering or roosting areas, into or across the runways and/or approach and departure patterns of aircraft.

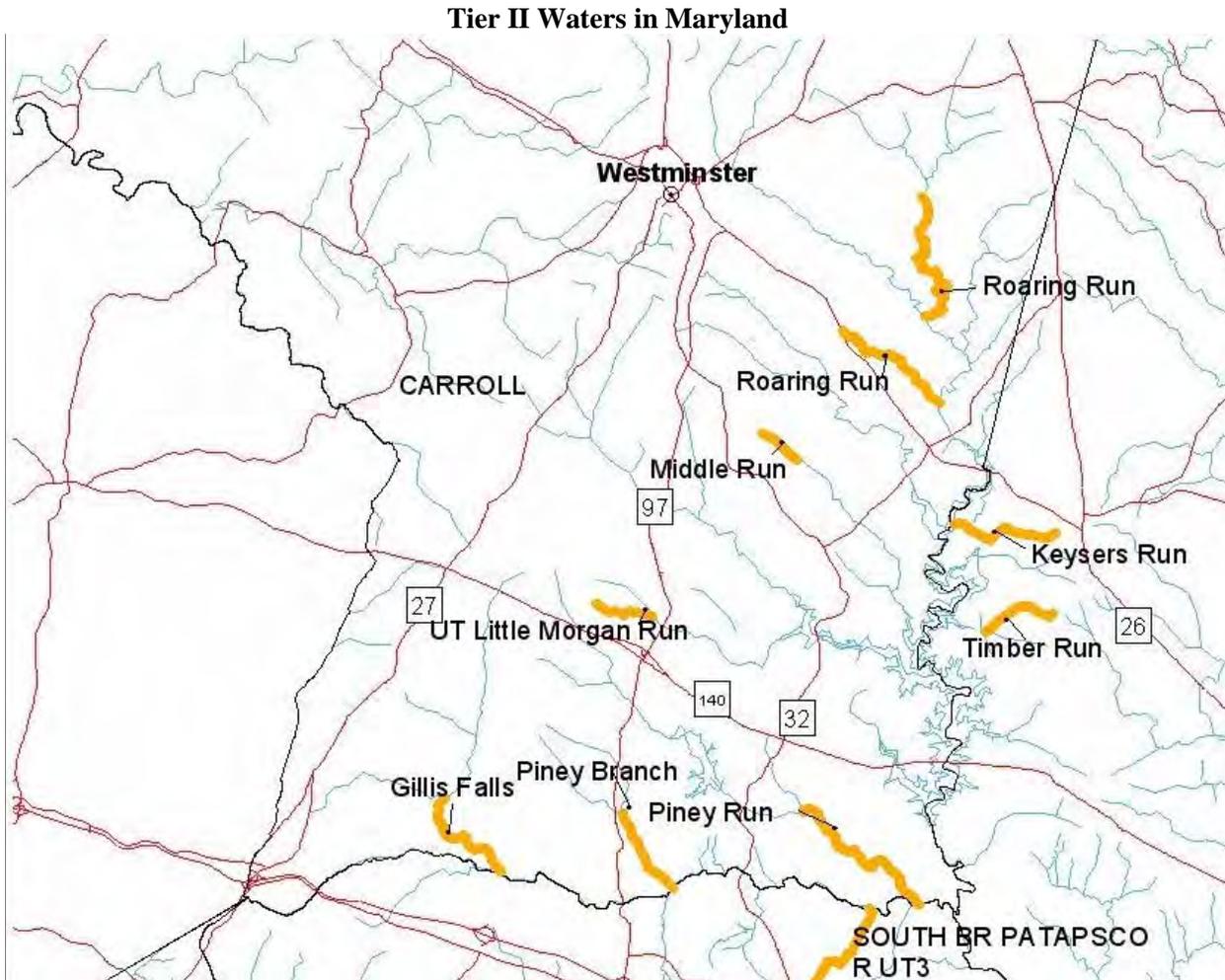
The Environment Article, Section 9-225, prohibits the location of any landfill within a ½ mile radius of any hospital. Solid waste management facilities have the potential to create odor, noise, dust, and/or adverse traffic impacts for adjacent land users. Carroll County is aware of the problems and nuisances which may be created by solid waste management facilities. The Carroll County Zoning Ordinance, comprehensive land-use plan, and process for public notification of potential new solid waste management facility locations will aid the County in reducing the possibility of adjacent incompatible land uses. Similarly, new developments or land uses adjacent to existing solid waste management facilities must consider potential impacts due to any existing solid waste facility.

4.8 SOLID WASTE MANAGEMENT PLANNING

Solid waste management planning in Carroll County is directly tied to implementation of the adopted Master Plan. The need for newly planned waste management facilities is based on the historic per capita waste generation rate. This rate is further based on a ratio between the recorded yearly waste generation rates ratio to a set of multiple year population projections. The population projections are developed by the Department of Planning and are themselves based on the adopted Master Plan. That process allows for more effective waste management planning based on the principles in the adopted Master Plan. Carroll County updated its Master Plan in 2014.

The location of new facilities, when needed are based on a site selection process that utilizes a process using weighted decision criteria inclusive of applicable environmental, engineering, economic and social factors. The siting of new waste management facilities is also subject to the County’s development review process that includes a review of environmental sensitivity as functional service and operational characteristics.

One such code is focused on the protection of the County’s water resources. In such a review standards would be measured that consider the sensitivity of the resources, including any areas of critical state concern. There are two such areas in Carroll County: Alesia Swamp near Lineboro and Hoods Mill, south of Woodbine. There are also a number of designated Tier II waters in the County. Those are illustrated on the figure below.



In addition to sites being reviewed for their proximity to sensitive resources, facility designs are also required to include design elements specifically intended to manage and mitigate impact and to protect environmental resources. Elements of the County Code such as Water Resource Management, Stormwater Management, and Forest Conservation apply to public facilities as well as private.

New facilities are also subject to review and approval by the Maryland Department of the Environment that are based on the design of new facilities being consistent with both COMAR and Federal Subtitle D criteria. Lastly, new waste management facilities are subject to an extensive public review not only through MDE processes, but also through Carroll County's. Facilities such as these are funded through the County's capital budget process and as such, must go through the review of the Carroll County Planning Commission.

4.9 SPECIAL WASTE MANAGEMENT

Special waste management requirements for asbestos, special medical waste and hazardous waste will be discussed in this section.

4.9.1 ASBESTOS

Asbestos may be disposed of by landfilling, provided that the disposal site is permitted by MDE, has State and local health department approval, and is authorized by MDE to accept asbestos. Asbestos disposed at the site must be packaged and labeled in accordance with COMAR 26.11.15.04. Procedures for disposal are as specified in COMAR 02.04.07.13.

- A minimum of 24-hour notice to the landfill supervisor to provide to following information: delivery time, source and quantity.
- Personnel handling the asbestos wear disposal-protective clothing and respirators.
- The asbestos is handled with care to reduce the emission of fibers into the air. Asbestos is delivered to a separate area of the landfill for disposal.
- The asbestos is placed in a trench and completely covered with soil.

The Solid Waste Ordinance (see Appendix D) outlines the procedures required by Carroll County for asbestos disposal.

4.9.2 SPECIAL MEDICAL WASTE

The County landfill will not accept medical wastes, including infectious and/or bio-hazardous medical waste. Currently, special medical waste generated at the Carroll County General Hospital, Springfield Hospital, and at doctors' offices, clinics, and nursing homes is handled by licensed haulers prior to treatment (incineration).

The management of special medical waste is not under the jurisdiction of the County and will not be addressed in this Plan; management of these wastes is strictly regulated by the MDE under specific medical waste regulations. However, the County reserves the right to address the management of special medical waste under a separate plan.

4.9.3 HAZARDOUS WASTES

Carroll County landfills do not accept hazardous substances for disposal, other than small quantities of household hazardous wastes. Currently, hazardous waste generators within the County contract with a licensed hauler of hazardous waste for collection and disposal.

The management of hazardous waste is not under the jurisdiction of the County and will not be addressed in this Plan. Hazardous waste storage, transport, and disposal is strictly regulated by the MDE.

4.9.4 HAZARDOUS MATERIALS RESPONSE

Hazardous materials response in Carroll County is generally handled through the Emergency Operations Center. All of the individual fire companies have had training in the identification of hazardous materials incidents and at least basic response techniques. The Local Emergency Planning Committee has authored and maintains a Hazardous Materials Response Plan in the County Emergency Operations Plan document. That plan establishes the individual fire companies as the incident commanders. The Carroll County Health Department is also a responder to Haz-Mat incidents, and in most cases, the Maryland Department of the Environment is also called. Additional response assistance is also arranged with the Baltimore County Hazardous Materials Response team as well as the team located at Fort Detrick in Frederick County, depending on the location of the incident. Carroll County, through the LEPC, has also established a volunteer hazardous materials team made up of individual fire service volunteers that have hazardous materials response experience and, in some cases, are working response personnel in other jurisdictions. That team is notified on the occasion of an incident and is generally available on the scene to provide assistance and expertise.

4.9.4.1 CONTAMINATED SOILS

The disposal method for soil contaminated with petroleum, or petroleum products which are generated within Carroll County, is dependent on test results indicating the level of toxicity and contamination. The following information is required before the contaminated soil may be disposed in the County landfill.

- A statement from the generator certifying that the soil is non-hazardous waste as defined by federal regulations under Subtitle C, Resource Conservation and Recovery Act.
- The amount of petroleum contaminated soil to be disposed.
- A description of the sampling protocol and a copy of all laboratory analyses.

A minimum of one composite sample shall be analyzed for each required test for every 100 cubic yards of soil to be disposed. In the case of soil reclaimed by thermal treatment, a minimum of one sample shall be analyzed for every production day, composted hourly.

CHAPTER 4
TABLES

**TABLE 4-1
CARROLL COUNTY RECYCLING RATE**

Compiled by MDE - Carroll County Recyclables by Commodity in Tons

	2007	2008	2009	2010	2011	2012	2013	2014
County								
MRA Rate%	28.33	32.85	38.05	41.17	47.40	36.86	38.96	37.60
Waste Diversion Rate%	31.33	37.85	42.05	46.17	52.40	41.86	43.96	42.60
Compostables	19,274	16,700	37,294	37,359	62,635	26,868	33,587	28,234
Glass	1,680	1,961	8,133	8,396	8,875	8,900	10,063	9,364
Metals	3,864	3,279	4,094	4,647	6,296	6,412	8,141	6,650
Paper	14,266	21,267	9,067	12,523	11,843	10,065	9,442	9,916
Plastic	810	873	3,344	4,026	3,624	3,938	4,172	4,483
Misc	2,071	4,137	3,495	6,144	3,852	4,873	1,504	3,014
Subtotal	44,965	48,217	65,427	73,095	97,125	61,056	66,909	61,661
Non-MRA Recycleables	222,156	130,135	194,664	183,436	456,930	544,071	786,242	451,962
Total Recycling	267,121	178,352	260,091	256,531	554,055	605,127	853,851	513,623

TABLE 4-2
SITING WASTE MANAGEMENT FACILITIES

The process of site selection can be defined as stages or levels by which numerous possible sites are reduced to a few probable sites. Involvement of and communication with citizens through the entire process is essential to provide input for the site evaluation planning parameters, determination of and ranking of site suitability criteria and the matrix evaluation process.

Establish Site Evaluation Planning Parameters as a framework for the site search direction. These parameters should include, but not be limited to, items such as size, service life, major areas excluded, minimum buffer zone requirements, compatible surrounding and adjacent land uses, preferred site distance from population acreage requirements.

Data Collection of Baseline Information including previous studies and reports and conducting meetings with the interested county, citizen groups, committees, and regulatory agencies to discuss the proposed process.

Prepare Land Use Opportunities and Constraint Maps depicting technical, environmental, economic, and socio-economic concerns relevant to solid waste management facility siting.

Identify Primary Potential Solid Waste Management Facility Sites by a "windshield" survey, U.S.G.S. topographic maps, floodplain maps, aerial photographs, plat maps, zoning maps, project planning parameters, meetings with county officials, and regulatory agency representatives.

Develop Screening Criteria, taking the planning parameters into account; several key factors may be identified in screening sites. Key factors which are common to solid waste management facilities are that the site should:

- have a minimum impact on the community;
- be served by adequate road systems;
- be technically sound, environmentally suitable, and economically feasible; and
- have the support of elected officials and the public.

First Level Screening (absolutes) involves an inherent constraint which does not allow a solid waste management site at the location due to conditions that, if found, would eliminate a site from further investigation. First level screening criteria may include, but is not limited to, highly developed areas, areas within 5,000 feet of an airport runway, areas within the 100-year floodplain, site boundaries with reasonable direct access beyond two miles of a major arterial road or transportation network, national parks, or critical environmental areas.

Develop a Site Feasibility Matrix to rank and provide a comparison of the sites based on the first level screening criteria. The site comparison will provide for elimination of non-feasible sites from further investigation. This site elimination is important as it would be inefficient (time wise and monetarily) to attempt to investigate all the primary potential sites in terms of the Level Two screening criteria. The end result is a listing of potential sites for further investigation as well as documentation of the non-feasible sites and why they were eliminated.

(continued)

TABLE 4-2
SITING WASTE MANAGEMENT FACILITIES

Conduct Field Inspection of the potential sites with county officials.

Second Level Screening (non-absolutes) involves accessing the constraints which, by virtue of their nature, are not absolutely disqualifying. Second level screening is an evaluative process in qualitative and quantitative terms. Criteria for qualitative evaluation include, but are not limited to, buffer, easements, habitat impact, surface water quality impact, archaeological/historical, surrounding land-use, aesthetics (screening) and land ownership. Quantitative criteria are definable in terms of standard engineering practices and include haul distances, access, site size/shape, soils, availability of site resources (cover soil), site drainage, groundwater/aquifer impacts, site utilization, wetlands impacts, well inventory, proximity to sensitive areas, proximity to residential developments and development costs.

Determine Matrix Rating Methodology for evaluation of the second level screening criteria. Two of the more common matrix rating systems used are the ranking rating method. The rating method simply assigns an unweighted numerical value for each screening criteria (1 – very good, 2 – good, 3 – fair, and 4 – poor). The numbers are tallied and the lesser overall total is the most desirable site. This method assumes that each criteria are of equal importance. The ranking system uses a weighted numerical value to each criteria. The impact factors (1 – negligible impact, 2 – less significant impact, 3 – significant impact, and 4 – most significant impact) are used to reflect the relative value of each screening criteria. The impact factor is then multiplied by the numerical rating criteria to provide a weighted value.

Develop a List of Preferred Sites based on the matrix evaluation of the sites, a selected number of sites should be selected for further analysis.

Conduct a Workshop with the Board of County Commissioners to present the findings and list of preferred sites and the recommendations of the Consultant of the final sites for detailed investigation.

Conduct Final Site Investigation of the sites selected for detailed study.

Conduct Public Participation meetings to obtain community input into the decision-making process and to present site-specific data obtained in the final site investigation. The Board of County Commissioners shall oversee this meeting.

Final Site Selection shall be made by the Carroll County Board of County Commissioners based on the final site investigation data and public opinion. The site will be selected and procured by the Commissioners.

TABLE 4-3
SUMMARY OF ESTIMATED AVERAGE ANNUAL GROUND WATER RECHARGE
RATES FOR HYDROLOGIC UNITS IN CARROLL COUNTY

		RECHARGE RATE					
		Average Conditions (1-year-in-2)			Drought Conditions (1-year-in-10)		
Hydrologic Group	Aquifer Type	GPD/MI2*	GPD/Acre**	Inches	GPD/MI2*	GPD/Acre**	Inches
Carbonate Rocks	Carbonate Rocks	750,000	1172	15.8	550,000	859	11.6
Meta-Volcanic Rocks	Saprolite	750,000	1172	15.8	550,000	859	11.6
Phyllite	Saprolite	290,000	453	6.1	170,000	266	3.6
Schist	Saprolite	540,000	844	11.3	280,000	438	5.9
Triassic Sedimentary Rocks	Triassic Sandstone-Silt Stone, and Shale	410,000	641	8.6	220,000	344	4.6

* = Gallons per day per square mile

** = Gallons per day per acre

CHAPTER 4

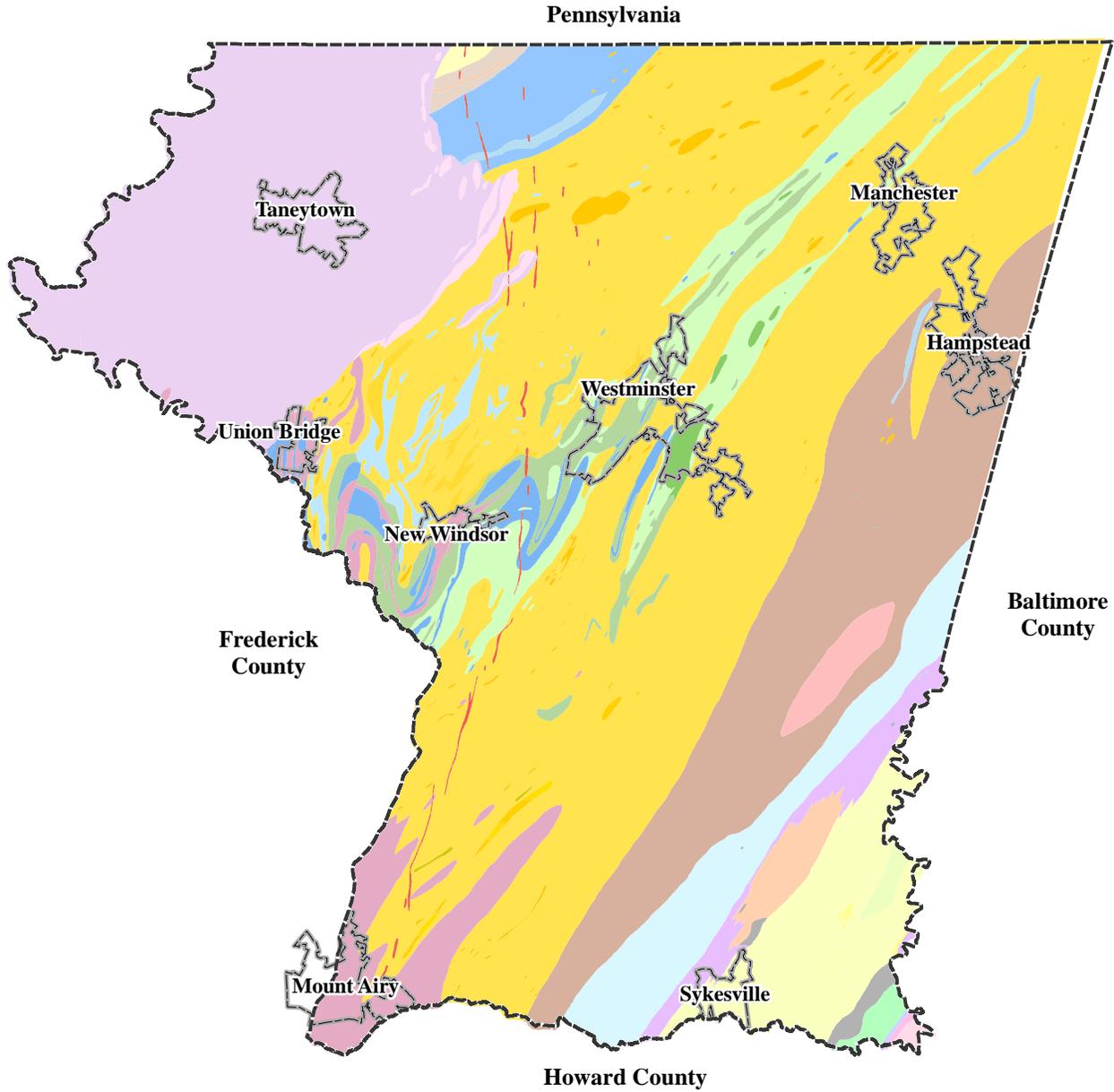
FIGURES

Figure 4-1

General Geologic Map

General Geologic Map

Carroll County, MD
 Ten Year Solid Waste Management Plan
 2016
 Figure 4-1



Geology Legend				
Babylon Phyllite	Littlestown Slaty Quartzite	Sams Creek Metabasalt Member	Wakefield Marble Member	phyllitic quartzite lense
Baltimore Gneiss	Marburg Formation	Schist Member	amphibolite	quartz breccia
Blacks Corner Phyllite	Morgan Run Formation	Settlers Formation	arkosic quartz pebble conglomerate	quartzite
Cockeysville Marble	Oella Formation	Silver Run Limestone	calcareous zone	quartzitic phyllite
Garnet Schist Member	Piney Run Formation	Triassic Diabase	chloritic phyllite	schistose
Gneiss Member	Pleasant Grove Schist	Triassic New Oxford Formation	massive actinolite	ultra mafic
Ijamsville Phyllite	Pretty Boy Schist	Unclassified	phyllite	

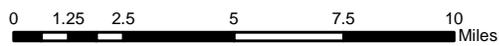


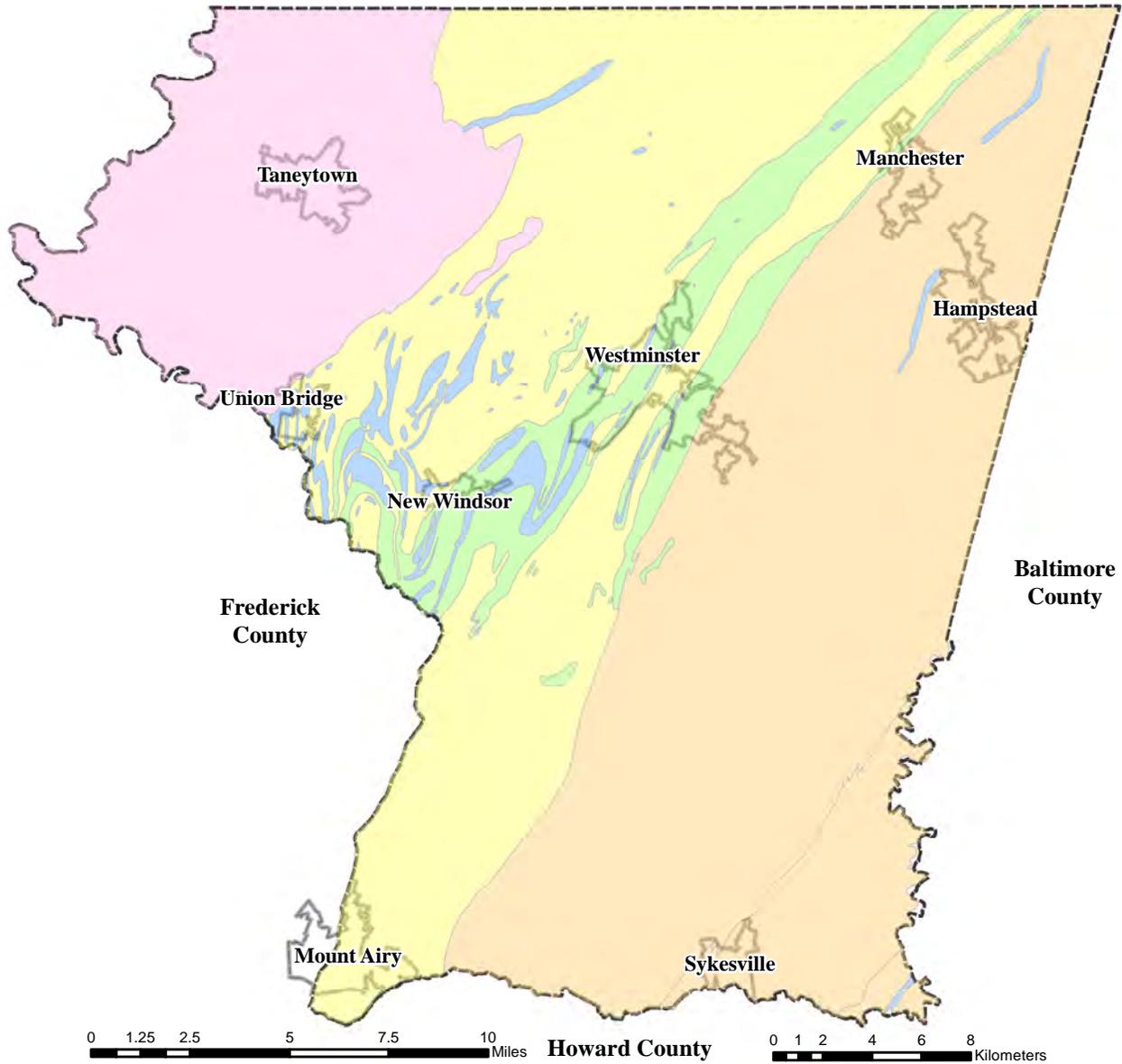
Figure 4-2

General Hydrogeologic Map

General Hydrogeologic Map

Carroll County, MD
Ten Year Solid Waste Management Plan
2016
Figure 4-2

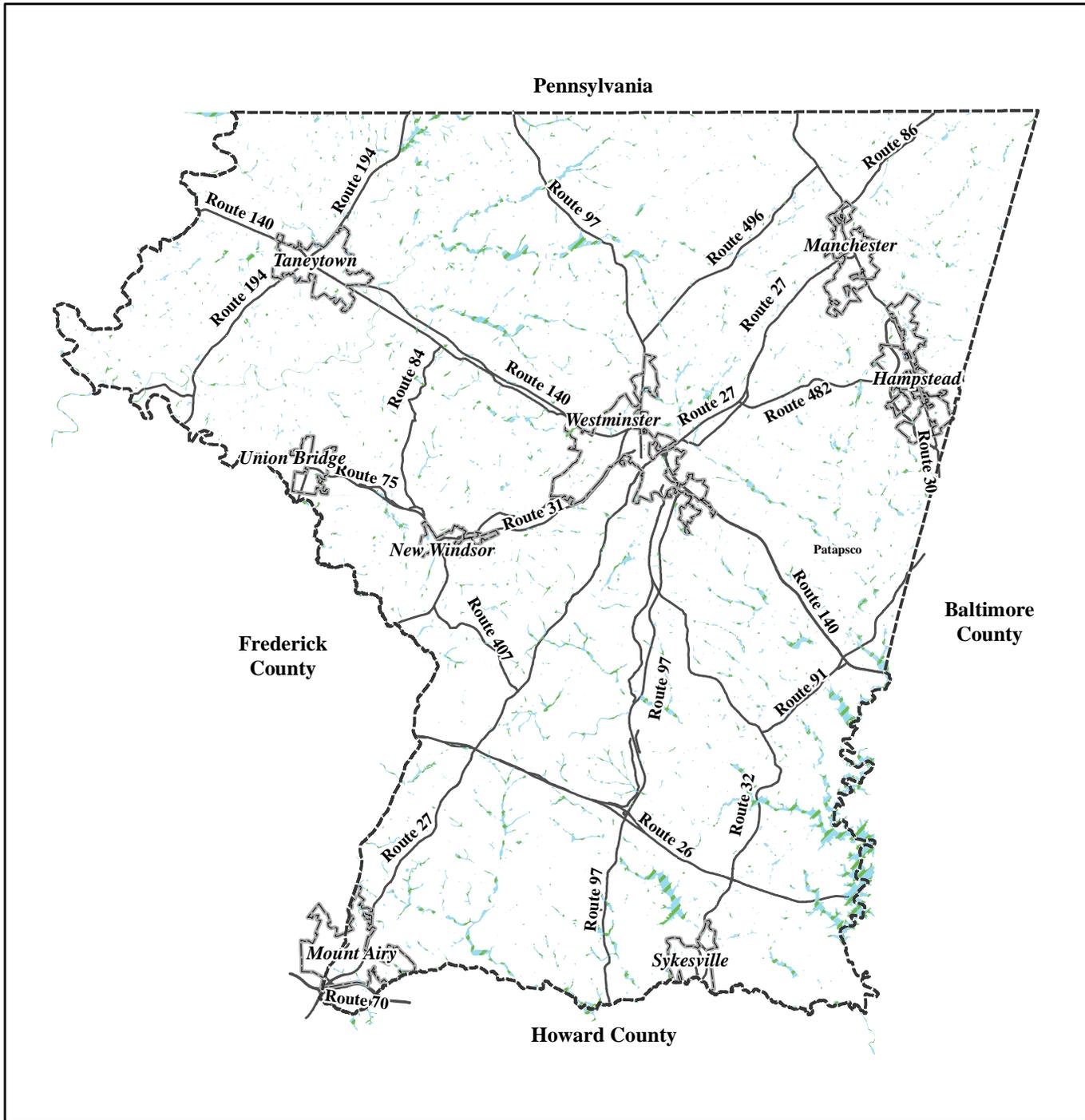
Pennsylvania



Legend		
<p> Triassic Sedimentary Rocks <i>Interbedded sandstone, siltstone and shale overlain by thin soil. Includes New Oxford Formation.</i></p> <p> Carbonate Rocks <i>Marble, limestone, and calcareous schist, deeply weathered and highly permeable. Often associated with metavolcanic rocks. Includes Wakefield Marble and Silver Run Limestone.</i></p> <p> Metavolcanic Rocks <i>Schistose to massive greenstone and phyllite commonly with calcareous bands and lenses. Moderately to deeply weathered. Includes Sams Creek Metabasalt and Bachman Valley Formation.</i></p>	<p> Finer Grained Metamorphic Rocks <i>Phyllite, slate and some quartzite, overlain by thin to moderately thick saprolite. Includes Marburg, Ijamsville, Babylon and Blacks Corner phyllites and Littlestown Slaty Quartzite.</i></p> <p> Coarser Grained Metamorphic Rocks <i>Schist, gneiss and phyllite, overlain by a thick porous, weathered zone (saprolite). Includes all southeastern metamorphic rocks. Includes Piney Run and Morgan Run Formations.</i></p> <p> Unclassified Rocks</p>	
Prepared by Carroll County Department of Public Works (EV).		

Figure 4-3

Location of Wetlands



Legend

Nontidal Wetlands**

**Contact Maryland DNR for wetlands classification.

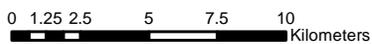
Location of Wetlands*

Carroll County, MD

Ten Year Solid Waste Management Plan

2016

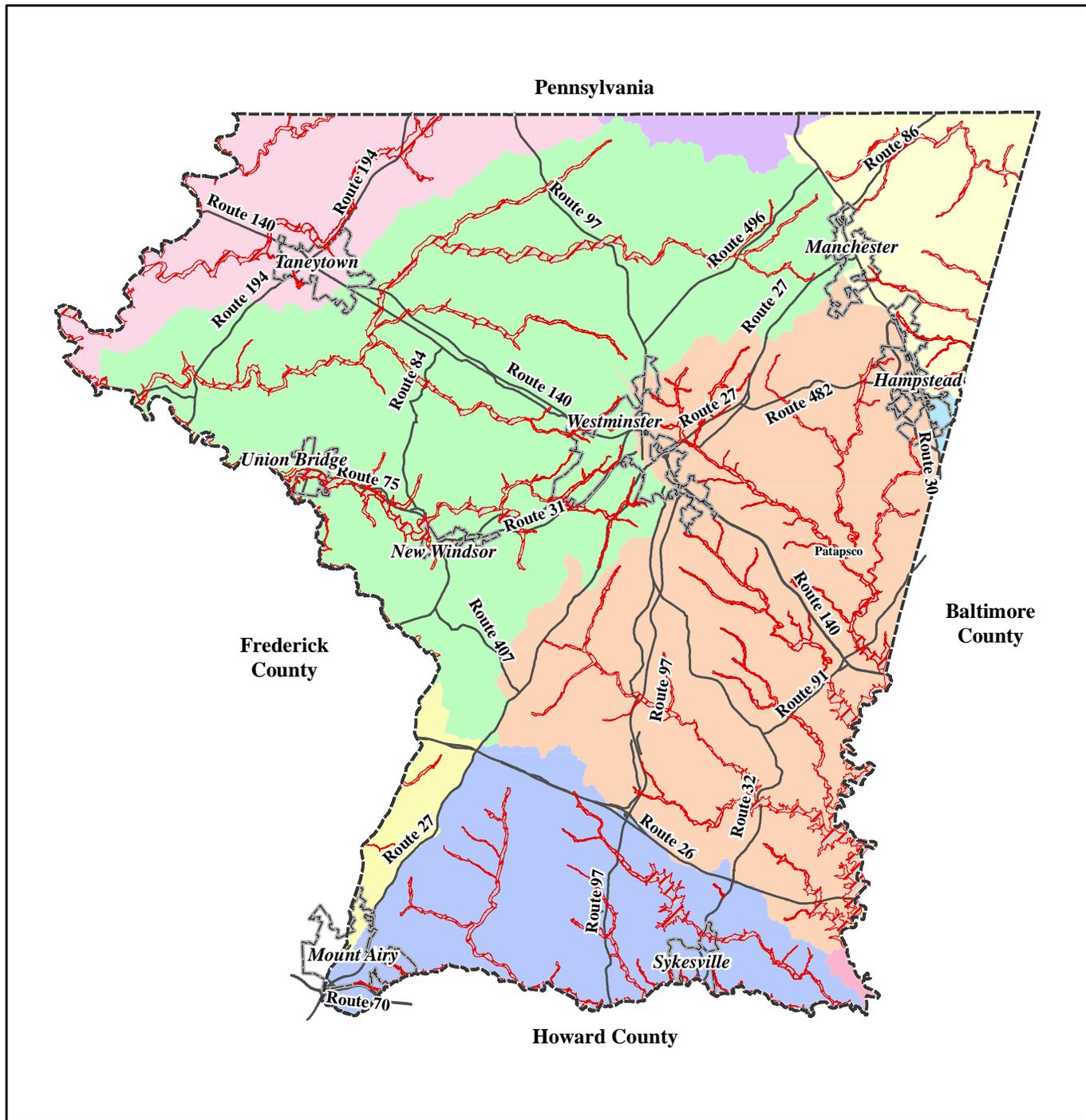
Figure 4-3



*Nontidal Wetlands as mapped by Maryland Department of Natural Resources Wetlands Inventory. This data is to be used for guidance purposes only.

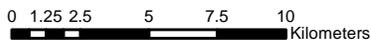
Figure 4-4

Watershed Boundaries and 100-year Floodplains



Legend

-  100-year Floodplain**
-  Conewago Creek
-  Double Pipe Creek
-  Liberty Reservoir
-  Loch Raven Reservoir
-  Lower Monocacy River
-  Patapsco River L N Br
-  Prettyboy Reservoir
-  S Branch Patapsco
-  Upper Monocacy River



Watershed Boundaries*
and 100-year Floodplains**

Carroll County, MD
Ten Year Solid Waste Management Plan
2016
Figure 4-4

*Watersheds derived from 2006 LiDAR data and ArcHydro using MDE 8 digit code.
 **FEMA data zones A and AE generated using 2006 LiDAR data, Fixed Region Regression Equations, HEC-RAS, and GIS Hydro.

5.0 SOLID WASTE MANAGEMENT PLAN OF ACTION

An integrated Solid Waste Management Plan provides specific management tools to handle various components of the waste stream. Numerous programs, which comprise the integrated Solid Waste Management Plan, must be used in combination to complement each other. A solid waste management plan should not only include the programs, but also should address when and how these programs will be implemented, and at what cost.

Carroll County's Solid Waste Management Plan must respond to the requirements of the state-mandated recycling goals and all other federal, State and County regulations and laws. The goals and objectives illustrated 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 Carroll County Solid Waste Management Program through the Year 2026. A summary of the Plan recommendations to meet stated goals and objectives is presented below, followed by a description of individual recommended technologies and policies.

5.1 MEETING THE GOALS AND OBJECTIVES OF THE PLAN

5.1.1 PROTECTION OF HEALTH AND THE ENVIRONMENT

Most of the actions outlined in this Plan and the decisions behind them directly address a solid waste management program that has as a major factor - protection of the environment. Education, source reduction and recycling are intended specifically to reduce waste volumes and control waste composition. This has a direct effect on the volume of residual waste that requires management, minimizing the potential for environmental degradation. Facility siting criteria presented in Chapter 4 will be used when locating new solid waste facilities to ensure that, if needed, they are sited in areas of the county that will cause the least impact on health and the environment.

5.1.2 CONSERVATION OF NATURAL RESOURCES

A committed yard waste recycling program has been implemented to minimize the amount of land required for disposal facilities throughout the ten-year planning period. Currently, County residents can drop off acceptable yard and wood wastes at no charge; commercial businesses are charged a fee.

5.1.3 FINANCIAL SELF-SUFFICIENCY

It is intended that all County expenditures required to implement this Plan will be financed through tipping fees, or waste generation fees, and managed as an enterprise fund. At this time, the County General Fund is supplementing the Solid Waste Enterprise Fund. The Department of Public Works is currently evaluating the overall waste management in the County and will make recommendations on improvements, including funding options.

5.1.4 MULTI-JURISDICTIONAL SOLUTIONS

Regularly scheduled meetings of the SWAC and EAC will be available to discuss solid waste management issues. This is intended to ensure coordination between the public, the municipalities and the County Bureau of Solid Waste. Individual municipalities have unique concerns with regard to collection systems, recycling programs, and transportation

of waste to management facilities. The existing licensing system for waste collection will help individual municipalities tailor their collection systems and recycling programs to their individual needs.

Each municipality that desires to have a subsidiary plan incorporated by reference into the County Plan should initiate data-gathering and planning efforts required to produce a detailed plan. Based on the recommendation of the MDE, the organization of each subsidiary plan should parallel the organization of the County Plan as stipulated in COMAR 26.03.03. Municipalities are encouraged to develop their own plans. Consultation with surrounding counties, the Baltimore Metropolitan Council and the Northeast Maryland Waste Disposal Authority will also continue to evaluate potential regional facilities for materials recovery or composting, and the possibility of regional recyclables marketing efforts. Private MRF's located in neighboring counties could also potentially meet some of the Carroll County recycling program's requirements.

5.1.5 PUBLIC EDUCATION

Carroll County originally adopted a Recycling Plan in 1990, which became an integral part of the original Solid Waste Management Plan. The implemented public information program has expanded since then. Additional means of education and information dissemination have been developed, and will continue. The County was successful, through volunteers and County staff, in producing a video promoting waste prevention, reuse and recycling. The video is available at County libraries and is used for recycling presentations conducted by County staff. Educational presentations are provided to school and civic groups, as well as updates online through social media and local advertising. The County also provided a County-wide "mail out" of the County's Waste Management and Recycling Handbook. The Handbook incorporates the waste management hierarchy and all County waste management programs. It is continually updated. The Handbook and all aspects of the County's waste management program are available on the County's web site.

5.1.6 SOURCE REDUCTION

Source reduction will be encouraged through publicity campaigns designed to keep citizens aware of the options available. Source reduction is included in all waste management materials (brochures, booklets, video, and web page) and at all presentations.

5.1.7 COLLECTION

The licensing system in Carroll County will be continued in order to maintain control over hauler services, such as requirements for recyclable collection. This system provides for accounting of recyclables. Curbside recyclable collection is required to be made available by waste haulers.

Current discussion within the County SWAC involves renewed investigation of the option of establishing a contract or franchise form of collection rather than the current subscription system, also noted in the 2015 Solid Waste Study.

5.1.8 DISPOSAL FACILITIES

Carroll County will continue to provide disposal capacity for municipal wastes and rubble within the County throughout the ten-year planning period. There likely will be reliance for out-of-County transfer for disposal at a Subtitle D landfill. This reliance will help preserve in-County landfill capacity.

Regional solutions will continue to be considered if a firm commitment for capacity and tipping fees can be obtained for the ten-year planning period.

5.1.8.1 LANDFILL DISPOSAL OF MSW

Carroll County is at present operating one permitted sanitary landfill facility. Northern Landfill, located in the east central portion of the County, has the capacity to serve Carroll County for the ten years covered by this Plan and beyond. As was described in Chapter 3.0, Carroll County is also operating a successful recycling program that at present has reduced the County's waste stream by over 30%.

As this Plan has stated, even though the County has adequate landfill space to service the County through 2026, there is a need to continue to investigate alternatives to landfilling. Those alternatives include waste minimization education, recycling and source separation, composting, waste-to-energy, and transfer. In addition, the County will continue to investigate the viability of reclamation efforts such as mining and/or leachate recirculation in order to accelerate decomposition before mining. This latter approach is dependent on the State receiving full approval of solid waste management activities from the EPA.

The actions proposed in this document utilize the existing solid waste system currently in place in Carroll County with a few added components to satisfy the requirements of this Plan. Components of the Plan that affect County Landfills are:

1. Continued operation of Northern Landfill.
2. Continued use of Hoods Mill as a drop-off site.
3. Operation of a transfer station and MRF at Northern.
4. Continued investigation of waste processing alternatives such as waste-to-energy or any other new waste management technologies.
5. Investigate the potential of establishing sewage sludge composting.
6. Continue to encourage waste minimization.
7. Continue to encourage recycling efforts and encourage their expansion.
8. Continue to divert unnecessary wastes such as yard waste.
9. Continue efforts at regional cooperation.

Carroll County's plan is to continue to rely on landfill disposal at licensed existing facilities during the period of this Plan. Quantities of wastes that will require landfilling are estimated for each year during the period of the Plan (see Table 5-1). The waste stream is estimated based on population projections furnished by the Carroll County Department of Planning.

a. Hoods Mill Landfill

The east segment of Hoods Mill landfill was closed in 1994. Convenience drop-off bins are available for residential use on the first and third Saturdays of the month from 7:00 a.m. to 3:00 p.m. There is a potential future west cell at Hoods Mill. The County has no plans to develop that site as a landfill at this time. Currently, the west side, 30+ acres, is leased to a private mulch/compost operation. The lease is for ten years with two additional five year terms.

b. Northern Landfill

The Northern landfill will continue to be used to its permitted volume capacity. There are four stages to the solid waste portion of the Northern Landfill that includes cells SW-1, SW-2, SW-3 and SW-4. Each cell will be filled in numerical order. Cells will be filled from the protective fill over the liner to the limit shown on "Final Grading Plan". Upon completion of cells SW-1 through SW-4, a Capping Cell will also be filled over the original cells. The capacity of each cell was originally estimated as follows:

Permitted Landfill Capacity (Cubic Yards)

Cell SW-1	338,557 CY
Cell SW-2	668,205 CY
Cell SW-3	342,844 CY
Cell SW-4	732,414 CY (Not Yet Built)
Subtotal	2,082,020 CY
Capping Cell	1,422,167 CY (Not Yet Built)
Total	3,504,187 CY Permitted

Remaining Permitted Capacity (Tons)

Based on an aerial survey conducted January 5, 2016, approximately 2,291,198 CY of permitted capacity remains.

Landfill compaction rate is based on the amount of waste in tons being disposed per cubic yard of permitted volume. Based on recent average compaction rates of approximately 700 lbs./CY (0.35 tons/CY), Northern's remaining capacity converts to 801,919 tons. If the landfill is utilized at an annual average disposal of 15,000 tons/year, 53 years of capacity remains (approximate calendar year 2068).

At an anticipated improved compaction rate of 1,000 lbs./CY (0.5 tons/CY), the remaining capacity is 1,145,599 tons. If landfilling 15,000

tons/year, then 76 years of capacity remains (approximate calendar year 2091).

5.1.8.2 RUBBLE DISPOSAL

There were two stages to the rubble portion of the landfill, Cells R-1 and R-2. Each cell was filled in numerical order. Cell R-1 was capped in 1994. Cell R-2 opened in the fall of 1992 and was capped in 1998. Rubble cell capacity at Northern was as indicated:

Cell R-1	73,300 C.Y.
Cell R-2	20,050 C.Y.
Total	93,350 C.Y.

5.1.9 RUBBLE RECYCLING

At the present time, the only private rubble recycling facility is owned and operated by C. J. Miller, LLC.

5.1.10 RESIDENTIAL RECYCLING

The County's recycling effort includes licensing haulers and requiring them to offer a curbside recycling service to all of their customers. For residents who self-haul their own waste, the County offers two drop-off sites. The Recycling Center, located at the Northern Landfill, is available six days per week. Hoods Mill Landfill provides a drop-off site on Saturdays only for residents who live in the Southern end of the County. Effective December 1, 2005, the County started a permanent electronics recycling drop off at the Recycling Center located at the Northern Landfill. Acceptable electronics are accepted from residents only.

5.1.11 COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL RECYCLING

Offices, stores, institutions and industries typically generate 50% of the municipal solid waste stream in a community. In Carroll County, landfill records estimate approximately 50% of waste received is from non-residential sources. The reference to a commercial recycling program is inclusive of commercial, industrial and institutional sources.

An effective commercial recycling program is critical to meeting diversion rate objectives. Commercial wastes contain a high percentage of recyclable materials, including corrugated cardboard (30 to 50%), office paper (20 to 40%), glass, aluminum, scrap tires, ferrous metals and landscaping debris.

The potential for increasing commercial recycling in the County can be reached by expanding participation by businesses and increasing recovery of the two materials that provide 90% of traditional commercial waste: corrugated cardboard and office paper.

Carroll County's business community strongly supports channeling as many programs as possible through the private sector. That philosophy, combined with limited public funds, means Carroll 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 the various business sectors to increase commercial recycling.

5.1.12 MATERIAL RECOVERY FACILITY (MRF) DEVELOPMENT

Carroll County has contracted for MRF services since 1992 with a private contractor. In 1998, the County constructed a Material Recovery Facility (MRF) adjacent to the transfer station at the Northern Landfill. The MRF operation began in March of 1999. The MRF accepts an average of 61 tons of recyclables per day (residential and commercial). Containers (glass, plastics and cans) are reloaded and sent to another facility for further processing. Old Corrugated Cardboard (OCC) and mixed paper are baled and sent to markets. The MRF is a County-owned facility; however, the services are contracted through a private enterprise.

5.1.13 YARD TRIMMINGS

In conjunction with the yard trim ban in May 1994, the County implemented a yard waste management program. An expanded publicity program explaining the merits of not bagging grass clippings and backyard composting is a part of the program. The establishment of local yard waste recycling sites throughout the County would minimize transportation costs as collection and transportation are the most costly element of a yard trim program.

Carroll County established a yard trim and mulch site at Northern Landfill. Yard trim is accepted free of charge from residents. Commercial businesses are charged a fee. Backyard composting and leaving grass clippings on the lawn will continue to be encouraged as the preferred method of managing yard trim. Carroll County will continue operating a mulch program, either through private partnership or by County staff.

5.1.14 WASTEWATER TREATMENT PLANT SLUDGE

At present, Carroll County is landfilling most of the sewage sludge brought to Northern Landfill. Many of the towns also land apply sewage sludge (see 4.5.2).

5.1.15 SCRAP TIRES

The County continues to accept automobile and light truck scrap tires from residents and businesses. Residents can deliver up to five scrap tires annually. Residents are charged per tire; bulk loads are charged a special rate. A contractor is currently hauling all the scrap tires off site for disposal.

5.1.16 HOUSEHOLD HAZARDOUS WASTES

During the years of 1989 through 1995, the County conducted annual Household Hazardous Waste Collection Days at the Vehicle Maintenance Center. In 1996 and 1997, a Household Hazardous Waste site was constructed and residents could take their household hazardous waste to the Northern Landfill one day per week. With the advent of a transfer station, the permanent program was discontinued. In 2005, the County held a one-day Household Hazardous Waste event. Due to the success of the event, the County has offered residents a twice-a-year opportunity for disposing of their household hazardous waste.

5.1.17 CONTROLLED HAZARDOUS SUBSTANCES

Industries and commercial establishments in the County that generate and ship controlled hazardous substances, including special medical wastes, are closely regulated by the Hazardous Waste Management Division of the Maryland Department of the Environment and are not under the jurisdiction of this Plan. Each shipment must be manifested, and volumes and types of materials reported to the MDE. No acceptance or treatment facilities exist, or are planned within the County. No additional actions for hazardous waste management are recommended under this Plan; however, the County reserves the right to address the management of controlled hazardous substances under a separate plan.

5.1.18 OTHER WASTES

Miscellaneous or special waste categories that must be managed include asbestos, dead animals, grease, septage, leachate, and agricultural wastes. Existing and proposed management practices for these wastes are as described in Chapter 3.

5.1.19 OPTIONS FOR FURTHER CONSIDERATION

As was discussed earlier in the Plan, options are being considered that will continue to divert solid waste in Carroll County away from the exclusive use of landfills. Options being considered at specific sites include:

1. At the Northern Landfill site,
 - a. Continued landfill operation at reduced rates of fill
 - b. Leachate recirculation
 - c. Landfill mining, and
 - d. C&D recycling
2. At the Hoods Mill landfill site,
 - a. Continue leasing the west segment and future cell as a composting facility to a private enterprise

Non-specific site possibilities include:

1. Relocating of transfer station to railhead
2. Regional drop-off and customer convenience centers
3. Siting a future landfill or waste conversion facility
4. County mandated collection
5. System benefit or other revenue measures to ensure the continuation of the enterprise aspect of operations.

5.2 CONCLUSION

The County's efforts at integrated waste management, including an aggressive 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. Today, Carroll has positioned itself well to take advantage of market conditions and fluctuations through construction of a transfer station and material recovery facility. These facilities will be the cornerstone of our plans for the foreseeable future.

CHAPTER 5

TABLES

Table 5-1
CARROLL COUNTY
MUNICIPAL WASTES PROJECTED FOR LANDFILL OR TRANSFER

Calendar Year	Population	Total MSW Generated	Total Demolition Generated	Total Sludge Generated	Total
2014	169,826	101,501	21,355	4,071	126,927
2015	170,551	102,157	21,493	4,097	127,748
2016	171,276	102,818	21,632	4,124	128,574
2017	172,004	103,483	21,772	4,150	129,405
2018	172,735	104,152	21,913	4,177	130,242
2019	173,469	104,826	22,054	4,204	131,085
2020	175,900	105,504	22,197	4,232	131,932
2021	176,609	106,186	22,341	4,259	132,785
2022	177,321	106,873	22,485	4,286	133,644
2023	178,036	107,564	22,631	4,314	134,508
2024	178,753	108,259	22,777	4,342	135,378
2025	179,445	108,959	22,924	4,370	136,254
2026	180,168	109,664	23,072	4,398	137,135

Total waste generated includes those managed at County and private facilities.

APPENDICES

**A. OFFICIAL CODIFIED VERSION-CHAPTER 16
ENVIRONMENTAL ADVISORY COUNCIL**



Chapter 16, ENVIRONMENTAL ADVISORY COUNCIL

[HISTORY: The Environmental Affairs Advisory Board was created by the Board of County Commissioners of Carroll County 02/04/93 by Res. No. 269-93. This chapter was repealed and replaced in its entirety 07/09/04 by Ord. No. 04-20]

§ 16-1. Establishment; purpose.

§ 16-4. Duties.

§ 16-2. Membership; vacancies.

§ 16-5. Authority.

§ 16-3. Election of officers; compensation.

§ 16-1. Establishment; purpose.

A Carroll County Environmental Advisory Council is hereby established. The purpose of the Environmental Advisory Council is:

- A. To participate in the development of broad policy plans designed to guide the County's environmental future.
- B. To review specific issues of environmental concern and assist the Board of County Commissioners to protect Carroll County's environmental heritage, conserve Carroll County's natural resources, and restore environmentally degraded areas within Carroll County.
- C. To advise the Board of County Commissioners and the citizens of Carroll County of actions that could be taken to improve the quality of the environment in Carroll County, as well as of any that may threaten it.
- D. To assist with environmental educational efforts.
- E. To serve as the County Tree Commission.

§ 16-2. Membership; vacancies.

A. Membership.

(1) Nine persons shall be appointed by the Board of County Commissioners to serve as the membership of the Carroll County Environmental Advisory Council. The membership should represent a cross section of the citizens of Carroll County and should be selected by the County Commissioners to generally represent the agricultural, business, development, environmental communities and citizens-at-large.

(2) Members of the County Environmental Advisory Council will be residents of Carroll County and will be appointed to serve terms of 4 years. Appointments shall be staggered such that individual terms are overlapping.

§ 16-3. Election of officers; compensation.

The County Commissioners shall appoint a Chair. The Environmental Advisory Council may elect other officers from its membership as it deems necessary. The Environmental Advisory Council shall hold public

meetings in such number and at such intervals and at such places as it deems appropriate. Members of the Council shall serve without compensation.

§ 16-4. Duties.

A. The Carroll County Environmental Advisory Council may provide the Board of County Commissioners with specific recommendations for action by the County that are intended to result in improvements to the County's environmental policies.

B. The Environmental Advisory Council may also make recommendations concerning any environmental issues or concerns referred by the Board of County Commissioners or the general public.

C. It will also be the responsibility of the Environmental Advisory Council to report to the County Commissioners yearly, concerning the state of the County's environment as it relates to resource management and the quality of life in Carroll County.

D. The Environmental Advisory Council shall serve as the County's Tree Commission providing advice and guidance to the County on tree maintenance policies and specific administrative plans involving tree placement, maintenance and removal.

§ 16-5. Authority.

The function of the Environmental Advisory Council shall be governed by this chapter and the bylaws adopted by the Council and subsequently approved by the Board of County Commissioners.

B. CHAPTER 50 - SOLID WASTE ORDINANCE

📖 CHAPTER 50: SOLID WASTE

Section

Licensing of Collectors

- [50.01](#) Definitions
- [50.02](#) Licensing requirements
- [50.03](#) General waste handling requirements
- [50.04](#) Solid waste acceptance policies
- [50.05](#) Prohibited actions at solid waste acceptance facilities
- [50.06](#) Fees
- [50.07](#) Billing and payment of fees
- [50.08](#) Operating and safety rules for county facilities
- [50.09](#) Liability
- [50.10](#) Violations

Solid Waste Management Plan

- [50.25](#) Amended Plan declared official
- [50.26](#) Filing with state
- [50.27](#) Changes

- [50.99](#) Penalty

Cross-reference:

Solid waste projects, see Code of Public Local Laws, [Title 12](#)

LICENSING OF COLLECTORS

📖 § 50.01 DEFINITIONS.

For the purpose of this subchapter, the following definitions shall apply unless the context clearly indicates or requires a different meaning;

ASBESTOS. Any of the naturally occurring mineral fibers of the serpentine and amphibole series including actinolite, amosite, anthophyllite, chrysolite, crocidolite, and tremolite.

BULKY WASTE. Large items of solid waste which because of their size or weight require handling other than normally used for solid waste. **BULKY WASTE** includes but is not necessarily limited to such items as auto bodies, tree trunks and stumps, appliances, and furniture, but does not include recyclable appliances.

CLEAN FILL. An uncontaminated non-water-soluble, nondecomposable, inert solid such as rock, soil materials, and gravel.

COLLECTION. The act of picking up solid waste at its point of generation or storage and placing it in a vehicle.

COMPTROLLER. The Department of the Comptroller for Carroll County, or its successor agency.

CONSTRUCTION/DEMOLITION WASTE. Does not include the following if they are separated from other waste and used as clean fill:

- (1) Uncontaminated soil, rock, stone, gravel, unused brick, and block and concrete; and
- (2) Waste from land clearing, grubbing, and excavation including trees, brush, and vegetative material.

CONTAINER. Any portable device in which a material is stored, transported, treated, disposed of, or otherwise handled.

CONTAMINATED SOIL. A portion of solid waste consisting of hydrocarbon contaminated earth or fill, typically generated due to a spill or leak. **CONTAMINATED SOIL** is a special handling waste.

COUNTY. Where appropriate to the context, the area located within the geographic boundaries of the county, including the municipalities located therein.

COUNTY FACILITY. Any solid waste acceptance facility owned or operated by or on behalf of the county.

DEPARTMENT. The Department of Public Works, or its successor agency.

DISPOSAL. The storage, treatment, utilization, processing, or final disposition of solid waste, specifically including the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including groundwater.

DISPOSAL FACILITY. A waste management facility used for the final disposal of residual materials not currently reusable for either technological or economic reasons.

ENVIRONMENTALLY UNSOUND. Any persistent or continuous condition resulting from the methods of operation or design that impairs the quality of the environment when compared to the surrounding background environment or violates any federal, state, county, or municipal standard.

FREE LIQUIDS. Liquids which readily separate from the solid portion of a waste under ambient temperature and pressure.

FRIABLE ASBESTOS MATERIAL. Any material that contains more than 1% asbestos by weight and that can be crumbled, pulverized, or reduced to powder, when dry, by hand pressure or otherwise could become airborne.

GENERATOR. Any person who produces any waste materials regulated by this subchapter.

HAULAGE VEHICLE. A vehicle designed for and used to transport solid waste between one solid waste facility and another; a transfer vehicle.

HAULER. A person engaged in the act of collection of solid waste and/or transporting such waste between solid waste facilities.

HAZARDOUS WASTE. Any refuse, sludge, or other waste material or combination of refuse, sludge, or other waste materials in solid, semisolid, liquid, or gaseous form, which, because of its quantity, concentrations, or chemical, physical, or infectious characteristics, as defined in 40 C.F.R. Part 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, flammables, oxidizers, and reactive wastes, poisons, irritants, and corrosives.

HOUSEHOLD HAZARDOUS WASTE. Hazardous waste, as defined above, generated in a residential household, that 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.

MDE. Maryland Department of the Environment.

MATERIALS RECOVERY FACILITY (MRF). A solid waste facility, such as a transfer station or waste processing facility, that is designed, operated, and permitted to process a nonhazardous waste stream by utilizing manual and/or mechanical methods to separate from the incoming waste stream categories of useful, reusable, or recyclable material for reprocessing and reuse.

MUNICIPAL SOLID WASTE (MSW). 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, hazardous waste, household hazardous waste, recyclables, residual waste, auto hulks, ash, construction and demolition debris, mining wastes, sludge, agricultural wastes, tires, and other materials collected, processed, and disposed of as separate waste streams.

OPEN BURNING. The combustion of any material without any of the following characteristics:

- (1) Control of combustion air to maintain adequate temperature for efficient combustion;
- (2) Containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion; or

- (3) Control of emission of the gaseous combustion products.

PERSON. An individual, trust, firm, joint-stock company, federal agency, corporation (including a government corporation), corporate official, partnership, association, state, municipality, commission, political subdivision of a state, or any interstate body.

PUBLICLY OWNED TREATMENT WORKS (POTW). Any device or system which is owned by the state, a municipality or a public authority and used in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of a liquid nature. This definition includes sewers, pipes, or other conveyances only if they convey wastewater to a **POTW** providing treatment.

RECYCLABLE WHITE GOODS. Consist of large appliances (i.e., generally weighing more than 50 pounds), including but not necessarily limited to the following: air conditioners, clothes washing and drying machines, dish washers, hot water heaters, refrigerators and freezers, or stoves and ovens.

RECYCLABLES or **RECYCLABLE MATERIALS.** Those materials that can readily be separated from the waste stream and readily reused in their present form or can be converted into raw materials from which new products can be manufactured.

RECYCLING or **RECLAMATION.** Any lawful method, technique, or process used to collect, store, separate, process, modify, convert, treat, or otherwise prepare recyclable materials.

RESIDUE. Any material that remains after completion of manual, thermal, mechanical, or chemical processing.

RESOURCE RECOVERY FACILITY. Any place, equipment, device, or plan designed and/or operated to separate or process solid or liquid waste into usable secondary materials, including fuel and energy.

SALVAGING. The controlled removal of any solid waste from solid waste disposal facility for reuse.

SANITARY LANDFILL. A facility at which solid waste is deposited on or into the land as fill for the purpose of permanent disposal and which has received all necessary permits.

SCAVENGE or **SCAVENGING.** Removal of recyclables or other items from the waste stream without the prior approval of the generator or, if removed by the generator and placed for delivery to a hauler or committed to a hauler, without the prior permission of the hauler; or removal in a manner not authorized in this subchapter. It does not include separation or segregation of waste for purposes of implementing the county's recycling program.

SLUDGE. Any solid, semisolid, or liquid residue consisting of solids combined with water and dissolved materials in varying amounts generated from a municipal, commercial, or

industrial water or wastewater treatment plant or flue gas scrubber. **SLUDGE** includes fecal matters from whatever source.

SMALL BUSINESS. Any business that has fewer than 25 full-time employees. The business may be constituted under any legal form.

SOLID WASTE. Garbage, refuse, residue, sludge, and other nonliquid discarded materials resulting from personal, residential, community, mining, agricultural, industrial, or commercial activity, including recyclables. **SOLID WASTE** does not include solids or dissolved materials found in domestic sewage or other untreated pollutants (i.e., silt or other dissolved or suspended solids found in water or wastewater and any hazardous waste).

SOLID WASTE ACCEPTANCE FACILITY. Any sanitary landfill, combustion plant (i.e., incinerator), transfer station, resource recovery facility, or MRF, which has a primary purpose to dispose of, treat, or process solid wastes.

SOLID WASTE MANAGEMENT. The systematic and integrated administration of activities involving the collection, separation, storage, transportation, transfer, reuse, or disposal of solid wastes considering adequate measures for environmental protection, sound engineering, and efficient economics.

SPECIAL HANDLING WASTES. A portion of municipal solid waste which consists of sludge, ash residue, contaminated soil, asbestos waste, or other waste designated by the county.

TRANSFER STATION. An intermediate waste facility at which mixed municipal solid waste or other materials are temporarily deposited before being transported to a processing facility or final disposal site.

TREATMENT. Any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste, or so as to recover energy or material resources from the waste, or so as to render such waste nonhazardous, or less hazardous, safer to transport, store, or dispose of, or amenable for recovery, amenable for storage, or reduced in volume.

WASTE STREAM. All MSW, industrial waste, hazardous waste, medical waste, recyclables, and sludge in any form (i.e., solid, liquid, or gaseous) that is disposed of by the generator.

YARD WASTE. Any materials normally generated in the maintenance of gardens, yards, lawns, or landscaped areas, whether residential, commercial, or public, including leaves, grass clippings, plants, shrubs, prunings, and trimmings. **YARD WASTE** does not include other tree waste, land clearing debris, waste pavement, or soil.

(2004 Code, § 185-1) (Ord. 94, passed 5-21-1992; Ord. 02-08, passed 4-25-2002)

§ 50.02 LICENSING REQUIREMENTS.

(A) License required.

(1) After June 30, 1992, no person shall engage or continue to engage in the collection, haulage, or disposal of solid wastes, including the purchase of recyclables, within the county without first filing for and obtaining a license from the county. Hauler licenses may not be assigned to any other person without the prior consent of the county, which consent will not be unreasonably withheld.

(2) After June 30, 1992, no licensee shall collect or transport any solid wastes to or from any solid waste acceptance facility in any vehicle or container that has not been licensed by the county for that use.

(3) Vehicle licenses issued hereunder in the form of a sticker may not be transferred to any other vehicle and must only be affixed to the vehicle for which it is issued. Licenses issued

hereunder shall be and remain the property of the county. Stickers shall be firmly affixed in a prominent location on the left front (driver's side) of the vehicle so that it can be readily visible to the scale house operator.

(4) Hauler licenses shall be issued for one year on a fiscal-year basis (July 1 through June 30). Vehicle licenses may be issued for two years on a fiscal-year basis (July 1 through June 30). There will be no pro ration of fees for licenses issued during the course of the fiscal year.

(5) A licensee shall notify the county within 30 days of any change of information supplied in its application for a license.

(6) The failure to provide the information required by division (A)(5) above shall be grounds and sufficient cause to revoke summarily the license.

(7) The county may refuse to issue, suspend, or revoke a license for any vehicle which does not comply with MDE, Maryland Department of Transportation (MDOT), United States Department of Transportation (USDOT) regulations and county specifications; for any vehicle for which insurance coverage is not maintained in accordance with this subchapter; or for any vehicle owned, used, or leased by a person who violates, or whose employees or agents violate, any provision of this subchapter or any license issued hereunder. In addition, the county may bar vehicles or containers from county facilities if in the county's opinion the vehicle or container may cause a nuisance.

(8) The following persons are not required to obtain a license required by this section:

(a) Persons transporting solid wastes and recyclables generated in such person's primary residence or in such person's small business. Any officer, owner, or *bona fide* employee of a small business which generates solid waste may haul waste generated by the small business for the small business;

(b) A farm owner, operator, or *bona fide* employee hauling agricultural wastes and recyclables generated on any single farm; or

(c) Persons transporting solid wastes or recyclables in interstate commerce which were not generated or are not to be disposed of in the county.

(B) Application for license.

(1) Applications for licenses issued hereunder shall be made on forms supplied by the Comptroller 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:

(a) Name of the applicant;

(b) Applicant's mailing address;

(c) List of the vehicles and equipment owned and leased by the applicant which are to be permitted hereunder;

(d) Proof of insurance;

(e) Name and address of the primary contact acting as representative for the applicant;

(f) The appropriate fee based on the fee schedule supplied by the Comptroller; and

(g) A description of the hauler's plan for the collection and disposal of solid waste including recyclables.

(2) Within 30 days of filing the application for license, the applicant will be notified by the Comptroller whether or not the application is complete.

(3) Applications for license renewals must also be filed with the Comptroller no later than April 30 of each year. Short-form renewals are available from the Comptroller if the data listed

under division (B)(1) above has not changed. If the information has changed, a modified full application must be filed.

(4) A licensee shall notify the Comptroller within 30 days of any change of information supplied on its application for a license.

(5) Failure to provide any information required in connection with any license application or renewal or failure to inform the county of any change in information previously supplied in connection with any application or renewal shall be grounds and sufficient cause to either deny any pending application, or to revoke or suspend any active license of a solid waste hauler. (2004 Code, § 185-2) (Ord. 94, passed 5-21-1992; Ord. 02-08, passed 4-25-2002)

§ 50.03 GENERAL WASTE HANDLING REQUIREMENTS.

Any person, regardless of whether he or she is required to be licensed, who collects, hauls, or disposes of solid waste shall comply with the following requirements.

(A) No person shall deposit solid waste except in approved solid waste acceptance facilities in accordance with § [50.04](#); no person shall scavenge; and upon the passage of 90 days from the county's adoption of a resolution declaring that recycling is mandatory, no person shall deposit recyclables except in a separate container designated for that purpose, nor shall any person commingle recyclables with any other type of solid waste.

(B) No person shall cause solid waste except recyclables to remain or to be stored in any collection or haulage vehicle. In case of inclement weather, act of God, or emergency such as equipment breakdown or accident, no solid waste shall be allowed to remain or to be stored in any collection or haulage vehicle in excess of 24 hours. If an emergency arises or inclement weather occurs, the hauler is responsible for having the material removed to its intended destination in a timely manner.

(C) No person shall cause a vehicle to be used for the collection or haulage of solid waste if the design of the vehicle is such that any material could spill onto any roadway.

(D) No person shall cause a vehicle used for hauling solid waste to be used beyond its design capabilities or in such a manner that littering or spillage of the materials could occur.

(E) All work or collection crews operating solid waste collection systems shall take reasonable care to protect the property of customers being served. Any damage or spillage of materials occurring as a result of the collector's actions shall be the collector's responsibility.

(F) No person shall collect, transport, or deliver any solid waste in the county in such manner as to allow for littering, spillage, or the creation of a nuisance in any other manner. All loads shall be secured and covered, if necessary. No person shall collect, transport, or deliver recyclables if the recyclables are commingled with any other waste, except pursuant to the provisions of a license issued hereunder; and upon the passage of 90 days from the county's adoption of a resolution declaring that recycling is mandatory.

(G) No person shall collect, transport, or deliver to any designated county facility any material that is or shows evidence of smoking, smoldering, or burning.

(H) In the event a person must dump materials in transit in an emergency due to smoking, smoldering, or burning, that person shall be responsible for immediately notifying the Department and the police and fire departments having jurisdiction, and shall be responsible for cleanup of materials dumped during the emergency. Cleanup shall be accomplished promptly, but in no event later than 24 hours after dumping, and the material shall then be properly disposed of.

(I) No person shall manage or dispose of a part or fraction of the waste stream except in accordance with all applicable federal and state laws and regulations and this subchapter.

(J) No person shall use open burning as a means of solid waste management in the county, unless permitted by the appropriate state or local regulatory authority.

(K) No person shall manage or dispose of any part of the waste stream within the county in any manner which results in or may result in the creation of any potential for contamination of existing natural environmental resources (i.e., surface water and groundwater quantity and quality and air quality, or that could result in any environmentally unsound condition).

(L) The county is hereby authorized to require that recyclables be disposed of separately from all other waste; provided, however, that the exercise of the authority hereby granted shall not be effective until the passage of 90 days from the day on which the county adopts a resolution declaring recycling mandatory. The county shall cause notice to be published in a newspaper of general circulation in the county outlining in substance the effect of their resolution declaring recycling mandatory. No person shall dispose of recyclables except as allowed under the provisions of this subchapter.

(2004 Code, § 185-3) (Ord. 94, passed 5-21-1992; Ord. 114, passed 4-14-1994; Ord. 02-08, passed 4-25-2002) Penalty, see § [50.99](#)

§ 50.04 SOLID WASTE ACCEPTANCE POLICIES.

(A) **County waste only.** Only solid waste generated in the county may be delivered to or disposed of at county facilities. Solid waste generated in the Town of Mt. Airy that conforms to a contract between the Town of Mt. Airy and the county may be disposed of at county facilities. If the solid waste is a special handling waste, it may not be delivered to a county facility unless a permit has been issued allowing the delivery and then, only in strict compliance with the terms thereof.

(B) **Fines for unacceptable wastes.** Any person delivering unacceptable waste, including waste generated outside the county, to a county facility will be responsible for the payment of any fine that may be assessed, for the removal of the unacceptable waste from the site, cleanup, and remediation of any damages resulting from such delivery, and reimbursement of all costs and damages incurred by the county as a result of such delivery in addition to payment of the applicable solid waste management fee.

(C) **Unacceptable wastes.**

(1) The following are considered unacceptable wastes, and no person shall deposit or cause to be deposited any of the following materials in any county sanitary landfill:

- (a) Hot ashes or any material that shows evidence of smoking, smoldering, or burning;
- (b) Guns, rifles, pistols, firearms, or ammunition of any kind;
- (c) Explosive materials or other lethal wastes;
- (d) Electric arc furnace dust;
- (e) Tree stumps;
- (f) Logs, branches, or timbers with dimensions as determined by the Department;
- (g) Concrete slabs, curbing, brick bats, stone, or similar material of any dimension which is greater than six inches;
- (h) Gasoline, oil products, petroleum product waste and sludge, or any combustible material;
- (i) Pipe measuring over four feet in length or four inches in diameter;
- (j) Special handling waste without a permit for same;

- (k) Motor vehicles or any part thereof;
- (l) Hazardous wastes;
- (m) Sealed drums, closed large containers, and tanks of any size or type;
- (n) Liquids or wastes containing free liquids;
- (o) Intact bulky wastes;
- (p) Toxic wastes;
- (q) Pathological/infectious or other medical wastes;
- (r) Radioactive wastes;
- (s) Any substance prohibited by any other statute, rule, or regulation;
- (t) Yard waste; and
- (u) Upon the passage of 90 days from the county's adoption of a resolution declaring that recycling is mandatory, recyclables.

(2) If permitted by law, the county may issue permits to allow any of the foregoing as special handling wastes.

(D) **Special handling wastes.** Delivery of special handling wastes to any county-operated solid waste acceptance facility without a special permit issued by the county is prohibited. All special handling wastes shall be segregated from other categories of waste from the point of generation.

(1) **Permit.** A person wishing to dispose of special handling wastes shall apply for a permit to do so on a form provided by the county for that purpose and in the manner prescribed by the county giving sufficient time for the application to be reviewed and processed prior to the date of intended delivery. Application for a permit to dispose of special handling wastes must include a complete description of the waste in question and the required fee. The county may require the submission of additional data, including the results of county-specified laboratory analyses, prior to a consideration of permit issuance. The county reserves the right to deny acceptance of any waste.

(2) **Fractional load.** A fraction of any category of special handling wastes found in a load of any other waste category delivered to any county facility shall be grounds for the county to designate the entire load, including other loads from which the waste originated, as unacceptable waste.

(3) **Sludge.**

(a) No sludge will be accepted at county facilities unless the following conditions have been met:

1. 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 the county authorizing the disposal in the manner indicated in the permit.

2. 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 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 (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 gatekeeper upon delivery for disposal.

3. The county may require laboratory test results for each load from a laboratory and in a form acceptable to the county. The county shall develop and maintain a list of laboratories

acceptable to the county and shall provide a form for the reporting of sludge test results so that the test parameters are known in advance.

(b) Pursuant to the provisions of this section, sludge may be accepted at county landfills or may be disposed of pursuant to a permit issued by MDE. Sludge shall not be mixed with any other waste when discharged into a county facility.

(4) **Ash residue.** Nonhazardous (or exempted) ash residue from the combustion of fossil fuels or municipal waste may be accepted only at the county landfills 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.

(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 landfills only by appointment. Contaminated soil shall not be mixed with any other waste when discharged into a county facility.

(6) **Asbestos.** Asbestos and materials containing **ASBESTOS** (defined as “any material that contains more than 1% asbestos by weight and that can be crumbled, pulverized, or reduced to powder when dry, by hand pressure”) may be disposed of at county landfills only under the following conditions:

(a) The asbestos or material containing asbestos must be generated or originate in the county.

(b) Asbestos or materials containing asbestos shall be packaged in impermeable bags with a minimum thickness of six mils and then placed in corrugated or fiberboard drums sealed so that they are leakproof. The containers shall be prominently labeled (in at least 16-point type) as follows:

CAUTION, CONTAINS ASBESTOS
AVOID OPENING OR BREAKING CONTAINER
BREATHING ASBESTOS IS HAZARDOUS TO YOUR HEALTH.

(c) Any container which does not meet the criteria enumerated above or which has not been adequately packaged, in the judgment of the county, shall not be accepted.

(d) The county shall be notified at least 48 hours in advance of the disposal of any asbestos or material containing asbestos.

(e) Large structural components containing asbestos that cannot be packaged in drums, as described in this subchapter, only will be accepted for disposal if the component in question is itself acceptable for disposal and the asbestos is adequately wetted, encapsulated, and handled in accordance with the provisions of 40 C.F.R. Part 61, 1981 edition and COMAR 10.18.15 and 10.18.23, as those provisions may be amended from time to time.

(f) Any person hauling asbestos or materials containing asbestos to county facilities shall obtain an asbestos disposal form from the county and submit a properly completed form to county personnel prior to entering the solid waste acceptance facility.

(g) Any person hauling asbestos or materials containing asbestos to county facilities shall unload at the location designated by county’s personnel. Asbestos or materials containing asbestos shall be unloaded in a manner which protects the containers from damage.

(h) Any truck or other vehicle hauling asbestos or materials containing asbestos to county facilities shall have available on it protective equipment to be used in the event that accidental damage to containers of asbestos or materials containing asbestos occurs.

(E) **Recyclable materials.** A hauler who collects municipal solid waste must also collect or provide for the collection of recyclables separated from all other forms of solid waste. It is the responsibility of a hauler who transports recyclables, a generator who transports recyclables, or a purchaser of recyclables to furnish the county with monthly reports on tonnages of recyclable materials hauled, generated, or purchased, their source and their destination. Information provided herein, concerning the source and destination of recyclable materials, considered proprietary or confidential must be clearly designated as proprietary or confidential at the time a report is made. Upon clear designation that information contained in a report is proprietary and should remain confidential, the county will deny access to the information pursuant to Md. Code, State Government Article, § 10-617(d), notify the provider of the information of any action filed to gain access to 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. Failure to provide reports required by the county shall be sufficient grounds to suspend, revoke, or deny a license issued hereunder and shall be a violation of this subchapter. Haulers delivering solid waste to a county facility shall segregate solid waste separately into any category as may be required by county. Upon the passage of 90 days from the county's adoption of a resolution declaring that recycling is mandatory, haulers shall be responsible for having all recyclables, at the time of delivery, segregated from all other waste.

(1) **Yard waste.** No person shall dispose of yard waste by commingling it with other solid waste. If yard waste is to be disposed of at a county facility, it may be disposed of at the Northern Landfill or at other sites as may hereafter be designated by the county, but only in the location designated by the county for its disposal at the Northern Landfill or other designated site. Loads of yard waste containing any material other than yard waste will not be accepted as yard waste and in addition to the solid waste management fee may be subject to penalties upon acceptance at a county facility if the contamination affected the county's yard waste collection program adversely in any way.

(2) **Tires.** Any individual disposing of four or fewer tires within a week may take the tires to any county-designated facility. Any individual disposing of five or more tires shall comply with Md. Code, Environment Article, § 9-228, and COMAR 26.04.08.

(3) **Recyclable white goods.** Recyclable white goods, if delivered to a county facility, shall be unloaded in the designated white goods unloading area and may not be disposed of in a sanitary landfill, except pursuant to an approval of the Director of the Department.

(F) **Documentation.** Upon the request of the county, a hauler, purchaser of recyclables, or a commercial generator hauling its own solid waste shall provide the county with accurate and verifiable documentation of the types, quantities, and disposition of any solid waste which the hauler, generator, or purchaser has transported, or had transported, to any location. Information provided herein, concerning the source and destination of recyclable materials, considered proprietary or confidential, must be clearly designated as proprietary or confidential at the time a report is made. Upon clear designation that information contained in a report is proprietary and should remain confidential, the county will deny access to the information pursuant to Md. Code, State Government Article, § 10-617(d), notify the provider of the information of any action filed to gain access to 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.

(2004 Code, § 185-4) (Ord. 94, passed 5-21-1992; Ord. 114, passed 4-14-1994; Ord. 02-08, passed 4-25-2002)

§ 50.05 PROHIBITED ACTIONS AT SOLID WASTE ACCEPTANCE FACILITIES.

(A) All municipal solid waste shall be transported directly from the point of collection and delivered in accordance with this subchapter 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.

(B) Special handling wastes shall be transported from the point of collection and delivered in accordance with this subchapter to a facility authorized by law to accept them.

(C) Upon reasonable advance notice to the hauler, the county may designate or change the site designation for disposal of any waste or recyclable material.

(D) No person shall use any county facility without a valid license as may be required by this subchapter and which has been obtained from the county or use any county facility in violation of this subchapter. A license issued pursuant to this subchapter 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.

(E) No person shall possess or consume any alcoholic beverage or beverages at any county facility.

(F) No person shall operate a motor vehicle in a reckless or unsafe manner at a county facility.

(G) No person shall trespass on county facility property. Except on a county MRF, only persons with valid permits shall be allowed on county facility property, and they shall be allowed only during operating hours and when accompanied by authorized county personnel. The operator of a county MRF shall take precaution to secure its property against trespassers.

(H) Except in the course of law enforcement, no person shall discharge a firearm or other weapon such that it projects any object over or onto property of a county facility.

(2004 Code, § 185-5) (Ord. 94, passed 5-21-1992) Penalty, see § [50.99](#)

§ 50.06 FEES.

(A) Authorized fees.

(1) The county is hereby authorized in its executive capacity to establish fees and penalties for the receipt of any solid waste or unacceptable waste at a county facility. Fees or penalties established hereunder may be changed whenever the county deems it necessary or expedient to do so.

(2) The County Commissioners may authorize the Department to adjust fees on March 1 of each year to be effective on the following July 1 to recover the actual cost of the operation of all solid waste management services provided by the county. If this authorization is given, the Department shall establish as the solid waste management fee a charge that is the result of the Department's determination of the projected actual cost of solid waste services divided by the total tonnage of municipal solid waste projected to enter the county landfill in the next fiscal year. (Actual cost is comprised of the proposed budgets of those agencies of county government whose duties are solely related to providing solid waste services, that portion of the budgets of agencies of county government that may be attributable to the provision of solid waste management services, any surplus or deficit, depreciation, annualized cost of future development

and closing, annualized cost of future facilities, and if not previously accounted for herein, the cost of hazardous waste disposal, composting, and recycling.)

(3) In addition, solid waste management fees may be calculated and established on any portion of the waste stream by providing different fees for different categories of waste. If separate fees are established for different categories of solid waste, the anticipated revenue from these fees shall be used by the Department in establishing the solid waste management fee. In addition, the Department, if authorized to adjust the solid waste management fee pursuant to this section, may adjust any fee established hereunder and establish new fees.

(B) Types of fees.

(1) **Solid waste management fee.** Solid waste, including any component of the waste stream, may be assessed a management fee when delivered to the county landfill or other county facility. These fees are in addition to any permit or license fee.

(2) **Special handling wastes.** Special handling wastes will be assessed a management fee when delivered to the county landfill. This fee is in addition to any solid waste management fee, permit, or license fee.

(3) **MRF residue.** Residue from the processing of a MRF shall be subject to a solid waste management fee in an amount established in a contract between the county and the operator of the MRF. If there is no contract or the contract does not address a fee for MRF residue, the fee shall be as established pursuant to division (A) above.

(4) **Mixed loads.** The fee for any load containing more than one category of waste shall be equal to the fee that would be required for disposal of the load requiring the highest fee. The county may reduce or waive this surcharge if the hauler demonstrates to the reasonable satisfaction of the county that the mixing of waste was not due to the fault or negligence of the hauler and that the hauler has made best efforts to prevent such mixing in the future.

(5) **Additional fees.** An additional fee of \$100 per hour may be assessed to the hauler of any load of waste which requires any assistance.

(C) **Customer notice.** A hauler shall include on each invoice to a residential customer a specific statement that informs the customer of the amount of the county's solid waste management fee. For example, if the fee is \$40 per ton, the notice must read: "The fee charged by the county for each ton of solid waste we dispose of is \$40. It is estimated that each household generates one and one-half tons of solid waste per year without recycling." (2004 Code, § 185-6) (Ord. 94, passed 5-21-1992; Ord. 114, passed 4-14-1994; Ord. 02-08, passed 4-25-2002)

§ 50.07 BILLING AND PAYMENT OF FEES.

(A) A solid waste management fee shall be charged on each load of solid waste delivered to a county landfill, and payment shall be due upon disposal of the waste. Categories of solid waste may be charged different fees, or the county may determine not to charge a fee for categories of solid waste. A hauler may enter into a written agreement with county to establish an account with the county. The county may require a hauler to provide security for the future payment of the fee in a form and amount satisfactory to county upon the establishment of a credit account, and the county may charge an administrative fee if a credit account is requested.

(B) A municipality within the county, that engages to collect all solid waste within its jurisdiction, may elect to pay solid waste management fees upon a monthly basis pursuant to a schedule developed by the Department, or that municipality may elect to have its hauler pay solid waste management fees pursuant to division (A) above. In the event a municipality elects to

pay its solid waste management fee, the municipality shall make arrangements with its hauler for providing the county with a manifest identifying the source of the solid waste and the municipality's responsibility for payment of the fee. The hauler will be charged for all loads that are not properly identified as the responsibility of the municipality.

(C) If a hauler has established an account with the county, or if a municipality elects to pay its solid waste management fee to the county directly, the hauler or the municipality, as the case may be, will be billed monthly and payment shall be due within 30 days of the date of the bill. The county may charge interest on unpaid balances and assess penalties for accounts that are past due.

(D) Accounts not paid by the thirty-fifth day after the statement date will be classified as delinquent, and in addition to interest and penalties being assessed, credit will be suspended until full payment is made. No dumping will be allowed.

(E) If an account becomes delinquent a second time within 12 months, the person who has the account will lose the credit privilege for six months.

(F) A person who has a credit account must charge at least \$50 per month to maintain a credit account.

(G) All additional fees will be billed separately and will be due 30 days from statement date and shall be subject to penalties for late payment and interest as determined by the Comptroller. (2004 Code, § 185-7) (Ord. 94, passed 5-21-1992; Ord. 02-08, passed 4-25-2002)

§ 50.08 OPERATING AND SAFETY RULES FOR COUNTY FACILITIES.

(A) Any users of the county facilities shall unload in designated areas and immediately thereafter leave the site.

(B) 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.

(C) Salvaging and scavenging is prohibited at the county facilities except with the prior written approval of the county.

(D) No fires or open burning are permitted in county facilities.

(E) No hunting is permitted at any solid waste acceptance facility owned or operated by or on behalf of Carroll County.

(F) 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, or special handling wastes without a permit if required by this subchapter to have one.

(G) Smoking is prohibited at county facilities except in designated smoking areas.

(H) Loitering and solicitation are prohibited at county facilities.

(I) Boxes or other containers will be allowed to be dropped from vehicles only in areas expressly designated as unloading or unloading areas.

(J) Vehicles and containers may not be left at county facilities without prior county approval.

(K) All sorting and separation of solid waste by a hauler must be performed at designated areas and not in the tipping areas.

(L) Haulers must unload solid waste off the rear of the vehicle in designated tipping areas. Unloading of vehicles off the sides is prohibited. No vehicles will be allowed to discharge waste through the tailgate. All tailgates must be removable, lay down, or swing to an open position.

(M) 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.

(N) Operators of vehicles are required to leave a minimum of six feet between vehicles during unloading at the landfill and MRF.

(O) Licensed vehicles, containers, and the contents of vehicles and containers are subject to inspection at any time by the county.

(P) All persons unloading vehicles shall be appropriately dressed to prevent injury and shall be wearing shoes.

(Q) Owners and operators of licensed vehicles and containers shall be responsible to ensure that their vehicles are watertight, readily emptied, cleaned with sufficient frequency to prevent insect breeding or odors or other nuisances, and shall be maintained in good repair and a safe condition. All waste must be secured to the vehicle or container and enclosed or covered with secured tarpaulins to prevent leakage, spillage, dusting, or litter. Such enclosures and tarpaulins must remain in place until arrival at the designated unloading or uncovering areas at the county facility. After discharging a load of waste, the driver or operator of the vehicle is responsible for inspecting the vehicle and the container to ensure that all the waste from the vehicle and container has been discharged properly. In the event that all the waste has not been discharged, the driver or operator must remove all remaining waste or secure the remaining waste by tarping or enclosing the vehicle or container. In the event a vehicle or container leaks, spills, dusts, or litters on any county facility, public road, or private property, the person hauling the waste will be responsible for all cleanup and for paying any costs incurred or damages sustained by the county in connection with performing or monitoring such cleanup.

(2004 Code, § 185-8) (Ord. 94, passed 5-21-1992; Ord. 2013-08, passed 8-29-2013)

§ 50.09 LIABILITY.

The county will not be liable for any actions, errors, or omissions of any contractors of the county, persons authorized to use or enter county facilities, or trespassers at county facilities. All persons proceeding onto county facilities do so at their own risk.

(2004 Code, § 185-9) (Ord. 94, passed 5-21-1992) Penalty, see § [50.99](#)

§ 50.10 VIOLATIONS.

(A) **Revocation or suspension of permit.** In addition to and not in substitution for any other action authorized hereby, the county may revoke or suspend any person's permit or license upon a determination by the Director, that said person has violated any provision of this subchapter or has otherwise engaged in conduct which is or may be detrimental to the solid waste acceptance facility or to the health, safety, and welfare of the citizens of the county.

(B) **Enforcement.** The civil and criminal provisions of this subchapter shall be enforced by those persons or agencies designated by the County Commissioners of the county. It shall be a violation of this subchapter to interfere with a county employee or official in the performance of duties assigned hereunder.

(C) **Notice of violation; appeal.**

(1) In the discretion of a county employee or official to whom responsibility for enforcement of this subchapter has been delegated by the County Commissioners, a notice of violation may be issued to any person in violation of this subchapter, or any rules and regulations adopted pursuant hereto. Such notice shall impose upon the person a penalty, pursuant to § [50.99](#)(B)(1), as indicated by the county employee or official, which may be paid to any agency designated by the County Commissioners within 30 days in full satisfaction of the violations or which may be appealed to the Director of the Department, or its successor agency, pursuant to

division (C)(2) below. In the event that the penalty is not paid within the time prescribed and no appeal is taken, the person to whom the notice of violation was issued shall be liable to the county for the full amount of the penalty established in the notice of violation, and the county may institute suit in the appropriate court of this state to recover the penalty sum.

(2) A person who receives a notice of violation may take an appeal to the Director of the Department, by filing a notice of appeal with the Director of the Department, within 30 days of the date of the notice of violation.

(3) The Director of the Department shall conduct an informal hearing on the appeal in a timely manner and issue a written decision affirming, reversing, or modifying the notice of violation. The decision shall be made and issued within 30 days of the hearing.

(4) A person aggrieved by the decision of the Director of the Department, may appeal the decision to the County Commissioners within ten days from the date of the decision of the Director. The County Commissioners shall conduct a hearing on any such appeal as soon as practical thereafter and issue a decision in writing on such appeal within 30 days after the hearing thereon. A person aggrieved by the decision of the County Commissioners may appeal the decision to the Circuit Court for Carroll County pursuant to the Maryland Rules of Procedure within 30 days of the date the decision was issued. Unless stayed by a court of competent jurisdiction, the decision of the Director of the Department to suspend or revoke a license issued hereunder continues in effect until reversed or modified.

(D) **Liability.** The generator, the person licensed, and the person operating any vehicle shall be responsible and accountable for any noncompliance with this subchapter, including reimbursing the county for all fees and any and all costs and damages incurred by the county as a result of such violation, including reasonable attorney's fees.

(2004 Code, § 185-10) (Ord. 94, passed 5-21-1992; Ord. 114, passed 4-14-1994; Ord. 02-08, passed 4-25-2002) Penalty, see § [50.99](#)

SOLID WASTE MANAGEMENT PLAN

§ 50.25 AMENDED PLAN DECLARED OFFICIAL.

The amended Carroll County Ten-Year Solid Waste Management Plan is hereby declared to be the county's official Solid Waste Management Plan ("the Plan").
(2004 Code, § 185-11) (Res. 444-99, passed 8-3-1999)

§ 50.26 FILING WITH STATE.

The county government is directed to forward the amended Plan to the Maryland Department of the Environment for approval in accordance with Md. Code, Environment Article, § 9-507.
(2004 Code, § 185-12) (Res. 444-99, passed 8-3-1999)

§ 50.27 CHANGES.

If the Maryland Department of the Environment requires changes to any part of the Plan approved by this subchapter, the county may make any necessary changes to the Plan by resolution adopted by the County Commissioners.
(2004 Code, § 185-13) (Res. 444-99, passed 8-3-1999)

§ 50.99 PENALTY.

(A) Any person who violates any provision of §§ [50.01](#) through [50.10](#) by acting in a manner prohibited hereby or by failing to act as required hereby shall be liable, upon a finding by a court of competent jurisdiction that such violation has occurred, for a civil fine of up \$1,000 for the first violation and up to \$5,000 for each subsequent violation.

(B) In addition to and not in substitution for any other penalty imposed hereunder, any person who violates any provision of §§ [50.01](#) through [50.10](#) by acting in a manner prohibited hereby or by failing to act as required hereby shall be guilty of a misdemeanor and upon being found guilty by a court of competent jurisdiction shall be fined up to \$1,000 or imprisoned for up to six months in the Carroll County Detention Center, or both fined and imprisoned.

(2004 Code, § 185-10) (Ord. 94, passed 5-21-1992)

C. CARROLL COUNTY CODE - ZONING ORDINANCE

§ 158.049 COUNTY PUBLIC BUILDINGS, STRUCTURES, AND USES.

Notwithstanding anything herein to the contrary, uses of land, buildings, structures, or premises by the County Commissioners, including the location, erection, reconstruction, extension, enlargement, conversion, or alteration of buildings or structures or parts thereof may be located in any district as principal permitted uses and exempt from all subdivision regulations and bulk requirements. However, no land, building, structure, or premises owned or leased by the County Commissioners may be used without the approval of the County Planning Commission pursuant to Md. Code, Land Use Article, § 3.205. (2004 Code, § 223-24) (Ord. 1E, passed 8-17-1965; Ord. 09-02, passed 4-7-2009)

§ 158.051 SEWAGE SLUDGE STORAGE.

(A) The storage of sewage sludge is allowed in any district at a publicly owned wastewater treatment plant as an accessory use to the treatment of sewage, septage, or other wastes.

(B) The storage of pelletized or granular dried sewage sludge, or any derivative thereof, is allowed in any district as a principal permitted use certified by the Zoning Administrator under the following specific conditions:

(1) The pelletized or granular dried sewage sludge to be stored shall be of a Class A grade as defined by the federal Environmental Protection Agency (“EPA”) or equivalent definition by the Maryland Department of the Environment (“MDE”);

(2) The pelletized or granular dried sewage sludge storage facility shall possess all valid and necessary state and federal permits for the storage, handling, and transportation of pelletized or granular dried sewage sludge;

(3) The pelletized or granular dried sewage sludge storage facility shall be a closed contained system with adequate fire suppression;

(4) The pelletized or granular dried sewage sludge storage facility shall have adequate ventilation for air exchange to maintain appropriate worker protection and filtration for fine particulate and other potential airborne emissions for external venting of internal air; and

(5) The quantity of pelletized or granular dried sewage sludge stored shall be reported to the Zoning Administrator on a monthly basis.

(C) The storage of sewage sludge is prohibited, unless authorized in division (A) or (B) above.

(D) (1) Land application of sewage sludge, if properly permitted by the MDE, is allowed as an agricultural use; provided, however, that the application of sewage sludge shall be subject to the distance requirements of § [158.040](#). The Zoning Administrator may reduce the distance requirements of § [158.040](#) to that buffer distance authorized by the MDE, if to do so would not adversely affect the adjoining property affected thereby, in the sound discretion of the Zoning Administrator.

(2) The storage of sewage sludge is not accessory to the application of sewage sludge. (2004 Code, § 223-26) (Ord. 1E, passed 8-17-1965; Ord. 05-09, passed 11-1-2005; Ord. 06-12, passed 10-19-2006; Ord. 07-15, passed 9-20-2007; Ord. 09-02, passed 4-7-2009)

§ 158.079 “I-R” RESTRICTED INDUSTRIAL DISTRICT.

(A) **Purpose.** The purpose of the “I-R” District is to provide locations for some of the lighter manufacturing processes and which may not be as extensive as those provided in the I-G District. For the most part, the manufacturing is composed of processing or assembly of previously processed materials. It is not the purpose of this district to promote or encourage the use of land

within the district for retail services or PBCs normally expected to be located within the established business district; however, it is anticipated that there may be areas or locations where retail services or PBCs can be reasonably and logically considered due to their relationship with other uses existing within the district, as well as their relationship with the district boundary line or the configuration of the property and the relative scale of the project.

(2004 Code, § 223-115)

(B) **Applicability.** The following regulations and applicable regulations contained in other sections shall be permitted in the I-R Restricted Industrial District.

(2004 Code, § 223-116)

(C) **Principal permitted uses.** Principal permitted uses shall be as follows:

(1) Uses of a light industrial nature including but not limited to the following, provided that such uses shall be subject to the distance requirements specified in § [158.040](#):

(a) Manufacture and assembly of electrical appliances, electronics, and communication equipment, professional, scientific, and controlling instruments, and photographic or optical products;

(b) Manufacturing, compounding, assembling, or treatment of articles or merchandise from previously prepared materials such as bone, cloth, fur, cork, fiber, canvas, leather, cellophane, paper, glass, plastics, horn, stone, shells, tobacco, wax, textiles, yarns, wood and metals, including light steel or other light metal, light metal mesh, pipe, rods, shapes, strips, wire, or similar component parts;

(c) Manufacturing, compounding, processing, packaging, or treatment of cosmetics, pharmaceuticals, and food products, except fish and meat products, sauerkraut, vinegar, yeast, and the rendering or refining of fats and oils;

(d) Manufacture of musical instruments, novelties, and molded rubber products, including tire manufacture, recapping, and treading;

(e) Manufacture of pottery or other similar ceramic products using only previously pulverized clay and kilns fired only by electricity or gas;

(f) Laboratories, chemical, physical, and biological;

(g) Clothing and shoe manufacture;

(h) Carpet and rug cleaning plants;

(i) Petroleum products storage underground;

(j) Blacksmith, welding, machine, or similar shops; and

(k) Heliports.

(2) The following business trades and services:

(a) Bottling of soft drinks or milk or distribution stations therefor;

(b) Carpentry or woodworking shops;

(c) Newspaper publishing establishments;

(d) Printing shops;

(e) Sheet metal shops;

(f) Sign painting shops;

(g) Truck or motor freight terminals or warehouses;

(h) Wholesale business;

(i) Warehousing or service establishments;

(j) Building materials sales and storage yards;

(k) Feed and grain sales;

(l) Milling and/or storage;

- (m) Commercial parking lots;
- (n) Trade schools;
- (o) Professional training centers;
- (p) Offices and office parks;
- (q) Hotels and motels; and

(r) Business parks, subject to a minimum size of ten acres. Retail and commercial uses, which are delineated as accessory uses in division (E)(2) below or principal permitted uses in § [158.077](#)(C)(1) and (C)(5), may be located on separate lots or parcels within a business park provided that:

1. The gross acreage of such uses does not exceed 15% or 15 acres, whichever is lesser, of the business park.

a. The area of the retail uses shall be computed as the building area containing the retail uses and the supporting parking lot area, but shall not include required yard setbacks and open space.

b. No variance of the 15% limitation may be granted.

2. The size of any individual retail or commercial use may not exceed a maximum of 6,000 square feet, except for day care centers and health clubs which may not exceed a maximum of 12,000 square feet. The area of a canopy over gasoline pumps shall not be included in the size limitation for a convenience store with gasoline pumps;

3. The development of the retail or commercial space shall be phased in with the development of the industrial uses such that the ratio of retail or commercial space to industrial space which is constructed may not exceed 25% at any time until the business park is complete;

4. The business park shall be ineligible for additional accessory uses under § [158.079](#)(E)(2);

5. The development of the business park with retail or commercial uses shall not constitute a substantial change in the neighborhood with respect to a petition to change the zoning of the property pursuant to § [158.134](#)(C);

6. An average of four parking spaces per 1,000 square feet of building area shall be provided for the lots within a business park;

7. The following uses are prohibited in a business park:

- a. Antique shops;
- b. Automobile service center;
- c. Day treatment or care facility;
- d. Funeral establishments;
- e. Kennels, commercial;
- f. Nonprofit clubs and fraternal organizations;
- g. Religious establishments;
- h. Residential dwelling units;
- i. Retail greenhouses;
- j. Retirement homes;
- k. Second-hand or consignment shops;
- l. Tattoo or body-piercing shops; and
- m. Vehicle repair shops.

8. Signage requirements are as follows.

- a. A signage plan shall be submitted with the site plan.

b. One freestanding sign shall be allowed to identify the business park. This sign may not exceed 30 feet in height or 200 square feet per side, unless a variance is granted pursuant to § [158.130](#). This sign may include identification of the tenants or other entities within the business park.

c. If a PBC is located within a business park, then the PBC may have an additional freestanding sign in accordance with § [155.094](#)(E).

d. All other buildings or lots within the business park may have signs in accordance with § [158.114](#).

(2004 Code, § 223-117)

(D) **Conditional uses requiring BZA authorization.** Conditional uses requiring BZA authorization shall be as follows:

(1) The following uses when the location of such use shall have been authorized by the BZA, provided that such use shall be subject to three times the distance requirements specified in § [158.040](#):

- (a) Bituminous concrete (blacktop) mixing plants;
- (b) Concrete and ceramic products manufacture, including ready-mixed concrete plants;
- (c) Contractors' equipment and storage yards;
- (d) Facilities for the cleansing of petroleum contaminated soil;
- (e) Petroleum products storage tanks above ground, any one of which has the capacity in excess of 2,000 gallons, provided that all state and federal laws, as well as National Fire Underwriters' codes, are complied with;
- (f) Sawmills, commercial; and
- (g) Sanitary landfills, including solid waste transfer facilities, and solid waste incinerators.

(2) Any use permitted and as regulated as a principal permitted use or conditional use in the "B-NR" or "B-G" Districts, except dwellings, mobile homes, and mobile home parks, and manufacture of mulch, on a lot or parcel of land no greater than five acres in size and that was depicted on a plat or described in a deed recorded in the Land Records of Carroll County prior to March 9, 2004, provided that in addition to the criteria set forth under § [158.133](#)(G), the BZA shall also consider criteria set forth under § [155.094](#)(B) in authorizing the use of any land for a PBC or any other "B-NR" or "B-G" use that is determined by the BZA to be of the same general character as a PBC.

(3) Notwithstanding anything contained in this subchapter to the contrary, mini storage is not an authorized use in this district.

(2004 Code, § 223-118)

(E) **Accessory uses.** Accessory uses shall be as follows:

(1) Uses customarily accessory and incidental to any principal permitted use or authorized conditional use, including:

- (a) A mobile home or dwelling associated with an industrial use, or a mobile home associated with an agricultural use subject to the provisions of § [158.150](#)(B);
- (b) Storage modules subject to the following standards:
 1. The exterior surface shall be painted and kept in good repair;
 2. The storage module shall be vented as needed for safety purposes;
 3. The storage module shall be screened from the adjacent roadway; and
 4. Number of storage modules to be determined by the Zoning Administrator.
- (c) Retail sales and service of products manufactured on or distributed from the site.

(2) Provided all accessory uses do not exceed 15% of the lot or parcel, and provided no individual use exceeds 3,000 square feet except as provided below, the following retail or other commercial uses in conjunction with a principal permitted or approved conditional use, not exceeding 15% of the lot or parcel, and subject to authorization of the BZA after a public hearing:

- (a) Retail bakeries;
- (b) Banks or savings and loan institutions;
- (c) Beauty salons or barbershops;
- (d) Convenience stores, including gasoline pumps, however the area of canopy over the gasoline pumps is excluded from the 3,000 square foot size limitation but included as part of the 15% gross acreage limitation;
- (e) Day care centers not exceeding 6,000 square feet;
- (f) Pharmacies;
- (g) Laundry or dry-cleaning establishments;
- (h) Office supply stores;
- (i) Shoe repair shops;
- (j) Restaurants or lunch rooms;
- (k) Tailor establishments;
- (l) Health clubs not exceeding 6,000 square feet; and
- (m) Florist or garden shops.

(2004 Code, § 223-119)

(F) **Height regulations.** No structure shall exceed 50 feet in height, except as provided in § [158.130](#)(E).

(2004 Code, § 223-120)

(G) **Bulk requirements.** The following requirements shall be observed, subject to the provisions of § [158.130](#):

- (1) Front yard: 50 feet;
- (2) Side yard: 30 feet;
- (3) Rear yard: 30 feet; and
- (4) Within a business park, the yard requirements may be reduced with the approval of the Planning Commission.

(2004 Code, § 223-121)

(H) **Required conditions.** Required conditions shall be the same as provided by § [155.059](#).

(2004 Code, § 223-122)
(Ord. 1E, passed 8-17-1965; Ord. 04-01, passed 4-9-2004; Ord. 04-18, passed 6-4-2004; Ord. 06-08, passed 6-2-2006; Ord. 07-14, passed 8-14-2007; Ord. 09-02, passed 4-7-2009)

§ 158.080 “I-G” GENERAL INDUSTRIAL DISTRICT.

(A) **Purpose.** The purpose of the “I-G” District is to provide for manufacturing or processing which may require extensive transportation, water, and/or sewerage facilities, as well as open space, because of the number of employees, the type of manufacturing operation, or any by-products which might result from the heavier or larger manufacturing plants proposed.

(2004 Code, § 223-123)

(B) **Applicability.** The following regulations and applicable regulations contained in other sections shall apply in the “I-G” District.

(2004 Code, § 223-124)

(C) **Principal permitted uses.** Principal permitted uses shall be as follows:

(1) Uses of a heavy industrial nature, but not limited to the following, provided that such uses shall be located two times the distance requirements specified in § [158.040](#):

- (a) Manufacture and assembly of aircraft, automobiles, house trailers, or other vehicles;
- (b) Manufacture and bottling of alcoholic beverages;
- (c) Manufacture of brick or clay products;
- (d) Machine shops, structural steel fabricating;
- (e) Coal yards;
- (f) Cooperage works;
- (g) Crematories;
- (h) Manufacture or processing of chemicals, except sulfuric, nitric, or hydraulic or other corrosive or offensive acid;
- (i) Manufacture of dye or dyestuff and printing ink;
- (j) Electric generating or steam power plants;
- (k) Flour mill, grain milling, or drying;
- (l) Manufacture of felt, shoddy, hair products, feathers, emery cloth, sandpaper, or sand blasting and/or products therefrom;
- (m) Enameling, lacquering, galvanizing, and plating;
- (n) Manufacture or processing of meat or food products, except slaughterhouses;
- (o) Manufacture of paper, pulp, or cloth;
- (p) Manufacture of perfume;
- (q) Manufacture of pickle, sauerkraut, vinegar, yeast, soda, or soda compounds;
- (r) Manufacture of rayon or similar products;
- (s) Manufacture of rubber or rubber products;
- (t) Manufacture of starch, glucose, dextrin, or spice;
- (u) Manufacture of soap, oil, paints, turpentine;
- (v) Manufacture of wire or wire products; and
- (w) Manufacture of mulch, including the processing, storage, and sale at retail and wholesale.

(2) Agriculture for interim use, provided that any buildings or feeding pens in which farm animals are kept shall comply with the distance requirements of § [158.040](#);

(3) Any use permitted and as regulated as a principal permitted use in the “I-R” District, except as hereinafter modified;

(4) Any other use that is determined by the BZA to be of the same general character as the above-permitted uses and which would not be detrimental to the public health, safety, or general welfare of the community, but not including any use which is prohibited in the “I-R” District; and

(5) Subject to the requirements of this subchapter, an adult entertainment business, a massage establishment or a striptease business is a principal permitted use in the “I-G” District.

(a) An adult entertainment business, a massage establishment or a striptease business may not be located within 1,000 feet of:

- 1. A religious establishment;
- 2. A public or private school;
- 3. A public park or public recreational facility;
- 4. A public library;

5. A child care home, child care institution, or family day care home licensed or registered under state law; or

6. A lot zoned residentially or devoted primarily to residential use.

(b) An adult entertainment business, a massage establishment or a striptease business may not be located within 2,500 feet of another adult entertainment business, massage establishment or striptease business.

(c) In determining compliance with the siting requirements in division (E)(1) below, measurements shall be made in a straight line, without regard to intervening objects, from the closest point of the structure containing the adult entertainment business, massage establishment or striptease business to the nearest property line of the lot or use listed in division (E)(1) below. (2004 Code, § 223-125)

(D) Conditional uses requiring BZA authorization. Conditional uses requiring BZA authorization shall be as follows:

(1) The following uses, when the location of such use shall have been authorized by the BZA, provided that such use shall not be less than 1,000 feet from any Residence District governed by this chapter, except an “I-R” District, and four times the distance requirements as specified in § [158.040](#):

- (a) Slaughterhouses and stockyards;
- (b) Acid or heavy chemical manufacture, processing, or storage;
- (c) Blast furnace or boiler works;
- (d) Cement, lime, gypsum, or plaster of paris manufacturing;
- (e) Distillation of bones, fat rendering, grease, lard or tallow manufacturing or processing;
- (f) Explosive manufacture or storage;
- (g) Fertilizer, potash, insecticide, glue, size, or gelatin manufacture;
- (h) Foundries;
- (i) Garbage, offal, or dead animal reduction;
- (j) Gas manufacture or storage for heat or illumination;
- (k) Junkyards, provided that the area used shall not exceed five acres, shall be totally enclosed with adequate fencing, and no operations, including storage or sale of parts, shall be closer than 300 feet to any public highway; and

(l) Petroleum products, refining or storage above ground in tanks in excess of 2,000 gallons, provided that all state and federal laws, as well as National Fire Underwriters’ codes, are complied with.

(2) Bituminous concrete (blacktop) mixing plants as regulated in the “I-R” District; and

(3) Any conditional use set forth and as regulated in the “I-R” District.

(2004 Code, § 223-126)

(E) Accessory uses. Accessory uses shall be as follows:

(1) Uses customarily accessory and incidental to any principal permitted use or authorized conditional use, including:

- (a) A mobile home or dwelling associated with an industrial use;
- (b) Storage modules subject to the following standards:
 - 1. The exterior surface shall be painted and kept in good repair;
 - 2. The storage module shall be vented as needed for safety purposes;
 - 3. The storage module shall be screened from the adjacent roadway; and
 - 4. Number of storage modules to be determined by the Zoning Administrator.
- (c) Retail sales and service of products manufactured on or distributed from the site.

(2) Provided all accessory uses do not exceed 15% of the lot or parcel, and provided no individual use exceeds 3,000 square feet except as provided below, the following retail or other commercial uses in conjunction with a principal permitted or approved conditional use, not exceeding 15% of the lot or parcel, and subject to authorization of the BZA after a public hearing:

- (a) Retail bakeries;
- (b) Banks or savings and loan institutions;
- (c) Beauty salons or barbershops;
- (d) Convenience stores, including gasoline pumps;
- (e) Day care centers not exceeding 6,000 square feet;
- (f) Pharmacies;
- (g) Laundry or dry-cleaning establishments;
- (h) Office supply stores;
- (i) Shoe repair shops;
- (j) Restaurants or lunch rooms;
- (k) Tailor establishments;
- (l) Health clubs not exceeding 6,000 square feet; and
- (m) Florist or garden shops.

(2004 Code, § 223-127)

(F) **Height regulations.** No structure shall exceed three stories or 50 feet in height, except as provided in § [158.130](#)(E).

(2004 Code, § 223-128)

(G) **Bulk requirements.** Bulk requirements shall be the same as in the “I-R” District.

(2004 Code, § 223-129)

(H) **Required conditions.** Required conditions shall be the same as provided by § [155.059](#).

(2004 Code, § 223-130)

(Ord. 1E, passed 8-17-1965; Ord. 01-01, passed 1-3-2001; Ord. 01-03, passed 4-4-2001; Ord. 04-01, passed 4-9-2004; Ord. 04-18, passed 6-4-2004; Ord. 09-02, passed 4-7-2009)

D. CARROLL COUNTY RECYCLING PLAN

CARROLL COUNTY
RECYCLING PLAN

NOTE: Complete Recycling Plan is available at the Carroll County Department of Public Works Administration Office.

AUGUST 1992

Among the next steps in the county plans are:

- Consideration of a plan to relocate the Recycling Center from the airport to Northern Landfill. This facility replaces the one near the airport, and will have the capability to be expanded.
- Developing a plan for composting yard waste, beginning January 1, 1993.
- Initiating an aggressive education and public relations campaign.
- Preparing contingency plans in the event that markets fail, or that a mandatory program is needed.
- Developing a plan for recycling tires, beginning January 1, 1994.

Meeting the mandated 15 percent goal requires the County to recover about 30 percent of each of the targeted materials. The key to achieving the goal is public motivation by education and information. Several citizens groups within the County have already begun to distribute pamphlets and brochures on recycling and the County is seeing more interest in recycling as a result. The County's role is to encourage citizen participation in the education process and there is evidence that this is already happening.

The information provided in this plan represents the County's effort to quantify and characterize the solid waste stream for recycling. These data and the options presented herein for achieving the County's recycling goals are subject to revision should the process capabilities, material markets, or program costs change.

Common household wastes comprise about half, by weight, of the municipal solid waste stream. Recycling can divert many of these materials from our landfills and reuse them in many new and different products.

The recycling process begins when the material (e.g., used beverage can, glass bottle, etc.) is removed or separated from the typical household garbage. Once separated, the materials are transported to a recycling center where they are prepared for their respective markets. The processed materials are then shipped to a manufacturer's plant and made into a new product. The recycling process is not complete until the new product is demanded by the general public.

The most effective way for households and businesses to recycle is to separate recyclable materials from other wastes at

E. CARROLL COUNTY'S SOLID WASTE DISPOSAL FEES

RESOLUTION NO. 970-2016

WHEREAS, by virtue of the Code of Public Local Laws and Ordinances of Carroll County, Title 12, the County Commissioners of Carroll County have been given the authority to establish reasonable rates and charges for solid waste collection or disposal;

WHEREAS, by virtue of Chapter 50.06 of the Code of Public Local Laws and Ordinances of Carroll County, the County Commissioners are authorized to establish such fees and other charges for the receipt of solid waste at any County facility, including a solid waste management fee; and

WHEREAS, solid waste management fees collected at County facilities represent the major source of revenue for the solid waste operations.

NOW, THEREFORE, The County Commissioners of Carroll County do hereby resolve that the following solid waste management fees be established:

- (a) Per ton charge for municipal solid waste: \$64.00 per ton at the Northern Landfill. The existing rate of \$68.00 per ton will remain in effect at the Hoods Mill Landfill.
- (b) Flat rate charge to automobiles for residential waste per vehicle: \$7.00 per vehicle at the Northern Landfill, and the current rate of \$8.00 will remain in effect at the Hoods Mill Landfill.
- (c) Scrap tires, off the rim: \$2.50 each at both the Northern Landfill and the Hoods Mill Landfill;
- (d) Scrap tires, on the rim: \$3.50 each at both the Northern Landfill and the Hoods Mill Landfill.
- (e) Commercial tire fee: \$150.00 per ton at the Northern Landfill (commercial tires are not accepted at the Hoods Mill Landfill); and
- (f) Per ton charge for construction and demolition debris and sewage sludge: \$80 per ton at both the Northern Landfill and the Hoods Mill Landfill (sewage sludge is not accepted at the Hoods Mill Landfill).
- (g) Minimum disposal fee: \$7.00 at the Northern Landfill, and the current rate of \$8.00 will remain in effect at the Hoods Mill Landfill.

Solid Waste ("Tipping Fees") - 2016

BE IT RESOLVED that Resolution No. 929-2014 is hereby superseded by this Resolution; and

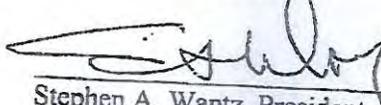
BE IT FURTHER RESOLVED that this Resolution shall become effective on July 1, 2016.

ADOPTED this 25th day of February, 2016.

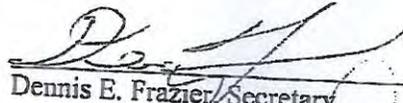
THE COUNTY COMMISSIONERS OF
CARROLL COUNTY, MARYLAND,
a body corporate and politic
of the State of Maryland

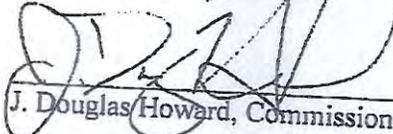
ATTEST:

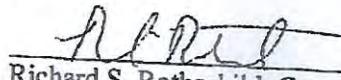

Shawn D. Reese, County Clerk


Stephen A. Wantz, President (SEAL)

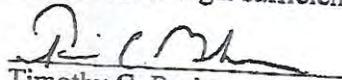

C. Richard Weaver, Vice-President (SEAL)


Dennis E. Frazier, Secretary (SEAL)


J. Douglas Howard, Commissioner (SEAL)


Richard S. Rothschild, Commissioner (SEAL)

Approved for legal sufficiency:


Timothy C. Burke
County Attorney

F. RESOLUTION No. 658-06

RESOLUTION No. 658-06

Waste Disposal – Development of Solid Waste Management Plan

WHEREAS, the Carroll County Department of Public Works, through its Bureau of Solid Waste, is responsible for the formulation and execution of the Solid Waste Management Plan;

WHEREAS, under State law each county is responsible for providing facilities for the waste disposal needs of its citizens;

WHEREAS, the Department of Public Works recently received a report from R.W. Beck, Inc. on waste disposal options for the County for the future;

WHEREAS, the Department of Public Works, with the assistance of the Northeast Maryland Waste Disposal Authority, proposes the following plan to develop a solid waste management plan to meet the long term needs of the community focusing on:

1. Enhancing recycling efforts;
2. Gaining control of the waste stream;
3. Conducting a procurement for the purpose of obtaining contract terms and costs for a waste to energy facility including siting;
4. Measuring the economic impact of the solid waste program and developing equitable methods of cost sharing;
5. Exploring joint disposal efforts with nearby jurisdictions; and
6. Beginning the process of site selection for a future landfill.

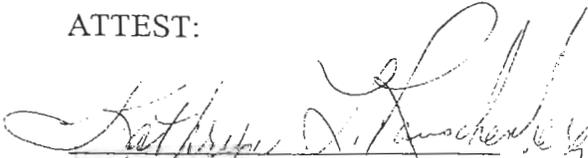
NOW, THEREFORE, BE IT RESOLVED, that The Board of County Commissioners of Carroll County authorizes the Department of Public Works to proceed with the proposed plan outlined above, with the assistance of the Northeast Maryland Waste Disposal Authority, to develop a solid waste management plan with implementation plans for each of the items listed above to be

presented to the Board of County Commissioners for review and adoption.

RESOLVED this 19th day of January, 2006.

THE COUNTY COMMISSIONERS OF
CARROLL COUNTY, MARYLAND
a body corporate and politic of the
State of Maryland

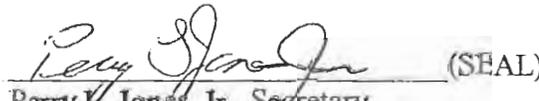
ATTEST:


Kathryn L. Rauschenberg
County Clerk

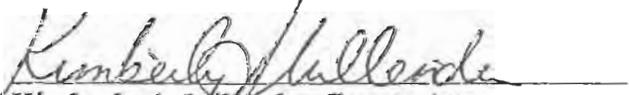
 (SEAL)
Julia W. Gouge, President

 (SEAL)
Dean L. Minnich, Vice-President

Jan. 19, 2006
Date:

 (SEAL)
Perry L. Jones, Jr., Secretary

Approved for legal sufficiency:


Kimberly A. Milender, County Attorney

**G. EXECUTIVE SUMMARY – CARROLL COUNTY, MARYLAND
SOLID WASTE MANAGEMENT OPTIONS – R.W. BECK**

Carroll County, Maryland Solid Waste Management Options

Northeast Maryland Waste Disposal Authority

September 2005



SEP - 8 2005

- d) review information developed by others regarding the construction and operation of an organics composting facility and a municipal solid waste composting facility
7. Identify alternative strategies for the funding of solid waste management services.
8. Prepare a report summarizing the results of Beck's review.

1.3 Executive Summary

This Report sets forth information to assist the County in formulating a strategy to dealing with various solid waste management issues. The Report presents various options to:

- 1) Increase the efficiency of its recycling system
- 2) Dispose of solid waste upon termination of the current long-haul transfer option under contract with Waste Management Inc. ("WMI").
- 3) Fund the cost of solid waste management services

Recycling

The percentage of material being recycled has decreased each year between 2002 and 2004 as it reduced from 48 percent in 2002 to 32 percent in 2004. The decrease in the level of recycling is associated with the fact that the County's solid waste is no longer being transferred to the York County Resource Recovery Center where it was combusted to generate energy and the County received credit for the recycled scrap metal and residue ash recovered by that facility. In Section 4 of this Report we have identified a number of changes to the recycling system for the County's review and consideration. The changes have been segregated by the amount of cost and level of effort required on the part of the County. Among those changes which would be of a relatively low cost, but should help the County more efficiently manage its recycling program, are the following:

- 1) Obtain better data on the current recycling program
 - a. If possible, track the number of households that subscribe to curbside recycling. Because this information is compiled by private haulers, it may be difficult to obtain.
 - b. Keep better records of the actual cost of recycling
 - c. Attempt to maintain consistent information year to year. This is complicated by the fact that MDE changes the information to be included on the annual report forms.
- 2) Improve Education/Outreach
- 3) Change the Hauler Licensing Requirements to increase recycling or reduce the cost of recycling

Other options for consideration which would require more effort on the part of the County include the following:

- 1) Manage the collection function on a more regional basis
 - a. Utilize the County's Community Planning Areas in establishing collection contracts
 - b. Divide the County into regions and contract collection by region
- 2) Develop franchise areas for the collection of solid waste and recyclables
- 3) Consider Single Stream Collection of recyclables

Solid Waste Disposal Options

We have developed two sets of alternative analyses for the County's review and consideration. The first set of analyses assume the County receives in the System 100 percent of the solid waste currently generated in the County. We have identified this first set of analyses as "100% County Waste to System." The County estimates that approximately one-third of the waste being generated in the County is currently being disposed/delivered at non-County facilities. Due to the economics of scale associated with the development of a larger disposal facility, we believe that it would be in the best financial interests of the County and the municipalities to work together to find a mutually acceptable waste disposal option which address all of the solid waste generated in the County. At the County's request, we have developed a second set of analyses which assume that the County does not receive that solid waste currently being disposed at alternative facilities by certain municipalities in the County and by certain private haulers collecting in the County. We have identified this second set of analyses as "Current Waste Stream Received at County." We have been informed that the municipalities may be interested in delivering their solid waste to the System. We believe the two sets of cases cover the range of potential waste deliveries to the System and the information presented herein will allow the County to evaluate the financial impacts associated with the potential range of waste delivery options.

For the two different waste delivery options, we have developed Projected Operating Results for the period 2011 through 2031 which calculates the projected costs for the following solid waste management options:

- 1) Continue the current long-haul transfer to disposal facilities located outside the County. As discussed in Section 3 of this Report, we believe that landfills located in Virginia will represent the lowest cost of disposal for out-of-state long-haul options.

We have included, as a sensitivity analysis for this particular option, an additional set of projections which assume there is a significant increase in the cost of diesel fuel.

- 2) Construct a County-only waste-to-energy facility sized to meet the waste disposal needs of just the County. We have assumed the construction of a facility capable of processing approximately 600 TPD.

- 3) Construct a regional waste-to-energy facility sized to meet the waste disposal needs of the County and one other similarly sized public entity. For this option we have assumed the construction of a facility capable of processing approximately 1200 TPD. The construction of this larger facility allows for economies of scale associated with the construction cost and the operating and maintenance expenses.
- 4) Construct a municipal solid waste composting facility sized at 600 TPD and have all process residue long-hauled out of the County for disposal. This option is assumed to generate 420 TPD of final compost product.

As a variation to this option, we have developed an additional set of projections which assume the County will construct a 600 TPD municipal solid waste composting facility and landfill all the process residue at the County's Northern Landfill.

We also developed two additional cases for the composting option which assume the County will have to pay \$15 per ton to transfer and transport the 420 TPD of finished compost product to some party who will accept the material at no cost to the County.

- 5) Continue landfilling waste at the Northern Landfill and site a new landfill when the Northern Landfill has been depleted.

This results in nine different sets of projections for each of the two waste delivery levels, for a total of eighteen sets of Projected Operating Results.

To assist the County in its evaluation, we have estimated the number of years of useful life of the Northern Landfill if the County decided to landfill all solid waste generated in the County. We estimate that under that operating assumption, the Northern Landfill would be fully depleted within approximately ten to eleven years based on an assumed compaction rate of municipal solid waste of 1,200 pounds per cubic yard. This compares to an estimated useful remaining life of the Northern Landfill of approximately 50 years under a continuation of the long-haul transfer option. Determining both the cost and the amount of time required to acquire a parcel of land of sufficient size to serve as replacement for the Northern Landfill was beyond the scope of this review. However, based on our experience on behalf of other public sector entities, we would expect that it could require a significant amount of time to locate, purchase, permit, design and construct a new landfill. The County should not under estimate the value to the County of the potential airspace at the Northern Landfill.

To demonstrate the impact on the required level of tipping fees, at the County's request, we have also developed an alternative set of analyses which assume the County accepts only that solid waste currently being delivered to the System. The results of that analysis are presented in Table 1-1 below.

In addition, at the County's direction, all the cases assume the County will repay the current Solid Waste Fund Deficit of approximately \$9,000,000 by paying \$1,000,000 per year during each of the next nine years.

Presented in Table 1-1 is a summary of the estimated total cost of disposal for both of the assumed waste delivery scenarios of the five options (and four variations) outlined

above during the period 2006 through 2031. Also presented in Table 1-1 is a summary of the net present value of the calculated total cost of disposal assuming a discount rate of five percent. It should be noted that in all eighteen cases, we have assumed that the County will continue to long-haul transfer from 2006-2011 while the facilities are being permitted, financed and constructed so the cost of all nine cases is the same during that time period.

We have also included an estimate of the average cost per ton to allow the County the ability to compare the unit costs between the two different levels of waste deliveries to the System.

Table 1-1
Summary of Estimated Cost of Disposal
(\$000)

System Disposal Cost	Nominal Cost	Net Present Value	Nominal Cost \$/ton	Net Present Value \$/ton
100 Percent County Waste to System				
Long-Haul	\$542,700	\$288,100	\$67	\$36
Long-Haul / Increased Fuel Costs	\$746,700	\$371,200	\$92	\$46
600 TPD Waste-to Energy Facility	\$654,400	\$345,400	\$79	\$42
Regional 1200 TPD Waste-to Energy Facility	\$546,700	\$293,600	\$66	\$36
Compost Facility / Landfill	\$554,300	\$299,400	\$68	\$37
Compost Facility / Long-Haul	\$599,600	\$320,400	\$74	\$40
Compost Facility with Haul Cost/ Landfill	\$606,500	\$323,900	\$74	\$40
Compost Facility with Haul Cost/ Long-Haul	\$651,900	\$345,000	\$81	\$43
Landfill	\$465,800	\$240,800	\$52	\$28
Current Waste Stream Received at System				
Long-Haul	\$406,300	\$218,600	\$72	\$39
Long-Haul / Increased Fuel Costs	\$548,400	\$276,500	\$97	\$49
600 TPD Waste-to Energy Facility	\$528,400	\$280,200	\$93	\$50
Regional 1200 TPD Waste-to Energy Facility	\$420,600	\$228,300	\$74	\$40
Compost Facility / Landfill	\$441,100	\$238,500	\$78	\$42
Compost Facility / Long-Haul	\$463,100	\$250,900	\$82	\$45
Compost Facility with Haul Cost/ Landfill	\$493,400	\$263,100	\$88	\$47
Compost Facility with Haul Cost/ Long-Haul	\$515,400	\$275,500	\$92	\$49
Landfill	\$358,900	\$186,200	\$58	\$32

The information in Table 1-1 indicates that the lowest cost option, on a net present value basis, involves only landfilling at the Northern Landfill until that facility is depleted and then siting a new landfill at some other location in the County.

Representatives of the County have indicated that landfilling only is not their desired approach and of the other alternative options considered, the lowest cost option is a continuation of the long-haul alternative – assuming that the cost of long-haul increases each year at the assumed annual rate of inflation of 2.4 percent. We have defined “long-haul” as any option which requires the use of a transfer station and transfer vehicles to transport waste for disposal outside the County. Our experience indicates that it is not economical to transport waste in collection vehicles for distances greater than 35 to 30 miles, one way. If one assumes that the cost of long-haul goes up at twice the rate of inflation (4.8 percent per year) because of continued increases in the cost of diesel fuel, the total costs of the long-haul option for the 100 percent County waste to System cases are calculated to increase from \$287,900,000 to \$371,200,000. In that case, the construction of a 1,200 TPD regional waste-to-energy facility and the construction of a 600 TPD compost facility (with disposal of non-processible at the County Landfill) are calculated to be the lowest cost options, other than only landfilling in the County. Assumptions regarding the future price of diesel fuel will have a significant impact on the long-haul option.

It is important to note that the estimated capital and operating expenses of the composting options used in our analysis were conceptual planning estimates developed by the Authority’s composting consultant (the “Compost Consultant”). The Compost Consultant assumed that the compost material derived from the processing of municipal solid waste will not generate any revenue because of the contaminants that will remain in the final compost product. Such contaminants include small pieces of plastic, glass, metal, and other inorganic matter. In addition, the analysis assumes that the County will be able to find some source who will be able to utilize 420 TPD of compost material processed from municipal solid waste at no cost to the County. In the event the County must pay some fee for the removal and disposal of the compact product, the cost of the compost options will increase accordingly. We believe the County will find it a challenge to find a market for 420 TPD of compost product processed from municipal solid waste. Because of our belief that it is unlikely that the County will be able to find a credit-worthy entity who can utilize 420 TPD of compost produced from municipal solid waste, we ran additional analyses for the two compost options which assume the County will have to pay \$15 per ton to haul the compost product to a site where it can be beneficially used.

The analysis presented in Section 6 of this Report indicates that the compost options are not economically competitive with other alternatives being considered. Therefore, due to the uncertainty of the technology, the higher costs and the lack of a market for the final product, we are of the opinion that the County eliminate the composting of solid waste as an option as it continues its evaluation of alternatives.

The projected operating results indicate that there are significant savings which could be realized by increasing the size of a waste-to-energy facility from 600 TPD to 1,200 TPD, which strongly favors a regional approach to the implementation of waste-to-energy facility.

The County has indicated that it has the following three principal criteria it will consider in evaluating waste disposal options:

1. Manage costs in a predictable fashion;
2. Remain independent; and
3. Maximize the life of the Northern Landfill.

Presented in Table 1-2 is a summary matrix which presents the waste disposal options and the ability of that option (expressed in high, medium or low) to meet the County's three primary objectives.

Table 1-2
Summary Matrix

Option	Manage Cost Predictably	Maintain Independence	Maximize Life of Landfill
Long Haul	Low	Low	High
600 TPD WTE Facility	High	High	Medium
Regional 1,200 TPD WTE Facility	High	High	Medium
Compost Facility/Landfill	Low	High	Medium
Compost Facility/Long Haul	Low	High	High
Continued Landfilling	Medium	High	Low

Funding Strategies

Section 7 presents information on alternative strategies for different methods of funding the cost of the County's solid waste management services. The different funding strategies available for the County's consideration include tip fees, a system benefit charge ("SBC"), user fees and impact fees. Section 7 sets forth a lengthy discussion of the specific features of each strategy, the impact on stakeholders, the steps required to implement each strategy and advantages and disadvantages of each of these four funding strategies. In reviewing these funding strategies, the County will need to consider the system which is equitable, simple to administer and easy to predict. Further, because the County has debt on the System, it will need to adopt a funding strategy which attracts sufficient waste to the System to allow the generation of sufficient revenues to meet the System's revenue requirements.

In addition to the four funding strategies, Section 7 discusses alternative methods of controlling where solid waste is disposed. These methods include: 1) flow control strategies; 2) private hauler licensing/permitting and the creation of franchise/contract collection districts.

Based on feedback from the County, it is believed that tip fees, SBCs and impact fees have the greatest potential to be politically acceptable, while county-wide franchising/contracting is less feasible at this time. Appendix B of this report provides a detailed evaluation of the structure and possible range of tip fees, SBCs and impact fees were the County to pursue these funding mechanisms.

Tip fees are in fact the primary current revenue source for the System, and will almost certainly remain so in the future. Of the remaining funding strategies shown in Appendix B, we note that solid waste impact fees are extremely rare in the industry, and can identify only four municipalities that have implemented such fees. For this reason, it is recommended that impact fees for solid waste not be pursued at this time.

Ultimately, we believe it is likely that the County will have to implement SBCs in some form and for at least some customer classes to assure a means of recouping System revenues. Our analysis suggests that the maximum residential SBC would be in the range of \$81 per year for a single family household assuming the County continues to manage the current fraction of wastes generated in the County, but would decrease to \$75 if the County managed all waste (and therefore generated tip fee revenues on all wastes).

Finally, we note that having SBCs would provide a mechanism for the County at some point in the future to improve control of solid waste collection in the County in the form of contracts or franchises. Contract costs could be charges to appropriate customer classes via the SBC, while wastes collected could be directed to County-managed facilities. Such a system would provide maximum control of solid waste in Carroll County, and also maximize throughput at County-managed facilities resulting in lower unit costs for these facilities.

1.4 Project Development and Management

Several of the options discussed in this report involve the development, financing and management of capital intensive, complex projects. This is particularly true for landfill gas recovery, waste to energy facilities and recycling processing facilities.

As a Member of the Northeast Maryland Waste Disposal Authority, the County has access to experienced professionals who will work on the County's behalf to get a project built at the lowest cost, and to manage the project for the long term. The Authority can also own the facility on behalf of the County, or can manage a privately owned facility. These decisions will be made by the County.

As an example of the activities associated with these projects, we have listed typical project requirements for which the Authority can provide assistance to the County.

Project Development

- Assist the County in finding a suitable site
- Assure the provision of utilities, including water, wastewater, and electricity
- Define the permitting requirements

Project Procurement

- Conduct a public competitive procurement
- Write a Request for Proposals and issue

- Respond to vendors' questions
- Review responses and write evaluation report
- Assist the County in selection of a vendor

Project Contracts

Negotiate contracts for:

- Site Purchase or Site Lease
- Purchase and sale of energy (steam and/or electricity)
- Residue Disposal (If out of County)
- Transportation Services
- Full Service Design-Build-Operate Contract

Project Finance

- Prepare financial analysis to assist the County in selecting a financing option
- Prepare and circulate all bond documents
- Arrange and conduct sale of bonds

Construction Management

- Provide a qualified engineer to oversee construction and acceptance testing

Operations Management

- Review Vendor's performance and compliance with contracts
- Manage any disputes on behalf of the County

1.5 Conclusions

Presented below are the principal conclusions we have reached regarding our analysis of the County's recycling program, waste disposal options, and funding strategies.

1. There are a series of relatively low cost options the County could undertake to improve the efficiency of its current recycling program. These measures are described in detail in Section 4 of the Report and fall within the following general categories: (a) attempt to develop better information and data on the current recycling program; (b) improve education and outreach within the County; and (c) change the hauler licensing requirements to either increase the level of recycling or reduce the cost of recycling.
2. There are several additional changes the County could consider making to the recycling program which would be more expensive than the options identified

- above. These include: (a) managing the collection function on a regional basis; (b) develop franchise areas for the collection of both solid waste and recyclables; and (c) consider single stream collection of recyclables.
3. The projected lowest cost disposal option analyzed as part of this Report involves a resumption of only landfilling solid waste at the Northern Landfill until that site is depleted and then siting a new landfill someplace in the County. However, the County has indicated that landfilling in the County is the least desired alternative. The next lowest cost disposal option we identified would be a continuation of the current long-haul transfer operation if the annual cost of such an option increases at the rate of inflation. However, if, due to increases in fuel costs, the cost of long-haul transfer goes up at a rate greater than inflation, the construction of a 1,200 TPD regional waste-to-energy facility and the construction of a 600 TPD municipal solid waste composting facility are projected to be more economical options, if the County can find a credit-worthy party to take 420 TPD of compost material at no cost to the County.
 4. The composting options are based on the assumption that the County will be able to find some credit-worthy source who will take 420 TPD of compost product processed from municipal solid waste at no cost to the County. Based on the reported problems with quality and contaminants as discussed in Section 5 of this Report, we believe that it will be a challenge for the County to realize this assumption. Therefore, the cost of the compost options will increase by whatever fee the County may be required to pay for the removal of some or all of the composted material. In addition, we believe it is extremely unlikely that the County will be able to execute a long-term contract with a credit-worthy entity who would agree to take the compost product produced by a municipal solid waste composting facility. We have included two sensitivity analyses which assume the County must pay \$15 per ton to transport the finished compost product to a third party. Due to the technical challenges of the technology, the uncertainty of finding a credit-worthy entity who will take 420 TPD of compost product processed from solid waste, and the potential additional cost to transport and/or dispose of the material, we recommend the County eliminate the solid waste compost alternatives from further consideration.
 5. Based on our analysis of alternative funding strategies and on feedback from the County as to what may be politically acceptable, it appears that a combination of tip fees and SBCs represent the most appropriate combination of revenue mechanisms to fund the County's solid waste system at this time. Tip fees are already the primary source of System funding. This analysis suggests that the maximum SBC for a single family households is in the range of \$81 annually assuming current waste flows, with the rate reduced to \$75 if the County managed all wastes generated in the County. To the extent feasible, we note that contracting for solid waste collection in the County unincorporated areas would further support the County's control of waste flow, and could be billed as a component of the SBC.

H. EXECUTIVE SUMMARY - SOLID WASTE MANAGEMENT STUDY – KCI

Carroll County Solid Waste Management Study - Executive Summary

Carroll County retained the services of KCI Technologies, Inc. (KCI) to review its current waste management system and assist in planning for future solid waste management. The work is intended to support a new direction for the County after its withdrawal from previous plans to build a municipal waste-to-energy facility in partnership with Frederick County. Both counties have now formally withdrawn from the incinerator plan based on their concerns for cost and potential environmental impacts.

Solid waste management (SWM) for Carroll County requires a balance of risk, costs, and benefits. One of the main responsibilities of county government in Maryland is to provide for a safe and effective means of solid waste management. Owning and operating an in-County system of solid waste collection, processing, and disposal may be the least risky and most reliable way to manage solid wastes, as there is little or no dependence upon the private sector to provide cost-effective and environmentally acceptable solutions. However, the current in-county landfill capacity is limited, and capacity does exist outside the county at commercial landfills within an economical haul distance. The cost of obtaining additional in-County waste disposal in a local landfill may be too expensive, if it is even possible at all under the current regulatory environment.

At this time, the County relies on contract haulers to recycle and to transfer and dispose of solid waste at a cost that is aligned with the current regional market conditions. There is a contractual dependence upon the private sector to provide this service, both reliably and at a fair and reasonable price. The fact that the county does own and operate the Northern Landfill provides a measure of security to the SWM operation, as waste could be diverted to the landfill at any time, and for any reason. Should there ever be an interruption in contractual services; the County can react relatively quickly to the situation. This ability gives Carroll County a distinct advantage in negotiating contracts and in managing waste in general.

Though the County has established a “solid waste enterprise fund”, in practice it is not operated as an enterprise, per se. General funds have routinely been appropriated to fill any deficit in funding due to either a shortfall in revenue, or higher cost of operations. KCI strongly advocates establishment of a true “enterprise funding” approach that is self-sustaining and economically viable. The advantages, above and beyond the obvious obligation to manage the operation efficiently within an established annual budget, include the ability to fund future improvements through revenue bonds or similar financing, as opposed to reverting to the general fund when there is a need to spend beyond the normal operations costs.

Under the current Carroll County Ten Year Solid Waste Management Plan (2006), the County adopted the following objectives (summarized):

1. Minimize waste generation.
2. Facilitate recovery, reuse and recycling.
3. Maintain, at a minimum, the Maryland recycling mandate (now 35%).
4. Decrease the volume of residual waste.
5. Efficiently manage all County waste.
6. Provide facilities and programs needed to achieve goals.

7. Operate transfer to optimize delivery to other disposal sites.
8. Implement a policy of landfilling as the “last resort”.

Recently, Executive Order 01.01.2015.01 "Zero Waste Plan for Maryland" established a statewide commitment to "zero waste" planning, and states that the Maryland Department of the Environment will not issue permits for new municipal or land clearing debris landfill capacity unless applications were submitted before January 19, 2015. Though the enforceability of this Executive Order is considered by some to be questionable, it is nonetheless an indication of political sentiment towards less landfilling of solid waste in general.

This report was prepared in conformance with the scope of work provided by the County. Specific topics of interest were reviewed in detail, such as funding, disposal methods, and solid waste operations. KCI reviewed information provided by County staff, visited solid waste facility sites and engaged in discussions with County staff to explore the information provided and resolve doubts or discrepancies.

The County requested that KCI provide recommendations to achieve each of the stated objectives and to balance the Solid Waste Enterprise Fund so as to move it to a self-sustaining position. To do so, fees should be set at a minimum to balance the expenditures incurred in operating the system, plus accumulate appropriate contingency reserves. In past years, the Solid Waste Enterprise Fund has received substantial transfers from the County General Fund. The annual transfer has been on the order of \$2.5 million.

The most fundamental question that KCI has examined is whether the County should continue to export waste, or utilize its own Northern Landfill for disposal. KCI prepared a cost model to examine the potential revenue surplus or deficit for those two specific scenarios: **Scenario 1** considers that all waste received will be disposed of at the Northern Resource Recovery Park (NRRP); and **Scenario 2** considers that all waste will be transferred out of the County in accordance with the existing or future transfer contract. The model incorporates expenditure and revenue data received from the County and shows the following results:

If all waste is disposed at NRRP, about 13 years of capacity would exist before reaching closure configurations at the end of 2027. The Net Present Value (NPV) estimate of increased revenues minus reduced expenses for the thirteen year period would be about \$28 million. However, this does not include significant additional expenses as shown below.

Closure cost for the 80 acre landfill would approximate \$6 million to \$8 million, and at the point closure begins another solid waste management solution would have to be in place. Closure capping could be delayed for some period of years, but the obligation should be fully funded by the time the landfill is completely full. In addition, should the County proceed with Scenario 1 (all waste landfilled at the Northern Landfill), there is an immediate need to move the existing transfer station out of Cell 4 so construction can begin on Cell 4. We have estimated the remaining airspace in Cell 3 would accommodate about 8 months of waste landfilling should all waste be landfilled at the Northern Landfill.

Should the County adopt Scenario 1 (all waste landfilled within County), a number of future expenses must be considered. These include:

- Moving existing transfer station out of future Cell 4 airspace.

- Reconstructing a recycle transfer station.
- Constructing Cell 4 liner, leachate collection, landfill gas collection and other appurtenances.
- Constructing capping Cell 5.
- Acquiring land for construction of new landfill.
- Engineering and permitting for new landfill (assuming Executive Order is overturned).
- Constructing new landfill cells.
- Closure and post-closure monitoring for Northern Landfill.

Replacement of the NRRP with another landfill is estimated to cost \$48 million to \$50 million total, for a hypothetical 300 acre site (175 acres landfill) with an anticipated life of about 50 years. Assuming straight-line amortization of the cost of “consumption of the landfill airspace asset”, the annual cost is estimated at about \$1 million per year, and should be added to the operating costs to arrive at a total cost, including asset consumption. The existing remaining landfill airspace would be filled by year 2027, if we assume a standard waste compacted density (including cover) of 1100 pounds per cubic yard. Under **Scenario 1**, when the future costs for building new landfill cells and transfer facilities is taken into account, we have estimated a Net Present Value (NPV) **budget deficit of about \$18.8 million** over the twenty year planning horizon from 2015 to 2035.

It is not clear under Executive Order 01.01.2015.01 that it will be possible to permit new municipal waste landfill capacity in the State of Maryland after January 19, 2015. For the purposes of this study we have assumed that landfill replacement is not possible within the current site.

Under **Scenario 2**, if all waste were transferred the projected NPV would yield a **budget deficit of about \$57 million** through the 20 year planning horizon from 2015 to 2035.

Under the current fee and expense structure, adoption of Scenario 2 yields a significant enterprise fund shortfall, and unless a change in approach is implemented, such enterprise would continue to run at a deficit beyond the planning horizon.

This ongoing shortfall for both scenarios can be rectified through two broad sets of recommendations KCI has formulated in response to the need to balance the Solid Waste Enterprise Fund: 1) strategies aimed at enhancing the efficiency and cost effectiveness of the solid waste system as a whole; and, 2) improvements to existing facilities to reduce their cost of operation or enhance the ability to collect revenues from user fees. The recommendations are summarized as follow.

System Strategies

1. **System Benefit Charge (SBC):** Currently, other than the General Fund appropriations, tip fees at the Northern Landfill and the Hoods Mill convenience center are the most important source of funding for the Solid Waste Enterprise Fund. At current tonnages averaging about 95,000 tons per year, tipping fees would have to be raised about \$26 per ton in order to close the gap between revenue and expenditures. This increase would encourage many commercial haulers to travel to other disposal locations, thus reducing

the revenue even more. The County experienced this when tip fees were raised previously.

We recommend implementing an SBC to establish a stable mechanism for financing the Enterprise Fund, recognizing that all County residents benefit from solid waste services, including services not directly related to tonnage disposed of at the landfill.

Implementing this recommendation will require hiring a municipal finance professional to design the SBC, implement an enacting resolution, inform and educate the public of the new charges, and implement the accounting system changes required to show the charge on property tax statements. Assuming that the SBC applied to all 62,400 residential households and 4,600 businesses equally, the annual amount per property would be on the order of \$35 to \$40 per year. The estimated cost to implement this recommendation is about \$250,000 with an estimated annual maintenance cost of about \$100,000 - \$150,000.

2. **Collection Districts:** Currently (8) eight different private collector/haulers service the unincorporated areas of the County and there may be considerable overlap in service areas among these different service providers. Generally, the establishment of collection districts with one collector for each district results in significant efficiency improvements over un-districted, county-wide hauler services. The increased efficiency translates to 1) reduced costs for collector/haulers, due to more efficient hauling, and potentially reduced administrative (billing) expense, assuming the County becomes the “customer”; 2) reduced costs for homeowners and businesses due to collector savings, and 3) potentially a revenue opportunity for the County (thus reducing a dependence upon an SBC or other funding source). Based on similar district collection implementations around the country, the average total savings is about 1/3 compared to non-district collection.

With about 42,800 households in the unincorporated areas of Carroll County, 1/3 of their current annual collection cost equals about \$72 per year, and so a total estimated savings of about \$3.0 million per year is possible. From a practical standpoint that savings must be shared by all parties, i.e., the haulers, the customers and the County, for district collect to benefit all parties. The estimated cost for the County to establish a collection districts program is about \$270,000, with an annual maintenance cost of about \$150,000, assuming waste disposal becomes a service billed to the county property owners. Thus, while it is theoretically possible to fund the entire enterprise fund deficit, a portion of the savings will be retained by the haulers, and a portion should also benefit the customers, leaving a portion to benefit the County’s enterprise fund (also benefitting the customers who are property tax payers). The proportionate share of the savings for each entity must be carefully modeled and apportioned for this type of system to be economically successful.

3. **Pay as You Throw (PAYT):** PAYT programs are predicated on a principle that waste generators should pay for waste collection and disposal based on the volume or weight of the waste generated. One private collector/hauler is already providing (PAYT) service to subscribers. If collection districts are implemented, we recommend that it would be an opportune time to implement PAYT, as they can be complementary. PAYT programs

typically result in a 20% reduction in waste volume, which would lead to a considerable savings for either of the two scenarios adopted by the County. For Scenario 2 as recommended above, a 20% reduction in waste volume would reduce the cost for out of state transfer by about \$1.0 million annually.

If PAYT were implemented as part of the current collection/hauler licensing process, there would likely be an additional administrative cost, similar to that of implementing the recycling requirement for existing collector/haulers. If implemented as part of collection districts bidding and licensing, there may be little additional cost for the County to implement PAYT. However, the need to administer the measurement (volume of waste) can complicate the process.

4. **KCI recommends eliminating the currently used County waste "coupons"**: The current system represents an indirect "giveback" to the General Fund from the Solid Waste Enterprise Fund with an estimated value in FY 2014 of about \$290,000. This represents over 11% of the current Enterprise Fund deficit. Elimination of the coupon system would also result in a small savings for administration of the program.
5. **KCI recommends performing a Waste Characterization Study**. It is difficult planning for waste recovery programs without knowing the content of the waste stream. A waste characterization study provides the volumes and types of materials to more accurately plan for programs and technologies as they develop. Such a study would provide valuable information to help guide decisions on solid waste management, though there is no urgency at this time to complete such a study. The estimated cost of performing a well-designed waste characterization study over a period of one year (four seasons) could range from \$50,000 to \$200,000 depending on study design.

Facility Improvements

1. Cap Northern Landfill waste cells to reduce leachate. Based on preliminary estimates and historical commentary, we believe the active landfill cell 3A is one of the major sources of leachate. Leachate hauling and disposal at the Westminster wastewater treatment plant currently costs over \$600,000 per year. We believe that Cell 3A can be temporarily covered (similar to the existing cover on cell 3B), therefore reducing leachate production by about 30%, and resulting in a cost savings of about \$200,000 annually. The estimated cost to cover Cell 3A is about \$800,000, theoretically resulting in a 4 year payback. KCI recommends that capping cell 3A be further investigated, in order to save leachate disposal costs.

The County has provided CIP funding to cap the side slopes of (filled) cells 1 and 2 to reduce leachate production. The estimated cost to cap the side slopes of cells 1 and 2 is about \$3.9 million.

2. From an operational and worker safety perspective, KCI recommends exploring reconfiguring the Transfer Station to avoid backing maneuvers. Cost savings from implementation of this improvement are difficult to project, as are potential costs of an accident. It is unlikely that there would be tangible cost savings in the transfer operation,

as the costs are a function of tonnage throughput. From an operational efficiency standpoint a smoother operation would mean less turnaround time for trucks unloading at the facility. Should the County adopt Scenario 2, however, any benefits would be long-term. The estimated cost of converting the transfer station loading and truck tarping areas to a "drive through" operation is estimated to be on the order of \$2+ million.

3. Improve Northern Resource Recovery Park Residential Convenience Drop-off to reduce drop-off time, which should help reduce traffic congestion. Cost savings from implementing this improvement are difficult to estimate, however improvement in site safety and reduction of risk for potential injury claims may make such improvements worthwhile. This improvement is estimated to cost about \$200,000.
4. KCI examined reconfiguring Northern Resource Recovery Park traffic flow to avoid long queues on Maryland Route 140. Long wait times and lines of traffic extending onto this busy highway create a safety concern and may discourage residents from properly disposing of their wastes at Northern Landfill. It was not possible to estimate a cost savings from implementing this improvement. However it is noted that implementation of the system strategies outlined above, including the System Benefit Charge, Collection Districts, and Pay As You Throw will reduce self-hauling to the Northern Resource Recovery Park, and thus lead to traffic reduction without major site reconfiguration.

Waste Processing

KCI reviewed the current state of the art with respect to solid waste processing technologies, and alternative conversion processes. Though there are currently many promising systems in development, including gasification, refuse derived fuel, and others, none was seen as significantly well-proven and economically advantageous to warrant a recommendation to the County for further investigation at this time. In addition, most of these technologies are positioned for larger scale waste flows than the County currently produces. KCI recommends the County track future developments in conversion technologies for potential application in the future.

Summary

Carroll County has chosen a different direction from the previous plan to invest in a regional waste to energy incinerator with Frederick County. The County is well positioned to continue the current practice of contract transfer and hauling to out of county disposal, while protecting and conserving its main solid waste management asset, the Northern Landfill. KCI recommends increasing the transfer and hauling to 100% of the inbound waste, such that essentially none of the waste is landfilled. The regional waste disposal marketplace should be monitored periodically to identify trends such as increased pricing, or lack of availability of disposal options.

System improvements are recommended to ensure the Solid Waste Enterprise Fund operates at a net balance, including set-asides for foreseeable future expenses and a "rainy day"

reserve to cover unexpected contingencies should they arise, without the need to recur to General Fund allocations.

Facility improvements are recommended to reduce certain operational expenses, especially the expenses incurred by leachate handling and disposal. Other recommended facility improvements are focused on enhancing site safety and traffic flow.

Though significant advances have been made in solid waste recycling and processing technology in recent years, none are so compelling as to warrant a major investment by the County at this time. We recommend periodically monitoring the marketplace in new technologies as well.

**A. OFFICIAL CODIFIED VERSION-CHAPTER 16
ENVIRONMENTAL ADVISORY COUNCIL**



Chapter 16, ENVIRONMENTAL ADVISORY COUNCIL

[HISTORY: The Environmental Affairs Advisory Board was created by the Board of County Commissioners of Carroll County 02/04/93 by Res. No. 269-93. This chapter was repealed and replaced in its entirety 07/09/04 by Ord. No. 04-20]

§ 16-1. Establishment; purpose.

§ 16-4. Duties.

§ 16-2. Membership; vacancies.

§ 16-5. Authority.

§ 16-3. Election of officers; compensation.

§ 16-1. Establishment; purpose.

A Carroll County Environmental Advisory Council is hereby established. The purpose of the Environmental Advisory Council is:

- A. To participate in the development of broad policy plans designed to guide the County's environmental future.
- B. To review specific issues of environmental concern and assist the Board of County Commissioners to protect Carroll County's environmental heritage, conserve Carroll County's natural resources, and restore environmentally degraded areas within Carroll County.
- C. To advise the Board of County Commissioners and the citizens of Carroll County of actions that could be taken to improve the quality of the environment in Carroll County, as well as of any that may threaten it.
- D. To assist with environmental educational efforts.
- E. To serve as the County Tree Commission.

§ 16-2. Membership; vacancies.

A. Membership.

(1) Nine persons shall be appointed by the Board of County Commissioners to serve as the membership of the Carroll County Environmental Advisory Council. The membership should represent a cross section of the citizens of Carroll County and should be selected by the County Commissioners to generally represent the agricultural, business, development, environmental communities and citizens-at-large.

(2) Members of the County Environmental Advisory Council will be residents of Carroll County and will be appointed to serve terms of 4 years. Appointments shall be staggered such that individual terms are overlapping.

§ 16-3. Election of officers; compensation.

The County Commissioners shall appoint a Chair. The Environmental Advisory Council may elect other officers from its membership as it deems necessary. The Environmental Advisory Council shall hold public

meetings in such number and at such intervals and at such places as it deems appropriate. Members of the Council shall serve without compensation.

§ 16-4. Duties.

A. The Carroll County Environmental Advisory Council may provide the Board of County Commissioners with specific recommendations for action by the County that are intended to result in improvements to the County's environmental policies.

B. The Environmental Advisory Council may also make recommendations concerning any environmental issues or concerns referred by the Board of County Commissioners or the general public.

C. It will also be the responsibility of the Environmental Advisory Council to report to the County Commissioners yearly, concerning the state of the County's environment as it relates to resource management and the quality of life in Carroll County.

D. The Environmental Advisory Council shall serve as the County's Tree Commission providing advice and guidance to the County on tree maintenance policies and specific administrative plans involving tree placement, maintenance and removal.

§ 16-5. Authority.

The function of the Environmental Advisory Council shall be governed by this chapter and the bylaws adopted by the Council and subsequently approved by the Board of County Commissioners.

B. CHAPTER 50 - SOLID WASTE ORDINANCE

📖 CHAPTER 50: SOLID WASTE

Section

Licensing of Collectors

- [50.01](#) Definitions
- [50.02](#) Licensing requirements
- [50.03](#) General waste handling requirements
- [50.04](#) Solid waste acceptance policies
- [50.05](#) Prohibited actions at solid waste acceptance facilities
- [50.06](#) Fees
- [50.07](#) Billing and payment of fees
- [50.08](#) Operating and safety rules for county facilities
- [50.09](#) Liability
- [50.10](#) Violations

Solid Waste Management Plan

- [50.25](#) Amended Plan declared official
- [50.26](#) Filing with state
- [50.27](#) Changes

- [50.99](#) Penalty

Cross-reference:

Solid waste projects, see Code of Public Local Laws, [Title 12](#)

LICENSING OF COLLECTORS

📖 § 50.01 DEFINITIONS.

For the purpose of this subchapter, the following definitions shall apply unless the context clearly indicates or requires a different meaning;

ASBESTOS. Any of the naturally occurring mineral fibers of the serpentine and amphibole series including actinolite, amosite, anthophyllite, chrysolite, crocidolite, and tremolite.

BULKY WASTE. Large items of solid waste which because of their size or weight require handling other than normally used for solid waste. **BULKY WASTE** includes but is not necessarily limited to such items as auto bodies, tree trunks and stumps, appliances, and furniture, but does not include recyclable appliances.

CLEAN FILL. An uncontaminated non-water-soluble, nondecomposable, inert solid such as rock, soil materials, and gravel.

COLLECTION. The act of picking up solid waste at its point of generation or storage and placing it in a vehicle.

COMPTROLLER. The Department of the Comptroller for Carroll County, or its successor agency.

CONSTRUCTION/DEMOLITION WASTE. Does not include the following if they are separated from other waste and used as clean fill:

- (1) Uncontaminated soil, rock, stone, gravel, unused brick, and block and concrete; and
- (2) Waste from land clearing, grubbing, and excavation including trees, brush, and vegetative material.

CONTAINER. Any portable device in which a material is stored, transported, treated, disposed of, or otherwise handled.

CONTAMINATED SOIL. A portion of solid waste consisting of hydrocarbon contaminated earth or fill, typically generated due to a spill or leak. **CONTAMINATED SOIL** is a special handling waste.

COUNTY. Where appropriate to the context, the area located within the geographic boundaries of the county, including the municipalities located therein.

COUNTY FACILITY. Any solid waste acceptance facility owned or operated by or on behalf of the county.

DEPARTMENT. The Department of Public Works, or its successor agency.

DISPOSAL. The storage, treatment, utilization, processing, or final disposition of solid waste, specifically including the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including groundwater.

DISPOSAL FACILITY. A waste management facility used for the final disposal of residual materials not currently reusable for either technological or economic reasons.

ENVIRONMENTALLY UNSOUND. Any persistent or continuous condition resulting from the methods of operation or design that impairs the quality of the environment when compared to the surrounding background environment or violates any federal, state, county, or municipal standard.

FREE LIQUIDS. Liquids which readily separate from the solid portion of a waste under ambient temperature and pressure.

FRIABLE ASBESTOS MATERIAL. Any material that contains more than 1% asbestos by weight and that can be crumbled, pulverized, or reduced to powder, when dry, by hand pressure or otherwise could become airborne.

GENERATOR. Any person who produces any waste materials regulated by this subchapter.

HAULAGE VEHICLE. A vehicle designed for and used to transport solid waste between one solid waste facility and another; a transfer vehicle.

HAULER. A person engaged in the act of collection of solid waste and/or transporting such waste between solid waste facilities.

HAZARDOUS WASTE. Any refuse, sludge, or other waste material or combination of refuse, sludge, or other waste materials in solid, semisolid, liquid, or gaseous form, which, because of its quantity, concentrations, or chemical, physical, or infectious characteristics, as defined in 40 C.F.R. Part 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, flammables, oxidizers, and reactive wastes, poisons, irritants, and corrosives.

HOUSEHOLD HAZARDOUS WASTE. Hazardous waste, as defined above, generated in a residential household, that 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.

MDE. Maryland Department of the Environment.

MATERIALS RECOVERY FACILITY (MRF). A solid waste facility, such as a transfer station or waste processing facility, that is designed, operated, and permitted to process a nonhazardous waste stream by utilizing manual and/or mechanical methods to separate from the incoming waste stream categories of useful, reusable, or recyclable material for reprocessing and reuse.

MUNICIPAL SOLID WASTE (MSW). 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, hazardous waste, household hazardous waste, recyclables, residual waste, auto hulks, ash, construction and demolition debris, mining wastes, sludge, agricultural wastes, tires, and other materials collected, processed, and disposed of as separate waste streams.

OPEN BURNING. The combustion of any material without any of the following characteristics:

- (1) Control of combustion air to maintain adequate temperature for efficient combustion;
- (2) Containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion; or

- (3) Control of emission of the gaseous combustion products.

PERSON. An individual, trust, firm, joint-stock company, federal agency, corporation (including a government corporation), corporate official, partnership, association, state, municipality, commission, political subdivision of a state, or any interstate body.

PUBLICLY OWNED TREATMENT WORKS (POTW). Any device or system which is owned by the state, a municipality or a public authority and used in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of a liquid nature. This definition includes sewers, pipes, or other conveyances only if they convey wastewater to a **POTW** providing treatment.

RECYCLABLE WHITE GOODS. Consist of large appliances (i.e., generally weighing more than 50 pounds), including but not necessarily limited to the following: air conditioners, clothes washing and drying machines, dish washers, hot water heaters, refrigerators and freezers, or stoves and ovens.

RECYCLABLES or **RECYCLABLE MATERIALS.** Those materials that can readily be separated from the waste stream and readily reused in their present form or can be converted into raw materials from which new products can be manufactured.

RECYCLING or **RECLAMATION.** Any lawful method, technique, or process used to collect, store, separate, process, modify, convert, treat, or otherwise prepare recyclable materials.

RESIDUE. Any material that remains after completion of manual, thermal, mechanical, or chemical processing.

RESOURCE RECOVERY FACILITY. Any place, equipment, device, or plan designed and/or operated to separate or process solid or liquid waste into usable secondary materials, including fuel and energy.

SALVAGING. The controlled removal of any solid waste from solid waste disposal facility for reuse.

SANITARY LANDFILL. A facility at which solid waste is deposited on or into the land as fill for the purpose of permanent disposal and which has received all necessary permits.

SCAVENGE or **SCAVENGING.** Removal of recyclables or other items from the waste stream without the prior approval of the generator or, if removed by the generator and placed for delivery to a hauler or committed to a hauler, without the prior permission of the hauler; or removal in a manner not authorized in this subchapter. It does not include separation or segregation of waste for purposes of implementing the county's recycling program.

SLUDGE. Any solid, semisolid, or liquid residue consisting of solids combined with water and dissolved materials in varying amounts generated from a municipal, commercial, or

industrial water or wastewater treatment plant or flue gas scrubber. **SLUDGE** includes fecal matters from whatever source.

SMALL BUSINESS. Any business that has fewer than 25 full-time employees. The business may be constituted under any legal form.

SOLID WASTE. Garbage, refuse, residue, sludge, and other nonliquid discarded materials resulting from personal, residential, community, mining, agricultural, industrial, or commercial activity, including recyclables. **SOLID WASTE** does not include solids or dissolved materials found in domestic sewage or other untreated pollutants (i.e., silt or other dissolved or suspended solids found in water or wastewater and any hazardous waste).

SOLID WASTE ACCEPTANCE FACILITY. Any sanitary landfill, combustion plant (i.e., incinerator), transfer station, resource recovery facility, or MRF, which has a primary purpose to dispose of, treat, or process solid wastes.

SOLID WASTE MANAGEMENT. The systematic and integrated administration of activities involving the collection, separation, storage, transportation, transfer, reuse, or disposal of solid wastes considering adequate measures for environmental protection, sound engineering, and efficient economics.

SPECIAL HANDLING WASTES. A portion of municipal solid waste which consists of sludge, ash residue, contaminated soil, asbestos waste, or other waste designated by the county.

TRANSFER STATION. An intermediate waste facility at which mixed municipal solid waste or other materials are temporarily deposited before being transported to a processing facility or final disposal site.

TREATMENT. Any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste, or so as to recover energy or material resources from the waste, or so as to render such waste nonhazardous, or less hazardous, safer to transport, store, or dispose of, or amenable for recovery, amenable for storage, or reduced in volume.

WASTE STREAM. All MSW, industrial waste, hazardous waste, medical waste, recyclables, and sludge in any form (i.e., solid, liquid, or gaseous) that is disposed of by the generator.

YARD WASTE. Any materials normally generated in the maintenance of gardens, yards, lawns, or landscaped areas, whether residential, commercial, or public, including leaves, grass clippings, plants, shrubs, prunings, and trimmings. **YARD WASTE** does not include other tree waste, land clearing debris, waste pavement, or soil.

(2004 Code, § 185-1) (Ord. 94, passed 5-21-1992; Ord. 02-08, passed 4-25-2002)

§ 50.02 LICENSING REQUIREMENTS.

(A) License required.

(1) After June 30, 1992, no person shall engage or continue to engage in the collection, haulage, or disposal of solid wastes, including the purchase of recyclables, within the county without first filing for and obtaining a license from the county. Hauler licenses may not be assigned to any other person without the prior consent of the county, which consent will not be unreasonably withheld.

(2) After June 30, 1992, no licensee shall collect or transport any solid wastes to or from any solid waste acceptance facility in any vehicle or container that has not been licensed by the county for that use.

(3) Vehicle licenses issued hereunder in the form of a sticker may not be transferred to any other vehicle and must only be affixed to the vehicle for which it is issued. Licenses issued

hereunder shall be and remain the property of the county. Stickers shall be firmly affixed in a prominent location on the left front (driver's side) of the vehicle so that it can be readily visible to the scale house operator.

(4) Hauler licenses shall be issued for one year on a fiscal-year basis (July 1 through June 30). Vehicle licenses may be issued for two years on a fiscal-year basis (July 1 through June 30). There will be no pro ration of fees for licenses issued during the course of the fiscal year.

(5) A licensee shall notify the county within 30 days of any change of information supplied in its application for a license.

(6) The failure to provide the information required by division (A)(5) above shall be grounds and sufficient cause to revoke summarily the license.

(7) The county may refuse to issue, suspend, or revoke a license for any vehicle which does not comply with MDE, Maryland Department of Transportation (MDOT), United States Department of Transportation (USDOT) regulations and county specifications; for any vehicle for which insurance coverage is not maintained in accordance with this subchapter; or for any vehicle owned, used, or leased by a person who violates, or whose employees or agents violate, any provision of this subchapter or any license issued hereunder. In addition, the county may bar vehicles or containers from county facilities if in the county's opinion the vehicle or container may cause a nuisance.

(8) The following persons are not required to obtain a license required by this section:

(a) Persons transporting solid wastes and recyclables generated in such person's primary residence or in such person's small business. Any officer, owner, or *bona fide* employee of a small business which generates solid waste may haul waste generated by the small business for the small business;

(b) A farm owner, operator, or *bona fide* employee hauling agricultural wastes and recyclables generated on any single farm; or

(c) Persons transporting solid wastes or recyclables in interstate commerce which were not generated or are not to be disposed of in the county.

(B) Application for license.

(1) Applications for licenses issued hereunder shall be made on forms supplied by the Comptroller 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:

(a) Name of the applicant;

(b) Applicant's mailing address;

(c) List of the vehicles and equipment owned and leased by the applicant which are to be permitted hereunder;

(d) Proof of insurance;

(e) Name and address of the primary contact acting as representative for the applicant;

(f) The appropriate fee based on the fee schedule supplied by the Comptroller; and

(g) A description of the hauler's plan for the collection and disposal of solid waste including recyclables.

(2) Within 30 days of filing the application for license, the applicant will be notified by the Comptroller whether or not the application is complete.

(3) Applications for license renewals must also be filed with the Comptroller no later than April 30 of each year. Short-form renewals are available from the Comptroller if the data listed

under division (B)(1) above has not changed. If the information has changed, a modified full application must be filed.

(4) A licensee shall notify the Comptroller within 30 days of any change of information supplied on its application for a license.

(5) Failure to provide any information required in connection with any license application or renewal or failure to inform the county of any change in information previously supplied in connection with any application or renewal shall be grounds and sufficient cause to either deny any pending application, or to revoke or suspend any active license of a solid waste hauler. (2004 Code, § 185-2) (Ord. 94, passed 5-21-1992; Ord. 02-08, passed 4-25-2002)

§ 50.03 GENERAL WASTE HANDLING REQUIREMENTS.

Any person, regardless of whether he or she is required to be licensed, who collects, hauls, or disposes of solid waste shall comply with the following requirements.

(A) No person shall deposit solid waste except in approved solid waste acceptance facilities in accordance with § [50.04](#); no person shall scavenge; and upon the passage of 90 days from the county's adoption of a resolution declaring that recycling is mandatory, no person shall deposit recyclables except in a separate container designated for that purpose, nor shall any person commingle recyclables with any other type of solid waste.

(B) No person shall cause solid waste except recyclables to remain or to be stored in any collection or haulage vehicle. In case of inclement weather, act of God, or emergency such as equipment breakdown or accident, no solid waste shall be allowed to remain or to be stored in any collection or haulage vehicle in excess of 24 hours. If an emergency arises or inclement weather occurs, the hauler is responsible for having the material removed to its intended destination in a timely manner.

(C) No person shall cause a vehicle to be used for the collection or haulage of solid waste if the design of the vehicle is such that any material could spill onto any roadway.

(D) No person shall cause a vehicle used for hauling solid waste to be used beyond its design capabilities or in such a manner that littering or spillage of the materials could occur.

(E) All work or collection crews operating solid waste collection systems shall take reasonable care to protect the property of customers being served. Any damage or spillage of materials occurring as a result of the collector's actions shall be the collector's responsibility.

(F) No person shall collect, transport, or deliver any solid waste in the county in such manner as to allow for littering, spillage, or the creation of a nuisance in any other manner. All loads shall be secured and covered, if necessary. No person shall collect, transport, or deliver recyclables if the recyclables are commingled with any other waste, except pursuant to the provisions of a license issued hereunder; and upon the passage of 90 days from the county's adoption of a resolution declaring that recycling is mandatory.

(G) No person shall collect, transport, or deliver to any designated county facility any material that is or shows evidence of smoking, smoldering, or burning.

(H) In the event a person must dump materials in transit in an emergency due to smoking, smoldering, or burning, that person shall be responsible for immediately notifying the Department and the police and fire departments having jurisdiction, and shall be responsible for cleanup of materials dumped during the emergency. Cleanup shall be accomplished promptly, but in no event later than 24 hours after dumping, and the material shall then be properly disposed of.

(I) No person shall manage or dispose of a part or fraction of the waste stream except in accordance with all applicable federal and state laws and regulations and this subchapter.

(J) No person shall use open burning as a means of solid waste management in the county, unless permitted by the appropriate state or local regulatory authority.

(K) No person shall manage or dispose of any part of the waste stream within the county in any manner which results in or may result in the creation of any potential for contamination of existing natural environmental resources (i.e., surface water and groundwater quantity and quality and air quality, or that could result in any environmentally unsound condition).

(L) The county is hereby authorized to require that recyclables be disposed of separately from all other waste; provided, however, that the exercise of the authority hereby granted shall not be effective until the passage of 90 days from the day on which the county adopts a resolution declaring recycling mandatory. The county shall cause notice to be published in a newspaper of general circulation in the county outlining in substance the effect of their resolution declaring recycling mandatory. No person shall dispose of recyclables except as allowed under the provisions of this subchapter.

(2004 Code, § 185-3) (Ord. 94, passed 5-21-1992; Ord. 114, passed 4-14-1994; Ord. 02-08, passed 4-25-2002) Penalty, see § [50.99](#)

§ 50.04 SOLID WASTE ACCEPTANCE POLICIES.

(A) **County waste only.** Only solid waste generated in the county may be delivered to or disposed of at county facilities. Solid waste generated in the Town of Mt. Airy that conforms to a contract between the Town of Mt. Airy and the county may be disposed of at county facilities. If the solid waste is a special handling waste, it may not be delivered to a county facility unless a permit has been issued allowing the delivery and then, only in strict compliance with the terms thereof.

(B) **Fines for unacceptable wastes.** Any person delivering unacceptable waste, including waste generated outside the county, to a county facility will be responsible for the payment of any fine that may be assessed, for the removal of the unacceptable waste from the site, cleanup, and remediation of any damages resulting from such delivery, and reimbursement of all costs and damages incurred by the county as a result of such delivery in addition to payment of the applicable solid waste management fee.

(C) **Unacceptable wastes.**

(1) The following are considered unacceptable wastes, and no person shall deposit or cause to be deposited any of the following materials in any county sanitary landfill:

- (a) Hot ashes or any material that shows evidence of smoking, smoldering, or burning;
- (b) Guns, rifles, pistols, firearms, or ammunition of any kind;
- (c) Explosive materials or other lethal wastes;
- (d) Electric arc furnace dust;
- (e) Tree stumps;
- (f) Logs, branches, or timbers with dimensions as determined by the Department;
- (g) Concrete slabs, curbing, brick bats, stone, or similar material of any dimension which is greater than six inches;
- (h) Gasoline, oil products, petroleum product waste and sludge, or any combustible material;
- (i) Pipe measuring over four feet in length or four inches in diameter;
- (j) Special handling waste without a permit for same;

- (k) Motor vehicles or any part thereof;
- (l) Hazardous wastes;
- (m) Sealed drums, closed large containers, and tanks of any size or type;
- (n) Liquids or wastes containing free liquids;
- (o) Intact bulky wastes;
- (p) Toxic wastes;
- (q) Pathological/infectious or other medical wastes;
- (r) Radioactive wastes;
- (s) Any substance prohibited by any other statute, rule, or regulation;
- (t) Yard waste; and
- (u) Upon the passage of 90 days from the county's adoption of a resolution declaring that recycling is mandatory, recyclables.

(2) If permitted by law, the county may issue permits to allow any of the foregoing as special handling wastes.

(D) **Special handling wastes.** Delivery of special handling wastes to any county-operated solid waste acceptance facility without a special permit issued by the county is prohibited. All special handling wastes shall be segregated from other categories of waste from the point of generation.

(1) **Permit.** A person wishing to dispose of special handling wastes shall apply for a permit to do so on a form provided by the county for that purpose and in the manner prescribed by the county giving sufficient time for the application to be reviewed and processed prior to the date of intended delivery. Application for a permit to dispose of special handling wastes must include a complete description of the waste in question and the required fee. The county may require the submission of additional data, including the results of county-specified laboratory analyses, prior to a consideration of permit issuance. The county reserves the right to deny acceptance of any waste.

(2) **Fractional load.** A fraction of any category of special handling wastes found in a load of any other waste category delivered to any county facility shall be grounds for the county to designate the entire load, including other loads from which the waste originated, as unacceptable waste.

(3) **Sludge.**

(a) No sludge will be accepted at county facilities unless the following conditions have been met:

1. 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 the county authorizing the disposal in the manner indicated in the permit.

2. 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 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 (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 gatekeeper upon delivery for disposal.

3. The county may require laboratory test results for each load from a laboratory and in a form acceptable to the county. The county shall develop and maintain a list of laboratories

acceptable to the county and shall provide a form for the reporting of sludge test results so that the test parameters are known in advance.

(b) Pursuant to the provisions of this section, sludge may be accepted at county landfills or may be disposed of pursuant to a permit issued by MDE. Sludge shall not be mixed with any other waste when discharged into a county facility.

(4) **Ash residue.** Nonhazardous (or exempted) ash residue from the combustion of fossil fuels or municipal waste may be accepted only at the county landfills 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.

(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 landfills only by appointment. Contaminated soil shall not be mixed with any other waste when discharged into a county facility.

(6) **Asbestos.** Asbestos and materials containing *ASBESTOS* (defined as “any material that contains more than 1% asbestos by weight and that can be crumbled, pulverized, or reduced to powder when dry, by hand pressure”) may be disposed of at county landfills only under the following conditions:

(a) The asbestos or material containing asbestos must be generated or originate in the county.

(b) Asbestos or materials containing asbestos shall be packaged in impermeable bags with a minimum thickness of six mils and then placed in corrugated or fiberboard drums sealed so that they are leakproof. The containers shall be prominently labeled (in at least 16-point type) as follows:

CAUTION, CONTAINS ASBESTOS
AVOID OPENING OR BREAKING CONTAINER
BREATHING ASBESTOS IS HAZARDOUS TO YOUR HEALTH.

(c) Any container which does not meet the criteria enumerated above or which has not been adequately packaged, in the judgment of the county, shall not be accepted.

(d) The county shall be notified at least 48 hours in advance of the disposal of any asbestos or material containing asbestos.

(e) Large structural components containing asbestos that cannot be packaged in drums, as described in this subchapter, only will be accepted for disposal if the component in question is itself acceptable for disposal and the asbestos is adequately wetted, encapsulated, and handled in accordance with the provisions of 40 C.F.R. Part 61, 1981 edition and COMAR 10.18.15 and 10.18.23, as those provisions may be amended from time to time.

(f) Any person hauling asbestos or materials containing asbestos to county facilities shall obtain an asbestos disposal form from the county and submit a properly completed form to county personnel prior to entering the solid waste acceptance facility.

(g) Any person hauling asbestos or materials containing asbestos to county facilities shall unload at the location designated by county’s personnel. Asbestos or materials containing asbestos shall be unloaded in a manner which protects the containers from damage.

(h) Any truck or other vehicle hauling asbestos or materials containing asbestos to county facilities shall have available on it protective equipment to be used in the event that accidental damage to containers of asbestos or materials containing asbestos occurs.

(E) **Recyclable materials.** A hauler who collects municipal solid waste must also collect or provide for the collection of recyclables separated from all other forms of solid waste. It is the responsibility of a hauler who transports recyclables, a generator who transports recyclables, or a purchaser of recyclables to furnish the county with monthly reports on tonnages of recyclable materials hauled, generated, or purchased, their source and their destination. Information provided herein, concerning the source and destination of recyclable materials, considered proprietary or confidential must be clearly designated as proprietary or confidential at the time a report is made. Upon clear designation that information contained in a report is proprietary and should remain confidential, the county will deny access to the information pursuant to Md. Code, State Government Article, § 10-617(d), notify the provider of the information of any action filed to gain access to 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. Failure to provide reports required by the county shall be sufficient grounds to suspend, revoke, or deny a license issued hereunder and shall be a violation of this subchapter. Haulers delivering solid waste to a county facility shall segregate solid waste separately into any category as may be required by county. Upon the passage of 90 days from the county's adoption of a resolution declaring that recycling is mandatory, haulers shall be responsible for having all recyclables, at the time of delivery, segregated from all other waste.

(1) **Yard waste.** No person shall dispose of yard waste by commingling it with other solid waste. If yard waste is to be disposed of at a county facility, it may be disposed of at the Northern Landfill or at other sites as may hereafter be designated by the county, but only in the location designated by the county for its disposal at the Northern Landfill or other designated site. Loads of yard waste containing any material other than yard waste will not be accepted as yard waste and in addition to the solid waste management fee may be subject to penalties upon acceptance at a county facility if the contamination affected the county's yard waste collection program adversely in any way.

(2) **Tires.** Any individual disposing of four or fewer tires within a week may take the tires to any county-designated facility. Any individual disposing of five or more tires shall comply with Md. Code, Environment Article, § 9-228, and COMAR 26.04.08.

(3) **Recyclable white goods.** Recyclable white goods, if delivered to a county facility, shall be unloaded in the designated white goods unloading area and may not be disposed of in a sanitary landfill, except pursuant to an approval of the Director of the Department.

(F) **Documentation.** Upon the request of the county, a hauler, purchaser of recyclables, or a commercial generator hauling its own solid waste shall provide the county with accurate and verifiable documentation of the types, quantities, and disposition of any solid waste which the hauler, generator, or purchaser has transported, or had transported, to any location. Information provided herein, concerning the source and destination of recyclable materials, considered proprietary or confidential, must be clearly designated as proprietary or confidential at the time a report is made. Upon clear designation that information contained in a report is proprietary and should remain confidential, the county will deny access to the information pursuant to Md. Code, State Government Article, § 10-617(d), notify the provider of the information of any action filed to gain access to 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.

(2004 Code, § 185-4) (Ord. 94, passed 5-21-1992; Ord. 114, passed 4-14-1994; Ord. 02-08, passed 4-25-2002)

§ 50.05 PROHIBITED ACTIONS AT SOLID WASTE ACCEPTANCE FACILITIES.

(A) All municipal solid waste shall be transported directly from the point of collection and delivered in accordance with this subchapter 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.

(B) Special handling wastes shall be transported from the point of collection and delivered in accordance with this subchapter to a facility authorized by law to accept them.

(C) Upon reasonable advance notice to the hauler, the county may designate or change the site designation for disposal of any waste or recyclable material.

(D) No person shall use any county facility without a valid license as may be required by this subchapter and which has been obtained from the county or use any county facility in violation of this subchapter. A license issued pursuant to this subchapter 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.

(E) No person shall possess or consume any alcoholic beverage or beverages at any county facility.

(F) No person shall operate a motor vehicle in a reckless or unsafe manner at a county facility.

(G) No person shall trespass on county facility property. Except on a county MRF, only persons with valid permits shall be allowed on county facility property, and they shall be allowed only during operating hours and when accompanied by authorized county personnel. The operator of a county MRF shall take precaution to secure its property against trespassers.

(H) Except in the course of law enforcement, no person shall discharge a firearm or other weapon such that it projects any object over or onto property of a county facility.

(2004 Code, § 185-5) (Ord. 94, passed 5-21-1992) Penalty, see § [50.99](#)

§ 50.06 FEES.

(A) Authorized fees.

(1) The county is hereby authorized in its executive capacity to establish fees and penalties for the receipt of any solid waste or unacceptable waste at a county facility. Fees or penalties established hereunder may be changed whenever the county deems it necessary or expedient to do so.

(2) The County Commissioners may authorize the Department to adjust fees on March 1 of each year to be effective on the following July 1 to recover the actual cost of the operation of all solid waste management services provided by the county. If this authorization is given, the Department shall establish as the solid waste management fee a charge that is the result of the Department's determination of the projected actual cost of solid waste services divided by the total tonnage of municipal solid waste projected to enter the county landfill in the next fiscal year. (Actual cost is comprised of the proposed budgets of those agencies of county government whose duties are solely related to providing solid waste services, that portion of the budgets of agencies of county government that may be attributable to the provision of solid waste management services, any surplus or deficit, depreciation, annualized cost of future development

and closing, annualized cost of future facilities, and if not previously accounted for herein, the cost of hazardous waste disposal, composting, and recycling.)

(3) In addition, solid waste management fees may be calculated and established on any portion of the waste stream by providing different fees for different categories of waste. If separate fees are established for different categories of solid waste, the anticipated revenue from these fees shall be used by the Department in establishing the solid waste management fee. In addition, the Department, if authorized to adjust the solid waste management fee pursuant to this section, may adjust any fee established hereunder and establish new fees.

(B) Types of fees.

(1) **Solid waste management fee.** Solid waste, including any component of the waste stream, may be assessed a management fee when delivered to the county landfill or other county facility. These fees are in addition to any permit or license fee.

(2) **Special handling wastes.** Special handling wastes will be assessed a management fee when delivered to the county landfill. This fee is in addition to any solid waste management fee, permit, or license fee.

(3) **MRF residue.** Residue from the processing of a MRF shall be subject to a solid waste management fee in an amount established in a contract between the county and the operator of the MRF. If there is no contract or the contract does not address a fee for MRF residue, the fee shall be as established pursuant to division (A) above.

(4) **Mixed loads.** The fee for any load containing more than one category of waste shall be equal to the fee that would be required for disposal of the load requiring the highest fee. The county may reduce or waive this surcharge if the hauler demonstrates to the reasonable satisfaction of the county that the mixing of waste was not due to the fault or negligence of the hauler and that the hauler has made best efforts to prevent such mixing in the future.

(5) **Additional fees.** An additional fee of \$100 per hour may be assessed to the hauler of any load of waste which requires any assistance.

(C) **Customer notice.** A hauler shall include on each invoice to a residential customer a specific statement that informs the customer of the amount of the county's solid waste management fee. For example, if the fee is \$40 per ton, the notice must read: "The fee charged by the county for each ton of solid waste we dispose of is \$40. It is estimated that each household generates one and one-half tons of solid waste per year without recycling." (2004 Code, § 185-6) (Ord. 94, passed 5-21-1992; Ord. 114, passed 4-14-1994; Ord. 02-08, passed 4-25-2002)

§ 50.07 BILLING AND PAYMENT OF FEES.

(A) A solid waste management fee shall be charged on each load of solid waste delivered to a county landfill, and payment shall be due upon disposal of the waste. Categories of solid waste may be charged different fees, or the county may determine not to charge a fee for categories of solid waste. A hauler may enter into a written agreement with county to establish an account with the county. The county may require a hauler to provide security for the future payment of the fee in a form and amount satisfactory to county upon the establishment of a credit account, and the county may charge an administrative fee if a credit account is requested.

(B) A municipality within the county, that engages to collect all solid waste within its jurisdiction, may elect to pay solid waste management fees upon a monthly basis pursuant to a schedule developed by the Department, or that municipality may elect to have its hauler pay solid waste management fees pursuant to division (A) above. In the event a municipality elects to

pay its solid waste management fee, the municipality shall make arrangements with its hauler for providing the county with a manifest identifying the source of the solid waste and the municipality's responsibility for payment of the fee. The hauler will be charged for all loads that are not properly identified as the responsibility of the municipality.

(C) If a hauler has established an account with the county, or if a municipality elects to pay its solid waste management fee to the county directly, the hauler or the municipality, as the case may be, will be billed monthly and payment shall be due within 30 days of the date of the bill. The county may charge interest on unpaid balances and assess penalties for accounts that are past due.

(D) Accounts not paid by the thirty-fifth day after the statement date will be classified as delinquent, and in addition to interest and penalties being assessed, credit will be suspended until full payment is made. No dumping will be allowed.

(E) If an account becomes delinquent a second time within 12 months, the person who has the account will lose the credit privilege for six months.

(F) A person who has a credit account must charge at least \$50 per month to maintain a credit account.

(G) All additional fees will be billed separately and will be due 30 days from statement date and shall be subject to penalties for late payment and interest as determined by the Comptroller. (2004 Code, § 185-7) (Ord. 94, passed 5-21-1992; Ord. 02-08, passed 4-25-2002)

§ 50.08 OPERATING AND SAFETY RULES FOR COUNTY FACILITIES.

(A) Any users of the county facilities shall unload in designated areas and immediately thereafter leave the site.

(B) 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.

(C) Salvaging and scavenging is prohibited at the county facilities except with the prior written approval of the county.

(D) No fires or open burning are permitted in county facilities.

(E) No hunting is permitted at any solid waste acceptance facility owned or operated by or on behalf of Carroll County.

(F) 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, or special handling wastes without a permit if required by this subchapter to have one.

(G) Smoking is prohibited at county facilities except in designated smoking areas.

(H) Loitering and solicitation are prohibited at county facilities.

(I) Boxes or other containers will be allowed to be dropped from vehicles only in areas expressly designated as unloading or unloading areas.

(J) Vehicles and containers may not be left at county facilities without prior county approval.

(K) All sorting and separation of solid waste by a hauler must be performed at designated areas and not in the tipping areas.

(L) Haulers must unload solid waste off the rear of the vehicle in designated tipping areas. Unloading of vehicles off the sides is prohibited. No vehicles will be allowed to discharge waste through the tailgate. All tailgates must be removable, lay down, or swing to an open position.

(M) 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.

(N) Operators of vehicles are required to leave a minimum of six feet between vehicles during unloading at the landfill and MRF.

(O) Licensed vehicles, containers, and the contents of vehicles and containers are subject to inspection at any time by the county.

(P) All persons unloading vehicles shall be appropriately dressed to prevent injury and shall be wearing shoes.

(Q) Owners and operators of licensed vehicles and containers shall be responsible to ensure that their vehicles are watertight, readily emptied, cleaned with sufficient frequency to prevent insect breeding or odors or other nuisances, and shall be maintained in good repair and a safe condition. All waste must be secured to the vehicle or container and enclosed or covered with secured tarpaulins to prevent leakage, spillage, dusting, or litter. Such enclosures and tarpaulins must remain in place until arrival at the designated unloading or uncovering areas at the county facility. After discharging a load of waste, the driver or operator of the vehicle is responsible for inspecting the vehicle and the container to ensure that all the waste from the vehicle and container has been discharged properly. In the event that all the waste has not been discharged, the driver or operator must remove all remaining waste or secure the remaining waste by tarping or enclosing the vehicle or container. In the event a vehicle or container leaks, spills, dusts, or litters on any county facility, public road, or private property, the person hauling the waste will be responsible for all cleanup and for paying any costs incurred or damages sustained by the county in connection with performing or monitoring such cleanup.

(2004 Code, § 185-8) (Ord. 94, passed 5-21-1992; Ord. 2013-08, passed 8-29-2013)

§ 50.09 LIABILITY.

The county will not be liable for any actions, errors, or omissions of any contractors of the county, persons authorized to use or enter county facilities, or trespassers at county facilities. All persons proceeding onto county facilities do so at their own risk.

(2004 Code, § 185-9) (Ord. 94, passed 5-21-1992) Penalty, see § [50.99](#)

§ 50.10 VIOLATIONS.

(A) **Revocation or suspension of permit.** In addition to and not in substitution for any other action authorized hereby, the county may revoke or suspend any person's permit or license upon a determination by the Director, that said person has violated any provision of this subchapter or has otherwise engaged in conduct which is or may be detrimental to the solid waste acceptance facility or to the health, safety, and welfare of the citizens of the county.

(B) **Enforcement.** The civil and criminal provisions of this subchapter shall be enforced by those persons or agencies designated by the County Commissioners of the county. It shall be a violation of this subchapter to interfere with a county employee or official in the performance of duties assigned hereunder.

(C) **Notice of violation; appeal.**

(1) In the discretion of a county employee or official to whom responsibility for enforcement of this subchapter has been delegated by the County Commissioners, a notice of violation may be issued to any person in violation of this subchapter, or any rules and regulations adopted pursuant hereto. Such notice shall impose upon the person a penalty, pursuant to § [50.99](#)(B)(1), as indicated by the county employee or official, which may be paid to any agency designated by the County Commissioners within 30 days in full satisfaction of the violations or which may be appealed to the Director of the Department, or its successor agency, pursuant to

division (C)(2) below. In the event that the penalty is not paid within the time prescribed and no appeal is taken, the person to whom the notice of violation was issued shall be liable to the county for the full amount of the penalty established in the notice of violation, and the county may institute suit in the appropriate court of this state to recover the penalty sum.

(2) A person who receives a notice of violation may take an appeal to the Director of the Department, by filing a notice of appeal with the Director of the Department, within 30 days of the date of the notice of violation.

(3) The Director of the Department shall conduct an informal hearing on the appeal in a timely manner and issue a written decision affirming, reversing, or modifying the notice of violation. The decision shall be made and issued within 30 days of the hearing.

(4) A person aggrieved by the decision of the Director of the Department, may appeal the decision to the County Commissioners within ten days from the date of the decision of the Director. The County Commissioners shall conduct a hearing on any such appeal as soon as practical thereafter and issue a decision in writing on such appeal within 30 days after the hearing thereon. A person aggrieved by the decision of the County Commissioners may appeal the decision to the Circuit Court for Carroll County pursuant to the Maryland Rules of Procedure within 30 days of the date the decision was issued. Unless stayed by a court of competent jurisdiction, the decision of the Director of the Department to suspend or revoke a license issued hereunder continues in effect until reversed or modified.

(D) **Liability.** The generator, the person licensed, and the person operating any vehicle shall be responsible and accountable for any noncompliance with this subchapter, including reimbursing the county for all fees and any and all costs and damages incurred by the county as a result of such violation, including reasonable attorney's fees.

(2004 Code, § 185-10) (Ord. 94, passed 5-21-1992; Ord. 114, passed 4-14-1994; Ord. 02-08, passed 4-25-2002) Penalty, see § [50.99](#)

SOLID WASTE MANAGEMENT PLAN

§ 50.25 AMENDED PLAN DECLARED OFFICIAL.

The amended Carroll County Ten-Year Solid Waste Management Plan is hereby declared to be the county's official Solid Waste Management Plan ("the Plan").
(2004 Code, § 185-11) (Res. 444-99, passed 8-3-1999)

§ 50.26 FILING WITH STATE.

The county government is directed to forward the amended Plan to the Maryland Department of the Environment for approval in accordance with Md. Code, Environment Article, § 9-507.
(2004 Code, § 185-12) (Res. 444-99, passed 8-3-1999)

§ 50.27 CHANGES.

If the Maryland Department of the Environment requires changes to any part of the Plan approved by this subchapter, the county may make any necessary changes to the Plan by resolution adopted by the County Commissioners.
(2004 Code, § 185-13) (Res. 444-99, passed 8-3-1999)

§ 50.99 PENALTY.

(A) Any person who violates any provision of §§ [50.01](#) through [50.10](#) by acting in a manner prohibited hereby or by failing to act as required hereby shall be liable, upon a finding by a court of competent jurisdiction that such violation has occurred, for a civil fine of up \$1,000 for the first violation and up to \$5,000 for each subsequent violation.

(B) In addition to and not in substitution for any other penalty imposed hereunder, any person who violates any provision of §§ [50.01](#) through [50.10](#) by acting in a manner prohibited hereby or by failing to act as required hereby shall be guilty of a misdemeanor and upon being found guilty by a court of competent jurisdiction shall be fined up to \$1,000 or imprisoned for up to six months in the Carroll County Detention Center, or both fined and imprisoned.

(2004 Code, § 185-10) (Ord. 94, passed 5-21-1992)

C. CARROLL COUNTY CODE - ZONING ORDINANCE

§ 158.049 COUNTY PUBLIC BUILDINGS, STRUCTURES, AND USES.

Notwithstanding anything herein to the contrary, uses of land, buildings, structures, or premises by the County Commissioners, including the location, erection, reconstruction, extension, enlargement, conversion, or alteration of buildings or structures or parts thereof may be located in any district as principal permitted uses and exempt from all subdivision regulations and bulk requirements. However, no land, building, structure, or premises owned or leased by the County Commissioners may be used without the approval of the County Planning Commission pursuant to Md. Code, Land Use Article, § 3.205. (2004 Code, § 223-24) (Ord. 1E, passed 8-17-1965; Ord. 09-02, passed 4-7-2009)

§ 158.051 SEWAGE SLUDGE STORAGE.

(A) The storage of sewage sludge is allowed in any district at a publicly owned wastewater treatment plant as an accessory use to the treatment of sewage, septage, or other wastes.

(B) The storage of pelletized or granular dried sewage sludge, or any derivative thereof, is allowed in any district as a principal permitted use certified by the Zoning Administrator under the following specific conditions:

(1) The pelletized or granular dried sewage sludge to be stored shall be of a Class A grade as defined by the federal Environmental Protection Agency (“EPA”) or equivalent definition by the Maryland Department of the Environment (“MDE”);

(2) The pelletized or granular dried sewage sludge storage facility shall possess all valid and necessary state and federal permits for the storage, handling, and transportation of pelletized or granular dried sewage sludge;

(3) The pelletized or granular dried sewage sludge storage facility shall be a closed contained system with adequate fire suppression;

(4) The pelletized or granular dried sewage sludge storage facility shall have adequate ventilation for air exchange to maintain appropriate worker protection and filtration for fine particulate and other potential airborne emissions for external venting of internal air; and

(5) The quantity of pelletized or granular dried sewage sludge stored shall be reported to the Zoning Administrator on a monthly basis.

(C) The storage of sewage sludge is prohibited, unless authorized in division (A) or (B) above.

(D) (1) Land application of sewage sludge, if properly permitted by the MDE, is allowed as an agricultural use; provided, however, that the application of sewage sludge shall be subject to the distance requirements of § [158.040](#). The Zoning Administrator may reduce the distance requirements of § [158.040](#) to that buffer distance authorized by the MDE, if to do so would not adversely affect the adjoining property affected thereby, in the sound discretion of the Zoning Administrator.

(2) The storage of sewage sludge is not accessory to the application of sewage sludge. (2004 Code, § 223-26) (Ord. 1E, passed 8-17-1965; Ord. 05-09, passed 11-1-2005; Ord. 06-12, passed 10-19-2006; Ord. 07-15, passed 9-20-2007; Ord. 09-02, passed 4-7-2009)

§ 158.079 “I-R” RESTRICTED INDUSTRIAL DISTRICT.

(A) **Purpose.** The purpose of the “I-R” District is to provide locations for some of the lighter manufacturing processes and which may not be as extensive as those provided in the I-G District. For the most part, the manufacturing is composed of processing or assembly of previously processed materials. It is not the purpose of this district to promote or encourage the use of land

within the district for retail services or PBCs normally expected to be located within the established business district; however, it is anticipated that there may be areas or locations where retail services or PBCs can be reasonably and logically considered due to their relationship with other uses existing within the district, as well as their relationship with the district boundary line or the configuration of the property and the relative scale of the project.

(2004 Code, § 223-115)

(B) **Applicability.** The following regulations and applicable regulations contained in other sections shall be permitted in the I-R Restricted Industrial District.

(2004 Code, § 223-116)

(C) **Principal permitted uses.** Principal permitted uses shall be as follows:

(1) Uses of a light industrial nature including but not limited to the following, provided that such uses shall be subject to the distance requirements specified in § [158.040](#):

(a) Manufacture and assembly of electrical appliances, electronics, and communication equipment, professional, scientific, and controlling instruments, and photographic or optical products;

(b) Manufacturing, compounding, assembling, or treatment of articles or merchandise from previously prepared materials such as bone, cloth, fur, cork, fiber, canvas, leather, cellophane, paper, glass, plastics, horn, stone, shells, tobacco, wax, textiles, yarns, wood and metals, including light steel or other light metal, light metal mesh, pipe, rods, shapes, strips, wire, or similar component parts;

(c) Manufacturing, compounding, processing, packaging, or treatment of cosmetics, pharmaceuticals, and food products, except fish and meat products, sauerkraut, vinegar, yeast, and the rendering or refining of fats and oils;

(d) Manufacture of musical instruments, novelties, and molded rubber products, including tire manufacture, recapping, and treading;

(e) Manufacture of pottery or other similar ceramic products using only previously pulverized clay and kilns fired only by electricity or gas;

(f) Laboratories, chemical, physical, and biological;

(g) Clothing and shoe manufacture;

(h) Carpet and rug cleaning plants;

(i) Petroleum products storage underground;

(j) Blacksmith, welding, machine, or similar shops; and

(k) Heliports.

(2) The following business trades and services:

(a) Bottling of soft drinks or milk or distribution stations therefor;

(b) Carpentry or woodworking shops;

(c) Newspaper publishing establishments;

(d) Printing shops;

(e) Sheet metal shops;

(f) Sign painting shops;

(g) Truck or motor freight terminals or warehouses;

(h) Wholesale business;

(i) Warehousing or service establishments;

(j) Building materials sales and storage yards;

(k) Feed and grain sales;

(l) Milling and/or storage;

- (m) Commercial parking lots;
- (n) Trade schools;
- (o) Professional training centers;
- (p) Offices and office parks;
- (q) Hotels and motels; and

(r) Business parks, subject to a minimum size of ten acres. Retail and commercial uses, which are delineated as accessory uses in division (E)(2) below or principal permitted uses in § [158.077](#)(C)(1) and (C)(5), may be located on separate lots or parcels within a business park provided that:

1. The gross acreage of such uses does not exceed 15% or 15 acres, whichever is lesser, of the business park.

a. The area of the retail uses shall be computed as the building area containing the retail uses and the supporting parking lot area, but shall not include required yard setbacks and open space.

b. No variance of the 15% limitation may be granted.

2. The size of any individual retail or commercial use may not exceed a maximum of 6,000 square feet, except for day care centers and health clubs which may not exceed a maximum of 12,000 square feet. The area of a canopy over gasoline pumps shall not be included in the size limitation for a convenience store with gasoline pumps;

3. The development of the retail or commercial space shall be phased in with the development of the industrial uses such that the ratio of retail or commercial space to industrial space which is constructed may not exceed 25% at any time until the business park is complete;

4. The business park shall be ineligible for additional accessory uses under § [158.079](#)(E)(2);

5. The development of the business park with retail or commercial uses shall not constitute a substantial change in the neighborhood with respect to a petition to change the zoning of the property pursuant to § [158.134](#)(C);

6. An average of four parking spaces per 1,000 square feet of building area shall be provided for the lots within a business park;

7. The following uses are prohibited in a business park:

- a. Antique shops;
- b. Automobile service center;
- c. Day treatment or care facility;
- d. Funeral establishments;
- e. Kennels, commercial;
- f. Nonprofit clubs and fraternal organizations;
- g. Religious establishments;
- h. Residential dwelling units;
- i. Retail greenhouses;
- j. Retirement homes;
- k. Second-hand or consignment shops;
- l. Tattoo or body-piercing shops; and
- m. Vehicle repair shops.

8. Signage requirements are as follows.

- a. A signage plan shall be submitted with the site plan.

b. One freestanding sign shall be allowed to identify the business park. This sign may not exceed 30 feet in height or 200 square feet per side, unless a variance is granted pursuant to § [158.130](#). This sign may include identification of the tenants or other entities within the business park.

c. If a PBC is located within a business park, then the PBC may have an additional freestanding sign in accordance with § [155.094](#)(E).

d. All other buildings or lots within the business park may have signs in accordance with § [158.114](#).

(2004 Code, § 223-117)

(D) **Conditional uses requiring BZA authorization.** Conditional uses requiring BZA authorization shall be as follows:

(1) The following uses when the location of such use shall have been authorized by the BZA, provided that such use shall be subject to three times the distance requirements specified in § [158.040](#):

- (a) Bituminous concrete (blacktop) mixing plants;
- (b) Concrete and ceramic products manufacture, including ready-mixed concrete plants;
- (c) Contractors' equipment and storage yards;
- (d) Facilities for the cleansing of petroleum contaminated soil;
- (e) Petroleum products storage tanks above ground, any one of which has the capacity in excess of 2,000 gallons, provided that all state and federal laws, as well as National Fire Underwriters' codes, are complied with;
- (f) Sawmills, commercial; and
- (g) Sanitary landfills, including solid waste transfer facilities, and solid waste incinerators.

(2) Any use permitted and as regulated as a principal permitted use or conditional use in the "B-NR" or "B-G" Districts, except dwellings, mobile homes, and mobile home parks, and manufacture of mulch, on a lot or parcel of land no greater than five acres in size and that was depicted on a plat or described in a deed recorded in the Land Records of Carroll County prior to March 9, 2004, provided that in addition to the criteria set forth under § [158.133](#)(G), the BZA shall also consider criteria set forth under § [155.094](#)(B) in authorizing the use of any land for a PBC or any other "B-NR" or "B-G" use that is determined by the BZA to be of the same general character as a PBC.

(3) Notwithstanding anything contained in this subchapter to the contrary, mini storage is not an authorized use in this district.

(2004 Code, § 223-118)

(E) **Accessory uses.** Accessory uses shall be as follows:

(1) Uses customarily accessory and incidental to any principal permitted use or authorized conditional use, including:

- (a) A mobile home or dwelling associated with an industrial use, or a mobile home associated with an agricultural use subject to the provisions of § [158.150](#)(B);
- (b) Storage modules subject to the following standards:
 1. The exterior surface shall be painted and kept in good repair;
 2. The storage module shall be vented as needed for safety purposes;
 3. The storage module shall be screened from the adjacent roadway; and
 4. Number of storage modules to be determined by the Zoning Administrator.
- (c) Retail sales and service of products manufactured on or distributed from the site.

(2) Provided all accessory uses do not exceed 15% of the lot or parcel, and provided no individual use exceeds 3,000 square feet except as provided below, the following retail or other commercial uses in conjunction with a principal permitted or approved conditional use, not exceeding 15% of the lot or parcel, and subject to authorization of the BZA after a public hearing:

- (a) Retail bakeries;
- (b) Banks or savings and loan institutions;
- (c) Beauty salons or barbershops;
- (d) Convenience stores, including gasoline pumps, however the area of canopy over the gasoline pumps is excluded from the 3,000 square foot size limitation but included as part of the 15% gross acreage limitation;
- (e) Day care centers not exceeding 6,000 square feet;
- (f) Pharmacies;
- (g) Laundry or dry-cleaning establishments;
- (h) Office supply stores;
- (i) Shoe repair shops;
- (j) Restaurants or lunch rooms;
- (k) Tailor establishments;
- (l) Health clubs not exceeding 6,000 square feet; and
- (m) Florist or garden shops.

(2004 Code, § 223-119)

(F) **Height regulations.** No structure shall exceed 50 feet in height, except as provided in § [158.130](#)(E).

(2004 Code, § 223-120)

(G) **Bulk requirements.** The following requirements shall be observed, subject to the provisions of § [158.130](#):

- (1) Front yard: 50 feet;
- (2) Side yard: 30 feet;
- (3) Rear yard: 30 feet; and
- (4) Within a business park, the yard requirements may be reduced with the approval of the Planning Commission.

(2004 Code, § 223-121)

(H) **Required conditions.** Required conditions shall be the same as provided by § [155.059](#).

(2004 Code, § 223-122)
(Ord. 1E, passed 8-17-1965; Ord. 04-01, passed 4-9-2004; Ord. 04-18, passed 6-4-2004; Ord. 06-08, passed 6-2-2006; Ord. 07-14, passed 8-14-2007; Ord. 09-02, passed 4-7-2009)

§ 158.080 “I-G” GENERAL INDUSTRIAL DISTRICT.

(A) **Purpose.** The purpose of the “I-G” District is to provide for manufacturing or processing which may require extensive transportation, water, and/or sewerage facilities, as well as open space, because of the number of employees, the type of manufacturing operation, or any by-products which might result from the heavier or larger manufacturing plants proposed.

(2004 Code, § 223-123)

(B) **Applicability.** The following regulations and applicable regulations contained in other sections shall apply in the “I-G” District.

(2004 Code, § 223-124)

(C) **Principal permitted uses.** Principal permitted uses shall be as follows:

(1) Uses of a heavy industrial nature, but not limited to the following, provided that such uses shall be located two times the distance requirements specified in § [158.040](#):

- (a) Manufacture and assembly of aircraft, automobiles, house trailers, or other vehicles;
- (b) Manufacture and bottling of alcoholic beverages;
- (c) Manufacture of brick or clay products;
- (d) Machine shops, structural steel fabricating;
- (e) Coal yards;
- (f) Cooperage works;
- (g) Crematories;
- (h) Manufacture or processing of chemicals, except sulfuric, nitric, or hydraulic or other corrosive or offensive acid;
- (i) Manufacture of dye or dyestuff and printing ink;
- (j) Electric generating or steam power plants;
- (k) Flour mill, grain milling, or drying;
- (l) Manufacture of felt, shoddy, hair products, feathers, emery cloth, sandpaper, or sand blasting and/or products therefrom;
- (m) Enameling, lacquering, galvanizing, and plating;
- (n) Manufacture or processing of meat or food products, except slaughterhouses;
- (o) Manufacture of paper, pulp, or cloth;
- (p) Manufacture of perfume;
- (q) Manufacture of pickle, sauerkraut, vinegar, yeast, soda, or soda compounds;
- (r) Manufacture of rayon or similar products;
- (s) Manufacture of rubber or rubber products;
- (t) Manufacture of starch, glucose, dextrin, or spice;
- (u) Manufacture of soap, oil, paints, turpentine;
- (v) Manufacture of wire or wire products; and
- (w) Manufacture of mulch, including the processing, storage, and sale at retail and wholesale.

(2) Agriculture for interim use, provided that any buildings or feeding pens in which farm animals are kept shall comply with the distance requirements of § [158.040](#);

(3) Any use permitted and as regulated as a principal permitted use in the “I-R” District, except as hereinafter modified;

(4) Any other use that is determined by the BZA to be of the same general character as the above-permitted uses and which would not be detrimental to the public health, safety, or general welfare of the community, but not including any use which is prohibited in the “I-R” District; and

(5) Subject to the requirements of this subchapter, an adult entertainment business, a massage establishment or a striptease business is a principal permitted use in the “I-G” District.

(a) An adult entertainment business, a massage establishment or a striptease business may not be located within 1,000 feet of:

- 1. A religious establishment;
- 2. A public or private school;
- 3. A public park or public recreational facility;
- 4. A public library;

5. A child care home, child care institution, or family day care home licensed or registered under state law; or

6. A lot zoned residentially or devoted primarily to residential use.

(b) An adult entertainment business, a massage establishment or a striptease business may not be located within 2,500 feet of another adult entertainment business, massage establishment or striptease business.

(c) In determining compliance with the siting requirements in division (E)(1) below, measurements shall be made in a straight line, without regard to intervening objects, from the closest point of the structure containing the adult entertainment business, massage establishment or striptease business to the nearest property line of the lot or use listed in division (E)(1) below. (2004 Code, § 223-125)

(D) Conditional uses requiring BZA authorization. Conditional uses requiring BZA authorization shall be as follows:

(1) The following uses, when the location of such use shall have been authorized by the BZA, provided that such use shall not be less than 1,000 feet from any Residence District governed by this chapter, except an “I-R” District, and four times the distance requirements as specified in § [158.040](#):

- (a) Slaughterhouses and stockyards;
- (b) Acid or heavy chemical manufacture, processing, or storage;
- (c) Blast furnace or boiler works;
- (d) Cement, lime, gypsum, or plaster of paris manufacturing;
- (e) Distillation of bones, fat rendering, grease, lard or tallow manufacturing or processing;
- (f) Explosive manufacture or storage;
- (g) Fertilizer, potash, insecticide, glue, size, or gelatin manufacture;
- (h) Foundries;
- (i) Garbage, offal, or dead animal reduction;
- (j) Gas manufacture or storage for heat or illumination;
- (k) Junkyards, provided that the area used shall not exceed five acres, shall be totally enclosed with adequate fencing, and no operations, including storage or sale of parts, shall be closer than 300 feet to any public highway; and

(l) Petroleum products, refining or storage above ground in tanks in excess of 2,000 gallons, provided that all state and federal laws, as well as National Fire Underwriters’ codes, are complied with.

(2) Bituminous concrete (blacktop) mixing plants as regulated in the “I-R” District; and

(3) Any conditional use set forth and as regulated in the “I-R” District.

(2004 Code, § 223-126)

(E) Accessory uses. Accessory uses shall be as follows:

(1) Uses customarily accessory and incidental to any principal permitted use or authorized conditional use, including:

- (a) A mobile home or dwelling associated with an industrial use;
- (b) Storage modules subject to the following standards:
 - 1. The exterior surface shall be painted and kept in good repair;
 - 2. The storage module shall be vented as needed for safety purposes;
 - 3. The storage module shall be screened from the adjacent roadway; and
 - 4. Number of storage modules to be determined by the Zoning Administrator.
- (c) Retail sales and service of products manufactured on or distributed from the site.

(2) Provided all accessory uses do not exceed 15% of the lot or parcel, and provided no individual use exceeds 3,000 square feet except as provided below, the following retail or other commercial uses in conjunction with a principal permitted or approved conditional use, not exceeding 15% of the lot or parcel, and subject to authorization of the BZA after a public hearing:

- (a) Retail bakeries;
- (b) Banks or savings and loan institutions;
- (c) Beauty salons or barbershops;
- (d) Convenience stores, including gasoline pumps;
- (e) Day care centers not exceeding 6,000 square feet;
- (f) Pharmacies;
- (g) Laundry or dry-cleaning establishments;
- (h) Office supply stores;
- (i) Shoe repair shops;
- (j) Restaurants or lunch rooms;
- (k) Tailor establishments;
- (l) Health clubs not exceeding 6,000 square feet; and
- (m) Florist or garden shops.

(2004 Code, § 223-127)

(F) **Height regulations.** No structure shall exceed three stories or 50 feet in height, except as provided in § [158.130](#)(E).

(2004 Code, § 223-128)

(G) **Bulk requirements.** Bulk requirements shall be the same as in the “I-R” District.

(2004 Code, § 223-129)

(H) **Required conditions.** Required conditions shall be the same as provided by § [155.059](#).

(2004 Code, § 223-130)

(Ord. 1E, passed 8-17-1965; Ord. 01-01, passed 1-3-2001; Ord. 01-03, passed 4-4-2001; Ord. 04-01, passed 4-9-2004; Ord. 04-18, passed 6-4-2004; Ord. 09-02, passed 4-7-2009)

D. CARROLL COUNTY RECYCLING PLAN

CARROLL COUNTY
RECYCLING PLAN

NOTE: Complete Recycling Plan is available at the Carroll County Department of Public Works Administration Office.

AUGUST 1992

Among the next steps in the county plans are:

- Consideration of a plan to relocate the Recycling Center from the airport to Northern Landfill. This facility replaces the one near the airport, and will have the capability to be expanded.
- Developing a plan for composting yard waste, beginning January 1, 1993.
- Initiating an aggressive education and public relations campaign.
- Preparing contingency plans in the event that markets fail, or that a mandatory program is needed.
- Developing a plan for recycling tires, beginning January 1, 1994.

Meeting the mandated 15 percent goal requires the County to recover about 30 percent of each of the targeted materials. The key to achieving the goal is public motivation by education and information. Several citizens groups within the County have already begun to distribute pamphlets and brochures on recycling and the County is seeing more interest in recycling as a result. The County's role is to encourage citizen participation in the education process and there is evidence that this is already happening.

The information provided in this plan represents the County's effort to quantify and characterize the solid waste stream for recycling. These data and the options presented herein for achieving the County's recycling goals are subject to revision should the process capabilities, material markets, or program costs change.

Common household wastes comprise about half, by weight, of the municipal solid waste stream. Recycling can divert many of these materials from our landfills and reuse them in many new and different products.

The recycling process begins when the material (e.g., used beverage can, glass bottle, etc.) is removed or separated from the typical household garbage. Once separated, the materials are transported to a recycling center where they are prepared for their respective markets. The processed materials are then shipped to a manufacturer's plant and made into a new product. The recycling process is not complete until the new product is demanded by the general public.

The most effective way for households and businesses to recycle is to separate recyclable materials from other wastes at

E. CARROLL COUNTY'S SOLID WASTE DISPOSAL FEES

RESOLUTION NO. 970-2016

WHEREAS, by virtue of the Code of Public Local Laws and Ordinances of Carroll County, Title 12, the County Commissioners of Carroll County have been given the authority to establish reasonable rates and charges for solid waste collection or disposal;

WHEREAS, by virtue of Chapter 50.06 of the Code of Public Local Laws and Ordinances of Carroll County, the County Commissioners are authorized to establish such fees and other charges for the receipt of solid waste at any County facility, including a solid waste management fee; and

WHEREAS, solid waste management fees collected at County facilities represent the major source of revenue for the solid waste operations.

NOW, THEREFORE, The County Commissioners of Carroll County do hereby resolve that the following solid waste management fees be established:

- (a) Per ton charge for municipal solid waste: \$64.00 per ton at the Northern Landfill. The existing rate of \$68.00 per ton will remain in effect at the Hoods Mill Landfill.
- (b) Flat rate charge to automobiles for residential waste per vehicle: \$7.00 per vehicle at the Northern Landfill, and the current rate of \$8.00 will remain in effect at the Hoods Mill Landfill.
- (c) Scrap tires, off the rim: \$2.50 each at both the Northern Landfill and the Hoods Mill Landfill;
- (d) Scrap tires, on the rim: \$3.50 each at both the Northern Landfill and the Hoods Mill Landfill.
- (e) Commercial tire fee: \$150.00 per ton at the Northern Landfill (commercial tires are not accepted at the Hoods Mill Landfill); and
- (f) Per ton charge for construction and demolition debris and sewage sludge: \$80 per ton at both the Northern Landfill and the Hoods Mill Landfill (sewage sludge is not accepted at the Hoods Mill Landfill).
- (g) Minimum disposal fee: \$7.00 at the Northern Landfill, and the current rate of \$8.00 will remain in effect at the Hoods Mill Landfill.

Solid Waste ("Tipping Fees") - 2016

BE IT RESOLVED that Resolution No. 929-2014 is hereby superseded by this Resolution; and

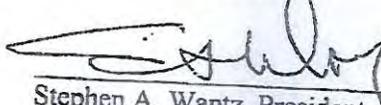
BE IT FURTHER RESOLVED that this Resolution shall become effective on July 1, 2016.

ADOPTED this 25th day of February, 2016.

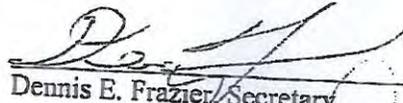
THE COUNTY COMMISSIONERS OF
CARROLL COUNTY, MARYLAND,
a body corporate and politic
of the State of Maryland

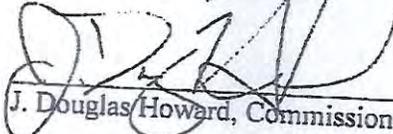
ATTEST:

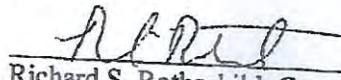

Shawn D. Reese, County Clerk


Stephen A. Wantz, President (SEAL)

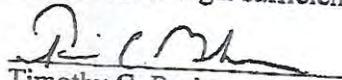

C. Richard Weaver, Vice-President (SEAL)


Dennis E. Frazier, Secretary (SEAL)


J. Douglas Howard, Commissioner (SEAL)


Richard S. Rothschild, Commissioner (SEAL)

Approved for legal sufficiency:


Timothy C. Burke
County Attorney